CITY OF NORMAN, OK
FLOODPLAIN PERMIT COMMITTEE MEETING
Development Center, Room B, 225 N. Webster Ave., Norman, OK 73069
Monday, July 07, 2025 at 3:30 PM

AGENDA

It is the policy of the City of Norman that no person or groups of persons shall on the grounds of race, color, religion, ancestry, national origin, age, place of birth, sex, sexual orientation, gender identity or expression, familial status, marital status, including marriage to a person of the same sex, disability, relation, or genetic information, be excluded from participation in, be denied the benefits of, or otherwise subjected to discrimination in employment activities or in all programs, services, or activities administered by the City, its recipients, sub-recipients, and contractors. In the event of any comments, complaints, modifications, accommodations, alternative formats, and auxiliary aids and services regarding accessibility or inclusion, please call 405-366-5424, Relay Service: 711. To better serve you, five (5) business days' advance notice is preferred.

ROLL CALL

MINUTES

1. Approval of minutes from the June 2, 2025 meeting

ACTION ITEMS

2. **Floodplain Permit Application No. 718** - This floodplain permit application is for the emergency repairs to the sanitary sewer line that crosses Bishop Creek near 730 Stinson.

3. **Floodplain Permit Application No. 719** - This floodplain permit application is for bridge maintenance on Main Street located over Merkle Creek between Merkle Drive and Hal Muldrow Drive.

4. **Floodplain Permit Application No. 720** - This floodplain permit application is for bridge maintenance for the bridge over Bishop Creek near the intersection of Lindsey Street and Classen Boulevard.

5. **Floodplain Permit Application No. 721** - This floodplain permit application is for the proposed connection of a water line located in the Bishop Creek floodplain for the proposed development outside of the floodplain at 310 Boyd Street.

6. **Floodplain Permit Application No. 722** - This floodplain permit application is for the proposed construction of a single family residence at 2601 60th Avenue NW in the Ten Mile Flat Creek floodplain.

7. **Floodplain Permit Application No. 723** - This floodplain permit application is for road repair at two locations in the Ten Mile Flat Creek floodplain. The two locations are over Ten Mile Flat Creek on Robinson Street and on Rock Creek Road, both between 48th Ave. NW and 60th Ave. NW.

MISCELLANEOUS COMMENTS

ADJOURNMENT

CITY OF NORMAN, OK
FLOODPLAIN PERMIT COMMITTEE MEETING

Development Center, Conference Room B, 225 N. Webster Avenue, Norman, OK 73069
Monday June 2, 2025 at 3:30 PM

MINUTES

The Floodplain Permit Committee of the City of Norman, Cleveland County, State of Oklahoma, met in Regular Session in Conference Room B at the Development Center, on the 2nd day of June, 2025, at 3:30 p.m., and notice of the agenda of the meeting was posted at the Norman Municipal Building at 201 West Gray, Development Center at 225 N. Webster and on the City website at least 24 hours prior to the beginning of the meeting.

ROLL CALL

The meeting was called to order by Mr. Sturtz at 3:31 p.m. Roll was taken. Committee members in attendance included Bill Scanlon, Resident Member; Sherri Stansel, Resident Member; Scott Sturtz, Floodplain Administrator; Tim Miles, City Engineer; Lora Hoggatt, Public Services Manager; and Ken Danner, Subdivision Development Manager. Committee members absent included Jane Hudson, Director of Planning. Also in attendance were Jason Murphy, Stormwater Program Manager; and Roxsie Stephens, Staff. Citizens in attendance included Chris Dragg, Ken Dragg, Audra Carr, John Carr, Mo Sharifi, Chris Anderson, Kevin Potts, and J W Dansby.

MINUTES

1. Approval of minutes from the April 7th 2025 meeting
    a. Minutes were approved with a vote of 5 to 0, with a minor edit made to spelling.
    b. Mr. Sturtz abstained from voting as he was absent this meeting.
2. Approval of minutes from the May 19th 2025 meeting
    a. Minutes were approved with a vote of 5 to 0.
    b. Mrs. Hoggatt abstained from voting as she was absent this meeting.

ACTION ITEMS

3. Floodplain Permit No. 716

Mr. Sturtz stated that the floodplain permit application is for the proposed creation of a burn pit in the Bishop Creek floodplain near Eagle Cliff West development.

Mr. Murphy stated the applicant is Home Creations. The builder is ESO Excavation, LLC and the engineer is SMC Consulting Engineers, P.C.

Mr. Murphy provided a staff report, detailing the request and plan to create a burn pit in the Bishop Creek floodplain with respect to the floodplain permit requirements and potential impacts.

Mr. Murphy stated staff presents permit app #716 to the committee for consideration.

Mr. Sturtz asked the committee if they had any questions.

Mr. Scanlon stated an observation that the applicant had to have knowledge that their actions that led to a need for removal were in violation of floodplain ordinances. Mr. Scanlon then asked for clarity on why their proposed solution is specifically for a burn pit and if it is due to the economic cost savings. Mr. Anderson, with SMC Consulting Engineers, stated that it would be impossible to remove the trees out of there due to the condition of the ground. Mr. Anderson asked Mr. Sharifi, with Home Creations, if he had any input to add to the answer. Mr. Sharifi declined to provide a statement.

Mrs. Stansel asked if this is what the meeting with staff and the applicant, prior to the committee meeting, had gone. Mr. Sturtz clarified that the preliminary meeting with the applicant was to discuss what options were available. Mr. Scanlon asked if there would be a fine applied to the applicant for the floodplain violations that have been made. Mrs. Sturtz advised that administration is currently allowing the applicant to work towards a solution.

Mr. Sturtz made a statement that he was concerned of multiple burn pits being needed, the permit is for a burn pit, not multiples. He also requested for more information on what would be done with the soil that is removed for the burn pits while the burn pit is in operation, as the location is within a floodplain. He also expressed concern over the destruction of native plants and additional erosion caused.

Mr. Anderson stated that they needed to create the burn pits as close to the tree piles within the floodplain as possible due to the excessive amounts of rain received and soft ground. Mr. Sturtz stated that the applicant was able to haul the trees into the floodplain area with soft ground so the reasoning does not stand.

Mrs. Hoggatt asked Mr. Anderson and Mr. Sharifi for confirmation that they chose to complete mass grading and remove every single tree. Mr. Sharifi and Mr. Anderson did not answer but Mr. Sturtz did confirm that yes, the applicant had done mass grading to the development area. Mrs. Hoggatt asked Mr. Sharifi why they chose to haul the trees into the adjacent floodplain area rather than disposing alternatively. Mr. Sharifi responded that they own that land and were not aware of a restriction.

Mr. Sturtz asked again for an answer on what will happen with the soil that is dug up, will the trees being burned leave any remaining material that will create more fill in the floodplain and will they be disturbing additional native vegetation. Mr. Anderson then stated that the soil would be removed, there would be a hole and that would act as compensatory storage. Mr. Sturtz stated that it would not be while there is trees occupying the space within the hole. Mr. Anderson stated that he understands that but they are being asked to remove the trees and that is why they are here. Mr. Anderson stated the pile of dirt should not be a problem for this reason. He also stated that the incineration of the trees, based on his research shows, would leave only minimal ash. Mr. Anderson stated that the soil would remain next to the burn pit while in operation and when finished, the soil would be moved back into the hole. Mr. Danner stated for clarification that the soil would remain in the floodplain while the burn pits are in operation, potentially dispersing water. Mrs. Stansel pointed out that the staff report states that aerial footage shows the area to be under water numerous times of the year. The land having a water table will interfere with the plan for a burn pit.

Mr. Sturtz asked for any comments from the public.

Mr. John Carr stated that the applicant is being dishonest when they say it is impossible remove the trees from the floodplain. Mr. Carr stated that when you burn that amount of wood, there would be an excess amount of emissions released into the air and an air quality permit would be required. Mr. Carr explained that they work on the adjacent property and are very familiar with the land and the water table present. Mr. Carr stated that while the ground will be soft, it is not impossible to find equipment possible of removing the trees. Mr. Carr then explained how the trees are displacing sand into the Bishop Creek, which is changing the creek entirely and decreasing the capacity of the creek. This is leading to flooding onto their land and the potential of substantial financial loss.

Mrs. Audra Carr stated that she also owns the property south of this area. She provided additional details surrounding the changes to Bishop Creek. She stated that there two log jams currently, one being 80ft long at least and 80ft wide. The sediment is flowing south and the creek is becoming increasingly shallower.

Mr. Kevin Potts stated that he could confirm what Mr. and Mrs. Carr had stated. He stated that the development should not impact your neighbor.

Mr. Scanlon motioned to deny the permit. Mrs. Stansel seconded the motion. **The permit application was denied with a vote of 6-0.**

4. Floodplain Permit No. 717

Mr. Sturtz stated that the floodplain permit application is for the proposed replacement of a pedestrian bridge over Brookhaven Creek near 705 36th Ave NW.

Mr. Sturtz said the applicant is Chris Dragg. The builder is Chris Dragg and the Engineer is Dansby Engineering, PLC.

Mr. Murphy presented the staff report, providing details of requirements for the replacement bridge, with respect to the Floodplain permit requirements.

Mr. Murphy stated staff recommends Floodplain Permit Application #717 be approved.

Mr. Sturtz asked the committee if they have any questions.

Mr. Scanlon asked if they were improving the materials used on this bridge. Mr. Sturtz asked if it had been wood used previously. Mr. Dragg confirmed that it had been wood previously and they are using stronger materials.

Mr. Sturtz asked for any comments from the public.

Mr. Danner motioned to approve. Mr. Scanlon seconded the motion. **The permit application was approved with a vote of 6-0.**

MISCELLANEOUS COMMENTS

Mr. Scanlon stated that he feels enforcement to the applicant of #716 for the floodplain violations would be the correct action to take.

Mr. Sturtz advised the committee that he had to issue an emergency permit for a pipe replacement to reopen a road and that permit would be presented at the next meeting.

ADJOURNMENT

Mr. Danner motioned to adjourn. Mr. Scanlon seconded the motion. Mr. Sturtz adjourned the meeting at 4:25 p.m.

Passed and approved this _____ day of _____ , 2025

_____

City of Norman Floodplain Administrator, Scott Sturtz

STAFF REPORT 07/07/2025 **PERMIT #718**

ITEM: This Floodplain Permit Application is for the emergency repairs to the sanitary sewer line that crosses Bishop Creek near 730 Stinson.

BACKGROUND:
APPLICANT: City of Norman Utilities Authority
CONTRACTOR: TBD
ENGINEER: Ken Giannone P.E.

This project involved the replacement of an existing 18" sanitary sewer interceptor aerial crossing over Bishop Creek at 730 Stinson (in the "Flats at Norman" apartment complex). The concrete piers supporting the existing sanitary sewer aerial crossing were partially overturned during a recent flood event and must be replaced in order to ensure structural integrity and continued functionality of the crossing. The project will consist of 4 to 5 pairs of new concrete piers with the same general dimensions in the same general locations and constructed of similar materials as the originals. The new piers will be drilled to bedrock to minimize potential for future failure. Approximately 190 LF of existing 18" carrier pipe inside of steel casing pipe will be removed and replaced by carrier pipe and casing pipe of the same size and at the same line and grade as existing. For constructability purposes, two new manholes will also be installed, but both will be outside of the floodplain.

Site located in Little River Basin or its Tributaries? yes __ no✓

STAFF ANALYSIS:
The project is located in the Bishop Creek floodplain (Zone AE). Base flood elevation is 1125.25', and the engineer has certified that there will be no increase in the base flood elevation as a result of this project.

Applicable Ordinance Sections:		Subject Area:
36-533	(e)(2)(a)..…..……..…	Fill restrictions in the floodplain
	(e)(2)(e)..…..……..…	Compensatory storage
	(e)(2)(j) ……..…	Utilities constructed to minimize flood damage
	(e)(2)(l) ……..……	In/exfiltration of flood waters in sanitary sewage
	(f)(3)(8)……..	No rise considerations

(e)(2)(a) and (e)(2)(e) Fill Restrictions in the Floodplain and Compensatory Storage – The use of fill is restricted in the floodplain unless compensatory storage is provided.

> The applicant has indicated that no new fill will be brought in as a result of this project, other than what is necessary to replace what has been lost to erosion and to stabilize the banks to prevent erosion. Rip rap and other stabilization material will be installed at grade.

(e)(2)(j) All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. All public utilities and facilities shall be constructed to minimize flood damage.

> The sewer line pipe joints have gaskets making the system watertight, and the entire system is leak tested prior to going into service.

(e)(2)(l) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into flood waters.

The sewer line pipe joints have gaskets making the system watertight, and the entire system is leak tested prior to going into service.

(f)(3)(8) No Rise Considerations – For proposed development within any flood hazard area (except for those designated as regulatory floodways), certification that a rise of no more than 0.05 feet will occur in the BFE on any adjacent property as a result of the proposed work must be provided.

The engineer has certified that the project will not cause a rise in the BFE which meets this ordinance requirement.

RECOMMENDATION: Staff recommends that Floodplain Permit Application #718 be approved.

ACTION TAKEN: _____

City of Norman

Floodplain Permit Application

Floodplain Permit No. 718

Building Permit No. _____

Date 7/7/2025

FLOODPLAIN PERMIT APPLICATION
($100.00 Application Fee Required)

SECTION 1: GENERAL PROVISIONS (APPLICANT to read and sign):

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Occupancy is issued.
5. The permit will expire if no work is commenced within 2 years of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements and must be included with this floodplain permit application.
7. Applicant hereby gives consent to the City of Norman or his/her representative to access the property to make reasonable inspections required to verify compliance.
8. The following floodplain modifications require approval by the City Council:
   (a) A modification of the floodplain that results in a change of ten percent (10%) or more in the width of the floodplain.
   (b) The construction of a pond with a water surface area of 5 acres or more.
   (c) Any modifications of the stream banks or flow line within the area that would be regulatory floodway whether or not that channel has a regulatory floodplain, unless the work is being done by the City of Norman staff as part of a routine maintenance activity.
9. All supporting documentation required by this application is required along with the permit fee by the submittal deadline. Late or incomplete applications will not be accepted.
10. I, THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT.)

APPLICANT: Kenneth J. Giannone ADDRESS: Norman Utilities Authority, 225 N. Webster, Norman, Oklahoma 73069

TELEPHONE: 405-766-5377 (desk), 405-766-5443 (main) SIGNATURE: Kenneth J. Giannone

BUILDER: Construction Contractor TBD ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

ENGINEER: Kenneth J. Giannone, PE ADDRESS: Norman Utilities Authority, 225 N. Webster, Norman, Oklahoma 73069

TELEPHONE: 405-766-5377 (desk), 405-766-5443 (main) SIGNATURE: Kenneth J. Giannone

PROJECT LOCATION

To avoid delay in processing the application, please provide enough information to easily identify the project location. Provide the street address, subdivision addition, lot number or legal description (attach) and, outside urban areas, the distance to the nearest intersecting road or well known landmark. A sketch attached to this application showing the project location would be helpful.

At existing Sanitary Sewer aerial stream crossing over Bishop Creek at approximate address 730 Stinson (i.e. adjacent to the "Flats at Norman" apartment complex). A map is attached to show the exact location.

DESCRIPTION OF WORK (Check all applicable boxes):

A. STRUCTURAL DEVELOPMENT

ACTIVITY	STRUCTURE TYPE
☐ New Structure	☐ Residential (1-4 Family)
☐ Addition	☐ Residential (More than 4 Family)
☐ Alteration	☑ Non-Residential (Flood proofing? ☐ Yes)
☐ Relocation	☐ Combined Use (Residential & Commercial)
☐ Demolition	☐ Manufactured (Mobile) Home
☑ Replacement	☐ In Manufactured Home Park? ☐ Yes

ESTIMATED COST OF PROJECT $ 748,550.00 Work that involves substantial damage/substantial improvement requires detailed cost estimates and an appraisal of the structure that is being improved.

B. OTHER DEVELOPMENT ACTIVITIES:

☐ Fill ☐ Mining ☐ Drilling ☐ Grading

☐ Excavation (Beyond the minimum for Structural Development)

☐ Watercourse Alteration (Including Dredging and Channel Modifications)

☐ Drainage Improvements (Including Culvert Work) ☐ Road, Street or Bridge Construction

☐ Subdivision (New or Expansion) ☑ Individual Water or Sewer System

In addition to items A. and B. provide a complete and detailed description of proposed work (failure to provide this item will be cause for the application to be rejected by staff). Attach additional sheets if necessary.

The concrete piers supporting an existing aerial crossing of an 18" sanitary sewer interceptor shifted and nearly fell over during a recent heavy rain event, which resulted in failure of the of the 18" sewer line. The failure was immediately repaired, but the repair was temporary since the concrete piers have partially overturned. This project will replace 4 to 5 pairs of failing piers with new concrete piers of similar construction and dimension that will be drilled to bedrock to minimize the possibility of future failure. Two new manholes will also be installed OUTSIDE of the floodplain, and existing interceptor will be reinstalled at the same line and grade and using the same diameter pipe.

C. ATTACHMENTS WHICH ARE REQUIRED WITH EVERY APPLICATION:

The applicant must submit the documents listed below before the application can be processed. If the requested document is not relevant to the project scope, please check the Not Applicable box and provide explanation.

A. Plans drawn to scale showing the nature, location, dimensions, and elevation of the lot, existing or proposed structures, fill, storage of materials, flood proofing measures, and the relationship of the above to the location of the channel, floodway, and the regulatory flood-protection elevation.

B. A typical valley cross-section showing the channel of the stream, elevation of land areas adjoining each side of the channel, cross-sectional areas to be occupied by the proposed development, and high-water information.

☑ Not Applicable:
There is no proposed development associated with this project. It consists solely of the replacement of existing, failing sanitary sewer aerial crossing with a new aerial sanitary sewer crossing of similar construction and dimensions. No changes to any existing grade is contemplated by this project.

C. Subdivision or other development plans (If the subdivision or other developments exceeds 50 lots or 5 acres, whichever is the lesser, the applicant **must** provide 100-year flood elevations if they are not otherwise available).

☑ Not Applicable:
This is not a development project. However the attached plans DO show the 100-year flood elevations.

D. Plans (surface view) showing elevations or contours of the ground; pertinent structure, fill, or storage elevations; size, location, and spatial arrangement of all proposed and existing structures on the site; location and elevations of streets, water supply, sanitary facilities; photographs showing existing land uses and vegetation upstream and downstream, soil types and other pertinent information.

☐ Not Applicable:
Project plans are attached.

E. A profile showing the slope of the bottom of the channel or flow line of the stream.

☑ Not Applicable:
There will be no change to the slope of the bottom of the channel and/or flow line of the stream.

F. Elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures.

☑ Not Applicable:
Project includes no structures other than concrete piers which will be of similar size and construction and located in generally the same location as existing piers and the 18" sanitary sewer carrier pipe in a casing pipe that will be the same size and follow the same line and grade as existing 18" sanitary sewer.

G. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

☑ Not Applicable:
There will be no change to any existing grade as a result of this project. This explicitly includes areas within the flood plain

H. For proposed development within any flood hazard area (except for those areas designated as regulatory floodways), certification that a rise of no more than five hundredths of a foot (0.05') will occur on any adjacent property in the base flood elevation as a result of the proposed work. For proposed development within a designated regulatory floodway, certification of no increase in flood levels within the community during the occurrence of the base flood discharge as a result of the proposed work. All certifications shall be signed and sealed by a Registered Professional Engineer licensed to practice in the State of Oklahoma.
Signed and sealed "no rise letter" is attached.

I. A certified list of names and addresses of all record property owners within a three hundred fifty (350) foot radius of the exterior boundary of the subject property not to exceed 100 feet laterally from the Special Flood Hazard Area. The radius to be extended by increments of one hundred (100) linear feet until the list of property owners includes not less than fifteen (15) individual property owners of separate parcels or until a maximum radius of one thousand (1,000) feet has been reached.

J. A copy of all other applicable local, state, and federal permits (i.e. U.S. Army Corps of Engineers 404 permit, etc). None.

After completing SECTION 2, APPLICANT should submit form to Permit Staff for review.

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by Permit Staff.)

The proposed development is located on FIRM Panel No.: 0285 H, Dated: 9/26/2008

The Proposed Development:

☐ Is NOT located in a Special Flood Hazard Area
(Notify the applicant that the application review is complete and NO FLOODPLAIN PERMIT IS REQUIRED).

☒ Is located in a Special Flood Hazard Area.

☐ The proposed development is located in a floodway.

☒ 100-Year flood elevation at the site is 1125.25' Ft. NGVD (MSL) ☐ Unavailable

See Section 4 for additional instructions.

SIGNED: _____ **DATE:** 6/30/2025

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by Permit Staff.)

The applicant must also submit the documents checked below before the application can be processed.

☐ Flood proofing protection level (non-residential only) _____ Ft. NGVD (MSL). For flood proofed structures applicant must attach certification from registered engineer.

☐ Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ Certification from a registered engineer that the proposed activity in a regulatory flood plain will result in an increase of no more than 0.05 feet in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ All other applicable federal, state, and local permits have been obtained.

Other: _____

_____

_____

SECTION 5: PERMIT DETERMINATION (To be completed by Floodplain Chairman.)

The proposed activity: **(A)** ☐ **Is**; **(B)** ☐ **Is Not** in conformance with provisions of Norman's City Code Chapter 22, Section 429.1. The permit is issued subject to the conditions attached to and made part of this permit.

SIGNED: _____ DATE: _____

If **BOX A** is checked, the Floodplain committee chairman may issue a Floodplain Permit.

If **BOX B** is checked, the Floodplain committee chairman will provide a written summary of deficiencies. Applicant may revise and resubmit an application to the Floodplain committee or may request a hearing from the Board of Adjustment.

APPEALS: Appealed to Board of Adjustment: ☐ Yes ☐ No

Hearing date: _____

Board of Adjustment Decision - Approved: ☐ Yes ☐ No

Conditions:

_____

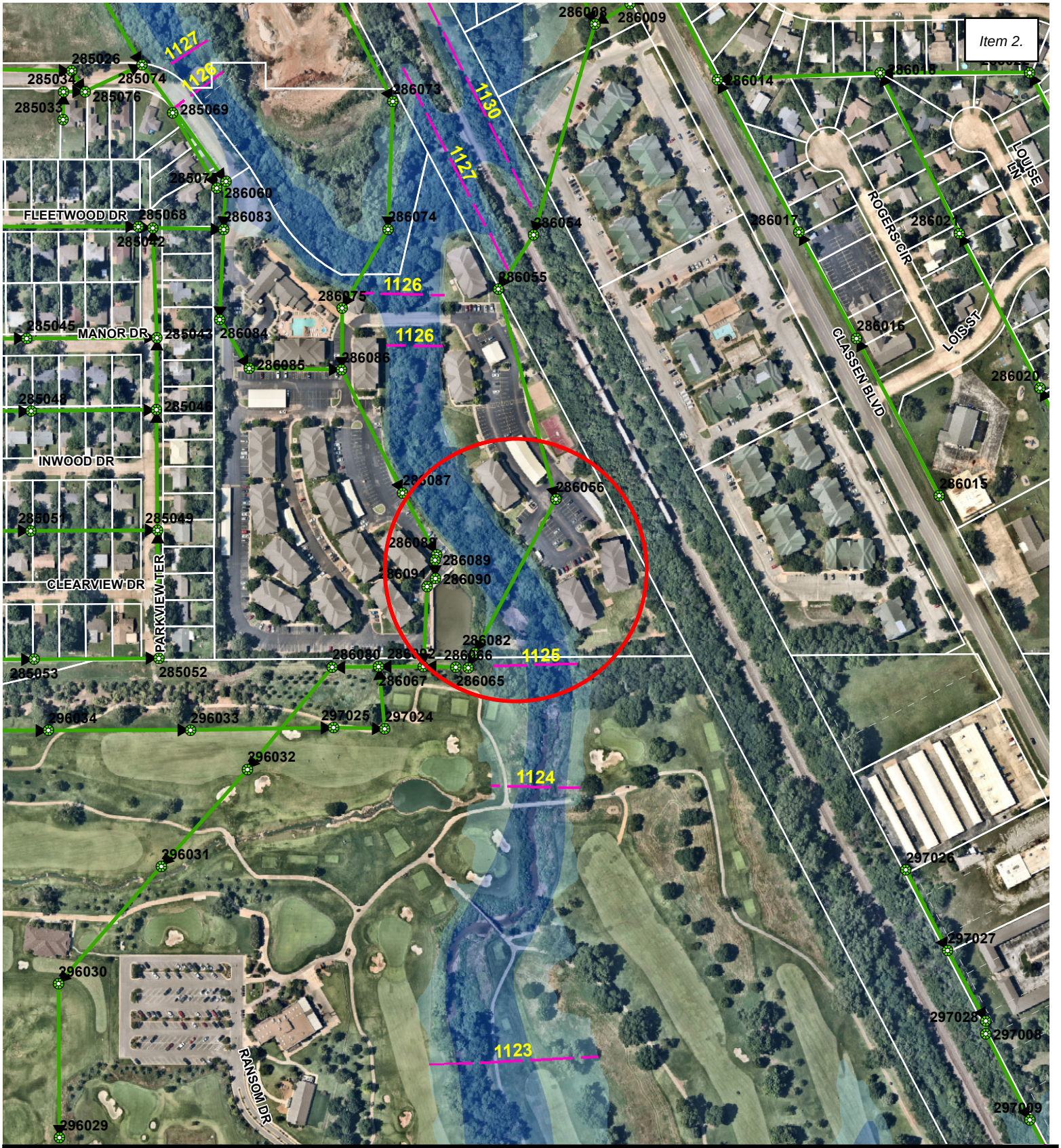
_____

_____

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Occupancy is issued.)

1. FEMA Elevation Certificate
   and/or
2. FEMA Floodproofing Certificate

NOTE: The completed certificate will be reviewed by staff for completeness and accuracy. If any deficiencies are found it will be returned to the applicant for revision. A Certificate of Occupancy for the structure will not be issued until an Elevation and /or Floodproofing Certificate has been accepted by the City.



730 Stinson

Legend

- BFE 2021
- 1% Chance Floodplain
- Floodway
- Lot Line
- Parcel

The City of
NORMAN
225 N. Webster Ave. • P.O. Box 370
Norman, Oklahoma 73069 • 73070

UTILITIES ADMINISTRATION
Phone: 405-366-5443
Fax: 405-366-5447

June 9, 2025

Mr. Scott Sturtz, P.E., CFM
Floodplain Administrator
City of Norman

Re: No Rise Certification
Norman Utilities Authority
Project WW0212 – Bishop Creek
Emergency Sewer Line Repair
Norman, OK

Dear Mr. Sturtz:

This project involves the replacement of an existing 18" sanitary sewer interceptor aerial crossing over Bishop Creek at 730 Stinson (in the "Flats at Norman" apartment complex). The concrete piers supporting the existing sanitary sewer aerial crossing were partially overturned during a recent flood event and must be replaced in order to ensure structural integrity and continued functionality of the crossing. The project will consist of 4 to 5 pairs of new concrete piers with the same general dimensions in the same general locations and constructed of similar materials as the originals. The new piers will be drilled to bedrock to minimize potential for future failure. Approximately 190 LF of the existing 18" carrier pipe inside of steel casing pipe will be removed and replaced by carrier pipe and casing pipe of the same size and at the same line and grade as existing. For constructability purposes, two new manholes will also be installed, but both will be outside of the floodplain.

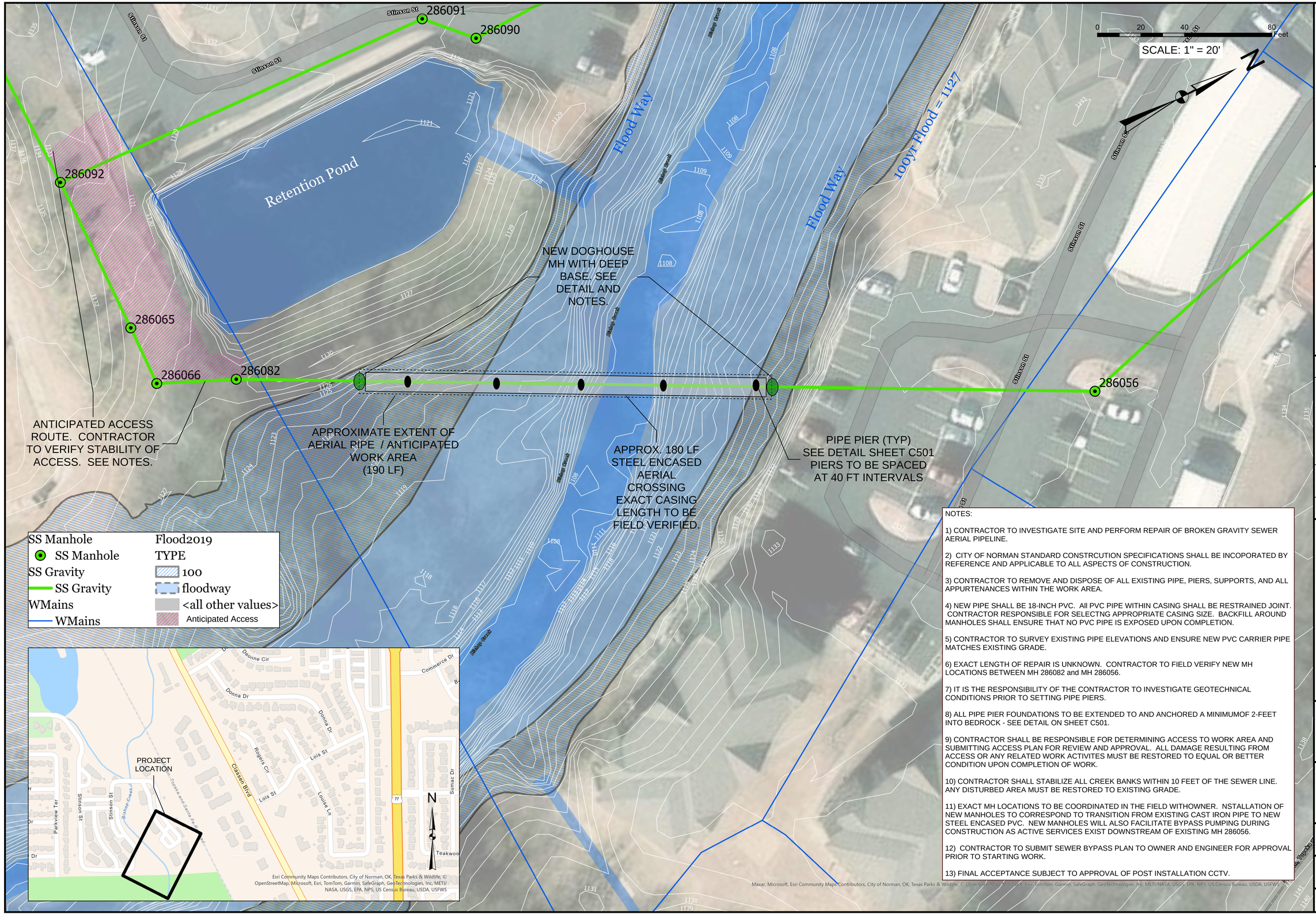
The channel flow line and banks will not be altered at this location. Any damage to the stream banks will be repaired by installation of rip rap at existing grade to prevent further erosion. Any material (soil and/or rip rap) permanently placed in the channel will be to replace what has been washed away by erosion and scour and is considered routine maintenance. There will not be any increase in the Base Flood Elevation on any adjacent property.

Please contact me at (405) 366-5377 if you have any questions or need further information.

Sincerely,

Kenneth J. Giannone

Kenneth J. Giannone, PE
Capital Projects Engineer
City of Norman Utilities Department



NOTES:

1) CONTRACTOR TO INVESTIGATE SITE AND PERFORM REPAIR OF BROKEN GRAVITY SEWER AERIAL PIPELINE.

2) CITY OF NORMAN STANDARD CONSTRCUTION SPECIFICATIONS SHALL BE INCOPORATED BY REFERENCE AND APPLICABLE TO ALL ASPECTS OF CONSTRUCTION.

3) CONTRACTOR TO REMOVE AND DISPOSE OF ALL EXISTING PIPE, PIERS, SUPPORTS, AND ALL APPURTENANCES WITHIN THE WORK AREA.

4) NEW PIPE SHALL BE 18-INCH PVC. All PVC PIPE WITHIN CASING SHALL BE RESTRAINED JOINT. CONTRACTOR RESPONSIBLE FOR SELECTNG APPROPRIATE CASING SIZE. BACKFILL AROUND MANHOLES SHALL ENSURE THAT NO PVC PIPE IS EXPOSED UPON COMPLETION.

5) CONTRACTOR TO SURVEY EXISTING PIPE ELEVATIONS AND ENSURE NEW PVC CARRIER PIPE MATCHES EXISTING GRADE.

6) EXACT LENGTH OF REPAIR IS UNKNOWN. CONTRACTOR TO FIELD VERIFY NEW MH LOCATIONS BETWEEN MH 286082 and MH 286056.

7) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INVESTIGATE GEOTECHNICAL CONDITIONS PRIOR TO SETTING PIPE PIERS.

8) ALL PIPE PIER FOUNDATIONS TO BE EXTENDED TO AND ANCHORED A MINIMUMOF 2-FEET INTO BEDROCK - SEE DETAIL ON SHEET C501.

9) CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ACCESS TO WORK AREA AND SUBMITTING ACCESS PLAN FOR REVIEW AND APPROVAL. ALL DAMAGE RESULTING FROM ACCESS OR ANY RELATED WORK ACTIVITES MUST BE RESTORED TO EQUAL OR BETTER CONDITION UPON COMPLETION OF WORK.

10) CONTRACTOR SHALL STABILIZE ALL CREEK BANKS WITHIN 10 FEET OF THE SEWER LINE. ANY DISTURBED AREA MUST BE RESTORED TO EXISTING GRADE.

11) EXACT MH LOCATIONS TO BE COORDINATED IN THE FIELD WITHOWNER. NSTALLATION OF NEW MANHOLES TO CORRESPOND TO TRANSITION FROM EXISTING CAST IRON PIPE TO NEW STEEL ENCASED PVC. NEW MANHOLES WILL ALSO FACILITATE BYPASS PUMPING DURING CONSTRUCTION AS ACTIVE SERVICES EXIST DOWNSTREAM OF EXISTING MH 286056.

12) CONTRACTOR TO SUBMIT SEWER BYPASS PLAN TO OWNER AND ENGINEER FOR APPROVAL PRIOR TO STARTING WORK.

13) FINAL ACCEPTANCE SUBJECT TO APPROVAL OF POST INSTALLATION CCTV.

GARVER

REGISTRATION NO. 4193

LICENSED PROFESSIONAL ENGINEER
05.16.2025
WILLIAM W. NADING
35093
OKLAHOMA

Digitally signed by William W. Nading
Date: 2025.05.16 14:57:29-04'00'

REV	DATE	DESCRIPTION	BY

CITY OF NORMAN

BISHOP CREEK SEWER LINE REPAIR

SITE PLAN

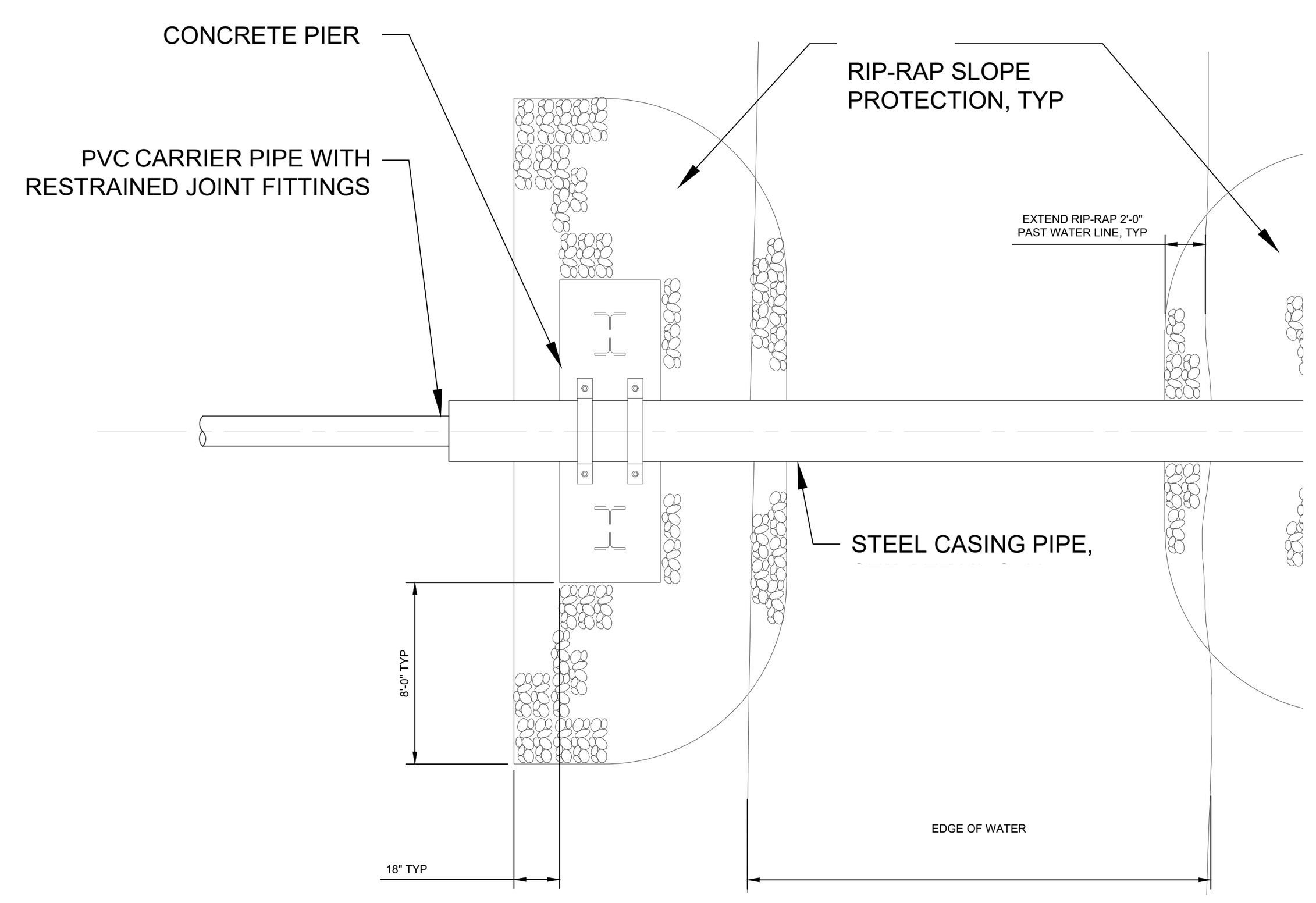
JOB NO.: 20W02080
DATE: MAY 2025
DRAWN BY: WWN
CHECKED BY: MTN

BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

DRAWING NUMBER
05-C101

SHEET NUMBER 01

Path: L:\2020\20W02080 - Norman W and WW Opps\Deliverables\Norman - Bishop Creek\Norman - Bishop Creek\Norman - Bishop Creek.aprx
Date Saved: 5/14/2025 4:48 PM
Date Exported: 5/15/2025 8:52 AM
1 inch equals 0 miles



AERIAL PIPE CROSSING TYPICAL PLAN

Scale: NTS

NOTES:
1. SEE RIP RAP AND STREAM BANK GRADING DETAIL
2. RIP RAP SHALL BE FEDERAL HIGHWAY ADMINISTRATION CLASS 3 (FHWA FP14)

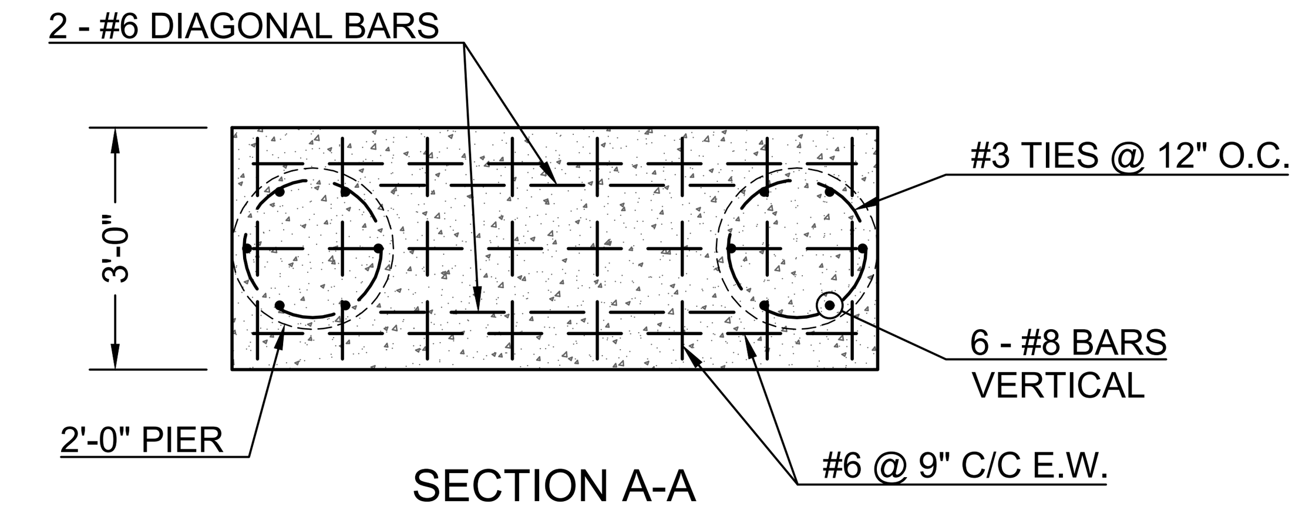
Class	% of Rock Equal or Smaller by Count, D_X	Range of Intermediate Dimensions,(2) inches (millimeters)	Range of Rock Mass,(3) pounds (kilograms)
1	100	9 – 15 (230 – 380)	59 – 270 (27 – 120)
	85	7 – 11 (180 – 280)	28 – 110 (13 – 50)
	50	5 – 8 (130 – 200)	10 – 42 (5 – 19)
	15	3 – 6 (80 – 150)	2 – 18 (1 – 8)
2	100	15 – 21 (380 – 530)	270 – 750 (120 – 340)
	85	11 – 15 (280 – 380)	110 – 270 (50 – 120)
	50	8 – 11 (200 – 280)	42 – 110 (19 – 50)
	15	6 – 8 (130 – 200)	10 – 42 (6 – 19)
3	100	21 – 27 (530 – 690)	750 – 1600 (340 – 730)
	85	15 – 19 (380 – 480)	270 – 560 (120 – 250)
	50	11 – 14 (280 – 360)	110 – 220 (50 – 100)
	15	8 – 10 (200 – 250)	42 – 81 (19 – 37)
4	100	27 – 33 (690 – 840)	1600 – 2900 (730 – 1300)
	85	19 – 23 (480 – 580)	560 – 990 (250 – 450)
	50	14 – 17 (360 – 430)	220 – 400 (100 – 180)
	15	9 – 12 (230 – 300)	59 – 140 (27 – 64)

TABLE OF STEEL CARRIER PIPE SIZES

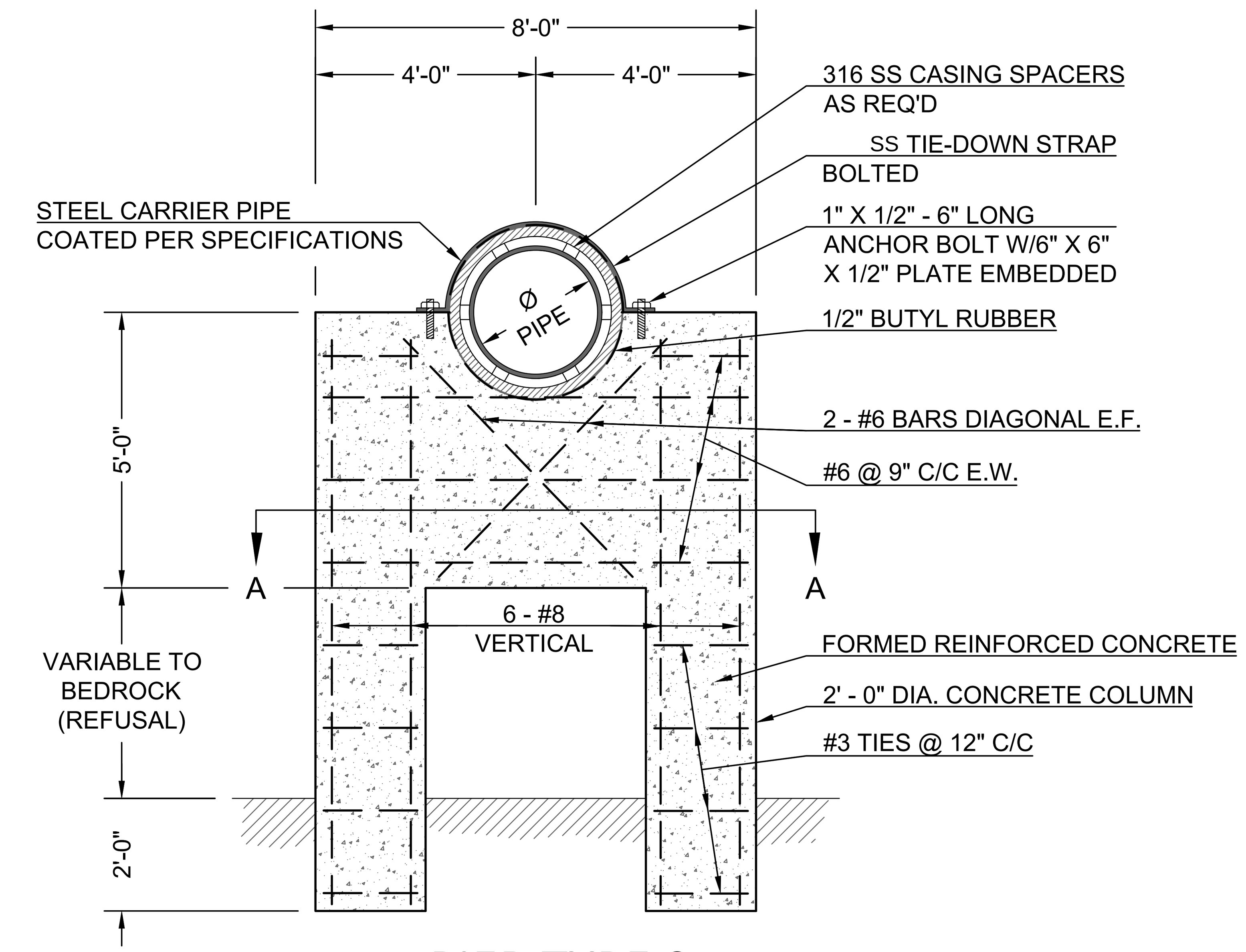
Nominal Size [in]	Wall Thickness [in] 3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
	Span Length - [ft]									
6	36	40	44							
8	38	42	45							
10	39	43	46							
12	40	44	47							
14	40	44	47							
16	41	45	48							
18	41	46	49	52						
20	42	46	50	53						
22	42	46	51	54						
24	42	48	52	55	58	60				
26	43	48	52	56	59	61				
28	43	48	53	56	59	62				
30	43	49	53	57	60	63				
32	44	49	54	57	61	64				
34	44	49	54	58	61	64				
36	44	50	54	58	62	65	70			
38	44	50	55	59	62	65	70			
40	44	50	55	59	63	66	71			
42	44	50	55	59	63	66	72			
45		51	55	60	63	67	72			
48		51	56	60	64	67	73	78		
51		51	56	60	64	68	74	79		
54		51	56	61	65	68	74	79		
57		51	57	61	65	69	75	80		
60		51	57	61	65	69	75	80		
63		52	57	62	66	69	76	81		
66		52	57	62	66	70	76	81	86	90
72		52	58	62	66	70	77	82	87	92

STEEL CARRIER SIZES AND SPAN

Scale: N.T.S.



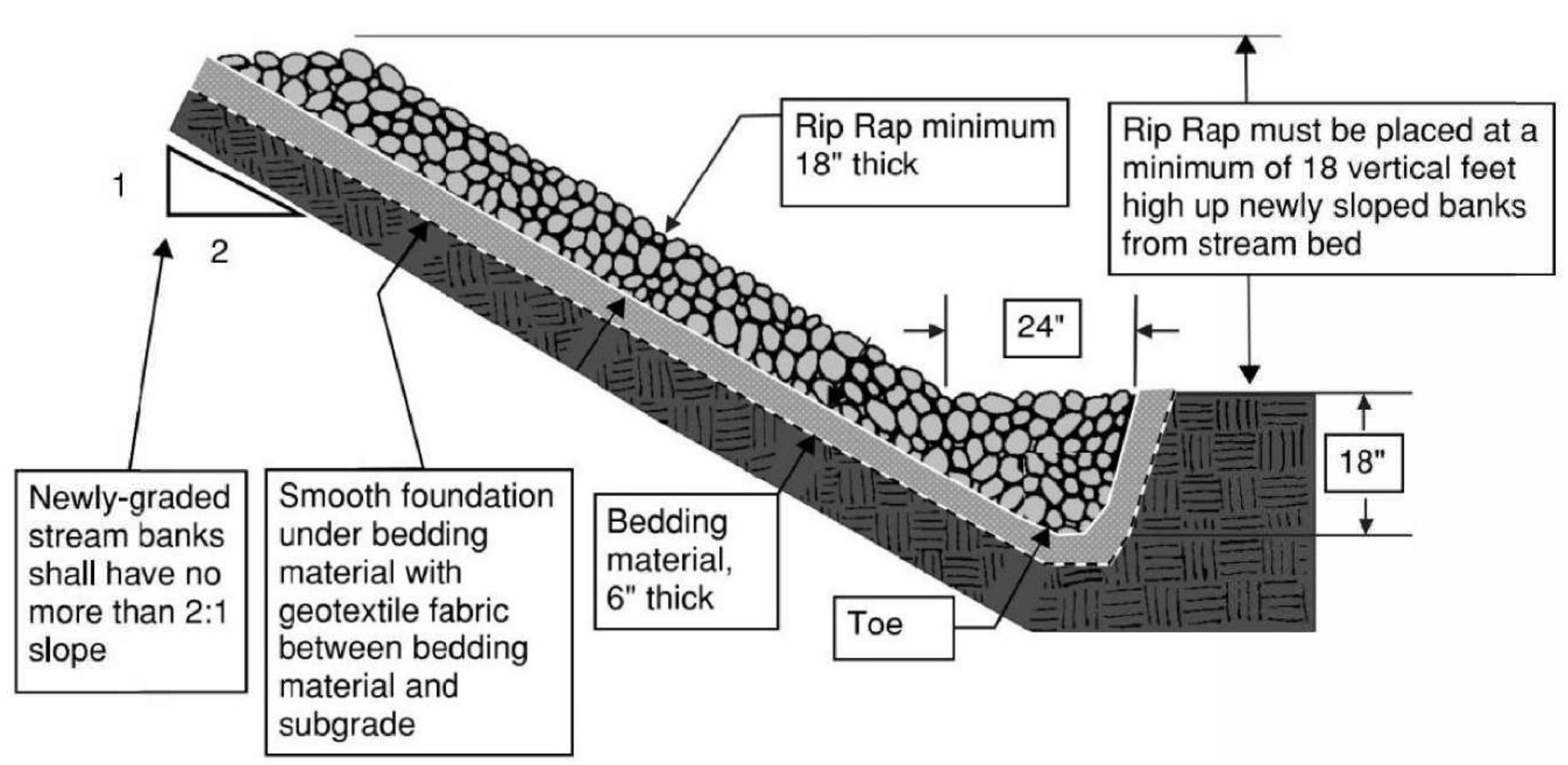
SECTION A-A



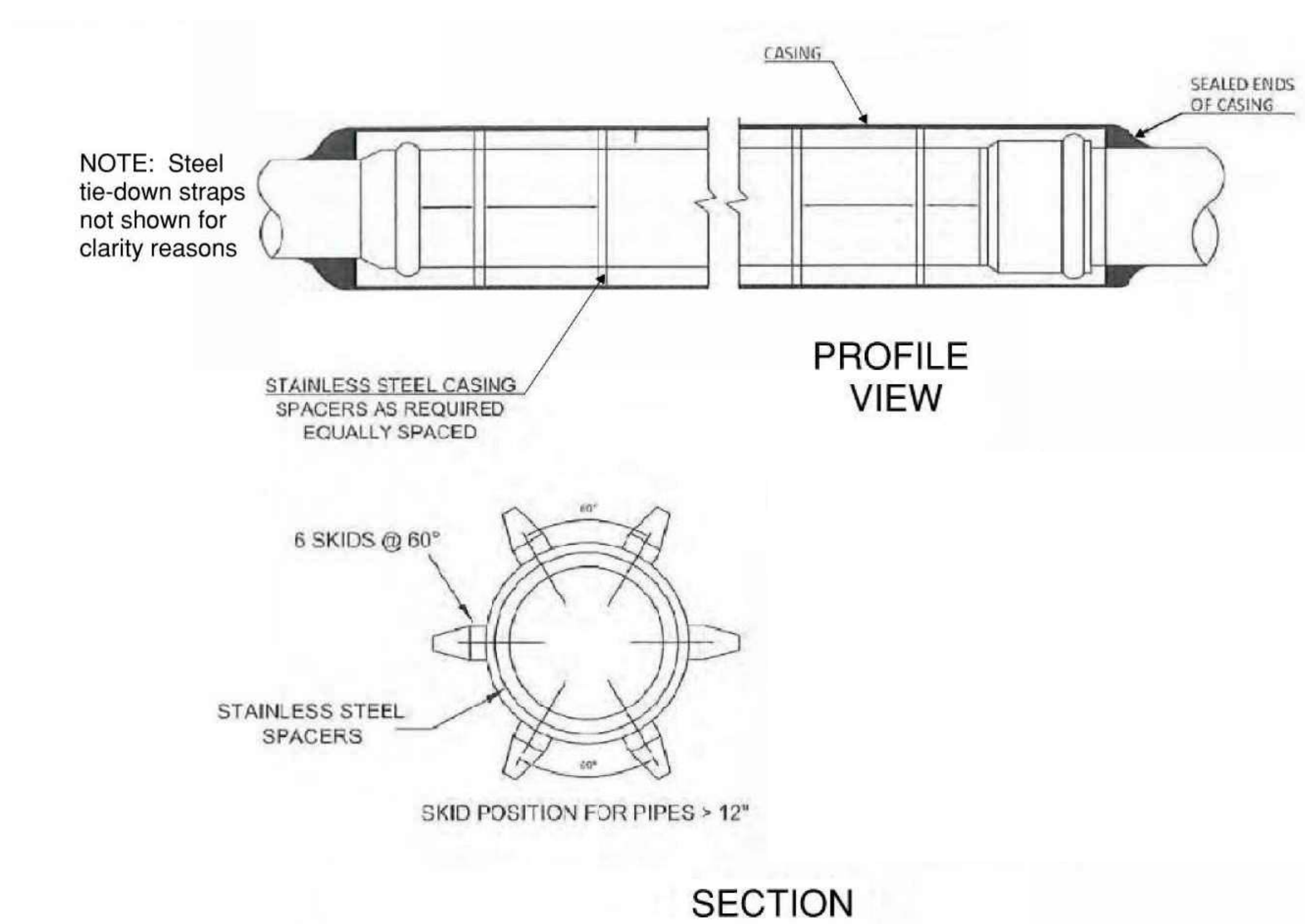
PIER TYPE 2

Scale: N.T.S.

NOTE: PIER DESIGN IS FOR TYPICAL INSTALLATION. INDEPENDENT STRUCTURAL OR GEOTECHNICAL DESIGN OF THE PIER FOR THE SPECIFIC SITE HAS NOT BEEN COMPLETED. DETAIL IS CONSIDERED A REPRESENTATIVE EXAMPLE FOR ROCK ANCHOR PIER CONSTRUCTION.

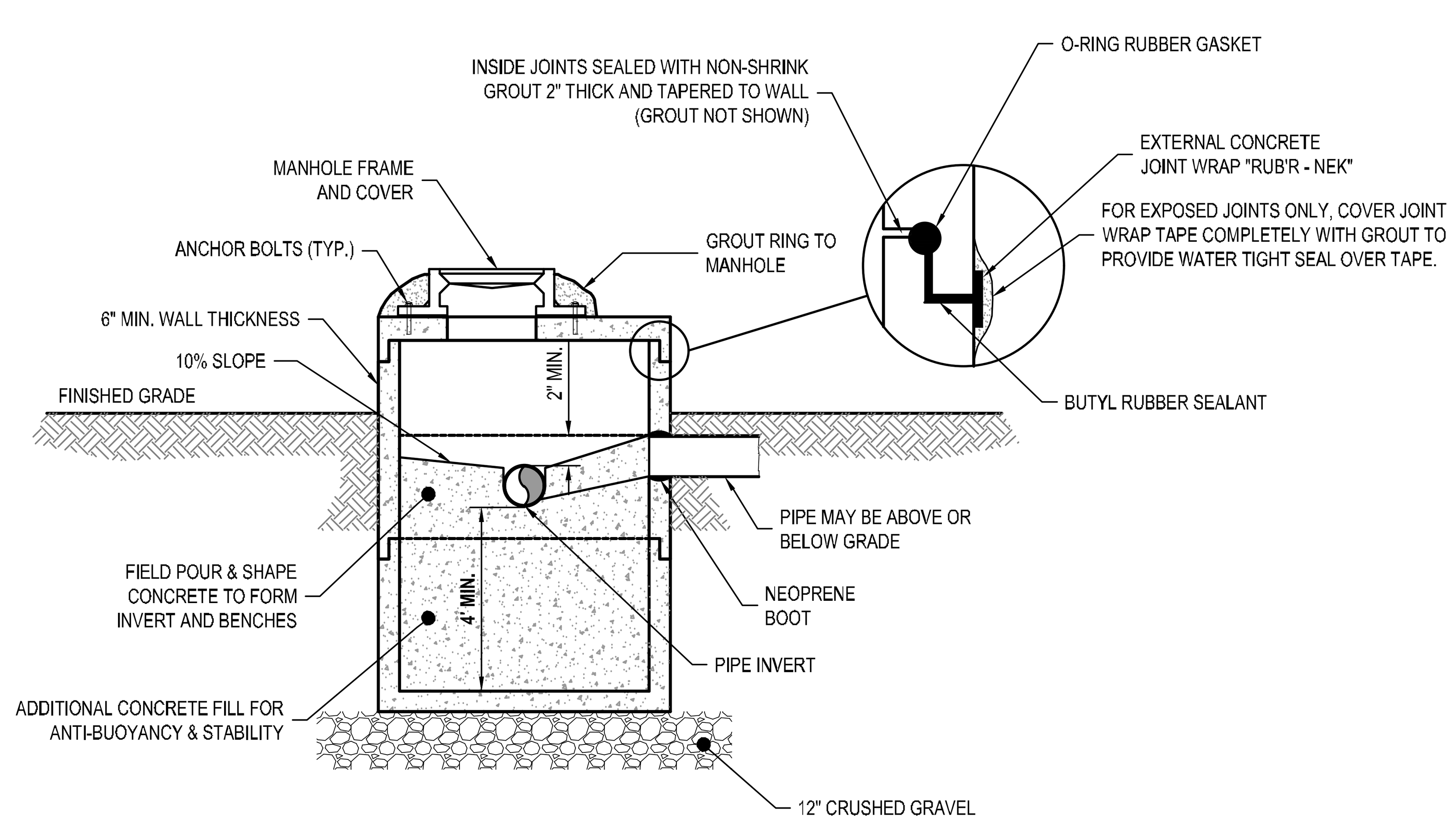


Rip Rap and Stream Bank Grading Detail



Steel Casing Pipe Profile and Cross-Section View

CASING MATERIAL -- STEEL CASING PIPE SHALL CONFORM WITH ASTM A-139, STANDARD SPECIFICATION FOR ELECTRIC-FUSION (ARC)-WELDED STEEL PIPE (NPS4 AND OVER). THE STEEL MATERIAL SHALL BE NEW, SMOOTH WALL, CARBON STEEL, GRADE B, WITH A MINIMUM TENSILE STRENGTH, AND MINIMUM THRITY-FIVE-THOUSAND (35,000 PSI) POUNDS PER SQUARE INCH YIELD STRENGTH.



PRECAST CONCRETE MANHOLE FOR WET AREAS

NTS

Path: L:\2020\20W02080 - Norman W and WW Opps\Deliverables\Norman - Bishop Creek\Norman - Bishop Creek\Norman - Bishop Creek.aprx
Date Saved: 5/14/2025 4:48 PM   Date Exported: 5/15/2025 8:53 AM   1 inch equals miles

Item 2.

GARVER

REGISTRATION NO. 4193

LICENSED PROFESSIONAL ENGINEER
05.16.2025
WILLIAM W. NADING
35093
OKLAHOMA

REV	DATE	DESCRIPTION	BY

CITY OF NORMAN

BISHOP CREEK SEWER LINE REPAIR

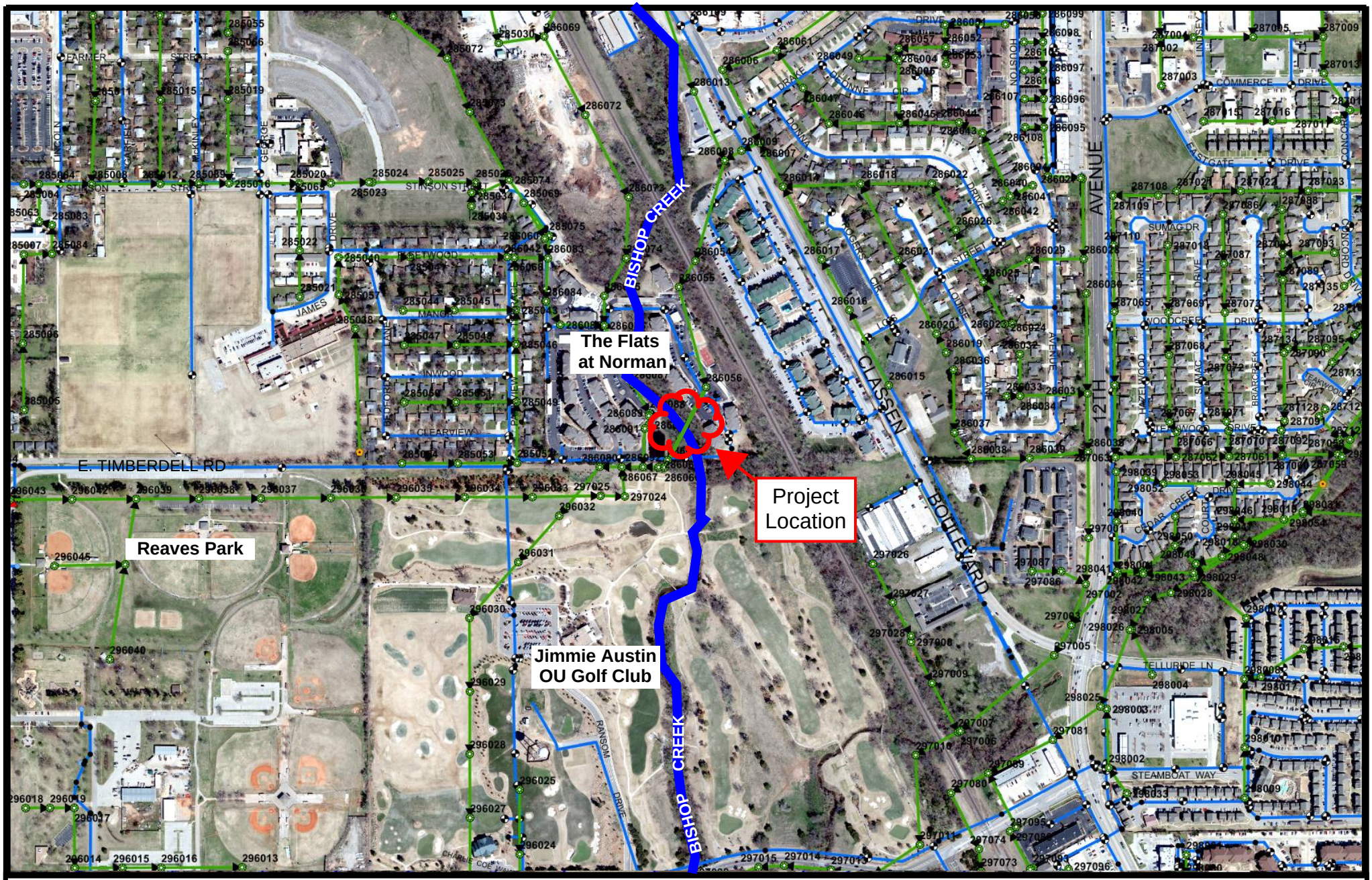
DETAILS

JOB NO.: 20W02080
DATE: MAY 2025
DRAWN BY: WWN
CHECKED BY: MTN

BAR IS ONE INCH ON ORIGINAL DRAWING
0 ——— 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
05-C501

SHEET NUMBER 02



PROJECT WW0212
BISHOP CREEK EMERGENCY SEWER LINE REPAIR

Map Produced by the City of Norman Geographic Information System.

The City of Norman assumes no responsibility for errors or omissions in the information presented.

0 500 1000 feet

Existing Water Lines

Existing Manholes

Existing Sanitary Sewer

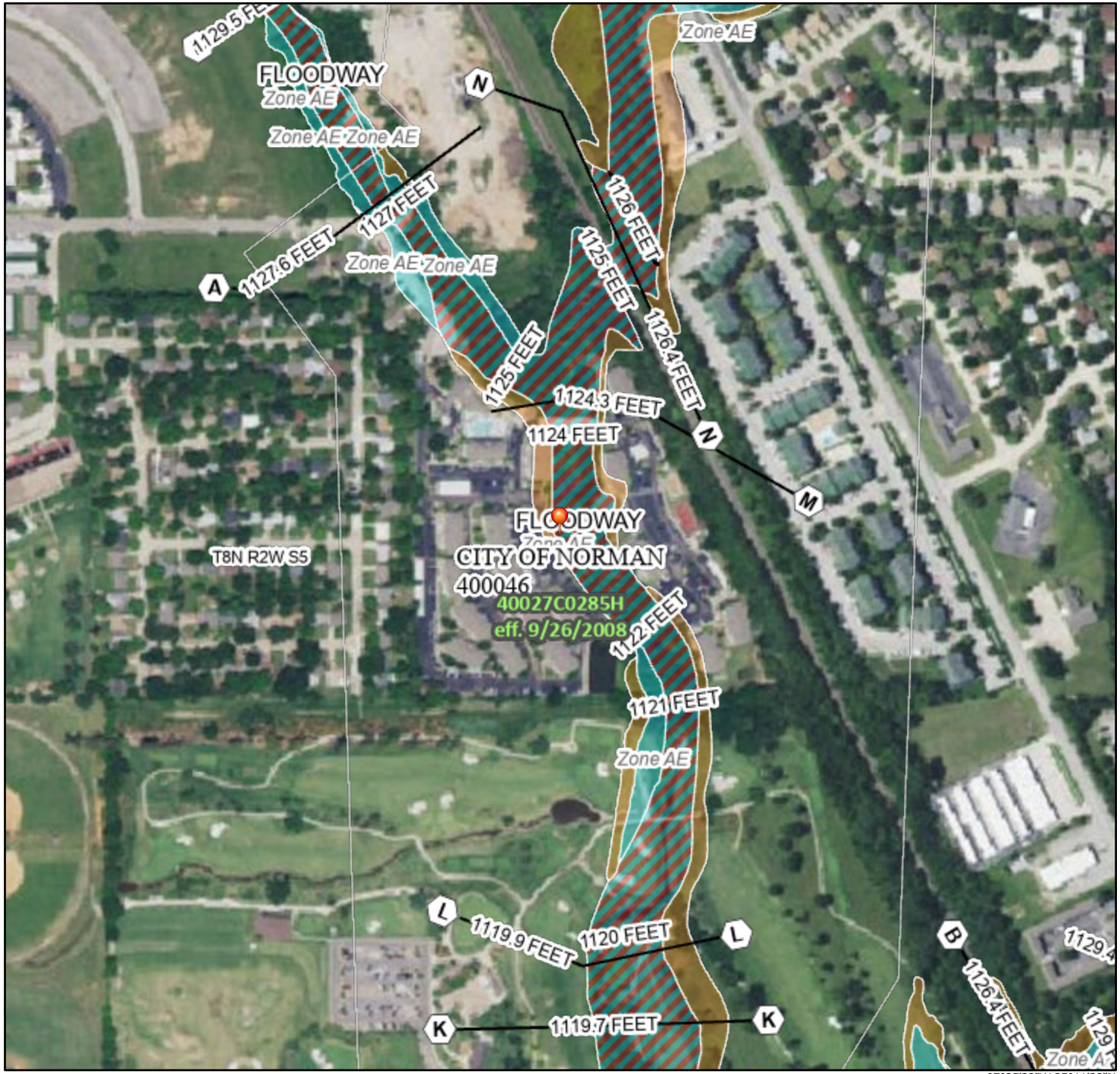
Project Location

N W E S

June 9, 2025

National Flood Hazard Layer FIRMette

97°26'10"W 35°12'8"N



97°25'33"W 35°11'38"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR F UT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/26/2025 at 3:33 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community ide FIRM panel number, and FIRM effective date. Map im unmapped and unmodernized areas cannot be used regulatory purposes.

STAFF REPORT 07/07/2025 **PERMIT #719**

ITEM: This Floodplain Permit Application is for bridge maintenance to the Main Street bridge over Merkle Creek between Merkle Drive and Hal Muldrow Drive.

BACKGROUND:
APPLICANT: City of Norman Streets Department
CONTRACTOR: TBD
ENGINEER: Brandon Brooks P.E., CFM

This project involves routine maintenance activities on the bridge located between Merkle Drive and Hal Muldrow drive over Merkle Creek on Main Street. Work to be performed includes repairing the bridge deck, clean-up of channel and slope stabilization in the immediate vicinity of the bridge, as well as crack repair and joint sealing of the bridge deck. Any material placed in the channel will be to replace what has been lost to scour and erosion.

Site located in Little River Basin or its Tributaries? yes __ no✓

STAFF ANALYSIS:
The project is located in the Merkle Creek floodplain (Zone AE). Base flood elevation is 1146.6', and the engineer has certified that there will be no increase in the base flood elevation as a result of this project.

Applicable Ordinance Sections:	Subject Area:
36-533 (e)(2)(a)..……..……	Fill restrictions in the floodplain
(e)(2)(e)..……..……	Compensatory storage
(f)(3)(8)……..	No rise considerations

(e)(2)(a) and (e)(2)(e) Fill Restrictions in the Floodplain and Compensatory Storage – The use of fill is restricted in the floodplain unless compensatory storage is provided.

> The applicant has indicated that no new fill will be brought in as a result of this project, other than what is necessary to replace what has been lost to erosion and to stabilize the banks to prevent erosion. Rip rap and other stabilization material will be installed at grade.

(f)(3)(8) No Rise Considerations – For proposed development within any flood hazard area (except for those designated as regulatory floodways), certification that a rise of no more than 0.05 feet will occur in the BFE on any adjacent property as a result of the proposed work must be provided.

> The engineer has certified that the project will not cause a rise in the BFE which meets this ordinance requirement.

RECOMMENDATION: Staff recommends that Floodplain Permit Application #719 be approved.

ACTION TAKEN: _____

City of Norman

Floodplain Permit Application

Floodplain Permit No. 719

Building Permit No. _____

Date 7/7/2025

FLOODPLAIN PERMIT APPLICATION
($100.00 Application Fee Required)

SECTION 1: GENERAL PROVISIONS (APPLICANT to read and sign):

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Occupancy is issued.
5. The permit will expire if no work is commenced within 2 years of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements and must be included with this floodplain permit application.
7. Applicant hereby gives consent to the City of Norman or his/her representative to access the property to make reasonable inspections required to verify compliance.
8. The following floodplain modifications require approval by the City Council:
   (a) A modification of the floodplain that results in a change of ten percent (10%) or more in the width of the floodplain.
   (b) The construction of a pond with a water surface area of 5 acres or more.
   (c) Any modifications of the stream banks or flow line within the area that would be regulatory floodway whether or not that channel has a regulatory floodplain, unless the work is being done by the City of Norman staff as part of a routine maintenance activity.
9. All supporting documentation required by this application is required along with the permit fee by the submittal deadline. Late or incomplete applications will not be accepted.
10. I, THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT.)

APPLICANT: City of Norman ADDRESS: 225 N. Webster Ave, Norman, Ok, 73069

TELEPHONE: 405-366-5459 SIGNATURE: _____

BUILDER: _____ ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

ENGINEER: Brandon Brock, PE, CFM ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

PROJECT LOCATION

To avoid delay in processing the application, please provide enough information to easily identify the project location. Provide the street address, subdivision addition, lot number or legal description (attach) and, outside urban areas, the distance to the nearest intersecting road or well known landmark. A sketch attached to this application showing the project location would be helpful.

A bridge located between Merkle Drive and Hal Muldrow Drive over Merkle Creek.

DESCRIPTION OF WORK (Check all applicable boxes):

A. STRUCTURAL DEVELOPMENT

ACTIVITY	STRUCTURE TYPE
☐ New Structure	☐ Residential (1-4 Family)
☐ Addition	☐ Residential (More than 4 Family)
☐ Alteration	☐ Non-Residential (Flood proofing? ☐ Yes)
☐ Relocation	☐ Combined Use (Residential & Commercial)
☐ Demolition	☐ Manufactured (Mobile) Home
☐ Replacement	☐ In Manufactured Home Park? ☐ Yes

ESTIMATED COST OF PROJECT $ 774,662.50 Work that involves substantial damage/substantial improvement requires detailed cost estimates and an appraisal of the structure that is being improved.

B. OTHER DEVELOPMENT ACTIVITIES:

☐ Fill ☐ Mining ☐ Drilling ☐ Grading

☐ Excavation (Beyond the minimum for Structural Development)

☐ Watercourse Alteration (Including Dredging and Channel Modifications)

☐ Drainage Improvements (Including Culvert Work) ☑ Road, Street or Bridge Construction

☐ Subdivision (New or Expansion) ☐ Individual Water or Sewer System

In addition to items A. and B. provide a complete and detailed description of proposed work (failure to provide this item will be cause for the application to be rejected by staff). Attach additional sheets if necessary.

This project is to rehabilitate the existing bridge over Merkle Creek. Efforts will include deck repair, sidewalk improvements, and minimal slope reinforcement. This is routine maintenance.

C. ATTACHMENTS WHICH ARE REQUIRED WITH EVERY APPLICATION:

The applicant must submit the documents listed below before the application can be processed. If the requested document is not relevant to the project scope, please check the Not Applicable box and provide explanation.

A. Plans drawn to scale showing the nature, location, dimensions, and elevation of the lot, existing or proposed structures, fill, storage of materials, flood proofing measures, and the relationship of the above to the location of the channel, floodway, and the regulatory flood-protection elevation.

B. A typical valley cross-section showing the channel of the stream, elevation of land areas adjoining each side of the channel, cross-sectional areas to be occupied by the proposed development, and high-water information.

☑ Not Applicable:

_____

_____

C. Subdivision or other development plans (If the subdivision or other developments exceeds 50 lots or 5 acres, whichever is the lesser, the applicant **must** provide 100-year flood elevations if they are not otherwise available).

☑ Not Applicable:

_____

_____

D. Plans (surface view) showing elevations or contours of the ground; pertinent structure, fill, or storage elevations; size, location, and spatial arrangement of all proposed and existing structures on the site; location and elevations of streets, water supply, sanitary facilities; photographs showing existing land uses and vegetation upstream and downstream, soil types and other pertinent information.

☐ Not Applicable:

_____

_____

E. A profile showing the slope of the bottom of the channel or flow line of the stream.

☑ Not Applicable:

_____

_____

F. Elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures.

☑ Not Applicable:

_____

_____

G. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

☑ Not Applicable:

_____

H. For proposed development within any flood hazard area (except for those areas designated as regulatory floodways), certification that a rise of no more than five hundredths of a foot (0.05') will occur on any adjacent property in the base flood elevation as a result of the proposed work. For proposed development within a designated regulatory floodway, certification of no increase in flood levels within the community during the occurrence of the base flood discharge as a result of the proposed work. All certifications shall be signed and sealed by a Registered Professional Engineer licensed to practice in the State of Oklahoma.

I. A certified list of names and addresses of all record property owners within a three hundred fifty (350) foot radius of the exterior boundary of the subject property not to exceed 100 feet laterally from the Special Flood Hazard Area. The radius to be extended by increments of one hundred (100) linear feet until the list of property owners includes not less than fifteen (15) individual property owners of separate parcels or until a maximum radius of one thousand (1,000) feet has been reached.

J. A copy of all other applicable local, state, and federal permits (i.e. U.S. Army Corps of Engineers 404 permit, etc).

After completing SECTION 2, APPLICANT should submit form to Permit Staff for review.

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by Permit Staff.)

The proposed development is located on FIRM Panel No.: 0280 J, Dated: 1/15/2021

The Proposed Development:

☐ Is NOT located in a Special Flood Hazard Area
(Notify the applicant that the application review is complete and NO FLOODPLAIN PERMIT IS REQUIRED).

☑ Is located in a Special Flood Hazard Area.

☑ The proposed development is located in a floodway.

☑ 100-Year flood elevation at the site is 1146.6' Ft. NGVD (MSL) ☐ Unavailable

See Section 4 for additional instructions.

SIGNED: _____ **DATE:** 6/30/2025

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by Permit Staff.)

The applicant must also submit the documents checked below before the application can be processed.

☐ Flood proofing protection level (non-residential only) _____ Ft. NGVD (MSL). For flood proofed structures applicant must attach certification from registered engineer.

☐ Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ Certification from a registered engineer that the proposed activity in a regulatory flood plain will result in an increase of no more than 0.05 feet in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ All other applicable federal, state, and local permits have been obtained.

Other: _____

_____

_____

SECTION 5: PERMIT DETERMINATION (To be completed by Floodplain Chairman.)

The proposed activity: **(A)** ☐ **Is**; **(B)** ☐ **Is Not** in conformance with provisions of Norman's City Code Chapter 36, Section 533. The permit is issued subject to the conditions attached to and made part of this permit.

SIGNED: _____ DATE: _____

If **BOX A** is checked, the Floodplain committee chairman may issue a Floodplain Permit.

If **BOX B** is checked, the Floodplain committee chairman will provide a written summary of deficiencies. Applicant may revise and resubmit an application to the Floodplain committee or may request a hearing from the Board of Adjustment.

APPEALS: Appealed to Board of Adjustment: ☐ Yes ☐ No

Hearing date: _____

Board of Adjustment Decision - Approved: ☐ Yes ☐ No

Conditions:

_____

_____

_____

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Occupancy is issued.)

1. FEMA Elevation Certificate
   and/or
2. FEMA Floodproofing Certificate

NOTE: The completed certificate will be reviewed by staff for completeness and accuracy. If any deficiencies are found it will be returned to the applicant for revision. A Certificate of Occupancy for the structure will not be issued until an Elevation and /or Floodproofing Certificate has been accepted by the City.

The City of
NORMAN

PUBLIC WORKS DEPARTMENT

225 N Webster Ave · P.O. Box 370
Norman, Oklahoma 73069 · 73070

Phone: 405-366-5452
Fax: 405-366-5418

June 11, 2025

Mr. Scott Sturtz, P.E., CFM
Floodplain Administrator
City of Norman

Re: No Rise Certification
Main Street Bridge Rehabilitation
Norman, OK

Dear Mr. Sturtz:

This project involves maintenance activities on the bridge located between Merkle Drive and Hal Muldrow Drive over Merkle Creek within the City of Norman. Maintenance activities include repairing the bridge deck, clean-up of channel and slope stabilization (limited to the immediate vicinity of the bridge), and crack repair and joint sealing of the bridge deck.

The channel flow line and banks will not be altered at this location. Any material (soil, sod, rip rap, or flexamat) placed in the channel will be to replace what has been washed away by erosion and scour and is considered routine maintenance. There will not be any increase in the Base Flood Elevation at this location.

Please contact me at 405-366-5459 if you have any questions or need further information.

Sincerely,

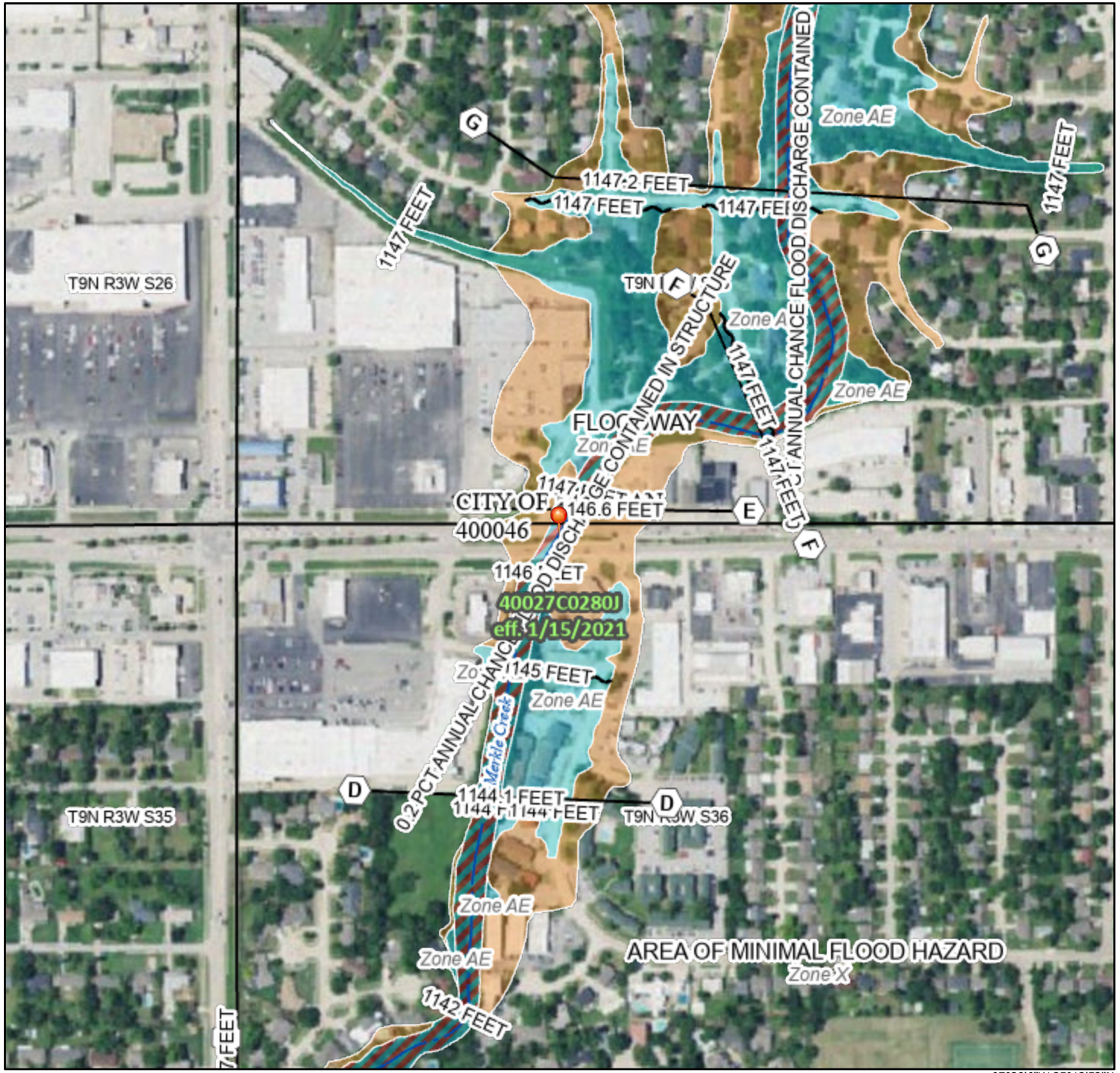
Brandon Brooks

Brandon Brooks, PE, CFM
Capital Projects Engineer

National Flood Hazard Layer FIRMette

FEMA

97°28'43"W 35°13'21"N



97°28'6"W 35°12'52"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

Item 3.

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR F UT

SPECIAL FLOOD HAZARD AREAS
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- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
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- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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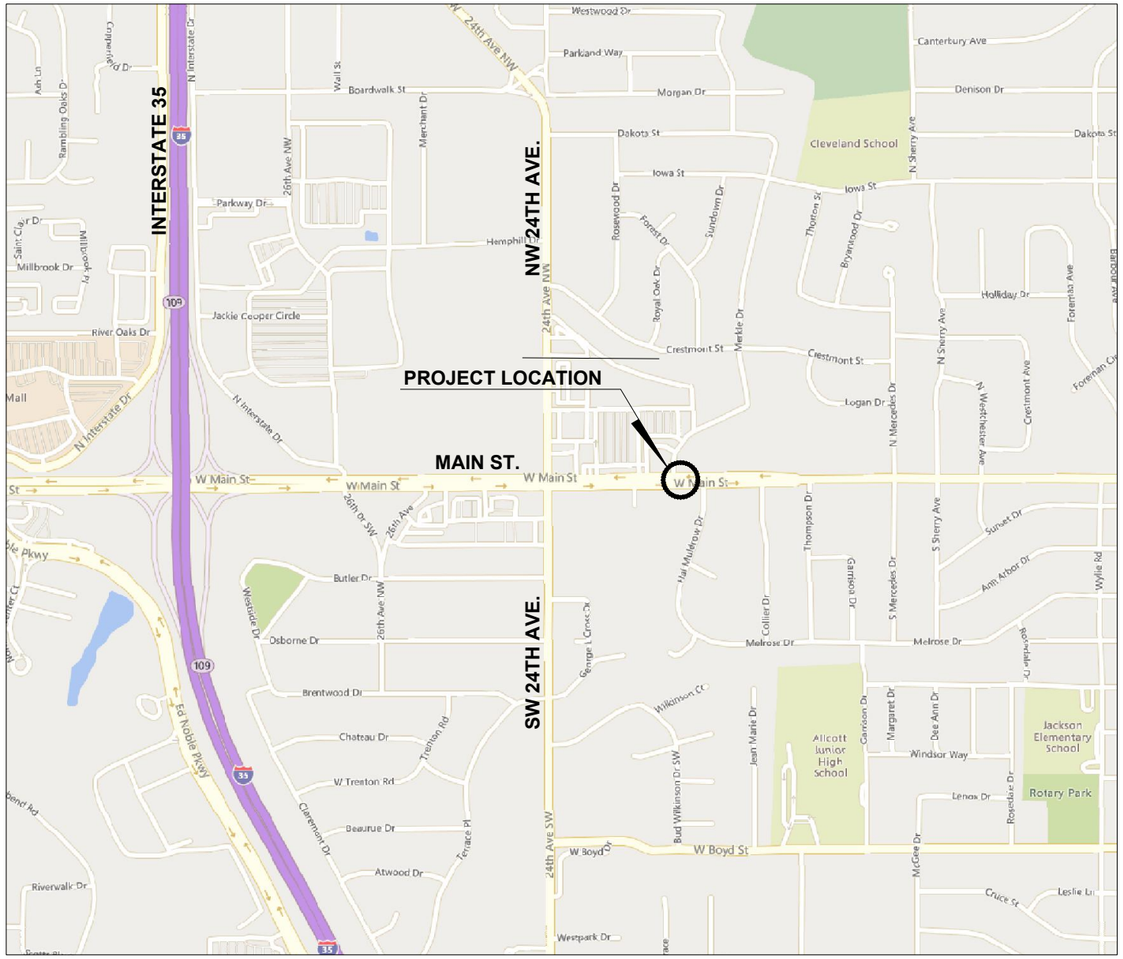
PLAN OF
BRIDGE REHABILITATION

MAIN STREET BRIDGE OVER MERKLE CREEK (NBI 18911)
CITY OF NORMAN PROJECT NO. K-2324-152



VICINITY MAP
1"=500'

CALL OKIE
TWO WORKING DAYS
BEFORE YOU DIG
1-800-522-6543

P.E. NO. 35925(01)

The City of
NORMAN

LARRY KEIKKILA
Mayor

AUSTIN BALL
Council Member

DARREL PYLE
City Manager

MICHAEL NASH
Council Member

SCOTT DIXON
Council Member

RICK KNIGHTON
City Attorney

JOSHUA A. HINKLE
Council Member

BREE MONTOYA
Council Member

STEPHEN TYLER
Council Member

HELEN GRANT
Council Member

MATTHEW PEACOCK
Council Member

SHEET INDEX

ONE CALL UTILITY LOCATION NUMBER

840-5032
1-800-522-6543

This number is to be used for information on the location of all underground utilities. Contact this number and other numbers specified in the plans prior to any excavation.

PREPARED BY:
CEC CORPORATION
CA32 6/30/26
OKLAHOMA CITY, OKLAHOMA

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27689
11-15-24
OKLAHOMA

KYLE MORSE, P.E.
OKLA. REG. NO. 27689

11-15-24
DATE

PREPARED BY:
CEC CORPORATION
CA32 6/30/26
OKLAHOMA CITY, OKLAHOMA

LICENSED PROFESSIONAL ENGINEER
AUGUSTINE F. WUERTZ
29197
OKLAHOMA
11-15-24
CA 32 6-30-26

GUS WUERTZ, P.E., S.E.
OKLA. REG. NO. 29197

11-15-24
DATE

CEC CORPORATION
4000 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.751.4200
WWW.CECOK.COM

REVISION HISTORY

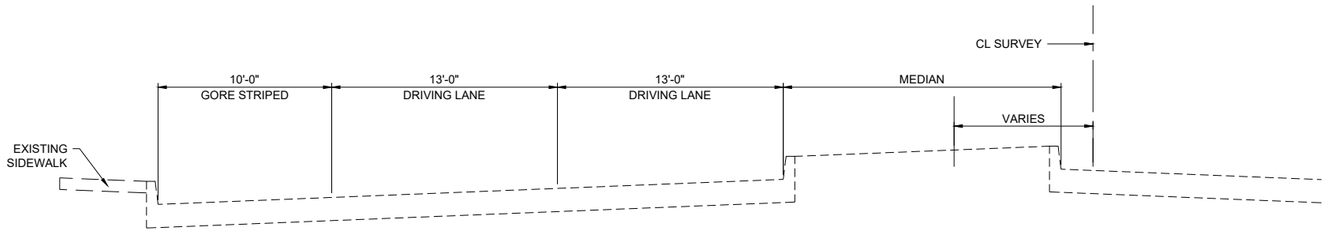
NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

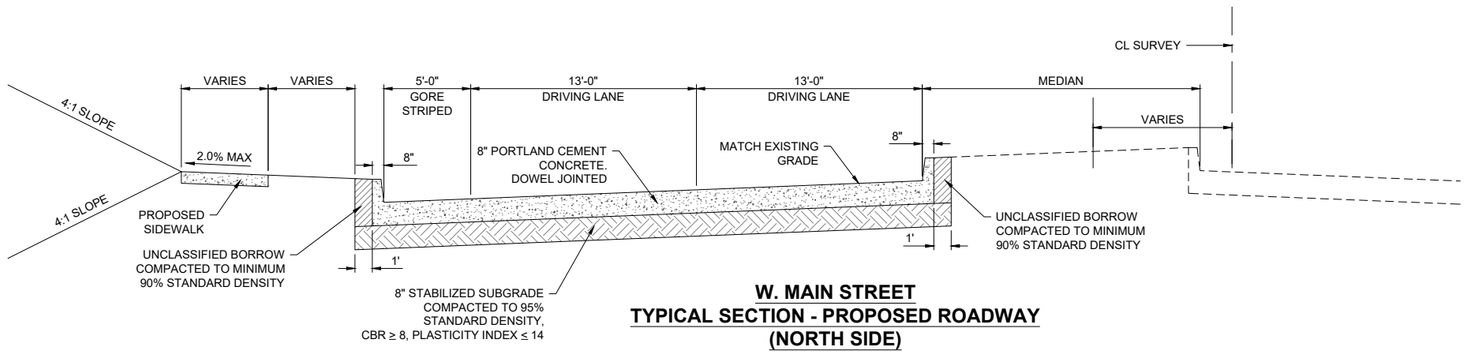
SHEET NAME
TITLE SHEET

SHEET NO.
0001



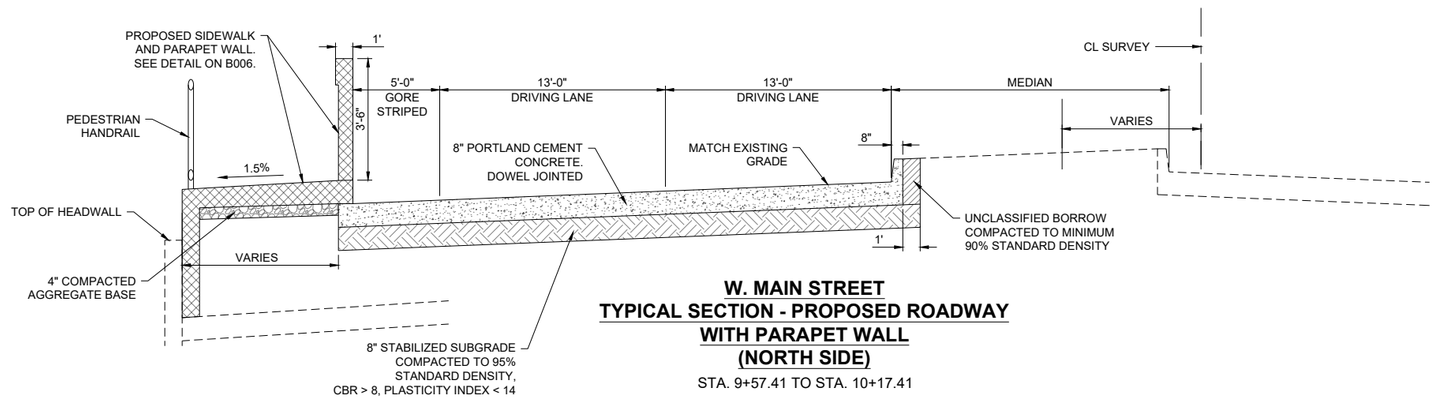
W. MAIN STREET
TYPICAL SECTION - EXISTING ROADWAY
(NORTH SIDE)

STA. 8+74.70 TO STA. 11+10.06



W. MAIN STREET
TYPICAL SECTION - PROPOSED ROADWAY
(NORTH SIDE)

STA. 8+74.70 TO STA. 9+57.41
STA. 10+17.41 TO STA. 11+10.06



W. MAIN STREET
TYPICAL SECTION - PROPOSED ROADWAY
WITH PARAPET WALL
(NORTH SIDE)

STA. 9+57.41 TO STA. 10+17.41

PLOT DATE:

CEC
CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM
STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27688
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

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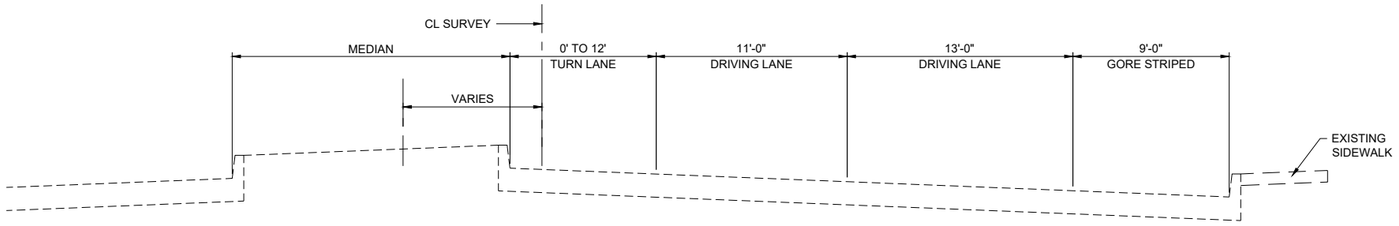
MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

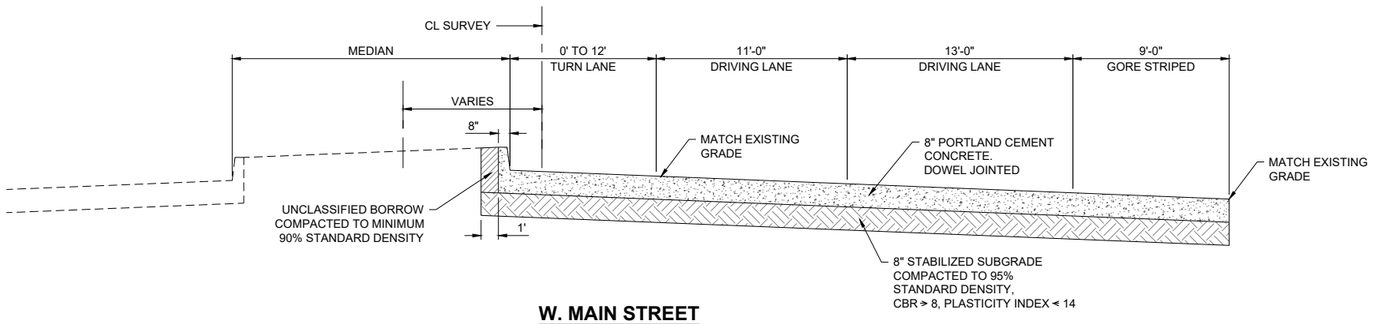
SHEET NAME
TYPICAL SECTIONS

SHEET
0002



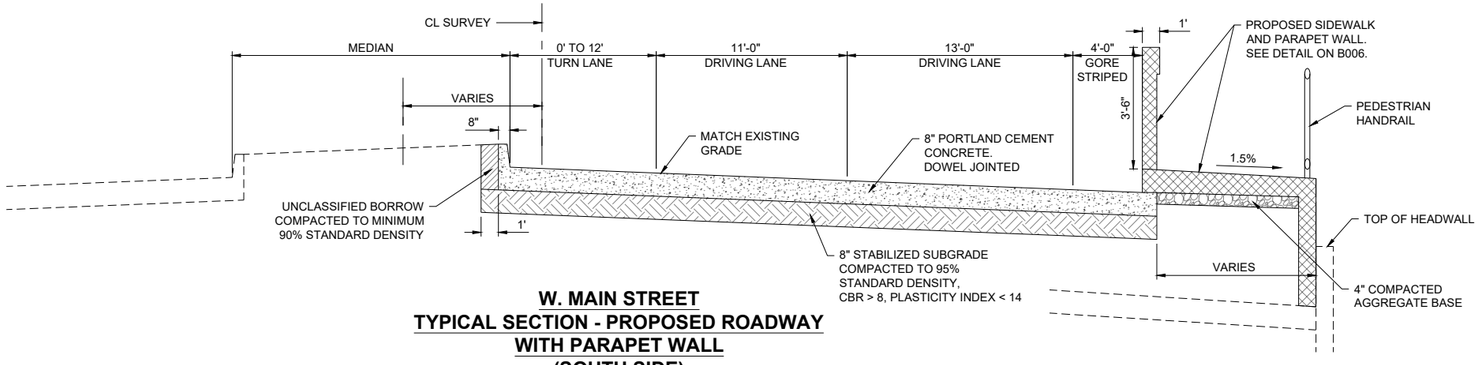
W. MAIN STREET
TYPICAL SECTION - EXISTING ROADWAY
(SOUTH SIDE)

STA. 8+31.85 TO STA. 11+10.06



W. MAIN STREET
TYPICAL SECTION - PROPOSED ROADWAY
(SOUTH SIDE)

STA. 8+31.85 TO STA. 8+69.80
STA. 9+39.80 TO STA. 11+10.06



W. MAIN STREET
TYPICAL SECTION - PROPOSED ROADWAY
WITH PARAPET WALL
(SOUTH SIDE)

STA. 8+69.80 TO STA. 9+39.80

PLOT DATE:

CEC

CEC CORPORATION
405 S.W. 44TH STREET, ROAD
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WWW.CECINC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
21688
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

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MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
TYPICAL SECTIONS

SHEET
0003

SUBMITTAL:	FINAL PLANS	REVISION HISTORY			
DATE:	11-15-2024	NO.	DESCRIPTION	DATE	
PROJECT NO:	K-2324-152				
DESIGNED BY:	KLM				
DRAWN BY:	MTD				
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SCALE:	AS SHOWN				

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME: PROJECT LOCATION MAP

SHEET: 0004

CEC
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4555 W. MEMORIAL ROAD
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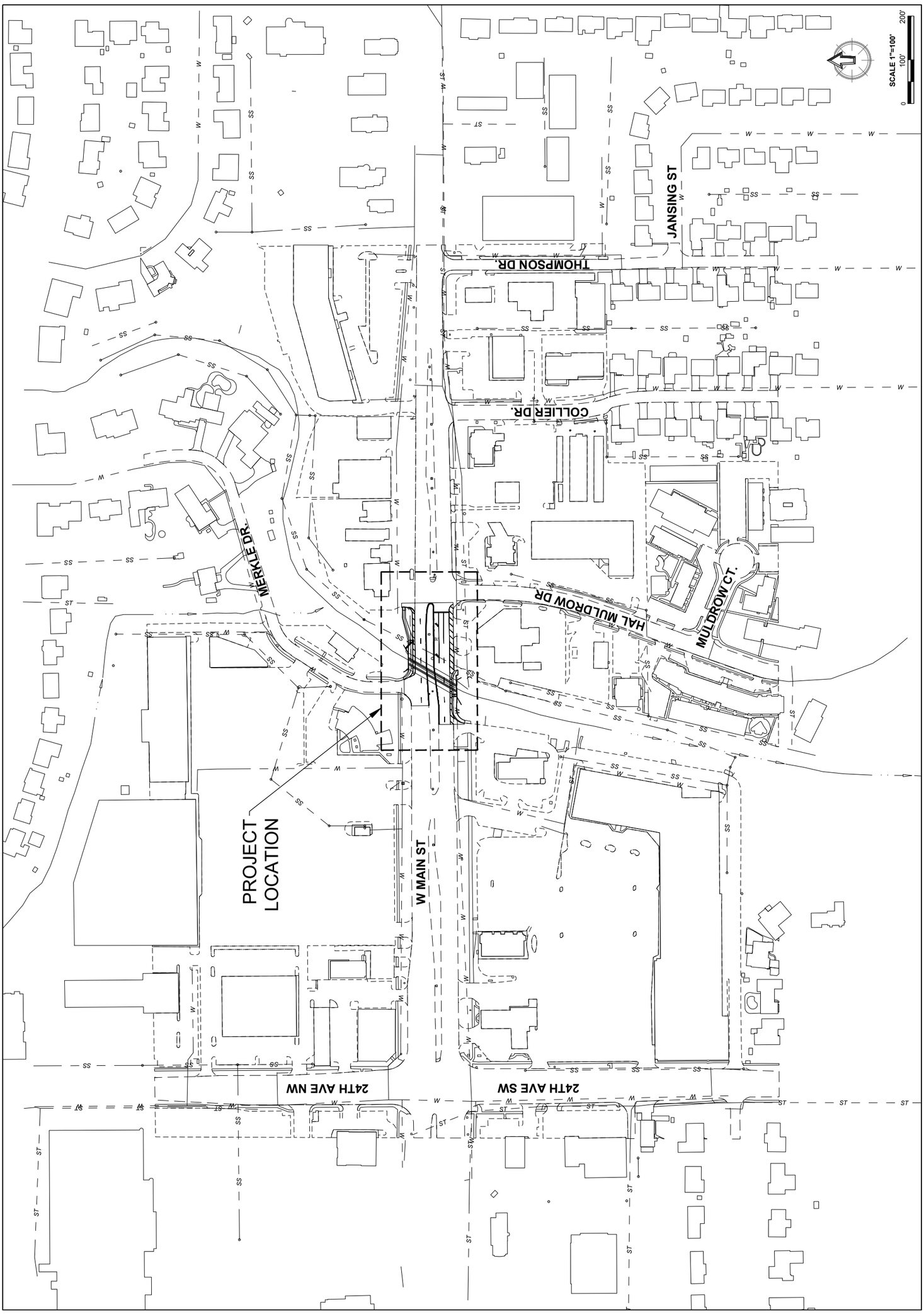
KYLE L. MILLER 27568 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA



PLOT DATE:

ITEM NO.	SPEC NO.	DESCRIPTION	NOTES	UNIT	QUANTITY
1	221(B)	TEMPORARY SILT FENCE	(6)	L.F.	165.00
2	221(C)	TEMPORARY SEDIMENT FILTER		EA.	2.00
3	230(A)	SOLID SLAB SODDING		S.Y.	325.00
4	303(A)	AGGREGATE BASE (TYPE A)		C.Y.	16.00
5	307(K)	STABILIZED SUBGRADE (8")	(1)	S.Y.	2,422.00
6	414(G)	P.C. CONCRETE FOR PAVEMENT (ROADWAY)		C.Y.	509.00
7	509(A)	CLASS AA CONCRETE		C.Y.	38.80
8	511(A)	REINFORCING STEEL		LB.	8,730.00
9	600(B)	AUDIO AND VIDEO RECORDING, PRE AND POST CONST.		LSUM	1.00
10	602(B)	ARTICULATING CONCRETE BLOCK (FLEXAMAT)	(7)	S.Y.	150.00
11	609(A)	COMBINED CURB & GUTTER (8" BARRIER)		L.F.	775.00
12	610(A)	4" CONCRETE SIDEWALK		S.Y.	155.00
13	619(B)	REMOVAL OF CONCRETE PAVEMENT		S.Y.	2,301.00
14	619(B)	REMOVAL OF ASPHALT PAVEMENT		S.Y.	123.00
15	619(B)	REMOVAL OF PIPE RAILING	(4)	L.F.	179.00
16	619(B)	REMOVAL OF SIDEWALK	(4)	S.Y.	183.00
17	619(B)	REMOVAL OF CURB AND GUTTER	(4)	L.F.	851.00
18	619(B)	REMOVAL STRUCTURES AND OBSTRUCTIONS	(4)	LSUM	1.00
19	619(C)	SAWING PAVEMENT	(5)	L.F.	400.00
20	622(A)	PIPE RAILING		L.F.	186.00
21	641	MOBILIZATION		LSUM	1.00
22	642(A)	CONSTRUCTION STAKING (CONSTRUCTION SURVEY)		LSUM	1.00
23	856(A)	TRAFFIC STRIPE (MULTI-POLY.)(4" WIDE)	(2)	L.F.	520.00
24	856(A)	TRAFFIC STRIPE (MULTI-POLY.)(6" WIDE)		L.F.	748.00
25	856(A)	TRAFFIC STRIPE (MULTI-POLY.)(8" WIDE)		L.F.	226.00
26	856(A)	TRAFFIC STRIPE (MULTI-POLY.)(24" WIDE)		L.F.	74.00
27	856(B)	TRAFFIC STRIPE(PAINT)(ARROW)		EA.	2.00
28	856(B)	TRAFFIC STRIPE(PAINT)(WORDS)		EA.	1.00
29	880(J)	CONSTRUCTION TRAFFIC CONTROL	(3)	LSUM	1.00
30		CONCRETE WASHOUT		EA.	1.00

GENERAL CONSTRUCTION NOTES

1. SYMBOLS AND LEGENDS ARE DIAGRAMMATIC ONLY AND LOCATIONS SHALL BE ADJUSTED FOR EXISTING FIELD CONDITIONS, BUT NO MAJOR ALTERATIONS OR RELOCATIONS WILL BE MADE WITHOUT FIRST CONSULTING WITH THE TRAFFIC ENGINEER DIVISION.
2. ALL BROKEN CONCRETE, WASTE MATERIAL, AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITY LINES AND STRUCTURES, WHETHER SHOWN OR NOT, BOTH PUBLIC AND PRIVATE. ANY DAMAGE TO A UTILITY LINE OR STRUCTURE, BECAUSE OF THE CONTRACTOR'S ACTIONS, SHALL BE REPAIRED SOLELY AT THE CONTRACTOR'S EXPENSE TO A CONDITION AS GOOD OR BETTER THAN THAT PRIOR TO THE DAMAGE.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE PROMPT REPLACEMENT AND/OR REPAIR OF ALL TRAFFIC CONTROL DEVICES AND APPURTENANCES DAMAGED OR DISTURBED DUE TO CONSTRUCTION.
5. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL BUILT ELEMENTS, INCLUDING BUT NOT LIMITED TO SIDEWALKS AND ACCESS RAMPS COMPLY WITH THE CITY OF NORMAN ADA STANDARD REQUIREMENTS. CONTRACTOR SHALL NOTIFY THE ENGINEER OR ENGINEER'S DESIGNEE FOR ANY DISCREPANCIES BETWEEN DESIGN INFORMATION AND THE CITY OF NORMAN STANDARD REQUIREMENTS PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL PAVEMENT MARKINGS THAT WILL BE IN CONFLICT WITH THE PROPOSED WORK.
7. A WORK ZONE PERMIT MUST BE OBTAINED FROM THE TRAFFIC MANAGEMENT DIVISION AT LEAST TWO (2) WORKING DAYS PRIOR TO THE START OF WORK AND/OR PLACING OR REMOVING ANY BARRICADES OR MODIFYING EXISTING TRAFFIC CONTROL DEVICES.
8. ALL WORK NOT CLASSIFIED AS A CONTRACT PAY ITEM SHALL BE CONSIDERED INCIDENTAL CONSTRUCTION. THE COST FOR SUCH WORK SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS.
9. ALL DISTURBED, UNPAVED AREAS WITHIN THE PROJECT LIMITS ON EASEMENTS AND RIGHT-OF-WAY SHALL BE SODDED, FERTILIZED, AND WATERED IN ACCORDANCE WITH CITY OF NORMAN STANDARD SPECIFICATIONS SECTION 2104, "SODDING AND SEEDING". SODDED AREAS SHALL BE REPAIRED AND MAINTAINED UNTIL ALL PORTIONS OF THE PROJECT ARE COMPLETE AND APPROVED FOR FINAL ACCEPTANCE. ALL OTHER AREAS DISTURBED AS A RESULT OF THE CONTRACTOR'S ACTIONS SHALL BE RESTORED IN A MANNER ACCEPTABLE TO THE OWNER TO A CONDITION AS GOOD OR BETTER THAN THAT PRIOR TO THE DISTURBANCE AT NO EXPENSE TO THE OWNER.
10. STREETS AND/OR LANES WITHIN THE CONSTRUCTION ZONE MAY BE CLOSED ONLY UPON THE PRIOR APPROVAL OF THE CITY ENGINEER OR HIS DESIGNEE. FOLLOWING APPROVAL, THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE FOLLOWING AT LEAST TWO (2) WORKING DAYS IN ADVANCE OF THE CLOSING.
11. ANY WORKZONE SPEED LIMIT REDUCTION ON THE CITY OF NORMAN'S STREETS MUST BE APPROVED THROUGH THE CITY TRAFFIC ENGINEER BEFORE ANY SIGNS ARE PLACED.
12. CONSTRUCTION AND DAILY MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE PERFORMED BY THE CONTRACTOR PRIOR TO THE INITIATION OF ANY LAND DISTURBING ACTIVITIES. INSPECTION OF THESE STRUCTURES WILL BE PERFORMED BY THE CITY OF NORMAN ON A REGULAR BASIS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ALL EROSION CONTROL DEVICES DAMAGED DUE TO CONSTRUCTION.
13. EXCESS EXCAVATED SOIL WILL BECOME THE PROPERTY OF THE CONTRACTOR TO BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

GENERAL INTENT NOTES

16. THE PLANS AND REFERENCED CONSTRUCTION SPECIFICATIONS DESCRIBE THE WORK COMPLETED AND IDENTIFY THE WORK TO BE DONE AND THE MATERIALS NECESSARY FOR CONSTRUCTION. THESE PLANS ARE INTENDED TO BE FULLY EXPLANATORY. THE PLAN AND SPECIFICATION DOCUMENTS SHALL BE CONSTRUCTED AND INTERPRETED AS A WHOLE AND THEREFORE, ANYTHING SHOWN, INDICATED OR SPECIFIED IN ONE AND NOT THE OTHER, SHALL BE INTERPRETED AS BEING SHOWN, INDICATED OR SPECIFIED IN BOTH.
17. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED INCIDENTAL AND INCLUDED AS AN ORDINARY PART OF THE WORK. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK CAN BE MADE OR WILL BE PERMITTED BY THE OWNER WITHOUT THE ISSUANCE OF A CHANGE ORDER.
18. NO PLEA OF IGNORANCE OF EXISTING CONDITIONS OR OF DIFFICULTIES OR CONDITIONS ENCOUNTERED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL OF THE REQUIREMENTS IN THE CONTRACT DOCUMENTS GOVERNING THE WORK.

PAY QUANTITY NOTES (ROADWAY)

1. THE COST FOR STABILIZED SUBGRADE WILL INCLUDE THE COST OF CHEMICAL ADDITIVES, AT A RATE SPECIFIED FOR THE APPROPRIATE SOIL CLASSIFICATION ACCORDING TO ODOT TEST METHOD OHD L-50.
2. QUANTITY SHOWN INCLUDES 748 L.F. TRAFFIC STRIPE (PAINT)(WHITE) AND 520 L.F. TRAFFIC STRIPE (PAINT)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.
3. ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING/ THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION).
4. TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
5. COST INCLUDES SAWING PAVEMENT IN A MANNER APPROVED BY THE ENGINEER.
6. ESTIMATED QUANTITY FOR TEMPORARY EROSION AND SEDIMENT CONTROL TO BE USED IN MANNER APPROVED BY THE ENGINEER. PRICE BID TO INCLUDE THE COST OF NECESSARY MAINTENANCE, MAINTAINING IN AN UPRIGHT POSITION, REMOVAL OF CONTROL AND SEDEMENT REMOVAL.
7. SHALL BE CONSTRUCTED ON TOP OF SOD AND INSTALLED PER MANUFACTURER RECOMMENDATIONS.
8. SIDEWALK PATH BETWEEN PARAPET WALL AND PIPE RAILING SHALL BE PAID FOR BY CLASS AA CONCRETE AND REINFORCING STEEL. SIDEWALK OUTSIDE OF THESE EXTENTS TO BE PAID BY 4" CONCRETE SIDEWALK.

UTILITY CONTACTS

ONG	CORY MODDELMOG	551-6689
AT&T	JOE ANDERSON	539-444-1026
OEC	MORGAN EDERER	217-6615
COX COMMUNICATIONS		605-1339
ONE CALL UTILITIES	LOCATE	800-522-6543
NORMAN UTILITY ADMINISTRATION		336-5443

EXISTING UTILITIES

— — W — —	WATERLINE
— — OHE — —	OVERHEAD ELECTRIC
— — TUG — —	UNDERGROUND TELEPHONE
— — FOC — —	FIBER OPTIC CABLE
— — PUG — —	UNDERGROUND POWER
— — G — —	GAS LINE
— — SS — —	SANITARY SEWER
— — ST — —	STORM SEWER

SYMBOLS

- FIRE HYDRANT
- WATER METER
- WATER VALVE
- GAS METER
- GAS VALVE
- GAS VENT PIPE
- SANITARY SEWER MANHOLE
- BENCHMARK
- CONTROL POINT
- TELEPHONE VAULT
- TELEPHONE PEDESTAL
- EXISTING BUILDING
- STORM SEWER MANHOLE
- ELECTRIC GUY WIRE
- ELECTRIC VAULT
- ELECTRIC PEDESTAL
- PULL BOX
- POWER POLE
- LIGHT POLE
- MAILBOX
- SIGN
- TREE
- HEDGE/LANDSCAPING
- STORM SEWER INLET

PLOT DATE:

Item 3.

CEC

CEC CORPORATION
4616 NW 23RD, SUITE 140
OKLAHOMA CITY, OKLAHOMA 73142
(405) 942-3311
WWW.CONNECTCEC.COM

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27889
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

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DATE:	11-15-2024
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APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
SUMMARY OF PAY QUANTITIES & NOTES

SHEET NO.
AR-4

GENERAL NOTES

SPECIFICATIONS -
COMPLY WITH THE REQUIREMENTS OF THE 2019 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

PNEUMATICALLY PLACED MORTAR CONCRETE REPAIR -
REPAIR AREAS OF DETERIORATED CONCRETE AT THE APPROXIMATE LOCATIONS SHOWN IN PLANS IN ACCORDANCE WITH SECTION 521 OF THE SPECIFICATIONS EXCEPT AS MODIFIED BY THE PLANS. IDENTIFY REPAIR AREAS USING GEOMETRY IN ACCORDANCE WITH FIGURE 513:1 OF THE SPECIFICATIONS TO THE LIMITS OF SOUND CONCRETE AS DETERMINED BY THE ENGINEER. ENSURE DIMENSIONS OF RE-ENTRANT CORNERS ARE AT LEAST 4 INCHES. REMOVE ALL DETERIORATED, LOOSE AND UNSOUND CONCRETE AND DEBRIS LEAVING ONLY SOUND CONCRETE.
DO NOT USE POWER TOOLS FOR REMOVING LOOSE CONCRETE UNLESS HAND TOOLS PROVE INCAPABLE OF EXCAVATING DETERIORATED CONCRETE TO SOUND CONCRETE AS DETERMINED BY THE ENGINEER. IF POWER TOOLS ARE DEEMED NECESSARY, USE TOOLS OF A SIZE THAT DO NOT EXCESSIVELY REMOVE OR DAMAGE SOUND CONCRETE.
DO NOT CUT, STRETCH OR CAUSE ADDITIONAL DAMAGE TO REINFORCING STEEL EXPOSED DURING CONCRETE REMOVAL. REPLACE CORROSION-DAMAGED REINFORCING STEEL IF LESS THAN 50% OF THE AREA OF THE SECTION IS REMAINING AFTER BLAST CLEANING. REPLACE OR REPAIR DAMAGED REINFORCING STEEL BY EITHER LAPPING OR PROVIDING MECHANICAL SPLICES IN ACCORDANCE WITH SECTION 511.04.C(3) OF THE SPECIFICATIONS. DO NOT LAP BARS IF THE ENGINEER DETERMINES EXCESSIVE REMOVAL OF SOUND CONCRETE IS REQUIRED.
PROVIDE CLASS AA CONCRETE IN ACCORDANCE WITH SECTION 701 OF THE SPECIFICATIONS FOR MORTAR/PATCH MATERIAL. ALTERNATIVELY, USE ONE OF THE FOLLOWING REPAIR METHODS WITH THE APPROVAL OF THE ENGINEER: (1) CAST-IN-PLACE CONCRETE, (2) PREPLACED AGGREGATE CONCRETE, (3) FORMED AND PUMPED CONCRETE MORTAR, (4) TROWELED OR DRY PACKED REPAIR MORTAR. PLACE NEW MATERIAL TO THE ORIGINAL NEAT LINES OF THE STRUCTURAL COMPONENT UNDER REPAIR AND FINISHED TO PROVIDE A SURFACE TEXTURE MATCHING THAT OF THE ADJACENT EXISTING CONCRETE.
SUBMIT A PROPOSED WORK PLAN FOR THE CHOSEN REPAIR METHOD WHICH INCLUDES SURFACE PREPARATION METHODS, MORTAR/PATCH MATERIALS, BONDING AGENTS, MATERIAL PLACING METHODS, AND FINISHING METHODS. REPAIR A TEST AREA TO VERIFY THE EFFECTIVENESS OF THE PROPOSED REPAIR METHOD PRIOR TO COMMENCING WORK. REPLACE FAULTY REPAIRS AT NO ADDITIONAL COST TO THE DEPARTMENT.

DEBRIS REMOVAL -
REMOVE ALL DEBRIS AND MUCK FROM ALL CELLS OF THE R.C.B. INCLUDE ALL COSTS TO REMOVE AND DISPOSE OF THE DEBRIS IN OTHER ITEM OF WORK.

CALL OKIE -
NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. 48 HOURS PRIOR TO BEGINNING ANY EXCAVATIONS. OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKIE" 1-800-522-6543 OR 811.

VERIFICATION OF EXISTING CONDITIONS -
THE CONTRACTOR IS RESPONSIBLE FOR FULLY UNDERSTANDING THE NATURE OF THE WORK AND CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED.
ALL DIMENSIONS OF THE EXISTING BRIDGE COMPONENTS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS NECESSARY TO CONNECT THE NEW MATERIAL AND SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY THEREOF.
USE METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO THE EXISTING BRIDGE AND ATTACHMENTS. ANY DAMAGE TO THE EXISTING BRIDGE STRUCTURE OR ROADWAY DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

DESCRIPTION OF WORK

THE BRIDGE WORK CONSISTS OF PATCHING THE CELL WALLS AND WING WALLS WITH PNEUMATICALLY PLACED MORTAR AND SEALING CRACKS. ADDITIONAL WORK ABOVE THE R.C.B. INCLUDES REPLACING PAVEMENT AND SIDEWALKS WITH NEW PARAPETS.

GENERAL CONSTRUCTION NOTES

THE CONTRACTOR SHALL GIVE NOTICE TO THE CITY OF NORMAN IN WRITING, FOURTEEN (14) DAYS BEFORE WORK ON THIS PROJECT BEGINS.
ALL WORK AND/OR MATERIALS NOT CLASSIFIED AS A "CONTRACT PAY ITEM" SHALL BE CONSIDERED INCIDENTAL AND THE COST THEREOF SHALL BE INCLUDED IN OTHER ITEMS OF WORK.
THE LOCATION AND DEPTH OF ALL UTILITIES AS SHOWN ON THE THE PLANS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF DIGGING, TRENCHING, BORING, ETC. PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED WITH THE FOLLOWING AGENCIES:
THE LOCAL COUNTY CLERK'S OFFICE
THE LOCAL CITY GOVERNMENT'S OFFICE
THE "OKIE" NOTIFICATION CENTER: (405)840-5032 OR (800)522-6543
THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING DRAINAGE STRUCTURES TO REMAIN IN PLACE, AND SHALL REPAIR SUCH DAMAGES AT NO ADDITIONAL COST.
ALL MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER, UNLESS OTHERWISE SPECIFIED.

CONTRACT NO. K-2324-152
BRIDGE "A"
NBI NO. 18911

PAY QUANTITIES

W. MAIN STREET OVER MERKLE CREEK
REHABILITATION OF EXISTING 3 - 10'x9'x127' LONG R.C.B. SKEW 45°
℄ STA. 9+42.64, SKEW 60° L.F.

ITEM NO.	ITEM DESCRIPTION		UNIT	TOTAL
504(E) 5500	CONCRETE PARAPET	(BR-1, 5)	L.F.	130.0
518(C) 0400	RAPID CURE JOINT SEALANT	(BR-1)	L.F.	114.0
520(A) 1200	PREPARATION OF CRACKS, ABOVE WATER	(BR-2)	L.F.	161.0
520(C) 1400	EPOXY RESIN, ABOVE WATER	(BR-3)	GAL.	13
521(A) 2200	PNEUMATICALLY PLACED MORTAR	(BR-2)	S.Y.	63.4
535 7100	CORROSION INHIBITOR (SURFACE APPLIED)	(BR-4)	S.Y.	95.1

PAY ITEM NOTES

(BR-1) PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES.

(BR-2) REPAIR AREAS AS DIRECTED BY THE ENGINEER. QUANTITY SHOWN IS APPROXIMATE AND SUBJECT TO THE ACTUAL LOCATIONS AND EXTENTS OF REPAIRS DETERMINED IN THE FIELD BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

(BR-3) QUANTITY SHOWN FOR EPOXY RESIN ESTIMATED AT 0.080 GALLONS PER FOOT OF CRACK REPAIR.

(BR-4) APPLY CORROSION INHIBITOR TO AREAS PREPPED TO RECEIVE CONCRETE REPAIR AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH SECTION 535. QUANTITY SHOWN IS APPROXIMATE AND SUBJECT TO THE ACTUAL LOCATIONS AND EXTENTS OF CONCRETE REPAIR TO DETERMINED IN THE FIELD BY THE ENGINEER. INCLUDE ALL COST ASSOCIATED WITH APPLICATION INCLUDING ALL MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "CORROSION INHIBITOR (SURFACE APPLIED)".

(BR-5) THE ITEM " CONCRETE PARAPET" INCLUDES 2,760 LBS. OF REINFORCING STEEL AND 12.9 C.Y. OF CLASS AA CONCRETE.

Item 3.

CEC CORPORATION
4616 MACARTHUR BLVD
OKLAHOMA CITY, OKLAHOMA 73142
(405) 787-6270
WWW.CONNECTCEC.COM

LICENSED PROFESSIONAL ENGINEER
AUGUSTINE F. WUERTZ
29197
OKLAHOMA
11-15-24
C.A. 32
6-30-25

REVISION HISTORY

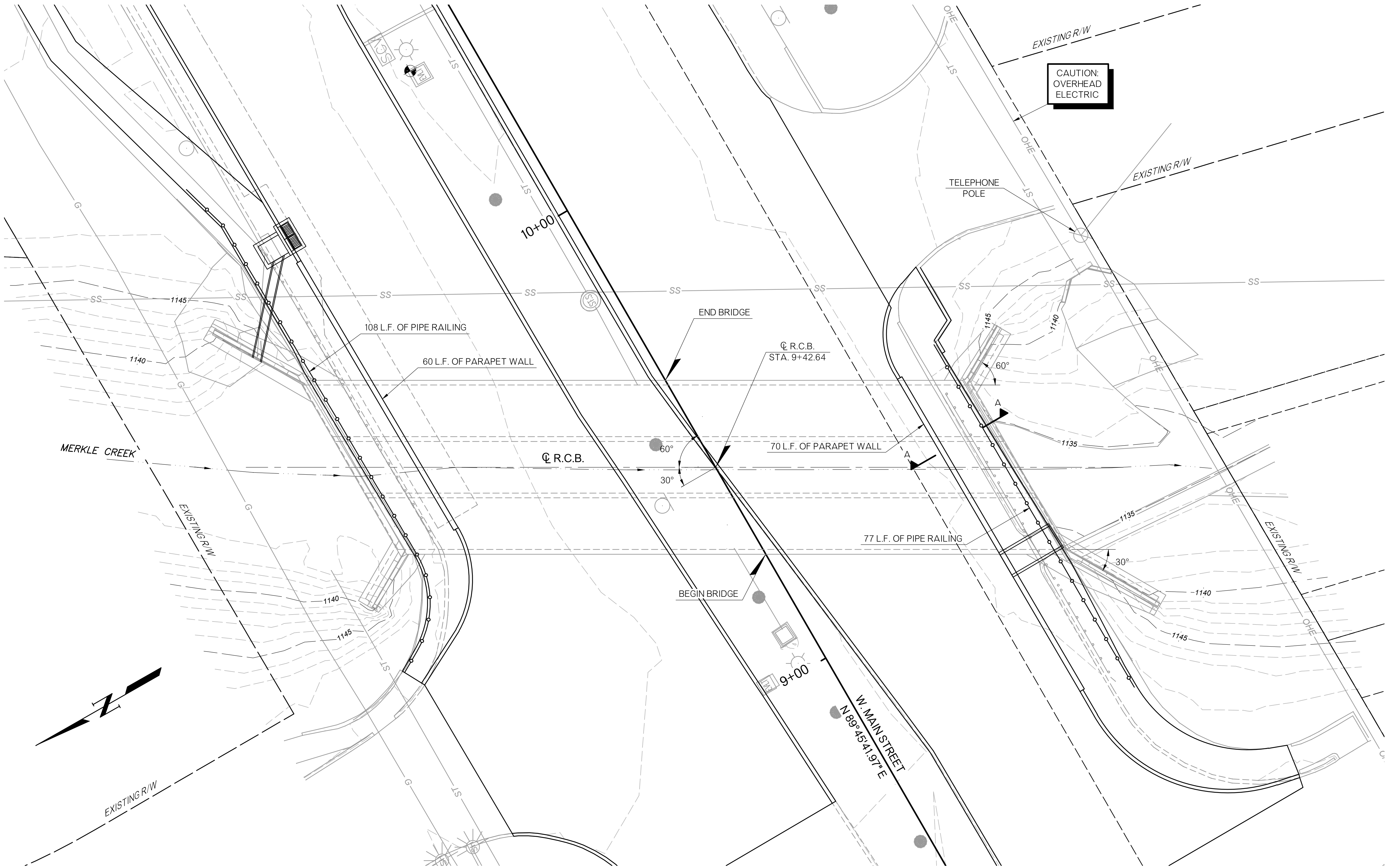
NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PS&E
DATE:	11/15/2024
PROJECT NO:	
DESIGNED BY:	AFW
DRAWN BY:	DRB
APPROVED BY:	AFW
SCALE:	AS SHOWN

BRIDGE REHABILITATION
MAIN STREET OVER MERKLE CREEK
NORMAN, OKLAHOMA

SHEET NAME
GENERAL NOTES AND SUMMARY OF PAY QUANTITIES

SHEET NO.
AB



BM #201 CUT "X" ON NE COR OF CONC PAD OF PULL BOX
N = 686463.7
E = 2125643.4
ELEV. = 1149.37'

BM #202 BM CUT "X" ON NE COR OF CONC PAD OF PULL BOX
N = 686473.3
E = 2125861.9
ELEV. = 1149.29'

PLAN
1"=10'

NOTE:
FOR DESIGN DATA, INDEX OF SHEETS, ODOT STANDARDS, AND SUMMARY OF BRIDGE QUANTITIES, SEE SHEET B002.

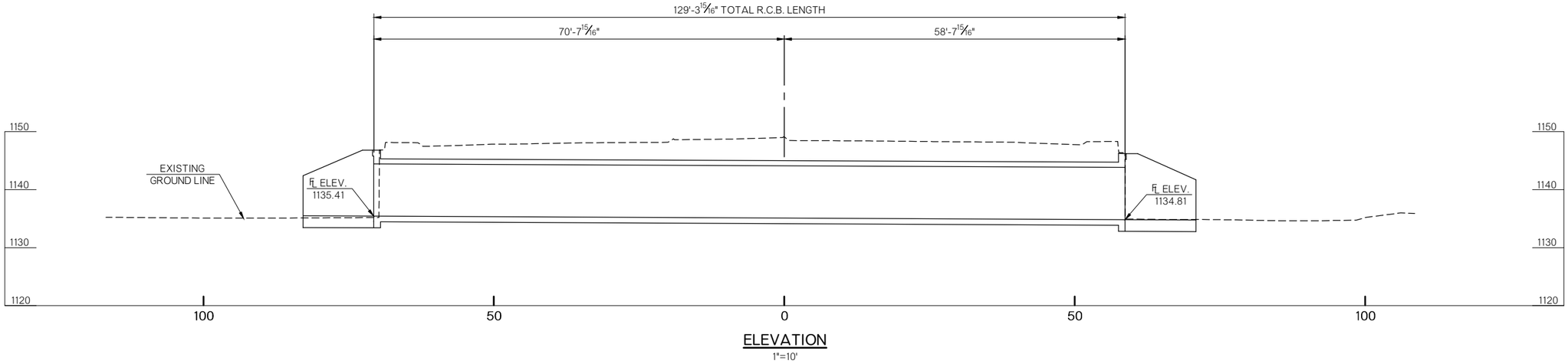
FOR SECTION A-A, PIPE RAILING DETAILS, AND PARAPET WALL DETAILS, SEE SHEET B006.

SUBMITTAL: FINAL PS&E
DATE: 11/15/2024
DESIGNED BY: AFW
DRAWN BY: DRB
APPROVED BY: AFW
SCALE: AS SHOWN

BRIDGE REHABILITATION
MAIN STREET OVER MERKLE CREEK
NORMAN, OKLAHOMA

SHEET NAME
GENERAL PLAN AND ELEVATION (1 OF 2)

N:\OKC\Bridge\Bridge Projects\Production\City of Norman\240367 -W Main St over Merkle Creek Rehab\Drawings\PE.dwg, 10/25/2024 7:02:27 AM, Deanne Brittian



ELEVATION

1"=10'

SUMMARY OF QUANTITIES		
ITEM DESCRIPTION	UNIT	TOTAL
CONCRETE PARAPET	L.F.	130.0
RAPID CURE JOINT SEALANT	L.F.	114.0
PREPARATION OF CRACKS, ABOVE WATER	L.F.	161.0
EPOXY RESIN, ABOVE WATER	GAL.	13
PNEUMATICALLY PLACED MORTAR	S.Y.	63.4
CORROSION INHIBITOR (SURFACE APPLIED)	S.Y.	95.1

DESIGN DATA

LOAD AND RESISTANCE FACTOR DESIGN

CONCRETE CLASS AA — f'c = 4 K.S.I.
REINFORCING STEEL (GRADE 60) — fy = 60 K.S.I.

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION

INDEX OF SHEETS

ODOT STANDARDS

LECS-5-2

Item 3.

CEC CORPORATION
4616 W. HOWARD LANE, SUITE 140
OKLAHOMA CITY, OKLAHOMA 73142
(405) 787-6270
WWW.CONNECTCEC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 32 EXPIRES: 2024-06-30

LICENSED PROFESSIONAL ENGINEER
AUGUSTINE F. WUERTZ
29197
OKLAHOMA
11-15-24
CA. 32 6-30-25

REVISION HISTORY

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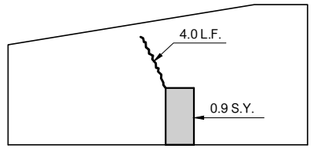
DATE: 11/15/2024
PROJECT NO:
DESIGNED BY: AFW
DRAWN BY: DRB
APPROVED BY: AFW
SCALE: AS SHOWN

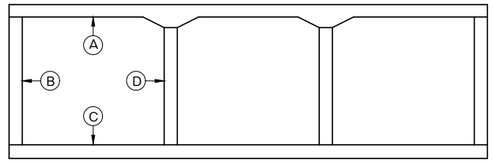
BRIDGE REHABILITATION
MAIN STREET OVER MERKLE CREEK
NORMAN, OKLAHOMA

SHEET NAME
GENERAL PLAN AND ELEVATION (2 OF 2)

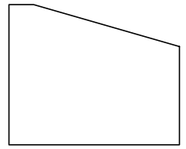
SHEET NO.
B002



LONG WING SOUTH END



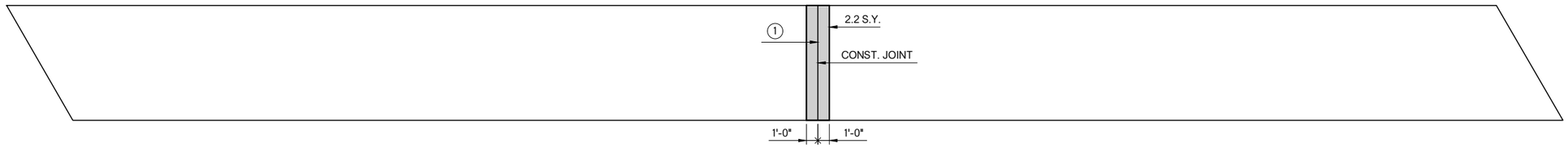
SOUTH END LOOKING NORTH



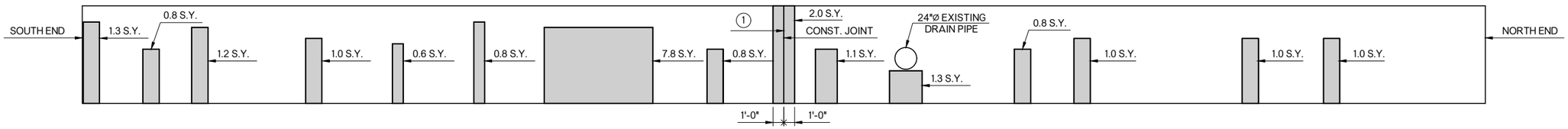
SHORT WING SOUTH END

LEGEND

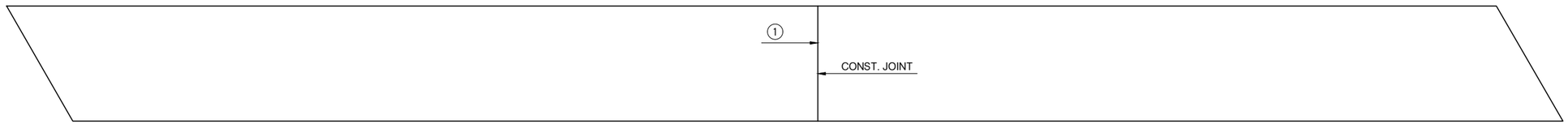
- CONCRETE REPAIR WITH CORROSION INHIBITOR (SURFACE APPLIED)
- PREPARATION OF CRACKS ABOVE WATER
- (1) SEAL CONSTRUCTION JOINT AFTER CONCRETE REPAIRS (SEE STD. LECS-5)



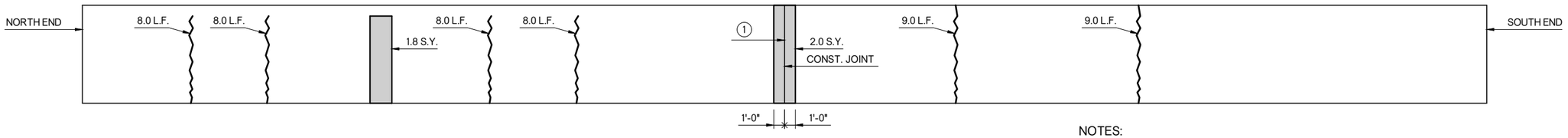
FACE A LOOKING UP



FACE B LOOKING WEST



FACE C LOOKING DOWN



FACE D LOOKING EAST

NOTES:
FOR SUMMARY OF QUANTITIES, SEE SHEET B002.

FOR CONCRETE REPAIR DETAIL, SEE SHEET B006.

INCLUDE ALL COSTS ASSOCIATED WITH SEALING CONSTRUCTION JOINT IN THE CONTRACT UNIT PRICE "RAPID CURE JOINT SEALANT".

Item 3.

CEC

CEC CORPORATION
401 E. MAIN, SUITE 100
OKLAHOMA CITY, OKLAHOMA 73142
(405) 232-2580
WWW.CONNECTCEC.COM

LICENSED PROFESSIONAL ENGINEER
AUGUSTINE F. WUERTZ
29197
OKLAHOMA
11-15-24
CA 32
6-30-26

REVISION HISTORY

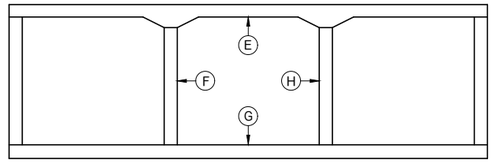
NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PS&E
DATE:	11/15/2024
PROJECT NO:	
DESIGNED BY:	AFW
DRAWN BY:	DRB
APPROVED BY:	AFW
SCALE:	AS SHOWN

BRIDGE REHABILITATION
MAIN STREET OVER MERKLE CREEK
NORMAN, OKLAHOMA

SHEET NAME
R.C.B. BARREL REPAIR DETAILS WEST CELL

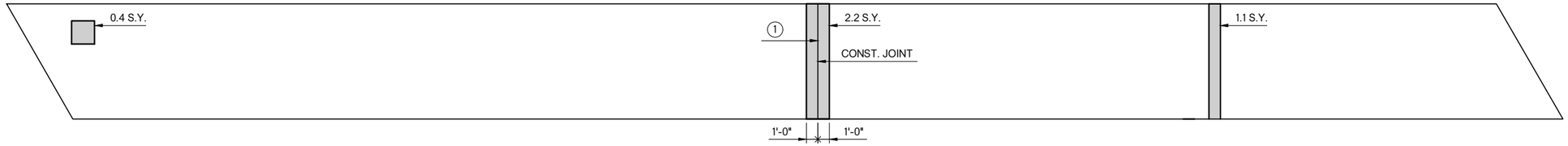
SHEET
B00



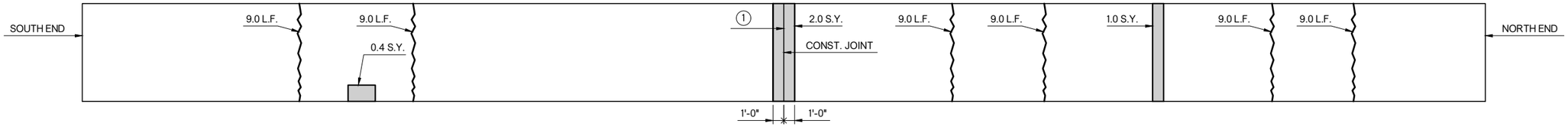
SOUTH END LOOKING NORTH

LEGEND

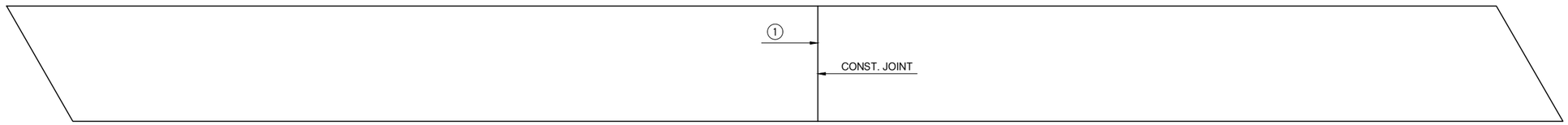
- CONCRETE REPAIR WITH CORROSION INHIBITOR (SURFACE APPLIED)
- PREPARATION OF CRACKS ABOVE WATER
- (1) SEAL CONSTRUCTION JOINT AFTER CONCRETE REPAIRS (SEE STD. LECS-5)



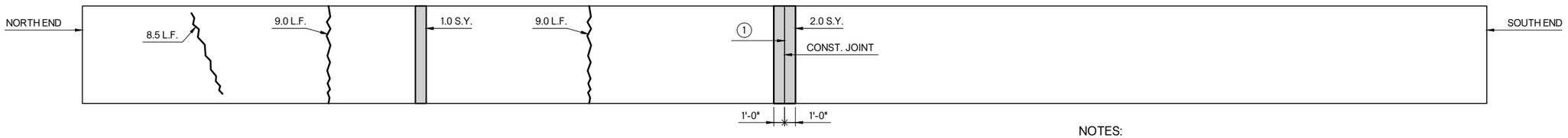
FACE E LOOKING UP



FACE F LOOKING WEST



FACE G LOOKING DOWN



FACE H LOOKING EAST

NOTES:
FOR SUMMARY OF QUANTITIES, SEE SHEET B002.

FOR CONCRETE REPAIR DETAIL, SEE SHEET B006.

INCLUDE ALL COSTS ASSOCIATED WITH SEALING CONSTRUCTION JOINT IN THE CONTRACT UNIT PRICE "RAPID CURE JOINT SEALANT".

Item 3.

CEC

CEC CORPORATION
401 E. MAIN, SUITE 100
OKLAHOMA CITY, OKLAHOMA 73142
(405) 232-2000
WWW.CONNECTCEC.COM

LICENSED PROFESSIONAL ENGINEER
AUGUSTINE F. WUERTZ
29197
OKLAHOMA
11-15-24
CA 32
6-30-26

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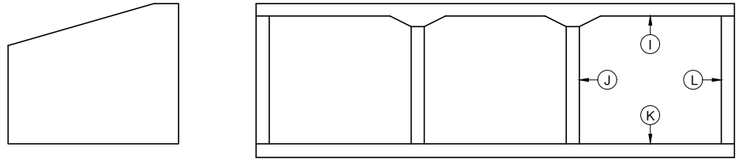
DESIGNED BY:	AFW
DRAWN BY:	DRB
APPROVED BY:	AFW
SCALE:	AS SHOWN

BRIDGE REHABILITATION
MAIN STREET OVER MERKLE CREEK
NORMAN, OKLAHOMA

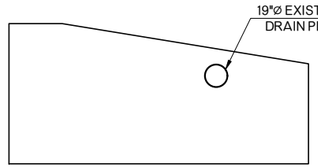
SHEET NAME
R.C.B. BARREL
REPAIR DETAILS
MIDDLE CELL

SHEET NO.
B00[illegible]



SHORT WING NORTH END

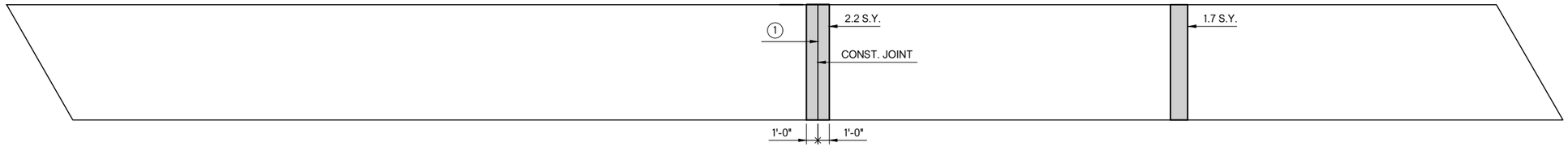
SOUTH END LOOKING NORTH



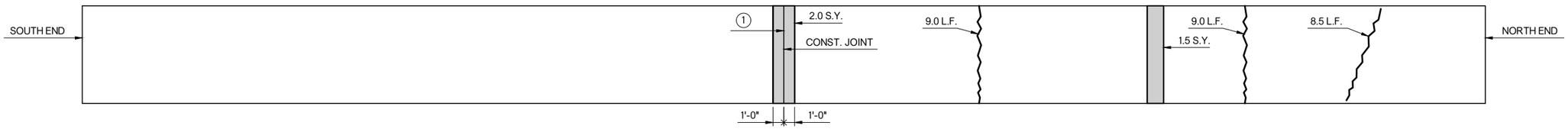
LONG WING NORTH END

LEGEND

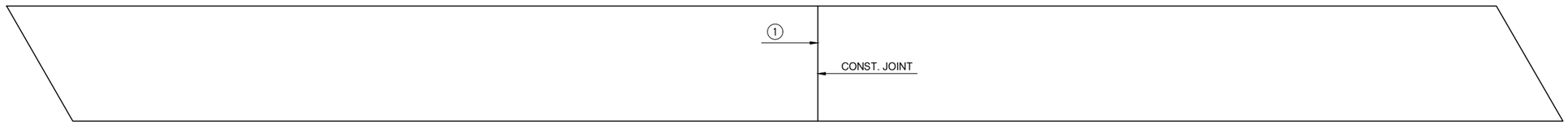
- CONCRETE REPAIR WITH CORROSION INHIBITOR (SURFACE APPLIED)
- PREPARATION OF CRACKS ABOVE WATER
- (1) SEAL CONSTRUCTION JOINT AFTER CONCRETE REPAIRS (SEE STD. LECS-5)



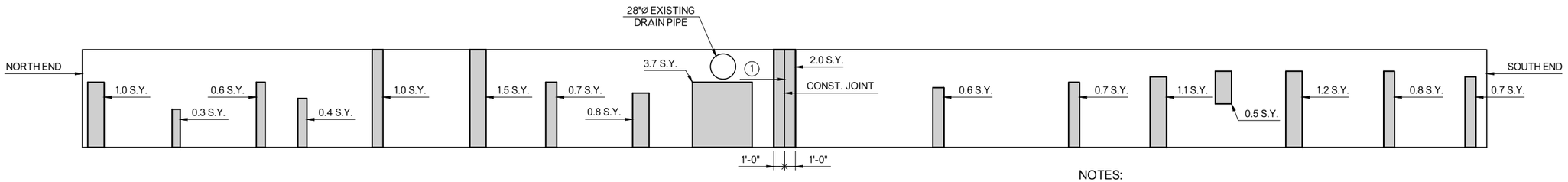
FACE I LOOKING UP



FACE J LOOKING WEST



FACE K LOOKING DOWN



FACE L LOOKING EAST

NOTES:
FOR SUMMARY OF QUANTITIES, SEE SHEET B002.

FOR CONCRETE REPAIR DETAIL, SEE SHEET B006.

INCLUDE ALL COSTS ASSOCIATED WITH SEALING CONSTRUCTION JOINT IN THE CONTRACT UNIT PRICE "RAPID CURE JOINT SEALANT".

Item 3.

CEC CORPORATION
4616 W. MARSHALL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
(405) 787-6270
WWW.CONNECTCEC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 32 EXPIRES: 2024-06-30

LICENSED PROFESSIONAL ENGINEER
AUGUSTINE F. WUERTZ
29197
OKLAHOMA
11-15-24
CA 32
6-30-26

REVISION HISTORY

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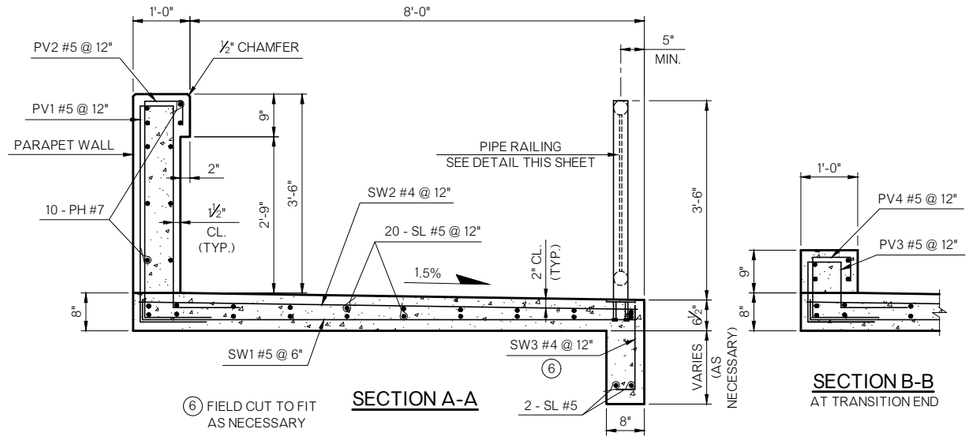
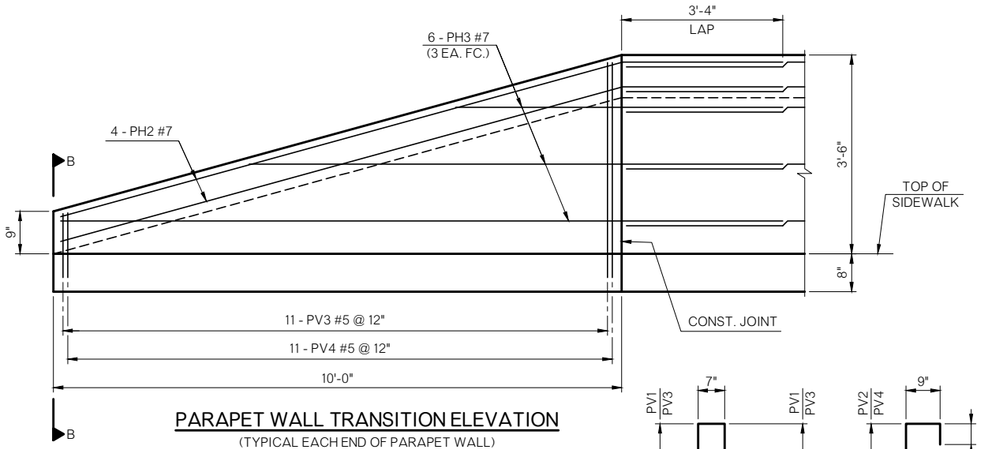
DRAWN BY:	DRB
APPROVED BY:	AFW
SCALE:	AS SHOWN

BRIDGE REHABILITATION
MAIN STREET OVER MERKLE CREEK
NORMAN, OKLAHOMA

SHEET NAME
R.C.B. BARREL
REPAIR DETAILS
EAST CELL

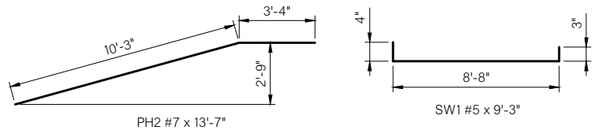
SHEET NO.
B005

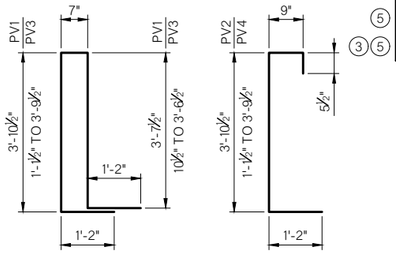


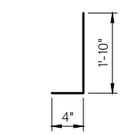


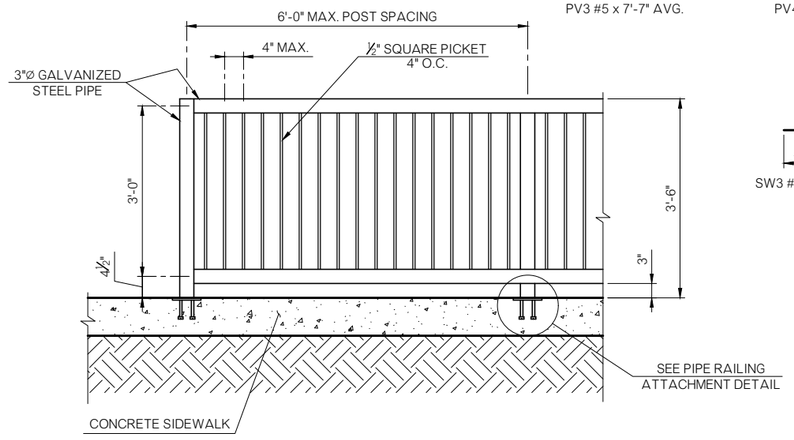
PARAPET WALL TRANSITION ELEVATION

(TYPICAL EACH END OF PARAPET WALL)
(ROADWAY FACE SHOWN)









PIPE RAILING DETAIL

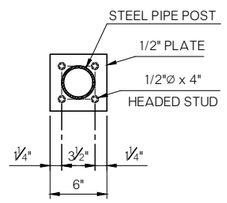
NORTH PARAPET WALL AND SIDEWALK BAR LIST

	MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
	PLAIN REINFORCING BARS					
(4)	PH1	#7	10	STR.	40'-0"	
(4)	PH2	#7	8	BNT.	13'-7"	
(1)(4)	PH3	#7	12	STR.	9'-8" AVG.	6'-2" TO 13'-2"
(5)	PV1	#5	41	BNT.	10'-5"	
(5)	PV2	#5	41	BNT.	6'-3"	
(2)(5)	PV3	#5	22	BNT.	7'-7" AVG.	4'-11' TO 10'-3"
(2)(5)	PV4	#5	22	BNT.	4'-10" AVG.	3'-6" TO 6'-2"
(5)	SW1	#5	120	BNT.	9'-3"	
(5)	SW2	#4	60	STR.	8'-8"	
(5)	SW3	#4	60	BNT.	2'-2"	
(5)	SL1	#5	22	STR.	59'-8"	

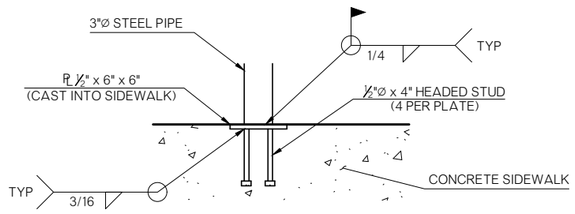
SOUTH PARAPET WALL AND SIDEWALK BAR LIST

	MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
	PLAIN REINFORCING BARS					
(4)	PH2	#7	8	BNT.	13'-7"	
(1)(4)	PH3	#7	12	STR.	9'-8" AVG.	6'-2" TO 13'-2"
(4)	PH4	#7	10	STR.	50'-0"	
(5)	PV1	#5	51	BNT.	10'-5"	
(5)	PV2	#5	51	BNT.	6'-3"	
(2)(5)	PV3	#5	22	BNT.	7'-7" AVG.	4'-11' TO 10'-3"
(2)(5)	PV4	#5	22	BNT.	4'-10" AVG.	3'-6" TO 6'-2"
(5)	SW1	#5	140	BNT.	9'-3"	
(5)	SW2	#4	70	STR.	8'-8"	
(5)	SW3	#4	70	BNT.	2'-2"	
(3)(5)	SL2	#5	22	STR.	72'-2"	

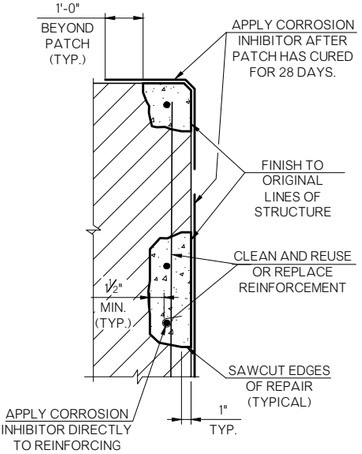
(1) 4 SETS OF 3 BARS
(2) 2 SETS OF 11 BARS
(3) INCLUDES 1 - 2'-6" LAP
(4) INCLUDED IN CONTRACT UNIT PRICE OF "CONCRETE PARAPET"
(5) INCLUDED IN CONTRACT UNIT PRICE OF "4" CONCRETE SIDEWALK"



PIPE RAILING BASE PLATE DETAIL



PIPE RAILING ATTACHMENT DETAIL



CONCRETE REPAIR DETAILS

NOTES:

INCLUDE ALL COSTS FOR REPAIRS OF DELAMINATED AND SPALLED CONCRETE INCLUDING MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS FOR SAWCUTS, REMOVAL OF UNSOUND CONCRETE, CLEANING OF REMAINING CONCRETE AND REINFORCING, AND APPLICATION OF REPLACEMENT MATERIAL (REGARDLESS OF MATERIAL TYPE) IN THE CONTRACT UNIT PRICE OF "PNEUMATICALLY PLACED MORTAR".

PROVIDE REINFORCING SHOWN IN SIDEWALK WITHIN EXTENTS OF PARAPET WALL.

THE SIDEWALK WITHIN THE EXTENDS OF THE PARAPET WALL INCLUDES 8,370 LBS. OF REINFORCING STEEL AND 30.8 C.Y. OF CLASS AA CONCRETE. INCLUDE ALL COSTS ASSOCIATED WITH THE SIDEWALK INCLUDING CLASS AA CONCRETE, REINFORCING STEEL, MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS IN THE CONTRACT UNIT PRICE OF "4" CONCRETE SIDEWALK".

SEE SHEET 4 FOR PIPE RAILING, SIDEWALK, AND REMOVAL QUANTITIES.

INCLUDE ALL COSTS ASSOCIATED WITH THE PARAPET WALL INCLUDING MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS IN THE CONTRACT UNIT PRICE OF "CONCRETE PARAPET".

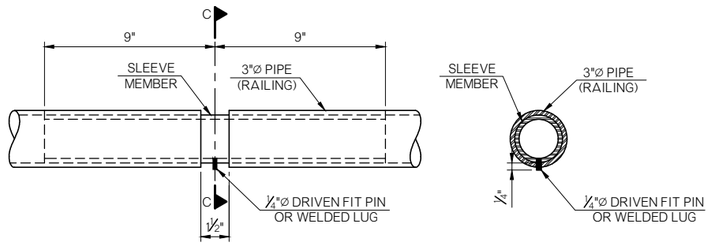
PIPE RAILING GENERAL NOTES -

PROVIDE STEEL PIPE IN ACCORDANCE WITH ASTM A53 GRADE B AND STEEL PLATE IN ACCORDANCE WITH ASTM A36. USE HEADED STUDS CONFORMING TO AASHTO M169 (ASTM A108), GRADE 1015, 1018 OR 1020.

COMPLETE ALL WELDING AND FABRICATION IN ACCORDANCE WITH SECTION 512.04(B) OF THE ODOT SPECIFICATIONS AND THE LATEST EDITION OF ANSI/AASHTO/AWMS D1.1 WELDING CODE. USE E70XX ELECTRODES, CLEAN ALL WELDED CONNECTIONS OF LOOSE SCALE, AND ROUND OR CHAMFER ALL EXPOSED EDGES TO +1/16" BY GRINDING.

GALVANIZE ALL COMPONENTS EXCEPT BASE PLATES IN ACCORDANCE WITH AASHTO M111. PROVIDE HOLES IN PIPE RAILING OR BASE PLATES AS NEEDED FOR DRAINAGE AND VENTING. REPAIR ANY GALVANIZED AREAS AFTER FIELD INSTALLATION IN ACCORDANCE WITH ASTM A780. PAINT BASE PLATES WITH AT LEAST TWO (2) COATS OF ZINC-RICH (90% ZINC) PAINT.

INCLUDE ALL COSTS FOR POSTS, RAILINGS, BASE PLATES, EXPANSION JOINTS, HEADED STUDS, WELDING, CLEANING, PAINTING, MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE PRICE PER LINEAR FOOT OF "PIPE RAILING".



PIPE RAILING EXPANSION JOINT DETAILS

(EXPANSION JOINT SHALL BE AT 30'-0" MAXIMUM SPACING)

CEC CORPORATION
4616 NW 23RD, SUITE 140
OKLAHOMA CITY, OKLAHOMA 73142
(405) 942-3311
WWW.CONNECTCEC.COM

LICENSED PROFESSIONAL ENGINEER
AUGUSTINE F. WUERTZ
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OKLAHOMA
11-15-24
CA# 32 6-30-25

REVISION HISTORY

NO.	DESCRIPTION	DATE

SUBMITTAL: FINAL PS&E
DATE: 11/15/2024
PROJECT NO:
DESIGNED BY: AFW
DRAWN BY: DRB
APPROVED BY: AFW
SCALE: AS SHOWN

BRIDGE REHABILITATION
MAIN STREET OVER MERKLE CREEK
NORMAN, OKLAHOMA

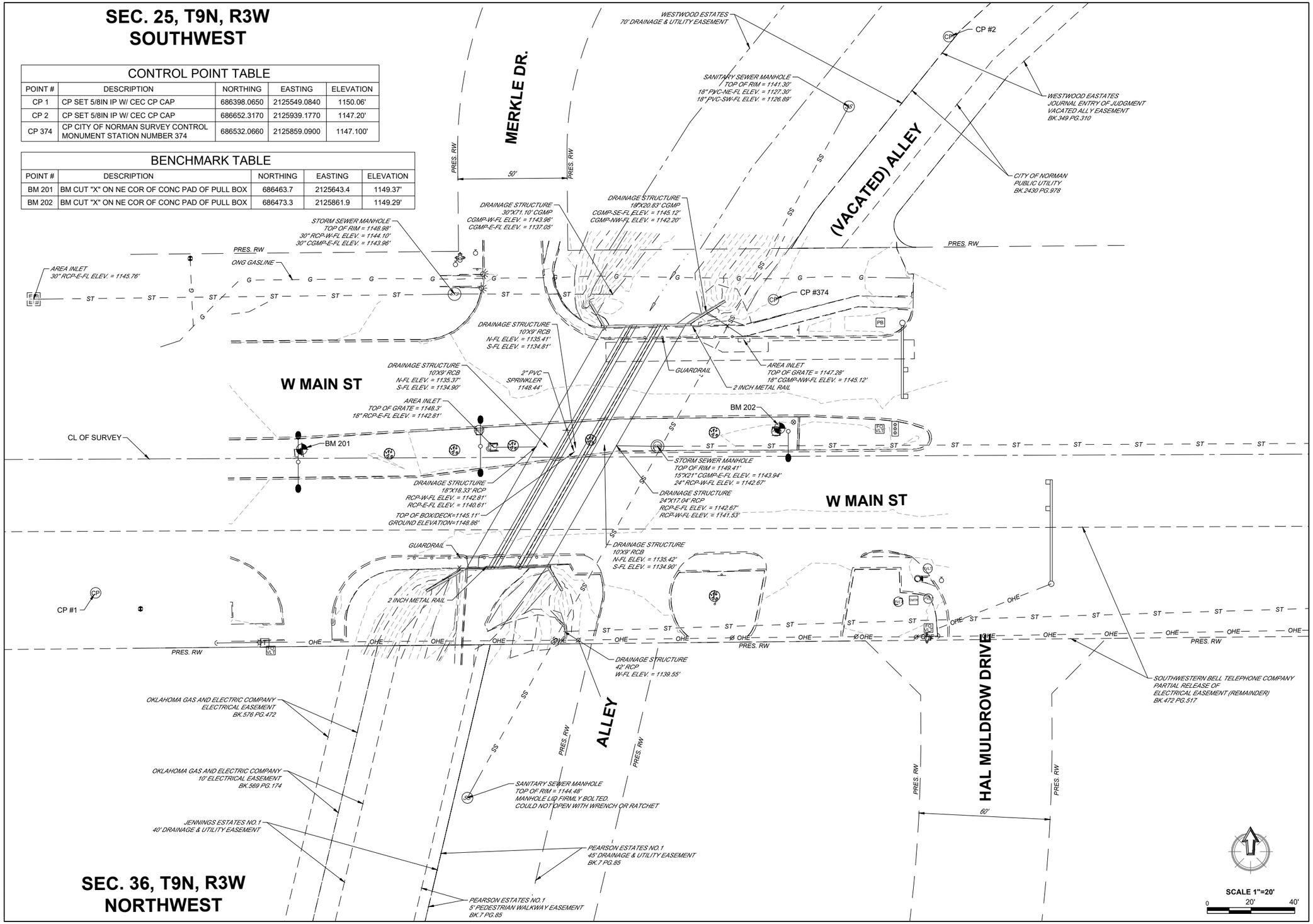
SHEET NAME
R.C.B. BARREL REPAIR DETAILS

SHEET NO.
B006

SEC. 25, T9N, R3W
SOUTHWEST

CONTROL POINT TABLE				
POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
CP 1	CP SET 5/8IN IP W/ CEC CP CAP	686398.0650	2125549.0840	1150.06'
CP 2	CP SET 5/8IN IP W/ CEC CP CAP	686652.3170	2125939.1770	1147.20'
CP 374	CP CITY OF NORMAN SURVEY CONTROL MONUMENT STATION NUMBER 374	686532.0660	2125859.0900	1147.100'

BENCHMARK TABLE				
POINT #	DESCRIPTION	NORTHING	EASTING	ELEVATION
BM 201	BM CUT "X" ON NE COR OF CONC PAD OF PULL BOX	686463.7	2125643.4	1149.37'
BM 202	BM CUT "X" ON NE COR OF CONC PAD OF PULL BOX	686473.3	2125861.9	1149.29'



SEC. 36, T9N, R3W
NORTHWEST

PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.703.4200
WWW.CECONNECTED.COM

STATE OF OKLAHOMA CERTIFICATION
CA# 3212 EXPIRES 6/30/2025

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27669
11-15-24
OKLAHOMA

REVISION HISTORY

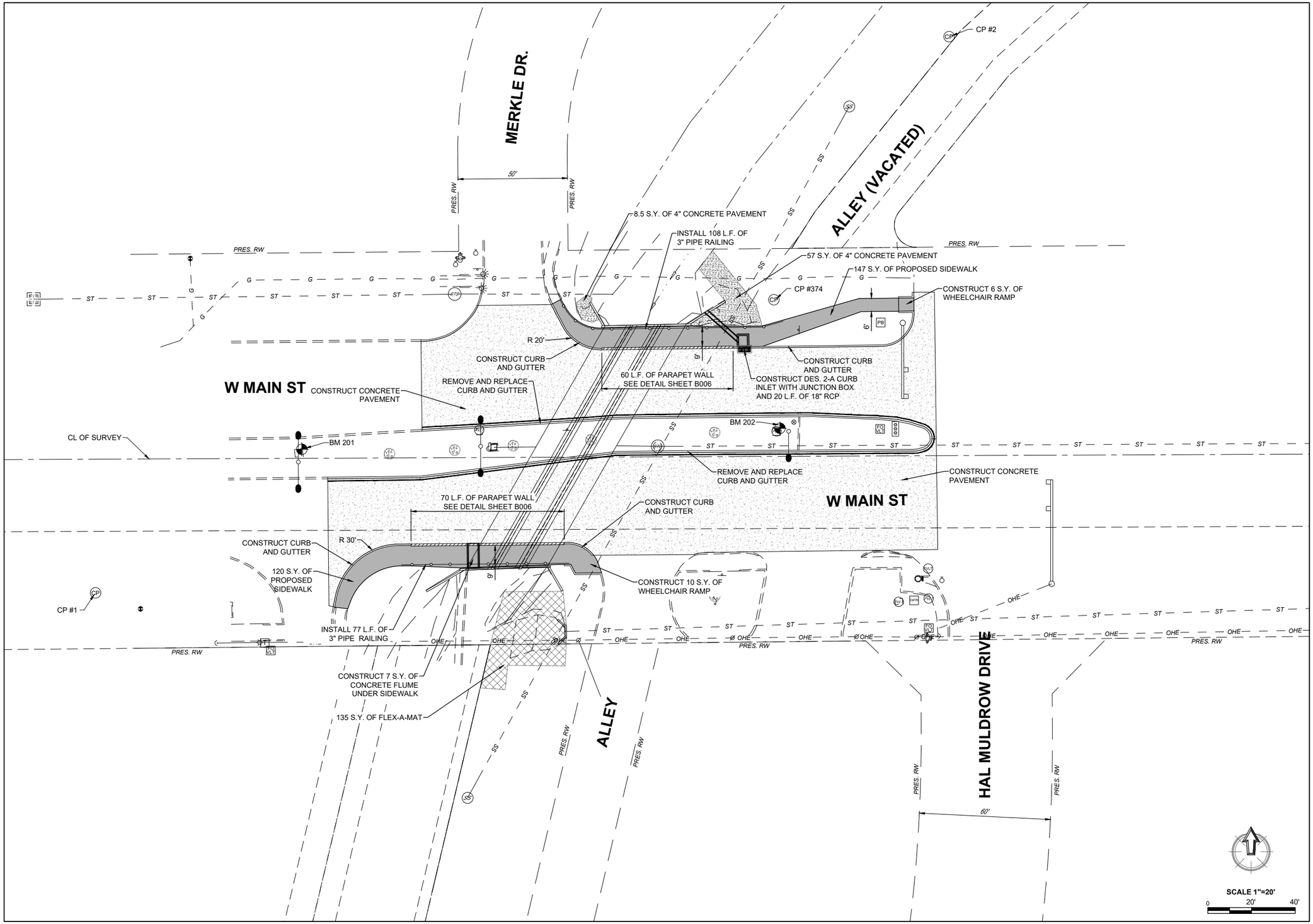
NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
EXISTING SITEPLAN

SHEET
R001



PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
21888
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
PROPOSED SITEPLAN

SHEET
R002

W MAIN ST

W MAIN ST

CONSTRUCT PARAPET WALL

CONSTRUCT DES. 2-A CURB INLET WITH JUNCTION BOX AND 20 L.F. OF 18" RCP

PROPOSED SIDEWALK

CP #374

BM 202

MATCH EXISTING GRADE

SCALE 1"=10'

0 10' 20'

PLOT DATE:

CEC CORPORATION
4811 E. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
(405) 478-8770
WWW.CONNECTCEC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 32 EXPIRES: 2026-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27689
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET BRIDGE REHABILITATION

NORMAN, OKLAHOMA

SHEET NAME
GRADING SITEPLAN NORTH

SHEET NO.
R0[illegible]

W MAIN ST

W MAIN ST

CONSTRUCT PARAPET WALL

CONSTRUCT DES. 2-A CURB INLET WITH JUNCTION BOX AND 20 L.F. OF 18" RCP

CONSTRUCT CONCRETE FLUME UNDER SIDEWALK

BM 201

BM 202

MATCH EXISTING GRADE

TC=1148.92 GUT=1148.42

TC=1148.63 GUT=1148.13

TC=1148.61 GUT=1148.11

TC=1148.62 GUT=1148.12

TC=1148.60 GUT=1148.10

TC=1148.59 GUT=1148.09

TC=1148.57 GUT=1148.07

TC=1148.57 GUT=1148.07

TC=1148.99 GUT=1148.49

TC=1148.94 GUT=1148.44

TC=1148.86 GUT=1148.36

TC=1148.89 GUT=1148.39

TC=1148.89 GUT=1148.39

G=1148.12 G=1148.19 G=1148.30 G=1148.40 G=1148.51 G=1148.61 G=1148.65 S=1149.09

G=1147.94 G=1147.72 G=1147.65 G=1147.60 G=1147.54 G=1147.52 G=1147.41

TW=1152.12 S=1148.62 TW=1151.94 S=1148.44 TW=1151.72 S=1148.22 TW=1151.65 S=1148.15 TW=1151.60 S=1148.10 TW=1151.54 S=1148.04

1.50%

S=1148.66 S=1148.55 S=1148.48 S=1148.30 S=1148.07 S=1148.23 S=1147.52 S=1147.32 S=1147.81 S=1147.15 S=1148.01 S=1147.96 S=1148.16 S=1148.77 S=1148.89 S=1149.01 S=1148.89

FO VLT

TVLT

PVLT

RMTR

OHE

ST

SS

SCALE 1"=10'

0 10' 20'

PLOT DATE:

CEC CORPORATION
4811 S. MINGO ROAD
OKLAHOMA CITY, OKLAHOMA 73142
(405) 703-1040
WWW.CONNECTCEC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 32 EXPIRES: 2026-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27659
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

SUBMITTAL: FINAL PLANS

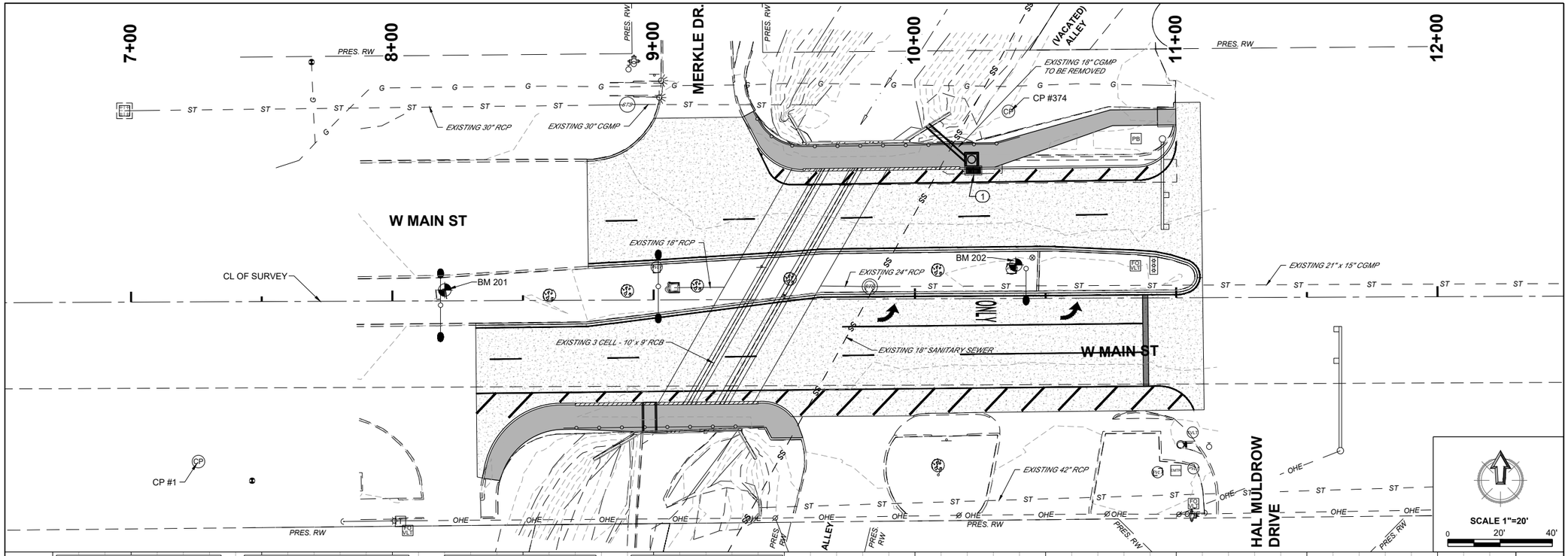
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET BRIDGE REHABILITATION

NORMAN, OKLAHOMA

SHEET NAME
GRADING SITEPLAN SOUTH

SHEET NO.
R0C1



SCALE: PROFILE — H 1"=20' | V 1"=2'

PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27688
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

SUBMITTAL: FINAL PLANS

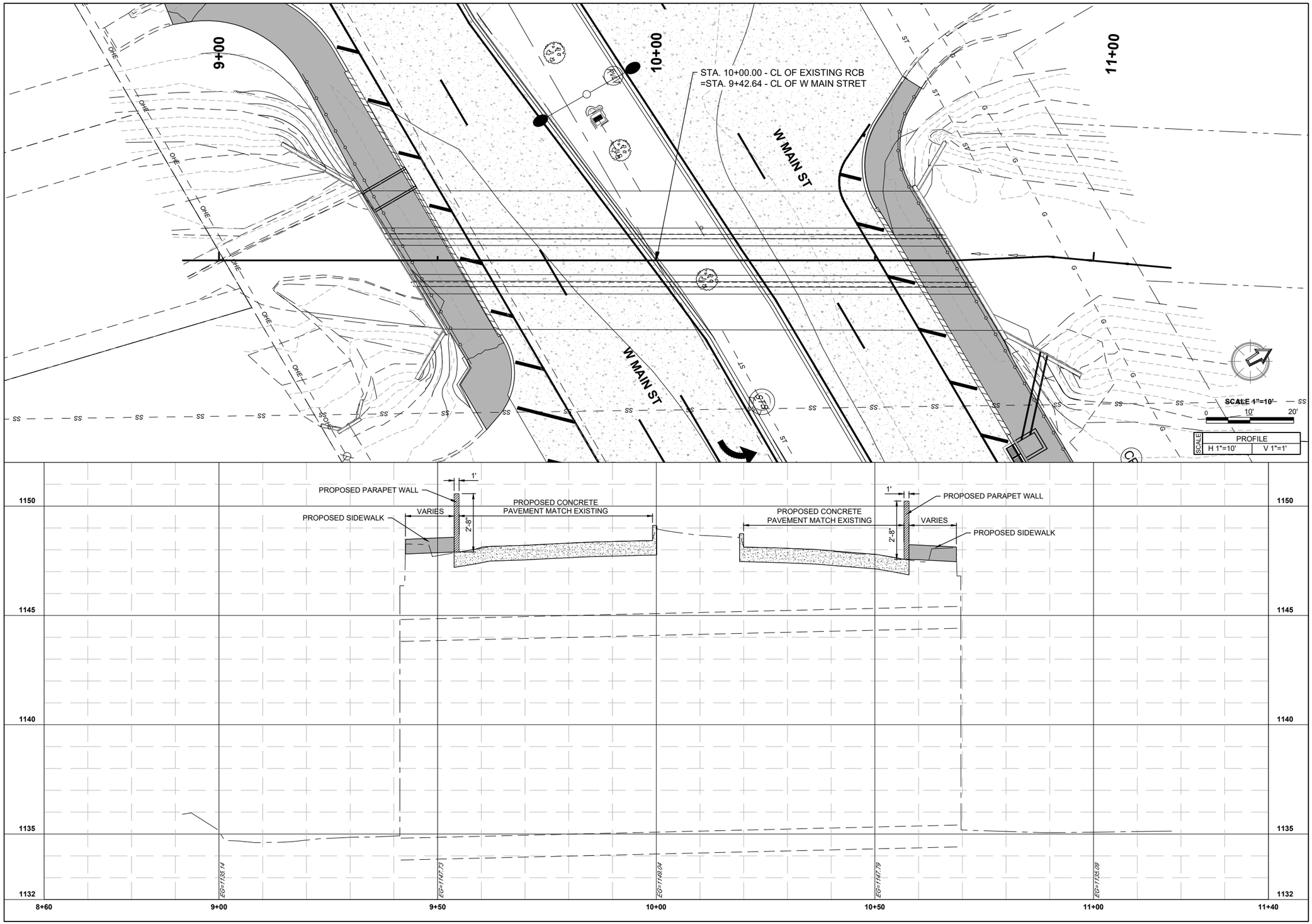
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET BRIDGE REHABILITATION

NORMAN, OKLAHOMA

SHEET NAME
PLAN & PROFILE MAIN STREET

SHEET
R005



PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
21688
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

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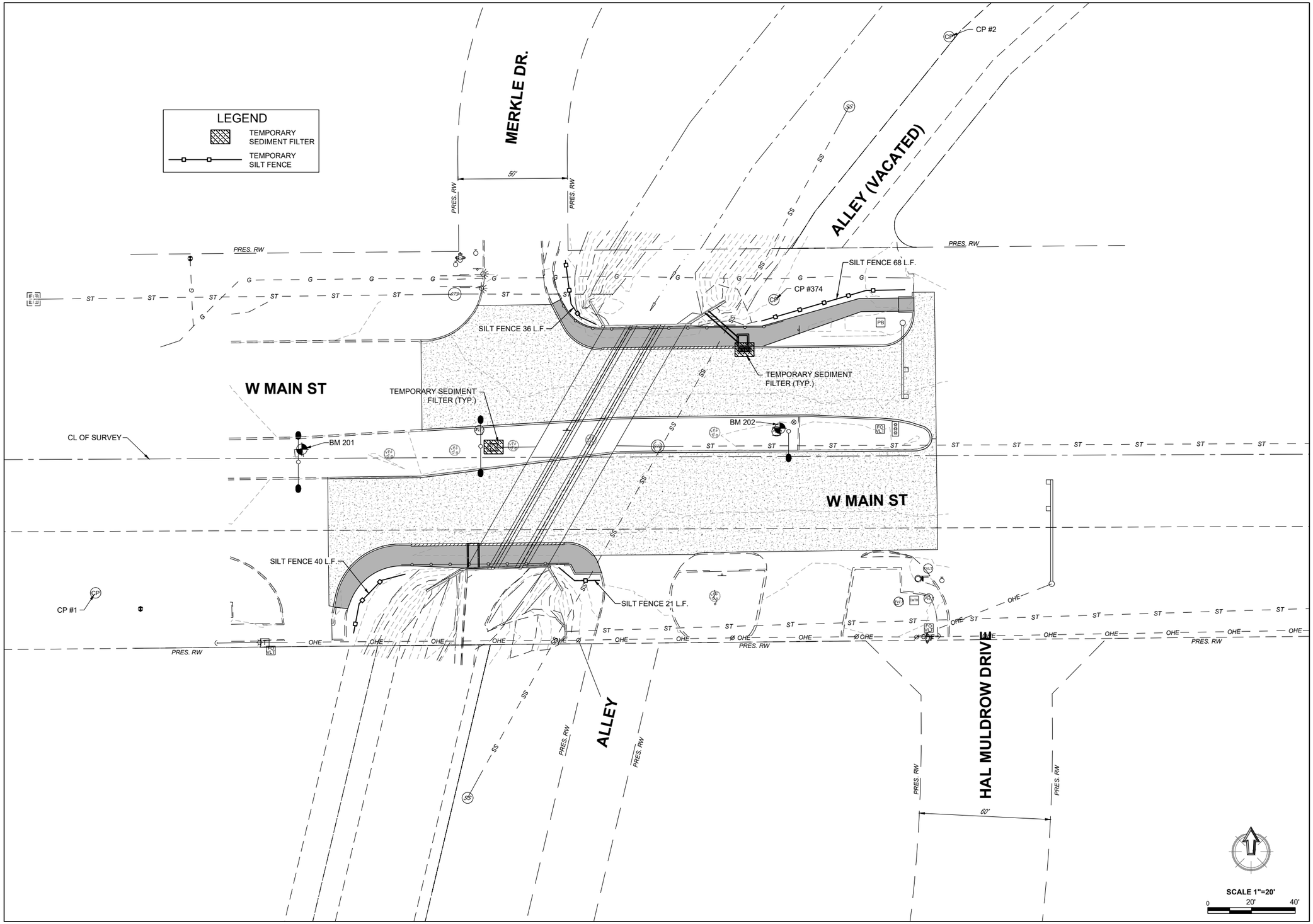
DATE:	11-15-2024
PROJECT NO.	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
PLAN & PROFILE
STR. 3-10'x9' RCB

SHEET
R006



PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD, SUITE 300
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
21688
11-15-24
OKLAHOMA

REVISION HISTORY

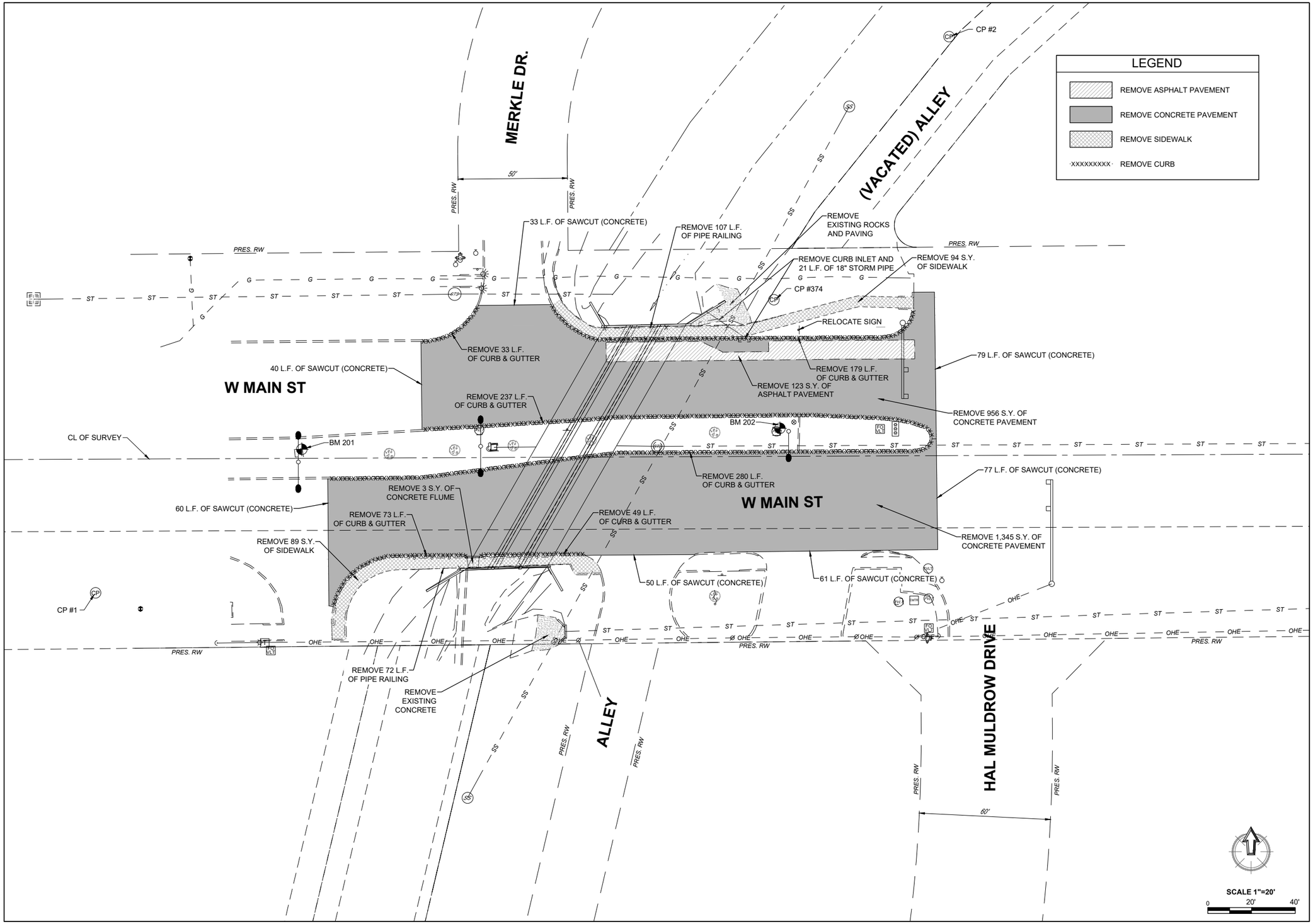
NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
EROSION CONTROL SITEPLAN

SHEET
R007



PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM
STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
21688
11-15-24
OKLAHOMA

REVISION HISTORY

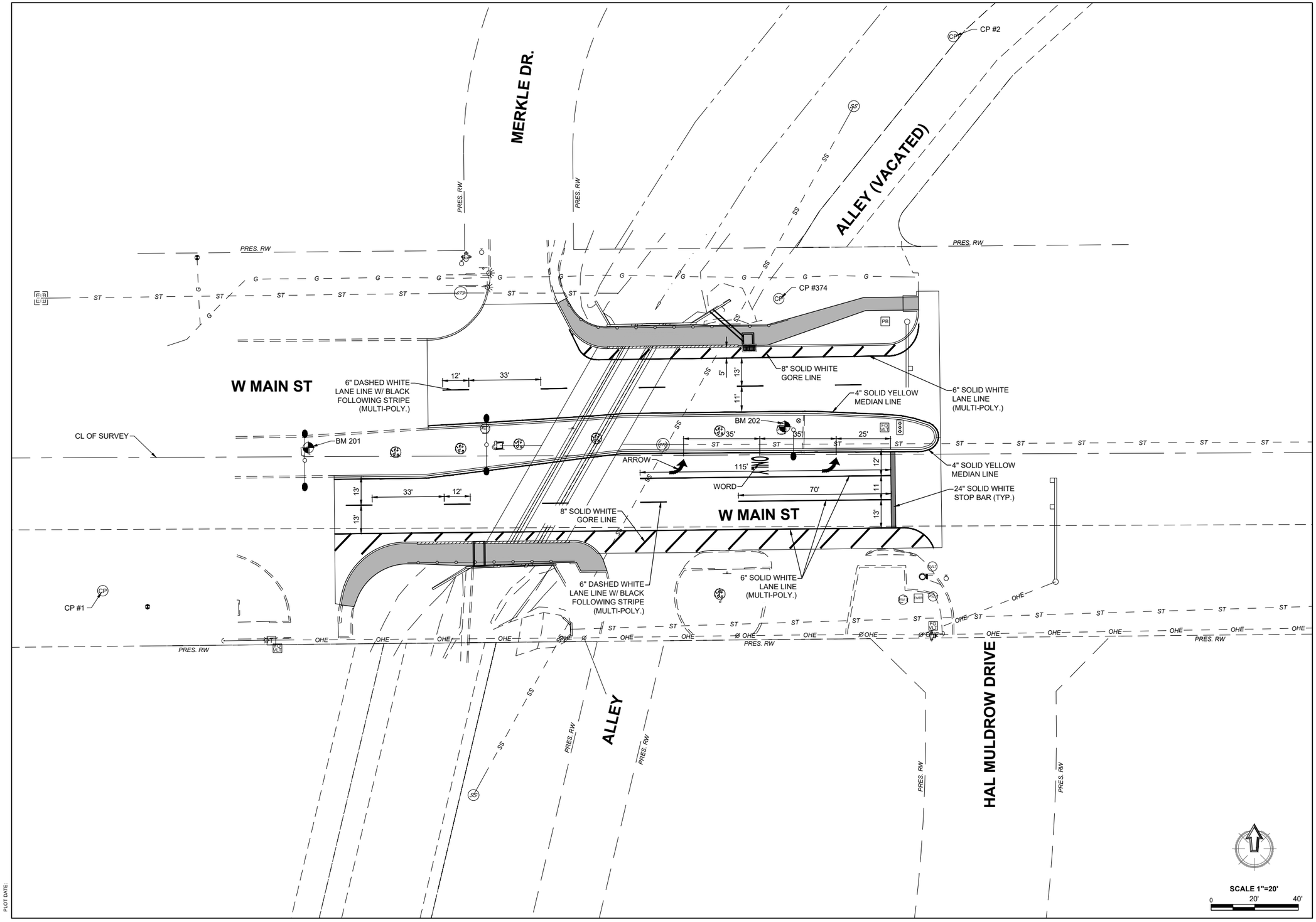
NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO.	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
DEMOLITION SITEPLAN

SHEET
R008



PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM
STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
21688
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

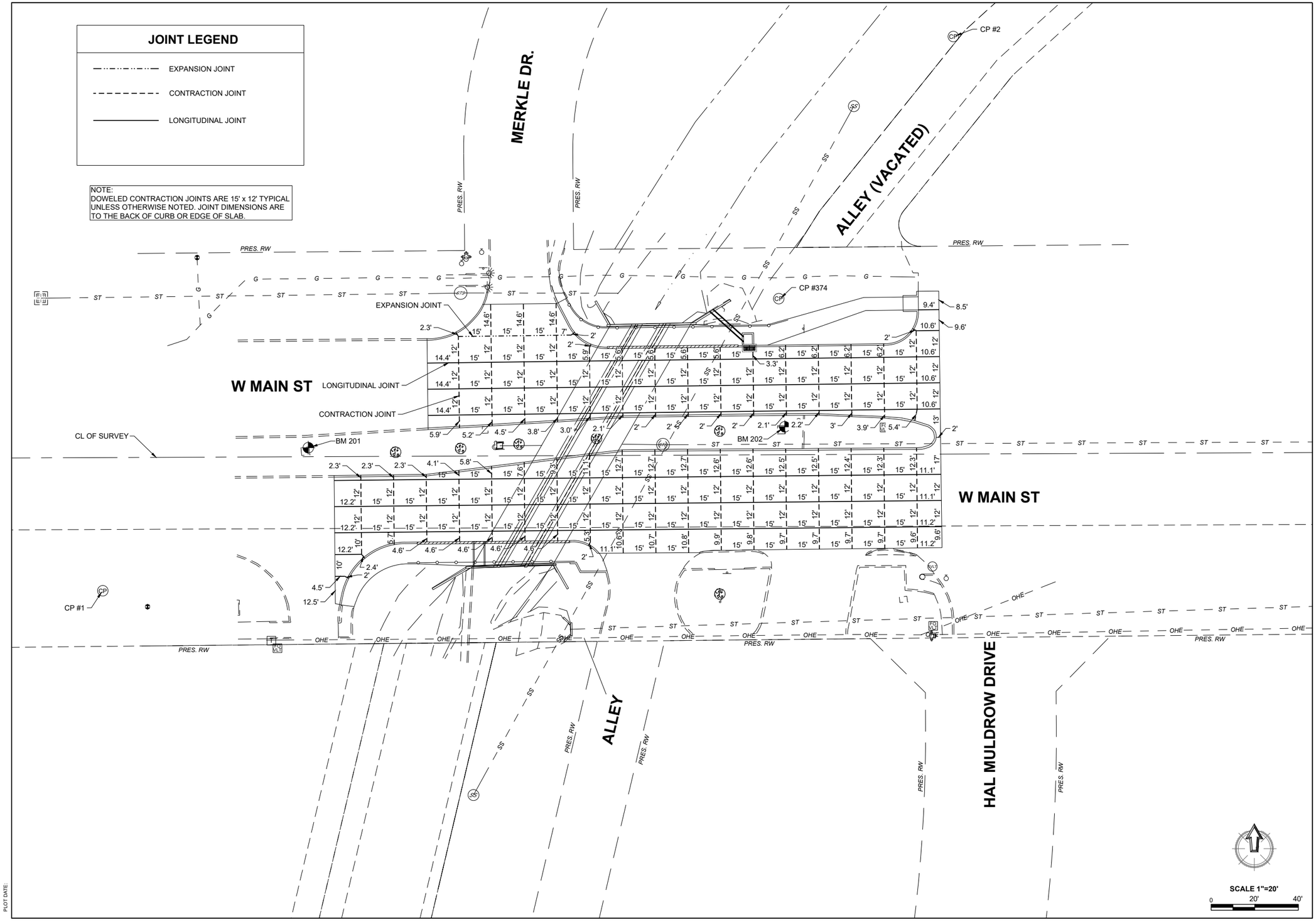
SHEET NAME
STRIPING PLAN

SHEET
R009

JOINT LEGEND

- EXPANSION JOINT
- CONTRACTION JOINT
- LONGITUDINAL JOINT

NOTE:
DOWELED CONTRACTION JOINTS ARE 15' x 12' TYPICAL UNLESS OTHERWISE NOTED. JOINT DIMENSIONS ARE TO THE BACK OF CURB OR EDGE OF SLAB.



PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD, SUITE 340
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
21688
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

SUBMITTAL: FINAL PLANS

DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
JOINT LAYOUT

SHEET
R010

SUGGESTED SEQUENCE OF CONSTRUCTION

PHASE 1

A. INSTALL TRAFFIC CONTROL SIGNAGE ALONG MAIN STREET WEST AND EAST OF THE CONSTRUCTON AREA AS SHOWN ON SHEET R012 - R014.

B. INSTALL TRAFFIC CONTROL DEVICES AND STRIPING FOR ONE WAY TRAFFIC GOING WESTBOUND ALONG MAIN STREET FROM THE STA. 7+59.70 TO STA. 14+03.05.

C. INSTALL TRAFFIC CONTROL DEVICES AND STRIPING FOR ONE WAY TRAFFIC GOING EASTBOUND ALONG MAIN STREET FROM THE STA. 6+83.77 TO STA. 11+11.30.

D. DRIVEWAY AT MERKLE DRIVE WILL BE CLOSE DURING THE CONSTRUCTON OF PHASE 2, TRAFFIC ACCES TO MERKLE DRIVE WILL USE THE EXISTING DRIVEWAY AT STA. 7+23.05.

E. SHIFT TRAFFIC ONTO WESTBOUND DETOUR CONFIGURATION FROM STA. 7+59.70 TO STA. 14+03.05.

F. SHIFT TRAFFIC ONTO EASTBOUND DETOUR CONFIGURATION FROM STA. 6+83.77 TO STA. 11+11.30

PHASE 2

A. WITH TRAFFIC OPERATING IN THE CURRENT CONFIGURATION ALONG MAIN STREET, CONSTRUCT PHASE 2 ON THE NORTH AND SOUTH SIDES OF MAIN STREET AS SHOWN ON SHEET R013.

PHASE 3

A. TRAFFIC CONTROL SIGNAGE ALONG MAIN STREET WEST AND EAST OF THE CONSTRUCTON AREA WILL REMAIN IN PLACE.

B. INSTALL TRAFFIC CONTROL DEVICES AND STRIPING FOR PHASE 3 (ONE WAY TRAFFIC GOING WESTBOUND) ALONG MAIN STREET FROM THE STA. 7+59.70 TO STA. 14+03.05
INSTALL TRAFFIC CONTROL DEVICES AND STRIPING FOR PHASE 3 (ONE WAY TRAFFIC GOING EASTBOUND) ALONG MAIN STREET FROM THE STA. 6+83.77 TO STA. 11+11.30.

C. SHIFT TRAFFIC ONTO WESTBOUND DETOUR CONFIGURATION FOR PHASE 3 FROM STA. 7+59.70 TO STA. 14+03.05.
SHIFT TRAFFIC ONTO EASTBOUND DETOUR CONFIGURATION FOR PHASE 3 FROM STA. 6+83.77 TO STA. 11+11.30

B. WITH TRAFFIC OPERATING IN THE CURRENT CONFIGURATION ALONG MAIN STREET, CONSTRUCT PHASE 3 ON THE NORTH AND SOUTH SIDES OF MAIN STREET AS SHOWN ON SHEET R016.

PHASE 4

A. REMOVE TEMPORARY TRAFFIC CONTROL DEVICES AND STRIPING. INSTALL FINAL PROPOSED TRAFFIC CONTROL DEVICES AND STRIPING FOR WESTBOUND AND EASTBOUND TRAFFIC ALONG MAIN STREET.

B. OPEN ALL ROADWAYS TO NORMAL TRAFFIC OPERATIONS.

PLOT DATE:

CEC

CEC CORPORATION
4925 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
(405) 478-8770
WWW.CONNECTCEC.COM
STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 2.2 EXPIRES JUNE 30, 2025

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27689
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

SUBMITTAL: FINAL PLANS

DATE:	11-15-2024
PROJECT NO.:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
SEQUENCE OF CONSTRUCTION

SHEET
R011

5+00

6+00

W MAIN ST

CL OF SURVEY

W MAIN ST

STA. 6+83.77 - 43.76' RT.
BEGIN CONSTRUCTION

100' 100' 100' 100' 150'

ROAD WORK AHEAD
W20-1

SPEED LIMIT 25
W3-5(25)

ROAD WORK 300 FT
W20-1

SPEED LIMIT 25
R2-1(25)

SCALE 1"=20'
0 20' 40'

PLOT DATE:

CEC

CEC CORPORATION
405 W. BRAMAN, ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
21888
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

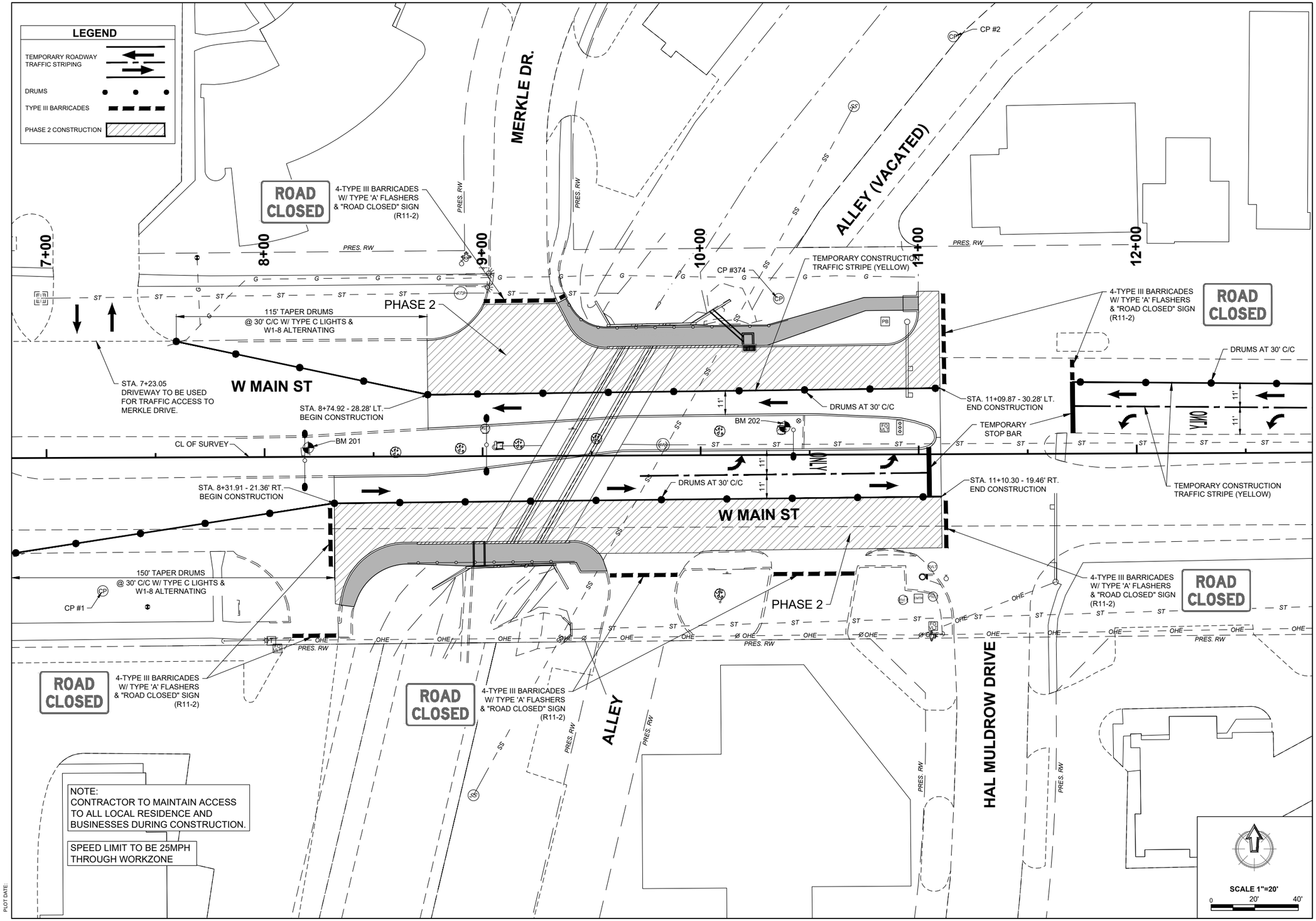
SUBMITTAL: FINAL PLANS

DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
TRAFFIC CONTROL PLAN PHASE 1 & 2

SHEET
R012



PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD, SUITE 300
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
21688
11-15-24
OKLAHOMA

REVISION HISTORY

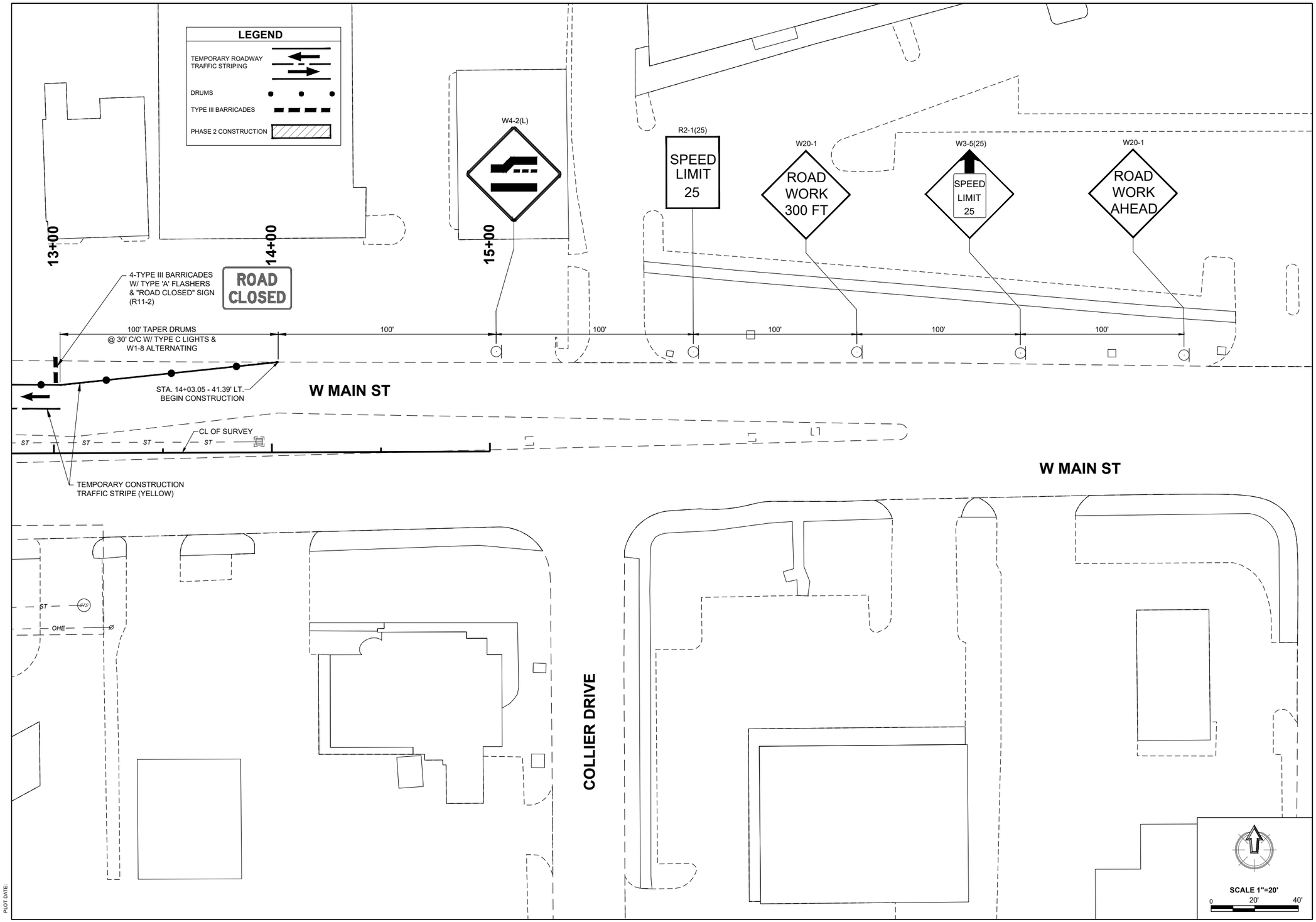
NO.	DESCRIPTION	DATE

SUBMITTAL: FINAL PLANS
DATE: 11-15-2024
PROJECT NO: K-2324-152
DESIGNED BY: KLM
DRAWN BY: MTD
APPROVED BY: KLM
SCALE: AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
TRAFFIC CONTROL PLAN PHASE 1 & 2

SHEET
R013



PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM
STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27688
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-232A-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
TRAFFIC CONTROL PLAN PHASE 1 & 2

SHEET
R014

W MAIN ST

CL OF SURVEY

W MAIN ST

100'

100'

100'

100'

150'

ROAD WORK AHEAD

W20-1

SPEED LIMIT 25

W3-5(25)

ROAD WORK 300 FT

W20-1

SPEED LIMIT 25

R2-1(25)

SCALE 1"=20'

0 20' 40'

PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
21888
11-15-24
OKLAHOMA

REVISION HISTORY

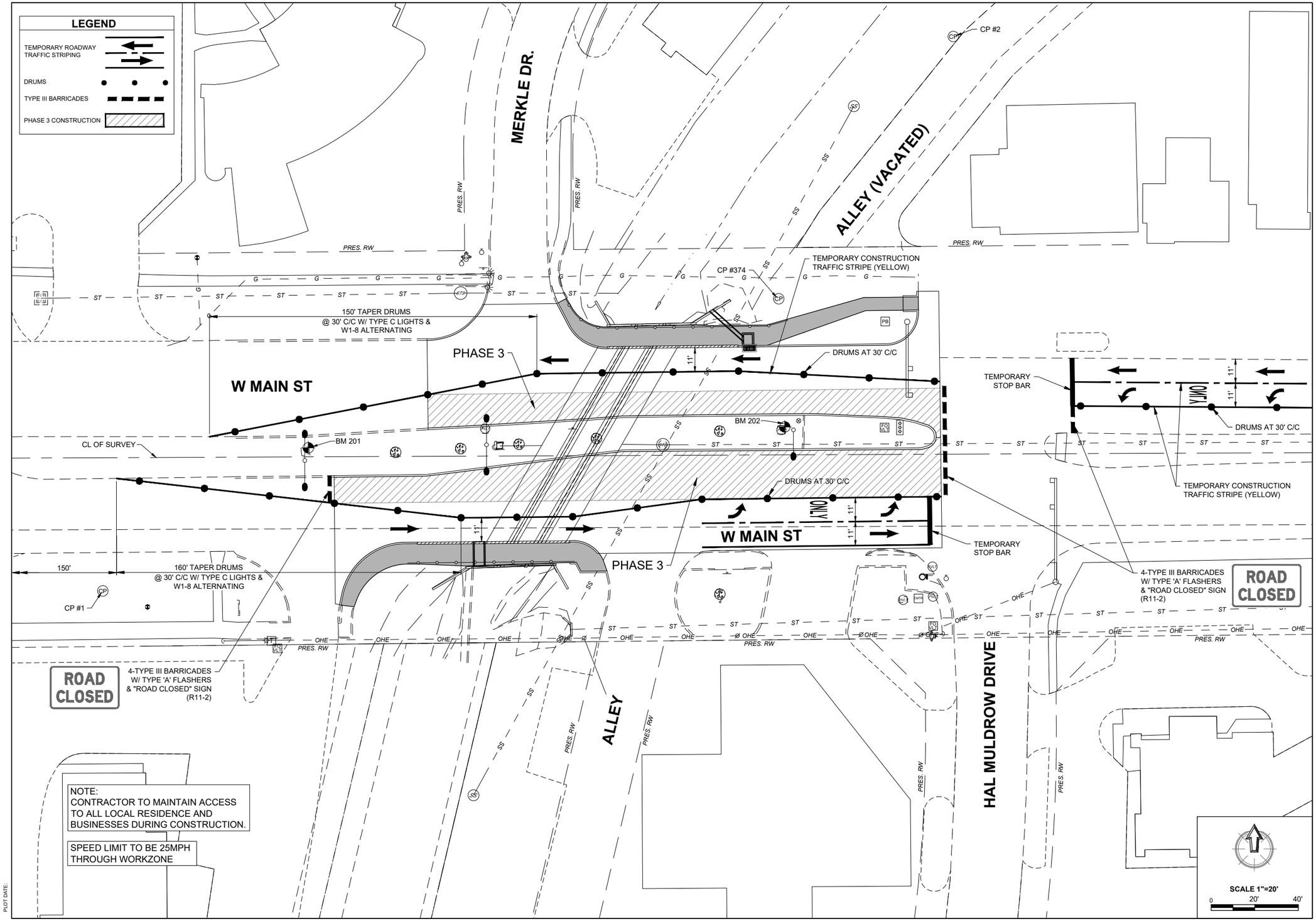
NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
TRAFFIC CONTROL PLAN PHASE 3

SHEET
R015



PLOT DATE:

CEC

CEC CORPORATION
405 W. GRAND BLVD.
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.702.4300
WWW.CECINC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27688
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

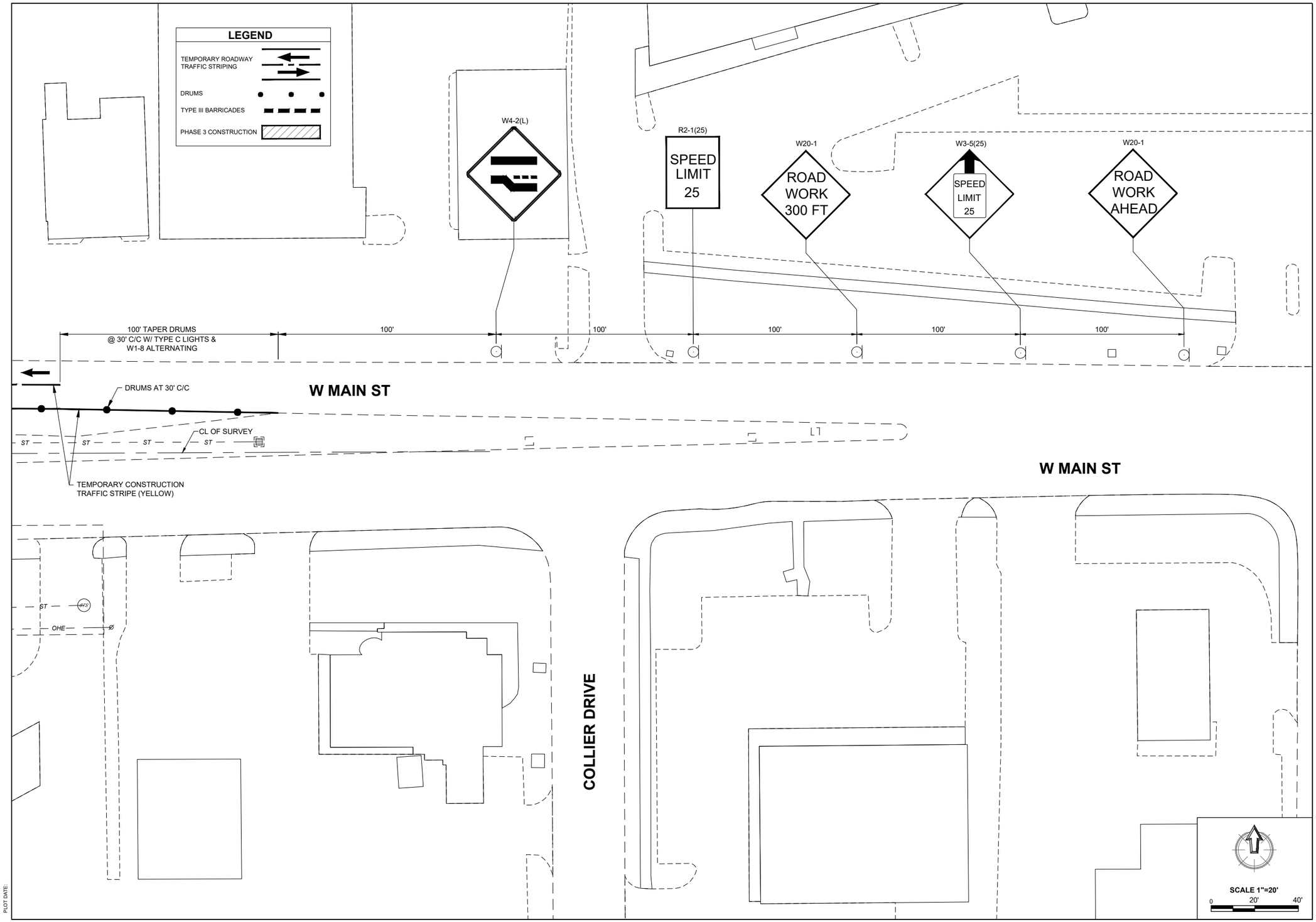
FINAL PLANS

SUBMITTAL:
DATE: 11-15-2024
PROJECT NO: K-2324-152
DESIGNED BY: KLM
DRAWN BY: MTD
APPROVED BY: KLM
SCALE: AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
TRAFFIC CONTROL PLAN PHASE 3

SHEET
R016



PLOT DATE:

CEC

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM
STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27888
11-15-24
OKLAHOMA

REVISION HISTORY

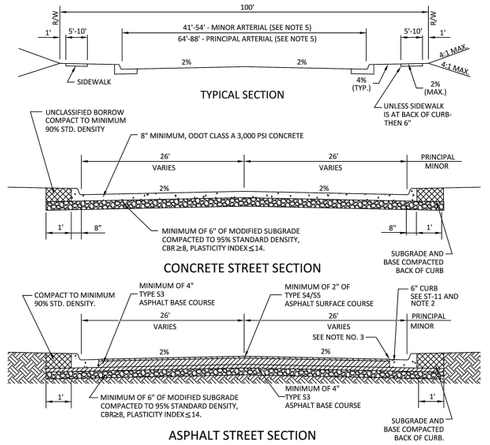
NO.	DESCRIPTION	DATE

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-232R-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
TRAFFIC CONTROL PLAN PHASE 3

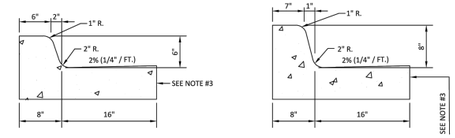
SHEET
R017



NOTES :
1. PAVING SECTION SHOWN IS MINIMUM ALLOWED. STREET PAVING SHALL BE DESIGNED IN ACCORDANCE WITH THE CITY'S "ENGINEERING DESIGN CRITERIA".
2. DOWELS REQUIRED FOR PCC PAVING 8" THICK, OR GREATER, IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 2304.4.A
3. ASPHALT SURFACE SHALL BE ½" ABOVE EDGE OF CONCRETE GUTTER. THE GUTTER THICKNESS MAY BE REDUCED TO 5 ½" TO ACCOMMODATE THIS REQUIREMENT.
4. PAVEMENT SECTION TO BE SUPER-ELEVATED AT ROADWAY CURVES.
5. REFERENCE THE CURRENT VERSION OF THE CITY'S COMPREHENSIVE TRANSPORTATION PLAN AND ENGINEERING DESIGN CRITERIA FOR ADDITIONAL INFORMATION AND SECTION REQUIREMENTS.

ARTERIAL (URBAN) STREET

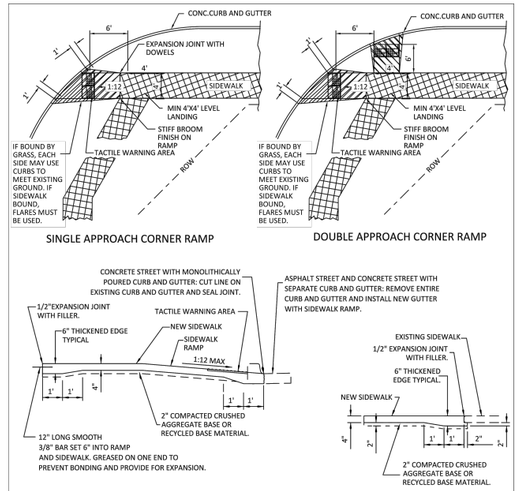
CITY ENGINEER APPROVAL:		CITY OF NORMAN, OKLAHOMA		
APPROVAL DATE:	REVISION DATE: 02/2023	REV. NO. 00	DRAWING NO. ST 03	



NOTES:
1. SEE ODOT STANDARD CSCD FOR JOINT DETAILS.
2. #4 TIE BARS 750 2'-6" LONG REQUIRED AT 18" CENTERS WITH TONGUE AND GROOVE JOINT IF CURB AND GUTTER NOT CAST INTEGRALLY WITH STREET PAVING. LONGITUDINAL CONSTRUCTION JOINTS ON LOCAL AND COLLECTOR STREET MAY, AT THE OPTION OF THE DESIGN ENGINEER, BE BUTT TYPE JOINTS WITH TIEBARS OR KEYWAY TYPE JOINT WITHOUT TIEBARS.
3. 150 (6") MIN. WHEN CURB & GUTTER IS POURED SEPARATELY IF CURB & GUTTER IS POURED MONOLITHICLY WITH THE CONCRETE STREET PAVEMENT, THE GUTTER THICKNESS SHALL BE SAME AS THE APPROVED CONCRETE STREET PAVEMENT THICKNESS. USE 1/2 " DIA. DOWELS 18" LONG AT 24" CENTERS (SMOOTH OR DEFORMED) TO TIE CURB TO CONCRETE STREET PAVEMENT.
4. FOR ARTERIAL (URBAN) STREET SECTIONS, THE GUTTER CROSS-SLOPE SHALL BE 3%.

CURB AND GUTTER

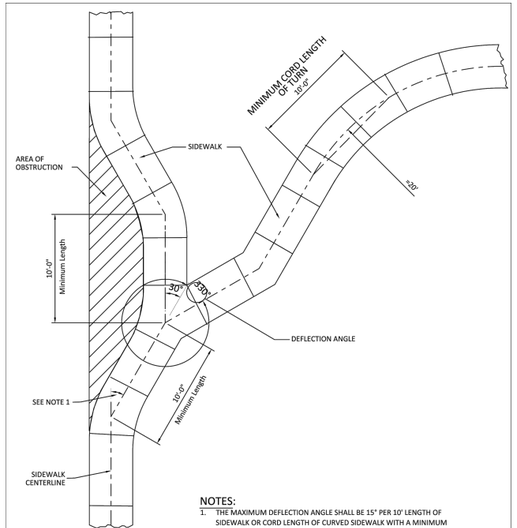
CITY ENGINEER APPROVAL:		CITY OF NORMAN, OKLAHOMA		
APPROVAL DATE:	REVISION DATE: 02/2023	REV. NO. 00	DRAWING NO. ST 11	



NOTES:
1. CROSS SLOPE OF LANDING AREA SHALL NOT EXCEED 2% IN ANY DIRECTION.
2. 6" THICKENING AND 3/8" SMOOTH DOWEL AND SHALL BE USED TO CONNECT NEW SIDEWALK TO EXISTING DRIVEWAY.
3. ALL SIDEWALKS AND PEDESTRIAN RAMPS SHALL BE COMPLIANT WITH THE MOST CURRENT VERSION OF THE ADA STANDARDS AND THE PUBLIC RIGHTS OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
4. FOR ADDITIONAL RAMP CONFIGURATIONS, SEE THE CURRENT VERSION OF THE ODOT WHEEL CHAIR RAMP DETAILS WCR-3)

SIDEWALK DETAILS & WHEELCHAIR RAMP

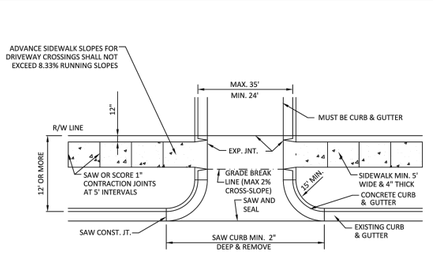
CITY ENGINEER APPROVAL:		CITY OF NORMAN, OKLAHOMA		
APPROVAL DATE:	REVISION DATE: 02/2023	REV. NO. 00	DRAWING NO. ST 14	



NOTES:
1. THE MAXIMUM DEFLECTION ANGLE SHALL BE 15° PER 10' LENGTH OF SIDEWALK OR CORD LENGTH OF CURVED SIDEWALK WITH A MINIMUM 20' RADIUS.
2. SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%
3. SIDEWALK SHALL NOT CROSS THE CENTER LINE OF IT'S SELF EITHER DIRECTION FROM CENTER LINE, UNLESS IT IS NECESSARY TO AVOID OBSTACLES SUCH AS TREES OR FIRE HYDRANTS, ETC.

SIDEWALK HORIZONTAL ALIGNMENT DETAILS

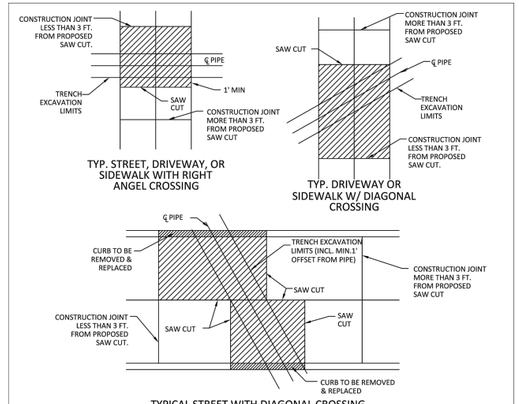
CITY ENGINEER APPROVAL:		CITY OF NORMAN, OKLAHOMA		
APPROVAL DATE:	REVISION DATE: 02/2023	REV. NO. 00	DRAWING NO. ST 14B	



NOTES:
1. DRIVEWAY SHALL BE DESIGNED TO ACCOMMODATE LARGEST TRUCK TO USE IT.
2. REFER TO DRIVE WAY APPROACH STANDARDS ST-24 THROUGH ST-27.
3. IF CONCRETE DRIVEWAY ABUTS AN ASPHALT STREET, SAWING AND SEALING WILL NOT BE REQUIRED. CONCRETE DRIVEWAY WILL NEED TO BE EDGED.
4. IF CONCRETE DRIVEWAY ABUTS A CONCRETE STREET THE DRIVEWAY SHALL BE CONNECTED TO THE STREET USING A KEYWAY OR TIE BARS. THE TIE BAR SHALL BE "4 BARS 18" LONG REQUIRED AT 24" CENTERS.
5. REFERENCE THE CURRENT VERSION OF THE CITY'S COMPREHENSIVE TRANSPORTATION PLAN AND ENGINEERING DESIGN CRITERIA FOR ADDITIONAL INFORMATION AND DRIVEWAY REQUIREMENTS.

COMMERCIAL DRIVEWAY, TYPE II DRIVEWAY APPROACH

CITY ENGINEER APPROVAL:		CITY OF NORMAN, OKLAHOMA		
APPROVAL DATE:	REVISION DATE: 02/2023	REV. NO. 00	DRAWING NO. ST 18	



NOTES:
1. REMOVE AND REPLACE PAVEMENT WITHIN SHADED AREAS BOUNDED BY SAW CUTS AND/OR CONSTRUCTION JOINTS.
2. FOR DIAGONAL CROSSING, REPLACE PAVEMENT USING SQUARED CUTS, AS SHOWN. PAY QUANTITY WILL INCLUDE SQUARED AREA.
3. REMOVE AND REPLACE PAVEMENT TO CONSTRUCTION JOINT IF LESS THAN 3 FT. FROM PROPOSED SAW CUT. EXTRA AREA WILL BE INCLUDED IN PAY QUANTITY.
4. FOR LONGITUDINAL INSTALLATIONS: REMOVE AND REPLACE PAVEMENT AND CURB TO EDGE OF STREET, IF THE SAW CUT IS LESS THAN 3 FT. FROM THE OUTSIDE EDGE OF THE PAVEMENT OR CURB. AVOID SAW CUTS IN THE EXISTING WHEEL LINE. TRENCHES EXCEEDING 300 L.F. SHALL BE BACKFILLED AND MADE DRIVABLE.
5. ALL CONSTRUCTION JOINTS SHALL BE REESTABLISHED IN ACCORDANCE WITH THE CITY OF NORMAN STANDARDS FOR PORTLAND CEMENT CONCRETE PAVEMENT. WHEN A NEW PAVEMENT SECTION IS REMOVED ALONG AN EXISTING LONGITUDINAL CONSTRUCTION JOINT, THE NEW PAVEMENT SHALL BE DOWELED TO THE PAVEMENT ADJACENT TO THE JOINT.
6. REFERENCE THE CURRENT VERSION OF THE CITY'S COMPREHENSIVE TRANSPORTATION PLAN AND ENGINEERING DESIGN CRITERIA FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

STANDARD PAVEMENT CUTS

CITY ENGINEER APPROVAL:		CITY OF NORMAN, OKLAHOMA		
APPROVAL DATE:	REVISION DATE: 02/2023	REV. NO. 00	DRAWING NO. ST 20	

CEC CORPORATION
405 W. GRANDVIEW, SUITE 7142
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECOK.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 14 EXPIRES 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27888
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

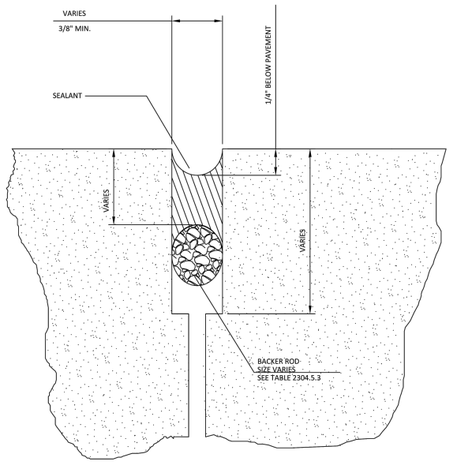
SUBMITTAL: FINAL PLANS
DATE: 11-15-2024
PROJECT NO. K-2324-152
DESIGNED BY: KLM
DRAWN BY: MTD
APPROVED BY: KLM
SCALE: AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

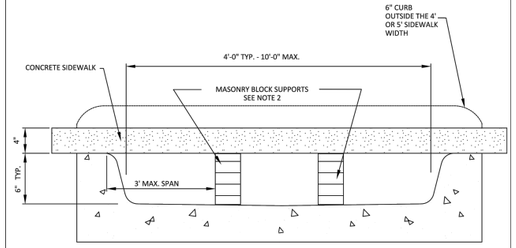
SHEET NAME
DETAILS

SHEET
R018

PLOT DATE:



JOINT SEALING DETAIL

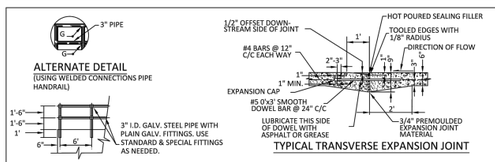


TYPICAL SECTION

NOTES
1. CROSS SLOPE OF SIDEWALK SHALL NOT EXCEED 2% IN ANY DIRECTION.
2. ONE MASONRY BLOCK SUPPORT SHALL BE REQUIRED FOR A FLUME 6 FT. WIDE OR LESS.
3. CONCRETE SUPPORTS MAY BE IN PLACE OF MASONRY BLOCKS IF APPROVED BY THE CITY ENGINEER.

SIDEWALK CROSSING CONCRETE FLUME

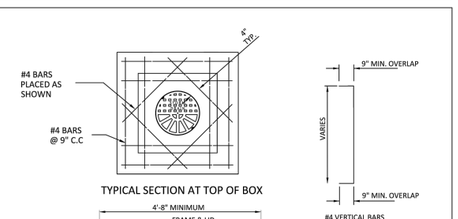
CITY ENGINEER APPROVAL:		CITY OF NORMAN, OKLAHOMA			
APPROVAL DATE:	REVISION DATE: 02/2023	REV. NO. 00	DRAWING NO. ST 29	APPROVAL DATE:	REVISION DATE: 02/2023	REV. NO. 00	DRAWING NO. ST 34



NOTES:
1. HANDRAIL WELDED CONNECTIONS MAY BE USED FOR PIPE HANDRAIL. WELDED CONNECTIONS SHALL BE THOROUGHLY CLEANED OF ALL LOOSE SCALE, GROUND SMOOTH & SPOT PAINTED WITH TWO COATS OF ALUMINUM PAINT.
2. 3/4" EXPANSION JOINT @ 100' MAX. SAWED CONT. JOINT @ 20' MAX.

FLUME & CHANNEL LINER DETAILS

CITY ENGINEER APPROVAL:		CITY OF NORMAN, OKLAHOMA	
APPROVAL DATE:	REVISION DATE: 02/2023	REV. NO. 00	DRAWING NO. SD 07



TYPICAL SECTION THRU JUNCTION BOX

NOTES:
1. ALL CONSTRUCTION METHODS & MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE CURRENT SPECIFICATIONS.
2. ALL LETTERING SHALL BE RECESSED 1/16".

JUNCTION BOX DETAIL

CITY ENGINEER APPROVAL:		CITY OF NORMAN, OKLAHOMA	
APPROVAL DATE:	REVISION DATE: 02/2023	REV. NO. 00	DRAWING NO. SD 09

PLOT DATE:

CEC

CEC CORPORATION
405 S.W. 19TH STREET, ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.703.4300
WWW.CECOK.COM
STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27888
11-15-24
OKLAHOMA

REVISION HISTORY

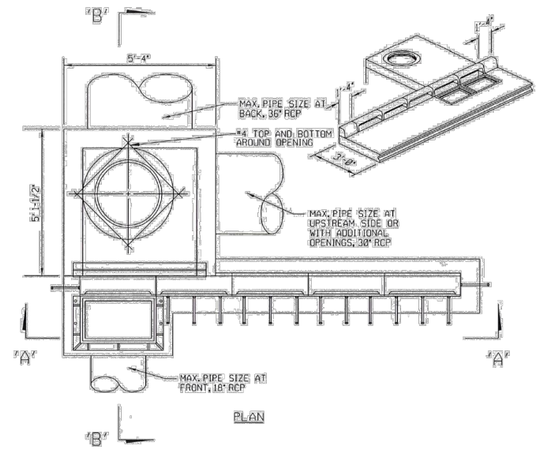
NO.	DESCRIPTION	DATE

SUBMITTAL: FINAL PLANS
DATE: 11-15-2024
PROJECT NO: K-23241-152
DESIGNED BY: KLM
DRAWN BY: MTD
APPROVED BY: KLM
SCALE: AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

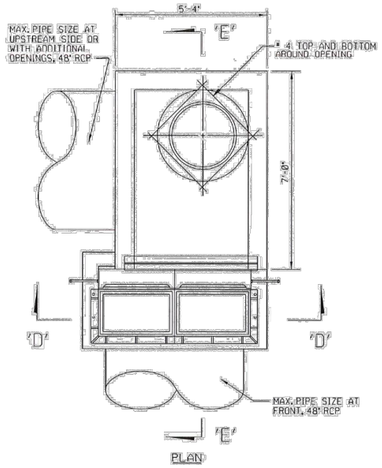
SHEET NAME
DETAILS

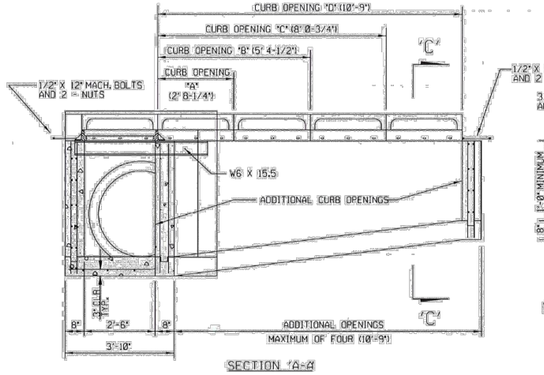
SHEET
R019



QUANTITIES FOR INLETS

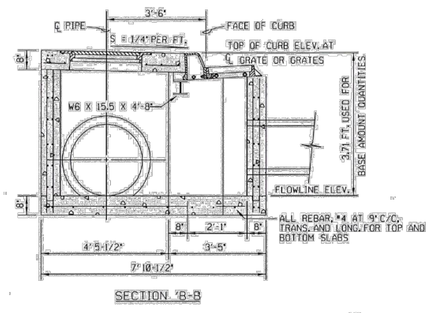
INLET DESIGN	CURB OPENING DESIGNATION	CLASS "A" CONCRETE CU. YD.	INLET BASE AMT.	INLET ADD'L C.F. PER VERT. FT.	INLET FRAME AND GRATE EACH	CAST IRON CURB INLET EACH	MH FRAME AND COVER EACH
1 WITH SMALL JUNCT. BOX		1.50	43.56	15.84	1	1	1
	"A"	1.60	47.34	17.43	1	2	1
	"B"	1.73	55.44	21.03	1	3	1
	"C"	1.86	62.26	24.63	1	4	1
	"D"	1.99	68.03	28.23	1	5	1
2 WITH SMALL JUNCT. BOX		1.70	47.84	17.40	2	2	1
	"A"	1.83	57.01	21.00	2	3	1
	"B"	1.96	64.86	24.60	2	4	1
	"C"	2.08	71.70	28.20	2	5	1
	"D"	2.21	77.28	31.80	2	6	1
1 WITH LARGE JUNCT. BOX		2.11	58.44	18.34	1	1	1
	"A"	2.21	64.22	19.93	1	2	1
	"B"	2.34	62.32	23.53	1	3	1
	"C"	2.47	69.14	27.13	1	4	1
	"D"	2.60	74.91	30.73	1	5	1
2 WITH LARGE JUNCT. BOX		2.31	64.72	19.90	2	2	1
	"A"	2.43	63.89	23.50	2	3	1
	"B"	2.57	71.74	27.10	2	4	1
	"C"	2.69	78.58	30.70	2	5	1
	"D"	2.82	84.16	34.30	2	6	1



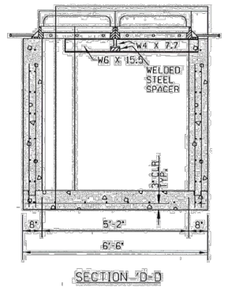


SECTION "A-A"

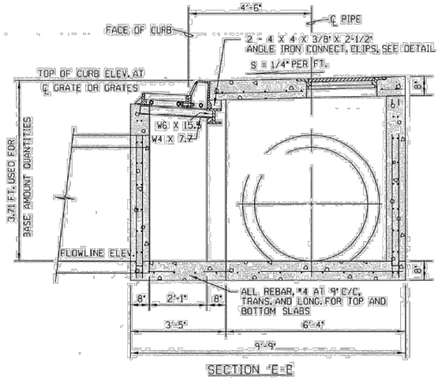
SECTION "C-C"



SECTION "B-B"



SECTION "D-D"



SECTION "E-E"

SINGLE GRATE CURB INLET WITH JUNCTION BOX

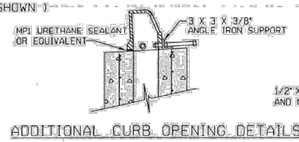
(DESIGN 1-D WITH SMALL JUNCTION BOX SHOWN)

DOUBLE GRATE CURB INLET WITH JUNCTION BOX

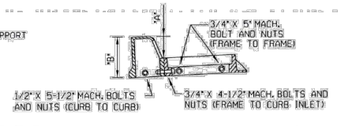
(DESIGN 2 WITH LARGE JUNCTION BOX SHOWN)

18" THRU 30" LONGITUDINAL PIPE REQUIRES SMALL JUNCTION BOX

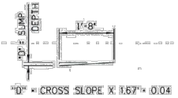
ALL REBAR IN WALLS #4 @ 12" CTRS EA WAY (TYPICAL)

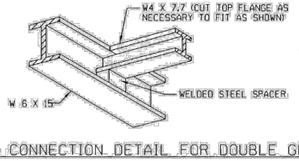


ADDITIONAL CURB OPENING DETAILS



FRAME AND CURB DETAILS





I-BEAM CONNECTION DETAIL FOR DOUBLE GRATE

ANGLE IRON LENGTHS	
OPENING	LENGTH
"A"	2'-5-3/8"
"B"	5'-1-5/8"
"C"	7'-9-7/8"
"D"	10'-6-1/8"

C.I. CURB HEIGHTS		
TYPE	"A"	"B"
4" MOUNTABLE	4-1/2"	9-1/2"
6" MOUNTABLE	6-1/2"	11-1/2"
6" BARRIER	6-1/2"	11-1/2"
8" BARRIER	8-1/2"	13-1/2"

ENGINEERING DIVISION, CITY OF NORMAN

STANDARD INLETS AND GRATES W/ ACCESS MANHOLE BACK OF CURB

APPROVED BY: _____ CITY ENGINEER | DATE: 02/2023 | DRAWING NO: SD 11

PLOT DATE:

CEC
CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECINC.COM
STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES: 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27888
11-15-24
OKLAHOMA

REVISION HISTORY

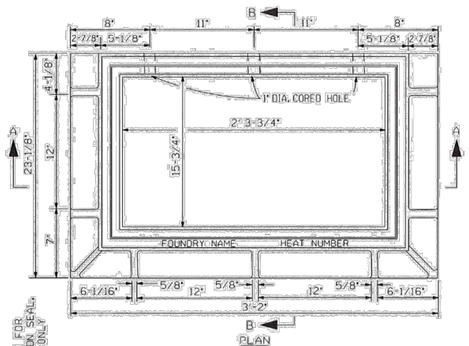
NO.	DESCRIPTION	DATE

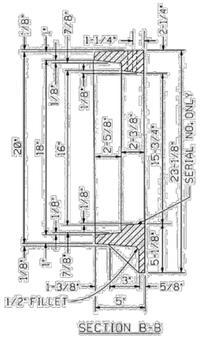
SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

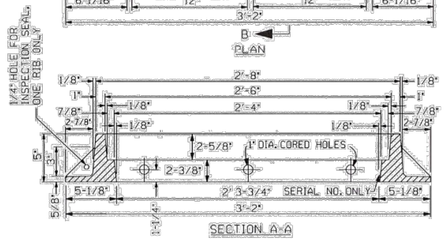
MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
DETAILS

SHEET
R020



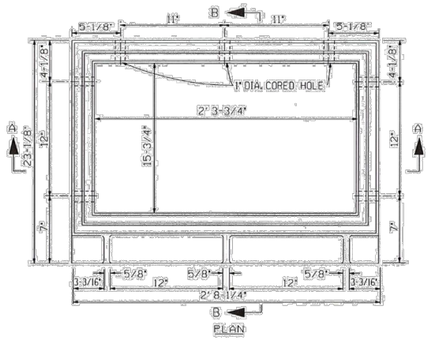


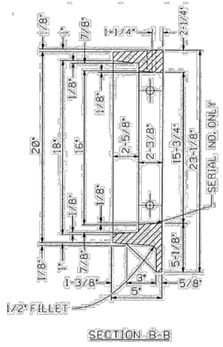


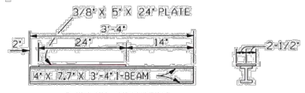
STORM SEWER INLET FRAME TYPE "A"
FOR INLET DESIGN NO. 1

FOR USE WITH TYPE "A" GRATE

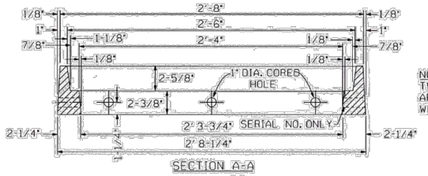
NOTE:
ONLY ONE TYPE A FRAME IS REQUIRED FOR INLET DESIGN NO. 1
WEIGHT = 252 LBS.







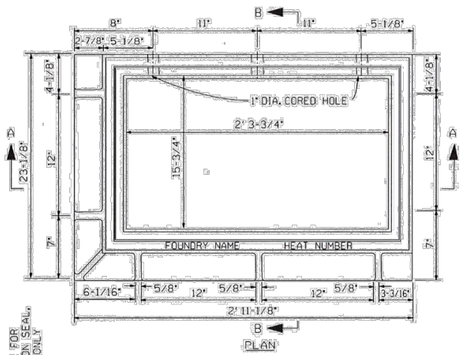
I-BEAM SUPPORT
TO BE USED WHEN STRUCTURE IS BUILT ON CURVED CURB

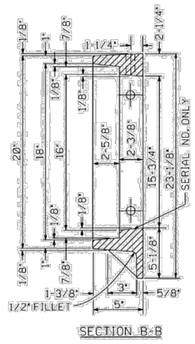


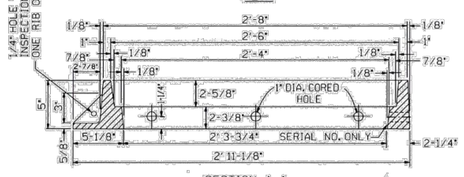
STORM SEWER INLET FRAME TYPE "C"
FOR INLET DESIGN NO. 3

FOR USE WITH TYPE "A" GRATE

NOTE:
TWO TYPE "B" FRAMES AND ONE TYPE "C" FRAME ARE REQUIRED FOR INLET DESIGN 3
WEIGHT = 217 LBS.







STORM SEWER INLET FRAME TYPE "B"
FOR INLET DESIGN NO. 2 AND 3

FOR USE WITH TYPE "A" GRATE

NOTE:
MAKE ONE FRAME AS SHOWN AND ONE REVERSED FOR DOUBLE FRAMES.
WEIGHT = 234 LBS.

TOLERANCES	INCHES	
	PLUS	MINUS
DIAMETER OF ROUND LIDS AND FRAME RECESS FOR ROUND LIDS	1/16"	1/16"
LENGTH AND WIDTH OF SQUARE OR RECTANGULAR LIDS	1/16"	1/8"
LENGTH AND WIDTH OF FRAME RECESS FOR SQUARE OR RECTANGULAR LIDS	1/8"	1/16"
METAL THICKNESS	1/16"	1/16"
ALL OTHER DIMENSIONS	1/8"	1/8"

ENGINEERING DIVISION, CITY OF NORMAN

STANDARD STORMWATER FRAMES

APPROVED BY: _____ CITY ENGINEER | DATE: 02/2023 | DRAWING NO: SD 14

PLOT DATE:

CEC

CEC CORPORATION
405 W. LIBERTY, SUITE 100
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CECOK.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27888
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

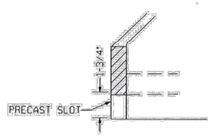
SUBMITTAL: FINAL PLANS

DATE:	11-15-2024
PROJECT NO.	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

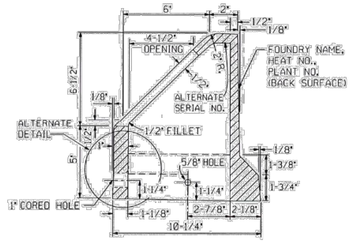
MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
DETAILS

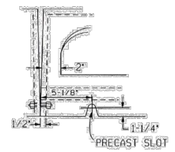
SHEET
R021



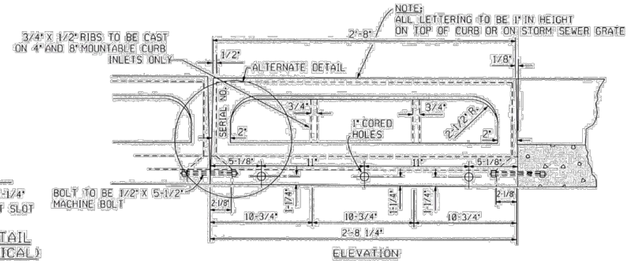
ALTERNATE DETAIL
ALL CURBS (TYPICAL)



6" MOUNTABLE CURB
183 LBS.



ALTERNATE DETAIL
ALL CURBS (TYPICAL)



ELEVATION

CAST IRON STORM SEWER CURB INLET

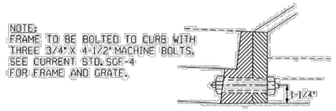
DUMP NO WASTE ◻ DRAINS TO RIVER

FOR 6" MOUNTABLE CURB

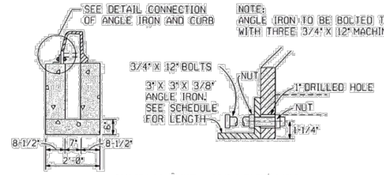
DUMP NO WASTE
DRAINS TO RIVER

FOR 6" AND 8" BARRIER CURB

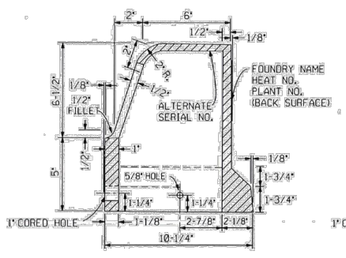
LAYOUT FOR CURB NOTE



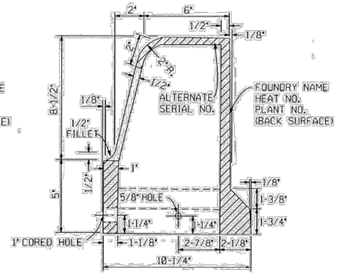
DETAIL OF CONNECTION
FRAME AND CAST IRON CURB



DETAIL OF CONNECTION
ANGLE IRON AND CAST IRON CURB



6" BARRIER CURB
200 LBS.



8" BARRIER CURB
222 LBS.

TOLERANCES	INCHES	
	PLUS	MINUS
DIAMETER OF ROUND LIDS AND FRAME RECESS FOR ROUND LIDS	1/16	1/16
LENGTH AND WIDTH OF SQUARE OR RECTANGULAR LIDS	1/16	1/8
LENGTH AND WIDTH OF FRAME RECESS FOR SQUARE OR RECTANGULAR LIDS	1/8	1/16
METAL THICKNESS	1/16	1/16
ALL OTHER DIMENSIONS	1/8	1/8

SCHEDULE

INLET DESIGN	CURB OPENING DESIGNATION	INLET FRAME AND GRATE EACH	CAST IRON CURB INLET EACH	ANGLE IRON NO.	ANGLE IRON LENGTH
1	A	1	2	1	2'-5-3/8"
	B	1	3	1	5'-1-5/8"
	C	1	4	1	7'-9-7/8"
	2A	1	3	2	2'-5-3/8" 2'-5-3/8"
	A-B	1	4	2	2'-5-3/8" 5'-1-5/8"
	A-C	1	5	2	2'-5-3/8" 7'-9-7/8"
	2B	1	5	2	5'-1-5/8" 5'-1-5/8"
	B-C	1	6	2	5'-1-5/8" 7'-9-7/8"
	2-C	1		2	7'-9-7/8" 7'-9-7/8"
2		2	2		
	B	2	4	1	5'-1-5/8"
	D	2	6	1	10'-6-1/8"
	2B	2	6	2	5'-1-5/8" 5'-1-5/8"
	B-D	2	8	2	5'-1-5/8" 10'-6-1/8"
	2D	2	10	2	10'-6-1/8" 10'-6-1/8"
3		3	3		
	B	3	5	1	5'-1-5/8"
	D	3	7	1	10'-6-1/8"
	2B	3	7	2	5'-1-5/8" 5'-1-5/8"
	B-D	3	9	2	5'-1-5/8" 10'-6-1/8"
	2D	3	11	2	10'-6-1/8" 10'-6-1/8"

NOTE: CONFIGURATIONS ARE NOT LIMITED TO THOSE SHOWN ABOVE.

ENGINEERING DIVISION, CITY OF NORMAN

STANDARD CAST IRON CURB

APPROVED BY: _____ CITY ENGINEER | DATE: 02/2023 | DRAWING NO: SD 15

PLOT DATE:

CEC

CEC CORPORATION
405 W. GRAND BLVD.
OKLAHOMA CITY, OKLAHOMA 73102
P. 405.702.4300
WWW.CECORP.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA# 3.8 EXPIRES 2025-06-30

LICENSED PROFESSIONAL ENGINEER
KYLE L. MORSE
27888
11-15-24
OKLAHOMA

REVISION HISTORY

NO.	DESCRIPTION	DATE

SUBMITTAL: FINAL PLANS

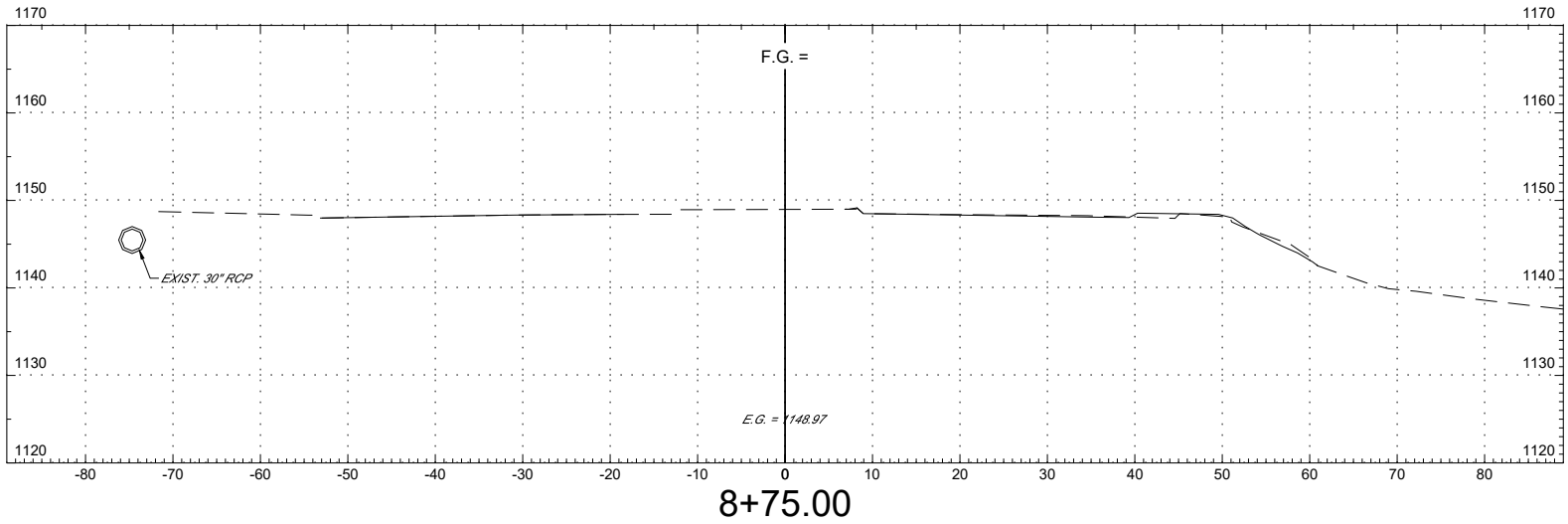
DATE:	11-15-2024
PROJECT NO.	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

MAIN STREET
BRIDGE REHABILITATION
NORMAN, OKLAHOMA

SHEET NAME
DETAILS

SHEET
R022

PLOT DATE:



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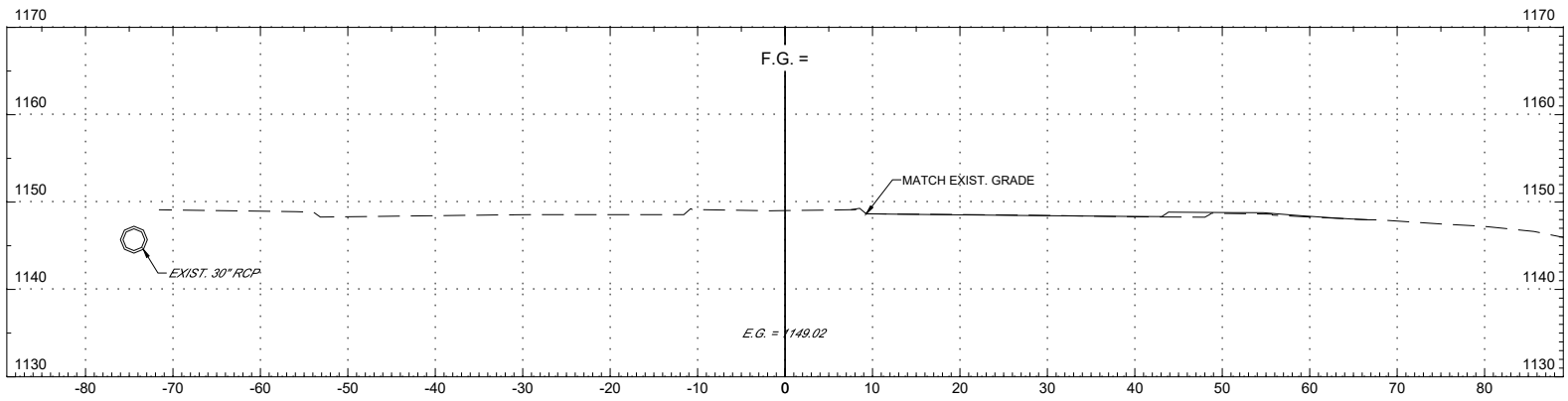

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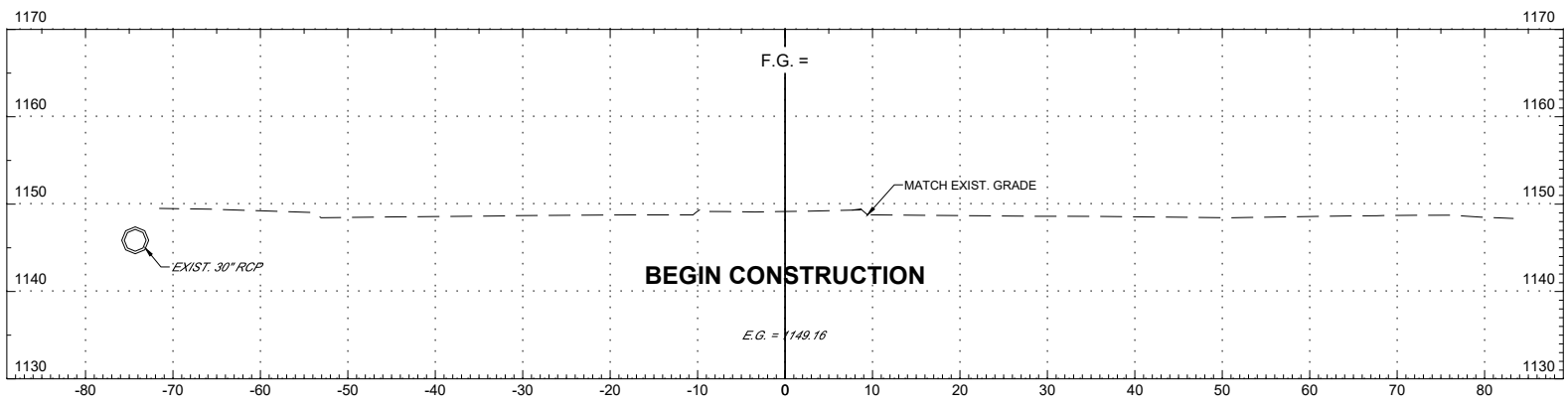

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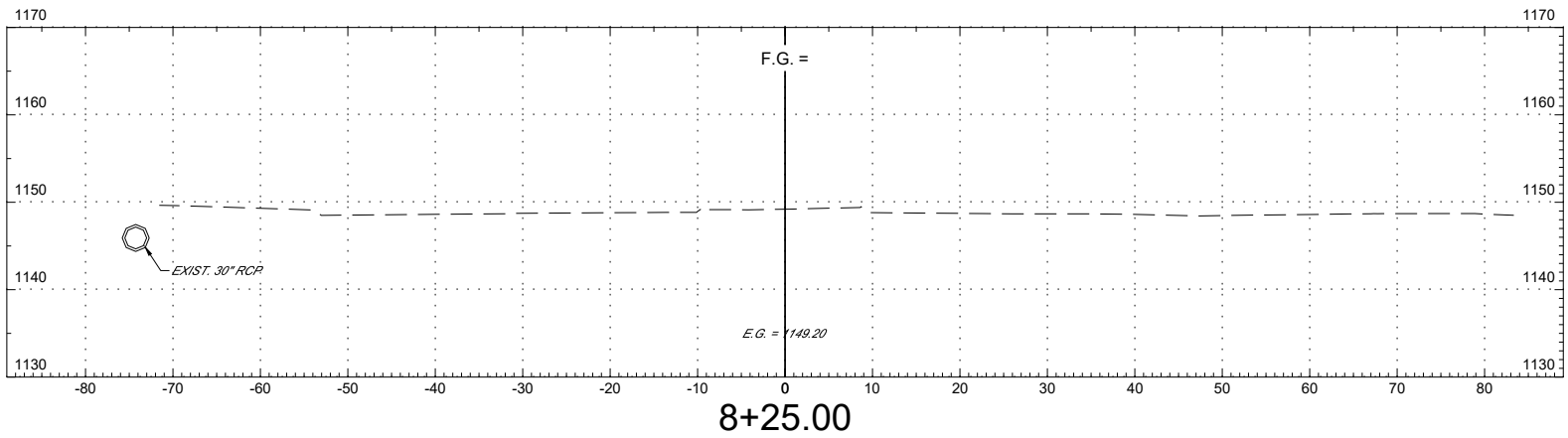

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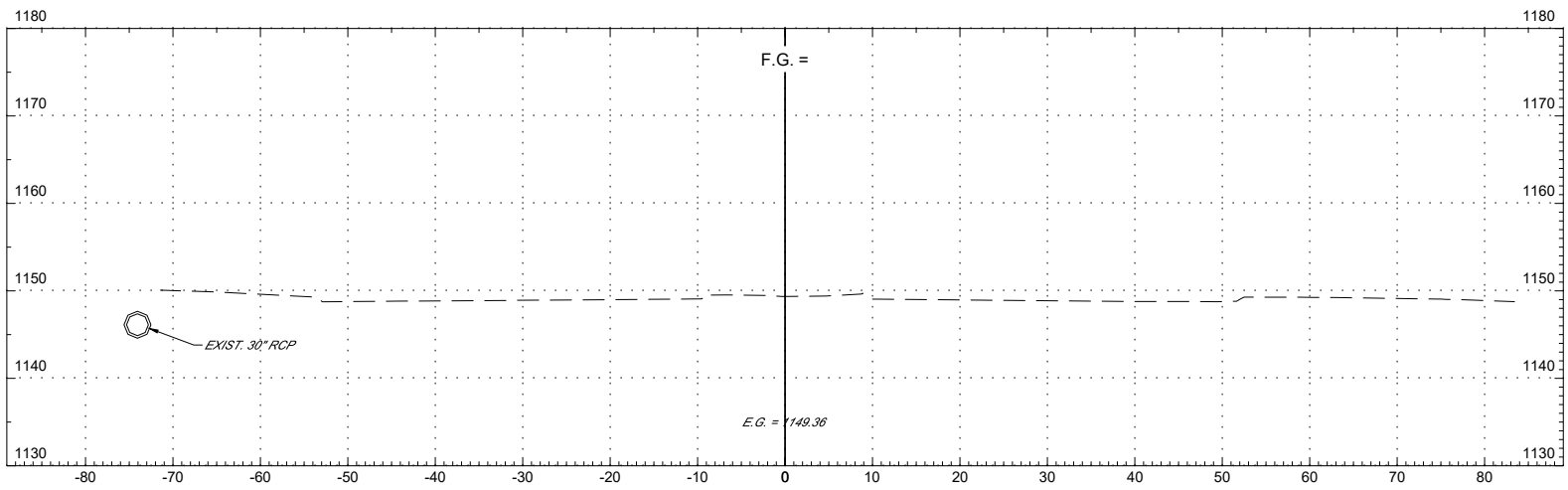

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SHEET X001	SHEET NAME CROSS SECTIONS	MAIN STREET BRIDGE REHABILITATION NORMAN, OKLAHOMA	SUBMITTAL:	FINAL PLANS	REVISION HISTORY	
			DATE:	11-15-2024	NO.	DESCRIPTION / DATE
			PROJECT NO:	K-2324-152		
			DESIGNED BY:	KLM		
			DRAWN BY:	MTD		
			APPROVED BY:	KLM		
			SCALE:	AS SHOWN		

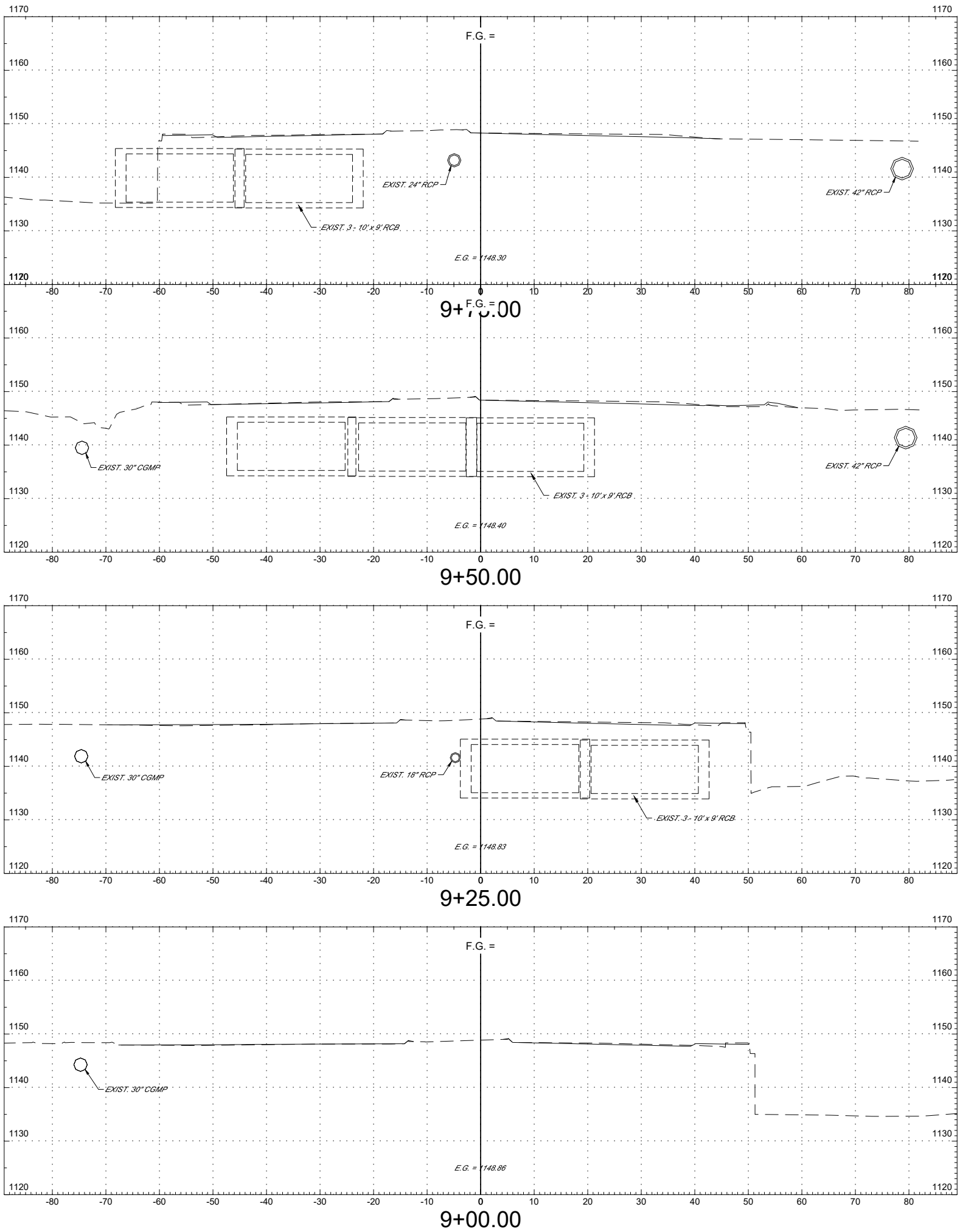
LICENSED PROFESSIONAL ENGINEER — KYLE L. MORSE — 27899 — OKLAHOMA

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CONNECTCEC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA#: 32 EXPIRES: 2026-06-30

CEC®

PLOT DATE:



SHEET	SHEET NAME	MAIN STREET BRIDGE REHABILITATION	SUBMITTAL: FINAL PLANS
X002	CROSS SECTIONS	NORMAN, OKLAHOMA	DATE: 11-15-2024
			PROJECT NO: K-2324-152
			DESIGNED BY: KLM
			DRAWN BY: MTD
			APPROVED BY: KLM
			SCALE: AS SHOWN

REVISION HISTORY

NO.	DESCRIPTION	DATE

LICENSED PROFESSIONAL ENGINEER — KYLE L. MORSE — 27899 — OKLAHOMA

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
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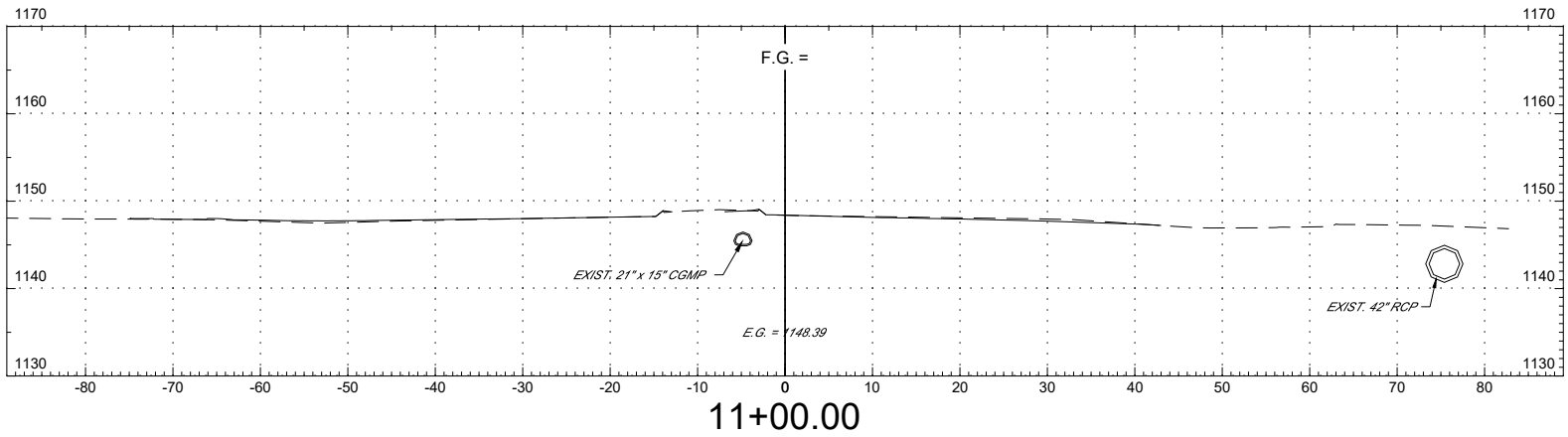
STATE OF OK CERTIFICATE OF AUTHORIZATION
CA#: 32 EXPIRES: 2026-06-30

CEC®

PLOT DATE:



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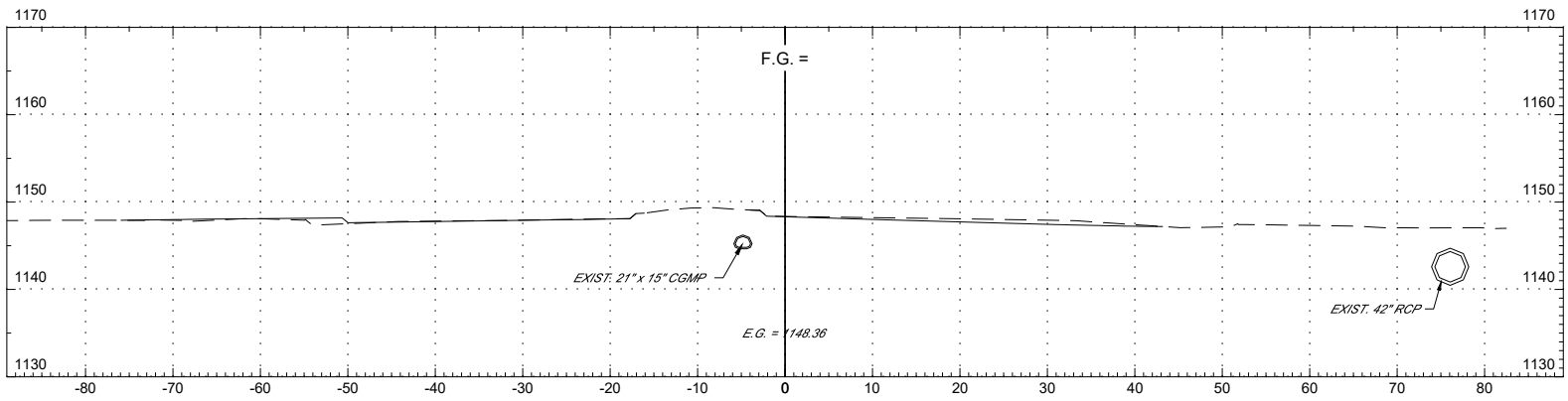

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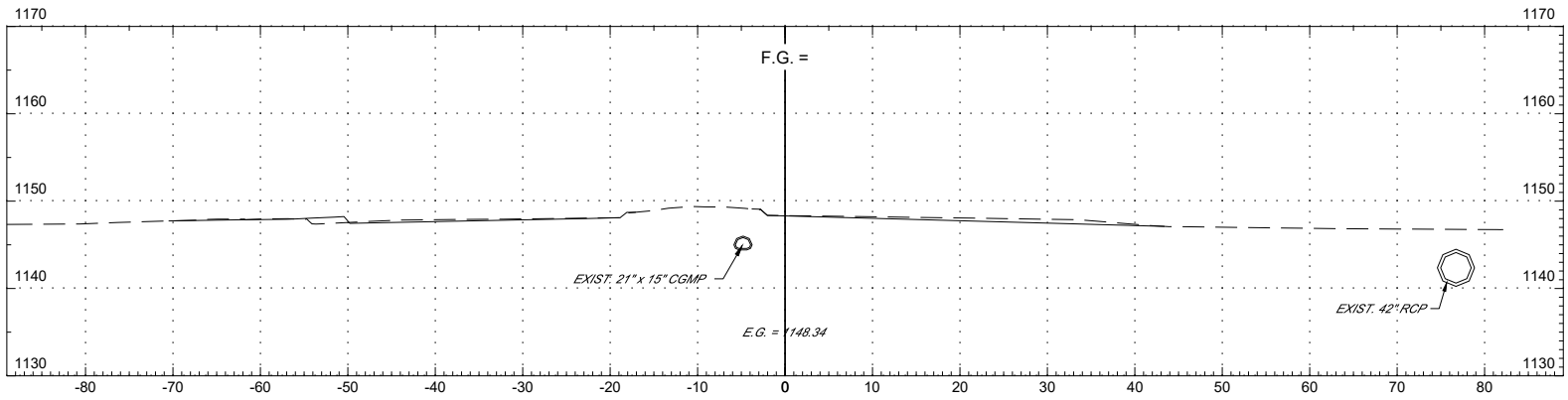

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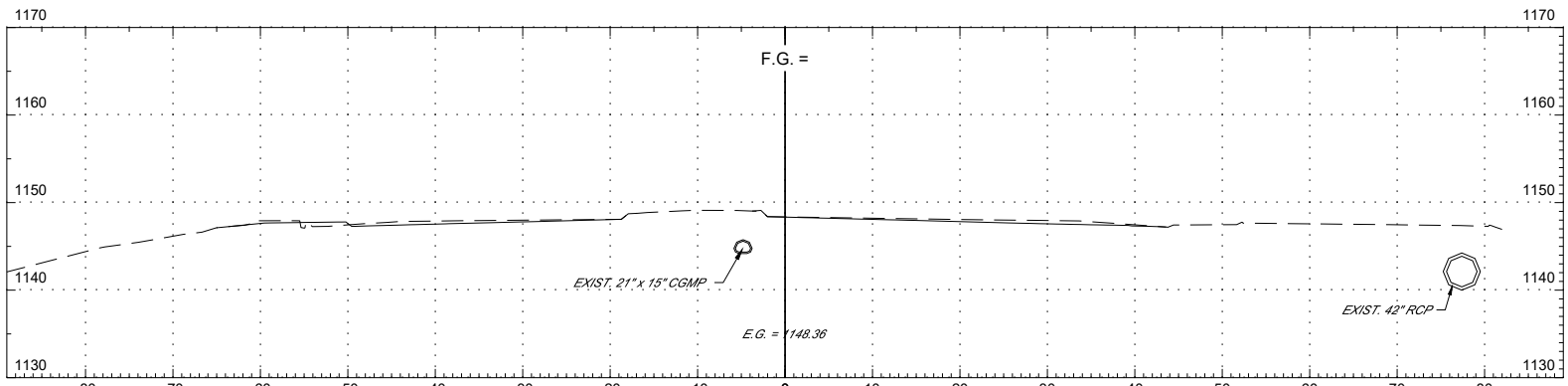

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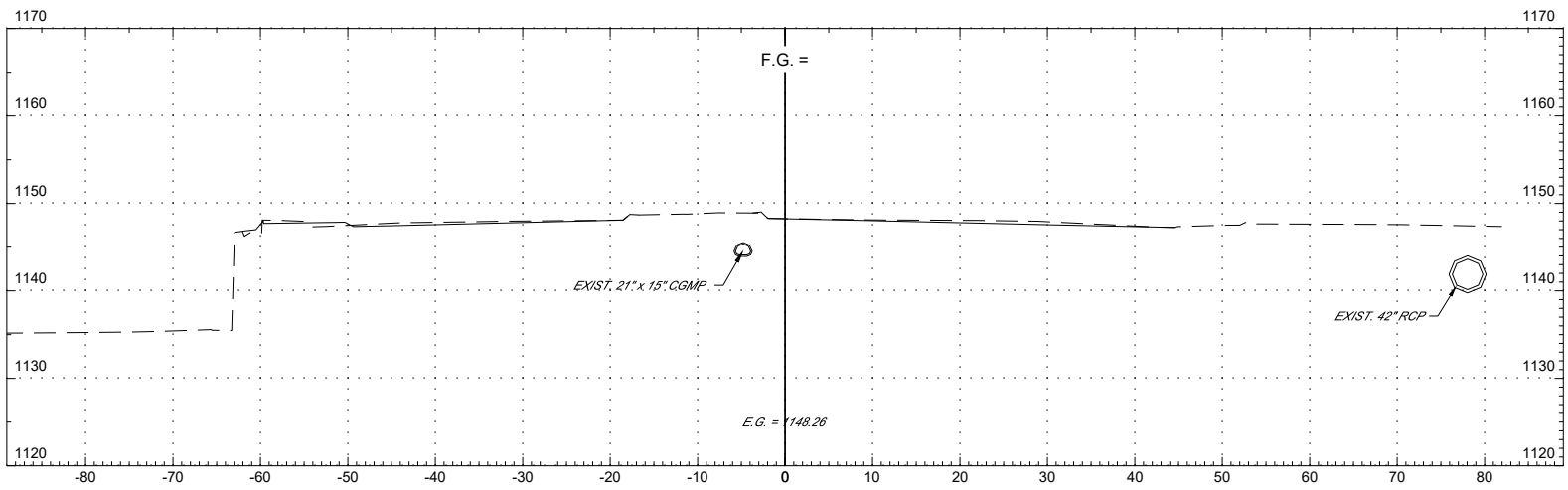


10+00.00

SHEET X003

SHEET NAME: CROSS SECTIONS

MAIN STREET BRIDGE REHABILITATION

NORMAN, OKLAHOMA

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

REVISION HISTORY

NO.	DESCRIPTION	DATE

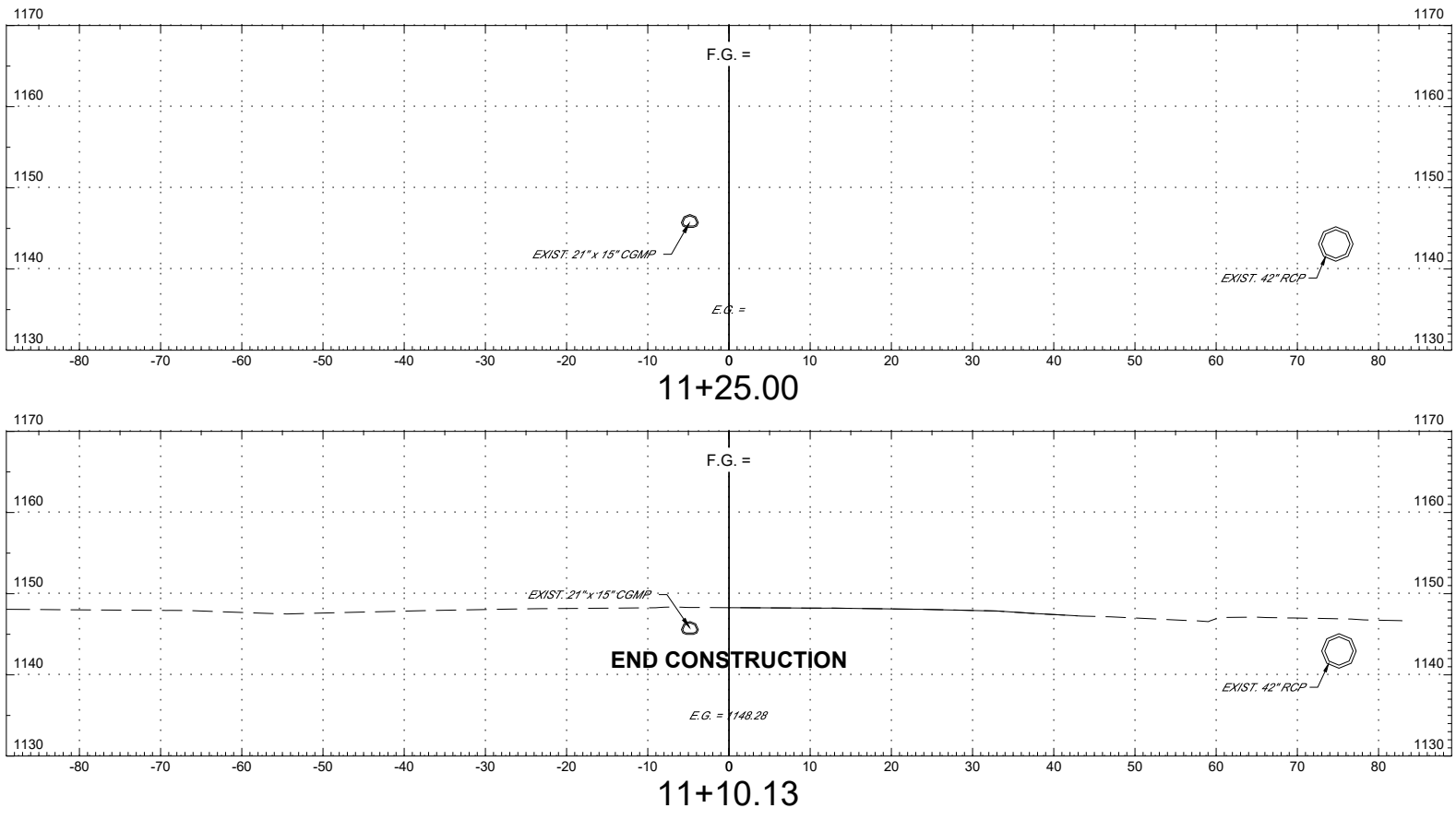
LICENSED PROFESSIONAL ENGINEER — KYLE L. MORSE — 27899 — OKLAHOMA

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
P: 405.753.4200
WWW.CONNECTCEC.COM

STATE OF OK CERTIFICATE OF AUTHORIZATION
CA#: 32 EXPIRES: 2026-06-30

CEC®

PLOT DATE:



SHEET X004

SHEET NAME: CROSS SECTIONS

MAIN STREET BRIDGE REHABILITATION

NORMAN, OKLAHOMA

SUBMITTAL:	FINAL PLANS
DATE:	11-15-2024
PROJECT NO:	K-2324-152
DESIGNED BY:	KLM
DRAWN BY:	MTD
APPROVED BY:	KLM
SCALE:	AS SHOWN

REVISION HISTORY

NO.	DESCRIPTION	DATE

LICENSED PROFESSIONAL ENGINEER OKLAHOMA KYLE L. MORSE 27899

CEC CORPORATION
4555 W. MEMORIAL ROAD
OKLAHOMA CITY, OKLAHOMA 73142
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STATE OF OK CERTIFICATE OF AUTHORIZATION
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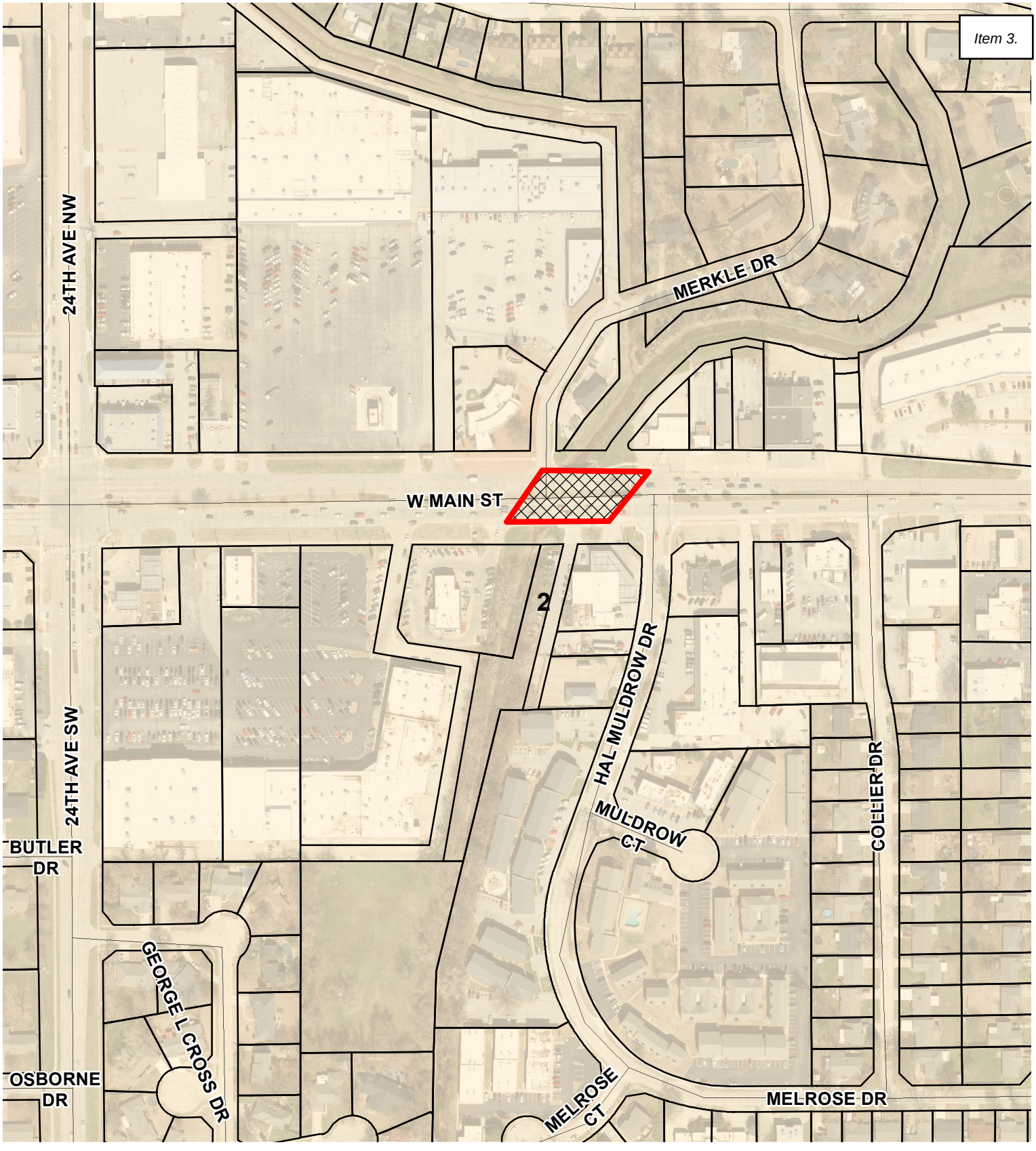
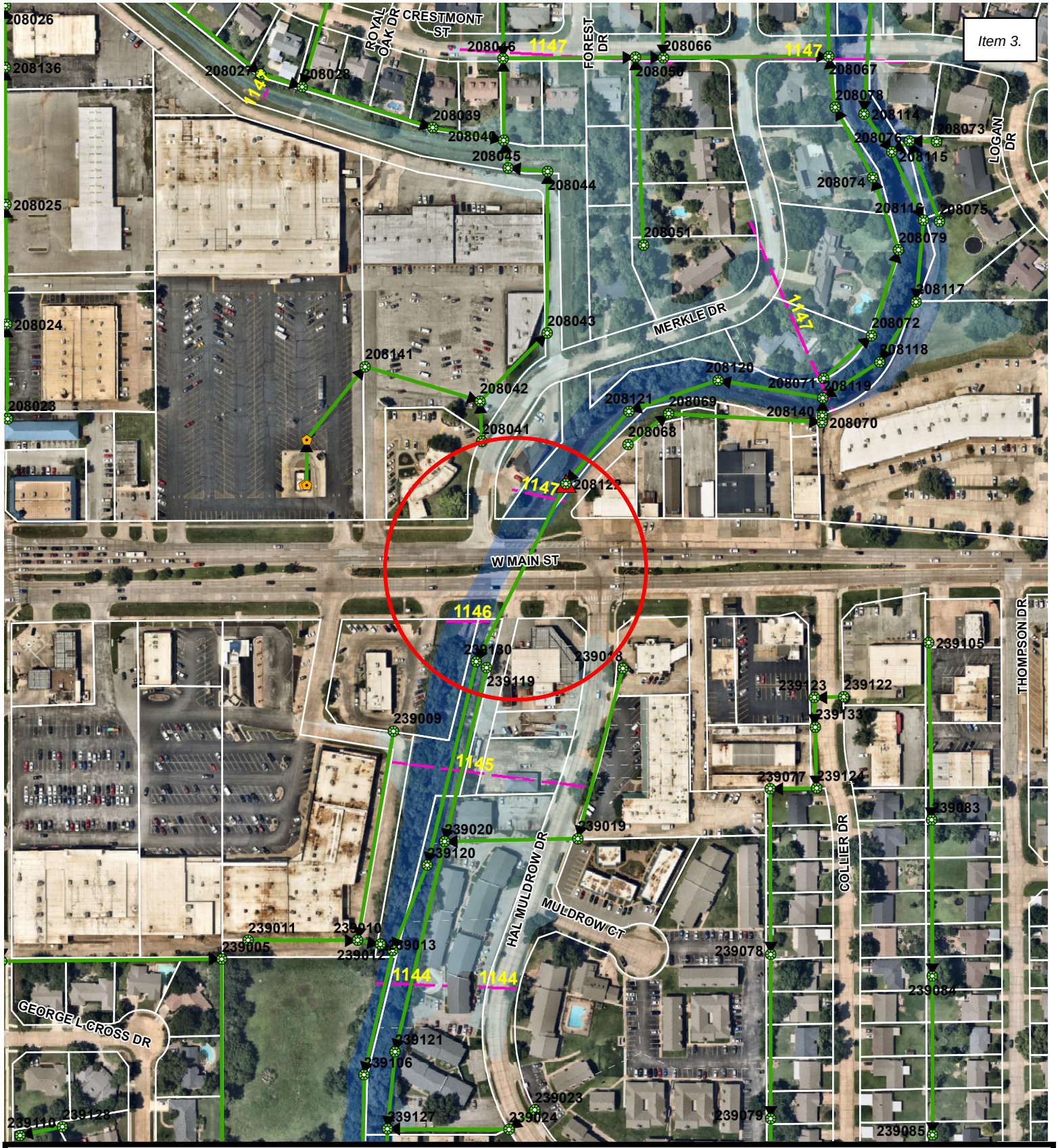


Map produced by the City of Norman Geographic Information System

The City of Norman assumes no Responsibility for errors or omissions in the information presented.

W Main Street Bridge

N



Merkle Creek Bridge on Main Street

Legend

- BFE 2021
- 1% Chance Floodplain
- Floodway
- Lot Line
- Parcel

STAFF REPORT 07/07/2025 **PERMIT #720**

ITEM: This Floodplain Permit Application is for bridge maintenance to the bridge over Bishop Creek near the intersection of Lindsey Street and Classen Boulevard.

BACKGROUND:
APPLICANT: City of Norman Streets Department
CONTRACTOR: TBD
ENGINEER: Brandon Brooks P.E., CFM

This project involves routine maintenance activities on the bridge located over Bishop Creek near the intersection of Lindsey Street and Classen Boulevard. Work to be performed includes repairing the bridge deck, clean-up of channel and slope stabilization in the immediate vicinity of the bridge, as well as crack repair and joint sealing of the bridge deck. Any material placed in the channel will be to replace what has been lost to scour and erosion.

Site located in Little River Basin or its Tributaries? yes __ no✓

STAFF ANALYSIS:
The project is located in the Bishop Creek floodplain (Zone AE). Base flood elevation is 1129.5', and the engineer has certified that there will be no increase in the base flood elevation as a result of this project.

Applicable Ordinance Sections:	Subject Area:
36-533 (e)(2)(a)..……..……	Fill restrictions in the floodplain
(e)(2)(e)..……..……	Compensatory storage
(f)(3)(8)……..	No rise considerations

(e)(2)(a) and (e)(2)(e) Fill Restrictions in the Floodplain and Compensatory Storage – The use of fill is restricted in the floodplain unless compensatory storage is provided.

> The applicant has indicated that no new fill will be brought in as a result of this project, other than what is necessary to replace what has been lost to erosion and to stabilize the banks to prevent erosion. Rip rap and other stabilization material will be installed at grade.

(f)(3)(8) No Rise Considerations – For proposed development within any flood hazard area (except for those designated as regulatory floodways), certification that a rise of no more than 0.05 feet will occur in the BFE on any adjacent property as a result of the proposed work must be provided.

> The engineer has certified that the project will not cause a rise in the BFE which meets this ordinance requirement.

RECOMMENDATION: Staff recommends that Floodplain Permit Application #720 be approved.

ACTION TAKEN: _____

City of Norman

Floodplain Permit Application

Floodplain Permit No. 720

Building Permit No. _____

Date 7/7/2025

FLOODPLAIN PERMIT APPLICATION
($100.00 Application Fee Required)

SECTION 1: GENERAL PROVISIONS (APPLICANT to read and sign):

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Occupancy is issued.
5. The permit will expire if no work is commenced within 2 years of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements and must be included with this floodplain permit application.
7. Applicant hereby gives consent to the City of Norman or his/her representative to access the property to make reasonable inspections required to verify compliance.
8. The following floodplain modifications require approval by the City Council:
   (a) A modification of the floodplain that results in a change of ten percent (10%) or more in the width of the floodplain.
   (b) The construction of a pond with a water surface area of 5 acres or more.
   (c) Any modifications of the stream banks or flow line within the area that would be regulatory floodway whether or not that channel has a regulatory floodplain, unless the work is being done by the City of Norman staff as part of a routine maintenance activity.
9. All supporting documentation required by this application is required along with the permit fee by the submittal deadline. Late or incomplete applications will not be accepted.
10. I, THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT.)

APPLICANT: City of Norman ADDRESS: 325 N. Webster Ave, Norman, Ok, 73069

TELEPHONE: 405-366-5459 SIGNATURE: _____

BUILDER: _____ ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

ENGINEER: Brandon Brock PE, CFM ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

PROJECT LOCATION

To avoid delay in processing the application, please provide enough information to easily identify the project location. Provide the street address, subdivision addition, lot number or legal description (attach) and, outside urban areas, the distance to the nearest intersecting road or well known landmark. A sketch attached to this application showing the project location would be helpful.

Bridge located at the intersection of Lindsey Street and Classen Boulevard over Bishop's Creek.

DESCRIPTION OF WORK (Check all applicable boxes):

A. STRUCTURAL DEVELOPMENT

ACTIVITY	STRUCTURE TYPE
☐ New Structure	☐ Residential (1-4 Family)
☐ Addition	☐ Residential (More than 4 Family)
☐ Alteration	☐ Non-Residential (Flood proofing? ☐ Yes)
☐ Relocation	☐ Combined Use (Residential & Commercial)
☐ Demolition	☐ Manufactured (Mobile) Home
☐ Replacement	☐ In Manufactured Home Park? ☐ Yes

ESTIMATED COST OF PROJECT $_____ Work that involves substantial damage/substantial improvement requires detailed cost estimates and an appraisal of the structure that is being improved.

B. OTHER DEVELOPMENT ACTIVITIES:

☐ Fill ☐ Mining ☐ Drilling ☐ Grading

☐ Excavation (Beyond the minimum for Structural Development)

☐ Watercourse Alteration (Including Dredging and Channel Modifications)

☐ Drainage Improvements (Including Culvert Work) ☑ Road, Street or Bridge Construction

☐ Subdivision (New or Expansion) ☐ Individual Water or Sewer System

In addition to items A. and B. provide a complete and detailed description of proposed work (failure to provide this item will be cause for the application to be rejected by staff). Attach additional sheets if necessary.

This project is to rehabilitate an existing bridge at the intersection of Lindsey Street and Classen Boulevard. Efforts will include crack repair, retaining wall repair, and minimal channel stabilization. This is routine maintenance.

C. ATTACHMENTS WHICH ARE REQUIRED WITH EVERY APPLICATION:

The applicant must submit the documents listed below before the application can be processed. If the requested document is not relevant to the project scope, please check the Not Applicable box and provide explanation.

A. Plans drawn to scale showing the nature, location, dimensions, and elevation of the lot, existing or proposed structures, fill, storage of materials, flood proofing measures, and the relationship of the above to the location of the channel, floodway, and the regulatory flood-protection elevation.

B. A typical valley cross-section showing the channel of the stream, elevation of land areas adjoining each side of the channel, cross-sectional areas to be occupied by the proposed development, and high-water information.

☐ Not Applicable:

_____

_____

C. Subdivision or other development plans (If the subdivision or other developments exceeds 50 lots or 5 acres, whichever is the lesser, the applicant **must** provide 100-year flood elevations if they are not otherwise available).

☐ Not Applicable:

_____

_____

D. Plans (surface view) showing elevations or contours of the ground; pertinent structure, fill, or storage elevations; size, location, and spatial arrangement of all proposed and existing structures on the site; location and elevations of streets, water supply, sanitary facilities; photographs showing existing land uses and vegetation upstream and downstream, soil types and other pertinent information.

☐ Not Applicable:

_____

_____

E. A profile showing the slope of the bottom of the channel or flow line of the stream.

☐ Not Applicable:

_____

_____

F. Elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures.

☐ Not Applicable:

_____

_____

G. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

☐ Not Applicable:

_____

H. For proposed development within any flood hazard area (except for those areas designated as regulatory floodways), certification that a rise of no more than five hundredths of a foot (0.05') will occur on any adjacent property in the base flood elevation as a result of the proposed work. For proposed development within a designated regulatory floodway, certification of no increase in flood levels within the community during the occurrence of the base flood discharge as a result of the proposed work. All certifications shall be signed and sealed by a Registered Professional Engineer licensed to practice in the State of Oklahoma.

I. A certified list of names and addresses of all record property owners within a three hundred fifty (350) foot radius of the exterior boundary of the subject property not to exceed 100 feet laterally from the Special Flood Hazard Area. The radius to be extended by increments of one hundred (100) linear feet until the list of property owners includes not less than fifteen (15) individual property owners of separate parcels or until a maximum radius of one thousand (1,000) feet has been reached.

J. A copy of all other applicable local, state, and federal permits (i.e. U.S. Army Corps of Engineers 404 permit, etc).

After completing SECTION 2, APPLICANT should submit form to Permit Staff for review.

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by Permit Staff.)

The proposed development is located on FIRM Panel No.: 0285 H, Dated: 9/26/2008

The Proposed Development:

☐ Is NOT located in a Special Flood Hazard Area
(Notify the applicant that the application review is complete and NO FLOODPLAIN PERMIT IS REQUIRED).

☒ Is located in a Special Flood Hazard Area.

☒ The proposed development is located in a floodway.

☒ 100-Year flood elevation at the site is 1129.5' Ft. NGVD (MSL) ☐ Unavailable

See Section 4 for additional instructions.

SIGNED: _____ **DATE:** 6/30/2025

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by Permit Staff.)

The applicant must also submit the documents checked below before the application can be processed.

☐ Flood proofing protection level (non-residential only) _____ Ft. NGVD (MSL). For flood proofed structures applicant must attach certification from registered engineer.

☐ Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ Certification from a registered engineer that the proposed activity in a regulatory flood plain will result in an increase of no more than 0.05 feet in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ All other applicable federal, state, and local permits have been obtained.

Other: _____

_____

_____

SECTION 5: PERMIT DETERMINATION (To be completed by Floodplain Chairman.)

The proposed activity: **(A)** ☐ **Is**; **(B)** ☐ **Is Not** in conformance with provisions of Norman's City Code Chapter 36, Section 533. The permit is issued subject to the conditions attached to and made part of this permit.

SIGNED: _____ DATE: _____

If **BOX A** is checked, the Floodplain committee chairman may issue a Floodplain Permit.

If **BOX B** is checked, the Floodplain committee chairman will provide a written summary of deficiencies. Applicant may revise and resubmit an application to the Floodplain committee or may request a hearing from the Board of Adjustment.

APPEALS: Appealed to Board of Adjustment: ☐ Yes ☐ No

Hearing date: _____

Board of Adjustment Decision - Approved: ☐ Yes ☐ No

Conditions:

_____

_____

_____

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Occupancy is issued.)

1. FEMA Elevation Certificate
   and/or
2. FEMA Floodproofing Certificate

NOTE: The completed certificate will be reviewed by staff for completeness and accuracy. If any deficiencies are found it will be returned to the applicant for revision. A Certificate of Occupancy for the structure will not be issued until an Elevation and /or Floodproofing Certificate has been accepted by the City.

The City of
NORMAN

PUBLIC WORKS DEPARTMENT

225 N Webster Ave · P.O. Box 370
Norman, Oklahoma 73069 · 73070

Phone: 405-366-5452
Fax: 405-366-5418

June 11, 2025

Mr. Scott Sturtz, P.E., CFM
Floodplain Administrator
City of Norman

Re: No Rise Certification
Lindsey Street & Classen Boulevard
Norman, OK

Dear Mr. Sturtz:

This project involves maintenance activities on the bridge located at the intersection of Lindsey Street and Classen Boulevard over Bishop Creek within the City of Norman. Maintenance activities include repairing the bridge deck, clean-up of channel and slope stabilization (limited to the immediate vicinity of the bridge), wing wall repair, and crack repair and joint sealing of the bridge deck.

The channel flow line and banks will not be altered at this location. Any material (soil, sod, rip rap, or flexamat) placed in the channel will be to replace what has been washed away by erosion and scour and is considered routine maintenance. There will not be any increase in the Base Flood Elevation at this location.

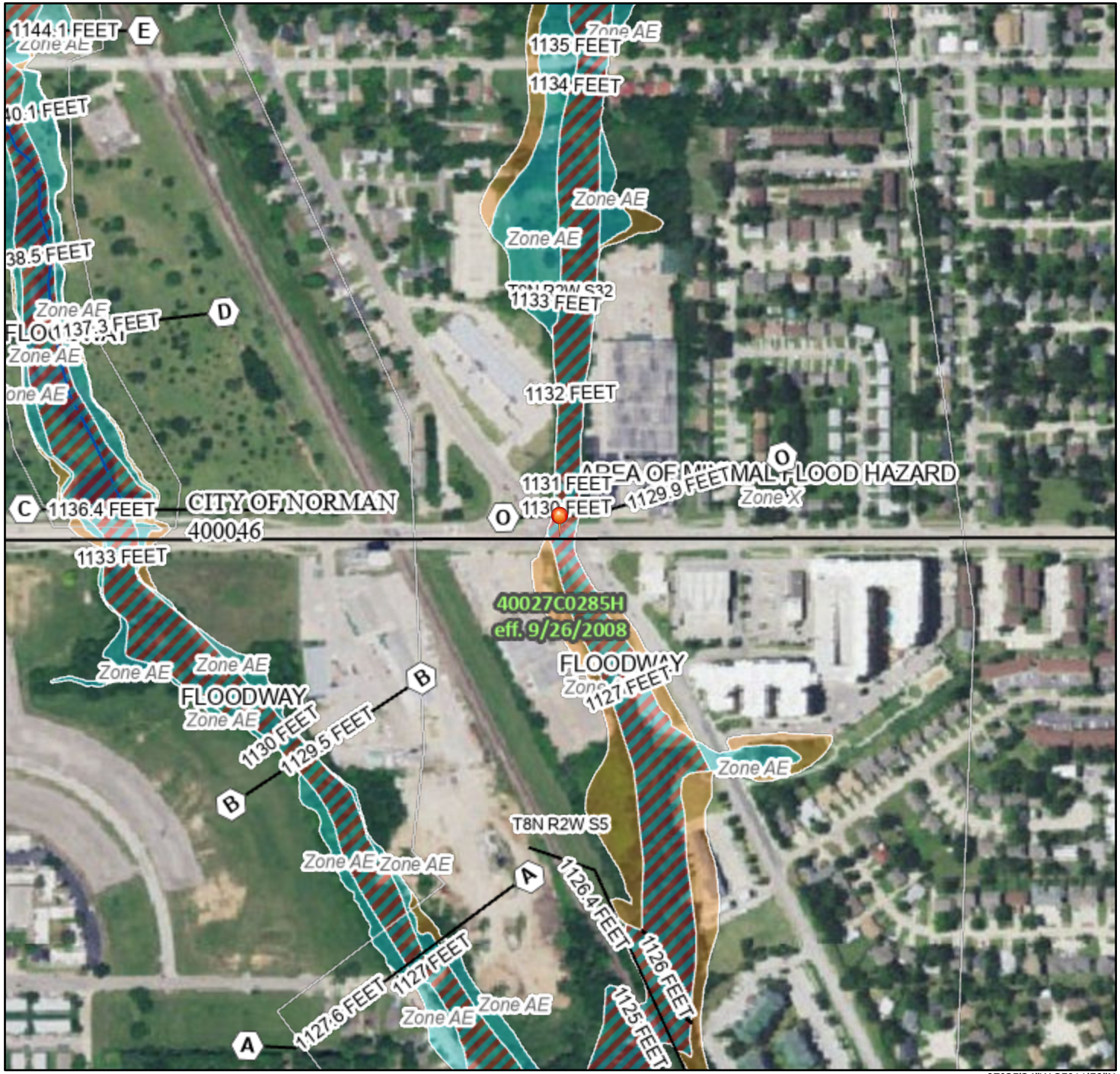
Please contact me at 405-366-5459 if you have any questions or need further information.

Sincerely,

Brandon Brooks, PE, CFM
Capital Projects Engineer

National Flood Hazard Layer FIRMette

97°26'12"W 35°12'29"N



97°25'34"W 35°11'59"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR F… UT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/26/2025 at 6:23 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community ide… FIRM panel number, and FIRM effective date. Map in… unmapped and unmodernized areas cannot be used regulatory purposes.

BRIDGE REHABILITION PLANS
FOR
BRIDGE MAINTENANCE BOND PROJECT

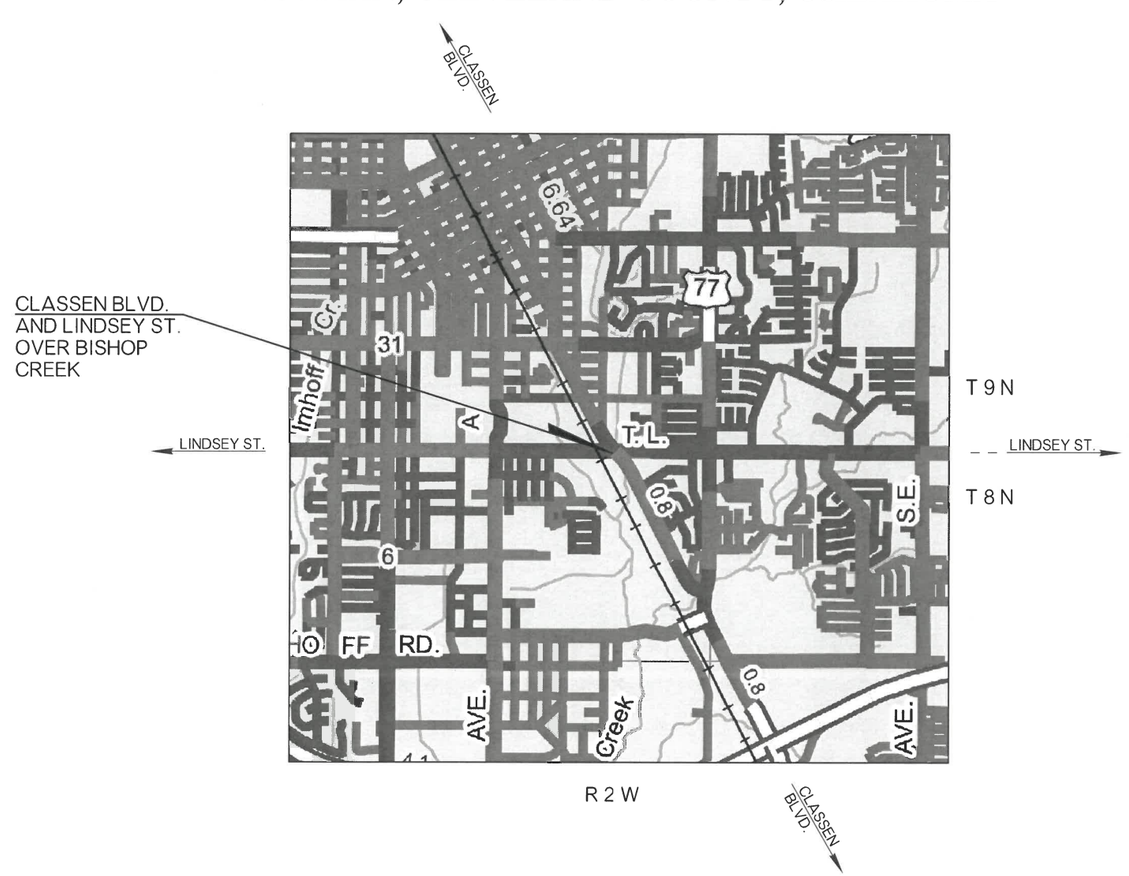
CLASSEN BOULEVARD AND LINDSEY STREET OVER BISHOP CREEK
CITY OF NORMAN

SECTION 32, T9N, R2W
SECTION 05, T8N, R2W
NORMAN, CLEVELAND COUNTY, OKLAHOMA

INDEX OF SHEETS

ODOT STANDARDS

SBI-5-2
TCS1-1-01
TCS7-1-02
TCS9-1-01
TCS19-1-01
TCS20-1-00
SSS-2-1



(1) AN EFFORT HAS BEEN MADE TO LOCATE AND SHOW APPROXIMATE LOCATION OF UNDERGROUND UTILITY LINES. BURIED UTILITIES ARE NOT NECESSARILY SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND PRESERVE ALL UTILITIES.

(2) CONTRACTOR IS RESPONISBLE FOR CONTACTING ALL UTILITY COMPANIES WITH WORK ZONE PRIOR TO CONSTRUCTION.

PREPARED BY:
LOCHNER
6301 WATERFORD BLVD. | SUITE 310 | OKLAHOMA CITY, OK 73118
P 405.748.6651
CERTIFICATE OF AUTHORITY: CA 6131
EXPIRES: 6/30/25
REGISTERED PROFESSIONAL ENGINEER — EVAN READ LUDWIG — 25858 — OKLAHOMA
EVAN READ LUDWIG, P.E.
OKLA. REG. NO. 25858

LOCHNER
6301 Waterford Blvd. Suite 310 | Oklahoma City, OK 73118
P 405.748.6651

BRIDGE MAINTENANCE BOND PROJECT

CLASSEN BLVD. AND LINDSEY STREET
NORMAN, CLEVELAND COUNTY, OKLAHOMA

PROJECT NO.	000022174
DRAWN BY	DATE
CHECKED BY	DATE
DESIGNED BY	DATE
REVISIONS	DATE
ADED STANDARD	5/13/2024
ISSUE DATE	12/15/2023

TITLE SHEET

SHEET 1 OF 6

1 78

GENERAL NOTES

SPECIFICATIONS -
COMPLY WITH THE REQUIREMENTS OF THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, THE CITY OF NORMAN SPECIFICATIONS AND THE CONTRACT DOCUMENTS FOR THE BRIDGE MAINTENACE PROJECT AND EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

DESCRIPTION OF WORK -
THE WORK TO BE PERFORMED CONSISTS OF REPAIRING AND PATCHING RCB BARREL AND WINGWALLS, CONSTRUCTING NEW 6' CURTAIN WALLS, AND REMOVING DEBRIS FROM THE CREEK CHANNEL. REPAIRS INCLUDE PNEUMATIC MORTAR OR CLASS AA CONCRETE.

VERIFICATION OF EXISTING CONDITIONS -
THE CONTRACTOR IS RESPONSIBLE FOR FULLY UNDERSTANDING THE NATURE OF THE WORK AND CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED.
ALL DIMENSIONS AND ELEVATIONS OF THE EXISTING BRIDGE COMPONENTS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR WILL VERIFY ALL DIMENSIONS AND ELEVATIONS NECESSARY TO CONNECT THE NEW MATERIAL AND WILL BE SOLELY RESPONSIBLE FOR THE ACCURACY THEREOF.
USE METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO THE EXISTING BRIDGE AND ATTACHMENTS. ANY DAMAGE TO THE EXISTING BRIDGE STRUCTURE OR ROADWAY DUE TO THE CONTRACTOR'S NEGLIGENCE WILL BE REPAIRED, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

EXISTING PLANS -
CONSTRUCTION PLANS FOR THE EXISTING STRUCTURE(S) MAY BE OBTAINED FROM THE OFFICE SERVICES DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION.

PHYSICAL ADDRESS: OKLAHOMA DEPARTMENT OF TRANSPORTATION
200 NE 21ST STREET
OKLAHOMA CITY, OKLAHOMA 73105
405-521-2586

CONSTRUCTION PLANS ARE AVAILABLE FOR DIGITAL DELIVERY THROUGH THE URL LISTED BELOW:
HTTPS://OKLAHOMA.GOV/ODOT/BUSINESS-CENTER/PLANS-LIBRARY/PLANS-RESEARCH-REQUEST.HTML

FOR QUESTIONS AND CONCERNS REGARDING AS-BUILT PLANS, PLEASE EMAIL: ODOT-PLANSLIBRARY@ODOT.ORG

OPENING CHANNEL -
THE EXISTING CHANNEL SHALL BE OPENED BOTH UPSTREAM AND DOWNSTREAM TO THE LIMITS OF THE RIGHT-OF-WAY IN A MANNER APPROVED BY THE ENGINEER.
ALL COSTS INCLUDING LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

DEBRIS REMOVAL -
REMOVE ALL DEBRIS FROM THE EXISTING RCB BARREL, NEW CURTAIN WALL LOCATIONS, AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

CONCRETE REPAIR -
CLEAN REPAIR AREA OF ALL DELAMINATED OR LOOSE CONCRETE AND DEBRIS LEAVING ONLY SOUND CONCRETE. DO NOT USE POWER TOOLS FOR REMOVING LOOSE CONCRETE UNLESS HAND TOOLS PROVE INCAPABLE OF EXCAVATING DETERIORATED CONCRETE TO SOUND CONCRETE AS DETERMINED BY THE ENGINEER. IF POWER TOOLS ARE DEEMED NECESSARY, USE TOOLS OF A SIZE THAT DO NOT DAMAGE SOUND CONCRETE. PREPARE THE GEOMETRY OF THE PATCH IN ACCORDANCE WITH FIGURE 513:1 OF THE SPECIFICATIONS. ENSURE DIMENSION OF RE-ENTRANT CORNER IS EQUAL TO AT LEAST 4 INCHES.
DO NOT CUT, STRETCH OR DAMAGE EXPOSED REINFORCING STEEL. BLAST EXPOSED REINFORCING STEEL CLEAN. REPLACE CORROSION DAMAGED REINFORCING STEEL IF MORE THAN 20% OF THE AREA OF THE SECTION HAS BEEN LOST. REPLACE OR REPAIR DAMAGED REINFORCING STEEL BY EITHER LAPPING OR PROVIDING MECHANICAL SPLICES IN ACCORDANCE WITH SECTION 511.04.C(3) OF THE SPECIFICATIONS. DO NOT LAP BARS IF EXCESSIVE REMOVAL OF SOUND CONCRETE IS REQUIRED, AS DETERMINED BY THE ENGINEER.
THE CONTRACTOR MAY USE CAST-IN-PLACE CONCRETE OR MORTAR AS THE PATCHING MATERIAL FOR THE TWO TYPES OF REPAIRS AS SHOWN IN THE DETAILS. PROVIDE CLASS AA CONCRETE IN ACCORDANCE WITH SECTION 701 OF THE SPECIFICATIONS. PROVIDE ONE OF THE FOLLOWING, COMMERCIALLY AVAILABLE, MORTAR-TYPE PRODUCTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS APPROVED BY THE ENGINEER.

(1) QUIKRETE SHOTCRETE MS WITH POLYPROPYLENE FIBERS
(2) SIKACEM 103F
(3) SIKACEM 133
(4) SIKACRETE 211 SCC PLUS
(5) MASTEREMACO S 210SP
(6) MASTEREMACO S 211SP
(7) PROSPEC SHOTCRETE 300V

PLACE NEW PATCHING MATERIAL TO THE ORIGINAL NEAT LINES OF THE STRUCTURAL COMPONENT UNDER REPAIR AND FINISH TO PROVIDE A SURFACE TEXTURE MATCHING THAT OF THE ADJACENT EXISTING CONCRETE. COORDINATE THE APPLICATION OF THE CORROSION INHIBITOR WITH THE CONCRETE REPAIR AS SHOWN IN THE DETAILS.
SUBMIT A PROPOSED WORK PLAN FOR THE CHOSEN REPAIR METHOD WHICH INCLUDES SURFACE PREPARATION METHODS, PATCHING MATERIAL, BONDING AGENTS, MATERIAL PLACING METHODS AND FINISHING METHODS. REPAIR A TEST AREA TO VERIFY THE EFFECTIVENESS OF THE PROPOSED REPAIR METHOD PRIOR TO COMMENCING WORK. REPLACE FAULTY REPAIRS AT NO ADDITIONAL COST TO THE DEPARTMENT.

CALL OKIE -
IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT, THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. 48 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKIE" 1-800-522-6543 OR 811.

TEMPORARY RETAINING STRUCTURE:
THE EXISTING WINGWALLS SHALL BE SUPPORTED AGAINST ROTATION AND SLIDING DURING EXCAVATION AND PLACEMENT OF THE CURTAIN WALLS.
TEMPORARY RETAINING STRUCTURES NOT SPECIFICALLY DESIGNED AND COMPLETELY DETAILED IN THE PLANS WILL BE MEASURED FOR PAYMENT AND WILL BE INCLUDED IN THE CONTRACT UNIT PRICE OF "TEMPORARY EARTH RETAINAGE." LOCATIONS OF POTENTIAL TEMPORARY RETAINING STRUCTURES TO FACILITATE THE PROPOSED SEQUENCE OF CONSTRUCTION SHOWN IN THE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY AND HAVE NOT BEEN DESIGNED AND DETAILED. ACTUAL LIMITS OF TEMPORARY RETAINING STRUCTURES WILL BE DETERMINED BY THE CONTRACTOR. TEMPORARY RETAINING STRUCTURES WILL BE DESIGNED IN ACCORDANCE WITH SUBSECTION 502.04 OF THE SPECIFICATIONS BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA. SUBMIT TEMPORARY RETAINING STRUCTURE DESIGN CALCULATIONS AND DRAWINGS TO THE BRIDGE ENGINEER FOR APPROVAL. DO NOT BEGIN INSTALLATION UNTIL APPROVAL OF THE DESIGN CALCULATIONS AND DRAWINGS BY THE ENGINEER IS RECEIVED.

PAY ITEM NOTES

BR-1. ITEM "(PL) REMOVE DRIFT AND SILT" CONSISTS OF REMOVING THE DRIFT AND DEBRIS PILE IS APPROXIMATELY 40' WIDE x 36' LONG x 14' DEEP IN SIZE.

ALL COSTS IF REMOVAL INCLUDING LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS DESCRIBED WILL BE INCLUDED IN THE UNIT PRICE BID PER LUMP SUM OF "(PL) REMOVE DRIFT AND SILT".

BR-2. PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES.

BR-3. REPAIR AREAS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. QUANTITY SHOWN IS APPROXIMATE AND SUBJECT TO THE ACTUAL LOCATIONS AND EXTENTS OF REPAIRS DETERMINED IN THE FIELD BY THE ENGINEER. ALL REMOVED MATERIALS WILL BECOME THE PROPERTY OF THE CONTRACTOR. SEE PLANS FOR ESTIMATED QUANTITIES AND LOCATIONS.

BR-4. QUANTITY INCLUDES 50 L.F. TO BE USED AS DIRECTED BY THE ENGINEER.

BR-5. QUANTITY SHOWN FOR EPOXY RESIN ESTIMATED AT 0.08 GALLONS PER FOOT OF CRACK REPAIR.

QUANTITY INCLUDES 4 GAL. TO BE USED AS DIRECTED BY THE ENGINEER.

BR-6. ITEM "CORROSION INHIBITOR (SURFACE APPLIED)" CONSISTS OF APPLYING A CORROSION INHIBITOR TO THE RCB, WING WALLS, AND CURTAIN WALLS AT THE LOCATIONS SHOWN ON ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

QUANTITY INCLUDES AN ADDITIONAL 50 S.Y. TO BE USED AT THE DISCRETION OF THE ENGINEER.

BR-7. ITEM "(PL) REPAIR BRIDGE ITEMS" CONSISTS OF REPAIRING DETERIORATED CONCRETE WITH PNEUMATICALLY PLACED MORTAR OR CLASS AA CONCRETE MATERIAL AS DESCRIBED IN THE GENERAL NOTES, AS SHOWN ON THE PLANS, AND IN A MANNER APPROVED BY THE ENGINEER.

PROVIDE REPLACEMENT REINFORCING STEEL HAVING A SECTION LOSS OF 20% OR MORE DETERMINED IN THE FIELD BY THE ENGINEER.

QUANTITY INCLUDES AN ADDITIONAL 40 S.Y. TO BE USED AT THE DISCRETION OF THE ENGINEER.

BR-8. QUANTITY SHOWN FOR TYPE I PLAIN RIPRAP ESTIMATED AT 110 LB PER CUBIC FOOT.

BR-9. ITEM "REMOVAL OF BRIDGE ITEMS" CONSISTS OF SAWCUT REMOVAL OF PORTIONS OF THE EXISTING RCB BARREL, WING WALLS, AND CURTAIN WALLS NECESSARY TO REPAIR THE RCB BARREL, WING WALLS, AND CONSTRUCT THE CURTAIN WALLS IN ACCORDANCE WITH SUBSECTION 619.04(B)2 OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. ALL REMOVED MATERIALS WILL BECOME THE PROPERTY OF THE CONTRACTOR.

R-6. FOR SOLID SLAB SODDING PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 POUNDS PER 1,000 SQUARE YARDS.

R-7. FOR SOLID SLAB SODDING PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 60 GALLONS PER SQUARE YARD.

R-40. TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.

R-41. MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIED EXCAVATION.

SP-1. REPLACE THE EXISTING CURB AS DIRECTED BY THE ENGINEER. THE CURB SHALL BE REPLACED IN KIND AND MATCH DIMENSIONS OF THE EXISTING CURB.

SP-2. REPLACE THE EXISTING SIDEWALK AS DIRECTED BY THE ENGINEER.

SP-3. REMOVAL SHALL INCLUDE ALL COSTS OF SAW CUTTING AND OTHER INCIDENTALS NECESSARY TO REMOVE THE CURB.

TRAFFIC PAY QUANTITY NOTES

(1) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (2009 EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE PER BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS REQUIRED FOR COMPLETION OF THE PROJECT.

ALL SIGNS AND BARRICADES, WHICH ARE SHOWN WITH TYPE "A" LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.

TRAFFIC CONTROL GENERAL NOTES

CONTRACTOR NOTES -
THE CONTRACTOR SHALL HANDLE TRAFFIC THROUGH MUTCD. THE CONTRACTOR IS RESPONSIBLE FOR THE PROMPT REPLACEMENT AND/OR REPAIR OF ALL TRAFFIC CONTROL DEVICES AND APPURTENANCES DAMAGED OR DISRUPTED DUE TO CONSTRUCTION.

GENERAL CONSTRUCTION NOTES

THE CONTRACTOR SHALL AGREE WITH THE CITY INSPECTOR AT THE END OF EACH WORKING DAY ON ALL REMOVAL ITEMS AND CONSTRUCTION ITEMS NOT MEASURABLE AFTER CONSTRUCTION IS COMPLETE.

ALL MATERIALS USED ON THIS PROJECT SHALL BE APPROVED BY THE ENGINEER IN WRITING.

CONTRACTOR TO ENSURE PROPER DRAINAGE OF THE SITE THROUGHOUT CONSTRUCTION.

CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING.

CONTRACTOR SHALL NOTIFY THE CITY A MINIMUM OF 72 HOURS PRIOR TO ANY STREET OR LANE CLOSURE.

PAY QUANTITIES

NBI 12549

REPAIR 2-10' X 12' X 115' CLR RDY RCB SK. 30 DEG.
ACROSS INTERSECTION OF LINDSEY ST. & CLASSEN BLVD.
OVER BISHOP CREEK

ITEM NO.		DESCRIPTION		UNIT	TOTAL
201	1100	(PL) REMOVE DRIFT AND SILT	(BR-1)	LSUM	1.00
201(A)	1200	CLEARING AND GRUBBING		LSUM	1.00
230(A)	7200	SOLID SLAB SODDING	(R-6, 7)	SY	200.00
501(A)	1210	STRUCTURAL EXCAVATION UNCLASSIFIED	(BR-2)	CY	28.00
502	3100	TEMPORARY EARTH RETAINAGE		LSUM	1.00
509(A)	0210	CLASS AA CONCRETE	(BR-2)	CY	46.20
511(A)	2210	REINFORCING STEEL	(BR-2)	LB	6,700.00
512	3110	CLEANING AND PAINTING BRIDGE METAL RAIL	(BR-2)	LF	132.00
520(A)	1200	PREPARATION OF CRACKS, ABOVE WATER	(BR-3, 4)	LF	95.00
520(C)	1400	EPOXY RESIN, ABOVE WATER	(BR-3, 5)	GAL	9.10
535	7100	CORROSION INHIBITOR (SURFACE APPLIED)	(BR-3, 6)	SY	103.50
540	8112	(PL) REPAIR BRIDGE ITEMS	(BR-3, 7)	SY	75.60
601(A)	1110	TYPE I PLAIN RIPRAP	(BR-8)	TON	400.00
609(A)	4230	CONC. CURB (6" BARRIER-DOWELLED)	(SP-1)	LF	50.00
610(A)	5220	6" CONCRETE SIDEWALK	(SP-2)	SY	30.00
619(B)	6304	REMOVAL OF BRIDGE ITEMS	(BR-9)	LSUM	1.00
619(B)	6400	REMOVAL OF CURB	(R-40, 41)(SP-3)	LF	50.00
619(B)	6404	REMOVAL OF SIDEWALK	(R-40, 41)	SY	30.00
641	2100	MOBILIZATION		LSUM	1.00
642(B)	3300	CONSTRUCTION STAKING LEVEL II		LSUM	1.00
880(J)	7110	CONSTRUCTION TRAFFIC CONTROL	(1)	LSUM	1.00

Item 4.

LOCHNER
6301 Waterford Blvd. Suite 310 | Oklahoma City, OK 73118
P 405.748.6651

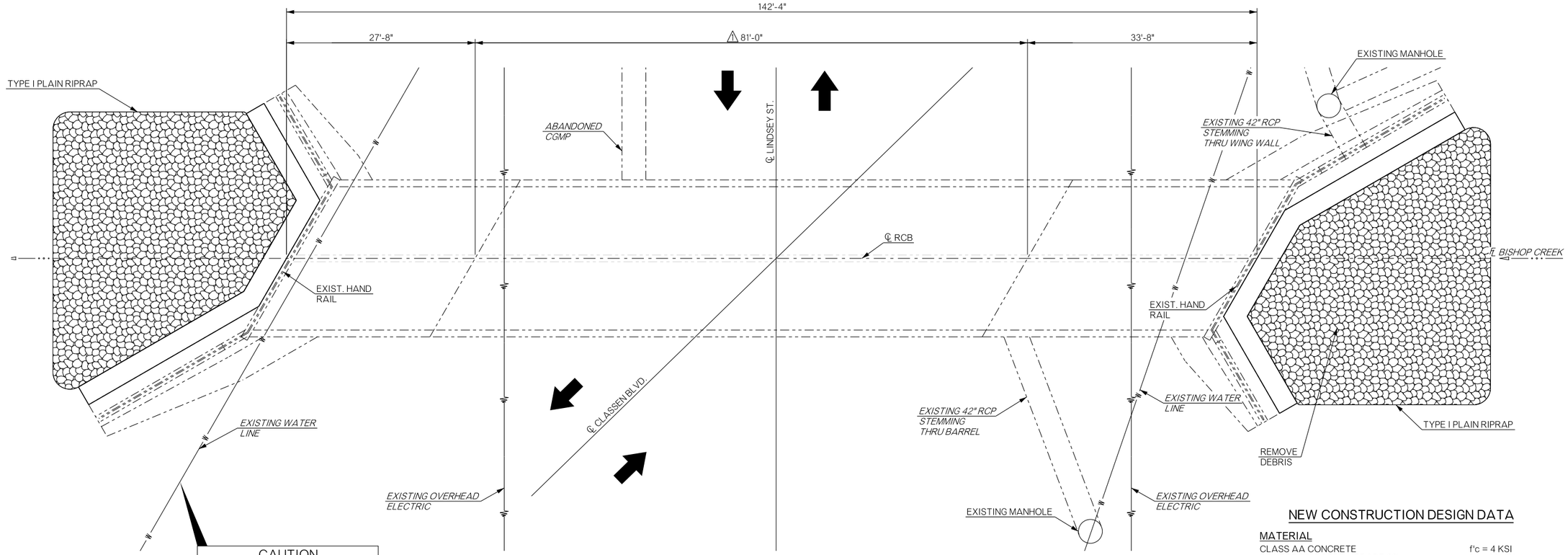
BRIDGE MAINTENANCE BOND PROJECT

CLASSEN BLVD. AND LINDSEY STREET
NORMAN, CLEVELAND COUNTY, OKLAHOMA

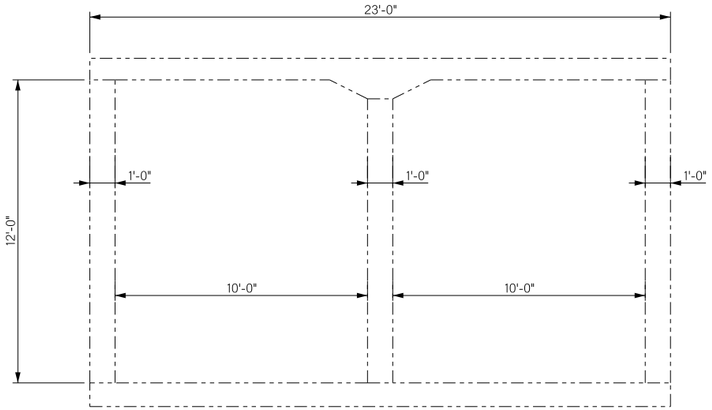
PROJECT NO. 000022174
DRAWN BY DATE
CHECKED BY DATE
DESIGNED BY DATE
REVISIONS DATE
REVISED NOTES & ITEMS 5/13/2024
ISSUE DATE 12/15/2023

GENERAL NOTES & PAY QUANTITIES

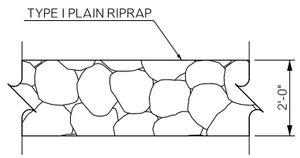
SHEET 2 OF 6



PLAN



ELEVATION



RIPRAP DETAIL

NEW CONSTRUCTION DESIGN DATA

MATERIAL

CLASS AA CONCRETE	f'c = 4 KSI
REINFORCING STEEL (GRADE 60)	fy = 60 KSI

DESIGN

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION

INDEX OF SHEETS

2019 ODOT STANDARDS

SBI-5-2

THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

SUMMARY OF BRIDGE QUANTITIES

ITEM	UNIT	BARREL	INLET			OUTLET			TOTAL
			BOTTOM SLAB	CURTAIN WALL	WINGS	BOTTOM SLAB	CURTAIN WALL	WINGS	
(PL)REMOVE DRIFT AND SILT	LSUM								1.00
CLEARING AND GRUBBING	LSUM								1.00
SUBSTRUCTURE EXCAVATION UNCLASSIFIED	CY		14.00			14.00			28.00
CLASS AA CONCRETE	CY			23.10			23.10		46.20
REINFORCING STEEL	LB			3,350.00			3,350.00		6,700.00
CLEANING AND PAINTING BRIDGE METAL RAIL	LF	50.00			41.00			41.00	132.00
PREPARATION OF CRACKS, ABOVE WATER	LF	27.00						18.00	45.00
EPOXY RESIN, ABOVE WATER	GAL	3.60						1.50	5.10
CORROSION INHIBITOR (SURFACE APPLIED)	SY	52.70						0.80	53.50
(PL) REPAIR BRIDGE ITEMS	SY	35.10						0.50	35.60
REMOVAL OF BRIDGE ITEMS	LSUM								1.00

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BRIDGE MAINTENANCE BOND PROJECT

CLASSEN BLVD. AND LINDSEY STREET
NORMAN, CLEVELAND COUNTY, OKLAHOMA

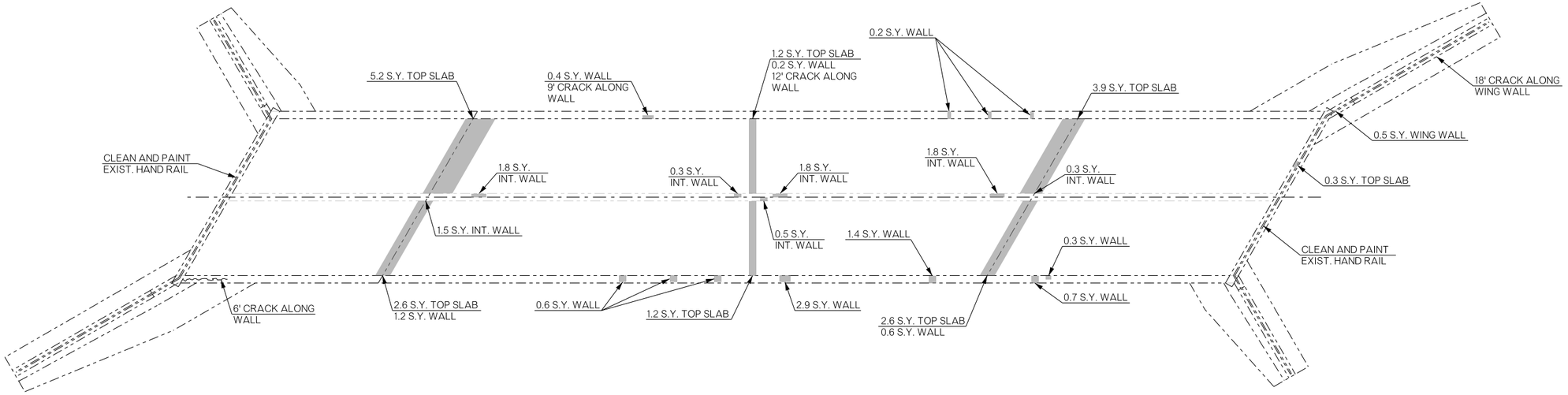
PROJECT NO. 000022174
DRAWN BY DATE
CHECKED BY DATE
DESIGNED BY DATE
REVISIONS DATE
REVISED DIM 5/13/2024

ISSUE DATE 12/15/2023

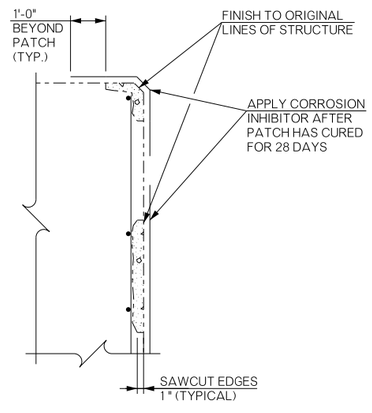
GENERAL PLAN & ELEVATION

3

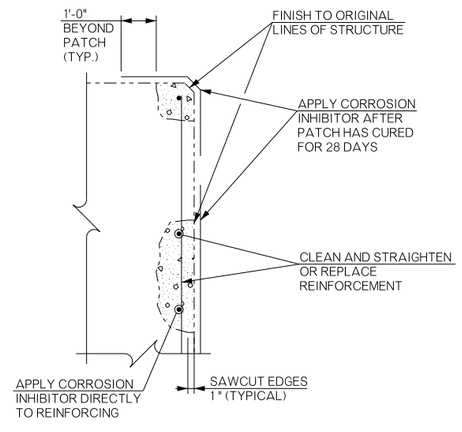
SHEET 3 OF 6



REPAIR PLAN



PNEUMATICALLY PLACED MORTAR



CLASS AA CONCRETE

CONCRETE REPAIR DETAILS

LEGEND

CONCRETE REPAIR WITH CORROSION INHIBITOR (SURFACE APPLIED)

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BRIDGE MAINTENANCE BOND PROJECT

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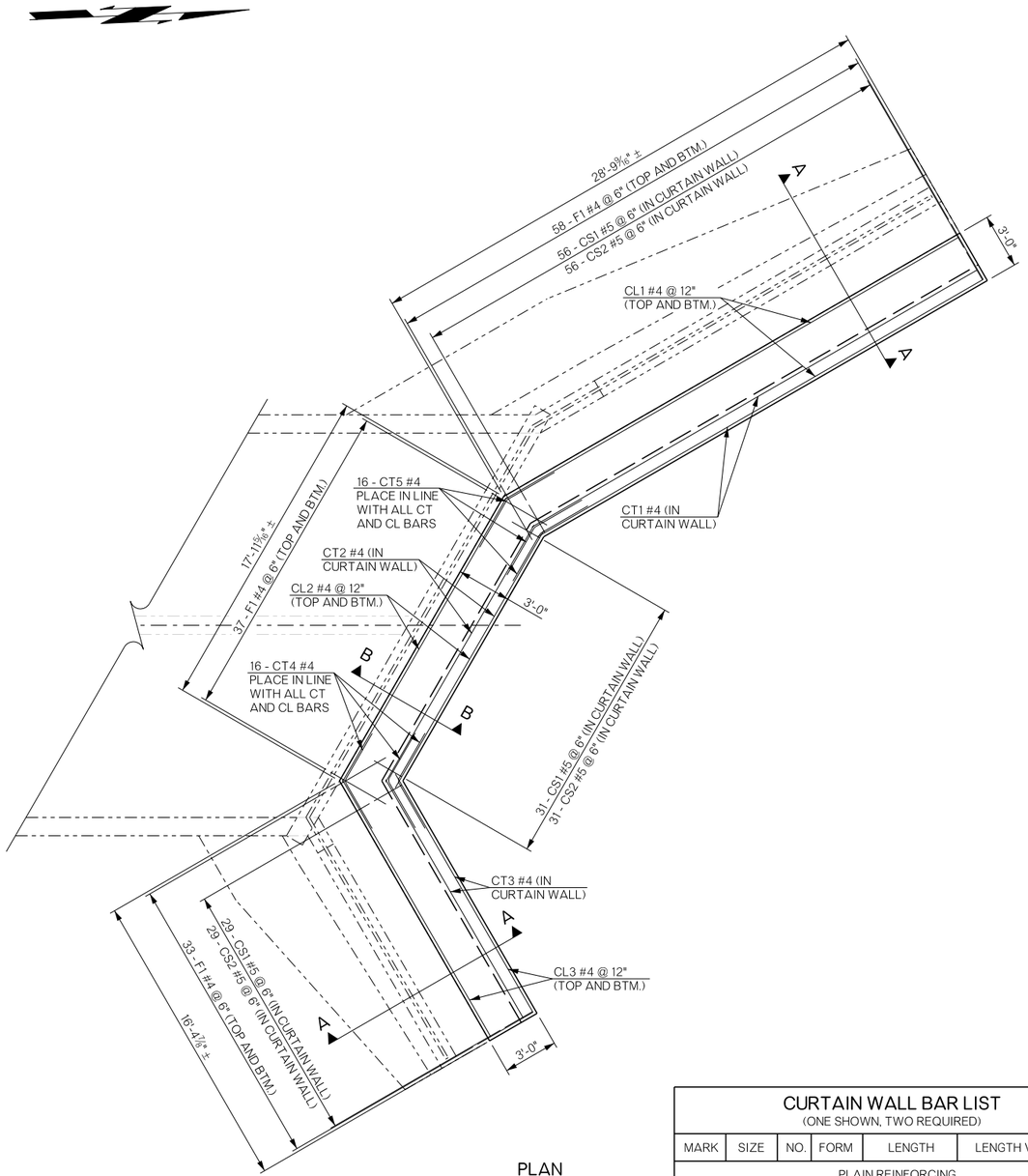
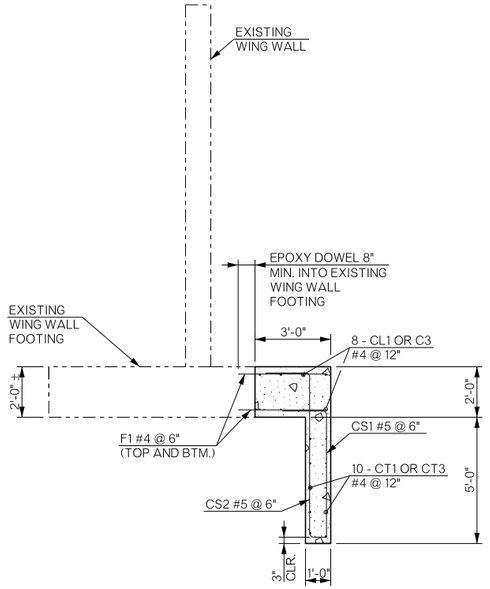
REPAIR PLAN

SHEET 4 of 6

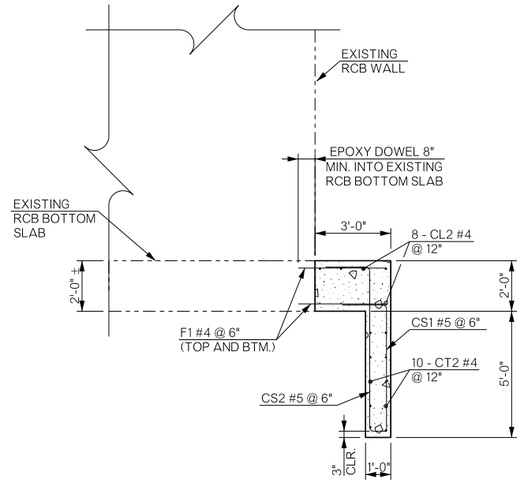


PLAN

INLET END SHOWN
OUTLET END SECTION SIMILAR

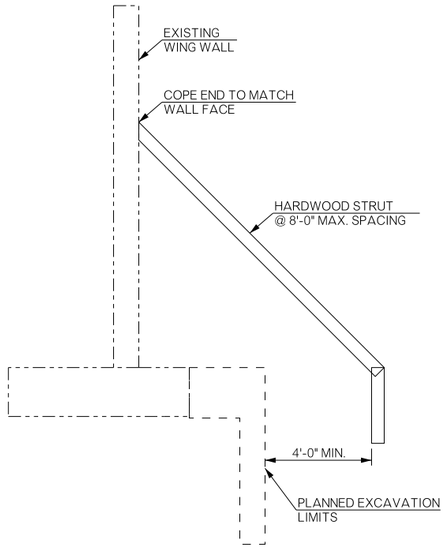


SECTION A-A

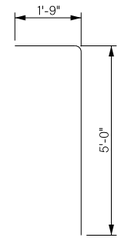


SECTION B-B

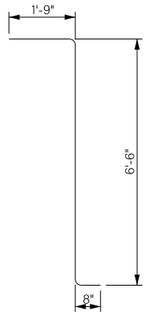
CURTAIN WALL BAR LIST (ONE SHOWN, TWO REQUIRED)					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
PLAIN REINFORCING					
CL1	#4	8	STR.	28'-6"	
CL2	#4	8	STR.	17'-8"	
CL3	#4	8	STR.	16'-0"	
CS1	#5	116	BNT.	6'-9"	
CS2	#5	116	BNT.	8'-11"	
CT1	#4	10	STR.	28'-0"	
CT2	#4	10	STR.	16'-0"	
CT3	#4	10	STR.	14'-11"	
CT4	#4	16	BNT.	6'-0"	
CT5	#4	16	BNT.	6'-0"	
F1	#4	256	STR.	3'-6"	



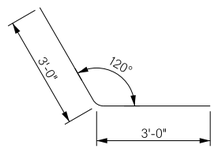
TEMPORARY WALL SUPPORT



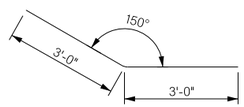
CS1 #5 X 6'-9"



CS2 #5 X 8'-11"



CT4 #4 X 6'-0"



CT5 #4 X 6'-0"

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Item 4.

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BRIDGE MAINTENANCE BOND PROJECT

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PROJECT NO. 000022174
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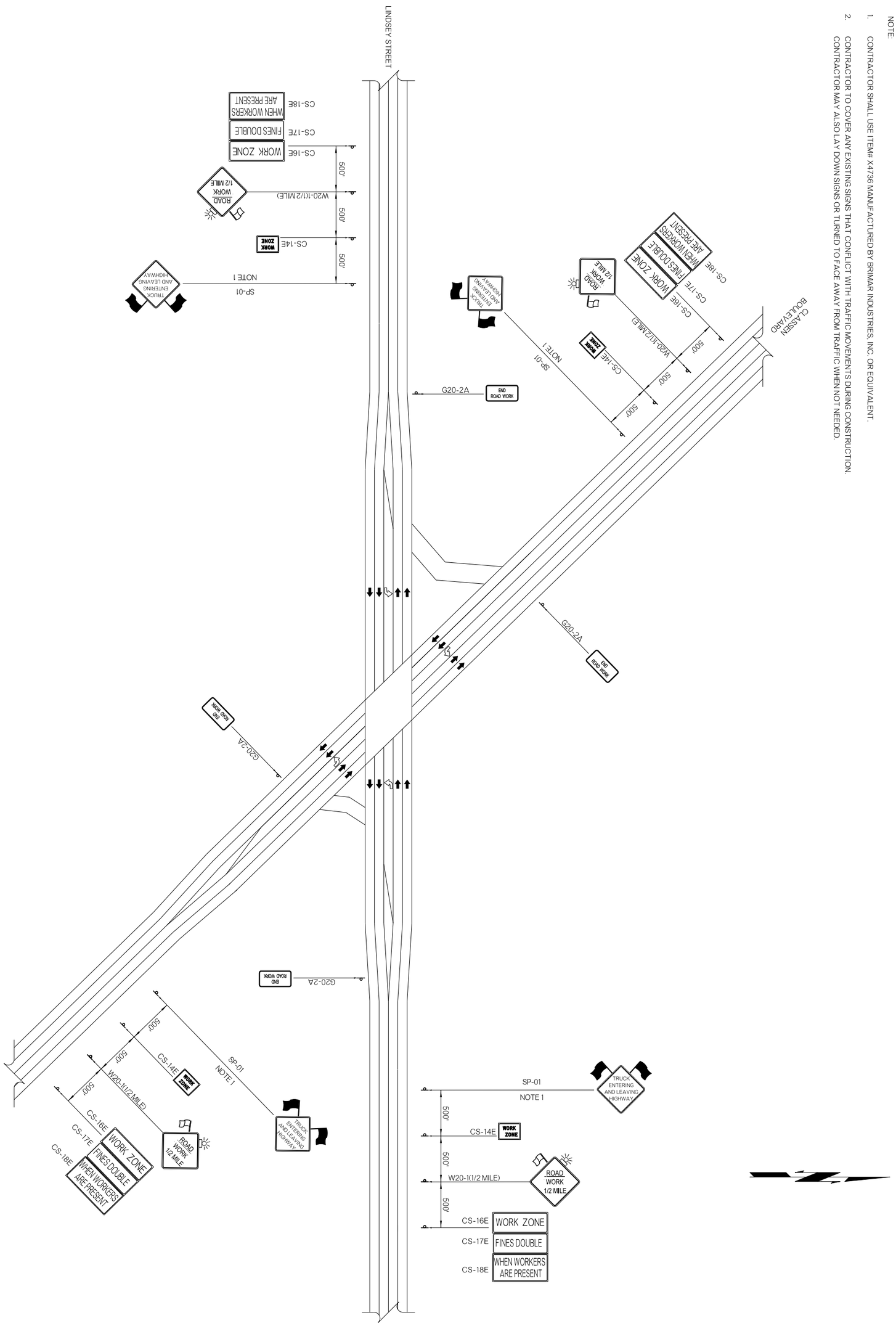
CURTAIN WALL DETAILS

SHEET 5 82

NOTE:

1. CONTRACTOR SHALL USE ITEM# X4736 MANUFACTURED BY BRIMAR INDUSTRIES, INC. OR EQUIVALENT.
2. CONTRACTOR TO COVER ANY EXISTING SIGNS THAT CONFLICT WITH TRAFFIC MOVEMENTS DURING CONSTRUCTION. CONTRACTOR MAY ALSO LAY DOWN SIGNS OR TURNED TO FACE AWAY FROM TRAFFIC WHEN NOT NEEDED.



BRIDGE MAINTENANCE BOND PROJECT

CLASSEN BLVD. AND LINDSEY STREET
NORMAN, CLEVELAND COUNTY, OKLAHOMA

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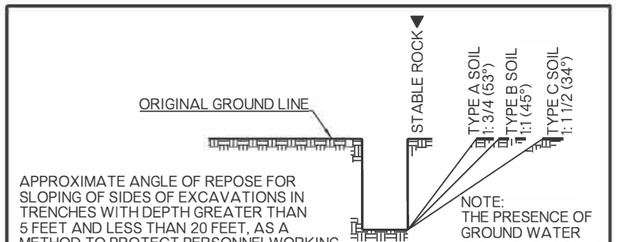
TRAFFIC CONTROL

SHEET 6 OF 83

Item 4.



APPROXIMATE ANGLE OF REPOSE FOR SLOPING OF SIDES OF EXCAVATIONS IN TRENCHES WITH DEPTH GREATER THAN 5 FEET AND LESS THAN 20 FEET, AS A METHOD TO PROTECT PERSONNEL WORKING IN EXCAVATIONS FROM CAVE-INS. ♦

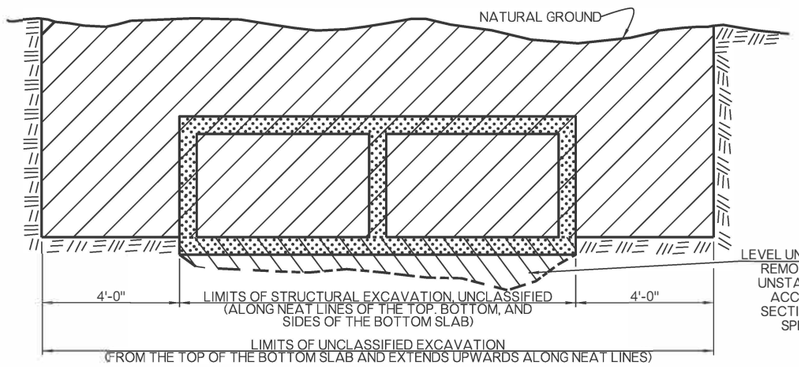
NOTE: THE PRESENCE OF GROUND WATER REQUIRES SPECIAL TREATMENT.

⬓ OPTIONAL TRENCHES WITH DEPTH GREATER THAN 5.0 FEET

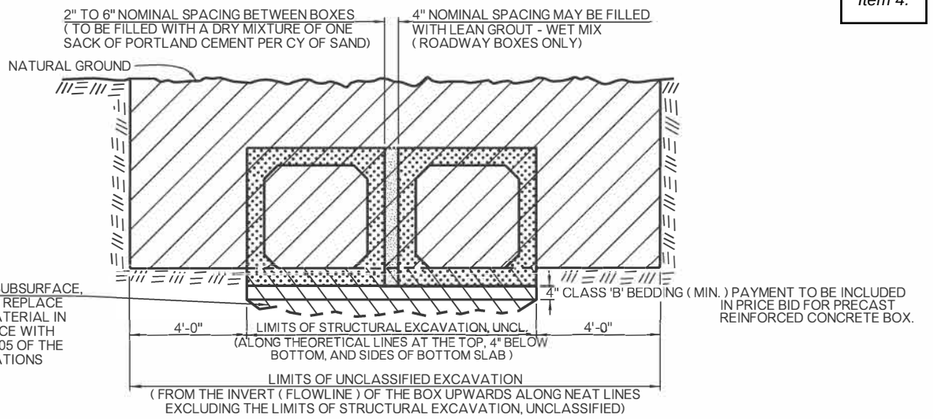
EXCAVATION AND BEDDING MATERIAL WILL BE MEASURED AND PAID FOR AS IF TRENCHED WALLS WERE VERTICAL. (SPECIAL TRENCHING = STD. WIDTH TRENCH+12")

▼ NATURAL SOLID MINERAL MATTER THAN CAN BE EXCAVATED WITH VERTICAL SIDES AND REMAIN INTACT WHILE EXPOSED.

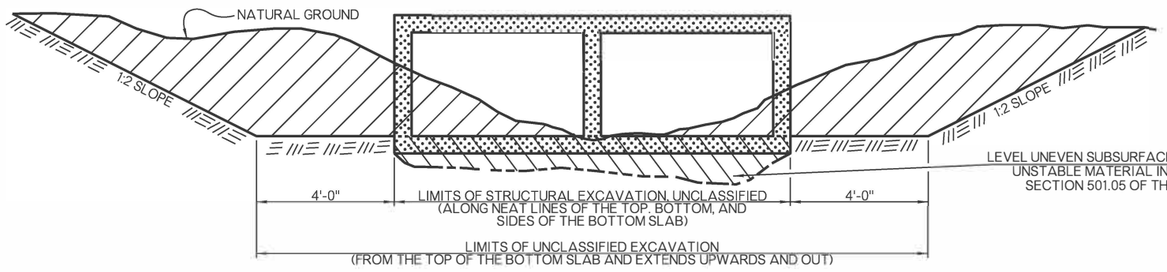
♦ SOIL CLASSIFICATION - SOIL AND ROCK DEPOSITS SHALL BE CLASSIFIED IN ACCORDANCE WITH APPENDIX A UNDER SUBPART P 'EXCAVATIONS' OF 29 CFR 1926.



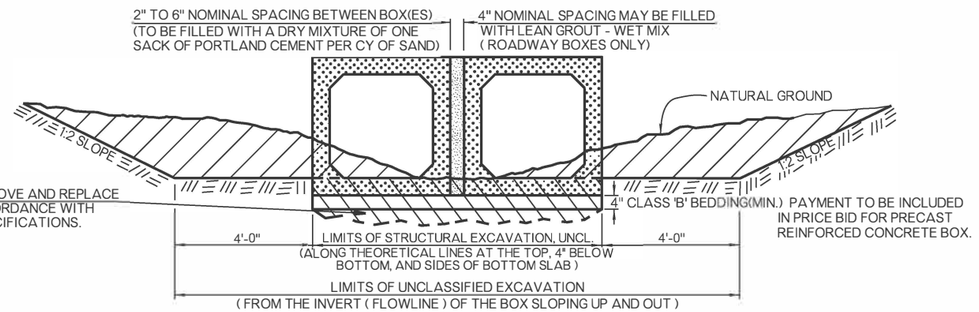
REQUIREMENTS FOR UNCLASSIFIED AND STRUCTURAL EXCAVATION OF RCB STORM SEWERS



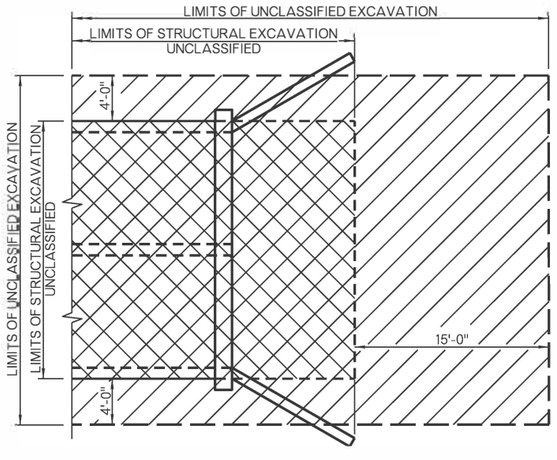
REQUIREMENTS FOR EXCAVATION OF PRECAST RCB STORM SEWERS



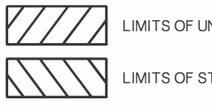
REQUIREMENTS FOR UNCLASSIFIED AND STRUCTURAL EXCAVATION OF RCB CULVERTS OF ROADWAY AND BRIDGE CLASSIFICATION

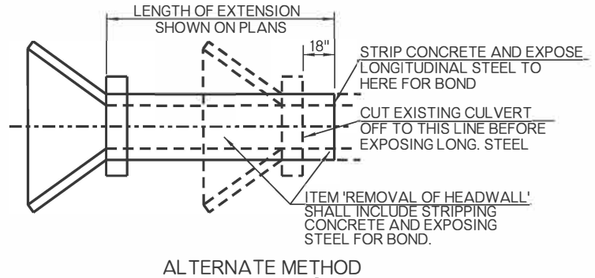


REQUIREMENTS FOR EXCAVATION OF PRECAST RCB CULVERTS OF ROADWAY AND BRIDGE CLASSIFICATION.



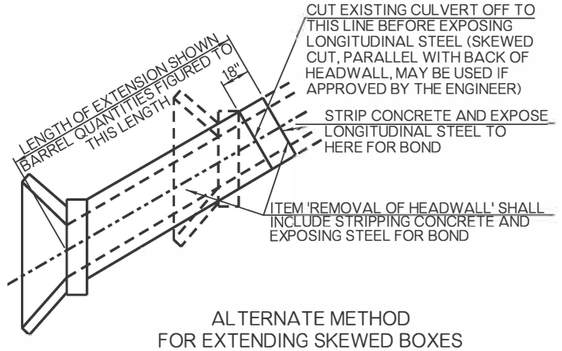
PLAN VIEW





ALTERNATE METHOD FOR EXTENDING 90° BOXES

ALTERNATIVE METHOD FOR 'REMOVAL OF HEADWALL' WILL ALLOW FOR SAWING AND REMOVING HEADWALL BEHIND CURB, DRILL HORIZONTAL HOLES AND USE AN APPROVED EPOXY BOND MATERIAL, OR APPROVED ANCHOR, TO ATTACH HORIZONTAL TIE STEEL



ALTERNATE METHOD FOR EXTENDING SKEWED BOXES

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2019 ODOT STANDARD SPECIFICATIONS.
2. PAYMENT FOR CAST-IN-PLACE REINFORCED CONCRETE BOXES WILL BE IN CUBIC YARDS OF CLASS A OR CLASS AA CONCRETE AND POUNDS OF REINFORCING STEEL, IN ACCORDANCE WITH SECTION 509 AND 511 OF THE SPECIFICATIONS.
3. PAYMENT FOR PRECAST CONCRETE BOX CULVERTS WILL BE MADE BASED ON THE UNIT PRICE BID FOR ITEMS AND QUANTITIES OF A CAST-IN-PLACE BOX OF THE LENGTH REQUIRED AS DETERMINED BY FIELD MEASUREMENTS, AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 508 OF THE SPECIFICATIONS.
4. PRECAST CONCRETE BOX SECTIONS, USED IN LIEU OF CAST-IN-PLACE CONCRETE BOXES, SHALL MEET MINIMUM DESIGN REQUIREMENTS OF AASHTO M 259 OR M 273, AND ASTM C1433 OR C1577, AND JOINT FILLER SHALL MEET THE REQUIREMENTS OF SUBSECTION 726.01.B OF THE SPECIFICATIONS.

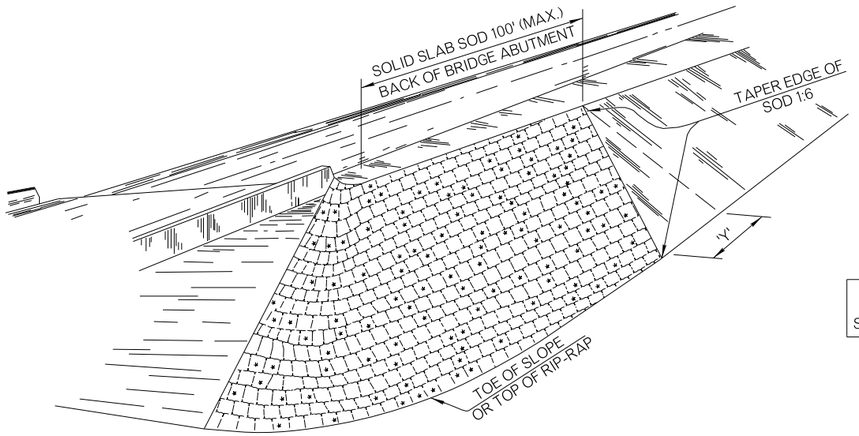
BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
202 (A)	UNCLASSIFIED EXCAVATION	CY
501 (A)	STRUCTURAL EXCAVATION UNCLASSIFIED	CY
619 (B)	REMOVAL OF HEADWALL	EA

APPROVED BY ROADWAY ENGINEER: _____ DATE: 6/30/22

ROADWAY DESIGN DIVISION STANDARD

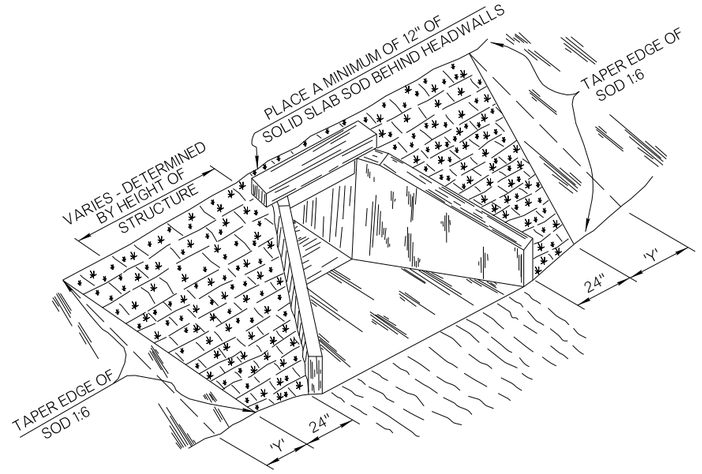
STANDARD BOX INSTALLATION

OKLAHOMA Transportation

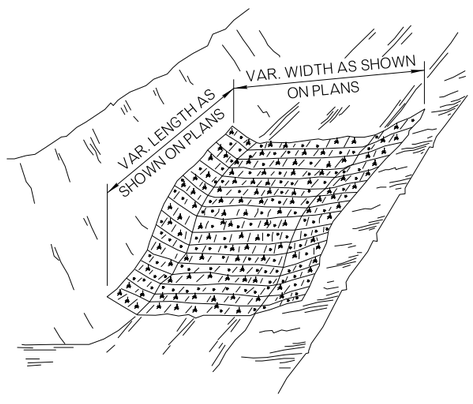


TAPER NOTE
'Y' DIMENSION =
SLOPE LENGTH x 0.17

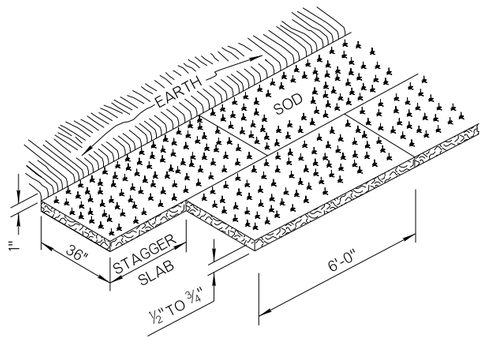
TYPICAL PLACEMENT OF SOLID SLAB SODDING OR APPROVED STABILIZING MAT ON FILL SLOPES, APPROACHES TO OVERPASSES AND BRIDGES



TYPICAL PLACEMENT OF SOLID SLAB SODDING AT STRUCTURE HEADWALLS



TYPICAL PLACEMENT OF SOLID SLAB SODDING IN DITCHES



SOLID SLAB SODDING
(MARCH 1 THRU AUGUST 31)

THE PLACEMENT OF SOLID SLAB SOD SHALL BE RESTRICTED TO THE PERIOD FROM MARCH 1 THRU AUGUST 31, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2019 ODOT STANDARD SPECIFICATIONS.
2. SOLID SLAB SOD SHALL BE PLACED IN HORIZONTAL ROWS WITH THE LONGEST SIDE OF EACH SLAB RUNNING PARALLEL TO THE ROADWAY, AND THE SLABS IN ALTERNATE ROWS STAGGERED HALF THE LENGTH OF EACH INDIVIDUAL SLAB. ENSURE THE ROWS RUN PARALLEL TO THE ROADWAY.
3. SLABS SHALL BE CUT AND HARVESTED WITH A COMMERCIAL SOD CUTTER TO THE DIMENSIONS SHOWN, THEN LOADED, TRANSPORTED AND HANDLED ON PALLETS.
4. AFTER PLACEMENT OF SOLID SLAB SOD, EARTH AT THE OUTER EDGES OF THE PLACEMENT SHALL BE BACKFILLED AND LOOSELY COMPACTED TO AT LEAST 1 INCH ABOVE THE TOP OF THE SOLID SLAB SODDING.
5. WATER THE SOD IMMEDIATELY AFTER INSTALLATION, TO AN APPROPRIATE DEPTH SO AS TO ENCOURAGE HEALTHY GROWTH. SOD SHALL BE ESTABLISHED BEFORE BEING MOWED.
6. ON SLOPES STEEPER THAN ONE UNIT VERTICAL TO 4 UNITS HORIZONTAL (1:4), STAKE THE SOD WITH STAKES SPACED AS THE SOIL NATURE AND SLOPE STEEPNESS DICTATE, 24 INCHES APART ALONG THE LENGTH OF THE SOD STRIP. MAXIMUM SLOPE OF USING STAKED SOD IS 1:3; STEEPER SLOPES WILL REQUIRE AN APPROVED STABILIZING MAT. AFTER INSTALLING, STAKES SHOULD HOLD THE SOD FIRMLY IN PLACE AND PRESENT NO DANGER TO PEDESTRIANS OR MOWING CREWS. STAKES CAN BE MADE OF SOUND WOOD APPROXIMATELY 1 INCH SQUARE OR 1 INCH IN DIAMETER AND AT LEAST 6 INCHES LONG, OR METAL STAPLES IN PLACE OF WOODEN STAKES.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
230(A)	SOLID SLAB SODDING	SY

APPROVED BY
ROADWAY ENGINEER: _____ DATE: 6/24/22

ROADWAY DESIGN DIVISION STANDARD

SOLID SLAB SODDING

OKLAHOMA Transportation

ALL GENERAL NOTES SHOWN BELOW SHALL APPLY
TO ALL OF THE STANDARD DRAWINGS IN TCS SERIES

REVISIONS	
DESCRIPTION	DATE
MODIFIED NOTES	3/15/2011

CONTRACTOR

ON CONSTRUCTION PROJECTS IT WILL BE THE CONTRACTORS RESPONSIBILITY TO INSTALL THE NECESSARY TRAFFIC CONTROL BEFORE CONSTRUCTION BEGINS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL DEVICES TO ASSURE A HIGH DEGREE OF BOTH DAY AND NIGHT VISIBILITY, WHICH WILL INCLUDE ANY WASHING, REPLACEMENT AND/OR REPOSITIONING WHERE DEEMED NECESSARY BY THE ENGINEER.

THE CONTRACTOR SHALL REPAIR OR REPLACE ANY NEW OR EXISTING PERMANENT STATE OWNED SIGNS WHICH ARE DAMAGED DUE TO HIS NEGLIGENCE OR CARELESS HANDLING DURING THE CONSTRUCTION OF THIS PROJECT. THIS SHALL BE DONE AT THE CONTRACTORS EXPENSE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TEMPORARY TRAFFIC CONTROL WORK ZONE AND EXISTING PAVEMENT MARKINGS ON ALL ROADWAYS OPEN TO TRAFFIC WITHIN THE PROJECT. SUFFICIENT QUANTITIES HAVE BEEN PROVIDED FOR MAINTAINING PAVEMENT MARKINGS FOR PRESCRIBED DETOUR ROUTES WHEN DEEMED NECESSARY BY THE ENGINEER.

SIGN MATERIALS

ALL SIGN BLANK MATERIALS SHALL BE THE OPTION OF THE CONTRACTOR BUT SHALL BE OF SUCH MATERIAL THAT WILL RETAIN A SATISFACTORY APPEARANCE THROUGHOUT THE LIFE OF THE PROJECT.

ALL SIGNS, LIGHTS, FLAGS, ETC. SHALL CONFORM IN SIZE, SHAPE, COLOR, LEGENDS AND APPLICATIONS TO THE STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND/OR OKLAHOMA STATE STANDARD DRAWINGS FOR SIGNS. STANDARD DRAWINGS ARE AVAILABLE FROM THE DEPARTMENT OF TRANSPORTATION. INTERPRETATIONS THAT MAY BE NECESSARY SHALL BE REFERRED TO THE ENGINEER.

SIGN SHEETING

REFLECTORIZATION OF TRAFFIC CONTROL DEVICES SHALL BE BY MEANS OF WIDE ANGLE, FLAT TOP REFLECTIVE SHEETING MEETING THE REQUIREMENTS OF 2009, OKLAHOMA STANDARD SPECIFICATIONS.

SIGN INSTALLATION

ALL SIGNS SHALL BE SECURELY PLACED OR WEIGHTED TO PREVENT BLOWING OVER. ROCKS, BROKEN CONCRETE OR OTHER SUCH OBJECTS SHALL NOT BE CONSIDERED AN ACCEPTABLE SUBSTITUTE FOR SAND BAGS WHEN USED TO OBTAIN ADDED STABILITY FOR MOVABLE SIGNS AND BARRICADES.

SPACING OF SIGNING, ON THE PLANS OR TCS STANDARDS, SHOULD BE NO LESS THAN THE DISTANCES SHOWN. THE DISTANCE BETWEEN SIGNS SHOULD BE INCREASED ON HIGH SPEED OR MORE HEAVILY TRAVELED HIGHWAYS, OR WHERE SIGHT DISTANCE IS RESTRICTED.

IN ALL CONSTRUCTION ZONES, THE 48 INCH X 48 INCH WARNING SIGNS SHALL HAVE ATTACHED THERETO FLORESCENT FLAGS AND TYPE "A" WARNING LIGHTS. THIS SHALL ALSO APPLY WHEN SIGNS ARE USED ON BOTH SIDES OF THE ROADWAY. ADDITIONAL FLASHING LIGHTS MAY BE REQUIRED WHEN SO DESIRED BY THE ENGINEER.

ALL DIAMOND SHAPED CONSTRUCTION WARNING SIGNS ON EXPRESSWAYS OR FREEWAYS SHALL BE 48 INCH X 48 INCH, WITH THE APPROPRIATE ADVISORY SIGN WHERE REQUIRED UNLESS OTHERWISE NOTED IN THE PLANS.

DUE TO THE TEMPORARY NATURE OF CONSTRUCTION, SIGNS WHICH ARE 33 S.F. AND OVER WILL HAVE NO REINFORCING STEEL IN THEIR FOOTINGS.

ALL SIGNS AND SIGN ASSEMBLIES WITH A TOTAL SURFACE AREA OF 10 S.F. OR MORE SHALL BE INSTALLED ON TWO (2) POSTS. THE EXCEPTION BEING SINGLE ROUTE MARKER ASSEMBLIES.

SIGNS MOUNTED ON BARRICADES SHALL BE MOUNTED AS HIGH AS NECESSARY TO BE VISIBLE.

BARRICADES

ONE (1) WING BARRICADE SHALL BE SET ON EACH SIDE OF THE ROADWAY IN ADVANCE OF THE FIRST ADVANCE WARNING SIGN. THE EXCEPTIONS ARE MINOR CROSS STREETS AND SECTION LINE ROADS WHICH INTERSECT THE WORK AREA.

WING BARRICADES SHALL BE INSTALLED ON TWO (2) BREAKAWAY POSTS.

WORK DURATION

THE FIVE CATEGORIES OF WORK DURATION AND THIER TIME AT A LOCATION SHALL BE:
A) LONG-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN 3 DAYS.
B) INTERMEDIATE-TERM STATIONARY IS WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 DAYS, OR NIGHTTIME WORKLASTING MORE THAN 1 HOUR.
C) SHORT-TERM STATIONARY IS DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.
D) SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.
E) MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

LIGHTING

TYPE "A" WARNING LIGHTS SHALL BE USED ON BARRICADES (AS REQUIRED) AND WARNING SIGNS.

TYPE "C" WARNING LIGHTS MAY BE USED ON VERTICAL PANELS (OPTIONAL).

CONSTRUCTION NOTES

SHOULD THE REQUIRED WORK ON ANY PROJECT, INCLUDING ANY TRAFFIC CONTROL, OVERLAP OR OTHERWISE INTERFERE WITH THE ON-GOING WORK OR TRAFFIC CONTROL OF ANOTHER PROJECT, IT SHALL BE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTORS TO COORDINATE THEIR WORK ACTIVITIES TO FACILITATE THE SAFE MOVEMENT OF TRAFFIC THROUGHOUT OR AROUND THEIR COLLECTIVE WORK AREAS. ANY SUCH RECOMMENDED CHANGES SHALL BE SUBMITTED IN WRITING TO EACH PROJECT RESIDENT ENGINEER FOR REVIEW AND APPROVAL.

ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC THROUGH THE TEMPORARY TRAFFIC CONTROL ZONE SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC OR OTHERWISE TAKEN OUT OF SERVICE. DEVICES SHALL NOT BE STORED ALONG THE ROADWAY, WITHIN 15 FEET (15') OF AN OPEN DRIVING LANE, EITHER BEFORE OR AFTER THEY ARE TO BE USED UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL BE REMOVED FROM THE TEMPORARY TRAFFIC CONTROL ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS 15 FEET (15') SETBACK, THE CONTRACTOR SHALL DETERMINE ALTERNATE LOCATIONS AND REQUEST THE ENGINEERS APPROVAL TO USE THEM.

TRAFFIC CONTROL DEVICES, WARNING DEVICES, AND BARRIERS SHALL BE KEPT IN CORRECT POSITION, PROPERLY DIRECTED, CLEARLY VISIBLE AND CLEAN AT ALL TIMES. DAMAGED, DEFACED OR DIRTY DEVICES OR BARRICADES SHALL IMMEDIATELY BE REPAIRED, REPLACED OR CLEANED BY THE CONTRACTOR AND APPROVED FOR USE BY THE ENGINEER.

NO EQUIPMENT OR VEHICLES BELONGING TO THE CONTRACTOR, HIS SUB-CONTRACTORS OR EMPLOYEES SHALL BE PARKED OR STOPPED WITHIN 30 FEET (30') OF A LANE CARRYING TRAFFIC, AT ANY TIME, UNLESS REQUIRED BY ONGOING WORK OPERATIONS.

ALL DETOURS AND DIVERSIONS SHOULD BE IN PLACE, WITH SIGNING, STRIPING AND CHANNELIZING DEVICES, AS SHOWN IN THE PLANS OR STANDARD DRAWINGS. BEFORE THEY ARE OPENED TO TRAFFIC.

WHEN IT BECOMES NECESSARY TO CLOSE THE ROAD TO THROUGH TRAFFIC, NO LESS THAN SEVEN DAYS PRIOR TO THE CLOSURE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES DESCRIBING THE AFFECTED ROAD AND THE APPROXIMATE DURATION OF THE CLOSURE. THOSE TO BE NOTIFIED INCLUDE BUT ARE NOT LIMITED TO 1) LOCAL LAW ENFORCEMENT OFFICIALS, 2) LOCAL FIRE OFFICIALS, 3) AMBULANCE SERVICES, 4) LOCAL SCHOOL SUPERINTENDENT, 5) UNITED STATES POSTAL SERVICE, AND 6) CITY OR COUNTY ROAD SUPERINTENDENT.

ALL TEMPORARY TRAFFIC CONTROL DEVICES, AND THIER CONDITIONS THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT, SHALL MEET O.D.O.T.'S LATEST "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES". THE O.D.O.T. RESIDENT ENGINEER WILL MAKE FINAL DECISION OF ALL TEMPORARY TRAFFIC CONTROL DEVICES BASED ON THE O.D.O.T. GUIDELINES.

NO GENDER BIAS SIGNS ARE ALLOWED.

ARROW DISPLAY

USE OF AN ARROW DISPLAY, IN THE ARROW OR CHEVRON MODE, SHALL BE LIMITED TO STATIONARY OR MOVING LANE CLOSURES.

AN ARROW DISPLAY, IN THE CAUTION MODE, SHALL BE USED ONLY FOR SHOULDER WORK, BLOCKING THE SHOULDER, ROADSIDE WORK NEAR THE SHOULDER, OR FOR MOBILE OPERATIONS (I.E. STRIPING).

AN ARROW DISPLAY IN THE ARROW OR CHEVRON MODE, SHALL NOT BE USED ON A TWO-LANE, TWO-WAY ROADWAY FOR TEMPORARY ONE-LANE OPERATION.

AN ARROW DISPLAY SHALL NOT BE USED ON A MULTI-LANE ROADWAY TO LATERALLY SHIFT TRAFFIC.

CHANNELIZING DEVICES

IN THOSE AREAS WHERE DRIVERS ARE ASKED TO MAKE A DECISION OR MUST BE GUIDED THROUGH A PRECISE MOVEMENT, BY USE OF CHANNELIZING DEVICES, IT IS ESPECIALLY IMPORTANT TO PROVIDE A CLEARLY DEFINED PATH. EXAMPLES OF THIS COULD BE IN DELINEATING A TEMPORARY GORE OR TURNING RADIUS. IN SUCH AREAS THE SPACING OF CHANNELIZING DEVICES MAY BE REDUCED TO 10 FEET FOR SPEEDS OF 40 M.P.H. OR LESS, AND 20 FEET FOR SPEEDS GREATER THAN 40 M.P.H.

WHEN CHANNELIZING DEVICES ARE USED TO DIRECT TRAFFIC ACROSS EXISTING LANE LINES OR EDGE LINES, THE SPACING BETWEEN CHANNELIZING DEVICES SHALL BE REDUCED 50%. SPACING SHOULD ALSO BE REDUCED WHEN CHANNELIZING DEVICES ARE PLACED ON CURVES, HILLS, OR NEXT TO POTENTIAL HAZARDS.

ALL TRAFFIC CONTROL CHANNELIZING DEVICES SHALL MEET MUTCD COLOR REQUIREMENTS.

FLAGGERS

FLAGGERS MUST BE CLEARLY VISIBLE TO APPROACHING TRAFFIC FOR A DISTANCE SUFFICIENT TO PERMIT PROPER RESPONSE BY MOTORISTS TO THE FLAGGING INSTRUCTIONS, AND TO PERMIT TRAFFIC TO REDUCE SPEED OR STOP BEFORE ENTERING THE TEMPORARY TRAFFIC CONTROL ZONE. FLAGGERS SHALL BE POSITIONED TO MAINTAIN MAXIMUM COLOR CONTRAST BETWEEN THE FLAGGER'S REFLECTIVE CLOTHING AND EQUIPMENT AND THE WORK AREA BACKGROUND.

DURING HOURS OF DARKNESS, FLAGGER STATIONS SHALL BE ILLUMINATED SUCH THAT THE FLAGGER WILL BE CLEARLY VISIBLE TO APPROACHING TRAFFIC. LIGHTS TO BE USED FOR ILLUMINATING THE STATION SHALL BE APPROVED BY THE ENGINEER. REFLECTORIZED PADDLES AND REFLECTORIZED VESTS, SHIRTS OR JACKETS SHALL BE USED FOR NIGHTTIME FLAGGING.

UNLESS OTHERWISE SPECIFIED IN THE PLANS, THE COST OF FLAGGING OPERATIONS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

MINIMUM STANDARDS FOR TRAFFIC CONTROL DEVICES

(1) WARNING LIGHTS (TYPE A FLASHERS AND TYPE C STEADY BURN)
- (A) NOT LESS THAN NINETY (90) PERCENT OF THE TOTAL NUMBER OF LIGHTS BEING USED AT ANY ONE TIME SHALL BE FULLY OPERATIONAL.
- (B) NOT MORE THAN THREE (3) LIGHTS ADJACENT TO ONE ANOTHER SHALL BE FAILING.

(2) ARROW DISPLAY
- (A) WHEN IN ARROW MODE, NO MORE THAN TWO (2) LAMPS IN THE STEM AND ZERO (0) LAMPS IN THE HEAD SHALL BE FAILING. THE DIMMING FUNCTION SHALL BE OPERATING PROPERLY.
- (B) WHEN IN CAUTION MODE (CORNERS), A MINIMUM OF FOUR (4) LAMPS SHALL BE OPERATIONAL. THE DIMMING FUNCTION SHALL BE OPERATING PROPERLY.
- (C) ANY LAMP WHICH IS LIGHTED BUT IMPROPERLY ALIGNED SHALL NOT BE CONSIDERED OPERATIONAL.

(3) CHANGEABLE MESSAGE SIGNS
- (A) NOT LESS THAN NINETY (90) PERCENT OF THE PIXELS SHALL BE FUNCTIONAL IN EACH CHARACTER MODULE.
- (B) NO SANDBAG BALLASTING OVER 3 FEET IN HEIGHT.

(4) PAVEMENT MARKING TAPE
- (A) NOT MORE THAN TEN (10) PERCENT OF ALL TAPE, PAINT, MESSAGE OR SYMBOL SHALL BE MISSING
- (B) NOT MORE THAN TWO (2) CONSECUTIVE DASHED LINES SHALL BE MISSING.
- (C) NOT MORE THAN FIFTY (50) CONTINUOUS FEET OF A SOLID LINE SHALL BE MISSING.

(5) CONSTRUCTION ZONE PAVEMENT MARKERS
- (A) NOT MORE THAN TEN (10) PERCENT OF THE TOTAL NUMBER OF MARKERS SHALL BE MISSING.
- (B) NOT MORE THAN THREE (3) CONSECUTIVE MARKERS SHALL BE MISSING.

STRIPING

WHENEVER THE WORK CAUSES THE OBLITERATION OF PAVEMENT MARKINGS, EITHER TEMPORARY OR PERMANENT MARKINGS SHALL BE IN PLACE PRIOR TO OPENING THE ROADWAY TO TRAFFIC. CENTERLINE PAVEMENT MARKINGS SHALL BE PROVIDED AT ALL TIMES FOR ROADWAYS OPEN TO TRAFFIC.

THE APPLICATION SURFACES FOR PAVEMENT MARKINGS SHALL BE FREE OF DUST, DIRT, MOISTURE OR OTHER FOREIGN MATTER WHICH WOULD INTERFERE WITH ADHESION. INSTALLATION OF ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED IMMEDIATELY AHEAD OF THE PERMANENT STRIPING OPERATIONS OR RE-STRIPING FOR FOLLOWING CONSTRUCTION PHASES.

WHEN REMOVABLE PAVEMENT MARKINGS TAPE IS TO BE INSTALLED ON NEW CONCRETE PAVEMENT, THE CURING COMPOUND SHALL BE REMOVED PRIOR TO INSTALLATION.

IF REMOVABLE PAVEMENT MARKING TAPE IS INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS AND FAILS DURING THE FIRST SIX MONTHS OF SERVICE, IT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. REPLACEMENT SHALL BE ACCOMPLISHED IN A TIMELY MANNER UPON BEING NOTIFIED, BY THE ENGINEER, OF SUCH FAILURE.

PILOT CAR

WHEN LANE CLOSURES ARE REQUIRED ON TWO-LANE / TWO-WAY ROADWAYS, THE CONTRACTOR MAY, AT HIS OPTION, UTILIZE A PILOT CAR. IF THE CONTRACTOR ELECTS TO USE A PILOT CAR, CHANNELIZING DEVICES ALONG THE CENTERLINE WILL NOT BE REQUIRED. THE PILOT CAR OPERATOR SHALL BE IN RADIO CONTACT WITH PERSONNEL IN THE TEMPORARY TRAFFIC CONTROL ZONE. MAXIMUM SPEED OF THE PILOT CAR THROUGH THE WORK AREA SHALL BE 25 M.P.H. FULL COMPENSATION FOR FURNISHING AND OPERATING THE PILOT CAR, (INCLUDING DRIVER, RADIOS, AND ANY OTHER EQUIPMENT OR LABOR REQUIRED) SHALL BE CONSIDERED AS INCLUDED IN THE COST OF OTHER ITEMS OF WORK.

MISCELLANEOUS

TRAFFIC CONDITIONS MAY NECESSITATE CHANGES IN THE USE AND/OR QUANTITIES OF THE TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS OR IN THE STANDARDS. ANY SUCH CHANGES ARE SUBJECT TO APPROVAL BY THE ENGINEER.

ALL CHANNELIZING DEVICES PROVIDED ON THIS PROJECT SHALL BE IN GOOD CONDITION AND SHALL BE APPROVED FOR USE ON THIS PROJECT BY THE ENGINEER.

THE REGULATORY SPEED LIMITS THROUGH THE WORK ZONE MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER WITH THE DOCUMENTED APPROVAL OF THE DIVISION ENGINEER IN ACCORDANCE WITH TITLE 47 OF THE OKLAHOMA MOTOR VEHICLE LAWS.

THE TERMINATION AREA EXTENDS FROM THE DOWNSTREAM END OF THE WORK AREA TO THE TEMPORARY TRAFFIC CONTROL DEVICE SUCH AS "END ROAD WORK" SIGNS, IF POSTED. A SPEED SIGN, OR OTHER SIGNS MAY BE USED TO INFORM ROAD USERS THAT THEY CAN RESUME NORMAL OPERATIONS.

THE CONSTRUCTION SIGNING AND BARRICADE CONTRACTOR SHOULD AFFIX THEIR COMPANY NAME AND/OR LOGO INCONSPICUOUSLY ON EACH TRAFFIC CONTROL DEVICE.

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 3/21/11

TRAFFIC STANDARD

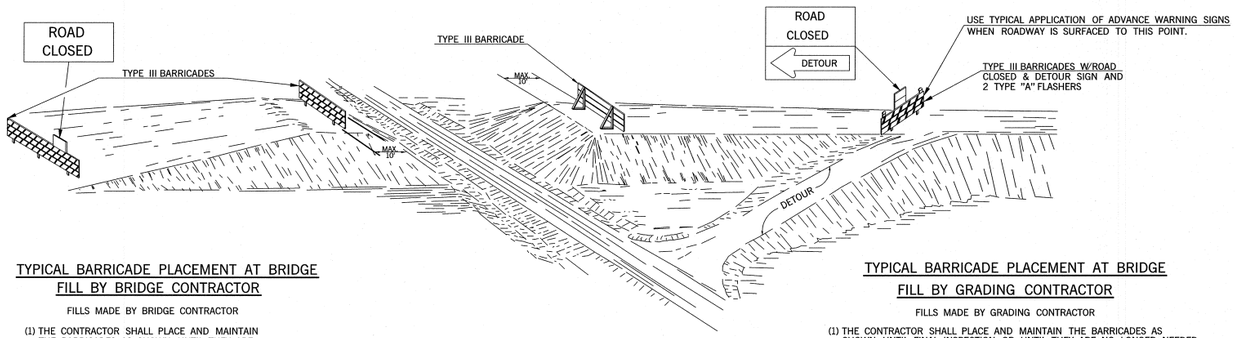
TRAFFIC CONTROL STANDARD
TRAFFIC CONTROL CONSTRUCTION NOTES

2009 SPECIFICATIONS

TCS1-1	01
	T-501

$$date$$

REVISIONS	
DESCRIPTION	DATE
MODIFIED NOTE	3/15/2011
ADD "NO CELL PHONE" USAGE IN WORK ZONE, DISTANCE SIGN TO WARNING SIGNS	4/2/2013



TYPICAL BARRICADE PLACEMENT AT BRIDGE FILL BY BRIDGE CONTRACTOR

FILLS MADE BY BRIDGE CONTRACTOR

(1) THE CONTRACTOR SHALL PLACE AND MAINTAIN THE BARRICADES AS SHOWN UNTIL THEY ARE NO LONGER NEEDED.

(2) THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVAL OF THE BARRICADES.

(3) THE ENGINEER SHALL NOTIFY THE GRADING CONTRACTOR TO FURNISH AND ERECT HIS BARRICADES "IMMEDIATELY" AFTER THE BRIDGE CONTRACTOR REMOVES HIS BARRICADES. THE GRADING CONTRACTOR SHALL MAINTAIN HIS BARRICADES UNTIL FINAL INSPECTION OR UNTIL THEY ARE NO LONGER NEEDED.

(4) BARRICADES AT BRIDGE FILL SHALL BE IN PLACE AND MAINTAINED AT ALL TIMES UNTIL OPENED TO TRAFFIC, HOWEVER, BARRICADES MAY BE REMOVED OR ADJUSTED, AS NEEDED, TO ALLOW ACCESS TO THE WORK AREA.

TYPICAL BARRICADE PLACEMENT AT BRIDGE FILL BY GRADING CONTRACTOR

FILLS MADE BY GRADING CONTRACTOR

(1) THE CONTRACTOR SHALL PLACE AND MAINTAIN THE BARRICADES AS SHOWN UNTIL FINAL INSPECTION OR UNTIL THEY ARE NO LONGER NEEDED.

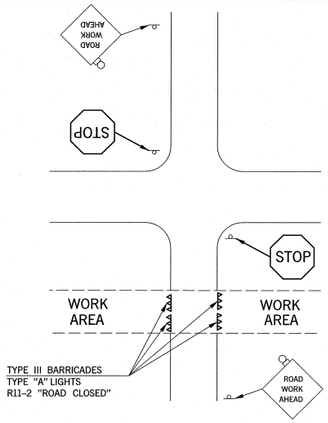
(2) THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO REMOVAL OF THE BARRICADES.

(3) IF THE BRIDGE WORK ORDER IS ISSUED PRIOR TO COMPLETION OF THE GRADING CONTRACT, THE BRIDGE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE GRADING CONTRACTOR TO ASSUME RESPONSIBILITY FOR PROTECTION OF THE BRIDGE WORK AREA. THIS WILL INCLUDE FURNISHING, INSTALLING, AND MAINTAINING ALL BARRICADES AND SIGNS NECESSARY TO PROVIDE THAT PROTECTION UNTIL THE BRIDGE IS COMPLETED AND THE FINAL INSPECTION IS COMPLETED.

(4) IF THE BRIDGE WORK ORDER HAS NOT BEEN ISSUED PRIOR TO THE FINAL INSPECTION OF THE GRADING, THEN THE GRADING CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION FOR STATE FORCES TO SUPPLY, INSTALL AND MAINTAIN ANY NECESSARY TRAFFIC CONTROL DEVICES NEEDED TO PROTECT THE WORK AREA. THESE STATE OWNED DEVICES SHALL REMAIN IN PLACE UNTIL SUCH TIME THAT THE BRIDGE WORK ORDER IS ISSUED, AT THAT TIME THE BRIDGE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR TRAFFIC CONTROL AND REPLACE THE STATE OWNED DEVICES WITH HIS OWN.

(5) SUFFICENT NUMBER OF TYPE II BARRICADES WITH SIGNS SHALL BE USED TO COMPLETELY CLOSE THE WORK AREA TO THROUGH TRAFFIC.

(6) BARRICADES AT BRIDGE FILL SHALL BE IN PLACE AND MAINTAINED AT ALL TIMES UNTIL OPENED TO TRAFFIC, HOWEVER, BARRICADES MAY BE REMOVED OR ADJUSTED, AS NEEDED, TO ALLOW ACCESS TO THE WORK AREA.



TYPICAL SIGN PLACEMENT FOR INTERSECTING ROADS AND STREETS

NOTES:

(1) SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.

(2) FLASHING WARNING LIGHTS SHALL BE USED TO CALL ATTENTION TO THE EARLY WARNING SIGNS.

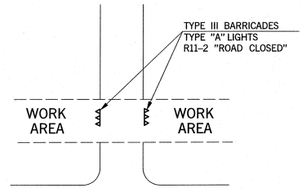
(3) WARNING LIGHTS SHOULD BE USED TO MARK CHANNELIZING DEVICES AT NIGHT AS NEEDED.

(4) PLACEMENT OF TYPE III BARRICADES SHALL BE APPROVED BY THE ENGINEER.

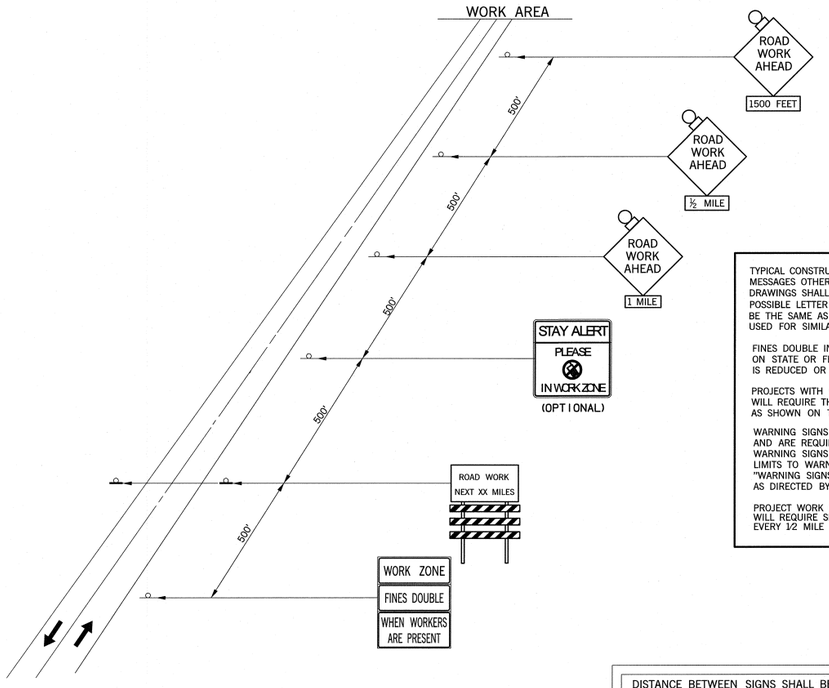
(5) TYPE II BARRICADES, DRUMS AND/OR VERTICAL PANELS MAY BE SUBSTITUTED FOR TYPE III BARRICADES TO AVOID OBSTRUCTING THE MOTORISTS VIEW.

(6) IF TWO OR MORE DRIVEWAYS ARE IN CLOSE PROXIMITY, THE BARRICADES BETWEEN THE DRIVEWAYS MAY BE OMITTED AT THE DISCRETION OF THE ENGINEER.

(7) THE "ROAD WORK AHEAD" SIGN, WHICH SERVES AS A GENERAL WARNING OF OBSTRUCTIONS OR RESTRICTIONS, SHALL BE LOCATED ON ALL INTERSECTING ROADS AND STREETS.



TYPICAL SIGN PLACEMENT FOR PRIVATE DRIVE OR RESIDENCE



TYPICAL APPLICATION ADVANCE WARNING SIGNS ON 2–LANE HIGHWAY

TYPICAL CONSTRUCTION WARNING SIGNS WITH MESSAGES OTHER THAN DETAILED ON STANDARD DRAWINGS SHALL BE CONSTRUCTED USING THE LARGEST POSSIBLE LETTER SIZE. SIGN SIZE AND COLOR SHALL BE THE SAME AS OTHER CONSTRUCTION WARNING SIGNS USED FOR SIMILAR CONDITIONS.

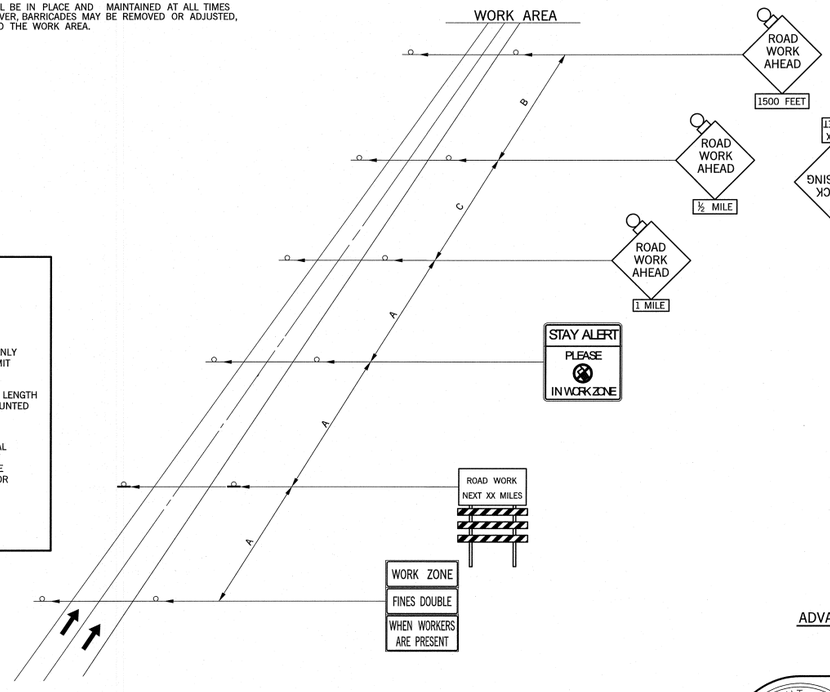
FINES DOUBLE IN WORK ZONE SIGNS ARE TO BE USED ONLY ON STATE OR FEDERAL HIGHWAYS WHERE THE SPEED LIMIT IS REDUCED OR AS DIRECTED BY THE ENGINEER.

PROJECTS WITH WORK LIMITS OF 1.0 MILES OR MORE IN LENGTH WILL REQUIRE THE G20-1A SIGN. THE SIGN SHALL BE MOUNTED AS SHOWN ON TCS4-1-(LATEST REVISION).

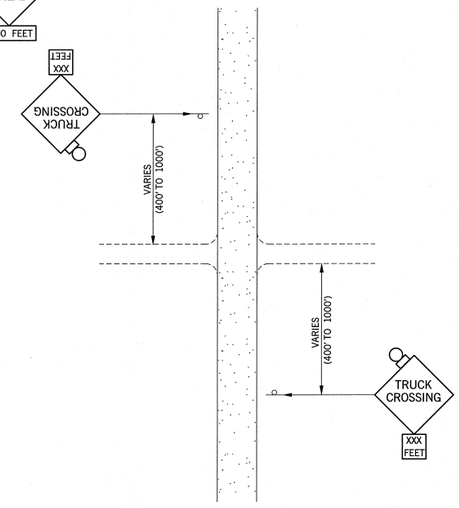
WARNING SIGNS SHOWN ARE "ADVANCE" WARNING SIGNS AND ARE REQUIRED ON ALL STATE HIGHWAYS. ADDITIONAL WARNING SIGNS MAY BE REQUIRED WITHIN THE PROJECT LIMITS TO WARN DRIVERS OF SPECIFIC HAZARDS. ADVANCE "WARNING SIGNS" MAY CHANGE AS CONDITIONS CHANGE OR AS DIRECTED BY THE ENGINEER.

PROJECT WORK OF 1.0 MILE OR MORE IN LENGTH WILL REQUIRE SIGNS CS-14 AND R2-1 TO BE PLACED EVERY 1/2 MILE THROUGH WORK ZONE.

DISTANCE BETWEEN SIGNS SHALL BE A (MIN.)			
ROAD TYPE	A (FT)	B (FT)	C (FT)
URBAN (LOW SPEED)	100	100	100
URBAN (HIGH SPEED)	350	350	350
RURAL	500	500	500
EXPRESSWAY /FREEWAY	1,000	1,500	2,640



TYPICAL APPLICATION ADVANCE WARNING SIGNS ON A DIVIDED HIGHWAY



TYPICAL APPLICATION ADVANCE SIGNING WHERE TRUCKS ARE CROSSING

APPROVED BY TRAFFIC ENGINEER: _____ DATE: 4/8/2013

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD PLACEMENT OF ADVANCE WARNING SIGNS

2009 SPECIFICATIONS

TCS7-1 | 02

T-507

$$date$$

REVISIONS	
DESCRIPTION	DATE
CHANGED SIGN DESIGNATION	3/15/2011

ROAD CLOSED

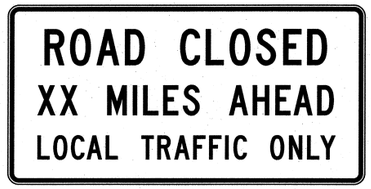
R11-2 48 x 30 10.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

LANE CLOSED

R11-2(LANE) 48 x 30 10.00 SF

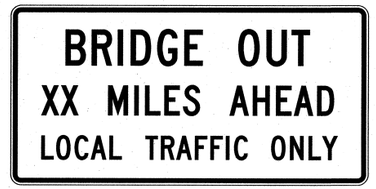
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



ROAD CLOSED XX MILES AHEAD

R11-3a 60 x 30 12.50 SF

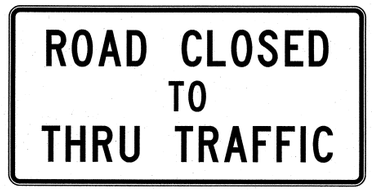
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



BRIDGE OUT XX MILES AHEAD

R11-3b 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)



ROAD CLOSED TO THRU TRAFFIC

R11-4 60 x 30 12.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
WHITE (REFLECTORIZED)

DETOUR SIGN

M4-8 24 x 12 2.00 SF
M4-8E 30 x 15 3.13 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(R) 30 x 24 5.00 SF
M4-9(R)E 48 x 36 12.00 SF
M4-9(R)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(L) 30 x 24 5.00 SF
M4-9(L)E 48 x 36 12.00 SF
M4-9(L)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-9(V) 30 x 24 5.00 SF
M4-9(V)E 48 x 36 12.00 SF
M4-9(V)F 60 x 48 20.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

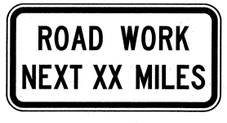
M4-10(R) 48 x 18 6.00 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

DETOUR SIGN

M4-10(L) 48 x 18 6.00 SF

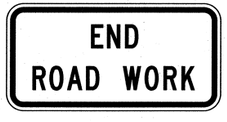
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



ROAD WORK NEXT XX MILES SIGN

G20-1A 36 x 18 4.50 SF

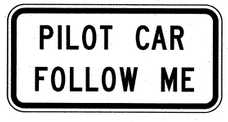
COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



END ROAD WORK SIGN

G20-2A 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)



PILOT CAR FOLLOW ME SIGN

G20-4 36 x 18 4.50 SF

COLOR:
LEGEND AND BORDER:
BLACK (NON-REFLECTORIZED)
BACKGROUND:
FLUORESCENT ORANGE
(REFLECTORIZED)

NOTES:
WORD SIGNS MAY BE USED IF SYMBOL SIGNS ARE NOT AVAILABLE EITHER IN "STANDARD HIGHWAY SIGNS MANUAL" OR IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) (CURRENT EDITION).

ALL DIAMOND SHAPE CONSTRUCTION WARNING SIGNS SHALL BE 48 INCHES X 48 INCHES UNLESS OTHERWISE NOTED IN THE PLANS.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: David Gunsch DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

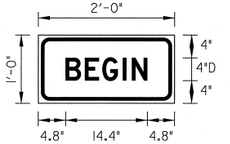
TCS9-1 01

T-509

$$date$$

Item

REVISIONS	
DESCRIPTION	DATE
CHANGED DECRIPTIONS	3/15/2011

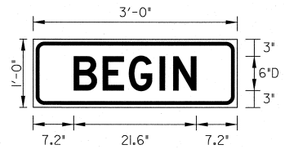


Dimensions are in inches.tenths

SIGN NUMBER	CS-13
WIDTH x HGHT.	2'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	2.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X) — LENGTH SERIES/SIZE

B	E	G	I	N					D 2000
4.8	8.2	11.3	14.9	16.5				14.4	

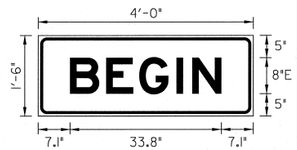


Dimensions are in inches.tenths

SIGN NUMBER	CS-13E
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X) — LENGTH SERIES/SIZE

B	E	G	I	N						D 2000
7.2	12.3	16.9	22.3	24.7					21.6	



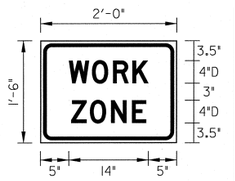
Dimensions are in inches.tenths

SIGN NUMBER	CS-13F
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X) — LENGTH SERIES/SIZE

B	E	G	I	N						E 2000
7.1	15.2	22.6	30.9	34.4					33.8	

FLO* = FLUORESCENT ORANGE

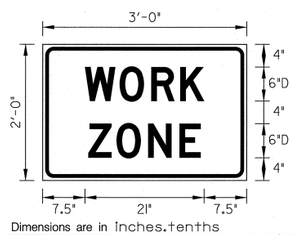


Dimensions are in inches.tenths

SIGN NUMBER	CS-14
WIDTH x HGHT.	2'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X) — LENGTH SERIES/SIZE

W	O	R	K						D 2000
5	9.1	12.8	16.2					14	
Z	O	N	E						D 2000
5.4	8.7	12.5	16.1					13.2	

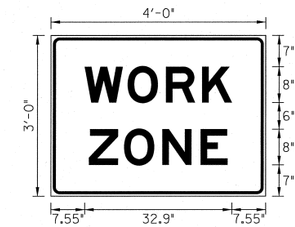


Dimensions are in Inches.tenths

SIGN NUMBER	CS-14E
WIDTH x HGHT.	3'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X) — LENGTH SERIES/SIZE

W	O	R	K							D 2000
7.5	13.6	19.2	24.3						21	
Z	O	N	E							D 2000
8.1	13.1	18.7	24.2						19.8	

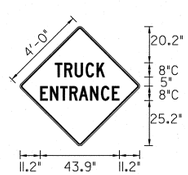


Dimensions are in inches.tenths

SIGN NUMBER	CS-14F
WIDTH x HGHT.	4'-0" x 3'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	12.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: FLO*
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X) — LENGTH SERIES/SIZE

W	O	R	K							E 2000
7.6	17.2	25.7	33.8						32.9	
Z	O	N	E							E 2000
8.5	16.4	24.9	33.5						31	



Dimensions are in inches.tenths

SIGN NUMBER	CS-15
WIDTH x HGHT	4'-0" x 4'-0"
BORDER WIDTH	0.75"
CORNER RADIUS	1.38"
MOUNTING	Ground
SIGN AREA	16.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Yellow
LEGEND/BORDER	TYPE: Reflective
	COLOR: Black

LETTER POSITIONS (X) — LENGTH SERIES/SIZE

T	R	U	C	K						C 2000
19.3	24.5	30.4	36.5	42.5					27.7	
E	N	T	R	A	N	C	E			C 2000
11.2	16.7	22.3	27.5	32.7	38.9	45	51.1		43.9	

CS-13, E, F

CS-14, E, F

R2-1, E, F

CONSTRUCTION
BEGIN WORK ZONE
SPEED LIMIT
ASSEMBLY

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

APPROVED BY TRAFFIC ENGINEER: Richard Grundy DATE: 3/21/11

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD CONSTRUCTION SIGNS

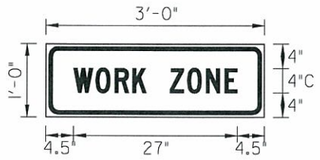
2009 SPECIFICATIONS

TCS19-1 | 01

T-519

$$date$$

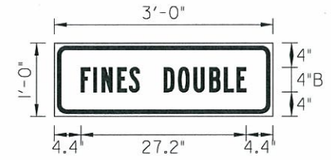
REVISIONS	
DESCRIPTION	DATE



Dimensions are in inches.tenths

SIGN NUMBER	CS-16
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
W	O	R	K		Z	O	N	E				C 2000
4.5	8	11.2	14.1	16.3	20.3	23.2	26.3	29.5		27		



Dimensions are in inches.tenths

SIGN NUMBER	CS-17
WIDTH x HGHT.	3'-0" x 1'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	3.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	I	N	E	S		D	O	U	B	L	E			B 2000
4.4	6.5	7.9	10.5	12.4	14.1	18.1	20.5	23.1	25.7	28	30.1	27.2		

Dimensions are in inches.tenths

SIGN NUMBER	CS-18
WIDTH x HGHT.	3'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	4.5 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
W	H	E	N		W	O	R	K	E	R	S			B 2000
3	6.1	8.7	10.9	12.6	16.6	19.6	22.2	24.6	27	29.1	31.3	30		
A	R	E		P	R	E	S	E	N	T				B 2000
5.3	8	10.3	11.9	15.9	18.1	20.5	22.4	24.8	26.9	29.2		25.5		

Dimensions are in inches.tenths

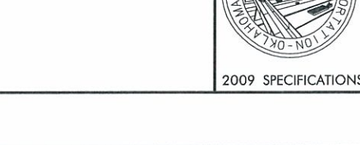
SIGN NUMBER	CS-16E
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: Orange
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
W	O	R	K		Z	O	N	E				C 2000
3.8	9	13.8	18.2	21.5	27.5	31.8	36.5	41.2		40.5		

Dimensions are in inches.tenths

SIGN NUMBER	CS-17E
WIDTH x HGHT.	4'-0" x 1'-6"
BORDER WIDTH	0.63"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

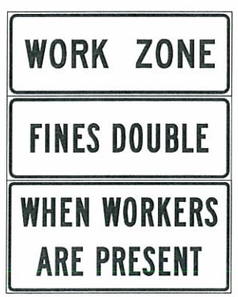
LETTER POSITIONS (X)													LENGTH	SERIES/SIZE
F	I	N	E	S	D	O	U	B	L	E				B 2000
5.1	8.2	10.3	14.2	17.1	22.7	26.2	30.1	34	37.5	40.7	37.9			



Dimensions are in inches.tenths

SIGN NUMBER	CS-18E
WIDTH x HGHT.	4'-0" x 2'-0"
BORDER WIDTH	0.63"
CORNER RADIUS	1.13"
MOUNTING	Ground
SIGN AREA	8.0 Sq.Ft.
BACKGROUND	TYPE: Reflective
	COLOR: White
LEGEND/BORDER	TYPE: Non-Reflective
	COLOR: Black

LETTER POSITIONS (X)												LENGTH	SERIES/SIZE
W	H	E	N	W	O	R	K	E	R	S			B 2000
3	7.7	11.6	14.9	20.4	24.9	28.8	32.4	36	39.2	42.4	41.9		
A	R	E	P	R	E	S	E	N	T				B 2000
6.4	10.5	14	19.3	22.7	26.3	29.1	32.7	35.9	39.3		35.2		



CS-16, E

CS-17, E

CS-18, E

CONSTRUCTION
FINES DOUBLE
ASSEMBLY

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
880(B)	CONSTRUCTION SIGNS	SD

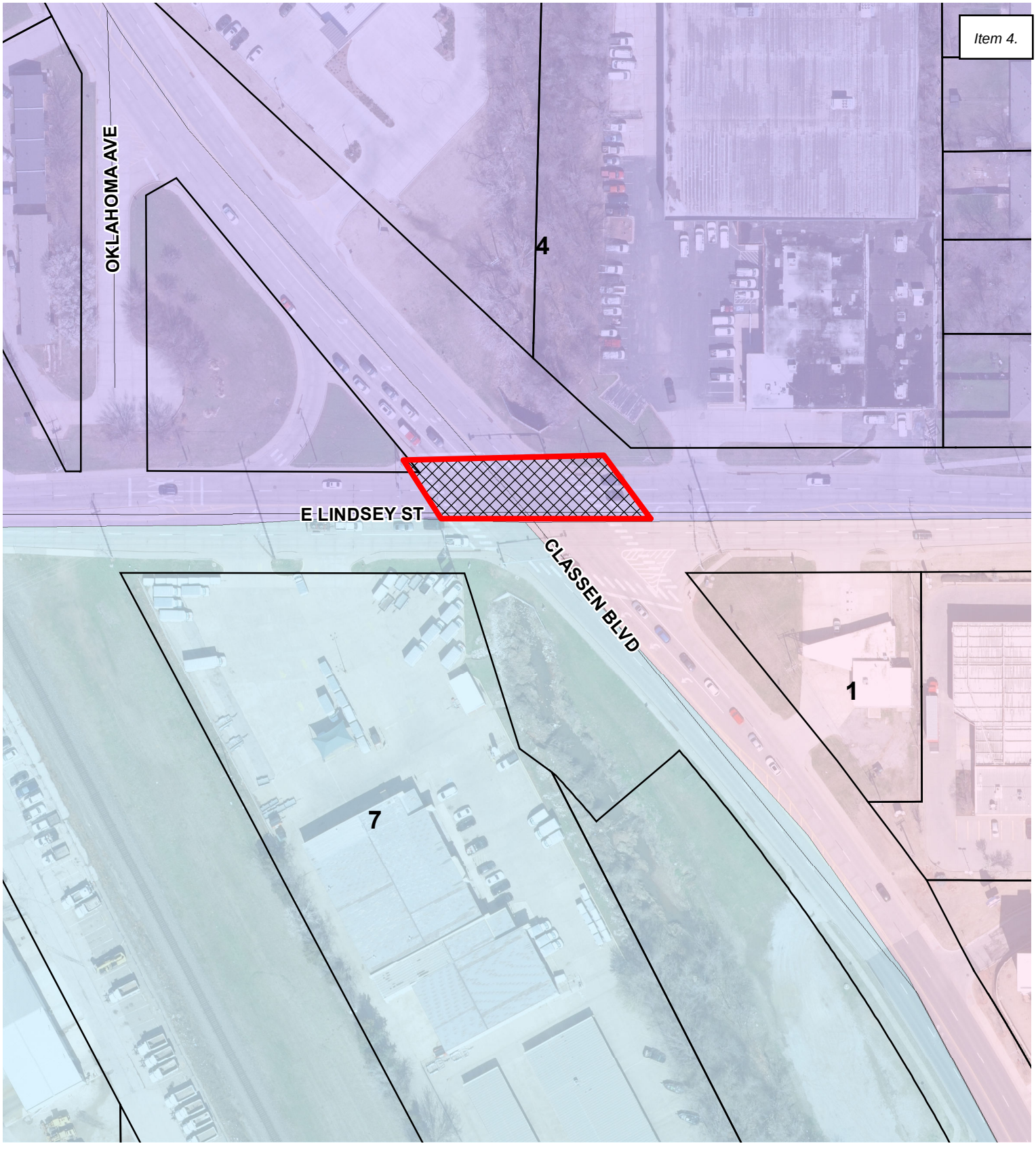
APPROVED BY TRAFFIC ENGINEER *David Streb* DATE 6/23/10

TRAFFIC STANDARD

TRAFFIC CONTROL STANDARD
CONSTRUCTION SIGNS

2009 SPECIFICATIONS

TCS20-1

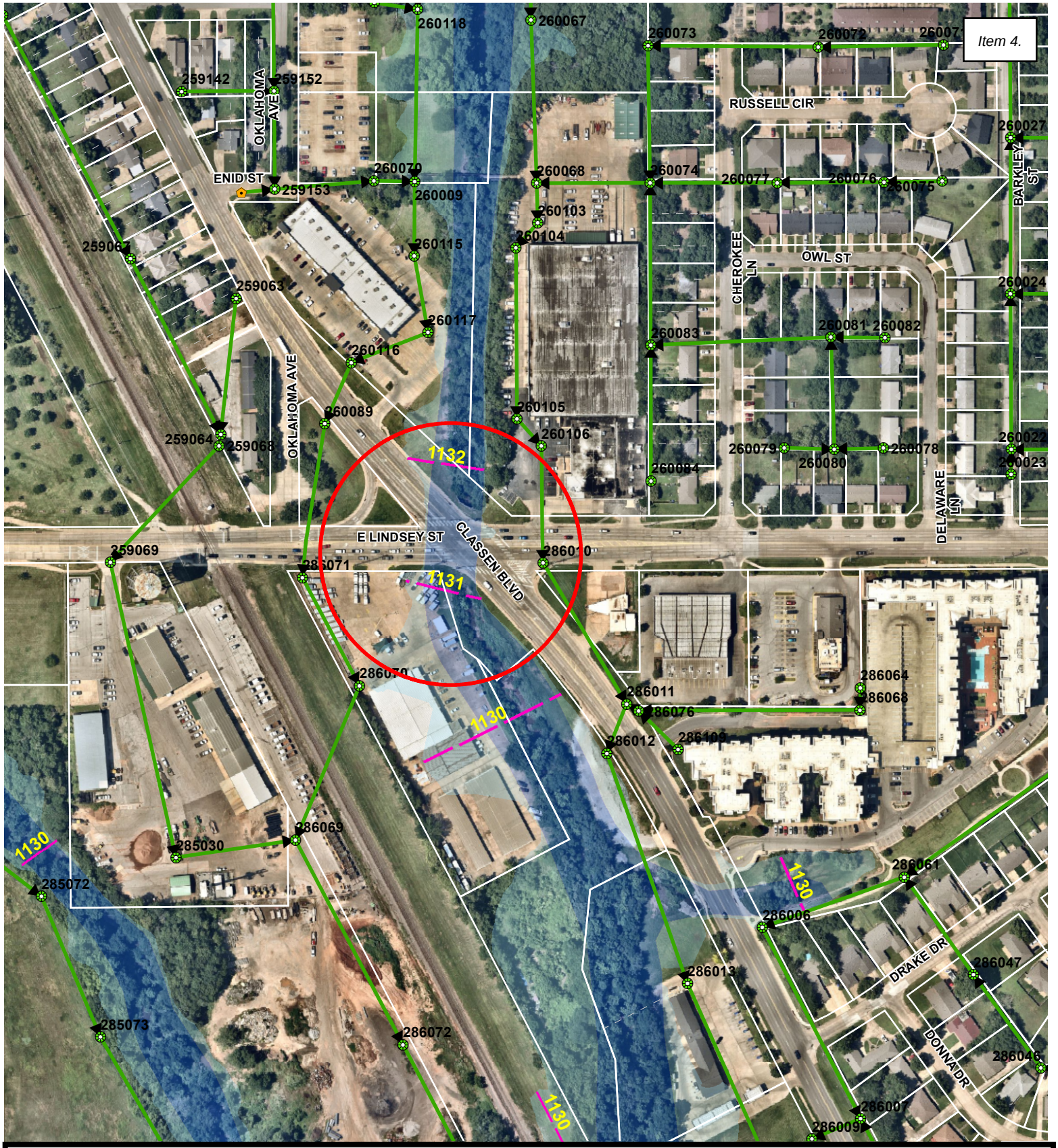


Map produced by the City of Norman Geographic Information System

The City of Norman assumes no Responsibility for errors or omissions in the information presented.

Lindsey & Classen Bridge

N



Lindsey St. and Classen Blvd.

Legend

- BFE 2021
- 1% Chance Floodplain
- Floodway
- Lot Line
- Parcel

STAFF REPORT 07/07/2025 **PERMIT #721**

ITEM: This Floodplain Permit Application is for a proposed water line connection in the Bishop Creek floodplain near 310 East Boyd Street.

BACKGROUND:
APPLICANT: OK-OU Holdings, LLC (Frank Rocchio)
CONTRACTOR: Cowen Construction
ENGINEER: Braden Shaffer, P.E., CFM (Crafton Tull)

This project includes the proposed construction of a multi-family residence at 310 E. Boyd Street. This structure is not located in the floodplain. The scope of the work in the floodplain is located in the railroad right of way and includes the removal of existing pavement and installation of a water line connection to the existing water main. There are no planned grade changes or fill within the floodplain. The removal of pavement will be backfilled with topsoil and stabilized back to existing grade. The water line trench will also be backfilled and returned to existing grade.

Site located in Little River Basin or its Tributaries? yes __ no✓

STAFF ANALYSIS:
The project is located in the Bishop Creek floodplain (Zone A). Base flood elevation is approximately 1146.0', and the engineer has certified that there will be no increase in the base flood elevation as a result of this project.

36-533	(e)(2)(a)..……..….	Fill restrictions in the floodplain
	(e)(2)(e)..……..….	Compensatory storage
	(e)(2)(j) ……..….	Utilities constructed to minimize flood damage
	(e)(2)(l) ……..……	In/exfiltration of flood waters in sanitary sewage
	(f)(3)(8)……..	No rise considerations

(e)(2)(a) and (e)(2)(e) Fill Restrictions in the Floodplain and Compensatory Storage – The use of fill is restricted in the floodplain unless compensatory storage is provided.

> The applicant has indicated that removed concrete will be backfilled with topsoil and compacted to original grade. Additionally, trenching to install the water line will be back filled and compacted.

(e)(2)(j) All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding. All public utilities and facilities shall be constructed to minimize flood damage.

> The water line pipe joints have gaskets making the system watertight, and the entire system is leak tested prior to going into service.

(e)(2)(l) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into flood waters.

> The water line pipe joints have gaskets making the system watertight, and the entire system is leak tested prior to going into service.

(f)(3)(8) No Rise Considerations – For proposed development within any flood hazard area (except for those designated as regulatory floodways), certification that a rise of no more than 0.05 feet will occur in the BFE on any adjacent property as a result of the proposed work must be provided.

The engineer has certified that the project will not cause a rise in the BFE which meets this ordinance requirement.

RECOMMENDATION: Staff recommends that Floodplain Permit Application #721 be approved.

ACTION TAKEN: _____

City of Norman

Floodplain Permit Application

Floodplain Permit No. 721

Building Permit No. _____

Date 7/7/2025

FLOODPLAIN PERMIT APPLICATION
($100.00 Application Fee Required)

SECTION 1: GENERAL PROVISIONS (APPLICANT to read and sign):

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Occupancy is issued.
5. The permit will expire if no work is commenced within 2 years of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements and must be included with this floodplain permit application.
7. Applicant hereby gives consent to the City of Norman or his/her representative to access the property to make reasonable inspections required to verify compliance.
8. The following floodplain modifications require approval by the City Council:
   (a) A modification of the floodplain that results in a change of ten percent (10%) or more in the width of the floodplain.
   (b) The construction of a pond with a water surface area of 5 acres or more.
   (c) Any modifications of the stream banks or flow line within the area that would be regulatory floodway whether or not that channel has a regulatory floodplain, unless the work is being done by the City of Norman staff as part of a routine maintenance activity.
9. All supporting documentation required by this application is required along with the permit fee by the submittal deadline. Late or incomplete applications will not be accepted.
10. I, THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT.)

APPLICANT: OK-OU Holdings, LLC (Frank Rocchio) ADDRESS: 201 Main Street, Suite 100 Lafayette, IN 47901

TELEPHONE: 765-807-2736 SIGNATURE: DocuSigned by: 715E31D4EE5A46E...

BUILDER: Cowen Construction ADDRESS: 629 W Main Street, Suite 218, Oklahoma City, OK 73102

TELEPHONE: 918-582-2220 SIGNATURE: Signed by: Brent Gallright 318EBD71C3EE4DB...

ENGINEER: Braden Shaffer, P.E., CFM (Crafton Tull) ADDRESS: 300 Pointe Parkway Blvd. Yukon, OK 73099

TELEPHONE: 405-787-6270 SIGNATURE:

PROJECT LOCATION

To avoid delay in processing the application, please provide enough information to easily identify the project location. Provide the street address, subdivision addition, lot number or legal description (attach) and, outside urban areas, the distance to the nearest intersecting road or well known landmark. A sketch attached to this application showing the project location would be helpful.

Project Site is all of Block One (1) of The Second State University Addition to the City of Norman, Cleveland County, Oklahoma, as well as the adjacent BNSF railroad right of way on the east side of the property.

Current Address of the property is 310 E Boyd Street and is located generally directly west of the BNSF railroad and south of Boyd Street.

DESCRIPTION OF WORK (Check all applicable boxes):

A. STRUCTURAL DEVELOPMENT

ACTIVITY	STRUCTURE TYPE
☑ New Structure	☐ Residential (1-4 Family)
☐ Addition	☐ Residential (More than 4 Family)
☐ Alteration	☐ Non-Residential (Flood proofing? ☐ Yes)
☐ Relocation	☐ Combined Use (Residential & Commercial)
☑ Demolition	☐ Manufactured (Mobile) Home
☐ Replacement	☐ In Manufactured Home Park? ☐ Yes

ESTIMATED COST OF PROJECT $_____ Work that involves substantial damage/substantial improvement requires detailed cost estimates and an appraisal of the structure that is being improved.

B. OTHER DEVELOPMENT ACTIVITIES:

☐ Fill ☐ Mining ☐ Drilling ☐ Grading

☑ Excavation (Beyond the minimum for Structural Development)

☐ Watercourse Alteration (Including Dredging and Channel Modifications)

☐ Drainage Improvements (Including Culvert Work) ☐ Road, Street or Bridge Construction

☐ Subdivision (New or Expansion) ☐ Individual Water or Sewer System

In addition to items A. and B. provide a complete and detailed description of proposed work (failure to provide this item will be cause for the application to be rejected by staff). Attach additional sheets if necessary.

The project includes the addition of a multi-family building at 310 E Boyd street that is not in the floodplain. The scope of the project that is located in the floodplain located in the railroad right of way includes the removal of existing pavement within the railroad right of way and the installation of a water line connection to the existing water main. There are no planned grade changes within the floodplain. The removal of pavement will be backfilled with topsoil and stabilized back to existing grades. The water line trench will also be backfilled back to existing grades.

C. ATTACHMENTS WHICH ARE REQUIRED WITH EVERY APPLICATION:

The applicant must submit the documents listed below before the application can be processed. If the requested document is not relevant to the project scope, please check the Not Applicable box and provide explanation.

A. Plans drawn to scale showing the nature, location, dimensions, and elevation of the lot, existing or proposed structures, fill, storage of materials, flood proofing measures, and the relationship of the above to the location of the channel, floodway, and the regulatory flood-protection elevation.

B. A typical valley cross-section showing the channel of the stream, elevation of land areas adjoining each side of the channel, cross-sectional areas to be occupied by the proposed development, and high-water information.

☑ Not Applicable:
No alteration is occurring to the grades within the floodplain. All backfill will be placed back to existing grades.

C. Subdivision or other development plans (If the subdivision or other developments exceeds 50 lots or 5 acres, whichever is the lesser, the applicant **must** provide 100-year flood elevations if they are not otherwise available).

☑ Not Applicable:
The scope of the project does not include 50 lots or 5 acres.

D. Plans (surface view) showing elevations or contours of the ground; pertinent structure, fill, or storage elevations; size, location, and spatial arrangement of all proposed and existing structures on the site; location and elevations of streets, water supply, sanitary facilities; photographs showing existing land uses and vegetation upstream and downstream, soil types and other pertinent information.

☐ Not Applicable:

E. A profile showing the slope of the bottom of the channel or flow line of the stream.

☑ Not Applicable:
No alteration is occurring to the grades within the floodplain. All backfill will be placed back to existing grades.

F. Elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures.

☑ Not Applicable:
Buildings are not within the floodplain. Only the water line connection is occurring in the floodplain.

G. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

☑ Not Applicable:
The watercourse and natural drainage will not be altered. All grades will be returned back to existing grades

H. For proposed development within any flood hazard area (except for those areas designated as regulatory floodways), certification that a rise of no more than five hundredths of a foot (0.05') will occur on any adjacent property in the base flood elevation as a result of the proposed work. For proposed development within a designated regulatory floodway, certification of no increase in flood levels within the community during the occurrence of the base flood discharge as a result of the proposed work. All certifications shall be signed and sealed by a Registered Professional Engineer licensed to practice in the State of Oklahoma.

I. A certified list of names and addresses of all record property owners within a three hundred fifty (350) foot radius of the exterior boundary of the subject property not to exceed 100 feet laterally from the Special Flood Hazard Area. The radius to be extended by increments of one hundred (100) linear feet until the list of property owners includes not less than fifteen (15) individual property owners of separate parcels or until a maximum radius of one thousand (1,000) feet has been reached.

J. A copy of all other applicable local, state, and federal permits (i.e. U.S. Army Corps of Engineers 404 permit, etc).

After completing SECTION 2, APPLICANT should submit form to Permit Staff for review.

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by Permit Staff.)

The proposed development is located on FIRM Panel No.: 0285 H, Dated: 9/26/2008

The Proposed Development:

☐ Is NOT located in a Special Flood Hazard Area
(Notify the applicant that the application review is complete and NO FLOODPLAIN PERMIT IS REQUIRED).

☑ Is located in a Special Flood Hazard Area.

☐ The proposed development is located in a floodway.

☐ 100-Year flood elevation at the site is ~1146.0' Ft. NGVD (MSL) ☐ Unavailable

See Section 4 for additional instructions.

SIGNED: _____ **DATE:** 7/1/2025

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by Permit Staff.)

The applicant must also submit the documents checked below before the application can be processed.

☐ Flood proofing protection level (non-residential only) _____ Ft. NGVD (MSL). For flood proofed structures applicant must attach certification from registered engineer.

☐ Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ Certification from a registered engineer that the proposed activity in a regulatory flood plain will result in an increase of no more than 0.05 feet in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ All other applicable federal, state, and local permits have been obtained.

Other: _____

_____

_____

SECTION 5: PERMIT DETERMINATION (To be completed by Floodplain Chairman.)

The proposed activity: **(A)** ☐ **Is**; **(B)** ☐ **Is Not** in conformance with provisions of Norman's City Code Chapter 22, Section 429.1. The permit is issued subject to the conditions attached to and made part of this permit.

SIGNED: _____ DATE: _____

If **BOX A** is checked, the Floodplain committee chairman may issue a Floodplain Permit.

If **BOX B** is checked, the Floodplain committee chairman will provide a written summary of deficiencies. Applicant may revise and resubmit an application to the Floodplain committee or may request a hearing from the Board of Adjustment.

APPEALS: Appealed to Board of Adjustment: ☐ Yes ☐ No

Hearing date: _____

Board of Adjustment Decision - Approved: ☐ Yes ☐ No

Conditions:

_____

_____

_____

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Occupancy is issued.)

1. FEMA Elevation Certificate
   and/or
2. FEMA Floodproofing Certificate

NOTE: The completed certificate will be reviewed by staff for completeness and accuracy. If any deficiencies are found it will be returned to the applicant for revision. A Certificate of Occupancy for the structure will not be issued until an Elevation and /or Floodproofing Certificate has been accepted by the City.

Crafton Tull
architecture | engineering | surveying

300 Pointe Pa
Yukon,
405.787.6270

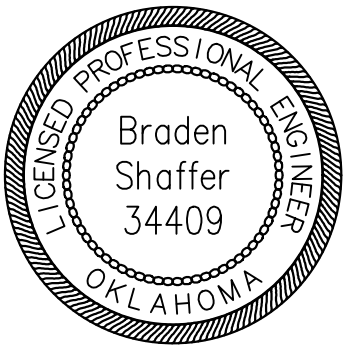
FLOODPLAIN "NO RISE" CERTIFICATION

This document is to certify that I am a duly qualified engineer licensed to practice in the State of Oklahoma. It is to further certify that the installation of the proposed water line and the associated valve boxes will not impact the base flood elevations.

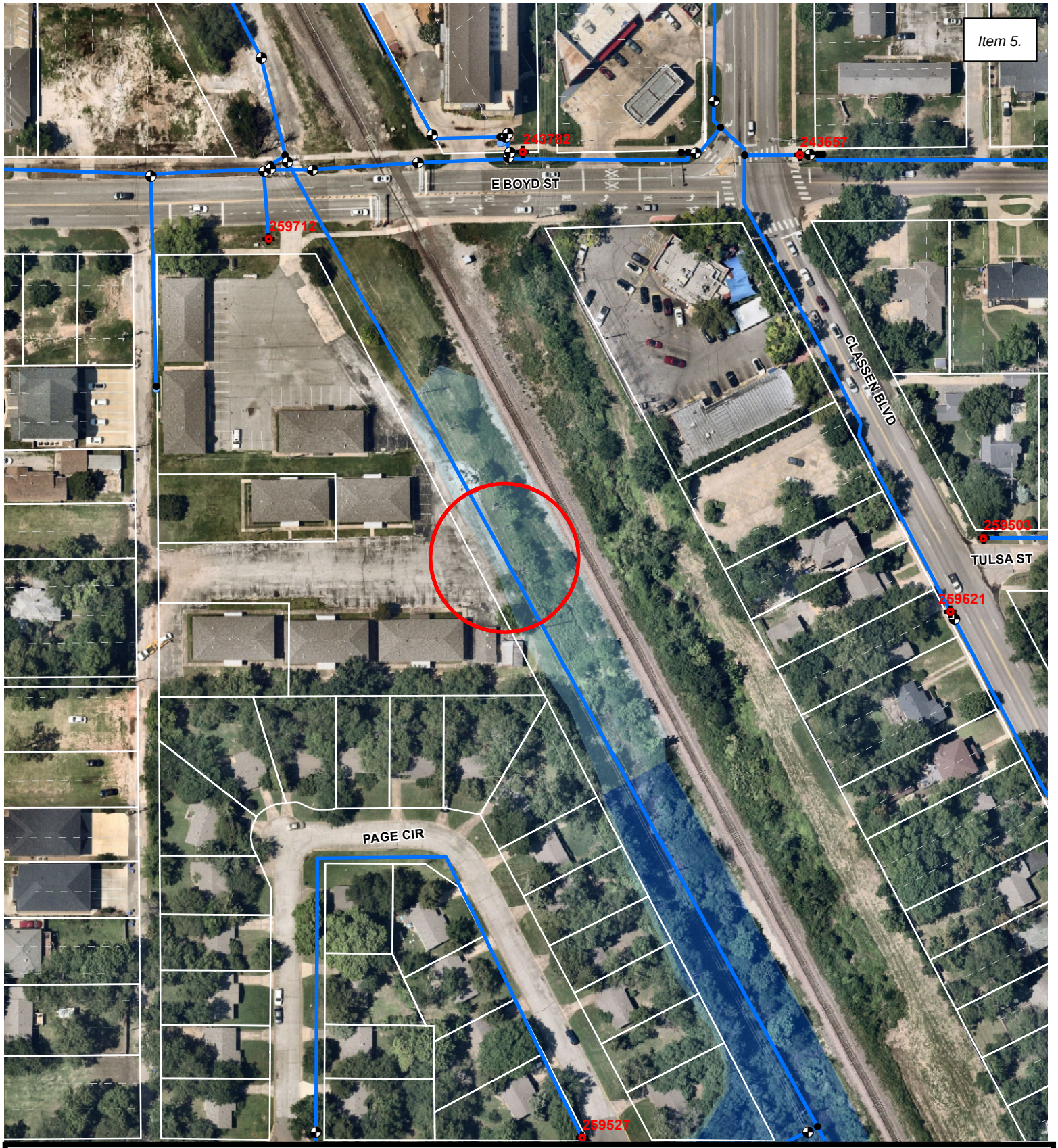
The extent of work within the floodplain will be limited to the installation of waterlines underground, the installation of valve boxes at the existing grade. The installation of the waterline shown in the attached will not cause rise to the existing flood plain elevations.

_____
Name

06/13/2025
_____
Date



(Seal)



310 E. Boyd Street

Legend

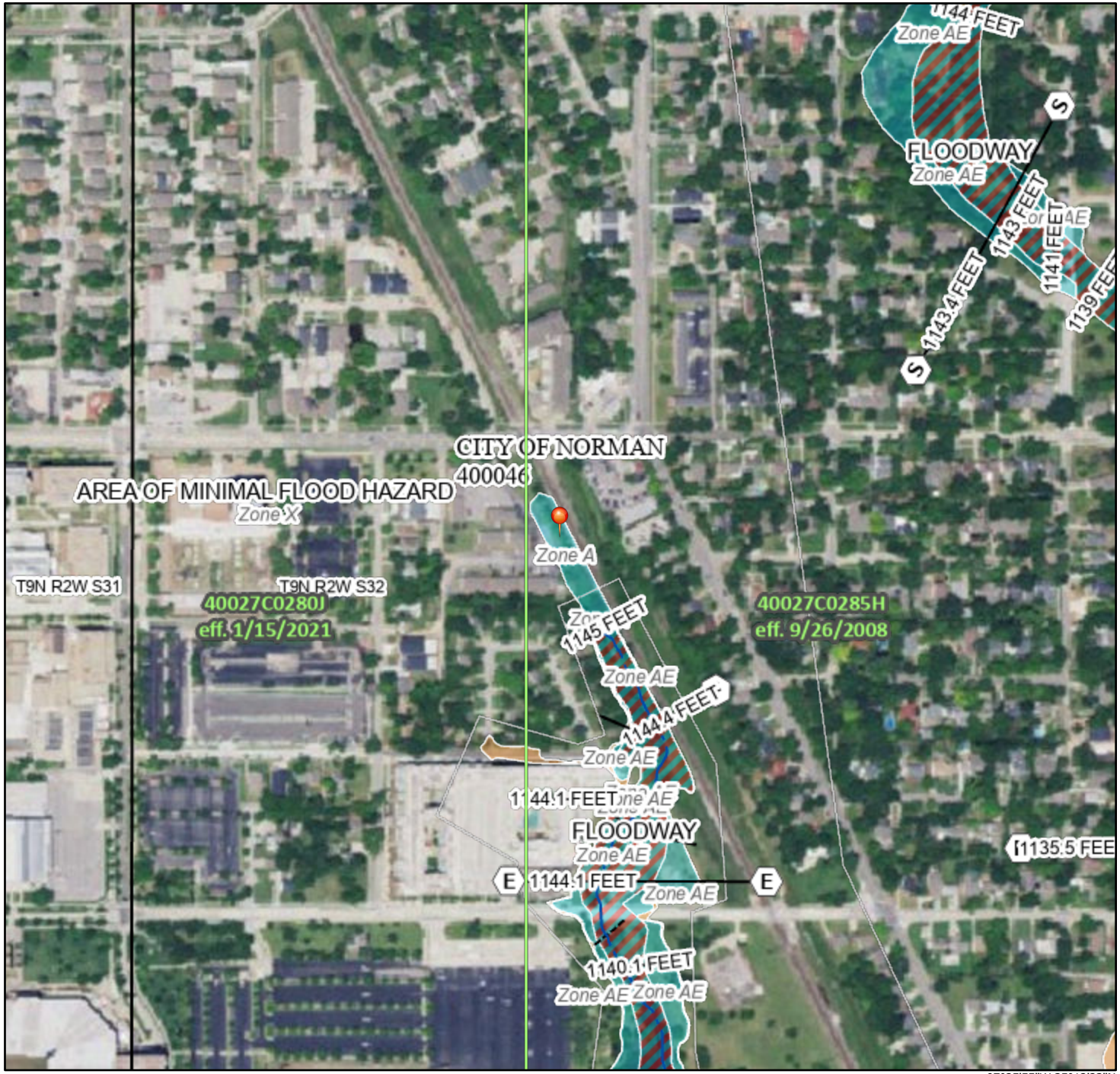
- BFE 2021
- 1% Chance Floodplain
- Floodway
- Lot Line
- Parcel

National Flood Hazard Layer FIRMette

FEMA

Item 5.

97°26'33"W 35°12'52"N



97°25'55"W 35°12'23"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR F UT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/26/2025 at 8:07 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id FIRM panel number, and FIRM effective date. Map i unmapped and unmodernized areas cannot be use regulatory purposes.

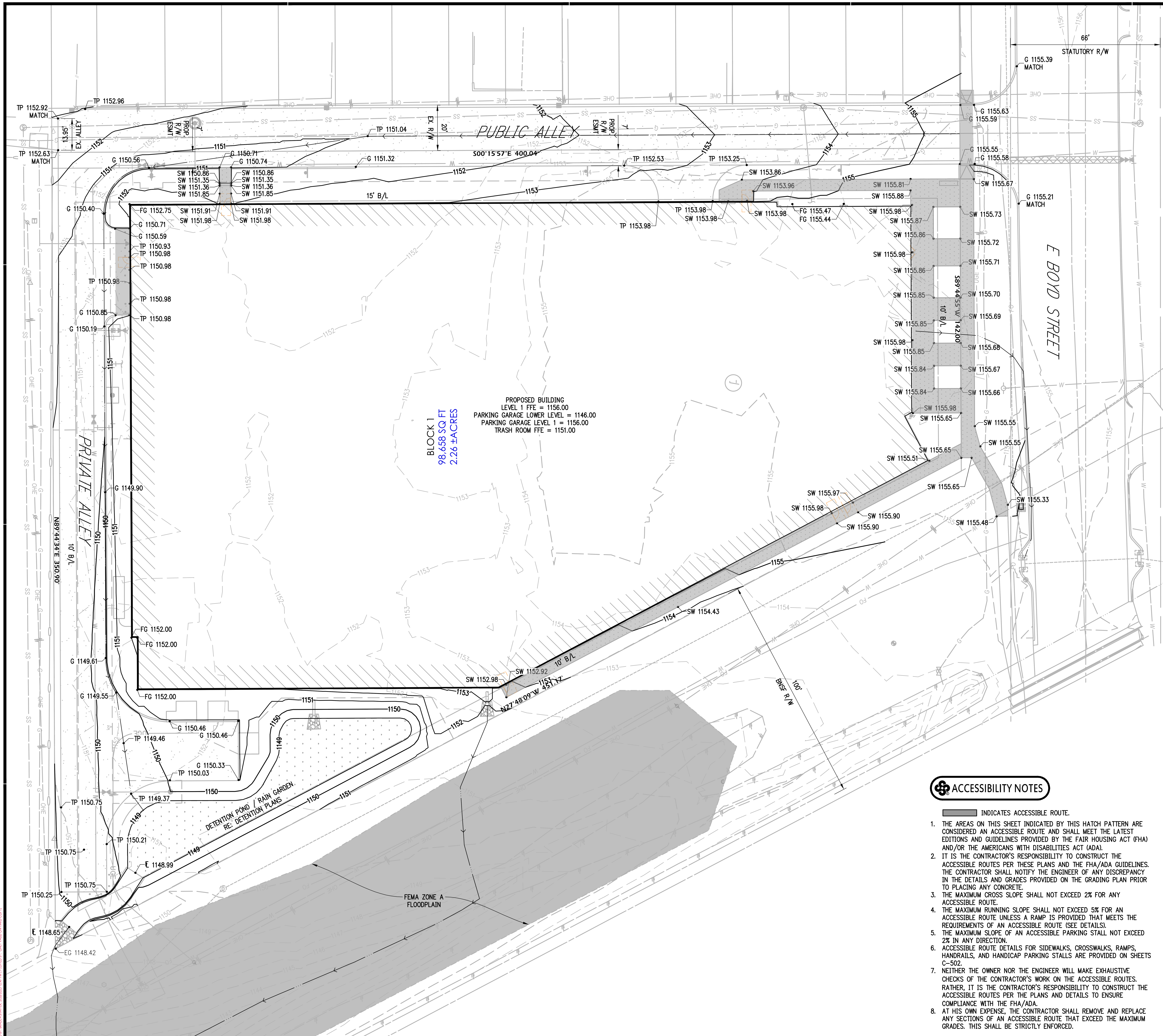
300 Pointe Parkway Blvd.
Yukon, Oklahoma 73099

Crafton Tull
architecture | engineering | surveying

405.787.6270 t 405.787.6276 f
www.craftontull.com

CERTIFICATE OF AUTHORIZATION:
CA 973 (PE/LS) EXPIRES 6/30/2026

OKIE 811



GRADING AND DRAINAGE NOTES

1. THE DESIGN, INSPECTION, AND CERTIFICATION OF ANY RETAINING WALL SHOWN OR REFERENCED HEREIN, INCLUDING BUT NOT LIMITED TO, SEGMENTAL RETAINING WALLS, MASS GRAVITY WALLS, GABION WALLS, ETC., SHALL BE BY OTHERS. ANY RETAINING WALL DATA SHOWN OR REFERENCED HEREIN SHALL BE FOR COORDINATION OF THE WALL LOCATION AND ELEVATIONS ONLY.
2. THE OWNER/CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING AND PROVIDING SEPARATE AND INDEPENDENT RETAINING WALL DESIGNS, INSPECTIONS, AND CERTIFICATIONS BY A REGISTERED PROFESSIONAL ENGINEER OTHER THAN CRAFTON TULL. THIS SHALL ALSO APPLY TO ANY ASSOCIATED AND NECESSARY PUBLIC SAFETY DEVICES INCLUDING, BUT NOT LIMITED TO, PEDESTRIAN SAFETY RAILS.
3. THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF EXISTING UTILITIES ON SITE OR IN RIGHT-OF-WAY. ALL UTILITIES MUST BE LOCATED PRIOR TO GRADING START.
4. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS, GEO-TECHNICAL REPORT, OR LOCAL JURISDICTION, WHICHEVER IS MORE RESTRICTIVE..
5. ALL CUT OR FILL SLOPES SHALL BE A MAX 3:1 SLOPE OR FLATTER UNLESS OTHERWISE NOTED.
6. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
7. ALL STORM SEWER PIPE CONNECTIONS TO STRUCTURES SHALL BE GROUTED TO ENSURE CONNECTION AT STRUCTURE IS WATERTIGHT. ALL STORM SEWER STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
8. ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC (H20) LOADING AND BE INSTALLED ACCORDINGLY WHEN IN PAVED AND TRAFFIC AREAS.
9. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH THE PAVEMENT AND SHALL HAVE TRAFFIC BEARING RINGS AND COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 3" ABOVE FINISH GRADE. LIDS SHALL BE LABELED PER JURISDICTIONAL SPECIFICATIONS.
10. SITE GRADING SHALL NOT PROCEED UNTIL APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED. THE CONTRACTOR SHALL ADHERE TO ALL TERMS AND CONDITIONS AS OUTLINED IN THE GENERAL NPDES PERMIT AND THE SWPPP FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
11. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL TO FINAL GRADE. REFER TO THE LANDSCAPE PLAN.
12. TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY BY LAND SURVEYORS. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON PLANS, CONTACT ENGINEER IMMEDIATELY.
13. THE CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS THROUGHOUT ALL PHASES OF CONSTRUCTION.
14. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS.
15. THE EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH ARCHITECTURAL BUILDING PLANS, GEO-TECHNICAL REPORT AND SPECIFICATIONS.
16. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
17. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ENSURE A SMOOTH FIT AND CONTINUOUS GRADE.
18. CONTRACTOR SHALL MAINTAIN ALL EXISTING PARKING, SIDEWALKS, DRIVES, ETC. CLEAR AND FREE FROM ANY CONSTRUCTION ACTIVITY AND/OR MATERIAL TO ENSURE EASY AND SAFE PEDESTRIAN AND VEHICULAR TRAFFIC TO AND FROM THE SITE.
19. IF WET AREAS ARE ENCOUNTERED ON-SITE THE CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER FOR THE DESIGN AND PLACEMENT OF A FRENCH DRAIN SYSTEM.
20. CRAFTON, TULL & ASSOCIATES, INC. (CTA) HAS NOT NECESSARILY ESTABLISHED MINIMUM FINISH FLOOR ELEVATIONS FOR EACH INDIVIDUAL BUILDING OR LOT IN THIS SUBDIVISION. WHEN A MINIMUM BUILDING FLOOR ELEVATION IS NOT ESTABLISHED AND NOTED, THE ULTIMATE RESPONSIBILITY FOR THE PROPER GRADING OF EACH INDIVIDUAL LOT OR PARCEL SHALL REST WITH THE LOT'S OWNER. TYPICALLY, THE MINIMUM FINISH FIRST FLOOR ELEVATIONS SHOULD BE AT LEAST TWELVE INCHES (12") ABOVE THE FINISHED TOP OF STREET CURB ELEVATION ASSOCIATED WITH EACH INDIVIDUAL LOT OR PARCEL OR AS REQUIRED BY LOCAL AND STATE CODES.

GRADING PLAN SPOT ELEVATIONS

FG	FINISHED GRADE
TC	TOP CURB
G	GUTTER
SW	SIDEWALK
TP	TOP PAVEMENT
FF	FINISHED FLOOR
℄	FLOWLINE

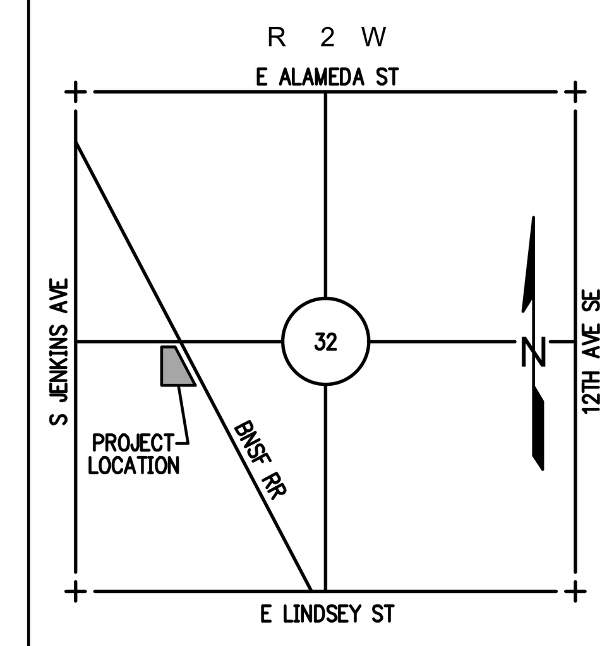
ACCESSIBILITY NOTES

INDICATES ACCESSIBLE ROUTE.

1. THE AREAS ON THIS SHEET INDICATED BY THIS HATCH PATTERN ARE CONSIDERED AN ACCESSIBLE ROUTE AND SHALL MEET THE LATEST EDITIONS AND GUIDELINES PROVIDED BY THE FAIR HOUSING ACT (FHA) AND/OR THE AMERICANS WITH DISABILITIES ACT (ADA).
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONSTRUCT THE ACCESSIBLE ROUTES PER THESE PLANS AND THE FHA/ADA GUIDELINES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY IN THE DETAILS AND GRADES PROVIDED ON THE GRADING PLAN PRIOR TO PLACING ANY CONCRETE.
3. THE MAXIMUM CROSS SLOPE SHALL NOT EXCEED 2% FOR ANY ACCESSIBLE ROUTE.
4. THE MAXIMUM RUNNING SLOPE SHALL NOT EXCEED 5% FOR AN ACCESSIBLE ROUTE UNLESS A RAMP IS PROVIDED THAT MEETS THE REQUIREMENTS OF AN ACCESSIBLE ROUTE (SEE DETAILS).
5. THE MAXIMUM SLOPE OF AN ACCESSIBLE PARKING STALL NOT EXCEED 2% IN ANY DIRECTION.
6. ACCESSIBLE ROUTE DETAILS FOR SIDEWALKS, CROSSWALKS, RAMPS, HANDRAILS, AND HANDICAP PARKING STALLS ARE PROVIDED ON SHEETS C-502.
7. NEITHER THE OWNER NOR THE ENGINEER WILL MAKE EXHAUSTIVE CHECKS OF THE CONTRACTOR'S WORK ON THE ACCESSIBLE ROUTES. RATHER, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONSTRUCT THE ACCESSIBLE ROUTES PER THE PLANS AND DETAILS TO ENSURE COMPLIANCE WITH THE FHA/ADA.
8. AT HIS OWN EXPENSE, THE CONTRACTOR SHALL REMOVE AND REPLACE ANY SECTIONS OF AN ACCESSIBLE ROUTE THAT EXCEED THE MAXIMUM GRADES. THIS SHALL BE STRICTLY ENFORCED.

LEGEND

1250	EXISTING INDEX CONTOURS
1247	EXISTING INTERMEDIATE CONTOURS
1206	PROPOSED INTERMEDIATE CONTOUR
1205	PROPOSED INDEX CONTOUR
→	FLOWPATH



LOCATION MAP
SCALE: 1" = 2000'

GRAPHIC SCALE IN FEET
20' 0 20'

310 E BOYD
RESIDENTIAL
NORMAN, OKLAHOMA

No.	Description	Date

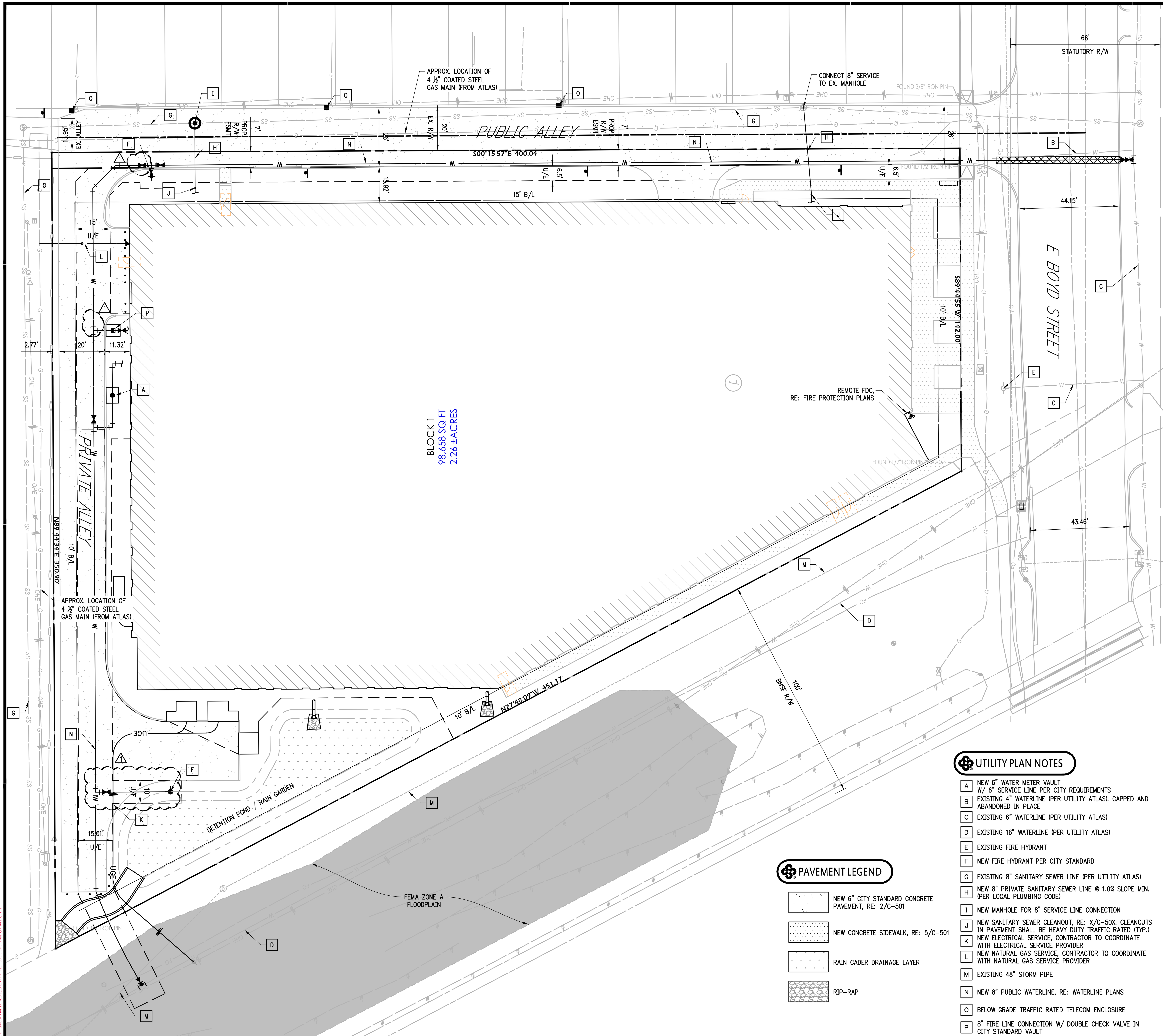
PROJECT NO: 24605101
ISSUE DATE: 05/30/2025
CONTACT: B. SHAFFER
QC by: M. LOVE
QC Date: 03/10/2025

ISSUED FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
Braden Shaffer
34409
05.30.2025
OKLAHOMA

GRADING PLAN

CG-101



UTILITY NOTES

1. THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF EXISTING UTILITIES WITHIN THE WORK ZONE.
2. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES' INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING FACILITIES. CONTRACTOR SHALL COORDINATE AND SCHEDULE TIE-INS/CONNECTIONS WITH ALL UTILITY COMPANIES.
3. ALL UNDERGROUND LINES SHALL BE INSTALLED, INSPECTED, AND APPROVED PRIOR TO BACKFILLING.
4. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICE.
5. GENERAL CONTRACTOR IS TO COORDINATE WITH APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION, ADJUSTMENT, OR RELOCATION OF EXISTING UTILITIES.
6. CONTRACTOR SHALL PROVIDE TEMPORARY OR PERMANENT CUT AND REPAIR OF PAVEMENT FOR UTILITY SERVICE CONNECTIONS MADE UNDER PUBLIC PAVEMENT BASED ON PROJECT SCHEDULING OF UTILITY INSTALLATION AND PAVEMENT REMOVAL AND REPLACEMENT.
7. MECHANICAL JOINTS SHALL BE PROVIDED AT ALL BENDS, TEES, AND FIRE HYDRANTS.
8. DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
9. MINIMUM HORIZONTAL SEPARATION BETWEEN WATERLINES AND SANITARY/STORM SEWERS SHALL BE AT LEAST TEN FEET. WHERE WATERLINES CROSS SANITARY SEWERS THE WATERLINE SHALL BE PLACED ABOVE THE SEWER WITH A MINIMUM VERTICAL SEPARATION, OUTSIDE-TO-OUTSIDE, OF 24". IF IT IS NOT POSSIBLE TO CONFORM TO THESE DIMENSIONS OR DEFINED PLACEMENT, THE WATERLINE SHALL BE ENCASED IN WATERTIGHT PIPE WITH SEALED WATERTIGHT ENDS EXTENDING AT LEAST TEN FEET EITHER SIDE OF THE CROSSING.
10. THE CONTRACTOR SHALL INCLUDE IN THE BID PRICE ALL MATERIAL AND LABOR ASSOCIATED WITH THE TESTING OF THE WATER AND SEWER LINES REQUIRED BY THE LOCAL AND/OR STATE AGENCIES.
11. TOPS OF EXISTING MANHOLES SHALL BE RAISED AS NECESSARY TO BE FLUSH WITH FINISHED PAVEMENT ELEVATIONS, AND MANHOLES IN UNPAVED AREAS TO BE 3" ABOVE FINISHED GROUND ELEVATIONS WITH WATER TIGHT LIDS.
12. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL REGULATIONS.
13. REFER TO BUILDING PLANS FOR SITE LIGHTING AND ELECTRICAL PLAN.
14. ALL MATERIALS, CONSTRUCTION, AND INSPECTION FOR WATER AND SANITARY SEWER LINES SHALL BE PER THE SPECIFICATIONS OF THE CITY OF NORMAN AND THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ).
15. THE CONTRACTOR SHALL COORDINATE WITH THE FIRE DEPARTMENT AND THE WATER COMPANY TO PLAN THE IMPROVEMENTS TO THE WATER MAINS AND TO ENSURE ADEQUATE FIRE PROTECTION IS CONSTANTLY AVAILABLE TO THE SITE THROUGHOUT THE PROJECT. CONTRACTOR WILL BE RESPONSIBLE FOR ARRANGING ANY REQUIRED WATER MAIN SHUT-OFFS WITH THE WATER COMPANY DURING CONSTRUCTION. ALL COSTS ASSOCIATED WITH WATERMAIN SHUT-OFFS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR; NO ADDITIONAL COMPENSATION WILL BE PROVIDED.
16. DAMAGE TO ALL EXISTING FACILITIES DESIGNATED TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
17. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS, AND EXACT UTILITY ENTRANCE LOCATIONS.
18. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TAP AND TIE ON FEES REQUIRED AS WELL AS COSTS OF UNDERGROUND SERVICE CONNECTIONS TO THE BUILDING.
19. GENERAL CONTRACTOR SHALL PROVIDE ALL CONDUITS AS SHOWN ON THE PLANS, VERIFY LOCATION OF UTILITY TIE-INS, AND PROVIDE NYLON PULL CORDS INSIDE THE CONDUIT.
20. THE CONTRACTOR SHALL INCLUDE IN BID PRICE THE DAILY RECORD KEEPING OF THE RECORD CONDITION OF ALL OF THE UNDERGROUND UTILITIES, CONSTRUCTION STAKE-OUT, PREPARATION OF THE NECESSARY/REQUIRED WATER AND SEWER RECORD DRAWINGS TO BE SUBMITTED, AND ALL OTHER INFORMATION REQUIRED FOR OBTAINING PERMITS AND RELEASE OF BONDS.
21. <u>63 OKLAHOMA STATUTE ANNOTATED 63§981: ACTIVITY WITHIN SIX FEET OF HIGH VOLTAGE OVERHEAD LINE OR CONDUCTOR PROHIBITED:</u> NO PERSON, FIRM, CORPORATION OR ASSOCIATION SHALL, INDIVIDUALLY OR THROUGH AN AGENT OR EMPLOYEE AND NO PERSON AS AN AGENT OR EMPLOYEE OF ANY PERSON, FIRM, CORPORATION OR ASSOCIATION, SHALL PERFORM OR PERMIT ANY AGENT OR EMPLOYEE TO PERFORM ANY FUNCTION OR ACTIVITY UPON ANY LAND, BUILDING, HIGHWAY, OR OTHER PREMISES, WHEN IT IS POSSIBLE DURING THE PERFORMANCE OF SUCH ACTIVITY FOR ANY PERSON OR EMPLOYEE ENGAGED IN PERFORMING WORK CONNECTED WITH OR RELATED TO SUCH FUNCTION OR ACTIVITY TO MOVE TO OR TO BE PLACED IN A POSITION WITHIN SIX (6) FEET OF ANY HIGH VOLTAGE OVERHEAD ELECTRICAL LINE OR CONDUCTOR, OR WHEN IT IS POSSIBLE FOR ANY PART OF ANY TOOL, EQUIPMENT, MACHINERY OR MATERIAL TO BE USED BY ANY SUCH PERSON OR EMPLOYEE TO BE BROUGHT WITHIN SIX (6) FEET OF ANY SUCH OVERHEAD HIGH VOLTAGE LINE OR CONDUCTOR THROUGH ANY LATERAL, VERTICAL OR SWINGING MOTION DURING THE PERFORMANCE OF SUCH FUNCTION OR ACTIVITY.
22. ODOT TYPE 'A' AGGREGATE BACKFILL SHALL BE PLACED IN ALL UTILITY TRENCHES UP TO GROUND LEVEL WHERE LINES CROSS UNDER PROPOSED OR EXISTING PAVING.
23. WATER AND SEWER SERVICE LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE PLUMBING CODES AND REGULATIONS.
24. CONTRACTOR SHALL PROVIDE CONDUITS WITH NYLON PULL CORDS FOR ELECTRICAL/TELECOMMUNICATION UTILITIES AND IRRIGATION LINES PRIOR TO SUBGRADE STABILIZATION AND PAVING. REFER TO ARCHITECTURAL AND SITE LIGHTING PLANS FOR UTILITY ROUTING LOCATIONS.
25. CLEANOUTS LOCATED IN PAVED AREAS SHALL BE HEAVY DUTY TRAFFIC RATED.
26. CONTRACTOR SHALL COORDINATE WITH RAILROAD OWNER FOR ALL WORK TO BE PERFORMED WITHIN THE BNSF RAILROAD R/W. CONTRACTOR SHALL COMPLY WITH ALL RAILROAD PERMIT REQUIREMENTS FOR R/W ENCROACHMENT INCLUDING BUT NOT LIMITED TO: NOTIFICATION OF SCHEDULED WORK, FLAGGER REQUIREMENTS AND DOCUMENT SUBMITTAL FOR REVIEW.

UTILITY PLAN NOTES

A	NEW 6" WATER METER VAULT W/ 6" SERVICE LINE PER CITY REQUIREMENTS
B	EXISTING 4" WATERLINE (PER UTILITY ATLAS). CAPPED AND ABANDONED IN PLACE
C	EXISTING 6" WATERLINE (PER UTILITY ATLAS)
D	EXISTING 16" WATERLINE (PER UTILITY ATLAS)
E	EXISTING FIRE HYDRANT
F	NEW FIRE HYDRANT PER CITY STANDARD
G	EXISTING 8" SANITARY SEWER LINE (PER UTILITY ATLAS)
H	NEW 8" PRIVATE SANITARY SEWER LINE @ 1.0% SLOPE MIN. (PER LOCAL PLUMBING CODE)
I	NEW MANHOLE FOR 8" SERVICE LINE CONNECTION
J	NEW SANITARY SEWER CLEANOUT, RE: X/C-50X. CLEANOUTS IN PAVEMENT SHALL BE HEAVY DUTY TRAFFIC RATED (TYP.)
K	NEW ELECTRICAL SERVICE, CONTRACTOR TO COORDINATE WITH ELECTRICAL SERVICE PROVIDER
L	NEW NATURAL GAS SERVICE, CONTRACTOR TO COORDINATE WITH NATURAL GAS SERVICE PROVIDER
M	EXISTING 48" STORM PIPE
N	NEW 8" PUBLIC WATERLINE, RE: WATERLINE PLANS
O	BELOW GRADE TRAFFIC RATED TELECOM ENCLOSURE
P	8" FIRE LINE CONNECTION W/ DOUBLE CHECK VALVE IN CITY STANDARD VAULT

PAVEMENT LEGEND

- NEW 6" CITY STANDARD CONCRETE PAVEMENT, RE: 2/C-501
- NEW CONCRETE SIDEWALK, RE: 5/C-501
- RAIN CADER DRAINAGE LAYER
- RIP-RAP

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CERTIFICATE OF AUTHORIZATION:
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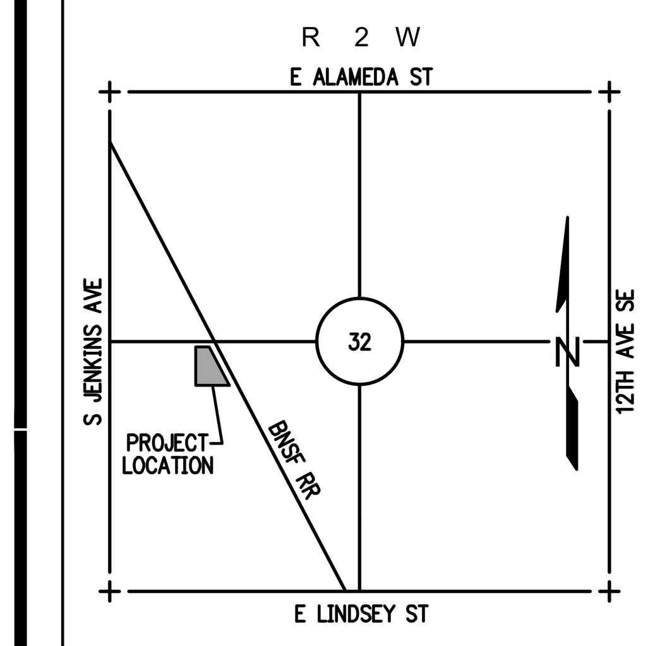
OKIE 811



LOCATION MAP
SCALE: 1" = 2000'

310 E BOYD RESIDENTIAL
NORMAN, OKLAHOMA

GRAPHIC SCALE IN FEET
20' 0 20'

No.	Description	Date
1	Revision #1	05/30/2025

PROJECT NO: 24605101
ISSUE DATE: 05/30/2025
CONTACT: B. SHAFFER
QC by: M. LOVE
QC Date: 03/10/2025

ISSUED FOR CONSTRUCTION

LICENSED PROFESSIONAL ENGINEER
Braden Shaffer
34409
05.30.2025
OKLAHOMA

UTILITY PLAN

CU-101 R1

STAFF REPORT 07/07/2025 **PERMIT No. 722**

ITEM: Floodplain Permit application for the construction of a new house on the property located at 2601 60th Ave. NW in the 10 Mile Flat Creek Floodplain.

BACKGROUND:
APPLICANT: Jared and Kaylee Gray
BUILDER: Stonewall Homes
ENGINEER: Gary Keen P.E.

The applicant owns a 5-acre tract on the east side of 60th Ave. NW approximately 1700 feet north of Rock Creek Road. The proposed construction includes a driveway connecting to 60th Ave. NW, a water well, aerobic septic system, drainage swales on the north and south property lines, and a pond that will be the source of fill material for elevating structures. Flood depths are between 0 and 1 feet throughout the project area.

This proposal includes a driveway connecting to 60th Ave. NW and will have a CGMP arched pipe installed under the approach that is equivalent to an 18" round pipe. Arched is being used to fit the grade of the existing bar ditch and street ROW. The applicant's engineer has indicated that the drive and approach will be built to City standards.

The BFE at this location is 1129.0'. The applicant's engineer has indicated that proposed minimum finished floor elevation will be 1131.3' in order to provide a safety factor in meeting the ordinance requirement of a two feet of freeboard. The applicant's engineer has also indicated that the existing grade of the road may make the public road impassable during periods of flooding, although contours show most of the road to be at or above the BFE.

STAFF ANALYSIS:
Site located in Little River Basin or its Tributaries? yes__ no✓

According to the DFIRM, the house, drive, septic system and water well will be located in the 10 Mile Flat Creek Floodplain Zone AE. The BFE at the planned residential location is approximately 1129.0'.

Applicable Ordinance Sections:		Subject Area:
36-533	(e)2(a) …..……..	Fill Restrictions in the Floodplain
	(e)2(e) ……	Compensatory storage
	(e)2(g) ……	Fill protection
	(e)2(j) ……..……	Utilities constructed to minimize flood damage
	(e)2(k) ……..……	In/exfiltration of flood waters in utility systems
	(e)2(m) ……..……	On-site waste disposal systems
	(e)3(a) & (c) ……..…...	Elevation of Structures
	(f)3(a)8 …….	No Rise Considerations

(e)2(a) and (e)2(e) - Fill Restrictions in the Floodplain and Compensatory Storage – The use of fill in the floodplain is restricted. However, the placement of fill is allowed to elevate structures if compensatory storage is provided.

The applicant's engineer has indicated that the total volume of fill material to construct the drive and house pad is 1941 CY. The proposed pond where fill dirt will be collected from will provide 2133 CY of compensatory storage exceeding the ordinance requirement. The pond will be 4 feet deep which is above the normal summer water table elevation.

(e)2(g) - Fill shall be protected against erosion and sedimentation by such measures as rip-rap, vegetative cover, bulk heading, or sedimentation basins as approved by the City Engineer.

> While not specifically discussed in the application, construction activities will include disturbing more than an acre, requiring a general construction permit from the state as well as an Earth Change Permit from the City. Those permits will require stormwater pollution prevention plan (SWP3) that will include stabilization requirements for the entire construction site.

(e)2(j) and (e)2(k) - All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

> The base flood elevation for this location is 1129.0'. The applicant has indicated that the top of the proposed pad is 1130' with the finished floor elevation being 1131.3'. Additionally, it has been indicated that all electrical and mechanical systems will be installed at a minimum of 1131.0'

(e)2(m) - All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

> The applicant has indicated the location of the proposed aerobic septic system and the proposed water well. All septic systems and water well installations should be installed in accordance to guidelines provided by ODEQ and the OWRB. Permitting through the City of Norman Utilities Department is also required which requires that the top of the well be at least two feet above the BFE.

4(b)(13) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

> Septic systems should be installed according the requirements of the ODEQ.

4(c)1 and 4(c)(3) Elevation of Structures – Residential and non-residential structures shall be constructed on fill including any attendant utility and sanitary facilities, shall be designed so that the lowest floor (including basement) is elevated at least two feet above base flood elevation and the fill shall be at a level no lower than 1 foot above the base flood elevation for the particular area and shall extend at such elevation at least (15) fifteen feet beyond the limits of any structure or building erected thereon.

> The base flood elevation for this location is 1129.0'. The applicant has indicated that the top of the proposed pad is 1130' with the finished floor elevation being 1131.3'. Additionally, it has been indicated that all electrical and mechanical systems will be installed at a minimum of 1131.0'

5(a)(viii) No Rise Considerations – For proposed development within any flood hazard area (except for those designated as regulatory floodways), certification that a rise of no more than 0.05 ft. will occur in the BFE on any adjacent property as a result of the proposed work must be provided. For proposed development within a regulatory floodway, certification of no increase in the BFE is required.

> The engineer has certified that the project will not cause a rise of more than 0.05 feet to the BFE which meets this ordinance requirement.

RECOMMENDATION: Staff recommends that Floodplain Permit Application #722 be approved with the following conditions:

1. Elevation Certificate provided for the residential structure prior to final acceptance. Additionally, elevation of concrete pad for the residential structure should be submitted to and confirmed by City Staff prior to vertical construction.
2. As-built surveys should be provided for the drive and compensatory storage area (pond) prior to final acceptance.

ACTION TAKEN: _____

City of Norman

Floodplain Permit Application

Floodplain Permit No. 722

Building Permit No. _____

Date 7/7/2025

FLOODPLAIN PERMIT APPLICATION
($100.00 Application Fee Required)

SECTION 1: GENERAL PROVISIONS (APPLICANT to read and sign):

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Occupancy is issued.
5. The permit will expire if no work is commenced within 2 years of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements and must be included with this floodplain permit application.
7. Applicant hereby gives consent to the City of Norman or his/her representative to access the property to make reasonable inspections required to verify compliance.
8. The following floodplain modifications require approval by the City Council:
   (a) A modification of the floodplain that results in a change of ten percent (10%) or more in the width of the floodplain.
   (b) The construction of a pond with a water surface area of 5 acres or more.
   (c) Any modifications of the stream banks or flow line within the area that would be regulatory floodway whether or not that channel has a regulatory floodplain, unless the work is being done by the City of Norman staff as part of a routine maintenance activity.
9. All supporting documentation required by this application is required along with the permit fee by the submittal deadline. Late or incomplete applications will not be accepted.
10. I, THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT.)

APPLICANT: Jared & Kaylee Gray ADDRESS: 7351 Pleasant Valley Dr, Norman OK 73072
TELEPHONE: 405-664-5918 SIGNATURE: [signature]

BUILDER: Stonewall Homes Pete Jackson ADDRESS: P.O. Box 6406, Moore OK 73153
TELEPHONE: 405-735-6030 SIGNATURE: [signature]

ENGINEER: EARL GARY KEEN ADDRESS: P.O BOX 891200, OKLA CITY, OK 73189
TELEPHONE: 4058238240 SIGNATURE: [signature]

PROJECT LOCATION

To avoid delay in processing the application, please provide enough information to easily identify the project location. Provide the street address, subdivision addition, lot number or legal description (attach) and, outside urban areas, the distance to the nearest intersecting road or well known landmark. A sketch attached to this application showing the project location would be helpful.

ADDRESS IS 2601 60TH AVENUE NW. LOC. ON EAST SIDE OF 60TH AVE NW AND ABOUT 1700 FEET NORTH OF ROCK CREEK ROAD. PIN SURVEY ATTACHED.

COUNTY PROPERTY INFO ATTACHED. PHOTO ATTACHED.

DESCRIPTION OF WORK (Check all applicable boxes):

A. STRUCTURAL DEVELOPMENT

ACTIVITY	STRUCTURE TYPE
☑ New Structure	☑ Residential (1-4 Family)
☐ Addition	☐ Residential (More than 4 Family)
☐ Alteration	☐ Non-Residential (Flood proofing? ☐ Yes)
☐ Relocation	☐ Combined Use (Residential & Commercial)
☐ Demolition	☐ Manufactured (Mobile) Home
☐ Replacement	☐ In Manufactured Home Park? ☐ Yes

ESTIMATED COST OF PROJECT $ 1,200,000 Work that involves substantial damage/substantial improvement requires detailed cost estimates and an appraisal of the structure that is being improved.

B. OTHER DEVELOPMENT ACTIVITIES:

☑ Fill ☑ Mining ☑ Drilling ☑ Grading

☑ Excavation (Beyond the minimum for Structural Development)

☐ Watercourse Alteration (Including Dredging and Channel Modifications)

☑ Drainage Improvements (Including Culvert Work) ☐ Road, Street or Bridge Construction

☐ Subdivision (New or Expansion) ☑ Individual Water or Sewer System

In addition to items A. and B. provide a complete and detailed description of proposed work (failure to provide this item will be cause for the application to be rejected by staff). Attach additional sheets if necessary.

CONST. DRIVEWAY APPROACH, DRIVEWAY, RESIDENCE, DRAINAGE SWALES, WATER WELL, AEROBIC SEPTIC SYSTEM, BORROW PIT/POND.

OBTAIN FILL DIRT FROM BORROW PIT/POND; PLACE FILL TO ELEVAE PAD FOR RESIDENCE. WILL NOT BRING IN FILL DIRT. SITE PLAN AND ENGR REPORT SUBMITTED.

C. ATTACHMENTS WHICH ARE REQUIRED WITH EVERY APPLICATION:

The applicant must submit the documents listed below before the application can be processed. If the requested document is not relevant to the project scope, please check the Not Applicable box and provide explanation.

A. Plans drawn to scale showing the nature, location, dimensions, and elevation of the lot, existing or proposed structures, fill, storage of materials, flood proofing measures, and the relationship of the above to the location of the channel, floodway, and the regulatory flood-protection elevation.

B. A typical valley cross-section showing the channel of the stream, elevation of land areas adjoining each side of the channel, cross-sectional areas to be occupied by the proposed development, and high-water information.

☑ Not Applicable:
FLOOD PLAIN IS MORE THAT 1/2 MILE WIDE. AND, STREAM MORE THAN 1/2 MILE FROM SITE.

C. Subdivision or other development plans (If the subdivision or other developments exceeds 50 lots or 5 acres, whichever is the lesser, the applicant **must** provide 100-year flood elevations if they are not otherwise available).

☐ Not Applicable:
FIRM PANEL AVAILABLE FROM FEMA. FIRMETTE PROVIDED. GROUND ELEVATIONS PROVIDED FORM CITY GIS AND RECENT TOPO SURVEY.

D. Plans (surface view) showing elevations or contours of the ground; pertinent structure, fill, or storage elevations; size, location, and spatial arrangement of all proposed and existing structures on the site; location and elevations of streets, water supply, sanitary facilities; photographs showing existing land uses and vegetation upstream and downstream, soil types and other pertinent information.

☐ Not Applicable:
SITE PLAN SUBMITTED.

E. A profile showing the slope of the bottom of the channel or flow line of the stream.

☐ Not Applicable:
PROFILE FROM FEMA FIS SUBMITTED. SAME ANNOTATED TO SHOW LOCATION OF PROPERTY ALONG STREAM.

F. Elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures.

☐ Not Applicable:
PROPOSED ELEVATION OF LOWEST FLOR IS 1131.3' NGVD'88.

G. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

☐ Not Applicable:
WILL NOT ALTER STREAM NOR ANY OTHER WATERWAY. PROPOSE DRAINAGE SWALES ON SUBJECT PROPERTY ONLY.

H. For proposed development within any flood hazard area (except for those areas designated as regulatory floodways), certification that a rise of no more than five hundredths of a foot (0.05') will occur on any adjacent property in the base flood elevation as a result of the proposed work. For proposed development within a designated regulatory floodway, certification of no increase in flood levels within the community during the occurrence of the base flood discharge as a result of the proposed work. All certifications shall be signed and sealed by a Registered Professional Engineer licensed to practice in the State of Oklahoma.

I. A certified list of names and addresses of all record property owners within a three hundred fifty (350) foot radius of the exterior boundary of the subject property not to exceed 100 feet laterally from the Special Flood Hazard Area. The radius to be extended by increments of one hundred (100) linear feet until the list of property owners includes not less than fifteen (15) individual property owners of separate parcels or until a maximum radius of one thousand (1,000) feet has been reached.

J. A copy of all other applicable local, state, and federal permits (i.e. U.S. Army Corps of Engineers 404 permit, etc).

After completing SECTION 2, APPLICANT should submit form to Permit Staff for review.

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by Permit Staff.)

The proposed development is located on FIRM Panel No.: 01703, Dated: 1/15/2021

The Proposed Development:

☐ Is NOT located in a Special Flood Hazard Area
(Notify the applicant that the application review is complete and NO FLOODPLAIN PERMIT IS REQUIRED).

☑ Is located in a Special Flood Hazard Area.

☐ The proposed development is located in a floodway.

☑ 100-Year flood elevation at the site is ~1129.0' Ft. NGVD (MSL) ☐ Unavailable

See Section 4 for additional instructions.

SIGNED: _____ **DATE:** 6/30/2025

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by Permit Staff.)

The applicant must also submit the documents checked below before the application can be processed.

☐ Flood proofing protection level (non-residential only) _____ Ft. NGVD (MSL). For flood proofed structures applicant must attach certification from registered engineer.

☐ Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ Certification from a registered engineer that the proposed activity in a regulatory flood plain will result in an increase of no more than 0.05 feet in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ All other applicable federal, state, and local permits have been obtained.

Other: _____

_____

_____

SECTION 5: PERMIT DETERMINATION (To be completed by Floodplain Chairman.)

The proposed activity: (A) ☐ **Is**; (B) ☐ **Is Not** in conformance with provisions of Norman's City Code Chapter 36, Section 533. The permit is issued subject to the conditions attached to and made part of this permit.

SIGNED: _____ DATE: _____

If **BOX A** is checked, the Floodplain committee chairman may issue a Floodplain Permit.

If **BOX B** is checked, the Floodplain committee chairman will provide a written summary of deficiencies. Applicant may revise and resubmit an application to the Floodplain committee or may request a hearing from the Board of Adjustment.

APPEALS: Appealed to Board of Adjustment: ☐ Yes ☐ No

Hearing date: _____

Board of Adjustment Decision - Approved: ☐ Yes ☐ No

Conditions:

_____

_____

_____

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Occupancy is issued.)

1. FEMA Elevation Certificate
   and/or
2. FEMA Floodproofing Certificate

NOTE: The completed certificate will be reviewed by staff for completeness and accuracy. If any deficiencies are found it will be returned to the applicant for revision. A Certificate of Occupancy for the structure will not be issued until an Elevation and /or Floodproofing Certificate has been accepted by the City.

Engineer's Certification
2601 60th Avenue North-West
Norman, Oklahoma

Whereas, the owner of the subject property has applied for a Floodplain Permit covering certain improvements to the property, as described in the Floodplain Permit application, and

Whereas Earl Gary Keen, PE an engineer licensed by the State of Oklahoma to perform certain engineering work in the State of Oklahoma has prepared said Floodplain Permit application and has considerable knowledge regarding the proposed improvements, and

Whereas, Earl Gary Keen, PE hereby certifies that when the construction is performed in accordance with the submitted Floodplain Permit application, that a rise of no more that five hundredths of a foot (0.05 feet) will occur on any adjacent property in the base flood elevation as a result of the proposed work.

Earl Gary Keen, PE 11,438, Exp. 05-31-2026

Earl Gary Keen 06/18/2025

SEAL

Earl Gary Keen, PE
PO Box 891200
Oklahoma City. OK 73159
garykeen47@att.net
(405) 823-8240

June 18, 2025

ENGINEER'S REPORT
2601 60TH AVENUE NW, NORMAN, OK

This tract is located on the north side of 60th Avenue NW, and approximately 1700 feet north of Rock Creek Road.

Grayco Homes LLC, owner of the property, is proposing to develop the subject 5 acre tract (+/-) by constructing a single family residence including a driveway connecting to 60th Avenue North-west, a water well, aerobic individual wastewater disposal system, drainage swales located on the north and south property lines, and a pond that will be source for borrow material needed to fill the floodplain. All of the construction is located in the regulatory floodplain because the existing ground varies from zero to one foot below the base flood elevation established by FEMA.

This property is not located in a regulatory floodplain. According to the NRCS soils map, the soils at the site are sand and/or sandy loam which extends to a depth estimated to be as deep as 16 feet. This location is known to have a relatively shallow floodplain, which has seasonal variations. A similar pond was constructed on a nearby tract, located approximately 1000 feet south of the subject site, and this existing pond has been monitored for approximately one year. This exist pond has a direct connection to the groundwater table. As indicated by the water level in this pond, the groundwater elevation was more than four feet below ground level during the summer season. Consequently, it is proposed to construct a borrow pit/ pond with a depth of four feet. Incidentally, the ground lelevation at the location of the exist pond and the proposed pond as essentially the same.

The builder has specifically stated that none of the fill dirt used on this site will be imported ..

This proposal includes constructing a driveway approach on the right-of-way of 60th Avenue NW to serve this site. A culvert being a CGMP A (arched) that has an equivalent flow characteristic of an 18 " diameter round CGMP is proposed. The arched culvert is proposed because it will fit the existing bar ditch and street right-of-way better due to the reduced height of the arched pipe. The driveway approach will be in accordance with the City's standard detail.

The present use of the tract is pasture land and it was a wheat field in the recent past. This tract is heavily vegetated with grass and weeds, and this tract has essentially no shrubs or trees.

This property is impacted by the floodplain of Ten Mile Flat Creek (TMFC), which is located north and east of this site. At the nearest point, TMFC is more than one-half mile from this site. TMFC has been studied by FEMA, and a FEMA firmette is presented to show the details of this study. The BFE at this location is 1129,0 feet, and the proposed minimum finished floor of the residence is 1131.3 feet, with 0.3 feet being added as a safety factor to account for possible construction deviations.

An exhibit showing ground contours is submitted to show information available on the Norman GIS

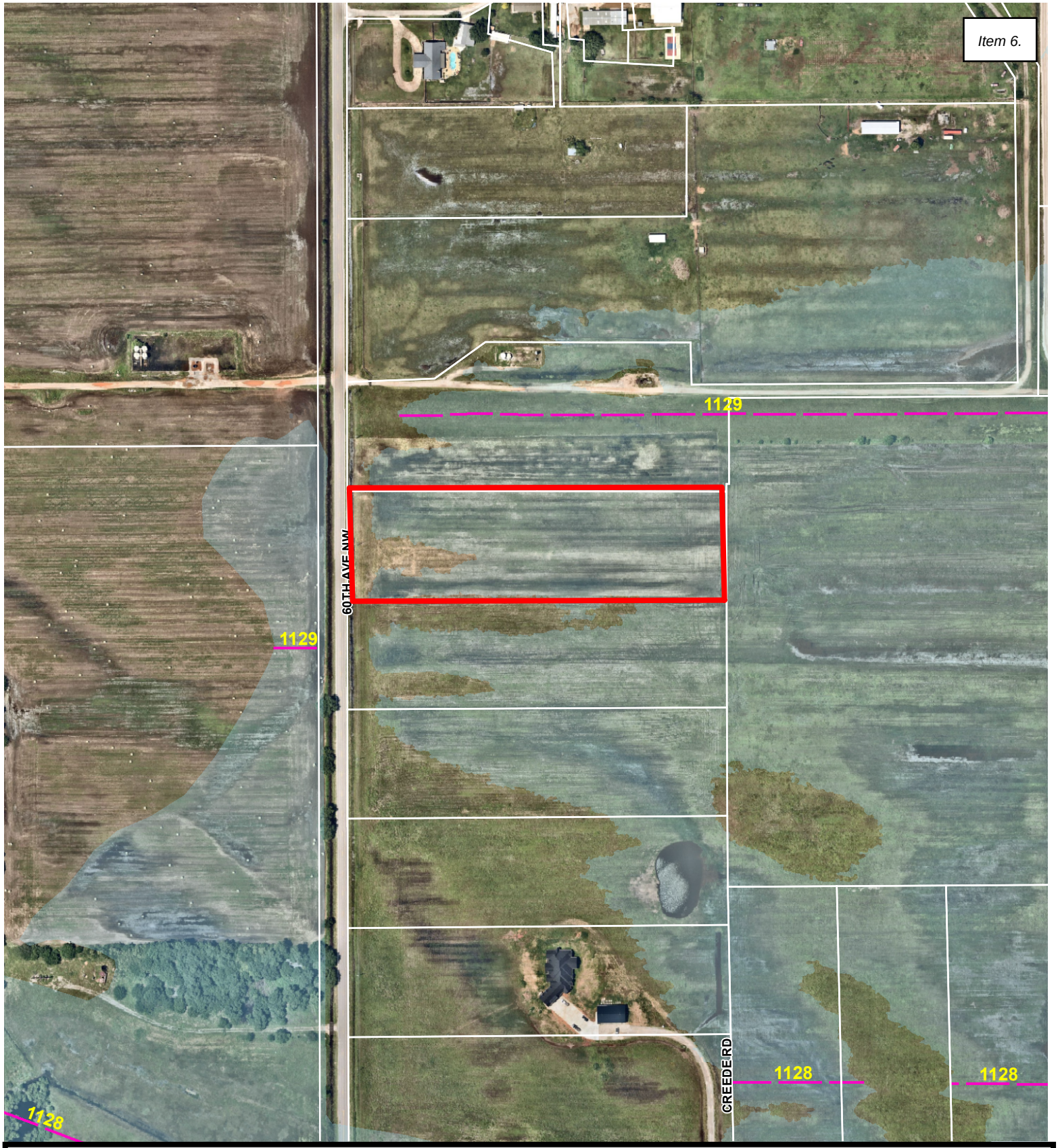
system, and a topographic survey has been commissioned and the survey results are submitted. The existing topographic survey is in close agreement with the contours obtained from the City's GIS.

The receiving stream will not be disturbed in any way, and the proposed construction will not impact any other properties within the community. This tract is known to be relatively flat with drainage being to the east by overland flow. Due to the flattish terrain, thick vegetation, and the absence of any nearby drainage ways, this area is known to be rather swampy immediately after periods of heavy rainfall. On the afore-mentioned nearby tract, the elevated portions of that lots have been observed to be relatively dry shortly after periods of rainfall, and it is anticipated that elevated portions of this tract will be as well. However, portions of this tract that remain at historic elevations can be expected to be slow to drain and dry-out. At time, this wet condition can create inconveniences, but the proposed structures are expected to be safe from flooding as indicated by FEMA studies/ reports and the City of Norman regulations. It is possible that public streets serving this property might be temporarily impassible by ordinary vehicles at infrequent times due to flooding.

Earl Gary Keen, PE 11,438, Exp. 05-31-2026

Earl Gary Keen 06/18/2025

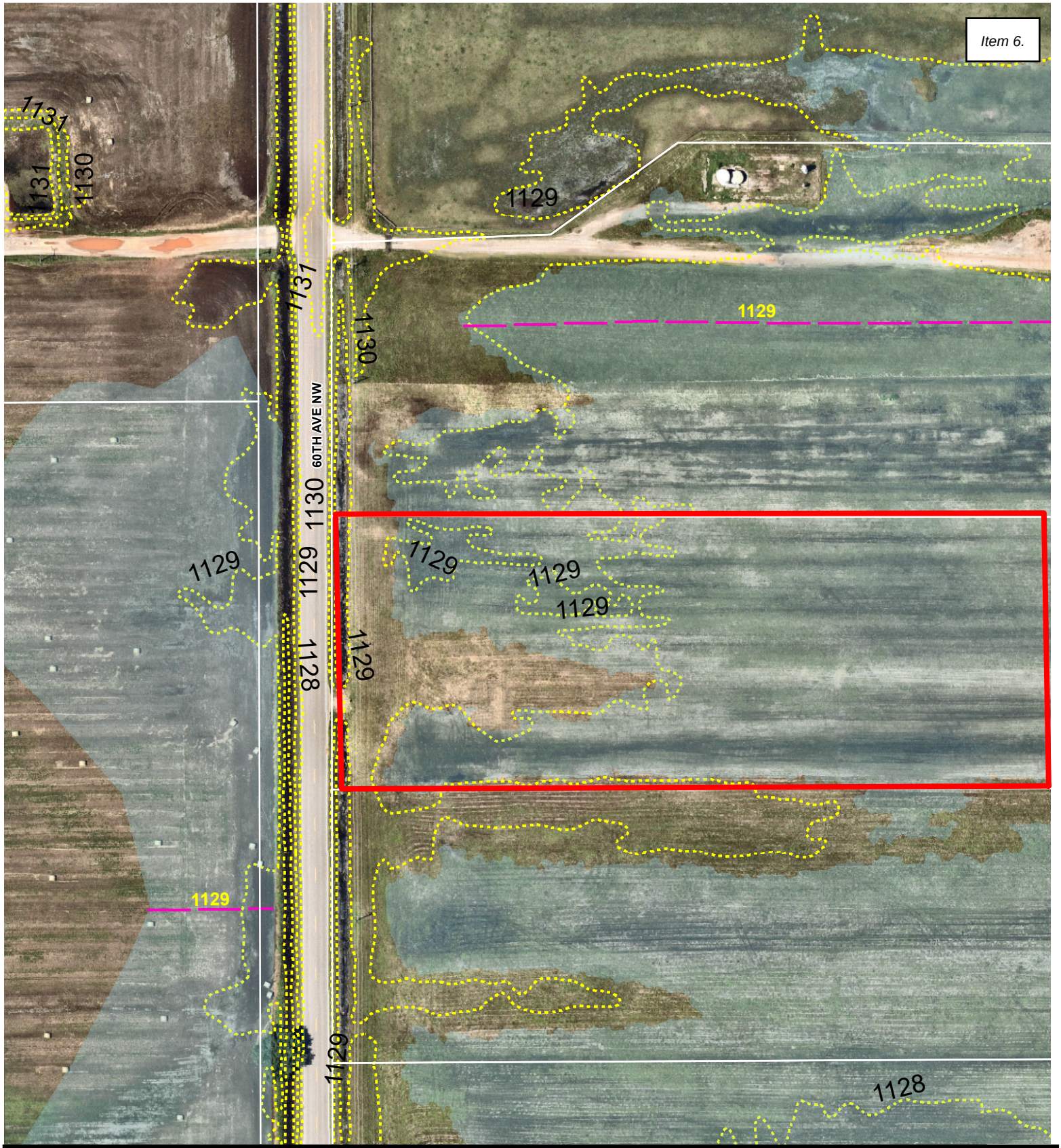
SEAL



2601 60th Ave NW

Legend

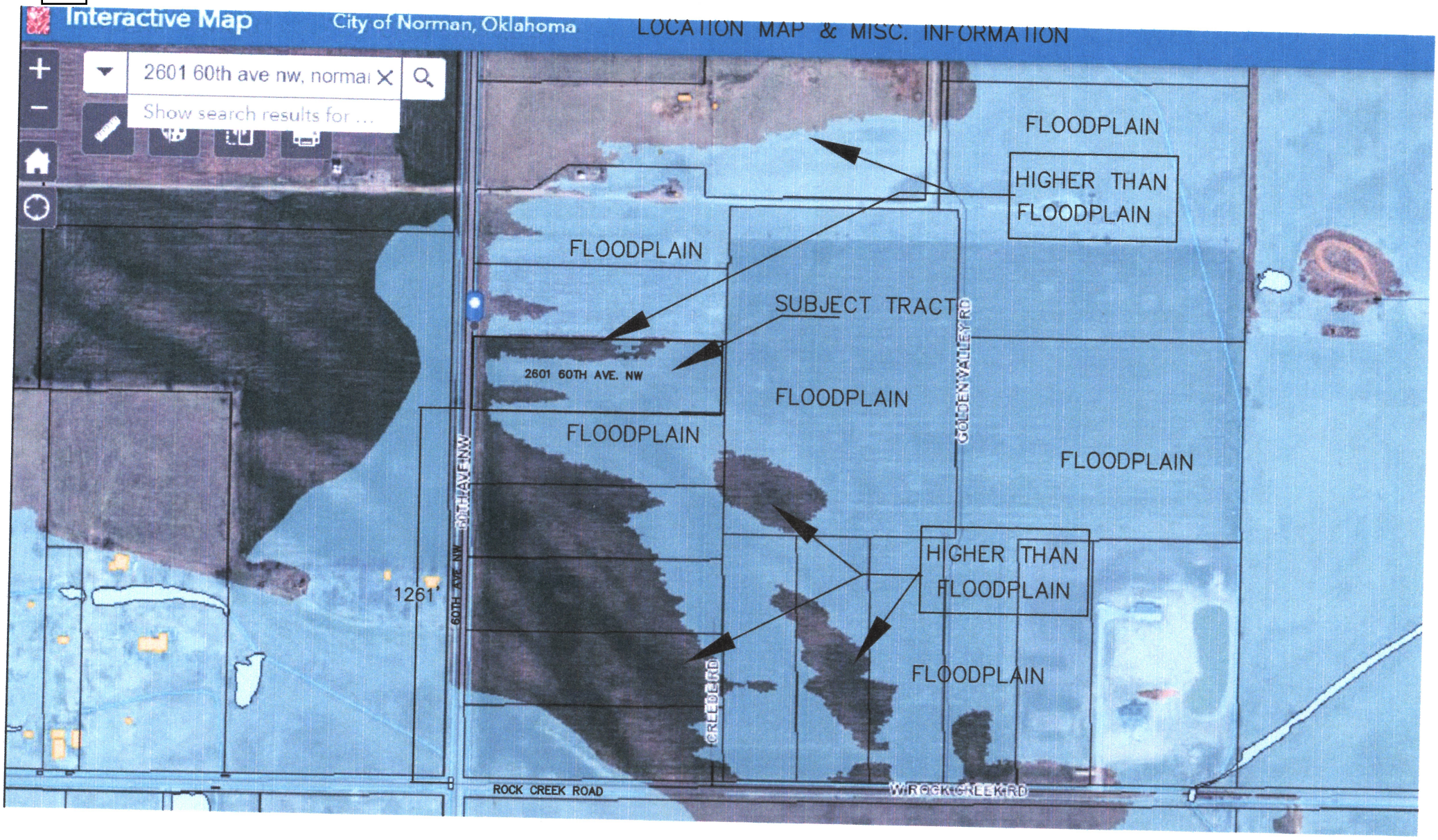
- BFE 2021
- 1% Chance Floodplain
- Floodway
- Lot Line
- Parcel



2601 60th Ave NW

Legend

- BFE 2021
- 1% Chance Floodplain
- Floodway
- Contours2023
- Lot Line
- Parcel


Interactive Map
City of Norman, Oklahoma
LOCATION MAP & MISC. INFORMATION
2601 60th ave nw, norma
Show search results for ...
FLOODPLAIN
HIGHER THAN FLOODPLAIN
FLOODPLAIN
SUBJECT TRACT
2601 60TH AVE. NW
FLOODPLAIN
FLOODPLAIN
FLOODPLAIN
HIGHER THAN FLOODPLAIN
FLOODPLAIN
1261'
60TH AVE NW
GOLDEN VALLEY RD
CREEDER RD
ROCK CREEK ROAD
W ROCK CREEK RD

2601
60TH AVE NW

Cleveland County Oklahoma Assessor's Office

Cleveland County Oklahoma Assessor's Office

Account #: 23443 / Parcel ID: NC29 9 3W 16020
2601 60TH AVE NW

CURRENT GRAYCO HOMES LLC
7351 Pleasant Valley DR
Norman OK 73072-1520

KEY INFORMATION

Tax Year	**2025**		
Land Size	**5.00000**	Land Units	**AC**
Class	**Rural Agricu**	School District	**NORMAN CITY 29**
Section	**16**	Township	**9**
Range	**3W**	Account Type	**Agricultural**
Legal Description	**16-9-3W 5 AC PRT SW/4 BEG 1261.50' N SW/C N252.30' E863.26' S252.30' W863.26' POB**		
Mailing Address	**GRAYCO HOMES LLC, 7351 Pleasant Valley DR, Norman, 73072-1520, 73072-1520**		

ASSESSMENT DETAILS

Land Value	**$1,594**
Improvement Value	**$0**
Market Value	**$1,594**
Taxable Value	**$1,594**
Gross Assessed Value	**$191**
Exemptions	**$0**
Net Assessed Value	**$191**
View Taxes for R0023443	

RESIDENTIAL

RESIDENTIAL BUILDING (1)

Type		Description	-	Quality	
Stories	-	Condition	**Average**	Year Built	
Interior	-	Exterior Walls		Full Baths	**0**
Additional Full Bath	**0**	Half Baths	**0**	Three Quarter Baths	**0**
Total Bathrooms	**0.00**	Roof Type	-	Bedrooms	-
Roof Cover		Foundation	-	Floor Cover	-
Cooling			Total Finished Area	-	

SALES

SALE DATE	SALE PRICE	DEED BOOK	DEED PAGE	GRANTOR	GRANTEE
10/10/2023	$195,000	6596	684	LOGAN WRIGHT FOUNDATION	GRAYCO HOMES LLC
11/25/1996	$0	4926	479	WRIGHT, BROOKS	LOGAN WRIGHT FOUNDAT
09/13/1996	$0	2765	249	SELLER	BUYER

LAND

UNIT CODE	DESCRIPTION	USE CODE	ACRES / LOTS	U
C40	C40	NATIVE PASTURE	1.00000	$
C90	C90	NATIVE PASTURE	4.00000	$

National Flood Hazard Layer FIRMette

FEMA

97°32'5"W 35°15'20"N

97°31'28"W 35°14'51"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

Item 6.

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR F UT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

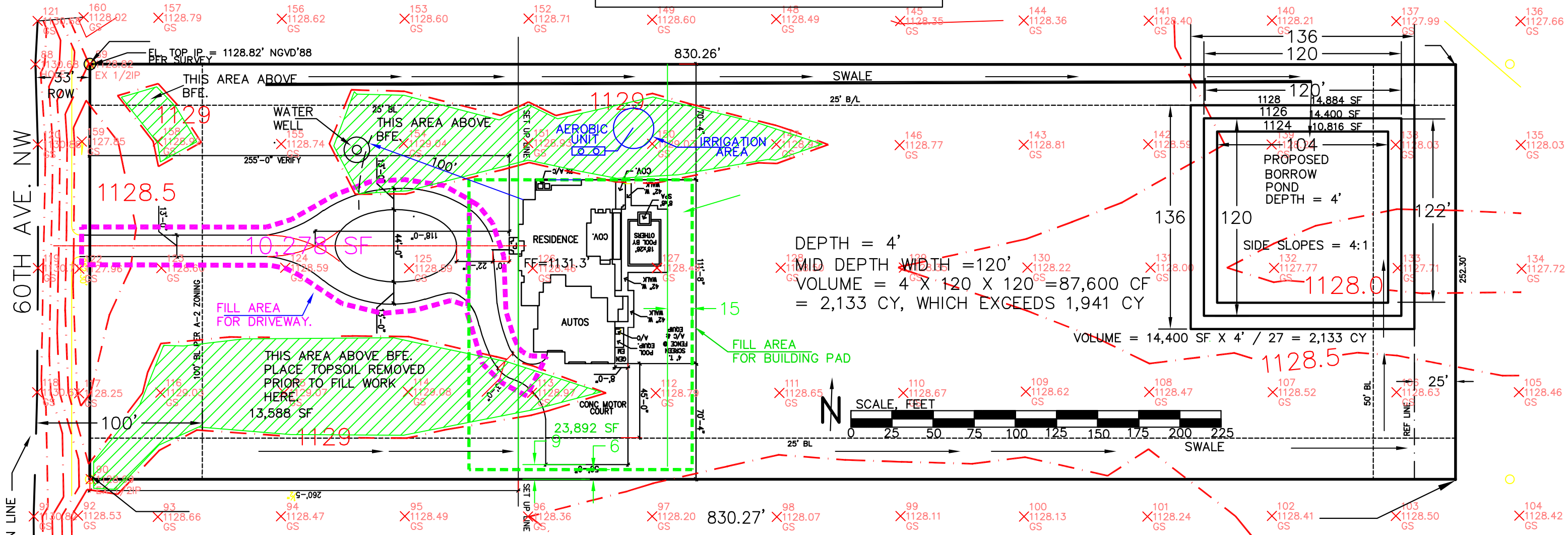
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/26/2025 at 9:38 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id FIRM panel number, and FIRM effective date. Map i unmapped and unmodernized areas cannot be use regulatory purposes.

DEVELOPMENT SITE PLAN
2601 60TH AVENUE NW



AREA–A: DRIVEWAY
AREA = 10,278 SF: BFE = 1129.0'; EXIST MIN. GROUND EL = 1128.59'
PROPOSED TOP OF DRIVEWAY PAVING ELEV = 1129.0'
VERTICAL NET FILL IN FLOOD PLAIN STORAGE VOLUME = 0.41'
REMOVE 0.33' OF SOD; REPLACE SAME WITH FILL DIRT; GROSS FILL DIRT = 0.74'
GROSS VOLUME FILL = (0.41 + 0.33) X 10,278 = 0.74 X 10,278 = 7606 CF = 282 CY
VOLUME OF BORROW POND FOR THIS AREA = 282 CY

HEIGHT OF FILL (CONCRETE) ABOVE BFE = 0.5'

AREA–B: BUILDING
AREA = 23,892 SF
MINIMUM EXIST. GROUND ELEV. IN PAD AREA = 1128.46'; BFE= 1129.0'
PROPOSED TOP OF PAD ELEV = 1130.0'
VERTICAL FILL IN ORIGINAL FLOOD PLAIN STORAGE VOLUME = 0.54'
REMOVE 0.33' SOD AND REPLACE WITH FILL SOIL FROM POND, TOTAL FILL IN FP = 0.87'
TOTAL VOLUME OF FILL IN FP STORAGE = 0.87 X 23,892 = 20,876 CF = 774 CY
DEPTH OF FILL DIRT ABOVE BFE = 1.0 FT
VOLUME OF FILL DIRT ABOVE BFE = 1.0X 23892 SF = 23,892 CF = 885 CY
TOTAL VOLUME REQUIRED FROM THE BORROW POND FOR AREA B = 1,659 CY
PROPOSED FINISHED FLOOR ELEVATION = 1131.3'
NOTE: TOP SOIL CONTAINING GRASS ROOTS WILL BE REMOVED FROM THE FLOODPLAIN IN CONSTRUCTION AREAS, AND THIS MATERIAL WILL EVENTUALLY BE PLACED ON THIS SITE IN AREAS THAT ARE NATURALLY ABOVE THE BFE AND/OR IN AREAS THAT HAVE BEEN ELEVATED ABOVE THE BFE IN ACCORDANCE WITH THIS PLAN.
TOTAL VOLUME FILL DIRT REQUIRED FROM BORROW POND FOR AREAS 'A' AND 'B' =
282 CY + 1659 CY = 1,941 CY

CALCULATION OF NET FILL TO BE PLACED IN THE FLOODPLAIN:
TOTAL VOLUME OF FILL DIRT IN THE FLOOD POOL = 1,056 CY
TOTAL VOLUME OF FILL DIRT PLACE, INCLUDING FILL PLACED ABOVE THE BFE = 1,941 CY

A EXCAVATED POND IS PROPOSED TO OBTAIN ALL OF THE SOIL FOR USED IN FILLING FOR THE DRIVEWAY AND FOR THE RESIDENCE. THE PROPOSED POND IS:

BOTTOM WIDTH = 104' X 104' =8100 SF
DEPTH = 4.0 FEET
TOP WIDTH = 136' X 136' = 18,496 SF
AVERAGE CROSS–SECTION AREA = 120 X 120 = 14,400 SF
FULL VOLUME OF POND = 4' X 14400 SF / 27 =2,133 CY,
WHICH EXCEEDS THE TOTAL VOLUME OF FILL REQUIRED.

ALL OF THE FILL DIRT USED ON THIS SITE WILL COME FROM THE PROPOSED BORROW POND. NO FILL DIRT WILL BE IMPORTED AND PLACED IN THE FLOOD POOL/ FLOOD PLAIN.

NORTH

SITE PLAN

SCALE: 1"= 30'–0"

PART OF THE SW ¼ OF SECTION 16,
T9N, R3W, I.M. 8
NORMAN, CLEVELAND COUNTY, OKLAHOMA

LOT COVERAGE

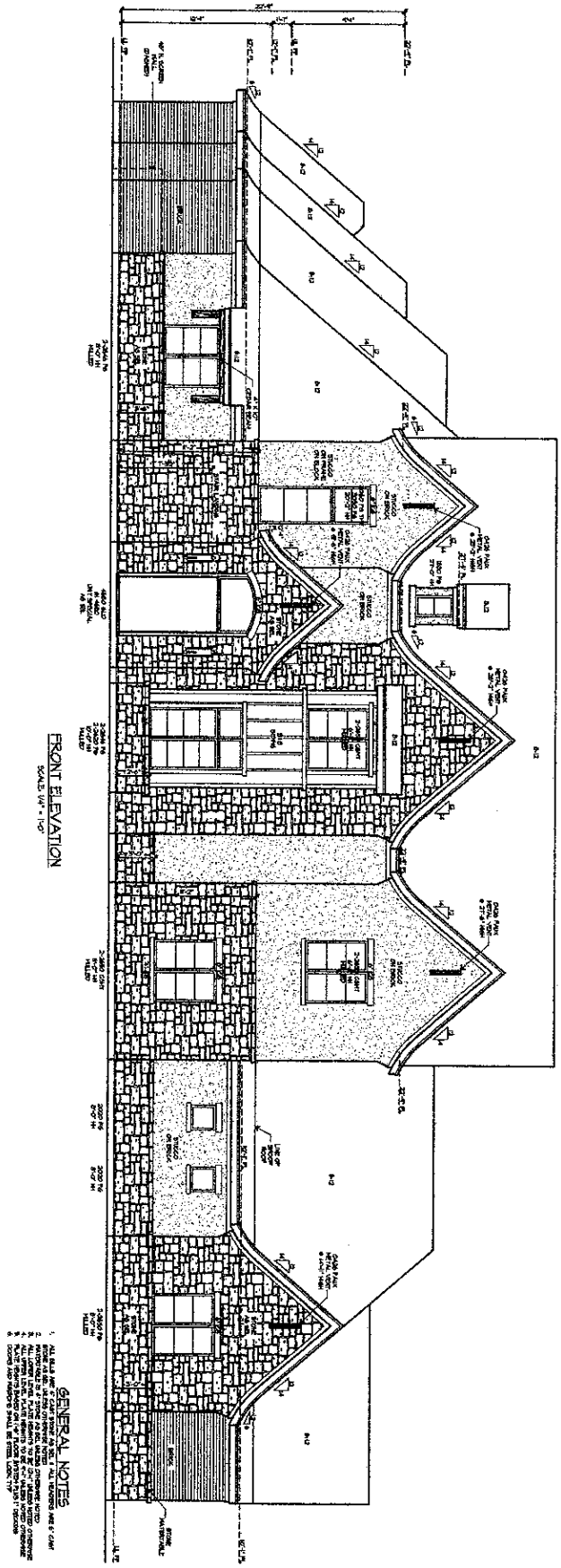
LOT TOTAL (LESS STAT. ROW)	209385 SQ FT
PAD AREA RESIDENCE	5882 SQ FT
ACTUAL LOT COVERAGE	2.8%

PRELIMINARY–NOT FOR CONSTRUCTION

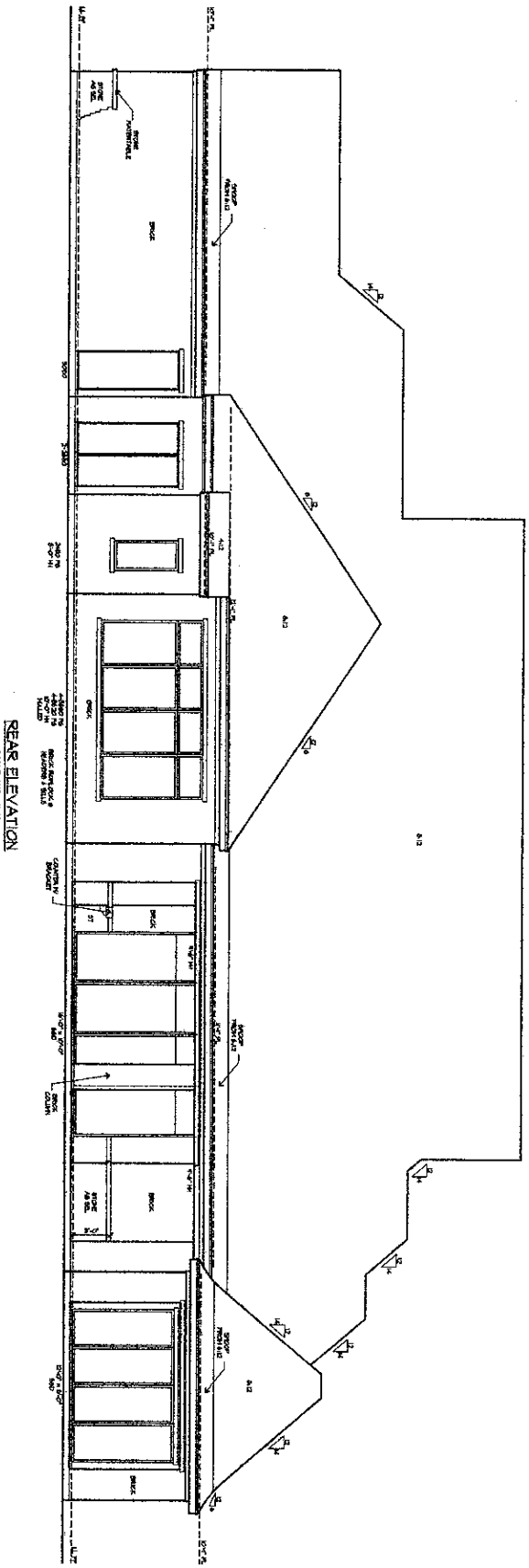
KEEN ENGINEERING
PO BOX 891200
OKLAHOMA CITY, OK 73189
(405) 823–8240 CA 4367, EXP. 6–30–27

REGISTERED PROFESSIONAL ENGINEER — EARL GARY KEEN 11438 — OKLAHOMA

SCALE HORIZ.: 1"=100' VERT.: 1"=XX' | DATE | ENGINEER



FRONT ELEVATION
SCALE: 1/4" = 1'-0"



REAR ELEVATION
SCALE: 1/4" = 1'-0"

GENERAL NOTES

A CUSTOM RESIDENCE FOR
JARED & KAYLEE GRAY
60TH AVENUE NW
NORMAN, OK. CLEVELAND COUNTY

BUILDER: STONEWALL HOMES
NORMAN, OKLAHOMA

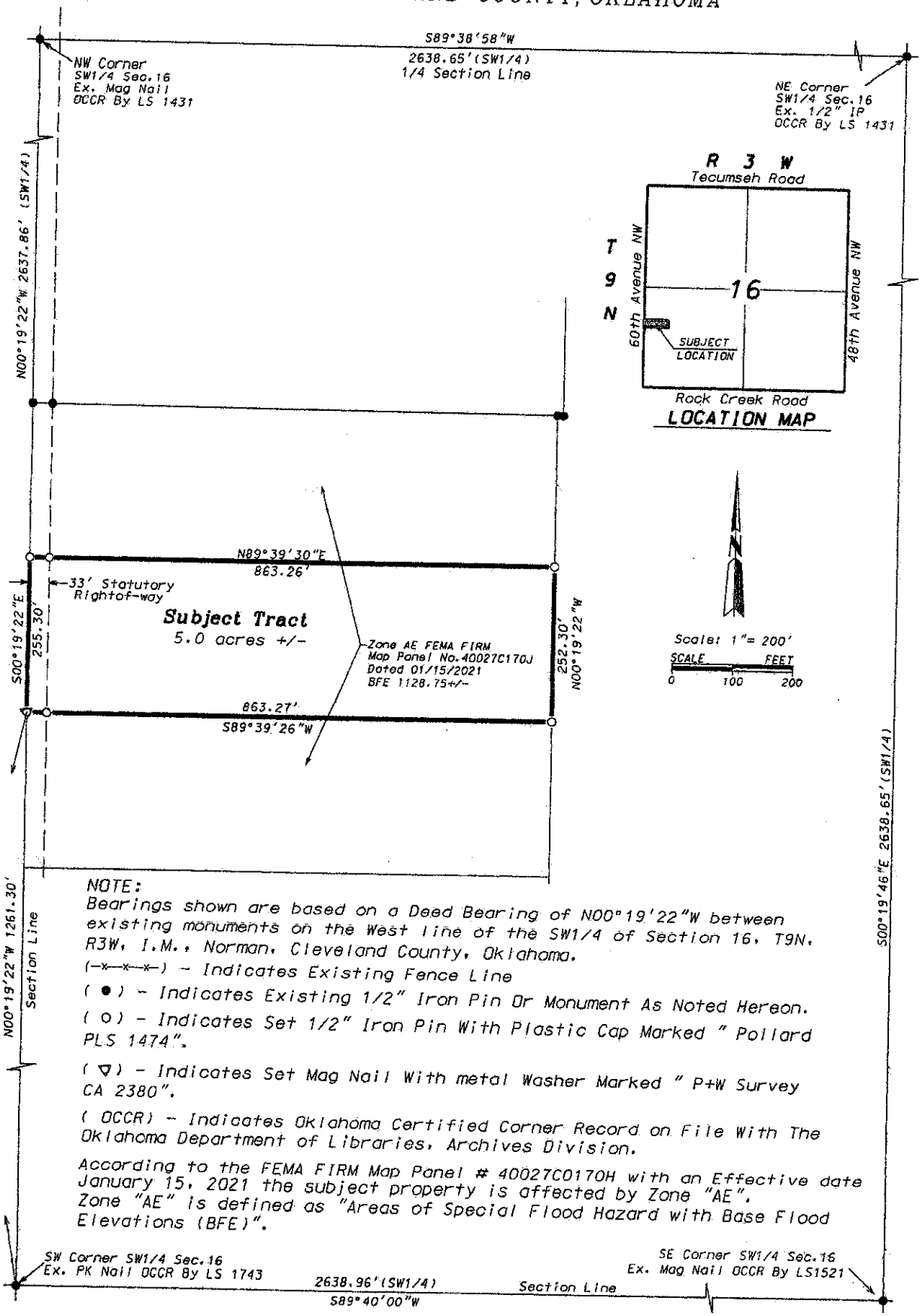
4-16-25

5
OF 9

COVERT · ASSOCIATES
17810 DAVENPORT ROAD, SUITE 111 DALLAS, TEXAS 75252
972.783.4660 PLANS@COVERTANDASSOCIATES.COM

ALTA/NSPS SURVEY

PART OF THE SW1/4 OF SECTION 16, T9N, R3W, I.M.
NORMAN, CLEVELAND COUNTY, OKLAHOMA



NOTE:
Bearings shown are based on a Deed Bearing of N00°19'22"W between existing monuments on the West line of the SW1/4 of Section 16, T9N, R3W, I.M., Norman, Cleveland County, Oklahoma.

(—x—x—x—) - Indicates Existing Fence Line

(●) - Indicates Existing 1/2" Iron Pin Or Monument As Noted Hereon.

(O) - Indicates Set 1/2" Iron Pin With Plastic Cap Marked " Pollard PLS 1474".

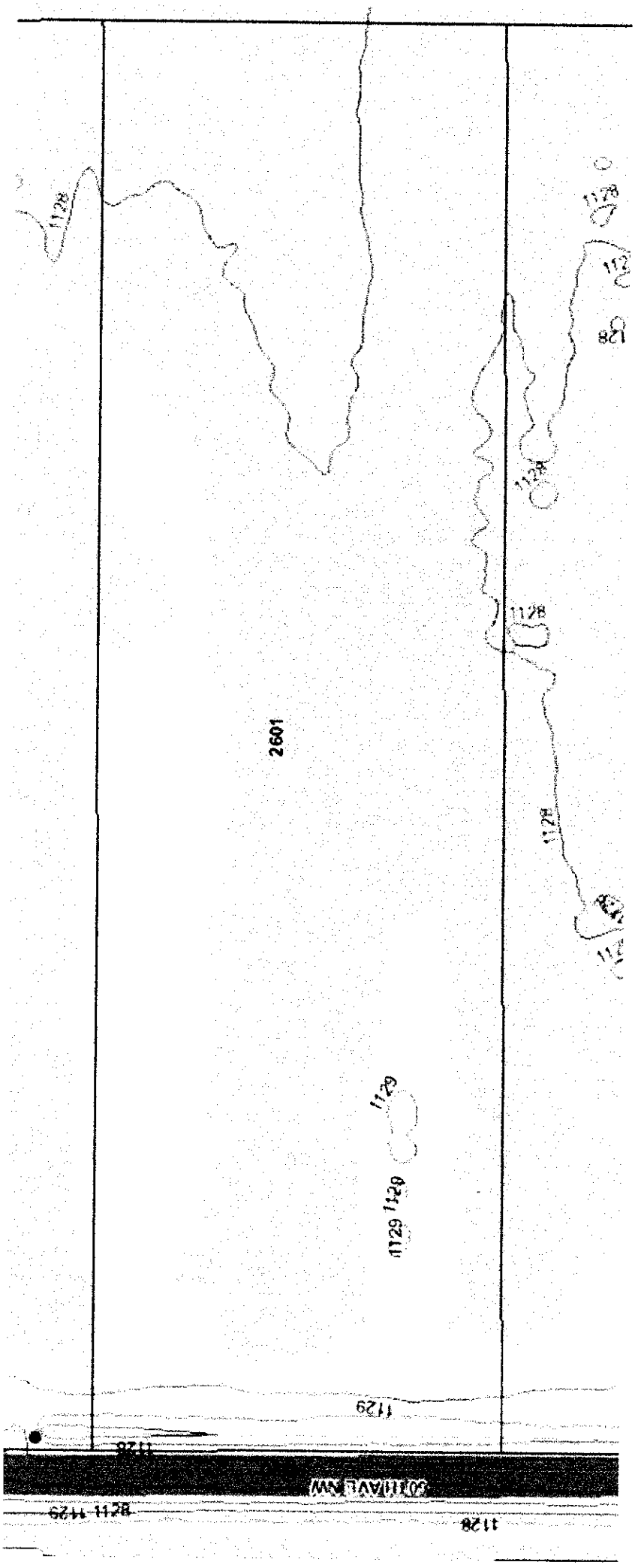
(▽) - Indicates Set Mag Nail With metal Washer Marked " P+W Survey CA 2380".

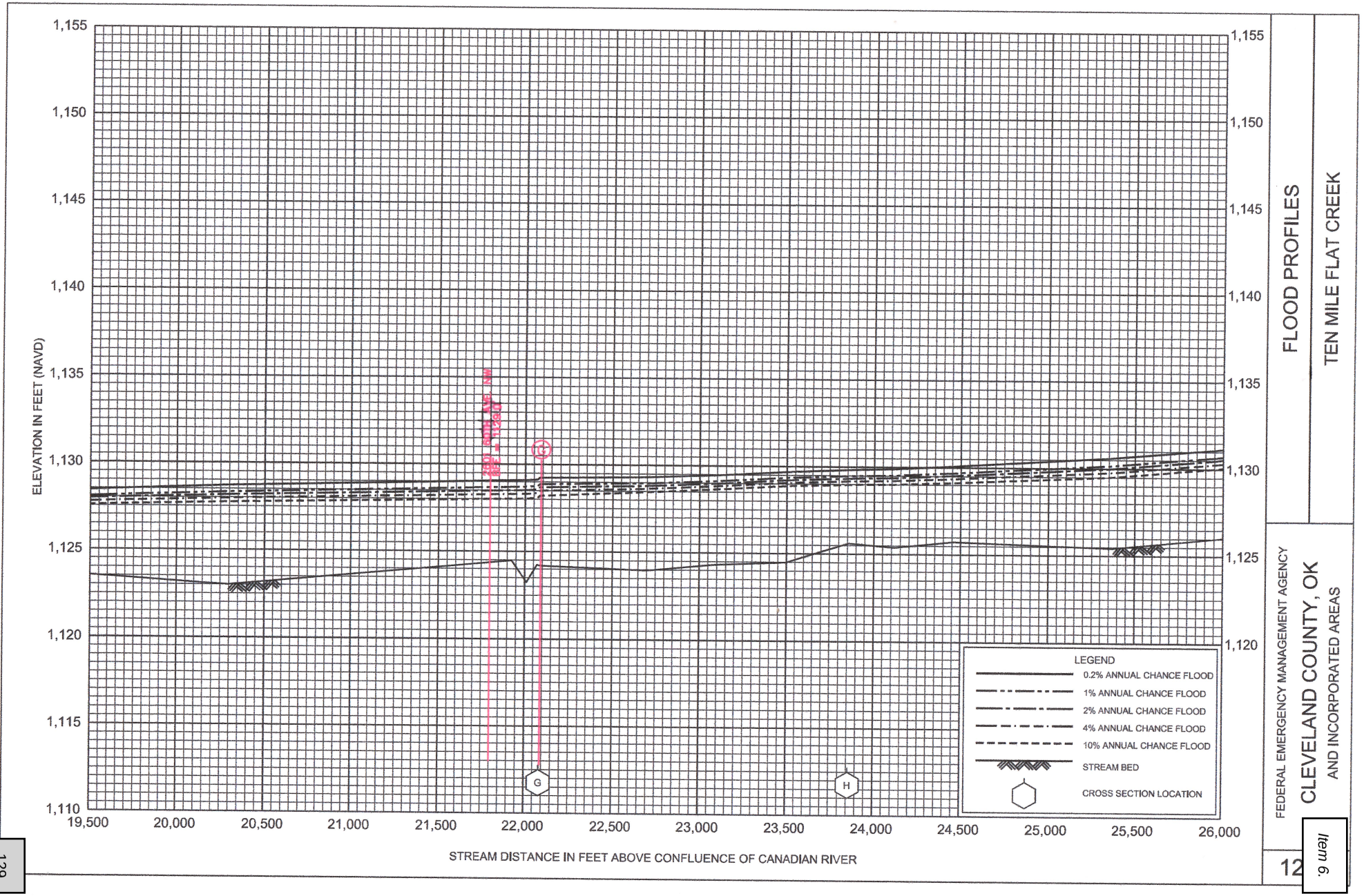
(OCCR) - Indicates Oklahoma Certified Corner Record on File With The Oklahoma Department of Libraries, Archives Division.

According to the FEMA FIRM Map Panel # 40027C0170H with an Effective date January 15, 2021 the subject property is affected by Zone "AE". Zone "AE" is defined as "Areas of Special Flood Hazard with Base Flood Elevations (BFE)".

POLLARD & WHITED SURVEYING, INC.
2514 Tee Drive Norman, OK 73069
405-366-0001 Off.
CA 2380 exp.6-30-25 405-443-8100 Cell tim@pwsurveying.com

Paula Bagwell Oklahoma City Abstract	
Certificate of Survey	
Part SW1/4 of Section 16, T9N, R3W, IM	
Norman, Cleveland County, Oklahoma	
October 2, 2023	Drawn By:T.Pollard
16-9n3w.dgn	Sheet 1 of 3


2601
1128
1129
SW 111TH AVE


1,155
1,150
1,145
1,140
1,135
1,130
1,125
1,120
1,115
1,110
ELEVATION IN FEET (NAVD)
19,500
20,000
20,500
21,000
21,500
22,000
22,500
23,000
23,500
24,000
24,500
25,000
25,500
26,000
STREAM DISTANCE IN FEET ABOVE CONFLUENCE OF CANADIAN RIVER
G
H
LEGEND
0.2% ANNUAL CHANCE FLOOD
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD
4% ANNUAL CHANCE FLOOD
10% ANNUAL CHANCE FLOOD
STREAM BED
CROSS SECTION LOCATION
FLOOD PROFILES
TEN MILE FLAT CREEK
FEDERAL EMERGENCY MANAGEMENT AGENCY
CLEVELAND COUNTY, OK
AND INCORPORATED AREAS

STAFF REPORT 07/07/2025 **PERMIT #723**

ITEM: This Floodplain Permit Application is for road repair in the Ten Mile Flat Creek floodplain. Two locations are presented on this permit, one is located at West Rock Creek Road and the other is located on Robinson Street, both of which are between 48th Ave NW and 60th Ave NW.

BACKGROUND:
APPLICANT: City of Norman Streets Department
CONTRACTOR: TBD
ENGINEER: Brandon Brooks P.E., CFM

An emergency permit was granted for these repairs by the City's Floodplain Administrator prior to this application. During the flooding that occurred at the end of April and beginning of May of this year, sections of road on both West Rock Creek and West Robinson washed out over Ten Mile Flat Creek. Culverts under the road had deteriorated to the point of failure which led to complete road failures and closures. The proposed work is to replace the corroded pipes with the same size and type and restore the road and adjacent floodplain to predisturbed condition. Copies of the latest inspections for both locations are included for reference.

Site located in Little River Basin or its Tributaries? yes __ no✓

STAFF ANALYSIS:
The project is located in the Ten Mile Flat Creek floodplain (Zone AE). Base flood elevation is 1125.0' at Robinson and 1128.0' at Rock Creek, and the engineer has certified that there will be no increase in the base flood elevation as a result of this project.

Applicable Ordinance Sections:	Subject Area:
36-533 (e)(2)(a)..…….…….….	Fill restrictions in the floodplain
(e)(2)(e)..…….…….….	Compensatory storage
(f)(3)(8)……..	No rise considerations

(e)(2)(a) and (e)(2)(e) Fill Restrictions in the Floodplain and Compensatory Storage – The use of fill is restricted in the floodplain unless compensatory storage is provided.

> No new fill or material will be brought into the floodplain, other than what is required to replace what was lost to erosion and scour. Post construction grade and elevations will be the same as prior to failure.

(f)(3)(8) No Rise Considerations – For proposed development within any flood hazard area (except for those designated as regulatory floodways), certification that a rise of no more than 0.05 feet will occur in the BFE on any adjacent property as a result of the proposed work must be provided.

> The engineer has certified that the project will not cause a rise in the BFE which meets this ordinance requirement.

RECOMMENDATION: Staff recommends that Floodplain Permit Application #723 be approved.

ACTION TAKEN: _____

City of Norman

Floodplain Permit Application

Floodplain Permit No. 723

Building Permit No. _____

Date 7/7/2025

FLOODPLAIN PERMIT APPLICATION
($100.00 Application Fee Required)

SECTION 1: GENERAL PROVISIONS (APPLICANT to read and sign):

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Occupancy is issued.
5. The permit will expire if no work is commenced within 2 years of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements and must be included with this floodplain permit application.
7. Applicant hereby gives consent to the City of Norman or his/her representative to access the property to make reasonable inspections required to verify compliance.
8. The following floodplain modifications require approval by the City Council:
   (a) A modification of the floodplain that results in a change of ten percent (10%) or more in the width of the floodplain.
   (b) The construction of a pond with a water surface area of 5 acres or more.
   (c) Any modifications of the stream banks or flow line within the area that would be regulatory floodway whether or not that channel has a regulatory floodplain, unless the work is being done by the City of Norman staff as part of a routine maintenance activity.
9. All supporting documentation required by this application is required along with the permit fee by the submittal deadline. Late or incomplete applications will not be accepted.
10. I, THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT.)

APPLICANT: City of Norman - Streets Dept. ADDRESS: 668 E Lindsey

TELEPHONE: 405 329-2524 SIGNATURE: Joseph Hill

BUILDER: City of Norman ADDRESS: _____

TELEPHONE: _____ SIGNATURE: _____

ENGINEER: Brandon Brooks ADDRESS: 225 N. Webster

TELEPHONE: 405 366-5459 SIGNATURE: Brandon Brooks

PROJECT LOCATION

To avoid delay in processing the application, please provide enough information to easily identify the project location. Provide the street address, subdivision addition, lot number or legal description (attach) and, outside urban areas, the distance to the nearest intersecting road or well known landmark. A sketch attached to this application showing the project location would be helpful.

Ten Mile Flat Creek crossing at 2 locations:

West Robinson 0.3 miles east of 60th Ave. NW

West Rock Creek 0.6 miles west of 48th Ave. NW

DESCRIPTION OF WORK (Check all applicable boxes):

A. STRUCTURAL DEVELOPMENT

ACTIVITY	STRUCTURE TYPE
☐ New Structure	☐ Residential (1-4 Family)
☐ Addition	☐ Residential (More than 4 Family)
☐ Alteration	☐ Non-Residential (Flood proofing? ☐ Yes)
☐ Relocation	☐ Combined Use (Residential & Commercial)
☐ Demolition	☐ Manufactured (Mobile) Home
☑ Replacement	☐ In Manufactured Home Park? ☐ Yes

ESTIMATED COST OF PROJECT $_____ Work that involves substantial damage/substantial improvement requires detailed cost estimates and an appraisal of the structure that is being improved.

B. OTHER DEVELOPMENT ACTIVITIES:

☑ Fill ☐ Mining ☐ Drilling ☑ Grading

☐ Excavation (Beyond the minimum for Structural Development)

☐ Watercourse Alteration (Including Dredging and Channel Modifications)

☐ Drainage Improvements (Including Culvert Work) ☑ Road, Street or Bridge Construction

☐ Subdivision (New or Expansion) ☐ Individual Water or Sewer System

In addition to items A. and B. provide a complete and detailed description of proposed work (failure to provide this item will be cause for the application to be rejected by staff). Attach additional sheets if necessary.

Road failure during recent flood event caused the culverts to wash out and the road to deteriorate. Construction is replacing the corroded culverts with same size and location of coated culverts and restoring road to original grade and elevation.

C. ATTACHMENTS WHICH ARE REQUIRED WITH EVERY APPLICATION:

The applicant must submit the documents listed below before the application can be processed. If the requested document is not relevant to the project scope, please check the Not Applicable box and provide explanation.

A. Plans drawn to scale showing the nature, location, dimensions, and elevation of the lot, existing or proposed structures, fill, storage of materials, flood proofing measures, and the relationship of the above to the location of the channel, floodway, and the regulatory flood-protection elevation.

B. A typical valley cross-section showing the channel of the stream, elevation of land areas adjoining each side of the channel, cross-sectional areas to be occupied by the proposed development, and high-water information.

☐ Not Applicable:

_____

_____

C. Subdivision or other development plans (If the subdivision or other developments exceeds 50 lots or 5 acres, whichever is the lesser, the applicant **must** provide 100-year flood elevations if they are not otherwise available).

☐ Not Applicable:

_____

_____

D. Plans (surface view) showing elevations or contours of the ground; pertinent structure, fill, or storage elevations; size, location, and spatial arrangement of all proposed and existing structures on the site; location and elevations of streets, water supply, sanitary facilities; photographs showing existing land uses and vegetation upstream and downstream, soil types and other pertinent information.

☐ Not Applicable:

_____

_____

E. A profile showing the slope of the bottom of the channel or flow line of the stream.

☐ Not Applicable:

_____

_____

F. Elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures.

☐ Not Applicable:

_____

_____

G. Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

☐ Not Applicable:

_____

H. For proposed development within any flood hazard area (except for those areas designated as regulatory floodways), certification that a rise of no more than five hundredths of a foot (0.05') will occur on any adjacent property in the base flood elevation as a result of the proposed work. For proposed development within a designated regulatory floodway, certification of no increase in flood levels within the community during the occurrence of the base flood discharge as a result of the proposed work. All certifications shall be signed and sealed by a Registered Professional Engineer licensed to practice in the State of Oklahoma.

I. A certified list of names and addresses of all record property owners within a three hundred fifty (350) foot radius of the exterior boundary of the subject property not to exceed 100 feet laterally from the Special Flood Hazard Area. The radius to be extended by increments of one hundred (100) linear feet until the list of property owners includes not less than fifteen (15) individual property owners of separate parcels or until a maximum radius of one thousand (1,000) feet has been reached.

J. A copy of all other applicable local, state, and federal permits (i.e. U.S. Army Corps of Engineers 404 permit, etc).

After completing SECTION 2, APPLICANT should submit form to Permit Staff for review.

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by Permit Staff.)

The proposed development is located on FIRM Panel No.: 0260 J, Dated: 1/15/2021

The Proposed Development:

☐ Is NOT located in a Special Flood Hazard Area
(Notify the applicant that the application review is complete and NO FLOODPLAIN PERMIT IS REQUIRED).

☑ Is located in a Special Flood Hazard Area.

☐ The proposed development is located in a floodway.

☑ 100-Year flood elevation at the site is 1125.0 and 1128.0 Ft. NGVD (MSL) ☐ Unavailable

See Section 4 for additional instructions.

SIGNED: _____ **DATE:** 6/30/2025

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by Permit Staff.)

The applicant must also submit the documents checked below before the application can be processed.

☐ Flood proofing protection level (non-residential only) _____ Ft. NGVD (MSL). For flood proofed structures applicant must attach certification from registered engineer.

☐ Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ Certification from a registered engineer that the proposed activity in a regulatory flood plain will result in an increase of no more than 0.05 feet in the height of the 100-year flood (Base Flood Elevation). A copy of all data and calculations supporting this finding must also be submitted.

☐ All other applicable federal, state, and local permits have been obtained.

Other: _____

_____

_____

SECTION 5: PERMIT DETERMINATION (To be completed by Floodplain Chairman.)

The proposed activity: **(A)** ☐ **Is**; **(B)** ☐ **Is Not** in conformance with provisions of Norman's City Code Chapter 22, Section 429.1. The permit is issued subject to the conditions attached to and made part of this permit.

SIGNED: _____ DATE: _____

If **BOX A** is checked, the Floodplain committee chairman may issue a Floodplain Permit.

If **BOX B** is checked, the Floodplain committee chairman will provide a written summary of deficiencies. Applicant may revise and resubmit an application to the Floodplain committee or may request a hearing from the Board of Adjustment.

APPEALS: Appealed to Board of Adjustment: ☐ Yes ☐ No

Hearing date: _____

Board of Adjustment Decision - Approved: ☐ Yes ☐ No

Conditions:

_____

_____

_____

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Occupancy is issued.)

1. FEMA Elevation Certificate
   and/or
2. FEMA Floodproofing Certificate

NOTE: The completed certificate will be reviewed by staff for completeness and accuracy. If any deficiencies are found it will be returned to the applicant for revision. A Certificate of Occupancy for the structure will not be issued until an Elevation and /or Floodproofing Certificate has been accepted by the City.

The City of
NORMAN

PUBLIC WORKS DEPARTMENT

225 N Webster Ave · P.O. Box 370
Norman, Oklahoma 73069 · 73070

Phone: 405-366-5452
Fax: 405-366-5418

June 30, 2025

Mr. Scott Sturtz, P.E., CFM
Floodplain Administrator
City of Norman

Re: No Rise Certification
W. Robinson Street / Rock Creek Rd Emergency Repairs
Norman, OK

Dear Mr. Sturtz:

This project involves the emergency replacement of the culvert bank located on West Robinson Street between 48th Ave NE and 60th Ave NE as well as the emergency replacement of the culvert bank located on Rock Creek Road between 48th Ave NE and 60th Ave NE. The work includes removing debris from the channel flow lines, mitigating scour the slopes around the head walls, replacing the culverts to the previously established dimensions, and rebuilding the roadways.

The channel flow line and banks will not be altered at this location. Any material (soil, sod, rip rap, or flexamat) placed in or near the channel will be to replace what has been washed away by erosion and scour due to flooding in this area. There will not be any increase in the Base Flood Elevation at this location.

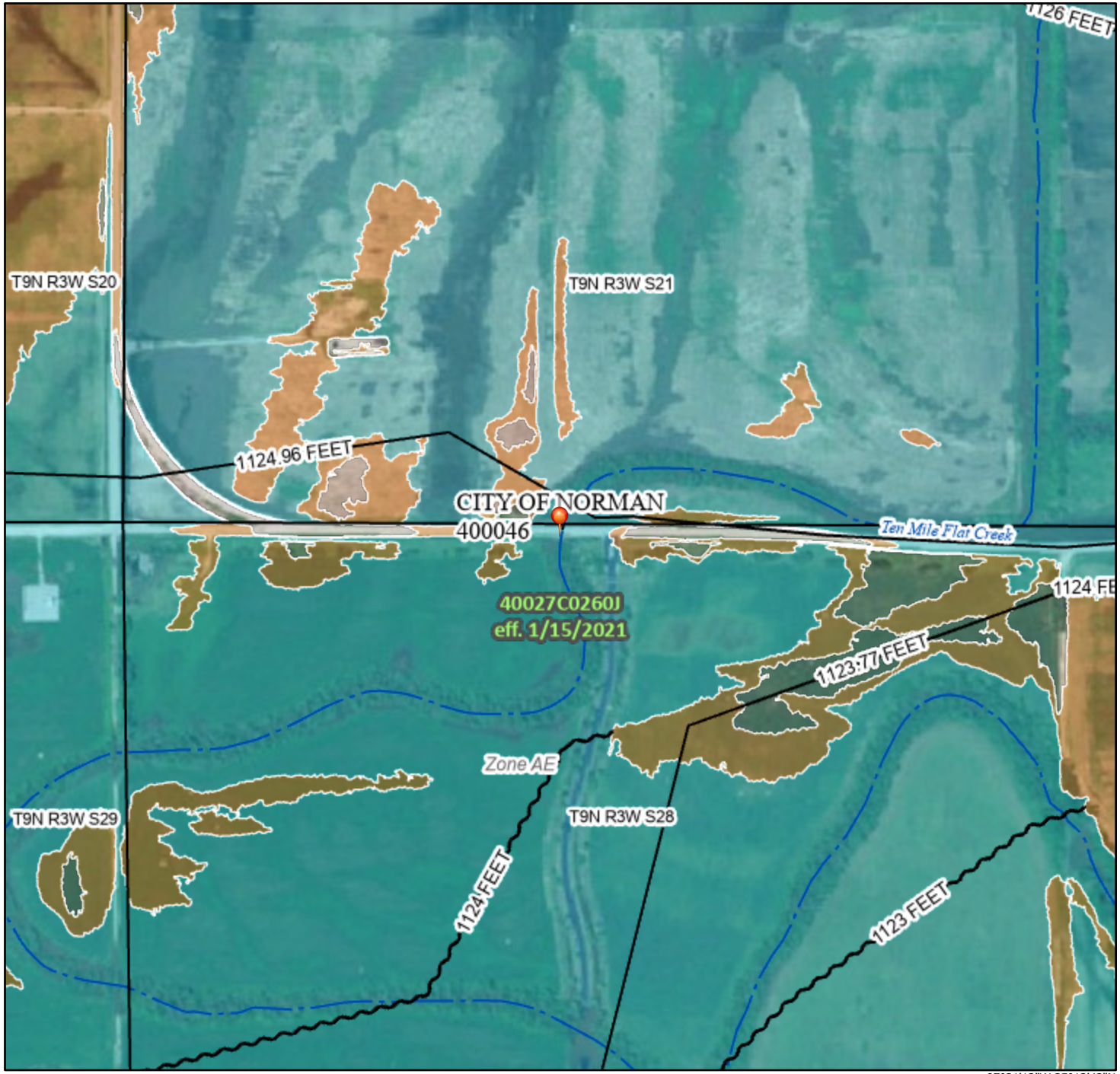
Please contact me at 405-366-5459 if you have any questions or need further information.

Sincerely,

Brandon Brooks, PE, CFM
Capital Projects Engineer

National Flood Hazard Layer FIRMette

97°31'50"W 35°14'13"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

97°31'13"W 35°13'43"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR F UT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

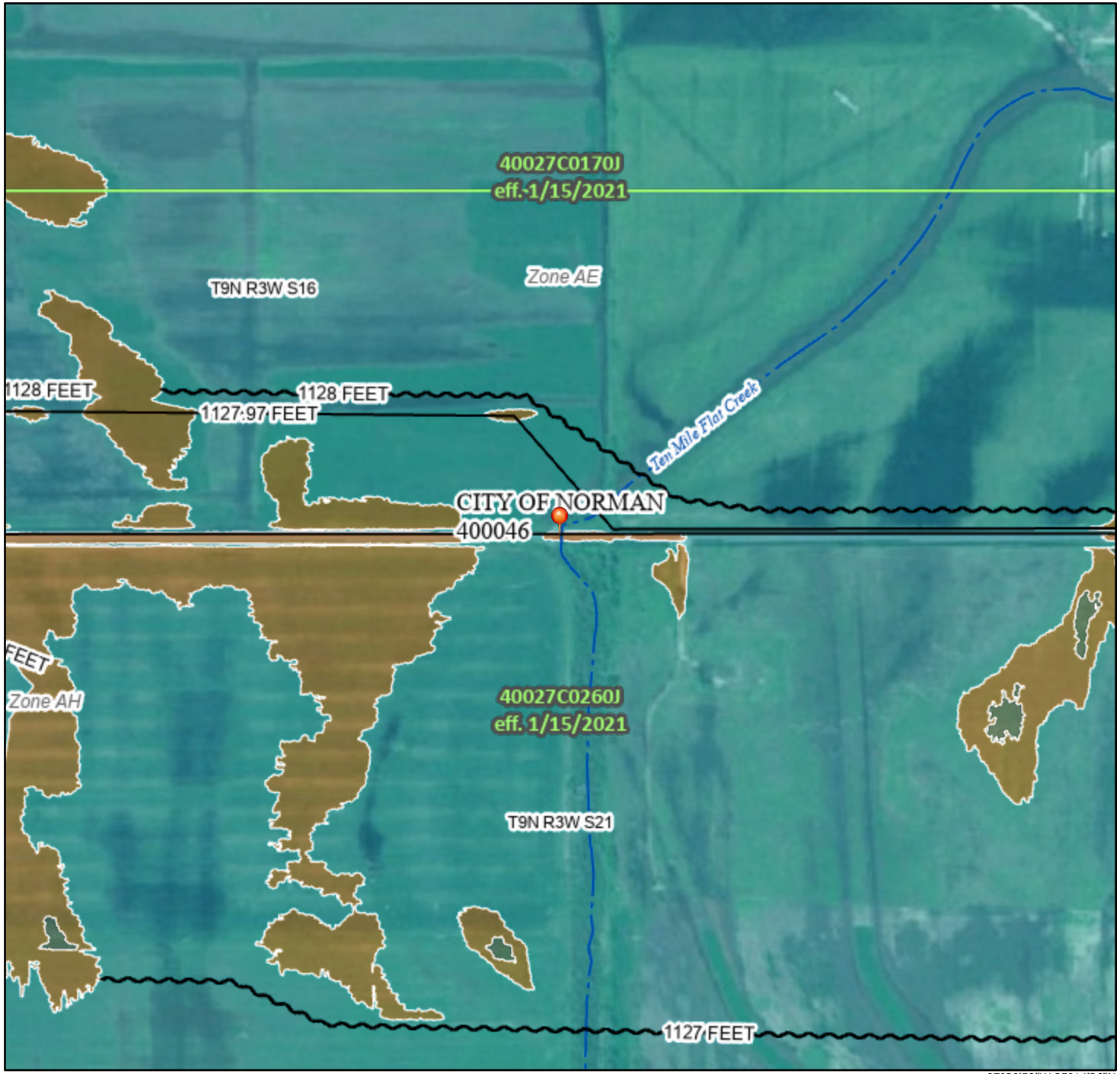
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/18/2025 at 3:40 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id FIRM panel number, and FIRM effective date. Map i unmapped and unmodernized areas cannot be use regulatory purposes.

National Flood Hazard Layer FIRMette

97°31'35"W 35°15'5"N



97°30'58"W 35°14'36"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR F UT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
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GENERAL STRUCTURES
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- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
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- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

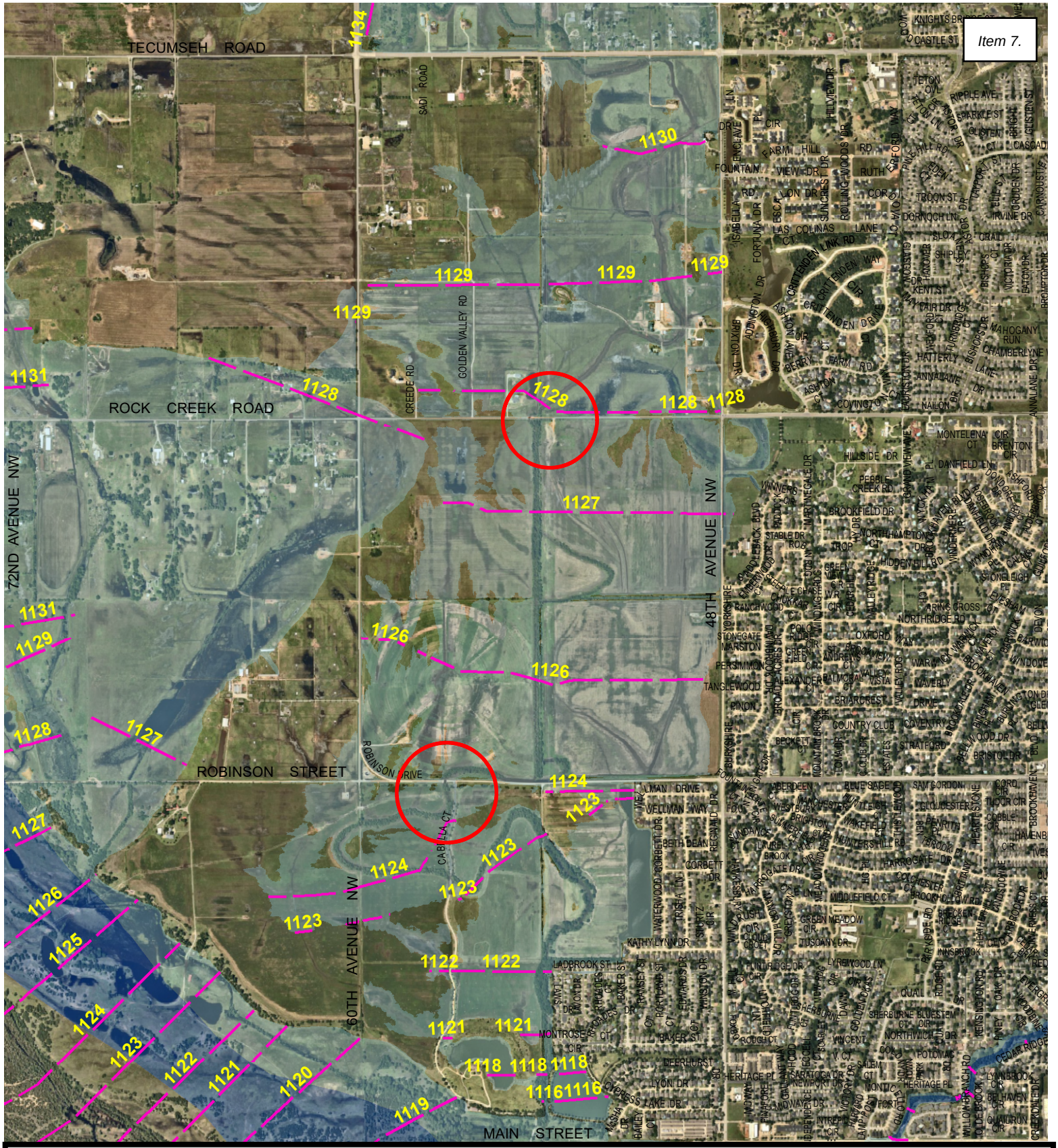
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/18/2025 at 4:38 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id FIRM panel number, and FIRM effective date. Map i unmapped and unmodernized areas cannot be use regulatory purposes.



Ten Mile Flat Creek
Rock Creek and Robinson Crossings

Legend

- BFE 2021
- 1% Chance Floodplain
- Floodway

0 750 1,500

Oklahoma Dept. of Transportation - Bridge Inspection Report

Item 7.

NBI No.:	Structure No.:	Local ID:	Suff. Rating:	
09863	14E1220N3070004	023	97.80	ND

IDENTIFICATION

Bridge Description: (6) 4ft. X 51ft. CGMP SKEWED 10 DEG. LF

1. State: Oklahoma
2. Division: Division 3
3. County: CLEVELAND
4. City: NORMAN
Admin Area: Unknown
5a. On/Under: Route On Structure
5b. Kind of Hwy: City Street
5c. Lvl of Srvc: Mainline
5d. Route No.: E1220
5e. Dir. Sufx: N/A (NBI)
7. Facility Carried W ROCK CREEK RD
6. Feat. CREEK
9. 0.6 W 48TH AVE NW
11. Mile Post: 0.466 mi
13. LRS / Sub Rte: /
16. Latitude: 35° 14' 50.36"
17. Longitude: 097° 31' 16.77"
98. Border Unknown (P)
% Responsible: 0.00
99. Border Brdg #: Unknown

INSPECTION

Type	Insp. Req.	Insp. Done	Freq.	Insp. Date	Next Insp.
NBI:		1	24 months	10/9/2023	10/09/2025
FC:	N	0		NA	NA
UW:	N	0		NA	NA
OS:	N	0		NA	NA

CLASSIFICATION

12.Base Hwy Net.: Not on Base Network
20. Toll Facility: On free road
21. Custodian: City
22. Owner: City
26. Function Class: 09 Rural Local
37. Historical Sig.: Not eligible for NRHP
100. Def. Hwy: Not a STRAHNET hwy
101. Parallel Str.: No || bridge exists
102. Traffic Dir.: 2-way traffic
103. Temp. Str.: Not Applicable (P)
104. Hwy System: Not on NHS
105. Fed Land Hwy: N/A (NBI)
110. Defense Hwy: Not a STRAHNET hwy
112. NBIS Length: Long Enough

STRUCTURE TYPE AND MATERIALS

43a/b. Main Span: Steel / Culvert
44a/b. Appr. Span: N/A / Not Applicable (P)
45. # of Main Spans: 6
46. # of Appr. Spans: 0
107. Deck Type: N/A (NBI)
108a. Wearing Surface: N/A (no deck (NBI))
108b. Membrane: N/A (no deck (NBI))
108c. Deck protection: N/A (no deck (NBI))

CONDITION

58.Deck: N/A (NBI)
59.Sup.: N N/A (NBI)
60.Sub: N N/A (NBI)
62.Culvert: 6 Deterioration
61.Chan./Chan. Prot.: 8 Protected

Flowline Notes:
Erosion N. edge of asphalt extending 4.5' under asphalt up to 2' deep

AGE AND SERVICE

19. Detour Length: 0.6 mi
27. Year Built: 1942
28a/b. Lanes on/und: 2 / 0
29. ADT: 3,366
30. Year of ADT: 2020
42a/b. Type of Svc on/und: Highway / Waterway
106. Year Reconst,:
109. Truck ADT: 10%

LOAD RATING AND POSTING

31. Design Load M 13.5 (H 15)
41. Post. Status: P Posted for load
70. Posting: 5 At/Above Legal Loads
Date Rated 12/11/2015
63.Op / 65.Inv. Rating Meth.: 1 LF Load Factor / 1 LF Load Factor

	H	HS	3-3	EV3	SHV
64. Operating Rating (tons):	99.80	100.00	0.00	0.00	0.00
66. Inventory Rating (tons):	99.60	99.60			

GEOMETRIC DATA

10. Vert. Clearance: 99.99 ft
32. Appr Rwy Width: 22.00 ft
33. Median: No median
34. Skew: 10.00°
35. Struct. Flared: No flare
47Horizontal Clr: 22.00 ft
48. Length Max Span: 3.94 ft
49. Struct. Length: 28.87 ft
50a. Curb/Sdwlk Width L: 0.00 ft
50b. Curb/Sdwlk Width R: 0.00 ft
51. Width Curb to Curb: 0.00 ft
52. Width Out to Out: 0.00 ft
Deck Area: 1,443.55 sq. ft
53. Min.Vert.Cl.Ovr Brg: 99.99 ft
54a.Min.Vt.Undclr.Ref. N Feature not hwy c
54b. Min. Vert. Undclr.: 0.00 ft
55a. Min.Lat.Undclr.Ref: N Feature not hwy
55. Min.Lat.Underclr. R: 0.00 ft
56. Min.Lat.Underclr. L: 0.00 ft

APPRAISAL

36a. Brdg Rail: N/A or not required
36b. Transition: N/A or not required
36c. Appr. Rail: N/A or not required
36d. Appr.Rail Ends: N/A or not require
67. Str Evaluation: 6 Equal Min Criteria
68. Deck Geom.: Not applicable (NBI)
69. Vert./Horiz. Undclr: Not applicable (NB
71. Waterway Adeq: 4 Tolerable
72. Appr. Alignment: 8 Equal Desirable Crit
113. Scour Critical: 8 Stable Above Footin

PROPOSED IMPROVEMENT

94. Bridge Cost: $100,000
95. Roadway Cost: $75,000
96. Total Cost: $225,000
97. Yr.of Cost Est.: 2015
75. Type of Work: 33 Widen w/o Deck Rel
76. Lngth of Improvement: 105.8 ft
114. Future ADT: 4,712
115. Yr.of Future ADT: 2040

NAVIGATION DATA

38. Nav. Control: Permit Not Required
39. Vert. Clearance: 0.0 ft
40. Horiz. Clearance: 0.0 ft
111. Pier Protect.: Not Applicable (P)
116. Lift Bridge Vert. Clr.: 0.0 ft

OKLAHOMA ITEMS

200c. Temperature: 85
200d. Weather: Clear
201. Struc.Stl. ASTM Desig.: -1 / -1
202. Waterprf.Membrane: -1
Date Installed: 01/01/1901
203. Type Exp. Device: Open Joint-No Device
204. Type of Railing: N/A
205. Material Quantity: -1.00
208a. Type of Abutment: Other
b. Type of Found.: Bears on Natural Found.
209. Type of Pier/Found.: - /
210. Foundation Elev.: -1.00 -1.00 -1.00 -1.00 -1.00
211. Wear.Surf.Prot.Sys: None
Date Installed: 01/01/1901
211c. Silane Reapplied
211d. Date :
213. Utilities Attached:

214a. Posted Weight Limit: 202020
b. Posted Speed Limit: NR
c. Narrow/1way Brdg Sign: No
d. Vertical Clr. Sign: No
Adv. Warning Sign: No
e. Navigation Lights?: NA
Working/Not Working: NA
215. Overpass: ACOG
218. Functionally Obsolete : -
220. Bridge Redecked
221. Substr.Cond.(U/W):
222. Fill Over RCB: 3
223. Appr.Slab/Rwy Cond.: 2
225. Paint Type/Ovrct:
226. Date Painted:
227. Paint Color: -1
233. Deck Forming:
238. School Bus Rte.: Current bus route
240. Appr. Rwy Type.: Asphalt/Bituminous
243. Grdr Spacing/No.: /

244. Span Lengths:
245. Girder Depth:
246a. Type of Ovelay: NA
b. Overlay Thickness:
c. Overlay Date: 01/01/1901
d. Ovly Depth Changed >1":
247. Protective Systems:
248. # Field Splices w/ Corrosion:
249. Scour Crit. POA Exists?: No
250. Headwall: 50.00
258. Plans w/Found.in ODOT File
259. Scour Eval. in ODOT File:
263. Interchange at Intersection:
264. Interstate Milepoint:

Oklahoma Dept. of Transportation - Bridge Inspection Report

NBI No.:	Structure No.:	Local ID:	Suff. Rating:	
09863	14E1220N3070004	023	97.80	ND

Inspection Date: 10/9/23 Wayne Roesner

Invoice No.: HWL141023 Inspected With: Lukas Evans

Wayne Roesner (lte)
Digitally signed by Wayne Roesner (lte)
DN: C=US, E=wroesner@hwlochner.com, O=Lochner, CN=Wayne Roesner (lte)
Date: 2023.12.19 14:05:02-06'00'

BRIDGE NOTES:

INSPECTION NOTES: **10/9/23**

Stream alignment is poor on upstream end. Water stands in pipes most of the time. New Pipes 2021. Cavity tunneling between west pipes in north shoulder.

ELEMENT CONDITION STATE DATA

Elem. / Env	Description	Unit	Total Qty	% 1	Qty. 1	% 2	Qty. 2	% 3	Qty. 3	% 4	Qty. 4
240 / 4	Steel Culvert	ft	305.00	0%	0.00	0%	0.00	100%	305.00	0%	0.00
	Section loss started to lower 1/3 of all pipes. Monitor debris										
965 / 4	Debris SF	each	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
	Fence on downstream side is catching debris. Drift caught in N. end up to 15% coverage in pipes 2-5.										
968 / 1	Erosion SF	each	1.00	100%	1.00	0%	0.00	0%	0.00	0%	0.00
	PX- Repair erosion under asphalt 2' x 4.5'										

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ON-SYSTEM ROUTINE INSPECTION
PHOTOGRAPH RECORD FORM

County: Cleveland ODOT District: 3 Facility Carried: W ROCK CREEK RD
Structure: 14E12203070004 NBI# 09863 Feature Intersected: CREEK

Roadway view, looking west

Roadway view, looking east

Date: October 9, 2023
Inspected By: Wayne Roesner and Lukas Evans, E.I.

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ON-SYSTEM ROUTINE INSPECTION
PHOTOGRAPH RECORD FORM

County: Cleveland ODOT District: 3 Facility Carried: W ROCK CREEK RD
Structure: 14E12203070004 NBI# 09863 Feature Intersected: CREEK

Elevation view, looking southwest

Elevation view, looking north

Date: October 9, 2023
Inspected By: Wayne Roesner and Lukas Evans, E.I.

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ON-SYSTEM ROUTINE INSPECTION
PHOTOGRAPH RECORD FORM

County: Cleveland ODOT District: 3 Facility Carried: W ROCK CREEK RD
Structure: 14E12203070004 NBI# 09863 Feature Intersected: CREEK

Erosion 4.5’ under asphalt with 2’ deep void

E. pipe 20.5’ from north end 3” deflection

Date: October 9, 2023
Inspected By: Wayne Roesner and Lukas Evans, E.I.

Oklahoma Dept. of Transportation - Bridge Inspection Report

NBI No.:	Structure No.:	Local ID:	Suff. Rating:	
20663	14E1230N3070003	025	82.90	ND

IDENTIFICATION

Bridge Description:
(6) 4ft. X 50ft. STEEL PIPE

1. State: Oklahoma
2. Division: Division 3
3. County: CLEVELAND
4. City: NORMAN
Admin Area: Unknown
5a. On/Under: Route On Structure
5b. Kind of Hwy: City Street
5c. Lvl of Srvc: Mainline
5d. Route No.: 1496C
5e. Dir. Sufx: N/A (NBI)
7. Facility Carried W ROBINSON ST
6. Feat. CREEK
9. 0.3 E 60TH AVE NW
11. Mile Post: 0.231 mi
13. LRS / Sub Rte: /
16. Latitude: 35° 13' 58.05"
17. Longitude: 097° 31' 31.89"
98. Border Unknown (P)
% Responsible: 0.00
99. Border Brdg #: Unknown

INSPECTION

Type	Insp. Req.	Insp. Done	Freq.	Insp. Date	Next Insp.
NBI:		1	24 months	10/9/2023	10/09/2025
FC:	N	0		NA	NA
UW:	N	0		NA	NA
OS:	N	0		NA	NA

CLASSIFICATION

12.Base Hwy Net.: Not on Base Network
20. Toll Facility: On free road
21. Custodian: City
22. Owner: City
26. Function Class: 07 Rural Mjr Collecto
37. Historical Sig.: Not eligible for NRHP
100. Def. Hwy: Not a STRAHNET hwy
101. Parallel Str.: No || bridge exists
102. Traffic Dir.: 2-way traffic
103. Temp. Str.: Not Applicable (P)
104. Hwy System: Not on NHS
105. Fed Land Hwy: N/A (NBI)
110. Defense Hwy: Not a STRAHNET hwy
112. NBIS Length: Long Enough

STRUCTURE TYPE AND MATERIALS

43a/b. Main Span: Steel / Culvert
44a/b. Appr. Span: N/A / Not Applicable (P)
45. # of Main Spans: 6
46. # of Appr. Spans: 0
107. Deck Type: N/A (NBI)
108a. Wearing Surface: N/A (no deck (NBI))
108b. Membrane: N/A (no deck (NBI))
108c. Deck protection: N/A (no deck (NBI))

CONDITION

58.Deck: N/A (NBI)
59.Sup.: N N/A (NBI)
60.Sub: N N/A (NBI)
62.Culvert: 5 Moderate Dan
61.Chan./Chan. Prot.: 8 Protected

Flowline Notes:
Sinkholes up to 1' deep behind north headwall

AGE AND SERVICE

19. Detour Length: 0.6 mi
27. Year Built: 1984
28a/b. Lanes on/und: 2 / 0
29. ADT: 2,994
30. Year of ADT: 2020
42a/b. Type of Svc on/und: Highway / Waterway
106. Year Reconst,: -1
109. Truck ADT: 15%

LOAD RATING AND POSTING

31. Design Load M 18 (H 20)
41. Post. Status: A Open, no restriction
70. Posting: 5 At/Above Legal Loads
Date Rated 01/24/2014
63.Op / 65.Inv. Rating Meth.: 1 LF Load Factor / 1 LF Load Factor

	H	HS	3-3	EV3	SHV
64. Operating Rating (tons):	27.01	49.05	0.00	0.00	0.00
66. Inventory Rating (tons):	15.98	28.99	-1.00	-1.00	

GEOMETRIC DATA

10. Vert. Clearance: 99.99 ft
32. Appr Rwy Width: 23.00 ft
33. Median: No median
34. Skew: 0.00°
35. Struct. Flared: No flare
47Horizontal Clr: 23.00 ft
48. Length Max Span: 4.08 ft
49. Struct. Length: 29.00 ft
50a. Curb/Sdwlk Width L: 0.00 ft
50b. Curb/Sdwlk Width R: 0.00 ft
51. Width Curb to Curb: 0.00 ft
52. Width Out to Out: 0.00 ft
Deck Area: 1,449.95 sq. ft
53. Min.Vert.Cl.Ovr Brg: 99.99 ft
54a.Min.Vt.Undclr.Ref. N Feature not hwy c
54b. Min. Vert. Undclr.: 0.00 ft
55a. Min.Lat.Undclr.Ref: N Feature not hwy
55. Min.Lat.Underclr. R: 0.00 ft
56. Min.Lat.Underclr. L: 0.00 ft

APPRAISAL

36a. Brdg Rail: N/A or not required
36b. Transition: N/A or not required
36c. Appr. Rail: N/A or not required
36d. Appr.Rail Ends: N/A or not require
67. Str Evaluation: 5 Above Min Tolera
68. Deck Geom.: Not applicable (NBI)
69. Vert./Horiz. Undclr: Not applicable (NB
71. Waterway Adeq: 5 Above Tolerable
72. Appr. Alignment: 8 Equal Desirable Crit
113. Scour Critical: 8 Stable Above Footin

PROPOSED IMPROVEMENT

94. Bridge Cost: $100,000
95. Roadway Cost: $75,000
96. Total Cost: $225,000
97. Yr.of Cost Est.: 2015
75. Type of Work: 33 Widen w/o Deck Rel
76. Lngth of Improvement: 109.6 ft
114. Future ADT: 4,191
115. Yr.of Future ADT: 2040

NAVIGATION DATA

38. Nav. Control: Permit Not Required
39. Vert. Clearance: 0.0 ft
40. Horiz. Clearance: 0.0 ft
111. Pier Protect.: Not Applicable (P)
116. Lift Bridge Vert. Clr.: 0.0 ft

OKLAHOMA ITEMS

200c. Temperature: 87
200d. Weather: Clear
201. Struc.Stl. ASTM Desig.: -1 / -1
202. Waterprf.Membrane: -1
Date Installed: 01/01/1901
203. Type Exp. Device: Open Joint-No Device
204. Type of Railing: N/A
205. Material Quantity: -1.00
208a. Type of Abutment: Other
b. Type of Found.: Bears on Natural Found.
209. Type of Pier/Found.: - /
210. Foundation Elev.: -1.00 -1.00 -1.00 -1.00 -1.00
211. Wear.Surf.Prot.Sys: None
Date Installed: 01/01/1901
211c. Silane Reapplied
211d. Date :
213. Utilities Attached:

214a. Posted Weight Limit: NR
b. Posted Speed Limit: 50
c. Narrow/1way Brdg Sign: No
d. Vertical Clr. Sign: No
Adv. Warning Sign: No
e. Navigation Lights?: NA
Working/Not Working: NA
215. Overpass: ACOG
218. Functionally Obsolete : -
220. Bridge Redecked
221. Substr.Cond.(U/W):
222. Fill Over RCB: 3
223. Appr.Slab/Rwy Cond.: 2
225. Paint Type/Ovrct:
226. Date Painted:
227. Paint Color: -1
233. Deck Forming:
238. School Bus Rte.: Current bus route
240. Appr. Rwy Type.: Asphalt/Bituminous
243. Grdr Spacing/No.: /

244. Span Lengths:
245. Girder Depth:
246a. Type of Ovelay: NA
b. Overlay Thickness:
c. Overlay Date: 01/01/1901
d. Ovly Depth Changed >1":
247. Protective Systems:
248. # Field Splices w/ Corrosion:
249. Scour Crit. POA Exists?: No
250. Headwall: 47.60
258. Plans w/Found.in ODOT File
259. Scour Eval. in ODOT File:
263. Interchange at Intersection:
264. Interstate Milepoint: -1.00

Oklahoma Dept. of Transportation - Bridge Inspection Report

NBI No.:	Structure No.:	Local ID:	Suff. Rating:	
20663	14E1230N3070003	025	82.90	ND

Inspection Date: 10/9/23 Wayne Roesner

Invoice No.: HWL141023 Inspected With: Lukas Evans

Wayne Roesner (lte)

Digitally signed by Wayne Roesner (lte)
DN: C=US, E=wroesner@hwlochner.com, O=Lochner, CN=Wayne Roesner (lte)
Date: 2023.12.19 15:12:18-06'00'

BRIDGE NOTES:

INSPECTION NOTES: 10/9/23

Up to 10" of water standing in all pipes. cavity forming between pipes 2 and 3 on north shoulder.

ELEMENT CONDITION STATE DATA

Elem. / Env	Description	Unit	Total Qty	% 1	Qty. 1	% 2	Qty. 2	% 3	Qty. 3	% 4	Qty. 4
240 / 4	Steel Culvert	ft	295.00	0%	0.00	92%	272.00	6%	18.00	2%	5.00
	PX- Significant loss of section to lower portions of pipe. North headwall has minor cracks and moderate drift collision scars. Moderate to heavy rust and pitting on all 6 pipes. North end of the east pipe & middle of the west pipe has minor deflections. Lower 1/8 has some section loss, east pipe rusted through in 5 locations. Fill leaking 22" from north end of east pipe, 3" deflections.										
870 / 1	Concrete Wingwall	each	4.00	0%	0.00	100%	4.00	0%	0.00	0%	0.00
968 / 1	Erosion SF	each	1.00	0%	0.00	0%	0.00	100%	1.00	0%	0.00

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ON-SYSTEM ROUTINE INSPECTION
PHOTOGRAPH RECORD FORM

County: Cleveland ODOT District: 3 Facility Carried: W ROBINSON ST
Structure: 14E1230N3070003 NBI# 20663 Feature Intersected: CREEK

Roadway view, looking west

Roadway view, looking east

Date: October 9, 2023
Inspected By: Wayne Roesner and Lukas Evans, E.I.

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ON-SYSTEM ROUTINE INSPECTION
PHOTOGRAPH RECORD FORM

County: Cleveland ODOT District: 3 Facility Carried: W ROBINSON ST
Structure: 14E1230N3070003 NBI# 20663 Feature Intersected: CREEK

Elevation view, looking north

Elevation view, looking south

Date: October 9, 2023
Inspected By: Wayne Roesner and Lukas Evans, E.I.

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ON-SYSTEM ROUTINE INSPECTION
PHOTOGRAPH RECORD FORM

County: Cleveland ODOT District: 3 Facility Carried: W ROBINSON ST
Structure: 14E1230N3070003 NBI# 20663 Feature Intersected: CREEK

5 perforations in east pipe

E. pipe 22" from north 3" deflection

Date: October 9, 2023
Inspected By: Wayne Roesner and Lukas Evans, E.I.

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ON-SYSTEM ROUTINE INSPECTION
PHOTOGRAPH RECORD FORM

County: Cleveland ODOT District: 3 Facility Carried: W ROBINSON ST
Structure: 14E1230N3070003 NBI# 20663 Feature Intersected: CREEK

3 sink holes behind north headwall, approx. 1' deep

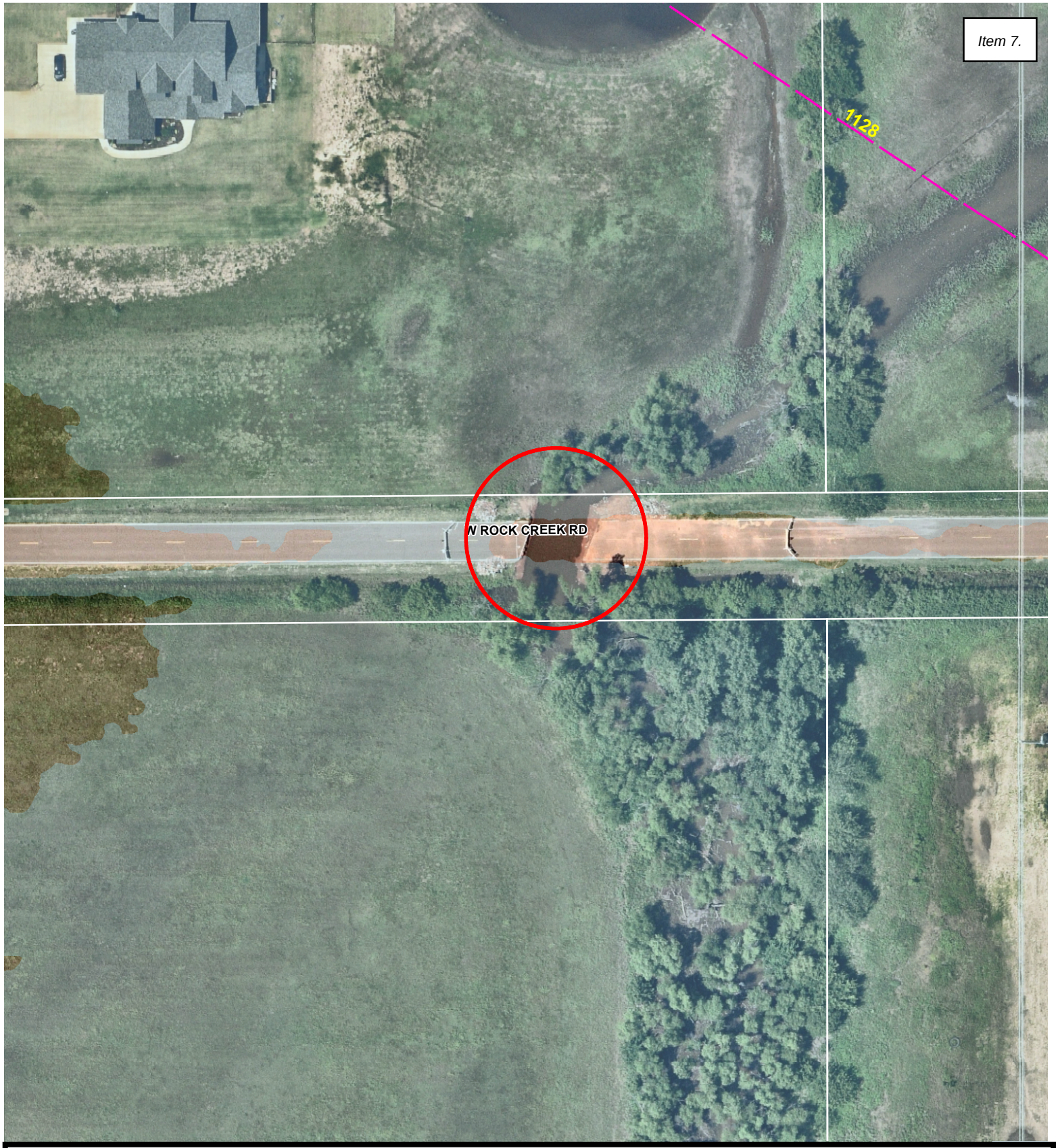
Date: October 9, 2023
Inspected By: Wayne Roesner and Lukas Evans, E.I.

Ten Mile Flat Creek
West Robinson

Legend

- BFE 2021
- 1% Chance Floodplain
- Floodway
- Parcel

0 37.5 75



Ten Mile Flat Creek
West Rock Creek

Legend

- BFE 2021
- 1% Chance Floodplain
- Floodway
- Parcel

0 25 50 100

Figure 1 Consequences of Driving Around Barricades

Figure 2 W Robinson During Flooding

Figure 3 W Robinson as waters began to recede

Figure 4 W Rock Creek Road