Public Notice

U.S. Army Corps of Engineers
Tulsa District

Reply To:

U.S. Army Corps of Engineers
ATTN: Regulatory Office
2488 East 81St Street
Tulsa, Oklahoma 74137-4290

SWT-2024-00428
Public Notice No.

September 13, 2024
Public Notice Date

October 12, 2024
Expiration Date

PURPOSE
The purpose of this public notice is to inform you of a proposal for work in which you might be interested and to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest.

SECTION 10
The U.S. Army Corps of Engineers is directed by Congress through Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) to regulate all work or structures in or affecting the course, condition, or capacity of navigable waters of the United States. The intent of this law is to protect the navigable capacity of waters important to interstate commerce.

SECTION 404
The U.S. Army Corps of Engineers is directed by Congress through Section 404 of the Clean Water Act (33 U.S.C. 1344) to regulate the discharges of dredged and fill material into all waters of the United States. These waters include lakes, rivers, streams, mudflats, sandflats, sloughs, wet meadows, natural ponds, and wetlands adjacent to other waters. The intent of the law is to protect these waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical, and biological integrity.

NOTICE TO PUBLISHERS
This public notice has been provided as a public service and may be reprinted at your discretion. However, any cost incurred as a result of reprinting or further distribution shall not be a basis for claim against the Government.

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, TULSA DISTRICT
2488 EAST 81ST STREET
TULSA, OKLAHOMA 74137-4290

Application No. SWT-2024-00428

JOINT PUBLIC NOTICE
U.S. ARMY CORPS OF ENGINEERS
AND
OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ)
(30-DAY COMMENT PERIOD)

Interested parties are hereby notified that the District Engineer (DE) has received an application for a Department of the Army (DA) permit and water quality certification pursuant to Sections 404 and 401 of the Clean Water Act (CWA). The ODEQ hereby incorporates this public notice and procedure as its own public notice and procedure by reference thereto.

Applicant: Mr. Joe Brutsché
Director, Environmental Program Division
Oklahoma Department of Transportation (ODOT)
200 Northeast 21st Street
Oklahoma City, OK 73105

Agent: Mr. Jared Bechtol
ODOT
200 Northeast 21st Street
Oklahoma City, OK 73105

Mr. Ben Hagood
Freese and Nichols, Inc.
801 Cherry Street, Suite 2800
Fort Worth, TX 76102

Location: The proposed project is located along State Highway-4 (SH-4) from West Wilshire Boulevard extending north approximately 3.7 miles to State Highway (SH-3) in Sections 20, 21, 28, 29, and 32, Township 13 North, Range 5 West, on Spring Creek and its unnamed tributaries in Yukon and Piedmont, Canadian County, Oklahoma. The project site can be found on the Bethany, Oklahoma 7.5 Minute USGS Quadrangle map at North Latitude 35.5809181 and West Longitude 97.7452042.

Project Description: This proposed project (ODOT Job Piece 04758(04)) would widen the existing SH-4 two-lane highway to a two-lane configuration with 12-foot (ft) driving lanes and 8 ft shoulders.

The proposed improvements would be on a slight offset to the west and the existing road would remain open to traffic during construction. The intersections at Britton Road, Hefner Road, and 122nd Street would be improved by adding turn lanes. There are seven Reinforced Concrete Boxes (RCBs) that would be improved or replaced within the new offset alignment. Additionally, improvements are needed at certain streams to improve or maintain the drainage within the project footprint and protect SH-4.

Purpose: ODOT proposes to widen SH-4 to the west of the existing alignment while restoring stable channel functions. The overall purpose of this work would reduce curves as well as improve grading and drainage to make sure that this portion of SH-4 is safe for public transportation.

The project is not a water dependent activity.

Summary Table of Impacts:

Original Proposal					
Number or Location (Permanent)	**Impact Activity**	**Type of Water**	**Type of Fill Material**	**Qty of Material cy below OHWM**	**Footprint (ac and/or lf) within OHWM**
Stream 1 (Encl 7)	RCB	Open Water	Steel/Concrete	87.1 cy	0.027 ac 85 lf
Stream 2 (Encl 6 and 7)	RCB	Open Water	Steel/Concrete	496.6 cy	0.154 ac 295 lf
Stream 2 (Encls 6 and 7)	Concrete Lining	Open Water	Steel/Concrete	742.1 cy	0.230 ac 726 lf
Stream 2 (Encls 6 and 7)	RCB	Open Water	Steel/Concrete	22.6 cy	0.007 ac 56 lf
Stream 3 (Encl 6)	RCB	Open Water	Steel/Concrete	12.9 cy	0.004 ac 35 lf
Stream 4 North (Encl 6)	RCB	Open Water	Steel/Concrete	135.5	0.042 ac 303 lf
Stream 4 North (Encl 6)	Channel Change	Open Water	Dirt/Vegetated	626 cy	0.152 ac 1,170 lf
Stream 4 South (Encl 5)	RCB	Open Water	Steel/Concrete	32.3 cy	0.010 ac 109 lf
Stream 5 (Encl 5)	Concrete Lining	Open Water	Steel/Concrete	48.4 cy	0.015 ac 162 lf
Stream 6 (Encl 4)	RCB, Concrete Lining	Open Water	Steel/Concrete	9.7 cy	0.003 lf 27 lf
Pond 2 (Encl 5)	Channel Change	Pond	Dirt/Vegetated Slope	193.6 cy	0.059 ac 125 lf
Number or Location (Temporary)	**Impact Activity**	**Type of Water**	**Type of Fill Material**	**Qty of Material cy below OHWM**	**Footprint (ac and/or lf) within OHWM**
Stream 1 (Encl 7)	Channel Change	Open Water	Riprap	6.5 cy	0.002 ac 18 lf
Stream 1 (Encl 7)	Channel Change	Open Water	Grading/Dirt	25.8 cy	0.08 ac 41 lf

Pond 1 (Encl 7)	Channel Change	Open Water	Dirt/Vegetated	58.1 cy	0.018 ac 30 lf
Stream 2 (Encls 6 and 7)	Channel Change	Open Water	Dirt/Vegetated	67.8 cy	0.021 ac 27 lf
Stream 2 (Encls 6 and 7)	Channel Change	Open Water	Dirt/Natural Bottom	225.9 cy	0.070 ac 376 lf
Stream 3 (Encl 6)	Channel Change	Open Water	Dirt/Natural Bottom	12.9 cy	0.004 ac 34 lf
Stream 4 South (Encl 5)	Channel Change	Open Water	Dirt/Vegetated	83.9 cy	0.026 ac 238 lf
TOTAL:		Permanent Impacts:		2,407.1 cy	0.703 ac 3,093 lf
		RCB & Concrete-Lining: 0.492 ac 1,587.5 cy 1,798 lf	Dirt: 0.211 ac 819.6 cy 1,295 lf		
		Temporary Impacts		480.9 cy	0.149 ac 764 lf
		Dirt: 0.147 ac 474.4 cy 746 lf	Rock Riprap: 0.002 ac 6.5 cy 18 lf		
cubic yards (cy), Ordinary High-Water Mark (OHWM), acre (ac), linear feet (lf) NOTE: Rock Riprap Various Sizes 18-inch to 30-inch					

Description of Work: The applicant proposes to place 2,407.1 cy of fill material consisting of concrete (0.492 ac) and dirt (0.211 ac) that results in permanent impacts to Spring Creek and its unnamed tributaries for the construction of seven RCBs, two channel changes, and three concrete lining projects to widen the SH-4 roadway.

The project also includes seven temporary channel change impacts using rock riprap (0.002 ac) and dirt (0.147 ac) to construct and regrade Spring Creek and its unnamed tributaries.

The ODOT proposal would protect the waters of the United States by providing a vegetative bank (vegetative slope) with natural bottom channel.

Concrete-Lining Channels: Concrete-lined ditches that replace waters of the United States are engineered to provide long-term conveyance and stable channels that limit erosion and maintenance requirements to fill in previously disturbed areas directly abutting the existing culverts.

Rock Riprap: The various sized rock riprap would be used to form a stable channel bed at the upstream and downstream location of Stream 1. This rock riprap would be removed upon completion of the project.

Pond 1: The pond slopes would be re-graded as needed to facilitate conveyance through the right-of-way with vegetated banks to limit erosion and facilitate long-term bank stability.

Pond 2: The existing pond would be breached, and side slopes graded to result in the reduction of the pond area.

The work would be performed using conventional earthmoving equipment such as excavators, wheeled dump trucks, and tracked equipment.

Avoidance and Minimization Information: The applicant provided the following on how avoidance and minimization of impacts to aquatic resources was incorporated into the project plan:

ODOT evaluated alternatives that could avoid and minimize impacts to waters of the United States. This effort included analyzing a No Action Alternative where there would be no improvements to SH-4. The No Action Alternative would not fulfill the purpose and need of the project by failing to correct a narrow roadway with no shoulders and substandard geometry and narrow bridges, which is expected to result in continued safety concerns. As such, it was removed from further consideration. A symmetrical widening alternative was considered during design, however, certain geometric deficiencies, such as vertical curves (hills and valleys) require correction and it is not possible to correct these deficiencies while the road is open to traffic. Therefore, the Symmetrical Widening Alternative was dismissed. An East Offset Alternative was evaluated to allow the road to remain open during construction, but due to housing relocations and the need for additional geometric modifications, it was removed from further consideration. A West Offset with Span bridge alternative was evaluated but would greatly increase costs, and therefore, would not be practicable.

The Proposed Alternative was determined to provide a long-term solution to the problem while also minimizing adverse impacts to aquatic resources. The limits of construction for the proposed project have been reduced to the maximum extent practicable to meet the purpose of the project. ODOT proposes to utilize previously disturbed areas directly adjacent to an existing highway as opposed to a new corridor through undisturbed areas. Stream impacts were limited to the minimum necessary to protect the proposed alignment of SH-4.

The amount of proposed fill materials within waters of the United States was limited to no more than necessary to construct the project. As a result, all but two of the waterbody crossings would not be significantly affected.

Mitigation: Furthermore, the applicant proposes the following as compensatory mitigation for the unavoidable impacts to aquatic resources expected from the proposed project:

ODOT considered various mitigation alternatives to avoid and minimize impacts to most of the stream channels resulting in minimal impact at these crossings. Compensatory mitigation is unwarranted at the majority of the crossings.

Compensatory mitigation is proposed for Stream 2 and Stream 4 North via credits obtained through the Deep Fork Mitigation Bank. Credits were calculated using the July 2021 Oklahoma Stream Mitigation Method (OSMM) as found on the Tulsa District Corps website. OSMM is a methodology used to quantify the number of stream credits that a project will need to mitigate impacts. Stream 2 and Stream 4 North will continue to function as streams and are presumed to remain waters of the waters of the United States (i.e., jurisdictional) following construction. The OSMM was used to quantify existing function and compare it to predicted function following construction.

The proposed permanent impacts would occur exclusively on intermittent streams. The Deep Fork Mitigation Bank only has perennial stream credits. As such, a ratio of 0.5 perennial credits per intermittent credit is proposed. Additionally, the proposed project is located in the secondary service area of the Deep Fork Mitigation Bank which incurs a 1.5 multiplier to credits. The number of perennial stream credits proposed to be purchased for this project is 3,492.4.

The purchase of stream credits from an existing mitigation bank was selected because this type of mitigation represents a preferred method where available as described in the 2008 Mitigation Rule, and for this project, stream credits were available in the secondary service area of the Deep Fork Mitigation Bank.

Government Authorizations obtained or received: N/A

Project Setting: This project is located in rural Canadian County within the Oklahoma Eco-Region of Prairie Tableland (27d) consisting of flat lowland and river valley deposits to support agricultural crops. Primary uses of the land are farming of grains (winter wheat and sorghum).

Existing Condition: Spring Creek is a perennial stream, and its unnamed tributaries have intermittent flows from the southwest to the northeast. The existing two-lane roadway has curves and no shoulders along this alignment on SH-4.

Cultural Resources: The DE is responsible to ensure compliance with the National Historic Preservation Act of 1966 (NHPA) (Public Law 89-665), as amended, and other cultural resources laws and Executive Orders. A preliminary review of the state's records has been completed for the presence of sites included in, or eligible for, inclusion in the National Register of Historic Places, as well as the Oklahoma Landmark Inventory Database. There are no known historic properties, as defined by the NHPA, in or within the vicinity of the proposed permit area.

The Federal Highway Administration (FHWA) is the lead federal agency for this project. ODOT, on behalf of FHWA, determined, pursuant to 36 CFR 800.4(d)(1), that there are

no historic properties affected. The Corps would provide consultation with the State Historic Preservation Office and the State Archaeologist with Corps assessment and determination.

The FHWA consulted with the following tribes: Cheyenne and Arapaho Tribes and Osage Nation on January 5, 2011, and ODOT provided a cultural survey on July 29, 2011.

Threatened and Endangered Species: ODOT received an official species list from the U.S. Fish and Wildlife Service. The IPAC consultation number is 2024-0072789 dated July 18, 2024. ODOT determined that this project will have no effect on the federally listed piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), whooping crane (*Grus americana*), Arkansas River shiner (*Notropis pirardi*), peppered chub (*Macrhybopsis tetranema*), and monarch butterfly (*Danaus plexippus*).

We are currently assessing the potential effects of the proposed action on these species and will comply with the Endangered Species Act with regard to any effect of our decision on this permit application.

Evaluation Factors: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity and its intended use on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownerships, and, in general, the needs and welfare of the people. A permit will be denied if the discharge does not comply with the Environmental Protection Agency's 404(b)(1) Guidelines. Subject to the 404(b)(1) Guidelines and any other applicable guidelines or criteria, a permit will be granted unless the DE determines that it would be contrary to the public interest.

Plans and Data: Plans showing the location of the proposed activity and other data are enclosed with this notice (Enclosures 1 through 21). If additional information is desired, it may be obtained from Mr. Marcus Ware, Tulsa District Corps of Engineers, ATTN: Regulatory Office, 2488 East 81st Street, Tulsa, OK 74137; or by telephone 918-669-7400.

Comments: The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify,

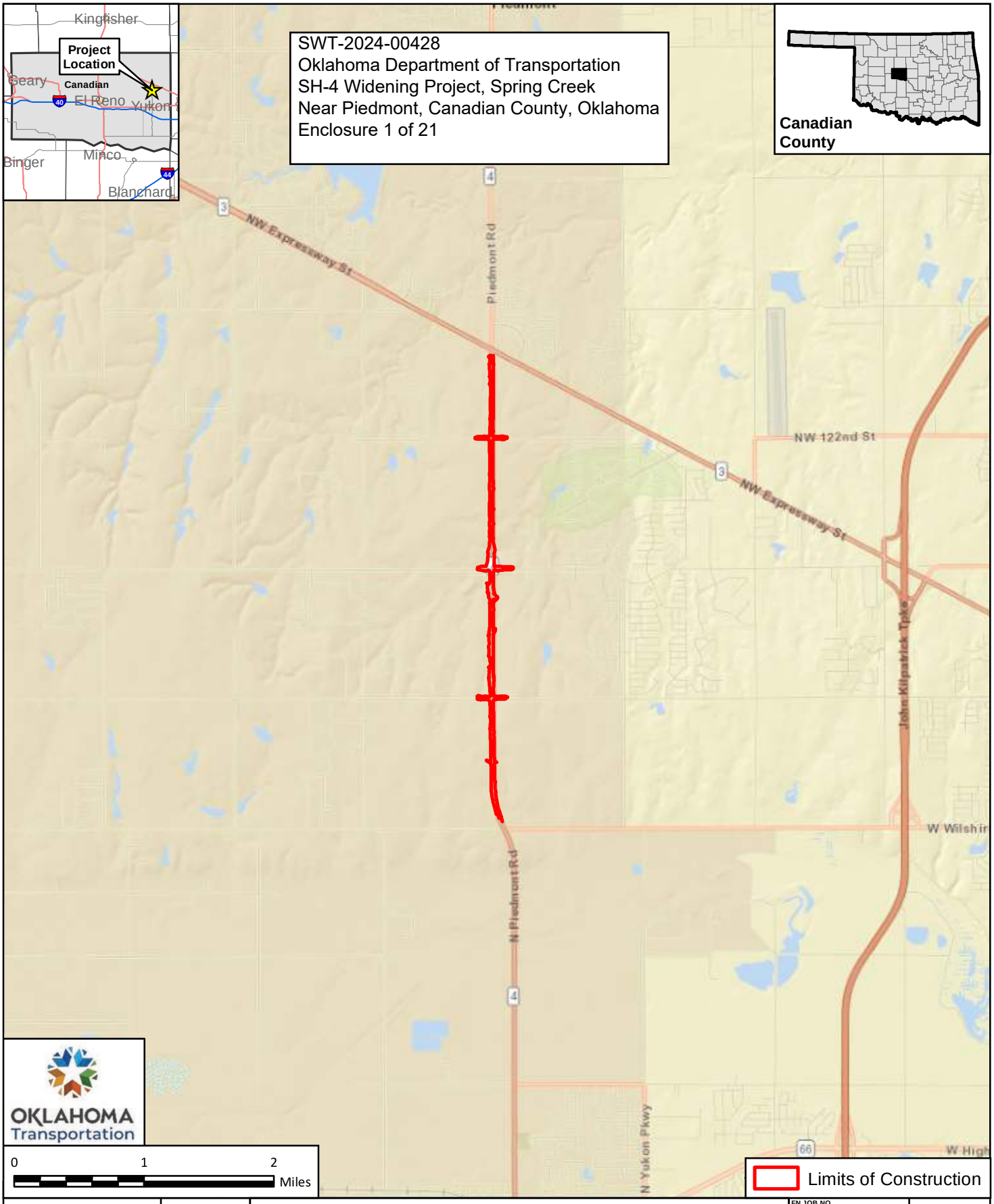
condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any comments on this proposal must be submitted to be received by the Corps by the expiration date of this public notice comment period. Comments received after this date will not be considered in our decision. You may submit comments to mailing address Tulsa District Corps of Engineers, ATTN: Regulatory Office, 2488 East 81st Street, Tulsa, OK 74137 or email CESWT-RO@usace.army.mil. Please include the public notice number SWT-2024-00428 in the subject line of your email message.

Comments concerning water quality impacts will be forwarded to ODEQ for consideration in issuing a Section 401 Water Quality Certification for the proposed project. Work may **not** commence until decisions have been made on both Sections 401 and 404.

Andrew R. Commer
Chief, Regulatory Office

Enclosures



FREESE AND NICHOLS
FREESE AND NICHOLS, INC
3600 NW 138th Street, Suite 202
Oklahoma City, Oklahoma 73134
Phone - (405) 607-7060

OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

Vicinity Map

FN JOB NO	ODT21928
FILE NAME	1_Vicinity_8x11.mxd
DATE	7/11/2024
SCALE	1:63,360
DESIGNED	HHM
DRAFTED	HHM

1
FIGURE

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NAD 1983 StatePlane Oklahoma North FIPS 3501 Feet

SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 2 of 21

Figure 1.8
Figure 1.7
Figure 1.6
Figure 1.5
Figure 1.4
Figure 1.3
Figure 1.2

- On System Bridges
- Limits of Construction
- Proposed Bridge
- Concrete Lined Ditch
- Proposed Channel
- Proposed Culvert
- Proposed Roadway
- Proposed Temporary Roadway
- Proposed Grading

Waterbody Impacts

- Permanent
- Temporary

OKLAHOMA Transportation

0 375 750 1,500 Feet

FREESE AND NICHOLS, INC
3600 NW 138th Street, Suite 202
Oklahoma City, Oklahoma 73134
Phone - (405) 607-7060

OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

Waterbody Impacts Map

FN JOB NO	ODT21928
FILE	1_Waterbody_11x17
DATE	8/30/2024
SCALE	1:18,000
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FIGURE 1.1

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SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 3 of 21

N Piedmont Rd

N Piedmont Rd

N Piedmont Rd

W Wilshire Blvd

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OKLAHOMA Transportation

0 50 100 200 Feet

On System Bridges
Limits of Construction
Proposed Bridge
Concrete Lined Ditch
Proposed Channel
Proposed Culvert
Proposed Roadway
Proposed Temporary Roadway
Proposed Grading

Waterbody Impacts

Permanent
Temporary

FREESE AND NICHOLS, INC
3600 NW 138th Street, Suite 202
Oklahoma City, Oklahoma 73134
Phone - (405) 607-7060

N W E S

OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

Waterbody Impacts Map

FN JOB NO	ODT21928
FILE	1_Waterbody_11x17
DATE	8/30/2024
SCALE	1:2,400
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FIGURE 1.2

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SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 4 of 21

Stream 6
Permanent: 27 lf/0.003 ac
Temporary: 0 lf/0.0 ac

W Britton Rd

N Piedmont Rd

On System Bridges
Limits of Construction
Proposed Bridge
Concrete Lined Ditch
Proposed Channel
Proposed Culvert
Proposed Roadway
Proposed Temporary Roadway
Proposed Grading

Waterbody Impacts
Permanent
Temporary

OKLAHOMA Transportation

0 50 100 200 Feet

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Oklahoma City, Oklahoma 73134
Phone - (405) 607-7060

N W E S

OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

Waterbody Impacts Map

FN JOB NO	ODT21928
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SCALE	1:2,400
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FIGURE 1.3

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SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 5 of 21

Pond 2
Permanent: 125 lf/0.059 ac
Temporary: 0 lf/0.0 ac

Stream 4 South
Permanent: 109 lf/0.010 ac
Temporary: 238 lf/0.026 ac

Stream 5
Permanent: 162 lf/0.015 ac
Temporary: 0 lf/0.0 ac

N Piedmont Rd

On System Bridges
Limits of Construction
Proposed Bridge
Concrete Lined Ditch
Proposed Channel
Proposed Culvert
Proposed Roadway
Proposed Temporary Roadway
Proposed Grading

Waterbody Impacts
Permanent
Temporary

OKLAHOMA Transportation

0 50 100 200 Feet

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3600 NW 138th Street, Suite 202
Oklahoma City, Oklahoma 73134
Phone - (405) 607-7060

N W E S

OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

Waterbody Impacts Map

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SCALE	1:2,400
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FIGURE 1.4

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SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 6 of 21

Spring Creek (Stream 2)
Permanent: 1077 lf/0.391 ac
Temporary: 403 lf/0.091 ac

Stream 3
Permanent: 35 lf/0.004 ac
Temporary: 34 lf/0.004 ac

Stream 4 North
Permanent: 1473 lf/0.194 ac
Temporary: 0 lf/0.0 ac

W Hefner Rd
N Piedmont Rd

On System Bridges
Limits of Construction
Proposed Bridge
Concrete Lined Ditch
Proposed Channel
Proposed Culvert
Proposed Roadway
Proposed Temporary Roadway
Proposed Grading

Waterbody Impacts
Permanent
Temporary

OKLAHOMA Transportation

0 50 100 200 Feet

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OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

Waterbody Impacts Map

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FIGURE 1.5

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SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 7 of 21

Stream 1
Permanent: 85 lf/0.027 ac
Temporary: 59 lf/0.010 ac

Pond 1
Permanent: 0 lf/0.0 ac
Temporary: 30 lf/0.018 ac

Spring Creek (Stream 2)
Permanent: 1077 lf/0.391 ac
Temporary: 403 lf/0.091 ac

N Piedmont Rd

On System Bridges
Limits of Construction
Proposed Bridge
Concrete Lined Ditch
Proposed Channel
Proposed Culvert
Proposed Roadway
Proposed Temporary Roadway
Proposed Grading

Waterbody Impacts
Permanent
Temporary

OKLAHOMA Transportation

0 50 100 200 Feet

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Oklahoma City, Oklahoma 73134
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N W E S

OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

Waterbody Impacts Map

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SCALE	1:2,400
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FIGURE 1.6

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SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 8 of 21

N Piedmont Rd

NW 122nd St

NW 122nd St

N Piedmont Rd

N Piedmont Rd

On System Bridges

Limits of Construction

Proposed Bridge

Concrete Lined Ditch

Proposed Channel

Proposed Culvert

Proposed Roadway

Proposed Temporary Roadway

Proposed Grading

Waterbody Impacts

Permanent

Temporary

OKLAHOMA Transportation

0 50 100 200 Feet

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OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

Waterbody Impacts Map

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FIGURE 1.7

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SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 9 of 21

NW Expressway
N Piedmont Rd
3

On System Bridges
Limits of Construction
Proposed Bridge
Concrete Lined Ditch
Proposed Channel
Proposed Culvert
Proposed Roadway
Proposed Temporary Roadway
Proposed Grading

Waterbody Impacts

Permanent
Temporary

OKLAHOMA Transportation

0 50 100 200 Feet

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Canadian County, Oklahoma JP04758(04)

Waterbody Impacts Map

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FIGURE 1.8

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FOR SURVEY CONTROL DATA, SEE SURVEY DATA SHEET S1-S36

LOCATION MAP
DIVISION IV

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY

STATE AID PROJECT NO. STP-009C(249)PM △
GRADING, DRAINAGE, SURFACING, & BRIDGE PLANS
BRIDGE 'A' LOCATION 0928 0500XC (NBI NO. 30423)
BRIDGE 'B' LOCATION 0928 0510X (NBI NO. 30422)

CANADIAN COUNTY

STATE HIGHWAY 4
CONTROL SECTION NO. 04-09-28
STATE JOB NO. 04758(04)

SEE SHEET 2 FOR INDEX OF SHEETS AND LIST OF STANDARDS

DESIGN DATA

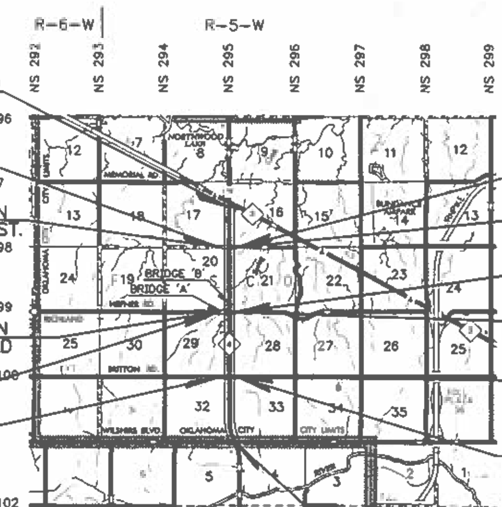
ADT 2022	= 5,845
ADT 2042	= 10,248
DHV	= 656 VPH
D	= 60%
T (% DHV)	= 4%
T (% ADT)	= 5%
T3 (% ADT)	= 3%
V	= 65 MPH
FLEX. ESALS (20 YR.)	= 2.5 M

SCALES
PLAN 1" = 50'
PROFILE HOR. 1" = 50'
VER. 1" = 5'
LAYOUT MAP 1" = 5,000'

LEVEL DATA IS MEAN SEA LEVEL (USC&GS) BEARINGS ARE FROM OBSERVATION OF POLARIS.

CONVENTIONAL SYMBOLS
- PROPOSED ROAD
- RAILROADS
- RANGE & TOWNSHIP
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- GROUND LINE
- EXISTING ROADS
- BASE LINE
- GRADE LINES
- TELEPHONE & TELEGRAPH
- POWER LINES
- BUILDINGS
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING
- RIGHT-OF-WAY LINES - NEW
- RIGHT-OF-WAY MARKERS - IN PLACE
- RIGHT-OF-WAY MARKERS - REMOVE & REPLACE
- RIGHT-OF-WAY MARKERS - NEW
- CONTROLLED ACCESS
- RIGHT-OF-WAY FENCE

STA. 381+17.79 END PROJECT S.H. 4
STA. 11+00.00 BEGIN INCIDENTAL CONST. N.W. 122nd ST.
STA. 11+99.00 BEGIN CONST. N.W. 122nd ST.
STA. 11+72.00 BEGIN CONST. HEFNER ROAD
STA. 11+50.00 BEGIN INCIDENTAL CONST. HEFNER ROAD
STA. 11+65.00 BEGIN CONST. BRITTON ROAD



STA. 24+00.00 END INCIDENTAL CONST. N.W. 122nd ST.
STA. 22+99.00 END CONST. N.W. 122nd ST.
STA. 25+50.00 END CONST. HEFNER ROAD
STA. 26+00.00 END INCIDENTAL CONST. HEFNER ROAD
STA. 22+94.00 END CONST. BRITTON ROAD
STA. 24+00.00 END INCIDENTAL CONST. BRITTON ROAD
STA. 192+85.12 BEGIN PROJECT S.H. 4

STA. 14+93.72 HEFNER RD. BEG. BRIDGE 'A'
BRIDGE LENGTH = 42.57 FT.
STA. 15+36.29 HEFNER RD. END BRIDGE 'A'

STA. 301+00.37 S.H. 4 BEG. BRIDGE 'B'
BRIDGE LENGTH = 39.26 FT.
STA. 301+39.63 END BRIDGE 'B'

*PROJECT LENGTH BASED ON S.H. 4 CRL.

ROADWAY LENGTH	18,793.41 FT.	3.559 MI.
BRIDGE LENGTH	39.26 FT.	0.007 MI.
PROJECT LENGTH		*3.566 MI.

EQUATIONS: NONE
EXCEPTIONS: NONE

TRIAD DESIGN GROUP
3020 N.W. 149TH STREET
OKLAHOMA CITY, OK 73134
PH (405) 752-1122
CA# 1798, RENEWAL 06-30-2026

BRIAN E. SCHMITT
REGISTERED PROFESSIONAL ENGINEER NO. 15836
DATE 4/29/24

OKLAHOMA DEPARTMENT OF TRANSPORTATION
DATE APPROVED
BY
CHIEF ENGINEER

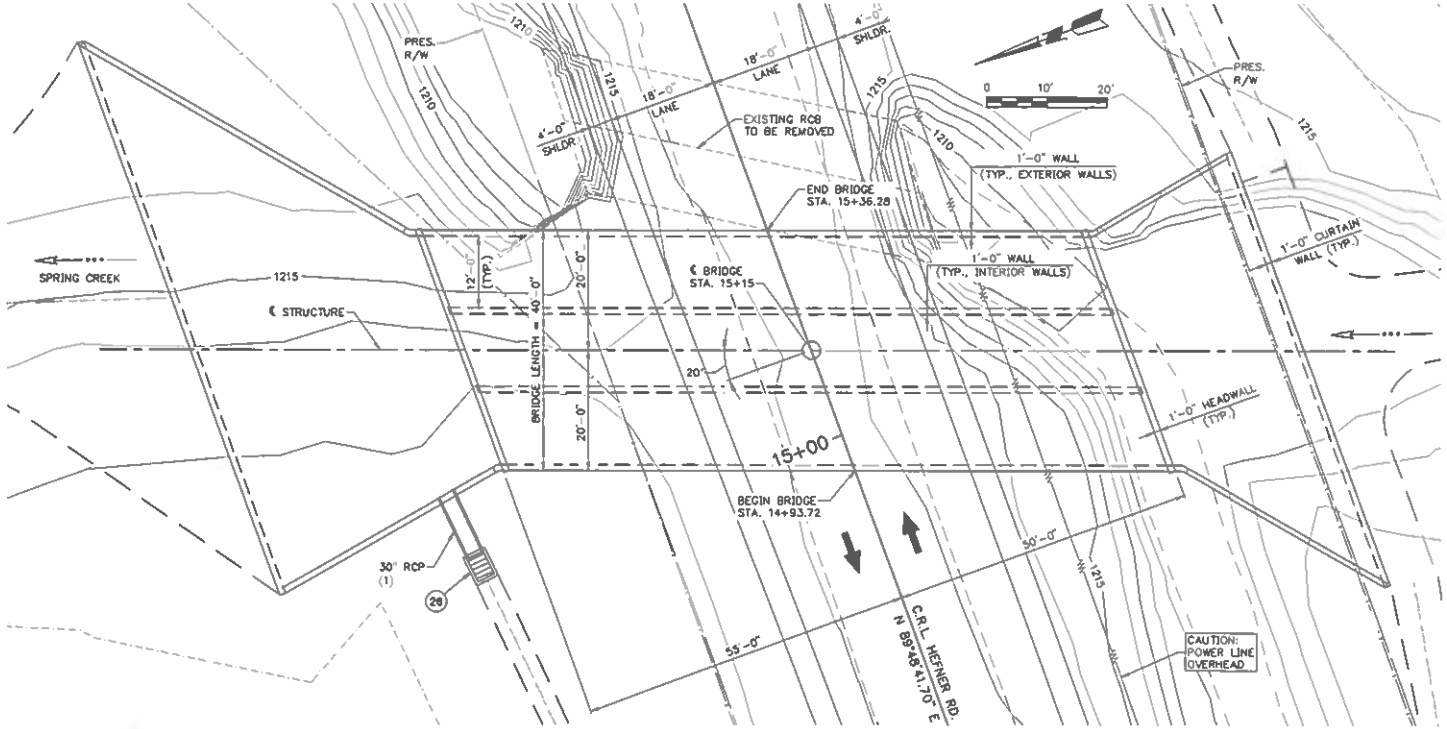
DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED
BY
DIVISION ADMINISTRATOR

SWO S.A. PROJECT NO. STP-009C(249)PM SHEET NO.0001

P.E. NO. 04758(01)
TRIAD DESIGN GROUP/...

2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, DECEMBER 18, 2019.

SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 10 of 21

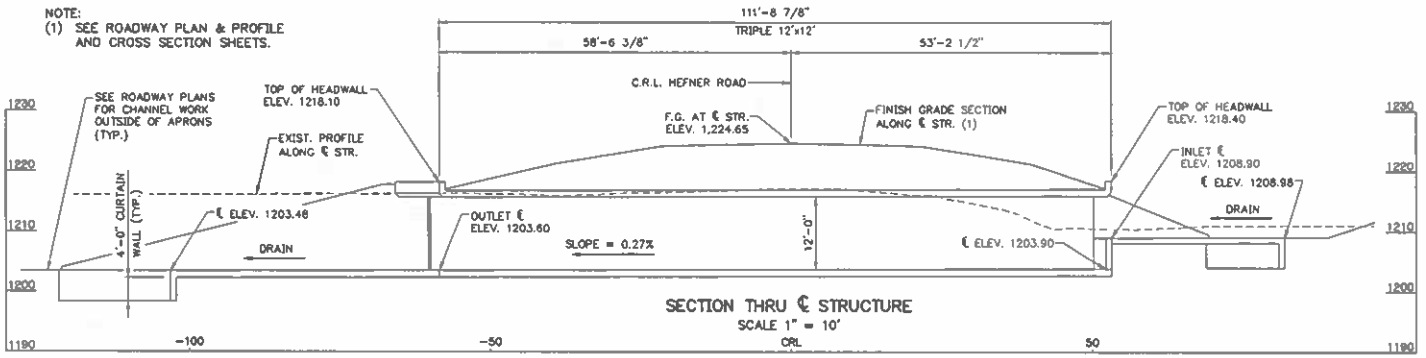


PLAN
SCALE 1" = 10'

BM#498 ~ ¾" IRON BAR
℄ SURVEY STA. 364+37.50 419.81' LT.
ELEV. = 1220.13

BM#50 ~ ¾" IRON BAR
℄ SURVEY STA. 370+07.42 243.69' LT.
ELEV. = 1218.73

NOTE:
(1) SEE ROADWAY PLAN & PROFILE AND CROSS SECTION SHEETS.



SECTION THRU ℄ STRUCTURE
SCALE 1" = 10'

INDEX OF SHEETS – BRIDGE 'A'

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN DATA

CLASS "AA" CONCRETE F'C = 4,000 PSI
REINFORCING STEEL FY = 60,000 PSI

LOADING: HL-93 AND ODOT OVERLOAD TRUCK

BARREL DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2007 EDITION, WITH 2008 INTERIMS.

END SECTION DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2014 EDITION, WITH 2018 INTERIMS.

THE FOLLOWING STANDARDS SHALL BE REQUIRED:

SBI-5-2
RCB-C3-12(2-12)-02E

NOTES:
ALL STATIONING FOLLOWS C.R.L. HEFNER ROAD, UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES DURING CONSTRUCTION.

FOR CHANNEL WORK DETAILS, SEE THE CHANNEL PLAN AND PROFILE SHEETS AND CROSS-SECTIONS. (ROADWAY ITEMS).

EXISTING BRIDGE NOTE:

THE EXISTING BRIDGE SHALL BE REMOVED IN ACCORDANCE WITH THE NOTES ON SHEET NO. AB01.

SUMMARY OF QUANTITIES - BRIDGE 'A'

DESCRIPTION	UNIT	TOTAL
UNCLASSIFIED EXCAVATION	CY	5,940.00
STRUCTURAL EXCAVATION UNCLASSIFIED	CY	310.00
CLASS AA CONCRETE	CY	831.50
REINFORCING STEEL	LB	142,930.00
REMOVAL OF EXISTING BRIDGE STRUCTURE	LSUM	1.00

HYDRAULIC DATA

TOTAL D.A. = 1.99 SQ. MI.
CONTROLLED D.A. = 0.00 SQ. MI.
EFFECTIVE D.A. = 1.99 SQ. MI.

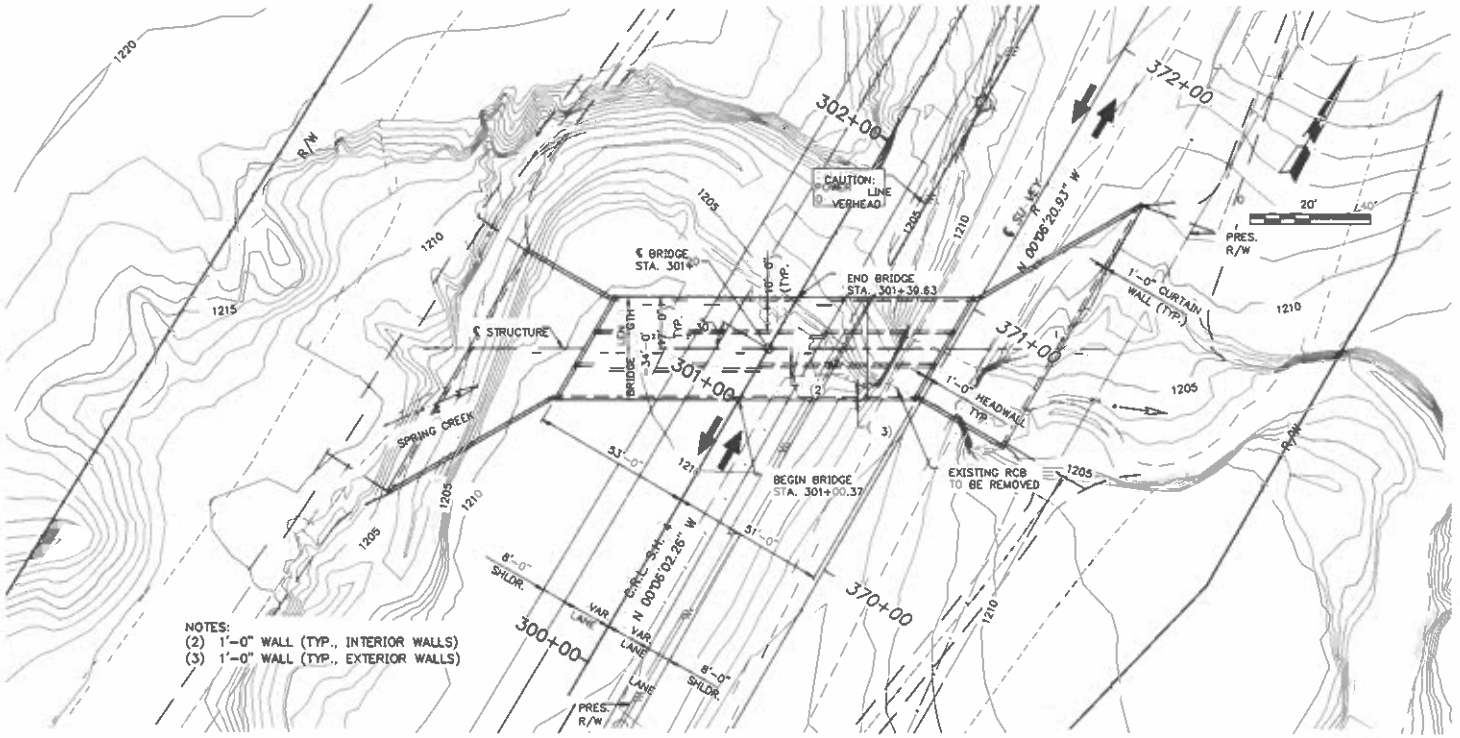
Q2	=	250 CFS	Q50	=	1870 CFS
V2	=	6.07 FPS	V50	=	11.67 FPS
Q2 CHW	=	1214.23 FT.	Q50 CHW	=	1217.07 FT.
Q5	=	360 CFS	Q100	=	2420 CFS
V5	=	7.94 FPS	V100	=	12.94 FPS
Q5 CHW	=	1215.53 FT.	Q100 CHW	=	1218.12 FT.
Q10	=	890 CFS	Q0.T.= Q173	=	2700 CFS
V10	=	9.27 FPS	V0.T.	=	13.37 FPS
Q10 CHW	=	1216.21 FT.	O.T. CHW	=	1218.67 FT.
Q25	=	1460 CFS	Q500	=	3940 CFS
V25	=	10.93 FPS	V500	=	11.98 FPS
Q25 CHW	=	1216.78 FT.	Q500 CHW	=	1219.70 FT.

CONST. 3-12'x12' BRIDGE BOX WITH SP. HEADWALLS, WINGS, APRONS AND 4' CURTAIN WALLS, SKEWED 20° L.F.

GENERAL PLAN AND ELEVATION – BRIDGE 'A'
BRIDGE 'A' C.R.L. HEFNER ROAD STA. 15+15
CONST. TRIPLE 12'x12'x12' LG. BOX, SKEWED 20° L.F.
State Job No. 04758(04) Sheet No. B001

S.H. 4
CANADIAN COUNTY

SWT-2024-00428
Oklahoma Department of Transportation SH-4
Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 11 of 21



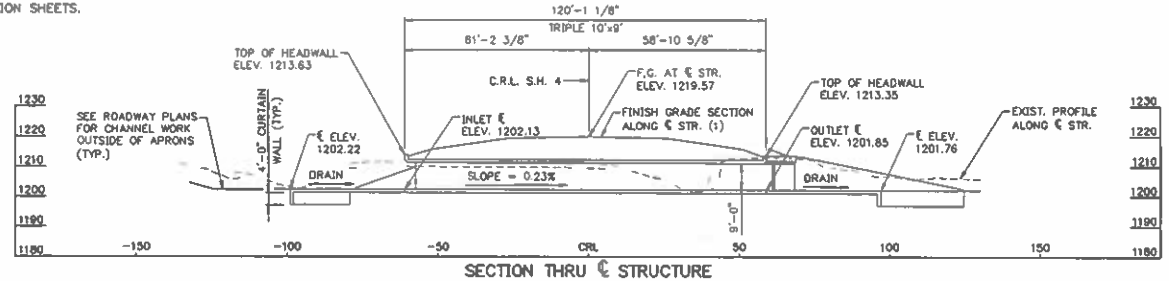
NOTES:
(2) 1'-0" WALL (TYP., INTERIOR WALLS)
(3) 1'-0" WALL (TYP., EXTERIOR WALLS)

BM#50 ~ ¾" IRON BAR
℄ SURVEY STA. 370+07.42 243.69' LT.
ELEV. = 1218.73

PLAN
SCALE 1" = 20'

BM#51 ~ 1½" IRON BAR
℄ SURVEY STA. 377+18.86 155.57' LT.
ELEV. = 1230.44

NOTE:
(1) SEE ROADWAY PLAN & PROFILE AND CROSS SECTION SHEETS.



SECTION THRU ℄ STRUCTURE
SCALE 1" = 20'

INDEX OF SHEETS – BRIDGE 'B'

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN DATA

CLASS "AA" CONCRETE F'C = 4,000 PSI
REINFORCING STEEL FY = 60,000 PSI

LOADING: HL-93 AND ODOT OVERLOAD TRUCK

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 2007 EDITION, WITH 2008 INTERIMS.

THE FOLLOWING STANDARDS SHALL BE REQUIRED:

SBI-5-2
RCB-C3-10(2-12)-02E
RCB-E3-H9-30-1-01E
RCB-E3-H9-30-2-01E
RCB-E3-H9-30-3-01E
RCB-CW3-04-30-01E

NOTES:
ALL STATIONING FOLLOWS C.R.L. S.H 4, UNLESS NOTED OTHERWISE.

THE CONTRACTOR SHALL MAINTAIN DRAINAGE AT ALL TIMES DURING CONSTRUCTION.

FOR CHANNEL WORK DETAILS, SEE THE CHANNEL PLAN AND PROFILE SHEETS AND CROSS-SECTIONS. (ROADWAY ITEMS).

EXISTING BRIDGE NOTE:

THE EXISTING BRIDGE SHALL BE REMOVED IN ACCORDANCE WITH THE NOTES ON SHEET NO. A801.

SUMMARY OF QUANTITIES - BRIDGE 'B'

DESCRIPTION	UNIT	TOTAL
UNCLASSIFIED EXCAVATION	CY	3,300.00
STRUCTURAL EXCAVATION UNCLASSIFIED	CY	268.00
CLASS AA CONCRETE	CY	725.40
REINFORCING STEEL	LB	107,210.00
REMOVAL OF EXISTING BRIDGE STRUCTURE	SUM	1.00

HYDRAULIC DATA

TOTAL D.A.	=	1.99 SQ. MI.			
CONTROLLED D.A.	=	0.00 SQ. MI.			
EFFECTIVE D.A.	=	1.99 SQ. MI.			
Q2	=	250 CFS	Q50	=	1870 CFS
V2	=	8.07 FPS	V50	=	11.87 FPS
Q2 CHW	=	1206.04 FT.	Q50 CHW	=	1211.24 FT.
Q5	=	360 CFS	Q100	=	2420 CFS
V5	=	7.94 FPS	V100	=	12.94 FPS
Q5 CHW	=	1207.70 FT.	Q100 CHW	=	1212.46 FT.
Q10	=	890 CFS	Q500	=	3940 CFS
V10	=	9.27 FPS	V500	=	11.58 FPS
Q10 CHW	=	1208.78 FT.	Q500 CHW	=	1215.86 FT.
Q25	=	1460 CFS	QO.T. > Q500		
V25	=	10.93 FPS	O.T. ELEV.	=	1219.58 FT.
Q25 CHW	=	1210.36 FT.			

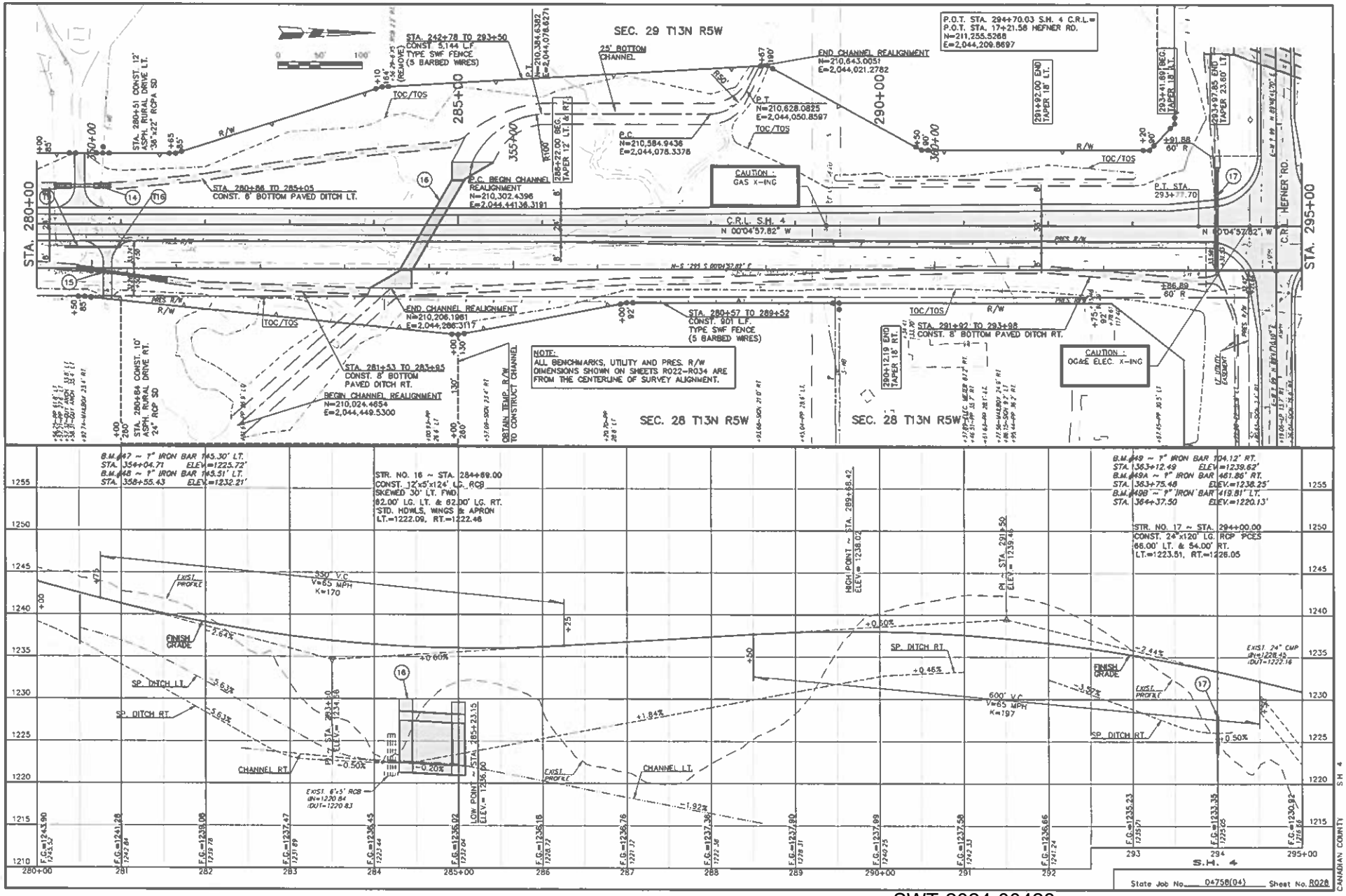
CONST. 3-10'x9' BRIDGE BOX WITH STD. HEADWALLS, WINGS, APRONS AND 4' CURTAIN WALLS, SKEWED 30° R.F.

GENERAL PLAN AND ELEVATION – BRIDGE 'B'

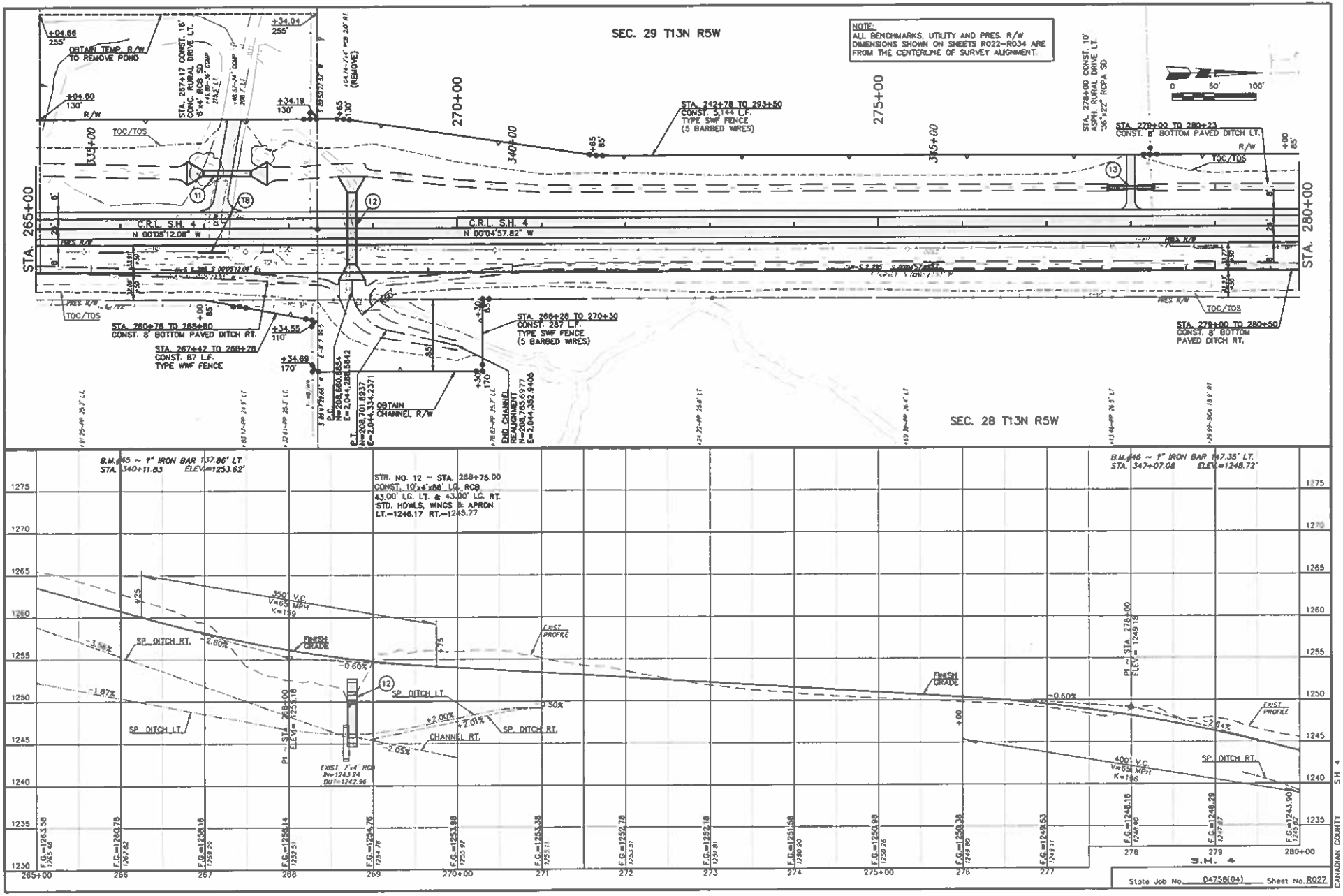
BRIDGE 'B' C.R.L. S.H. 4 STA. 301+20
CONST TRIPLE 10'x9'x120' LG. BOX, SKEWED 30° R.F
State Job No. 04758(04) Sheet No. B010

CANADIAN COUNTY S.H. 4

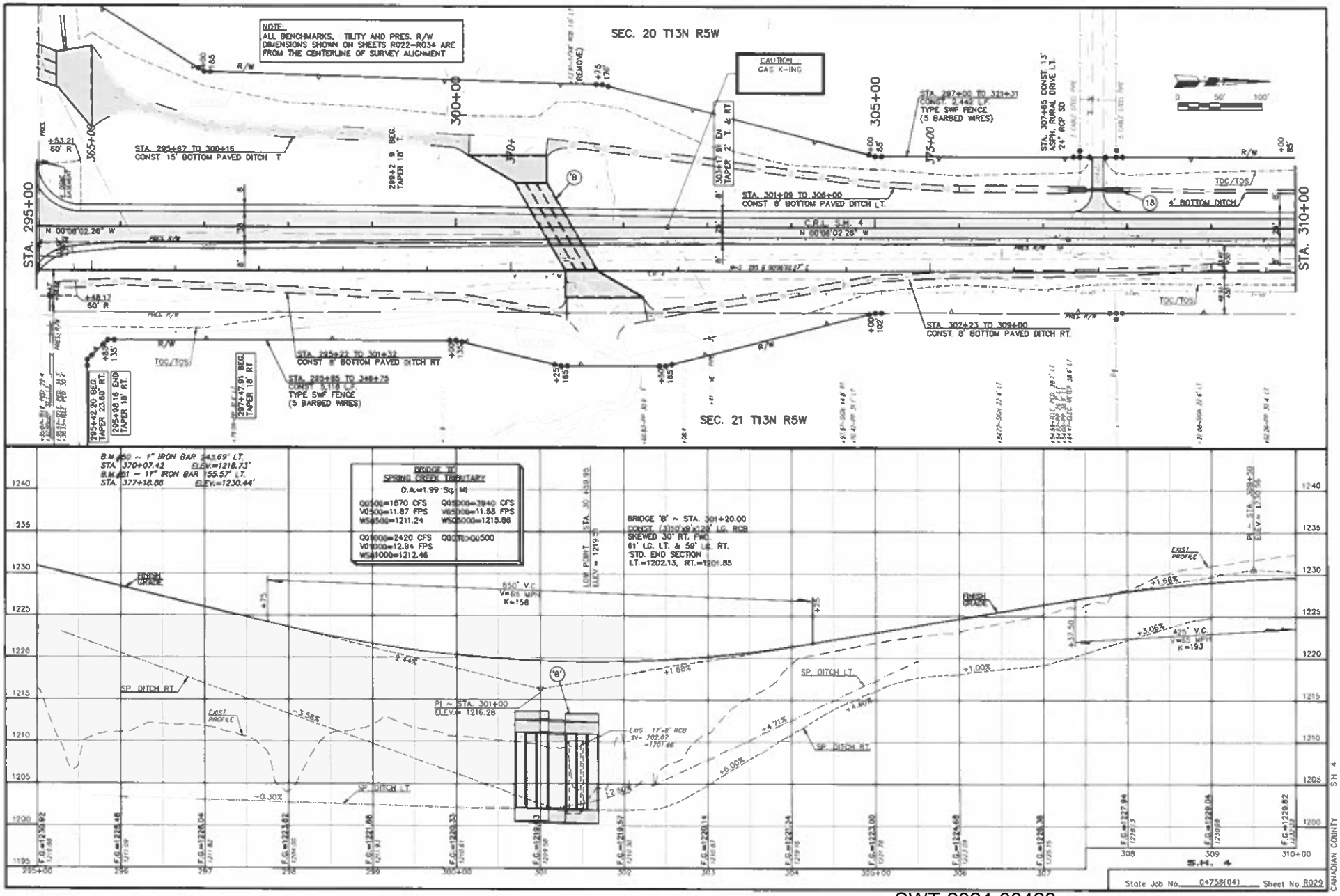
SWT-2024-00428
Oklahoma Department of Transportation SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 12 of 21



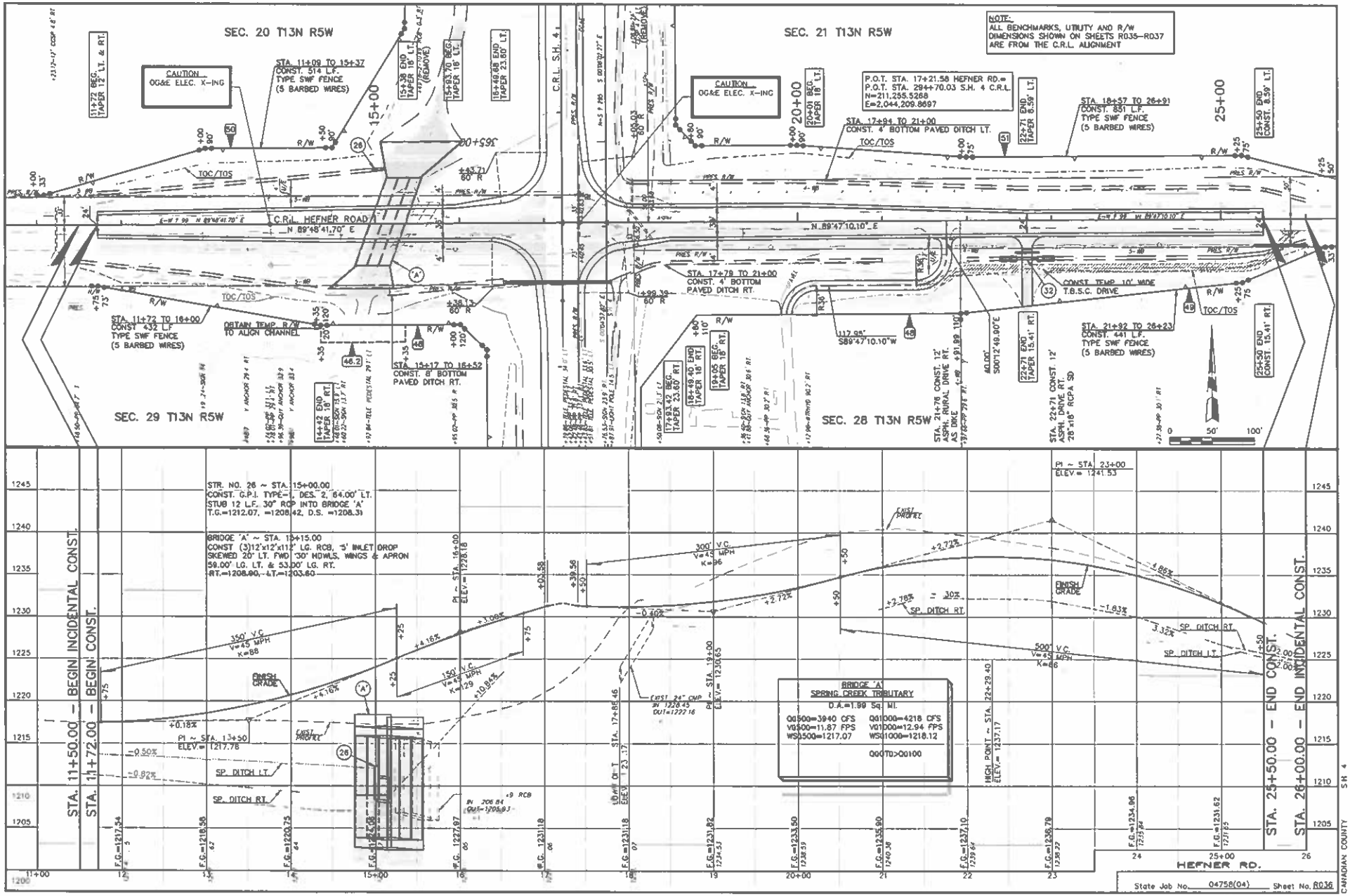
SWT-2024-00428
Oklahoma Department of Transportation SH-4
Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 13 of 21



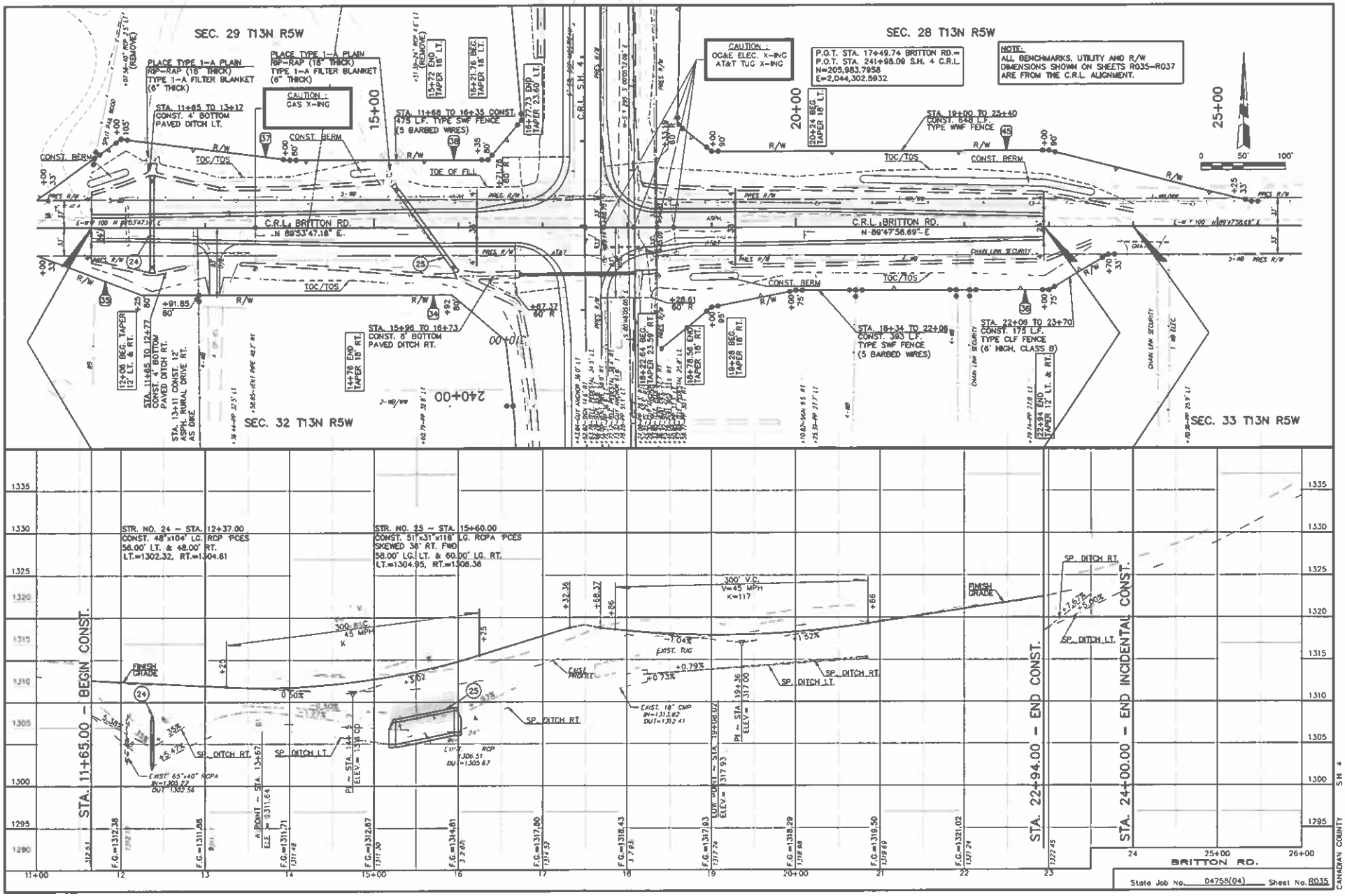
SWT-2024-00428
Oklahoma Department of Transportation SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 14 of 21



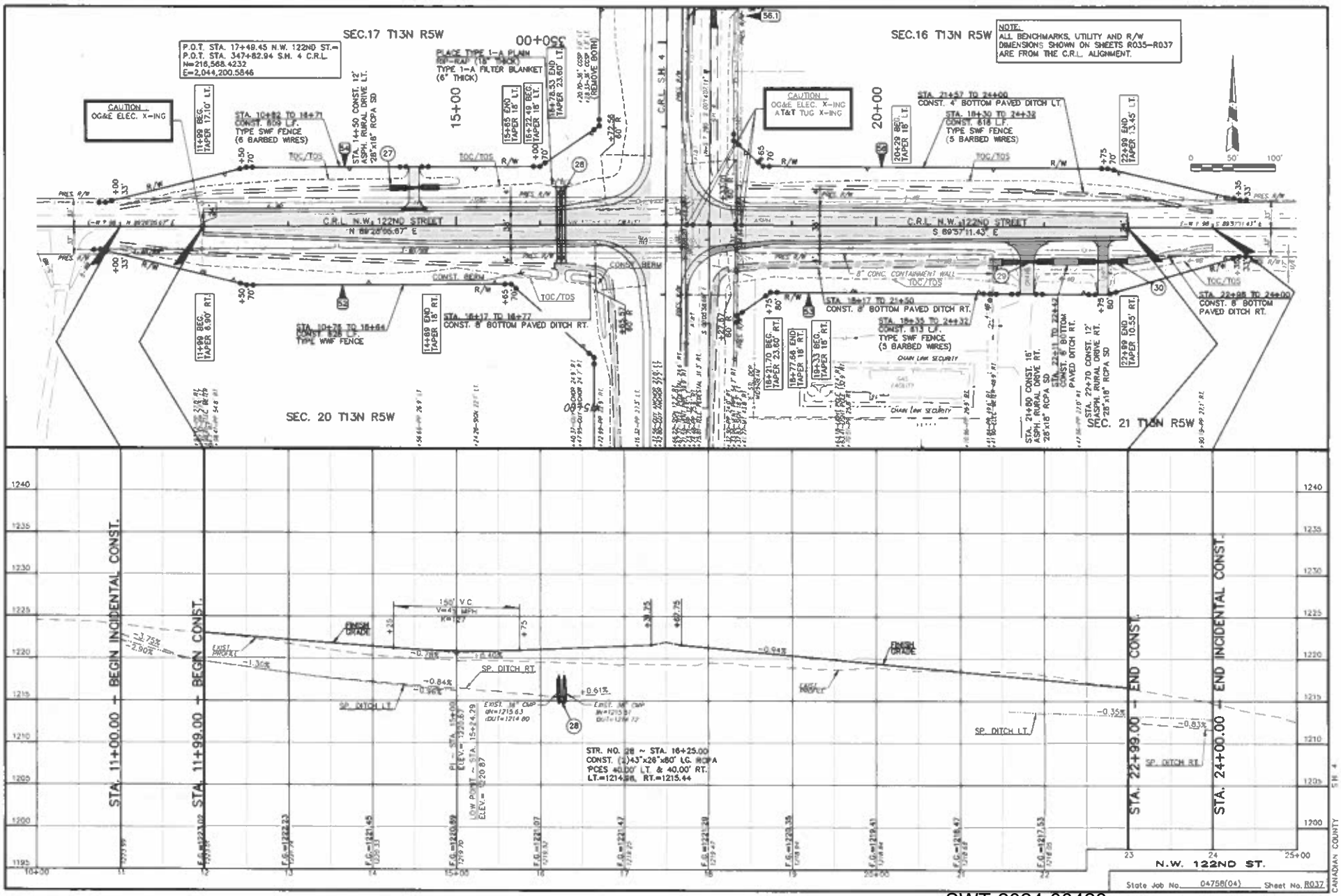
SWT-2024-00428
Oklahoma Department of Transportation SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 15 of 21



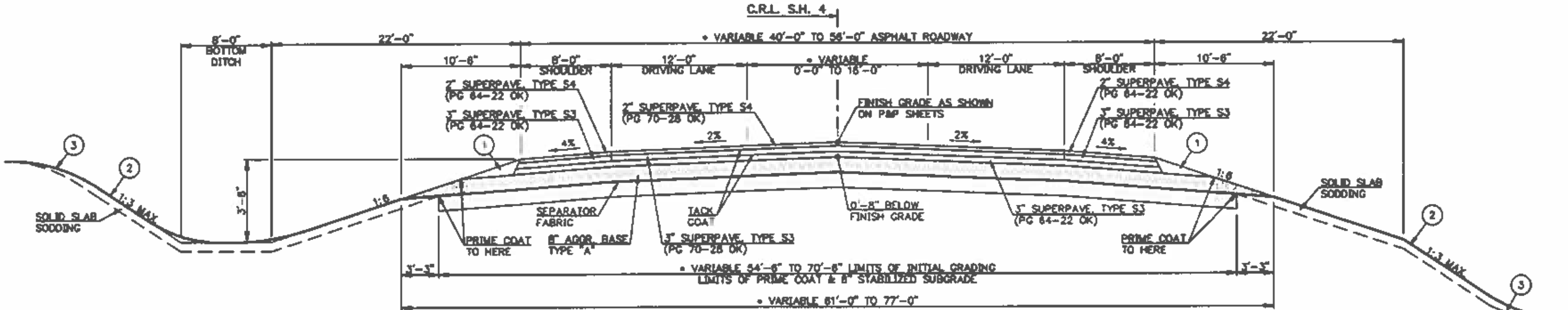
SWT-2024-00428
Oklahoma Department of Transportation SH-4
Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 16 of 21



SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 17 of 21

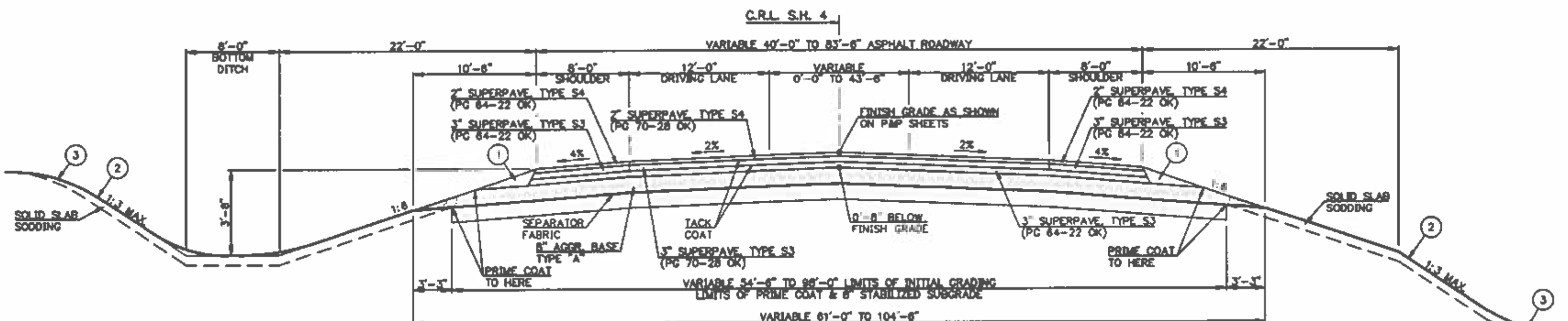


SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County,
Oklahoma Enclosure 18 of 21



TYPICAL SECTION NO. 1

STA. 192+85.12 TO STA. 367+04.61
- STA. 192+85.12 TO STA. 207+86.52
- STA. 235+29.00 TO STA. 250+46.00
- STA. 286+22.00 TO STA. 303+17.91
- STA. 339+35.26 TO STA. 356+29.90



TYPICAL SECTION NO. 2

STA. 367+04.61 TO STA. 381+17.79

OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

Typical Roadway Sections

FREESE AND NICHOLS, INC
3600 NW 138th Street, Suite 202
Oklahoma City, Oklahoma 73134
Phone - (405) 607-7060

OKLAHOMA Transportation

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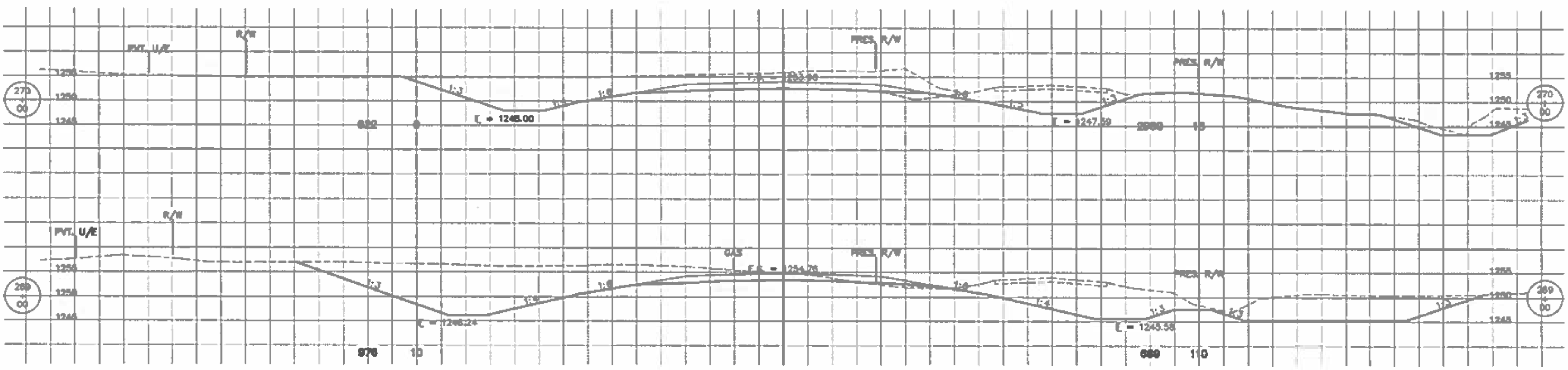
FIGURE

SWT-2024-00428
Oklahoma Department of Transportation SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 19 of 21



OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

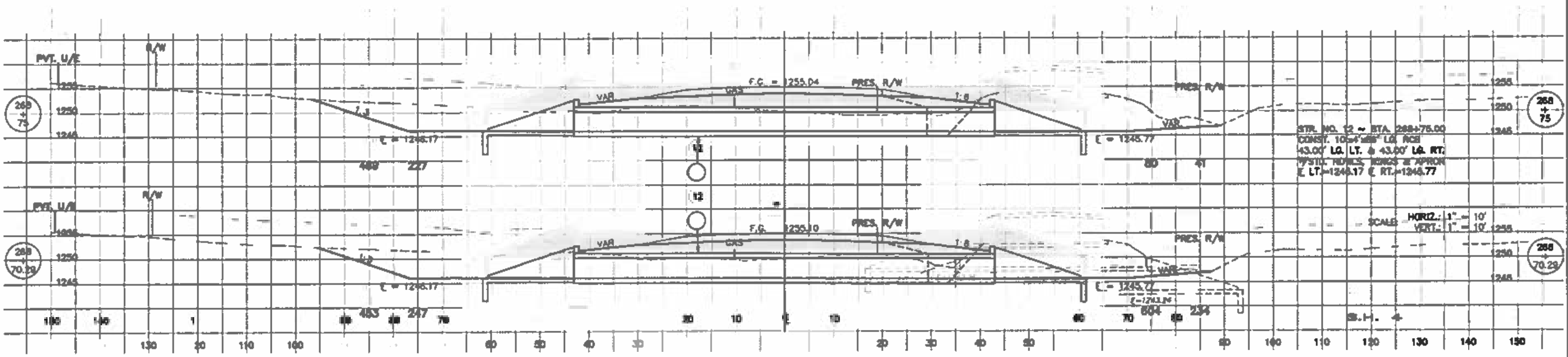
Typical Concrete Channel

FREESE AND NICHOLS, INC.

OKLAHOMA Transportation

4
FIGURE

SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County, Oklahoma
Enclosure 20 of 21



OKLAHOMA DEPARTMENT OF TRANSPORTATION
Grade, Drain, and Surface SH-4
Canadian County, Oklahoma JP04758(04)

Typical Reinforced Concrete Box

FREESE NICHOLS
FREESE AND NICHOLS, INC
3600 NW 138th Street, Suite 202
Oklahoma City, Oklahoma 73134
Phone - (405) 607-7060

OKLAHOMA Transportation

5
FIGURE

SWT-2024-00428
Oklahoma Department of Transportation
SH-4 Widening Project, Spring Creek
Near Piedmont, Canadian County,
Oklahoma Enclosure 21 of 21