REVISION		
REV. NO.	DESCRIPTION	DATE
1	REVISED PROJECT NO.	8/4/16

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED

UNITED STATES HIGHWAY

FEDERAL AID PROJECT NO. ACNHPP-013N(017)SS
STATE JOB NO. 14999(04)
GRADE, DRAIN, SURFACE AND BRIDGE PLANS
U.S. HIGHWAY NO. 69 AND COMANCHE AVENUE

PITTSBURG COUNTY

CONTROL SECTION NO. 69 - 61 - 03

BRIDGE 'Q' & 'R' LOCATION No. 6103 0358X - NBI No. 21985
BRIDGE 'S' LOCATION No. 6103 0368EX - NBI No. 13847
BRIDGE 'T' LOCATION No. 6103 0368WX - NBI No. 13848

SURVEY DATA

See Survey Data Sheets for Survey Control Data.

DESIGN DATA

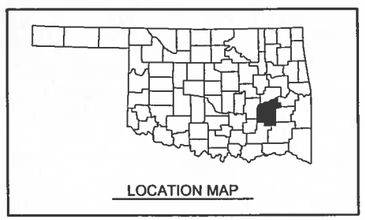
AADT 2016	26,300
AADT 2036	36,300
K (DHV/ADT)	9%
D	56%
T (% DHV)	17%
T (% ADT)	24%
T(3)	19%
Flex ESALS (20yr)	101.2 M
Rigid ESALS (20yr)	173.0 M
Design Speed	
V (Existing Mainline)	55 MPH
V (Mainline)	70 MPH
V (Frontage Roads)	40 MPH
V (Local Streets)	25 MPH

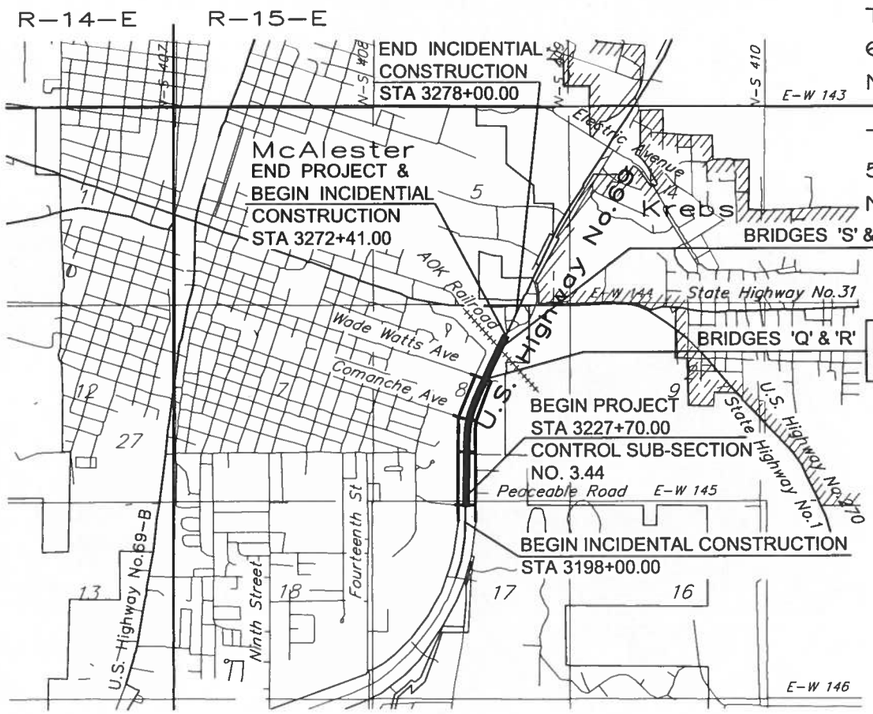
SCALES

Plan	1:50'
Profile Horizontal	1:50'
Profile Vertical	1:5'
Layout Map	1:2000'

CONVENTIONAL SIGNS

- Proposed Roads
- Railroads
- Township and Range Lines
- Section Lines
- Quarter–section Lines
- Fences
- Ground Line
- Existing Roads
- Base Lines
- Grade Lines
- Telephone & Telegraph Line
- Power Lines
- Oil Wells
- Buildings
- Drainage Structures – Existing
- Drainage Structures – New
- Present R/W — Right–of–Way Lines – Existing
- R/W — Right–of–Way Lines – New
- Controlled Access
- Right–of–Way Fence





McAlester, Oklahoma Krebs, Oklahoma
(Inc. Population 17,783) (Inc. Population 2,051)
This entire project is located within Pittsburg County, Oklahoma.

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION – ENGLISH GOVERN. APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

PROJECT LENGTH BASED ON U.S. HIGHWAY NO. 69 CONSTRUCTION REFERENCE LINE (CRL) STATIONING

ROADWAY LENGTH	4,208.38 FT		0.797 MI.
BRIDGE LENGTH	262.62 FT		0.049 MI.
PROJECT LENGTH			0.846 MI.
EQUATIONS	NONE	EXCEPTIONS	NONE

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PREPARED BY:
CRAIG & KEITHLINE, INC.
6940 S. Utica Avenue
Tulsa, Oklahoma 74136
(918) 743 - 6611

REGISTERED PROFESSIONAL ENGINEER — KEVIN A. KRIEWALL 14850 — OKLAHOMA

By _____ Date 8/4/16
Kevin A. Kriewall, P.E.
Oklahoma Reg. No. 14850

REGISTERED PROFESSIONAL ENGINEER — ROBIN D. SEWELL 16173 — OKLAHOMA

By _____ Date 8/4/16
Robin D. Sewell, P.E.
Oklahoma Reg. No. 16173

Craig & Keithline, Inc.
Oklahoma Certificate of Authorization No. 1216
Renewal Date - June 30, 2018

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED :	DATE APPROVED :
BY	BY
CHIEF ENGINEER	DIVISION ADMINISTRATOR

SWO 3751(1) Project No. SSP–161N(208)SS Sheet No. 1

BRIDGE
PROJECT MANAGER . . . . . Greg Allen
SQUAD. . . . . WHITE ENGINEERING, INC.
CHECKED BY. . . . . WHITE ENGINEERING, INC.
DATE . . . . . January 2004

ROADWAY
PROJECT MANAGER . . . . . Mohamed Nazari–Robati, P.E.
SQUAD. . . . . CRAIG & KEITHLINE, INC.
CHECKED BY. . . . . CRAIG & KEITHLINE, INC.
DATE . . . . . April 2006

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11	BRIDGE GENERAL NOTES
12	RAILROAD NOTES – BRIDGE "S" AND BRIDGE "T"
13–14	SUMMARY OF BRIDGE PAY QUANTITIES
15	PAY QUANTITIES AND NOTES (SIGNING AND STRIPING)
16	PAY QUANTITIES AND NOTES (TRAFFIC CONTROL)
17	LIGHTING PAY QUANTITIES AND NOTES
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49	GUARDRAIL DETAILS
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52	INLET–LONGITUDINAL BARRIER – TYPE I
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54	STRUCTURE P1 DETAILS
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REVISION		
REV. NO.	DESCRIPTION	DATE

SUGGESTED SEQUENCE OF CONSTRUCTION

PHASE 1

- INSTALL ALL MAINLINE & SIDE STREET ADVANCE WARNING SIGNS.
- CONSTRUCT J–TURN AND LEFT TURN LANE.
- DROP INSIDE LANE OF NORTHBOUND US–69 TRAFFIC IN ADVANCE OF PEACEABLE ROAD. MAINTAIN SINGLE OUTSIDE LANE TRAFFIC. SHIFT NORTHBOUND TRAFFIC TO THE INSIDE LANE IN ADVANCE OF BRIDGE "R" AND SHIFT BACK TO NORMAL LOCATION NORTH OF BRIDGE 'S' AND WORK AREA.
- INSTALL PORTABLE LONGITUDINAL BARRIER.
- DROP OUTSIDE LANE OF SOUTHBOUND US–69 TRAFFIC IN ADVANCE OF BRIDGE 'T'. MAINTAIN SINGLE INSIDE LANE TRAFFIC. SHIFT SOUTHBOUND TRAFFIC TO THE OUTSIDE LANE AFTER BRIDGE "Q" AND MAINTAIN SINGLE OUTSIDE LANE TRAFFIC TO SOUTH PEACEABLE ROAD AND WORK AREA.
- INSTALL PORTABLE LONGITUDINAL BARRIER.
- WIDEN BRIDGES 'Q', 'R', AND 'S' AND US–69 FROM STA 3259+96.23 TO 3272+41.00.
- CLOSE WADE WATTS AVENUE, AND CONSTRUCT WADE WATTS AVENUE, THE LEFT & RIGHT FRONTAGE ROADS AND RAMP 'A' & 'B'.
- CONSTRUCT CROSSOVERS AT STA 3252+00 TO 3255+50 AND STA 3225+65 TO 3227+50.

PHASE 2

- SWITCH LEFT AND RIGHT FRONTAGE ROADS TO ONE WAY NORTH OF PEACEABLE ROAD AND INSTALL AS MUCH OF THE PERMANENT STRIPE AND SIGNING AS POSSIBLE.
- OPEN WADE WATTS TO TRAFFIC.
- STRIPE AND SIGN SOUTHBOUND US–69 LANES NORTH OF PEACEABLE ROAD TO SOUTH OF BRIDGE Q FOR TWO–LANE/TWO–WAY TRAFFIC.
- SWITCH NORTHBOUND US–69 TRAFFIC TO CROSSOVER UTILIZING DETOUR.
- INSTALL PORTABLE LONGITUDINAL BARRIER.
- CONSTRUCT THE US–69 NORTHBOUND LANES FROM STA 3227+70 TO STA 3258+25.

PHASE 3

- SWITCH NORTHBOUND US–69 TRAFFIC TO NEW US–69 OUTSIDE LANE.
- DROP INSIDE LANE OF SOUTHBOUND US–69 TRAFFIC IN ADVANCE OF BRIDGE 'T'. MAINTAIN SINGLE OUTSIDE LANE TRAFFIC. SHIFT SOUTHBOUND TRAFFIC TO TO CROSSOVER SOUTH OF BRIDGE 'Q' TO THE INSIDE LANE OF NEW US–69 NORTHBOUND LANE FOR TWO–LANE/TWO–WAY TRAFFIC TO CROSSOVER NORTH OF SOUTH PEACEABLE ROAD AND WORK AREA.
- INSTALL PORTABLE LONGITUDINAL BARRIER.
- CONSTRUCT JOINT REHAB WORK ON BRIDGES 'Q','R','T', AND 'T'.
- INSTALL US–69 MERGING LANE TAPERS AND CONSTRUCT CROSSOVERS NORTH OF PEACEABLE ROAD TO CONNECT MAINLINE TO THE EXISTING FRONTAGE ROADS.
- INSTALL PERMANENT STRIPING AND SIGNING TO NEW SOUTHBOUND US–69 BETWEEN CROSSOVERS.

PHASE 4

- CONSTRUCT THE US–69 SOUTHBOUND LANES FROM STA 3228+50 TO STA 3255+50.
- COMPLETE REMAINING US–69 SOUTH OF BRIDGE 'Q' AND 'R' STA 3255+00 TO 3258+25
- COMPLETE SIGN & STRIPE & NORMALIZE TRAFFIC
- COMPLETE REMAINING MISCELLANEOUS ITEMS.

NOTE: SEE PHASED CONSTRUCTION AND TRAFFIC CONTROL PLANS FOR ADDITIONAL DETAILS.

NOTE: CONTRACTOR MAY SUBMIT, IN WRITING, AN ALTERNATE SEQUENCE OF CONSTRUCTION TO BE APPROVED BY THE ENGINEER.

STANDARD DRAWINGS

ROADWAY(2009 Stds.)

SSS–1–1	PSE–1–0	SPI–4–1
TSC1–3–2	WCR–3–1	SPB–1–4
TSC2–3–2	TWD–1–0	FHTMPP–1–0
TSD–2–0	PCES–4–1	FHTCP–3–1
TRFD–1–2	SMD–3–1	SBI–4–2
ASCD–5–2	SSCD–3–1	PUD–3–2
CSCD–5–3	CI–1–2	CLB–1–2
LECS–4–1	SSIF–4–0	DC–3–2
LTU–4–0	CIG–3–0	PDT–1–3
PR–3–0	MFC–4–1	SUEL1–3–2
PCPR–3–1	MJB–3–1	SUEL3–3–2
PED–3–2	GPI–4–0	

ROADWAY(1999 Stds.)

RCB1H–1–02E

TRAFFIC(2009 Stds.)

PM1–1–02	MSD2–1–00	GMS1–1–00	TCS4–1–01	TCS17–1–00	CCD1–1–00
PM2–1–01	MSD3–1–01	GMS2–1–00	TCS5–1–00	TCS18–1–01	CCD2–1–00
PM3–1–02	MSD4–1–00	SSP1–1–02	TCS6–1–02	TCS19–1–01	PBD1–1–00
PM4–1–01	MSD5–1–00	SSA1–1–00	TCS7–1–02	TCS20–1–00	GMF1–2–00
PM6–1–00	SIS2–1–00	SSA2–1–00	TCS8–1–00	TCS21–1–02	PPD1–2–00
MOD1–1–00	SIS4–1–00	FGS2–1–01	TCS9–1–01	TCS22–1–00	HLD1–2–00
RSD1–1–00	SBS1–1–00	SPA1–1–00	TCS10–1–00	TCS24–1–02	UPD1–1–00
RSD2–1–00	SBS2–1–00	TSSP1–1–00	TCS11–1–01	TCS25–1–00	UPD2–1–00
WSD1–1–00	SBS3–1–00	SWD1–1–00	TCS12–1–00	THRI–1–02	SPD1–1–00
WSD2–1–00	SBS4–1–00	TCS1–1–01	TCS13–1–00	GA31–1–00	SCD1–1–00
WSD3–1–00	SBS5–1–00	TCS2–1–00	TCS14–1–00	GHW1–1–00	TEWD1–2–00
MSD1–1–00	SBS6–1–00	TCS3–1–01	TCS15–1–00	GHW2–1–00	

TRAFFIC(1999 Stds.)

BBD1–1–00E
HLP1–1–00E
HLP2–1–00E

BRIDGE(2009 Stds.)

SFP1–2–00E
FSHP–42–2–00E
EJ–SK–03E
EJ–DTL–01E
HP1–2–00E
RCB–C1–3&4&5(2–20)–01E
RCB–C1–8(2–14)–01E
RCB–C1–10(2–14)–01E

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
7/19/16

Design	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

INDEX OF SHEETS AND SEQUENCE OF CONSTRUCTION

JOB PIECE NO. 14999(04) — SHEET NO. 2

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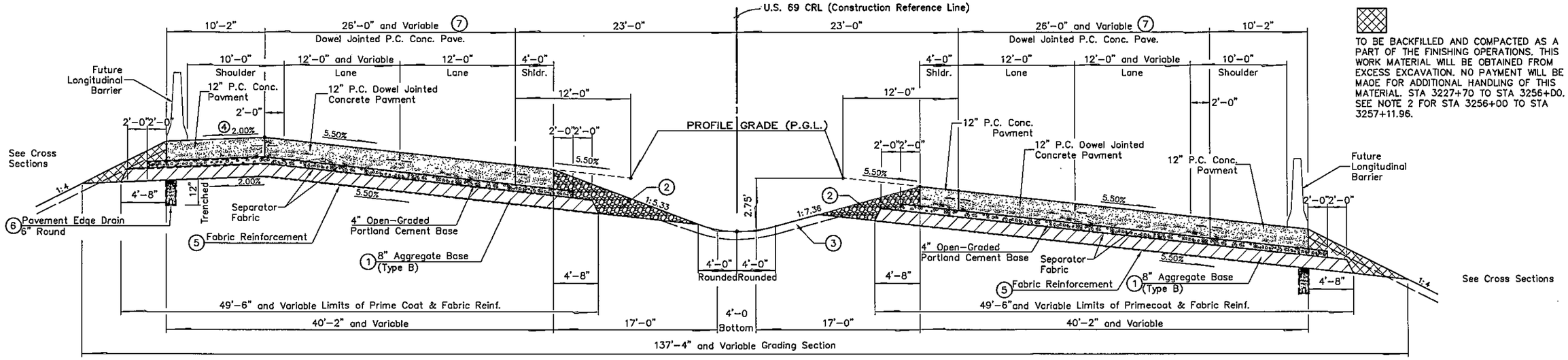
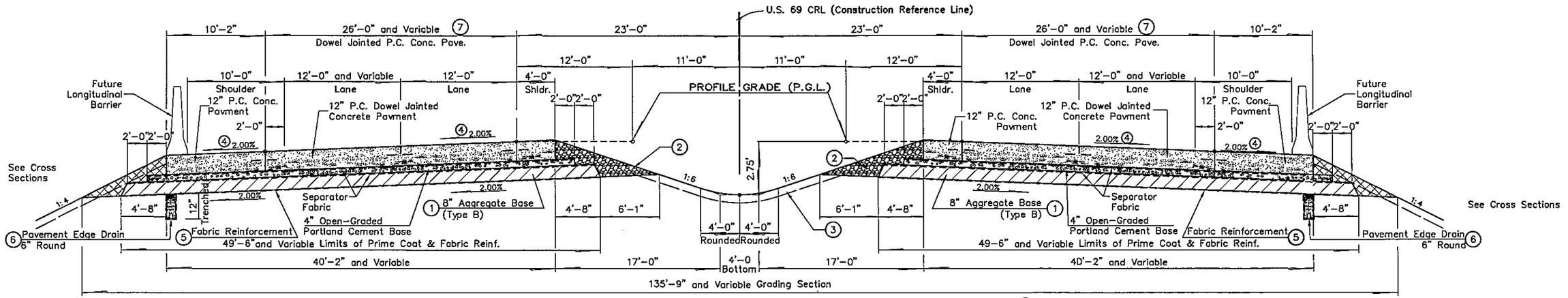


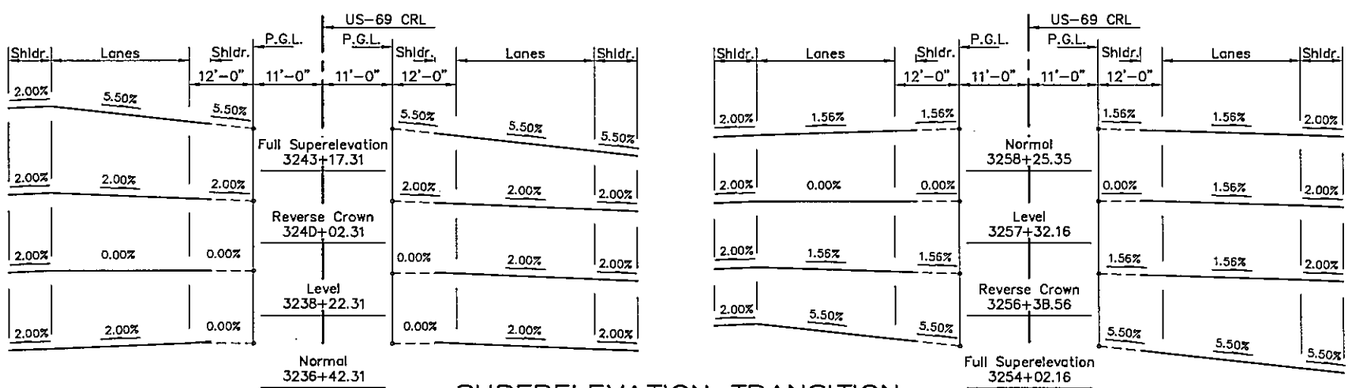
TYPICAL SECTION NO. 2 (FULL SUPER)

CRL U.S. 69 STA 3243+17.31 TO STA 3254+02.16



TYPICAL SECTION NO. 1

CRL U.S. 69 STA 3227+70.00 TO STA 3243+17.31
CRL U.S. 69 STA 3254+02.16 TO STA 3257+11.96



SUPERELEVATION TRANSITION U.S. 69

(1) PRIME COAT TO BE APPLIED FULL WIDTH TO THE TOP AND BOTTOM OF THE AGGREGATE BASE.

(2) BACKFILL NOTE:
THIS AREA TO BE BACKFILLED WITH TBSC TYPE "E" AND COMPACTED AS PART OF THE FINISHING OPERATIONS IN A MANNER APPROVED BY THE ENGINEER.

(3) TOPSOIL NOTE:
THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATION. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATIONS SHALL BE INCLUDED IN THE PAY ITEM SALVAGED TOPSOIL, LUMP SUM.

THE GRADING LINE AS SHOWN ON THE TYPICAL AND CROSS SECTIONS IS TO THE TOP OF THE TOPSOIL EARTHWORK QUANTITIES WERE NOT ADJUSTED FOR SALVAGE AND THE TOPSOIL QUANTITY IS INCLUDED IN THE MASS LINE BALANCE.

(4) NORMAL CROSS SLOPE WILL BE AS SHOWN ON THE TYPICAL SECTIONS. FOR SUPER TRANSITION SEE TRANSITION DETAILS THIS SHEET. FOR TRANSITION TO MATCH AT EXISTING PAVEMENT SEE SHEET 8.

(5) FABRIC REINFORCEMENT: GOETEXTILE TO MEET ODDT SPEC. 712.05.

(6) PAVEMENT EDGE DRAIN : PROVIDE OUTLET LATERALS AT 300' ON CENTER MAXIMUM SPACING OR CONNECT TO NEAREST DRAINAGE STRUCTURE. SEE ODOT STD. PED–3. END EDGE DRAIN AT STA. 3256+00

(7) SEE PAVING PLAN AND DETAILS SHEET 42 THRU 45.

REGISTERED PROFESSIONAL ENGINEER
RODNEY D. SEWELL
16173
OKLAHOMA
7/18/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		**TYPICAL SECTIONS**
Checked	CKE		
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) — SHEET NO. 3

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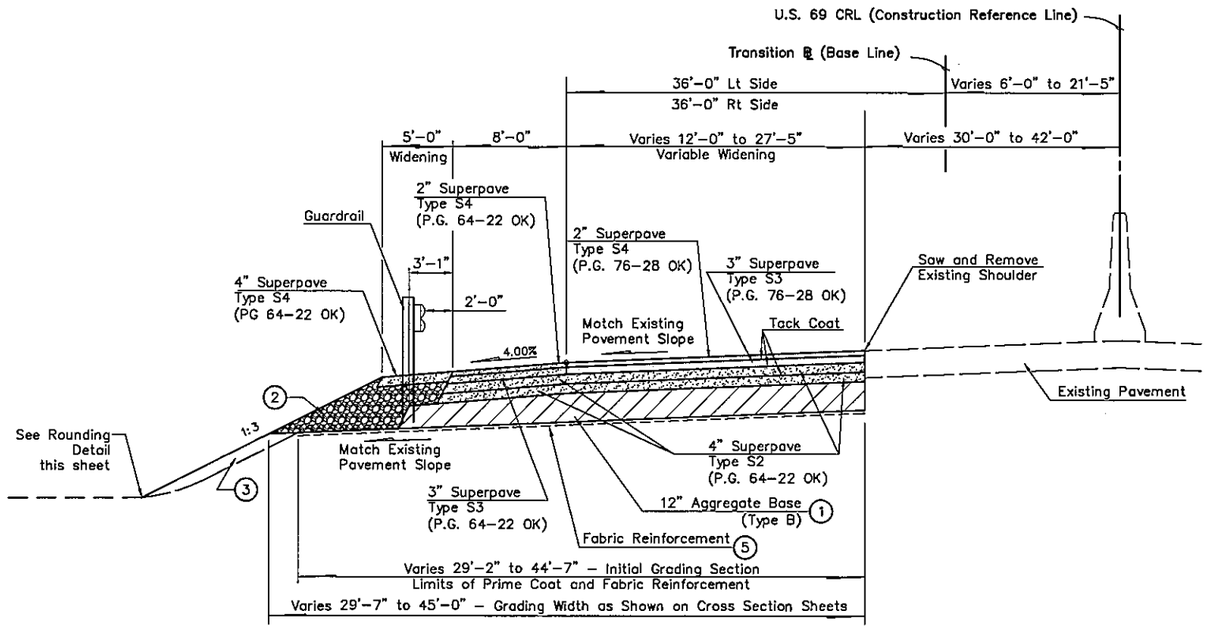
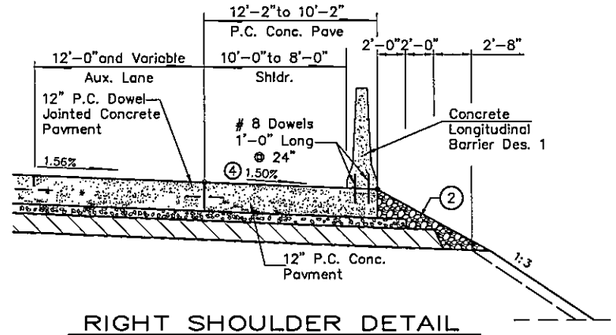
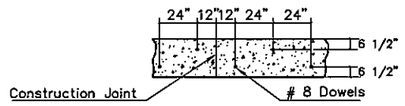


TYPICAL HALF SECTION NO. 4

CRL U.S. 69 Sta 3259+96.23 to Sta 3265+20.00 LT
CRL U.S. 69 Sta 3259+96.23 to Sta 3265+50.65 RT
CRL U.S. 69 Sta 3267+74.83 to Sta 3272+41.00 RT



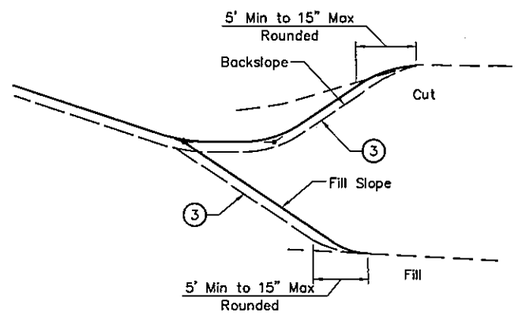
RIGHT SHOULDER DETAIL
FOR TYPICAL HALF SECTION NO. 3



DOWEL PLACEMENT LAYOUT
FOR CONCRETE LONGITUDINAL BARRIER
(PLAN VIEW)

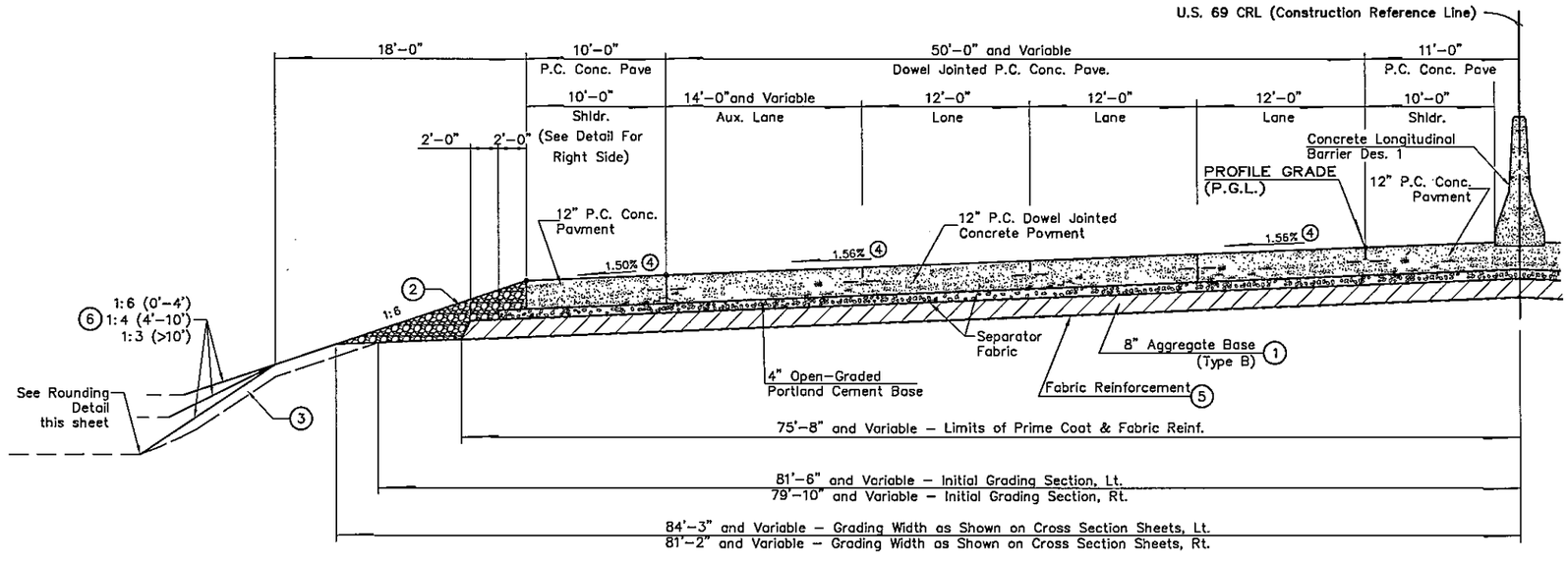
CONCRETE LONGITUDINAL BARRIER NOTE

THE CONTRACTOR MAY INSTALL A 1" DEEP NOTCH IN PAVEMENT AS SHOWN IN ODOT STD. CLB-1 ON CENTER BARRIER WALL ONLY AS AN OPTION TO INSTALLING THE DOWEL AS SHOWN. DOWEL BARS ARE REQUIRED ON THE OUTSIDE SHOULDER. REINFORCING STEEL FOR DOWEL BARS SHALL BE GRADE 60, EPOXY COATED. COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE LONGITUDINAL BARRIER DES. 1.



TOP OF CUT - TOE OF FILL
ROUNDING DETAIL

INTERSECTION OF CUT AND FILL SLOPES WITH THE GROUND LINE ARE TO BE ROUNDED AS A PART OF THE FINISHING OPERATIONS. ROUNDING SHALL BE 5' MINIMUM FOR SMALLER CUTS AND FILLS, TO 15' MAXIMUM FOR LARGER CUTS AND FILLS OR AS DESIGNATED BY THE ENGINEER. COST OF ROUNDING TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK.



TYPICAL HALF SECTION NO. 3

CRL U.S. 69 STA 3257+11.96 TO STA 3558+25.35

1. PRIME COAT TO BE APPLIED FULL WIDTH TO THE TOP AND BOTTOM OF THE AGGREGATE BASE.
2. BACKFILL NOTE:
   THIS AREA TO BE BACKFILLED WITH TBSC TYPE "E" AND COMPACTED AS PART OF THE FINISHING OPERATIONS IN A MANNER APPROVED BY THE ENGINEER.
3. TOPSOIL NOTE:
   THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATION. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATIONS SHALL BE INCLUDED IN THE PAY ITEM SALVAGED TOPSOIL, LUMP SUM.

   THE GRADING LINE AS SHOWN ON THE TYPICAL AND CROSS SECTIONS IS TO THE TOP OF THE TOPSOIL EARTHWORK QUANTITIES WERE NOT ADJUSTED FOR SALVAGE AND THE TOPSOIL QUANTITY IS INCLUDED IN THE MASS LINE BALANCE.
4. SEE TRANSITIONS DETAILS ON SHEET NO. 3.
5. FABRIC REINFORCEMENT: GOETEXTILE TO MEET ODOT SPEC. 712.05.
6. DISTANCE MEASURED VERTICALLY FROM THE EDGE OF FINISHED SHOULDER.

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA
7/8/16

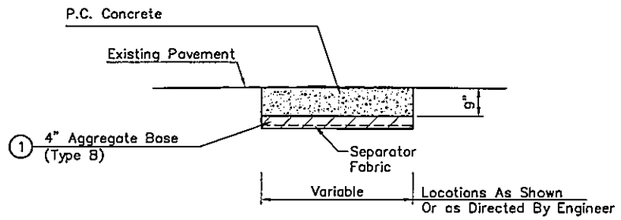
Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE AVENUE — PITTSBURG COUNTY

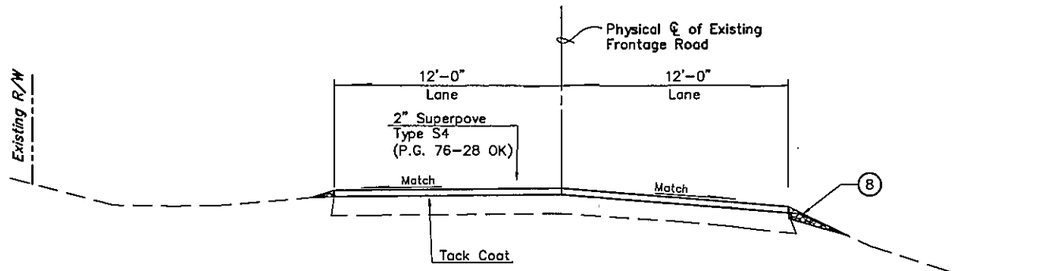
TYPICAL SECTIONS

JOB PIECE NO. 14999(04) — SHEET NO. 4

S:\Projects\ODOT\US 69 Comanche\Acaddwg\ACAD PROJECT 1\US69comi004-US69 typical.dwg, 7/14/2016 10:46:54 AM

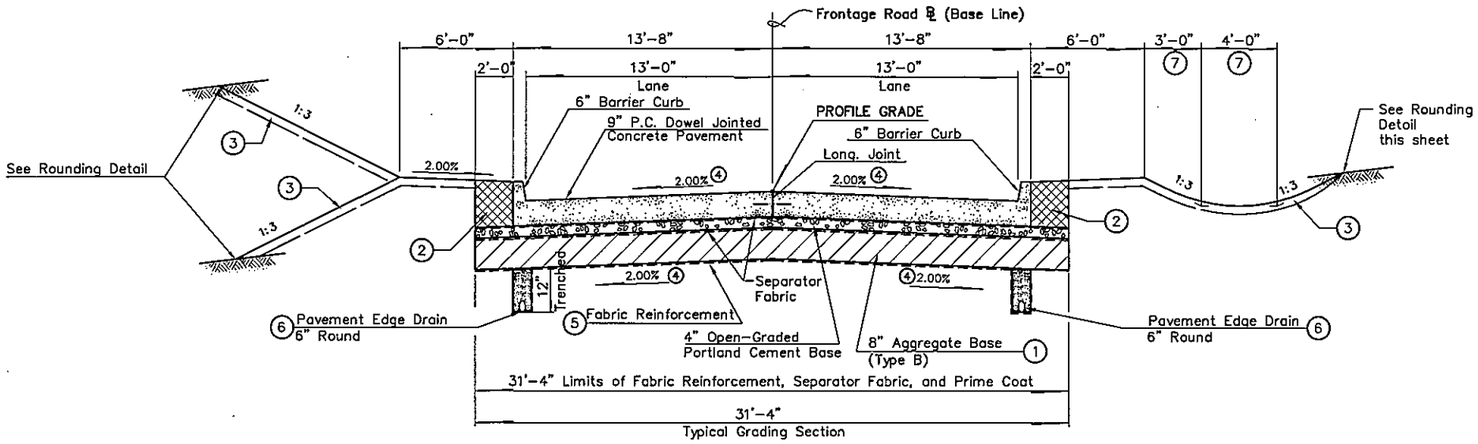


FRONTAGE ROAD FULL DEPTH PAVEMENT REPLACEMENT DETAIL



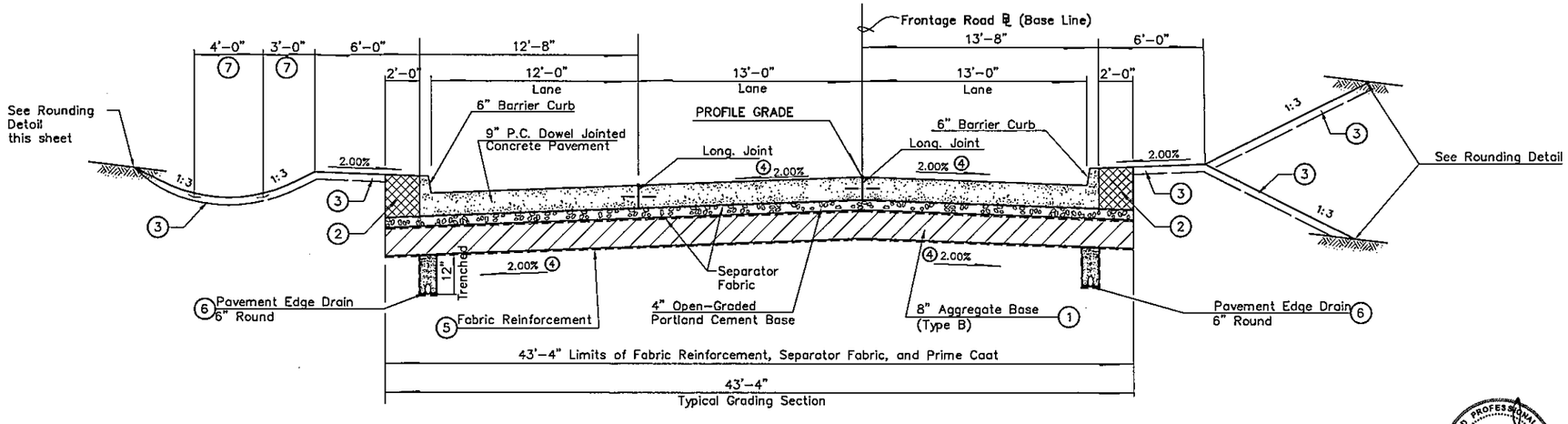
FRONTAGE ROAD PATCH AND OVERLAY SECTION NO. 6A

℄ LT FRONTAGE ROAD Sta 206+72 to Sta 223+92 (AS SHOWN)
℄ RT FRONTAGE ROAD Sta 212+89 to Sta 226+05 (OPPOSITE HAND)



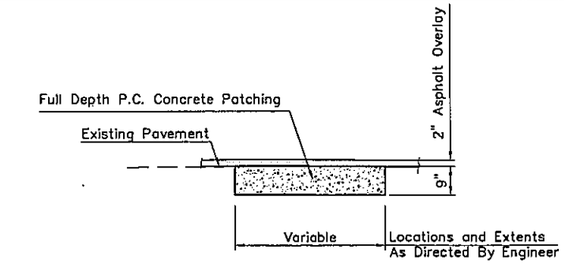
TWO-LANE FRONTAGE ROAD TYPICAL SECTION NO. 6

℄ RIGHT FRONTAGE ROAD STA 254+55.92 TO STA 258+72.60
℄ LEFT FRONTAGE ROAD STA 254+72.60 TO STA 258+32.76



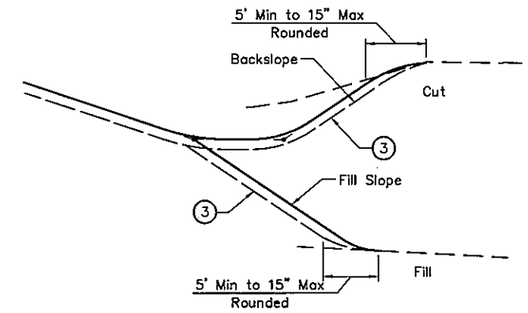
THREE-LANE FRONTAGE ROAD TYPICAL SECTION NO. 5

℄ RIGHT FRONTAGE ROAD STA 253+40.26 TO STA 254+55.92 (AS SHOWN)
℄ LEFT FRONTAGE ROAD STA 252+66.89 TO STA 254+72.60 (OPPOSITE HAND)



FULL DEPTH P.C. CONCRETE PATCHING DETAIL

TO BE UTILIZED IN CONJUNCTION WITH TYPICAL SECTION NO. 6A PRIOR TO EXISTING FRONTAGE ROAD OVERLAY OPERATIONS AS DIRECTED BY THE ENGINEER. SEE ROADWAY STD PR-3 FOR ADDITIONAL DETAILS.



TOP OF CUT - TOE OF FILL ROUNDING DETAIL

INTERSECTION OF CUT AND FILL SLOPES WITH THE GROUND LINE ARE TO BE ROUNDED AS A PART OF THE FINISHING OPERATIONS. ROUNDING SHALL BE 5' MINIMUM FOR SMALLER CUTS AND FILLS, TO 15' MAXIMUM FOR LARGER CUTS AND FILLS OR AS DESIGNATED BY THE ENGINEER. COST OF ROUNDING TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF WORK.

(1) PRIME COAT TO BE APPLIED FULL WIDTH TO THE TOP AND BOTTOM OF THE AGGREGATE BASE.

(2) BACKFILL NOTE:
TO BE BACKFILLED AND COMPACTED AS A PART OF THE FINISHING OPERATIONS. THIS WORK MATERIAL WILL BE OBTAINED FROM EXCESS EXCAVATION. NO PAYMENT WILL BE MADE FOR ADDITIONAL HANDLING OF THIS MATERIAL.

(3) TOPSOIL NOTE:
THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATION. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATIONS SHALL BE INCLUDED IN THE PAY ITEM SALVAGED TOPSOIL, LUMP SUM.

THE GRADING LINE AS SHOWN ON THE TYPICAL AND CROSS SECTIONS IS TO THE TOP OF THE TOPSOIL EARTHWORK QUANTITIES WERE NOT ADJUSTED FOR SALVAGE AND THE TOPSOIL QUANTITY IS INCLUDED IN THE MASS LINE BALANCE.

(4) NORMAL CROSS SLOPE WILL BE AS SHOWN ON THE TYPICAL SECTIONS. TRANSITION TO MATCH AT EXISTING PAVEMENT. SEE PROFILE SHEETS FOR CROSS SLOPE TRANSITIONS.

(5) FABRIC REINFORCEMENT: GOETEXTILE TO MEET ODOT SPEC. 712.05.

(6) PAVEMENT EDGE DRAIN : PROVIDE OUTLET LATERALS AT 300' ON CENTER MAXIMUM SPACING OR CONNECT TO NEAREST DRAINAGE STRUCTURE. SEE ODOT STD. PED-3

(7) MINIMUM DIMENSIONS SHOWN. SEE CROSS SECTIONS FOR SPECIAL DITCHES.

(8) BACKFILL NOTE:
THIS AREA TO BE BACKFILLED WITH TBSC TYPE "E" AND COMPACTED AS PART OF THE FINISHING OPERATIONS IN A MANNER APPROVED BY THE ENGINEER.

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA
1/18/16

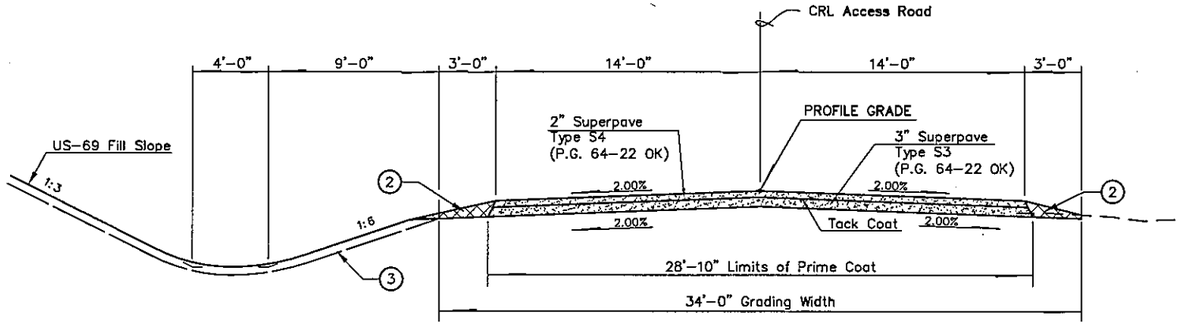
Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE AVENUE — PITTSBURG COUNTY

TYPICAL SECTIONS

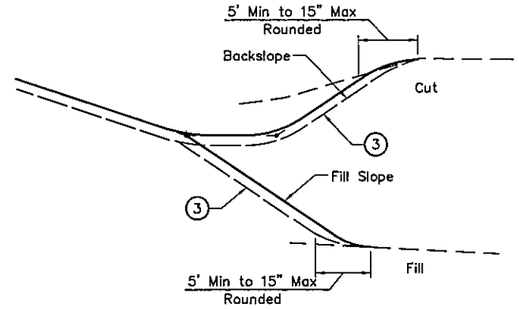
JOB PIECE NO. 14999(04) — SHEET NO. 5

S:\Projects\ODOT\US 69 Comanche\Acad\dwg\ACAD PROJECT 1\US69com005-one-way frontage typical.dwg, 7/14/2016 10:49:03 AM



ACCESS ROAD TYPICAL SECTION NO. 8

℄ ACCESS ROAD STA 259+66.00 TO STA 264+50.45



TOP OF CUT — TOE OF FILL ROUNDING DETAIL

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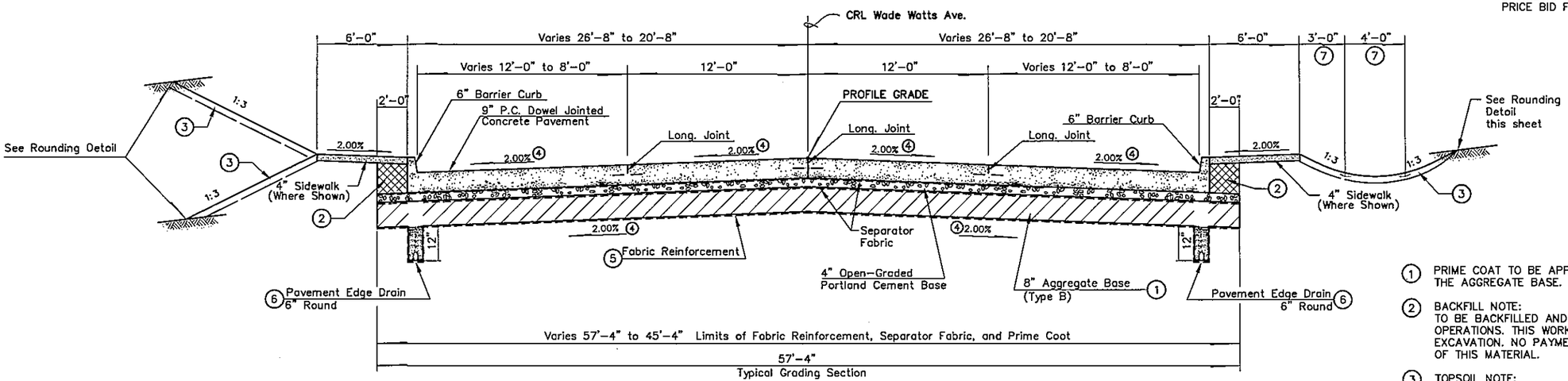
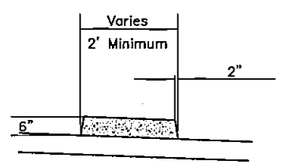


WADE WATTS AVENUE TYPICAL SECTION NO. 7

CRL WADE WATTS (WYANDOTTE) AVENUE STA 197+30.00 TO STA 201+91.38
THREE AND FOUR LANE SECTION



MEDIAN DETAIL

TO BE PAID FOR AS CLASS A CONCRETE

1. PRIME COAT TO BE APPLIED FULL WIDTH TO THE TOP AND BOTTOM OF THE AGGREGATE BASE.
2. BACKFILL NOTE:
   TO BE BACKFILLED AND COMPACTED AS A PART OF THE FINISHING OPERATIONS. THIS WORK MATERIAL WILL BE OBTAINED FROM EXCESS EXCAVATION. NO PAYMENT WILL BE MADE FOR ADDITIONAL HANDLING OF THIS MATERIAL.
3. TOPSOIL NOTE:
   THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATION. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATIONS SHALL BE INCLUDED IN THE PAY ITEM SALVAGED TOPSOIL, LUMP SUM.

   THE GRADING LINE AS SHOWN ON THE TYPICAL AND CROSS SECTIONS IS TO THE TOP OF THE TOPSOIL EARTHWORK QUANTITIES WERE NOT ADJUSTED FOR SALVAGE AND THE TOPSOIL QUANTITY IS INCLUDED IN THE MASS LINE BALANCE.
4. NORMAL CROSS SLOPE WILL BE AS SHOWN ON THE TYPICAL SECTIONS. TRANSITION TO MATCH AT EXISTING PAVEMENT. SEE PROFILE SHEETS FOR CROSS SLOPE TRANSITIONS.
5. FABRIC REINFORCEMENT: GOETEXTILE TO MEET OOOT SPEC. 712.01.
6. PAVEMENT EDGE DRAIN : PROVIDE OUTLET LATERALS AT 300' ON CENTER MAXIMUM SPACING OR CONNECT TO NEAREST DRAINAGE STRUCTURE. SEE ODOT STD. PED-3
7. MINIMUM DIMENSIONS SHOWN. SEE CROSS SECTIONS FOR SPECIAL DITCHES.

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
18173
OKLAHOMA
7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 — COMANCHE AVENUE — PITTSBURG COUNTY

TYPICAL SECTIONS

JOB PIECE NO. 14999(04) — SHEET NO. 6

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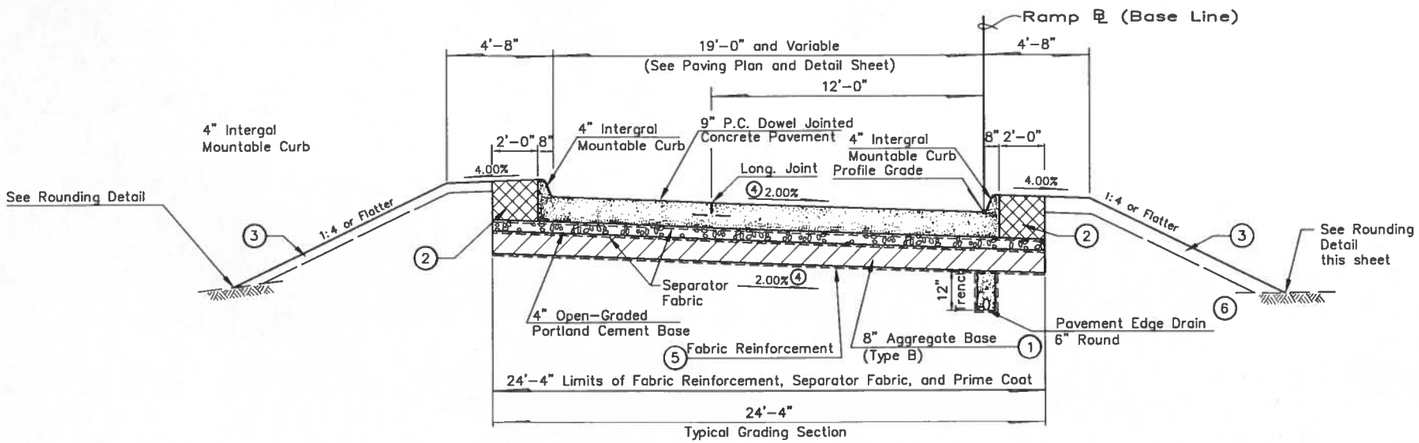
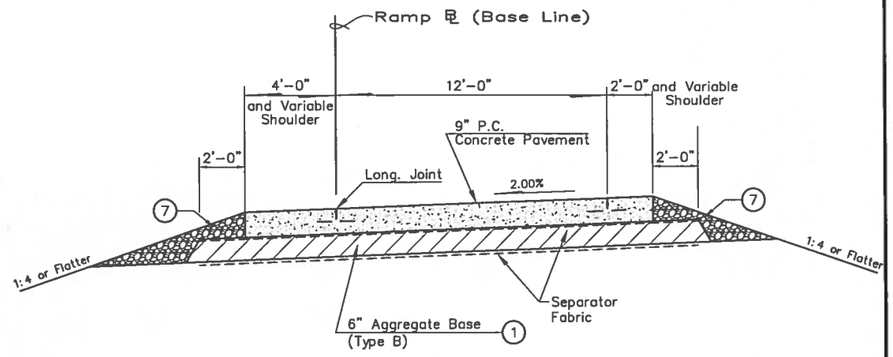
REV. NO.	REVISION DESCRIPTION	DATE
1	CORRECTED TYPO	8/5/16

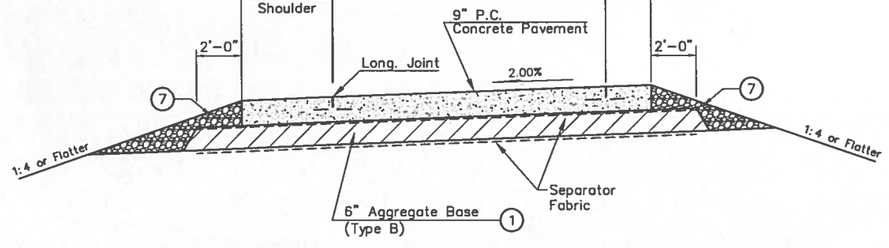


RAMP TYPICAL SECTION NO. 9

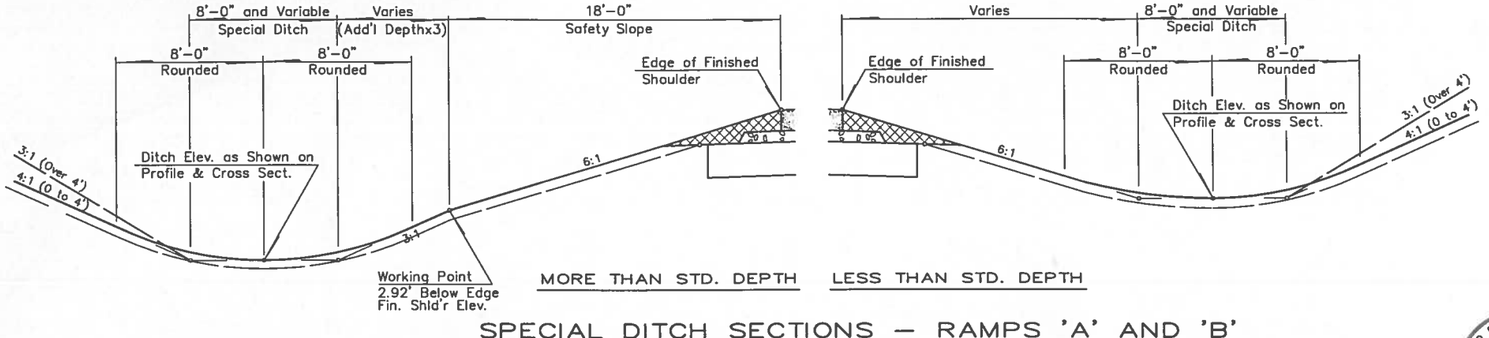
℄ RAMP 'A' STA 54+09.07 TO STA 55+10.24 (AS SHOWN)
℄ RAMP 'B' STA 53+26.79 TO STA 55+23.60 (OPPOSITE HAND)



RAMP 'C' TYPICAL SECTION NO. 9A



⚠ J-TURN TYPICAL SECTION NO. 9B



MORE THAN STD. DEPTH LESS THAN STD. DEPTH

SPECIAL DITCH SECTIONS — RAMPS 'A' AND 'B'

(1) PRIME COAT TO BE APPLIED FULL WIDTH TO THE TOP AND BOTTOM OF THE AGGREGATE BASE.

(2) BACKFILL NOTE:
TO BE BACKFILLED AND COMPACTED AS A PART OF THE FINISHING OPERATIONS. THIS WORK MATERIAL WILL BE OBTAINED FROM EXCESS EXCAVATION. NO PAYMENT WILL BE MADE FOR ADDITIONAL HANDLING OF THIS MATERIAL.

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(4) NORMAL CROSS SLOPE WILL BE AS SHOWN ON THE TYPICAL SECTIONS. TRANSITION TO MATCH AT EXISTING PAVEMENT. SEE PROFILE SHEETS FOR CROSS SLOPE TRANSITIONS.

(5) FABRIC REINFORCEMENT: GOETEXTILE TO MEET ODOT SPEC. 712.05.

(6) PAVEMENT EDGE DRAIN : PROVIDE OUTLET LATERALS AT 300' ON CENTER MAXIMUM SPACING OR CONNECT TO NEAREST DRAINAGE STRUCTURE. SEE ODOT STD. PED-3

(7) BACKFILL NOTE:
THIS AREA TO BE BACKFILLED WITH TBSC TYPE "E" AND COMPACTED AS PART OF THE FINISHING OPERATIONS IN A MANNER APPROVED BY THE ENGINEER.

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16773
OKLAHOMA
8/5/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		TYPICAL SECTIONS
Checked	CKE		
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) — SHEET NO. 7

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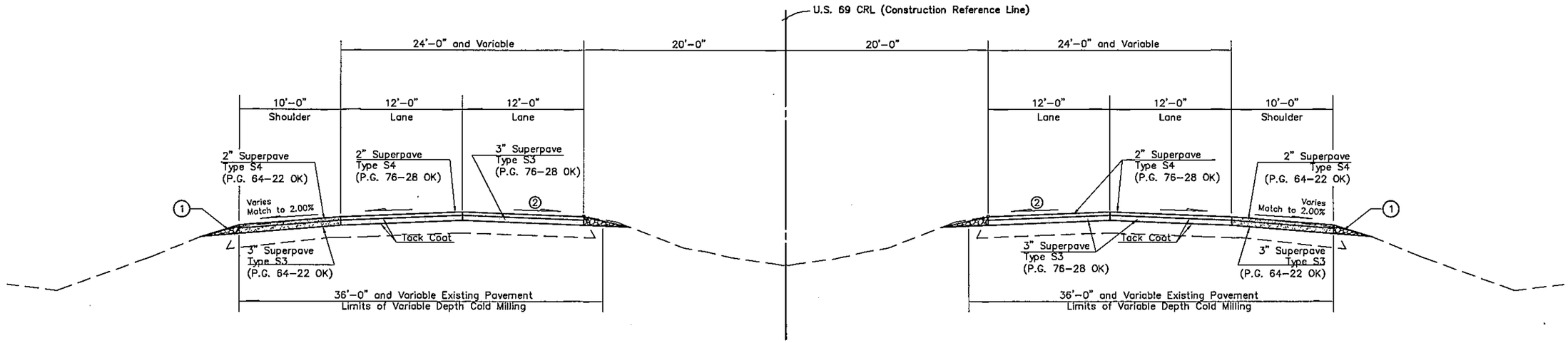
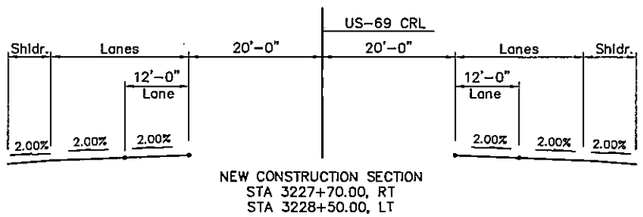
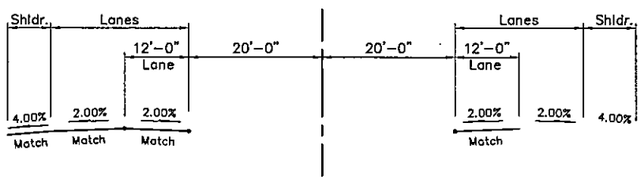


TYPICAL SECTION NO. 11

CRL U.S. 69 STA 3226+74.00 TO STA 3227+70.00, RT
CRL U.S. 69 STA 3227+54.00 TO STA 3228+50.00, LT

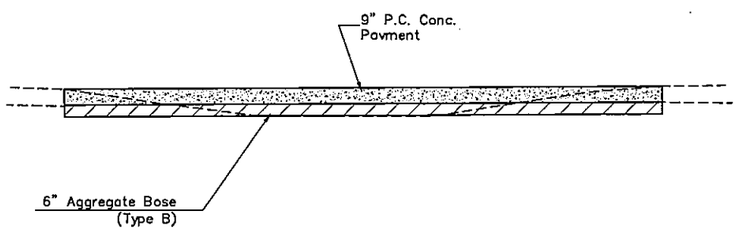


NEW CONSTRUCTION SECTION
STA 3227+70.00, RT
STA 3228+50.00, LT



CROWNED SECTION
STA 3226+74.00, RT
STA 3227+54.00, LT

CROSS SLOPE TRANSITION
U.S. 69



TYPICAL CROSSOVER DETAIL

(1) BACKFILL NOTE:
THIS AREA TO BE BACKFILLED WITH T8SC TYPE "E" AND COMPACTED AS PART OF THE FINISHING OPERATIONS IN A MANNER APPROVED BY THE ENGINEER.

(2) FOR TRANSITION TO MATCH AT EXISTING PAVEMENT SEE DETAILS THIS SHEET.

(3) USE SAME PAVEMENT STRUCTURE AS SHOWN FOR THE SOUTHBOUND TURN LANE AND THRU THE INTERSECTION MEDIAN OPENINGS.

REGISTERED PROFESSIONAL ENGINEER
ROBIN D SEWELL
16173
OKLAHOMA

7/18/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		**TYPICAL SECTIONS**
Checked	CKE		
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) SHEET NO. 8

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0100 ROADWAY — PAY QUANTITIES

ITEM	DESCRIPTION		UNIT	QUANTITY
201(A) 0102	CLEARING AND GRUBBING		LSUM	1.00
202(A) 0183	UNCLASSIFIED EXCAVATION	(R-1)	CY	28,426.00
202(D) 0184	UNCLASSIFIED BORROW	(R-1)(U-5)	CY	23,935.00
205(A) 4229	TYPE A-SALVAGED TOPSOIL	(R-5)	LSUM	1.00
221(C) 2801	TEMPORARY SILT FENCE	(U-2)	LF	2,775.00
221(D) 2803	TEMPORARY SEDIMENT FILTER	(U-2)	EA	49.00
221(F) 0100	TEMPORARY SILT DIKE	(U-2)	LF	256.00
221(G) 0153	TEMPORARY ROCK FILTER DAM TYPE 4	(U-2)	CY	4.00
230(A) 2806	SOLID SLAB SODDING	(R-8)	SY	54,565.00
233(A) 2817	VEGETATIVE MULCHING	(R-11)	AC	11.00
234(A) 2824	FERTILIZING (10-20-10)	(R-13)	TON	6.00
241 2832	MOWING	(R-16)	AC	22.00
303(B) 2110	AGGREGATE BASE TYPE B	(U-1)	CY	12,547.00
319(B) 5254	OPEN-GRADED PORTLAND CEMENT BASE		SY	40,374.00
325 5271	SEPARATOR FABRIC		SY	100,385.00
326(A) 0100	GEOTEXTILE REINFORCEMENT		SY	49,621.00
402(E) 0225	TRAFFIC BOUND SURFACE COURSE TYPE E	(R-25)	TON	4,352.00
407(B) 0250	TACK COAT	(U-3)	GAL	1,752.00
408 5774	PRIME COAT	(R-28)	GAL	34,024.00
411(A) 5930	SUPERPAVE, TYPE S2(PG 64-22 OK)	(R-32)	TON	1,884.00
411(B) 5935	SUPERPAVE, TYPE S3(PG 76-28 OK)	(R-32)	TON	572.00
411(B) 5945	SUPERPAVE, TYPE S3 (PG 64-22 OK)	(R-32)	TON	523.00
411(C) 5950	SUPERPAVE, TYPE S4(PG 76-28 OK)	(R-32)	TON	1,237.00
411(C) 5960	SUPERPAVE, TYPE S4(PG 64-22 OK)	(R-32)	TON	529.00
412 5267	COLD MILLING PAVEMENT		SY	800.00
414(A) 0210	P.C.CONCRETE PAVEMENT(PLACEMENT)		SY	17,712.00
414(B) 5725	DOWEL JOINTED P.C. CONCRETE PAVEMENT(PLACEMENT)		SY	27,550.00
414(E) 0225	FULL DEPTH P.C. CONCRETE PATCHING(PLACEMENT ONLY)		SY	1,587.00
414(G) 5275	P.C. CONCRETE FOR PAVEMENT		CY	14,225.00
501(A) 0313	STRUCTURAL EXCAVATION UNCLASSIFIED		CY	59.00
509(A) 0319	CLASS AA CONCRETE		CY	146.00
509(B) 0321	CLASS A CONCRETE		CY	12.00
509(C) 0322	CLASS A CONCRETE, SMALL STRUCTURES		CY	34.00
509(D) 0325	CLASS C CONCRETE		CY	53.00
511(A) 0332	REINFORCING STEEL		LB	23,828.00
609(A) 0287	CONCRETE CURB (4" MNTBLE-INTEGRAL)		LF	843.00
609(A) 0300	CONCRETE CURB (6" BARRIER-INTEGRAL)		LF	3,803.00
609(A) 5864	CONCRETE CURB (6" BARRIER-DOWELLED)		LF	233.00
⚠1 609(B) 1513	1'-8" COMB. CURB & GUTTER (6" BARRIER)		LF	33.00
610(A) 0602	4" CONCRETE SIDEWALK		SY	755.00
610(B) 0604	6" CONCRETE DRIVEWAY		SY	766.00
610(C) 0608	4" CONCRETE DIVIDING STRIP		SY	176.00
610(I) 4610	TACTILE WARNING DEVICE-NEW		SF	64.00
611(G) 5112	INLET CI DES. 2 (STD)	(R-44)	EA	3.00
611(G) 5113	INLET CI DES. 2 (B)	(R-44)	EA	3.00
611(G) 5115	INLET CI DES. 2 (D)	(R-44)	EA	7.00
611(G) 5117	INLET CI DES. 2 (2B)	(R-44)	EA	1.00
611(G) 5327	INLET GPI TYPE I (DES. 1)		EA	6.00
611(G) 5329	INLET GPI TYPE I (DES. 3)		EA	1.00
611(G) 5334	INLET GPI TYPE 2 (DES. 8)		EA	2.00
611(G) 5699	INLET - LONGITUDINAL BARRIER - TYPE I, DES. 2	(U-4)	EA	12.00
611(G) 5970	INLET W/SMALL JCT. BOX, CI, DES.2	(R-44)	EA	1.00
611(G) 5972	INLET W/SMALL JCT. BOX, CI, DES.2(B)	(R-44)	EA	1.00
611(G) 5986	INLET W/SMALL JCT. BOX, CI, DES.3(D)	(R-44)	EA	1.00
611(G) 6002	INLET (SMD-TYPE 2)	(U-12)	EA	3.00
611(G) 6004	INLET (SMD-TYPE 2A)		EA	5.00
611(G) 6006	INLET (SMD-TYPE 2B)		EA	6.00
611(H) 5325	ADD'L DEPTH IN INLET CI DES. 2		VF	18.91
611(H) 5374	ADD'L DEPTH IN INLET GPI TYPE I		VF	0.66
611(H) 5375	ADD'L DEPTH IN INLET GPI TYPE 2		VF	3.20
611(H) 5970	ADD'L DEPTH IN INLET W/SJB, CI, DES. 2		VF	1.03
611(H) 5972	ADD'L DEPTH IN INLET W/SJB, CI, DES. 2(B)		VF	1.93
611(H) 5986	ADD'L DEPTH IN INLET W/SJB, CI, DES. 3(D)		VF	1.33

0100 ROADWAY — PAY QUANTITIES (CONTINUED)

ITEM	DESCRIPTION		UNIT	QUANTITY
611(K) 5961	(PL)RPL DROP INLET GRATES-CDI RCB DES.II	(U-6)	EA	7.00
611(L) 0487	JUNCTION BOXES		CF	698.00
613(A) 0491	18" R.C.PIPE CLASS III		LF	4,100.00
613(A) 0492	24" R.C.PIPE CLASS III		LF	1,148.00
613(A) 0493	30" R.C.PIPE CLASS III		LF	1,101.00
613(A) 0494	36" R.C.PIPE CLASS III		LF	688.00
613(A) 4498	43" X 26" R.C.PIPE ARCH CLASS A-III		LF	24.00
613(B) 0689	18" CORR. GALV. STEEL PIPE	(U-12)	LF	110.00
613(H) 0450	6" PERFORATED PIPE UNDERDRAIN ROUND	(U-11)	LF	500.00
613(J) 5915	EDGE DRAIN CONDUIT-PERFORATED	(U-7)	LF	9,080.00
613(L) 5726	18" PREFAB. CULVERT END SECTION, ROUND		EA	2.00
613(L) 5732	30" PREFAB. CULVERT END SECTION, ROUND		EA	1.00
613(S) 1186	STANDARD BEDDING MATERIAL, CLASS B		CY	3,598.00
613(V) 1180	TRENCH EXCAVATION		CY	5,772.00
619(A) 0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS	(R-48,R-49)	LSUM	1.00
619(B) 0291	REMOVAL OF HEADWALL	(R-49,R-50)	EA	6.00
619(B) 4726	REMOVAL OF CURB AND GUTTER	(R-49,R-50)	LF	2,800.00
619(B) 4727	REMOVAL OF CONCRETE PAVEMENT	(R-49,R-50)	SY	5,321.00
619(B) 4728	REMOVAL OF ASPHALT PAVEMENT	(R-49,R-50)	SY	33,843.00
619(B) 4766	REMOVAL OF CONCRETE DRIVEWAY	(R-49,R-50)	SY	889.00
619(B) 4780	REMOVAL OF GUARDRAIL	(R-49)	LF	1,524.00
619(B) 4792	REMOVAL OF SIDEWALK	(R-49,R-50)	SY	458.00
619(B) 5881	REMOVAL OF CONCRETE DITCH LINER	(R-49,R-50)	LF	1,335.00
619(C) 0924	SAWING PAVEMENT		LF	6,759.00
623(A) 0932	BEAM GUARDRAIL W-BEAM SINGLE		LF	1,325.00
623(F) 8300	GUARDRAIL TRAIL END TURNDOWN (31")		EA	1.00
623(I) 8700	GUARDRAIL BRIDGE CONN-THRIE BEAM (31")		EA	5.00
627(A) 4317	CONCRETE LONGITUDINAL BARRIER, DESIGN I		LF	215.00
853 9066	GUARDRAIL DELINEATORS(TYPE I, CODE I)		EA	29.00

0600 STAKING — PAY QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
642(B) 0096	CONSTRUCTION STAKING LEVEL II	LSUM	1.00

0640 CONSTRUCTION — PAY QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
220 2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1.00
640(A) 1426	FIELD OFFICE	EA	1.00
641 1552	MOBILIZATION	LSUM	1.00

REVISION			
REV. NO.	DESCRIPTION	DATE
⚠1	REVISED DESCRIPTION	8/4/16

ROADWAY PAY QUANTITY NOTES

(R-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS.

(R-5) AN ESTIMATED QUANTITY OF 4,850 C.Y. TOPSOIL TO BE RESERVED FOR REPLACEMENT OF APPROXIMATELY 5" ON COMPLETED FORESLOPES, DITCHES, AND BACKSLOPES. THIS QUANTITY IS INCLUDED IN THE EARTHWORK BALANCE. ANY ADDITIONAL EXCAVATION REQUIRED IN CUT SECTIONS TO ALLOW FOR PLACEMENT OF TOPSOIL TO FINAL GRADE, SHALL BE INCLUDED IN THE PRICE BID.

(R-8) PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER SY.

(R-11) THE QUANTITIES ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 20.44 ACRES.

(R-13) ESTIMATED AT 200 POUNDS OF 10-20-10 FERTILIZER PER 1,000 SQ. YDS. OF SODDING AND/OR SPRIGGING.

(R-16) QUANTITY BASED ON TWO APPLICATIONS.

(R-25) ESTIMATED AT 120 LBS. PER CU. FT.

(R-28) PRIME COAT SHALL BE APPLIED AT AN ESTIMATED RATE OF 0.35 GAL. PER SQ. YD. WHEN APPLIED TO SUBGRADE, AND 0.25 GAL. PER SQ. YD. WHEN APPLIED TO AGGREGATE BASE. THE ACTUAL CUTBACK PRIME COAT REQUIRED FOR PLACEMENT OPERATIONS WILL BE DETERMINED BY THE CONTRACTOR, AND SHALL CONSIDER THE RESIDUE FROM DISTILLATION PERCENTAGE SHOWN IN SECTION 708.03 OF THE STANDARD SPECIFICATIONS.

(R-32) ESTIMATED AT 112 LBS. PER SQ. YD. PER 1" THICK.

(R-44) PRICE BID TO INCLUDE COST OF 14 - 4" MOUNTABLE CURB HOODS, AND 66 - 6" BARRIER CURB HOODS.

(R-48) INCLUDES REMOVAL OF ALL EXISTING ROADWAY DRAINAGE STRUCTURES, HEADWALLS (UNLESS OTHERWISE SPECIFIED), INLETS, FENCES, AND OTHER STRUCTURES WITHIN THE RIGHT OF WAY.

(R-49) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.

(R-50) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIED EXCAVATION.

(U-1) MEASUREMENT WILL BE BASED ON THE THEORETICAL CROSS-SECTION SHOWN ON THE TYPICAL SECTION, MULTIPLIED BY THE ACTUAL LENGTH.

(U-2) PRICE BID TO INCLUDE COST OF TEMPORARY SEDIMENT REMOVAL.

(U-3) ESTIMATED AT 0.075 GAL PER S.Y. PRIOR TO DILUTION.

(U-4) SEE SHEET 52 FOR DETAILS.

(U-5) THE MAPPED SOILS WITHIN THE PROJECT EXTENTS HAVE THE POTENTIAL TO BE DISPERSIVE. SOILS PLACED WITHIN THE GRADING SECTION SHOULD BE NON-DISPERSIVE AS DETERMINED ACCORDING TO AT LEAST TWO OF THE FOLLOWING TESTS: EMERSON CRUMB TEST, PINHOLE TEST (ASTM 4645), DOUBLE HYDROMETER TEST (ASTM 4221).

(U-6) GRATES WILL BE USED FOR SPECIAL STRUCTURE. SEE SHEET 54 FOR DETAILS.

(U-7) 6" ROUND SCHEDULE 40

(U-11) ESTIMATED QUANTITY TO BE USED AS DIRECTED BY THE ENGINEER.

(U-12) INCLUDES 100 LF TEMPORARY PIPE TO BE USED FOR SEQUENCING IF APPROVED BY THE ENGINEER.

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
8/4/16

Design	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE AVENUE — PITTSBURG COUNTY

PAY QUANTITY AND NOTES (ROADWAY)

JOB PIECE NO. 14999(04) — SHEET NO. 9

ROADWAY GENERAL CONSTRUCTION NOTES

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

MAINTENANCE OF THROUGH TRAFFIC INCLUDES THE MAINTENANCE OF THE EXISTING ROAD IN CLOSE PROXIMITY TO THE NEW CONSTRUCTION AS SHOWN ON THE PLANS.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING SECTION LINE ROADS TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

FOR PROJECTS THAT INCLUDE WIDENING AND/OR RESURFACING, THE CONTRACTOR SHALL SCHEDULE OPERATIONS TO MINIMIZE POTENTIAL DROP-OFF HAZARDS AND SHALL SUBMIT A SEQUENCE OF CONSTRUCTION OPERATIONS TO THE RESIDENT ENGINEER FOR APPROVAL BEFORE OPERATIONS BEGIN. ANY PORTION OF THE CONSTRUCTION OPERATIONS, SUCH AS SUPERPAVE LAYING OPERATIONS, EXCAVATION FOR PAVEMENT WIDENING, OR EXTENSION OF ROADWAY STRUCTURES, SHALL BE LIMITED TO ONE SIDE AT A TIME, AND THE PROCEDURES OUTLINED IN THE ROADWAY PAVEMENT DROP-OFF TREATMENT STANDARD PDT-1 SHALL BE IMPLEMENTED. ONLY THAT AMOUNT OF OPEN TRENCH WILL BE ALLOWED THAT CAN BE SURFACED IN 1 (ONE) DAY'S TIME WITHOUT APPROVAL BY THE ENGINEER. LIGHTS, SIGNS AND BARRICADES SHALL BE MOVED AS WORK PROGRESSES.

ALL TREES, BRUSH, AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER SHALL BE CLEANED OUT TO THE RIGHT-OF-WAY LINE, AT EACH STRUCTURE AND BRIDGE, IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY RIGHT-OF-WAY FENCE AS REQUIRED. WHEN THE PORTION OF THE PROJECT THAT REQUIRED THIS FENCE IS COMPLETED, THE TEMPORARY FENCE SHALL BE REMOVED, AND PERMANENT RIGHT-OF-WAY FENCING SHALL BE RESTORED OR INSTALLED IN A MANNER APPROVED BY THE ENGINEER. ALL COST TEMPORARY FENCING SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OPERATIONS AND BEFORE PAVEMENT WORK IS COMPLETED, THE CONTRACTOR SHALL SPRINKLE GRADING AT INTERVALS APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL NOT WASTE ANY EXCESS EXCAVATION UNTIL ALL PLANNED EMBANKMENTS AND BACKFILLS ARE COMPLETED. EXCESS UNCLASSIFIED EXCAVATION MATERIAL DETERMINED BY THE ENGINEER TO BE SUITABLE FOR BACKFILL SHALL BE USED TO REDUCE ANY UNCLASSIFIED BORROW NEEDED. COST OF SECOND HANDLING SHALL BE INCLUDED IN OTHER ITEMS OF WORK. ANY REMAINING EXCESS EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

TEMPORARY SEEDING MIX SHALL BE AS FOLLOWS:

KINDS OF SEED TO BE FURNISHED	QUANTITY PER ACRE
PERENNIAL RYE GRASS (LODIUM PERENNE)	20 LBS.
CRIMSON CLOVER (TRIFOLUM INCARNATUM)	12 LBS.

VEGETATIVE MULCHING: THE VEGETATIVE MULCH SHALL BE ANCHORED IN ACCORDANCE WITH THE "MULCHING-TILLER METHOD", AS SPECIFIED IN 233.04B(1) OF THE STANDARD SPECIFICATIONS.

THE PLANTING OF TEMPORARY SEEDS SHALL BE RESTRICTED TO THE PERIOD FROM SEPTEMBER 15 TO NOVEMBER 15.

AREAS ON WHICH SALVAGED TOPSOIL IS TO BE REPLACED SHALL HAVE 0 - 46 - 0 FERTILIZER APPLIED, AT THE RATE OF 150 POUNDS PER ACRE, JUST PRIOR TO THE REPLACEMENT OF SALVAGED TOPSOIL.

PIPE UNDERDRAIN QUANTITIES ESTIMATED ONLY. LOCATION, IF AND WHERE REQUIRED, TO BE DETERMINED BY THE ENGINEER.

THE CONTRACTOR SHALL REMOVE AND RESET MAILBOXES AS NECESSARY. MAILBOXES ARE TO BE MAINTAINED IN AN UPRIGHT POSITION AND ACCESSIBLE TO MAIL CARRIER'S CAR DURING CONSTRUCTION. ANY DAMAGE TO BOXES OR SUPPORTS SHALL BE REPAIRED BY THE CONTRACTOR. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

AGGREGATE BASE ON DETOUR ROADS, REMOVED AND RELAID FOR SHOULDERS, DRIVEWAYS AND/OR RETURNS ON MAIN ROADWAY, SHALL MEET THE SPECIFICATIONS FOR "AGGREGATE BASE" WHEN RELAID, NO PLANT MIXING WILL BE REQUIRED FOR THIS MATERIAL.

BITUMINOUS SURFACING ON AGGREGATE BASE WHICH IS TO BE RELAID SHALL BE SCARIFIED AND INCORPORATED INTO THE AGGREGATE BASE MATERIAL. IN ALL OTHER RESPECTS, THE MATERIAL TO BE RELAID SHALL MEET THE SPECIFICATIONS FOR "AGGREGATE BASE".

SURFACING OF RETURNS, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL BE OF THE SAME MATERIAL (BASE AND SURFACE) AS THAT OF THE ABUTTING SHOULDER OF THE MAINLINE. BASE AND SURFACE THICKNESS SHALL BE THE THICKNESS SHOWN ON PLANS.

T.B.S.C. SURFACES SHALL BE SPRINKLED WITH WATER AND ROLLED WITH A PNEUMATIC ROLLER IN A MANNER APPROVED BY THE ENGINEER.

PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.

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.

REVISION		
REV. NO.	DESCRIPTION	DATE
1	ADD ENVIRONMENTAL NOTES	8/5/16

1 ENVIRONMENTAL MITIGATION NOTES

AMERICAN BURYING BEETLE (ABB) NOTE:

THE AMERICAN BURYING BEETLE IS A LARGE CARRION BURYING BEETLE THAT IS LISTED AS ENDANGERED UNDER THE ENDANGERED SPECIES ACT. IN ORDER TO AVOID ADVERSE IMPACTS, NO ARTIFICIAL LIGHTING SHALL BE USED DURING CONSTRUCTION. CARCASSES AND ALL FOOD TRASH SHALL BE REMOVED FROM THE PERMANENT AND TEMPORARY RIGHT-OF-WAY THROUGHOUT PROJECT ACTIVITIES.

MIGRATORY BIRD NOTES:

MIGRATORY BIRDS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. THESE BIRDS COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR THE BIRDS RUNS FROM APRIL 1 TO AUGUST 31. ANY ACTIVITIES WHICH WOULD DESTROY ACTIVE NESTS OR HARM EGGS OR BIRDS WOULD VIOLATE THE MIGRATORY BIRD TREATY ACT. MIGRATORY BIRD USE OF BRIDGES NBI NO. 13847, 13848, AND 21985 HAVE BEEN OBSERVED DURING THE INITIAL SURVEY CONDUCTED AS PART OF THE BIOLOGICAL STUDIES IN 2016. MIGRATORY BIRD USE OF THE REMAINING BRIDGES AND CULVERTS WAS NOT OBSERVED DURING THE INITIAL SURVEY. MIGRATORY BIRDS MAY OCCUPY THESE STRUCTURES IN THE FUTURE NESTING SEASONS. THE RESIDENT ENGINEER WILL EVALUATE THE CONTRACTOR'S PROPOSED WORK METHODS AND CONCLUDE WHETHER THE PROPOSED WORK WOULD POSE DISRUPTION TO ANY NESTING BIRDS BEFORE WORK NEAR THE STRUCTURE IS AUTHORIZED. IF THE PROPOSED WORK WILL HARM ANY NESTING BIRDS, THE BRIDGE MAY BE NETTED PRIOR TO APRIL 1 OR THE WORK DELAYED UNTIL THE NESTING SEASON IS COMPLETE. METHODS OTHER THAN NETTING MUST BE PRE-APPROVED BY THE ODOT BIOLOGIST.

BAT BRIDGE REMOVAL/MODIFICATION NOTE:

THE NORTHERN LONG-EARED BAT IS A MIGRATORY, INSECT EATING BAT PROTECTED BY THE ENDANGERED SPECIES ACT. THESE SPECIES CAN USE BRIDGES AS SUMMER ROOSTING SITES. IF THE BRIDGE REMOVAL OR MODIFICATION IS TO OCCUR BETWEEN APRIL 1 AND NOVEMBER 15, THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST AT 405-521-2515 TO CONDUCT A BAT SURVEY. THE SURVEY CAN BE CONDUCTED ONLY BETWEEN MAY 15 AND AUGUST 15. IF LISTED BAT SPECIES ARE DETECTED, THE ODOT BIOLOGICAL RESOURCES PROGRAM WILL CONSULT WITH US FISH AND WILDLIFE SERVICE. WORK ON THE BRIDGE WILL BE RESTRICTED AND MAY BE PROHIBITED FOR ALL OR PART OF THE DURATION OF THE BATS MATERNITY ROOSTING SEASON. ANY DELAY DUE TO THIS WILL NOT BE COMPENSATED.

LEAKING UNDERGROUND STORAGE TANK (LUST):

STATION: APP. 3225+00 LT 50 FT.
OCC FACILITY NO./CASE NO.: 6112176/064-2616
FACILITY: ASHMORE'S VALERO

PETROLEUM CONTAMINATION MAY EXIST AT OR NEAR THE REFERENCED LEAKING UNDERGROUND STORAGE TANK (LUST) SITE. BASED ON THE AVAILABLE INFORMATION, CONTAMINATION IS NOT EXPECTED TO AFFECT CONSTRUCTION ACTIVITIES, BUT IS STILL POSSIBLE. IN THE EVENT CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED, THE CONTRACTOR SHALL ADHERE TO ODOT'S HAZARDOUS MATERIALS SPECIFICATION 107.15 AND NOTIFY THE RESIDENT ENGINEER, WHO MAY THEN CONTACT THE ENVIRONMENTAL PROGRAM'S DIVISION AT (405) 521-3050 FOR ASSISTANCE.

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16773 OKLAHOMA
8/5/16

Design	CKS		U.S. 69 - COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		GENERAL NOTES (ROADWAY)
Checked	CKE		
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) — SHEET NO. 10

S:\Projects\ODOT\US 69 Comanche\Acaddwg\ACAD PROJECT 1\US69com010- General Notes (Roadway).dwg, 8/5/2016 1:59:29 PM

BRIDGE GENERAL NOTES

SPECIFICATIONS -
COMPLY WITH THE REQUIREMENTS OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

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.

EXISTING PLANS -
THE EXISTING STRUCTURES OVER WADE WATTS WERE CONSTRUCTED AS PART OF F.A. PROJECT NO. FEGC-186(174). THE EXISTING STRUCTURES OVER THE AOK RAILROAD WERE ORIGINALLY CONSTRUCTED AS PART OF F.A. PROJECT NO. F-U-UG-186(9) AND WIDENED AS PART OF F.A. PROJECT NO. FEGC-186(174). PLANS OF THESE PROJECTS ARE AVAILABLE FROM THE OKLAHOMA DEPARTMENT OF TRANSPORTATION TECHNOLOGY SERVICES PLANS SECTION, 200 N.E. 21ST STREET, OKLAHOMA CITY, OKLAHOMA, 73105.

PILE DRIVING -
USE A PILE DRIVING HAMMER OF THE SIZE AND TYPE CAPABLE OF CONSISTENTLY DELIVERING THE EFFECTIVE DYNAMIC ENERGY TO DRIVE THE PILES TO THE REQUIRED TIP ELEVATION AND TO ACHIEVE AN AXIAL LOAD RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED PILE REACTION WITHOUT EXCEEDING THE LIMITATIONS SET ON THE ALLOWABLE DRIVING STRESSES IN ACCORDANCE WITH SUBSECTION 514.03.A.(2) OF THE SPECIFICATIONS.

PILE CAPACITY -
THE REQUIRED PILE SIZE AND THE FACTORED PILE REACTION ARE SHOWN IN THE PLANS WITH THE FOUNDATION DATA. THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES:

AXIAL LOAD RESISTANCE = PHI * (SQRT (E) * 0.875 * LG (10 * N) - 50) (TONS)

WHERE: PHI = RESISTANCE FACTOR OF 0.4
E = ENERGY PRODUCED BY THE HAMMER PER BLOW IN FOOT-POUNDS. FOR GRAVITY AND SINGLE ACTING DIESEL HAMMERS, THE VALUE IS BASED ON THE ACTUAL RAM STROKE OBSERVED IN THE FIELD AND MEASURED IN FEET MULTIPLIED BY THE RAM WEIGHT IN POUNDS.
N = AVERAGE NUMBER OF HAMMER BLOWS PER INCH OF PILE PENETRATION FOR THE LAST 10 TO 20 BLOWS DELIVERED TO THE PILE HEAD.
SQRT = SQUARE ROOT
LG = LOGARITHM TO THE BASE 10

THE ABOVE FORMULA IS ONLY APPLICABLE WHEN CERTAIN CONDITIONS APPLY: THE PILE DRIVING HAMMER HAS A FREE FALL (GRAVITY & SINGLE ACTING HAMMERS ONLY); THE HEAD OF THE PILE IS NOT BROOMED, CRUSHED OR OTHERWISE DAMAGED; THE PENETRATION IS QUICK AND UNIFORM; THERE IS NO APPRECIABLE REBOUND OF THE HAMMER; AND A FOLLOWER IS NOT USED.
THE NUMBER OF BLOWS PER INCH OF PILE PENETRATION MAY BE MEASURED EITHER DURING INITIAL DRIVING OR BY RE-DRIVING WITH A WARM HAMMER OPERATED AT FULL ENERGY AFTER A PILE SET PERIOD, AS DETERMINED BY THE ENGINEER.
IF WATER JETS ARE USED IN CONNECTION WITH THE DRIVING, DETERMINE THE AXIAL LOAD RESISTANCE BY THE FORMULA SHOWN ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

CONCRETE -
PROVIDE ALL PEDESTAL CONCRETE EDGES WITH A 3/4" CHAMFER. PROVIDE ALL OTHER EXPOSED CONCRETE EDGES OF THE SUBSTRUCTURE WITH A 1 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. PROVIDE ALL EXPOSED CONCRETE EDGES OF THE SUPERSTRUCTURE WITH A 3/4" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. USE SIZED LUMBER FOR ALL CHAMFER STRIPS.
EQUIP CONCRETE VIBRATORS WITH A SHEATH DESIGNED TO PREVENT DAMAGE TO EPOXY COATINGS WHEN VIBRATING CONCRETE CONTAINING EPOXY COATED REINFORCING STEEL.
PROVIDE FORM LINERS AS DETERMINED BY THE ENGINEER. SUBMIT A 12" X 18" SAMPLE PANEL TO THE BRIDGE ENGINEER FOR APPROVAL. FURNISH SAMPLE PANELS WITH THE APPROPRIATE CONCRETE SURFACE FINISH. PROVIDE FORM LINING MATERIAL OF FULL SIZED COMMERCIAL PANELS AND LINE UP JOINTS AS CLOSE AS PRACTICAL. NO SCRAP OR ODD SIZED PIECES WILL BE ALLOWED. MAKE PROVISIONS IN THE ADJUSTMENT OF FORMS TO CORRECT ANY DEFORMATIONS. SEAL FORM LINERS AT ALL ENDS, EDGE JOINTS, AND TIE HOLES TO PREVENT DISCOLORATION, SAND STREAKING AND FINS ON CONCRETE SURFACES. DRESS ANY DISCONTINUITY OF RELIEF PATTERN, PARTICULARLY AT PANEL BUTT JOINTS, IN A MANNER APPROVED BY THE ENGINEER. INCLUDE ALL COST OF FORM LINERS, LABOR, MATERIALS, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED IN OTHER ITEMS OF WORK.
FINISH ALL EXPOSED CONCRETE SURFACES OF THE SUBSTRUCTURE, OUTSIDE AND BOTTOM SURFACES OF THE DECK SLAB OVERHANG, AND THE OUTSIDE FACE OF BRIDGE RAILING TO MATCH EXISTING.

PNEUMATICALLY PLACED MORTAR -
THE CONTRACTOR MAY SUBSTITUTE CAST-IN-PLACE CONCRETE OR FORMED AND PUMPED CONCRETE AND MORTAR FOR THE PATCHING MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT. 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.
DO NOT USE POWER TOOLS FOR REMOVING CONCRETE UNLESS HAND TOOLS PROVE INCAPABLE OF EXCAVATING CONCRETE. IF POWER TOOLS ARE DEEMED NECESSARY, USE TOOLS OF A SIZE THAT DOES NOT DAMAGE SOUND CONCRETE.

STRUCTURAL STEEL -
PROVIDE STRUCTURAL STEEL FOR DIAPHRAGM BOLTS AND PLATE WASHERS IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). THE CONTRACTOR MAY SUBSTITUTE A #10 REINFORCING BAR IN ACCORDANCE WITH AASHTO M31, GRADE 60, AND THREADED AT THE ENDS AS SHOWN IN THE PLANS AT NO ADDITIONAL COST TO THE DEPARTMENT. PROVIDE HEX NUTS IN ACCORDANCE WITH AASHTO M291 (ASTM A563).
PAINT EXPOSED DIAPHRAGM BOLTS, PLATE WASHERS AND HEX NUTS WITH TWO (2) COATS OF ZINC-RICH PAINT (6 MIL MINIMUM THICKNESS) AFTER ASSEMBLY. INCLUDE ALL COST OF DIAPHRAGM BOLTS, PLATE WASHERS AND HEX NUTS IN THE CONTRACT UNIT PRICE FOR STRUCTURAL STEEL.
PROVIDE STRUCTURAL STEEL FOR ROLLED BEAMS AND ALL STIFFENER PLATES IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50WT2 (WEATHERING STEEL, NON FRACTURE CRITICAL CHARPY V-NOTCH TESTED FOR ZONE 2). USE SHEAR CONNECTORS CONFORMING TO AASHTO M169 (ASTM A108), GRADE 1015, 1018 OR 1020. PROVIDE WELDING WITH WEATHERING CHARACTERISTICS. CAMBER BEAMS TO ACCOUNT FOR DEAD LOAD DEFLECTION AND VERTICAL CURVE.
THE CONTRACTOR MAY SUBSTITUTE PLATE GIRDERS USING EQUIVALENT PLATE SIZES IN LIEU OF THE ROLLED BEAM SHAPES SHOWN IN THE PLANS AT NO ADDITIONAL COST TO THE DEPARTMENT. PROVIDE 5/16" MINIMUM FILLET WELDS BETWEEN WEB AND FLANGES. NON-DESTRUCTIVE TESTING WILL BE REQUIRED AS APPROPRIATE.
PROVIDE STRUCTURAL STEEL FOR CHANNEL DIAPHRAGMS AND GUSSET PLATES IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). USE BOLTS CONFORMING TO AASHTO M164 (ASTM A325). PROVIDE ALL BOLTS, NUTS, WASHERS AND WELDING WITH WEATHERING CHARACTERISTICS.
THE CONTRACTOR MAY SUBSTITUTE A BENT PLATE DIAPHRAGM IN LIEU OF THE CHANNEL AND GUSSET PLATES SHOWN IN THE PLANS AT NO ADDITIONAL COST TO THE DEPARTMENT. PROVIDE 1/2" MINIMUM PLATE THICKNESS FORMED IN THE SHAPE OF THE CHANNEL WITH 4" MINIMUM FLANGES. FABRICATE BENT PLATE DIAPHRAGM TO A DEPTH EQUAL TO OR GREATER THAN SHOWN FOR THE COMBINED CHANNEL AND GUSSET PLATE. ALL COST TO CONSTRUCT BENT PLATE DIAPHRAGM SHALL BE AT CONTRACTOR'S EXPENSE.
PROVIDE STRUCTURAL STEEL FOR ALL STAINLESS STEEL BEARING ASSEMBLY ANCHOR PLATES AND BUILT-UP CONTACT ANGLES IN ACCORDANCE WITH ASTM A240 (AUSTENITIC STAINLESS STEEL, TYPE 316, CHARPY V-NOTCH TESTING NOT REQUIRED). FOR ANCHOR BOLTS, PROVIDE CONTINUOUSLY THREADED BARS IN ACCORDANCE WITH ASTM A320, CLASS 2, GRADE B8M (AUSTENITIC STAINLESS STEEL, TYPE 316, CHARPY V-NOTCH TESTING NOT REQUIRED). USE AUSTENITIC STAINLESS STEEL NUTS AND WASHERS CONFORMING TO ASTM A194, GRADE 8M AND ASTM A320, RESPECTIVELY. PERFORM ALL WELDING CONSISTENT WITH PROCEDURES FOR STAINLESS STEEL.
PROVIDE STRUCTURAL STEEL FOR ALL REPLACEMENT BEARING ASSEMBLY ANCHOR PLATES, CONTACT PLATES AND ANCHOR BOLTS IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). USE HEX NUTS CONFORMING TO AASHTO M291 (ASTM A563). NUTS, WASHERS AND WELDING SHALL HAVE WEATHERING CHARACTERISTICS.

DECK SLAB REMOVAL -
SUBMIT METHOD FOR REMOVING DECK CONCRETE FOR APPROVAL BY THE ENGINEER PRIOR TO STARTING WORK. PREVENT DEBRIS FALLING BELOW. REMOVE UNSOUND CONCRETE TO THE EXTENT DETERMINED BY THE ENGINEER. DO NOT DAMAGE EXISTING BEAM, BEAM REINFORCING, STUD/CHANNEL ANCHORS, DECK REINFORCING OR PORTIONS OF DECK TO REMAIN IN PLACE. REPAIR ANY DAMAGE TO ITEMS TO REMAIN IN PLACE AT NO ADDITIONAL COST TO THE DEPARTMENT. REPAIR DAMAGE TO EPOXY COATING OF EXISTING REINFORCING IN ACCORDANCE WITH AASHTO M284. INCLUDE ALL COSTS OF PARAPET AND DECK REMOVAL, SAW CUTTING, EPOXY REPAIR, LABOR, EQUIPMENT AND OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED ON THE PLANS IN THE CONTRACT UNIT PRICE OF "REMOVAL OF EXISTING PARAPET" AND "REMOVAL OF DECK".

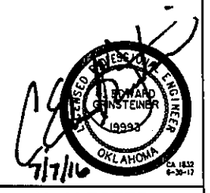
DECK SLAB -
EPOXY-COAT OR GALVANIZE STEEL ITEMS USED TO FACILITATE CONSTRUCTION, SUCH AS DECK FORM HANGERS, TY-BAR CLIPS, INSERT WELD ANCHORS, OR OTHER APPURTENANCES, THAT WILL REMAIN IN PLACE IN THE DECK SLAB. EPOXY-COAT IN ACCORDANCE WITH AASHTO M284 OR GALVANIZE IN ACCORDANCE WITH AASHTO M111.
IN THE EVENT OF AN EMERGENCY, HALT THE PLACEMENT OF CONCRETE BY FORMING A CONSTRUCTION JOINT MADE PERPENDICULAR TO THE DIRECTION OF TRAFFIC OR AS DIRECTED BY THE ENGINEER. DO NOT PLACE ANY HEAVY EQUIPMENT ON THE FINISHED DECK SLAB WITHIN 5 FEET OF ANY CONSTRUCTION JOINT UNTIL CONCRETE IS IN PLACE ON BOTH SIDES OF THE RESPECTIVE JOINT AND AT LEAST 48 HOURS HAS ELAPSED SINCE CONCRETE PLACEMENT.
SEAL ALL DECK SLAB CONSTRUCTION JOINTS WITH HIGH MOLECULAR WEIGHT METHACRYLATE IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS. INCLUDE ALL COST OF EQUIPMENT AND LABOR FOR THE INSTALLATION OF THE HIGH MOLECULAR WEIGHT METHACRYLATE SEALER IN THE CONTRACT UNIT PRICE OF "SEALER CRACK PREPARATION". INCLUDE ALL COST OF THE HIGH MOLECULAR WEIGHT METHACRYLATE SEALER IN THE CONTRACT UNIT PRICE OF "SEALER RESIN". THE DEPARTMENT WILL NOT MEASURE THE PREPARATION AND SEALER OF EMERGENCY CONSTRUCTION JOINTS FOR PAYMENT.

STAY-IN-PLACE DECK FORMS -
THE CONTRACTOR MAY USE STAY-IN-PLACE STEEL DECK FORMS IF THE MINIMUM DECK SLAB THICKNESS SHOWN IN THE PLANS IS OBTAINED BY MEASURING FROM THE TOP OF THE DECK SLAB TO THE TOP PORTION OF THE STEEL CORRUGATION. PREFORMED CORRUGATION FILLER, COMPOSED OF POLYSTYRENE OR OTHER MATERIAL, MAY BE USED IF BONDED TO THE DECK FORMS. NO ADDITIONAL CONCRETE WEIGHT OF THE DECK SLAB IS PERMITTED. THE TOTAL ADDITIONAL WEIGHT OF THE DECK FORM AND FILLER SHALL NOT EXCEED 5 P.S.F. THE DEPARTMENT CONSIDERS ALL COSTS OF STAY-IN-PLACE STEEL DECK FORMS TO BE INCLUDED IN THE CONTRACT UNIT PRICE OF CLASS AA CONCRETE.
THE CONTRACTOR MAY SUBSTITUTE STAY-IN-PLACE PRESTRESSED CONCRETE DECK FORMS, AT NO ADDITIONAL COST TO THE DEPARTMENT, IF THE FOLLOWING CONDITIONS ARE MET:
(1) THE BRIDGE ENGINEER APPROVES SHOP DRAWINGS AND STRUCTURAL CALCULATIONS FOR THE FORMS SUBMITTED BY THE CONTRACTOR.
(2) THE BRIDGE ENGINEER APPROVES A NEW STRUCTURAL DESIGN, STRUCTURAL CALCULATIONS, AND NEW REINFORCING SCHEDULE FOR THE DECK SLAB SUBMITTED BY THE CONTRACTOR.
(3) SHOP DRAWINGS, NEW DECK SLAB REINFORCING SCHEDULE, STRUCTURAL DESIGNS, AND CALCULATIONS ARE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA.

STEEL BEAM BRACING FOR DECK SLAB PLACEMENT -
SUBMIT DRAWINGS OF THE BRACING SYSTEM TO THE BRIDGE ENGINEER FOR APPROVAL. BRACING SYSTEMS OTHER THAN THAT SHOWN IN THE PLANS MAY BE USED IF DESIGN CALCULATIONS AND DRAWINGS OF THE PROPOSED BRACING SYSTEM ARE SUBMITTED TO AND APPROVED BY THE BRIDGE ENGINEER. DRAWINGS AND CALCULATIONS OF THE PROPOSED SYSTEM SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA. DO NOT PLACE DECK SLAB CONCRETE UNTIL THE BRACING SYSTEM IS APPROVED. THE DEPARTMENT CONSIDERS ALL COST FOR BRACING TO BE INCLUDED IN OTHER ITEMS OF WORK.
USE ADJUSTABLE CANTILEVER FORMING BRACKETS AT EXTERIOR BEAMS CAPABLE OF BEING ADJUSTED DURING THE PLACEMENT OF DECK SLAB CONCRETE IN ORDER TO MAINTAIN PROPER GRADES AT THE DECK SLAB OVERHANG. IF SHIMS ARE TO BE USED TO ADJUST THE FORMING BRACKETS, PROVIDE THE BRIDGE ENGINEER A METHOD TO PREDICT CRUSH AND SETTLEMENT OF SHIMS. BEAR THE LEG BRACE OF THE BRACKETS ON THE BEAM WEB AND WITHIN 6 INCHES OF THE BOTTOM FLANGE.
USE #4 EPOXY COATED REINFORCING STEEL WITH THREADED ENDS OR GALVANIZED ALL THREAD FOR TENSIONS TIES. PLACE TENSION TIES PERPENDICULAR TO THE BEAMS. ATTACH TENSION TIES TO THE TOP FLANGE OF THE BEAMS WITH TY-BAR CLIPS AS SHOWN IN THE PLANS. DO NOT WELD TY-BAR CLIPS TO THE TOP FLANGE OF THE BEAMS.
WEDGE HARDWOOD STRUTS, OR ANOTHER MATERIAL OF AN EQUIVALENT STRENGTH, BETWEEN THE BEAM WEBS WITHIN 6" OF THE BOTTOM FLANGE AT EACH TENSION TIE LOCATION.

WATER REPELLENT TREATMENT -
APPLY WATER REPELLENT TREATMENT TO THE BRIDGE IN MANNER CONSISTENT WITH THE DETAILS SHOWN IN THE PLANS.

SOFTWARE -
THE FOLLOWING COMPUTER SOFTWARE WAS USED IN THE ANALYSIS AND DESIGN OF THE STRUCTURE(S) DETAILED IN THE PLANS:
(1) WHITE ENGINEERING ASSOCIATES, INC. DECK SLAB DESIGN (VERSION 2.2, 02-26-02)
(2) WHITE ENGINEERING ASSOCIATES, INC. BRIDGE LIVE LOAD LANE ANALYSIS FOR SIMPLE SPANS (VERSION 1.0, 08-28-01)
(3) WHITE ENGINEERING ASSOCIATES, INC. BRIDGE LOAD DISTRIBUTION (VERSION 1.10, 12-23-04 AND VERSION 1.08, 04-14-04)
(4) WHITE ENGINEERING ASSOCIATES, INC. PRECAST BEAM DESIGN (VERSION 2.01, 04-27-09)
(5) MDX STEEL LINE GIRDER DESIGN AND RATING (VERSION 5.203)
(6) WHITE ENGINEERING ASSOCIATES, INC. ELASTOMERIC BEARING PAD DESIGN (VERSION 3.01, 05-26-10)
(7) WHITE ENGINEERING ASSOCIATES, INC. PIER DESIGN (VERSION 2.02, 09-24-07)
(8) IES VISUALANALYSIS (VERSION 4.01.013, 02-01-02)
(9) PORTLAND CEMENT ASSOCIATION PCACOL (VERSION 3.00, 01-27-99)
(10) WHITE ENGINEERING ASSOCIATES, INC. ABUTMENT/RETAINING WALL DESIGN (VERSION 2.00, 10-19-07)



7/7/16

Design	CEG		U.S. HIGHWAY 69 - McALESTER
Drawn	KGL	HEJ	BRIDGE GENERAL NOTES
Checked	ADT		
Approved	CEG		
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. 11

I:\Active\0403\COMMON A-B-D\11-BR GEN NOTES.dwg, 7/7/2016 7:41:52 AM, Howard

RAILROAD NOTES (BRIDGE "S" AND "T")

NOTIFICATION OF WORK -
PROVIDE THE ARKANSAS-OKLAHOMA RAILROAD COMPANY AT LEAST 10 WORKING DAYS ADVANCE NOTICE, IN WRITING, BEFORE ANY WORK IS STARTED ON THE SITE. TO AVOID HAZARDS, THE ARKANSAS-OKLAHOMA RAILROAD COMPANY MAY HAVE A REPRESENTATIVE PRESENT, IF DEEMED NECESSARY, FOR THE PURPOSE OF INSPECTION AND THE ISSUANCE OF ANY APPROPRIATE INSTRUCTIONS FOR RAILROAD OPERATIONS DURING THE BRIDGE WIDENING/REHABILITATION OF U.S.69 OVER THE ARKANSAS-OKLAHOMA RAILROAD COMPANY'S TRACKS IN McALESTER, PITTSBURGH COUNTY.

NOTIFY:

MS. HEATHER WILLIAMS, GENERAL MANAGER
ARKANSAS-OKLAHOMA RAILROAD COMPANY
P.O. BOX 366
WILBURTON, OK 74578
PHONE: 918-465-0299
EMAIL: HEATHER@AOKRR.COM

MR. HARVEY HUNTER, ROADMASTER
ARKANSAS-OKLAHOMA RAILROAD COMPANY
P.O. BOX 366
WILBURTON, OK 74578
PHONE: 918-465-0299

PROTECTION OF RAILROAD UNDER BRIDGE -
PROTECT THE RAILROAD TRACK BED DURING ALL CONSTRUCTION OPERATIONS.

PRIOR TO STARTING ANY WORK, SUBMIT TO THE RAILROAD REPRESENTATIVE FOR APPROVAL A PROPOSED METHOD OF PREVENTING DEBRIS FROM FALLING ON THE RAILROAD TRACK BED.

DO NOT LEAVE ANY SCAFFOLDING IN PLACE IN WORKING POSITION. REMOVE AND SET SCAFFOLDING A SAFE DISTANCE FROM ANY OPERATING RAILWAY LINE AT THE END OF EACH WORKDAY. MAINTAIN THE MINIMUM CLEARANCE AT ALL TIMES AS SHOWN ON THE "FALSEWORK CLEARANCE DIAGRAM" ON THIS SHEET.

FLAGGING AND INSURANCE -
PROVIDE FLAGGING AND INSURANCE AS SPECIFIED IN SECTION 107 OF THE STANDARD SPECIFICATIONS AND IN THE SPECIAL PROVISIONS FOR RAILROAD FLAGGING (SEE PROPOSAL FOR SPECIAL PROVISIONS) AND AS STATED IN THE ARKANSAS-OKLAHOMA RAILROAD COMPANY'S RIGHT OF ENTRY AGREEMENT. ARKANSAS-OKLAHOMA RAILROAD COMPANY, AT THEIR DISCRETION, SHALL PROVIDE FLAGGING FOR THE RAILROAD DURING CONSTRUCTION OPERATIONS.

THE CONTRACTOR IS REQUIRED TO REIMBURSE ARKANSAS-OKLAHOMA RAILROAD COMPANY FOR FLAGGING SERVICES PROVIDED.

FURNISH SATISFACTORY EVIDENCE TO THE STATE OF OKLAHOMA OF PROVIDING INSURANCE OF THE KINDS AND AMOUNTS AS SPECIFIED IN THE SPECIAL PROVISIONS FOR RAILROAD INSURANCE AND IN THE ARKANSAS-OKLAHOMA RAILROAD COMPANY'S RIGHT OF ENTRY AGREEMENT.

THE CONTRACTOR WILL BE REQUIRED TO ENTER INTO A RIGHT OF ENTRY AGREEMENT WITH THE ARKANSAS-OKLAHOMA RAILROAD COMPANY BEFORE THEY WILL BE ALLOWED ON THE RAILROADS RIGHT-OF-WAY.

PRE-WORK MEETING -
PRIOR TO WORKING ON THE ARKANSAS-OKLAHOMA RAILROAD COMPANY'S RIGHT-OF-WAY OR IN THE VICINITY OF THEIR TRACKS, CONTACT THE LOCAL ROADMASTER FOR THE ARKANSAS-OKLAHOMA RAILROAD COMPANY TO COORDINATE WORK. IT IS VITAL THAT CONTACT WITH THE ARKANSAS-OKLAHOMA RAILROAD COMPANY ROADMASTER IS MADE PRIOR TO ENTERING RAILROAD PROPERTY.

COORDINATION WITH RAILROAD -
CONDUCT CONSTRUCTION OPERATIONS IN A MANNER WHICH WILL NOT DELAY OR INTERFERE WITH TRAIN OPERATIONS. CONSTRUCTION ACTIVITY WITHIN 25 (TWENTY-FIVE) FEET OF ACTIVE TRACKS WILL REQUIRE A FLAGMAN TO BE PROVIDED BY THE ARKANSAS-OKLAHOMA RAILROAD COMPANY AT THE CONTRACTOR'S EXPENSE.

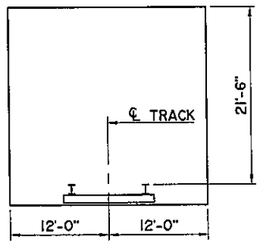
GIVE WRITTEN NOTICE TO THE ARKANSAS-OKLAHOMA RAILROAD COMPANY ROADMASTER A MINIMUM OF 30 (THIRTY) CALENDAR DAYS IN ADVANCE OF WHEN FLAGGING IS REQUIRED.

OBTAIN SPECIAL PERMISSION FROM THE ARKANSAS-OKLAHOMA RAILROAD COMPANY BEFORE MOVING ANY EQUIPMENT OR OTHER OBJECT WHICH COULD MAKE THE TRACK IMPASSABLE IF IT FELL WITHIN THE AREA SHOWN ON THE "FALSEWORK CLEARANCE DIAGRAM" ON THIS SHEET.

RAILROAD FLAGGERS, PROTECTIVE SERVICES, AND PROTECTIVE DEVICES WILL BE REQUIRED, BUT NOT LIMITED TO, EVENTS WHEN:

- WORK ACTIVITIES ARE WITHIN 25 (TWENTY-FIVE) FEET OF THE TRACK, MEASURED FROM THE TRACK CENTERLINE.
- ACTIVITIES ARE OVER OR UNDER THE TRACK.
- CRANES OR SIMILAR EQUIPMENT WILL NOT BE POSITIONED WHERE THEY COULD FOUL THE TRACK IF THEY TIPPED OVER OR EXPERIENCED SOME OTHER CATASTROPHIC EVENT.
- IN THE OPINION OF THE ARKANSAS-OKLAHOMA RAILROAD COMPANY:
  1) IT IS NECESSARY TO SAFEGUARD THE ARKANSAS-OKLAHOMA RAILROAD COMPANY PROPERTY, EMPLOYEES, TRAINS, ENGINES AND FACILITIES.
  2) WHEN ANY EXCAVATION IS PERFORMED BELOW THE BOTTOM OF THE ELEVATIONS AND TRACK OR OTHER ARKANSAS-OKLAHOMA RAILROAD COMPANY FACILITIES MAY BE SUBJECT TO MOVEMENT OR SETTLEMENT.
  3) WHEN WORK IN ANY WAY INTERFERES WITH SAFE OPERATION OF TRAINS AND TIMETABLE SPEEDS.
  4) WHEN ANY HAZARD IS PRESENTED TO RAILROAD TRACK, SIGNALS, COMMUNICATIONS, ELECTRICAL, OR OTHER FACILITIES EITHER DUE TO PERSON, MATERIAL, EQUIPMENT, OR BLASTING IN THE AREA.

RAIL TRAFFIC -
THE ARKANSAS-OKLAHOMA RAILROAD COMPANY HAS 2 TRAINS PER DAY AT 25 MPH ON THE HOWE SUBDIVISION.



FALSEWORK CLEARANCE DIAGRAM

NOTE:
CLEARANCE OF FALSEWORK REQUIRED BY ARKANSAS-OKLAHOMA RAILROAD COMPANY FOR OPERATION DURING CONSTRUCTION.
HORIZONTAL DIMENSIONS SHOWN ARE MEASURED AT RIGHT ANGLES TO CENTERLINE OF TRACK.
VERTICAL DIMENSION SHOWN IS PERPENDICULAR TO PLANE OF TOP OF RAILS.

Design	CEG		U.S. HIGHWAY 69 - McALESTER
Drawn	KGL	HEJ	RAILROAD NOTES
Checked	ADT		BRIDGE "S" AND BRIDGE "T"
Approved	CEG		JOB PIECE NO. 14999(04) SHEET NO. 12
Squad	WEA		

J.P. NO. 14999(04)
0200 BRIDGE "Q"

PAY QUANTITIES

U.S. HIGHWAY 69 SOUTHBOUND OVER WADE WATTS
108'-8 1/2" TYPE IV P.C.B. SPAN
69'-5" CLEAR ROADWAY WITH CONCRETE PARAPETS
0° SKEW, ℄ STA. 3259+10.79

ITEM NO.	ITEM		UNIT	TOTAL
501(B) 1307	SUBSTRUCTURE EXCAVATION COMMON	(BR-1, 2)	C.Y.	175
501(G) 6309	CLSM BACKFILL	(BR-1)	C.Y.	210
503(A) 1313	PRESTRESSED CONCRETE BEAMS (TYPE IV)	(BR-1)	L.F.	549
504(A) 1304	APPROACH SLAB	(BR-1, 4)	S.Y.	364.1
504(B) 1305	SAW-CUT GROOVING	(BR-1)	S.Y.	735.5
504(C) 6250	SEALED EXPANSION JOINT	(BR-1)	L.F.	70.4
504(E) 1381	CONCRETE PARAPET	(BR-1)	L.F.	32.4
504(E) 6190	42" F-SHAPED PARAPET	(BR-1)	L.F.	170.7
506(A) 1322	STRUCTURAL STEEL	(BR-1)	LB.	380
507(A) 6170	STAINLESS STEEL FIXED BEARING ASSEMBLY	(BR-1, 6)	EA.	5
507(B) 6174	STAINLESS STEEL EXPANSION BEARING ASSEMBLY	(BR-1, 7)	EA.	5
509 6152	SPECIAL CONCRETE FINISH	(BR-1, 8)	S.Y.	119
509(A) 1326	CLASS AA CONCRETE	(BR-1, 9)	C.Y.	102.6
509(B) 1328	CLASS A CONCRETE	(BR-1)	C.Y.	134.9
510(C) 6138	SLOPE WALL (5")	(BR-1)	S.Y.	565
511 6306	MECHANICAL SPLICES	(BR-1)	EA.	317
511(B) 6010	EPOXY COATED REINFORCING STEEL	(BR-1)	LB.	31,360
514(A) 6011	PILES, FURNISHED (HP12x53)	(BR-10)	L.F.	444
514(B) 6294	PILES, DRIVEN (HP12x53)		L.F.	444
514(L) 6220	PILE SPLICE, H-PILE (NON-BIDDABLE)		EA.	1
515(A) 6013	WATER REPELLENT (VISUALLY INSPECTED)	(BR-1)	S.Y.	450
521(A) 6210	PNEUMATICALLY PLACED MORTAR	(BR-11)	S.Y.	3.0
523(A) 6550	SEALER CRACK PREPARATION	(BR-1)	L.F.	110.7
523(B) 6560	SEALER RESIN	(BR-1, 12)	GAL.	2
613(H) 6204	6" PERFORATED PIPE UNDERDRAIN ROUND	(BR-1, 14)	L.F.	56
613(I) 6207	6" NON-PERF. PIPE UNDERDRAIN RND.	(BR-15)	L.F.	112
619(B) 2515	REMOVAL OF BRIDGE ITEM (TYPE A)	(BR-16)	EA.	2
619(B) 2525	REMOVAL OF BRIDGE ITEM (TYPE B)	(BR-17)	EA.	2
619(B) 2535	REMOVAL OF BRIDGE ITEM (TYPE C)	(BR-18)	EA.	6
619(B) 6189	REMOVAL OF EXISTING SLAB	(BR-19)	S.Y.	149.9
619(B) 6252	REMOVAL OF EXISTING PARAPET	(BR-20)	L.F.	203.1
619(B) 6319	REMOVAL OF DECK	(BR-21)	S.Y.	28.9

J.P. NO. 14999(04)
0201 BRIDGE "R"

PAY QUANTITIES

U.S. HIGHWAY 69 NORTHBOUND OVER WADE WATTS
108'-8 1/2" TYPE IV P.C.B. SPAN
69'-5" CLEAR ROADWAY WITH CONCRETE PARAPETS
0° SKEW, ℄ STA. 3259+10.79

ITEM NO.	ITEM		UNIT	TOTAL
501(B) 1307	SUBSTRUCTURE EXCAVATION COMMON	(BR-1, 2)	C.Y.	175
501(G) 6309	CLSM BACKFILL	(BR-1)	C.Y.	210
503(A) 1313	PRESTRESSED CONCRETE BEAMS (TYPE IV)	(BR-1)	L.F.	549
504(A) 1304	APPROACH SLAB	(BR-1, 4)	S.Y.	364.1
504(B) 1305	SAW-CUT GROOVING	(BR-1)	S.Y.	735.5
504(C) 6250	SEALED EXPANSION JOINT	(BR-1)	L.F.	70.4
504(E) 1381	CONCRETE PARAPET	(BR-1)	L.F.	32.4
504(E) 6190	42" F-SHAPED PARAPET	(BR-1)	L.F.	170.7
506(A) 1322	STRUCTURAL STEEL	(BR-1)	LB.	380
507(A) 6170	STAINLESS STEEL FIXED BEARING ASSEMBLY	(BR-1, 6)	EA.	5
507(B) 6174	STAINLESS STEEL EXPANSION BEARING ASSEMBLY	(BR-1, 7)	EA.	5
509 6152	SPECIAL CONCRETE FINISH	(BR-1, 8)	S.Y.	119
509(A) 1326	CLASS AA CONCRETE	(BR-1, 9)	C.Y.	102.6
509(B) 1328	CLASS A CONCRETE	(BR-1)	C.Y.	135.0
510(C) 6138	SLOPE WALL (5")	(BR-1)	S.Y.	565
511 6306	MECHANICAL SPLICES	(BR-1)	EA.	317
511(B) 6010	EPOXY COATED REINFORCING STEEL	(BR-1)	LB.	31,360
514(A) 6011	PILES, FURNISHED (HP12x53)	(BR-10)	L.F.	525
514(B) 6294	PILES, DRIVEN (HP12x53)		L.F.	525
514(L) 6220	PILE SPLICE, H-PILE (NON-BIDDABLE)		EA.	1
515(A) 6013	WATER REPELLENT (VISUALLY INSPECTED)	(BR-1)	S.Y.	450
521(A) 6210	PNEUMATICALLY PLACED MORTAR	(BR-11)	S.Y.	3.0
523(A) 6550	SEALER CRACK PREPARATION	(BR-1)	L.F.	110.7
523(B) 6560	SEALER RESIN	(BR-1, 12)	GAL.	2
613(H) 6204	6" PERFORATED PIPE UNDERDRAIN ROUND	(BR-1, 14)	L.F.	56
613(I) 6207	6" NON-PERF. PIPE UNDERDRAIN RND.	(BR-15)	L.F.	112
619(B) 2515	REMOVAL OF BRIDGE ITEM (TYPE A)	(BR-16)	EA.	2
619(B) 2525	REMOVAL OF BRIDGE ITEM (TYPE B)	(BR-17)	EA.	2
619(B) 2535	REMOVAL OF BRIDGE ITEM (TYPE C)	(BR-18)	EA.	6
619(B) 6189	REMOVAL OF EXISTING SLAB	(BR-19)	S.Y.	149.9
619(B) 6252	REMOVAL OF EXISTING PARAPET	(BR-20)	L.F.	203.1
619(B) 6319	REMOVAL OF DECK	(BR-21)	S.Y.	28.9

NOTE:
FOR PAY ITEM NOTES,
SEE SHEET 14.

Design	CEG		**U.S. HIGHWAY 69 - McALESTER**
Drawn	KGL	HEJ	SUMMARY OF BRIDGE PAY QUANTITIES
Checked	ADT		SHEET 1 OF 2
Approved	CEG		BRIDGE "Q" AND BRIDGE "R"
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. 13

BRIDGE PAY ITEM NOTES

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

(BR-2) THE CONTRACTOR MAY PLACE CONCRETE AGAINST THE LIMITS OF EXCAVATION IF THE MATERIAL IS EXCAVATED TO THE NEAT LINES OF THE SUBSTRUCTURE AND APPROVED BY THE ENGINEER. IF NECESSARY, USE FORMS AT VERTICAL FACES AND REMOVE THE FORMS AFTER CONCRETE HARDENS. IF THE CONTRACTOR CHOOSES TO PLACE CONCRETE AGAINST THE SOIL, THE DEPARTMENT WILL PAY FOR SUBSTRUCTURE EXCAVATION COMMON IN ACCORDANCE WITH THE DIAGRAMS SHOWN IN THE PLANS.

(BR-3) ITEM "(PL) FALSEWORK JACKING" CONSISTS OF SUPPORTING THE BRIDGE THROUGHOUT CONSTRUCTION ACTIVITIES ASSOCIATED WITH "(PL) REPLACE BRIDGE ITEM (TYPE A)" IN ACCORDANCE WITH SECTION 502 OF THE SPECIFICATIONS. SUBMIT A WORK PLAN SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA TO THE ENGINEER FOR APPROVAL. DO NOT BEGIN JACKING OPERATIONS UNTIL APPROVAL OF THE PLAN BY THE ENGINEER IS RECEIVED. INCLUDE ALL COSTS ASSOCIATED WITH JACKING OPERATIONS, INCLUDING PROFESSIONAL SERVICES, IN THE CONTRACT UNIT PRICE OF "(PL) FALSEWORK JACKING".

(BR-4) THE APPROACH SLABS CONTAIN AN ESTIMATED TOTAL CLASS AA CONCRETE OF 121.4 C.Y. (BRIDGE Q), 121.4 C.Y. (BRIDGE R), AND 32.2 C.Y. (BRIDGE S) AND AN ESTIMATED TOTAL EPOXY COATED REINFORCING STEEL OF 25,150 LB. (BRIDGE Q), 25,150 LB. (BRIDGE R), AND 7,540 LB. (BRIDGE S). FOR BRIDGE Q, INCLUDE ALL COST OF WELDED EXPANSION JOINT ASSEMBLIES IN CONTRACT UNIT PRICE OF "APPROACH SLAB".

(BR-5) ITEM "RAPID CURE JOINT SEALANT" CONSISTS OF SAWING, CLEANING AND SEALING CONSTRUCTION JOINTS FOR BRIDGES "S" AND "T" AS SHOWN IN THE PLANS. REMOVED MATERIALS TO BECOME THE PROPERTY OF CONTRACTOR AND DISPOSED OF AS APPROVED BY THE ENGINEER. INCLUDE ALL COSTS FOR MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "RAPID CURE JOINT SEALANT".

(BR-6) THE FIXED BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL STAINLESS STEEL OF 970 LB. (BRIDGE Q), 970 LB. (BRIDGE R) AND 1,090 LB (BRIDGE S),

(BR-7) THE EXPANSION BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL STAINLESS STEEL OF 970 LB. (BRIDGE Q), 970 LB. (BRIDGE R), 1,090 LB (BRIDGE S).

(BR-8) ITEM "SPECIAL CONCRETE FINISH" CONSISTS OF CLEANING AND FINISHING ALL EXPOSED SUBSTRUCTURE CONCRETE SURFACES TO GIVE A UNIFORM APPEARANCE AFTER ALL REPAIRS. CLEAN SURFACES BY SANDBLASTING FOLLOWED WITH A FILTERED AIR BLAST. FINISH TO COMPLY WITH SECTION 737 OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. INCLUDE ALL COSTS ASSOCIATED WITH CLEANING AND FINISHING CONCRETE SURFACES IN THE CONTRACT UNIT PRICE OF "SPECIAL CONCRETE FINISH".

(BR-9) THE QUANTITY SHOWN FOR CLASS AA CONCRETE INCLUDES BEAM HAUNCHES ESTIMATED AT 4.2 C.Y. FOR BRIDGE "Q", 4.2 C.Y. FOR BRIDGE "R" AND 2.5 C.Y. FOR BRIDGE "S".

(BR-10) PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES UNLESS ADDITIONAL PILING LENGTH IS REQUIRED. ADDITIONAL PILES, FURNISHED, AS AUTHORIZED BY THE ENGINEER, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE.

(BR-11) 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 SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

(BR-12) QUANTITY SHOWN FOR SEALER RESIN ESTIMATED AT 0.011 GALLONS PER FOOT OF CONSTRUCTION JOINT.

(BR-13) ITEM "(PL) REPLACE BRIDGE ITEM (TYPE A)" CONSISTS OF REMOVING AND REPLACING EXISTING BEAM BEARINGS AS SHOWN IN THE PLANS ANO IN A MANNER APPROVED BY THE ENGINEER. PROVIDE WEATHERING STEEL BEARING ASSEMBLIES AT ALL REPLACEMENT LOCATIONS. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

(BR-14) INCLUDE THE COST OF PIPE UNDERDRAIN COVER MATERIAL (BOTH FILTER SAND AND COARSE) AND FILTER FABRIC IN THE CONTRACT UNIT PRICE OF "6" PERFORATED PIPE UNDERDRAIN ROUND". INSTALL AS SHOWN IN THE PLANS AND ON STD. PUD-3.

(BR-15) THE ENGINEER MAY ADJUST THE EXTENT, LOCATION AND DEPTH OF NON-PERFORATED PIPE UNDERDRAIN DURING CONSTRUCTION. INCLUDE THE COST OF TRENCH EXCAVATION AND STANDARD BEDDING MATERIAL IN THE CONTRACT UNIT PRICE OF "6" NON-PERF. PIPE UNDERDRAIN RND". INSTALL AS SHOWN IN THE PLANS AND ON STD. PUD-3.

(BR-16) ITEM "REMOVAL OF BRIDGE ITEM (TYPE A)" CONSISTS OF REMOVING AND DISPOSING OF PORTIONS OF THE EXISTING ABUTMENT WING AND WING EXTENSION (IF APPLICABLE) AS SHOWN IN THE PLANS IN ACCORDANCE WITH SUBSECTION 619.04.B OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

(BR-17) ITEM "REMOVAL OF BRIDGE ITEM (TYPE B)" CONSISTS OF REMOVING AND DISPOSING OF EXISTING SLOPE WALLS, INCLUDING VERTICAL FACES EXTENDING BELOW EXISTING GRADE, IN ACCORDANCE WITH SUBSECTION 619.04.B OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

(BR-18) ITEM "REMOVAL OF BRIDGE ITEM (TYPE C)" CONSISTS OF REMOVING AND DISPOSING OF EXISTING BRIDGE DIAPHRAGMS AS SHOWN IN THE PLANS IN ACCORDANCE WITH SUBSECTION 619.04.B OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

(BR-19) ITEM "REMOVAL OF EXISTING SLAB" CONSISTS OF REMOVING AND DISPOSING OF THE EXISTING APPROACH SLAB AS SHOWN IN THE PLANS IN ACCORDANCE WITH SUBSECTION 619.04.B OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. SEE SHEET 149A FOR REMOVAL DETAILS.

(BR-20) ITEM "REMOVAL OF EXISTING PARAPET" CONSISTS OF REMOVING AND DISPOSING OF THE EXISTING BRIDGE PARAPET AS SHOWN IN THE PLANS IN ACCORDANCE WITH SUBSECTION 619.04.B OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. SEE "DECK SLAB REMOVAL" IN GENERAL NOTES AND SHEETS 141, 148 AND 162 FOR REMOVAL DETAILS.

(BR-21) ITEM "REMOVAL OF DECK" CONSISTS OF REMOVING AND DISPOSING OF EXISTING BRIDGE DECK AS SHOWN IN THE PLANS IN ACCORDANCE WITH SUBSECTION 619.04.B OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. SEE "DECK SLAB REMOVAL" IN GENERAL NOTES AND SHEETS 141 AND 162 FOR REMOVAL DETAILS. SUBMIT DECK REMOVAL PROCEDURE FOR APPROVAL BY THE ENGINEER. ALTERNATE REMOVAL PROCEDURES MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER.

(BR-22) PLACE UNCLASSIFIED BACKFILL AS NEEDED IN ERODED AREAS TO REESTABLISH SURFACE OF HEADER BEFORE PLACING RIPRAP. INCLUDE ALL COSTS IN CONTRACT UNIT PRICE OF "TYPE IV GROUTED RIPRAP".

(BR-23) APPLY TO REMAINING PORTIONS OF DECK AND APPROACH SLABS AT THE DISCRETION AND AS DIRECTED BY THE ENGINEER.

J.P. NO. 14999(04)
0203 BRIDGE "T"

PAY QUANTITIES

U.S. HIGHWAY 69 SOUTHBOUND OVER AOK RAILROAD
43'-5" W30x108 AND 58'-4 1/2" W30x148 SPANS
46'-5" CLEAR ROADWAY WITH CONCRETE PARAPETS
19° 04' 00" SKEW, ℄ STA. 3266+62.74

ITEM NO.	ITEM		UNIT	TOTAL
502 6116	(PL) FALSEWORK JACKING	(BR-3)	L.SUM	1
504(C) 6250	SEALED EXPANSION JOINT	(BR-1)	L.F.	100.1
504(E) 1381	CONCRETE PARAPET	(BR-1)	L.F.	10.6
504(G) 6390	RAPID CURE JOINT SEALANT	(BR-1, 5)	L.F.	101.2
509(A) 1326	CLASS AA CONCRETE	(BR-1)	C.Y.	8.8
511(B) 6010	EPOXY COATED REINFORCING STEEL	(BR-1)	LB.	1,550
515(A) 6013	WATER REPELLENT (VISUALLY INSPECTED)	(BR-1)	S.Y.	4
523(C) 6570	DECK AREA SEALED (FLOODCOATS)	(BR-23)	S.Y.	1,156.2
545 4815	(PL) REPLACE BRIDGE ITEM (TYPE A)	(BR-13)	EA.	10
601(H) 1390	TYPE IV GROUTED RIPRAP	(BR-22)	S.Y.	75
619(B) 6252	REMOVAL OF EXISTING PARAPET	(BR-20)	L.F.	10.6
619(B) 6319	REMOVAL OF DECK	(BR-21)	S.Y.	30.9

J.P. NO. 14999(04)
0202 BRIDGE "S"

PAY QUANTITIES

U.S. HIGHWAY 69 NORTHBOUND OVER AOK RAILROAD
43'-5" W30x108 AND 58'-4 1/2" W30x148 SPANS
48'-5" CLEAR ROADWAY WITH CONCRETE PARAPETS
19° 04' 00" SKEW, ℄ STA. 3266+62.74

ITEM NO.	ITEM		UNIT	TOTAL
501(B) 1307	SUBSTRUCTURE EXCAVATION COMMON	(BR-1, 2)	C.Y.	60
501(G) 6309	CLSM BACKFILL	(BR-1)	C.Y.	64
502 6116	(PL) FALSEWORK JACKING	(BR-3)	L.SUM	1
504(A) 1304	APPROACH SLAB	(BR-1, 4)	S.Y.	96.6
504(B) 1305	SAW-CUT GROOVING	(BR-1)	S.Y.	253.2
504(C) 6250	SEALED EXPANSION JOINT	(BR-1)	L.F.	145.4
504(E) 1381	CONCRETE PARAPET	(BR-1)	L.F.	5.3
504(E) 6190	42" F-SHAPED PARAPET	(BR-1)	L.F.	224.1
504(G) 6390	RAPID CURE JOINT SEALANT	(BR-1, 5)	L.F.	83.2
506(A) 1322	STRUCTURAL STEEL	(BR-1)	LB.	63,240
507(A) 6170	STAINLESS STEEL FIXED BEARING ASSEMBLY	(BR-1, 6)	EA.	9
507(B) 6174	STAINLESS STEEL EXPANSION BEARING ASSEMBLY	(BR-1, 7)	EA.	9
509(A) 1326	CLASS AA CONCRETE	(BR-1, 9)	C.Y.	53.9
509(B) 1328	CLASS A CONCRETE	(BR-1)	C.Y.	62.7
511 6306	MECHANICAL SPLICES	(BR-1)	EA.	239
511(A) 1332	REINFORCING STEEL	(BR-1)	LB.	520
511(B) 6010	EPOXY COATED REINFORCING STEEL	(BR-1)	LB.	24,130
513(B) 6019	CLASS B BRIDGE DECK REPAIR		S.Y.	2.7
514(A) 6010	PILES, FURNISHED (HP10x42)	(BR-10)	L.F.	346
514(B) 6292	PILES, DRIVEN (HP10x42)		L.F.	346
514(L) 6220	PILE SPLICE, H-PILE (NON-BIDDABLE)		EA.	1
515(A) 6013	WATER REPELLENT (VISUALLY INSPECTED)	(BR-1)	S.Y.	221
516(A) 6098	DRILLED SHAFTS 72" DIAMETER		L.F.	58
516(C) 6200	CROSSHOLE SONIC LOGGING		EA.	1
523(A) 6550	SEALER CRACK PREPARATION	(BR-1)	L.F.	150.2
523(B) 6560	SEALER RESIN	(BR-1, 12)	GAL.	2
523(C) 6570	DECK AREA SEALED (FLOODCOATS)	(BR-23)	S.Y.	951.5
545 4815	(PL) REPLACE BRIDGE ITEM (TYPE A)	(BR-13)	EA.	10
601(H) 1390	TYPE IV GROUTED RIPRAP	(BR-22)	S.Y.	90
613(H) 6204	6" PERFORATED PIPE UNDERDRAIN ROUND	(BR-1, 14)	L.F.	20
613(I) 6207	6" NON-PERF. PIPE UNDERDRAIN RND.	(BR-15)	L.F.	30
619(B) 2515	REMOVAL OF BRIDGE ITEM (TYPE A)	(BR-16)	EA.	2
619(B) 6189	REMOVAL OF EXISTING SLAB	(BR-19)	S.Y.	11.7
619(B) 6252	REMOVAL OF EXISTING PARAPET	(BR-20)	L.F.	78.6
619(B) 6319	REMOVAL OF DECK	(BR-21)	S.Y.	19.4

5/9/16

Design	CEG		U.S. HIGHWAY 69 - McALESTER
Drawn	KGL	HEJ	SUMMARY OF BRIDGE PAY QUANTITIES SHEET 2 OF 2
Checked	ADT		BRIDGE "S" AND BRIDGE "T"
Approved	CEG		JOB PIECE NO. 14999(04) SHEET NO. 14
Squad	WEA		

I:\Active\0403\COMMON A-B-DV14-SUM PAY QTYS&NOTES.dwg, 7/5/2016 2:57:52 PM, Howard

REVISION		
REV. NO.	DESCRIPTION	DATE
⚠	REVISED QUANTITIES AND ITEM NUMBER	8/4/16

TRAFFIC 0300
SIGNING AND STRIPING

PAY QUANTITIES

ITEM	DESCRIPTION		UNIT	QUANTITY	
516(A) 6096	DRILLED SHAFTS 60" DIAMETER		LF	147.50	⚠
804(A) 2915	STRUCTURAL CONCRETE	(U-100)	CY	68.37	
804(B) 2916	REINFORCING STEEL	(U-101)	LB	4,342.00	
805(A) 8724	(PL) REMOVAL OF EXISTING SIGNS	(TS-41)	EA	95.00	
805(D) 8760	(PL)REMOVE & RESET GROUND MOUNTED SIGN	(U-102)	EA	1.00	
850(A) 8110	SHEET ALUMINUM SIGNS	(TS-34)	SF	787.56	⚠
850(B) 8112	EXTRUDED ALUMINUM PANEL SIGNS		SF	263.25	
850(B) 8114	EXTRUDED ALUMINUM PANEL SIGNS (OVERHEAD SIGNS)		SF	1,198.00	
851(A) 3206	4"Ø13 GALV. STEEL WIDE FLANGE BEAM POST		LF	94.00	
851(A) 3207	6"Ø15 GALV. STEEL WIDE FLANGE BEAM POST		LF	43.00	
851(C) 8324	2" SQUARE TUBE POST	(TS-33) (U-103)	LF	255.00	
851(C) 8327	2 1/4" SQUARE TUBE POST	(TS-33) (U-103)	LF	1,346.50	⚠
852(C) 0110	OVHD.SN.STR., MONOTUBE TYPE A 80'		EA	1.00	
852(E) 0500	OVHD.SN.STR., MONOTUBE TYPE C		EA	2.00	
856(A) 8530	TRAFFIC STRIPE(MULTI-POLYMER)(4" WIDE)	(TS-24)	LF	9,580.00	
856(A) 8535	TRAFFIC STRIPE(MULTI-POLY.)(6" WIDE)	(TS-25)	LF	37,980.00	
856(A) 8540	TRAFFIC STRIPE(MULTI-POLY.)(8" WIDE)	(TS-26)	LF	8,260.00	
856(A) 8548	TRAFFIC STRIPE(MULTI-POLY.)(12" WIDE)	(TS-27)	LF	1,300.00	
856(A) 8555	TRAFFIC STRIPE(MULTI-POLY.)(24" WIDE)	(TS-28)	LF	400.00	
856(B) 8860	TRAFFIC STRIPE(MULTI-POLY.)(ARROWS)		EA	104.00	
871(A) 8325	(SP)IMPACT ATTENUATOR	(U-104)	EA	3.00	
877(A) 8483	PORTABLE LONGITUDINAL BARRIER		LF	475.00	

TRAFFIC OPERATIONS GENERAL NOTES

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET ODOT'S, "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES."

THE CONTRACTOR SHALL PROVIDE A PERSON TO BE ON 24 HOUR CALL AS NEEDED AS DETERMINED BY THE ENGINEER. THIS PERSON SHALL HOLD A CURRENT CERTIFICATION FROM THE AMERICAN TRAFFIC SAFETY ASSOCIATION (ATSSA) OR THE OKLAHOMA ENGINEERING ASSOCIATION (OTEA) AS A TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR.

TRAFFIC OPERATIONS CONSTRUCTION NOTES

ANY SIGNS AND/OR DELINEATORS WHICH ARE TO BE REMOVED DURING THIS PROJECT WILL BE STORED IN A PROTECTED AREA DESIGNATED BY THE RESIDENT ENGINEER, UNTIL SUCH A TIME THAT THEY ARE TO BE RESET BY THE CONTRACTOR. COST OF THIS WORK TO BE INCLUDED IN OTHER ITEMS OF WORK.

EXISTING ROADWAY SHALL REMAIN OPEN DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS. CONSTRUCTION TRAFFIC CONTROL WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING TRAFFIC ON CROSS STREETS. A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES

FIVE (5) WORKING DAYS PRIOR TO DETOURING WIDE LOAD VEHICLES, FOR THE CONSTRUCTION OF THE PROJECT, THE RESIDENT ENGINEER SHALL CONTACT THE OKLAHOMA HIGHWAY PATROL, SIZE AND WEIGHTS SECTION (405)-425-2210 AND ADVISE THE OFFICE WHEN SAID DETOURING WILL BEGIN AND THAT WIDE LOADS OVER 12 FT. SHOULD BE ADVISED AND RESTRICTED (SEE PLANS FOR PROPOSED WIDE LOAD DETOUR ROUTE). UPON COMPLETION OF THE PROJECT THE RESIDENT ENGINEER SHALL CONTACT THE OKLAHOMA HIGHWAY PATROL AND ADVISE THE OFFICE THAT THE WIDE LOAD DETOUR IS NO LONGER IN EFFECT. TRAFFIC SIGNING PAY QUANTITY NOTES.

THE STRUCTURAL DESIGN OF ALL POLES, MAST ARMS, HIGH-MAST POLES, AND OTHER SUPPORTS FOR SIGNS, LUMINAIRES, AND SIGNALS AS WELL AS THEIR CONNECTIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS. THE MANUFACTURER SHALL ENSURE THE FOLLOWING ARE APPLIED TO THE DESIGN:

THE MINIMUM DESIGN WIND SPEED AND DESIGN LIFE AS REQUIRED IN THE AASHTO SPECIFICATIONS;

THE CALCULATED STRESSES AND FORCES FROM THE DESIGN LOADINGS DO NOT EXCEED THOSE REQUIRED IN THE AASHTO SPECIFICATIONS;

A CATEGORY I FATIGUE IMPORTANCE FACTOR (IF) FOR ALL STRUCTURES; NO VIBRATORY MITIGATION SHALL BE ALLOWED. TRUCK-INDUCED GUSTS SHALL BE APPLIED TO ALL OVERHEAD TRAFFIC SIGNAL SUPPORTS.

ALL MEMBERS ARE AT LEAST THE MINIMUM THICKNESS AS REQUIRED IN THE AASHTO SPECIFICATIONS;

LUMINAIRE MAST ARMS SHALL BE DESIGNED TO SUPPORT AT LEAST A 50 LB. (22.7 KG) LUMINAIRE WITH AN EFFECTIVE PROJECTED AREA OF 2.5 FT2 (0.23 M2);

THE ANCHOR BOLT DESIGN AND AMOUNT OF ANCHOR BOLTS TO BE USED SHALL BE AS REQUIRED IN THE AASHTO SPECIFICATIONS.

SIGNAL MAST ARMS AND POLES SHALL BE DESIGNED FOR SPECIFIC SIGNAL HEAD AND SIGN PLACEMENT. UNLESS SITE SPECIFIC GEOTECHNICAL DATA IS AVAILABLE, FOUNDATIONS SHALL BE DESIGNED UTILIZING THESE PARAMETERS; SHEAR STRENGTH OF COHESIVE SOIL (C) OF 500 PSF, ANGLE OF INTERNAL FRICTION (Φ) OF 22 DEGREES, AND EFFECTIVE UNIT WEIGHT OF SOIL (Γ) OF 120 PCF.

MINIMUM HAND HOLE SIZE OF 3 INCH WIDTH BY 5 INCH HEIGHT.

TRAFFIC SIGNING GENERAL CONSTRUCTION NOTES

REMOVED MATERIAL TO BECOME PROPERTY OF CONTRACTOR AND IT SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

ANY DAMAGE CAUSED BY THE CONTRACTOR TO ANY STRUCTURES, ROADWAY SURFACES, STRIPING, RAISED PAVEMENT MARKERS, GUARDRAIL, SLOPES, AND SIGNS SHALL BE REPAIRED AT CONTRACTORS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER.

HIGH INTENSITY REFLECTIVE SHEETING, TYPE III SHALL BE USED FOR THE FOLLOWING TYPE OF PERMANENT SIGNS:

1. ALL R1-1, R1-2, R5-1, AND R5-1A SIGNS
2. ALL YELLOW WARNING SIGNS.
3. ALL GREEN AND BLUE SIGNS ON INTERSTATES AND FREEWAYS.
4. ALL PANEL SIGNS.

SUPER-ENGINEERING GRADE REFLECTIVE SHEETING, TYPE II SHALL BE USED ON ALL OTHER PERMANENT SIGNS OR SIGNS LISTED IN SIGN SUMMARY.

ALL BROKEN CONCRETE INCLUDING OLD SIGN FOOTINGS WITH STUBS, 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 SHALL BE MADE FOR THE DISPOSAL OF THIS MATERIAL. ANY PIPE POST OR WIDE FLANGE POST ABOVE THE OLD SIGN FOOTINGS SHALL BE CUT AND HANDLED AS PROPERTY OF THE STATE AND SHALL BE NEATLY STACKED ON THE JOB SITE, AS DESIGNATED BY THE ENGINEER UNTIL SUCH TIME AS DIVISION PERSONNEL CAN REMOVE THE MATERIAL FROM THE JOB SITE.

THE SIGN PLACEMENT STATIONING AND LOCATIONS SHOWN ON THE PLAN SHEETS AND SUMMARY SHEETS ARE APPROXIMATE. EXACT STATIONING AND LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH DEPARTMENT STANDARDS AND THE MUTCD IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES OR OTHER ROADWAY FEATURES, THE ENGINEER SHALL BE NOTIFIED.

POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE, EXACT LENGTH SHALL BE DETERMINED BY FIELD SURVEY BY THE CONTRACTOR.

TRAFFIC SIGNING PAY ITEM NOTES

(TS-24) QUANTITY SHOWN INCLUDES 2,530 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 7,050 L.F. TRAFFIC STRIPE(MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.

(TS-25) QUANTITY SHOWN INCLUDES 18,880 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 3,000 L.F. TRAFFIC STRIPE(MULTI-POLYMER)(BLACK) AND 16,100 L.F. TRAFFIC STRIPE(MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF SIX INCH (6") WIDE TRAFFIC STRIPE.

(TS-26) QUANTITY SHOWN INCLUDES 6,110 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 2,150 L.F. TRAFFIC STRIPE(MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF EIGHT INCH (8") WIDE TRAFFIC STRIPE.

(TS-27) QUANTITY SHOWN INCLUDES 1,300 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 0 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF EIGHT INCH (8") WIDE TRAFFIC STRIPE.

(TS-28) QUANTITY SHOWN INCLUDES 400 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWENTY-FOUR INCH (24") WIDE TRAFFIC STRIPE.

(TS-33) INCLUDED IN THIS PAY ITEM IS ALL HARDWARE ASSOCIATED WITH PROPERLY ANCHORING AND MOUNTING THE HIGHWAY SIGN IN ACCORDANCE WITH O.D.O.T. PLANS AND STANDARD DRAWINGS SSA1-1 AND SSP1-1-(LATEST REVISION).

(TS-34) INCLUDED IN THIS PAY ITEM IS THE REMOVAL OF ANY EXISTING SIGNS TO BE REPLACED BY NEW ASSEMBLIES AND THE REMOVAL OF ANY EXISTING SIGNS THAT WILL BE IN CONFLICT WITH THE NEW ROADWAY OR NEW SIGNAGE.

(TS-41) "REMOVAL OF EXISTING SIGNS" SHALL INCLUDE THE REMOVAL OF A COMPLETE SIGN ASSEMBLY WHICH MAY INCLUDE MULTIPLE SIGNS, POSTS, FOOTINGS, AND ANY FOOTINGS ADJACENT TO THE SIGN ASSEMBLY. WHEN APPROVED BY THE ENGINEER, FOOTINGS MAY BE OBLITERATED TO A POINT BELOW GROUND LEVEL IN LIEU OF BEING COMPLETELY REMOVED. SEE GENERAL CONSTRUCTION NOTES FOR DISPOSAL OF OLD CONCRETE FOOTING MATERIAL.

(U-100) INCLUDES 5.20 CY FOR GROUND MOUNTED SIGNS, 56.00 CY FOR OVERHEAD SIGNS, AND 7.17 CY FOR SPECIAL STRUCTURE AT EXISTING OVERHEAD STRUCTURE NO. 117.

(U-101) INCLUDES 814 LB FOR GROUND MOUNTED SIGNS, 3,200 LB FOR OVERHEAD SIGNS, AND 328 LB FOR SPECIAL STRUCTURE AT EXISTING OVERHEAD STRUCTURE NO. 117.

(U-102) GROUND MOUNTED SIGN LOCATED AT STA 3250+30 LT.

(U-103) 12 GAUGE.

(U-104) ATTENUATORS SHALL BE QUADGUARD ELITE, SCI-100 GM (SMART CUSHION), OR APPROVED EQUAL WITHIN THE SAME CATEGORY. ATTENUATORS SHALL MEET ALL NCHRP-350 OR MASH TL-3 REQUIREMENTS AND ODOT IMPACT ATTENUATORS GUIDELINES MATRIX. PRICE BID FOR THIS ITEM SHALL INCLUDE ALL HARDWARE, LABOR, AND OTHER MATERIALS TO CONSTRUCT THE ATTENUATOR AND BACKUP BLOCK AS DETERMINED BY THE MANUFACTURER.

TRAFFIC CONSTRUCTION PAY QUANTITY NOTES

(TC-14) SEE STANDARD DRAWING PM1-1, PM2-1, PM3-1, PM4-1, PM5-1, PM6-1, PM7-1, PM8-1 (LATEST REVISION). A PART, OR ALL, OF THE QUANTITY SHOWN IS TO BE USED AS FINAL PAVEMENT MARKING.

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA

8/4/16

Design	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PAY QUANTITY AND NOTES (SIGNING AND STRIPING)

JOB PIECE NO. 14999(04) — SHEET NO. 15

REV. NO.	REVISION DESCRIPTION	DATE
⚠	ADDED ITEM & REVISED QUANTITY	8/4/16

TRAFFIC 0302
TRAFFIC CONTROL

PAY QUANTITIES

ITEM	DESCRIPTION		UNIT	QUANTITY	
104 0955	(SP) RAILROAD FLAGGING(NON-BIDDABLE)		DAY	30.00	⚠
823 8482	(SP)TRAFFIC SIGNAL SPAN WIRE EQUIPMENT	(TC-21)(U-100,101,104)	LSUM	1.00	
857(A) 8839	CONSTRUCTION TRAFFIC STRIPE (PAINT)(4" WIDE)	(TC-16,17,20,70,75)	LF	17,600.00	
857(C) 8851	REMOVABLE PAVEMENT MARKING TAPE (4" WIDE)	(TC-19,21,70)	LF	18,600.00	
857(F) 8006	PAVEMENT MARKING REMOVAL(TRAFFIC STRIPE)	(TC-22,70,75)	LF	9,700.00	
857(E) 8890	(PL)CONSTRUCTION ZONE PAVEMENT MARKERS(FLEX TAB)TYPE 2-2	(TC-21,61,70,73,75)	EA	2,000.00	
871(B) 8705	(SP)CONST.ZONE IMPACT ATTEN.	(TC-52,70,80)	SD	720.00	
876(A) 8482	(PL)TRUCK MOUNTED ATTENUATOR	(TC-52,70,76,77)	SD	360.00	
877(B) 8484	DELIVER PORTABLE LONGITUDINAL BARRIER	(TC-1,2)	LF	4,275.00	
877(C) 8486	RELOCATION OF PORTABLE LONGITUDINAL BARRIER	(TC-1)	LF	11,425.00	
880(A) 8812	ARROW DISPLAY (TYPE C)	(TC-84)	SD	2,200.00	
880(B) 8818	CONSTRUCTION SIGNS 0 TO 6.25 SF	(TC-23,26,28,33,84)	SD	54,000.00	
880(B) 8821	CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF	(TC-23,24,26,29,33,84)	SD	39,600.00	
880(B) 8824	CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF	(TC-23,24,26,30,33,84)	SD	36,000.00	
880(C) 8836	CONSTRUCTION BARRICADES(TYPE II)	(TC-26,84)	SD	2,000.00	
880(C) 8842	CONSTRUCTION BARRICADES (TYPE III)	(TC-26,84)	SD	22,900.00	
880(C) 8848	WING BARRICADES	(TC-26,84)	SD	2,160.00	
880(D) 8854	VERTICAL PANELS	(TC-26,84)	SD	6,750.00	⚠
880(E) 8860	WARNING LIGHTS (TYPE A)	(TC-26,84)	SD	47,250.00	
880(F) 8878	DRUMS	(TC-26,84)(U-102)	SD	98,000.00	
880(G) 8884	TUBE CHANNELIZERS	(TC-26,84)	SD	3,000.00	
880(G) 8890	CHANNELIZER CONES	(TC-26,84)	SD	20,000.00	
880(L) 8911	TRAFFIC SURVEILLANCE, POLICE	(TC-65,70)	HOUR	500.00	
882(A) 8306	PORT. CHANGEABLE MESSAGE SIGN	(TC-52,84,85)(U-103)	SD	1,080.00	

TRAFFIC OPERATIONS CONSTRUCTION NOTES

EXISTING ROADWAY SHALL REMAIN OPEN DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE DONE ACCORDING TO STANDARDS SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION", AND AS SHOWN ON TCS STANDARD DRAWINGS.

FIVE (5) WORKING DAYS PRIOR TO DETOURING WIDE LOAD VEHICLES, FOR THE CONSTRUCTION OF THE PROJECT, THE RESIDENT ENGINEER SHALL CONTACT THE OKLAHOMA HIGHWAY PATROL, SIZE AND WEIGHTS SECTION (405)-425-2210 AND ADVISE THE OFFICE WHEN SAID DETOURING WILL BEGIN AND THAT WIDE LOADS OVER 12 FT. SHOULD BE ADVISED AND RESTRICTED (SEE PLANS FOR PROPOSED WIDE LOAD DETOUR ROUTE). UPON COMPLETION OF THE PROJECT THE RESIDENT ENGINEER SHALL CONTACT THE OKLAHOMA HIGHWAY PATROL AND ADVISE THE OFFICE THAT THE WIDE LOAD DETOUR IS NO LONGER IN EFFECT. TRAFFIC SIGNING PAY QUANTITY NOTES.

TRAFFIC CONTROL PAY ITEM NOTES

(TC-1) THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES, AN FLAGMEN AS MAY BE NECESSARY FOR THE CONTROL, SAFETY, AND MAINTENANCE OF TRAFFIC WHEN INITIALLY INSTALLING, RELOCATING OR DELIVERING PRECAST CONCRETE MEDIAN BARRIER.

(TC-2) QUANTITY INCLUDES SUFFICIENT LENGTH OF PORTABLE LONGITUDINAL BARRIER TO PROVIDE FOR THE LONGEST SECTION SHOWN ON THE PLANS. THIS SAME BARRIER WILL BE USED ON OTHER DETOUR PHASES.

(TC-16) PAINT SHALL CONFORM TO SECTION 711 "TRAFFIC STRIPE", OF THE O.D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION). IF CONSTRUCTION TRAFFIC STRIPE PAINT IS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND FAILS DURING THE FIRST SIX MONTHS OF SERVICE, REPLACEMENT WILL BE MADE AT THE CONTRACTOR'S EXPENSE AND SHALL BE ACCOMPLISHED IN A TIMELY MANNER UPON NOTIFICATION BY THE ENGINEER OF SUCH FAILURE. (NOTE FOR CONSULTANT OR DESIGNER: THIS NOTE SHALL BE USED ON ROADWAY PROJECTS WITH ADT GREATER THAN 10,000)

(TC-17) INCLUDES AN ESTIMATED 4,040 L.F. (PAINT)(4" WIDE) WHITE; 13,560 L.F. (PAINT)(4" WIDE) YELLOW STRIPE.

(TC-19) THIS ITEM INCLUDES AN ESTIMATED 10,700 L.F. (4" WIDE) WHITE AND 7,900 L.F. (4" WIDE) YELLOW STRIPE. THE CONTRACTOR SHALL PROVIDE AND INSTALL AN O.D.O.T. APPROVED REMOVABLE PAVEMENT MARKING TAPE. COST FOR REMOVAL OF THIS TAPE SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NON-REMOVABLE MARKING TAPE (FOIL BACK) SHALL NOT BE CONSIDERED AN APPROVED EQUAL FOR THIS ITEM.

(TC-20) ALL STRIPING TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE NOTED ON THE PLANS OR STANDARD DRAWINGS.

(TC-21) INCLUDED IN THE COST OF THIS ITEM SHALL BE INSTALLATION, MAINTENANCE, AND REMOVAL. THIS ITEM SHALL BE BID ACCORDINGLY.

(TC-22) AMOUNT SHOWN IS AN APPROXIMATION AND THE ACTUAL AMOUNT OF REMOVAL, IF NECESSARY, SHALL BE DETERMINED BY THE ENGINEER. PRICE BID FOR PAVEMENT MARKING REMOVAL SHALL INCLUDE THE COST OF REMOVING STRIPE, ARROWS, WORDS AND SYMBOLS, AS SHOWN IN THE PLANS. THESE ITEMS MAY CONSIST OF PLASTIC, PAINT OR NON-REMOVABLE MARKING TAPE.

(TC-23) QUANTITY SHOWN FOR THIS ITEM INCLUDES THOSE SIGNS WHICH COMPRISE THE ROUTE MARKER ASSEMBLIES USED TO INDICATE THE DETOUR ROUTE.

(TC-24) QUANTITIES SHOWN FOR CONSTRUCTION SIGNING AND STRIPING HAVE BEEN INCREASED TO ALLOW FOR TRAFFIC CONTROL ON CROSS STREETS NOT SHOWN ON THE PLANS.

(TC-26) CONSTRUCTION TRAFFIC CONTROL WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES 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.

(TC-28) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 0.00 S.F. AND 6.25 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-29) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 6.26 S.F. AND 15.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-30) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 16.00 S.F. AND 32.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION) THE MANUFACTURER SHALL FURNISH A TYPE "D" CERTIFICATION IN ACCORDANCE WITH O.D.O.T. STANDARD SPECIFICATIONS (CURRENT EDITION) SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.

TRAFFIC CONTROL PAY ITEM NOTES

(TC-52) ANY USED TRUCK MOUNTED ATTENUATOR OR CHANGEABLE MESSAGE SIGN O BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.

(TC-61) ANY DAMAGE TO A FINISHED OR EXISTING SURFACE RESULTING FROM THE CONTRACTORS NEGLIGENCE IN THE REMOVAL OF CONSTRUCTION ZONE PAVEMENT MARKERS OR CHANNELIZING DEVICES AND THE BITUMINOUS ADHESIVE USED IN THEIR INSTALLATION, SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

(TC-65) THE PRICE BID FOR THIS ITEM SHALL INCLUDE THE FOLLOWING:

A. ONE OFFICIALLY MARKED OKLAHOMA HIGHWAY PATROL CAR (WHEN PROJECT INVOLVES A STATE OR FEDERAL HIGHWAY). IF AN OKLAHOMA HIGHWAY PATROL CAR IS NOT AVAILABLE, THEN A LOCAL CITY OR COUNTY LAW ENFORCEMENT VEHICLE IS TO BE USED. PRICE BID FOR THIS ITEM SHALL BE PAID ON A PER UNIT PER HOUR BASIS.
B. ONE OKLAHOMA HIGHWAY LAW ENFORCEMENT OFFICER WITH JURISDICTIONAL AUTHORITY TO WRITE AND ISSUE TRAFFIC CITATIONS. IF AN OKLAHOMA HIGHWAY PATROL LAW OFFICER IS NOT AVAILABLE, THEN A LOCAL CITY OR COUNTY LAW ENFORCEMENT OFFICER IS TO BE USED. THE LAW ENFORCEMENT OFFICER SHALL BE INSURED, LICENSED AND BONDED, IF REQUIRED, BY THE CONTRACTOR. THIS OFFICER SHALL BE SPECIFICALLY APPROVED AND ASSIGNED TO THIS WORK ACTIVITY.
C. THE CONTRACTOR SHALL MAKE ALL THE NECESSARY ARRANGEMENTS WITH THE OKLAHOMA HIGHWAY PATROL OR THE LAW ENFORCEMENT AGENCY TO PROVIDE THE REQUIRED LAW ENFORCEMENT ON THIS PROJECT.
D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING HIS ANTICIPATED WEEKLY SCHEDULE TO THE OKLAHOMA HIGHWAY PATROL OR THE LOCAL LAW AGENCY TWO WEEKS IN ADVANCE OF THE WORK. THE WORK SCHEDULE WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
E. THE OKLAHOMA HIGHWAY PATROL OR THE LOCAL LAW ENFORCEMENT AGENCY WILL BE PAID FOR A MAXIMUM OF ONE (1) HOUR, PER WORK PERIOD, TO ALLOW FOR TRAVEL TO AND FROM THE OFFICER'S PERMANENT DUTY STATION AND THE WORK SITE. THIS WILL BE PAID ONE (1) TIME PER WORK PERIOD AS DEFINED BY THE CONTRACTOR IN AGREEMENT WITH THE ENGINEER

(TC-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.

(TC-73) QUANTITY SHOWN INCLUDES 1000 EA. (WHITE) AND 1000 EA. (YELLOW) CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS). THESE CONSTRUCTION ZONE PAVEMENT MARKERS SHALL BE EITHER "DAVIDSON PLASTICS: MODEL TOM", OR AN APPROVED EQUAL. PRICE BID FOR THIS ITEM SHALL INCLUDE THE INITIAL PLACEMENT, SUBSEQUENT REPLACEMENT, AND REMOVAL. THE CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS) SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS SHOWN ON STANDARD DRAWING TCS21-1-(LATEST REVISION).

(TC-75) TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE THE SAME DAY THAT EXISTING PAVEMENT MARKINGS ARE REMOVED FROM ANY ROADWAY OPEN TO TRAFFIC. ALSO, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING.

(TC-76) ANY TRUCK MOUNTED ATTENUATOR USED ON THIS PROJECT SHALL HAVE PASSED ALL MANDATORY AND OPTIONAL TESTS LISTED IN NCHRP 350, TL-3 CRITERIA. THIS ITEM IS TO BE USED WHERE SHOWN IN THE STANDARD DRAWINGS OR AT THE DISCRETION OF THE ENGINEER ON SHADOW VEHICLES PROTECTING THE WORK AREAS AND TEMPORARY ROADSIDE HAZARDS.

(TC-77) TRUCK MOUNTED ATTENUATORS ARE TO BE INSTALLED ON NON-STATE OWNED TRUCKS HAVING A MINIMUM GROSS WEIGHT RATING OF 15,000 POUNDS. EACH OF THESE TRUCKS SHALL ALSO BE EQUIPPED WITH AN ARROW DISPLAY (TYPE B).

(TC-80) INCLUDED IN THIS ITEM SHALL BE ONE (1) ADDITIONAL UNIT TO BE USED AS A STAND-BY OR REPLACEMENT. THIS STAND-BY UNIT SHALL BE IMMEDIATELY ACCESSIBLE TO REPLACE A DAMAGED, STOLEN OR MALFUNCTIONING UNIT. THE AMOUNT OF TIME BETWEEN THE REMOVAL OF THE DAMAGED UNIT AND THE INSTALLATION OF THE STAND-BY UNIT SHALL BE NO MORE THAN TWENTY-FOUR (24) HOURS.

(TC-84) 365 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.

(TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR A LIST OF THE APPROVED SIGNS GO TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION WEBSITE AT: http://www.okladot.state.ok.us/traffic/qpl/index.php

(U-100) CONTRACTOR TO FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT AS NECESSARY TO INSTALL TEMPORARY SPAN WIRE TRAFFIC SIGNALS AT THE INTERSECTION OS U.S. 69 AND KINKEAD RD. IN ACCORDANCE WITH ODOT STANDARD DRAWING SWD1-1-(LATEST REVISION) AND FOR THE COMPLETE FUNCTIONAL OPERATION OF THE TEMPORARY TRAFFIC SIGNAL EQUIPMENT. INCLUDED IN THIS PAY ITEM ARE ALL MODIFICATIONS, RELOCATIONS, AND REPAIRS THAT MAY BE NECESSARY DURING THE PROJECT. THE SIGNALS SHALL ACCOMMODATE ALL LANE SHIFTS REQUIRED BY THE ROADWAY CONSTRUCTION ACTIVITIES.

(U-101) PRICE BID SHALL ALSO INCLUDE ALL ELECTRICITY, INSTALLATION, MAINTENANCE, SIGNAL HEADS, BACKPLATES, WIRING AND SIGNAL CONTROLLER UNITS FOR THE TEMPORARY TRAFFIC SIGNALS IN ORDER FOR THEM TO BE FULLY OPERATIONAL FOR THE DURATION OF THE PROJECT.

THE CONTROLLERS TO BE INSTALLED FOR THE TEMPORARY SIGNALS SHALL BE INSTALLED AS POLE MOUNTED CONTROLLERS OR IN CONTROLLER CABINETS PLACED ON WOODEN PALLETS. THE PRICE BID FOR THIS ITEM SHALL INCLUDE THE CONTROLLERS AND CABINETS COMPLETELY INSTALLED AND OPERATIONAL.

(U-102) WARNING LIGHTS (TYPE C) ARE NOT REQUIRED.

(U-103) SIGN PLACEMENT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER.

(U-104) SHALL BE USED ONLY AS DETERMINED BY THE ENGINEER IF CONDITIONS WARRANT.

REGISTERED PROFESSIONAL ENGINEER ROBERT D. SEWELL 16173 OKLAHOMA
8/4/16

Design	CKS		U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		**PAY QUANTITY AND NOTES (TRAFFIC CONTROL)**
Checked	CKE		
Approved			JOB PIECE NO. 14999(04) — SHEET NO. 16
Squad	C & K		

REVISIONS		
NO.	DESCRIPTION	DATE

GENERAL CONSTRUCTION NOTES

THE STRUCTURAL DESIGN OF ALL POLES, MAST ARMS, HIGH-MAST POLES, AND OTHER SUPPORTS FOR SIGNS, LUMINAIRES, AND SIGNALS, AS WELL AS THEIR CONNECTIONS, SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS. THE MANUFACTURER SHALL ENSURE THE FOLLOWING ARE APPLIED TO THE DESIGN:

THE MINIMUM DESIGN WIND SPEED AND DESIGN LIFE AS REQUIRED IN THE AASHTO SPECIFICATIONS;

THE CALCULATED STRESSES AND FORCES FROM THE DESIGN LOADINGS DO NOT EXCEED THOSE REQUIRED IN THE AASHTO SPECIFICATIONS;

A CATEGORY I FATIGUE IMPORTANCE FACTOR (IF) FOR ALL STRUCTURES; NO VIBRATORY MITIGATION SHALL BE ALLOWED. TRUCK-INDUCED GUSTS SHALL BE APPLIED TO ALL OVERHEAD TRAFFIC SIGNAL SUPPORTS.

ALL MEMBERS ARE AT LEAST THE MINIMUM THICKNESS AS REQUIRED IN THE AASHTO SPECIFICATIONS;

LUMINAIRE MAST ARMS SHALL BE DESIGNED TO SUPPORT AT LEAST A 50 LB. (22.7 KG) LUMINAIRE WITH AN EFFECTIVE PROJECTED AREA OF 2.5 FT2 (0.23 M2); THE ANCHOR BOLT DESIGN AND AMOUNT OF ANCHOR BOLTS TO BE USED SHALL BE AS REQUIRED IN THE AASHTO SPECIFICATIONS.

SIGNAL MAST ARMS AND POLES SHALL BE DESIGNED FOR SPECIFIC SIGNAL HEAD AND SIGN PLACEMENT.

UNLESS SITE SPECIFIC GEOTECHNICAL DATA IS AVAILABLE, FOUNDATIONS SHALL BE DESIGNED UTILIZING THESE PARAMETERS: SHEAR STRENGTH OF COHESIVE SOIL (C) OF 500 PSF, ANGLE OF INTERNAL FRICTION (Φ) OF 22 DEGREES, AND EFFECTIVE UNIT WEIGHT OF SOIL (Γ) OF 120 PCF.

MINIMUM HAND HOLE SIZE OF 3 INCH WIDTH BY 5 INCH HEIGHT.

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 ENGINEERING DIVISION AT (405)521-2861.

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.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC.... PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES:
THE "OKIE" NOTIFICATION CENTER 811 OR (405)522-6543 OR WWW.CALLOKIE.COM OR THE LOCAL COUNTY CLERK'S OFFICE.

PAY QUANTITIES

0301 LIGHTING

ITEM	DESCRIPTION		UNIT	TOTAL
802(A) 8300	3/4" GALV. STEEL ELECTRICAL CONDUIT EXPOSED	(TP-1)(1)	LF	225
802(A) 8306	1 1/4" GALV. STEEL ELECTRICAL CONDUIT EXPOSED	(TP-1)(1)	LF	560
802(B) 8342	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	(TP-1)	LF	2565
802(E) 8372	JUNCTION BOX (8" X 8" X 6")	(1)	EA	6
803(A) 8065	PULL BOX (SIZE I)	(2)	EA	7
804(A) 2915	STRUCTURAL CONCRETE	(TP-1)	CY	8.7
804(B) 2916	REINFORCING STEEL	(TP-1)	LB	501
805(A) 8712	(PL) REMOVAL OF LIGHT POLE	(3)	EA	59
806(D) 8989	40' MTG. HT. HL. PTP. (G.STL.)	(4)	EA	15
807 8092	BREAKAWAY BASE (DES. B)		EA	3
809(A) 8090	ROADWAY LUMINAIRE	(5)	EA	15
809(B) 8098	UNDERPASS LUMINAIRE	(5)	EA	6
810(A) 3118	SERVICE POLE	(TL-35)	EA	1
811 8038	1/C NO. 4 ELECTRICAL CONDUCTOR	(TP-1)	LF	6565
811 8044	1/C NO. 10 ELECTRICAL CONDUCTOR	(TP-1)	LF	600
811 8046	1/C NO. 12 ELECTRICAL CONDUCTOR	(TP-1)	LF	1875
890 7700	(PL) TRAFFIC ITEMS	(6)	LSUM	1

PAY QUANTITY NOTES

(TL-35) SEE SERVICE POLE SCHEDULE; FOR ADDITIONAL INFORMATION CONCERNING THE SERVICE POLE, CONTACT THE FOLLOWING PRIOR TO INSTALLATION:
PERSON'S NAME.....TODD MONKS.
WITH THE COMPANY/CITY OF.....PSO/AEP.
COMPANY'S/CITY'S TELEPHONE NO....(918)424-7913.

(TP-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY. SEE THE 2009 SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

(1) PAY ITEM IS TO BE USED FOR THE INSTALLATION OF THE UNDERPASS LIGHTING.

(2) POLYMER CONCRETE PULL BOXES SHALL BE USED.

(3) PAY ITEM IS FOR THE REMOVAL OF 44 EXISTING LIGHT POLES ALONG US 69 THAT WILL BE IN CONFLICT WITH THE ROADWAY REPLACEMENT AND 15 EXISTING LIGHT POLES ALONG US 69 THAT WILL BE IN CONFLICT WITH THE NEW LIGHTING SYSTEM TO BE INSTALLED ON THIS PROJECT. THE REMOVED POLES SHALL BECOME THE PROPERTY OF THE CITY OF MCALESTER AND SHALL BE DELIVERED TO A LOCATION IN THE CITY AS SPECIFIED BY THE ENGINEER. ALSO INCLUDED IN THE PRICE BID FOR THIS ITEM SHALL BE THE OBLITERATION AND REMOVAL OF THE EXISTING FOOTINGS BELOW GROUND LEVEL, AS APPROVED BY THE ENGINEER.

(4) THE POLES TO BE INSTALLED ON THIS PROJECT SHALL BE 40' ROUND GALVANIZED STEEL POLES.

(5) THE FIXTURES TO BE INSTALLED ON THIS PROJECT SHALL BE AS FOLLOWS.

15 - HOLOPHANE LED ROADWAY FIXTURES WITH MODEL NUMBER LEDG-120-53-4K-AH-H-L3. THESE FIXTURES SHALL INCLUDE 5' LUMINAIRE MOUNTING ARMS.

6 - HOLOPHANE LED WALLPACK FIXTURES WITH MODEL NUMBER W4G-LED-10C-1000-40K-T3M. THESE FIXTURES SHALL BE MOUNTED IN ACCORDANCE WITH ODOT STANDARD DRAWING UPD2-1-00. THE BRACKET TO BE USED ON THIS PROJECT IS LABELED AS "BRACKET NO. 1 DETAIL" IN THIS STANDARD DRAWING. EVERYTHING SHOWN IN THIS DETAIL SHALL BE INCLUDED IN THE PRICE BID FOR "UNDERPASS LUMINIARE".

(6) THE CONTRACTOR SHALL CONTACT PSO/AEP REGARDING A PLAN TO KEEP THE LIGHT POLES BURNING THAT ARE ADJACENT TO THIS PROJECT ONCE THE CONFLICTING LIGHT POLES ARE REMOVED. PSO/AEP SHOULD DETERMINE THE LOCATIONS OF ADDITIONAL SERVICE POLES AND OTHER WORK THAT NEEDS TO BE DONE TO KEEP THESE LIGHTS BURNING AND THE CONTRACTOR SHALL INCLUDE THIS WORK AND EQUIPMENT IN THE PRICE BID FOR THIS ITEM. THIS PRICE BID FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTIALS NECESSARY TO KEEP THE REMAINING LIGHTING CIRCUITS ADJACENT TO THIS PROJECT COMPLETELY OPERATIONAL TO THE SATISFACTION OF THE ENGINEER.

R. WAYNE RUSSELL, P.E. # 16030
C.A. # 1160, RENEWAL 06-30-17

7-7-16
DATE

Traffic Engineering Consultants, Inc.
6000 S. Western, Suite 300 - Oklahoma City, OK 73139,
Ph: 405-720-7721, Fax: 405-720-9848, Web: www.tecok.com

REGISTERED PROFESSIONAL ENGINEER — R. WAYNE RUSSELL — 16030 — OKLAHOMA

Design	RWR	07-07-16
Drawn	SB	07-07-16

TEC — A CLEAR DIRECTION

LIGHTING PAY QUANTITIES AND NOTES

State Job No. 14999(04) Sheet No. 17

PITTSBURG COUNTY

07-07-16 G:\Projects\1-24624 US 69 Interch @ Kinkead Rd Traffic Controls Lighting\CAD\QUANT.dgn

SUMMARY OF SURFACING AND RELATED QUANTITIES

LOCATION STATION (CTR. LINE OR REF. LINE)	303(B) 2110 AGGREGATE BASE TYPE B	319(B) 5254 OPEN-GRADED PORTLAND CEMENT BASE	325 5271 SEPARATOR FABRIC	326(A) 0100 GEOTEXTILE REINFORCEMENT	402(E) 0225 TRAFFIC BOUND SURFACE COURSE TYPE E	407(B) 0250 TACK COAT	408 5774 PRIME COAT	411(B) 5935 SUPERPAVE, TYPE S3(PG 76-28 OK)	411(B) 5945 SUPERPAVE, TYPE S3(PG 64-22 OK)	411(C) 5950 SUPERPAVE, TYPE S4(PG 76-28 OK)	411(C) 5960 SUPERPAVE, TYPE S4(PG 64-22 OK)	411(A) 5930 SUPERPAVE, TYPE S2(PG 64-22 OK)	414(E) 0225 FULL DEPTH P.C. CONCRETE PATCHING(PLACEMENT ONLY)	414(A) 0210 P.C.CONCRETE PAVEMENT(PLACEMENT)	414(B) 5725 DOWEL JOINTED P.C. CONCRETE PAVEMENT(PLACEMENT)	414(G) 5275 P.C. CONCRETE FOR PAVEMENT (FOR PATCHING)	414(G) 5275 P.C. CONCRETE FOR PAVEMENT	412 5267 COLD MILLING PAVEMENT	609(A) 0287 CONCRETE CURB (4" MINTBLE-INTEGRAL)	609(B) 1513 1'-8" COMB. CURB & GUTTER (6" BARRIER)	609(A) 0300 CONCRETE CURB (6" BARRIER-INTEGRAL)	608(A) 5864 CONCRETE CURB (6" BARRIER-DOWELLED)	610(A) 0602 4" CONCRETE SIDEWALK	610(C) 0608 4" CONCRETE DIVIDING STRIP	610(I) 4510 TACTILE WARNING DEVICE-NEW	613(J) 5915 EDGE DRAIN CONDUIT-PERFORATED	619(C) 0924 SAWING PAVEMENT	(6" CONCRETE MEDIAN) CLASS A CONCRETE
	CY	SY	SY	SY	TON	GAL	GAL	TON	TON	TON	TON	TON	SY	SY	SY	CY	CY	SY	LF	LF	LF	LF	SY	SY	SF	LF	LF	CY
STA 3226+70.00 TO STA 3235+00.00, US-69	1,857.00	7,742.00	16,558.00	8,561.00	646.00	120.00	5,014.00	99.00	36.00	66.00	24.00		8.00	2,165.04	4,963.22	2.67	2,376.23	800.00									1,380.00	72.00	
STA 3235+00.00 TO STA 3250+00.00, US-69	3,600.00	14,864.00	32,063.00	16,645.00	1,404.00		9,719.00							4,715.30	8,814.40		4,509.90										3,073.00		
STA 3250+00.00 TO STA 3258+25.35, US-69	2,393.00	10,084.00	21,233.00	10,996.00	667.00		6,050.00							2,565.72	6,835.18		3,133.63		318.00							1,200.00	90.00	
STA 3259+96.23 TO STA 3265+00.00, US-69	1,180.40			4,300.73	664.00	714.00	2,391.00	368.11	164.82	245.41	244.05	1421.16															1,008.00	
STA 3265+00.00 TO STA 3272+41.00, US-69	390.19			1,435.14	222.00	232.00	795.00	104.42	69.05	69.61	91.86	462.60	48.00			16.00											355.00	
STA 54+09.07 TO STA 55+10.24, RAMP A	52.27	235.00	504.00	235.21			141.00								212.73		53.18		113.00					60.00		101.00		
STA 53+26.79 TO STA 55+23.60, RAMP B	98.07	442.00	950.00	441.33			265.00								396.85		99.21		54.00		289.00			116.00		200.00		
STA 252+66.89 TO STA 258+30.07, LT FRT RD	463.55	2,086.00	4,547.00	2,085.96			1,252.00								1,856.30		464.08				883.00	50.00				1,126.00	50.00	
STA 253+40.26 TO STA 258+77.08, RT FRT RD	408.49	1,839.00	4,035.00	1,838.22			1,103.00								1,625.04		406.26				826.00	183.00				1,076.00		
FULL DEPTH REPLACEMENT SOUTH OF LT FRT RD	37.00		666.00				200.00							317.00			80.00										161.00	
FULL DEPTH REPLACEMENT SOUTH OF RT FRT RD	98.00		880.00				530.00							815.67			203.92			33.00	386						350.00	12.00
STA 197+30.00 TO STA 201+92.05, WADE WATTS	684.91	3,082.09	6,472.00	3,082.09			1,849.00								2,845.82		711.45				1,073.00			754.41	64.00	924.00	50.00	
STA 259+66.00 TO STA 265+35.00, RT ACCESS RD					30.00	113.00	543.00		253.00		169.00																	
STA 17+99.99 TO STA 27+28.47 , RAMP C	266.20		3,194.44		163.00		958.00							1,406.56			351.64										913.00	
STA 3209+00.00 TO STA 3223+25.00 , J-TURN	654.00		7,853.78		358.00		2,356.00							3,508.04			877.00										1,866.00	
STA 3204+12.42 TO STA 3207+36.00 , LEFT TURN	93.00		1,108.44		62.00		665.00							482.03			120.51		358.00								357.00	
STA 206+72 TO STA 223+92 , LEFT FRONTAGE RD	21.00		193.00			348.00	116.00			520.00			930.00	193.00		233.00	48.28										176.00	
STA 212+89 TO STA 226+05 , RIGHT FRONTAGE RD	14.00		127.00			225.00	77.00			336.00			601.00	127.40		151.00	32.85										110.00	
CONSTRUCTION CROSSOVERS	236.00													1,416.40			354.10										865.00	
TOTALS	12,547.08	40,374.09	100,384.66	49,620.68	4,216.00	1,752.00	34,024.00	571.53	522.87	1,237.02	528.91	1,883.76	1,587.00	17,712.16	27,549.54	402.67	13,822.24	800.00	843.00	33.00	3,457.00	233.00	754.41	176.00	64.00	9,080.00	6,423.00	12.00

SUMMARY OF DRIVES AND RETURNS

LOCATION SHEET NUMBER	LOCATION STATION (CTR. LINE OR REF. LINE)	TYPE	LENGTH	WIDTH	RADIUS	① 402(E) 0225 TRAFFIC BOUND SURFACE COURSE TYPE E	609(A) 0300 CONCRETE CURB (6" BARRIER-INTEGRAL)	610(B) 0604 6" CONCRETE DRIVEWAY	619(C) 0924 SAWING PAVEMENT
			FT	FT	FT	TON	LF	SY	LF
34	STA 254+91.28, RT, ℄ RT FRT RD	TYPE 2 DRIVEWAY	26.73	36.00	15.00	21.67	70.16	121.60	37.00
34	STA 256+55.23, LT, ℄ LT FRT RD	TYPE 2 DRIVEWAY	69.95	36.00	60.00	97.53	213.50	547.30	110.00
34	STA 256+98.03, RT, ℄ RT FRT RD	TYPE 2 DRIVEWAY	20.52	36.00	15.00	17.16	62.12	96.29	189.00
					TOTALS	136.36	345.78	765.19	336.00

① FOR TEMPORARY DRIVES, 4" THICK

REGISTERED PROFESSIONAL ENGINEER ROBIN C. SEWELL 16173 OKLAHOMA

8/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		**SUMMARY SHEET (ROADWAY)**
Checked	CKE		
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) SHEET NO. 18

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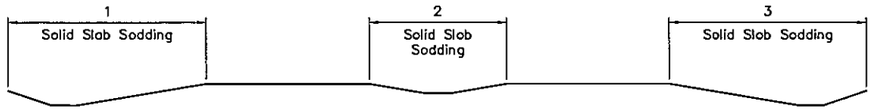
SUMMARY OF TEMPORARY EROSION CONTROL

SHEET NUMBER	STATION (CTR. LINE OR REF. LINE)	LEFT	CENTER	RIGHT	DESCRIPTION	221(C) 2801 TEMPORARY SILT FENCE	221(D) 2803 TEMPORARY SEDIMENT FILTER	221(F) 0100 TEMPORARY SILT DIKE	221(G) 0153 TEMPORARY ROCK FILTER DAM TYPE 4
						LF	EA	LF	CY
24	STA 3220+00.00 TO STA 3250+00.00, US-69	X			INLETS LEFT SIDE BETWEEN FRONTAGE ROAD		10		
24	STA 3220+00.00 TO STA 3250+00.00, US-69		X		AT MAINLINE MEDIAN INLETS		7		
24	STA 3220+00.00 TO STA 3250+00.00, US-69			X	INLETS RIGHT SIDE BETWEEN FRONTAGE ROAD		9		
24	STA 3228+00.00, US-69		X		INSIDE GRASS MEDIAN ACROSS DITCH			16	
24	STA 3228+00.00, US-69	X			BETWEEN FRONTAGE ROAD ACROSS DITCH			16	
24	STA 3232+00.00, US-69		X		INSIDE GRASS MEDIAN ACROSS DITCH			16	
24	STA 3232+00.00, US-69	X		X	BETWEEN FRONTAGE ROAD ACROSS DITCH			32	
24	STA 3236+00.00, US-69	X		X	BETWEEN FRONTAGE ROAD ACROSS DITCH			32	
24	STA 3240+00.00, US-69		X		INSIDE GRASS MEDIAN ACROSS DITCH			16	
24	STA 3240+00.00, US-69			X	BETWEEN FRONTAGE ROAD ACROSS DITCH			16	
24	STA 3243+00.00, US-69			X	BETWEEN FRONTAGE ROAD ACROSS DITCH			16	
24	STA 3249+00.00, US-69	X		X	BETWEEN FRONTAGE ROAD ACROSS DITCH			32	
25	STA 3250+00.00 TO STA 3265+00.00, US-69	X			INLETS BETWEEN AND ON FRONTAGE ROAD		10		
25	STA 3250+00.00 TO STA 3265+00.00, US-69		X		AT MAINLINE MEDIAN INLETS		1		
25	STA 3250+00.00 TO STA 3265+00.00, US-69		X		AT WADE WATTS INLETS		2		
25	STA 3250+00.00 TO STA 3265+00.00, US-69			X	INLETS BETWEEN AND ON FRONTAGE ROAD		10		
25	STA 3252+00.00, US-69		X		INSIDE GRASS MEDIAN ACROSS DITCH			16	
25	STA 3255+00.00, US-69		X		INSIDE GRASS MEDIAN ACROSS DITCH			16	
25	STA 3261+00.00, US-69			X	BETWEEN ACCESS ROAD ACROSS DITCH			16	
25	STA 3260+34.37, US-69			X	ACROSS END SECTION STRUCTURE N3(36' LONG)				4
25	STA 3263+00.00, US-69			X	BETWEEN ACCESS ROAD ACROSS DITCH			16	
25	STA 3256+50.00 TO STA 3258+00.00, US-69	X			TOE OF SLOPE AT DITCH BETWEEN FRT. RD.	180			
25	STA 3258+00.00 TO STA 3265+00.00, US-69	X			AT OF SLOPE NORTH OF WADE WATTS	265			
25	STA 3258+00.00 TO STA 3265+00.00, US-69	X			AT OF SLOPE	570			
25	STA 3255+00.00 TO STA 3265+00.00, US-69			X	AT OF R/W	840			
26	STA 3265+00.00 TO STA 3272+41.00, US-69			X	ALONG TOE OF SLOPE	920			
					TOTAL	2775	49	256	4

SUMMARY OF EROSION CONTROL

SHEET NUMBER	STATION (CTR. LINE OR REF. LINE)	DESCRIPTION	WORK AREA	230(A) 2806 SOLID SLAB SODDING
				SY
24	STA 3220+00.00 TO STA 3250+00.00, US-69	LEFT SIDE	1	6,325
24	STA 3220+00.00 TO STA 3250+00.00, US-69	INSIDE GRASS MEDIAN	2	9,325
24	STA 3220+00.00 TO STA 3250+00.00, US-69	RIGHT SIDE	3	6,845
25	STA 3250+00.00 TO STA 3265+00.00, US-69	LEFT SIDE	1	11,010
25	STA 3250+00.00 TO STA 3265+00.00, US-69	INSIDE GRASS MEDIAN	2	2,985
25	STA 3250+00.00 TO STA 3265+00.00, US-69	RIGHT SIDE	3	13,520
26	STA 3265+00.00 TO STA 3280+00.00, US-69	LEFT SIDE	1	45
26	STA 3265+00.00 TO STA 3280+00.00, US-69	RIGHT SIDE	3	4,510
		TOTAL		54,565



EROSION CONTROL TYPICAL SECTION

VEGETATIVE MULCHING WILL BE USED FOR TEMPORARY EROSION CONTROL

REMOVAL QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY STA 3205+00 TO STA 3220+00	QUANTITY STA 3220+00 TO STA 3235+00	QUANTITY STA 3235+00 TO STA 3250+00	QUANTITY STA 3250+00 TO STA 3265+00	QUANTITY STA 3265+00 TO STA 3280+00	QUANTITY TOTAL
619(B) 0291	REMOVAL OF HEADWALL	EA			1	5		6
619(B) 4726	REMOVAL OF CURB AND GUTTER	LF			348	2,452		2,800
619(B) 4727	REMOVAL OF CONCRETE PAVEMENT	SY		509		4,762	50	5,321
619(B) 4728	REMOVAL OF ASPHALT PAVEMENT	SY	1,129	6,066	13,514	12,419	715	33,843
619(B) 4766	REMOVAL OF CONCRETE DRIVEWAY	SY				889		889
619(B) 4780	REMOVAL OF GUARDRAIL	LF				1,428	96	1,524
619(B) 4792	REMOVAL OF SIDEWALK	SY				458		458
619(B) 5881	REMOVAL OF CONCRETE DITCH LINER	LF				1,175	160	1,335

SUMMARY OF DITCH QUANTITIES

LOCATION	PAVED DITCH AND FLUME				
DESCRIPTION OR LOCATION	DESIGN	LENGTH	BOTTOM WIDTH	CURTAIN WALLS	CLASS 'C' CONC.
		FT	FT	EA	CY
STA 3256+50 TO 3258+21, LT.	DC-3, DES. 2A	179	8	3	32.33
STA 3258+34.36, LT. N1 TO N2	DC-3, DES. 2A	25	8	2	4.88
STA 3257+08 TO 3258+22, RT.	DC-3, DES. 2A	114	4	3	15.06
TOTALS					52.27

7/18/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		**SUMMARY SHEET (ROADWAY)**
Checked	CKE		
Approved			JOB PIECE NO. 14999(04) SHEET NO. 19
Squad	C & K		

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SUMMARY OF BARRIER QUANTITIES

LOCATION			
SHEET NUMBER	STATION (CTR. LINE OR REF. LINE)	OFFSET DISTANCE	CONCRETE LONGITUDINAL BARRIER, DESIGN 1
		FT	LF
33	STA 3257+53.00 TO 3258+25.35, US-69	CRL	72.35
33	STA 3256+83.33 TO 3258+25.35, US-69 ①	74 TO 72 RT	142.08
	TOTALS		214.43

① PROVIDE 5'-0" LONG X 3" HIGH DRAIN OPENINGS AT 10' CENTERS.

SUMMARY OF GUARDRAIL

LOCATION	623(A) 0932 BEAM GUARDRAIL W-BEAM SINGLE	623(F) 8300 GUARDRAIL TRAIL END TURNDOWN (31")	623(I) 8700 GUARDRAIL BRIDGE CONN-THRIE BEAM (31")	853 9066 GUARDRAIL DELINEATORS (TYPE 1, CODE 1)
STATION (CTR. LINE OR REF. LINE)	LF	EA	EA	EA
3259+95.62 TO 3265+51.25 US 69 CRL, LT	525.00		2	11
3259+95.62 TO 3265+51.25 US 69 CRL, RT	525.00		2	11
3267+74.23 TO 3270+99.23 US 69 CRL, RT	275.00	1	1	7
TOTALS	1,325.00	1	5	29

NOTE: GUARDRAIL WIDENING QUANTITIES INCLUDED IN SUMMARY OF SURFACING QUANTITIES.

SUMMARY OF EARTHWORK QUANTITIES

LOCATION		202(A) 0183 UNCLASSIFIED EXCAVATION	EMBANKMENT +15% (NOT A PAY QTY.)	EXCESS EXCAVATION (NOT A PAY QTY.)	202(D) 0184 UNCLASSIFIED BORROW	① WASTE (NOT A PAY QTY.)
SHEET NUMBER	STATION (CTR. LINE OR REF. LINE)	CY	CY	CY	CY	CY
33	STA 3252+29.35 TO STA 3258+75.54, US-69 PHASE 1A	3,676	4,344	–	668	–
33	STA 3259+40.81 TO STA 3265+00.00, US-69 PHASE 1A	2,011	23,300	–	21,289	–
33	STA 197+30.00 TO STA 201+92.05, WADE WATTS PHASE 1	2,242	0	–	0	–
34	STA 3265+00.00 TO STA 3272+41.00, US-69 PHASE 1A	721	2,699	–	1,978	–
31	STA 3227+70.00 TO STA 3235+00.00, US-69 PHASE 1B	3,106	422	2,684	0	–
32	STA 3235+00.00 TO STA 3250+00.00, US-69 PHASE 1B	4,875	451	4,424	0	–
33	STA 3250+00.00 TO STA 3258+25.35, US-69 PHASE 1B	4,029	5,073	-1,044	0	6,064
31	STA 3228+50.00 TO STA 3235+00.00, US-69 PHASE 2	2,908	103	2,805	0	–
32	STA 3235+00.00 TO STA 3250+00.00, US-69 PHASE 2	3,778	1,022	2,756	0	–
33	STA 3250+00.00 TO STA 3255+00.00, US-69 PHASE 2	1,080	881	199	0	5,760
TOTALS		28,426	–	–	23,935	11,824

EARTHWORK NOTES

① WASTE = 11,824 CY. THIS MATERIAL IS TO BECOME THE PROPERTY OF AND DISPOSED BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
7/8/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

SUMMARY SHEET (ROADWAY)

JOB PIECE NO. 14999(04) SHEET NO. 20

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SUMMARY OF DRAINAGE STRUCTURES

STRUCTURE NUMBER	PLANS SHEET NUMBER	LOCATION	DESCRIPTION	DESIGN	ELEVATIONS: TOP OF CURB	ELEVATIONS: TOP OF COVER OR GRATE	ELEVATIONS: FLOW LINE OF INLET (OUT)	TRENCH EXCAVATION	STANDARD BEDDING MATERIAL CLASS B	CLASS "A" CONC: SMALL STRUCTURE	CLASS "A" CONC: LARGE STRUCTURE	REINFORCING STEEL	CAST IRON CURB INLETS: CI-1 DES.2	CI-1 DES.2(B)	CI-1 DES.2(O)	CI-1 DES.2(2B)	CI-1 DES.3(O)	ADD'L DEPTH INLETS DES.2	ADD'L DEPTH DES.2(B)	ADD'L DEPTH DES.2(O)	ADD'L DEPTH DES.2(2B)	GRATED PIPE INLETS: TYPE 1 DES.1	TYPE 1 DES.3	ADD'L DEPTH DES.1	ADD'L DEPTH DES.3	TYPE 2 DES.8	ADD'L DEPTH DES.8	STRUCTURE NUMBER
								CY	CY	CY	CY	LB	EACH					VF				EACH		VF		EACH	VF	
A1	32	STA. 3232+52, 65' LT CRL US 69	CONST. INLET (SMD-TYPE 2), STUB 6 LF 18"RCP, S=7.33% TO D1	SMD-3, SPI-4, SPB-1		727.90	725.34	2.80	1.64																			A1
D1	32	STA. 3232+52, 57' LT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1, DES 2,STUB 261 LF 18"RCP, S=1.57% TO C1	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		728.74	724.90	99.60	71.51																			D1
C1	32	STA. 3229+85.50, 57' LT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1, DES 2,STUB 54 LF 36"RCP, S=0.83% TO C2	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		725.18	719.30	82.30	61.10																			C1
C2	32	STA. 3229+85.50, CRL US 69	CONST. INLET GPI TYPE 1 (DES. 3), STUB 66 LF 36"RCP, S=0.91% TO C3	GPI-4,SPI-4,SPB-1		723.32	718.85	107.60	81.76														1		0.66				C2
C3	32	STA. 3229+85.50, 69' RT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1, DES 2,STUB 15 LF 36"RCP, S=5.00% TO F9	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		724.94	718.25	17.10	11.26																			C3
D2	32	STA. 3232+52, 69' RT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1, DES 2,STUB 15 LF 18"RCP, S=4.40% TO F6	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		728.50	721.40	7.90	4.11																			D2
F6	32	STA. 233+10, 6' LT & RT FRONTAGE RD	CONST. 4'x4'x3.13' JCT BOX, STUB 263 LF 18"RCP, S=0.66% TO F9	MFC-4, MJB-3, SPI-4, SPB-1		724.87	720.74	111.20	72.06	1.39																		F6
F9	32	STA. 230+43.68, 6' LT & RT FRONTAGE RD	CONST. 4'x4'x3.97' JCT BOX, STUB 182 LF 36"RCP, S=1.08% TO F14	MFC-4, MJB-3, SPI-4, SPB-1		722.47	717.50	241.70	170.35	1.39																		F9
A2	32	STA. 3228+00, 69' RT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1, DES 2,STUB 15 LF 18"RCP, S=3.53% TO F14	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		722.79	717.57	6.20	4.11																			A2
F14	32	STA. 3228+00, 86' RT CRL US 69	CONST. INLET (SMD-TYPE 2B), STUB 235 LF 36"RCP, S=1.09% TO F16	SMD-3, SPI-4, SPB-1		719.73	715.54	268.50	176.48																			F14
Q3	32	STA. 226+20, 37' LT & RT FRONTAGE RD	CONST. INLET (SMD-TYPE 2B), STUB 16 LF 18"RCP, S=2.00% TO F16	SMD-3, SPI-4, SPB-1		717.16	713.29	8.00	5.03																			Q3
F16	32	STA. 226+20, 19' LT & RT FRONTAGE RD	CONST. 5'x5'x4.83' JCT BOX, STUB 24 LF 43"x26" RCPA, S=1.23% TO EXISTING 4'x3' RCB	MFC-4, MJB-3, SPI-4, SPB-1		719.80	712.97	25.10	16.52	2.11																		F16
D3	33	STA. 3235+00, 57' LT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1, DES 2,STUB 388 LF 18"RCP, S=0.40% TO D4	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		732.02	728.47	359.50	152.87																			D3
D4	33	STA. 3238+91, 72' LT CRL US 69	CONST. 4'x4'x7.18' JCT BOX, OVER EXISTING 36" RCP CD	MFC-4, MJB-3, SPI-4, SPB-1		734.60	725.42			1.39																		D4
D5	33	STA. 3235+00, CRL US 69	CONST. INLET GPI TYPE 1 (DES. 1), STUB 64 LF 18"RCP, S=2.00% TO D6	GPI-4,SPI-4,SPB-1		730.16	727.43	33.20	26.33														1		–				D5
D6	33	STA. 3235+00, 67' RT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1, DES 2,STUB 388 LF 18"RCP, S=0.55% TO D9	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		731.82	726.15	419.50	228.14																			D6
D7	33	STA. 3242+00, CRL US 69	CONST. INLET GPI TYPE 1 (DES. 1), STUB 54 LF 18"RCP, S=1.00% TO D8	GPI-4,SPI-4,SPB-1		729.63	726.90	23.00	14.80														1		–				D7
D8	33	STA. 3242+00, 57' RT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1, DES 2,STUB 304 LF 18"RCP, S=0.78% TO D9	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		730.24	726.36	328.60	178.75																			D8
D9	33	STA. 3238+92, 70' RT CRL US 69	CONST. 4'x4'x6.25' JCT BOX, OVER EXISTING 36" RCP CD	MFC-4, MJB-3, SPI-4, SPB-1		730.75	722.50			1.39																		D9
D10	33	STA. 3244+50, CRL US 69	CONST. INLET GPI TYPE 1 (DES. 1), STUB 54 LF 18"RCP, S=3.00% TO D11	GPI-4,SPI-4,SPB-1		728.26	725.53	24.50	18.73														1		–				D10
D11	33	STA. 3244+50, 57' RT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1,DES 2,STUB 196 LF 18"RCP, S=1.23% TO D13	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		728.27	723.91	80.05	59.46																			D11
D12	33	STA. 3246+55, CRL US 69	CONST. INLET GPI TYPE 1 (DES. 1), STUB 54 LF 18"RCP, S=4.18% TO D13	GPI-4,SPI-4,SPB-1		726.49	723.76	27.20	21.39														1		–				D12
D13	33	STA. 3246+55, 57' RT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1,DES 2,STUB 15 LF 18"RCP, S=1.23% TO E7	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		726.50	721.50	6.50	4.90																			D13
E7	33	STA. 246+98, 18' LT & RT FRONTAGE RD	CONST. 4'x4'x7.77' JCT BOX, STUB 56 LF 24"RCP, S=1.02% TO E8	MFC-4, MJB-3, SPI-4, SPB-1		724.84	716.07	79.90	48.96	1.39																		E7
G3	33	STA. 238+65, 26.5' RT & LT FRONTAGE RD	CONST. INLET (SMD-TYPE 2), STUB 302 LF 24"RCP, S=0.55% TO G5	SMD-3, SPI-4, SPB-1		732.35	729.21	179.90	116.57																			G3
G5	33	STA. 241+70, 23.5' RT & LT FRONTAGE RD	CONST. INLET (SMD-TYPE 2), STUB 151 LF 24"RCP, S=0.55% TO G8	SMD-3, SPI-4, SPB-1		731.48	727.55	105.80	58.29																			G5
G8	33	STA. 243+25, 23' RT & LT FRONTAGE RD	CONST. INLET (SMD-TYPE 2A), STUB 242 LF 30"RCP, S=0.73% TO G12	SMD-3, SPI-4, SPB-1		730.80	726.22	201.10	114.71																			G8
G12	33	STA. 245+72, 23' RT & LT FRONTAGE RD	CONST. INLET (SMD-TYPE 2B), STUB 48 LF 36"RCP, S=2.50% TO G14	SMD-3, SPI-4, SPB-1		731.13	723.95	74.00	44.93																			G12
G14	33	STA. 246+24, 23' RT & LT FRONTAGE RD	CONST. INLET (SMD-TYPE 2B), STUB 68 LF 36"RCP, S=2.50% TO G16	SMD-3, SPI-4, SPB-1		728.40	722.75	166.20	82.37																			G14
G16	33	STA. 247+15.5, 23' RT & LT FRONTAGE RD	CONST. INLET (SMD-TYPE 2B), CONNECT WITH 6 LF 4'x3' RCB TO EXISTING CD S=2.36%	SMD-3,SBI-4,RCB-C1-3&4&5(2-20)		727.34	720.55					350																G16
H1	33,34	STA. 247+15, 6' RT & LT FRONTAGE RD	CONST. SPL. 6'x6'x5.75' JCT BOX OVER EX. 4'x3' RCB CD STUB 363 LF 24" RCP TO H2	SHEET 48, MFC-4, SPI-4, SPB-1		727.75	721.00	249.50	140.12	8.55		1,400																H1
H2	34	STA. 3251+23, 79' LT CRL US 69	CONST. INLET (SMD-TYPE 2A), STUB 26 LF 30"RCP, S=4.23% TO EXISTING 30" CD	SMD-3, SPI-4, SPB-1		721.38	717.70	19.50	12.32																			H2
D14	34	STA. 3249+00, CRL US 69	CONST. INLET GPI TYPE 1 (DES. 1), STUB 54 LF 18"RCP, S=3.39% TO D15	GPI-4,SPI-4,SPB-1		723.48	720.75	27.50	21.71														1		–				D14
D15	33,34	STA. 3249+00, 57' RT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1,DES 2,STUB 214 LF 18"RCP, S=1.65% TO H3	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		723.49	718.92	94.50	71.45																			D15
H3	34	STA. 3251+23, 57' RT CRL US 69	CONST. INLET-LONGITUDINAL BARRIER-TYPE 1,DES 2,STUB 27 LF 30"RCP, S=1.93% TO H4	SHEET 49,SSIF-4,CIG-3,SPI-4,SPB-1		719.90	712.62	20.20	15.77																			H3
H4	34	STA. 3251+23, 57' RT CRL US 69	CONST. INLET (SMD-TYPE 2B) OVER EXISTING 36" CD	SMD-3, SPI-4, SPB-1		716.29	711.60																					H4
				TOTAL THIS SHEET				3,498	2,109	17.61		1,750											5	1	10.66				

* PROVIDED FOR INFORMATION ONLY. INCLUDE IN PRICE BID FOR INLET OR JUNCTION BOX.

SUMMARY OF DRAINAGE STRUCTURES, CONTINUED

STRUCTURE NUMBER	C.I. CURB INLETS W/JUNCTION BOX: SMALL DES.2	SMALL DES.2(B)	SMALL DES.3(O)	ADD'L DEPTH DES.2	ADD'L DEPTH DES.2(B)	ADD'L DEPTH DES.3(O)	INLET LONGITUDINAL BARRIER: TYPE DES. 2	ADD'L DEPTH * TYPE 1 DES. 2	CLASS 'AA' CONCRETE	UNCLASSIFIED EXCAVATION	STRUCTURAL EXCAVATION UNCLASSIFIED	M.H. FRAME AND COVER *	INLET FRAME AND GRATE *	CAST IRON CURB *	SMD INLET TYPE 2	SMD INLET TYPE 2A	SMD INLET TYPE 2B	SMD ADD'L DEPTH * TYPE 2	SMD ADD'L DEPTH * TYPE 2A	SMD ADD'L DEPTH * TYPE 2B	JUNCTION BOXES	REPLACEMENT OF INLET GRATE: SMD TYPE 2A	REPLACEMENT OF INLET GRATE: CDI RCB	PIPE QUANTITIES: REINFORCED CONCRETE PIPE – ROUND 18"	24"	30"	36"	CORR. GALV. STEEL PIPE – ROUND 18"	PREFAB. CULVERT END SECTION (ROUND) 18"	30"	43" X 26" R.C.PIPE ARCH CLASS A-III	SEE SPECIAL NOTES THIS SHEET	STRUCTURE NUMBER
	EACH			VF			EACH	* VF	CY	CY	CY	EA	EA	EA	EA	EA	EA	VF	VF	VF	CF	EA	EA	LF				LF		EA		LF		
A1															1									6								5	A1
D1							1	1.17																261									D1
C1							1	3.21																			54						C1
C2																											66						C2
C3							1	4.02																			15						C3
D2							1	4.43																15									D2
F6												1									35.55			263								2	F6
F9												1									32.11						182					2	F9
A2							1	2.55																15									A2
F14																	1										235					5	F14
Q3																	1							16								5	Q3
F16												1									61.27										24	6	F16
D3							1	0.88																388									D3
D4												1									78.96											4,6	D4
D5																								64									D5
D6							1	3.00																388									D6
D7																								54									D7
D8							1	1.21																304									D8
D9												1									65.41											4,6	D9
D10																								54									D10
D11							1	1.69																196									D11
D12																								54									D12
D13							1	2.33																15									D13
E7												1									90.31				56							2	E7
G3															1										302							5	G3
G5															1			0.82							151							5	G5
G8																1			0.93							242						5	G8
G12																	1			2.99							48					5	G12
G14																	1			1.46							88					5	G14
G16									2.58	8.80	1.00						1			2.60												4,5	G16
H1												1													363							2,4	H1
H2																1										26						5	H2
D14																								54									D14
D15							1	1.90																214									D15
H3							1	4.61																		27							H3
H4																	1			0.50												4,5	H4
TOTAL THIS SHEET							12	31.00	2.58	8.80	1.00	7			3	2	6	0.82	0.93	7.55	363.61			2,361	872	295	688					24		

* PROVIDED FOR INFORMATION ONLY. INCLUDE IN PRICE BID FOR INLET OR JUNCTION BOX.

GENERAL NOTES:

1. Top Elevation Given for G.P.I. Structure is FL Inlet, as shown on ODOT Std. GPI-4
2. Pipe Lengths are Computed from Inside Wall of Inlet to Inside Wall of Inlet. Where PCES is used, Pipe Length is Computed Deducting Length "C" as shown on ODOT Std. PCES-4.
3. Trench Excavation and Standard Bedding Material Quantities are based on Computed Lengths of Pipe, Including Length "C" as shown on ODOT Std. PCES-4 where applicable.

SPECIAL NOTES:

1. 6" Barrier Curb Inlet
2. Height Shown Represents "H" as Shown On MJB-3 and Does Not Include 1'-0" Riser.
3. 4" Mountable Curb Inlet
4. Structure must be Cast in Place
5. Price Bid for this Structure Shall Not Include Cost of Concrete Apron as shown on ODOT Std. SMD-3.
6. Height Shown Represents "H" as Shown On MJB-3 and Does Not Include 2'-0" Riser.

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16473 OKLAHOMA 7/18/16

Design	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

SUMMARY SHEET (ROADWAY)

JOB PIECE NO. 14999(04) — SHEET NO. 21

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SUMMARY OF DRAINAGE STRUCTURES

STRUCTURE NUMBER	PLANS SHEET NUMBER	LOCATION	DESCRIPTION	DESIGN	ELEVATIONS: TOP OF CURB	ELEVATIONS: TOP OF COVER OR GRATE	ELEVATIONS: FLOW LINE OF INLET (OUT)	TRENCH EXCAVATION	STANDARD BEDDING MATERIAL CLASS B	CLASS "A" CONC: SMALL STRUCTURE	CLASS "A" CONC: LARGE STRUCTURE	REINFORCING STEEL	CAST IRON CURB INLETS: CI-1 DES.2	CI-1 DES.2(B)	CI-1 DES.2(D)	CI-1 DES.2(2B)	ADD'L DEPTH INLETS DES.2	ADD'L DEPTH INLETS DES.2(B)	ADD'L DEPTH INLETS DES.2(D)	ADD'L DEPTH INLETS DES.2(2B)	GRATED PIPE INLETS: TYPE 1 DES.1	TYPE 1 DES.3	ADD'L DEPTH DES.1	ADD'L DEPTH DES.3	TYPE 2 DES.8	ADD'L DEPTH DES.8	STRUCTURE NUMBER
								CY	CY	CY	CY	LB	EACH				VF				EACH		VF		EACH	VF	
J5	34	STA. 252+00, 6' LT ℄ LT FRONTAGE RD	CONST. 5'x5'x3.57' JCT BOX, STUB 98 LF 30"RCP, S=1.00% TO J6	MFC-4, MJB-3, SPI-4, SPB-1		721.99	717.42	53.69	26.65	2.11																	J5
J6	34	STA. 253+00, 13' LT ℄ LT FRONTAGE RD	CONST. INLET W/SMALL JCT. BOX, CI DES. 3(D), STUB 164 LF 30"RCP, S=2.11% TO J9	SHEET 47,SSIF-4,CIG-3,SPI-4,SPB-1	720.98	720.44	716.44	98.95	51.69																	J6
J7	34	STA. 55+00, 4.05' RT ℄ RAMP A	CONST. INLET CI DES. 2(D), STUB 51 LF 18"RCP, S=0.40% TO J8	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	717.92	717.55	714.00	15.36	10.11						1				0.88							J7
J8	34	STA. 254+70, 13' LT ℄ LT FRONTAGE RD	CONST. INLET CI DES. 2(D), STUB 8 LF 18"RCP, S=0.50% TO J9	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	718.44	717.90	713.80	4.38	3.52						1				1.43							J8
J9	34	STA. 254+70, 23' LT ℄ LT FRONTAGE RD	CONST. INLET (SMD-TYPE 2A), STUB 108 LF 30"RCP, S=3.50% TO J12	SMD-3, SPI-4, SPB-1		718.04	712.16	118.99	89.19																	J9
J10	34	STA. 255+80, 13' RT ℄ LT FRONTAGE RD	CONST. INLET CI DES. 2(B), STUB 24 LF 18"RCP, S=0.50% TO J11	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	714.48	713.94	710.42	7.09	4.52					1				0.85								J10
J11	34	STA. 255+80, 13' LT ℄ LT FRONTAGE RD	CONST. INLET CI DES. 2(B), STUB 8 LF 18"RCP, S=0.50% TO J12	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	714.48	713.94	710.30	4.15	3.29					1				0.97								J11
J12	34	STA. 255+80, 23' LT ℄ LT FRONTAGE RD	CONST. INLET (SMD-TYPE 2A), STUB 144 LF 30"RCP, S=3.50% TO J13	SMD-3, SPI-4, SPB-1		714.08	705.94	165.49	125.75																	J12
J13	34	STA. 257+30, 23' LT ℄ LT FRONTAGE RD	CONST. 5'x5'x6.84' JCT BOX, STUB 73 LF 30"RCP, S=3.50% TO OPEN DITCH [PCES-4]	MFC-4, MJB-3, SPI-4, SPB-1		704.90	697.06	72.75	52.61	2.11																J13
J14	34	STA. 3255+00, 65' LT CRL US 69	CONST. INLET CI DES. 2, STUB 5 LF 18"RCP, S=5.00% TO J7	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	718.46	718.08	714.25	3.19	1.24				1				1.16								J14
K1	34	STA. 3255+18, 57' RT CRL US 69	CONST. INLET CI DES. 2(D), STUB 40 LF 18"RCP, S=3.00% TO K3	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	714.99	714.62	708.06	16.90	12.60						1				3.89							K1
K2	34	STA. 54+80, 19' RT ℄ RAMP B	CONST. INLET CI DES. 2(D), STUB 32 LF 18"RCP, S=2.50% TO K3	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	714.99	711.83	707.66	17.70	8.77						1				1.50							K2
K3	34	STA. 3255+18, 98' RT CRL US 69	CONST. 4'x4'x5.08' JCT BOX, STUB 78 LF 18"RCP, S=3.50% TO K5	MFC-4, MJB-3, SPI-4, SPB-1		711.44	706.36	35.90	21.37	1.39																K3
K4	34	STA. 3256+00, CRL US 69	CONST. INLET GPI TYPE 2 (DES. 8), STUB 95 LF 18"RCP, S=4.00% TO K5	GPI-4,SPI-4,SPB-1		713.28	707.89	113.60	103.31													1		2.66			K4
K5	34	STA. 3256+00, 98' RT CRL US 69	CONST. 4'x4'x8.00' JCT BOX, STUB 222 LF 24"RCP, S=3.16% TO K6	MFC-4, MJB-3, SPI-4, SPB-1		709.50	699.50	324.80	117.22	1.39																K5
K6	34	STA. 3258+22, 139' RT CRL US 69	CONST. INLET (SMD-TYPE 2A), STUB 219 LF 30"RCP, S=0.68% TO N3	SMD-3, SPI-4, SPB-1		696.97	691.98	362.10	139.50																	K6
L1	34	STA. 258+20, 13' LT ℄ LT FRONTAGE RD	CONST. INLET CI DES. 2(B), STUB 24 LF 18"RCP, S=0.96% TO L2	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	699.84	699.30	695.38	8.43	5.86					1				1.25								L1
L2	34	STA. 258+20, 13' RT ℄ LT FRONTAGE RD	CONST. INLET CI DES. 2, STUB 20 LF 18"RCP, S=3.25% TO OPEN DITCH [PCES-4]	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	699.84	699.30	695.15	11.40	9.26				1				1.48								L2
M3	34	STA. 54+43, ℄ RAMP B	CONST. INLET CI DES. 2(D), STUB 56 LF 18"RCP, S=0.91% TO M4	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	712.60	712.06	707.62	26.89	20.89						1				1.77							M3
M4	34	STA. 254+60, 20' RT ℄ RT FRONTAGE RD	CONST. 4'x4'x4.78' JCT BOX, STUB 193 LF 18"RCP, S=3.81% TO M6	MFC-4, MJB-3, SPI-4, SPB-1		712.89	707.11	130.41	109.71	1.39																M4
M5	34	STA. 256+60, 13' LT ℄ RT FRONTAGE RD	CONST. INLET CI DES. 2(D), STUB 24 LF 18"RCP, S=0.96% TO M6	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	704.67	704.33	699.98	9.69	7.12						1				1.70							M5
M6	34	STA. 256+60, 13' RT ℄ RT FRONTAGE RD	CONST. INLET W/SMALL JCT. BOX, CI DES. 2(B), STUB 207 LF 18"RCP, S=3.14% TO M8	SHEET 48,SSIF-4,CIG-3,SPI-4,SPB-1	704.87	704.33	699.75	131.12	108.92																	M6
M7	34	STA. 258+80, 13' LT ℄ RT FRONTAGE RD	CONST. INLET CI DES. 2, STUB 24 LF 18"RCP, S=0.96% TO M8	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	697.51	696.97	693.47	8.68	6.11				1				0.80								M7
M8	34	STA. 258+80, 13' RT ℄ RT FRONTAGE RD	CONST. INLET W/SMALL JCT. BOX, CI DES. 2, STUB 181 LF 18"RCP, S=1.30% TO N3	SHEET 48,SSIF-4,CIG-3,SPI-4,SPB-1	697.51	696.97	693.24	105.08	85.67																	M8
N1	34	STA. 258+03.60, 25' RT ℄ LT FRONTAGE RD	EXTEND EXISTING 8'X3' RCB CD	RCB-C1-8(2-14),RCB1H-1,SPI-4		693.86	693.82					1,301														N1
N2	34	STA. 3258+34.36, 135' LT CRL US 69	EXTEND EXISTING 8'X3' RCB CD	RCB-C1-8(2-14),RCB1H-1,SPI-4		692.72	692.55					3,627														N2
N3	34	STA. 3260+34.37, 209.5' RT CRL US 69	EXTEND EXISTING 10'X3' RCB CD	RCB-C1-10(2-14),SHT 50,SPI-4		690.75	690.50					12,930														N3
O1	34	STA. 200+00, 20' RT CRL WADE WATTS	CONST. INLET CI DES. 2(2B), STUB 37 LF 18"RCP, S=1.32% TO O2	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	696.76	696.22	693.18	22.26	17.01						1				0.37							O1
O2	34	STA. 200+00, 20' LT CRL WADE WATTS	CONST. INLET CI DES. 2(D), STUB 60 LF 18"RCP, S=1.15% TO EXISTING 8'X3' RCB	CI-1,SSIF-4,CIG-3,SPI-4,SPB-1	696.76	696.22	692.69	20.85	14.42						1				0.86							O2
P1	34	STA. 3264+94.09, 157.50' RT CRL US 69	CONST. SPECIAL INLET, STUB 438 LF 18" RCP, S=0.68% TO P2	SHEET 51, SPI-4, SPB-1		702.13	694.38	320.63	273.66			4,220														P1
P2	34	STA. 3260+50, 157.50' RT CRL US 69	CONST. INLET GPI TYPE 2 (DES. 12), STUB 54 LF 24"RCP, S=0.70% TO N3	GPI-4,SPI-4,SPB-1		694.69	690.88	25.07	19.28													1		0.54			P2
T1	34	STA. 3251+27, 89' LT CRL US 69	STUB 10 LF 18" CGSP, S=2.7% TO H2	SPI-4, SPB-1, FHTCP-3				15.00	13.00																	T1
O1	31	STA. 3208+08, 75' RT CRL US 69	EXTEND EXISTING 18" RCP 34 LF, S=2.47%	SPI-4, SPB-1, PCES-4																						O1
O2	31	STA. 3211+60, 6' RT CRL US 69	CONST. INLET GPI TYPE 1 (DES. 1), STUB 100 LF 18"RCP, S=0.76% TO EXIST INLET	GPI-4,SPI-4,SPB-1		706.50	703.87	25.00	27.4													1	–				O2
TOTAL THIS SHEET								2,274	1,489	8.39		22,078	3	3	7	1	4.69	1.82	12.03	0.37	2		3.20			
TOTAL SHEET 22								3,498	2,109	17.61		1,750									1					
TOTAL								5,772	3,598	26.00		23,828	3	3	7	1	4.69	1.82	12.03	0.37	5	1	0.66			
																	TOTAL CI DES.2 = 18.91				6	1	0.66	2	3.20	

* PROVIDED FOR INFORMATION ONLY. INCLUDE IN PRICE BID FOR INLET OR JUNCTION BOX.

SUMMARY OF DRAINAGE STRUCTURES, CONTINUED

STRUCTURE NUMBER	C.I. CURB INLETS W/JUNCTION BOX: SMALL DES.2	SMALL DES.2(B)	SMALL DES.3(D)	ADD'L DEPTH DES.2	ADD'L DEPTH DES.2(B)	ADD'L DEPTH DES.3(D)	INLET LONGITUDINAL BARRIER TYPE 1 DES. 2	ADD'L DEPTH * TYPE 1 DES. 2	CLASS 'AA' CONCRETE	UNCLASSIFIED EXCAVATION	STRUCTURAL EXCAVATION UNCLASSIFIED	* M.H. FRAME AND COVER	* INLET FRAME AND GRATE	* CAST IRON CURB INLET	SMD INLET TYPE 2	SMD INLET TYPE 2A	SMD INLET TYPE 2B	* SMD ADD'L DEPTH TYPE 2	* SMD ADD'L DEPTH TYPE 2A	* SMD ADD'L DEPTH TYPE 2B	JUNCTION BOXES	REPLACEMENT OF INLET GRATE CDI RCB	PIPE QUANTITIES: REINFORCED CONCRETE PIPE – ROUND 18"	24"	30"	36"	CORR. GALV. STEEL PIPE – ROUND 18"	PREFAB. CULVERT END SECTION (ROUND) 18"	30"	43" X 26" R.C.PIPE ARCH CLASS A-III	SEE SPECIAL NOTES THIS SHEET	STRUCTURE NUMBER
	EACH			VF			EACH	* VF	CY	CY	CY	EA	EA	EA	EA	EA	EA	VF	VF	VF	CF	EA	LF				LF	EA		LF		
J5												1									42.23				98					2	J5
J6			1			1.33						1	4	8											164					1	J6
J7													2	6									51							3	J7
J8													2	6									8							1	J8
J9																1			2.24					108							J9
J10													2	4									24							1	J10
J11													2	4									8							1	J11
J12																1			4.49					144							J12
J13												1									90.52				73				1		2	J13
J14													2	2									5							3	J14
K1													2	6									40							3	K1
K2													2	6									32							1	K2
K3												1									49.37		78								K3
K4																							95								K4
K5												1									97.99			222						6	K5
K6																1			1.34					219							K6
L1													2	4									24							1	L1
L2													2	2									20					1		1	L2
M3													2	6									56							1	M3
M4												1									53.64		193							2	M4
M5													2	6									24							1	M5
M6		1			1.93							1	2	4									207							1	M6
M7													2	2									24							1	M7
M8	1			1.03								1	2	2									181							1	M8
N1									11.02		5.19																				N1
N2									27.98		12.16																				N2
N3									73.82	288.53	30.01																				N3
O1													2	6									37							1	O1
O2													2	6									60							1	O2
P1									29.87	250.60	10.50											7	438								P1
P2																								54							P2
T1																											10				T1
O1																							34					1			O1
O2																							100								D10
TOTAL THIS SHEET	1	1	1	1.03	1.93	1.33			142.69	539.13	57.86	8	36	80		3			8.07		333.75	7	1,739	276	806		10		2	1		
TOTAL SHEET 22							12	31.00	2.58	8.80	1.00	7			3	2	6	0.82	0.93	7.55	363.61		2,361	872	295	688					24	
TOTAL	1	1	1	1.03	1.93	1.33	12	31.00	145.27	547.93	58.86	15	36	80	3	5	6	0.82	9.00	7.55	697.36	7	4,100	1,148	1,101	688	10		2	1	24	

* PROVIDED FOR INFORMATION ONLY. INCLUDE IN PRICE BID FOR INLET OR JUNCTION BOX.

GENERAL NOTES:

1. Top Elevation Given for G.P.I. Structure is FL Inlet, as shown on ODOT Std. GPI-4
2. Pipe Lengths are Computed from Inside Wall of Inlet to Inside Wall of Inlet. Where PCES is used, Pipe Length is Computed Deducting Length "C" as shown on ODOT Std. PCES-4.
3. Trench Excavation and Standard Bedding Material Quantities are based on Computed Lengths of Pipe, Including Length "C" as shown on ODOT Std. PCES-4 where applicable.

SPECIAL NOTES:

1. 6" Barrier Curb Inlet
2. Height Shown Represents "H" as Shown On MJB-3 and Does Not Include 1'-0" Riser.
3. 4" Mountable Curb Inlet
4. Structure must be Cast in Place
5. Price Bid for this Structure Shall Not Include Cost of Concrete Apron as shown on ODOT Std. SMD-3.
6. Height Shown Represents "H" as Shown On MJB-3 and Does Not Include 2'-0" Riser.

REGISTERED PROFESSIONAL ENGINEER ROBIN D SEWELL 16173 OKLAHOMA 7/18/16

Design	CKS		U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		**SUMMARY SHEET (ROADWAY)**
Checked	CKE		
Approved			JOB PIECE NO. 14999(04) — SHEET NO. 22
Squad	C & K		

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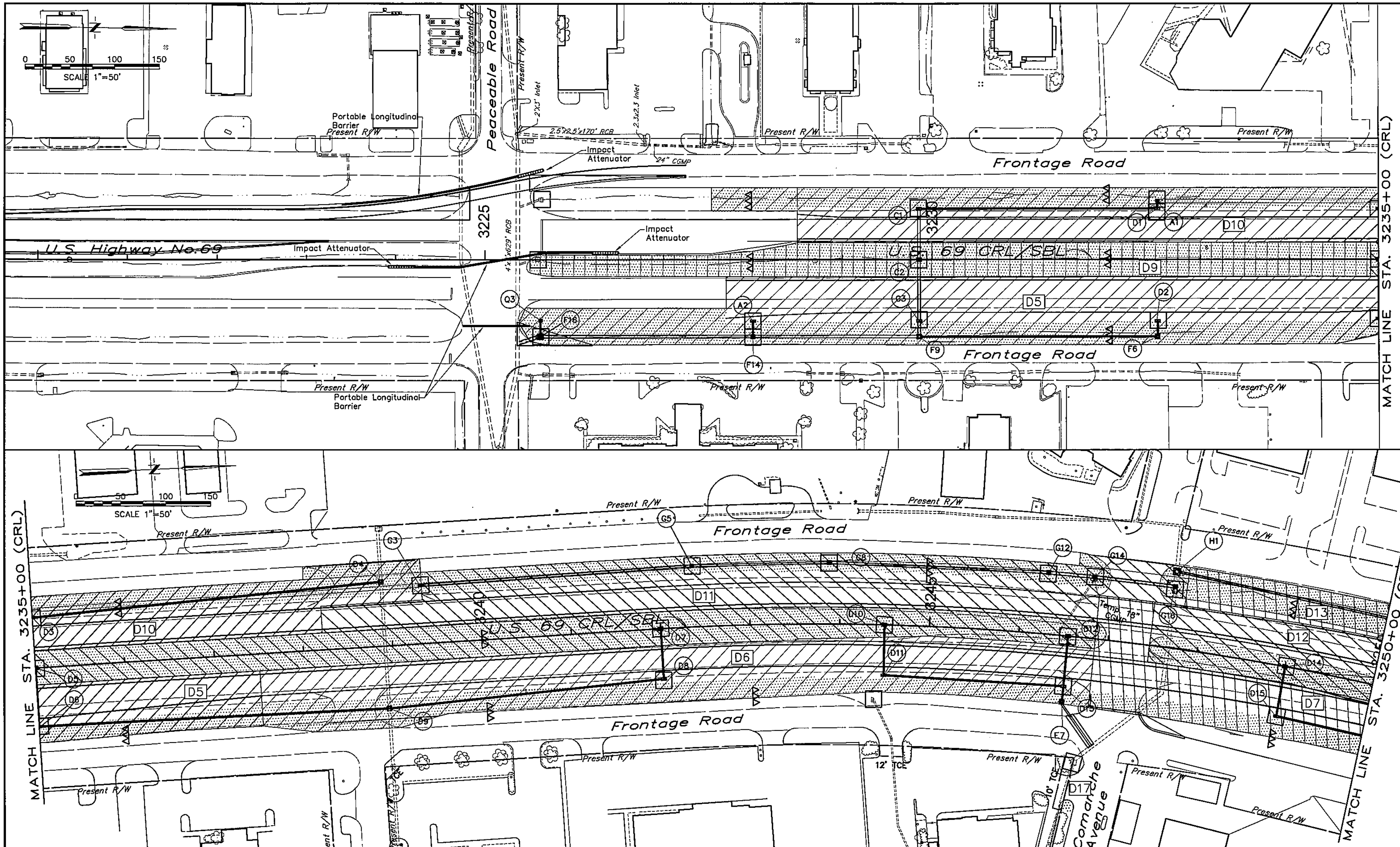

LEGEND

⩓	SILT DIKE (EST. AT 16 LF EA)	D1 (hatched)	INDICATES DRAINAGE AREA	—(RFD)—	TEMPORARY ROCK FILTER DAM
□	SEDIMENT FILTER				
∿∿∿	SILT FENCE	(stippled)	INDICATES SLAB SOD		

ROBIN D. SEWELL 16173 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

7/8/16

Survey	CKS	U.S. 69 – COMANCHE AVENUE	PITTSBURG COUNTY
Drawn	CKD	**EROSION CONTROL DETAILS**	
Checked	CKE		
Approved			
Squad	C & K	JOB PIECE NO. 14999(04)	SHEET NO. 23

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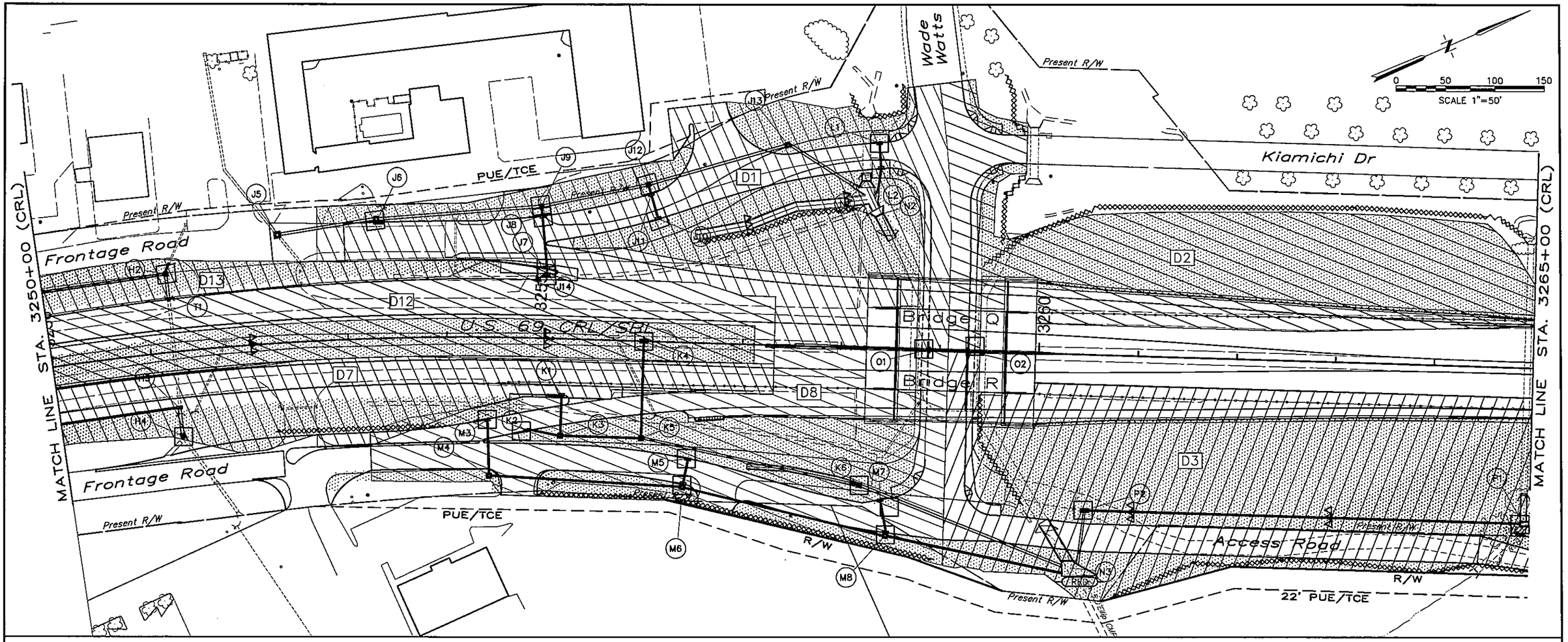

LEGEND

- RFD — TEMPORARY ROCK FILTER DAM
- SILT DIKE (EST. AT 16 LF EA)
- SEDIMENT FILTER
- SILT FENCE
- D1 — INDICATES DRAINAGE AREA
- INDICATES SLAB SOD

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

EROSION CONTROL DETAILS

JOB PIECE NO. 14999(04) — SHEET NO. 24

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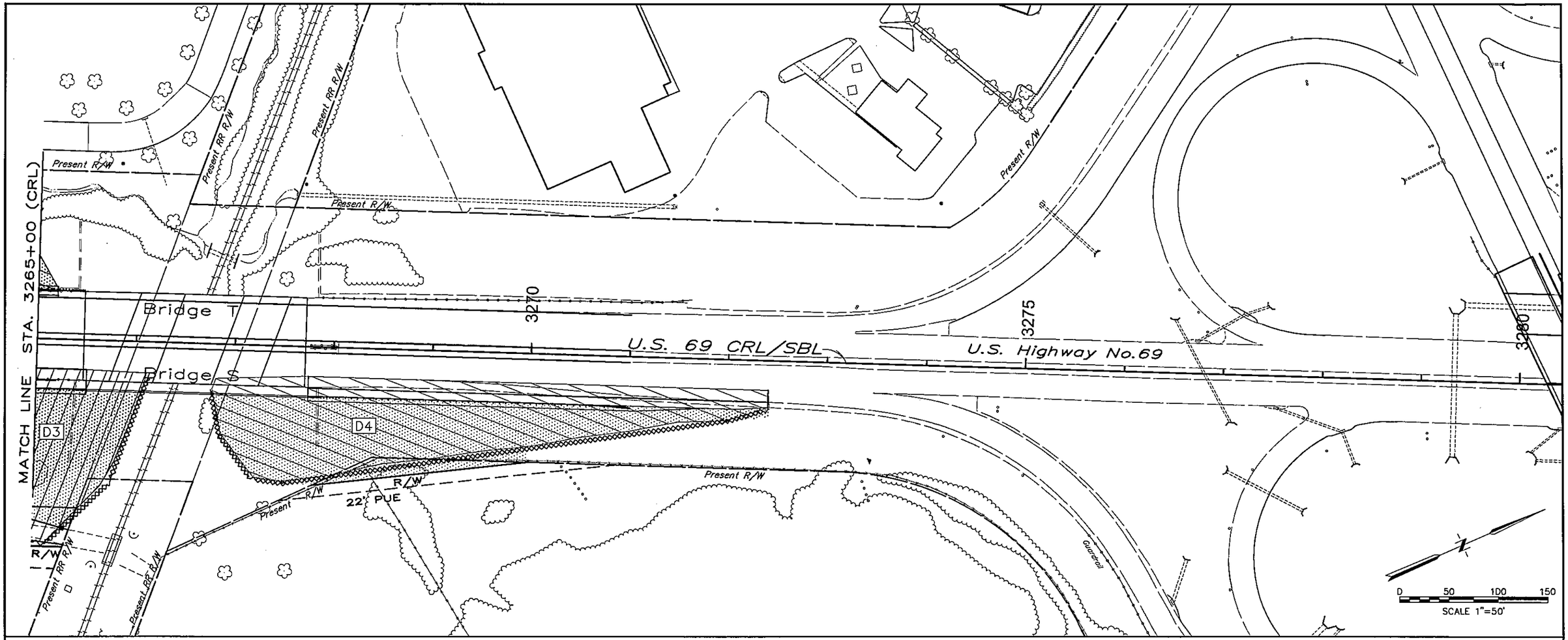


SUMMARY OF DISTURBED AREA PHASE 1

DRAINAGE AREA NUMBER	OUTFALL STATION	AREA: CHANNEL FLOW (AC)	AREA: SHEET FLOW (AC)	TOTAL AT OUTFALL	OUTFALL TREATMENT
D1	STA 3260+34.37	2.04		8.16	NORMAL EROSION CONTROL NORMAL EROSION CONTROL
D2	STA 3260+34.37		1.65		
D3	STA 3260+34.37	2.86			
D8	STA 3260+34.37	1.61			
D4	STA 3266+55.33		0.85	0.85	NORMAL EROSION CONTROL
	TOTALS	6.51	2.50		
	TOTAL PHASE 1	9.01			

SUMMARY OF DISTURBED AREA PHASE 2

DRAINAGE AREA NUMBER	OUTFALL STATION	AREA: CHANNEL FLOW (AC)	AREA: SHEET FLOW (AC)	TOTAL AT OUTFALL	OUTFALL TREATMENT
D5	STA 3225+40.00	1.83		1.83	NORMAL EROSION CONTROL
D6	STA 3246+90.00	1.38		1.38	NORMAL EROSION CONTROL
D7	STA 3260+34.37	1.47		1.47	
	TOTALS	4.68			
	TOTAL PHASE 2	4.68			

SUMMARY OF DISTURBED AREA PHASE 3 & 4

DRAINAGE AREA NUMBER	OUTFALL STATION	AREA: CHANNEL FLOW (AC)	AREA: SHEET FLOW (AC)	TOTAL AT OUTFALL	OUTFALL TREATMENT
D9	STA 3225+40.00	0.73		2.27	NORMAL EROSION CONTROL
D10	STA 3225+40.00	1.54			
D11	STA 3246+90.00	2.24		2.24	NORMAL EROSION CONTROL
D12	STA 3260+34.37	1.74		2.24	NORMAL EROSION CONTROL
D13	STA 3260+34.37	0.50			
	TOTALS	6.75			
	TOTAL PHASE 3 & 4	6.75			
	TOTAL PHASE 1, 2, 3 & 4	20.44			

TOTAL DISTURBED AREA = 20.44 AC

LEGEND

⩓	SILT DIKE (EST. AT 16 LF EA)
☐	SEDIMENT FILTER
~xxxxxxxxxxxx~	SILT FENCE
▨ D1	INDICATES DRAINAGE AREA
░	INDICATES SLAB SOD
—(RFD)—	TEMPORARY ROCK FILTER DAM

ROBIN D. SEWELL
16173

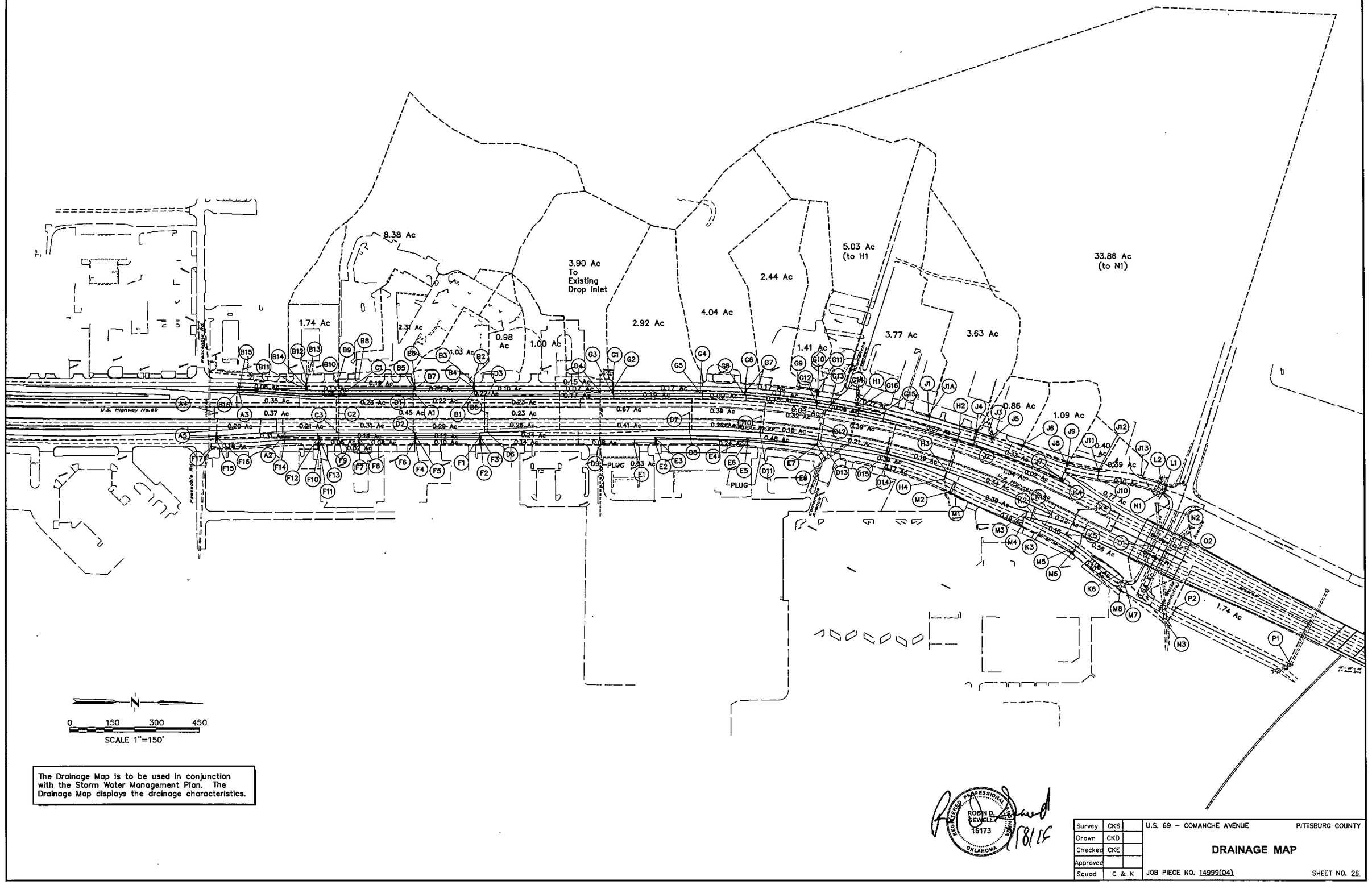
Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

EROSION CONTROL DETAILS

JOB PIECE NO. 14999(04)

SHEET NO. 25



The Drainage Map is to be used in conjunction with the Storm Water Management Plan. The Drainage Map displays the drainage characteristics.

ROBIN D. SEWELL
16173

7/8/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		
Checked	CKE		**DRAINAGE MAP**
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) SHEET NO. 26

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STORM WATER MANAGEMENT PLAN

REVISION		
REV. NO.	DESCRIPTION	DATE
1	REMOVED TEMP SEEDING	8/5/16

SITE DESCRIPTION

PROJECT LIMITS: US 69 FROM PEACABLE ROAD NORTH 0.9 MILES IN McALESTER, OKLAHOMA, PITTSBURG COUNTY.

PROJECT DESCRIPTION: GRADING, DRAINAGE, SURFACING AND BRIDGE PLANS

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

PRIOR TO INITIATING SOIL DISTURBING ACTIVITIES, THE CONTRACTOR WILL INSTALL ALL PERIMETER TEMPORARY SEDIMENT CONTROLS SPECIFIED. STRIP, STOCKPILE AND STABILIZE TOPSOIL. CLEAR AND GRUB ONLY IN NECESSARY AREAS, PRESERVING AS MUCH NATIVE VEGETATION AS POSSIBLE. INSTALL, MAINTAIN AND/OR MOVE TEMPORARY SEDIMENT ITEMS WITH CONSTRUCTION OPERATIONS AS PRACTICAL. IF DIRECTED BY THE ENGINEER, PLANT TEMPORARY SEEDING. REPLACE SALVAGED TOPSOIL AND DEVICES WHEN AN ACCEPTABLE VEGETATIVE COVER (AT LEAST 70%) HAS BEEN ATTAINED. AS SITE CONDITIONS WARRANT, THE CONTRACTOR MAY CHOOSE TO MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIED PRACTICES TO IMPROVE THEIR EFFECTIVENESS AS APPROVED BY THE ENGINEER. THE CONTRACTOR WILL MAINTAIN A LOG OF THE DATES OF MAJOR SOIL DISTURBANCE ACTIVITIES, AND ALSO THE DATES OF INSTALLATION OF EROSION CONTROL MEASURES.

SOIL TYPE: SANDY CLAY

AREA TO BE DISTURBED: 20.44 ACRES

OFFSITE AREA TO BE DISTURBED: _____
(FOR CONTRACTOR USE)

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: _____
(FOR CONTRACTOR USE)

LATITUDE & LONGITUDE OF CENTER OF PROJECT: LAT 34°55'00" N LONG 95°44'43" W

NAME OF RECEIVING WATERS: TRIBUTARY TO MUD CREEK

SENSITIVE WATERS OR WATERSHEDS: YES [ ] NO [X]

303(d) IMPAIRED WATERS: YES [ ] NO [X]

NOTE:
THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- ⚠ ____ TEMPORARY SEEDING
- _X_ PERMANENT SODDING, SPRIGGING OR SEEDING
- _X_ VEGETATIVE MULCHING
- ____ SOIL RETENTION BLANKET
- _X_ PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:

- ____ STABILIZED CONSTRUCTION EXIT
- _X_ TEMPORARY SILT FENCE
- _X_ TEMPORARY SILT DIKES
- ____ TEMPORARY FIBER LOG
- _X_ DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- ____ DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- _X_ ROCK FILTER DAMS
- ____ TEMPORARY SLOPE DRAIN
- _X_ PAVED DITCH W/ DITCH LINER PROTECTION
- ____ TEMPORARY DIVERSION CHANNELS
- _X_ TEMPORARY SEDIMENT BASINS
- ____ TEMPORARY SEDIMENT TRAPS
- _X_ TEMPORARY SEDIMENT FILTERS
- _X_ TEMPORARY SEDIMENT REMOVAL
- ____ RIP RAP
- ____ INLET SEDIMENT FILTER
- ____ TEMPORARY BRUSH SEDIMENT BARRIERS
- ____ SANDBAG BERMS
- ____ TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- _X_ HAUL ROADS DAMPENED FOR DUST CONTROL
- _X_ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- _X_ EXCESS DIRT ON ROAD REMOVED DAILY

NOTES:

NO DISTURBED AREA TO A COMMON OUTFALL EXCEEDS 10 ACRES

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS RECORDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:

A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN IS INITIATED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORM AND PERMIT CERTIFICATE THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT. ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP, I.E. BORROW PITS, WORK ROADS, DISPOSAL SITES, ASPHALT/CONCRETE PLANTS, ETC. THE BASIC GOAL OF STORM WATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

103.05	BONDING REQUIREMENTS
104.10	FINAL CLEANING UP
104.12	CONTRACTOR'S RESPONSIBILITY FOR WORK
104.13	ENVIRONMENTAL PROTECTION
106.08	STORAGE AND HANDLING OF MATERIAL
107.01	LAWS, RULES AND REGULATIONS TO BE OBSERVED
107.20	STORM WATER MANAGEMENT
220	MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
221	TEMPORARY SEDIMENT CONTROL

IN ADDITION:
"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2012.

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
8/5/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

STORM WATER MANAGEMENT PLAN

JOB PIECE NO. 14999(04) — SHEET NO. 27

RUNOFF AND INLET SIZING

STRUCTURE NUMBER	LOCATION	A	C	CA OR ΣCA	T_C	I_{10}	I_{50}	I_{100}	Q_{10}	Q_{50}	Q_{100}	CARRY OVER Q	TOTAL Q	INLET EFFICIENCY	Q_{IN}	ΣA	INLET TYPE	NO. GRATES	NO. OPNG'S	Q BY-PASSED
		ACRES			MIN.	INCHES PER HOUR			CUBIC FEET PER SECOND					PERCENT	C.F.S.	ACRES		EACH	EACH	C.F.S.
A1	STA. 3232+52, 65' LT CRL US 69	0.22	0.70	0.15	5.0		9.5			1.42			1.42	100%	1.42		SMD-TYPE 2			
A2	STA. 3228+00, 69' RT CRL US 69	0.21	0.95	0.20	5.0		9.5			1.90		0.66	2.56	85%	2.19		ILB-1-2	2	2	0.37
A3	STA. 3226+40, 69.76' LT CRL US 69	0.35	0.80	0.28	5.0		9.5			2.67			2.67	73%	1.95		CI-2(D)	2	6	0.72
A4	STA. 3225+62, CRL US 69	0.45	0.60	0.27	5.0		9.5			2.57			2.57	100%	2.57		SMD-TYPE 2			
A5	STA. 3225+62, 80.10' RT CRL US 69	0.20	0.80	0.16	5.0		9.5			1.52		0.37	1.89	85%	1.61		CI-2(D)	2	6	0.28
B1	STA. 233+85, 13' RT ℄ LT FNTG RD	0.10	0.90	0.09	5.0	.	9.5	.	.	0.86	.	.	0.86	100%	0.86		CI-2(B)	2	4	.
B2	STA. 233+85, 26' LT ℄ LT FNTG. RD.	0.98	0.81	0.79	5.0	.	9.5	.	.	7.50	.	.	7.50	100%	7.50		SMD-TYPE 1	.	.	.
B3	STA. 233+85, 13' LT ℄ LT FNTG. RD.	1.03	0.80	0.82	5.0	.	9.5	.	.	7.79	.	.	7.79	60%	4.71		CI-2(D)	2	6	3.08
B4	STA. 233+85, 6' RT ℄ LT FNTG. RD.					.		.	.		.	.					JCT. BOX			
B5	STA. 231+80, 13' RT ℄ LT FNTG. RD.	0.07	0.95	0.07	5.0	.	9.5	.	.	0.67	.	.	0.67	100%	0.67		CI-2(B)	2	4	.
B6	STA. 231+80, 13' LT ℄ LT FNTG. RD.	1.03	0.81	0.83	5.0	.	9.5	.	.	7.89	.	3.08	10.97	65%	7.13		CI-3(D)	4	6	3.84
B7	STA. 231+80, 6' RT ℄ LT FNTG. RD.					.		.	.		.	.					JCT. BOX	.	.	.
B8	STA. 229+85, 26' LT ℄ LT FNTG. RD.	2.31	0.80	1.85	8.9	.	8.3	.	.	15.36	.	.	15.36	100%	15.36		SMD-TYPE 2	.	.	.
B9	STA. 229+16, 26' LT ℄ LT FNTG. RD.	8.38	0.50	4.19	13.3	.	7.3	.	.	30.59	.	.	30.59	100%	30.59		SMD-TYPE 2	.	.	.
B10	STA. 229+16, 6' RT ℄ LT FNTG. RD.					.		.	.		.	.					JCT. BOX	.	.	.
B11	STA. 228+05, 13' RT ℄ LT FNTG. RD.	0.13	0.95	0.12	5.0	.	9.5	.	.	1.14	.	.	1.14	100%	1.14		CI-2(D)	2	6	.
B12	STA. 228+05, 26' LT ℄ LT FNTG. RD.	1.74	0.80	1.39	9.7	.	8.0	.	.	11.12	.	.	11.12	100%	11.12		SMD-TYPE 2	.	.	.
B13	STA. 228+05, 13' LT ℄ LT FNTG. RD.	0.14	0.90	0.13	5.0	.	9.5	.	.	1.24	.	3.84	5.08	65%	3.29		CI-2(D)	2	6	1.79
B14	STA. 228+05, 6' RT ℄ LT FNTG. RD.					.		.	.		.	.					JCT. BOX	.	.	.
B15	STA. 225+72, 13' RT ℄ LT FNTG. RD.	0.08	0.95	0.08	5.0	.	9.5	.	.	0.76	.	1.79	2.55	82%	2.10		CI-2(D)	2	6	0.45
B16	STA. 3226+40, 80' LT CRL US 69	0.25	0.80	0.20	5.0	.	9.5	.	.	1.90	.	.	1.90	100%	1.90		SMD-TYPE 2	.	.	.
C1	3229+85.50, MAINLINE, 57' LT.	0.23	0.95	0.22	5.0	.	9.5	.	.	2.09	.	.	.	100%	.		ILB-1-2	2	2	.
C2	3229+85.50, MAINLINE, CRL	0.45	0.60	0.27	5.0	.	9.5	.	.	2.56	.	.	.	100%	2.56		GPI-TYPE 1	.	.	.
C3	3229+85.50, MAINLINE, 69' RT.	0.31	0.95	0.29	5.0	.	9.5	.	.	2.76	.	0.52	3.28	80%	2.62		ILB-1-2	2	2	0.66
D1	3232+52, MAINLINE, 57' LT.	0.22	0.95	0.21	5.0	.	9.5	.	.	1.99	.	.	1.99	100%	1.99		ILB-1-2	2	2	.
D2	3232+52, MAINLINE, 69' RT.	0.29	0.95	0.28	5.0	.	9.5	.	.	2.62	.	.	2.62	80%	2.10		ILB-1-2	2	2	0.52
D3	3235+00, MAINLINE, 57' LT	0.23	0.95	0.22	5.0	.	9.5	.	.	2.07	.	.	2.07	100%	2.07		ILB-1-2	2	2	.
D4	3238+91, MAINLINE, 72' LT.					.		.	.		.	.					JCT. BOX	.	.	.
D5	3235+00, MAINLINE, CRL	0.23	0.60	0.14	5.0	.	9.5	.	.	1.31	.	.	1.31	100%	1.31		GPI-TYPE 1	.	.	.
D6	3235+00, MAINLINE, 67' RT.	0.26	0.95	0.25	5.0	.	9.5	.	.	2.35	.	.	2.35	100%	2.35		ILB-1-2	2	2	.
D7	3242+00, MAINLINE, CRL	0.67	0.70	0.47	5.0	.	9.5	.	.	4.46	.	.	4.46	100%	4.46		GPI-TYPE 1	.	.	.
D8	3242+00, MAINLINE, 57' RT.	0.41	0.95	0.39	5.0	.	9.5	.	.	3.70	.	.	3.70	70%	2.61		ILB-1-2	2	2	1.09
D9	3238+92, MAINLINE, 70' RT.					.		.	.		.	.			.		JCT. BOX	.	.	.
D10	3244+50, MAINLINE, CRL	0.39	0.75	0.29	5.0	.	9.5	.	.	2.78	.	.	2.78	100%	2.78		GPI-TYPE 1	.	.	.
D11	3244+50, MAINLINE, 57' RT.	0.22	0.95	0.21	5.0	.	9.5	.	.	1.99	.	1.09	3.08	71%	2.19		ILB-1-2	2	2	0.89
D12	3246+55, MAINLINE, CRL	0.32	0.75	0.24	5.0	.	9.5	.	.	2.28	.	.	2.28	100%	2.28		GPI-TYPE 1	.	.	.
D13	3246+55, MAINLINE, 57' RT.	0.18	0.95	0.17	5.0	.	9.5	.	.	1.62	.	0.89	2.51	82%	2.05		ILB-1-2	2	2	0.46
D14	3249+00, MAINLINE, CRL	0.39	0.75	0.29	5.0	.	9.5	.	.	2.78	.	.	2.78	100%	2.78		GPI-TYPE 1			.
D15	3249+00, MAINLINE, 57' RT.	0.21	0.95	0.20	5.0	.	9.5	.	.	1.89	.	0.46	2.35	100%	2.35		ILB-1-2	2	2	.
E1	240+65, RT FRONTAGE RD, 13' RT.	0.08	0.82	0.07	5.0	.	9.5	.	.	0.67	.	.	0.67	100%	0.67		CI-2(B)	2	4	.
E2	241+40, RT FRONTAGE RD, 13' RT.	0.03	0.85	0.03	5.0	.	9.5	.	.	0.29	.	.	0.29	100%	0.29		CI-2	2	2	.
E3	241+40, RT FRONTAGE RD, 6' LT.					.		.	.		.	.					JCT. BOX	–	–	–
E4	244+60, RT FRONTAGE RD, 13' LT.	0.48	0.82	0.39	5.0	.	9.5	.	.	3.71	.	.	3.71	SUMP	3.71		CI-2(2B)	2	6	–
E5	244+60, RT FRONTAGE RD, 13' RT.	0.24	0.82	0.20	5.0	.	9.5	.	.	1.86	.	.	1.86	SUMP	1.85		CI-2(2B)	2	6	–
E6	244+60, RT FRONTAGE RD, 6' LT.	.	.	.	.	.	.	.	.	.	.	.	.	–	–		JCT. BOX	–	–	–
E7	246+98, RT FRONTAGE RD, 18' LT.	.	.	.	.	.	.	.	.	.	.	.	.	–	–		JCT. BOX	–	–	–
E8	247+36, RT FRONTAGE RD, 28' RT.	.	.	.	.	.	.	.	.	.	.	.	.	–	–		JCT. BOX	–	–	–
F1	235+35, 13' LT ℄ RT FRONTAGE RD	0.24	0.87	0.21	5.0	.	9.5	.	.	2.00	.	.	2.00	77%	1.53		CI-2(B)	2	2	0.47
F2	235+35, 13' RT ℄ RT FRONTAGE RD	0.14	0.82	0.11	5.0	.	9.5	.	.	1.04	.	.	1.04	65%	0.68		CI-2	2	2	0.36
F3	235+35, 6' LT ℄ RT FRONTAGE RD	.	.	.	.	.	.	.	.	.	.	.	.	.	.		JCT BOX	–	–	–
F4	233+10, 13' RT ℄ RT FRONTAGE RD	0.10	0.82	0.08	5.0	.	9.5	.	.	0.76	.	0.36	1.12	58%	0.65		CI-2	2	2	0.47
F5	233+10, 13' LT ℄ RT FRONTAGE RD	0.12	0.82	0.10	5.0	.	9.5	.	.	0.95	.	0.47	1.42	55%	0.78		CI-2	2	2	0.64
F6	233+10, 6' LT ℄ RT FRONTAGE RD	.	.	.	.	.	.	.	.	.	.	.	.	.	.		JCT BOX	–	–	–
F7	231+15, 13' RT ℄ RT FRONTAGE RD	0.08	0.87	0.07	5.0	.	9.5	.	.	0.67	.	0.47	1.14	58%	0.66		CI-2	2	2	0.48
F8	231+15, 6' LT ℄ RT FRONTAGE RD	.	.	.	.	.	.	.	.	.	.	.	.	.	.		JCT BOX	–	–	–
F9	230+43.68, 6' LT ℄ RT FRONTAGE RD	.	.	.	.	.	.	.	.	.	.	.	.	.	.		JCT BOX	–	–	–
F10	229+75, 35' RT ℄ RT FRONTAGE RD	0.32	0.80	0.26	5.0		9.5			2.47			2.47	100%	2.47		SMD-TYPE 2			
F11	229+75, 13 RT ℄ RT FRONTAGE RD	0.06	0.85	0.05	5.0		9.5			0.48		0.48	0.96	60%	0.58		CI-2			0.38

STORM SEWER ANALYSIS

STRUCTURE NUMBER	ADJ. CA	ADD'L CA	FROM STR. NO.	ΣCA	T_C	I	Q	PIPE DIA. AND TYPE	PIPE SLOPE	PIPE VELOCITY	PIPE LENGTH	TIME IN PIPE	TOTAL T_C	TO STR. NO.	STRUCTURE NUMBER
					MIN.	INCH/HR	C.F.S.	ULTIMATE	PERCENT	F.P.S.	L.F.	MIN.	MIN.		
A1	0.15	.	.	0.15	5.0	9.5	1.42	18" RCP	7.33	6.8	6		5.0	D1	A1
A2	0.23	.	.	0.23	5.0	9.5	2.19	18" RCP	3.53	6.2	15		5.0	F14	A2
A3	0.21	.	.	0.21	5.0	9.5	1.95	18" RCP	2.22	5.4	9		5.0	B16	A3
A4	0.27	.	.	0.27	5.0	9.5	2.57	18" RCP	4.54	7.5	22		5.0	exCD	A4
A5	0.17	.	.	0.17	5.0	9.5	1.61	18" RCP	3.25	5.8	4		5.0	F15	A5
B1	0.09	.	.	0.09	5.0	9.5	0.86	18" RCP	5.25	6.3	4	.	5.0	B4	B1
B2	0.79	.	.	0.79	5.0	9.5	7.50	18" RCP	3.35	8.5	12	.	5.0	B3	B2
B3	0.50	0.79	B2	1.29	5.0	9.5	12.21	18" RCP	4.44	10.5	16	.	5.0	B4	B3
B4	.	1.38	B1,B2,B3	1.38	5.0	9.5	13.11	18" RCP	1.18	6.3	201	0.53	5.5	B7	B4
B5	0.07	.	.	0.07	5.0	9.5	0.67	18" RCP	7.50	7.3	4	.	5.0	B7	B5
B6	0.75	.	.	0.75	5.0	9.5	7.13	18" RCP	1.88	6.8	16	.	5.0	B7	B6
B7	.	.	B4,B5,B6	2.20	5.5	9.0	19.80	24" RCP	1.88	6.3	260	0.69	6.2	B10	B7
B8	1.85	.	.	1.85	8.9	8.3	15.36	18" RCP	2.85	8.7	66	0.13	9.0	B9	B8
B9	4.19	1.85	B8	6.04	9.0	8.2	49.53	30" RCP	3.90	10.1	29	0.05	9.0	B10	B9
B10	.	6.04	B7,B9	6.04	9.0	8.2	49.53	36" RCP	0.77	8.0	26	0.05	9.1	C1	B10
B11	0.12	.	.	0.12	5.0	9.5	1.14	18" RCP	20.00	12.0	4	.	5.0	B14	B11
B12	1.39	.	.	1.39	9.7	8.0	11.12	18" RCP	2.40	6.2	10	.	9.7	B13	B12
B13	0.13	1.39	B12	1.52	9.7	8.0	12.16	18" RCP	1.88	6.5	16	.	9.7	B14	B13
B14	.	1.64	B11,B13	1.64	9.7	8.0	13.12	24" RCP	0.80	5.5	231	0.7	10.4	B16	B14
B15	0.22	.	.	0.22	5.0	9.5	2.10	18" RCP	2.20	8.5	10	.	–	B16	B15
B16	0.20	2.07	B14,B15,A3	2.27	9.7	8.0	16.56	24" RCP	0.97	6.5	100	0.26	10.0	exCD	B16
C1	0.22	6.25	D1,B10	6.47	9.1	8.2	53.0	36" RCP	0.83	7.5	54	0.12	9.2	C2	C1
C2	0.27	6.45	C1	6.72	9.2	8.2	55.1	36" RCP	0.91	7.8	66	0.14	9.3	C3	C2
C3	0.29	6.72	C2	7.01	9.3	8.1	56.8	36" RCP	5.00	8.0	15	.	9.3	F9	C3
D1	0.21	0.15	A1	0.36	5.0	9.5	3.42	18" RCP	1.57	8.5	261	0.51	5.5	C1	D1
D2	0.22	.	.	0.22	5.0	9.5	2.10	18" RCP	4.40	7.5	9	.	5.0	F5,F6	D2
D3	0.22	.	.	0.22	5.0	9.5	2.07	18" RCP	0.40	3.0	388	2.20	7.2	D4(exCD)	D3
D4	.	0.22	D3	0.22	5.0	9.5	2.07	35" RCP	2.00	3.0	138	0.76	8.0	D9(exCD)	D4
D5	0.14	.	.	0.14	5.0	9.5	1.31	18" RCP	2.00	3.0	64	0.36	5.4	D6	D5
D6	0.25	0.14	D5	0.39	5.0	9.5	3.70	18" RCP	0.55	4.0	388	1.62	6.6	D9(exCD)	D6
D7	0.47	.	.	0.47	5.0	9.5	4.46	18" RCP	1.00	5.0	54	0.18	5.2	D8	D7
D8	0.27	.	.	0.27	5.0	9.5	2.61	18" RCP	0.78	4.0	304	1.27	6.3	D9(exCD)	D8
D9	.	0.63	D4,D6,D8	0.63	8.0	8.5	5.36	36" RCP	2.00	7.0	62	1.0	7.3	(exCD)	D9
D10	0.29	.	.	0.29	5.0	9.5	2.18	18" RCP	3.00	6.5	54	0.16	5.2	D11	D10
D11	0.23	0.29	D10	0.52	5.2	9.4	4.89	18" RCP	1.23	5.5	196	0.60	5.8	D13	D11
D12	0.24	.	.	0.24	5.0	9.5	2.28	18" RCP	4.00	7.0	54	0.13	5.1	D13	D12
D13	0.22	0.53	D11,D12	0.75	5.8	9.2	6.90	18" RCP	4.00	12.0	15	0.02	5.8	E7	D13
D14	0.29	.	.	0.29	5.0	9.5	2.78	18" RCP	2.00	6.0	54	0.15	5.2	D15	D14
D15	0.25	0.29	D14	0.54	5.2	9.4	5.08	18" RCP	1.65	6.5	214	0.55	5.7	H3	D15
E1	0.07	.	–	0.07	5.0	9.5	0.67	18"RCP	0.60	4.5	71	0.26	5.3	E2	E1
E2	0.03	0.07	E1	0.10	5.3	9.4	0.94	18"RCP	0.94	4.6	16	0.06	5.3	E3	E2
E3	.	0.10	E2	0.10	5.3	9.4	0.94	18"RCP	1.14	4.7	317	1.12	6.4	E6	E3
E4	0.39	.	–	0.39	5.0	9.5	3.71	18"RCP	3.75	8.0	4	.	5.0	E6	E4
E5	0.20	.	–	0.20	5.0	9.5	1.86	18"RCP	0.94	4.0	16	.	5.0	E6	E5
E6	.	0.69	E3,E4,E5	0.69	6.4	9.0	6.21	18"RCP	0.45	4.0	236	1.0	7.4	E7	E6
E7	–	1.22	D13,E6	1.22	7.4	8.7	10.61	24"RCP	1.02	6.0	56	0.16	7.6	E8	E7
E8	–	1.22	E7	1.22	7.6	8.7	10.61	EXIST. 4'X3	RCB –	–	–	–	–	(exCD)	E8
F1	0.16	.	–	0.16	5.0	9.5	1.53	18"RCP	3.75	10.0	4	.	5.0	F3	F1
F2	0.07	.	–	0.07	5.0	9.5	0.68	18"RCP	0.94	5.5	16	.	5.0	F3	F2
F3	.	0.23	F1,F2	0.23	5.0	9.5	2.21	18"RCP	0.60	5.0	221	0.74	5.7	F6	F3
F4	0.07	.	–	0.07	5.0	9.5	0.65	18"RCP	2.44	9.0	16	.	5.0	F6	F4
F5	0.08	0.22	D2	0.30	5.0	9.5	2.85	18"RCP	4.40	11.0	4	.	5.0	F6	F5
F6	.	0.60	F3,F4,F5	0.60	5.7	9.0	5.40	18"RCP	0.66	5.0	193	0.64	6.4	F8	F6
F7	0.07	.	–	0.07	5.0	9.0	0.66	18"RCP	2.44	9.0	16	.	5.0	F8	F7
F8	.	0.67	F6,F7	0.67	6.4	8.9	5.96	18"RCP	0.66	4.5	70	0.26	6.7	F9	F8
F9	.	7.39	C3,F8	7.39	9.3	8.0	59.12	36"RCP	1.08	8.4	67	0.13	9.4	F13	F9
F10	0.26	.	.	0.26	5.0	9.5	2.47	18"RCP	0.30	3.0	20	0.11	5.1	F11	F10
F11	0.06	0.32	F10	0.58	5.1	9.5	5.51	18"RCP	0.38	3.7	16	0.07	5.2	F13	F11

ABBREVIATION OF STANDARD ODOT DRAINAGE STRUCTURES

CICI	–	Cast Iron Curb Inlet
SMD	–	Standard Median Drain
GPI	–	Grated Pipe Inlet
PCES	–	Prefabricated Culvert End Section
ILB-2-1	–	Inlet – Longitudinal Barrier Type 2 – Des. 1
ILB-2-2	–	Inlet – Longitudinal Barrier Type 2 – Des. 2
ILB-1-1	–	Inlet – Longitudinal Barrier Type 1 – Des. 1
ILB-1-2	–	Inlet – Longitudinal Barrier Type 1 – Des. 2
JB	–	Junction Box
exCD	–	Existing Cross Drain Structure
exSD	–	Existing Side Drain Structure
exCH	–	Existing Channel

TABLE OF ABBREVIATIONS

A = Drainage Area
C = Runoff Coefficient – Based on Future Land Use
CA = Product of Area and Runoff Coefficient
C
* = Time of Concentration for the Longest Flow Path
I = Rainfall Intensity
Q_{10} = Discharge Rate = C x A x I
L/L_T = Length of Throats / Length for 100% Interception
ADJ.CA = Adjusted CA = Q_{10} / Intensity
$Q_N = Q_{10} + C' (I_N - I_{10})^N A$
NOTES: Compute "Pipe Slope" from Center to Center of Inlets.
Use the "Pipe Length" from Center to Center of Inlet.
Compute "Time in Pipe" = Length of Pipe/(Velocity x 60)

STORM SEWER DESIGN CRITERIA

Storm Sewer and Drainage Structures were Designed Using the "Oklahoma Drainage Design Manual", the FHWA HDS No.5 "Hydraulic Design of Highway Culverts" and FHWA HDS No.12 "Drainage of Highway Pavements" Manuals.

Runoff from Drainage Areas are Computed Using the Rational and Modified Rational Methods.

PONDING/WATER WIDTH IN GUTTER

The Amount of Roadway that can be Inundated by Flooding or Ponding Water at Design Flood Stage is Listed Below: (Space Inlets Accordingly)

TYPE OF FACILITY	LOCATION
INTERSTATE SYSTEM	OUTSIDE SHOULDERS
URBAN ARTERIALS	OUTSIDE SHOULDERS
MAJOR FEDERAL	OUTSIDE SHOULDERS / OUTSIDE LANE*
STATE HIGHWAY	OUTSIDE SHOULDERS / OUTSIDE LANE*
MINOR HIGHWAY	ENTIRE RDAOWAY EXCEPT THREE FORTHS (3/4) OF ONE LANE WIDTH
URBAN STREETS	CHECK LOCAL ORDINANCES.

Note: Paved Center Medians are Considered as Outside Shoulders on Multi-Lane Divided Facilities. No Portion of the inside driving Lane May be Inundated.

* Outside Lane May be Inundated Only if No Shoulders are Present.

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16197 OKLAHOMA 11/8/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

STORM SEWER DESIGN DATA

JOB PIECE NO. 14999(04) SHEET NO. 28

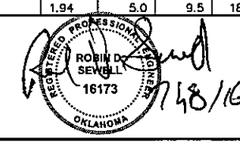
S:\Projects\ODOT\US 69 Comanche\Acaddwg\ACAD PROJECT 1\US69storm02B-StormSewerDesign01.dwg, 7/14/2018 10:52:23 AM

RUNOFF AND INLET SIZING

STRUCTURE NUMBER	LOCATION	A	C	CA OR ΣCA	Tc	I10	I50	I100	Q10	Q50	Q100	CARRY OVER Q	TOTAL Q	INLET EFFICIENCY	QIN	ΣA	INLET TYPE	NO. GRATES	NO. OPNG'S	Q BY-PASSED	STRUCTURE NUMBER
		ACRES			MIN.	INCHES PER HOUR			CUBIC FEET PER SECOND					PERCENT	C.F.S.	ACRES		EACH	EACH	C.F.S.	
F12	229+75, 13' LT & RT FRONTAGE RD	0.18	0.85	0.15	5.0		9.5			1.42		0.64	2.06	46%	0.95		CI-2			1.11	F12
F13	229+75, 6' LT & RT FRONTAGE RD	.	.	.		–		–	–	–	–	–	–	–	–		JCT BOX	–	–	–	F13
F14	3228+00, MAINLINE, 86' RT	.	.	.		–		–	–	–	–	–	–	–	–		SMD-2B/JCT BOX	–	–	–	F14
F15	226+20, 13' LT & RT FRONTAGE RD	0.11	0.95	0.10	5.0		9.5			0.95		1.11	2.06	84%	1.73		CI-2(D)	2	6	0.33	F15
F16	3228+00, MAINLINE, 86' RT	0.20	0.80	0.16	5.0	–	9.5	–	–	1.52	–	–	1.52	100%	1.52		SMD-2B/JCT BOX	–	–	–	F16
F17	226+03, 13' RT & RT FRONTAGE RD	0.18	0.82	0.15	5.0		9.5			1.42		0.38	1.80	88%	1.58		CI-2(D)	2	6	0.22	F17
G1	238+65, 13' LT & LT FRONTAGE RD	0.15	0.85	0.13	5.0	.	9.5	.	.	1.24	.	.	1.24	78%	0.97		CI-2(B)	2	4	0.27	G1
G2	238+65, 13' RT & LT FRONTAGE RD	0.07	0.95	0.07	5.0	.	9.5	.	.	0.66	.	.	0.66	80%	0.60		CI-2(B)	2	4	0.06	G2
G3	238+65, 26.5' RT & LT FRONTAGE RD	0.17	0.65	0.11	5.0	.	9.5	.	.	1.04	.	.	1.04	100%	1.04		SMD-TYPE 2	–	–	–	G3
G4	241+70, 13' LT & LT FRONTAGE RD	2.92	0.66	1.93	12.6	.	7.4	.	.	14.26	.	0.27	14.53	74%	10.75		CI-3(D)	4	6	3.78	G4
G5	241+70, 23.5' RT & LT FRONTAGE RD	0.19	0.65	0.12	5.0	.	9.5	.	.	1.18	.	.	1.18	100%	1.18		SMD-TYPE 2A	–	–	–	G5
G6	243+25, 34' LT & LT FRONTAGE RD	4.04	0.58	2.34	16.4	–	6.7	–	–	15.70	–	.	15.70	100%	15.70		SMD-TYPE 2	–	–	–	G6
G7	243+25, 13' RT & LT FRONTAGE RD	0.17	0.95	0.16	5.0	–	9.5	–	–	1.53	–	0.06	1.59	89%	1.42		CI-2(D)	2	6	0.17	G7
G8	243+25, 23' RT & LT FRONTAGE RD	0.19	0.65	0.12	5.0	–	9.5	–	–	1.17	–	.	1.17	100%	1.17		SMD-TYPE 2A	–	–	–	G8
G9	245+00, 23' LT & LT FRONTAGE RD	2.44	0.58	1.42	12.4	–	7.5	–	–	10.61	–	.	10.61	100%	10.61		SMD-TYPE 2	–	–	–	G9
G10	245+72, 23' LT & LT FRONTAGE RD	1.41	0.65	0.92	12.0	–	7.5	–	–	6.87	–	.	6.87	100%	6.87		SMD-TYPE 2	–	–	–	G10
G11	245+72, 13' LT & LT FRONTAGE RD	0.17	0.85	0.14	5.0	–	9.5	–	–	1.37	–	3.78	5.15	69%	3.54		CI-2(B)	2	4	1.61	G11
G12	245+72, 23' RT & LT FRONTAGE RD	0.15	0.65	0.10	5.0	–	9.5	–	–	0.93	–	.	0.93	100%	0.93		SMD-TYPE 2B	–	–	–	G12
G13	246+24, 13' RT & LT FRONTAGE RD	0.11	0.95	0.10	5.0	–	9.5	–	–	0.99	–	0.17	1.16	78%	0.77		CI-2(B)	2	4	0.22	G13
G14	246+24, 23' RT & LT FRONTAGE RD	0.03	0.65	0.02	5.0	–	9.5	–	–	0.18	–	–	0.18	100%	0.18		SMD-TYPE 2B				G14
G15	248+00, 23' RT & LT FRONTAGE RD	0.06	0.65	0.04	5.0	–	9.5	–	–	0.37	–	–	0.37	100%	0.37		SMD-TYPE 2				G15
G16	247+15.5, 23' RT & LT FRONTAGE RD	0.05	0.65	0.03	5.0	–	9.5	–	–	0.31	–	–	0.31	100%	0.31		SMD-TYPE 2B				G16
H1	247+15 LT FRONTAGE RD, 6' RT.	5.03	0.58	2.92	12.8	–	7.4	–	–	23.21	–	–	23.21	–	23.21		JCT. BOX	–	–	–	H1
H2	3251+23, MAINLINE, 79' LT	.	.	.	.	–	.	–	–	.	–	–	.	–	.		JCT. BOX	–	–	–	H2
H3	3251+23, MAINLINE, 57' RT	0.19	0.95	0.18	5.0	–	9.5	–	–	1.71	–	–	1.71	100%	1.71		ILB-1-2	2	2	.	H3
H4	3251+24, MAINLINE, 85.86' RT	.	.	.	.	–	.	–	–	.	–	–	.	–	.		JCT. BOX	–	–	–	H4
J1A	249+65, LT FRONTAGE RD, 23' LT.	3.77	0.70	2.64	15.0	–	7.0	–	–	18.48	–	–	18.48	100%	18.48		SMD-TYPE 2	–	–	–	J1A
J1	249+65, LT FRONTAGE RD, 13' LT.	0.27	0.85	0.23	5.0	–	9.5	–	–	2.18	–	1.61	3.79	72%	2.74		CI-2(D)	2	4	1.05	J1
J2	251+36, LT FRONTAGE RD, 25' RT.	0.31	0.85	0.26	5.0	–	9.5	–	–	2.50	–	0.22	2.72	77%	2.10		CI-2(D)	2	4	0.62	J2
J3	251+36, LT FRONTAGE RD, 13' LT.	3.63	0.65	2.36	14.8	–	7.0	–	–	16.52	–	1.05	17.57	78%	13.62		CI-3(D)	4	8	3.95	J3
J4	251+36, LT FRONTAGE RD, 6' LT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX	–	–	–	J4
J5	252+00, LT FRONTAGE RD, 6' LT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX	–	–	–	J5
J6	253+00, LT FRONTAGE RD, 6' LT.	0.85	0.80	0.69	6.4	–	9.0	–	–	6.19	–	3.95	10.14	76%	7.70		CI-3(D)	4	6	2.44	J6
J7	55+00, RAMP A, 4.05' RT.	0.33	0.85	0.28	5.0	–	9.5	–	–	2.66	–	0.62	3.28	77%	2.51		CI-2(D)	2	4	0.76	J7
J8	254+70, LT FRONTAGE RD, 13' LT.	0.07	0.85	0.06	5.0	–	9.5	–	–	0.56	–	2.44	3.00	77%	2.31		CI-2(D)	2	4	0.77	J8
J9	254+70, LT FRONTAGE RD, 23' LT.	1.09	0.80	0.87	6.1	–	9.1	–	–	7.96	–	–	7.96	100%	7.96		SMD-TYPE 2A	–	–	–	J9
J10	255+80, LT FRONTAGE RD, 13' RT.	0.05	0.85	0.04	5.0	–	9.5	–	–	0.40	–	–	0.40	100%	0.40		CI-2(B)	2	4	–	J10
J11	255+80, LT FRONTAGE RD, 13' LT.	0.05	0.85	0.04	5.0	–	9.5	–	–	0.40	–	0.77	1.17	100%	1.17		CI-2(B)	2	4	–	J11
J12	255+80, LT FRONTAGE RD, 23' LT.	0.40	0.80	0.32	5.2	–	9.4	–	–	3.02	–	–	3.02	100%	3.02		SMD-TYPE 2A	–	–	–	J12
J13	257+30, LT FRONTAGE RD, 23' LT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX	–	–	–	J13
J14	3255+00, MAINLINE, 65' LT.	0.02	0.95	0.02	5.0		9.5			0.18			0.18	100%	0.18		ILB-1-2	2	2		J14
K1	3255+18, MAINLINE, 57 RT.	0.34	0.85	0.29	5.0	.	9.5	.	.	2.76	.	.	2.76	100%	2.76		CI-3(D)	4	8	.	K1
K2	54+80, RAMP B, 19' RT.	0.22	0.85	0.18	5.0	.	9.5	.	.	1.71	.	.	1.71	75%	1.33		CI-2(D)	2	6	0.38	K2
K3	3255+18, MAINLINE, 98' RT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX				K3
K4	3256+00, MAINLINE, CRL	1.54	0.75	1.16	5.0	–	9.5	–	–	10.97	–	–	10.97	100%	10.97		GPI-TYPE 2	–	–	–	K4
K5	3256+00, MAINLINE, 98' RT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX	–	–	–	K5
K6	3258+22, MAINLINE, 139' RT.	0.56	0.76	0.43	5.0	–	9.5	–	–	4.04	–	–	4.04	100%	4.04		SMD-TYPE 2B	–	–	–	K6
L1	258+20, LT FRONTAGE RD, 13' LT.	0.39	0.80	0.31	5.0	–	9.5	–	–	2.97	–	1.17	4.14	78%	3.22		CI-2(B)	2	2	0.92	L1
L2	258+20, LT FRONTAGE RD, 13' RT.	0.10	0.85	0.09	5.0	–	9.5	–	–	0.82	–	–	0.82	78%	0.64		CI-2	2	–	0.18	L2
M1	251+30, RT FRONTAGE RD, 25' LT.	0.39	0.85	0.33	5.0	–	9.5	–	–	3.15	–	–	3.15	46%	1.45		CI-2	2	–	1.70	M1
M2	251+30, RT FRONTAGE RD, 13' RT.	0.17	0.85	0.14	5.0	–	9.5	–	–	1.37	–	–	1.37	58%	0.80		CI-2	2	–	0.57	M2
M3	54+43, RAMP B CRL	0.39	0.80	0.31	5.0	–	9.5	–	–	2.96	–	1.70	4.66	68%	3.17		CI-2(D)	2	4	1.49	M3
M4	254+60, RT FRONTAGE RD, 20' RT.	–	–	–	–	–	–	–	–	–	–	–	–	–	–		JCT. BOX	–	–	–	M4
M5	256+60, RT FRONTAGE RD, 13' LT.	0.18	0.82	0.15	5.0	–	9.5	–	–	1.40	–	1.49	2.89	69%	2.00		CI-2(D)	2	4	0.89	M5
M6	256+60, RT FRONTAGE RD, 13' RT.	0.19	0.85	0.16	5.0	–	9.5	–	–	1.53	–	0.57	2.10	70%	1.47		CI-2(B)	2	2	0.63	M6
M7	258+80, RT FRONTAGE RD, 13' LT.	0.06	0.90	0.05	5.0	–	9.5	–	–	0.51	–	0.89	1.40	SUMP	1.40		CI-2	2	–	–	M7
M8	258+50, RT FRONTAGE RD, 13' RT.	0.10	0.85	0.09	5.0	–	9.5	–	–	0.82	–	0.63	1.45	SUMP	1.45		CI-2	2	–	–	M8
N1	258+03.60, LT FRONTAGE RD, 25' RT.	33.86	0.60	20.39	21.0	–	6.1	–	–	133.20	–	–	133.20	–	–		EXIST. 8x3 RCB	–	–	–	N1
N2	3258+34.36, MAINLINE, 135' LT.	14.0	0.60	28.35	21.0	–	6.1	–	–	172.90	–	–	172.90	–	195.00		EXIST. 8x3 RCB	–	–	–	N2
N3	3260+34.37, MAINLINE, 209.5' RT.	–	–	–	–	–	–	–	–	–	–	–	–	–	195.00		EXIST. 8x3 RCB HDWL	–	–	–	N3
O1	200+00, WADE WATTS AVENUE, 20' RT.	0.60	0.80	0.48	5.0	–	9.5	–	–	4.56	–	–	4.56	SUMP	4.56		CICI-2(2B)	2	4	–	O1
O2	200+00, WADE WATTS AVENUE, 20' LT.	0.65	0.80	0.52	5.0	–	9.5	–	–	4.95	–	–	4.95	SUMP	4.95		CICI-2(D)	2	4	–	O2
P1	3264+94.09, MAINLINE, 157.50' RT.		ASSUME FLOWING FULL					–	–	8.55	–	–	8.55	–	8.55		SPL INLET	–	–	–	P1
P2	3260+50.00, MAINLINE, 157.50' RT.	1.74	.60	1.04	5.0	–	9.5	–	–	9.92	–	–	9.92	–	9.92		GPI – TYPE 2	–	–	–	N3

STORM SEWER ANALYSIS

ADJ. CA	ADD'L CA	FROM STR. NO.	ΣCA	Tc	I	Q	PIPE DIA. AND TYPE	PIPE SLOPE	PIPE VELOCITY	PIPE LENGTH	TIME IN PIPE	TOTAL Tc	TO STR. NO.	STRUCTURE NUMBER
				MIN.	INCH/HR	C.F.S.	ULTIMATE	PERCENT	F.P.S.	L.F.	MIN.	MIN.		
0.10	–	–	0.10	5.0	9.5	0.95	18"RCP	1.50	7.0	4	–	5.0	F13	F12
–	7.81	F9,F11,F12	7.81	9.4	8.0	62.5	36"RCP	1.08	9.5	115	0.20	9.6	F14	F13
–	8.04	A2,F13	8.04	9.6	8.0	64.3	36"RCP	1.09	10.0	235	0.40	10.0	F16	F14
0.16	–	–	0.16	5.0	9.5	1.52	18"RCP	3.25	9.0	4	–	5.0	F16	F15
0.16	8.54	A5,F14,F15,F17	8.70	10.0	7.9	68.7	36"RCP	1.23	10.1	22	.	10.0	exCD	F16
0.17	–		0.17	5.0	9.5	1.58	18"RCP	3.25	9.0	4	.	5.0	F16	F17
0.10	–	.	0.10	5.0	9.5	0.97	18"RCP	2.00	8.0	24	.	5.0	G2	G1
0.07	0.10	G1	0.17	5.0	9.5	1.62	18"RCP	2.00	8.0	12	.	5.0	G3	G2
0.11	0.17	G2	0.28	5.0	9.5	2.67	24"RCP	0.55	5.0	302	1.0	6.0	G5	G3
1.45		.	1.45	12.6	7.4	10.75	18"RCP	2.00	8.0	34	0.1	12.7	G5	G4
0.12	1.45	G3,G4	1.57	12.7	7.4	11.62	24"RCP	0.55	5.5	151	0.4	13.1	G8	G5
2.34		–	2.34	16.4	6.7	15.70	18"RCP	2.51	9.5	45	0.1	16.5	G7	G6
0.15	2.34	G6	2.49	5.0	9.5	23.7	18"RCP	2.38	9.0	8	–	5.0	G8	G7
0.12	4.06	G5,G7	4.18	16.5	7.4	30.0	24"RCP	0.73	7.0	242	0.6	17.1	G12	G8
1.42		–	1.42	12.4	7.5	10.61	18"RCP	1.28	6.5	70	0.2	12.6	G10	G9
0.92	1.42	G9	2.34	12.6	7.5	17.55	24"RCP	2.25	10.5	8	–	12.6	G11	G10
0.37	2.34	G10	2.71	12.6	7.5	20.3	24"RCP	3.52	12.0	33	–	12.6	G12	G11
0.10	6.89	G8,G11	6.99	17.1	6.6	45.5	36"RCP	2.50	13.5	48	0.1	17.2	G14	G12
0.08		–	0.08	5.0	9.5	0.77	18"RCP	1.25	6.5	18		5.0	G14	G13
0.02	6.99	G12,G13	7.01	17.2	6.6	46.3	36"RCP	2.50	13.5	88	0.1	17.3	G16	G14
0.04		–	0.04	5.0	9.5	0.37	18"RCP	0.50	4.0	82	0.3	5.3	G16	G15
0.03	7.05	G14,G15	7.08	17.3	6.6	46.7	4'x3'RCB	2.36	14.5	6		17.3	exCD	G16
2.92		exCD	2.92	12.8	7.4	23.21	24"RCP	0.77	6.5	363	0.93	13.7	H2	H1
2.92		H1	2.92	13.7	7.4	23.21	24"RCP	5.50	14.0	132	0.16	13.9	H3	H2
0.18	3.46	D15,H2	3.64	13.9	7.0	25.48	30"RCP	1.93	12.0	27	0.04	13.9	H4	H3
	3.64	H3	3.64	13.9	7.0	25.48	EXIST 36"RCP	–	–	.	.	EXIST 36"RCP		H4
2.64	–	–	2.64	15.0	7.0	18.48	18"RCP	2.0	8.5	4	–	15.0	J1	J1A
0.29	2.64	J1A	2.93	15	7.0	20.5	24"RCP	1.72	9.5	167	0.29	15.3	J4	J1
0.22	–	–	0.22	5.0	9.5	2.10	18"RCP	.40	4.0	4	–	5.0	J4	J2
1.95	–	–	1.95	14.8	7.0	13.62	18"RCP	2.75	9.5	27	–	5.0	J4	J3
–	4.81	J1,J2,J3	4.81	15.3	6.9	33.19	30"RCP	1.02	8.5	61	0.11	15.4	J5	J4
–	4.81	J4	4.81	15.4	6.9	33.19	30"RCP	1.0	8.5	98	0.19	15.6	J6	J5
0.86	4.81	J5	5.67	15.6	6.9	33.09	30"RCP	2.11	12.0	164	0.21	15.8	J9	J6
0.26	0.02	J14	0.28	5.0	9.5	2.66	18"RCP	0.40	4.0	50	0.21	5.2	J8	J7
0.24	0.28	J7	0.52	5.0	9.5	4.94	18"RCP	0.50	3.5	7	–	5.0	J9	J8
0.87	5.33	J6,J8	6.20	15.8	6.8	42.16	18"RCP	3.50	16.1	108	0.11	15.9	J12	J9
0.04	–	–	0.04	5.0	9.5	0.40	18"RCP	0.50	3.5	23	0.11	5.1	J11	J10
0.12	0.04	J10	0.16	5.0	9.5	1.52	18"RCP	0.50	3.5	8	–	5.1	J12	J11
0.32	5.49	J9,J11	5.81	15.9	6.8	39.51	30"RCP	3.50	13.8	144	0.17	16.1	J13	J12
–	5.81	J12	5.81	16.1	6.8	39.51	30"RCP	3.50	13.8	73	0.09	16.2	open ditch	J13
0.02			0.02	5.0	9.5	0.18	18" RCP	5.00	3.0	5	–	–	J7	J14
0.29	.	–	0.29	5.0	9.5	2.76	18"RCP	3.00	10.0	40	.	5.0	K3	K1
0.14	.	–	0.14	5.0	9.5	1.33	18"RCP	2.50	9.5	32	.	5.0	K3	K2
–	0.43	K1,K2	0.43	5.0	9.5	4.09	18"RCP	3.50	11.0	78	0.12	5.1	K5	K3
1.15	.	–	1.15	5.0	9.5	10.97	18"RCP	4.00	12.0	94	0.13	5.1	K5	K4
–	1.58	K3,K4	1.58	5.1	9.5	15.01	24"RCP	3.16	12.2	222	0.30	5.4	K6	K5
0.43	1.58	K5	2.01	5.1	9.5	19.1	30"RCP	0.68	7.0	219	0.52	5.9	N3	K6
0.34	–	–	0.34	5.0	9.5	3.22	18"RCP	0.96	5.15	24	–	5.0	L2	L1
0.07	0.34	L1	0.41	5.0	9.5	3.90	18"RCP	3.25	8.43	20	–	–	open ditch	L2
0.15	–	–	0.15	5.0	9.5	1.45	18"RCP	0.78	6.0	36	0.10	5.10	M2	M1
0.08	0.12	M1	0.23	5.1	9.5	1.90	18"RCP	2.60	9.0	271	0.50	5.60	M3	M2
0.33	–	–	0.33	5.0	9.5	3.17	18"RCP	0.91	5.5	54	–	5.0	M4	M3
–	–	M2,M3	0.66	5.6	9.2	6.07	18"RCP	3.81	10.2	193	0.32	5.9	M6	M4
0.15	–	–	0.15	5.0	9.5	1.47	18"RCP	0.96	5.5	22	–	5.0	M6	M5
0.15	0.81	M4,M5	0.96	5.9	9.1	8.74	18"RCP	3.14	10.2	207	0.34	6.2	M8	M6
0.15	–	–	0.15	5.0	9.5	1.40	18"RCP	0.96	6.0	22	–	5.0	M8	M7
0.15	1.11	M6,M7	1.26	6.2	9.0	11.34	18"RCP	1.30	6.4	181	0.47	6.7	N3	M8
–	–	–	–	–	–	–	–	–	–	–	–	EXISTING	8'x3' RCB	N1
–	–	–	–	–	–	–	–	–	–	–	–	EXISTING	8'x3' RCB	N2
												EXISTING	8'x3' RCB	N3
0.48	–	–	0.48	5.0	9.5	4.56	18"RCP	0.96	5.65	49	0.14	5.00	02	01
0.52	0.48	01	1.00	5.0	9.5	9.51	18"RCP	1.15	7.15	60	–	EXISTING	8'x5' RCB	02
–	–	–	0.65	–	–	8.55	18"RCP	0.67	6.06	438	–	–	–	01
1.04	.090	P1	1.94	5.0	9.5	18.47	24"RCP	0.70	6.86	–	–	–	–	N3



Survey	CKS	
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U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

STORM SEWER DESIGN DATA

JOB PIECE NO. 14999(04) — SHEET NO. 29

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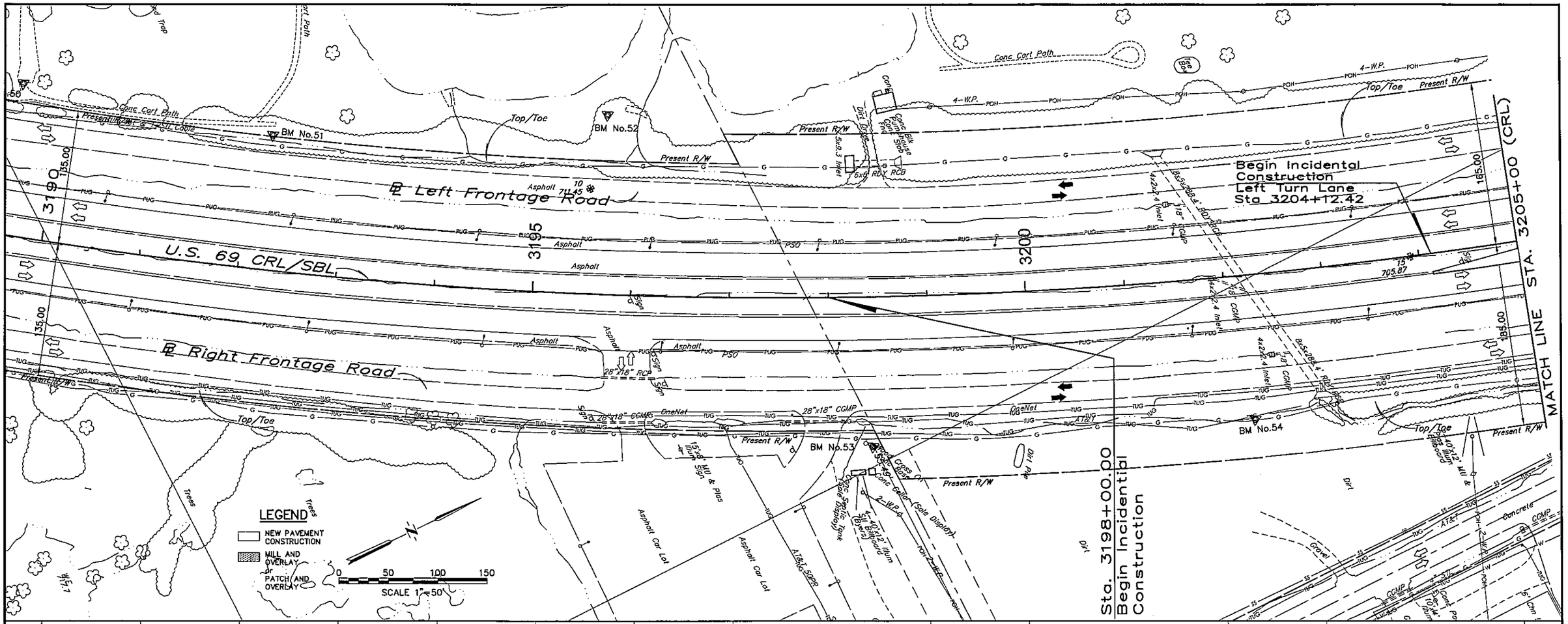


UTILITIES

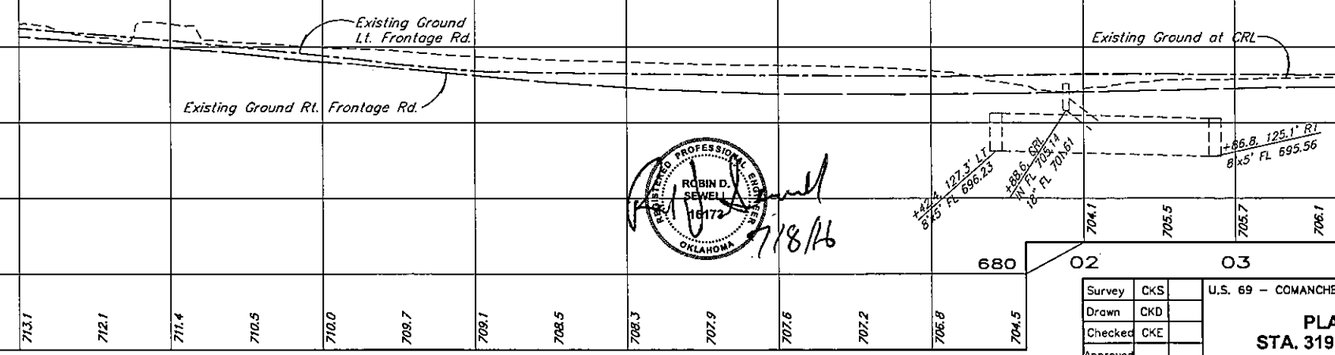
OWNER	ADDRESS	PHONE NUMBER
CITY OF McALESTER	1ST AND WASHINGTON McALESTER, OK 74502	918-423-9300
PSO/AEP		918-426-7985
ONE NET	655 RESEARCH PARKWAY SUITE 200 OKLAHOMA CITY, OK 73104	405-225-9453
CENTERPOINT ENERGY	4262 E. US HWY 270 McALESTER, OK 74501	580-512-5880
PITTSBURG COUNTY RWD 5	P.O. BOX 102 McALESTER, OK 74502	
ENABLE MIDSTREAM PARTNERS	.	405-556-2430
AT&T	1425 OAK STREET KANSAS CITY, MO 64106	816-275-4014
VYVE BROADBAND	.	405-788-1898
CHEROKEE COMMUNICATIONS	.	580-434-5375

BM 51 80d Spike East triple 12" Oak Sta. 3192+21, 136' Lt CRL Elev. 718.09

BM 52 80d Spike NE side 18" Oak Sta. 3195+70, 182' Lt CRL Elev. 712.09

BM 53 Chiseled Square NW Concrete Sign base Sta. 3198+42, 151' Rt CRL Elev. 705.84

BM 54 80d Spike West Side 14" Willow Sta. 3202+18, 146' Rt CRL Elev. 697.64



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U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

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STA. 3190+00 TO STA. 3205+00

JOB PIECE NO. 14999(04) SHEET NO. 30

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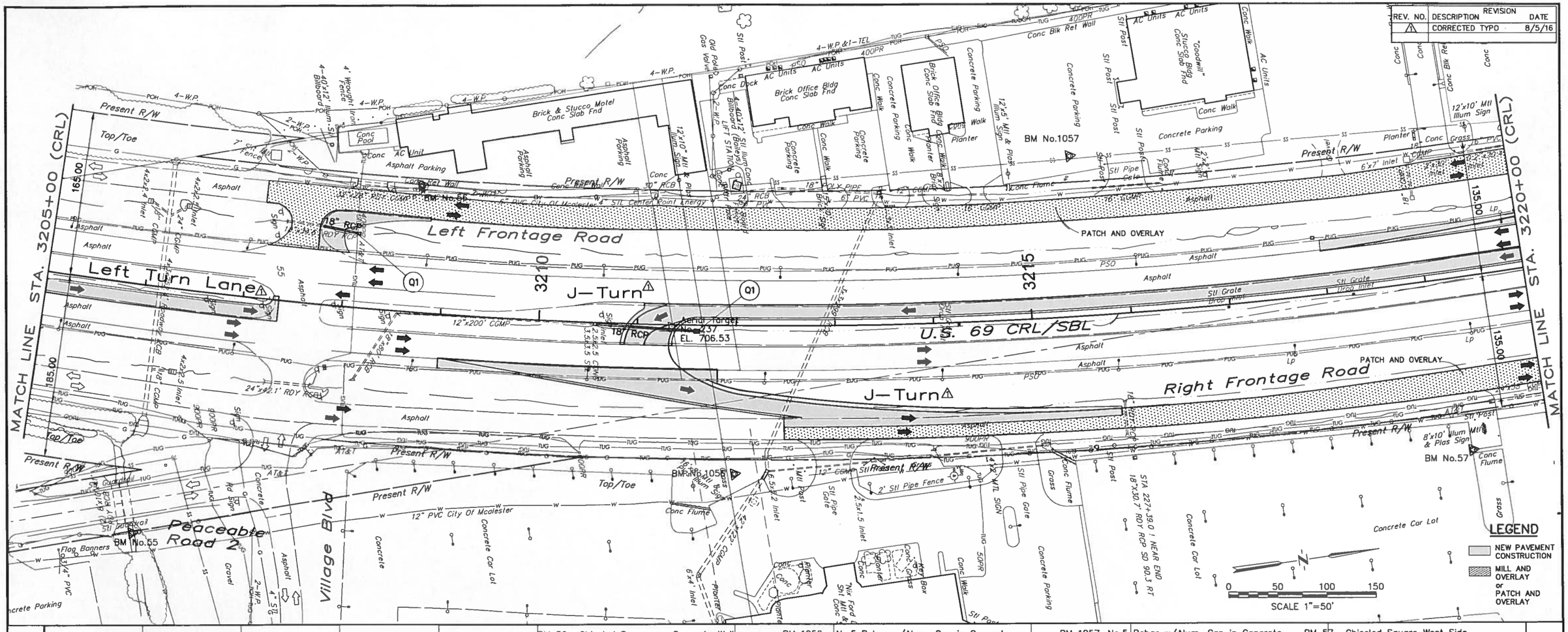

REV. NO.	DESCRIPTION	REVISION DATE
⚠	CORRECTED TYPO	8/5/16

LEGEND

▭	NEW PAVEMENT CONSTRUCTION
▨	MILL AND OVERLAY or PATCH AND OVERLAY

0 50 100 150
SCALE 1"=50'

BM 55 Chiseled Square North end West Headwall Sta. 3206+17, 249' Rt CRL Elev. 699.49

BM 56 Chiseled Square on Concrete Wall Sta. 3208+71, 128' Lt CRL Elev. 708.63

BM 1056 No.5 Rebar w/Alum. Cap in Concrete Sta. 3211+99, 149' Rt CRL Elev. 701.20

BM 1057 No.5 Rebar w/Alum. Cap in Concrete Sta. 3215+48, 161' Lt CRL Elev. 701.20

BM 57 Chiseled Square West Side Curb Cut Sta. 3219+23, 173' Rt CRL Elev. 709.23

ROBIN D. SEWELL 16173 OKLAHOMA
8/5/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PLAN AND PROFILE
STA. 3205+00 TO STA. 3220+00

JOB PIECE NO. 14999(04) SHEET NO. 31

REVISION		
REV. NO.	DESCRIPTION	DATE
1	ADDED LUST SITE	8/5/16

LUST SITE

Appox. Location	OCC Facility No./Case No.
Sta. 3225+00, 50' LT	6112176/064-2616 Ashmore's Valero

Existing Limits of Access to Service Road Only

Proposed Limits of Access to Frontage Road Only

MATCH LINE STA. 3220+00 (CRL)

MATCH LINE STA. 3235+00 (CRL)

Ramp C

J-Turn

℄ Left Frontage Road

℄ Right Frontage Road

U.S. 69 CRL/SBL

Begin Construction Southbound Lanes Sta 3228+50.00

Sta. 3227+70.00 Begin Project End Incidental Construction

BM No.58 Present R/W 3.4x2.3 Inlet 6'x16' Inlet

BM No.59 Present R/W 1.8' Ht. 24" CGMP

BM No.60 Present R/W

BM No.1060

Portable Longitudinal Barrier

Impact Attenuator

MILL AND OVERLAY

PATCH AND OVERLAY

4' Bottom Ditch

14" x 20" ELL Pipe

"Valero" Stn Mas Bldg Conc Slab Fnd

"Brown's Brick Bldg Conc Slab Fnd

"Chinese Buffet" Brick Bldg Conc Slab Fnd

"Chili's" Frm Bldg Conc Slab Fnd

"Q Nails" Brick Bldg Conc Slab Fnd

Caniglia Enterprises, Inc.

Holiday Lodge Motel

"Pizza Hut" Brick & Stucco Bldg Conc Slab Fnd

"Hunan Resturant" Sht Mtl & Brick Bldg Conc Slab Fnd

Discount Wheel and Tire Sht Mtl Bldg Tire Shop Conc Slab Fnd

D Morrs

KFC Brick Bldg Conc Slab Fnd

"Mazzio's" Conc Blk Bldg Conc Slab Fnd

Sht Mtl Canopy Fuel Island

Concrete Parking

Grease Trap

Conc Walk

Signs

Conc Flume

Conc Statue

Pool

Stucco Wall

Chain Link Fence

Planter

Asphalt

Grass

Concrete Car Lot

Overhead Power

Existing Ground Lt. Frontage Rd.

Existing Ground Rt. Frontage Rd.

Existing Ground at CRL

PROFILE GRADE LINE

PVC 3228+00.00 EL 723.92

PVI 3229+00.00 EL 724.92

PVT 3230+00.00 EL 726.26

PVC 3234+59.50 EL 732.40

P.G. EL 723.62

1.00%

1.338%

D1 to C1 261 LF 18" RCP, S=1.57%

400.00 VC k = 217.66

200.00 VC k = 592.20

STA. 3225+06.59 U.S. 69 = STA 171+05.00 PEACEABLE ROAD

12" PVC City of McAlester (Incl)

Underground Power (Incl)

Sta 3228+00.00, 69' RT Grade EL. 722.79

Sta 3228+85.50, 57' LT Grade EL. 725.18

Sta 3229+85.50, CRL Inlet ℄ 723.32

Sta 3229+85.50, 69' RT Grade EL. 724.94

Sta 3232+52.65' LT Grade EL. 727.98

Sta 3232+52.57' LT Grade EL. 728.74

Sta 3232+52.69' RT Grade EL. 728.50

18" ℄ 717.57 (Out) to Str. F14

18" ℄ 720.80 (In) 36" ℄ 719.39 (Out) (In/Out)

36" ℄ 718.85 Out to Str. F9

18" ℄ 725.34 (Out) to Str. D1

18" ℄ 724.90 (In/Out)

18" ℄ 721.40 (Out) to Str. F6

BM 58 Chiseled Square SE Top Curb Island Sta. 3223+16, 138' Lt CRL Elev. 719.54

BM 59 Chiseled Square Top Curb NE Corner Parking Sta. 3227+45, 140' Lt CRL Elev. 723.12

BM 1060 No.5 Rebar w/Alum. Cap in Concrete Sta. 3229+16, 138' Rt CRL, Elev. 721.28

BM 60 Chiseled Square Top of Curb Sta. 3232+69, 148' Lt CRL Elev. 734.13

0 50 100 150 SCALE 1"=50'

BEFORE YOU DIG CALL OKIE

ROBIN D. SENELLY 16175 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

LEGEND

- NEW PAVEMENT CONSTRUCTION
- FULL DEPTH PAVEMENT REPLACEMENT
- MILL AND OVERLAY or PATCH AND OVERLAY

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PLAN AND PROFILE STA. 3220+00 TO STA. 3235+00

JOB PIECE NO. 14999(04) SHEET NO. 32

Proposed Limits of Access to Frontage Road Only

MATCH LINE STA. 3235+00 (CRL)

MATCH LINE STA. 3250+00 (CRL)

℄ Left Frontage Road

℄ Right Frontage Road

U.S. 69 CRL/SBL

Southbound Asphalt Roadway

Northbound Asphalt Roadway

Two-way Asphalt Frontage Road

Present R/W

Sec. 8, T-5-N, R-15-E, I.B.&M.

Sta. 246+81.32, Left Frontage Road= Sta. 179+07.29, Comanche Avenue

Sta. 247+52.55, Right Frontage Road= Sta. 180+92.68, Comanche Avenue

Comanche Avenue

SCALE 1"=50'

LEGEND
- NEW PAVEMENT CONSTRUCTION
- FULL DEPTH PAVEMENT REPLACEMENT
- MILL AND OVERLAY

BM No.61 Chiseled Square Top of Curb Sta. 3235+36, 144' Lt CRL Elev. 738.16

BM No.1061 No.5 Rebar w/Aluminum Cap in Concrete Sta. 3238+65, 147' Lt CRL, Elev. 738.07

BM 62 Chiseled Square Top Curb South Entrance Sta. 3242+59, 136' Lt CRL Elev. 735.98

BM No.63 Chiseled Square Top Curb SW Island Sta. 3246+04, 149' Lt CRL, Elev. 734.09

C3 CURVE DATA
P.I. STA 3248+62.43
Δ = 26°17'02"
D = 2°00'00"
T = 668.868'
L = 1314.194'
R = 2864.789'

PROFILE GRADE LINE

Existing Ground Lt. Frontage Rd.

Existing Ground at CRL

Existing Ground Rt. Frontage Rd.

400.00 VC k = 217.66

800.00 VC k = 615.38

D3 to D4 388 LF, 18" RCP, S=0.40%

D6 to D9 388 LF, 18" RCP, S=0.55%

304 LF, 18" RCP, S=0.78%

196 LF, 18" RCP, S=1.23%

214 LF, 18" RCP, S=1.65%

PROFESSIONAL ENGINEER ROBIN D. SEWELL 19973 OKLAHOMA

BEFORE YOU DIG CALL OKIE

Survey	CKS		
Drawn	CKD		
Checked	CKE		
Approved			
Squad	C & K		

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PLAN AND PROFILE
STA. 3235+00 TO STA. 3250+00

JOB PIECE NO. 14999(04) SHEET NO. 33

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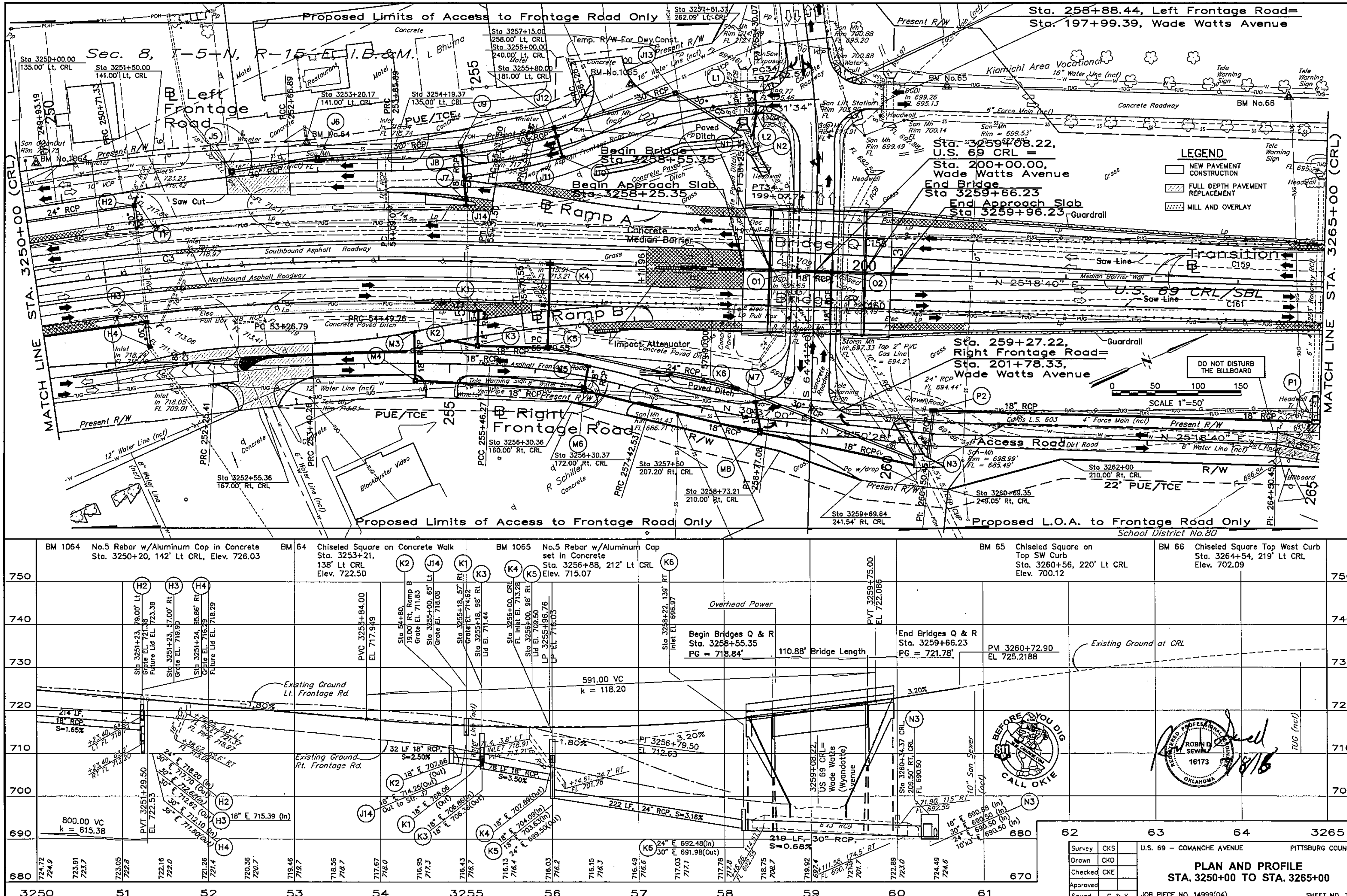

Proposed Limits of Access to Frontage Road Only
Sec. 8, T-5-N, R-15-E, I.B.&M.
Sta. 258+88.44, Left Frontage Road=
Sta. 197+99.39, Wade Watts Avenue
Left Frontage Road
Kiamichi Area Vocational
16" Water Line (ncf)
Concrete Roadway
BM No.65
BM No.66
BM No.64
BM No.1064
BM No.1055
Begin Bridge
Sta 3258+55.35
Begin Approach Slab
Sta 3258+25.35
Sta. 3259+08.22, U.S. 69 CRL =
Sta. 200+00.00, Wade Watts Avenue
End Bridge
Sta 3259+66.23
End Approach Slab
Sta 3259+96.23
LEGEND
NEW PAVEMENT CONSTRUCTION
FULL DEPTH PAVEMENT REPLACEMENT
MILL AND OVERLAY
Ramp A
Ramp B
Concrete Median Barrier
Bridge Q
Bridge R
Southbound Asphalt Roadway
Northbound Asphalt Roadway
Transition
U.S. 69 CRL/SBL
N 25°18'40" E
Saw Line
Guardrail
Impact Attenuator
Sta. 259+27.22, Right Frontage Road=
Sta. 201+78.33, Wade Watts Avenue
DO NOT DISTURB THE BILLBOARD
SCALE 1"=50'
Right Frontage Road
PUE/TCE
Access Road
22' PUE/TCE
Present R/W
Proposed L.O.A. to Frontage Road Only
School District No.80
MATCH LINE STA. 3250+00 (CRL)
MATCH LINE STA. 3265+00 (CRL)
Blockbuster Video
BM 1064 No.5 Rebar w/Aluminum Cap in Concrete Sta. 3250+20, 142' Lt CRL, Elev. 726.03
BM 64 Chiseled Square on Concrete Walk Sta. 3253+21, 138' Lt CRL Elev. 722.50
BM 1065 No.5 Rebar w/Aluminum Cap set in Concrete Sta. 3256+88, 212' Lt CRL Elev. 715.07
BM 65 Chiseled Square on Top SW Curb Sta. 3260+56, 220' Lt CRL Elev. 700.12
BM 66 Chiseled Square Top West Curb Sta. 3264+54, 219' Lt CRL Elev. 702.09
Existing Ground Lt. Frontage Rd.
Existing Ground Rt. Frontage Rd.
Existing Ground at CRL
591.00 VC k = 118.20
800.00 VC k = 615.38
PVC 3253+84.00 EL 717.949
PVT 3259+75.00 EL 722.086
PVI 3260+72.90 EL 725.2188
Begin Bridges Q & R Sta. 3258+55.35 PG = 718.84'
110.88' Bridge Length
End Bridges Q & R Sta. 3259+66.23 PG = 721.78'
Overhead Power
3.20%
1.80%
222 LF, 24" RCP, S=3.16%
219 LF, 30" RCP, S=0.68%
BEFORE YOU DIG CALL OKIE
ROBIN D. SEWELL 16173 OKLAHOMA

Survey	CKS	U.S. 69 – COMANCHE AVENUE	PITTSBURG COUNTY
Drawn	CKD	PLAN AND PROFILE	
Checked	CKE	STA. 3250+00 TO STA. 3265+00	
Approved			
Squad	C & K	JOB PIECE NO. 14999(04)	SHEET NO. 34

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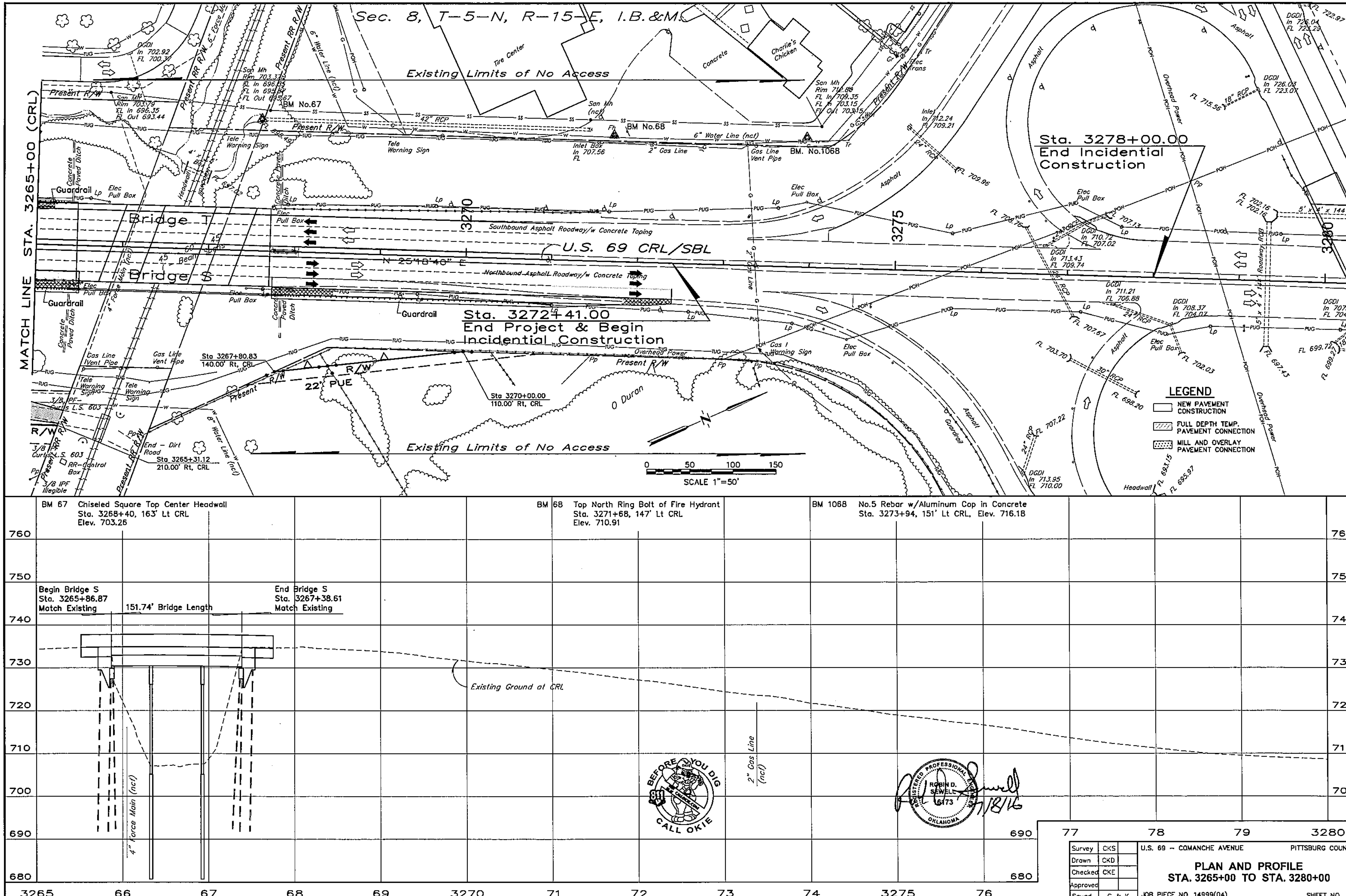
Sec. 8, T-5-N, R-15-E, I.B.&M.
Existing Limits of No Access
Present R/W
Present RR R/W
MATCH LINE STA. 3265+00 (CRL)
BM No.67
BM No.68
BM. No.1068
42" RCP
6" Water Line (ncl)
2" Gas Line
Tire Center
Concrete
Charlie's Chicken
Bridge T
Bridge S
Southbound Asphalt Roadway/w Concrete Toping
U.S. 69 CRL/SBL
N 25°18'40" E
Northbound Asphalt Roadway/w Concrete Toping
Guardrail
Sta. 3272+41.00
End Project & Begin
Incidential Construction
Sta. 3278+00.00
End Incidential
Construction
Sta 3267+80.83
140.00' Rt. CRL
Sta 3270+00.00
110.00' Rt. CRL
Sta 3265+31.12
210.00' Rt. CRL
22' PUE
O Duran
Overhead Power
SCALE 1"=50'
LEGEND
NEW PAVEMENT CONSTRUCTION
FULL DEPTH TEMP. PAVEMENT CONNECTION
MILL AND OVERLAY PAVEMENT CONNECTION
BM 67 Chiseled Square Top Center Headwall
Sta. 3268+40, 163' Lt CRL
Elev. 703.26
BM 68 Top North Ring Bolt of Fire Hydrant
Sta. 3271+68, 147' Lt CRL
Elev. 710.91
BM 1068 No.5 Rebar w/Aluminum Cap in Concrete
Sta. 3273+94, 151' Lt CRL, Elev. 716.18
Begin Bridge S
Sta. 3265+86.87
Match Existing
151.74' Bridge Length
End Bridge S
Sta. 3267+38.61
Match Existing
Existing Ground at CRL
4" Force Main (ncl)
2" Gas Line (ncl)
BEFORE YOU DIG
CALL OKIE
REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
7/18/16
760
750
740
730
720
710
700
690
680
3265
66
67
68
69
3270
71
72
73
74
3275
76
77
78
79
3280

Survey	CKS	U.S. 69 – COMANCHE AVENUE	PITTSBURG COUNTY
Drawn	CKD	PLAN AND PROFILE	
Checked	CKE	STA. 3265+00 TO STA. 3280+00	
Approved			
Squad	C & K	JOB PIECE NO. 14999(04)	SHEET NO. 35

LEGEND

- ▭ NEW PAVEMENT CONSTRUCTION
- ▨ FULL DEPTH PAVEMENT REPLACEMENT
- ▦ MILL AND OVERLAY

BEFORE YOU DIG CALL OKIE

ROBIN D. SEWELL 16173 OKLAHOMA

7/8/16

		U.S. 69 – COMANCHE AVENUE	PITTSBURG COUNTY
Survey	CKS	PLAN AND PROFILE WADE WATTS AVENUE	
Drawn	CKD		
Checked	CKE		
Approved			
Squad	C & K	JOB PIECE NO. 14999(04)	SHEET NO. 36

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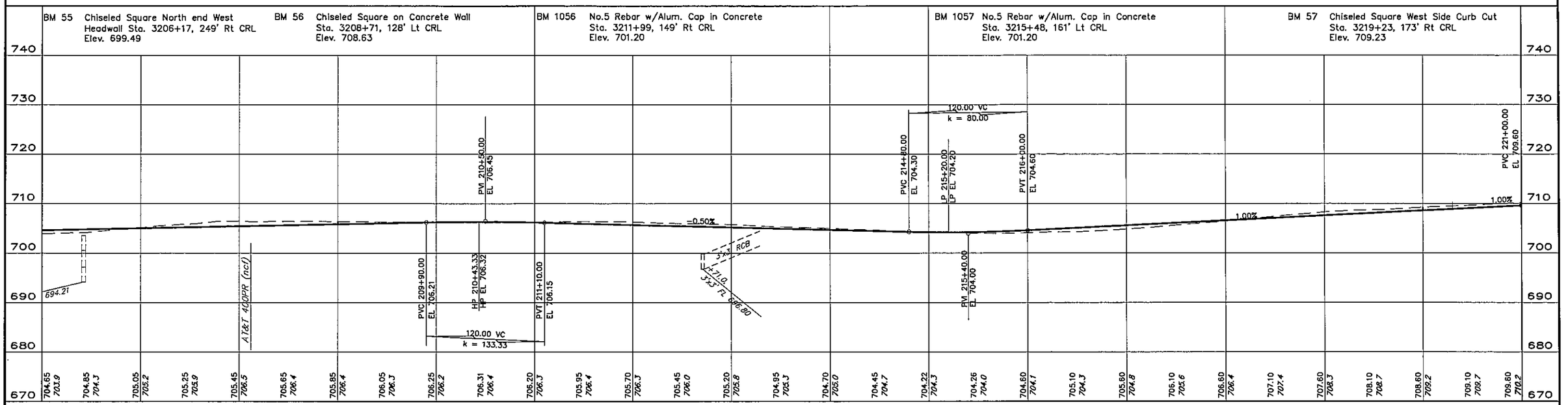

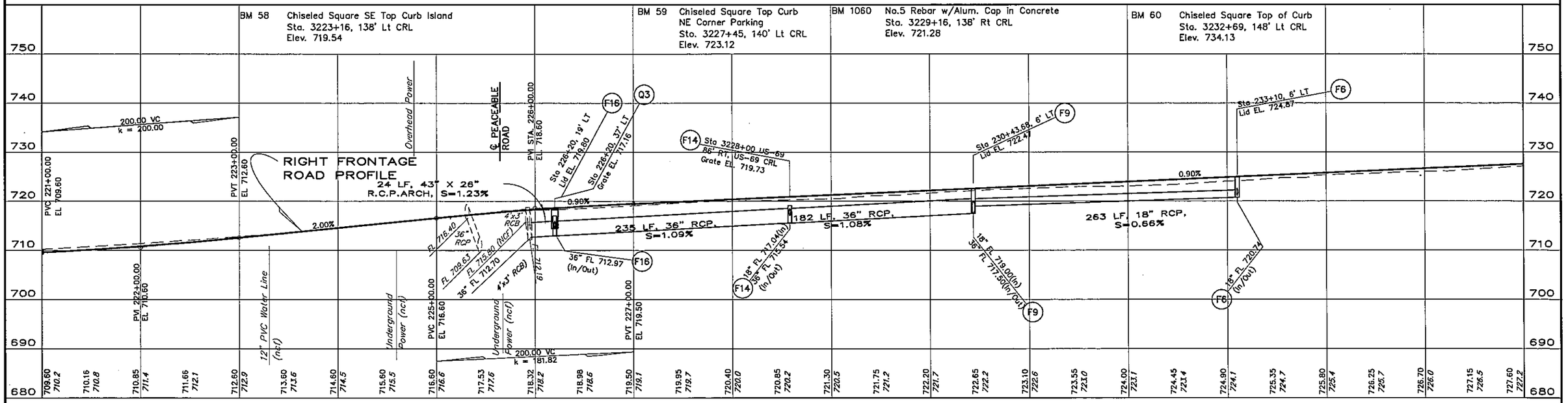

BEFORE YOU DIG CALL OKIE 811

ROBIN D. SEWELL 16173 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

7/14/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

RIGHT FRONTAGE ROAD PROFILE STA. 206+00 TO STA. 236+00

JOB PIECE NO. 14999(04) — SHEET NO. 37

BM 61 Chiseled Square Top of Curb
Sta. 3235+36, 144' Lt CRL
Elev. 738.16

BM 1061 No.5 Rebar w/Aluminum Cap in Concrete
Sta. 3238+65, 147' Lt CRL, Elev. 738.07

BM 62 Chiseled Square Top Curb South Entrance
Sta. 3242+59, 136' Lt CRL
Elev. 735.98

BM 63 Chiseled Square Top Curb SW Island
Sta. 3246+04, 149' Lt CRL,
Elev. 734.09

RIGHT FRONTAGE ROAD PROFILE

Overhead Power

PM 239+00.00 EL 730.30
PVC 238+25.00 EL 729.63
HP 238+73.03 HP EL 729.84
+50 FL INLET 732.70 FL PIPE 726.61 36" RCP
+50 FL INLET 727.89 FL PIPE 721.36
PVT 239+75.00 EL 728.87
150.00 VC k = 53.37
PVC 241+65.00 EL 725.24
120.00 VC k = 92
PVT 242+85.00 EL 723.73
PM 242+25.00 EL 724.09
PVC 244+15.00 EL 722.95
LP 244+60.75 LP EL 722.81
110.00 VC k = 75
PVT 245+25.00 EL 723.08
PM 244+70.00 EL 722.62
±86.1 18" RCP FL 720.37 FL 718.46
E7 18" FL 720.90(In)D13 18" FL 716.57(In)E8 24" FL 716.07(Out)
Sta 246+98, 18' LT Lid EL 724.84
Sta 247+36, 28' RT
HP 247+49.12 HP EL 724.64
PM 248+00.00 EL 725.40
4'x3' RCB
±6.5 FL 717.67
4'x3' RCB FL 715.50 (In) FL 715.00 (Out)
E8
PVC 246+70.00 EL 724.30
±18 FL 714.52
56 LF. 24" RCP. S=1.02%
260.00 VC k = 94
PVT 249+30.00 EL 722.90

-1.91%
-0.60%
0.84%
-1.925%

BM 1064 No.5 Rebar w/Aluminum Cap in Concrete
Sta. 3250+20, 142' Lt CRL,
Elev. 726.03

BM 64 Chiseled Square on Concrete Walk
Sta. 3253+21, 138' Lt CRL
Elev. 722.50

BM 1065 No.5 Rebor w/Aluminum Cap set in Concrete
Sta. 3256+88, 212' Lt CRL
Elev. 715.07

BM 65 Chiseled Square on Top SW Curb
Sta. 3260+56, 220' Lt CRL
Elev. 700.12

RIGHT FRONTAGE ROAD PROFILE

36" RCP
+7.5 FL 711.78
+56.0 IN FL 718.24 FL 710.26
±8.8 IN FL 718.05 FL 709.01
-1.925%

M3 Sta 54+43, Ramp B Grate EL. 712.06
M4 Sta 254+60, 20' RT Lid EL. 712.89
PVT 254+75.00 EL 712.40
193 LF. 18" RCP. S=3.81%
18" FL 707.11 (In/Out)
18" FL 707.82 (Out)
PVC 254+22.00 EL 713.42
106.00 VC k = 47
PVT 255+28.00 EL 710.17

M6 Sta 256+60, 13' RT Grate EL. 704.33
M5 Sta 256+60, 13' LT Grate EL. 704.33
-4.20%
18" FL 699.75 (In/Out)
18" FL 699.98 (Out)
207 LF. 18" RCP. S=3.14%

120.00 VC k = 30.92
M7 Sta 258+70, 13' LT Grate EL. 696.97
M8 Sta 258+70, 13' RT Grate EL. 696.97
PVC 257+75.00 EL 699.80
PVT 258+95.00 EL 697.69
PVIS: 2599+07.14
PVIE: 697.05
PVI STA 260+10.00 EL 695.51
PVI STA: 258+55.00 EL 697.28
18" FL 693.47 (Out)
18" FL 693.24 (In/Out)
181 LF. 18" RCP. S=1.30%
18" FL 690.88 (In)
5'x4' FL 690.50 (In)
24" FL 690.50 (In)
10'x3' FL 690.50 (In)
6.5'x5' FL 689.65 (Out)
-0.32%
-1.90%

PVI STA 259+34.30 EL 696.95
PVC 259+60.00 EL 696.46
V.C. 100 k = 22
N3 Sta 3260+34.37 CRL, 209.50' RT, CRL FL 690.50
N3 Sta 3260+40 CRL, 157.5' RT, CRL FL 694.69
P2
PVT 260+60.00 EL 696.88
PVC 260+60.00 EL 696.88
100 VC k = 45
PVT 261+60.00 EL 698.50
PVI STA 261+10.00 EL 698.25
PVC 261+70.00 EL 698.55
PVI STA: 262+30.00 EL: 698.85
V.C. 120 k = 53
PVC 262+90.00 EL 700.52
PVI STA: 263+50.00 EL 702.18
PVT 262+90.00 EL 700.92
438 LF. 18" RCP. S=0.68%
120.00 VC k = 57
PVC 264+10.00 EL: 702.57
PVT 264+10.00 EL: 702.57
PVI STA 264+70.00 EL 702.96
V.C. 120 k = 79
P1
Sta 3264+94.09 CRL, 157.5' RT, CRL FL 702.13
PVT: 265+30.00 EL: 704.25
PVI 265+36.26 EL 704.39
6'x4' FL 694.38(In) 18" FL 694.38(Out) 6'x4' FL 697.47(Out)

-1.925%
0.50%
2.77%
0.65%
2.16%
2.74%

BEFORE YOU DIG 811 CALL OKIE

ROBIN D. SEWELL 16173 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA 7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

RIGHT FRONTAGE ROAD PROFILE STA. 236+00 TO STA. 265+00

JOB PIECE NO. 14999(04) SHEET NO. 38

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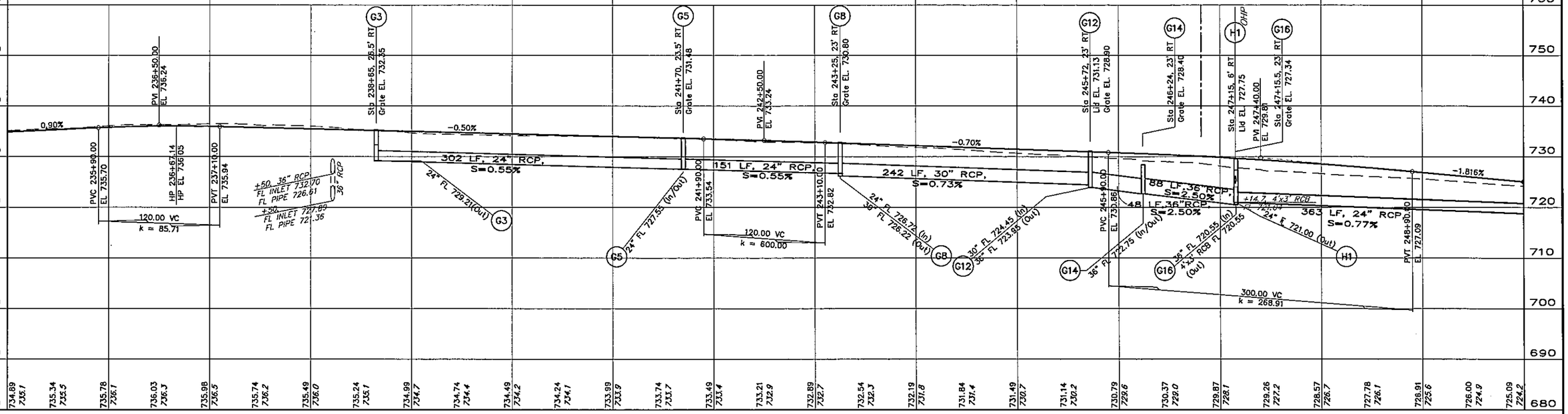
BM 61 Chiseled Square Top of Curb
Sta. 3235+36, 144' Lt CRL
Elev. 738.16

BM 1061 No.5 Rebar w/Aluminum Cap in Concrete
Sta. 3238+65, 147' Lt CRL, Elev. 738.07

BM 62 Chiseled Square Top Curb South Entrance
Sta. 3242+59, 136' Lt CRL
Elev. 735.98

BM 63 Chiseled Square Top Curb SW Island
Sta. 3246+04, 149' Lt CRL,
Elev. 734.09

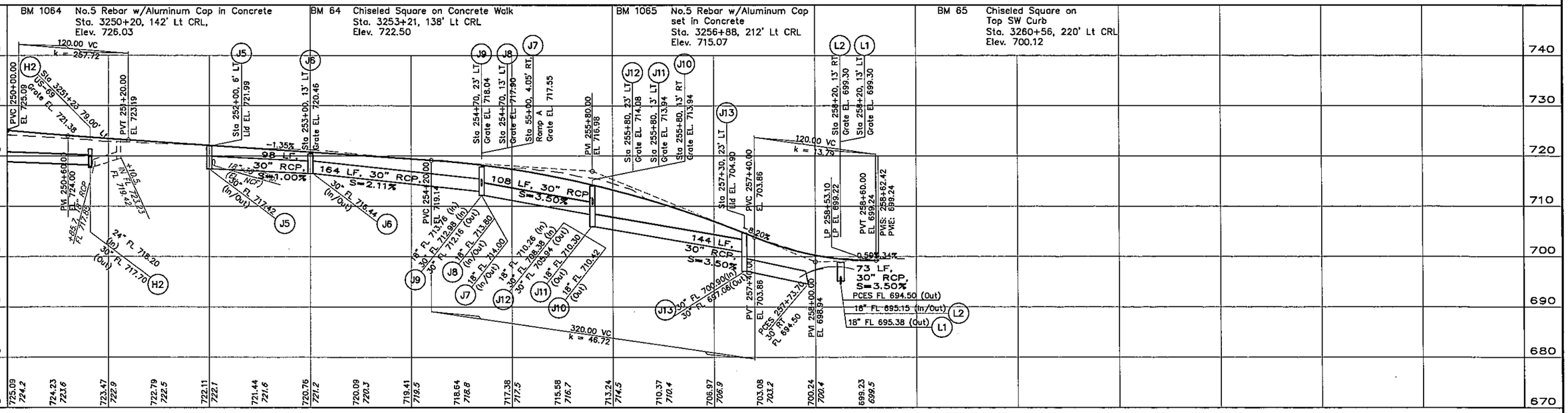


BM 1064 No.5 Rebar w/Aluminum Cap in Concrete
Sta. 3250+20, 142' Lt CRL,
Elev. 726.03

BM 64 Chiseled Square on Concrete Walk
Sta. 3253+21, 138' Lt CRL
Elev. 722.50

BM 1065 No.5 Rebar w/Aluminum Cap
set in Concrete
Sta. 3256+88, 212' Lt CRL
Elev. 715.07

BM 65 Chiseled Square on
Top SW Curb
Sta. 3260+56, 220' Lt CRL
Elev. 700.12



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BEFORE YOU DIG 811 CALL OKIE

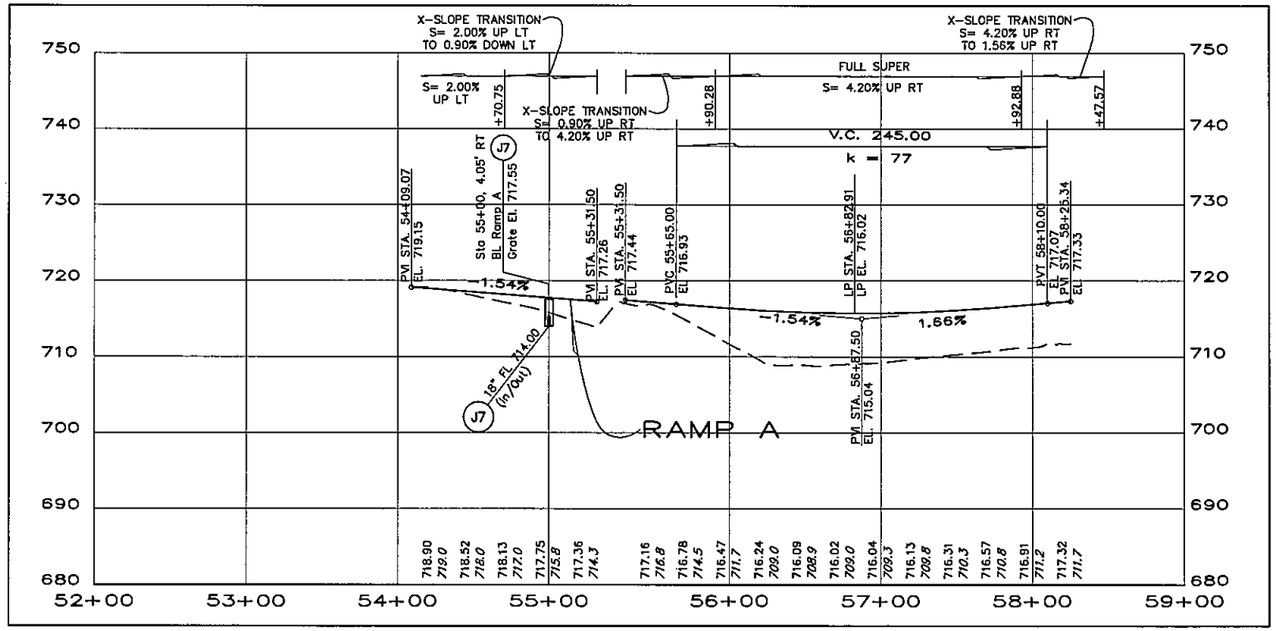
REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 18173 OKLAHOMA 7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

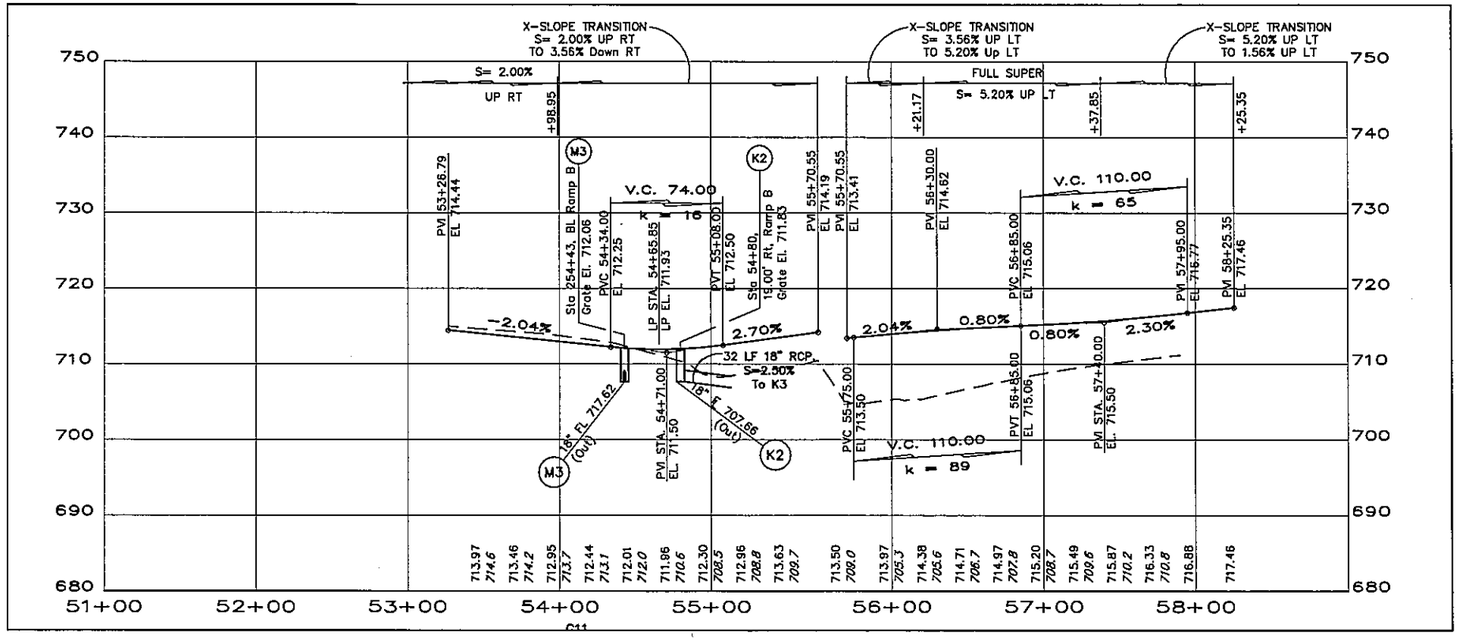
U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

LEFT FRONTAGE ROAD PROFILE STA. 235+00 TO STA. 258+62.42

JOB PIECE NO. 14999(04) SHEET NO. 39



RAMP A



RAMP B

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

RAMPS A & B PROFILES

JOB PIECE NO. 14999(04) — SHEET NO. 40

REVISION		
REV. NO.	DESCRIPTION	DATE
1	CORRECTED TYPO	8/5/16

0 200 400 600
SCALE 1"=200'

PC2 3161+33.94

PC49 182+02.85

PC60 181+83.89

US 69 Mainline CRL

Sec 17, T-5-N, R-15-E, I.B.&M.

Sec 17, T-5-N, R-15-E, I.B.&M.

Sec 8, T-5-N, R-15-E, I.B.&M.

N 88°53'48.1" E 2647.26'

N 88°49'42.9" E 2653.05'

Section Line

PT2 3220+35.54

PT 60 220+93.29

PC80 10+54.86
PCC 12+02.54
PCC 11+27.33
PCC 15+82.82
PT83 16+30.10
PC84 17+99.99
PT84 20+35.49
PT49 219+65.48
PI 21+00.00
PC85 22+69.98
PT 85 24+75.95
PC86 25+28.47
PT86 27+28.47

℄ Left Frontage Road
℄ Right Frontage Road
℄ Ramp C
℄ J-Turn ⚠

C2 C49 C60 C80 C81 C82 C83 C84 C85 C86 L50 L51 L52

Left Frontage Road ℄
V=40 MPH LOW SPEED URBAN

NUMBER	LENGTH	BEARING	STATION	NORTHING (Y)	EASTING (X)
C49	ARC LENGTH = 3762.6336 RADIUS = 4806.0669 TANGENT = 1983.6874 EXTERNAL = 393.2883	DELTA = 44°51'23.16" CHORD LENGTH = 3667.2756 CHORD DIRECTION = N21°27'19.87"E	PC 182+02.85 PI 201+86.54 PT 219+65.48	578548.0065 579977.7450 581961.1465	2642977.3685 2644352.4552 2644318.7803

⚠ J-Turnarround ℄

NUMBER	LENGTH	BEARING	STATION	NORTHING (Y)	EASTING (X)
C80	ARC LENGTH = 72.4662 RADIUS = 29.0000 TANGENT = 87.1077 EXTERNAL = 62.8083	DELTA = 143°10'21.43" CHORD LENGTH = 55.0304 CHORD DIRECTION = S62°20'39.52"E	PC 10+54.86 PI 11+41.97 PT 11+27.33	581092.4246 581006.4477 581066.8819	2644350.8514 2644336.8615 2644399.5948
C81	ARC LENGTH = 75.2145 RADIUS = 144.0000 TANGENT = 38.4862 EXTERNAL = 5.0543	DELTA = 29°55'36.85" CHORD LENGTH = 74.3624 CHORD DIRECTION = N31°06'21.34"E	PC 11+27.33 PI 11+65.81 PT 12+02.54	581066.8819 581093.5831 581130.5520	2644399.5948 2644427.3118 2644438.0120
C82	ARC LENGTH = 380.2827 RADIUS = 1840.0000 TANGENT = 190.8210 EXTERNAL = 9.8883	DELTA = 11°50'29.85" CHORD LENGTH = 379.6062 CHORD DIRECTION = N10°13'17.99"E	PC 12+02.54 PI 13+93.36 PT 15+82.82	581130.5520 581313.8496 581504.1333	2644438.0120 2644491.0654 2644505.3758
C83	ARC LENGTH = 47.2741 RADIUS = 5006.0303 TANGENT = 23.6372 EXTERNAL = 0.0558	DELTA = 0°32'27.85" CHORD LENGTH = 47.2739 CHORD DIRECTION = N4°01'49.15"E	PC 15+82.82 PI 16+06.46 PT 16+30.10	581504.1333 581527.7039 581551.2903	2644505.3758 2644507.1484 2644508.6984

US 69, CRL

NUMBER	LENGTH	BEARING	STATION	NORTHING (Y)	EASTING (X)
C2 emax 6.00%	ARC LENGTH = 5901.6050 RADIUS = 4911.0668 TANGENT = 3365.9557 EXTERNAL = 1042.7753	DELTA = 68°51'07.41" CHORD LENGTH = 5552.8626 CHORD DIRECTION = N33°27'11.99"E	PC 3161+33.94 PI 3194+99.90 PT 3220+35.55	577329.9806 578597.4583 581962.9290	2641362.7076 2644480.9056 2644423.7651

Right Frontage Road ℄
V=40 MPH LOW SPEED URBAN

NUMBER	LENGTH	BEARING	STATION	NORTHING (Y)	EASTING (X)
C60	ARC LENGTH = 3909.3946 RADIUS = 5016.0571 TANGENT = 2060.0457 EXTERNAL = 406.5453	DELTA = 44°39'17.84" CHORD LENGTH = 3811.1985 CHORD DIRECTION = N21°21'16.93"E	PC 181+83.89 PI 202+43.94 PT 220+93.29	578415.1747 579904.9626 581964.7115	2643140.9379 2644563.7240 2644528.7500

Ramp C ℄

NUMBER	LENGTH	BEARING	STATION	NORTHING (Y)	EASTING (X)
C84	ARC LENGTH = 235.5056 RADIUS = 4869.9934 TANGENT = 117.7757 EXTERNAL = 1.4239	DELTA = 2°46'14.66" CHORD LENGTH = 235.4826 CHORD DIRECTION = N1°52'42.72"W	PC 17+99.99 PI 19+17.76 PT 20+35.49	581726.6661 581844.4374 581962.0221	2644378.0707 2644377.0570 2644370.3514
L50	64.5064	N3°15'50.05"W	BP 20+35.49 EP 21+00.00	581962.0221 582026.4239	2644370.3514 2644366.6788
L51	169.9842	N0°58'21.59"W	BP 21+00.00 EP 22+69.98	582026.4239 582196.3837	2644366.6788 2644363.7932
C85	ARC LENGTH = 200.0000 RADIUS = 1039.0000 TANGENT = 100.3099 EXTERNAL = 4.8310	DELTA = 11°01'44.49" CHORD LENGTH = 199.6914 CHORD DIRECTION = N6°29'13.96"W	PC 25+28.47 PI 26+28.78 PT 27+28.47	582452.0893 582550.2066 582650.5020	2644329.6375 2644308.7789 2644307.0761
L52	52.5203	N12°00'06.21"W	BP 24+75.95 EP 25+28.47	582400.7170 582452.0893	2644340.5586 2644329.6375
C86	ARC LENGTH = 205.9679 RADIUS = 1070.0000 TANGENT = 103.3031 EXTERNAL = 4.9751	DELTA = 11°01'44.61" CHORD LENGTH = 205.6501 CHORD DIRECTION = N6°29'13.90"W	PC 22+69.98 PI 23+73.29 PT 24+75.95	582196.3837 582299.6719 582400.7170	2644363.7932 2644362.0396 2644340.5586

REGISTERED PROFESSIONAL ENGINEER
ROBIN D SEWELL
16173
OKLAHOMA
8/5/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		GEOMETRICS
Checked	CKE		
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) — SHEET NO. 41

Peaceable Road, CRL

POINT	STATION	COORDINATES NORTH	COORDINATES EAST
2027	168+00.000	582428.0366	2644110.8249
	N 88°53'48.0" E	410.000 ft	
2028	172+10.000	582435.9313	2644520.7492

Comanche Avenue, CRL

POINT	STATION	COORDINATES NORTH	COORDINATES EAST
2045	175+00.000	584790.2424	2643947.7687
	S 73°25'35.8" E	382.107 ft	
2300	178+82.106	584681.2474	2644314.0002
	S 73°11'46.9" E	117.893 ft	
2301	180+00.00	584647.1647	2644426.8596
	S 73°35'14.9" E	297.999 ft	
2046	182+97.999	584562.9647	2644712.7158

US 69, CRL

POINT	STATION	COORDINATES NORTH	COORDINATES EAST	CURVE NO.	DELTA	RADIUS	DOC	LENGTH	TANGENT
PT2	3220+35.545	581962.9290	2644423.7651						
	N 00° 58' 21.71" W	2158.018							
PC3	3241+93.563	584120.6363	2644387.1305						
PI3	3248+62.431	584789.4082	2644375.7759	C3	26° 17' 01.97" RT	2864.789	02°00'00.00"	1314.194	668.868
PT3	3255+07.757	585394.0645	2644661.7400	emax 6.00%					
	N 25° 18' 40.25" E	4849.827		V=70 MPH					

Wade Watts (Wyandotte) Avenue, CRL

POINT	STATION	COORDINATES NORTH	COORDINATES EAST	CURVE NO.	DELTA	RADIUS	DOC	LENGTH	TANGENT
2051	195+00.571	585922.2314	2644363.0233						
	S 73° 24' 08.75" E	261.944							
PC34	197+62.514	585847.4078	2644614.0528						
PI34	198+35.268	585826.6259	2644683.7753	C34	08° 42' 49.00" RT	954.930	06° 00' 00.00"	145.227	72.754
PT34	199+07.741	585795.5211	2644749.5446	emax 6.00%					
	S 64° 41' 19.74" E	397.261		V=40 MPH LOW SPEED URBAN					
2054	203+05.002	585625.6784	2645108.6684						

Transition ℄, Left Side

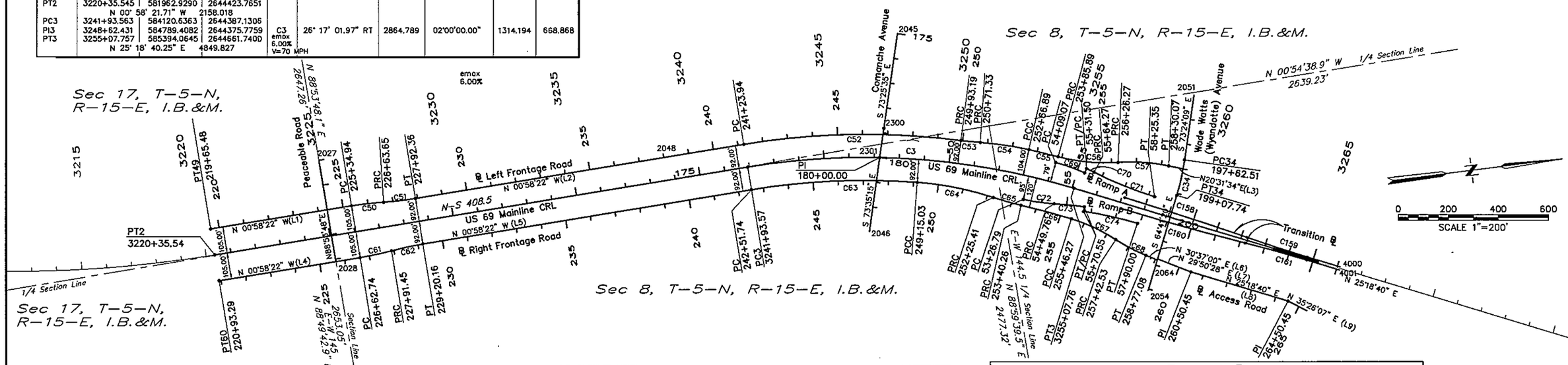
POINT	STATION	COORDINATES NORTH	COORDINATES EAST	CURVE NO.	DELTA	RADIUS	DOC	LENGTH	TANGENT
PC158	3257+11.96	585588.4985	2644728.2524	C158					
PI158	3259+66.85	585818.9160	2644837.2253	emax 6.00%	02° 32' 54.42"	11459.156	00° 30' 00.00"	509.690	254.887
PRC158	3262+21.65	586044.2603	2644956.3358	V=60 MPH					
PRC159	3262+21.65	586044.2603	2644956.3358	C159	02° 32' 54.42"	5729.578	01° 00' 00.00"	254.845	127.444
PI159	3263+49.10	586156.9324	2645015.8910	emax 6.00%					
PT159	3264+76.50	586272.1412	2645070.3774	V=60 MPH	N 25° 18' 40.25" E			135.465	
4000	3266+11.96	586394.6017	2645128.2935						

Transition ℄, Right Side

POINT	STATION	COORDINATES NORTH	COORDINATES EAST	CURVE NO.	DELTA	RADIUS	DOC	LENGTH	TANGENT
PC160	3257+11.96	585568.8319	2644769.8364	C160					
PI160	3259+66.85	585799.2494	2644878.8093	emax 6.00%	02° 32' 54.42"	11459.156	00° 30' 00.00"	509.690	254.887
PRC160	3262+21.65	586034.2845	2644977.4291	V=60 MPH					
PRC161	3262+21.65	586034.2845	2644977.4291	C161	02° 32' 54.42"	5729.578	01° 00' 00.00"	254.845	127.444
PI161	3263+49.10	586151.8020	2645026.7390	emax 6.00%					
PT161	3264+76.50	586267.0108	2645081.2254	V=60 MPH	N 25° 18' 40.25" E			135.465	
4001	3266+11.96	586389.4713	2645139.1415						

Access Road ℄

NUMBER	LENGTH	BEARING	STATION	NORTHING (Y)	EASTING (X)
L7	142.2286	N29°50'28.28"E	BP 259+08.22	585681.7861	2644990.0337
			EP 260+50.45	585805.1564	2645060.8063
L8	400.0000	N25°18'40.21"E	BP 260+50.45	585805.1564	2645060.8063
			EP 264+50.45	586166.7561	2645231.8200
L9	85.8102	N35°26'06.89"E	BP 264+50.45	586166.7561	2645231.8200
			EP 265+35.26	586236.6718	2645281.5712



Left Frontage Road ℄
V=40 MPH LOW SPEED URBAN

NUMBER	LENGTH	BEARING	STATION	NORTHING (Y)	EASTING (X)
L1	569.4549	N0°58'21.71"W	BP 219+65.48	581961.1465	2644318.7803
			EP 225+34.94	582530.5194	2644309.1132
C50 emax 6.00%	ARC LENGTH = 128.7098 RADIUS = 1273.2395 TANGENT = 64.4098 EXTERNAL = 1.6281	DELTA = 5°47'30.99" CHORD LENGTH = 128.6550 CHORD DIRECTION = N1°55'23.78"E	PC 225+34.94 PI 225+99.35 PT 226+63.65	582530.5194 582594.9199 582659.1019	2644309.1132 2644308.0198 2644313.4310
C51 emax 6.00%	ARC LENGTH = 128.7098 RADIUS = 1273.2395 TANGENT = 64.4098 EXTERNAL = 1.6281	DELTA = 5°47'30.99" CHORD LENGTH = 128.6550 CHORD DIRECTION = N1°55'23.78"E	PC 226+63.65 PI 227+28.06 PT 227+92.36	582659.1019 582723.2840 582787.6845	2644313.4310 2644318.8422 2644317.7488
L2	1331.5819	N0°58'21.72"W	BP 227+92.36 EP 241+23.94	582787.6845 584119.0745	2644317.7488 2644295.1439
C52 emax 6.00%	ARC LENGTH = 869.2526 RADIUS = 2956.7890 TANGENT = 437.7839 EXTERNAL = 32.2336	DELTA = 16°50'38.83" CHORD LENGTH = 866.1257 CHORD DIRECTION = N7°26'57.69"E	PC 241+23.94 PI 245+61.72 PT 249+93.19	584119.0745 584556.7953 584977.8900	2644295.1439 2644287.7120 2644407.4369
C53 emax 6.00%	ARC LENGTH = 78.1318 RADIUS = 1273.2395 TANGENT = 39.0781 EXTERNAL = 0.5996	DELTA = 3°30'57.35" CHORD LENGTH = 78.1195 CHORD DIRECTION = N14°06'48.43"E	PC 249+93.19 PI 250+32.27 PT 250+71.33	584977.8900 585015.4784 585053.6514	2644407.4369 2644418.1240 2644426.4858
C54 emax 6.00%	ARC LENGTH = 195.5676 RADIUS = 1273.2395 TANGENT = 97.9765 EXTERNAL = 3.7641	DELTA = 8°48'01.95" CHORD LENGTH = 195.3754 CHORD DIRECTION = N16°45'20.74"E	PC 250+71.33 PI 251+59.30 PT 252+66.89	585053.6514 585149.3587 585240.7317	2644426.4858 2644447.4505 2644482.8111
C55 emax 6.00%	ARC LENGTH = 118.9991 RADIUS = 2968.7890 TANGENT = 59.5075 EXTERNAL = 0.5963	DELTA = 2°17'47.79" CHORD LENGTH = 118.9911 CHORD DIRECTION = N22°18'15.61"E	PC 252+66.89 PI 253+26.40 PT 253+85.89	585240.7317 585296.2284 585350.8200	2644482.8111 2644504.2879 2644527.9713
C56 emax 6.00%	ARC LENGTH = 240.3814 RADIUS = 716.1972 TANGENT = 121.3319 EXTERNAL = 10.2048	DELTA = 19°13'49.85" CHORD LENGTH = 239.2547 CHORD DIRECTION = N13°50'14.58"E	PC 253+85.89 PI 255+07.22 PT 256+26.27	585350.8200 585462.1286 585583.1312	2644527.9713 2644576.2803 2644585.1932
C57 emax 6.00%	ARC LENGTH = 203.8012 RADIUS = 716.1972 TANGENT = 102.5938 EXTERNAL = 7.3109	DELTA = 16°18'14.74" CHORD LENGTH = 203.1142 CHORD DIRECTION = N12°22'27.02"E	PC 256+26.27 PI 257+28.87 PT 258+30.07	585583.1312 585685.4465 585781.5269	2644585.1932 2644592.7465 2644628.7195
L3	58.3715	N20°31'34.39"E	BP 258+30.07 EP 258+88.45	585781.5269 585836.1924	2644628.7195 2644649.1867

Right Frontage Road ℄
V=40 MPH LOW SPEED URBAN

NUMBER	LENGTH	BEARING	STATION	NORTHING (Y)	EASTING (X)
L4	569.4549	N0°58'21.71"W	BP 220+93.29	581964.7125	2644528.7520
			EP 226+62.74	582534.0842	2644519.0829
C61 emax 6.00%	ARC LENGTH = 128.7100 RADIUS = 1273.2395 TANGENT = 64.4099 EXTERNAL = 1.6281	DELTA = 5°47'31.02" CHORD LENGTH = 128.6552 CHORD DIRECTION = N3°52'07.19"W	PC 226+62.74 PI 227+27.15 PT 227+91.45	582534.0842 582598.4848 582662.4462	2644519.0829 2644517.9895 2644510.4026
C62 emax 6.00%	ARC LENGTH = 128.7097 RADIUS = 1273.2395 TANGENT = 64.4097 EXTERNAL = 1.6281	DELTA = 5°47'30.98" CHORD LENGTH = 128.6550 CHORD DIRECTION = N3°52'07.21"W	PC 227+91.45 PI 228+55.86 PT 229+20.16	582662.4462 582726.4076 582790.8080	2644510.4026 2644502.8157 2644501.7223
L5	1331.5820	N0°58'21.72"W	BP 229+20.16 EP 242+51.74	582790.8080 584122.1981	2644501.7223 2644479.1174
C63 emax 6.00%	ARC LENGTH = 663.2929 RADIUS = 2772.7890 TANGENT = 333.2371 EXTERNAL = 19.9526	DELTA = 13°42'21.65" CHORD LENGTH = 661.7126 CHORD DIRECTION = N5°52'49.11"E	PC 242+51.74 PI 245+84.98 PT 249+15.03	584122.1981 584455.3872 584780.4288	2644479.1174 2644473.4603 2644546.9102
C64 emax 6.00%	ARC LENGTH = 310.3759 RADIUS = 1273.2395 TANGENT = 155.9610 EXTERNAL = 9.5164	DELTA = 13°58'00.90" CHORD LENGTH = 309.6080 CHORD DIRECTION = N19°43'00.38"E	PC 249+15.03 PI 250+71.00 PT 252+25.41	584780.4288 584932.5542 585071.8851	2644546.9102 2644581.2861 2644651.3629
C65 emax 6.00%	ARC LENGTH = 114.8458 RADIUS = 1273.2395 TANGENT = 57.4619 EXTERNAL = 1.2960	DELTA = 5°10'05.02" CHORD LENGTH = 114.8069 CHORD DIRECTION = N24°06'58.32"E	PC 252+25.41 PI 252+82.87 PT 253+40.26	585071.8851 585123.2197 585176.6714	2644651.3629 2644677.1818 2644698.2717
C66 emax 6.00%	ARC LENGTH = 206.0189 RADIUS = 2744.7894 TANGENT = 103.0578 EXTERNAL = 1.9341	DELTA = 4°18'01.86" CHORD LENGTH = 205.9706 CHORD DIRECTION = N23°40'56.74"E	PC 253+40.26 PI 254+43.31 PT 255+46.27	585176.6714 585272.5370 585365.2963	2644698.2717 2644736.0964 2644781.0033
C67 emax 6.00%	ARC LENGTH = 196.2591 RADIUS = 716.2202 TANGENT = 98.7482 EXTERNAL = 6.7754	DELTA = 15°42'00.80" CHORD LENGTH = 195.6456 CHORD DIRECTION = N33°40'58.08"E	PC 255+46.27 PI 256+45.02 PT 257+42.53	585365.2963 585454.1767 585528.0971	2644781.0033 2644824.0323 2644889.5073
C68 emax 6.00%	ARC LENGTH = 134.5483 RADIUS = 706.1988 TANGENT = 67.4784 EXTERNAL = 3.2165	DELTA = 10°54'58.53" CHORD LENGTH = 134.3449 CHORD DIRECTION = N36°04'29.21"E	PC 257+42.53 PI 258+10.01 PT 258+77.08	585528.0971 585578.6098 585636.6813	2644889.5073 2644934.2488 2644968.6150
L6	50.1459	N30°36'59.94"E	BP 258+77.08 EP 259+27.23	585636.6813 585679.8365	2644968.6150 2644994.1539

Ramp A ℄

NUMBER	LENGTH	BEARING	STATION	NORTHING (Y)	EASTING (X)
C69 emax 6.00% V=40MPH	ARC LENGTH = 122.4305 RADIUS = 716.1972 TANGENT = 61.3648 EXTERNAL = 2.6241	DELTA = 9°47'39.99" CHORD LENGTH = 122.2815 CHORD DIRECTION = N28°16'43.94"E	PC 54+09.07 PI 54+70.44 PT 55+31.50	585337.5234 585393.8490 585445.2108	2644549.4566 2644573.8094 2644607.3891
L10	19.0000	N55°49'26.05"W	BP 55+31.50 EP 55+50.50	585445.2108 585455.6079	2644607.3891 2644591.4862
C70 emax 6.00% V=40MPH	ARC LENGTH = 32.7669 RADIUS = 735.1972 TANGENT = 16.3862 EXTERNAL = 0.1826	DELTA = 2°33'12.98" CHORD LENGTH = 32.7642 CHORD DIRECTION = N34°27'10.43"E	PC 55+50.50 PI 55+67.89 PT 55+84.27	585455.6079 585469.3230 585482.6250	2644591.4862 2644600.4529 2644610.0218
C71 emax 6.00% V=40MPH	ARC LENGTH = 261.0753 RADIUS = 1432.3945 TANGENT = 130.9002 EXTERNAL = 5.9688	DELTA = 10°26'34.84" CHORD LENGTH = 260.7141 CHORD DIRECTION = N30°30'29.50"E	PC 55+64.27 PI 56+95.17 PT 58+25.34	585482.6250 585588.8873 585707.2449	2644610.0218 2644686.4826 2644742.3764

Ramp B ℄

NUMBER	LENGTH	BEARING	STATION	NORTHING (Y)	EASTING (X)
C72 emax 6.00% V=40MPH	ARC LENGTH = 122.9719 RADIUS = 716.1972 TANGENT = 61.6375 EXTERNAL = 2.6474	DELTA = 9°50'15.91" CHORD LENGTH = 122.8209 CHORD DIRECTION = N16°41'01.97"E	PC 53+26.79 PI 53+88.43 PT 54+49.76	585189.0202 585246.3282 585306.6707	2644676.2711 2644698.9642 2644711.5319
C73 emax 6.00% V=50MPH	ARC LENGTH = 120.7864 RADIUS = 1451.3945 TANGENT = 60.4281 EXTERNAL = 1.2574	DELTA = 4°46'05.54" CHORD LENGTH = 120.7515 CHORD DIRECTION = N14°08'56.78"E	PC 54+49.76 PI 55+10.19 PT 55+70.55	585306.6707 585365.8293 585423.7590	2644711.5319 2644723.8531 2644741.0492
L11	19.0000	S73°28'00.45"E	BP 55+70.55 EP 55+89.55	585423.7590 585418.3521	2644741.0492 2644759.2636
C74 emax 6.00% V=50MPH	ARC LENGTH = 219.4493 RADIUS = 1432.3945 TANGENT = 109.9398 EXTERNAL = 4.2129	DELTA = 8°46'40.70" CHORD LENGTH = 219.2347 CHORD DIRECTION = N20°55'19.90"E	PC 55+89.55 PI 56+80.49 PT 57+90.00	585418.3521 585523.7484 585623.1319	2644759.2636 2644790.5493 2644837.5523

REGISTERED PROFESSIONAL ENGINEER ROBIN SEWELL 16173 OKLAHOMA 8/16

Survey	CK'S		U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		**GEOMETRICS**
Checked	CKE		
Approved			JOB PIECE NO. 14999(04) — SHEET NO. 42
Squad	C & K		

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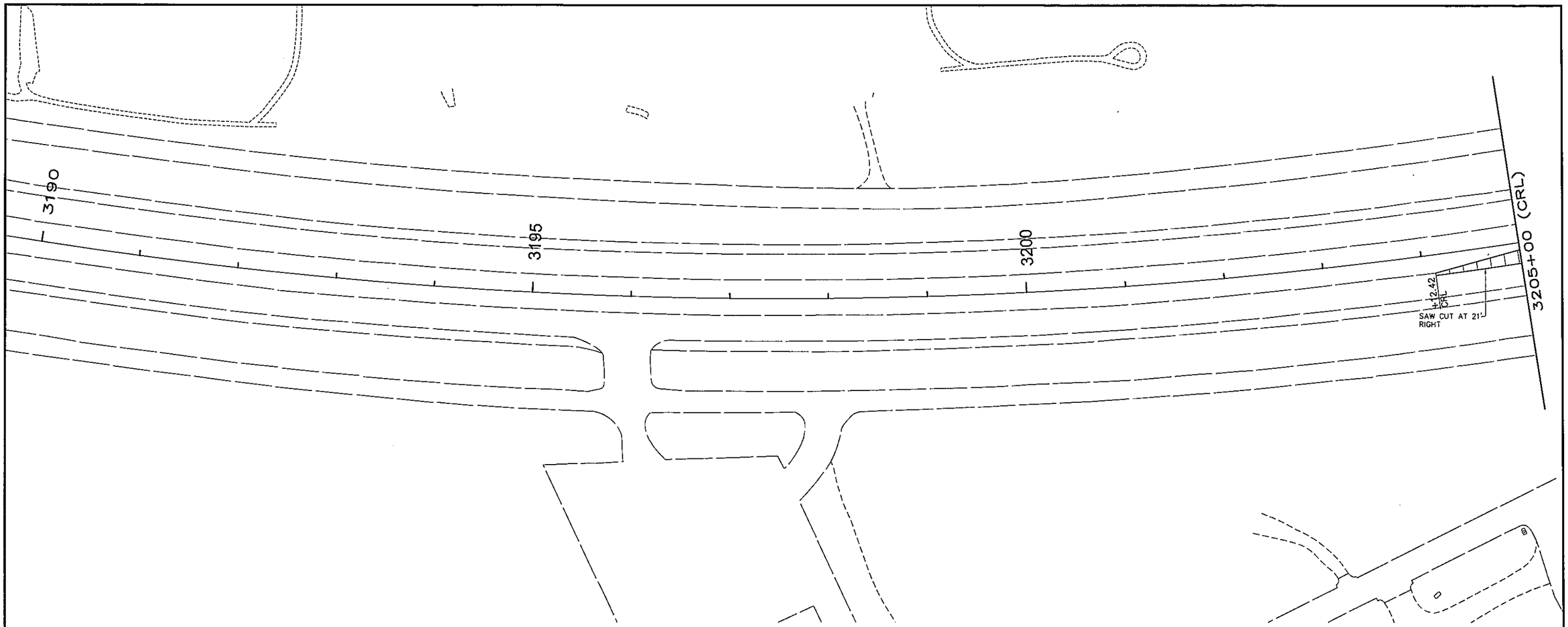

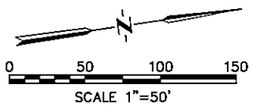

LEGEND

SAWED LONGITUDINAL CONTRACTION JOINT WITH TIE BARS

CONSTRUCTION JOINT WITHOUT TIE BARS

CONSTRUCTION JOINT WITH TIE BARS

TRANSVERSE DOWELED CONTRACTION JOINT

DOWELED EXPANSION JOINT

FULL DEPTH CONCRETE PAVEMENT RECONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
ROBIN A. SEWELL
16173
OKLAHOMA
7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PAVING PLAN AND DETAILS
STA. 3190+00 TO STA. 3205+00

JOB PIECE NO. 14999(04) — SHEET NO. 43

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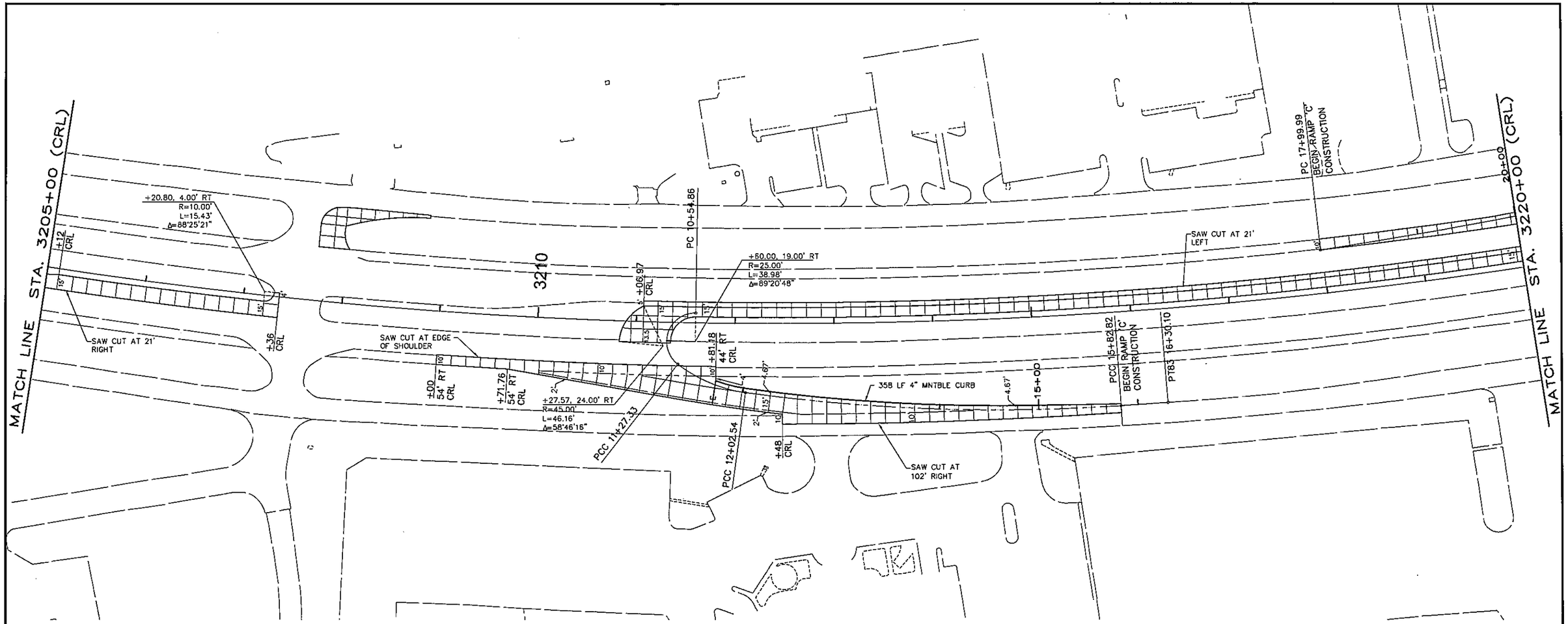

N

0 50 100 150

SCALE 1"=50'

LEGEND

SAWED LONGITUDINAL CONTRACTION JOINT WITH TIE BARS

CONSTRUCTION JOINT WITHOUT TIE BARS

CONSTRUCTION JOINT WITH TIE BARS

TRANSVERSE DOWELED CONTRACTION JOINT

DOWELED EXPANSION JOINT

FULL DEPTH CONCRETE PAVEMENT RECONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
ROBIN R. SEWELL
16173
OKLAHOMA
7/18/16

Survey	CKS	
Drown	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PAVING PLAN AND DETAILS STA. 3205+00 TO STA. 3220+00

JOB PIECE NO. 14999(04) — SHEET NO. 44

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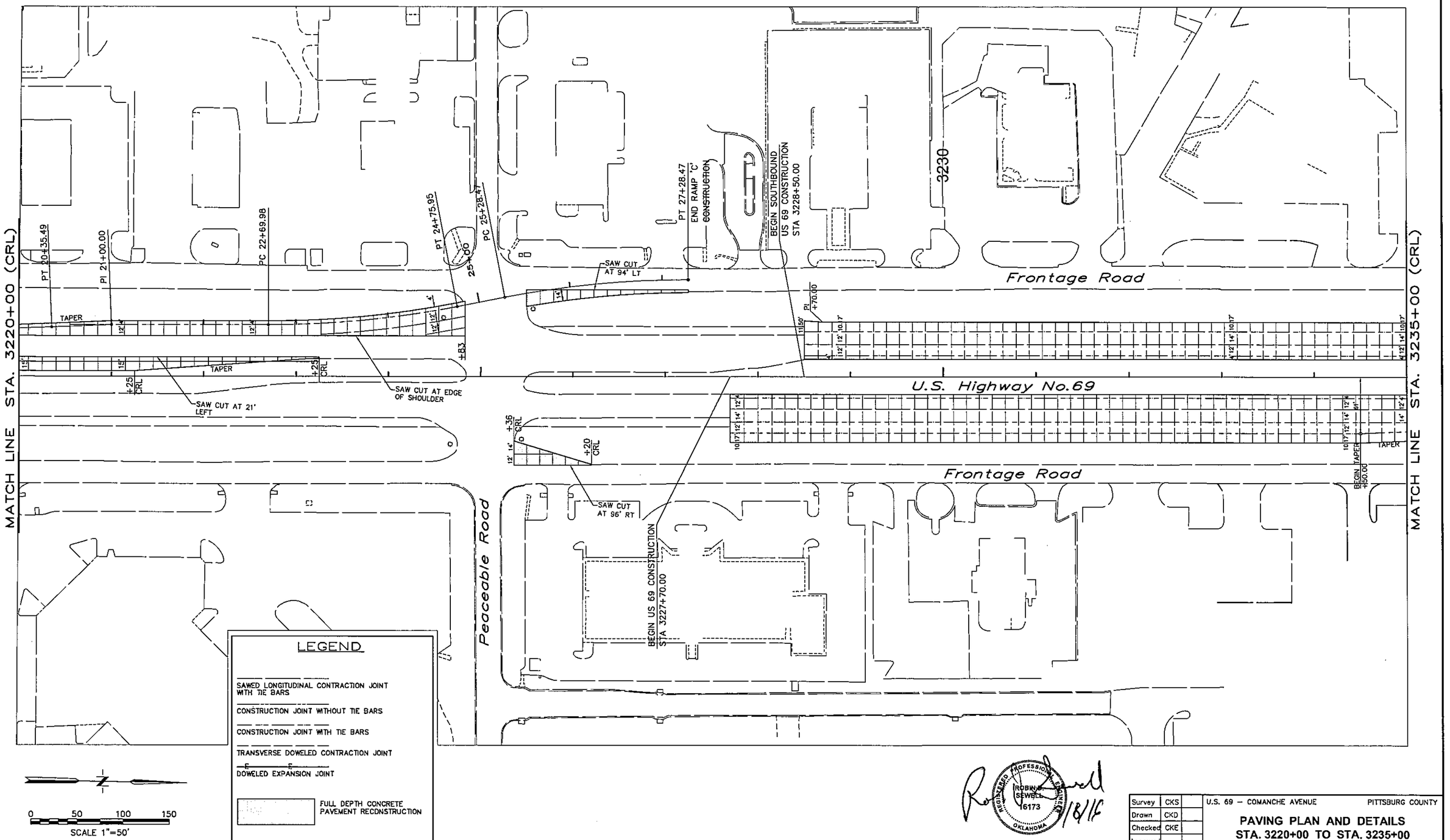

ROBIN G. SEWELL 6173 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PAVING PLAN AND DETAILS STA. 3220+00 TO STA. 3235+00

JOB PIECE NO. 14999(04) — SHEET NO. 45

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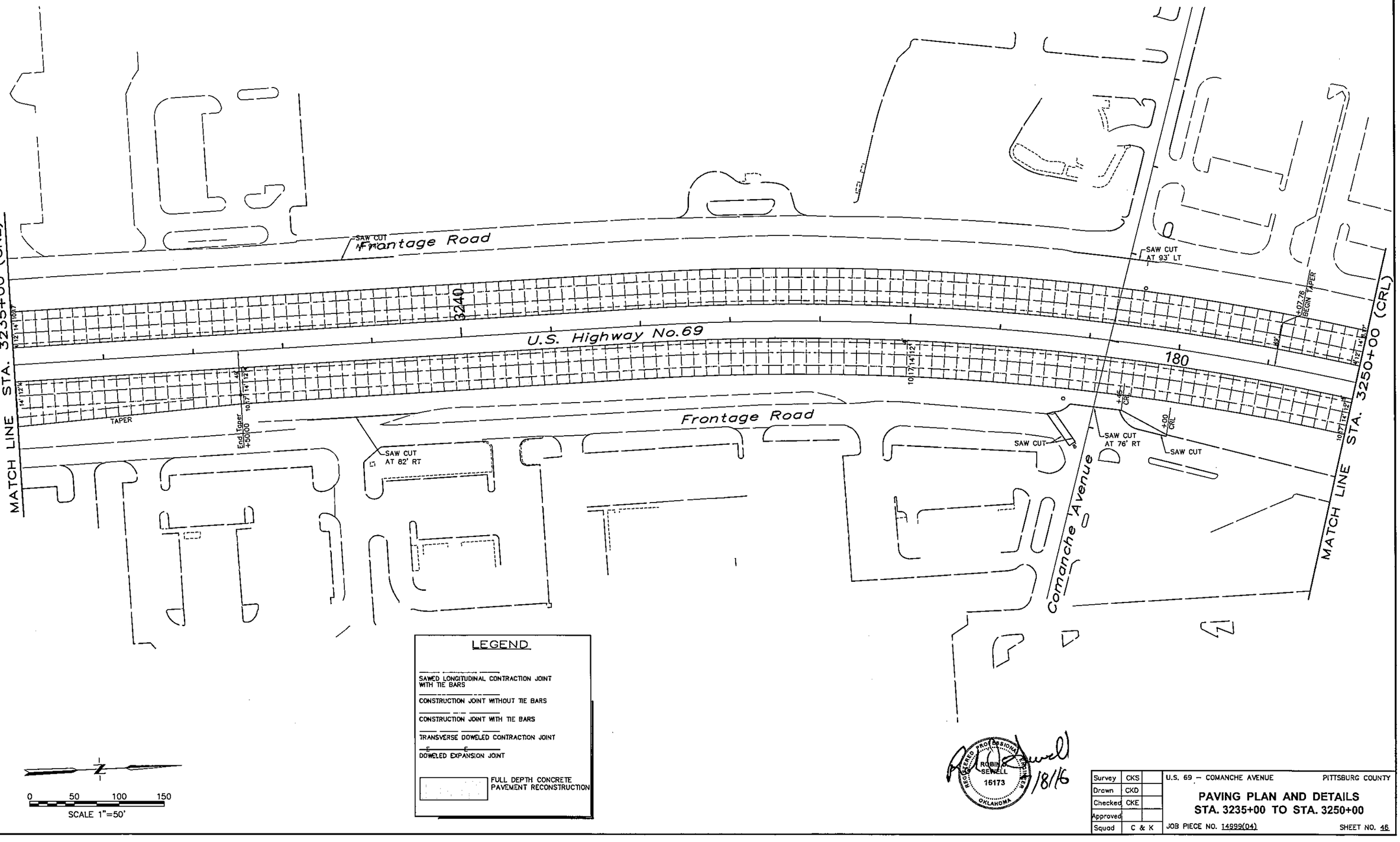

LEGEND

- SAWED LONGITUDINAL CONTRACTION JOINT WITH TIE BARS
- CONSTRUCTION JOINT WITHOUT TIE BARS
- CONSTRUCTION JOINT WITH TIE BARS
- TRANSVERSE DOWELED CONTRACTION JOINT
- DOWELED EXPANSION JOINT
- FULL DEPTH CONCRETE PAVEMENT RECONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER
ROBIN SEWELL
16173
OKLAHOMA
7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PAVING PLAN AND DETAILS
STA. 3235+00 TO STA. 3250+00

JOB PIECE NO. 14999(04) — SHEET NO. 46

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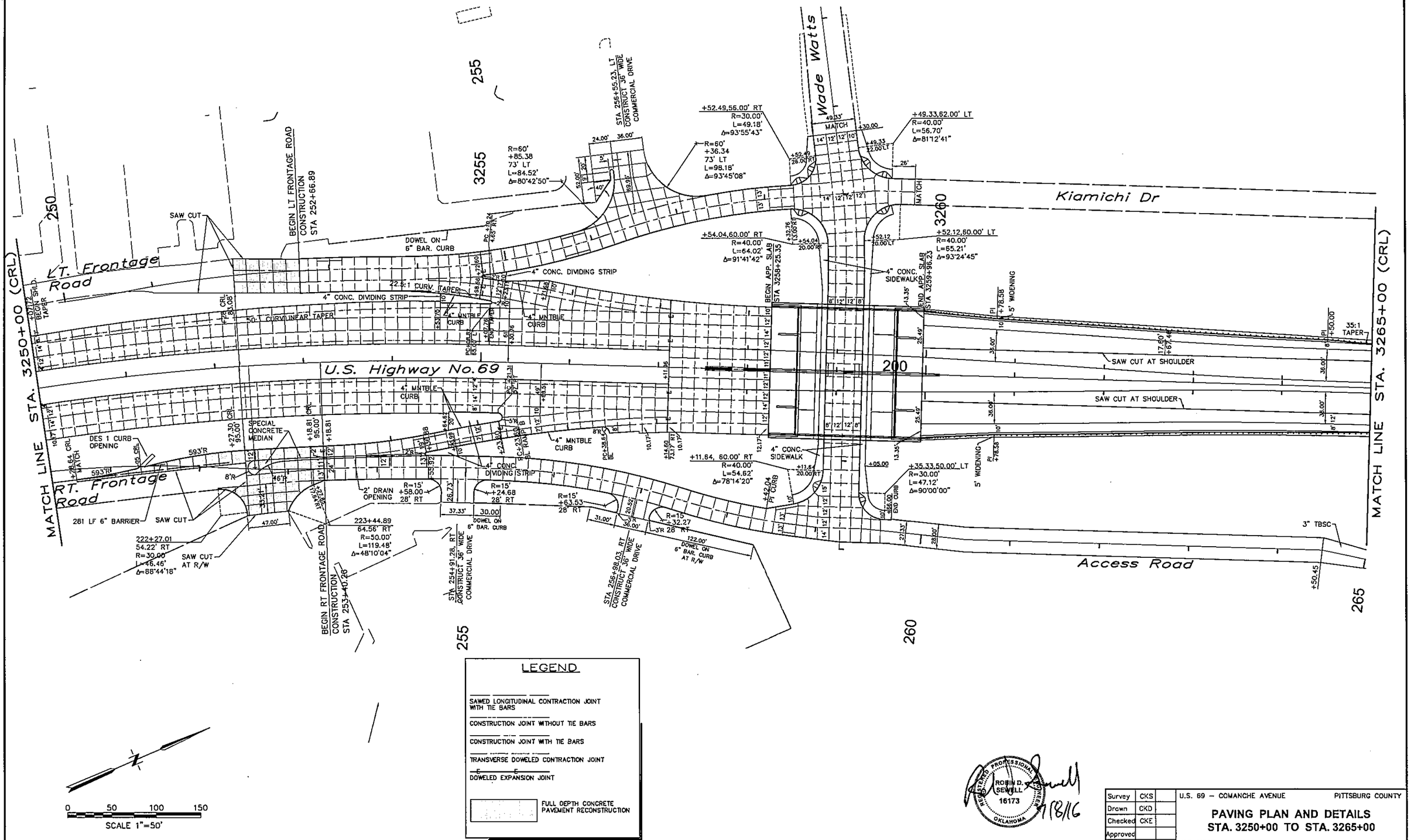

LEGEND

- SAWED LONGITUDINAL CONTRACTION JOINT WITH TIE BARS
- CONSTRUCTION JOINT WITHOUT TIE BARS
- CONSTRUCTION JOINT WITH TIE BARS
- TRANSVERSE DOWELED CONTRACTION JOINT
- DOWELED EXPANSION JOINT
- FULL DEPTH CONCRETE PAVEMENT RECONSTRUCTION

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA 7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PAVING PLAN AND DETAILS STA. 3250+00 TO STA. 3265+00

JOB PIECE NO. 14999(04) — SHEET NO. 47

S:\Projects\ODOT\US 69 Comanche\Acaddwg\ACAD PROJECT 11\US69com047-pp3250-3265 Paving Plan and Details.dwg, 7/14/2016 10:58:41 AM

MATCH LINE STA. 3265+00 (CRL)

BEGIN APP. SLAB STA 3265+50.65

REMOVE 3 DAMAGED PANELS AND CONSTRUCT 12" FULL DEPTH P.C.C. PATCH

END APP. SLAB STA 3267+74.83

SAW CUT AT SHOULDER

5' WIDENING

15:1 TAPER

PI +08.00

PI +76.00

PI +11.00

PI +41.00

END US 69 CONSTRUCTION STA 3272+41.00

3" TBSC

+36.26

3270

3275

U.S. Highway No.69

42.00'

12'

8'

+20.00'

LEGEND

SAWED LONGITUDINAL CONTRACTION JOINT WITH TIE BARS

CONSTRUCTION JOINT WITHOUT TIE BARS

CONSTRUCTION JOINT WITH TIE BARS

TRANSVERSE DOWELED CONTRACTION JOINT

E E
DOWELED EXPANSION JOINT

FULL DEPTH CONCRETE PAVEMENT RECONSTRUCTION

N

0 50 100 150

SCALE 1"=50'

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16123
OKLAHOMA

9/12/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PAVING PLAN AND DETAILS
STA. 3265+00 TO STA. 3280+00

JOB PIECE NO. 14999(04) SHEET NO. 48

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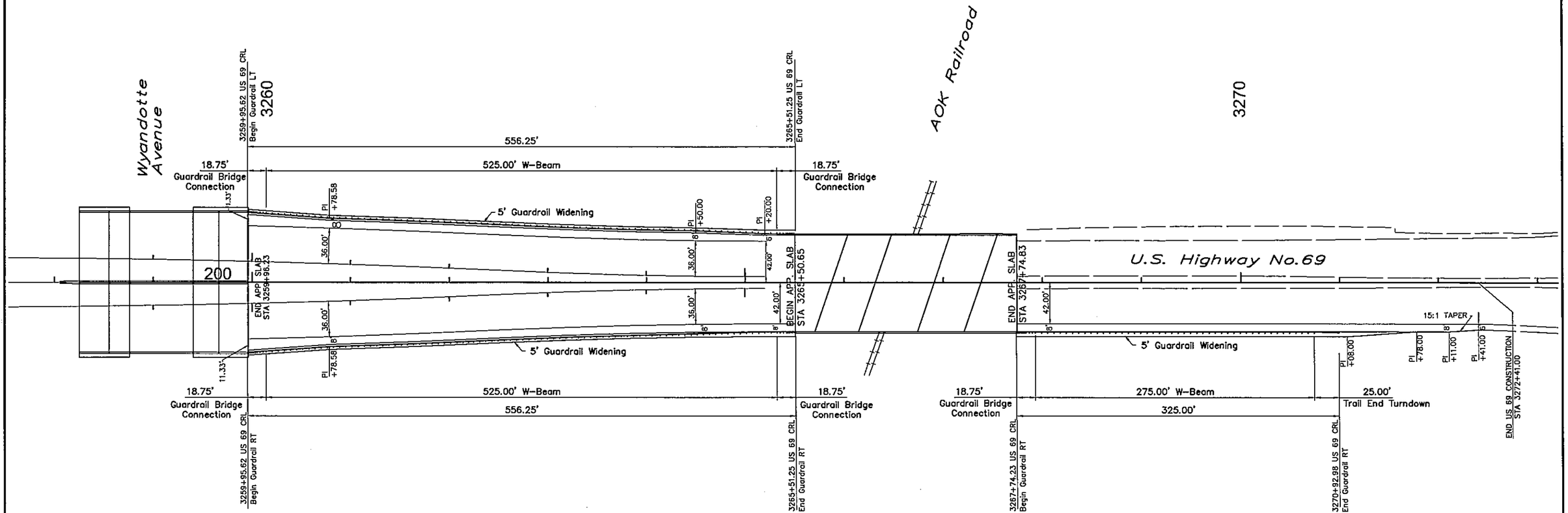

REGISTERED PROFESSIONAL ENGINEER
ROBIN C. SEWELL
16173
OKLAHOMA
7/18/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		**GUARDRAIL DETAILS**
Checked	CKE		
Approved			JOB PIECE NO. 14999(04) SHEET NO. 49
Squad	C & K		

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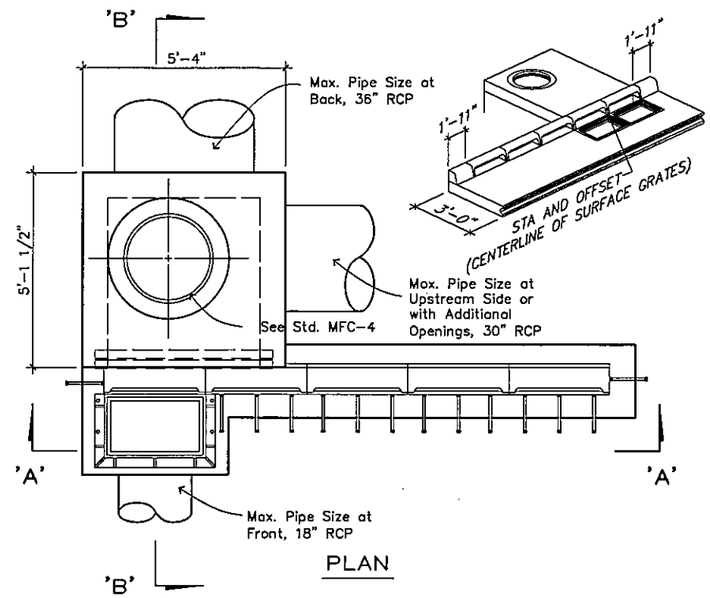
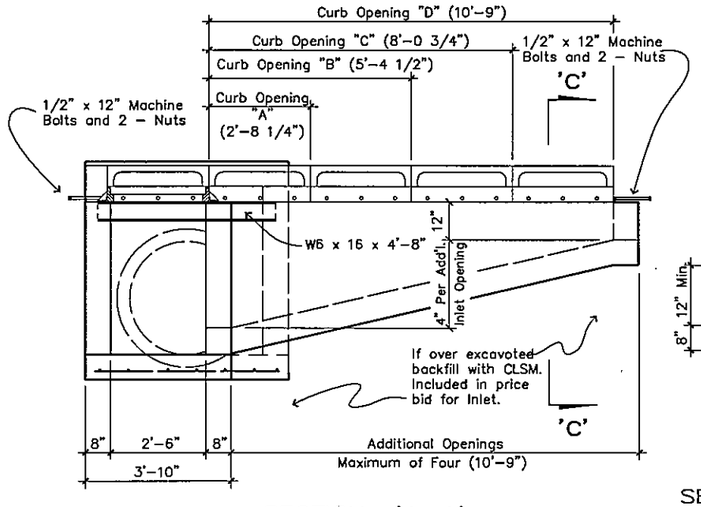


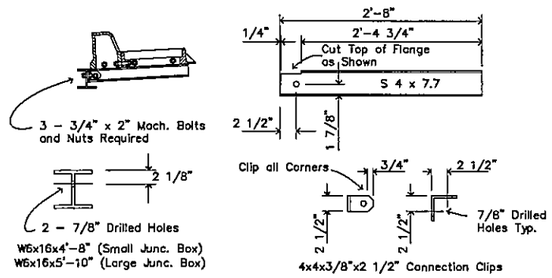
PLAN



SECTION 'A-A'

SINGLE GRATE CURB INLET WITH JUNCTION BOX

(Design 1-D with Small Junction Box Shown)

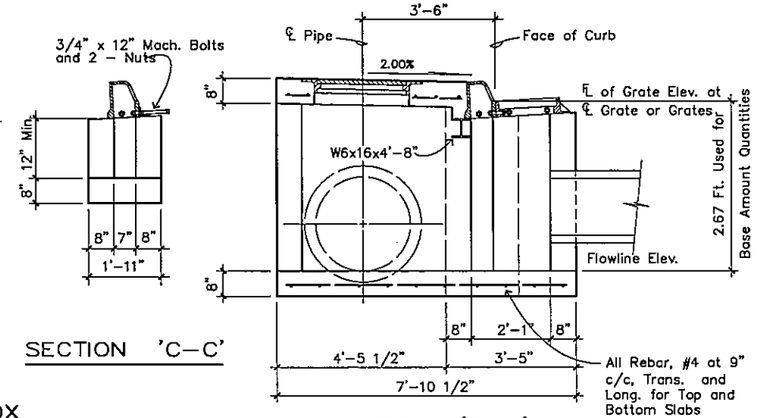


DOUBLE GRATE INLET - SUPPORT BEAM DETAIL

QUANTITIES FOR INLETS

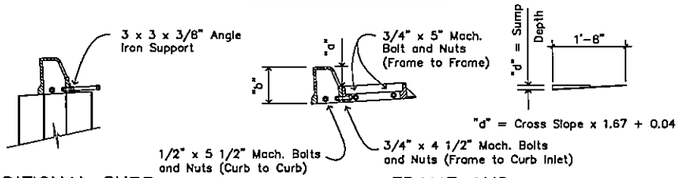
INLET DESIGN	CURB OPENING DESIGNATION	CLASS "A" CONCRETE CU. YD.	INLET BASE AM'T.	INLET ADD'L. C.F. PER VERT. FT.	INLET FRAME & GRATE EACH	CAST IRON CURB INLET EACH	MH FRAME & COVER EACH
1 WITH SMALL JUNCT. BOX	STD	1.50	43.56	15.83	1	1	1
	"A"	1.60	47.34	15.83	1	2	1
	"B"	1.73	55.44	15.83	1	3	1
	"C"	1.86	62.26	15.83	1	4	1
	"D"	1.99	68.03	15.83	1	5	1
2 WITH SMALL JUNCT. BOX	STD	1.70	47.84	15.83	2	2	1
	"A"	1.83	57.01	15.83	2	3	1
	"B"	1.96	64.86	15.83	2	4	1
	"C"	2.08	71.70	15.83	2	5	1
	"D"	2.21	77.28	15.83	2	6	1
3 WITH SMALL JUNCT. BOX	STD	4.46	120.50	15.83	1	1	1
	"B"	5.02	135.54	15.83	1	3	1
	"2B"	5.58	150.58	15.83	1	4	1
	"D"	5.74	154.97	15.83	1	5	1
1 WITH LARGE JUNCT. BOX	STD	2.72	55.44	21.21	1	1	1
	"A"	2.86	57.40	21.21	1	2	1
	"B"	2.99	62.06	21.21	1	3	1
	"C"	3.11	67.88	21.21	1	4	1
	"D"	3.24	74.93	21.21	1	5	1
2 WITH LARGE JUNCT. BOX	STD	2.90	55.58	21.21	2	2	1
	"A"	3.04	57.54	21.21	2	3	1
	"B"	3.17	64.87	21.21	2	4	1
	"C"	3.29	71.31	21.21	2	5	1
	"D"	3.42	79.36	21.21	2	6	1
3 WITH LARGE JUNCT. BOX	STD	6.13	165.68	21.22	1	1	1
	"B"	6.69	180.72	21.22	2	4	1
	"2B"	7.25	195.76	21.22	2	5	1
	"D"	7.41	200.15	21.22	2	6	1

18" THRU 30" LONGITUDINAL PIPE REQUIRES SMALL JUNCTION BOX
36" THRU 60" LONGITUDINAL PIPE REQUIRES LARGE JUNCTION BOX



SECTION 'C-C'

SECTION 'B-B'

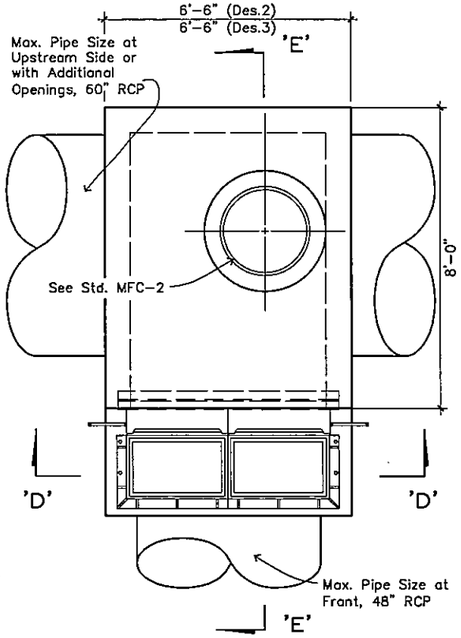


ADDITIONAL CURB OPENING DETAILS

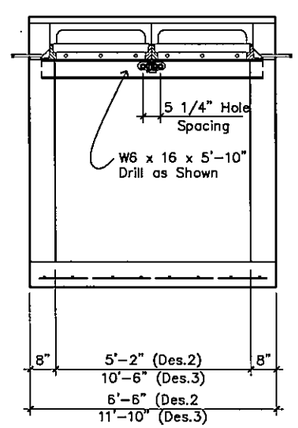
ANGLE IRON LENGTHS	
OPENING	LENGTH
"A"	2'-5 3/8"
"B"	5'-1 5/8"
"C"	7'-9 7/8"
"D"	10'-6 1/8"

FRAME AND CURB DETAILS

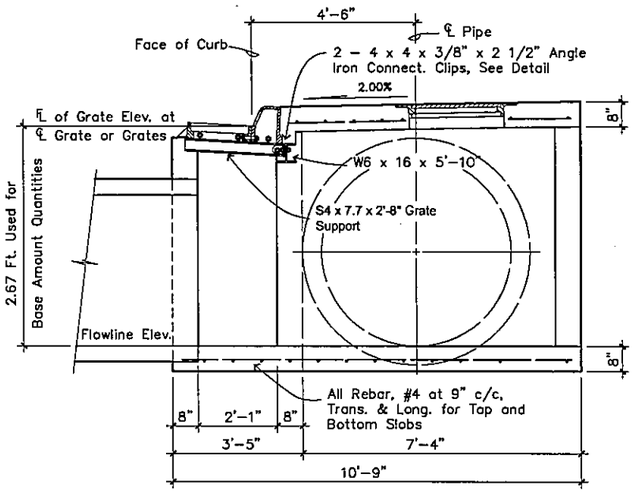
C.I. CURB HEIGHTS		
TYPE	"a"	"b"
4" MOUNTABLE	4 1/2"	9 1/2"
6" MOUNTABLE	6 1/2"	11 1/2"
6" BARRIER	6 1/2"	11 1/2"
8" BARRIER	8 1/2"	13 1/2"



PLAN



SECTION 'D-D'



SECTION 'E-E'

GENERAL NOTES

All construction and material requirements shall be in accordance with standard specifications.

Exposed concrete edges shall have a 3/4" chamfer surfaces shall be finished in accordance with Section 509 of the Standard Specifications.

Standard MFC-4 Manhole Frame and Cover to be used with these Inlets. Cost of these items shall be included in the cost of the completed inlet.

Standard SSIF-4 Frames and Standard CIG-3 Grates to be used with these Inlets. Cost of these items and hoods shall be included in the cost of the completed inlet.

The Inlet Apron may be built of the size shown on this sheet or may be placed integrally with concrete pavement, the thickness in either case shall be the same as the pavement.

There will be no Deduction of Payment for P.C. Concrete Pavement or Concrete Curb and Gutter thru the extent of the Cast Iron Curb Inlets. Deduction will be made for the Payment of Integral Curb through the extents of the Cast Iron Curb Inlets.

Quantities shown include quantities required to construct Grated Curb Inlet and Additional Curb Openings. Inlet quantities for depths greater than 2.67 Ft. (top curb to flowline inlet) can be obtained by the Add'l. Cu. Ft. per Vert. Ft. amount added to the Base Amount. Leads larger than 18" are deducted from inlet quantities.

The Cost for Concrete and Reinforcing Steel shall be included in the Amount Bid for Each Inlet.

Cast in Place Concrete Walls meeting Mix Requirements of Class 'A' Concrete may be built in lieu of the brick Masonry to the same dimensions as shown this sheet. No.4 reinforcing steel bars spaced 18" Vertically and 12" Horizontally will be required for all Cast in Place Inlet Walls. Cost of Steel Reinforcing to the included in the cost af the Inlet.

MULTIPLE DOUBLE GRATE CURB INLET WITH JUNCTION BOX

(Design 2 with Large Junction Box Shown)

BASIS OF PAYMENT

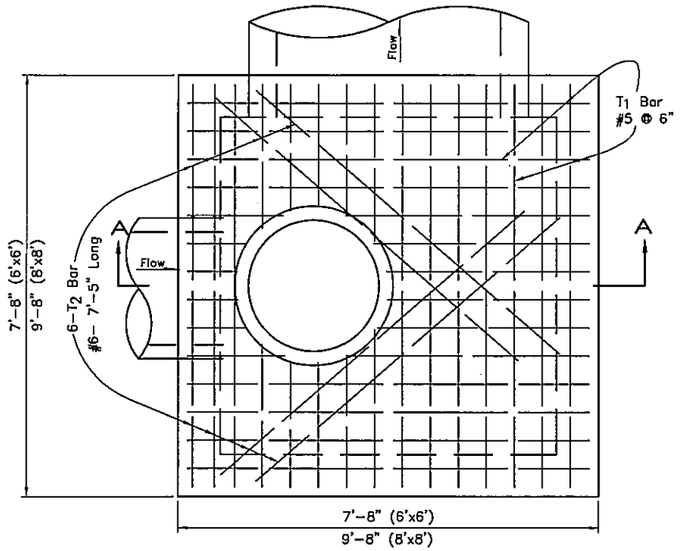
ITEM NO.	ITEM	UNIT
611(G)	INLET W/LRG. JCT. BOX, CI DES. ■	EA
611(G)	INLET W/SMALL JCT. BOX, CI DES. ■	EA
611(H)	ADD'L DEPTH IN INLET W/LJB, CI, DES. ■	VF
611(H)	ADD'L DEPTH IN INLET W/SJB, CI, DES. ■	VF

■ SPECIFIED INLET DESIGN AND CURB OPENING DESIGNATION

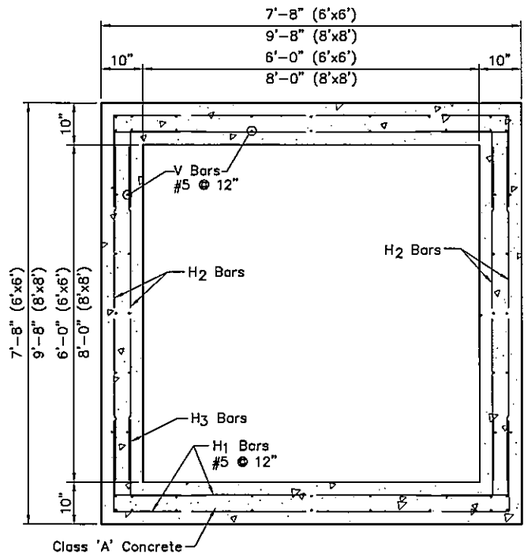
REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA 1/8/16

Survey	CKS		U.S. 69 - COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		CURB INLET WITH JUNCTION BOX
Checked	CKE		
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) — SHEET NO. 50

S:\Projects\ODOT\US 69 Comanche\Acad\wg\ACAD PROJECT 11\US69com050-CURB INLET WITH JUNCTION BOX.dwg, 7/14/2016 10:59:13 AM



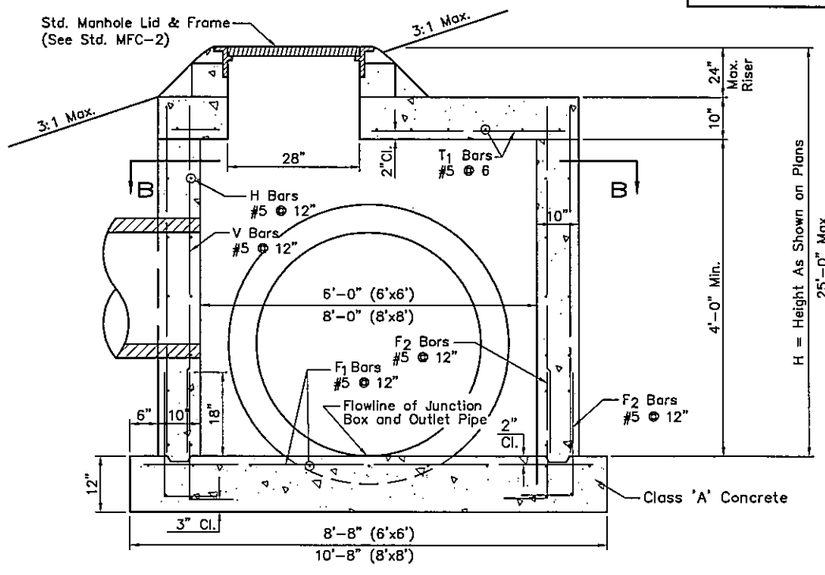
PLAN — CONCRETE JUNCTION BOX
(6'x6') and (8'x8')



SECTION B—B

RISER — CLEAR DIAMETER
29" FOR IN PAVEMENT INSTALLATION
31" FOR OUT OF PAVEMENT INSTALLATION

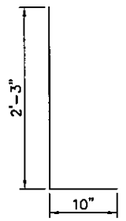
JUNCTION BOX HAS INSIDE DIMENSIONS AND HEIGHT AS SHOWN ON PLANS.



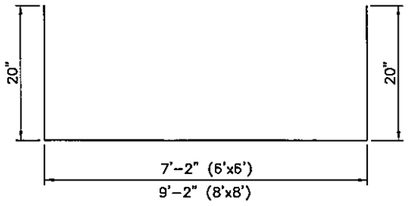
SECTION A—A

DEDUCTIONS
VOLUME FOR EACH PIPE OPENING

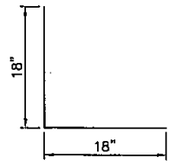
PIPE DIAMETER	VOLUME CUBIC FEET
18"	2.40
24"	4.09
30"	6.22
36"	8.80
42"	11.82
48"	15.29
54"	19.20
60"	23.56
66"	28.37
72"	33.62
78"	39.31
84"	45.45
90"	52.04



F_2—BARS



H_1—BARS



H_3—BARS

BENDING FOR BARS

BASIS OF PAYMENT

ITEM NO.	ITEM	UNIT
509(B) 0321	CLASS A CONCRETE	CY
509(C) 0322	CLASS A CONCRETE, SMALL STRUCTURES	CY
511(A) 0332	REINFORCING STEEL	LB

GENERAL NOTES:

1. ALL CONSTRUCTION METHODS AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.
2. FOR DETAILS OF FRAME AND COVER, SEE STANDARD MFC-4. INCLUDE IN COST OF COMPLETED STRUCTURE.
3. MORTAR TO BE 1:2 PORTLAND CEMENT AND SAND. JOINTS TO BE SHOVED JOINTS COMPLETELY FILLED WITH MORTAR.
4. ALL PIPE THAT PENETRATES THE WALL OF THE JUNCTION BOX SHALL BE OUTLINED BY 8 EA. #4 REBAR.
5. ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER EDGE.

OPTIONAL PRECAST JUNCTION BOXES

6. WHEN PRECAST STORM SEWER OR JUNCTION BOX UNITS ARE CALLED FOR ON THE PLANS OR SUBSTITUTED FOR CAST IN PLACE UNITS.
   - A. THE MATERIAL COMPONENTS SHALL MEET AASHTO DESIGNATION M 199 AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE ODOT FOR APPROVAL.
   - B. ALL LIFT HOLES SHALL BE SEALED WITH FIRMLY PACKED MIXTURE OF CEMENT AND SAND GROUT.
   - C. ALL JOINTS BETWEEN JUNCTION BOX AND CONNECTING CONDUITS SHALL BE SEALED WITH APPROVED RUBBER RINGS.

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
7/18/16

REINFORCING STEEL FOR 5'—0" HEIGHT

SPECIAL JUNCTION BOX	F_1 BARS STRAIGHT #5 @ 12"		F_2 BARS BENT #5 @ 12"		V BARS STRAIGHT #5 @ 12"		H_1 BARS BENT #5 @ 12"		H_2 BARS STRAIGHT #5 @ 12"		H_3 BARS BENT #5 @ 12"		T_1 BARS STRAIGHT #5 @ 12"		T_2 BARS STRAIGHT AS SHOWN		REINFORCING STEEL	REINFORCING STEEL PER ADD'L FT
	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	LB	
6' X 6'	18	8'-2"	58	3'-1"	58	4'-10"	20	10'-6"	20	5'-10"	20	3'-0"	30	7'-2"	6	7'-0"	1300	129
8' X 8'	22	10'-2"	76	3'-1"	76	4'-10"	20	12'-6"	20	7'-10"	20	3'-0"	38	9'-2"	6	7'-0"	1780	164

Design	CKS		U.S. 69 — COMANCHE AVENUE — PITTSBURG COUNTY
Drown	CKD		**STRUCTURE H1 DETAILS**
Checked	CKE		
Approved			JOB PIECE NO. 14998(04) — SHEET NO. 51
Squad	C & K		

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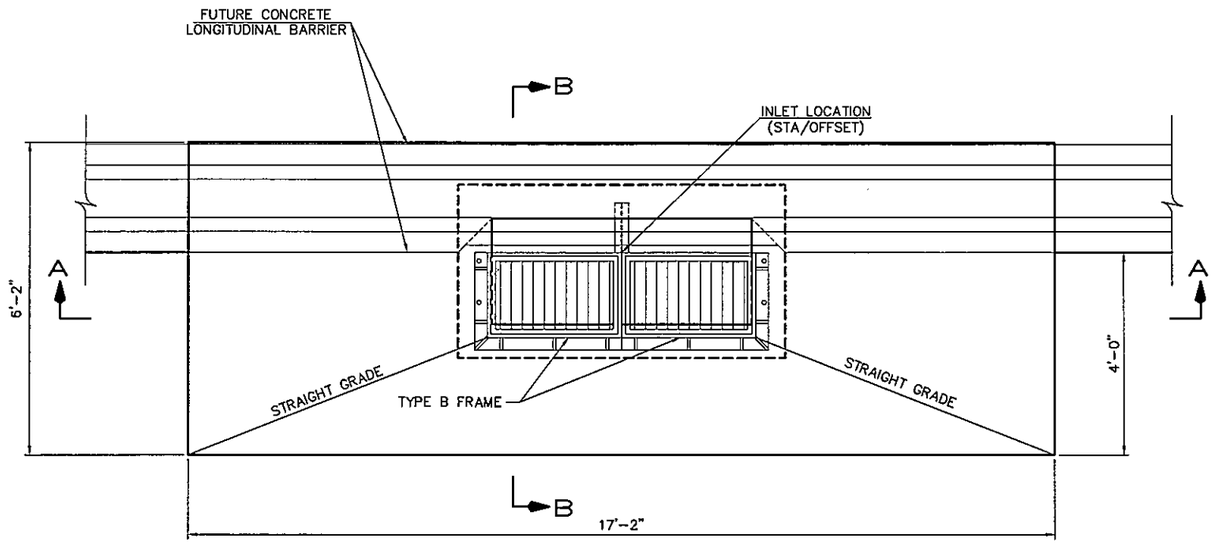
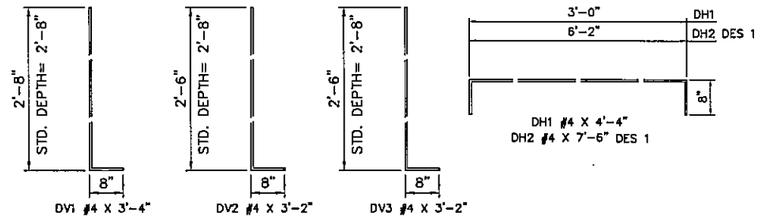
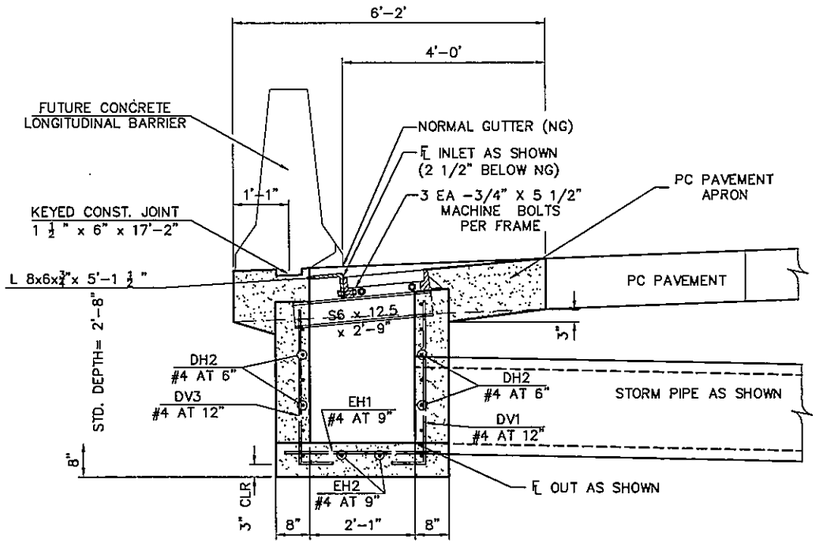


PLAN

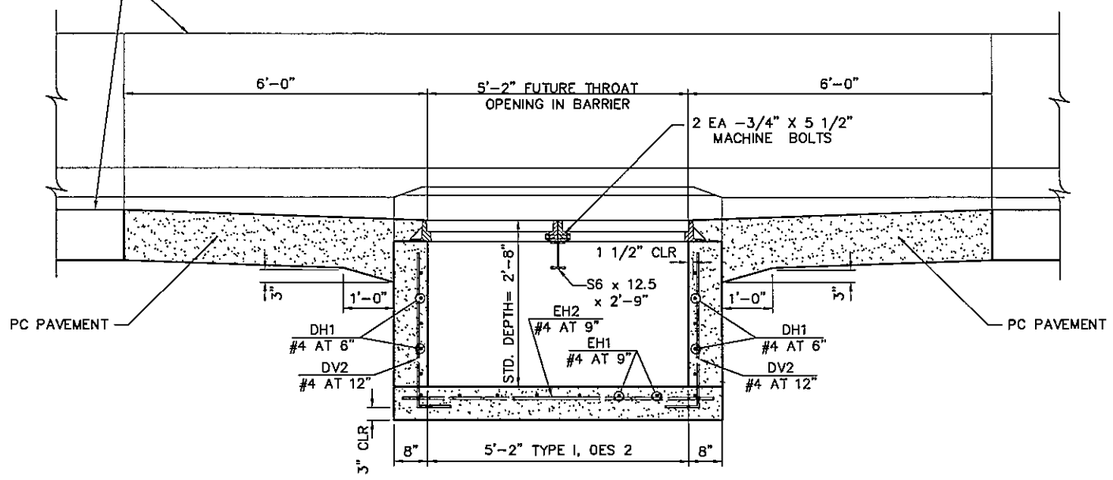
INLET–LONGITUDINAL BARRIER–TYPE I, DES 2





SECTION B–B

INLET–LONGITUDINAL BARRIER–TYPE I



SECTION A–A

INLET–LONGITUDINAL BARRIER–TYPE I, DES 2

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
   CONCRETE (CLASS A) F'C = 3 KSI
   REINFORCING STEEL FY = 60 KSI (ALL EPOXY COATED)
2. EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER SURFACES SHALL BE FINISHED IN ACCORDANCE WITH SECTION 509 OF THE STANDARD SPECIFICATIONS.
3. ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM CLEAR COVER UNLESS OTHERWISE SHOWN.
4. STANDARD SSIF–4 FRAMES AND STANDARD CIG–3 GRATES TO BE USED WITH THESE INLETS. COST OF THESE ITEMS SHALL BE INCLUDED IN THE COST OF THE COMPLETED INLET.
5. THE INLET APRON MAY BE BUILT OF THE SIZE SHOWN ON THIS SHEET OR MAY BE PLACED INTEGRALLY WITH CONCRETE PAVEMENT, THE THICKNESS IN EITHER CASE SHALL BE THE SAME AS THE PAVEMENT. COST SHALL BE INCLUDED IN PRICE BID FOR P.C. CONCRETE PAVEMENT.
6. THERE WILL BE NO DEDUCTION OF PAYMENT FOR P.C. CONCRETE PAVEMENT THRU THE EXTENT OF THE INLETS FRAMES AND GRATES.
7. THE COST FOR CONCRETE AND REINFORCING STEEL SHALL BE INCLUDED IN THE AMOUNT BID FOR EACH INLET, INLUDING ANY NECESSARY FOR ADDITIONAL INLET DEPTH. ADDITIONAL DEPTH SHALL BE INLUDED IN THE PRICE BID FOR THE INLET.

PAY ITEMS		
ITEM	DESCRIPTION	UNIT
611(G) 5699	INLET – LONGITUDINAL BARRIER –TYPE I, DES. 2	EA

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA

Design	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

INLET - LONGITUDINAL BARRIER - TYPE I

JOB PIECE NO. 14999(04) — SHEET NO. 52

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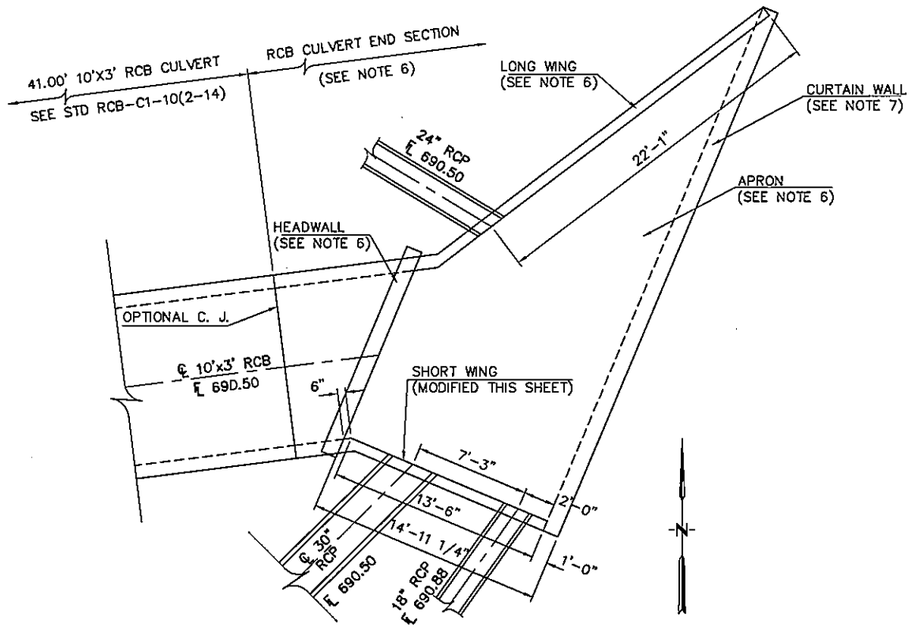
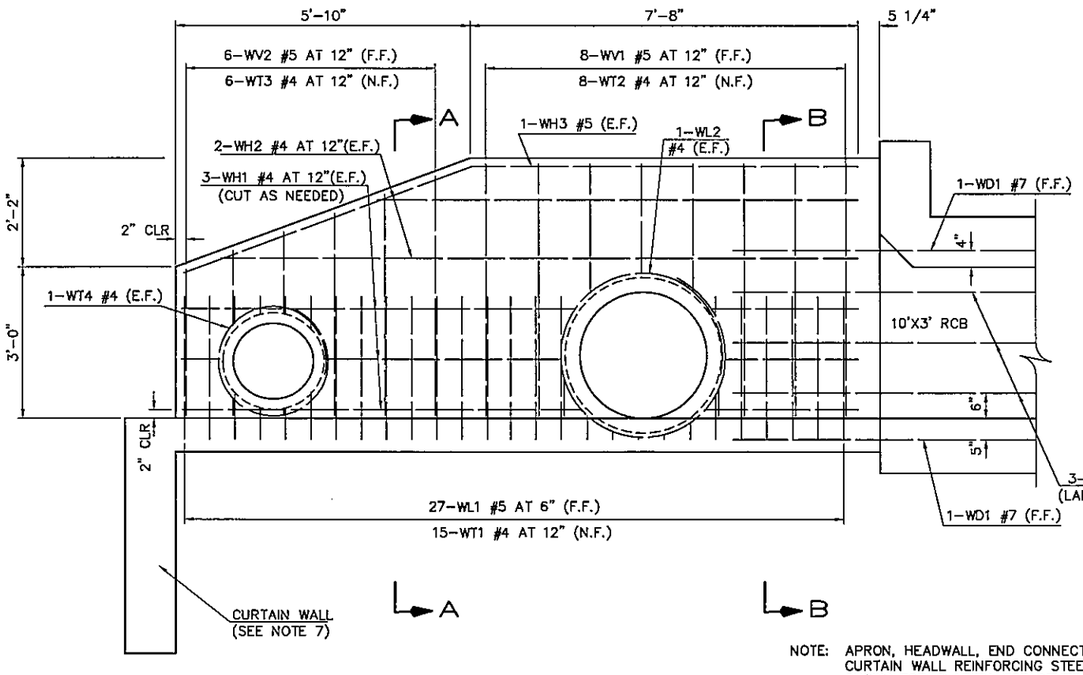


STRUCTURE N3 PLAN

STA. 3260+34.37, 209.50' RT CRL US 69
NO SCALE



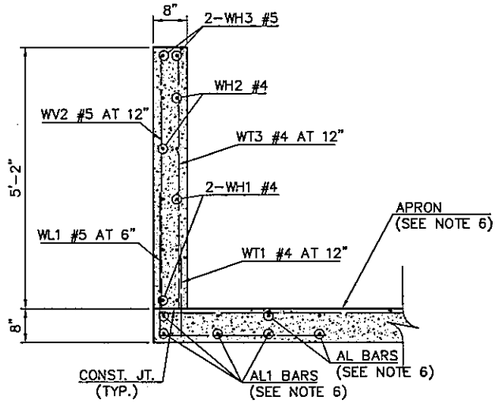
SHORT WING ELEVATION

NO SCALE

NOTE: APRON, HEADWALL, END CONNECTION, AND CURTAIN WALL REINFORCING STEEL NOT SHOWN FOR CLARITY. SEE GENERAL NOTES 6 AND 7.

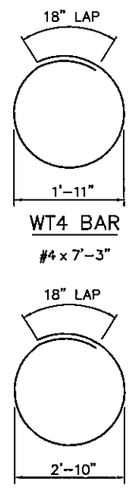
GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. ALL CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
3. ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM CLEAR COVER UNLESS OTHERWISE SHOWN.
4. ROUGHEN SURFACE AT ALL CONSTRUCTION JOINTS.
5. SEE BRIDGE STANDARD RCB-C1-10(2-14) FOR DETAILS OF 10'X3' RCB.
6. SEE BRIDGE STANDARDS RCB-E1-H3-30-1, RCB-E1-H3-30-2, AND RCB-E1-H3-30-3 FOR END SECTION DETAILS OF END CONNECTION, HEADWALL, APRON, AND LONG WINGWALL. THE ONLY MODIFICATIONS TO THESE STANDARDS ARE AS SHOWN HERE AND APPLY ONLY TO THE SHORT WINGWALL.
7. SEE BRIDGE STANDARD RCB-CW1-D4-3D FOR CURTAIN WALL DETAILS.



SEC B-B

NO SCALE

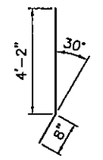


WT4 BAR

#4 x 7'-3"

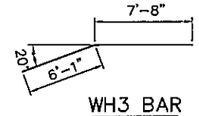
WL2 BAR

#4 x 10'-5"



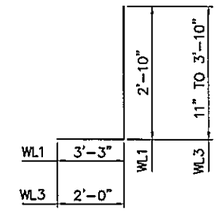
WD2 BAR

#4 x 4'-10"



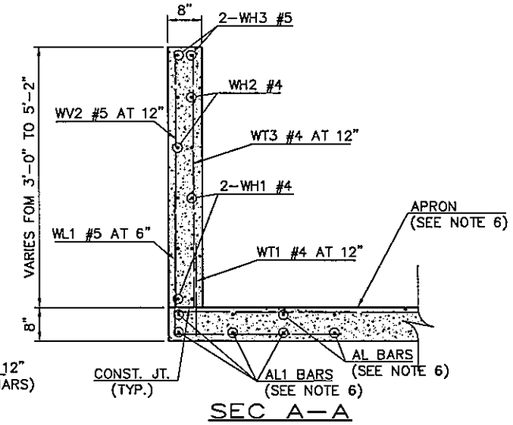
WH3 BAR

#5 x 13'-9"



WL BAR

WL1 #5 x 6'-1"
WL3 #5 x 4'-4 1/2" AVG.



SEC A-A

NO SCALE

WINGWALL BAR LIST

(LONG AND SHORT WING INCLUDED)

MARK	SIZE	QTY.	FORM	LENGTH	REMARKS
WD1	#7	10	BNT	8'-4"	
WH1	#4	6	STR	13'-4"	
WH2	#4	4	STR	11'-0" AVG	2x 12'-7"AND 2x 9'-5"
WH3	#5	2	BNT	13'-9"	
WH4	#4	2	STR	26'-3"	
WH5	#4	8	STR	13'-7 1/2"AVG	5'-5" TO 21'-10"
WH6	#5	2	STR	25'-8"	
WL1	#5	42	BNT	6'-1"	
WL2	#4	2	BNT	10'-5"	CHANGED BAR
WL3	#5	17	BNT	4'-4 1/2"AVG	2'-11" TO 5'-10"
WT1	#4	23	STR	2'-10"	
WT2	#4	11	STR	5'-0"	
WT3	#4	6	STR	3'-10"AVG	2'-11" TO 4'-9"
WT4	#4	2	BNT	7'-3"	CHANGED BAR
WT5	#4	8	STR	4'-3"AVG	3'-7" TO 4'-11"
WT6	#4	17	STR	2'-4 1/2"AVG	11" TO 3'-10"
WV1	#5	10	STR	5'-0"	
WV2	#5	6	STR	3'-10"AVG	2'-11" TO 4'-9"
WV3	#5	8	STR	4'-3"AVG	3'-7" TO 4'-11"
U1	#4	1	BNT	1'-10"	2'-11" TO 5'-10"

NOTE: WINGWALL BAR LIST ABOVE SHOULD REPLACE LIST SHOWN ON BRIDGE STANDARD RCB-E1-H3-30-3 TO REFLECT MODIFICATIONS TO THE SHORT WINGWALL DESIGN.

PAY QUANTITIES

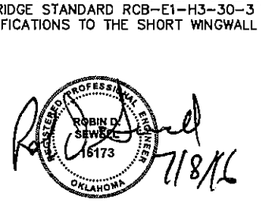
ROADWAY

ITEM	DESCRIPTION	UNIT	QUANTITY
508(A) 0319	CLASS AA CONCRETE	CY	73.82
511(A) 0332	REINFORCING STEEL	LB	12,930.00

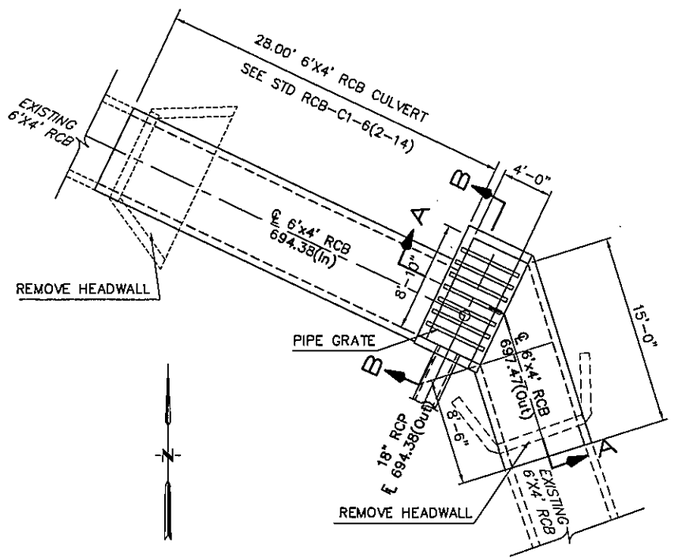
NOTE: QUANTITIES ABOVE ARE FOR STRUCTURE N3, WHICH INCLUDE 41 LF OF 10'X3' RCB CULVERT, ONE END CONNECTION, ONE HEADWALL, ONE APRON, TWO WINGWALLS, AND ONE CURTAIN WALL.

DESIGN DATA:

1. DESIGNED IN ACCOROANCE WITH 2007 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND INTERIM SPECIFICATIONS FROM 2008.
2. DESIGNED FOR HL-93 LOAOING AND OVERLOAD TRUCK.
3. MATERIALS:
   CONCRETE (CLASS AA) F'C = 4 KSI
   REINFORCING STEEL FY = 60 KSI



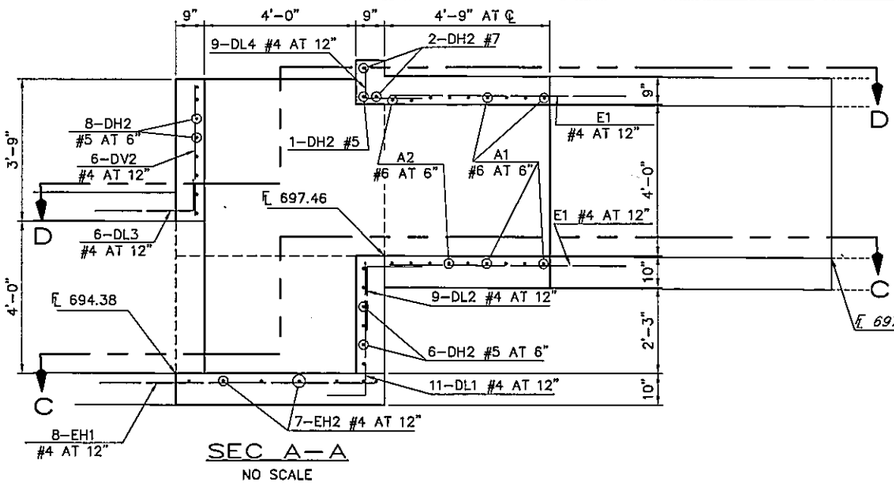
Design	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		**STRUCTURE N3 DETAILS**
Checked	CKE		
Approved			JOB PIECE NO. 14999(04) SHEET NO. 53
Squad	C & K		



STRUCTURE P1 PLAN

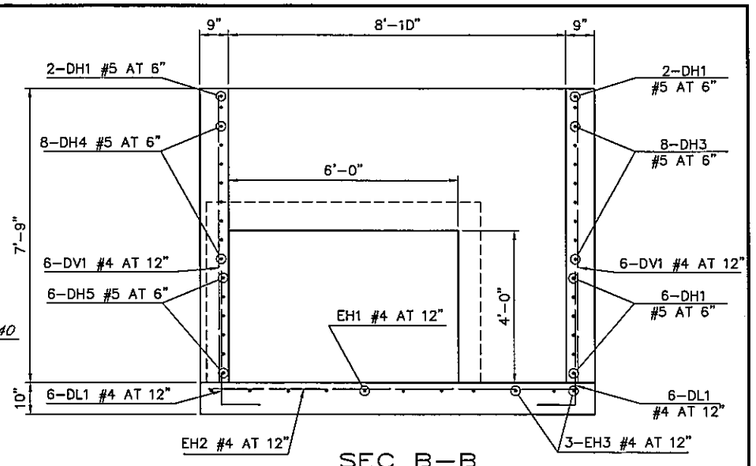
STA. 326D+34.37, 209.50' RT CRL US 69

NO SCALE



SEC A—A

NO SCALE



SEC B—B

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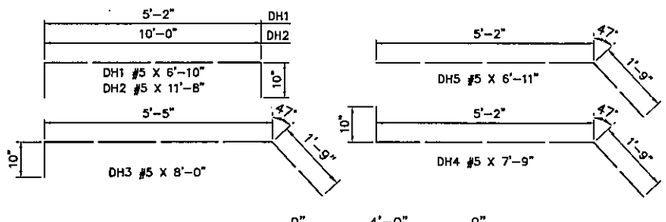
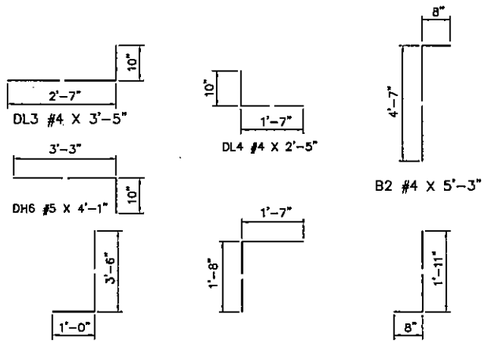
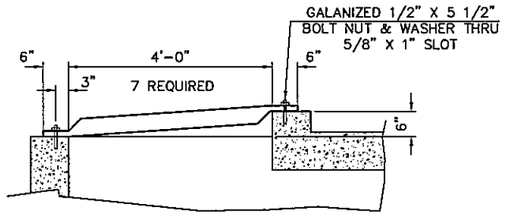
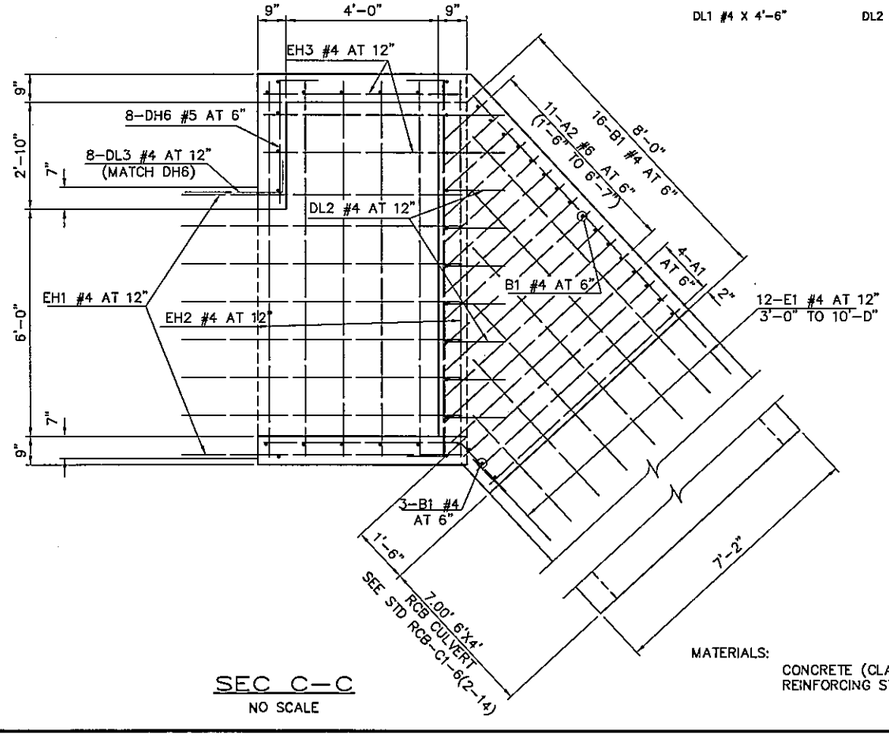




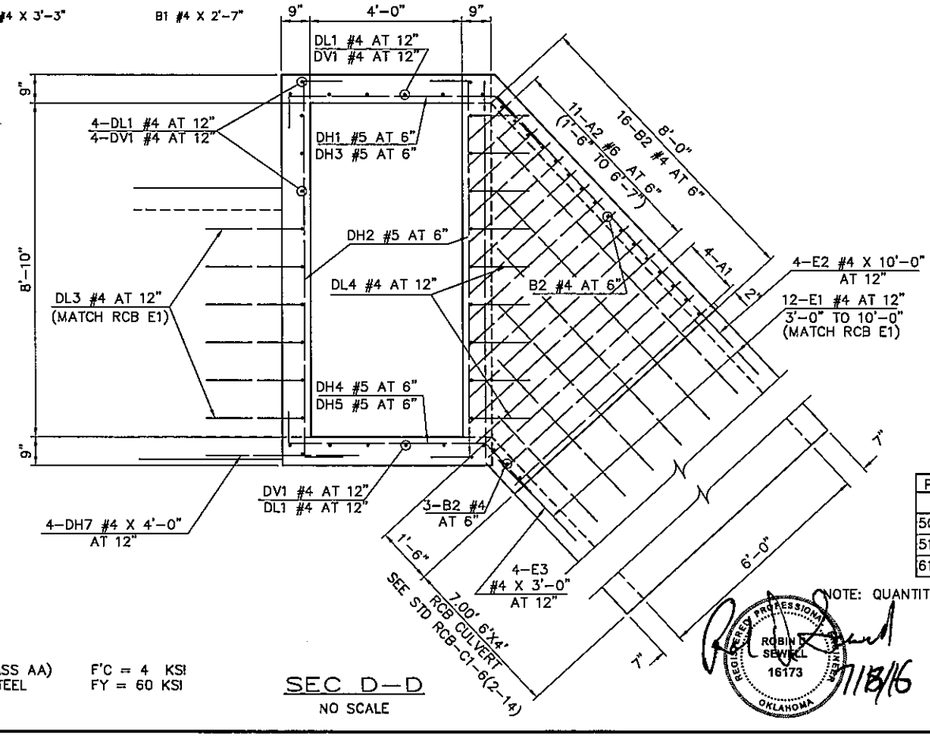


TYPICAL GRATE DETAIL



SEC C—C

NO SCALE



SEC D—D

NO SCALE

MATERIALS:

CONCRETE (CLASS AA) F'C = 4 KSI
REINFORCING STEEL FY = 60 KSI

GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
2. ALL CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
3. ALL REINFORCING STEEL SHALL HAVE A 2" MINIMUM CLEAR COVER UNLESS OTHERWISE SHOWN.
4. SEE BRIDGE STANDARD RCB-C1-6(2-14) FOR DETAILS OF 6'X4' RCB. TOP OPENING SHALL HAVE SEVEN(7) - 3" DIA. STD. WT. GALV. STEEL PIPE SAFETY GRATES INSTALLED AS SHOWN AT 12" MAX. CENTERS. COST OF PIPE SAFETY GRATES AND ALL HARDWARE NEEDED FOR INSTALLATION SHALL BE INCLUDED IN THE PRICE BID IN THE ITEMS LISTED BELOW.
5. PIPE GRATE ENDS SHALL BE HELD DOWN WITH 1/2" X 5 1/2" GALV. BOLT, WASHER & NUT MEETING THE REQUIREMENTS OF ASTM A325. BOLT THREADS, 1 3/4", SHALL REMAIN EXPOSED FOR INSTALLING GRATE.

BAR LIST

(DOES NOT INCLUDE 6' X 4' RCB CULVERTS)

MARK	SIZE	QTY.	FORM	LENGTH	REMARKS
DH1	#5	10	BNT	6'-10"	
DH2	#5	15	BNT	11'-8"	
DH3	#5	8	BNT	8'-0"	
DH4	#5	8	BNT	7'-9"	
DH5	#5	6	BNT	6'-11"	
DH6	#5	8	BNT	4'-1"	
DH7	#4	4	STR	4'-0"	
DL1	#4	27	BNT	4'-6"	
DL2	#4	9	BNT	3'-3"	
DL3	#4	6	BNT	3'-5"	
DL4	#4	9	BNT	2'-5"	
DV1	#4	16	STR	7'-7"	
DV2	#4	6	STR	3'-5"	
DC	#7	2	STR	10'-0"	
EH1	#4	8	STR	7'-6"	
EH2	#4	7	STR	10'-0"	
EH3	#4	3	STR	5'-2"	
A1	#6	8	STR	6'-10"	
A2	#6	22	STR	4'-0 3/4" AVG	1'-6" TO 6'-7"
B1	#4	19	BNT	2'-7"	
B2	#4	19	BNT	5'-3"	
E1	#4	24	STR	6'-6" AVG	3'-0" TO 10'-0"
E2	#4	4	STR	10'-0"	
E3	#4	4	STR	3'-0"	

PAY ITEMS			
ITEM	DESCRIPTION	UNIT	QUANTITY
508(A) 0319	CLASS AA CONCRETE	CY	30.46
511(A) 0332	REINFORCING STEEL	LB	4,300.00
611(K) 5961	RPL DROP INLET GRATES-CDI RCB	EA	7.00

NOTE: QUANTITIES ABOVE ARE FOR STRUCTURE P1, WHICH INCLUDE 35 LF OF 6'X4' RCB.

ROBIN K. SEWELL 16173 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA

7/18/16

Design	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE AVENUE — PITTSBURG COUNTY

STRUCTURE P1 DETAILS

JOB PIECE NO. 14999(04) — SHEET NO. 54

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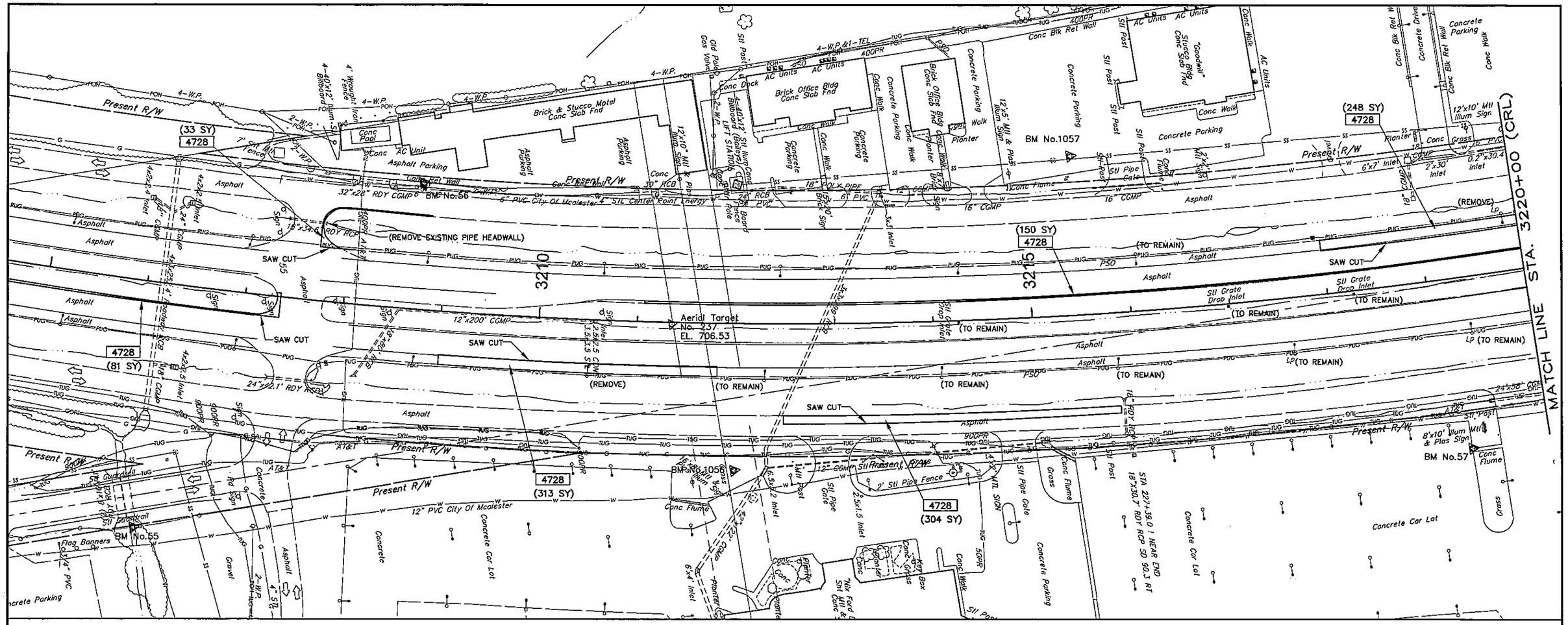


SCALE 1"=50'

PAY ITEMS

0291	REMOVAL OF HEADWALL
4726	REMOVAL OF CURB AND GUTTER②
4727	REMOVAL OF CONCRETE PAVEMENT ①
4728	REMOVAL OF ASPHALT PAVEMENT
4766	REMOVAL OF CONCRETE DRIVEWAY ①
4780	REMOVAL OF GUARDRAIL
4792	REMOVAL OF CONCRETE SIDEWALK
5881	REMOVAL OF CONCRETE DITCH LINER ③

LEGEND

////	REMOVE OR LEAVE PIPE INPLACE AND REMOVE PORTION OF STRUCTURE 3'-0" BELOW FINISH GRADE AND PUMP FULL OF CONTROLLED LOW STRENGTH MATERIAL (CLSM). CONTRACTORS OPTION.
▭	PAVEMENT REMOVALS

REMOVAL QUANTITIES

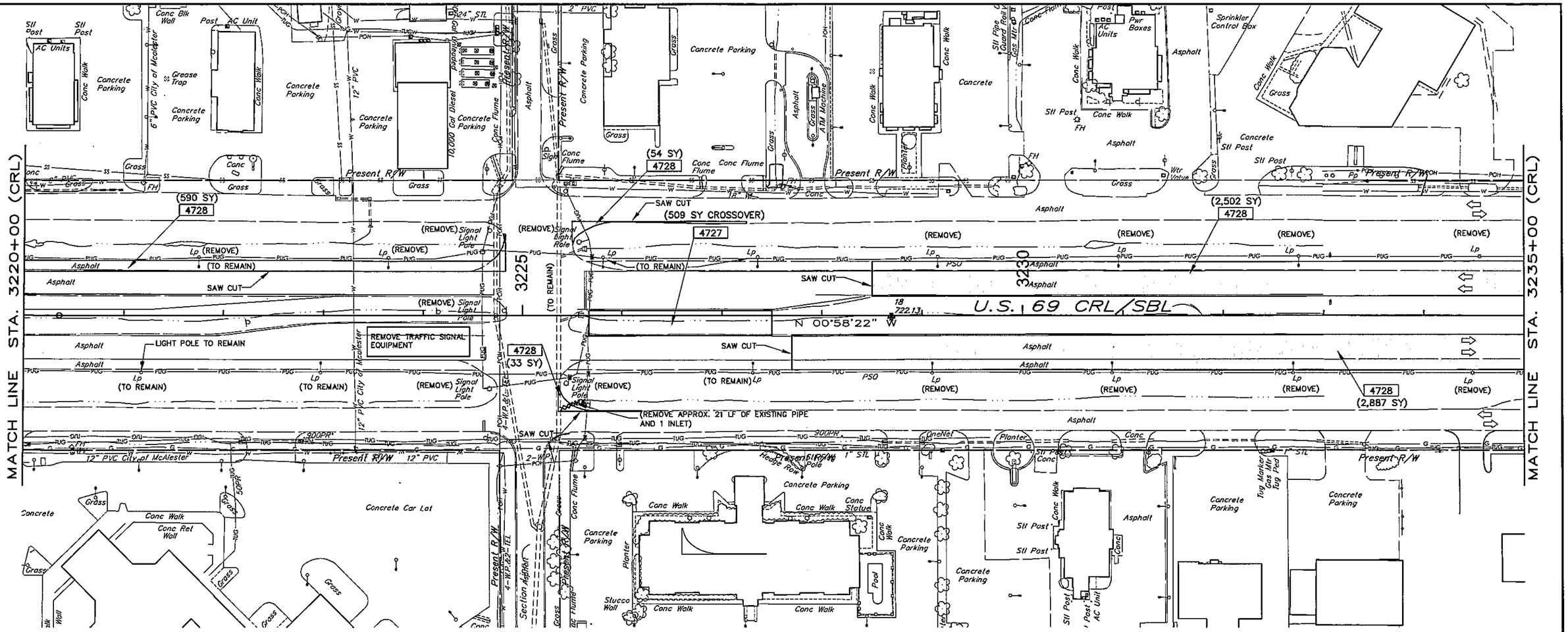
ITEM	DESCRIPTION	UNIT	QUANTITY THIS SHEET
619(B) 0291	REMOVAL OF HEADWALL	EA	
619(B) 4726	REMOVAL OF CURB AND GUTTER	LF	
619(B) 4727	REMOVAL OF CONCRETE PAVEMENT	SY	
619(B) 4728	REMOVAL OF ASPHALT PAVEMENT	SY	1,129
619(B) 4766	REMOVAL OF CONCRETE DRIVEWAY	SY	
619(B) 4780	REMOVAL OF GUARDRAIL	LF	
619(B) 4792	REMOVAL OF SIDEWALK	SY	
619(B) 5881	REMOVAL OF CONCRETE DITCH LINER	LF	
805(A) 8712	REMOVAL OF LIGHT POLE	EA	2

① INCLUDES REMOVAL OF ASPHALT OVERLAYS AND CURB.
② INCLUDES STAND UP CURB.
③ INCLUDES SLOPE WALLS AND DRAINS AT END OF BRIDGE.
④ REMOVAL OF HEADWALL IS PAID FOR BOX EXTENSIONS ONLY.

ROBIN D. SEWELL 16173

7/8/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		**REMOVAL PLAN**
Checked	CKE		**STA. 3205+00 TO STA. 3220+00**
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) SHEET NO. 55



PAY ITEMS

0291	REMOVAL OF HEADWALL
4726	REMOVAL OF CURB AND GUTTER ②
4727	REMOVAL OF CONCRETE PAVEMENT ①
4728	REMOVAL OF ASPHALT PAVEMENT
4766	REMOVAL OF CONCRETE DRIVEWAY ①
4780	REMOVAL OF GUARDRAIL
4792	REMOVAL OF CONCRETE SIDEWALK
5881	REMOVAL OF CONCRETE DITCH LINER ③

LEGEND

//// REMOVE OR LEAVE PIPE INPLACE AND REMOVE PORTION OF STRUCTURE 3'-0" BELOW FINISH GRADE AND PUMP FULL OF CONTROLLED LOW STRENGTH MATERIAL (CLSM). CONTRACTORS OPTION.

PAVEMENT REMOVALS

REMOVAL QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY THIS SHEET
619(B) 0291	REMOVAL OF HEADWALL	EA	
619(B) 4726	REMOVAL OF CURB AND GUTTER	LF	
619(B) 4727	REMOVAL OF CONCRETE PAVEMENT	SY	509
619(B) 4728	REMOVAL OF ASPHALT PAVEMENT	SY	6,066
619(B) 4766	REMOVAL OF CONCRETE DRIVEWAY	SY	
619(B) 4780	REMOVAL OF GUARDRAIL	LF	
619(B) 4792	REMOVAL OF SIDEWALK	SY	
619(B) 5881	REMOVAL OF CONCRETE DITCH LINER	LF	
805(A) 8712	REMOVAL OF LIGHT POLE	EA	10

① INCLUDES REMOVAL OF ASPHALT OVERLAYS AND CURB.
② INCLUDES STAND UP CURB.
③ INCLUDES SLOPE WALLS AND DRAINS AT END OF BRIDGE.
④ REMOVAL OF HEADWALL IS PAID FOR BOX EXTENSIONS ONLY.

BEFORE YOU DIG 811 CALL OKIE

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16023 OKLAHOMA 7/18/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		REMOVAL PLAN
Checked	CKE		STA. 3220+00 TO STA. 3235+00
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) SHEET NO. 56

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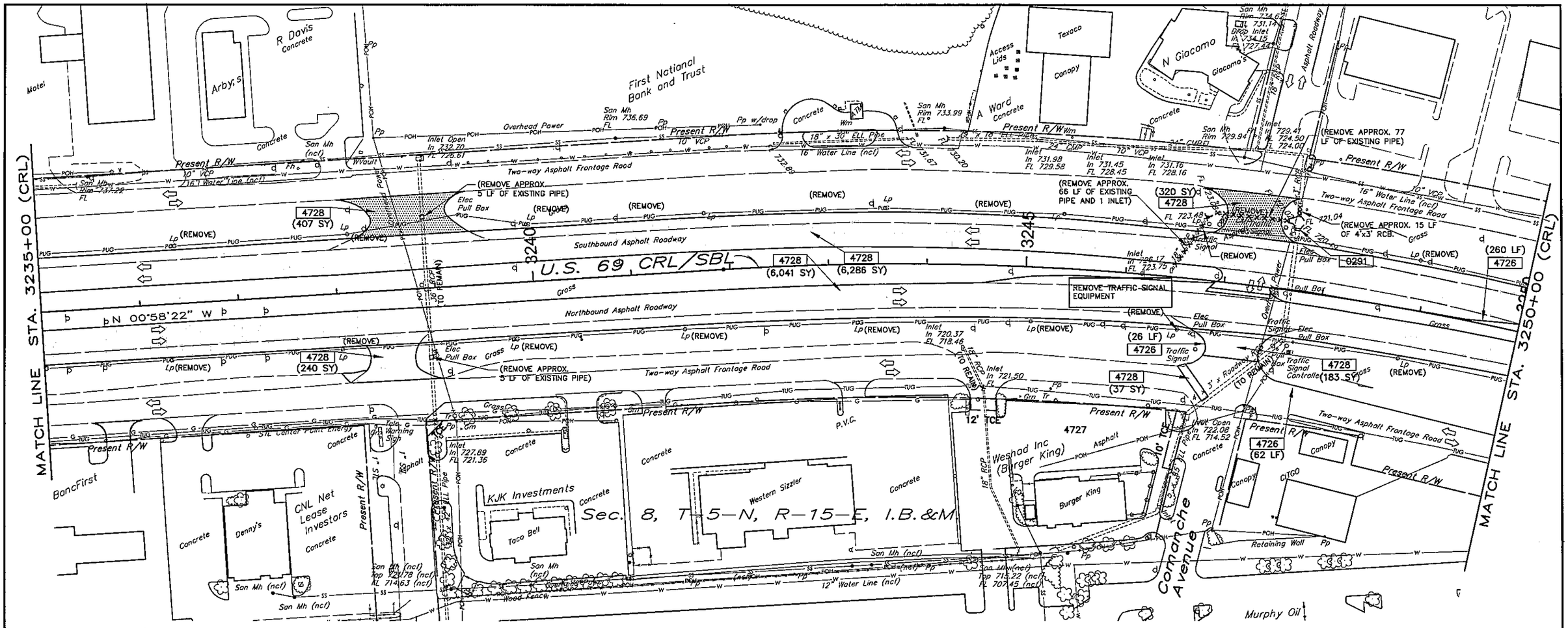

PAY ITEMS

0291	REMOVAL OF HEADWALL ④
4726	REMOVAL OF CURB AND GUTTER ②
4727	REMOVAL OF CONCRETE PAVEMENT ①
4728	REMOVAL OF ASPHALT PAVEMENT
4766	REMOVAL OF CONCRETE DRIVEWAY ①
4780	REMOVAL OF GUARDRAIL
4792	REMOVAL OF CONCRETE SIDEWALK
5881	REMOVAL OF CONCRETE DITCH LINER ③

LEGEND

////// REMOVE OR LEAVE PIPE INPLACE AND REMOVE PORTION OF STRUCTURE 3'-0" BELOW FINISH GRADE AND PUMP FULL OF CONTROLLED LOW STRENGTH MATERIAL (CLSM). CONTRACTORS OPTION.

PAVEMENT REMOVALS

REMOVAL QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY THIS SHEET
619(B) 0291	REMOVAL OF HEADWALL	EA	1
619(B) 4726	REMOVAL OF CURB AND GUTTER	LF	348
619(B) 4727	REMOVAL OF CONCRETE PAVEMENT	SY	
619(B) 4728	REMOVAL OF ASPHALT PAVEMENT	SY	13,514
619(B) 4766	REMOVAL OF CONCRETE DRIVEWAY	SY	
619(B) 4780	REMOVAL OF GUARDRAIL	LF	
619(B) 4792	REMOVAL OF SIDEWALK	SY	
619(B) 5881	REMOVAL OF CONCRETE DITCH LINER	LF	
805(A) 8712	REMOVAL OF LIGHT POLE	EA	16

① INCLUDES REMOVAL OF ASPHALT OVERLAYS AND CURB.
② INCLUDES STAND UP CURB.
③ INCLUDES SLOPE WALLS AND DRAINS AT END OF BRIDGE.
④ REMOVAL OF HEADWALL IS PAID FOR BOX EXTENSIONS ONLY.

BEFORE YOU DIG OKIE 811 CALL OKIE

ROBIN E. SEWELL 16173 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA 7/8/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

REMOVAL PLAN
STA. 3235+00 TO STA. 3250+00

JOB PIECE NO. 14999(04) — SHEET NO. 57

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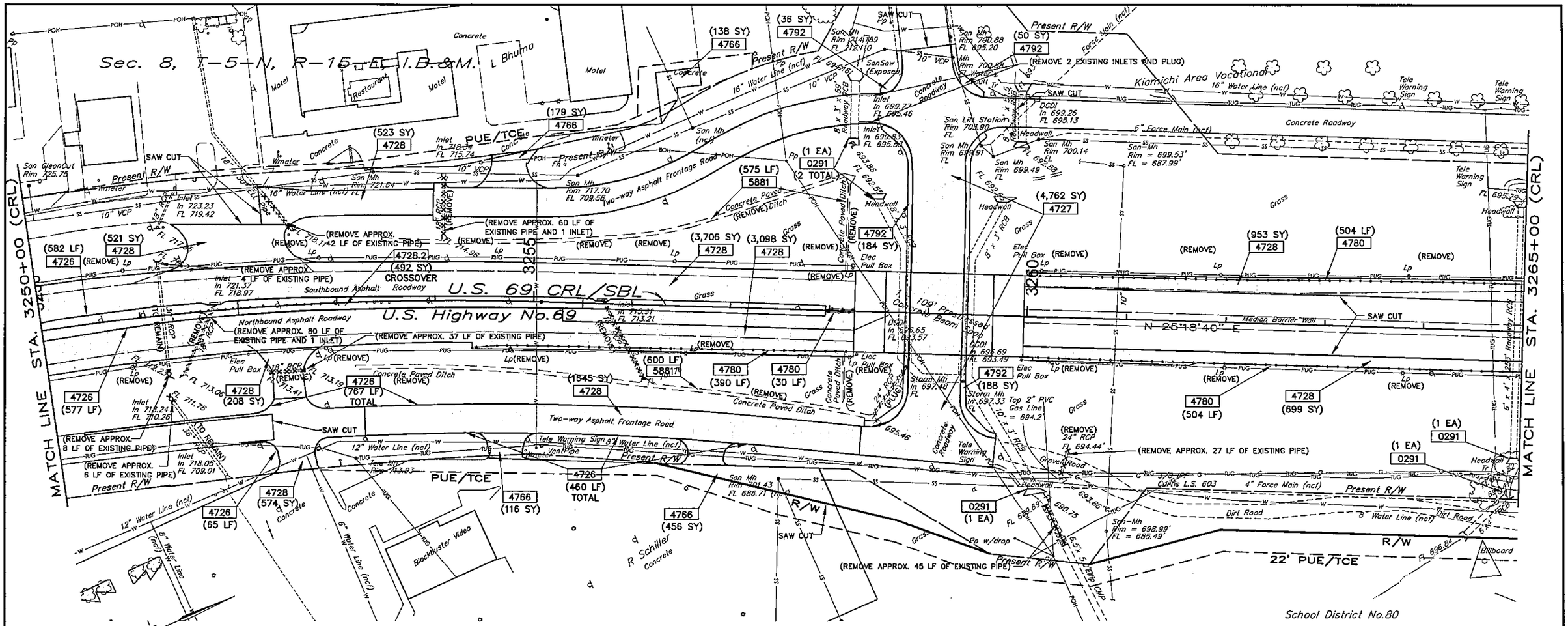

PAY ITEMS

0291	REMOVAL OF HEADWALL ④
4726	REMOVAL OF CURB AND GUTTER ②
4727	REMOVAL OF CONCRETE PAVEMENT ①
4728	REMOVAL OF ASPHALT PAVEMENT
4766	REMOVAL OF CONCRETE DRIVEWAY ①
4780	REMOVAL OF GUARDRAIL
4792	REMOVAL OF CONCRETE SIDEWALK
5881	REMOVAL OF CONCRETE DITCH LINER ③

LEGEND

//// REMOVE OR LEAVE PIPE INPLACE AND REMOVE PORTION OF STRUCTURE 3'-0" BELOW FINISH GRADE AND PUMP FULL OF CONTROLLED LOW STRENGTH MATERIAL (CLSM). CONTRACTORS OPTION.

PAVEMENT REMOVALS

REMOVAL QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY THIS SHEET
619(B) 0291	REMOVAL OF HEADWALL	EA	5
619(B) 4726	REMOVAL OF CURB AND GUTTER	LF	2,452
619(B) 4727	REMOVAL OF CONCRETE PAVEMENT	SY	4,762
619(B) 4728	REMOVAL OF ASPHALT PAVEMENT	SY	12,419
619(B) 4766	REMOVAL OF CONCRETE DRIVEWAY	SY	889
619(B) 4780	REMOVAL OF GUARDRAIL	LF	1,428
619(B) 4792	REMOVAL OF SIDEWALK	SY	458
619(B) 5881	REMOVAL OF CONCRETE DITCH LINER	LF	1,175
805(A) 8712	REMOVAL OF LIGHT POLE	EA	16

① INCLUDES REMOVAL OF ASPHALT OVERLAYS AND CURB.
② INCLUDES STAND UP CURB.
③ INCLUDES SLOPE WALLS AND DRAINS AT END OF BRIDGE.
④ REMOVAL OF HEADWALL IS PAID FOR BOX EXTENSIONS ONLY.

BEFORE YOU DIG 811 CALL OKIE

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 15173 OKLAHOMA 7/8/16

Survey	CKS	U.S. 69 – COMANCHE AVENUE	PITTSBURG COUNTY
Drawn	CKD	REMOVAL PLAN STA. 3250+00 TO STA. 3265+00	
Checked	CKE		
Approved		JOB PIECE NO. 14999(04)	SHEET NO. 5R
Squad	C & K		

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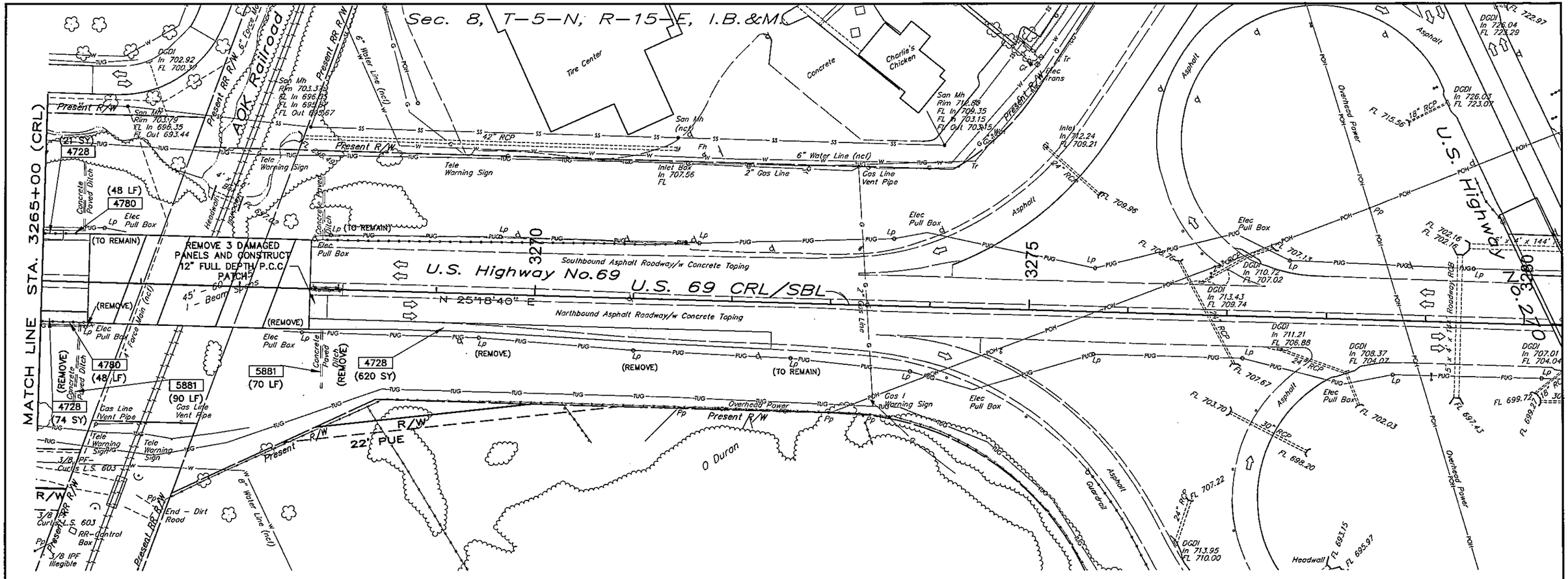

0 5D 1DD 15D

SCALE 1"=5D'

PAY ITEMS

0291.X	REMOVAL OF HEADWALL ④
4726.X	REMOVAL OF CURB AND GUTTER ②
4727.X	REMOVAL OF CONCRETE PAVEMENT ①
4728.X	REMOVAL OF ASPHALT PAVEMENT
4766.X	REMOVAL OF CONCRETE DRIVEWAY ①
4780.X	REMOVAL OF GUARDRAIL
4792.X	REMOVAL OF CONCRETE SIDEWALK
5881.X	REMOVAL OF CONCRETE DITCH LINER ③

LEGEND

//// REMOVE OR LEAVE PIPE INPLACE AND REMOVE PORTION OF STRUCTURE 3'-0" BELOW FINISH GRADE AND PUMP FULL OF CONTROLLED LOW STRENGTH MATERIAL (CLSM). CONTRACTORS OPTION.

PAVEMENT REMOVALS

REMOVAL QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY SHEET 58
619(B) 0291	REMOVAL OF HEADWALL	EA	
619(B) 4726	REMOVAL OF CURB AND GUTTER	LF	
619(B) 4727	REMOVAL OF CONCRETE PAVEMENT	SY	50
619(B) 4728	REMOVAL OF ASPHALT PAVEMENT	SY	715
619(B) 4766	REMOVAL OF CONCRETE DRIVEWAY	SY	
619(B) 4780	REMOVAL OF GUARDRAIL	LF	96
619(B) 4792	REMOVAL OF SIDEWALK	SY	
619(B) 5881	REMOVAL OF CONCRETE DITCH LINER	LF	160
805(A) 8712	REMOVAL OF LIGHT POLE	EA	4

① INCLUDES REMOVAL OF ASPHALT OVERLAYS AND CURB.
② INCLUDES STAND UP CURB.
③ INCLUDES SLOPE WALLS AND DRAINS AT END OF BRIDGE.
④ REMOVAL OF HEADWALL IS PAID FOR BOX EXTENSIONS ONLY.

BEFORE YOU DIG 811 OKIE CALL OKIE

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA 12/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

REMOVAL PLAN
STA. 3265+00 TO STA. 3280+00

JOB PIECE NO. 14999(04) SHEET NO. 59

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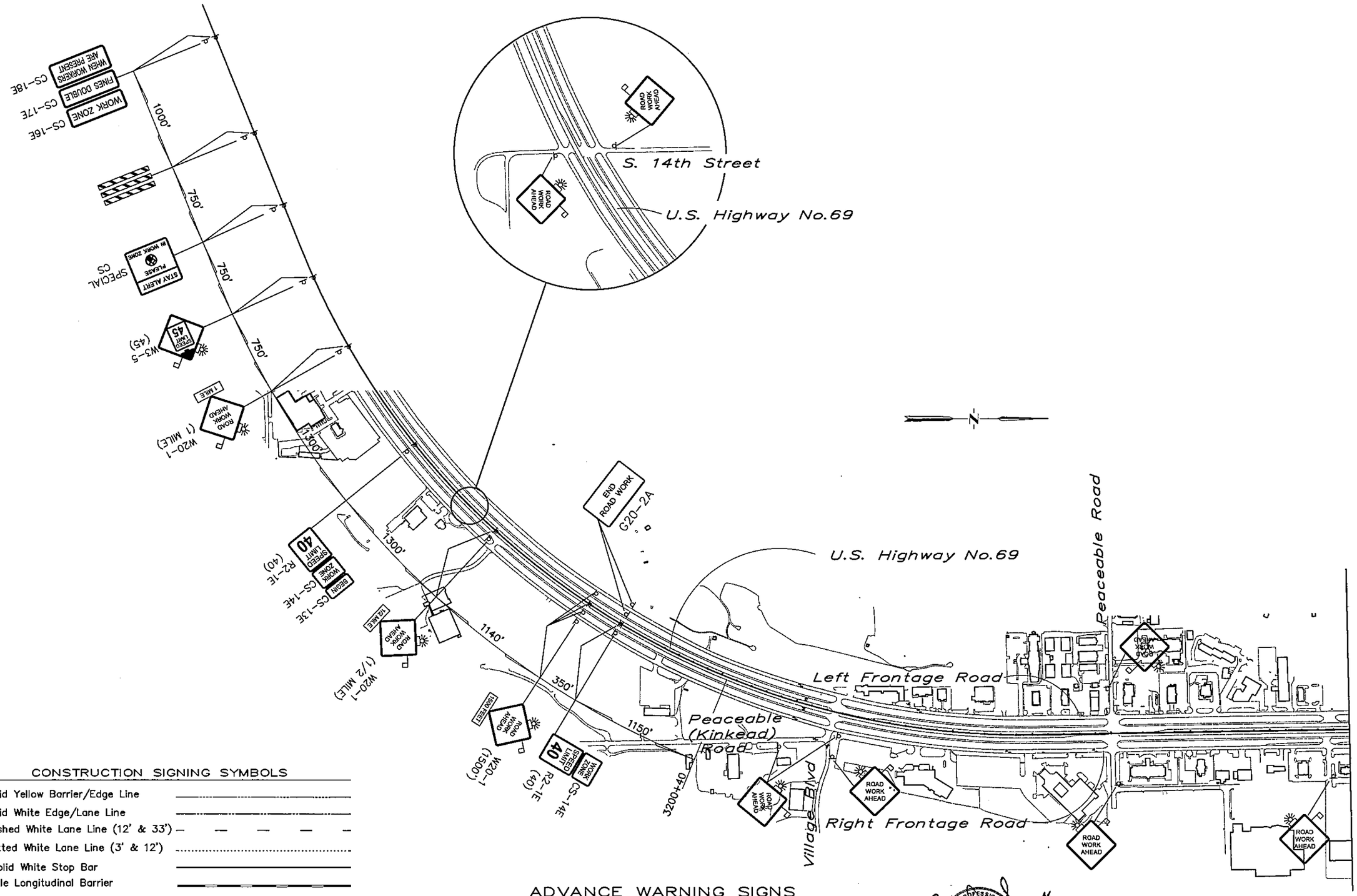

CONSTRUCTION SIGNING SYMBOLS

4" Solid Yellow Barrier/Edge Line	
4" Solid White Edge/Lane Line	
4" Dashed White Lane Line (12' & 33')	
4" Dotted White Lane Line (3' & 12')	
24" Solid White Stop Bar	
Portable Longitudinal Barrier	

Arrow Panel		Drum	
Sign, as Noted		Type III Barricade	
Tube		Const. Zone Impact Attenuator	
Vertical Panel			

ADVANCE WARNING SIGNS

TO BE IN PLACE DURING ALL PHASES OF WORK AND SUPPLEMENTED AS NOTED OR AS DIRECTED BY THE ENGINEER

REGISTERED PROFESSIONAL ENGINEER ROBIN SEWELL 16173 OKLAHOMA 7/8/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		ADVANCE WARNING SIGNS TRAFFIC CONTROL PLANS
Checked	CKE		
Approved			JOB PIECE NO. 14999(04) — SHEET NO. 60
Squad	C & K		

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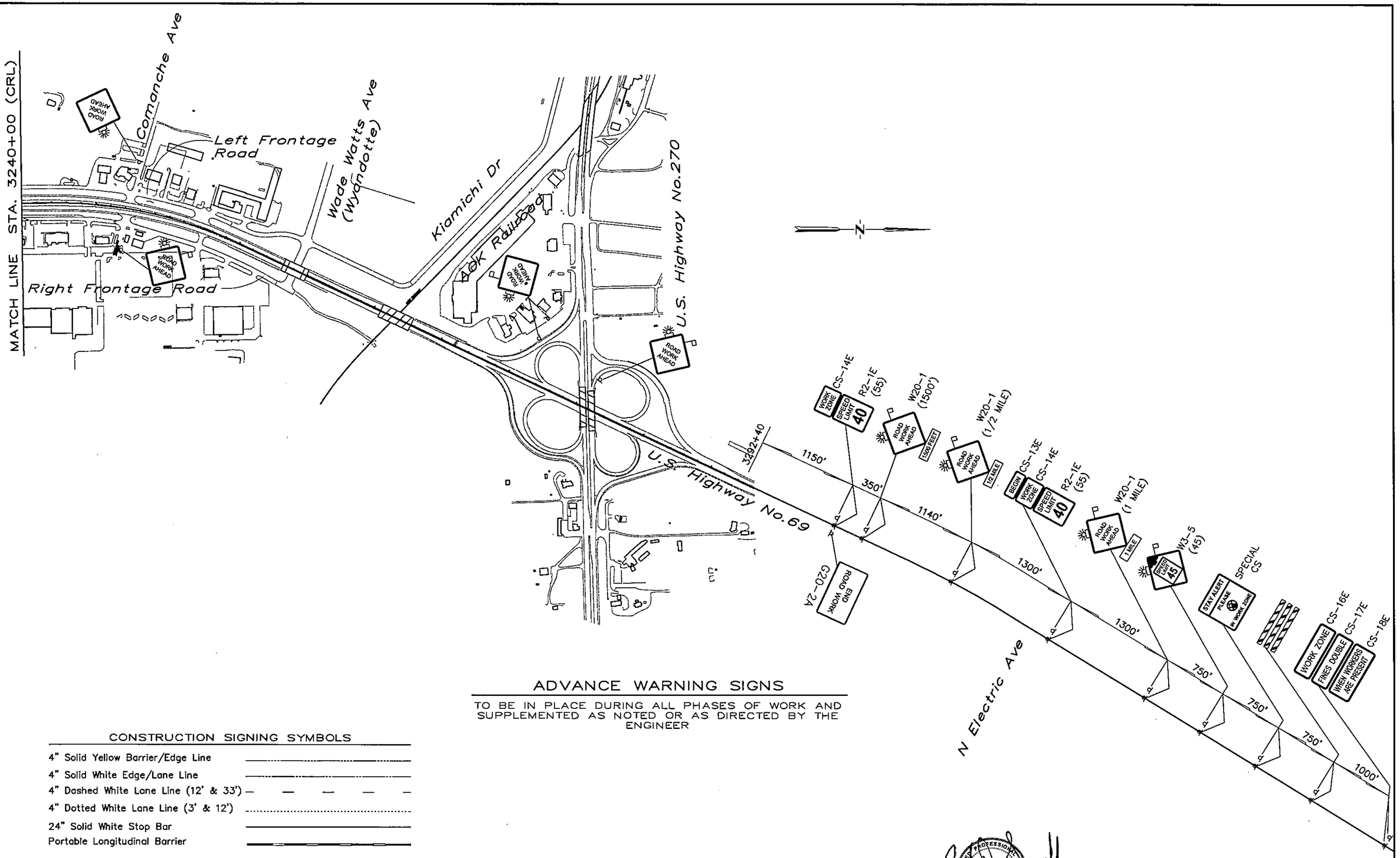

ADVANCE WARNING SIGNS

TO BE IN PLACE DURING ALL PHASES OF WORK AND SUPPLEMENTED AS NOTED OR AS DIRECTED BY THE ENGINEER

CONSTRUCTION SIGNING SYMBOLS

4" Solid Yellow Barrier/Edge Line	
4" Solid White Edge/Lane Line	
4" Dashed White Lane Line (12' & 33')	— — — — —
4" Dotted White Lane Line (3' & 12')	.....
24" Solid White Stop Bar	
Portable Longitudinal Barrier	

Arrow Panel		Drum	
Sign, as Noted		Type III Barricade	
Tube		Const. Zone Impact Attenuator	
Vertical Panel			

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

ADVANCE WARNING SIGNS
TRAFFIC CONTROL PLANS

JOB PIECE NO. 14999(04) — SHEET NO. 61

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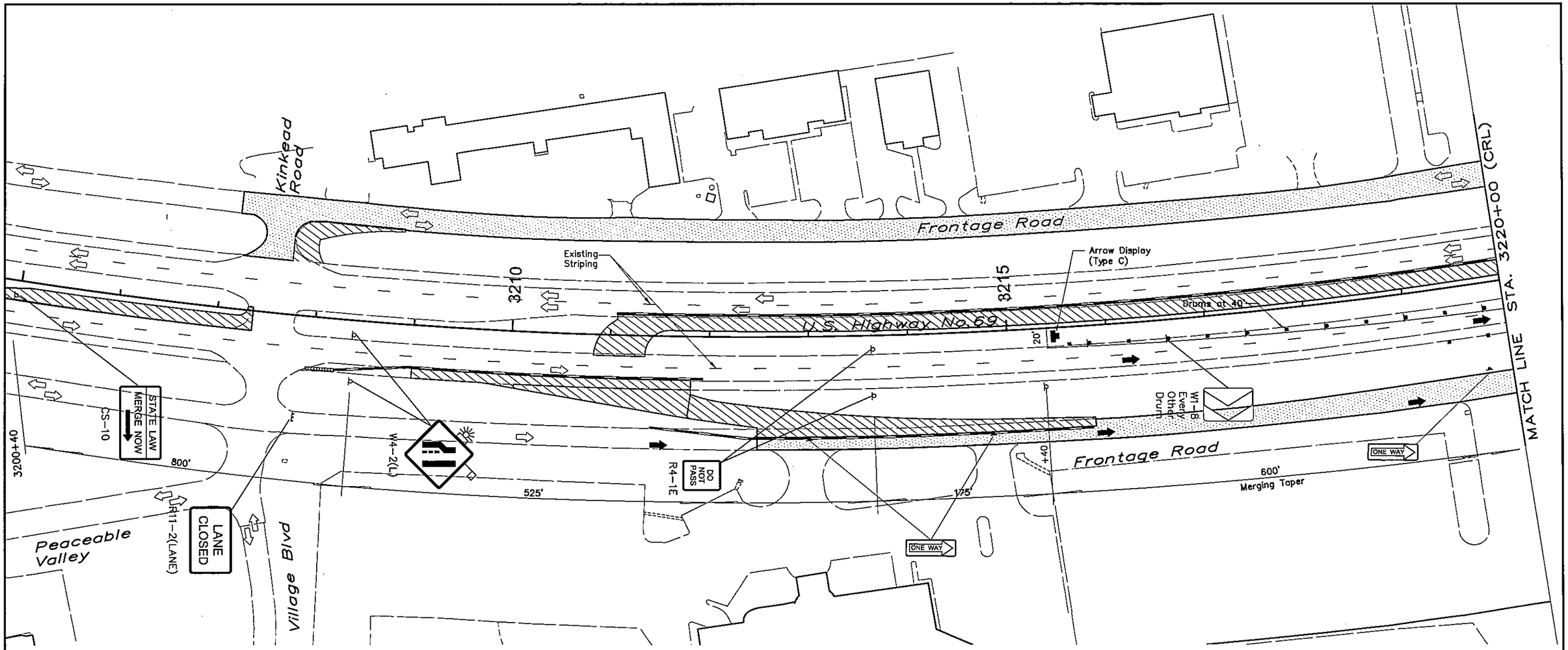

Note:
See Advance Warning Signs Traffic Control Plans.

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

Arrow Panel	◨	Drum	▪
Sign, as Noted	◁	Type III Barricade	▲▲▲
Tube	o	Const. Zone Impact Attenuator	
Vertical Panel	‡		

REGISTERED PROFESSIONAL ENGINEER ROBIN D SEWELL 18473 OKLAHOMA

7/18/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		**PHASE 1 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3205+00 TO STA. 3220+00**
Checked	CKE		
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) SHEET NO. 62

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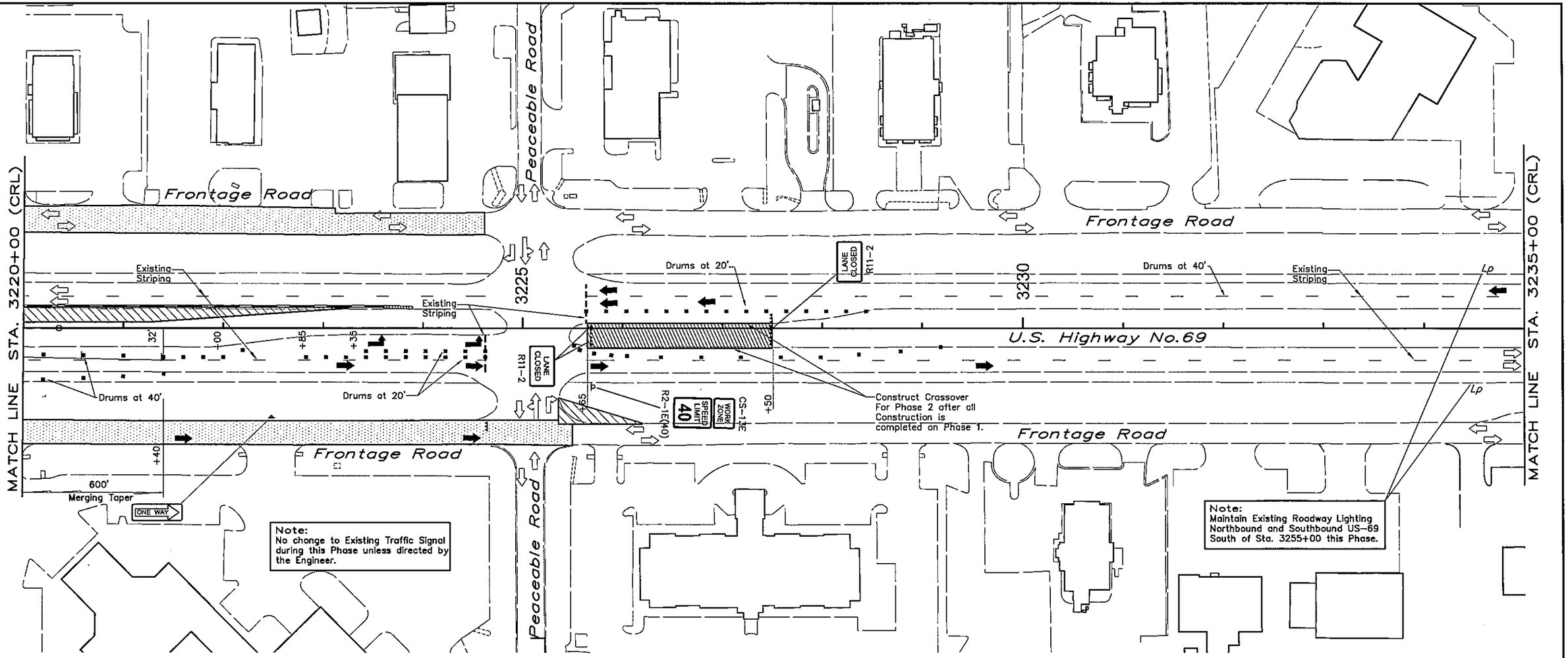

0 50 100 150

SCALE 1"=50'

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

- Arrow Panel
- Sign, as Noted
- Tube
- Vertical Panel
- Drum
- Type III Barricade
- Const. Zone Impact Attenuator

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 19173 OKLAHOMA

7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PHASE 1 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3220+00 TO STA. 3235+00

JOB PIECE NO. 14999(04) SHEET NO. 53

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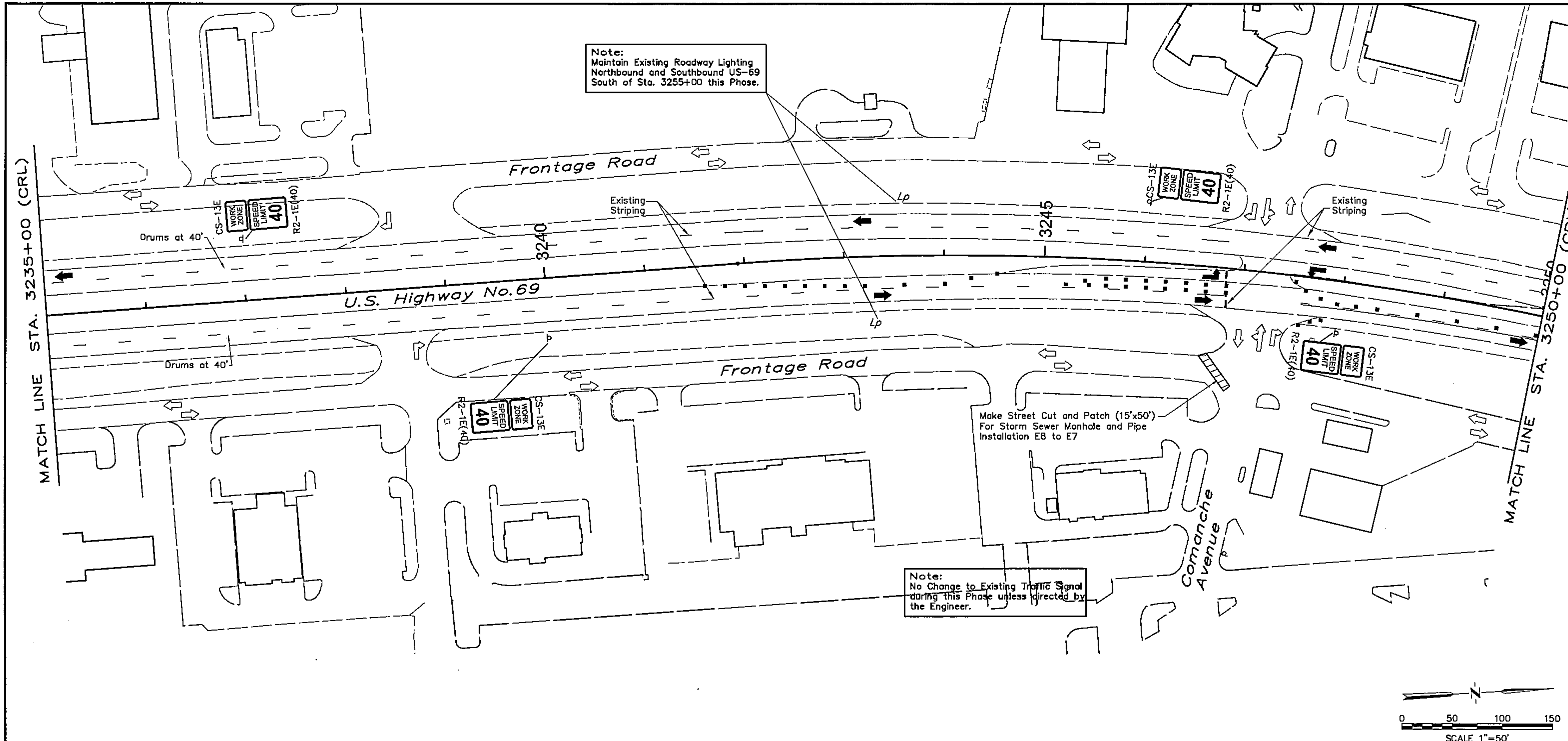

CONSTRUCTION SIGNING SYMBOLS

4" Solid Yellow Barrier/Edge Line	
4" Solid White Edge/Lane Line	
4" Dashed White Lane Line (12' & 33')	
4" Dotted White Lane Line (3' & 12')	
24" Solid White Stop Bar	
Portable Longitudinal Barrier	

Arrow Panel		Drum	
Sign, as Noted		Type III Barricade	
Tube		Const. Zone Impact Attenuator	
Vertical Panel			

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

REGISTERED PROFESSIONAL ENGINEER ROBERT SEWELL 16173 OKLAHOMA 7/8/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PHASE 1 CONSTRUCTION AND TRAFFIC CONTROL PLANS
STA. 3235+00 TO STA. 3250+00

JOB PIECE NO. 14999(04) SHEET NO. 64

Note:
Maintain Access to all Businesses at all Times.

Close to traffic. Left Frontage Road access to Wade Watts from Comanche Avenue to S. 17th Street.

Close to traffic. access to Wade Watts from Comanche Avenue to S. 17th Street.

Note:
Maintain Existing Roadway Lighting Northbound and Southbound US-69 South of Sta. 3255+00 this Phose.

SCALE 1"=50'

MATCH LINE STA. 3250+00 (CRL)

MATCH LINE STA. 3265+00 (CRL)

Wade Watts (Wyandotte)

Frontage Road

Sta. 254+50, Lt Construct 24' Temporary TBSC Drive

Step 1

Step 2

Construct Ramp 'A'

Widen Bridges 'Q' and 'R'

Widening

Deliver 1,550 LF Portable Longitudinal Barrier

Construct Crossover For Phase 1B after all Construction is completed on Phase 1A

Existing Striping

Construct half at a time

U.S. Highway No. 69

Drums at 40'

Drums at 20'

Flare 75' PLB to Work Zone Clear Zone

Lane Shift Southbound and Northbound

400'

Deliver 1,975 LF Portable Longitudinal Barrier

Widening

Frontage Road

Construct Access Road

Construct Ramp 'B'

Note:
Maintain Access to all Businesses at all Times.

Kiamichi Drive

Construct Access Raad

Existing Striping

Wade Watts (Wyandotte) Avenue

Paint

Widen Bridges 'Q' and 'R'

W/R11-2 (ROAD) ROAD CLOSED

W/R11-2 ROAD CLOSED

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

4" Solid Yellow Barrier/Edge Line		Portable Longitudinal Barrier	
4" Solid White Edge/Lane Line		Arrow Panel	
4" Dashed White Lane Line (12' & 33')		Sign, as Noted	¢
4" Dotted White Lane Line (3' & 12')		Tube	o
24" Solid White Stop Bar		Vertical Panel	‡
		Drum	▪
		Type III Barricade	
		Const. Zone Impact Attenuator	

REGISTERED PROFESSIONAL ENGINEER ROBERT BEWELL 16173 OKLAHOMA

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PHASE 1 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3250+00 TO STA. 3265+00

JOB PIECE NO. 14999(04) SHEET NO. 65

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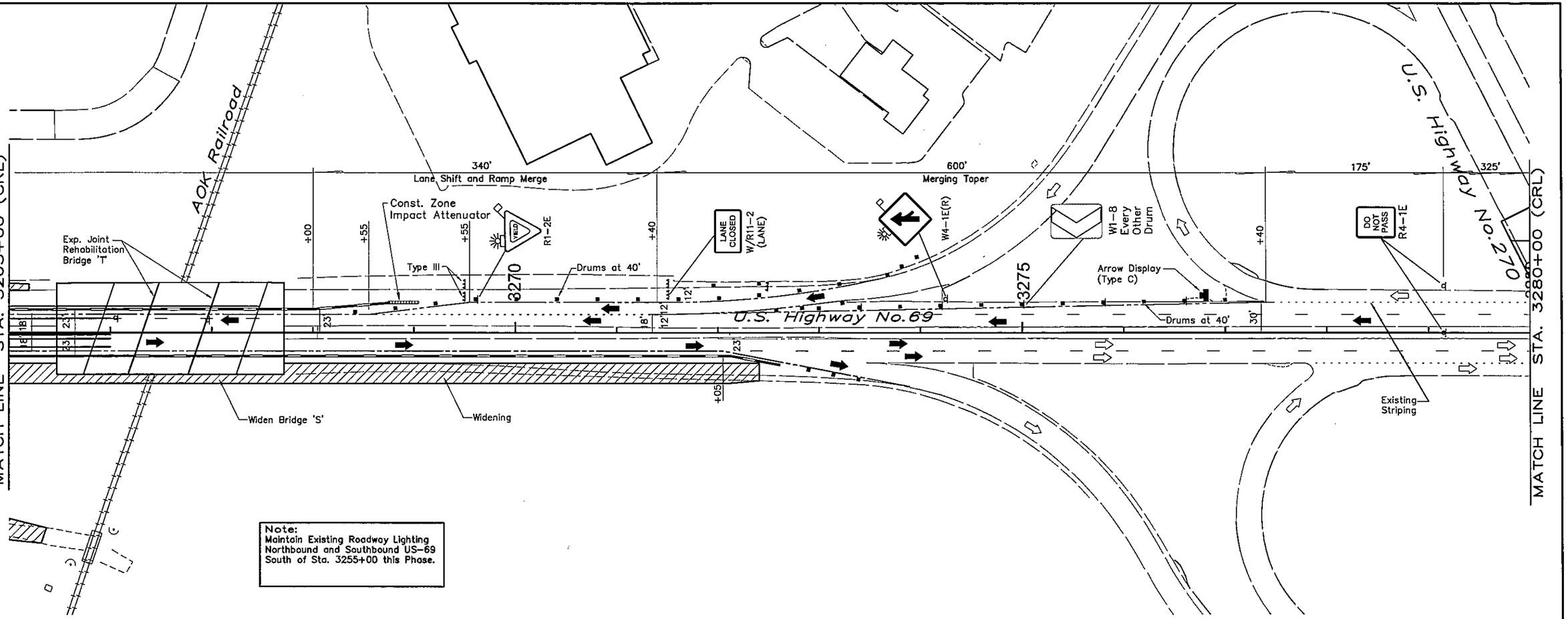

Note:
Maintain Existing Roadway Lighting Northbound and Southbound US-69 South of Sta. 3255+00 this Phase.

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

Arrow Panel		Drum	▪
Sign, as Noted	⊲	Type III Barricade	
Tube	o	Const. Zone Impact Attenuator	
Vertical Panel	⇕		

ROBERT D. SEWELL 16173 PROFESSIONAL ENGINEER OKLAHOMA
7/18/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		**PHASE 1 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3265+00 TO STA. 3280+00**
Checked	CKE		JOB PIECE NO. 14999(04) — SHEET NO. 66
Approved			
Squad	C & K		

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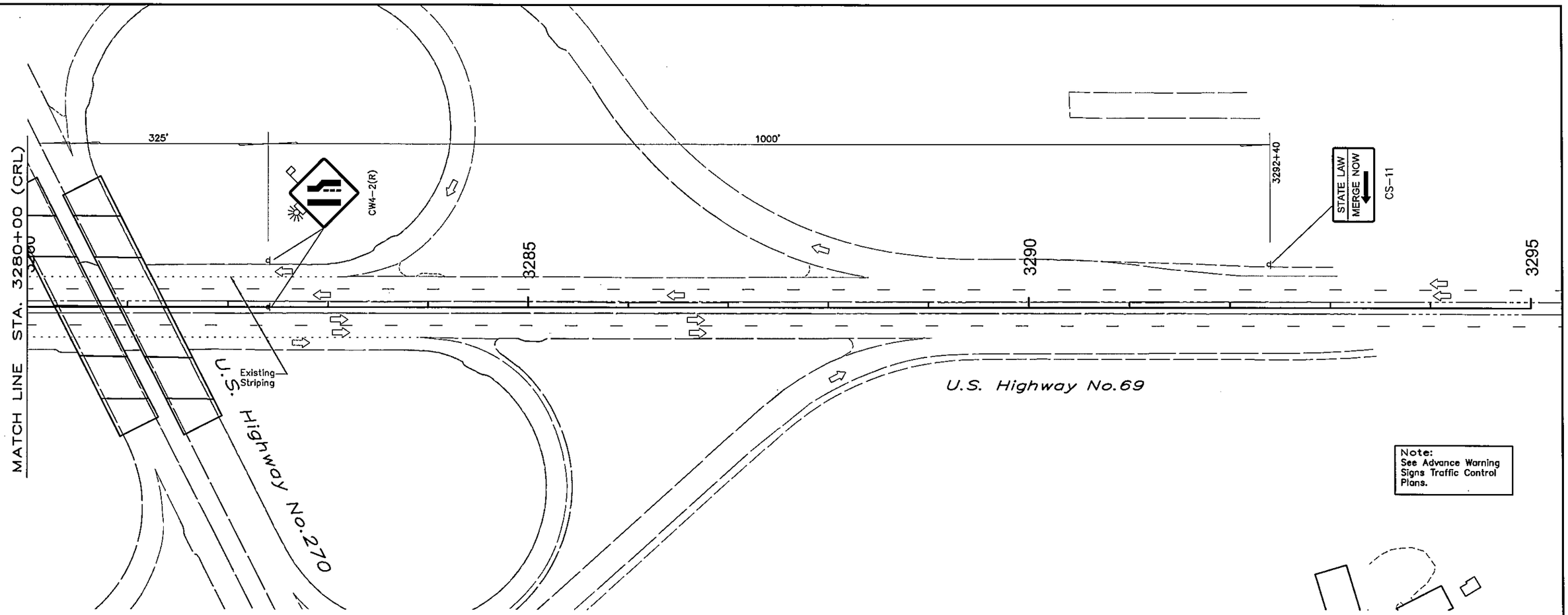

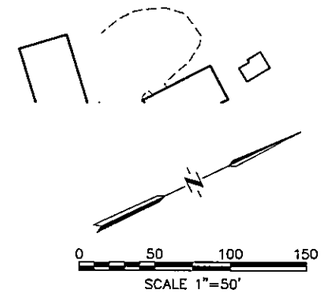

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

Arrow Panel		Drum	
Sign, as Noted	q	Type III Barricade	
Tube	o	Const. Zone Impact Attenuator	

REGISTERED PROFESSIONAL ENGINEER ROBIN G. SEWELL 16173 OKLAHOMA

7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PHASE 1 CONSTRUCTION AND TRAFFIC CONTROL PLANS
STA. 3280+00 TO STA. 3295+00

JOB PIECE NO. 14999(04) SHEET NO. 67

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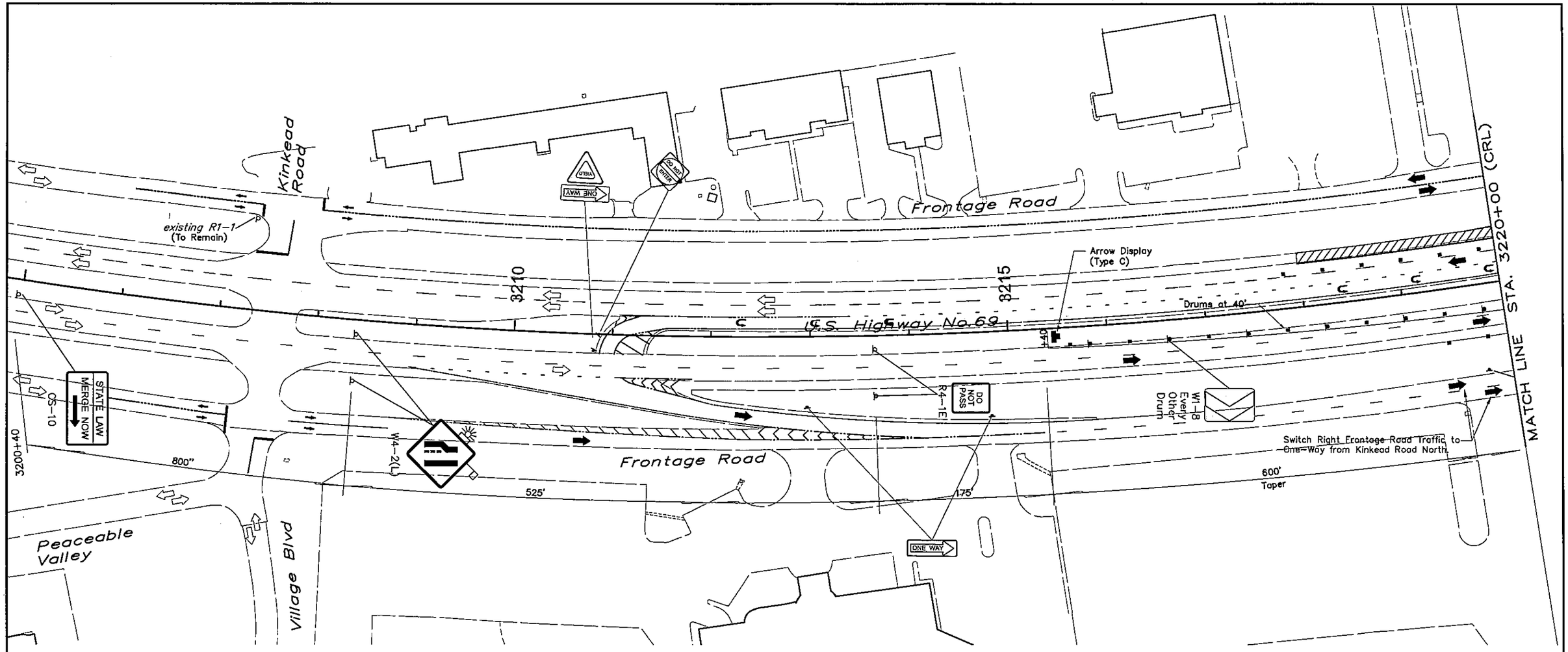

Note:
Install Final Striping and Signing on Left and Right Frontage Road as Shown on Pavement Marking and Signing Plan sheets where possible.

0 50 100 150
SCALE 1"=50'

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

Arrow Panel	▮	Drum	▪
Sign, as Noted	q	Type III Barricade	
Tube	o	Const. Zone Impact Attenuator	

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA
7/8/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PHASE 2 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3205+00 TO STA. 3220+00

JOB PIECE NO. 14999(04) SHEET NO. 68

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MATCH LINE STA. 3220+00 (CRL)

MATCH LINE STA. 3235+00 (CRL)

Peaceable Road

Frontage Road

Remove any conflicting striping

Construct Left Frontage Road On-Ramp. After Completed, Stripe and open to Traffic.

Relocate 250 LF Portable Longitudinal Barrier.

Drums at 40'

Drums at 20'

Reverse Curve Crossover

Construct Left Frontage Road On-Ramp. After Completed, Stripe and open to Traffic.

Impact Attenuator

LANE CLOSED

W/R11-2 (LANE)

Channelizer Cones at 25'

180' Merging Taper

Relocate 400 LF Portable Longitudinal Barrier.

Channelizer Cones at 20'

Switch Left Frontage Road Traffic to One-Woy from Wade Watts Ave. Sorth.

Vertical Panels at 40'

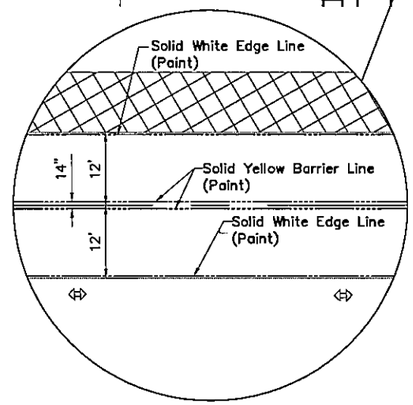
Switch Right Frontage Road Traffic to One-Way from Kinkead Road North.

600' Merging Taper

Note:
Existing Traffic Signal to be removed During this Phase unless otherwise directed by the Engineer.

Note:
Maintain Existing Roadway Lighting Southbound US-69.

Note:
Install Final Striping and Signing on Left and Right Frontage Road as Shown on Pavement Marking and Signing Plan sheets where possible.



Typical Two-Lane/ Two-Way Construction Markings

0 50 100 150

SCALE 1"=50'

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

Arrow Panel		Drum	
Sign, as Noted		Type III Barricade	
Tube	o	Const. Zone Impact Attenuator	
Vertical Panel		Channelizer Cone	

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PHASE 2 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3220+00 TO STA. 3235+00

JOB PIECE NO. 14999(04) SHEET NO. 69

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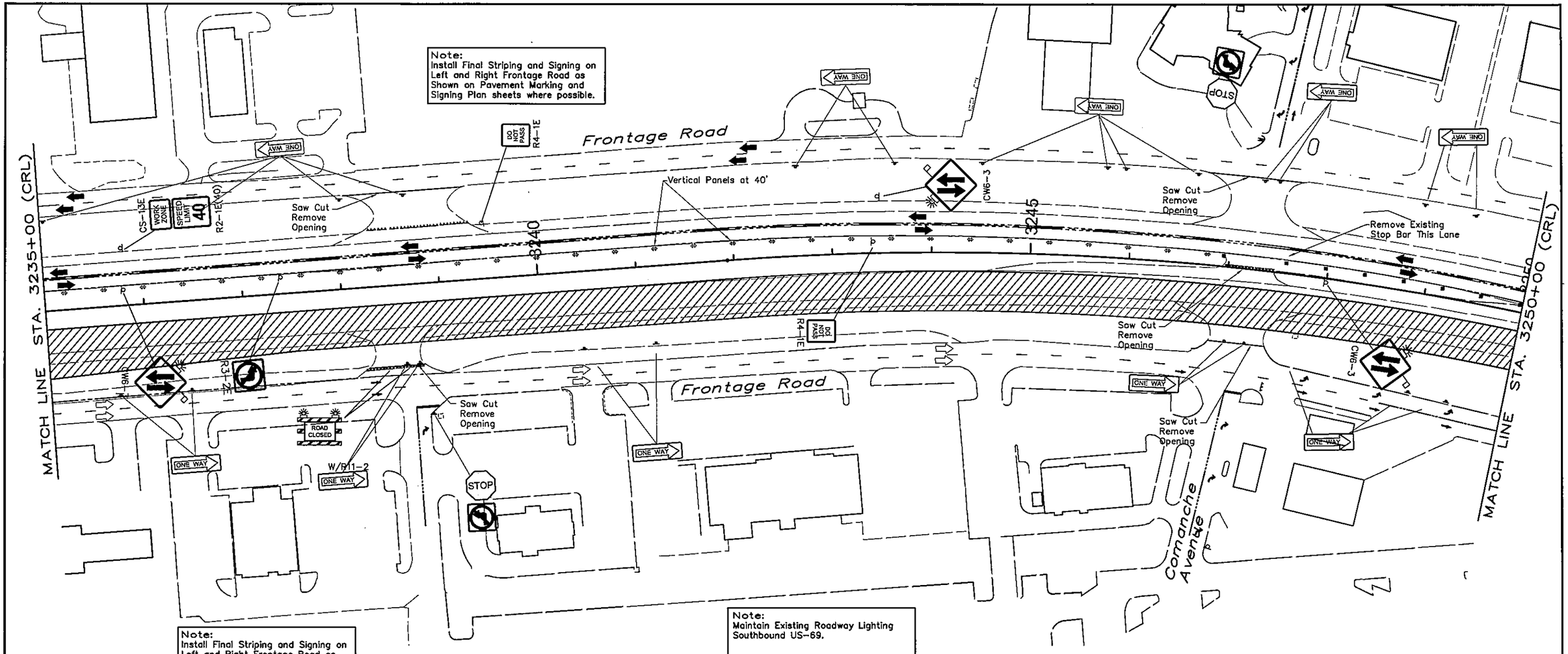

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

Arrow Panel		Drum	
Sign, as Noted	¢	Type III Barricade	
Tube	o	Const. Zone Impact Attenuator	
Vertical Panel	⇕	Channelizer Cone	

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA

7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PHASE 2 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3235+00 TO STA. 3250+00

JOB PIECE NO. 14999(04) — SHEET NO. 70

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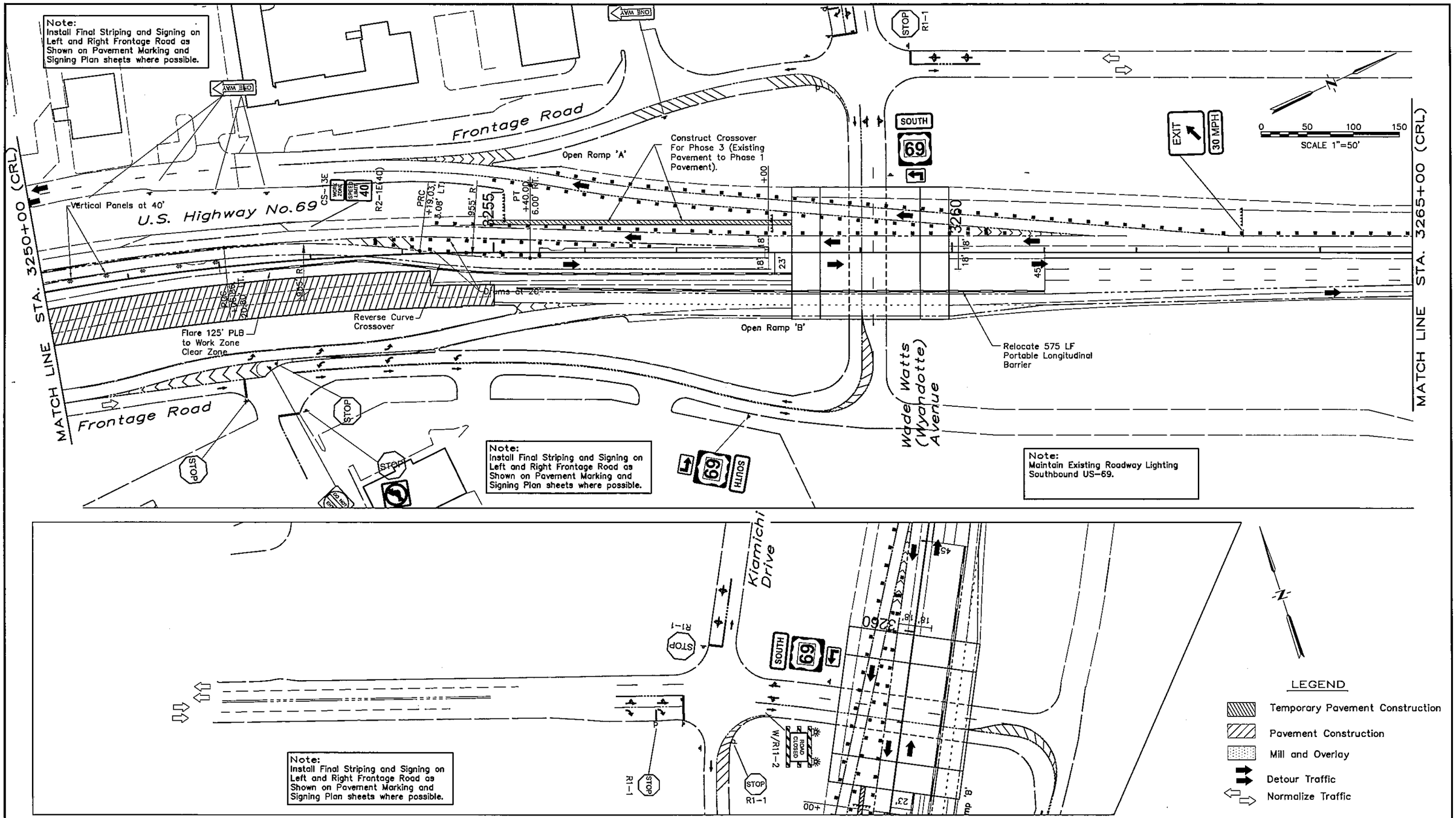

CONSTRUCTION SIGNING SYMBOLS

4" Solid Yellow Barrier/Edge Line		Portable Longitudinal Barrier	
4" Solid White Edge/Lane Line		Arrow Ponel	
4" Dashed White Lane Line (12' & 33')		Sign, as Noted	
4" Dotted White Lane Line (3' & 12')		Tube	
24" Solid White Stop Bar		Vertical Panel	
		Drum	
		Type III Barricade	
		Const. Zone Impact Attenuator	
		Channelizer Cone	

Survey	CKS	
Drawn	CKO	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PHASE 2 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3250+00 TO STA. 3265+00

JOB PIECE NO. 14999(04) SHEET NO. 71

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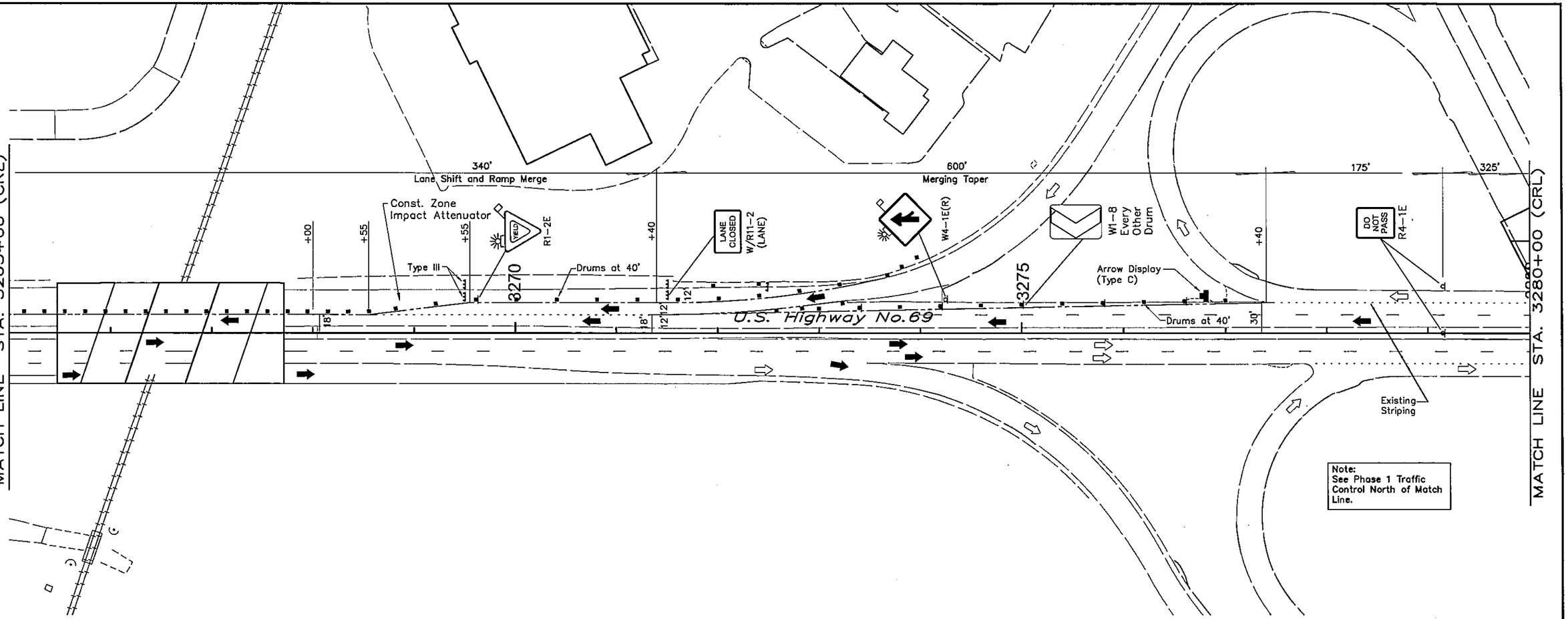

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

- Arrow Panel
- Sign, as Noted
- Tube
- Drum
- Type III Barricade
- Const. Zone Impact Attenuator
- Channelizer Cone

REGISTERED PROFESSIONAL ENGINEER
ROBIN G. SEWELL
16173
OKLAHOMA
7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PHASE 2 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3265+00 TO STA. 3280+00

JOB PIECE NO. 14999(04) — SHEET NO. 72

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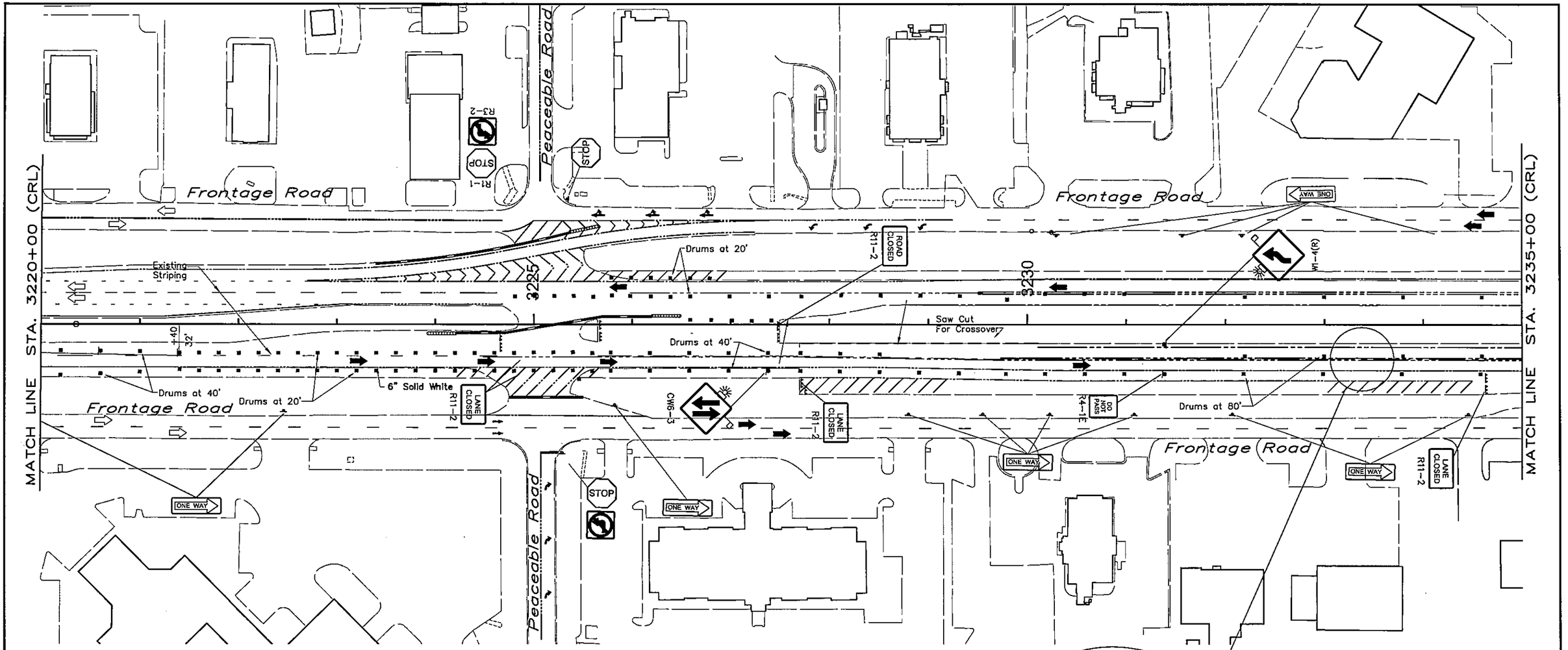


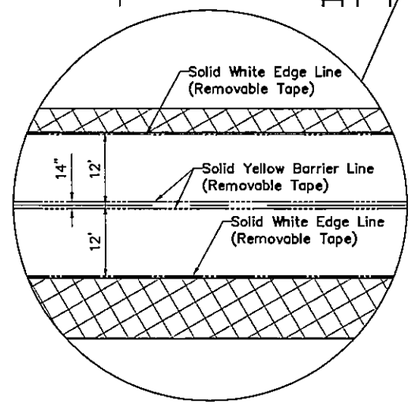
Note:
See Phase 2 Traffic Control South of Match Line.

LEGEND

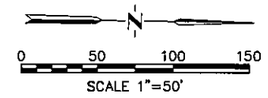
- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

4" Solid Yellow Barrier/Edge Line			
4" Solid White Edge/Lane Line			
4" Dashed White Lane Line (12' & 33')			
4" Dotted White Lane Line (3' & 12')			
24" Solid White Stop Bar			
Portable Longitudinal Barrier			
Arrow Panel		Drum	
Sign, as Noted		Type III Barricade	
Tube		Const. Zone Impact Attenuator	
Verticol Ponel			



Typical Two-Lone/ Two-Way Construction Markings



REGISTERED PROFESSIONAL ENGINEER ROBIN C. SEWELL 16173 OKLAHOMA 9/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PHASE 3 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3220+00 TO STA. 3235+00

JOB PIECE NO. 14999(04) SHEET NO. 73

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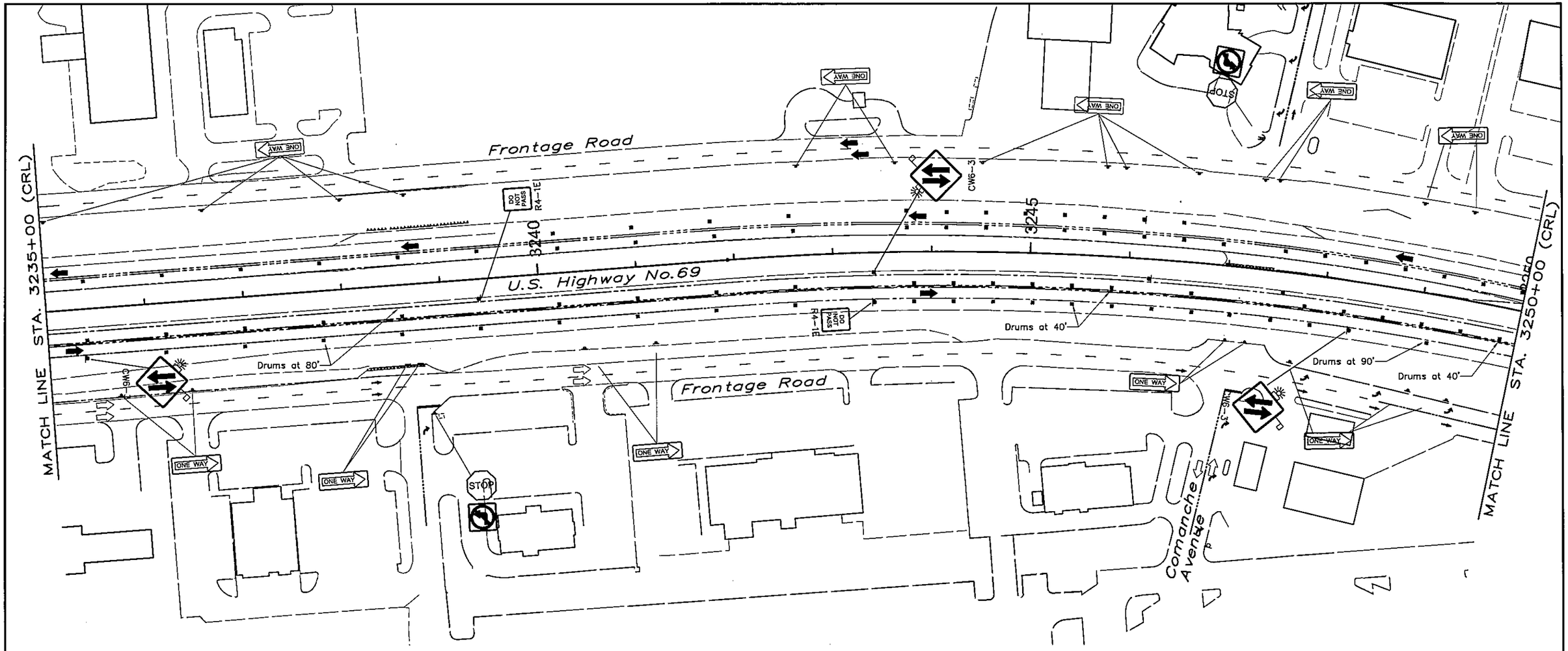

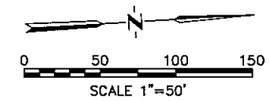

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

Arrow Panel	◀	Drum	▪
Sign, as Noted	q	Type III Barricade	▲▲▲
Tube	o	Const. Zone Impact Attenuator	
Vertical Panel	‡		

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		**PHASE 3 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3235+00 TO STA. 3250+00**
Checked	CKE		
Approved			JOB PIECE NO. 14999(04) SHEET NO. 74
Squad	C & K		

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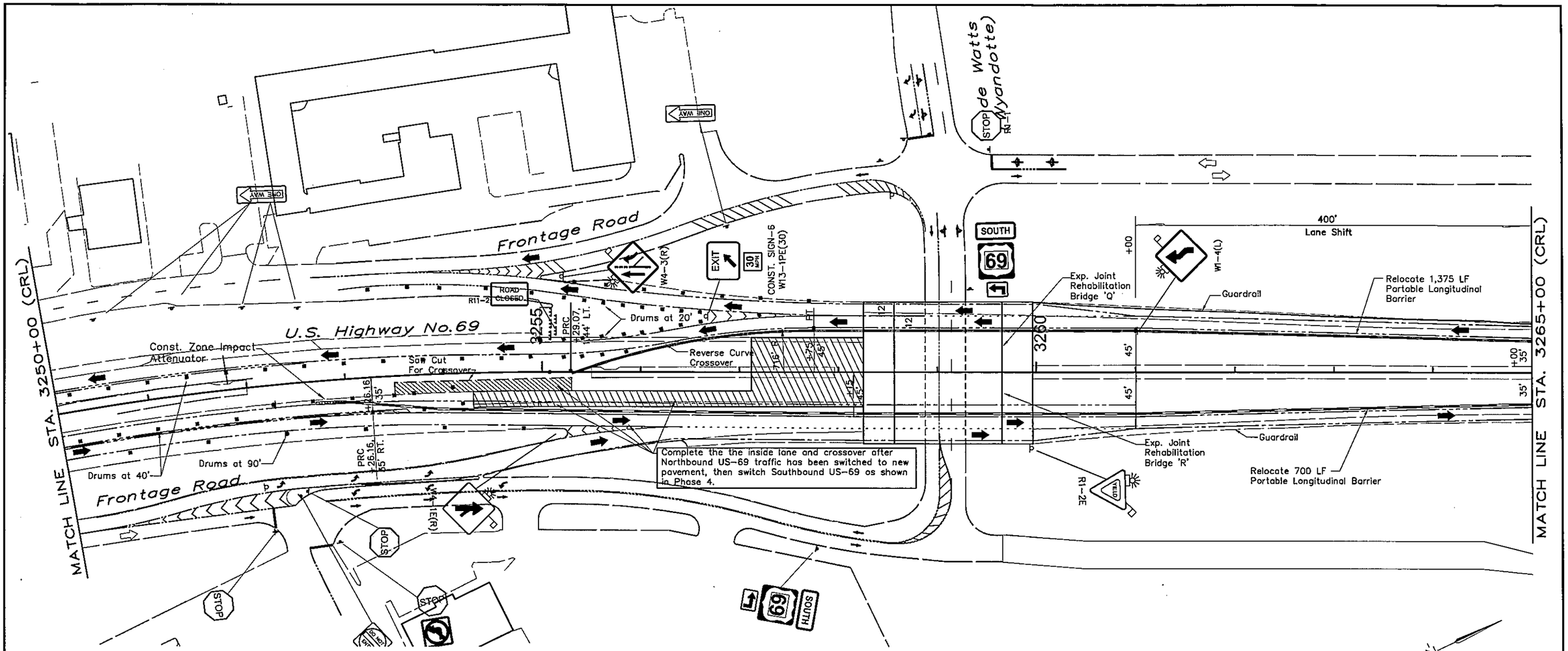

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

4" Solid Yellow Barrier/Edge Line			
4" Solid White Edge/Lane Line			
4" Dashed White Lane Line (12' & 33')			
4" Dotted White Lane Line (3' & 12')			
24" Solid White Stop Bar			
Portable Longitudinal Barrier			
Arrow Panel	▮	Drum	▪
Sign, as Noted	q	Type III Barricade	▲▲▲
Tube	o	Const. Zone Impact Attenuator	
Vertical Panel	s		

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
11/8/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		**PHASE 3 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3250+00 TO STA. 3265+00**
Checked	CKE		
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) — SHEET NO. 75

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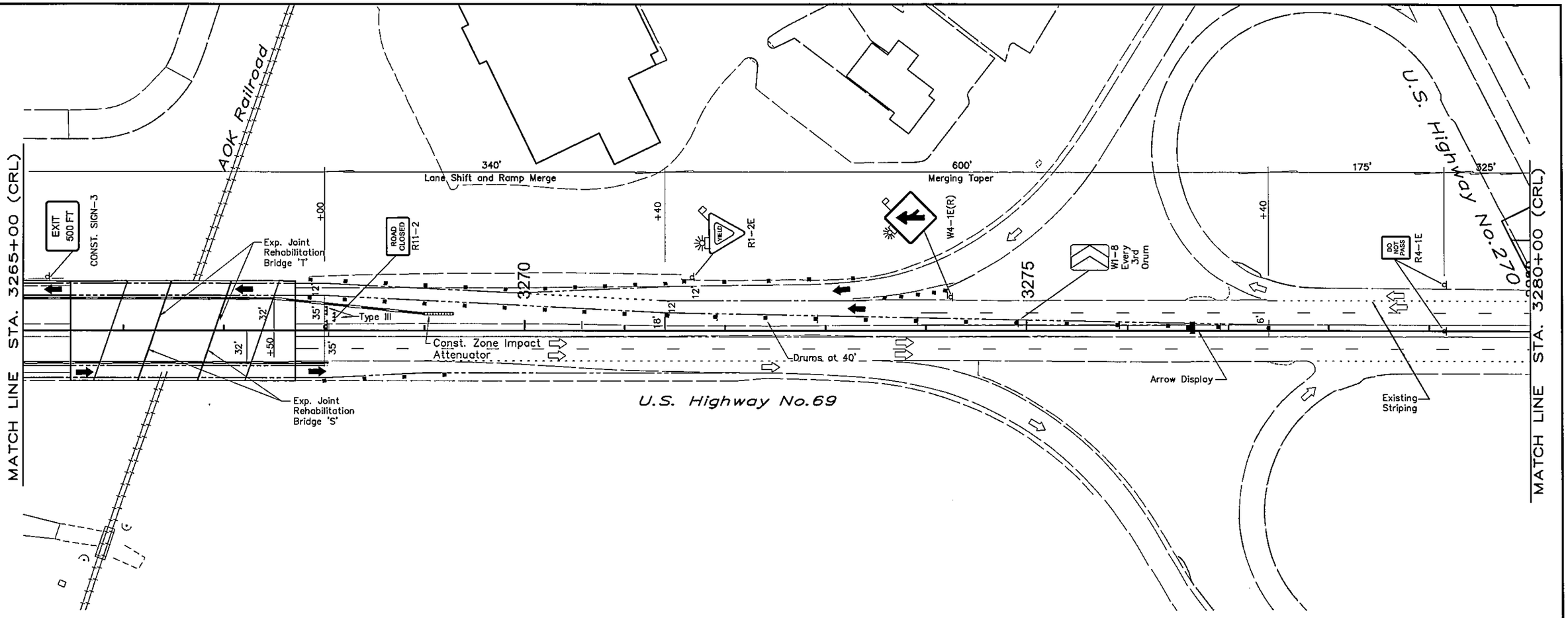

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portoble Longitudinal Barrier

- Arrow Panel
- Sign, as Noted ¢
- Tube o
- Vertical Panel ‡
- Drum
- Type III Barricade
- Const. Zone Impact Attenuator

REGISTERED PROFESSIONAL ENGINEER
ROBERT D. STEWELL II
16173
OKLAHOMA

7/8/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PHASE 3 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3265+00 TO STA. 3280+00

JOB PIECE NO. 14999(04) — SHEET NO. 76

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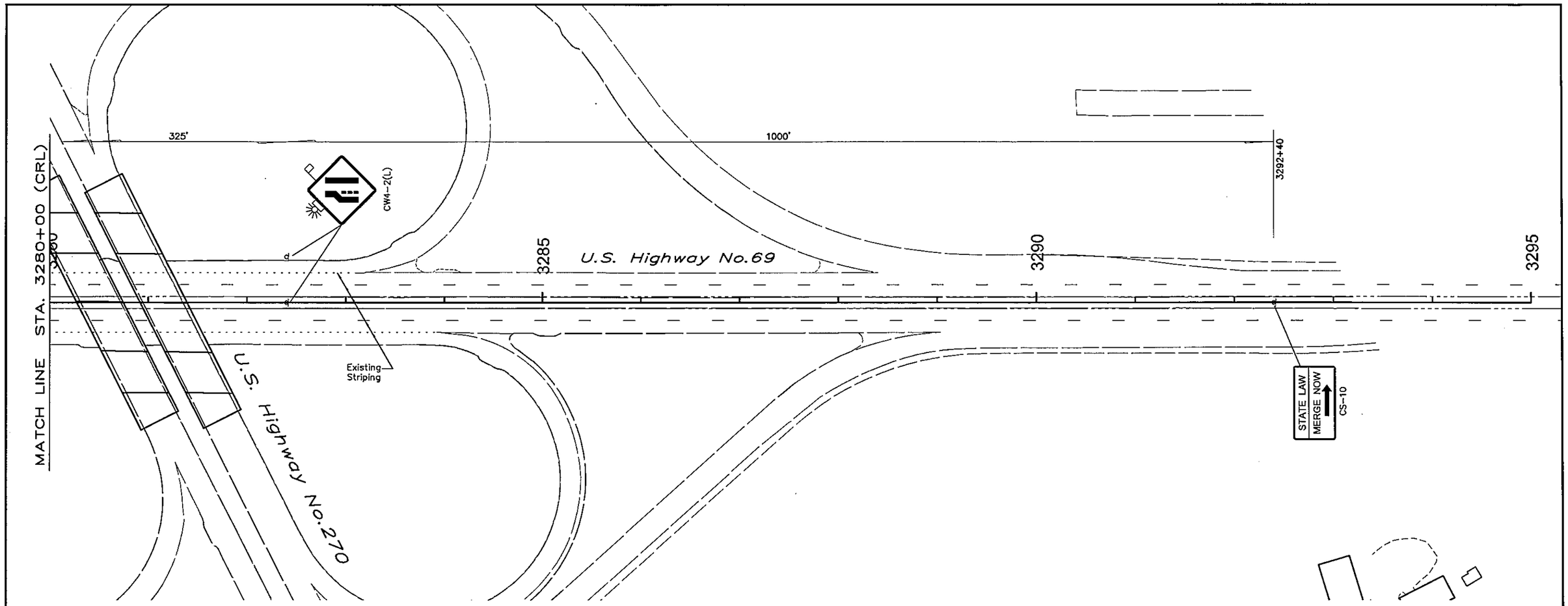

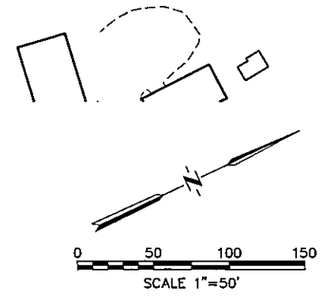

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

Arrow Panel		Drum	
Sign, as Noted	q	Type III Barricade	
Tube	o	Const. Zone Impact Attenuator	
Vertical Panel	s		

REGISTERED PROFESSIONAL ENGINEER
ROBIN K. HEWELL
16173
OKLAHOMA
7/8/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		PHASE 3 CONSTRUCTION AND TRAFFIC CONTROL PLANS
Checked	CKE		STA. 3280+00 TO STA. 3295+00
Approved			JOB PIECE NO. 14999(04) SHEET NO. 22
Squad	C & K		

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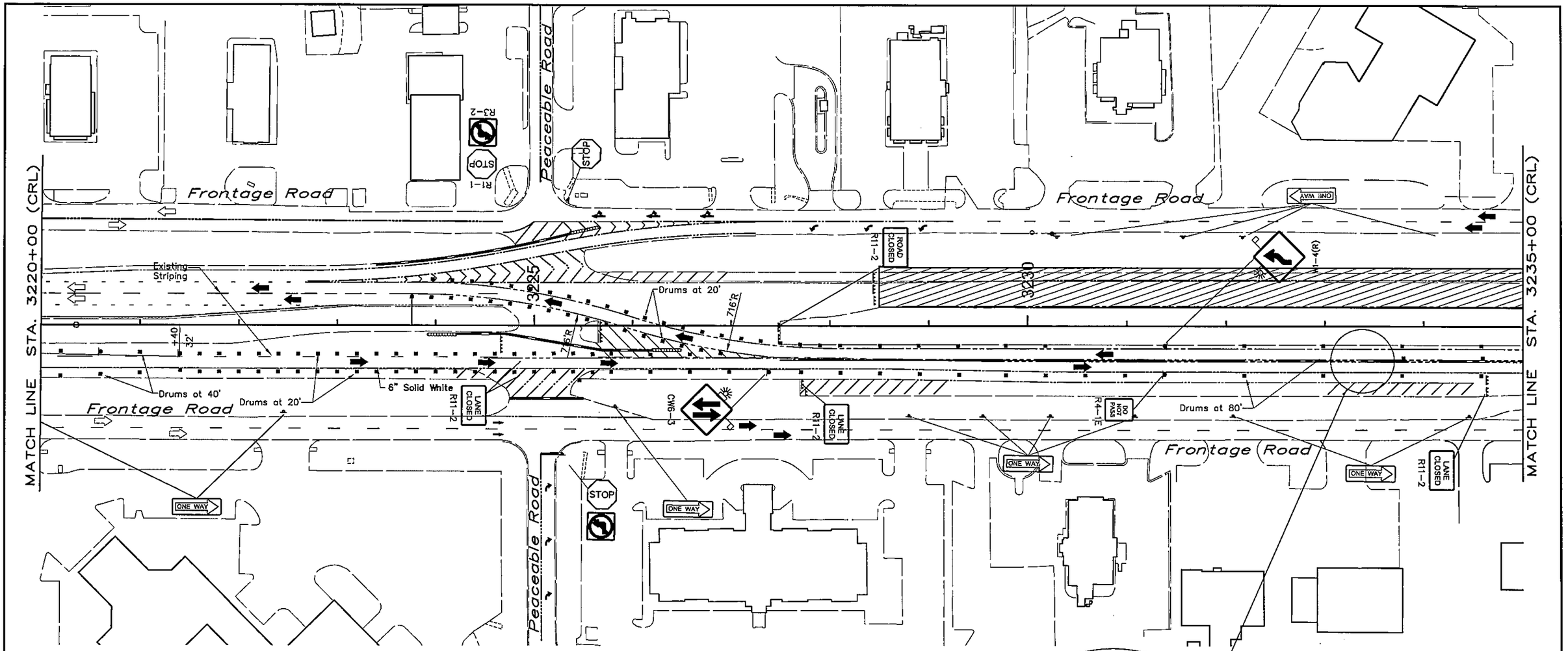

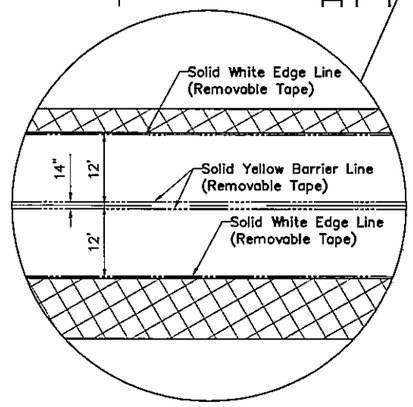

Typical Two-Lane/ Two-Way Construction Markings

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

Arrow Panel		Drum	▪
Sign, as Noted	◁	Type III Barricade	▲▲▲
Tube	o	Const. Zone Impact Attenuator	
Vertical Panel	↕		

ROBIN D. SEWELL 16173 PROFESSIONAL ENGINEER OKLAHOMA 7/8/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PHASE 4 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3220+00 TO STA. 3235+00

JOB PIECE NO. 14999(04) SHEET NO. 78

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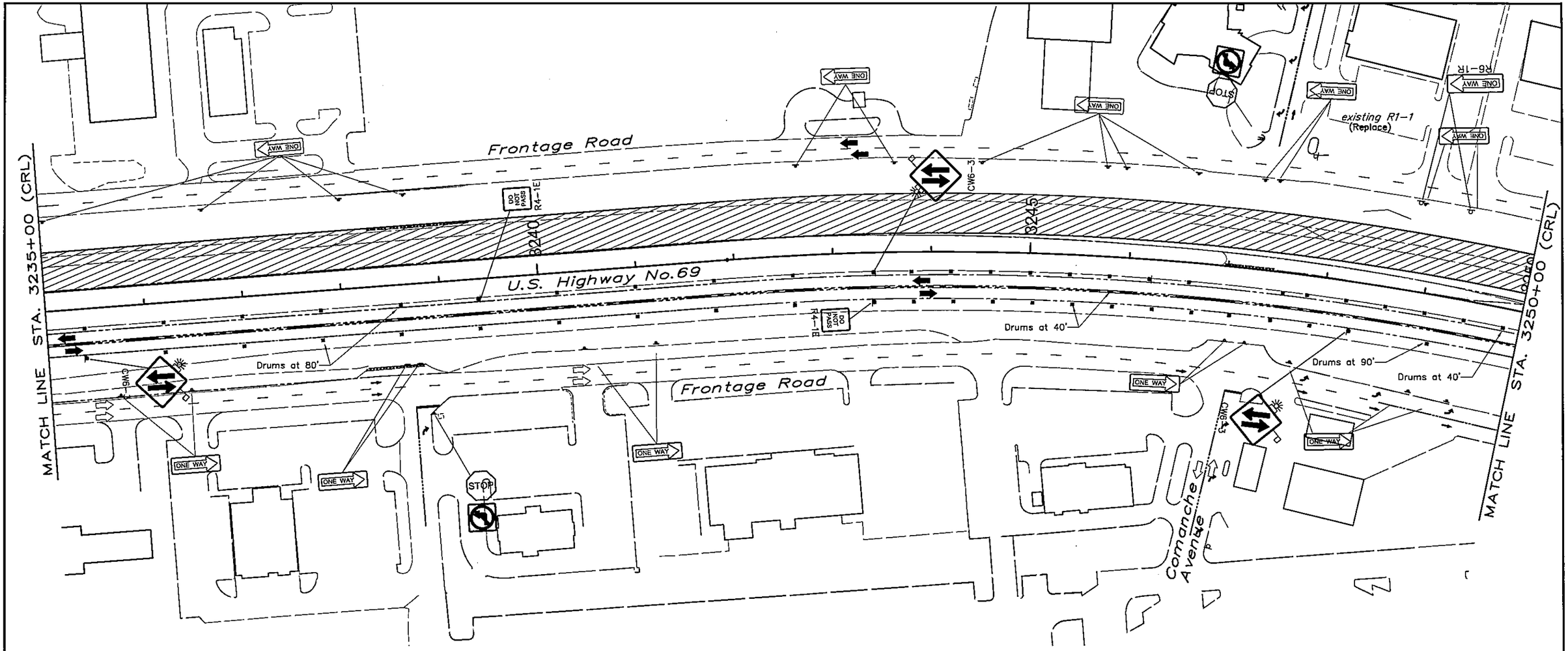

0 50 100 150
SCALE 1"=50'

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overloy
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portoble Longitudinal Barrier

Arrow Panel	◨	Drum	▪
Sign, as Noted	◁	Type III Barricade	▲▲▲
Tube	o	Const. Zone Impact Attenuotor	
Vertical Panel	‡		

ROBIN D. SEWELL 16173 REGISTERED PROFESSIONAL ENGINEER OKLAHOMA
7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PHASE 4 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3235+00 TO STA. 3250+00

JOB PIECE NO. 14999(04) SHEET NO. 79

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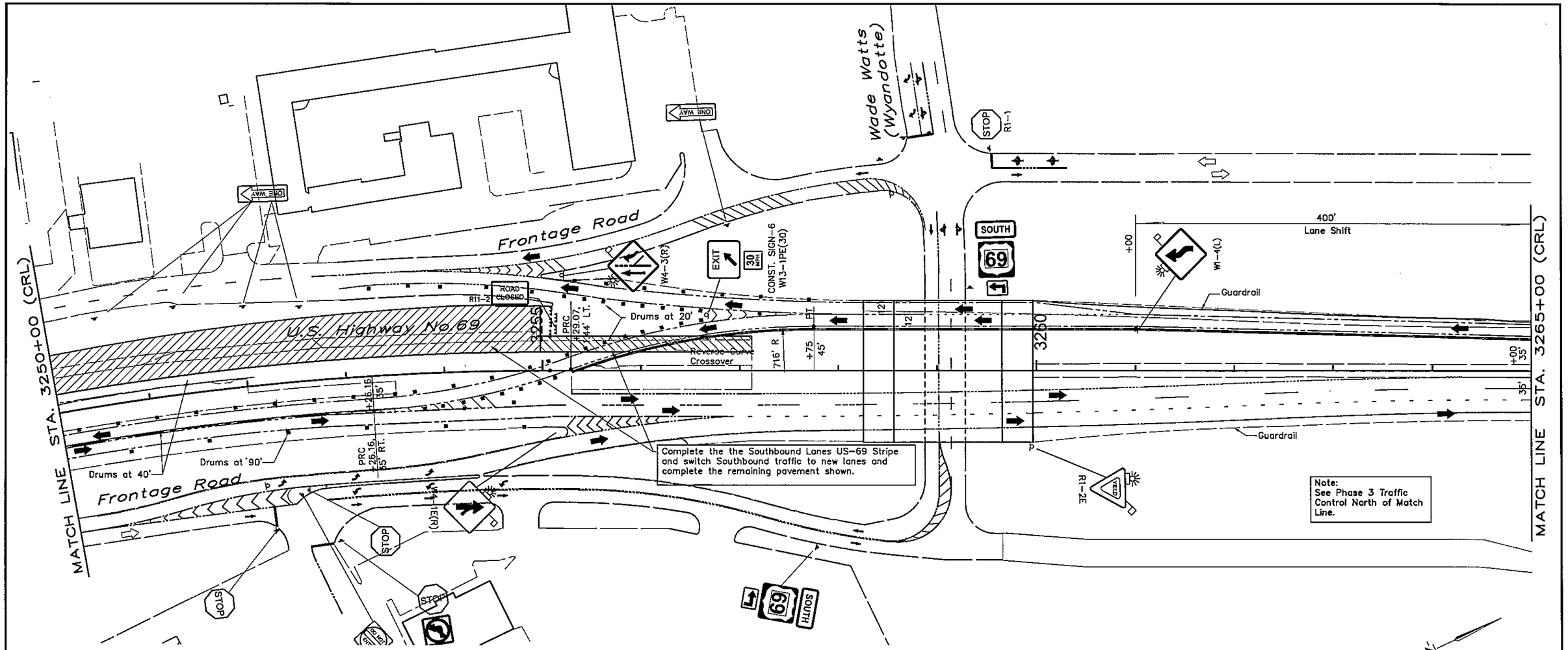

LEGEND

- Temporary Pavement Construction
- Pavement Construction
- Mill and Overlay
- Detour Traffic
- Normalize Traffic

CONSTRUCTION SIGNING SYMBOLS

- 4" Solid Yellow Barrier/Edge Line
- 4" Solid White Edge/Lane Line
- 4" Dashed White Lane Line (12' & 33')
- 4" Dotted White Lane Line (3' & 12')
- 24" Solid White Stop Bar
- Portable Longitudinal Barrier

Arrow Panel	▪	Drum	▪
Sign, as Noted	▫	Type III Barricade	▲▲▲
Tube	o	Const. Zone Impact Attenuator	
Vertical Panel	▯		

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
5/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PHASE 4 CONSTRUCTION AND TRAFFIC CONTROL PLANS STA. 3250+00 TO STA. 3265+00

JOB PIECE NO. 14999(04) — SHEET NO. 80

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SUMMARY OF SIGNING QUANTITIES

ITEM NO.	LOCATION	TYPE OF SIGN	TYPE OF POSTS	POST LENGTHS A	POST LENGTHS B	LATERAL CLEARANCE (edge of lane)	POST SPACE	FTG–DESIGN NO.	STRL–CONC–C.Y.	REINF–STEEL LBS	SIGN AREA SQ. FT. SHEET	SIGN AREA SQ. FT. PANEL	REMARKS
	Left Frontage Road												
1	Sta 207+85, Lt.	Rte. Assembly No. 9	2 1/4"x12ga	13'–0"	–	6'–0"	–	Ⓐ	–	–	8.19	–	
2	Sta 223+90, Rt.	R1–1	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	5.18	–	
3	Sta 223+90, Rt.	Rte. Assembly No. 8	2 1/4"x12ga	12'–0"	–	7'–0"	–	Ⓐ	–	–	8.19	–	
4	Sta 169+60, PEACEABLE,Rt	R1–1,R3–2	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	9.18	–	Extend Post 6" Above Stop Sign
4A	Sta 224+22, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	10'–0"	–	Ⓐ	–	–	3.00	–	Set in existing Asphalt pavement
4B	Sta 224+38, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	10'–0"	–	Ⓐ	–	–	3.00	–	Set in existing Asphalt pavement
5	Sta 224+64, Lt.	R1–1,R5–1	2 1/4"x12ga	10'–6"	–	6'–0"	–	Ⓐ	–	–	11.43	–	Back to Back
6	Sta 226+27, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
7	Sta 226+80, Lt.	Rte. Assembly No. 1	2"x12ga	14'–0"	14'–0"	4'–0"	2'–4"	SSP1–1	–	–	16.38	–	–
8	Sta 227+18, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
9	Sta 227+70, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
10	Sta 228+80, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
11	Sta 229+60, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
12	Sta 230+87, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
13	Sta 231+47, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
14	Sta 233+50, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
15	Sta 234+34, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
16	Sta 235+95, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
17	Sta 237+35, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
18	Sta 238+00, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
19	Sta 242+00, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
20	Sta 243+00, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
21	Sta 243+89, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
22	Sta 245+16, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
23	Sta 245+35, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
24	Sta 246+08, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
25	Sta 178+70, COMANCHE,Rt	R1–1, R3–2	2 1/4"x12ga	12'–0"	–	6'–0"	–	SSP1–1	–	–	9.18	–	Extend Post 6" Above Stop Sign
26	Sta 178+56, COMANCHE,Rt	Existing Sign No. 1	2"x12ga	12'–0"	12'–0"	6'–0"	–	SSP1–1	–	–	Existing	–	Remove and Reset
27	Sta 246+75, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
28	Sta 246+88, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
29	Sta 247+19, Lt.	R5–1	2 1/4"x12ga	12'–0"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–
30	Sta 247+19, Rt.	R5–1	2 1/4"x12ga	12'–0"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–
31	Sta 248+39, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
32	Sta 248+92, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
33	Sta 250+15, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
34	Sta 250+95, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
35	Sta 251+66, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
36	Sta 252+23, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
37	Sta 254+99, Rt.	W4–3(L)	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	9.00	–	–
38	Sta 256+64, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
39	Sta 258+34, Lt.	R6–1(L)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
40	Sta 258+34, Rt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
	Right Frontage Road												
⚠ 41A	Sta 212+10, Lt.	W4–3(L)	2 1/4"x12ga	14'–0"	–	6'–0"	–	Ⓐ	–	–	9.00	–	–
41	Sta 213+38, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
42	Sta 215+26, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
43	Sta 220+33, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
44	Sta 223+06, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
45	Sta 225+10, Lt.	R5–1	2 1/4"x12ga	10'–6"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–
46	Sta 225+10, Rt.	R5–1	2 1/4"x12ga	10'–6"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–
46A	Sta 225+50, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	15'–0"	–	Ⓐ	–	–	3.00	–	Set in existing Asphalt pavement
46B	Sta 225+62, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	15'–0"	–	Ⓐ	–	–	3.00	–	Set in existing Asphalt pavement
47	Sta 172+35, PEACABLE,Lt	R1–1,R3–2	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	9.18	–	Extend Post 6" Above Stop Sign
48	Sta 226+40, Lt	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
49	Sta 229+38, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
50	Sta 230+13, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
51	Sta 230+81, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
52	Sta 231+67, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
53	Sta 232+65, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
54	Sta 233+72, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
55	Sta 235+04, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
56	Sta 236+28, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
57	Sta 237+00, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
58	Sta 238+80, Lt	R5–1	2 1/4"x12ga	10'–6"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–
59	Sta 238+80, Rt.	R5–1	2 1/4"x12ga	10'–6"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–

	OVERHEAD STRUCTURES TYPE 'A'	OVERHEAD STRUCTURES TYPE 'C'	POST LENGTHS 2"x12ga	POST LENGTHS 2 1/4"x12ga	POST LENGTHS 4" WF 13	POST LENGTHS 6" WF 15	STRUCTURAL CONCRETE C.Y. **	REINFORCING STEEL LB.	SIGN AREA SHEET	SIGN AREA PANEL *	DRILLED SHAFTS 60" L.F.
LEFT FRONTAGE ROAD			52'–0"	435'–6"					182.23		
RIGHT FRONTAGE ROAD			28'–0"	⚠ 461'–6"					⚠ 217.90		
WADE WATTS (WYANDOTTE) AVENUE				74'–0"					48.23		
U.S. 69	1–80'	2	175'–0"	375'–6"	94'–0"	43'–0"	68.37	4,342	339.20	1,461.25	⚠ 147.50
TOTALS	1–80'	2	255'–0"	1,346'–6"	94'–0"	43'–0"	68.37	4,342	⚠ 787.56	1,461.25	⚠ 147.50

⚠

STR. CONC **
56.00 OH
12.37 GM

PANEL *
1,198.00 OH
263.25 GM

SUMMARY OF SIGNING QUANTITIES

REV. NO.	DESCRIPTION REVISION	DATE
⚠	ADDED SIGN 41A REVISED QUANTITIES	8/4/16

ITEM NO.	LOCATION	TYPE OF SIGN	TYPE OF POSTS	POST LENGTHS A	POST LENGTHS B	LATERAL CLEARANCE (edge of lane)	POST SPACE	FTG–DESIGN NO.	STRL–CONC–C.Y.	REINF–STEEL LBS	SIGN AREA SQ. FT. SHEET	SIGN AREA SQ. FT. PANEL	REMARKS
	Right Frontage Road												
60	Sta 239+20, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
61	Sta 239+33, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
62	Sta 239+43, Rt.	R1–1,R3–2	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	9.18	–	Extend post 6" Above Stop Sign
63	Sta 241+00, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
64	Sta 241+73, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
65	Sta 246+80, Lt.	R5–1	2 1/4"x12ga	10'–6"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–
66	Sta 246+80, Rt.	R5–1	2 1/4"x12ga	10'–6"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–
67	Sta 247+45, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
68	Sta 247+65, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
69	Sta 181+27, COMANCHE,Lt.	R1–1,R3–2	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	9.18	–	Extend post 6" Above Stop Sign
70	Sta 248+07, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
71	Sta 249+35, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
72	Sta 249+76, Lt.	R6–1(R)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	3.00	–	–
73	Sta 250+40, Rt.	Rte. Mkr. Assy. No. 2	2"x12ga	14'–0"	14'–0"	4'–0"	2'–4"	SSP1–1	–	–	16.38	–	–
74	Sta 252+00, Lt.	R5–1	2 1/4"x12ga	10'–6"	–	6'–0"	–	Ⓐ	–	–	6.25	–	Set in New Concrete pavement
75	Sta 252+00, Rt.	R5–1	2 1/4"x12ga	10'–6"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–
76	Sta 252+44, Rt.	R1–1,R6–(R)	2 1/4"x12ga	10'–6"	–	6'–0"	–	SSP1–1	–	–	8.18	–	–
77	Sta 252+73, Lt.	R5–1	2 1/4"x12ga	10'–6"	–	6'–0"	–	Ⓐ	–	–	6.25	–	Set in New Concrete pavement
78	Sta 252+76, Lt.	R1–1,R6–1(L)	2 1/4"x12ga	10'–6"	–	4'–0"	–	Ⓐ	–	–	8.18	–	Set in New Concrete pavement
79	Sta 253+07, Rt.	R1–1,R3–2	2 1/4"x12ga	13'–6"	–	6'–0"	–	SSP1–1	–	–	9.18	–	–
80	Sta 258+00, Rt.	Route Assembly No. 10	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	8.19	–	–
	Wade Watts (Wyandotte) Avenue												
81	Sta 195+36, Rt.	W3–1	2 1/4"x12ga	12'–0"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–
82	Sta 196+60, Rt.	R3–7(R)	2 1/4"x12ga	12'–0"	–	6'–0"	–	SSP1–1	–	–	6.25	–	–
83	Sta 197+60, Rt.	R1–1, W/ Street Names	2 1/4"x12ga	12'–0"	–	6'–0"	–	SSP1–1	–	–	11.18	–	George Nigh & Wade Watts(Existing)
84	Sta 197+82, Lt.	R1–1, W/ Street Names	2 1/4"x12ga	12'–0"	–	6'–0"	–	SSP1–1	–	–	11.18	–	Klamichi & Wade Watts (Existing)
85	Sta 199+16, Lt.	Rte. Mkr. Assy. No. 10	2 1/4"x12ga	14'–0"	–	4'–0"	–	SSP1–1	–	–	8.19	–	–
86	Sta 201+58, Lt.	R1–1	2 1/4"x12ga	12'–0"	–	6'–0"	–	SSP1–1	–	–	5.18	–	–
	U.S. 69												
87	Sta 3197+00, Rt.	Spc'l Sign No. 9	6" WF 15	21'–6"	21'–6"	6'–0"	8'–5"	KC–1	1.52	212	–	105.00	–
88	Sta 3197+00, Rt.	II–25A	2 1/4"x12ga	15'–0"	17'–0"	21'–0"	36"	SSP1–1	–	–	25.00	–	No Arrow
89	Sta 3206+90, Lt.	Rte. Marker Assy. No. 7	2 1/4"x12ga	14'–0"	–	6'–0"	–	Ⓐ	–	–	8.19	–	–
90	Sta 3206+90, Lt.	Rte. Marker Assy. No. 8	2 1/4"x12ga	14'–0"	–	6'–0"	–	Ⓐ	–	–	8.19	–	–
91	Sta 3208+90, Rt.	Spc'l Sign No. 8	4" WF 13	14'–0"	14'–0"	6'–0"	6'–4"	KC–0	0.72	130	–	68.25	–
92	Sta 3208+90, Rt.	II–25A	2 1/4"x12ga	15'–0"	17'–0"	17'–6"	36"	SSP1–1	–	–	25.00	–	Slant Arrow Up & Right
93	Sta 3210+51, Rt.	R5–1E	2 1/4"x12ga	12'–0"	–	6'–0"	–	SSP1–1	–	–	9.00	–	–
94	Sta 3210+81, Rt.	R6–1E(L),R1–2E	2 1/4"x12ga	15'–0"	15'–0"	6'–0"	18"	SSP1–1	–	–	13.68	–	–
95	Sta 3210+81, Lt.	R5–1E	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	9.00	–	–
96	Sta 3211+50, Lt.	R5–1E	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	9.00	–	–
97	Sta 3212+00, Rt.	Rte. Marker Assy. No. 4	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	8.19	–	–
98	Sta 3212+00, Rt.	Rte. Marker Assy. No. 6	2 1/4"x12ga	15'–0"	–	8'–6"	–	SSP1–1	–	–	8.19	–	–
99	Sta 3212+00, Rt.	II–25A	2 1/4"x12ga	16'–0"	15'–6"	11'–0"	36"	SSP1–1	–	–	25.00	–	Straight Left Arrow
99A	Sta 3212+10, Rt.	E5–1,E13–1(40)	4" WF 13	16'–6"	16'–6"	GORE	3'–0"	KC–0	0.72	130	–	45.00	–
100	Sta 3217+00, Rt.	Rte. Marker Assy. No. 3	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	8.19	–	–
101	Sta 3217+00, Rt.	Rte. Marker Assy. No. 5	2 1/4"x12ga	15'–0"	–	8'–6"	–	SSP1–1	–	–	8.19	–	–
102	Sta 3217+00, Rt.	II–25A	2 1/4"x12ga	16'–0"	15'–6"	11'–0"	36"	SSP1–1	–	–	25.00	–	Bent Left Arrow
103	Sta 3222+00, Rt.	Rte. Marker Assy. No. 3	2 1/4"x12ga	14'–0"	–	6'–0"	–	SSP1–1	–	–	8.19	–	–
104	Sta 3222+00, Rt.	Rte. Marker Assy. No. 5	2 1/4"x12ga	15'–0"	–	8'–6"	–	SSP1–1	–	–	8.19	–	–
105	Sta 3222+00, Rt.	II–25A	2 1/4"x12ga	16'–0"	15'–6"	11'–0"	36"	SSP1–1	–	–	25.00	–	Bent Left Arrow
106	Sta 3226+70, Rt.(NB,LT)	R2–1E(50)	2"x12ga	11'–6"	11'–6"	6'–0"	2'–0"	SSP1–1	–	–	12.00	–	–
107	Sta 3226+70, Rt.(NB,RT)	R2–1E(50)	2"x12ga	11'–6"	11'–6"	6'–0"	2'–0"	SSP1–1	–	–	12.00	–	–
108	Sta 3254+32, Lt.	E5–1, E13–1(40)	4" WF 13	16'–6"	16'–6"	Gore	3'–0"	KC–0	0.72	130	–	45.00	
109	Sta 3254+80, Rt.	W4–3E(R)	2"x12ga	16'–0"	16'–0"	6'–0"	2'–4"	SSP1–1	–	–	16.00	–	–
110	Sta 3256+25, Rt.	WB–13F	2"x12ga	16'–0"	16'–0"	6'–0"	2'–4"	SSP1–1	–	–	16.00	–	–
111	Sta 3257+58, Rt.	Spc'l. No. 2, 3							56.00	3,200	–	418.50	TYPE "A" Bridge Str
112	Sta 3258+15, Lt.	Spc'l. No. 4, W13–2F(40)									20.00	180.50	TYPE "C" Bridge Str
113	Sta 3261+00, Lt.	WB–13F	2"x12ga	16'–0"	17'–0"	6'–0"	2'–4"	SSP1–1	–	–	16.00	–	–
114	Sta 3264+60, Rt.	WB–13F	2"x12ga	16'–0"	16'–0"	6'–0"	2'–4"	SSP1–1	–	–	16.00	–	–
115	Sta 3268+20, Lt.	Spc'l. No. 5									–	180.50	TYPE "C" Bridge Str
116	Sta 3268+75, Rt.	Existing Ground Mounted						KC–1	1.52	212			Remove and Reset(Est Ftg Size)
117	Sta 3269+13, Rt.	Spc'l. No. 6, 7							7.17	328	–	418.50	Ex. Str – Replace Signs
–													
–													

Ⓐ Driven Anchor Tube Required, delete concrete portion of footing (SSP1–1–02)

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
8/4/16

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

SIGNING QUANTITY SUMMARY

JOB PIECE NO. 14999(04) — SHEET NO. 81

M3-3 M3-1
M1-4(2) M1-4(2)
M6-2(L) M6-2(L)
ROUTE ASSEMBLY 1
16.38 SQ. FT.

M3-1 M3-3
M1-4(2) M1-4(2)
M6-2(L) M6-3
ROUTE ASSEMBLY 2
16.38 SQ. FT.

M3-1
M1-4(2)
M5-1(L)
ROUTE ASSEMBLY 3
8.19 SQ. FT.

M3-1
M1-4(2)
M6-1(L)
ROUTE ASSEMBLY 4
8.19 SQ. FT.

M3-2
SPECIAL SIGN NO. 10
M5-1(L)
ROUTE ASSEMBLY 5
8.19 SQ. FT.

M3-2
SPECIAL SIGN NO. 10
M6-1(L)
ROUTE ASSEMBLY 6
8.19 SQ. FT.

M3-4
SPECIAL SIGN NO. 1
M5-1(L)
ROUTE ASSEMBLY 7
8.19 SQ. FT.

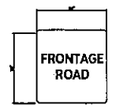
M3-4
SPECIAL SIGN NO. 1
M6-1(L)
ROUTE ASSEMBLY 8
8.19 SQ. FT.

M3-4
SPECIAL SIGN NO. 1
M6-1(R)
ROUTE ASSEMBLY 9
8.19 SQ. FT.

M3-3
M1-4(2)
M5-1(L)
ROUTE ASSEMBLY 10
8.19 SQ. FT.

MODIFIED M4-3
USE SIGN BLANK B-24(S)

SPECIAL SIGN NO. 1
4.00 SQ. FT.



MODIFIED M4-3
USE SIGN BLANK B-24(S)

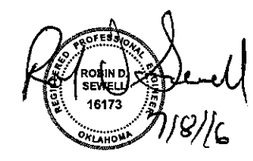
SPECIAL SIGN NO. 10
4.00 SQ. FT.

EXISTING GROUND MOUNTED SIGN
(Existing Location Sta. 3250+30, Lt.)

EXISTING SIGN NO. 1

EXISTING GROUND MOUNTED SIGN
(Existing Location Sta. 3242+45, Rt.)

EXISTING SIGN NO. 2



7/18/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		**SPECIAL SIGNS**
Checked	CKE		
Approved			
Squad	C & K		JOB PIECE NO. 14999(04) SHEET NO. 82

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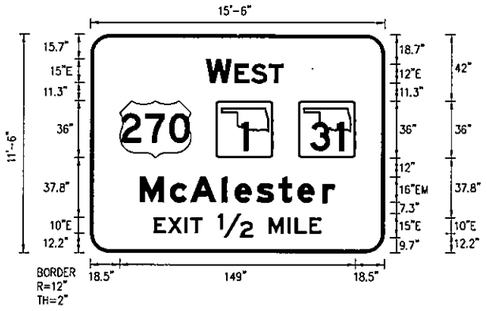


SIGN NUMBER	SS #2	QUANTITY	1
STATIONS	none		
WIDTH x HGHT.	15'-6" x 11'-6"		
BORDER WIDTH	2"		
CORNER RADIUS	12"		
MOUNTING	Overhead		
BACKGROUND	TYPE: Reflective		
	COLOR: Green		
	COLDR: Green		
LEGEND/BORDER	TYPE: Reflective		
	COLOR: White		
	COLOR: White		

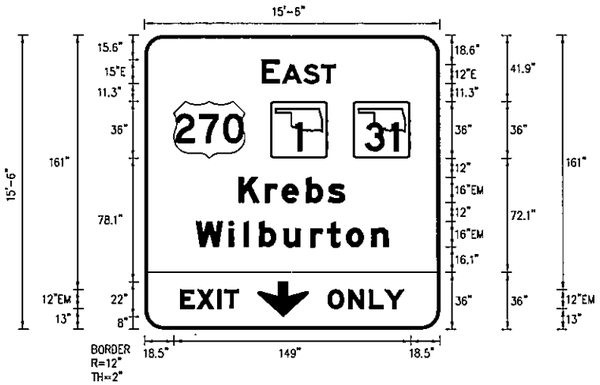
SYMBOL	ROT	X	Y	WID	HT
M1_4	0	18.5	60	45	36
M1_62	0	79.5	60	36	36
M1_62	0	131.5	60	36	36

Panel Style: guide_fwy_overhead.ssi Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
W	E	S	T									E 2000
73.1	91.2	101.9	112.9								48.8	15,12
M	c	A	l	e	s	t	e	r				EM 2000
31.4	50.3	63.3	83.3	91.4	105.2	119.1	131.1	146.6			123.2	16/12
E	X	I	T	1/2	M	I	L	E				E 2000
40.2	49.1	59.8	63.3	80.8	112.7	124.7	129.1	138.3			105.7	10,15

SPECIAL SIGN No. 2

178.25 SF



SIGN NUMBER	SS #3	QUANTITY	1
STATIONS	none		
WIDTH x HGHT.	15'-6" x 15'-6"		
BORDER WIDTH	2"		
CORNER RADIUS	12"		
MOUNTING	Overhead		
BACKGROUND	TYPE: Reflective		
	COLOR: Green		
	COLOR: Green		
LEGEND/BORDER	TYPE: Reflective		
	COLOR: Black/White		
	COLOR: Black/White		

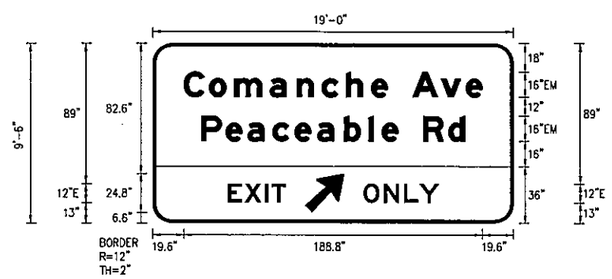
SYMBOL	ROT	X	Y	WID	HT
M1_4	0	18.5	108.1	45	36
M1_62	0	79.5	108.1	36	36
M1_62	0	131.5	108.1	36	36
ARDOWN	0	71.6	8	32	22

Panel Style: guide_fwy_overhead.ssi Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
E	A	S	T									E 2000
74.3	87.1	100.7	111.7								46.4	15,12
K	r	e	b	s								EM 2000
59.6	76.2	86.6	102.1	115.9							66.9	16/12
W	i	l	b	u	r	t	o	n				EM 2000
32.4	53.2	62.8	72.4	88	104.9	115.2	127.2	143			121.1	16/12
E	X	I	T									EM 2000
22.6	33.2	46.1	50.7								37	12
O	N	L	Y									EM 2000
115.6	128.6	141.6	151.2								47.8	12

SPECIAL SIGN No. 3

240.25 SF



SIGN NUMBER	SS #4	QUANTITY	1
STATIONS	none		
WIDTH x HGHT.	19'-0" x 9'-6"		
BORDER WIDTH	2"		
CORNER RADIUS	12"		
MOUNTING	Overhead		
BACKGROUND	TYPE: Reflective		
	COLOR: Green		
	COLOR: Green		
LEGEND/BORDER	TYPE: Reflective		
	COLOR: Black/White		
	COLOR: Black/White		

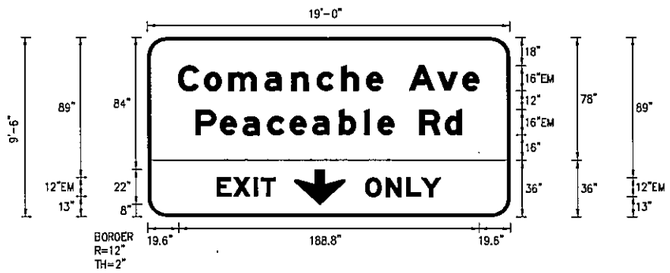
SYMBOL	ROT	X	Y	WID	HT
AR_Type A	315	96.1	6.6	20	31.5

Panel Style: guide_fwy_overhead.ssi Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)														LENGTH	SERIES/SIZE
C	o	m	a	n	c	h	e		A	v	e				EM 2000
19.6	35.6	51.4	74	91	106.5	122	137.5	148.1	164.1	182.3	197.8			188.8	16/12
P	e	a	c	e	a	b	i	e		R	d				EM 2000
30.6	46	60.1	75.6	89.7	103.8	120.7	136.2	144.4	155	171	186.8			166.7	16/12
E	X	I	T												E 2000
47.4	58.1	70.9	75.1											36.7	12
O	N	L	Y												E 2000
132.9	145.8	158.6	168.6											47.9	12

SPECIAL SIGN No. 4

180.50 SF



SIGN NUMBER	SS #5	QUANTITY	1
STATIONS	none		
WIDTH x HGHT.	19'-0" x 9'-6"		
BORDER WIDTH	2"		
CORNER RADIUS	12"		
MOUNTING	Overhead		
BACKGROUND	TYPE: Reflective		
	COLOR: Green		
	COLOR: Green		
LEGEND/BORDER	TYPE: Reflective		
	COLOR: Black/White		
	COLOR: Black/White		

SYMBOL	ROT	X	Y	WID	HT
ARDOWN	0	92.6	8	32	22

Panel Style: guide_fwy_overhead.ssi Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)														LENGTH	SERIES/SIZE
C	o	m	a	n	c	h	e		A	v	e				EM 2000
19.6	35.6	51.4	74	91	106.5	122	137.5	148.1	164.1	182.3	197.8			188.8	16/12
P	e	a	c	e	a	b	l	e		R	d				EM 2000
30.6	46	60.1	75.6	89.7	103.8	120.7	136.2	144.4	155	171	188.8			166.7	16/12
E	X	I	T												EM 2000
43.6	54.2	67.1	71.7											37	12
O	N	L	Y												EM 2000
136.6	149.6	162.6	172.2											47.8	12

SPECIAL SIGN No. 5

180.50 SF

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

SPECIAL SIGNS

JOB PIECE NO. 14999(04) SHEET NO. 83

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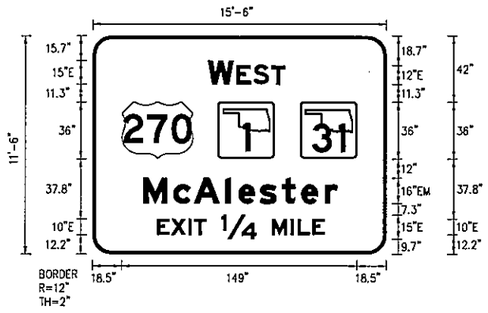


SIGN NUMBER	SS #6	QUANTITY	1
STATIONS	none		
WIDTH x HGHT.	15'-6" x 11'-6"		
BORDER WIDTH	2"		
CORNER RADIUS	12"		
MOUNTING	Overhead		
BACKGROUND	TYPE: Reflective		
	COLOR: Green		
	COLOR: Green		
LEGEND/BORDER	TYPE: Reflective		
	COLOR: White		
	COLOR: White		

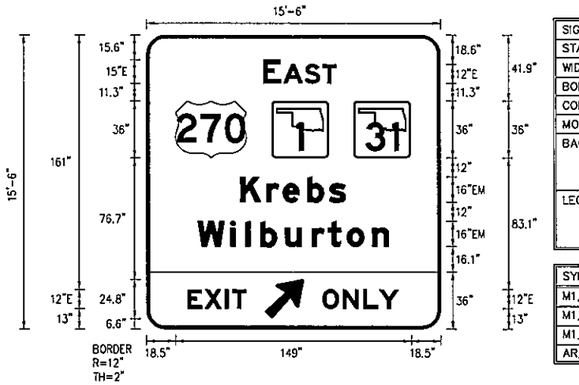
SYMBOL	ROT	X	Y	WID	HT
M1_4	0	18.5	60	45	36
M1_62	0	79.5	60	36	36
M1_62	0	131.5	60	36	36

Panel Style: guide_fwy_overhead.ssi Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
W	E	S	T									E 2000
73.1	91.2	101.9	112.9								48.8	15,12
M	c	A	I	e	s	t	e	r				EM 2000
32.4	51.2	64.2	84.2	92.4	106.1	120	132	147.6			123.2	16/12
E	X	I	T	1/4	M	I	L	E				E 2000
41.1	50	60.7	64.2	81.7	113.7	125.7	130.1	139.3			105.7	10,15

SPECIAL SIGN No. 6

178.25 SF



SIGN NUMBER	SS #7	QUANTITY	1
STATIONS	none		
WIDTH x HGHT.	15'-6" x 15'-6"		
BORDER WIDTH	2"		
CORNER RADIUS	12"		
MOUNTING	Overhead		
BACKGROUND	TYPE: Reflective		
	COLOR: Green		
	COLOR: Green		
LEGEND/BORDER	TYPE: Reflective		
	COLOR: Black/White		
	COLOR: Black/White		

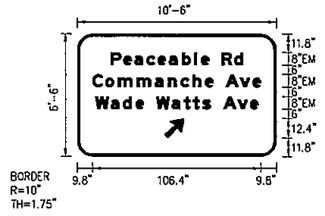
SYMBOL	ROT	X	Y	WID	HT
M1_4	0	18.5	108.1	45	36
M1_62	0	79.5	108.1	36	36
M1_62	0	131.5	108.1	36	36
AR_Type A	315	75	6.6	20	31.5

Panel Style: guide_fwy_overhead.ssi Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)											LENGTH	SERIES/SIZE
E	A	S	T									E 2000
74.3	87.1	100.7	111.7								46.4	15,12
K	r	e	b	s								EM 2000
59.6	76.2	86.6	102.1	115.9							66.9	16/12
W	i	I	b	u	r	t	o	n				EM 2000
32.4	53.2	62.8	72.4	88	104.9	115.2	127.2	143			121.1	16/12
E	X	I	T									E 2000
26.3	36.9	49.8	54								36.7	12
O	N	L	Y									E 2000
111.8	124.6	137.4	147.4								47.9	12

SPECIAL SIGN No. 7

240.25 SF



SIGN NUMBER	SS #8	QUANTITY	1
STATIONS	none		
WIDTH x HGHT.	10'-6" x 6'-6"		
BORDER WIDTH	1.75"		
CORNER RADIUS	10"		
MOUNTING	Overhead		
BACKGROUND	TYPE: Reflective		
	COLOR: Green		
	COLOR: Green		
LEGEND/BORDER	TYPE: Reflective		
	COLOR: White		
	COLOR: White		

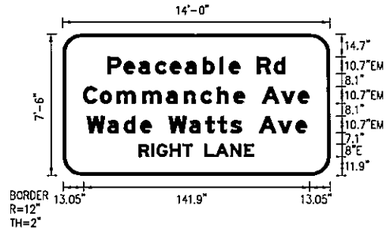
SYMBOL	ROT	X	Y	WID	HT
AR_Type A	315	55.1	11.8	10	15.7

Panel Style: guide_exp_distance.ssi Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)																LENGTH	SERIES/SIZE
P	e	a	c	e	a	b	l	e		R	d						EM 2000
21.3	29	36	43.8	50.8	57.9	66.4	74.1	78.2	83.5	91.5	99.4					83.4	8/6
C	o	m	m	a	n	c	h	e		A	v	e					EM 2000
9.8	17.8	25.7	37.7	49	57.5	65.2	73	80.8	86	94	103.2	110.9				106.4	8/6
W	a	d	e		W	a	t	t	s		A	v	e				EM 2000
11.5	21.2	28.9	36.7	42	50	59.6	67.3	73.2	79.1	84.4	92.4	101.5	109.2			103	8/6

SPECIAL SIGN No. 8

68.25 SF



SIGN NUMBER	SS #9	QUANTITY	1
STATIONS	none		
WIDTH x HGHT.	14'-0" x 7'-6"		
BORDER WIDTH	2"		
CORNER RADIUS	12"		
MOUNTING	Overhead		
BACKGROUND	TYPE: Reflective		
	COLOR: Green		
	COLOR: Green		
LEGEND/BORDER	TYPE: Reflective		
	COLOR: White		
	COLOR: White		

SYMBOL	ROT	X	Y	WID	HT

Panel Style: guide_exp_advance_minor.ssi Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)																LENGTH	SERIES/SIZE
P	e	a	c	e	a	b	l	e		R	d						EM 2000
28.4	38.7	48.1	58.5	67.9	77.3	88.7	99	104.5	111.5	122.2	132.8					111.5	10.7/8
C	o	m	m	a	n	c	h	e		A	v	e					EM 2000
13	23.7	34.3	50.3	65.3	76.6	87	97.3	107.7	114.7	125.4	137.6	147.9				141.9	10.7/8
W	o	d	e		W	a	t	t	s		A	v	e				EM 2000
15.3	28.2	38.6	49	56.1	66.8	79.7	90	97.9	105.7	112.8	123.5	135.7	146			137.8	10.7/8
R	I	G	H	T		L	A	N	E								E 2000
48.1	56.2	59.4	67.8	75.6	81.6	89.6	96.2	105.8	114.3							72.2	8

SPECIAL SIGN No. 9

105.00 SF

Survey	CKS	
Drawn	CKO	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

SPECIAL SIGNS

JOB PIECE NO. 14999(04) SHEET NO. 84

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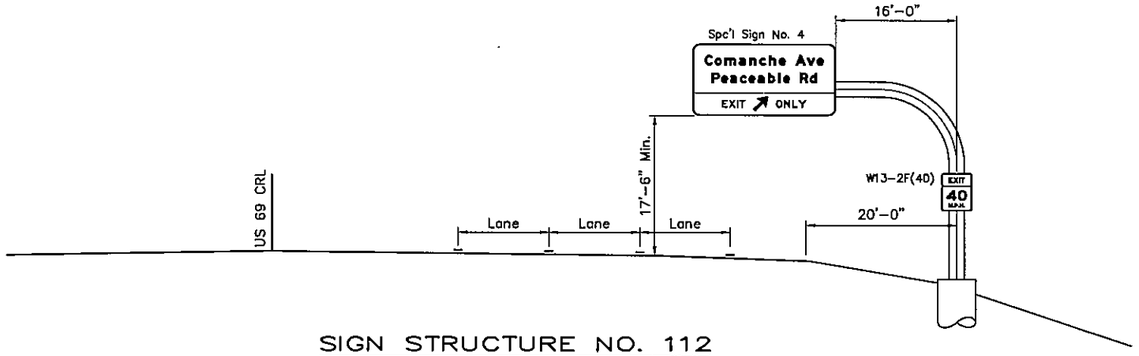
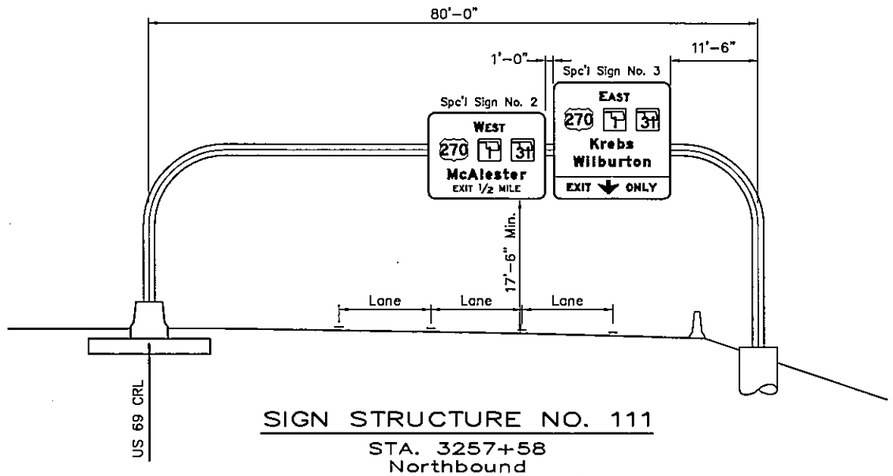


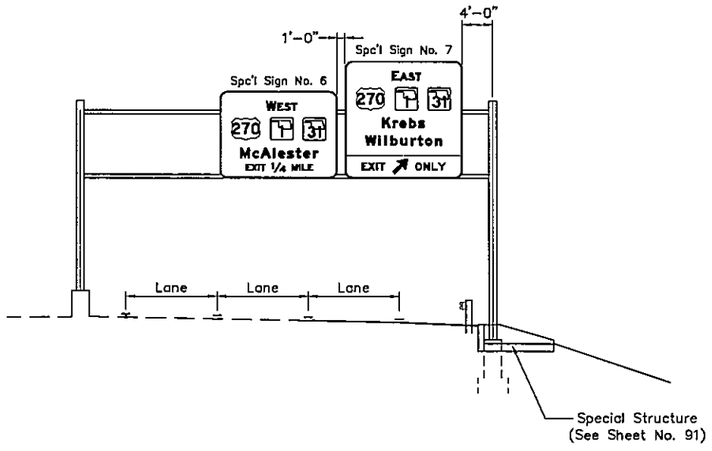
SIGN STRUCTURE NO. 112

STA. 3258+15
Southbound
Type 'C' (180.00 SF)
Sheet (20.00 SF)



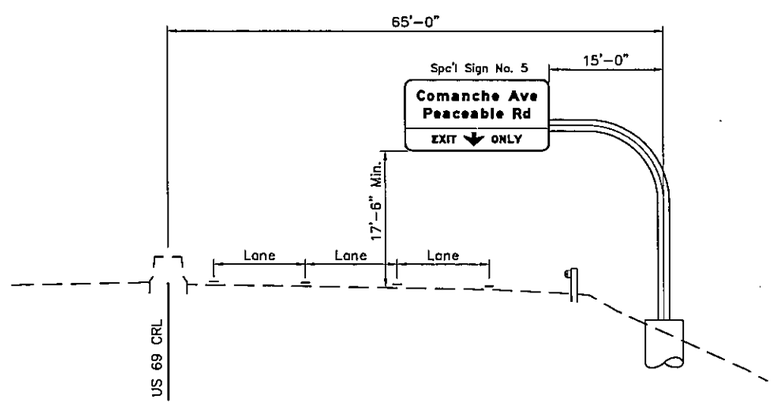
SIGN STRUCTURE NO. 111

STA. 3257+58
Northbound
Type 'A' (418.50 SF)



SIGN STRUCTURE NO. 117

STA. 3269+13
NORTHBOUND
Existing 'C-1' (418.50 SF)



SIGN STRUCTURE NO. 115

STA. 3268+20
Southbound
Type 'C' (180.50 SF)

ROBIN D. SEWELL
16173
REGISTERED PROFESSIONAL ENGINEER
OKLAHOMA
9/8/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 -- COMANCHE AVENUE — PITTSBURG COUNTY

SIGN STRUCTURE DETAILS

JOB PIECE NO. 14989(04) — SHEET NO. 85

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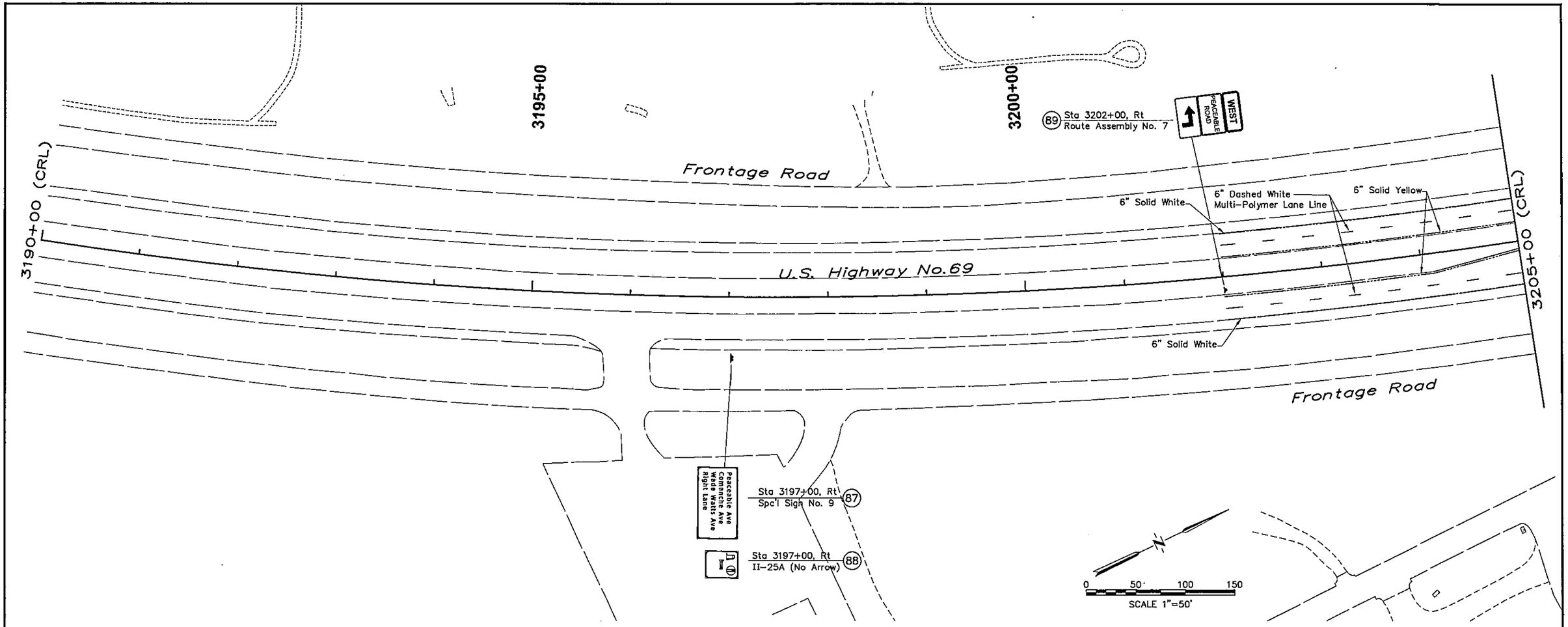

Legend for Pavement Marking & Signing

White Reflective Turn Arrow (Lt. or Rt.)	
White Reflective Word "ONLY"	ONLY
24" Solid White Reflective Stop Bar	
8" Solid White Reflective Crosswalk	
4" Solid Double Yellow Reflective Barrier Line	
4" or 6" Solid Yellow Reflective Barrier Line	
4" or 6" Solid White Reflective Edge Line	
4" Dashed White Reflective Lane Line (12' & 28')	
6" Dashed Lane Line (12' white, 12' black & 33')	
6" Dotted Muli-Polymer Lane Line (3' W, 3' B & 9')	
4" Dashed White Reflective Dual Turn Line (2' & 4')	
Permanent Sign Number, Location & Sign Type	(#)

NOTE

Pavement Marking Dimensions are not shown on plans. Reference shall be made to the latest copy of Standard Pavement Marking PM1, PM2, PM3, PM4, PM5, and PM6.

REGISTERED PROFESSIONAL ENGINEER
ROBIN D. SEWELL
16173
OKLAHOMA
7/18/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY
Drawn	CKD		**PAVEMENT MARKING AND SIGNING PLAN**
Checked	CKE		**STA. 3190+00 TO STA. 3205+00**
Approved			JOB PIECE NO. 14999(04) — SHEET NO. 86
Squad	C & K		

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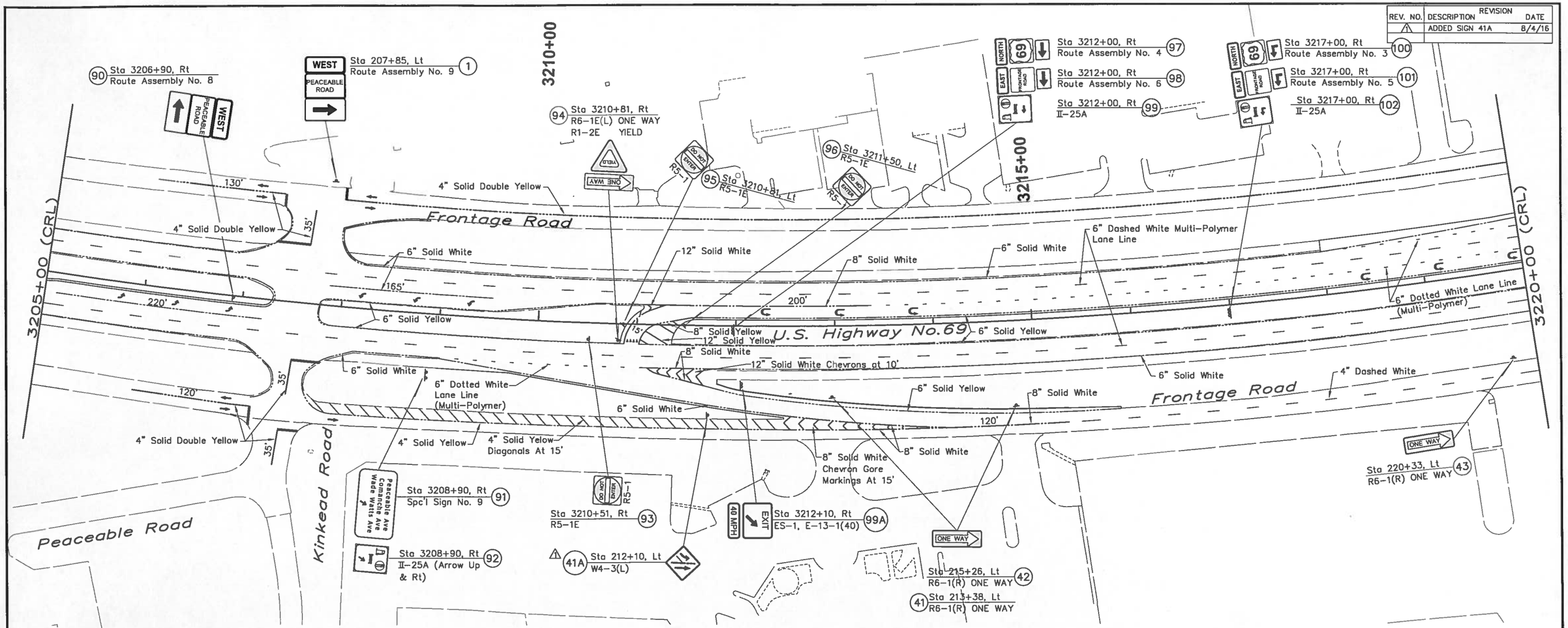
REVISION		
REV. NO.	DESCRIPTION	DATE
1	ADDED SIGN 41A	8/4/16



0 50 100 150

SCALE 1"=50'

Legend for Pavement Marking & Signing

White Reflective Turn Arrow (Lt. or Rt.)	
White Reflective Word "ONLY"	ONLY
24" Solid White Reflective Stop Bar	
8" Solid White Reflective Crosswalk	
4" Solid Double Yellow Reflective Barrier Line	
4" or 6" Solid Yellow Reflective Barrier Line	
4" or 6" Solid White Reflective Edge Line	
4" or 6" Dashed White Reflective Lane Line (12' & 28')	
6" Dashed Lane Line (12' white, 12' black & 33')	
6" Dotted Muli-Polymer Lane Line (3' W, 3' B & 9')	
4" Dashed White Reflective Dual Turn Line (2' & 4')	
Permanent Sign Number, Location & Sign Type	(#)

NOTE

Pavement Marking Dimensions are not shown on plans. Reference shall be made to the latest copy of Standard Pavement Marking PM1, PM2, PM3, PM4, PM5, and PM6.

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA

8/4/16

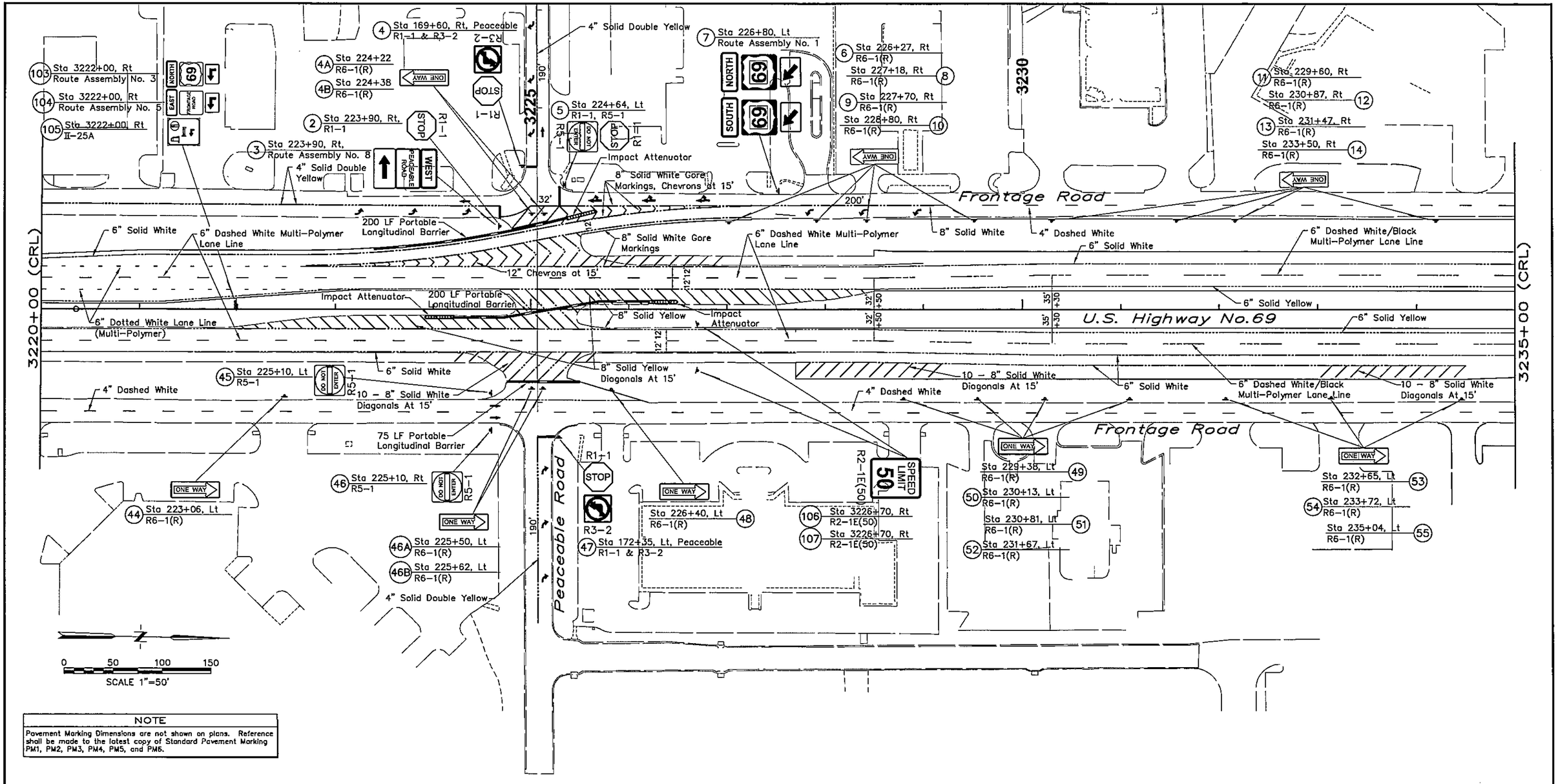
Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PAVEMENT MARKING AND SIGNING PLAN

STA. 3205+00 TO STA. 3220+00

JOB PIECE NO. 14999(04) SHEET NO. 87



NOTE
Pavement Marking Dimensions are not shown on plans. Reference shall be made to the latest copy of Standard Pavement Marking PM1, PM2, PM3, PM4, PM5, and PM6.

Legend for Pavement Marking & Signing

White Reflective Turn Arrow (Lt. or Rt.)	
White Reflective Word "ONLY"	ONLY
24" Solid White Reflective Stop Bar	
8" Solid White Reflective Crosswalk	
4" Solid Double Yellow Reflective Borrier Line	
4" or 6" Solid Yellow Reflective Barrier Line	
4" or 6" Solid White Reflective Edge Line	
4" Dashed White Reflective Lane Line (12' & 28')	
6" Dashed Lane Line (12' white, 12' black & 33')	
6" Dotted Muli-Polymer Lane Line (3' W, 3' B & 9')	
4" Dashed White Reflective Dual Turn Line (2' & 4')	
Permanent Sign Number, Location & Sign Type	(#)

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA 7/18/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY

PAVEMENT MARKING AND SIGNING PLAN

STA. 3220+00 TO STA. 3235+00

JOB PIECE NO. 14999(04) SHEET NO. 88

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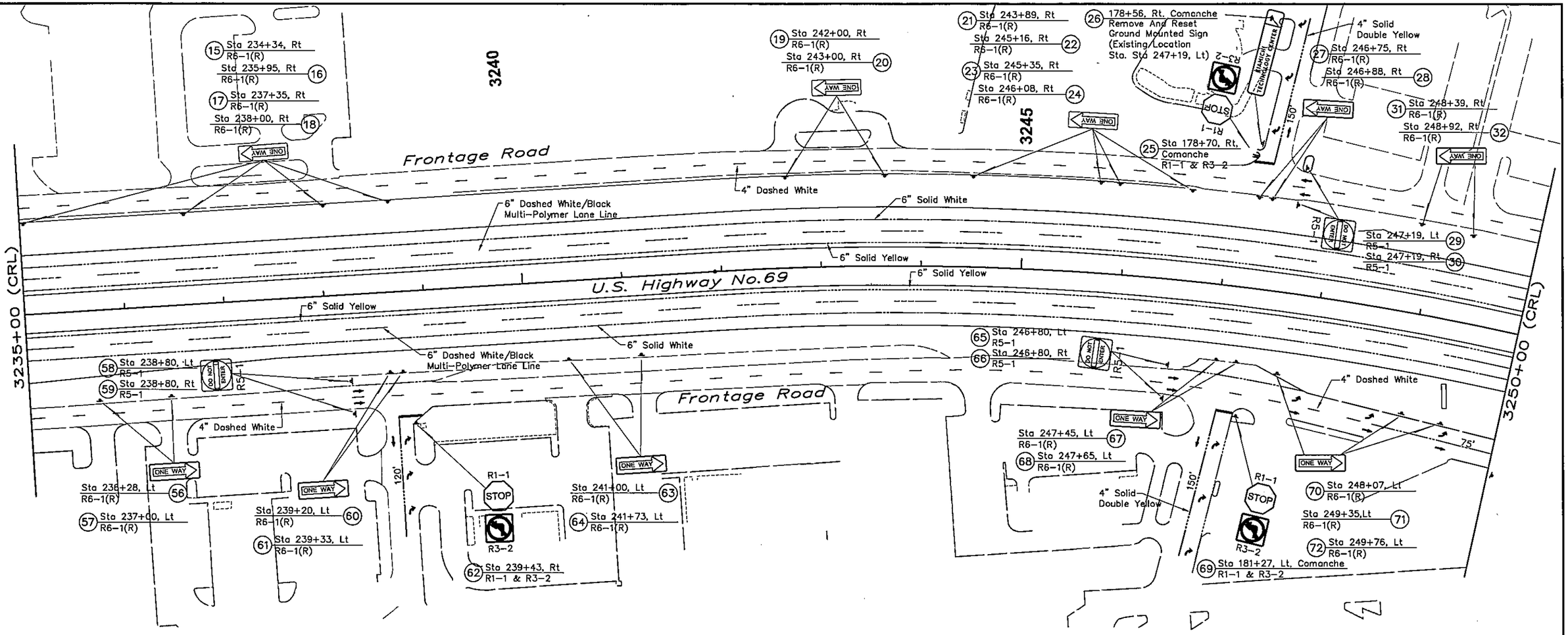

0 50 100 150

SCALE 1"=50'

NOTE

Pavement Marking Dimensions are not shown on plans. Reference shall be made to the latest copy of Standard Pavement Marking PM1, PM2, PM3, PM4, PM5, and PM6.

Legend for Pavement Marking & Signing

White Reflective Turn Arrow (Lt. or Rt.)	
White Reflective Word "ONLY"	ONLY
24" Solid White Reflective Stop Bar	
8" Solid White Reflective Crosswalk	
4" Solid Double Yellow Reflective Barrier Line	
4" or 6" Solid Yellow Reflective Barrier Line	
4" or 6" Solid White Reflective Edge Line	
4" Dashed White Reflective Lane Line (12' & 28')	
6" Dashed Lane Line (12' white, 12' black & 33')	
6" Dotted Muli-Polymer Lane Line (3' W, 3' B & 9')	
4" Dashed White Reflective Dual Turn Line (2' & 4')	
Permanent Sign Number, Location & Sign Type	(#)

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16179 OKLAHOMA 7/18/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drown	CKD		**PAVEMENT MARKING AND SIGNING PLAN STA. 3235+00 TO STA. 3250+00**
Checked	CKE		JOB PIECE NO. 14999(04) SHEET NO. 89
Approved			
Squad	C & K		

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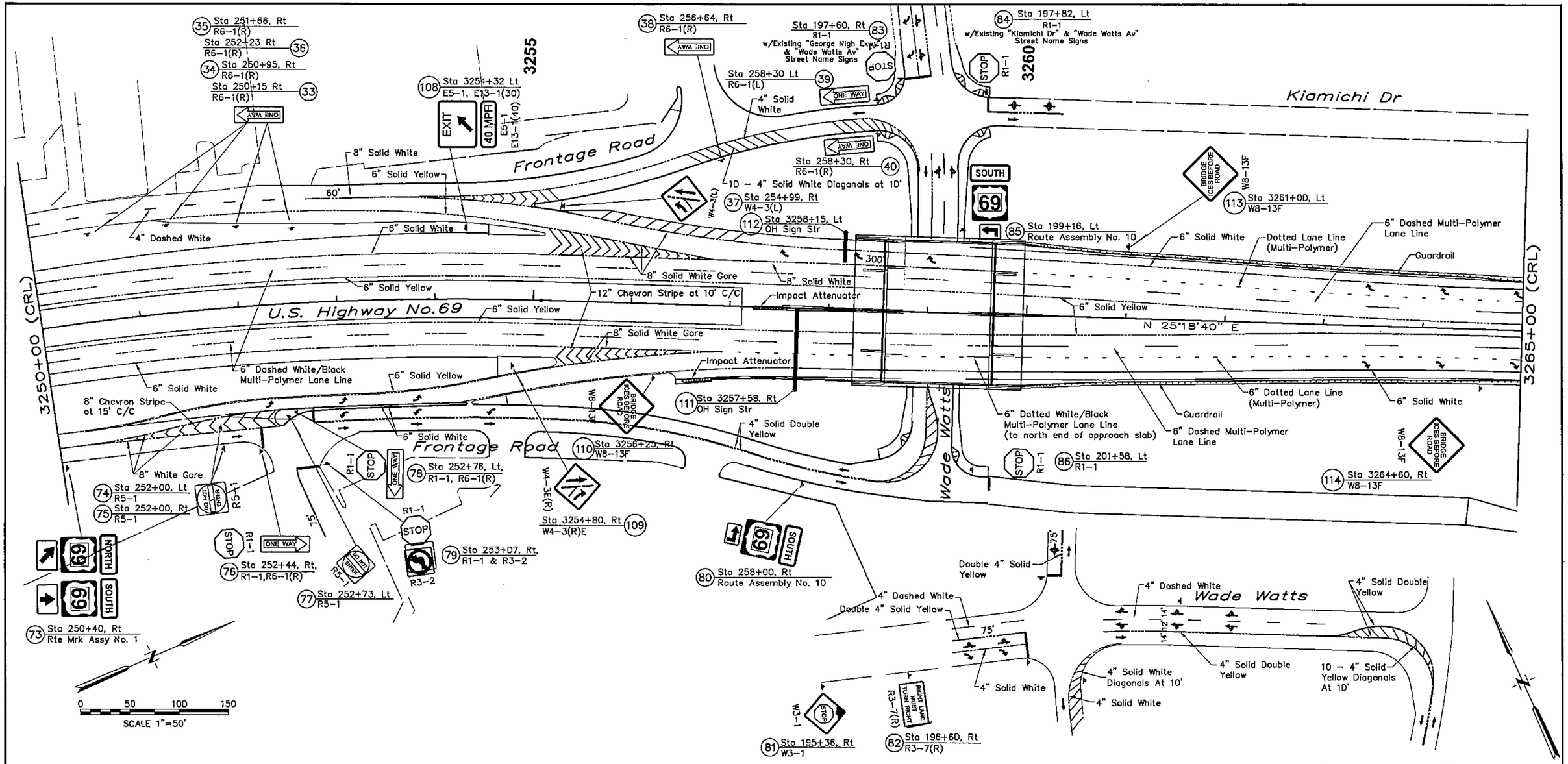

Pavement Marking Wade Watts(Wyandotte) Ave

Legend for Pavement Marking & Signing

White Reflective Turn Arrow (Lt. or Rt.)	
White Reflective Word "ONLY"	ONLY
24" Solid White Reflective Stop Bar	
8" Solid White Reflective Crosswalk	
4" Solid Double Yellow Reflective Barrier Line	
4" or 6" Solid Yellow Reflective Barrier Line	
4" or 6" Solid White Reflective Edge Line	
4" Dashed White Reflective Lane Line (12' & 28')	
6" Dashed Lane Line (12' white, 12' block & 33')	
6" Dotted Muli-Polymer Lane Line (3' W, 3' B & 9')	
4" Dashed White Reflective Dual Turn Line (2' & 4')	
Permanent Sign Number, Location & Sign Type	(#)

NOTE

Pavement Marking Dimensions are not shown on plans. Reference shall be made to the latest copy of Standard Pavement Marking PM1, PM2, PM3, PM4, PM5, and PM6.

REGISTERED PROFESSIONAL ENGINEER
RODNEY SEWELL
16173
OKLAHOMA
8/16

Survey	CKS		U.S. 69 – COMANCHE AVENUE PITTSBURG COUNTY
Drawn	CKD		**PAVEMENT MARKING AND SIGNING PLAN**
Checked	CKE		**STA. 3250+00 TO STA. 3265+00**
Approved			JOB PIECE NO. 14999(04) SHEET NO. 90
Squad	C & K		

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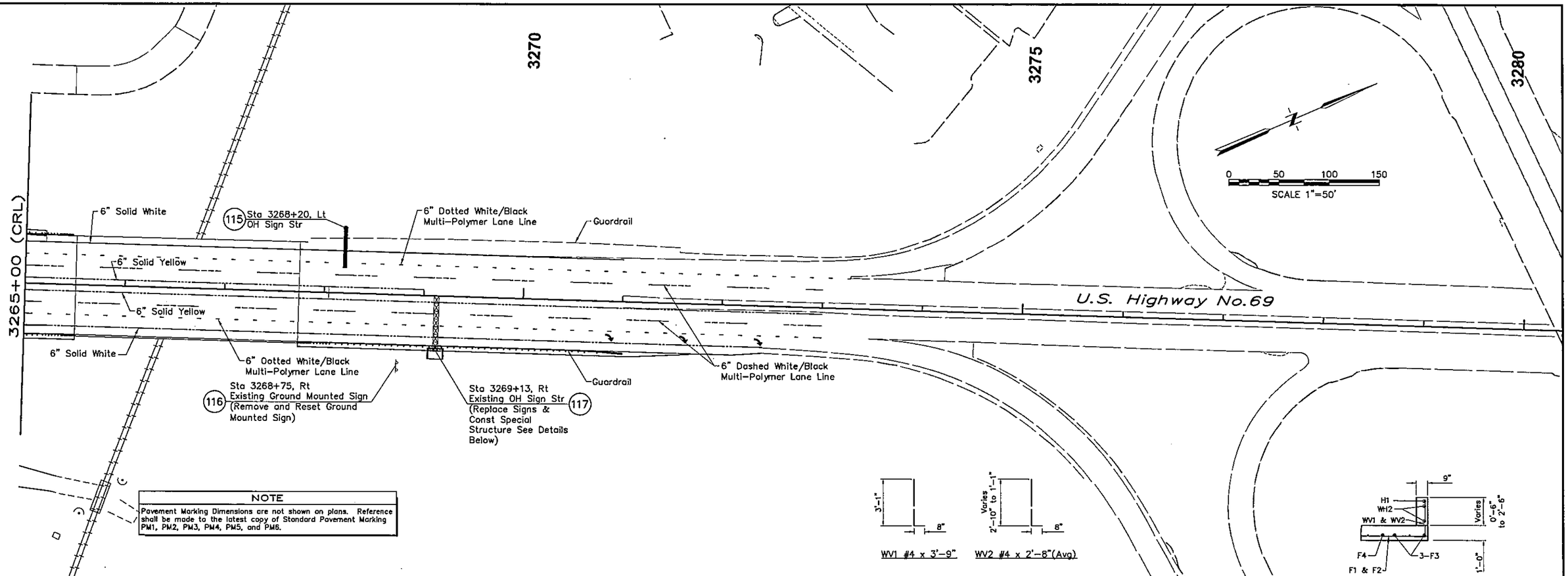
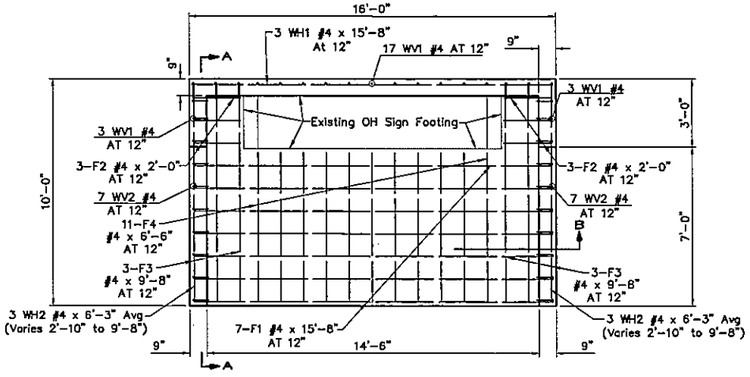


NOTE
Pavement Marking Dimensions are not shown on plans. Reference shall be made to the latest copy of Standard Pavement Marking PM1, PM2, PM3, PM4, PM5, and PM6.

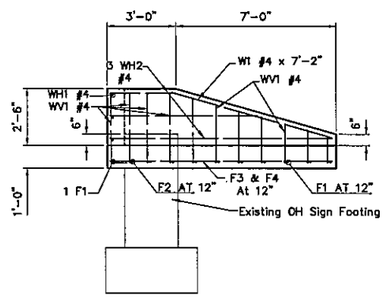
Legend for Pavement Marking & Signing

White Reflective Turn Arrow (Lt. or Rt.)	
White Reflective Word "ONLY"	ONLY
24" Solid White Reflective Stop Bar	
8" Solid White Reflective Crosswalk	
4" Solid Double Yellow Reflective Barrier Line	
4" or 6" Solid Yellow Reflective Barrier Line	
4" or 6" Solid White Reflective Edge Line	
4" Dashed White Reflective Lane Line (12' & 28')	
6" Dashed Lane Line (12' white, 12' black & 33')	
6" Dotted Muli-Polymer Lane Line (3' W, 3' B & 9')	
4" Dashed White Reflective Dual Turn Line (2' & 4')	
Item No. for Permanent Signing	
Permanent Sign Number, Location & Sign Type	(#)

SEC B



PLAN



SEC A—A

SPECIAL STRUCTURE

CLASS "A" CONC. = 7.17 CY
REINFORCING STEEL = 328 LB

REGISTERED PROFESSIONAL ENGINEER ROBIN D. SEWELL 16173 OKLAHOMA

7/8/16

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 – COMANCHE AVENUE — PITTSBURG COUNTY

PAVEMENT MARKING AND SIGNING PLAN STA. 3265+00 TO STA. 3280+00

JOB PIECE NO. 14999(04) — SHEET NO. 91

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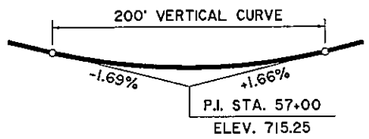
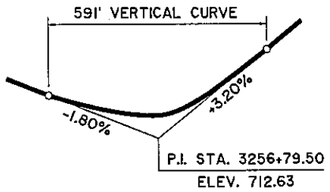
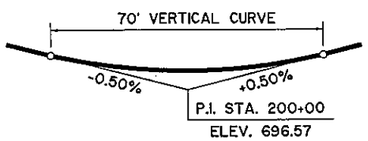


VERTICAL CURVE DATA
RAMP A

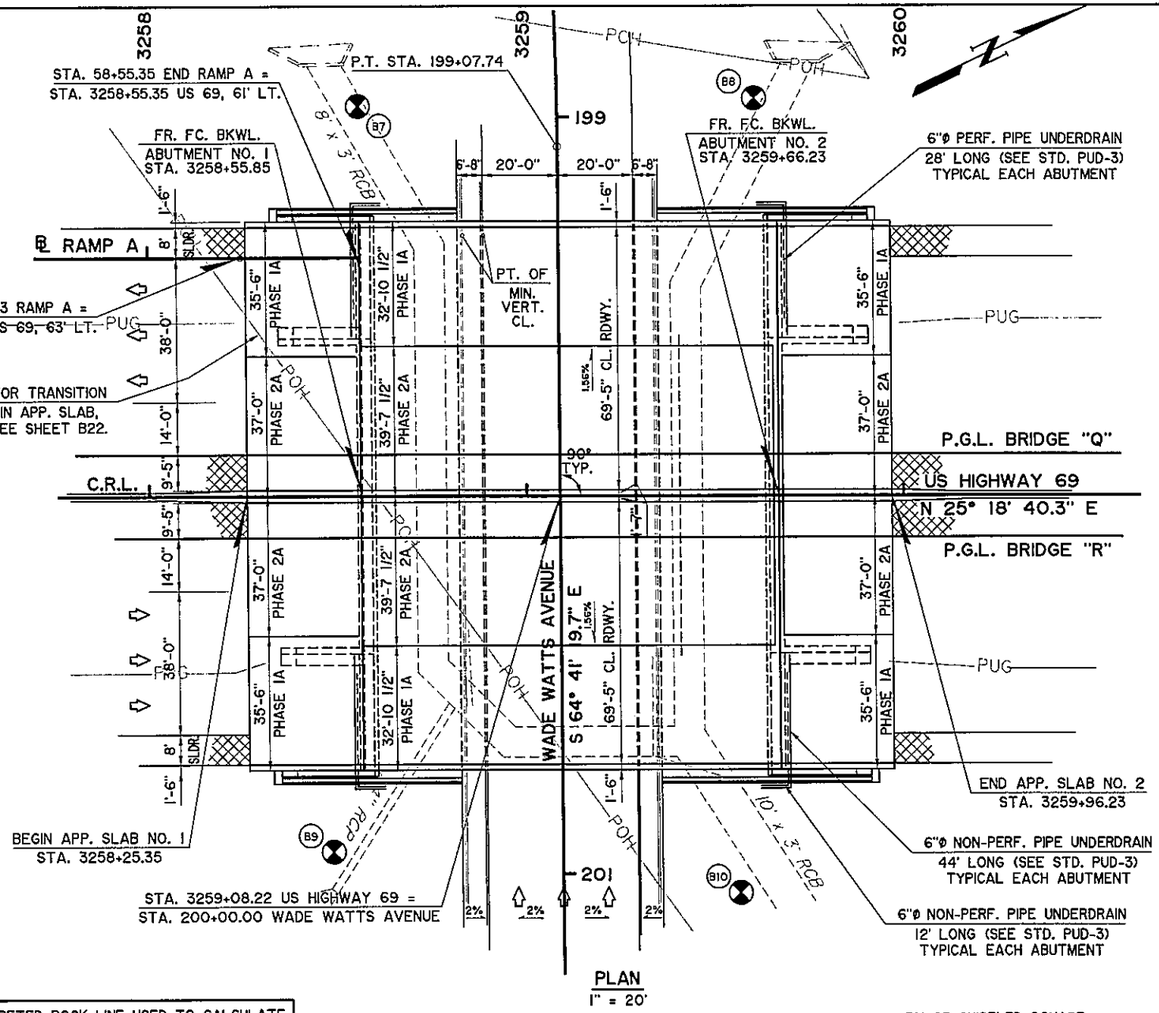


VERTICAL CURVE DATA
US HIGHWAY 69

NOTE
ADJUST SLAB FINISH GRADE AS NECESSARY TO MATCH EXISTING SLAB.



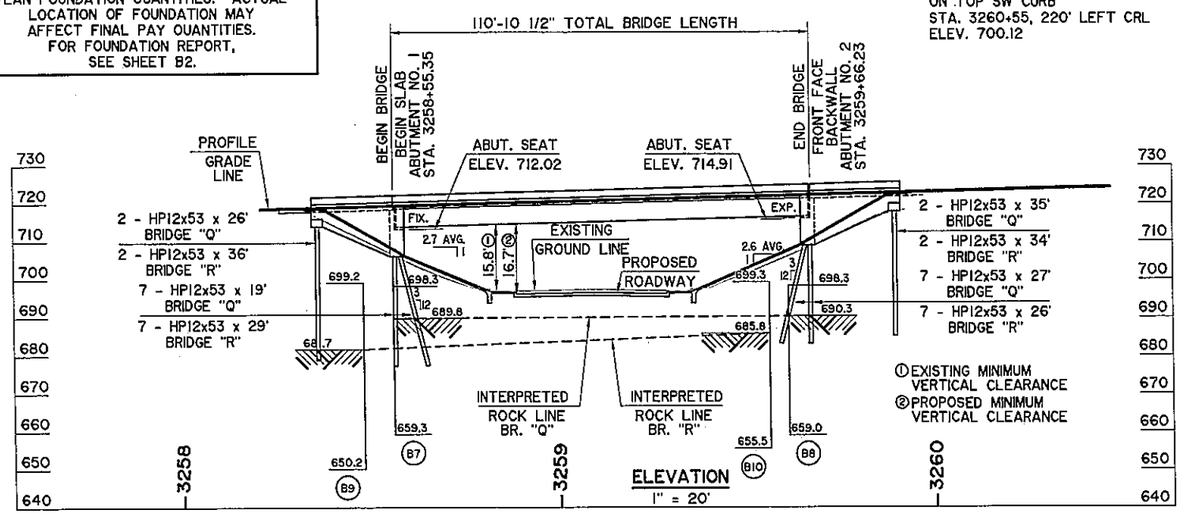
PROFILE GRADE LINE
FUTURE WADE WATTS AVENUE



PLAN
1" = 20'

INTERPRETED ROCK LINE USED TO CALCULATE PLAN FOUNDATION QUANTITIES. ACTUAL LOCATION OF FOUNDATION MAY AFFECT FINAL PAY QUANTITIES. FOR FOUNDATION REPORT, SEE SHEET B2.

BM 65 CHISELED SQUARE ON TOP SW CURB STA. 3260+55, 220' LEFT CRL ELEV. 700.12



ELEVATION
1" = 20'

DESIGN DATA

CONCRETE CLASS AA	f'c = 4 K.S.I.
CONCRETE CLASS A	f'c = 3 K.S.I.
REINFORCING STEEL (GRADE 60)	fy = 60 K.S.I.
STRUCTURAL STEEL M 270 (GRADE 50W)	Fy = 50 K.S.I.
STAINLESS STEEL A240 (TYPE 316)	Fy = 30 K.S.I.

LOADING:
HL-93 OR OKLAHOMA OVERLOAD TRUCK
20 PSF FUTURE WEARING SURFACE
5 PSF STAY-IN-PLACE FORM ALLOWANCE

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6th EDITION
ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE
ANSI/AWS D1.6 STRUCTURAL WELDING CODE - STAINLESS STEEL

HL-93 INVENTORY RATING FACTOR: 1.14
HL-93 OPERATING RATING FACTOR: 1.47

THE HL-93 RATING FACTORS SHOWN ARE BASED ON A NOMINAL STRENGTH USING ONLY STRANDS THAT ARE BONDED FOR THE FULL LENGTH OF THE BEAM. ALL PARTIALLY BONDED STRANDS ARE NEGLECTED IN STRENGTH COMPUTATIONS.

FOUNDATION DATA

ABUTMENTS (HP12x53 PILING)

FACTORED PILE REACTION = 94.0 TON / PILE

FACTORED PILE RESISTANCE:
DRIVE PILING THROUGH THE COMPACTED FILL AND TO A POINT BEARING ON SOLID FOUNDATION MATERIAL AT THE APPROXIMATE ELEVATION SHOWN ON THE PLANS. IF A FACTORED AXIAL LOAD RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED PILE REACTION IS NOT OBTAINED AT THIS ELEVATION, CONTINUE DRIVING UNTIL SUCH IS OBTAINED. THE LENGTH OF STEEL PILING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY.

INDEX OF SHEETS

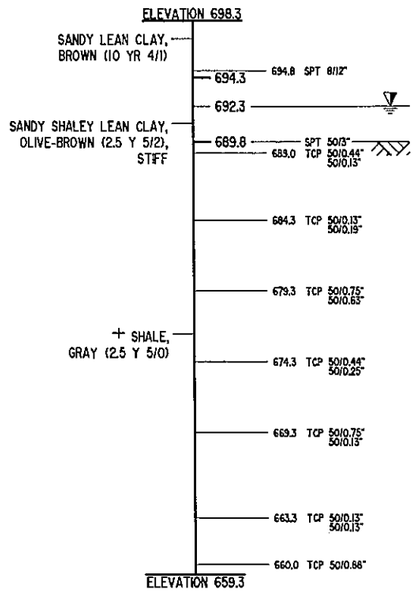
Design	RRW	
Drawn	KGL	KGL
Checked	ADT	DMH
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

GENERAL PLAN AND ELEVATION
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B1

BORING B7
STA. 3258+56
103' LEFT
OF C.R.L.
U.S. HIGHWAY 69

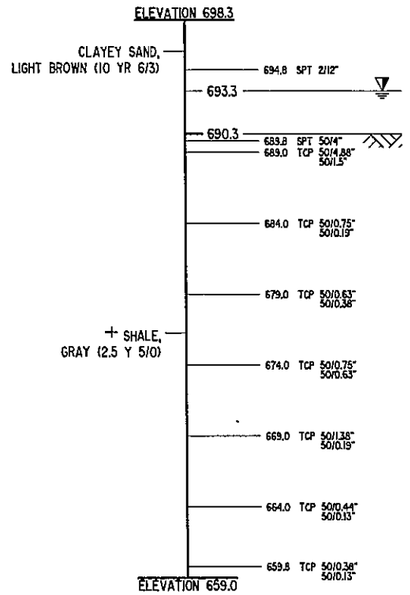


TOTAL DEPTH 39'

DATE OF BORING 06-17-05

WATER LEVEL 6 FT. 72 HOURS AFTER DRILLING

BORING B8
STA. 3259+61
105' LEFT
OF C.R.L.
U.S. HIGHWAY 69

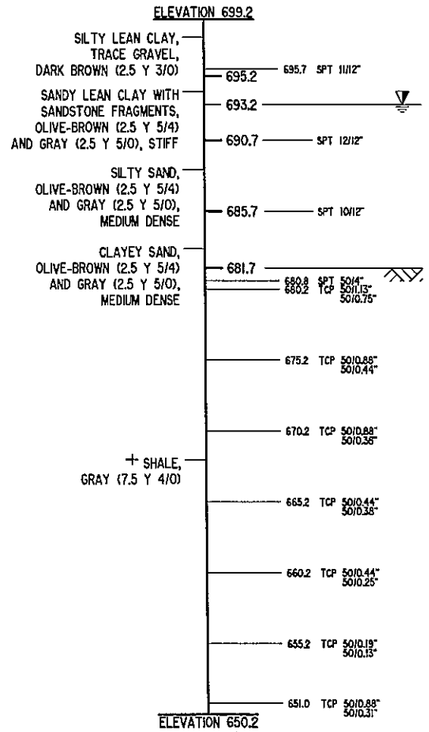


TOTAL DEPTH 39.3'

DATE OF BORING 06-17-05

WATER LEVEL 5 FT. 72 HOURS AFTER DRILLING

BORING B9
STA. 3258+48
94' RIGHT
OF C.R.L.
U.S. HIGHWAY 69

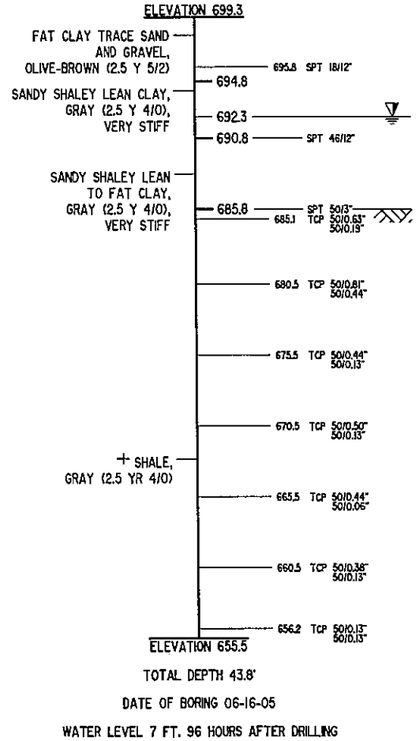


TOTAL DEPTH 49'

DATE OF BORING 06-17-05

WATER LEVEL 6 FT. 72 HOURS AFTER DRILLING

BORING B10
STA. 3259+56
105' RIGHT
OF C.R.L.
U.S. HIGHWAY 69



TOTAL DEPTH 43.8'

DATE OF BORING 06-16-05

WATER LEVEL 7 FT. 96 HOURS AFTER DRILLING

USE INTERPRETED ROCK LINE FOR ESTIMATING PURPOSES ONLY

WATER ELEVATIONS SHOWN WERE OBTAINED AT THE TIME BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR

NOTES:

SPT DENOTES STANDARD PENETRATION TEST

TCP DENOTES TEXAS CONE PENETRATION TEST

▽ DENOTES WATER ELEVATION AFTER DRILLING

INTERPRETED ROCK LINE

\+ CLASSIFICATION ESTIMATED FROM DISTURBED SAMPLES. CORE SAMPLES AND PETROGRAPHIC ANALYSIS MAY REVEAL OTHER ROCK TYPES.

GEOLOGICAL STATEMENT

THE GEOLOGY OF PITTSBURG COUNTY IS VERY COMPLEX. THE BEDROCK AT THE PROJECT SITE CONSISTS OF THE SAVANNA UNIT OF PENNSYLVANIAN AGE. INFORMATION ON THE SAVANNA UNIT WAS TAKEN FROM ODOT'S "ENGINEERING CLASSIFICTION OF GEOLOGIC MATERIALS, DIVISION ONE". THE SAVANNA UNIT CONSISTS PREDOMINANTLY OF SHALE, WITH LESSER AMOUNTS OF SANDSTONE, AND A FEW THIN BEDS OF LIMESTONE AND SILTSTONE.

THE SHALE IS GRAY TO BLACK, FISSILE AND LOCALLY CLAYEY. THE SANDSTONE IS MODERATELY HARD TO HARD. THIS UNIT IS 500 TO 1,325 FEET THICK IN PITTSBURG COUNTY. THE TOPOGRAPHY OF THIS UNIT IS CHARACTERIZED BY PROMINENT RIDGES CAPPED BY THE SANDSTONES WITH SHALE VALLEYS.

NOTE:
INFORMATION SHOWN ON THIS SHEET TAKEN FROM GEOTECHNICAL REPORT PREPARED BY TERRACON CONSULTANTS, INC. DATED AUGUST 24, 2005. A COPY OF THIS REPORT IS AVAILABLE FROM THE DEPARTMENT UPON REQUEST.

Design	TER	
Drawn	KGL	KGL
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

FOUNDATION REPORT
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B2

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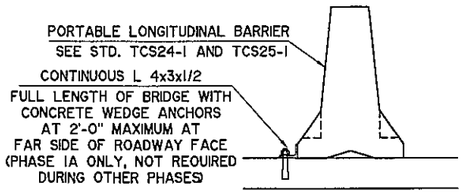
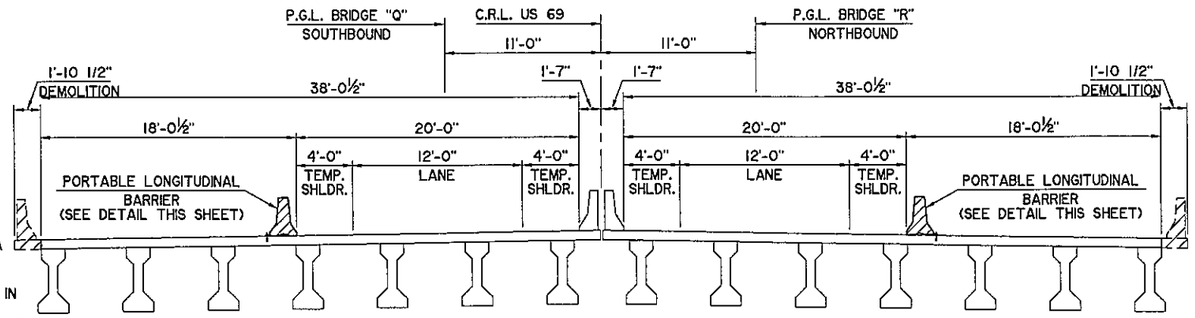
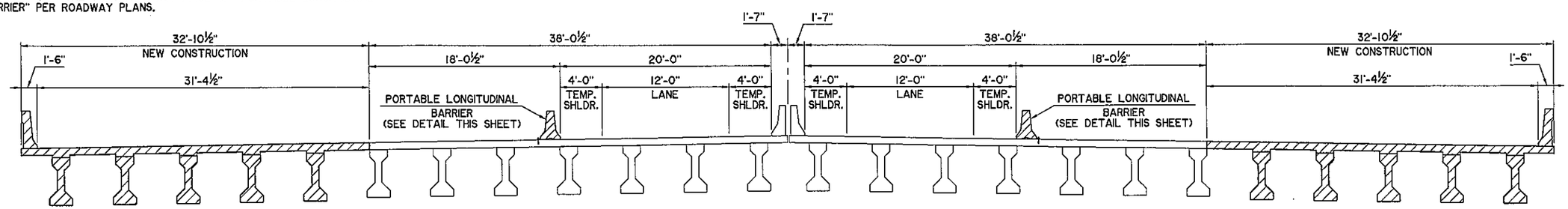


PORTABLE LONGITUDINAL BARRIER DETAIL

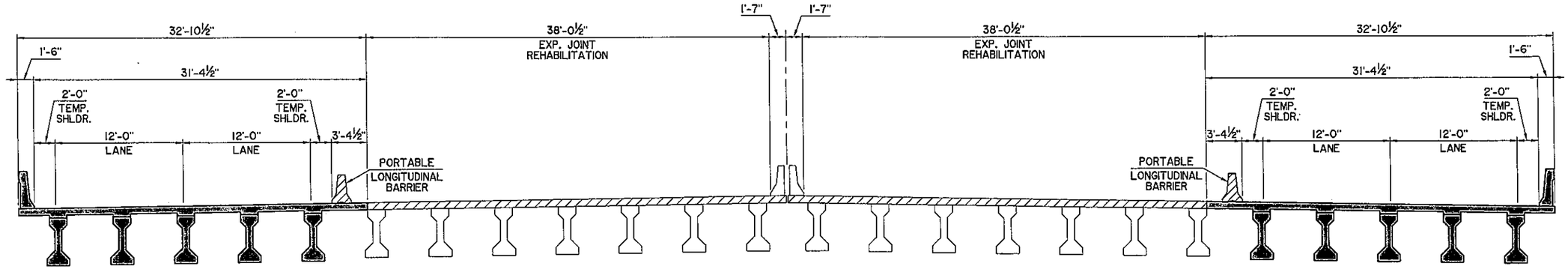
NOTE: PROVIDE CONCRETE WEDGE ANCHORS HAVING A MINIMUM ULTIMATE PULLOUT CAPACITY OF 10,000 POUNDS AND A MINIMUM ULTIMATE SHEAR CAPACITY OF 13,000 POUNDS. SUBMIT THE TYPE OF CONCRETE WEDGE ANCHOR TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. FILL THE REMAINING HOLES IN THE NEW DECK SLAB AFTER REMOVING ANCHORS IN A MANNER APPROVED BY THE ENGINEER. INCLUDE ALL COSTS FOR THE ANGLES, CONCRETE WEDGE ANCHORS, HOLE REPAIR, LABOR, AND INCIDENTALS NECESSARY IN THE CONTRACT UNIT PRICE OF "PORTABLE LONGITUDINAL BARRIER" PER ROADWAY PLANS.



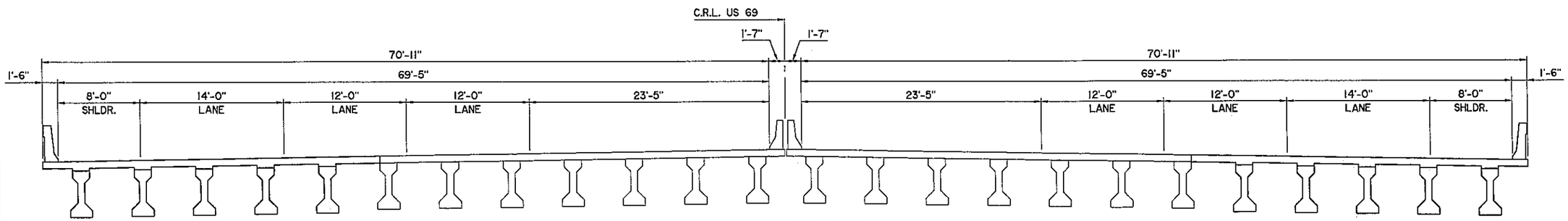
PHASE 1A, STEP 1



PHASE 1A, STEP 2



PHASE 2A



FINISHED BRIDGES

CONSTRUCTION SEQUENCE NOTES

MAINTAIN TWO 12' WIDE LANES OF TRAFFIC IN EACH DIRECTION ON US 69 AT ALL TIMES.

PHASE 1A, STEP 1 -

1. DIVERT TRAFFIC TOWARDS THE MEDIAN AND INSTALL TEMPORARY MEDIAN BARRIERS AS SHOWN.
2. REMOVE EXISTING OUTSIDE PARAPETS AND THE OUTERMOST 1'-10 1/2" OF DECK SLAB AT EACH BRIDGE.
3. REMOVE PORTIONS OF EXISTING ABUTMENTS AND APPROACH SLABS AS SHOWN IN THE PLANS. REMOVE SLOPE WALLS.

PHASE 1A, STEP 2 -

1. CONSTRUCT THE NEW PORTIONS OF BRIDGE "Q" AND BRIDGE "R".
2. PROVIDE A CONTINUOUS NEOPRENE GLAND THROUGH WIDTH OF BRIDGE DECK. DO NOT CUT NEOPRENE GLAND BETWEEN PHASES. ROLL UP UNUSED PORTION OF GLAND FOR INSTALLATION DURING PHASE 2B.

PHASE 2A -

1. MOVE TEMPORARY MEDIAN BARRIERS TO THE NEWLY CONSTRUCTED PORTIONS AS SHOWN. GROUT ANCHOR HOLES OF PREVIOUS BARRIER LOCATION FULL.
2. DIVERT TRAFFIC TO THE NEWLY CONSTRUCTED PORTIONS OF EACH BRIDGE.
3. REMOVE AND REPLACE APPROACH SLAB ON EXISTING PORTION OF BRIDGE "Q" AND "R" AS SHOWN IN THE PLANS.
4. REHABILITATE JOINTS OF THE EXISTING PORTIONS OF BRIDGE "Q" AND BRIDGE "R".
5. REMOVE TEMPORARY MEDIAN BARRIERS.
6. CONSTRUCT NEW SLOPE WALLS.

LEGEND

- WORK IN PROGRESS
- WORK COMPLETED

Design	CEG	
Drawn	KGL	HEJ
Checked	ADT	CEG
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

CONSTRUCTION SEQUENCE
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B3

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SUMMARY OF QUANTITIES

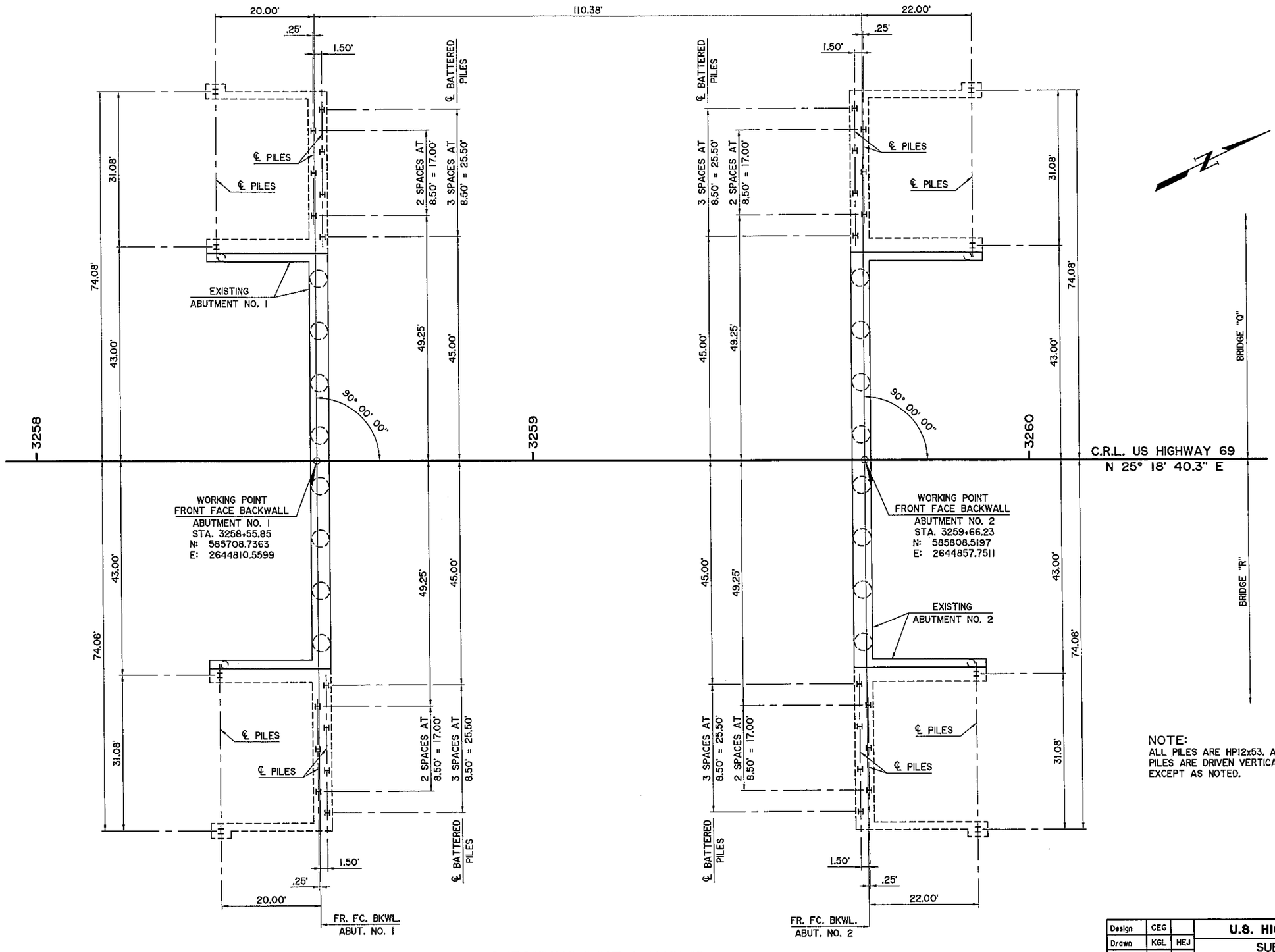
ITEM	UNIT	BRIDGE "Q"								BRIDGE "R"							
		PHASE 1A				PHASE 2A			TOTAL	PHASE 1A				PHASE 2A			TOTAL
		ABUTMENTS	SUPERSTR.	APP. SLAB	SLOPE WALL	SUPERSTR.	APP. SLAB	SLOPE WALL		ABUTMENTS	SUPERSTR.	APP. SLAB	SLOPE WALL	SUPERSTR.	APP. SLAB	SLOPE WALL	
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	175							175	175							175
CLSM BACKFILL	C.Y.	210							210	210							210
PRESTRESSED CONCRETE BEAMS (TYPE IV)	L.F.		549						549		549						549
APPROACH SLAB	S.Y.			236.6			127.5		364.1			236.6			127.5		364.1
SAW-CUT GROOVING	S.Y.		386.5	226.6			122.4		735.5		386.5	226.6			122.4		735.5
SEALED EXPANSION JOINT	L.F.		31.9			38.5			70.4		31.9			38.5			70.4
CONCRETE PARAPET	L.F.					1.3	31.1		32.4					1.3	31.1		32.4
42" F-SHAPED PARAPET	L.F.		110.7	60.0					170.7		110.7	60.0					170.7
STRUCTURAL STEEL	LB.	30	350						380	30	350						380
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.		5						5		5						5
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.		5						5		5						5
SPECIAL CONCRETE FINISH	S.Y.	119							119	119							119
CLASS AA CONCRETE	C.Y.		99.2			3.4			102.6		99.2			3.4			102.6
CLASS A CONCRETE	C.Y.	134.9							134.9	135.0							135.0
SLOPE WALL (5")	S.Y.							565	565							565	565
MECHANICAL SPLICES	EA.		317						317		317						317
EPOXY COATED REINFORCING STEEL	LB.	10,100	20,680			580			31,360	10,100	20,680			580			31,360
PILES, FURNISHED (HP12x53)	L.F.	444							444	525							525
PILES, DRIVEN (HP12x53)	L.F.	444							444	525							525
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	224	183	29		1	13		450	224	183	29		1	13		450
PNEUMATICALLY PLACED MORTAR	S.Y.	3.0							3.0	3.0							3.0
SEALER CRACK PREPARATION	L.F.		110.7						110.7		110.7						110.7
SEALER RESIN	GAL.		2						2		2						2
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	56							56	56							56
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	112							112	112							112
REMOVAL OF BRIDGE ITEM (TYPE A)	EA.	2							2	2							2
REMOVAL OF BRIDGE ITEM (TYPE B)	EA.				2				2				2				2
REMOVAL OF BRIDGE ITEM (TYPE C)	EA.					6			6					6			6
REMOVAL OF EXISTING SLAB	S.Y.			22.4			127.5		149.9			22.4			127.5		149.9
REMOVAL OF EXISTING PARAPET	L.F.	46.0	110.2	14.5		1.3	31.1		203.1	46.0	110.2	14.5		1.3	31.1		203.1
REMOVAL OF DECK	S.Y.		23.0			5.9			28.9		23.0			5.9			28.9

Design	CEG	
Drawn	KGL	HEJ
Checked	ADT	DMH
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

SUMMARY OF QUANTITIES
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B4



NOTE:
ALL PILES ARE HP12x53. ALL PILES ARE DRIVEN VERTICAL, EXCEPT AS NOTED.

SUBSTRUCTURE LAYOUT

Design	CEG	
Drawn	KGL	HEJ
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

SUBSTRUCTURE LAYOUT
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B5

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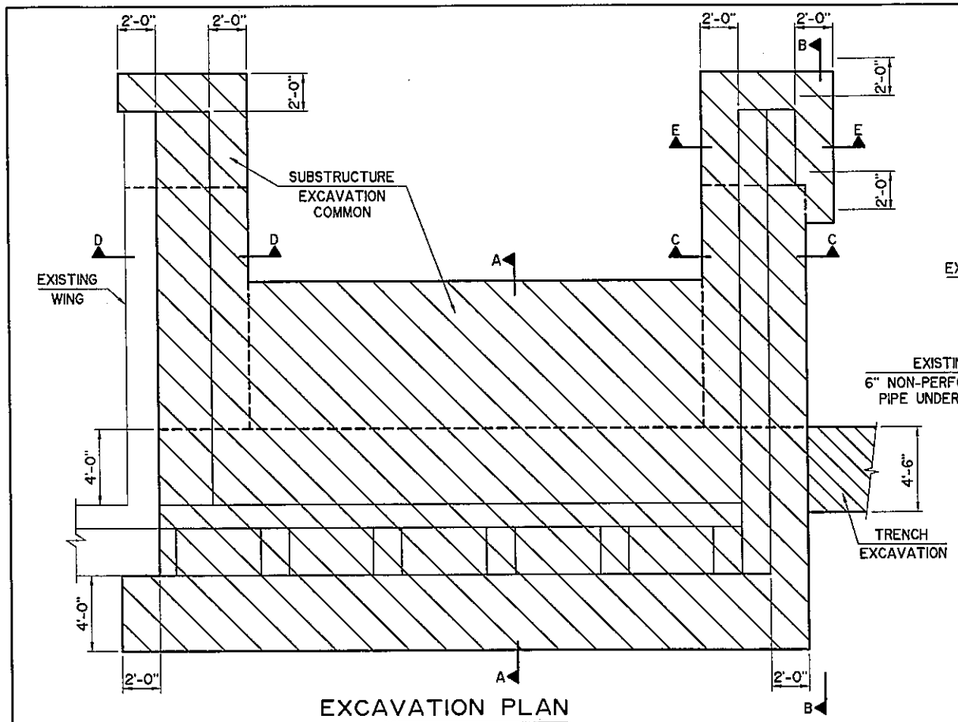
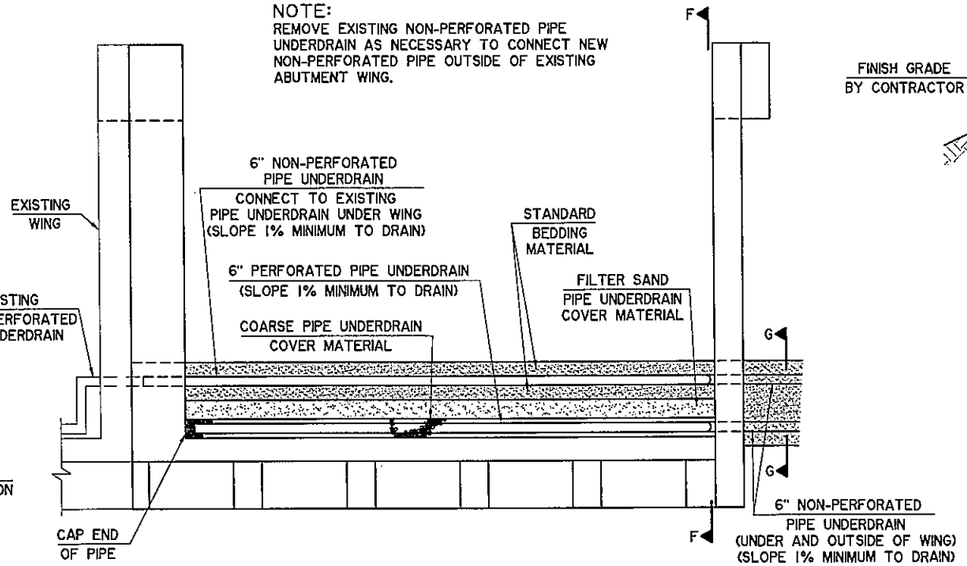


EXCAVATION PLAN

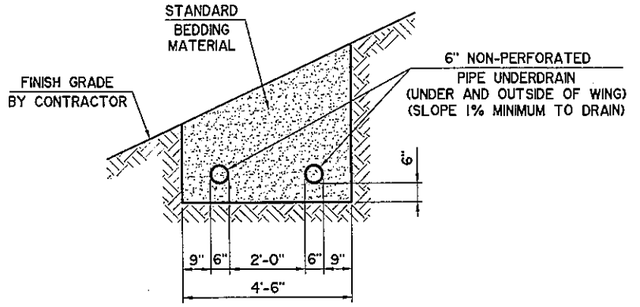
ABUTMENT NO. 1 BRIDGE "Q" SHOWN, OTHERS SIMILAR

NOTE:
REMOVE EXISTING NON-PERFORATED PIPE UNDERDRAIN AS NECESSARY TO CONNECT NEW NON-PERFORATED PIPE OUTSIDE OF EXISTING ABUTMENT WING.



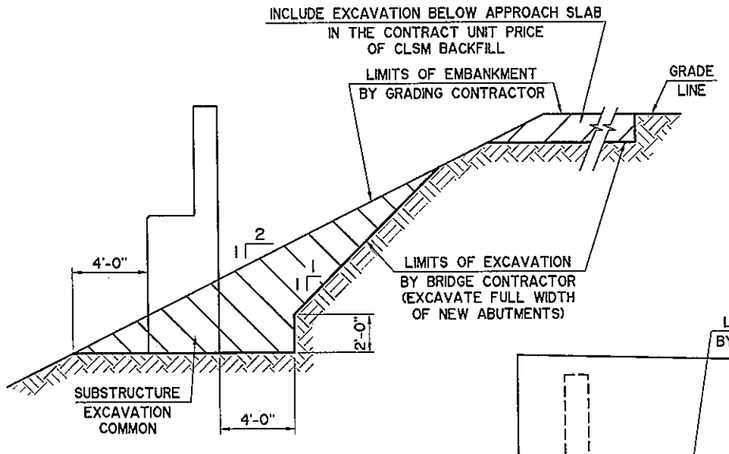
PIPE UNDERDRAIN PLAN

ABUTMENT NO. 1 BRIDGE "Q" SHOWN, OTHERS SIMILAR

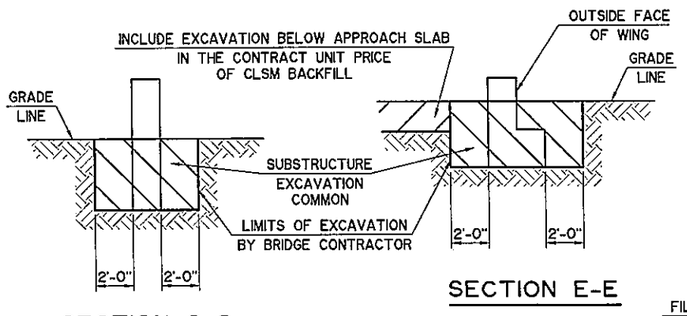


SECTION G-G

DO NOT PLACE CLSM BACKFILL UNTIL THE SUPERSTRUCTURE IS IN PLACE AND THE ABUTMENT WING CONCRETE HAS ATTAINED A STRENGTH OF 3000 P.S.I.

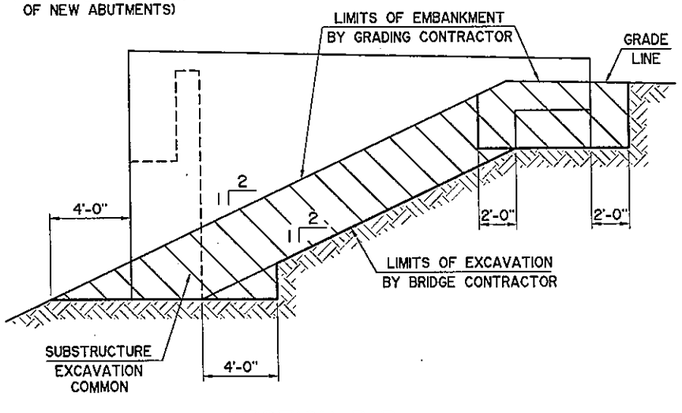


SECTION A-A

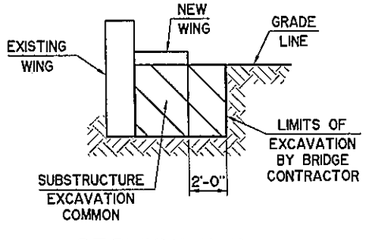


SECTION C-C

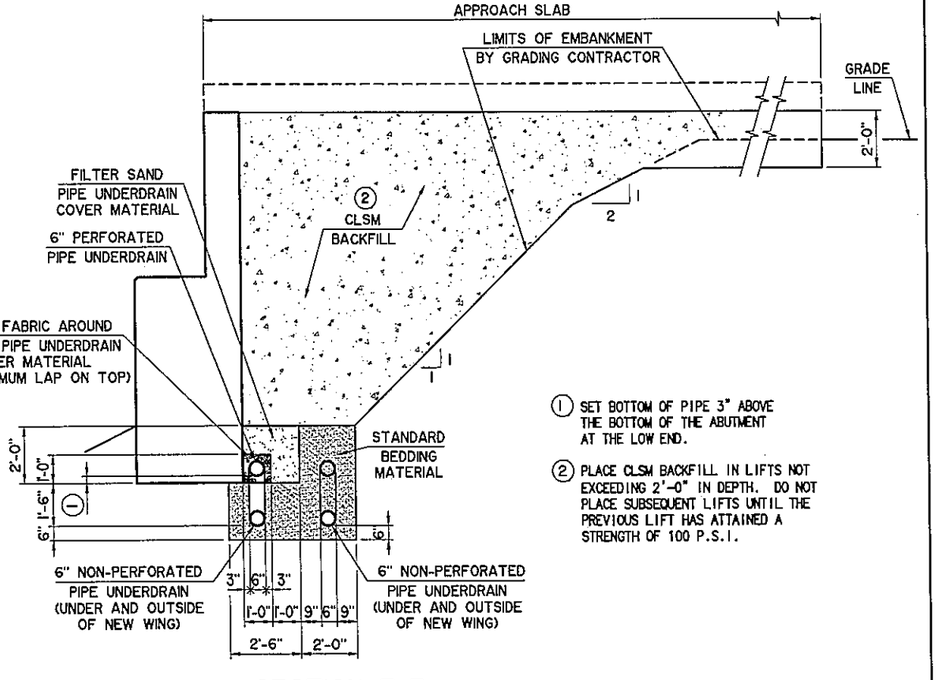
SECTION E-E



SECTION B-B



SECTION D-D



SECTION F-F

(1) SET BOTTOM OF PIPE 3" ABOVE THE BOTTOM OF THE ABUTMENT AT THE LOW END.

(2) PLACE CLSM BACKFILL IN LIFTS NOT EXCEEDING 2'-0" IN DEPTH. DO NOT PLACE SUBSEQUENT LIFTS UNTIL THE PREVIOUS LIFT HAS ATTAINED A STRENGTH OF 100 P.S.I.

Design	CEG	
Drawn	KGL	HEJ
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN DETAILS
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND
JOB PIECE NO. 14999(04) SHEET NO. B6

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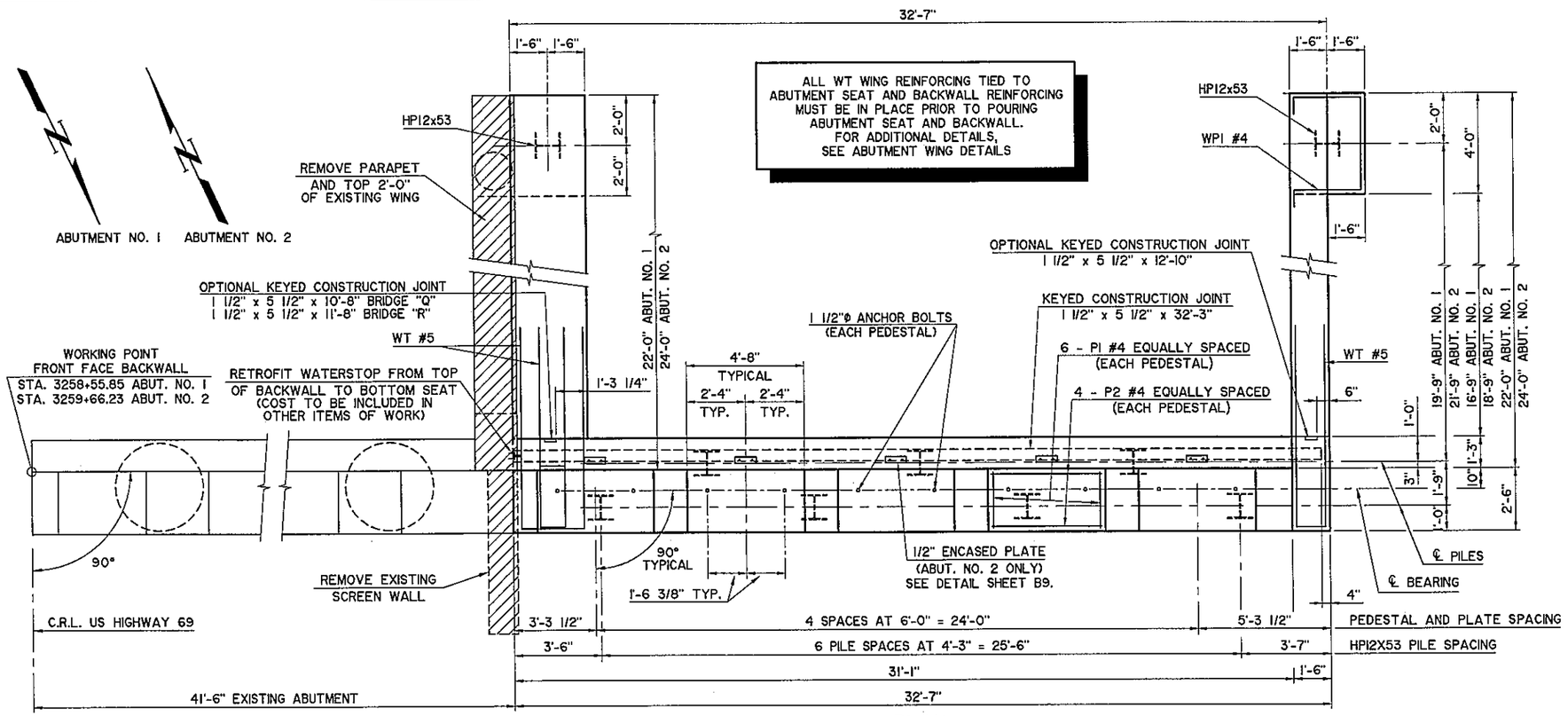
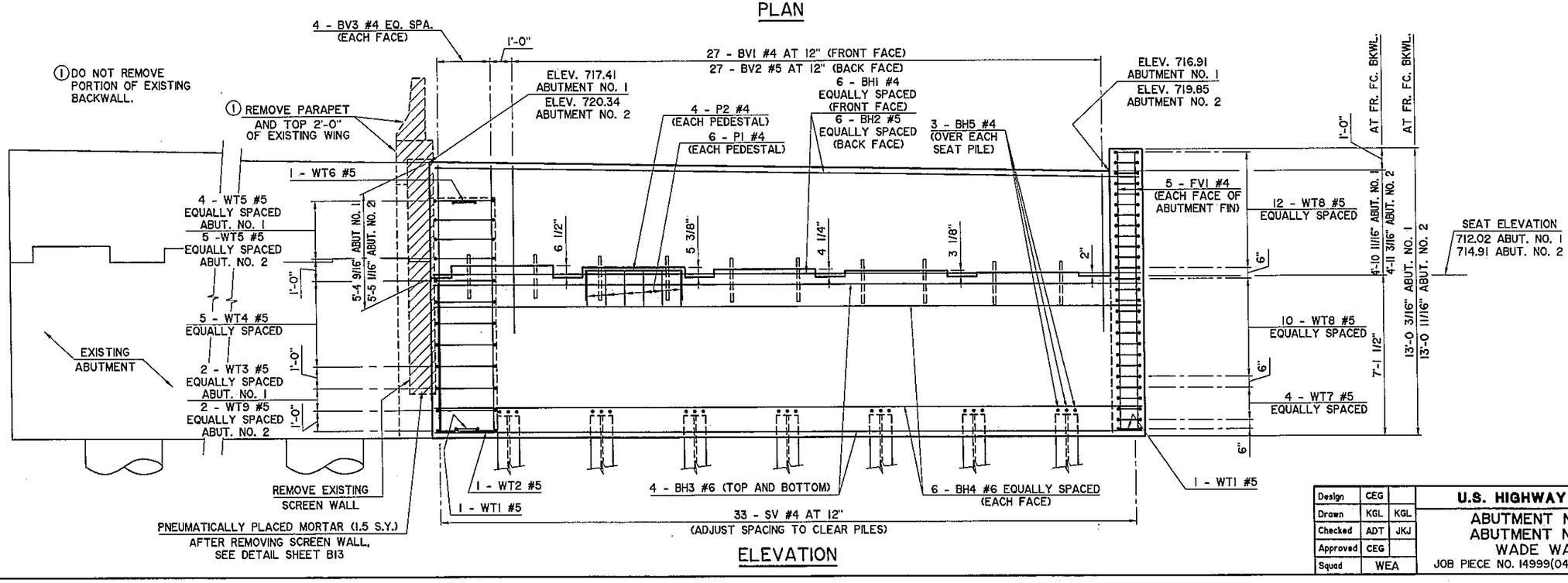


PLAN



ELEVATION

Design	CEG		**U.S. HIGHWAY 69 - McALESTER**
Drawn	KGL	KGL	ABUTMENT NO. 1 BRIDGE "Q"
Checked	ADT	JKJ	ABUTMENT NO. 2 BRIDGE "R"
Approved	CEG		WADE WATTS AVENUE
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B7

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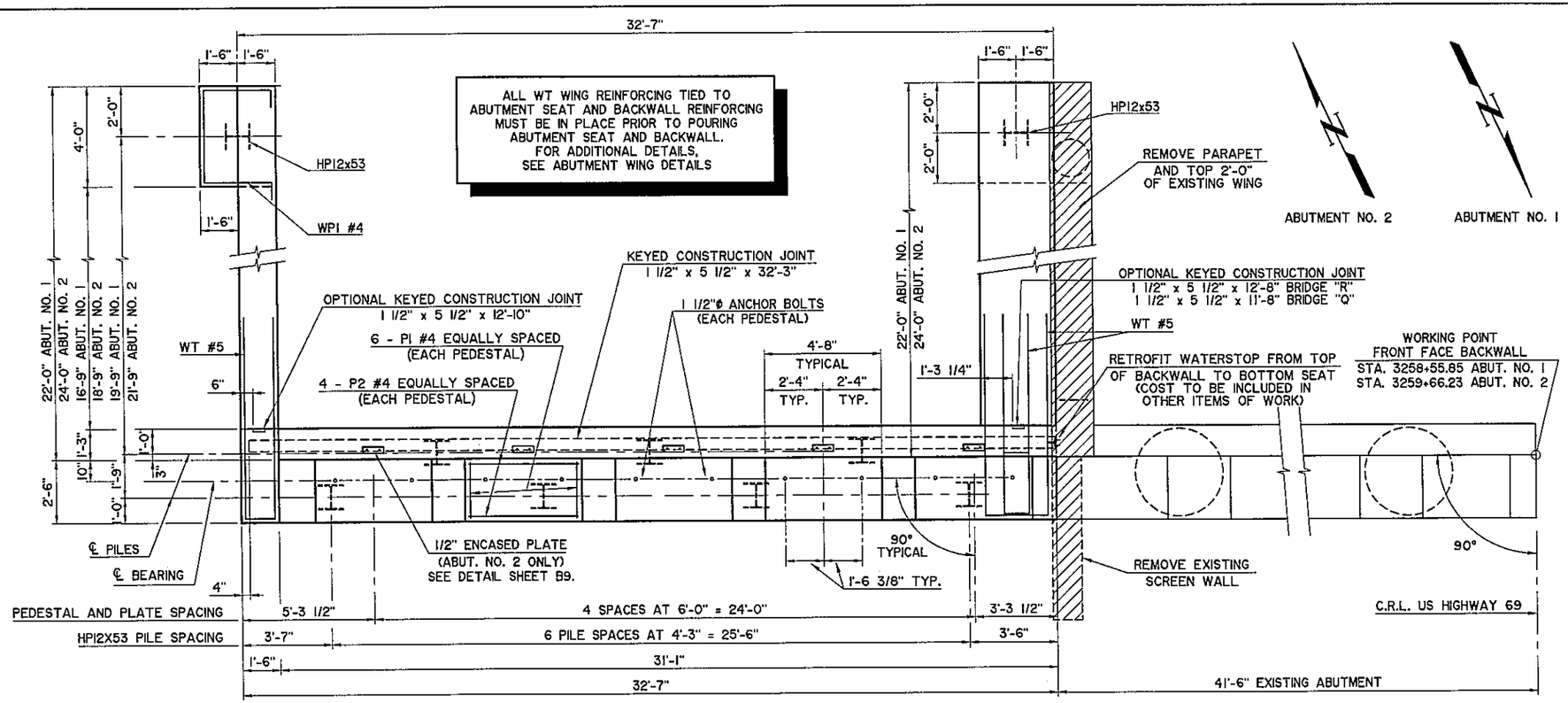
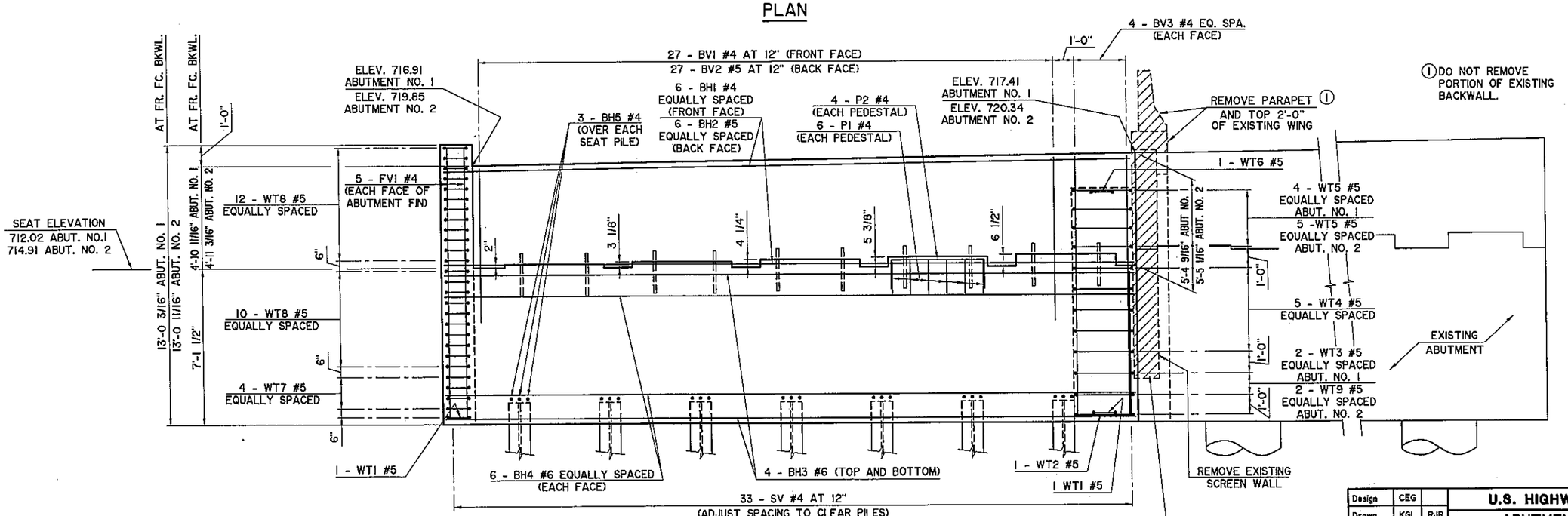


PLAN



ELEVATION

Design	CEG		U.S. HIGHWAY 69 - McALESTER
Drawn	KGL	RJR	ABUTMENT NO. 1 BRIDGE "R"
Checked	ADT	JKJ	ABUTMENT NO. 2 BRIDGE "Q"
Approved	CEG		WADE WATTS AVENUE
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B8

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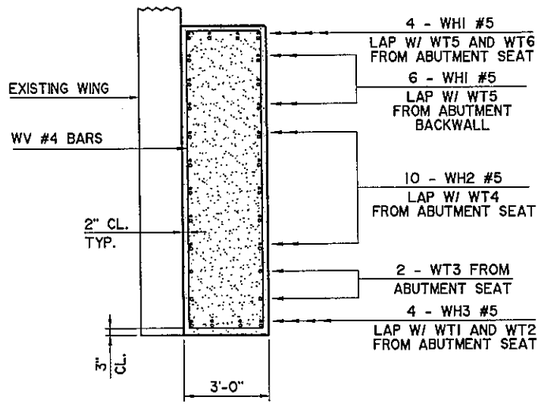
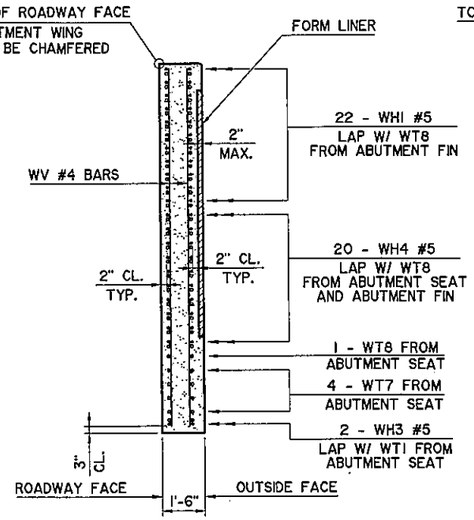


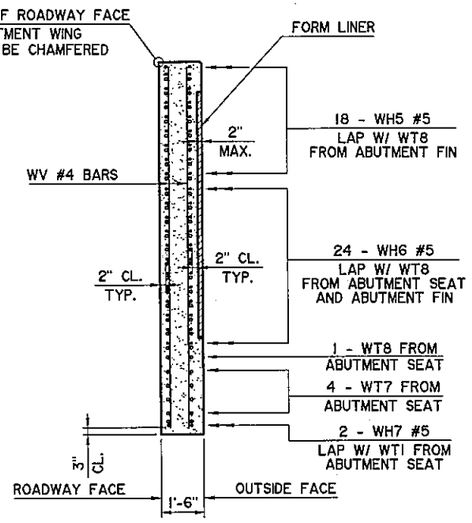
SECTION THRU WING AT
BACK FACE OF ABUTMENT SEAT

SECTION A



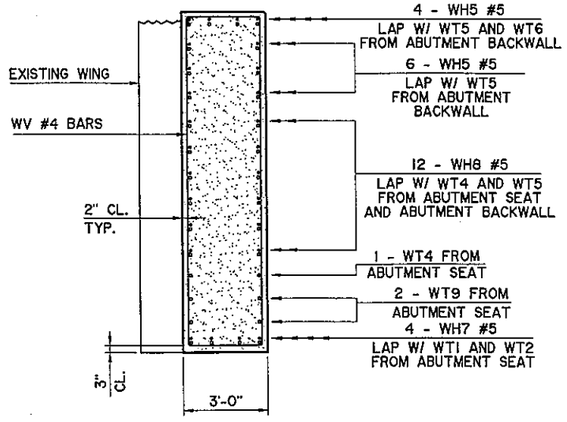
SECTION THRU WING AT
BACK FACE OF ABUTMENT SEAT

SECTION B



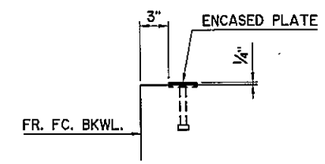
SECTION THRU WING AT
BACK FACE OF ABUTMENT SEAT

SECTION C

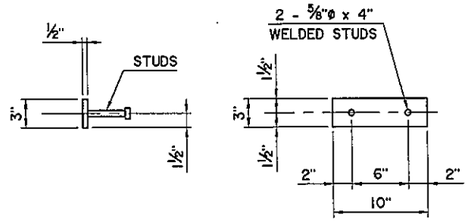


SECTION THRU WING AT
BACK FACE OF ABUTMENT SEAT

SECTION D



ENCASED PLATE SECTION
AT BACKWALL
ABUTMENT NO. 2 ONLY



ENCASED PLATE DETAILS

TYPICAL SECTION THRU SEAT

WATER REPELLENT TREATMENT DETAIL

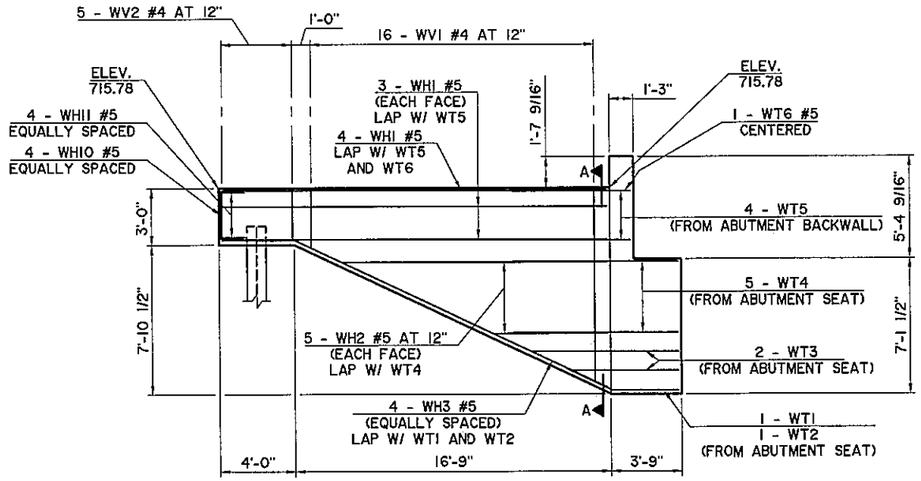
NOTE:
APPLY WATER REPELLENT TO BOTH NEW AND EXISTING PORTIONS.

Design	CEG	
Drawn	KGL	RJR
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

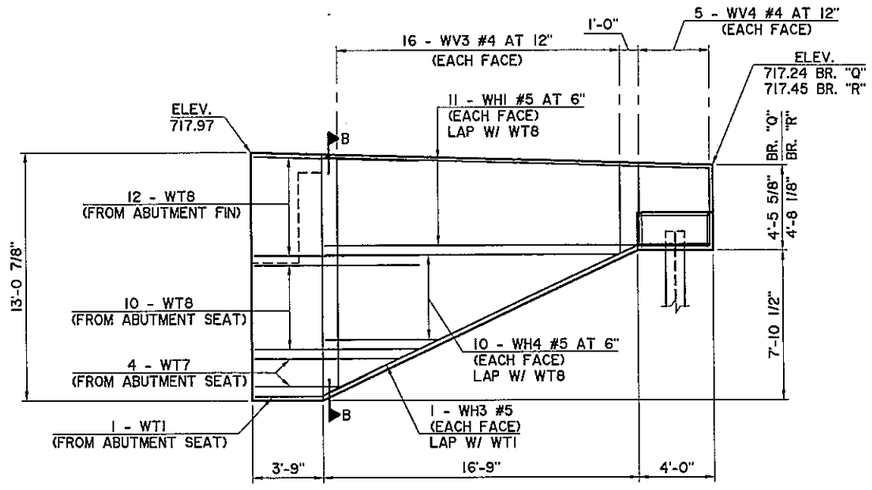
ABUTMENT DETAILS
WADE WATTS AVENUE
BRIDGE "O" AND BRIDGE "R"

JOB PIECE NO. 14999(04) SHEET NO. B9



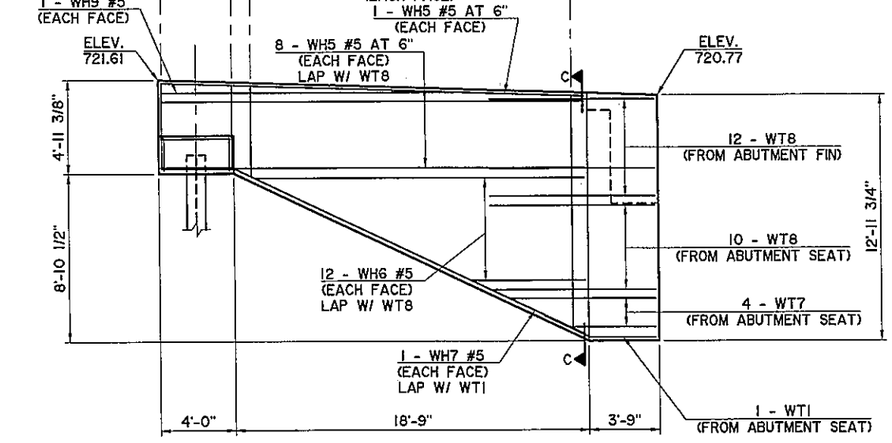
ABUTMENT NO. 1 - INTERIOR WING ELEVATION

BRIDGE Q SHOWN, BRIDGE R OPPOSITE HAND



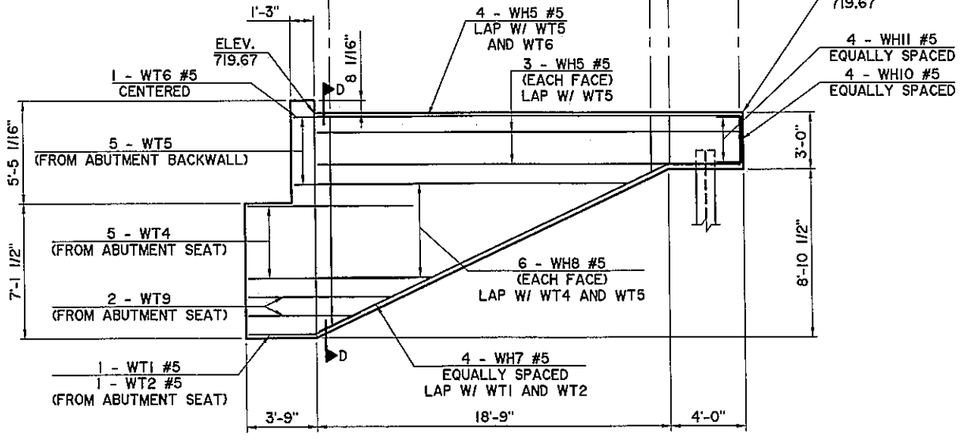
ABUTMENT NO. 1 - EXTERIOR WING ELEVATION

BRIDGE Q SHOWN, BRIDGE R OPPOSITE HAND EXCEPT AS NOTED



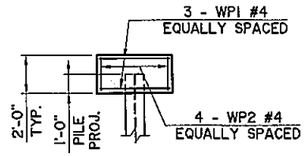
ABUTMENT NO. 2 - EXTERIOR WING ELEVATION

BRIDGE Q SHOWN, BRIDGE R OPPOSITE HAND



ABUTMENT NO. 2 - INTERIOR WING ELEVATION

BRIDGE Q SHOWN, BRIDGE R OPPOSITE HAND



REINFORCING FOR EXTERIOR WING PILE PILASTER

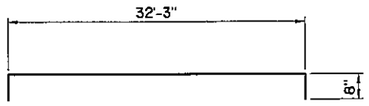
Design	CEG	
Drawn	KGL	RJR
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

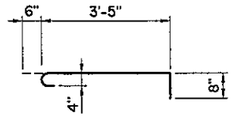
ABUTMENT WING DETAILS
WADE WATTS AVENUE
BRIDGE "Q" AND BRIDGE "R"

JOB PIECE NO. 14999(04) SHEET NO. B10

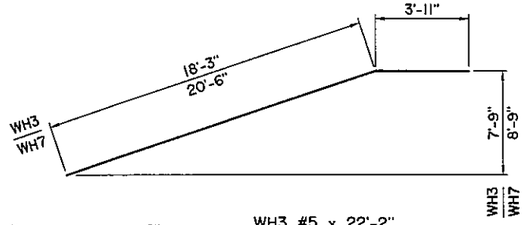
ABUTMENT BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING					
COMMON BARS ONE SHOWN, FOUR REQUIRED					
BH1	#4	6	STR.	32'-3"	
BH2	#5	6	BNT.	33-7"	
BH3	#6	8	STR.	32'-3"	
BH4	#6	12	STR.	32'-3"	
BH5	#4	21	STR.	4'-7"	
BV1	#4	27	STR.	7'-6"	7'-3" TO 7'-9"
BV2	#5	27	STR.	7'-6"	7'-3" TO 7'-9"
BV3	#4	8	STR.	12'-0"	
FV1	#4	10	STR.	12'-7"	
SV	#4	33	BNT.	21'-0"	
P1	#4	30	BNT.	5'-2"	
P2	#4	20	BNT.	7'-4"	
WT1	#5	2	BNT.	13'-4"	
WT2	#5	1	BNT.	15'-0"	
WT4	#5	5	BNT.	20'-2"	
WT6	#5	1	BNT.	13'-6"	
WT7	#5	4	BNT.	13'-4" AVG.	10'-2" TO 16'-6"
WT8	#5	22	BNT.	18'-6"	
WH10	#5	4	BNT.	5'-0"	
WH11	#5	4	BNT.	4'-11"	
WP1	#4	3	BNT.	10'-4"	
WP2	#4	4	STR.	1'-7"	
WV2	#4	5	BNT.	11'-3"	
ABUTMENT NO. 1 ONLY ONE SHOWN, TWO REQUIRED					
WT3	#5	2	BNT.	16'-2" AVG.	14'-0" TO 18'-4"
WT5	#5	4	BNT.	15'-0"	
WH1	#5	32	STR.	20'-5"	
① WH2	#5	10	STR.	10'-2" AVG.	6'-0" TO 14'-4"
WH3	#5	6	BNT.	22'-2"	
② WH4	#5	20	STR.	10'-10" AVG.	6'-1" TO 15'-7"
WV1	#4	16	BNT.	19'-3" AVG.	12'-3" TO 26'-3"
③ WV3	#4	32	STR.	8'-7" AVG.	4'-9" TO 12'-5"
WV4	#4	10	STR.	4'-4"	
ABUTMENT NO. 2 ONLY ONE SHOWN, TWO REQUIRED					
WT5	#5	5	BNT.	15'-0"	
WT9	#5	2	BNT.	15'-10" AVG.	13'-10" TO 17'-10"
WH5	#5	28	STR.	22'-5"	
④ WH6	#5	24	STR.	11'-9" AVG.	6'-1" TO 17'-5"
WH7	#5	6	BNT.	24'-5"	
⑤ WH8	#5	12	STR.	11'-9" AVG.	6'-1" TO 17'-5"
WH9	#5	2	STR.	15'-7"	
⑥ WV5	#4	36	STR.	8'-7" AVG.	4'-9" TO 12'-5"
① WV6	#4	10	STR.	4'-5" AVG.	4'-4" TO 4'-6"
WV7	#4	18	BNT.	20'-1 AVG.	12'-1" TO 28'-1"



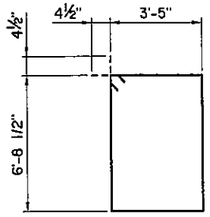
BH2 #4 x 33'-7"



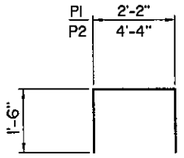
BH5 #4 x 4'-7"



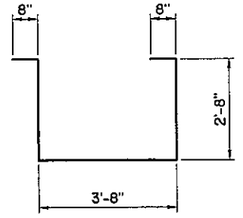
WH3 #5 x 22'-2"
WH7 #5 x 24'-5"



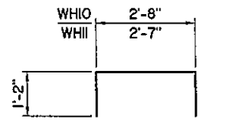
SV #4 x 21'-0"



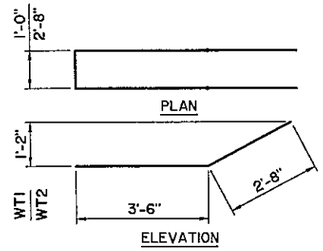
P1 #4 x 5'-2"
P2 #4 x 7'-4"



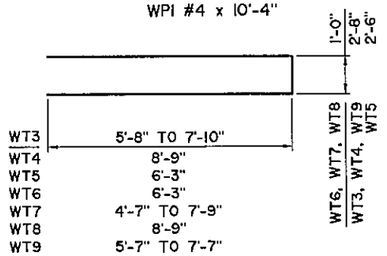
WP1 #4 x 10'-4"



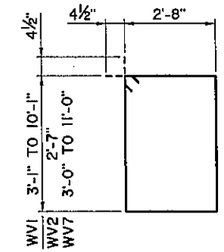
WH10 #5 x 5'-0"
WH11 #5 x 4'-11"



WT1 #5 x 13'-4"
WT2 #5 x 15-0"



WT3 #5 x 16'-2" AVG.
WT4 #5 x 20'-2"
WT5 #5 x 15'-0"
WT6 #5 x 13'-6"
WT7 #5 x 13'-4" AVG.
WT8 #5 x 18'-6"
WT9 #5 x 15'-10"



WV1 #4 x 19'-3" AVG.
WV2 #4 x 11'-3"
WV7 #4 x 20'-1" AVG.

① 2 SETS OF 5
② 2 SETS OF 10
③ 2 SETS OF 16
④ 2 SETS OF 12
⑤ 2 SETS OF 6
⑥ 2 SETS OF 18

ABUTMENT QUANTITIES - PHASE IA							
ITEM	UNIT	BRIDGE "Q"			BRIDGE "R"		
		ABUT. NO. 1	ABUT. NO. 2	TOTAL	ABUT. NO. 1	ABUT. NO. 2	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	85	90	175	85	90	175
CLSM BACKFILL	C.Y.	100	110	210	100	110	210
STRUCTURAL STEEL	LB.		30	30		30	30
SPECIAL CONCRETE FINISH	S.Y.	59	60	119	59	60	119
CLASS A CONCRETE	C.Y.	65.5	69.4	134.9	69.4	69.4	135.0
EPOXY COATED REINFORCING STEEL	LB.	4,950	5,150	10,100	65.6	5,150	10,100
PILES, FURNISHED (HP12x53)	L.F.	185	259	444	275	250	525
PILES, DRIVEN (HP12x53)	L.F.	185	259	444	275	250	525
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	112	112	224	112	112	224
PNEUMATICALLY PLACED MORTAR	S.Y.	1.5	1.5	3.0	1.5	1.5	3.0
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	28	28	56	28	28	56
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	56	56	112	56	56	112
REMOVAL OF BRIDGE ITEM (TYPE A)	EA.	1	1	2	1	1	2
REMOVAL OF EXISTING PARAPET	L.F.	22.0	24.0	46.0	22.0	24.0	46.0

Design	CEG		U.S. HIGHWAY 69 - McALESTER
Drawn	KGL	RJR	ABUTMENT BAR LIST
Checked	ADT	JKJ	WADE WATTS AVENUE
Approved	CEG		BRIDGE "Q" AND BRIDGE "R"
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B11

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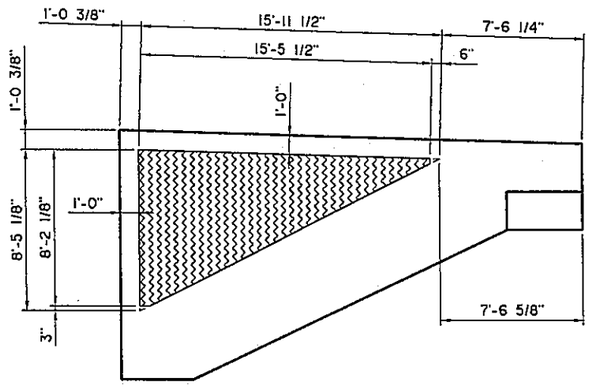
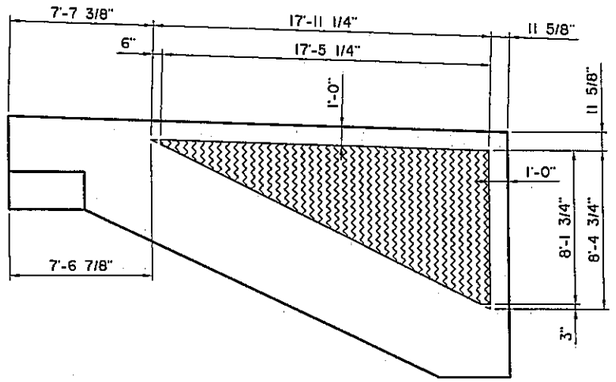


ABUTMENT NO. 1 - EXTERIOR WING ELEVATION

BRIDGE "Q"

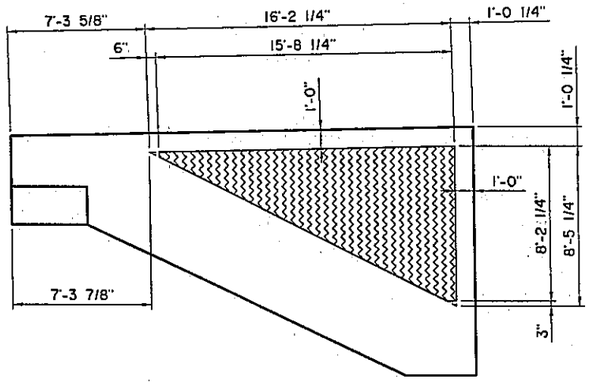
NOTE:
APPROXIMATE MAXIMUM AREA OF FORM LINER ON ABUTMENT NO. 1, BRIDGE "Q" WINGWALL IS 67 SQ. FT. AREA IS FOR ESTIMATING PURPOSES ONLY. NO COMPENSATION WILL BE ALLOWED FOR ANY DEVIATION IN THE AREA SHOWN. COST OF FORM LINER TO BE INCLUDED IN CONTRACT UNIT PRICE FOR CLASS A CONCRETE.



ABUTMENT NO. 2 - EXTERIOR WING ELEVATION

BRIDGE "Q" SHOWN, BRIDGE "R" OPPOSITE HAND

NOTE:
APPROXIMATE MAXIMUM AREA OF FORM LINER ON ABUTMENT NO. 2 WINGWALL IS 75 SQ. FT. FOR EACH OF BRIDGES "Q" AND "R". AREA IS FOR ESTIMATING PURPOSES ONLY. NO COMPENSATION WILL BE ALLOWED FOR ANY DEVIATION IN THE AREA SHOWN. COST OF FORM LINER TO BE INCLUDED IN CONTRACT UNIT PRICE FOR CLASS A CONCRETE.



ABUTMENT NO. 1 - EXTERIOR WING ELEVATION

BRIDGE "R"

NOTE:
APPROXIMATE MAXIMUM AREA OF FORM LINER ON ABUTMENT NO. 1, BRIDGE "R" WINGWALL IS 68 SQ. FT. AREA IS FOR ESTIMATING PURPOSES ONLY. NO COMPENSATION WILL BE ALLOWED FOR ANY DEVIATION IN THE AREA SHOWN. COST OF FORM LINER TO BE INCLUDED IN CONTRACT UNIT PRICE FOR CLASS A CONCRETE.

Design	CEG	
Drawn	HEJ	
Checked	JKJ	
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

ABUTMENT FORM LINER DETAILS
WADE WATTS AVENUE
BRIDGE "Q" AND BRIDGE "R"

JOB PIECE NO. 14999(04) SHEET NO. B12

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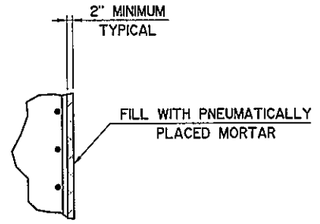
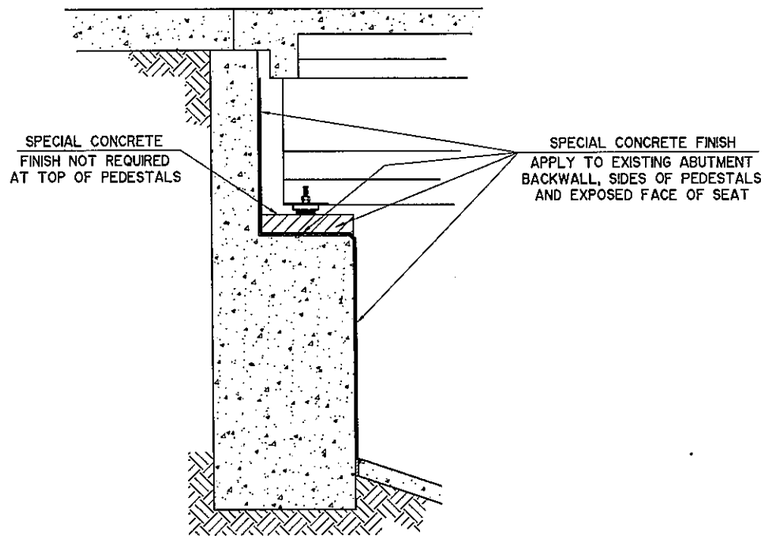
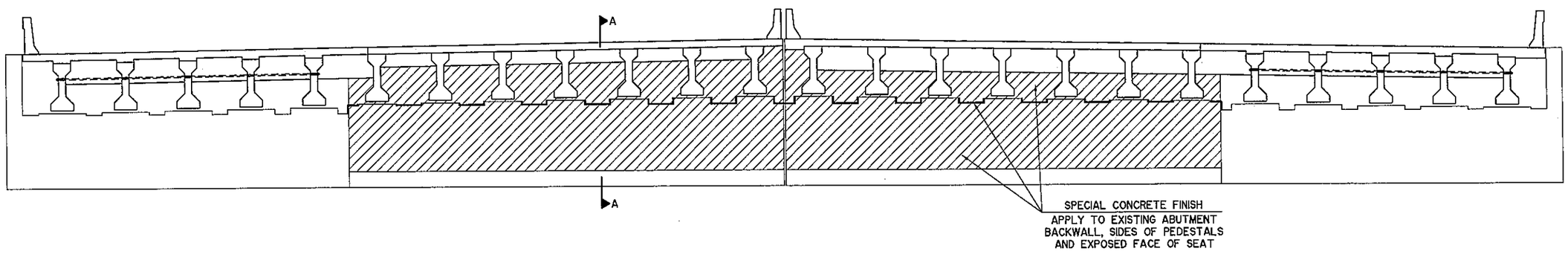


PNEUMATICALLY PLACED MORTAR DETAIL

AFTER REMOVING WING SCREEN WALL



SECTION A-A



HALF ELEVATION AT ABUTMENT NO. 1

HALF ELEVATION AT ABUTMENT NO. 2

SPECIAL CONCRETE FINISH DETAIL

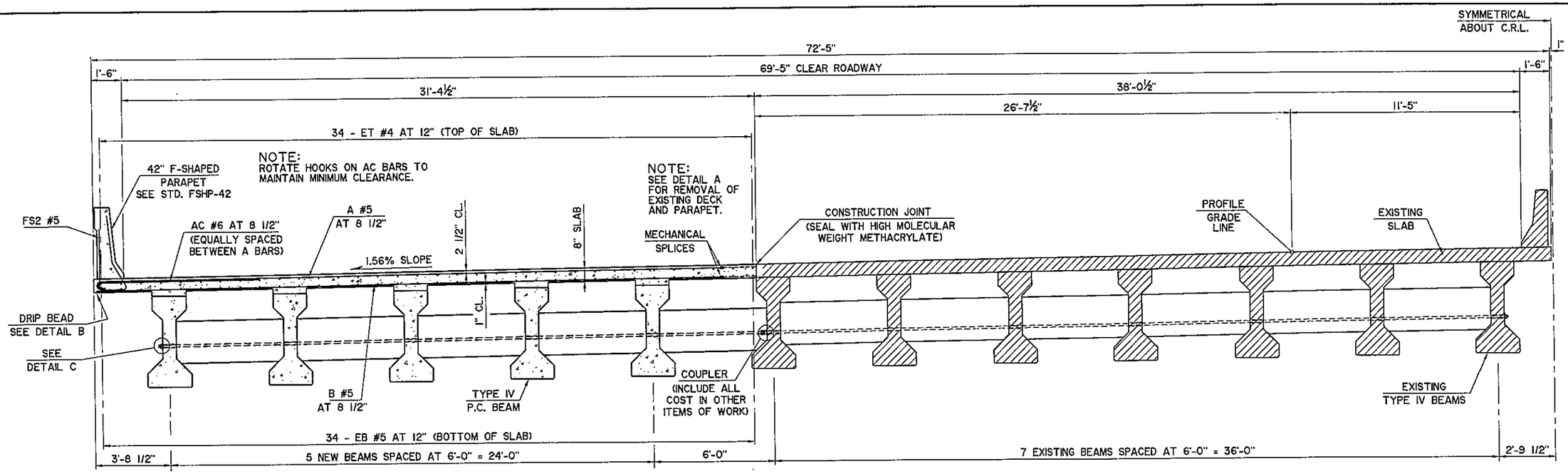
Design	CEG	
Drawn	HEJ	
Checked	CEG	
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

ABUTMENT REPAIR DETAILS
WADE WATTS AVENUE
BRIDGE "Q" AND BRIDGE "R"

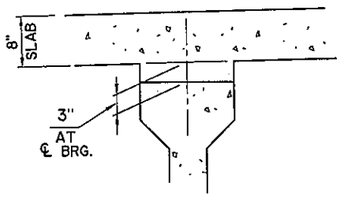
JOB PIECE NO. 14999(04) SHEET NO. B13

I:\Active\0403\A WYANDOTTE\DWG\B13-ABUT REPAIR DTLS.dwg, 7/5/2016 3:26:18 PM, Howard



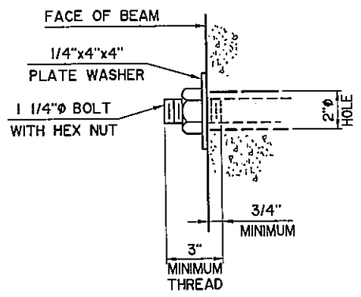
TYPICAL CROSS SECTION

AT INTERMEDIATE DIAPHRAGMS
BRIDGE "O" (SOUTHBOUND) SHOWN, BRIDGE "R" (NORTHBOUND) OPPOSITE HAND

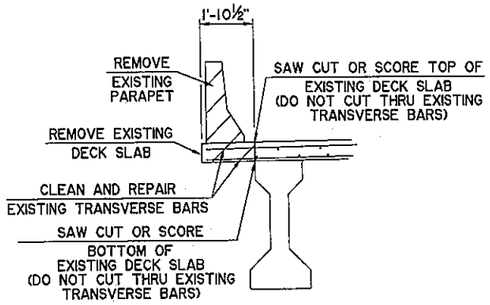


BEAM HAUNCH DETAIL

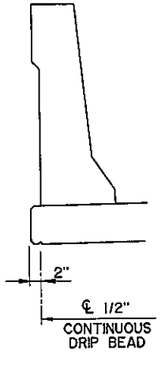
NOTE:
PLAN QUANTITIES FOR CLASS AA CONCRETE INCLUDE BEAM HAUNCHES. THE HAUNCH HEIGHT SHOWN IS THE THEORETICAL HAUNCH HEIGHT AT THE CENTERLINE BEARING ONLY, MEASURED FROM THE BOTTOM OF THE DECK SLAB TO THE TOP OF THE BEAM, AND VARIES ACROSS THE SPAN. DETERMINE THE ACTUAL HAUNCH HEIGHT (ACCOUNTING FOR BEAM CAMBER, DEAD LOAD DEFLECTION AND ROADWAY GRADE) AFTER ERECTION OF BEAMS AND SUBMIT TO THE ENGINEER FOR APPROVAL. THE ENGINEER WILL NOT MEASURE DIFFERENCES BETWEEN THE THEORETICAL AND THE ACTUAL HAUNCH HEIGHTS FOR PAYMENT:



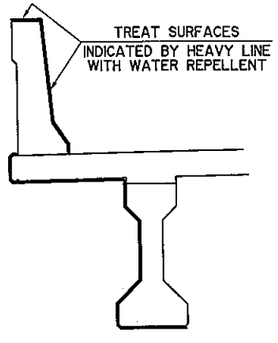
DETAIL C



DETAIL A



DETAIL B



WATER REPELLENT TREATMENT DETAIL

SUPERSTRUCTURE QUANTITIES

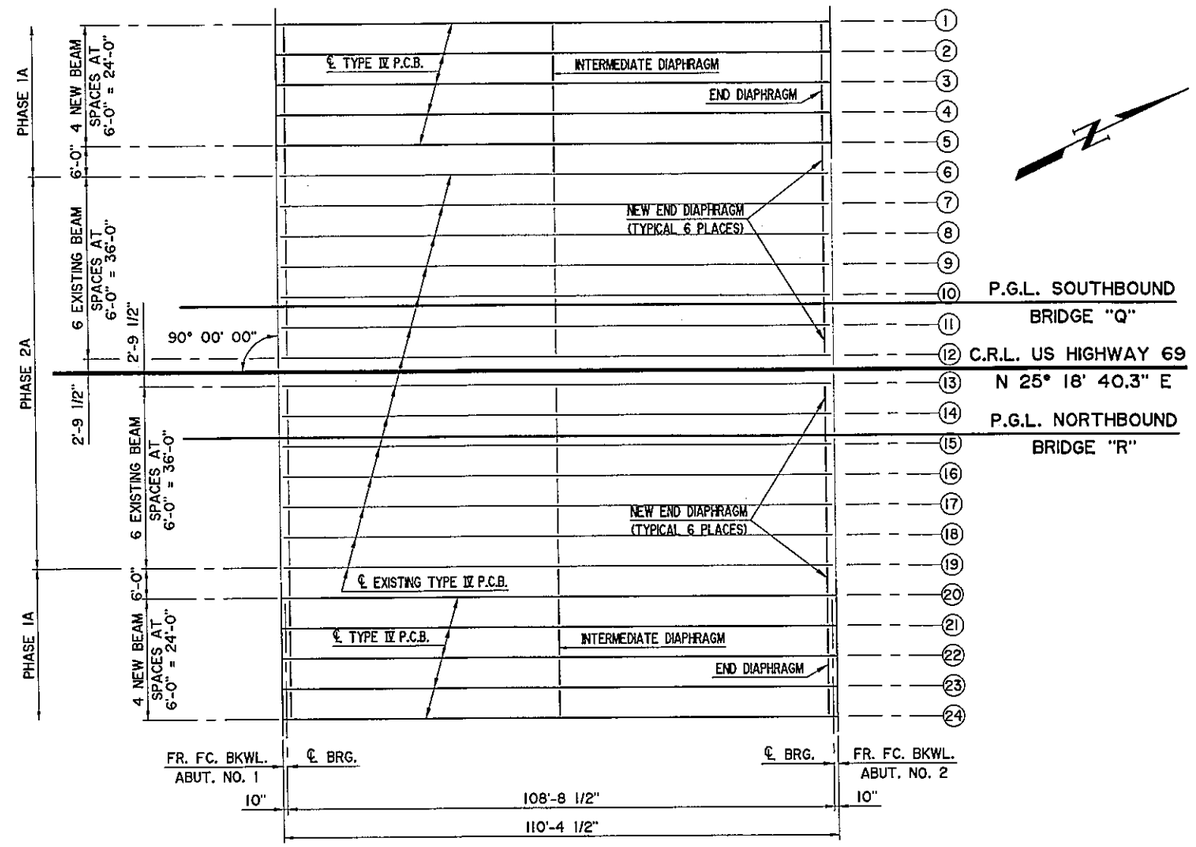
DESCRIPTION	UNIT	BRIDGE "Q"		BRIDGE "R"	
		PHASE 1A	PHASE 2A	PHASE 1A	PHASE 2A
PRESTRESSED CONCRETE BEAMS (TYPE IV)	L.F.	549		549	
SAW-CUT GROOVING	S.Y.	386.5		386.5	
SEALED EXPANSION JOINT	L.F.	31.9	38.5	31.9	38.5
CONCRETE PARAPET	L.F.		1.3		1.3
42" F-SHAPED PARAPET	L.F.	110.7		110.7	
STRUCTURAL STEEL	LB.	350		350	
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	5		5	
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	5		5	
CLASS AA CONCRETE	C.Y.	99.2	3.4	99.2	3.4
(1) MECHANICAL SPLICES	EA.	317		317	
EPOXY COATED REINFORCING STEEL	LB.	20,680	580	20,680	580
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	183	1	183	1
SEALER CRACK PREPARATION	L.F.	110.7		110.7	
SEALER RESIN	GAL.	2		2	
REMOVAL OF BRIDGE ITEM (TYPE C)	EA.		6		6
REMOVAL OF EXISTING PARAPET	L.F.	110.2	1.3	110.2	1.3
REMOVAL OF DECK	S.Y.	23.0	5.9	23.0	5.9

(1) 316 FOR #5 REBAR AND 1 FOR #4 REBAR

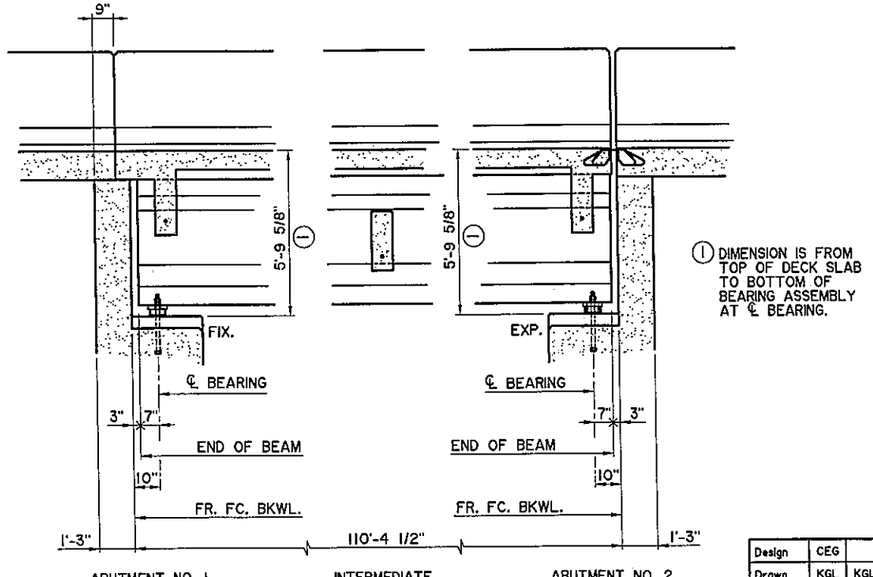
DO NOT PLACE THE CONCRETE FOR THE DECK SLAB OR APPLY OTHER MASSIVE LOADS TO THE BEAMS OR DIAPHRAGMS UNTIL THE CONCRETE IN THE DIAPHRAGMS HAS BEEN IN PLACE A MINIMUM OF 10 DAYS OR AT THE DISCRETION OF THE ENGINEER. THIS TIME MAY BE SHORTENED IF THE CONCRETE HAS ATTAINED 80% OF THE SPECIFIED COMPRESSIVE STRENGTH.

Design	CEG	
Drawn	KGL	KGL
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER
TYPICAL CROSS SECTION
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND
JOB PIECE NO. 14999(04) SHEET NO. B14



BEAM FRAMING PLAN



1 DIMENSION IS FROM TOP OF DECK SLAB TO BOTTOM OF BEARING ASSEMBLY AT ℄ BEARING.

LONGITUDINAL SECTION - PHASE I

Design	CEG	
Drawn	KGL	KGL
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

LONGITUDINAL SECTION AND BEAM FRAMING PLAN
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B15

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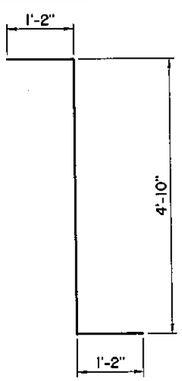
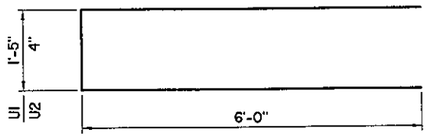
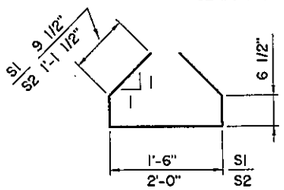


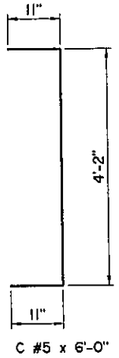
Z #5 x 7'-2"
(EPOXY COATED)



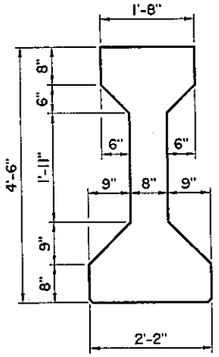
U1 #4 x 13'-5"
U2 #5 x 12'-4"



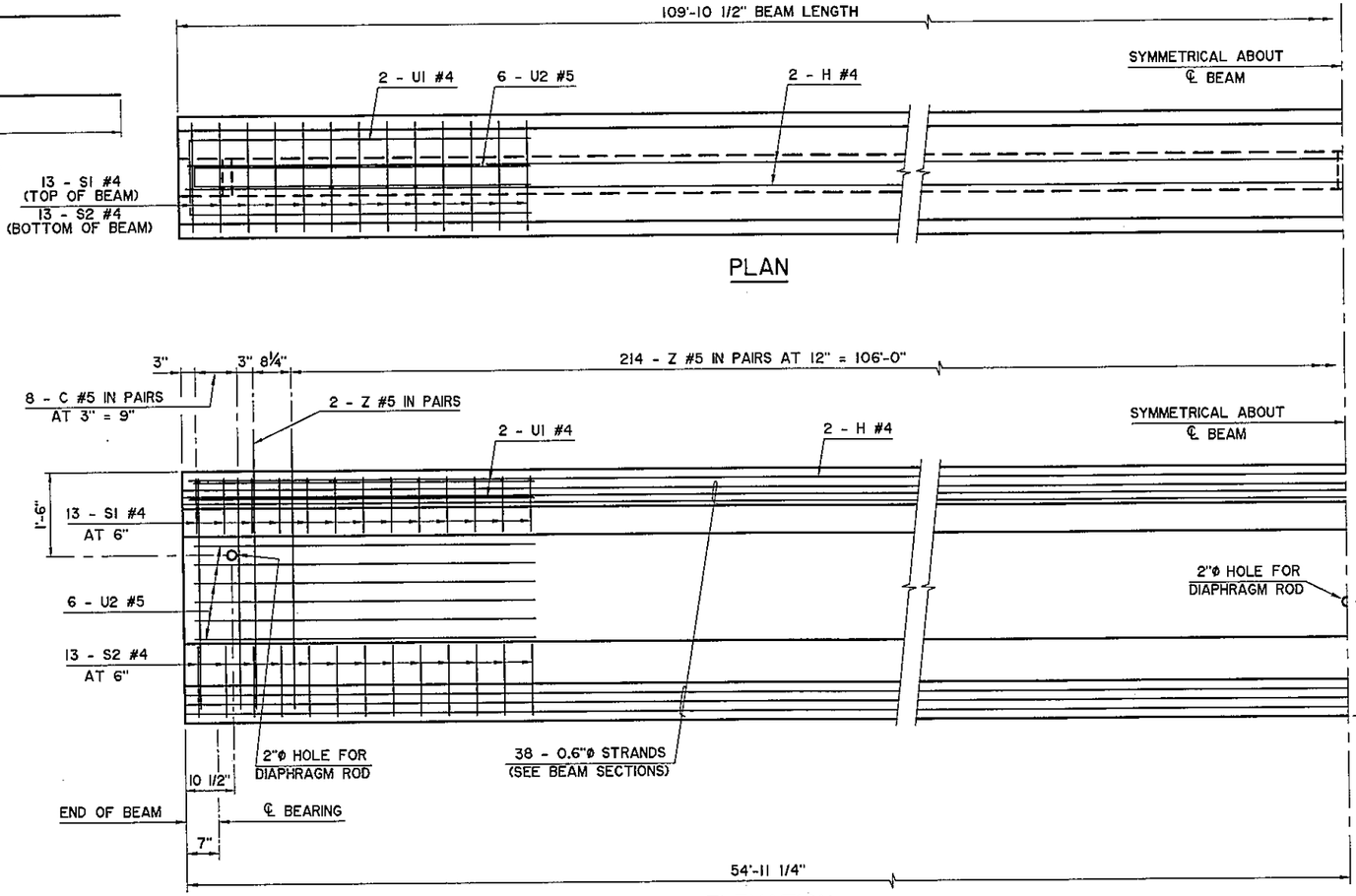
S1 #4 x 4'-2"
S2 #4 x 5'-4"



C #5 x 6'-0"



END VIEW
(TYPE IV P.C.B.)



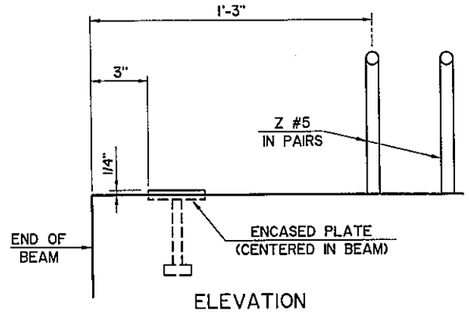
PLAN

ELEVATION

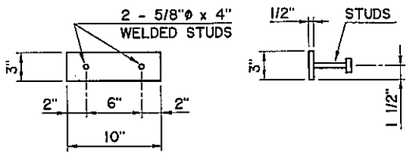
PRESTRESSED CONCRETE BEAM NOTES

COMPRESSIVE STRENGTH
THE REQUIRED COMPRESSIVE STRENGTH OF THE CONCRETE IS 6,000 P.S.I. AT TRANSFER OF PRESTRESS AND 8,000 P.S.I. AT 28 DAYS.

STRAND TYPE
THE REQUIRED STRAND TYPE IS LOW-RELAXATION. USE STRAND HAVING A NOMINAL DIAMETER OF 0.6" WITH ULTIMATE TENSILE STRENGTH OF 270 K.S.I.



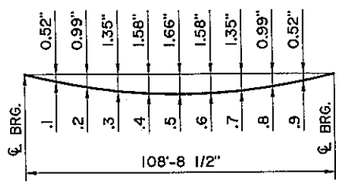
ELEVATION



TOP VIEW END VIEW

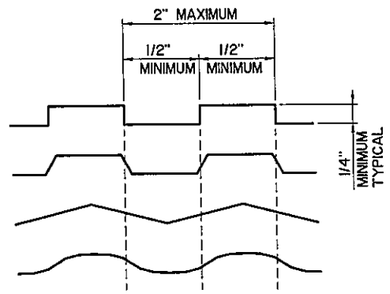
ENCASED BEAM PLATE DETAILS

NOTE:
ENCASED BEAM PLATE LOCATED AT EXPANSION END ONLY.



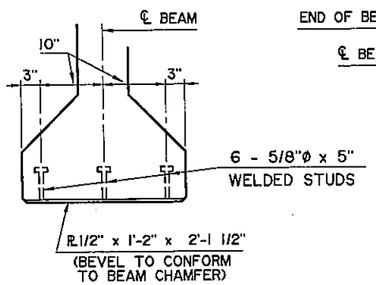
DEAD LOAD DEFLECTION DIAGRAM

NOTE:
THE DEAD LOAD DEFLECTION SHOWN ABOVE AT THE TENTH POINTS ARE THE INITIAL DEFLECTIONS DUE TO DECK SLAB + DIAPHRAGMS + 5 P.S.F. DECK FORM ALLOWANCE + CONCRETE PARAPET. IT DOES NOT INCLUDE THE BEAM WEIGHT OR FUTURE WEARING SURFACE.



INTENTIONALLY ROUGHENED SURFACE EXAMPLES

TOP SURFACE OF P.C. BEAMS SHALL BE INTENTIONALLY ROUGHENED TO A MINIMUM HEIGHT OF 1/4" OVER A MAXIMUM PITCH OF 2" MEASURED LONGITUDINALLY ALONG THE LENGTH OF THE BEAM. THE CREST AND TROUGH ASSOCIATED WITH THE HEIGHT SHALL NOT BE LESS THAN 1/2" AND SHALL EXTEND THE FULL WIDTH OF THE TOP FLANGE. ROUGHENED SURFACE MAY BE OBTAINED BY A SPECIAL TROWEL AS SHOWN IN THE EXAMPLES, BY CLEANING THE CONCRETE SURFACE WITH A STIFF WIRE BRUSH (OR BLASTING) TO THE EXTENT THAT AGGREGATE IS EXPOSED TO A HEIGHT OF 1/4", OR BY ANOTHER APPROVED METHOD. THE METHOD USED SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER. REPAIR ANY DAMAGE TO REINFORCEMENT EPOXY COATING BEFORE PLACEMENT OF DECK CONCRETE.

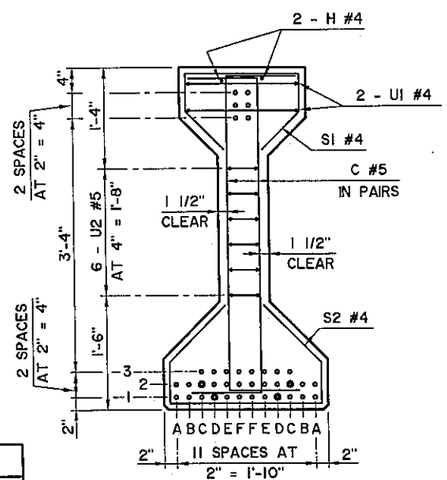


END VIEW ELEVATION

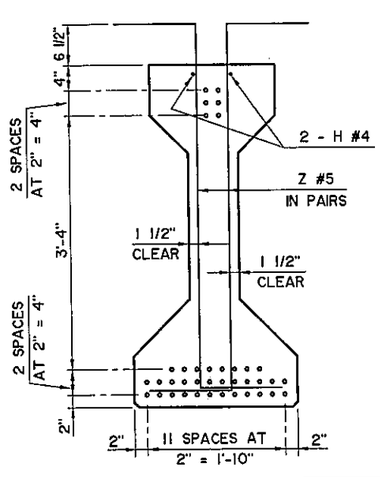
ENCASED SOLE PLATE DETAILS

NOTE:
ENCASED SOLE PLATE LOCATED AT EACH END OF BEAM.

DEBOND SCHEDULE	
DEBOND PAIR	DEBOND LENGTH FROM END OF BEAM
C2	4'-0"
D1	8'-0"



END SECTION



℄ SECTION

BEAM SECTIONS
(38 - 0.6"ø STRANDS)

Design	CEG	
Drawn	KGL	KGL
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER
TYPE IV P.C.B. DETAILS
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND
JOB PIECE NO. 14999(04) SHEET NO. B16

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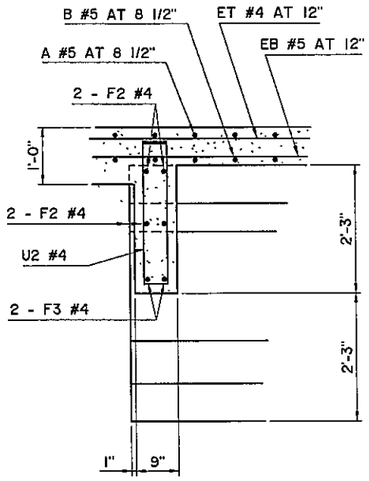
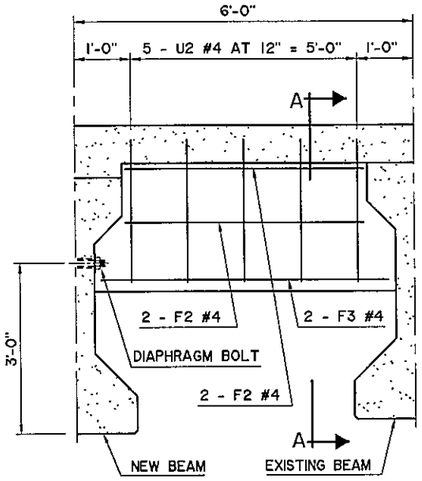
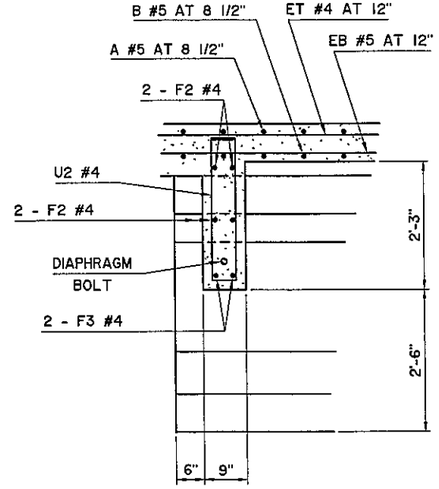


SECTION A-A

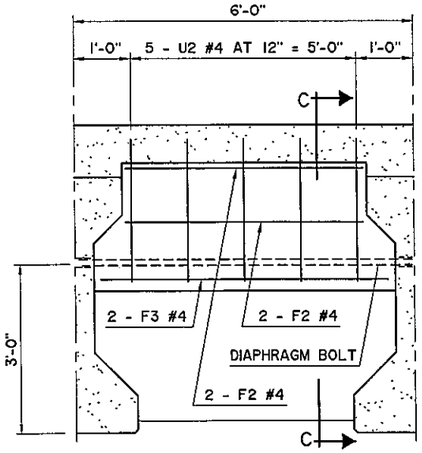


END DIAPHRAGM BETWEEN NEW AND EXISTING BEAM ELEVATION

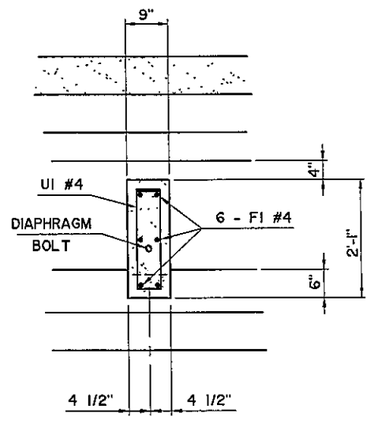
(DIAPHRAGM BETWEEN EXISTING BEAMS SIMILAR)
BRIDGE "Q" SHOWN, BRIDGE "R" OPPOSITE HAND



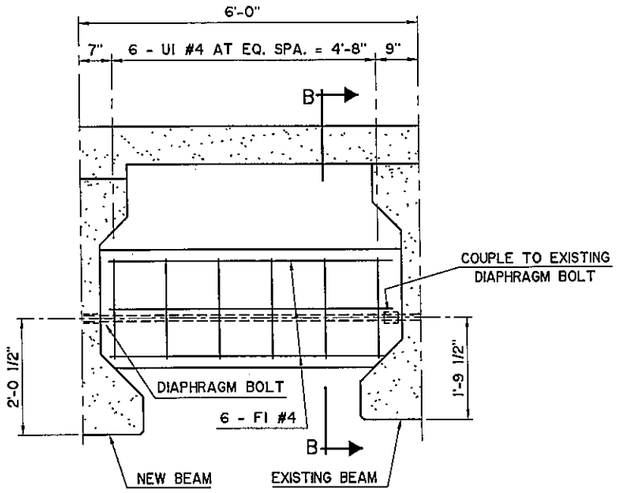
SECTION C-C



TYPICAL END DIAPHRAGM ELEVATION

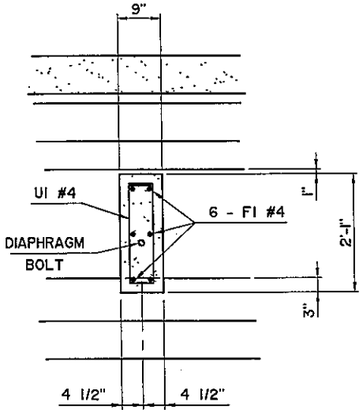


SECTION B-B

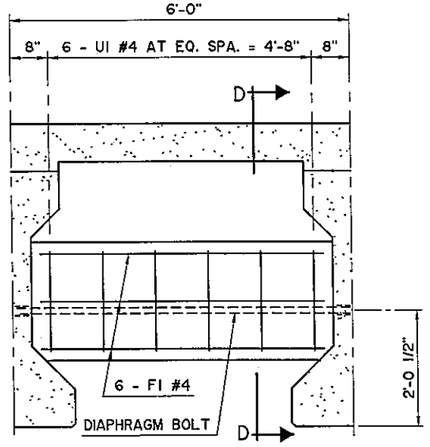


INTERMEDIATE DIAPHRAGM AT EXISTING BEAM ELEVATION

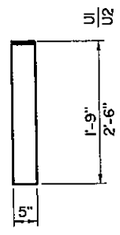
BRIDGE "Q" SHOWN, BRIDGE "R" OPPOSITE HAND



SECTION D-D

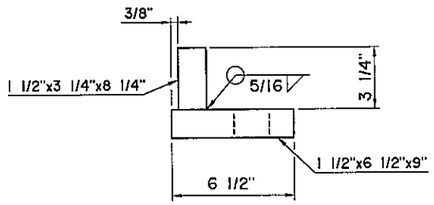


TYPICAL INTERMEDIATE DIAPHRAGM ELEVATION

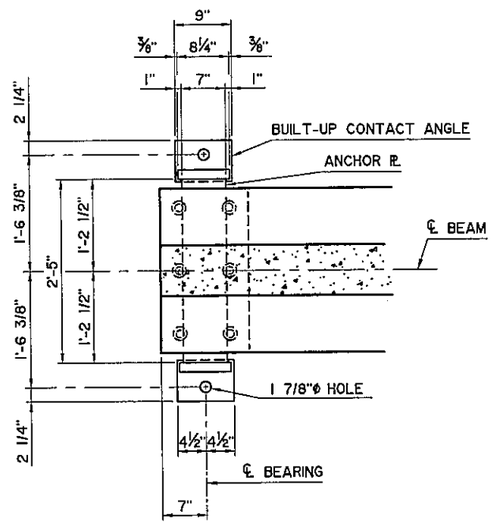


U1 #4 x 4'-9"
U2 #4 x 6'-3"

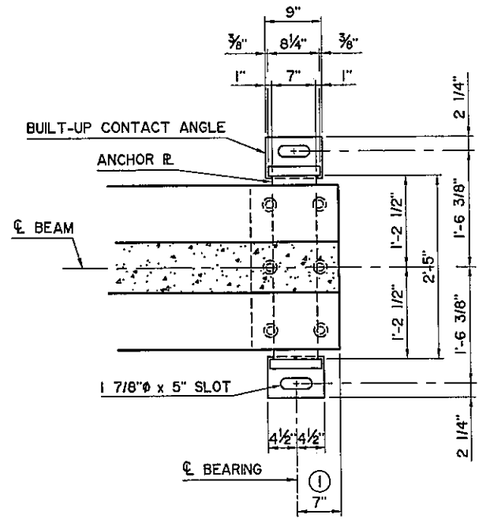
Design	CEG		**U.S. HIGHWAY 69 - McALESTER**
Drawn	KGL	KGL	DIAPHRAGM DETAILS
Checked	ADT	JKJ	WADE WATTS AVENUE
Approved	CEG		BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B17



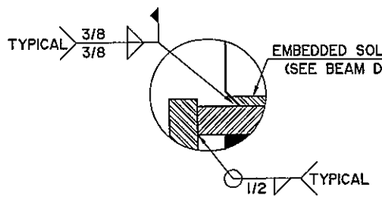
BUILT-UP CONTACT ANGLE DETAIL



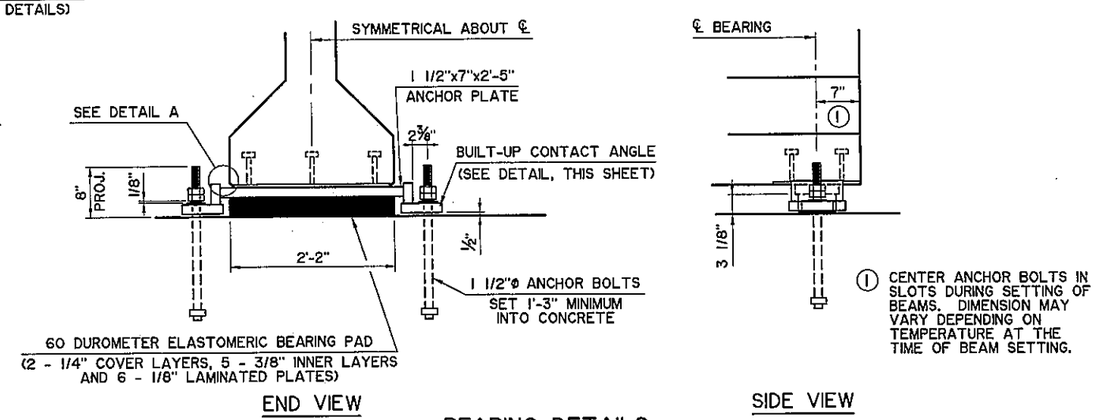
FIXED BEARING PLAN



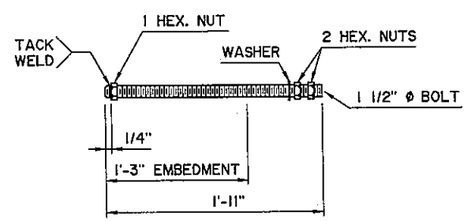
EXPANSION BEARING PLAN



DETAIL A



BEARING DETAILS



ANCHOR BOLT DETAIL

Design	ADT	CEG
Drawn	KGL	KGL
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

BEARING DETAILS
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B18

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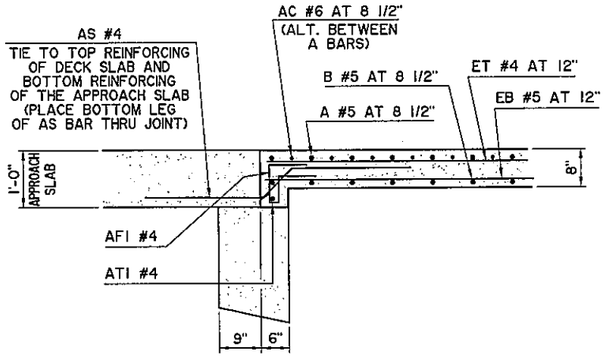
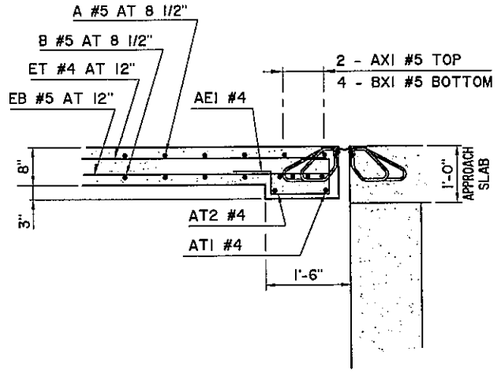
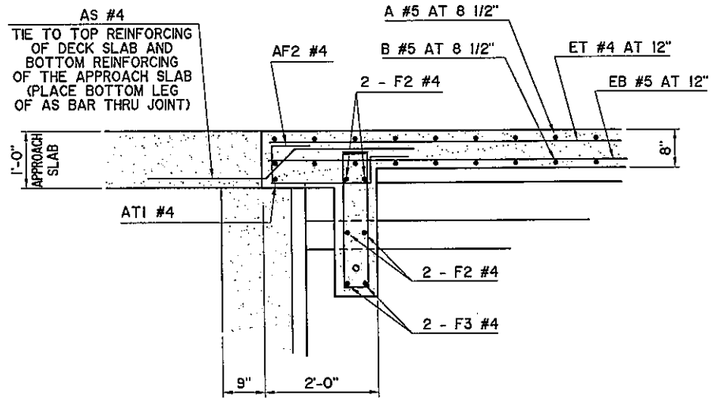


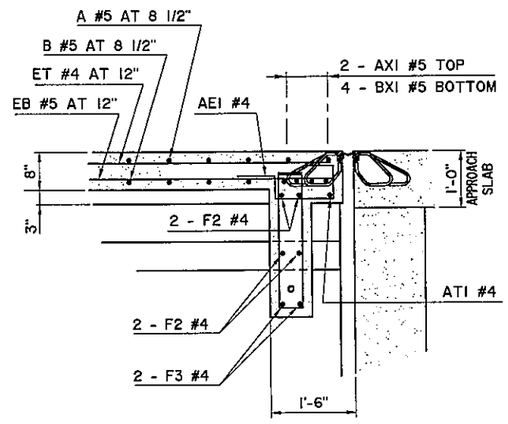
SECTION C



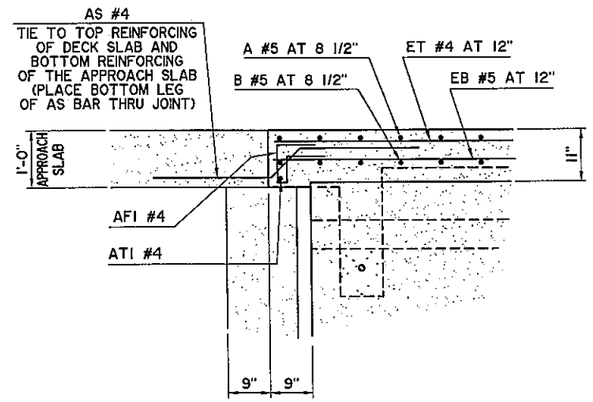
SECTION E



SECTION B

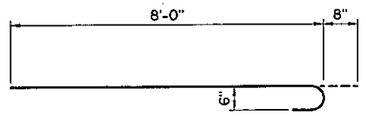


SECTION D

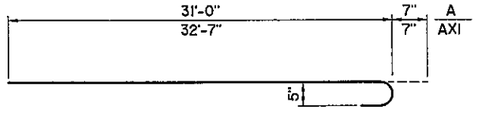


SECTION A

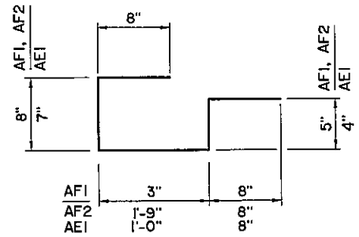
PHASE 1A SUPERSTRUCTURE BAR LIST ONE BRIDGE SHOWN, TWO REQUIRED				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING BARS				
① A	#5	155	BNT.	31'-7"
ACI	#6	156	BNT.	8'-8"
② AX1	#5	2	BNT.	33'-2"
AS	#4	34	BNT.	5'-0"
① B	#5	155	STR.	31'-0"
② BX1	#5	4	STR.	32'-7"
③ ET	#4	34	STR.	113'-0"
③ EB	#5	34	STR.	113'-0"
④ FS2	#5	112	BNT.	7'-4"
AF1	#4	9	BNT.	2'-8"
AF2	#4	25	BNT.	4'-2"
AE1	#4	34	BNT.	3'-3"
⑤ AT1	#4	2	STR.	32'-7"
AT2	#4	1	STR.	7'-0"
⑥ U1	#4	30	BNT.	4'-9"
⑥ U2	#4	50	BNT.	6'-3"
F1	#4	30	STR.	5'-0"
F2	#4	40	STR.	4'-0"
F3	#4	20	STR.	5'-0"



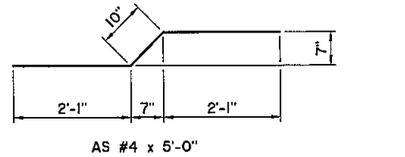
ACI #6 x 8'-8"



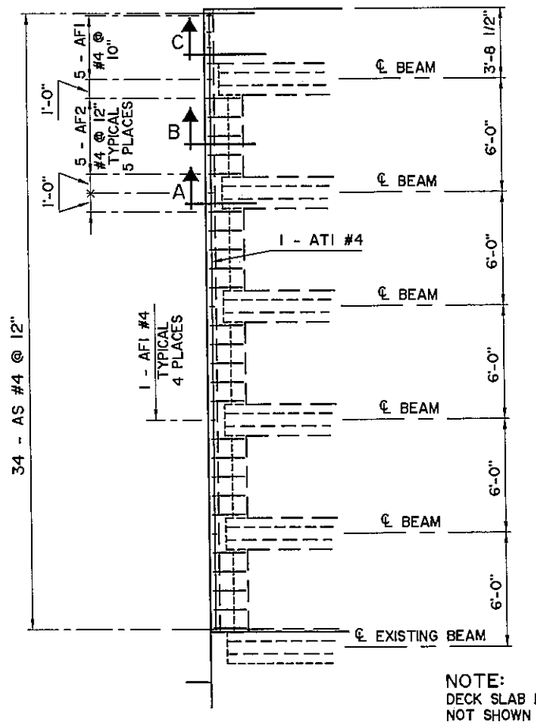
A #5 x 31'-7"
AX1 #5 x 33'-2"



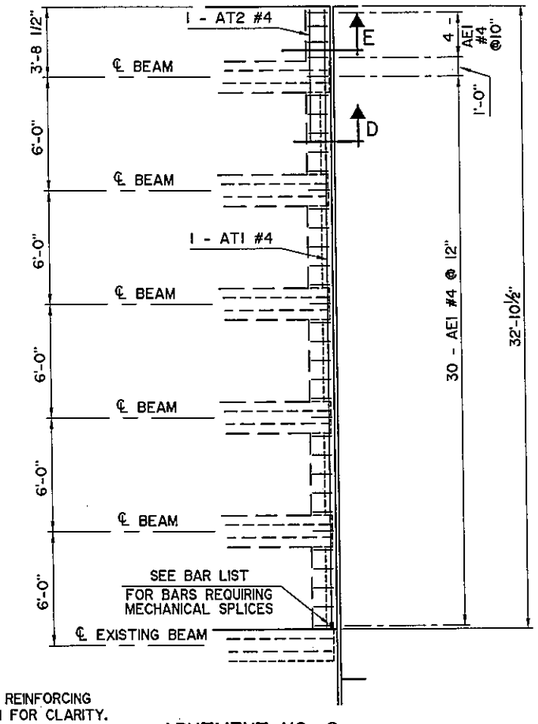
AF1 #4 x 2'-8"
AF2 #4 x 4'-2"
AE1 #4 x 3'-3"



AS #4 x 5'-0"



ABUTMENT NO. 1



ABUTMENT NO. 2

NOTE:
DECK SLAB REINFORCING NOT SHOWN FOR CLARITY.

ADDITIONAL SLAB REINFORCING AT DIAPHRAGM PLAN

BRIDGE "Q" SHOWN, BRIDGE "R" SYMMETRICAL ABOUT CENTERLINE OF U.S. HIGHWAY 69

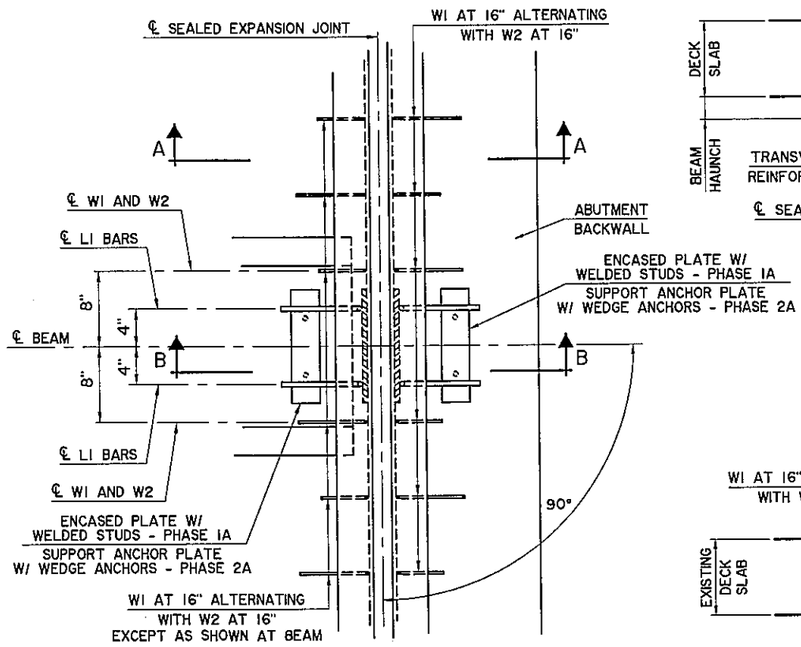
① MECHANICAL SPLICE TO EXISTING TRANSVERSE REBAR
② PROVIDE MECHANICAL SPLICE FOR BARS IN PHASE 2A
③ INCLUDES ONE LAP AT 2'-6" MINIMUM
④ FOR BAR BEND, SEE STD. FSHP-42
⑤ PROVIDE MECHANICAL SPLICE FOR BARS IN PHASE 2A AT ABUTMENT NO. 2 ONLY
⑥ FOR BAR BEND, SEE SHEET B16.

Design	CEG	
Drawn	KGL	KGL
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

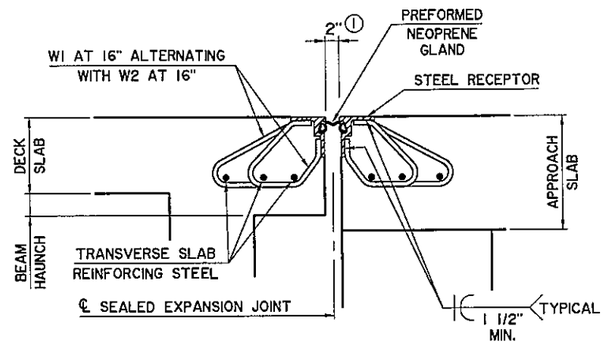
SLAB REINFORCING DETAILS
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B19



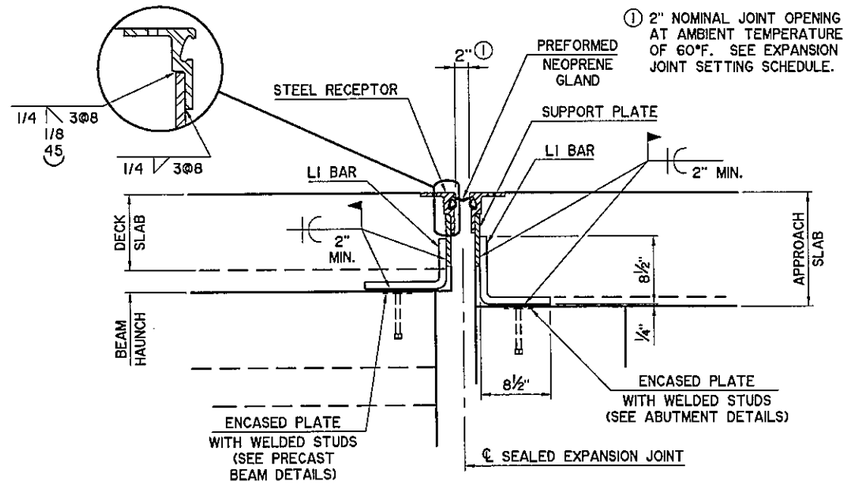
PLAN

PHASE IA SHOWN, PHASE 2A SIMILAR



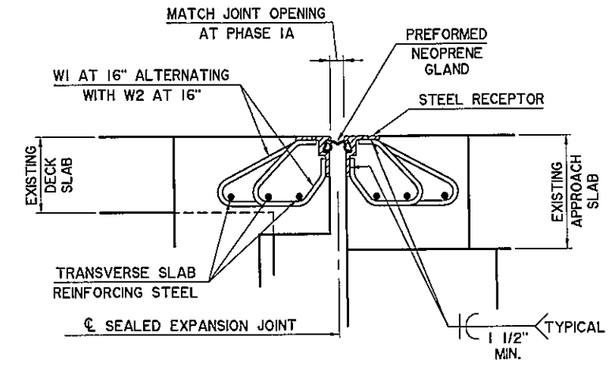
SECTION A-A

PHASE IA



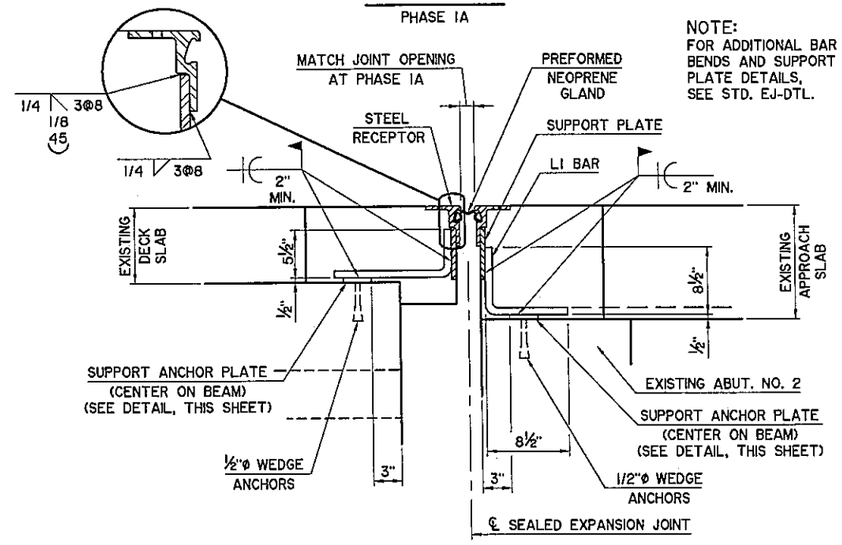
SECTION B-B

PHASE IA



SECTION A-A

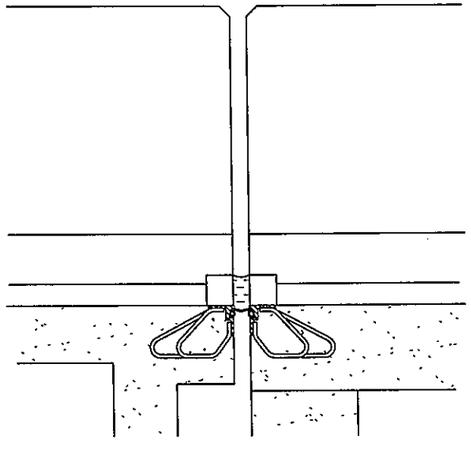
PHASE 2A



SECTION B-B

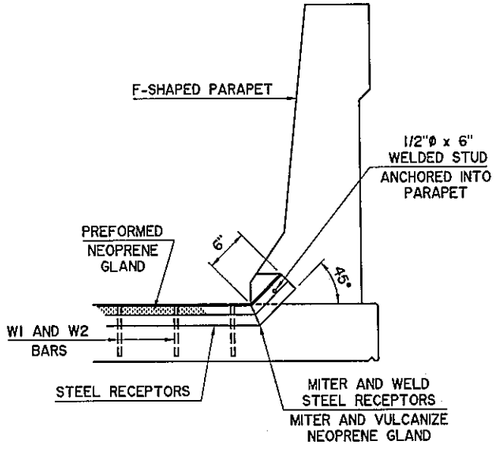
PHASE 2A

NOTE:
FOR ADDITIONAL BAR
BENDS AND SUPPORT
PLATE DETAILS,
SEE STD. EJ-DTL.



ELEVATION

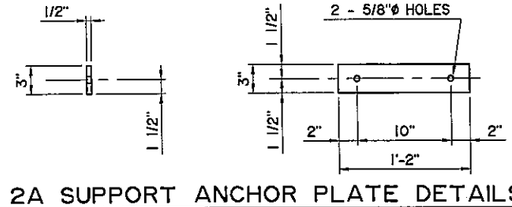
PHASE IA SHOWN, PHASE 2A SIMILAR



SECTION AT F-SHAPED PARAPET

SLOPED FACE PARAPET SIMILAR

EXPANSION JOINT SETTING SCHEDULE	
TEMPERATURE	OPENING
12° F	2 3/8"
28° F	2 1/4"
44° F	2 1/8"
60° F	2"
76° F	1 7/8"
92° F	1 3/4"
108° F	1 5/8"



PHASE 2A SUPPORT ANCHOR PLATE DETAILS

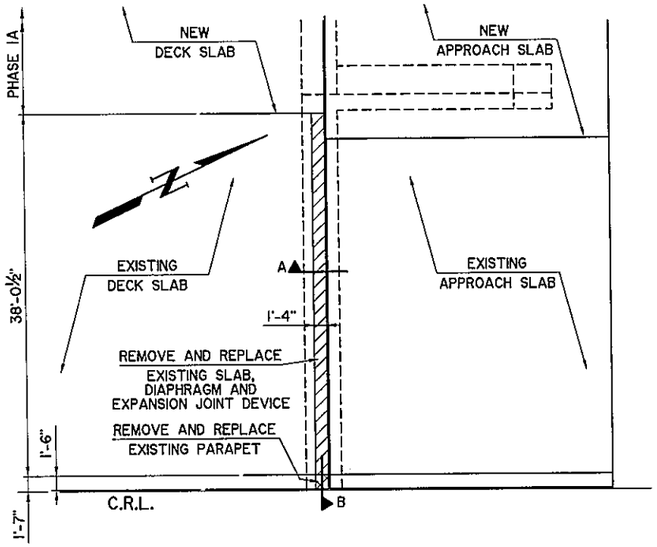
NOTE:
ALL COSTS OF SUPPORT ANCHOR PLATE, WEDGE ANCHORS, LABOR, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

Design	CEG	
Drawn	KGL	HEJ
Checked	ADT	CEG
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

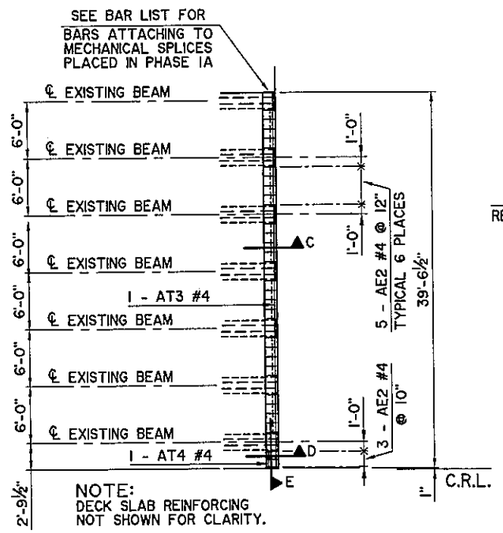
SEALED EXPANSION JOINT DETAILS
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B20



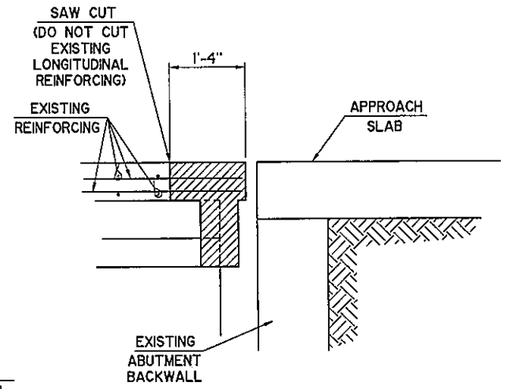
EXPANSION JOINT REHABILITATION PLAN AT ABUTMENT NO. 2 PHASE 2A

BRIDGE "Q" SHOWN - BRIDGE "R" SIMILAR

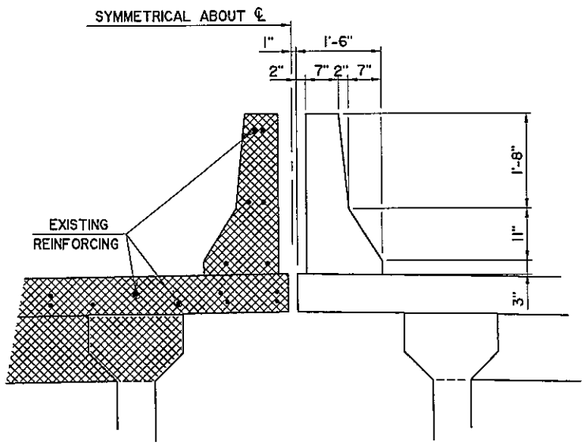


ADDITIONAL SLAB REINFORCING OF DIAPHRAGM PLAN AT ABUTMENT NO. 2 PHASE 2A

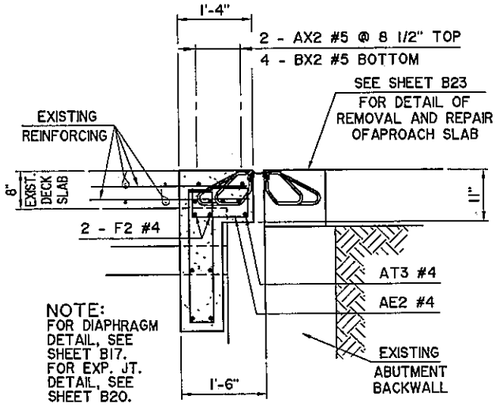
BRIDGE "Q" SHOWN - BRIDGE "R" SIMILAR



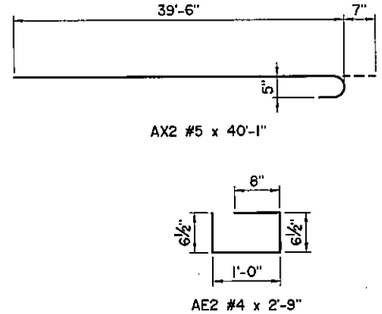
SECTION A

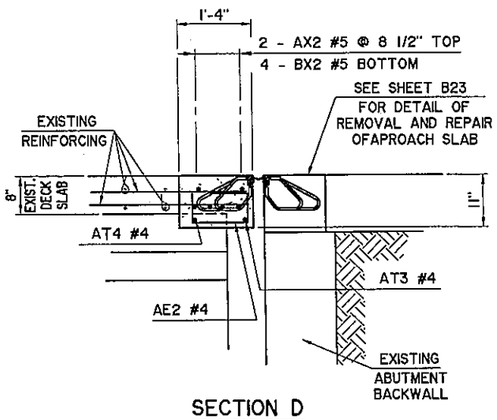


SECTION B

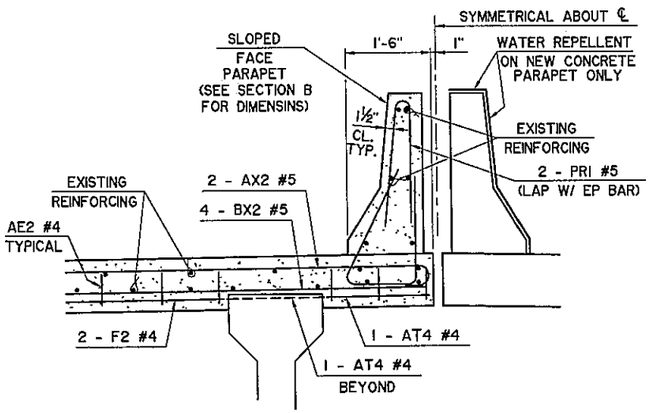


SECTION C





SECTION D



SECTION E

PHASE 2A JOINT REHABILITATION BAR LIST

(ONE SHOWN, ONE REQUIRED FOR EACH BRIDGE)

	MARK	SIZE	NO.	FORM	LENGTH
	EPOXY COATED REINFORCING				
①	AX2	#5	2	BNT.	40'-1"
	AE2	#4	33	BNT.	2'-9"
①	AT3	#4	1	STR.	39'-6"
	AT4	#4	1	STR.	1'-9"
①	BX2	#5	4	STR.	39'-6"
②	EP	#5	2	BNT.	5'-5"
	F2	#4	24	STR.	4'-0"
	F3	#4	12	STR.	5'-0"
③②	PRI	#5	2	BNT.	5'-0"
④	U2	#4	30	BNT.	6'-3"

① ATTACH TO MECHANICAL COUPLER PROVIDED IN PHASE 1A

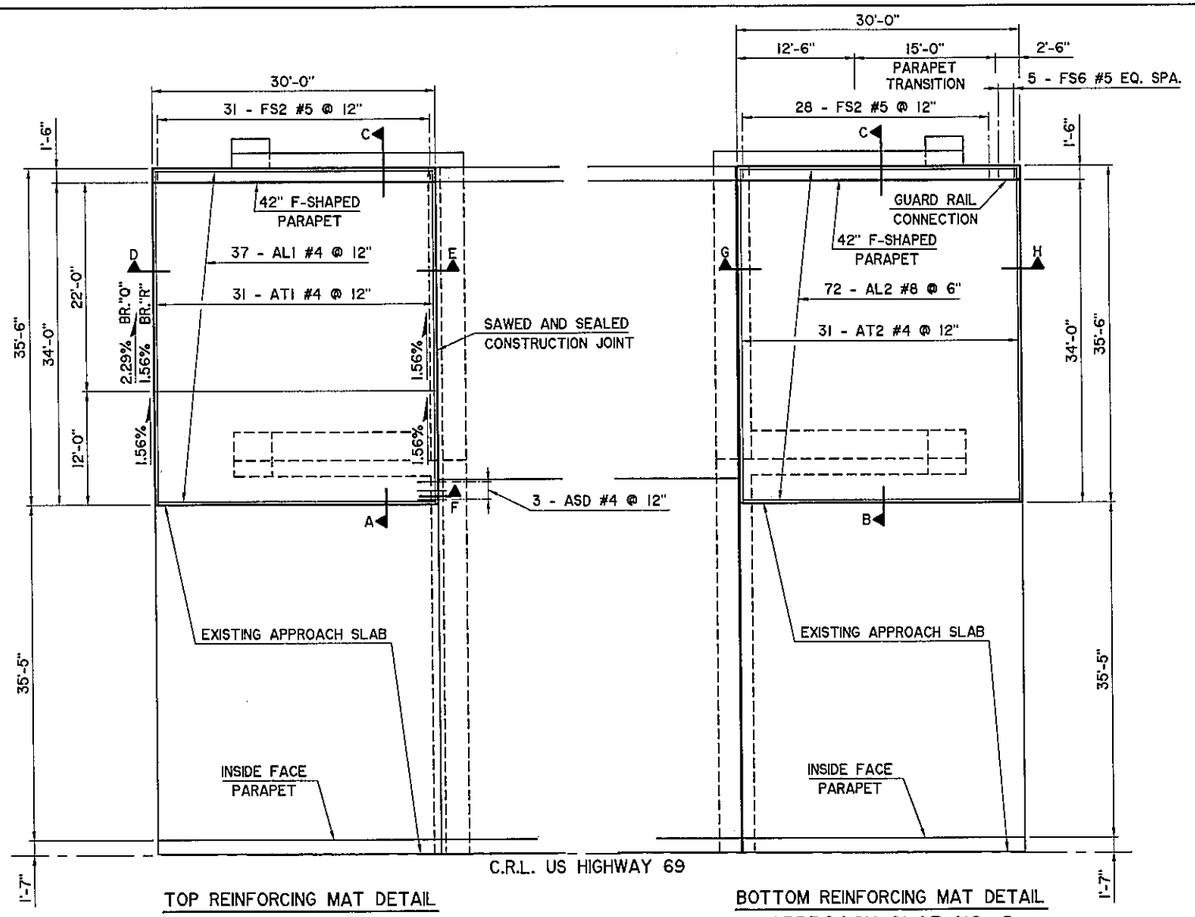
② FOR BAR BENDS, SEE STD. SFPI-2

③ ALL COSTS TO BE INCLUDED IN THE CONTRACT UNIT PRICE OF CONCRETE PARAPET.

④ FOR BAR BEND, SEE SHEET B17

Design	CEG	CEG	**U.S. HIGHWAY 69 - McALESTER**
Drawn	KGL	HEJ	EXPANSION JOINT REHABILITATION DETAILS WADE WATTS AVENUE
Checked	ADT	CEG	BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND
Approved	CEG		JOB PIECE NO. 14999(04) SHEET NO. B21
Squad	WEA		

I:\Active\0403\A WYANDOTTE\DWG\B21-JOINT REHAB DTLS.dwg, 7/5/2016 3:28:45 PM, Howard

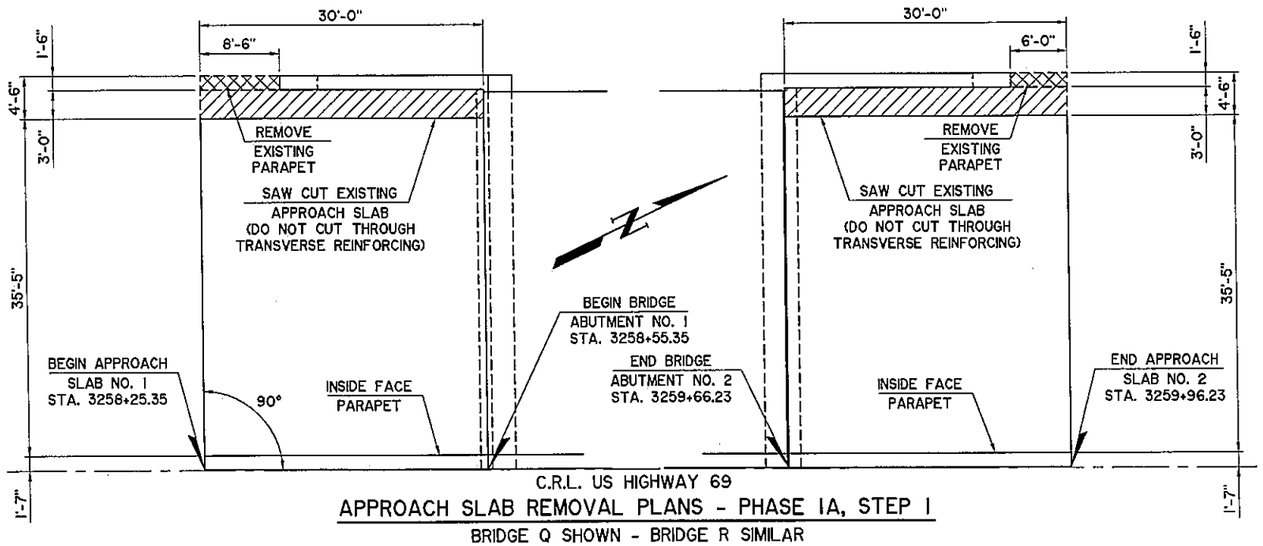


TOP REINFORCING MAT DETAIL
APPROACH SLAB NO. 1

BOTTOM REINFORCING MAT DETAIL
APPROACH SLAB NO. 2

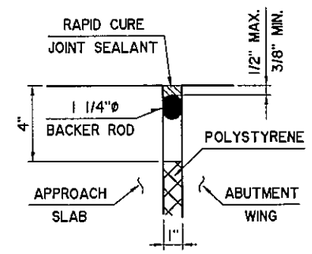
APPROACH SLAB PLANS - PHASE IA, STEP 2

BRIDGE Q SHOWN - BRIDGE R SIMILAR

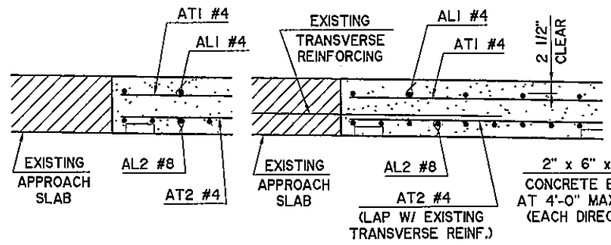


APPROACH SLAB REMOVAL PLANS - PHASE IA, STEP 1

BRIDGE Q SHOWN - BRIDGE R SIMILAR



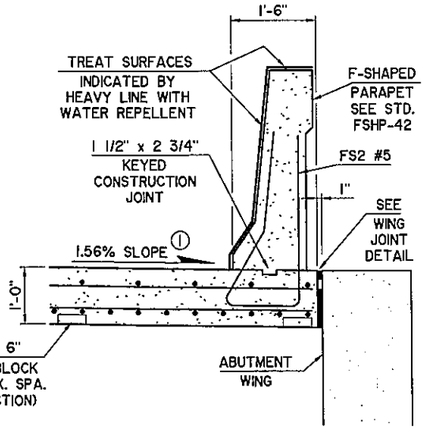
WING JOINT DETAIL



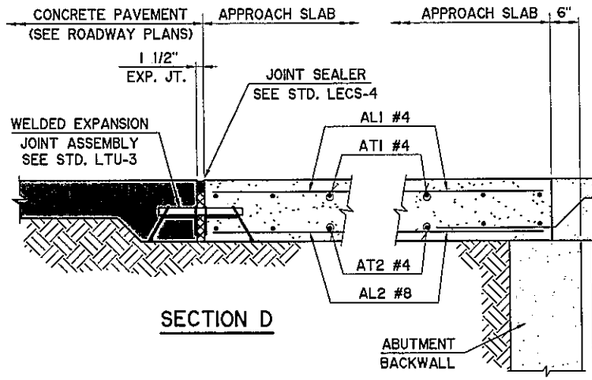
SECTION A

SECTION B

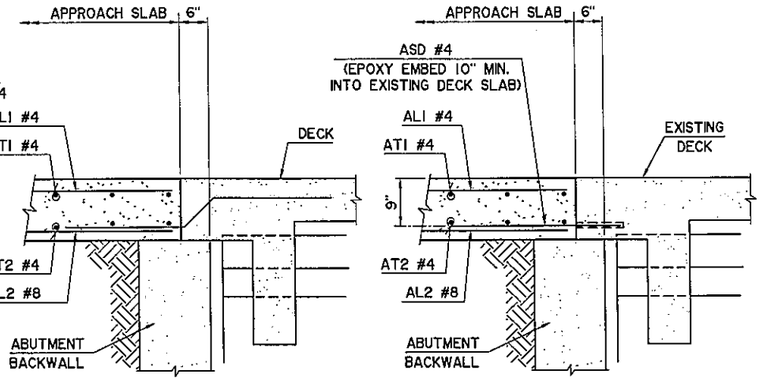
① 1.56% TYPICAL AT ALL APP. SLABS EXCEPT VARIES AT APP. SLAB NO. 1 ON BRIDGE "Q".



SECTION C

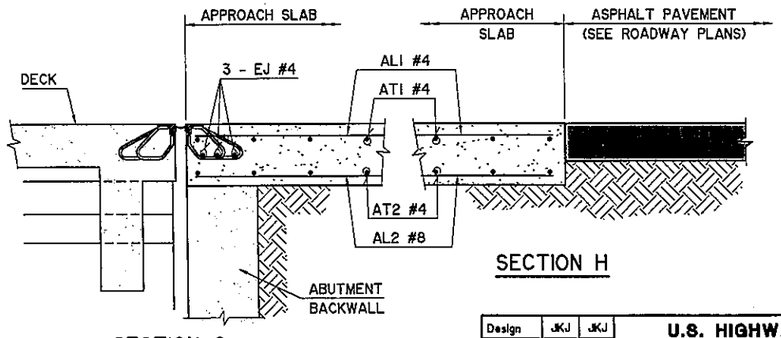


SECTION D



SECTION E

SECTION F

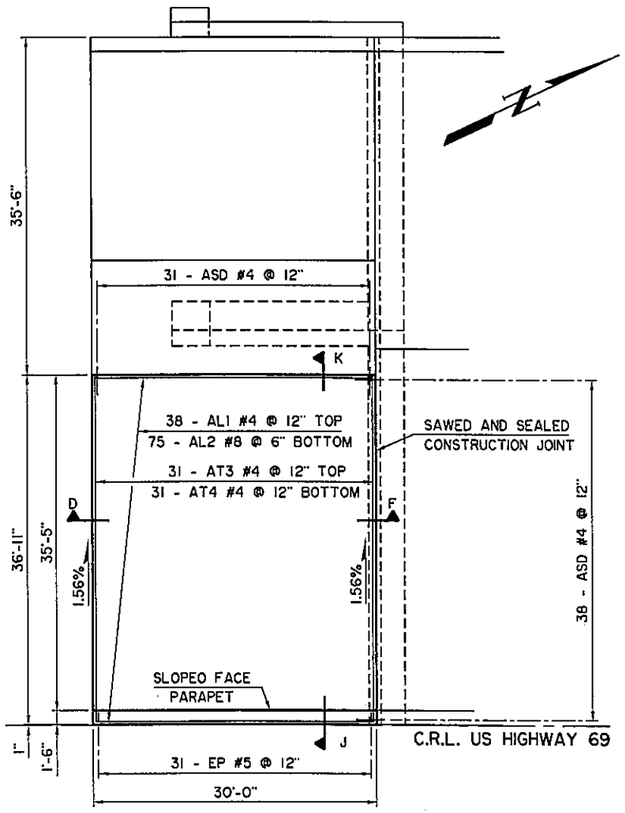


SECTION H

SECTION G

Design	JKJ	JKJ	**U.S. HIGHWAY 69 - McALESTER**
Drawn	KGL	HEJ	APPROACH SLAB - PHASE IA
Checked	ADT	JKJ	WADE WATTS AVENUE
Approved	CEG		BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B22

I:\Active\0403\A WYANDOTTE\DWG\B22-APP SLAB-PHASE I.dwg, 7/5/2016 3:29:05 PM, Howard



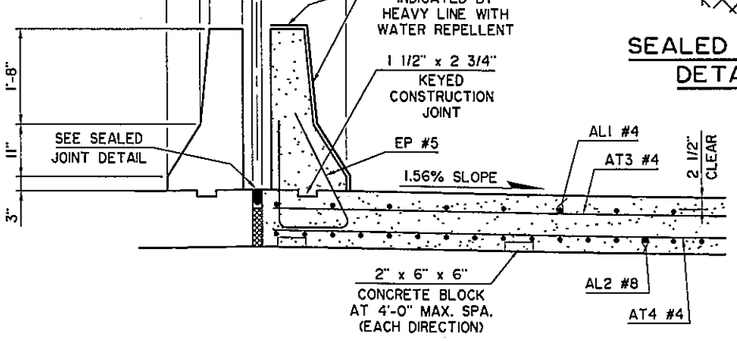
APPROACH SLAB NO. 1 PLAN - PHASE 2A

BRIDGE Q SHOWN - BRIDGE R SIMILAR

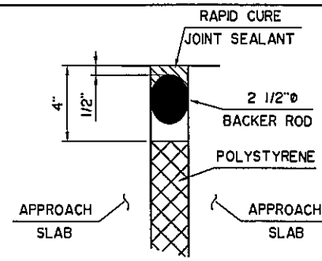
APPROACH SLAB BAR LIST
EPOXY COATED REINFORCING

	MARK	SIZE	NO.	FORM	LENGTH
	APPROACH SLAB NO. 1 AND NO. 2, PHASE 1A (ONE SHOWN, TWO REQUIRED)				
	AL1	#4	37	STR.	29'-10"
	AL2	#8	72	STR.	29'-10"
	ASD	#4	3	STR.	3'-0"
	AT1	#4	31	STR.	35'-2"
	AT2	#4	31	STR.	35'-2"
	APPROACH SLAB NO. 1, PHASE 1A				
①	FS2	#5	31	BNT.	7'-4"
	APPROACH SLAB NO. 2, PHASE 1A				
	EJ	#4	3	STR.	35'-2"
①	FS2	#5	28	BNT.	7'-4"
①	FS6	#5	5	BNT.	7'-7"
	APPROACH SLAB NO. 1, PHASE 2A				
	AL1	#4	38	STR.	29'-10"
	AL2	#8	75	STR.	29'-10"
	ASD	#4	69	STR.	3'-0"
	AT3	#4	31	STR.	36'-7"
	AT4	#4	31	STR.	36'-7"
②	EP	#5	31	BNT.	5'-5"
	APPROACH SLAB NO. 2, PHASE 2A				
	ATJ	#5	2	STR.	36'-7"
	EJ	#4	3	STR.	36'-7"
②	EP	#5	1	BNT.	5'-5"
③	PR1	#5	1	BNT.	5'-0"

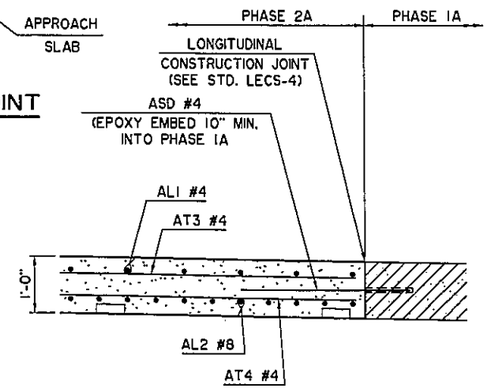
① FOR BAR BEND, SEE STD. FSHP-42
② FOR BAR BEND, SEE STD. SFPI-2
③ INCLUDED IN CONTRACT UNIT PRICE OF "CONCRETE PARAPET". FOR BAR BEND, SEE STD. SFPI-2



SECTION J



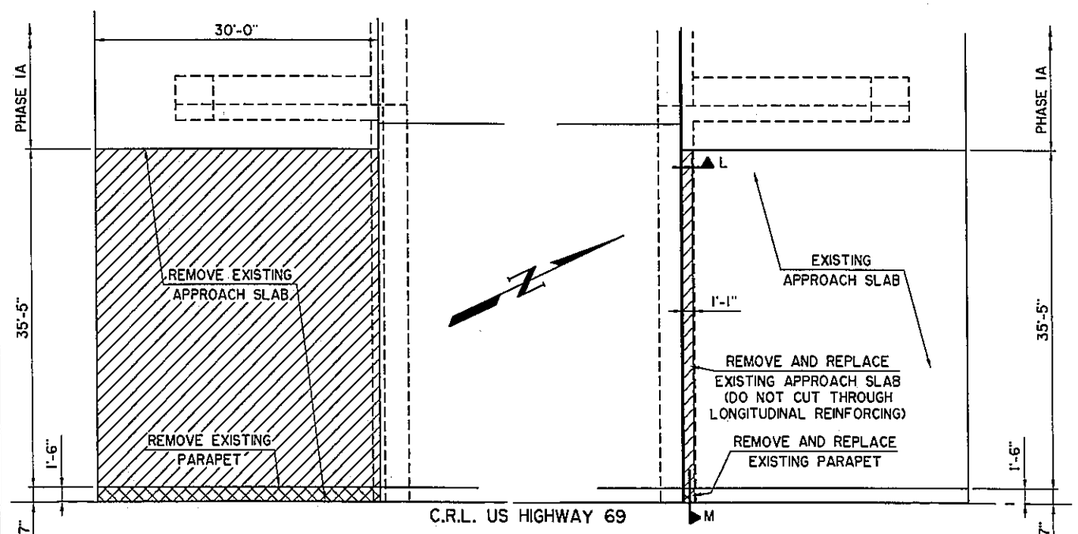
SEALED JOINT DETAIL



SECTION K

APPROACH SLAB QUANTITIES

ITEM	UNIT	BRIDGE "Q"						BRIDGE "R"					
		PHASE 1A			PHASE 2A			PHASE 1A			PHASE 2A		
		APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL
APPROACH SLAB	S.Y.	118.3	118.3	236.6	123.1	4.4	127.5	118.3	118.3	236.6	123.1	4.4	127.5
SAW-CUT GROOVING	S.Y.	113.3	113.3	226.6	118.1	4.3	122.4	113.3	113.3	226.6	118.1	4.3	122.4
CONCRETE PARAPET	L.F.				30.0	1.1	31.1				30.0	1.1	31.1
42" F-SHAPED PARAPET	L.F.	30.0	30.0	60.0				30.0	30.0	60.0			
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	15	14	29	12	1	13	15	14	29	12	1	13
REMOVAL OF EXISTING SLAB	S.Y.	11.4	11.0	22.4	123.1	4.4	127.5	11.4	11.0	22.4	123.1	4.4	127.5
REMOVAL OF EXISTING PARAPET	L.F.	8.5	6.0	14.5	30.0	1.1	31.1	8.5	6.0	14.5	30.0	1.1	31.1

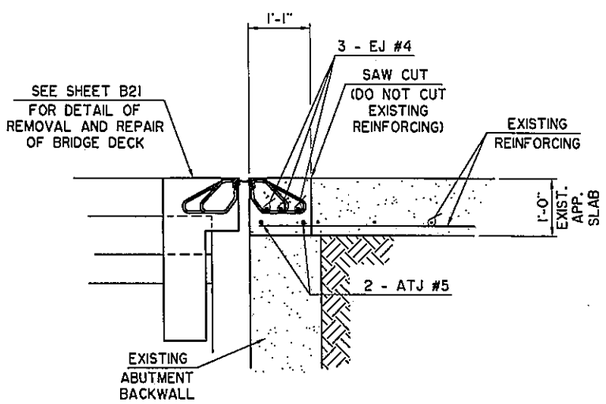


APPROACH SLAB NO. 1

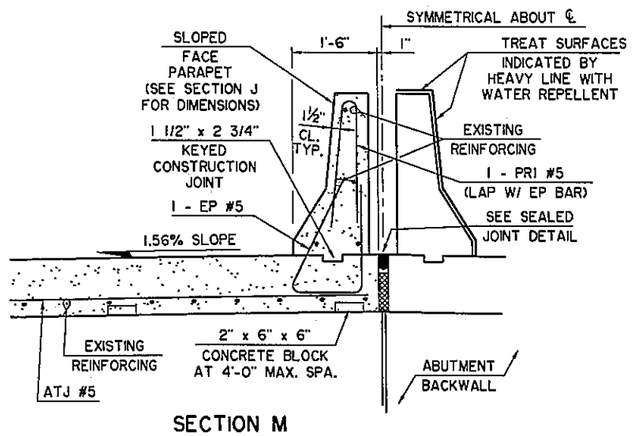
APPROACH SLAB NO. 2

APPROACH SLAB REMOVAL PLANS - PHASE 2A

BRIDGE Q SHOWN - BRIDGE R SIMILAR



SECTION L



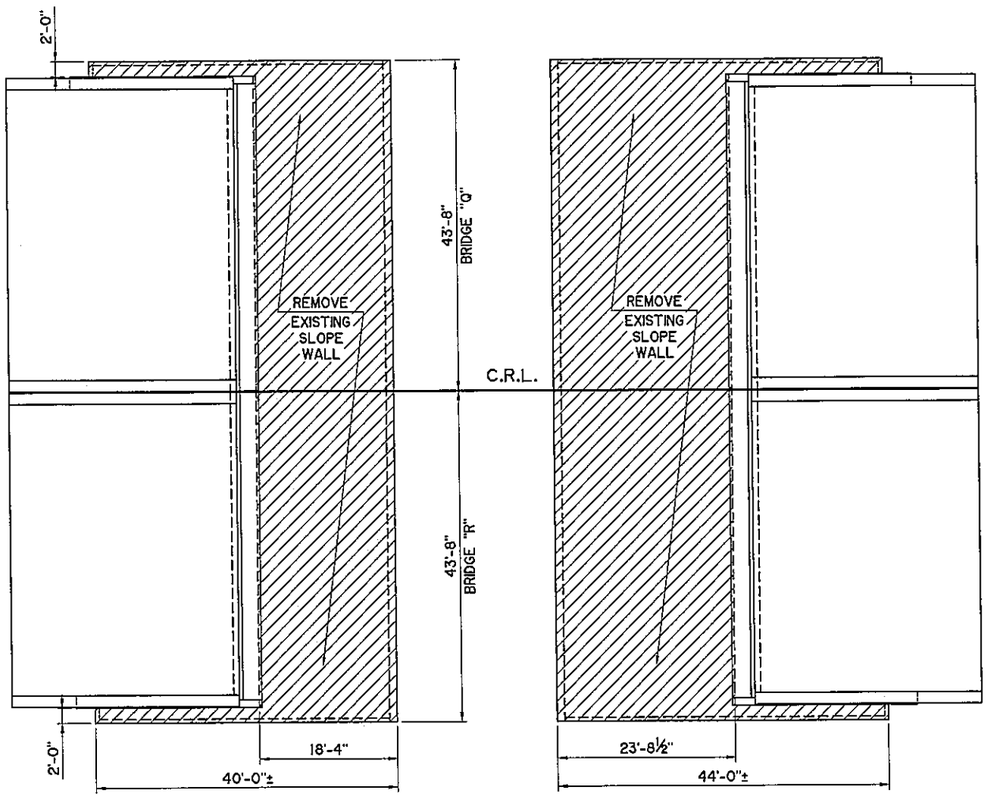
SECTION M

Design	JKJ	
Drawn	KGL	
Checked	ADT	
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

APPROACH SLAB - PHASE 2A
WADE WATTS AVENUE
BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B23

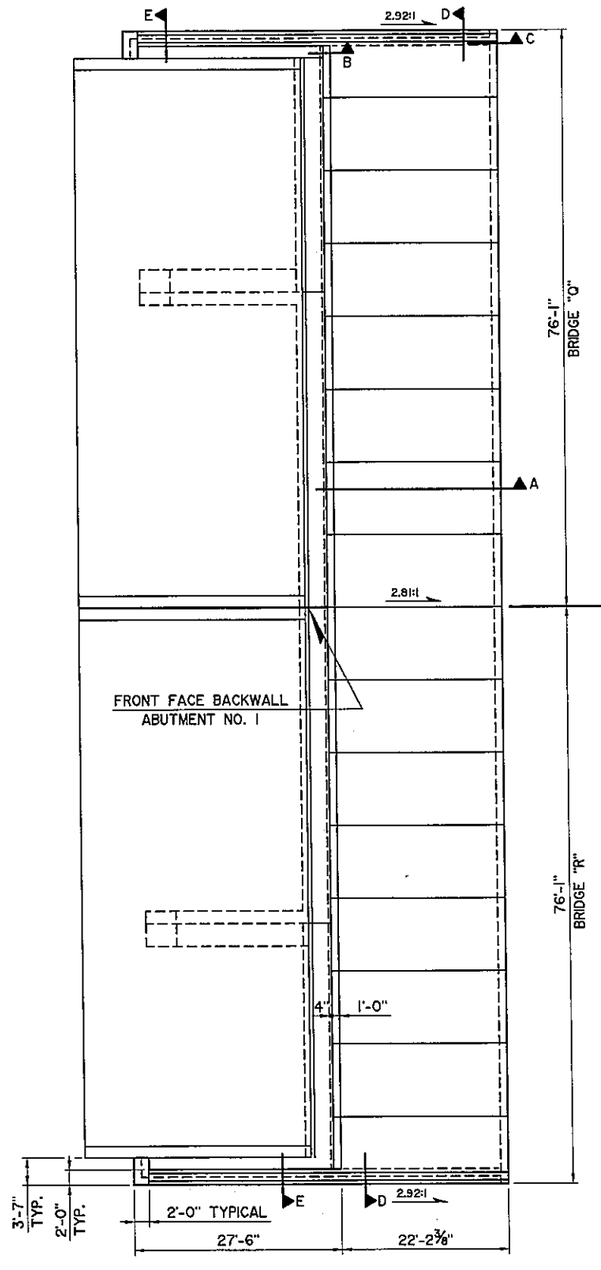


SLOPE WALL NO. 1 SLOPE WALL NO. 2

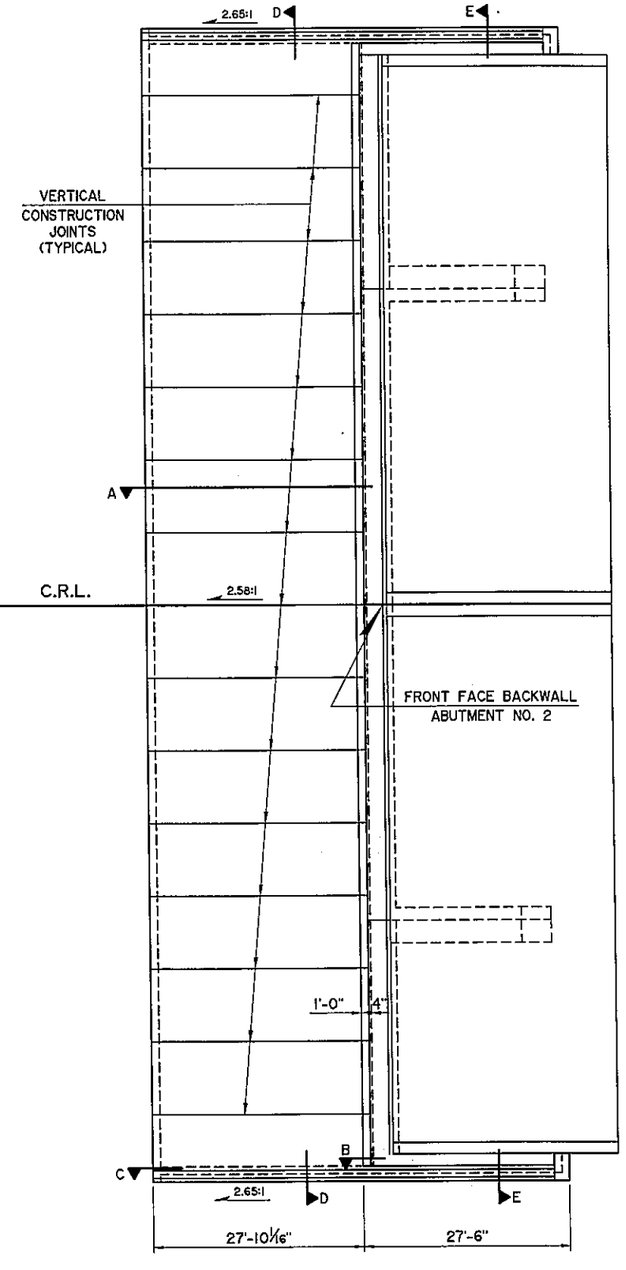
SLOPE WALL REMOVAL PLAN

PHASE 1A

NOTE:
ALL DIMENSIONS
ARE PLAN
DIMENSIONS.



SLOPE WALL NO. 1



SLOPE WALL NO. 2

SLOPE WALL PLAN

PHASE 2A

SLOPE WALL QUANTITIES

ITEM	UNIT	BRIDGE "Q"						BRIDGE "R"					
		PHASE 1A			PHASE 2A			PHASE 1A			PHASE 2A		
		SLOPE WALL NO. 1	SLOPE WALL NO. 2	TOTAL	SLOPE WALL NO. 1	SLOPE WALL NO. 2	TOTAL	SLOPE WALL NO. 1	SLOPE WALL NO. 2	TOTAL	SLOPE WALL NO. 1	SLOPE WALL NO. 2	TOTAL
SLOPEWALL (5")	S.Y.				255	310	565				255	310	565
REMOVAL OF BRIDGE ITEM (TYPE B)	EA.	1	1	2				1	1	2			

Design	CEG		**U.S. HIGHWAY 69 - McALESTER**
Drawn	KGL	HEJ	SLOPE WALL PLANS
Checked	ADT	JKJ	WADE WATTS AVENUE
Approved	CEG		BRIDGE "Q" SOUTHBOUND, BRIDGE "R" NORTHBOUND
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B24

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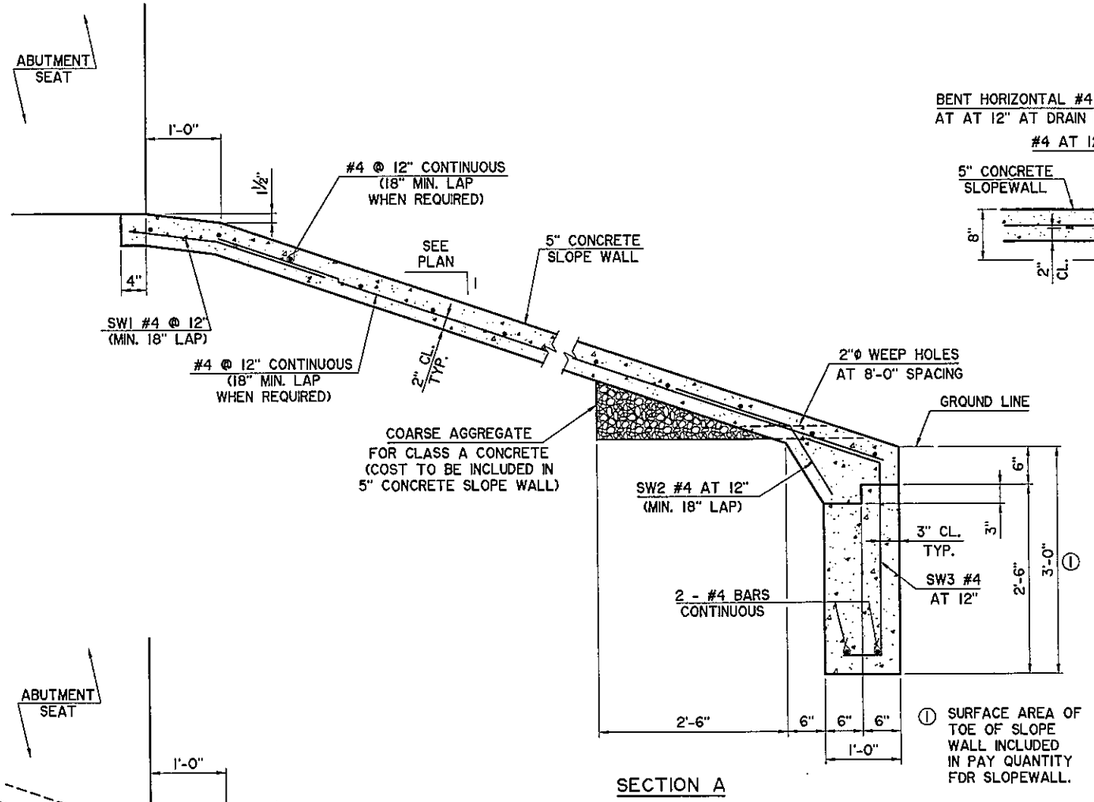
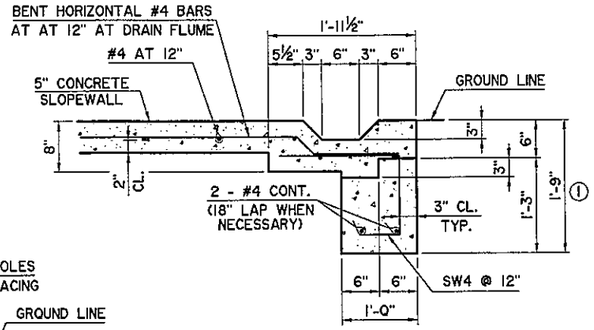


SECTION A



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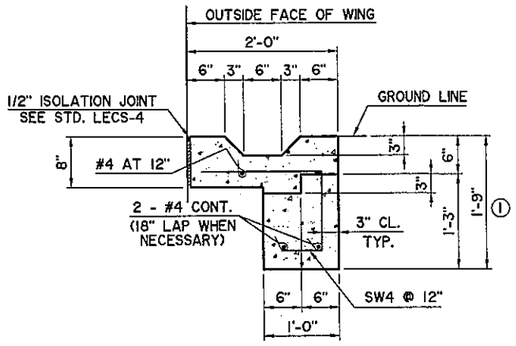

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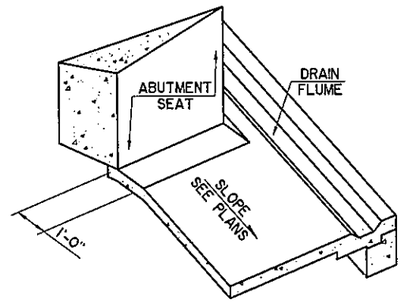
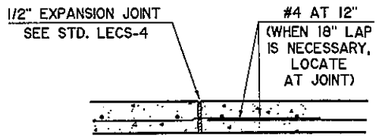
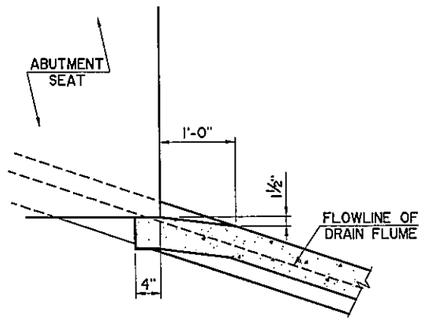


ISOMETRIC VIEW AT END OF ABUTMENTS

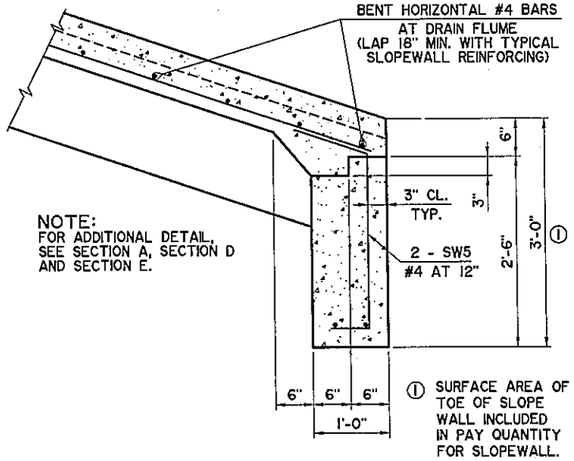


DETAIL OF VERTICAL CONSTRUCTION JOINT



NOTE:
FOR DETAIL OF REINFORCING, SEE SECTION A, SECTION D AND SECTION E.

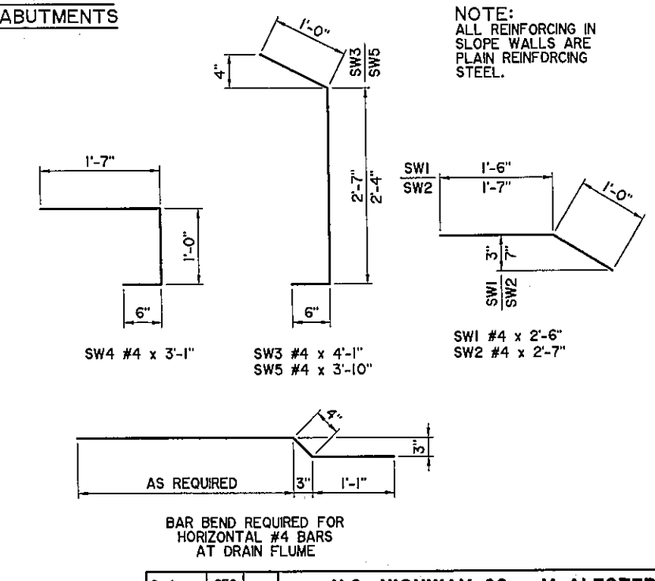
SECTION B



NOTE:
FOR ADDITIONAL DETAIL, SEE SECTION A, SECTION D AND SECTION E.

SECTION C

NOTE:
ALL REINFORCING IN SLOPE WALLS ARE PLAIN REINFORCING STEEL.



SW4 #4 x 3'-1"
SW3 #4 x 4'-1"
SW5 #4 x 3'-10"
SW1 #4 x 2'-6"
SW2 #4 x 2'-7"

BAR BEND REQUIRED FOR HORIZONTAL #4 BARS AT DRAIN FLUME

Design	CEG		**U.S. HIGHWAY 69 - McALESTER**
Drawn	KGL	HEJ	SLOPE WALL DETAILS
Checked	ADT	JKJ	WADE WATTS AVENUE
Approved	CEG		BRIDGE "O" SOUTHBOUND, BRIDGE "R" NORTHBOUND
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B25

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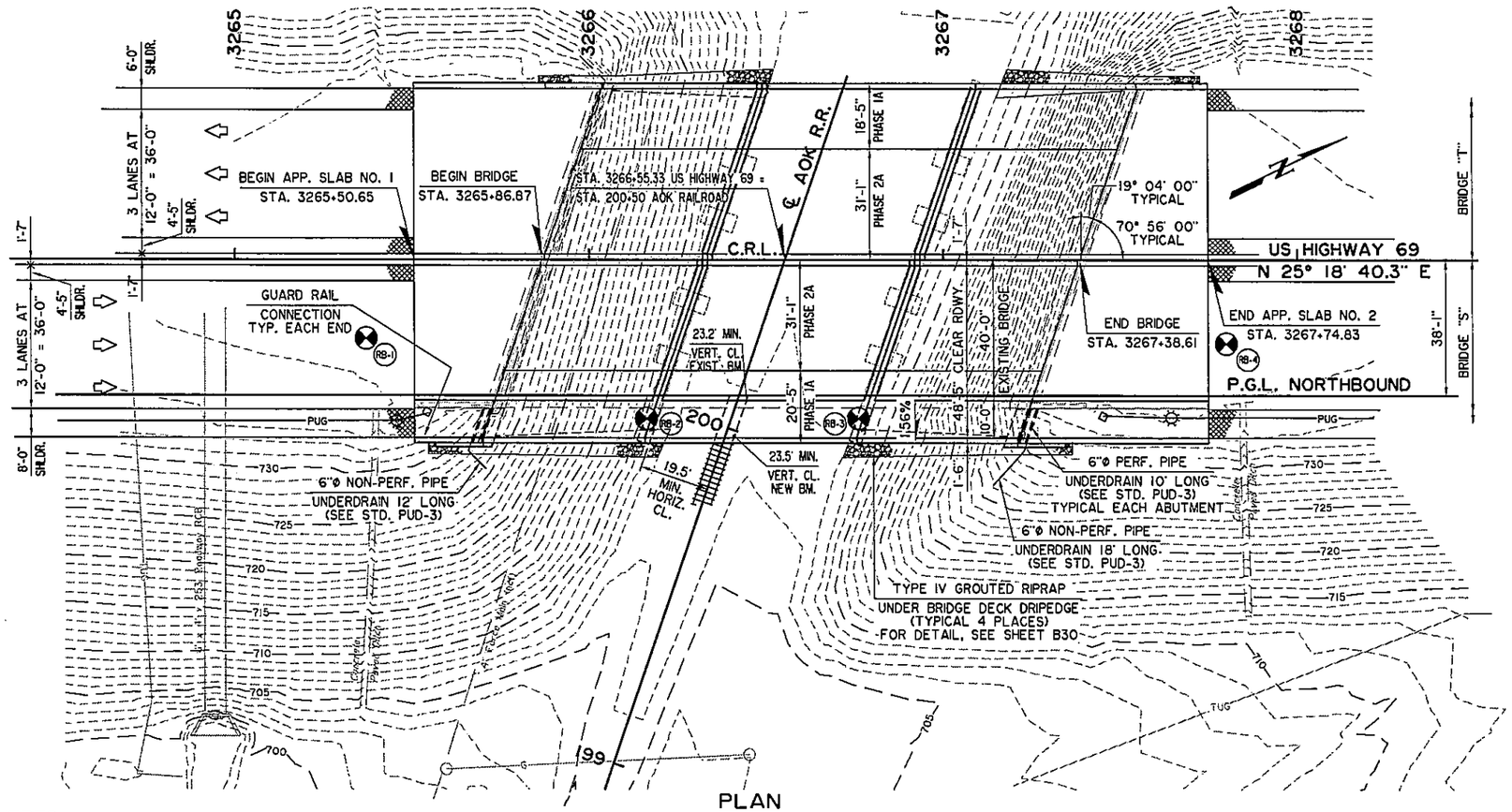
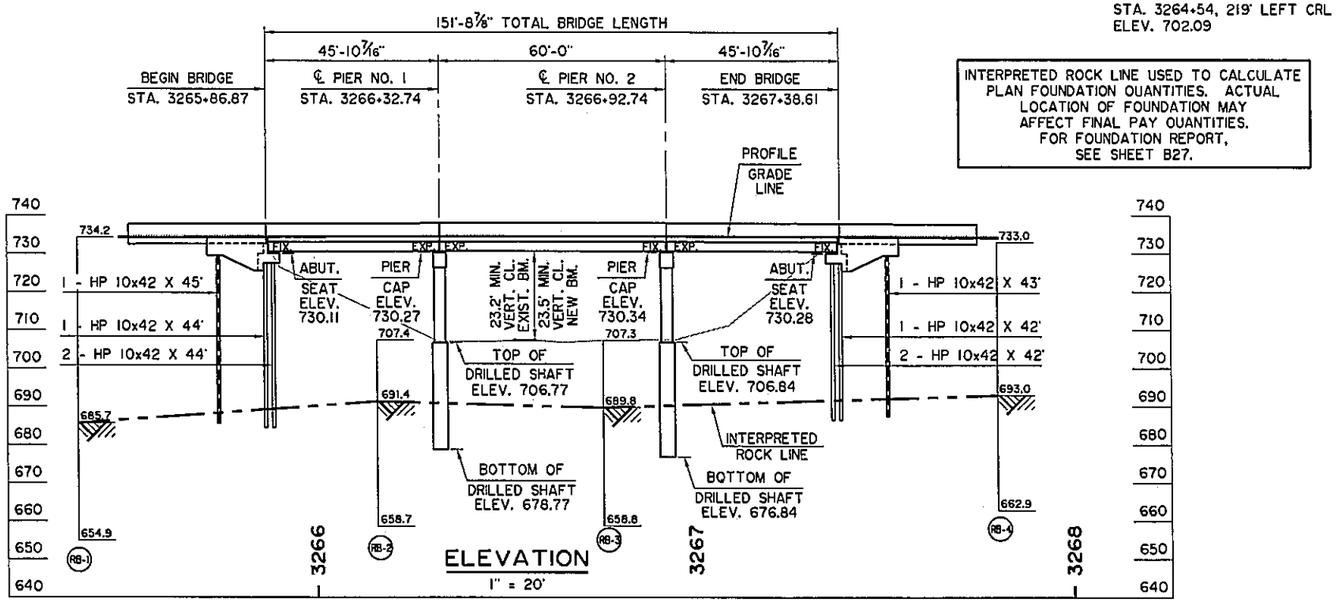


PLAN
1" = 20'

INDEX OF SHEETS



ELEVATION
1" = 20'

BM 66 CHISELED SQUARE
TOP WEST CURB
STA. 3264+54, 219' LEFT CRL
ELEV. 702.09

INTERPRETED ROCK LINE USED TO CALCULATE PLAN FOUNDATION QUANTITIES. ACTUAL LOCATION OF FOUNDATION MAY AFFECT FINAL PAY QUANTITIES. FOR FOUNDATION REPORT, SEE SHEET B27.

DESIGN DATA

CONCRETE CLASS A	f'c = 3 K.S.I.
CONCRETE CLASS AA	f'c = 4 K.S.I.
REINFORCING STEEL (GRADE 60)	fy = 60 K.S.I.
STRUCTURAL STEEL M 270 (GRADE 50W)	Fy = 50 K.S.I.
STAINLESS STEEL A240 (TYPE 316)	Fy = 30 K.S.I.

LOADING:
HL-93 OR OKLAHOMA OVERLOAD TRUCK
20 PSF FUTURE WEARING SURFACE
5 PSF STAY-IN-PLACE DECK FORM ALLOWANCE

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6th EDITION
ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE
ANSI/AWS D1.6 STRUCTURAL WELDING CODE - STAINLESS STEEL

HL-93 INVENTORY RATING FACTOR:	2.71
HL-93 OPERATING RATING FACTOR:	4.74

THE HL-93 RATING FACTORS SHOWN ARE BASED ON A NOMINAL STRENGTH USING ONLY STRANDS THAT ARE BONDED FOR THE FULL LENGTH OF THE BEAM. ALL PARTIALLY BONDED STRANDS ARE NEGLECTED IN STRENGTH COMPUTATIONS.

FOUNDATION DATA

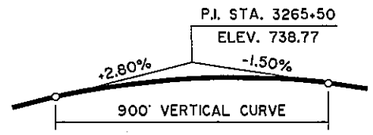
PIERS (72" DIAMETER DRILLED SHAFTS)

FACTORED REACTION	= 586.7 TON / SHAFT
NOMINAL UNIT BEARING RESISTANCE	= 60 T.S.F.
BEARING RESISTANCE FACTOR	= 0.7
FACTORED BEARING RESISTANCE	= 1187.5 TON / SHAFT
NOMINAL UNIT FRICTION RESISTANCE	= 9 T.S.F.
FRICTION RESISTANCE FACTOR	= 0.45
FACTORED FRICTION RESISTANCE	= 534.4 TON / SHAFT
DEPTH OF ROCK NEGLECTED FOR FRICTION	= 5.0 FT.
TOTAL FACTORED RESISTANCE	= 1721.9 TON / SHAFT

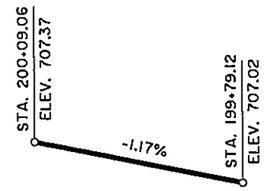
ABUTMENTS (HP10x42 PILING)

FACTORED PILE REACTION	= 47.5 TON / PILE

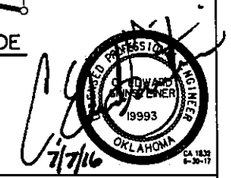
FACTORED PILE RESISTANCE:
DRIVE PILING THROUGH THE COMPACTED FILL AND TO A POINT BEARING ON SOLID FOUNDATION MATERIAL AT THE APPROXIMATE ELEVATION SHOWN ON THE PLANS. IF A FACTORED AXIAL LOAD RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED PILE REACTION IS NOT OBTAINED AT THIS ELEVATION, CONTINUE DRIVING UNTIL SUCH IS OBTAINED. THE LENGTH OF STEEL PILING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY.



BRIDGE VERTICAL CURVE
US 69 NORTHBOUND



R.R. PROFILE GRADE
NORTH RAIL



7/7/16

Design	RRW		U.S. HIGHWAY 69 - McALESTER
Drawn	HEJ	KGL	GENERAL PLAN AND ELEVATION AOK RAILROAD
Checked	ADT	DMH	BRIDGE "S" NORTHBOUND, BRIDGE "T" SOUTHBOUND
Approved	CEG		JOB PIECE NO. 14999(04) SHEET NO. B26
Squad	WEA		

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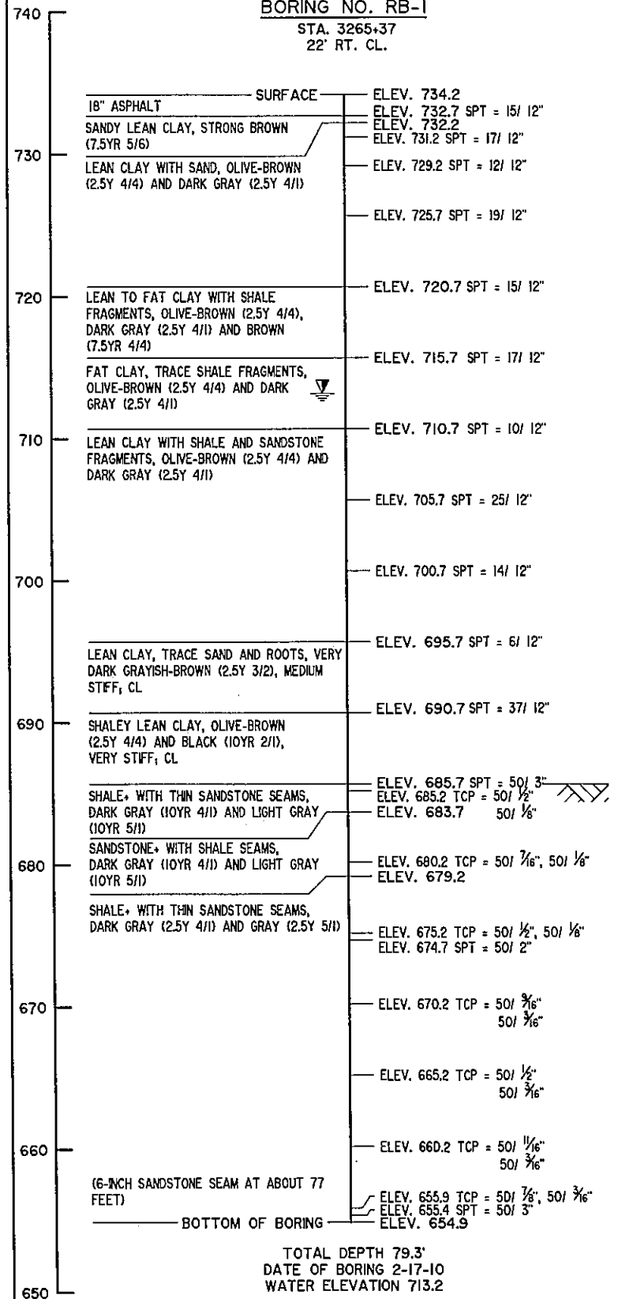
BORING NO. RB-1

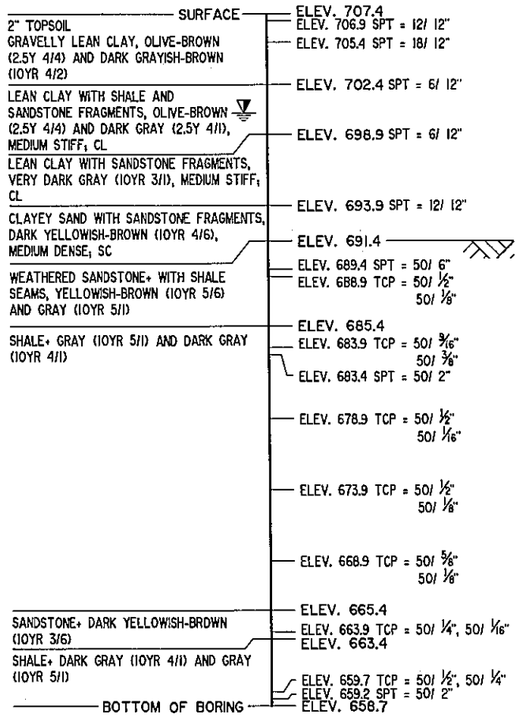
STA. 3265+37
22' RT. CL.



TOTAL DEPTH 79.3'
DATE OF BORING 2-17-10
WATER ELEVATION 713.2

BORING NO. RB-2

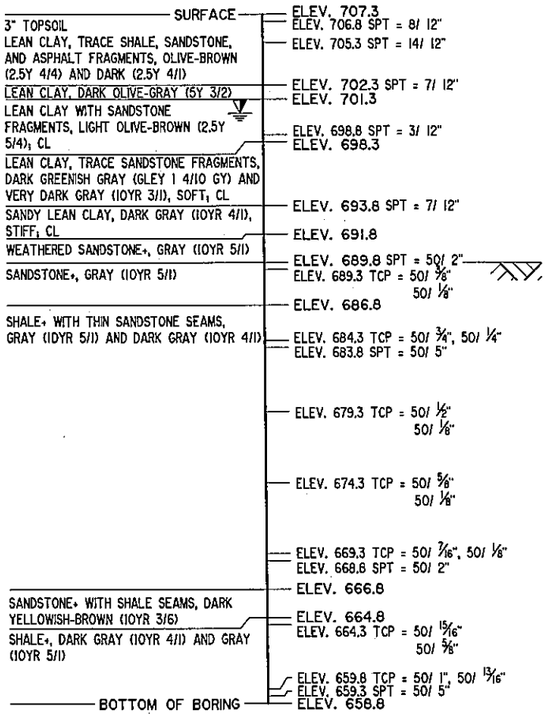
STA. 3266+16
44.5' RT. CL.



TOTAL DEPTH 48.7'
DATE OF BORING 2-11-10
WATER ELEVATION 700.4'

BORING NO. RB-3

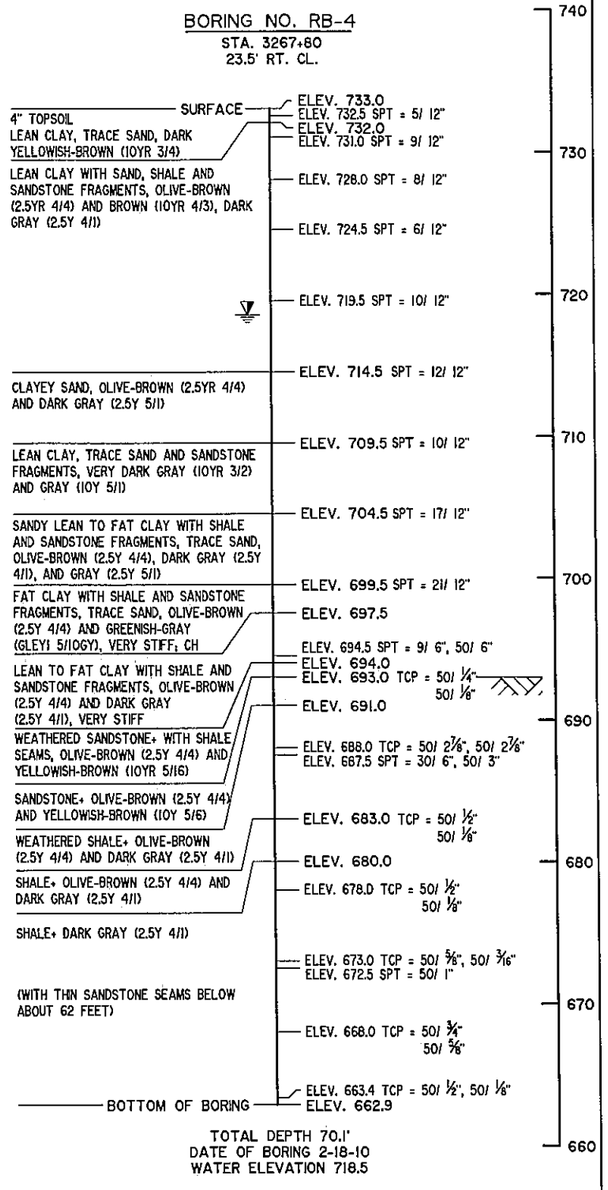
STA. 3266+76
44.5' RT. CL.



TOTAL DEPTH 48.5'
DATE OF BORING 2-11-10
WATER ELEVATION 700.3'

BORING NO. RB-4

STA. 3267+80
23.5' RT. CL.



TOTAL DEPTH 70.1'
DATE OF BORING 2-18-10
WATER ELEVATION 718.5

GEOLOGICAL STATEMENT

BASED ON THE RESULTS OF OUR BORINGS AND INFORMATION PUBLISHED IN THE OKLAHOMA DEPARTMENT OF TRANSPORTATION MANUAL, "ENGINEERING CLASSIFICATION OF GEOLOGIC MATERIALS", THE PROJECT SITE IS UNDERLAIN BY THE SAVANNA UNIT. SAVANNA UNIT CONSISTS PREDOMINANTLY OF SHALE WITH A LESSER AMOUNT OF SANDSTONE AND RELATIVELY THIN LAYERS OF LIMESTONE AND SILTSTONE.

THE SHALE IS GRAY TO BLACK AND ABOUT 400 FEET THICK. THE SANDSTONE IS MODERATELY HARD TO HARD AND IS FOUND IN BEDS A FEW INCHES TO 10 FEET THICK. THE LIMESTONE AND SILTSTONE LAYERS ARE LESS THAN ONE FOOT THICK AND ARE MINOR.

NOTES:

SPT STANDARD PENETRATION TEST (NO. OF BLOWS/PENETRATION)

TCP TEXAS CONE PENETRATION TEST (NO. OF BLOWS/PENETRATION)

▽ WATER ELEVATION 24 HRS. AFTER DRILLING UNLESS OTHERWISE NOTED

INTERPRETED ROCK LINE

\+ CLASSIFICATION ESTIMATED FROM DISTURBED SAMPLES. CORE SAMPLES AND PETROGRAPHIC ANALYSIS MAY REVEAL OTHER ROCK TYPES.

NOTE:
INFORMATION SHOWN ON THIS SHEET TAKEN FROM GEOTECHNICAL REPORT PREPARED BY TERRACON CONSULTANTS, INC. DATED APRIL 1, 2010. A COPY OF THIS REPORT IS AVAILABLE FROM THE DEPARTMENT UPON REQUEST.

USE INTERPRETED ROCK LINE FOR ESTIMATING PURPOSES ONLY

WATER ELEVATIONS SHOWN WERE OBTAINED AT THE TIME BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR

Design	TER		**U.S. HIGHWAY 69 - McALESTER**
Drawn	KGL	DRB	FOUNDATION REPORT
Checked	ADT	ADT	AOK RAILROAD
Approved	CEG		BRIDGE "S" NORTHBOUND
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B27

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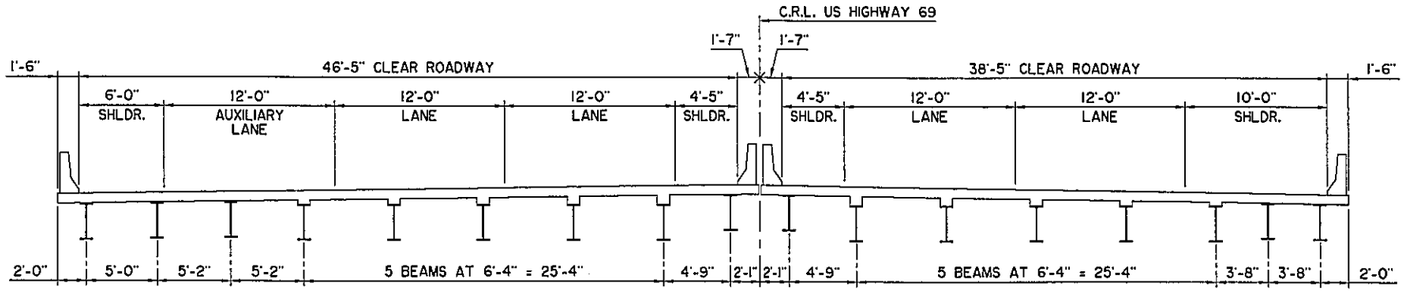
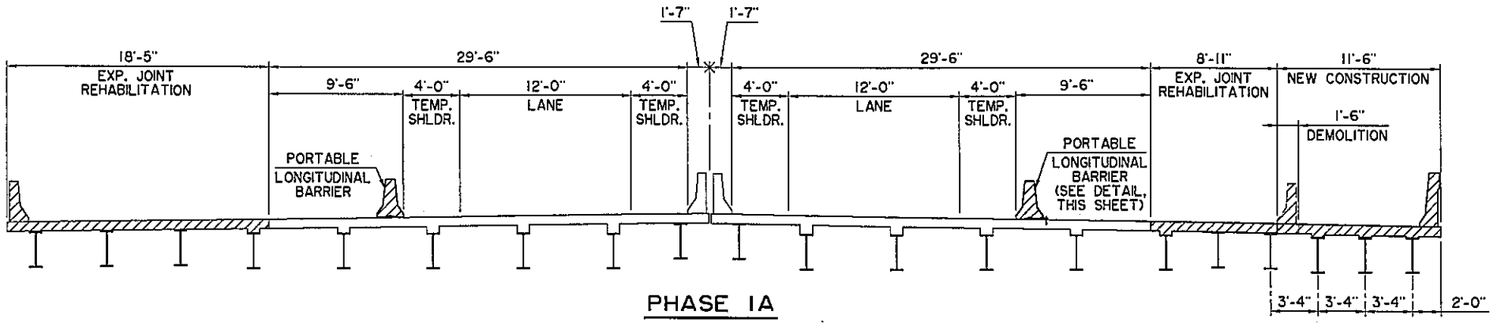
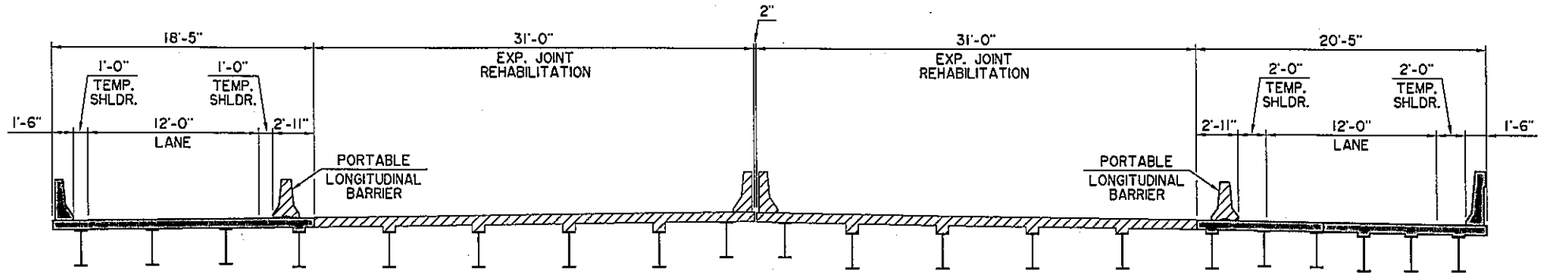


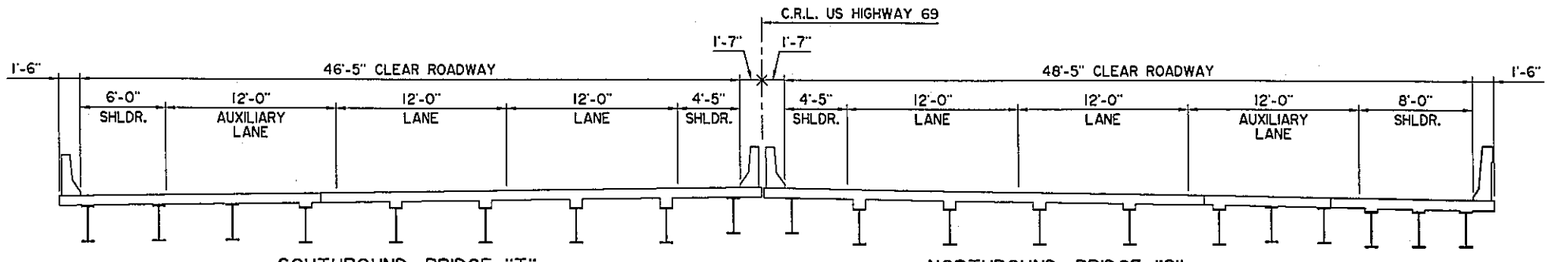
EXISTING BRIDGES



PHASE 1A



PHASE 2A



SOUTHBOUND, BRIDGE "T"

NORTHBOUND, BRIDGE "S"

FINISHED BRIDGES

CONSTRUCTION SEQUENCE NOTES

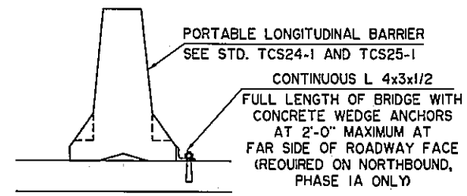
MINIMIZE TIME PERIOD WHERE LESS THAN TWO LANES OF TRAFFIC IN EACH DIRECTION ARE USED.

PHASE 1A -

1. DIVERT TRAFFIC TOWARDS THE MEDIAN AND INSTALL PORTABLE LONGITUDINAL BARRIERS AS SHOWN.
2. REMOVE EXISTING OUTSIDE PARAPET AND 1'-6" OF DECK SLAB ON BRIDGE "S".
3. REMOVE EXPANSION JOINT EXTRUSIONS AND ASSOCIATED PORTIONS OF EXISTING BRIDGE DECK AT LOCATIONS SHOWN ON BRIDGE "S" AND BRIDGE "T".
4. CONSTRUCT WIDENING OF BRIDGE "S" AND REPLACE EXPANSION JOINT EXTRUSIONS AND ASSOCIATED PORTION OF BRIDGE DECK ON BRIDGE "S" AND BRIDGE "T".
5. INSTALL NEOPRENE GLAND FOR EXPANSION JOINT INTO EXTRUSIONS. PROVIDE A CONTINUOUS NEOPRENE GLAND THRU WIDTH OF EACH BRIDGE. DO NOT CUT NEOPRENE GLAND BETWEEN PHASES. ROLL UP UNUSED PORTION OF GLAND FOR INSTALLATION IN PHASE 2A.
6. CONSTRUCT NEW PORTION OF APPROACH SLAB ON BRIDGE "S".

PHASE 2A -

1. RELOCATE PORTABLE LONGITUDINAL BARRIERS AS SHOWN.
2. GROUT ANCHOR HOLES USED TO ANCHOR PORTABLE LONGITUDINAL BARRIER ON BRIDGE "S" IN PHASE 1A.
3. DIVERT TRAFFIC TO THE NEWLY COMPLETED PORTION OF BRIDGE "S" AND OUTSIDE EDGE OF BRIDGE "T".
4. REPLACE EXPANSION JOINT EXTRUSIONS AND ASSOCIATED PORTIONS OF EXISTING BRIDGE DECK AND PARAPETS AT LOCATIONS SHOWN ON BRIDGE "S" AND BRIDGE "T".
5. INSTALL REMAINDER OF NEOPRENE GLAND FOR EXPANSION JOINT INTO EXTRUSIONS INSTALLED DURING PHASE 2A.
6. REMOVE PORTABLE LONGITUDINAL BARRIERS.
7. REPLACE BEARINGS ON EXISTING BEAMS AT ABUTMENTS ON BOTH BRIDGES.
8. PATCH AND FLOODCOAT AREAS OF EXISTING APPROACH SLABS.



PORTABLE LONGITUDINAL BARRIER DETAIL

NOTE: PROVIDE CONCRETE WEDGE ANCHORS HAVING A MINIMUM ULTIMATE PULLOUT CAPACITY OF 10,000 POUNDS AND A MINIMUM ULTIMATE SHEAR CAPACITY OF 13,000 POUNDS. SUBMIT THE TYPE OF CONCRETE WEDGE ANCHOR TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. FILL THE REMAINING HOLES IN THE EXISTING DECK SLAB AFTER REMOVING ANCHORS IN A MANNER APPROVED BY THE ENGINEER. INCLUDE ALL COSTS FOR THE ANGLES, CONCRETE WEDGE ANCHORS, HOLE REPAIR, LABOR, AND INCIDENTALS NECESSARY IN THE CONTRACT UNIT PRICE OF "PORTABLE LONGITUDINAL BARRIER" PER ROADWAY PLANS.

LEGEND

WORK IN PROGRESS

WORK COMPLETED

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	CEG
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

CONSTRUCTION SEQUENCE
AOK RAILROAD
BRIDGE "S" NORTHBOUND, BRIDGE "T" SOUTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B28

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SUMMARY OF QUANTITIES

ITEM	UNIT	BRIDGE "S"								BRIDGE "T"					
		PHASE 1A				PHASE 2A			TOTAL	PHASE 1A		PHASE 2A			TOTAL
		ABUTMENTS	PIERS	SUPERSTR.	APP. SLAB	ABUTMENTS	SUPERSTR.	APP. SLAB		SUPERSTR.	APP. SLAB	ABUTMENTS	SUPERSTR.	APP. SLAB	
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	60							60						
CLSM BACKFILL	C.Y.	64							64						
(PL) FALSEWORK JACKING	L.SUM								1						1
APPROACH SLAB	S.Y.				96.6				96.6						
SAW-CUT GROOVING	S.Y.			168.7	84.5				253.2						
SEALED EXPANSION JOINT	L.F.			82.0			63.4		145.4	36.7			63.4		100.1
CONCRETE PARAPET	L.F.						5.3		5.3	5.3			5.3		10.6
42" F-SHAPED PARAPET	L.F.			151.7	72.4				224.1						
RAPID CURE JOINT SEALANT	L.F.				17.8			65.4	83.2		35.8			65.4	101.2
STRUCTURAL STEEL	LB.			63,240					63,240						
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.			9					9						
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.			9					9						
CLASS AA CONCRETE	C.Y.			48.0			5.9		53.9	2.9			5.9		8.8
CLASS A CONCRETE	C.Y.	23.3	39.4						62.7						
MECHANICAL SPLICES	EA.			239					239						
REINFORCING STEEL	LB.		520						520						
EPOXY COATED REINFORCING STEEL	LB.	2,880	8,840	11,300			1,110		24,130	440			1,110		1,550
CLASS B BRIDGE DECK REPAIR	S.Y.							2.7	2.7						
PILES, FURNISHED (HP10x42)	L.F.	346							346						
PILES, DRIVEN (HP10x42)	L.F.	346							346						
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.	1							1						
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	26	30	129	34		2		221	2			2		4
DRILLED SHAFTS 72" DIAMETER	L.F.		58						58						
CROSSHOLE SONIC LOGGING	EA.		1						1						
SEALER CRACK PREPARATION	L.F.			150.2					150.2						
SEALER RESIN	GAL.			2					2						
DECK AREA SEALED (FLOODCOATS)	S.Y.			150.3	67.8		496.0	237.4	951.5	285.2	136.2		497.4	237.4	1,156.2
(PL) REPLACE BRIDGE ITEM (TYPE A)	EA.						10		10				10		10
TYPE IV GROUTED RIPRAP	S.Y.					90			90			75			75
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	20							20						
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	30							30						
REMOVAL OF BRIDGE ITEM (TYPE A)	EA.	2							2						
REMOVAL OF EXISTING SLAB	S.Y.				11.7				11.7						
REMOVAL OF EXISTING PARAPET	L.F.	32.0			41.3		5.3		78.6	5.3			5.3		10.6
REMOVAL OF DECK	S.Y.						19.4		19.4	11.5			19.4		30.9

Design		
Drawn	HEJ	KGL
Checked	ADT	DMH
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

SUMMARY OF QUANTITIES
AOK RAILROAD
BRIDGE "S" NORTHBOUND, BRIDGE "T" SOUTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B29

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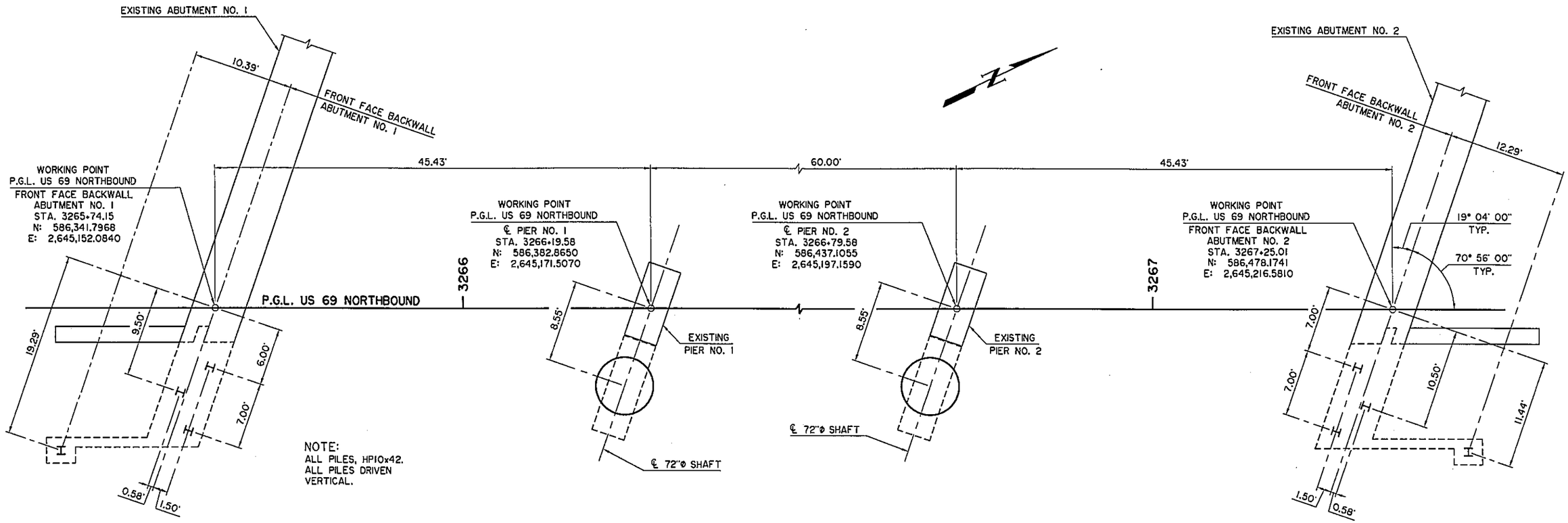
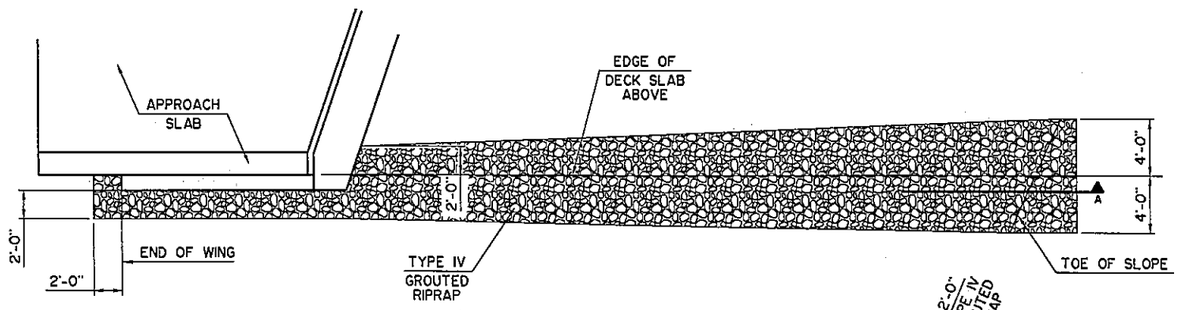
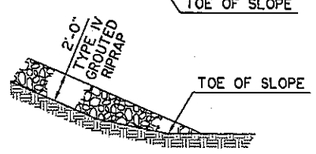


SUBSTRUCTURE LAYOUT



PLAN



SECTION A

RIPRAP DETAILS

ABUTMENT NO. 1, BRIDGE "S" SHOWN
OTHER LOCATIONS SIMILAR

RIPRAP QUANTITIES

ITEM	UNIT	BRIDGE "S"			BRIDGE "T"		
		ABUTMENT NO. 1	ABUTMENT NO. 2	TOTAL	ABUTMENT NO. 1	ABUTMENT NO. 2	TOTAL
TYPE IV GROUTED RIPRAP	S.Y.	45	45	90	40	35	75

Design	CEG	TAC	**U.S. HIGHWAY 69 - McALESTER**
Drawn	KGL	HEJ	SUBSTRUCTURE LAYOUT & RIPRAP DETAILS
Checked	ADT	TAC	AOK RAILROAD
Approved	CEG		BRIDGE "S" NORTHBOUND, BRIDGE "T" SOUTHBOUND
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B30

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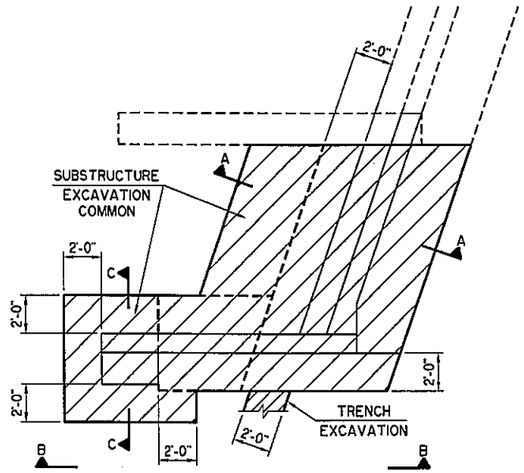
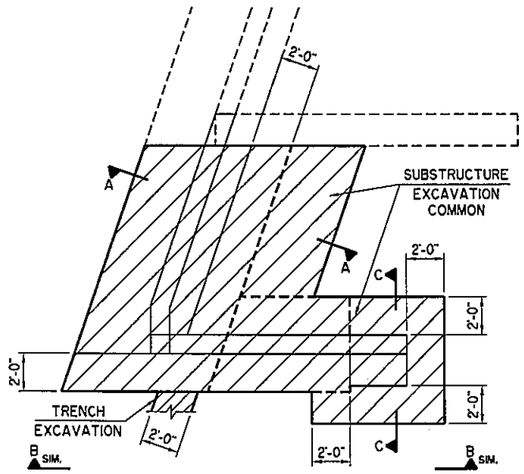
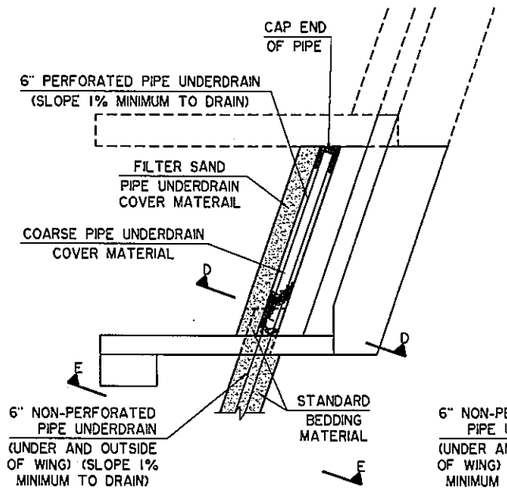


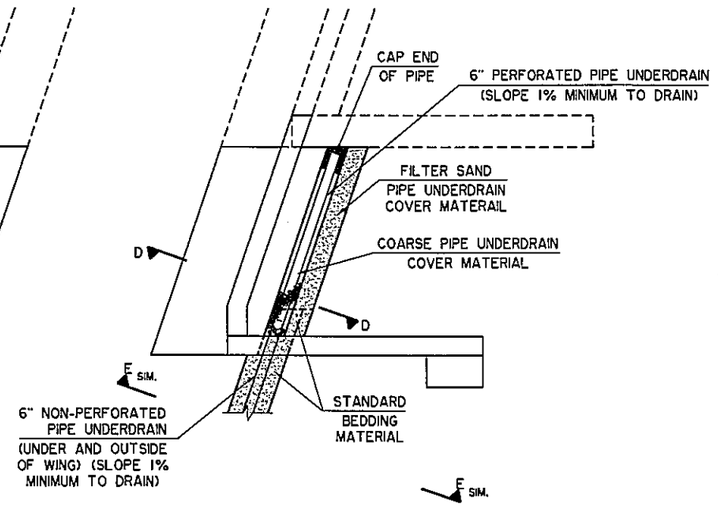
EXCAVATION PLAN
ABUTMENT NO. 1



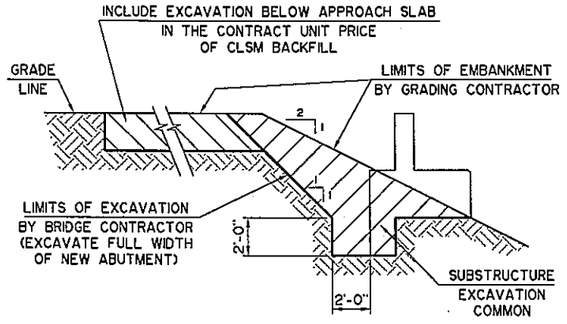
EXCAVATION PLAN
ABUTMENT NO. 2



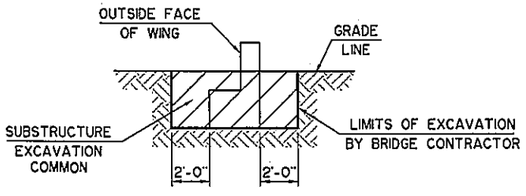
PIPE UNDERDRAIN PLAN
ABUTMENT NO. 1



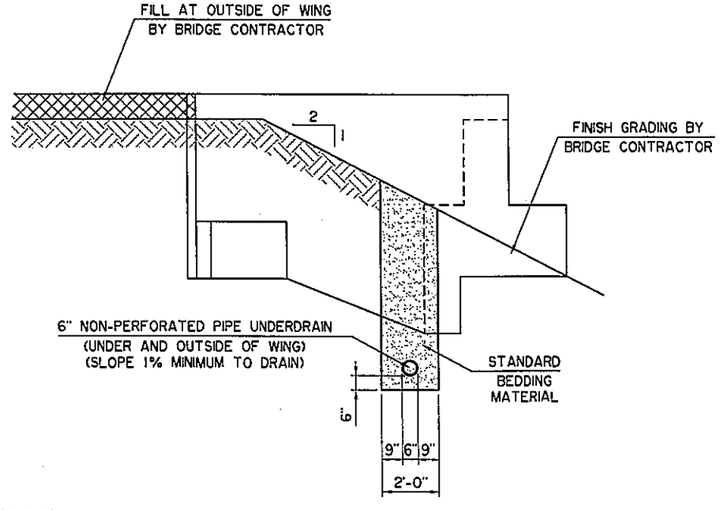
PIPE UNDERDRAIN PLAN
ABUTMENT NO. 2



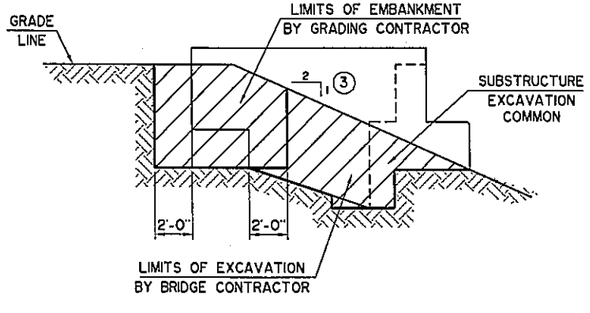
SECTION A-A



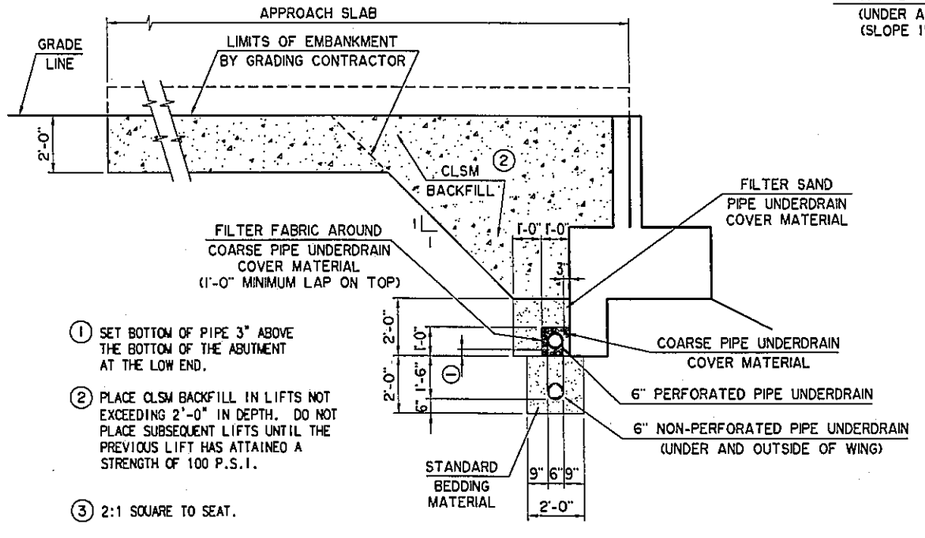
SECTION C-C



SECTION E-E



SECTION B-B



1. SET BOTTOM OF PIPE 3" ABOVE THE BOTTOM OF THE ABUTMENT AT THE LOW END.
2. PLACE CLSM BACKFILL IN LIFTS NOT EXCEEDING 2'-0" IN DEPTH. DO NOT PLACE SUBSEQUENT LIFTS UNTIL THE PREVIOUS LIFT HAS ATTAINED A STRENGTH OF 100 P.S.I.
3. 2:1 SQUARE TO SEAT.

SECTION D-D

DO NOT PLACE CLSM BACKFILL UNTIL THE SUPERSTRUCTURE IS IN PLACE AND THE ABUTMENT WING CONCRETE HAS ATTAINED A STRENGTH OF 3000 P.S.I.

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	KGL
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN DETAILS
AOK RAILROAD
BRIDGE "S" NORTHBOUND
JOB PIECE NO. 14999(04) SHEET NO. B31

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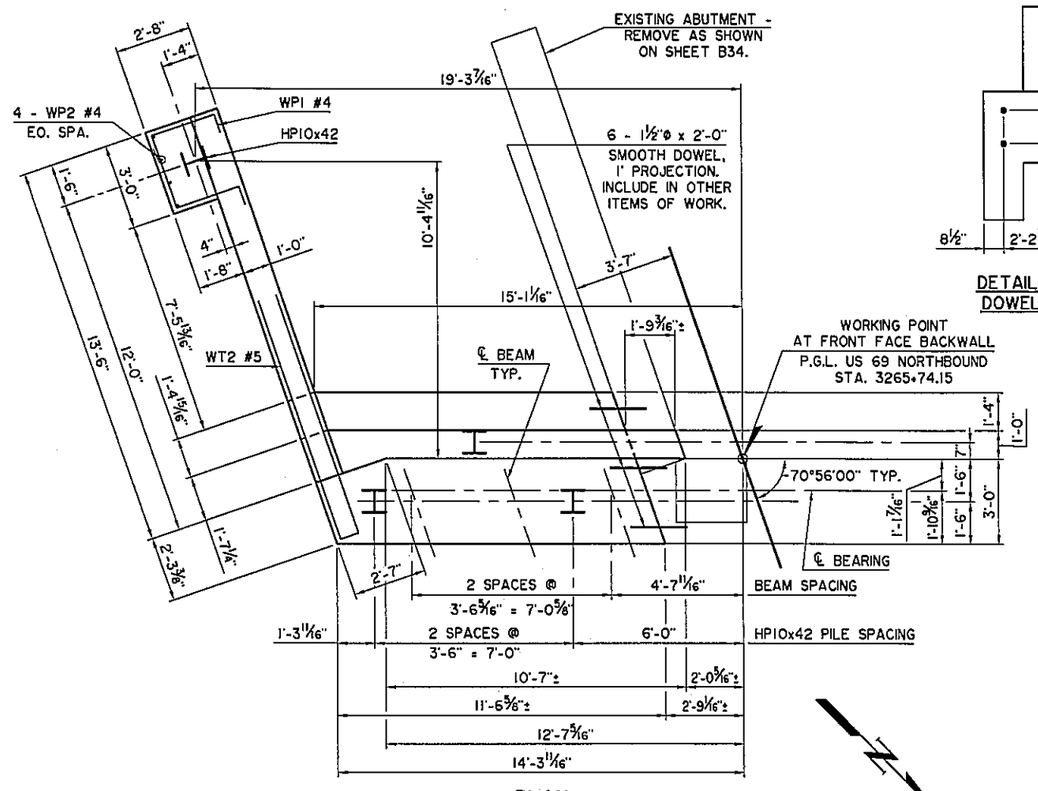
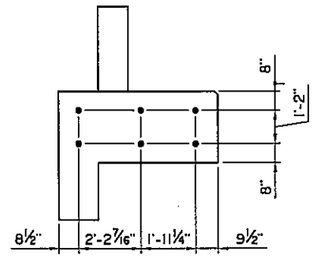
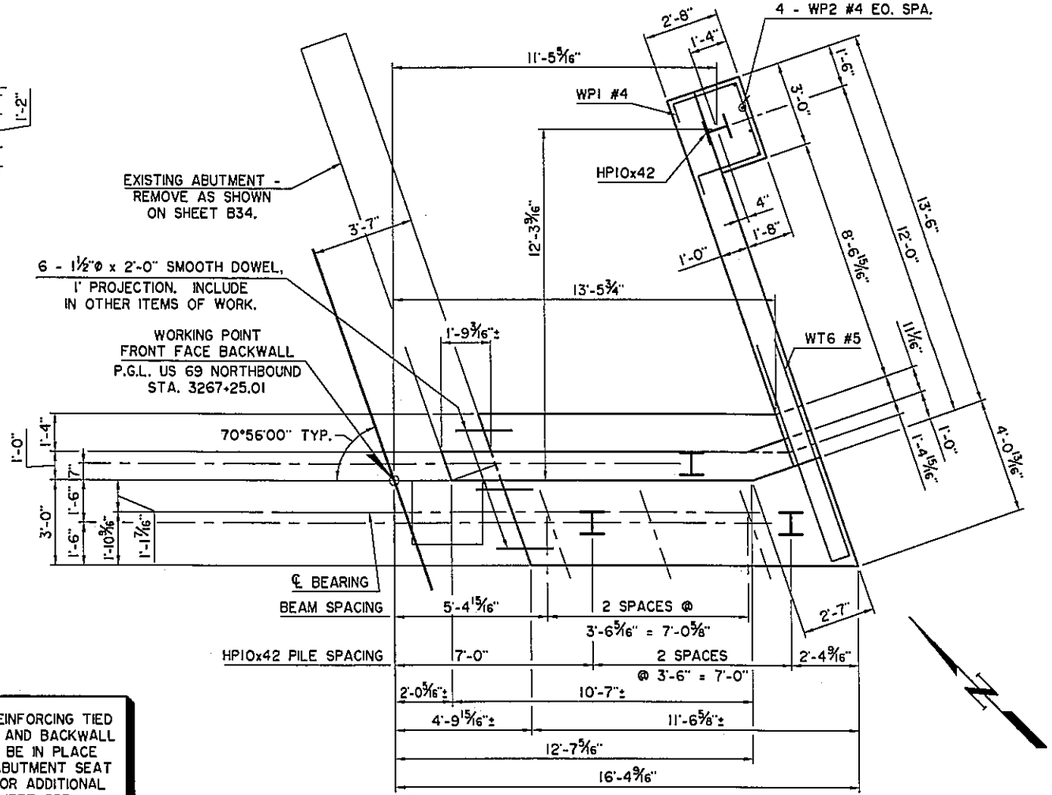


PLAN
ABUT. NO. 1

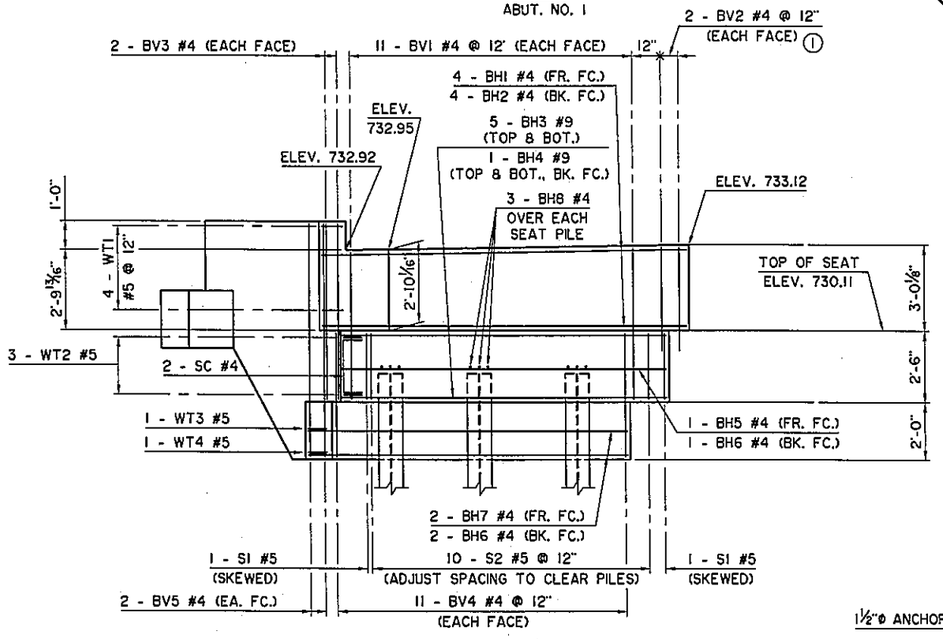


DETAIL OF SMOOTH DOWEL LOCATIONS



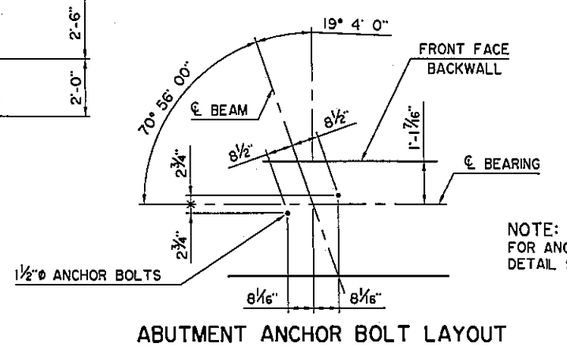
PLAN
ABUT. NO. 2

ALL WT AND BV5 REINFORCING TIED TO ABUTMENT SEAT AND BACKWALL REINFORCING MUST BE IN PLACE PRIOR TO POURING ABUTMENT SEAT AND BACKWALL. FOR ADDITIONAL DETAILS SEE SHEET B33. FOR BAR LIST SEE SHEET B34.



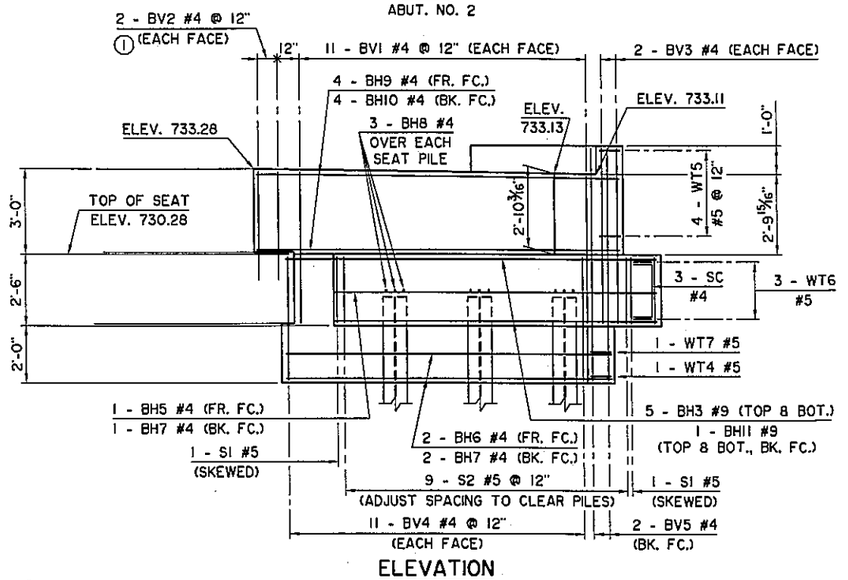
ELEVATION
ABUT. NO. 1

① 7½" MINIMUM EMBEDMENT INTO EXISTING SEAT WITH EPOXY



ABUTMENT ANCHOR BOLT LAYOUT

NOTE:
FOR ANCHOR BOLT DETAIL SEE SHEET B35.



ELEVATION
ABUT. NO. 2

Design	TAC	
Drawn	HEJ	
Checked	SAS	
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

ABUTMENT NO. 1 AND NO. 2
AOK RAILROAD
BRIDGE "S" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B32

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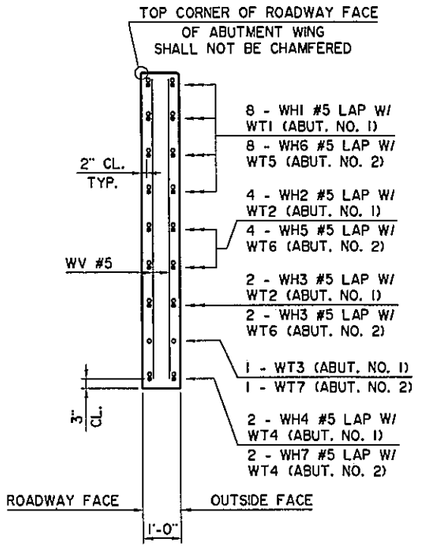
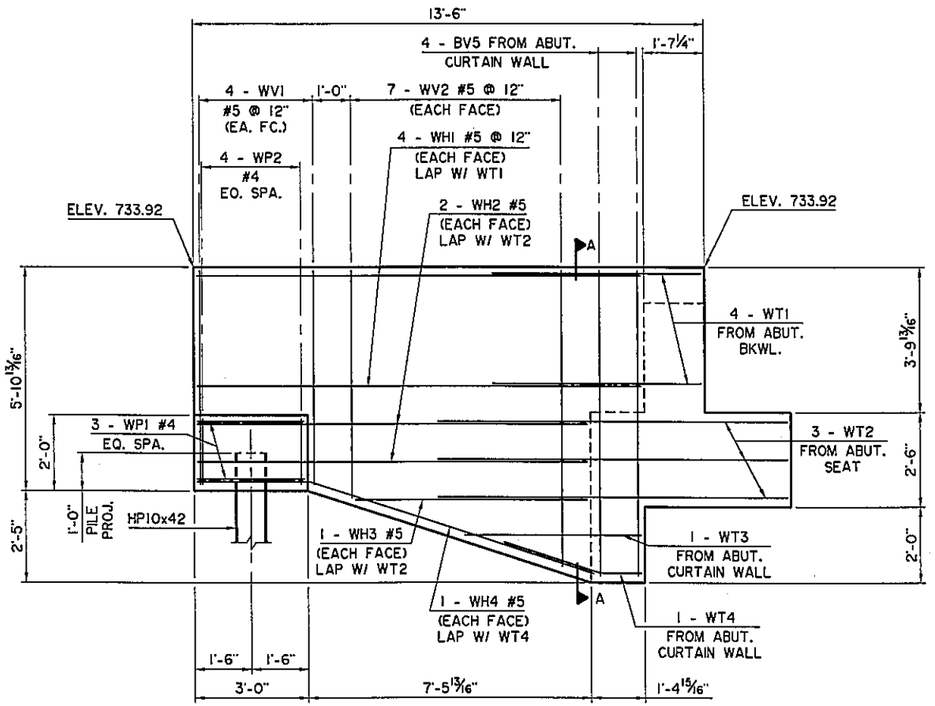
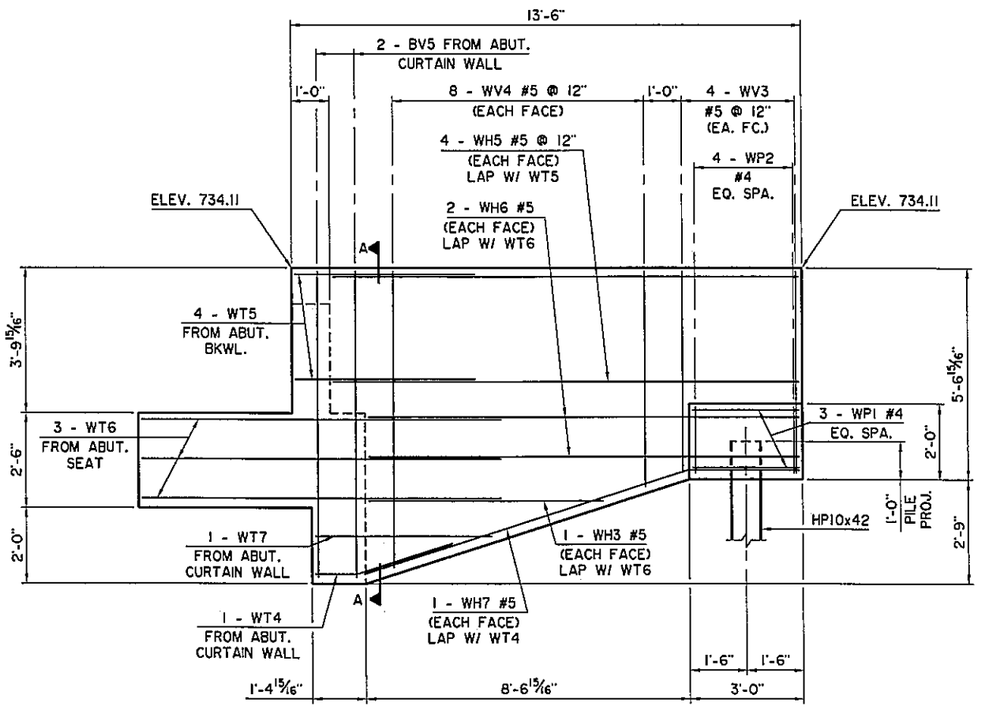


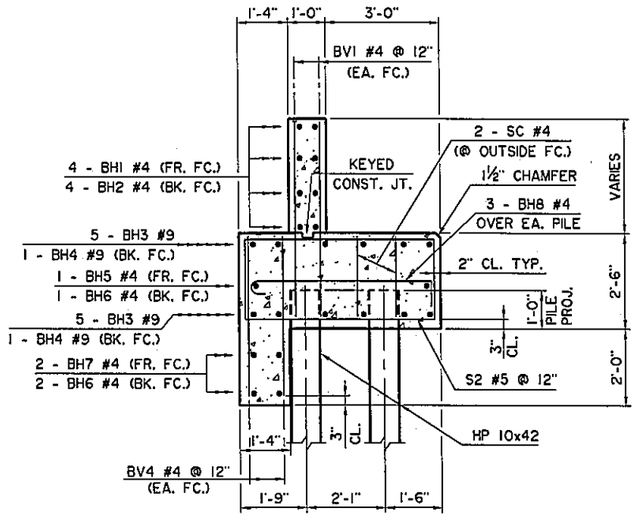
SECTION A-A



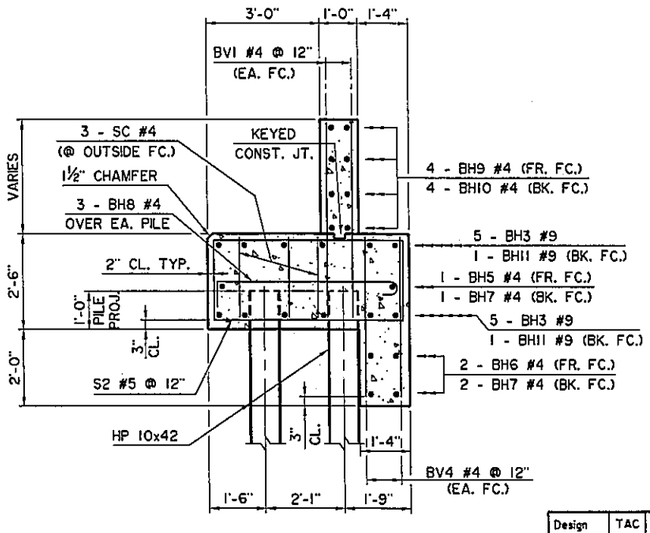
ABUTMENT NO. 1 - WINGWALL



ABUTMENT NO. 2 - WINGWALL



SECTION THRU SEAT
ABUTMENT NO. 1



SECTION THRU SEAT
ABUTMENT NO. 2

Design	TAC	
Drawn	HEJ	
Checked	SAS	
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

ABUTMENT DETAILS
AOK RAILROAD
BRIDGE "S" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B33

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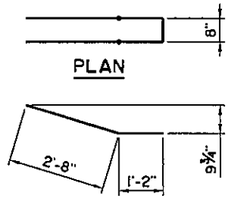
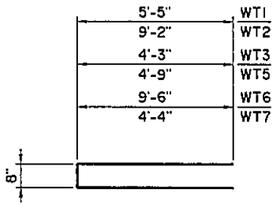
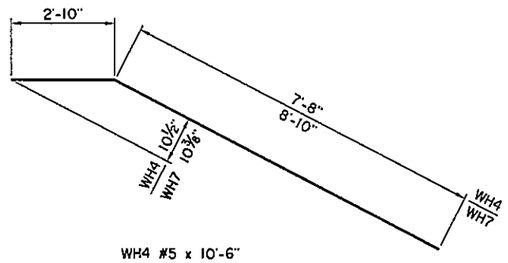


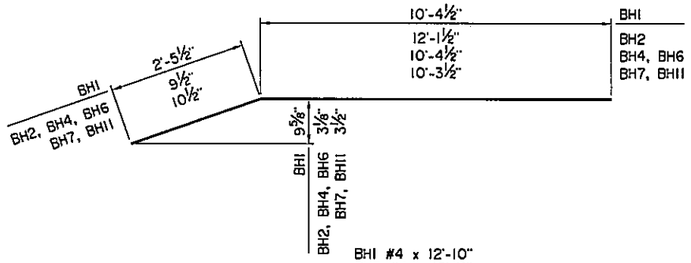
WT4 #5 x 8'-4"



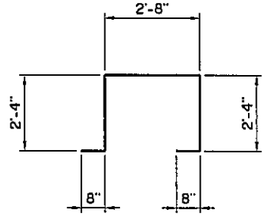
WT1 #5 x 11'-6"
WT2 #5 x 19'-0"
WT3 #5 x 9'-2"
WT5 #5 x 10'-2"
WT6 #5 x 19'-8"
WT7 #5 x 9'-4"



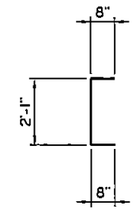
WH4 #5 x 10'-6"
WH7 #5 x 11'-8"



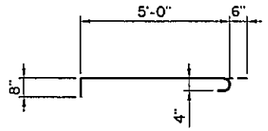
BH1 #4 x 12'-10"
BH2 #4 x 12'-11"
BH4 #9 x 11'-2"
BH6 #4 x 11'-2"
BH7 #4 x 11'-2"
BH11 #9 x 11'-2"



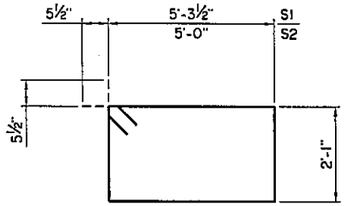
WP1 #4 x 8'-8"



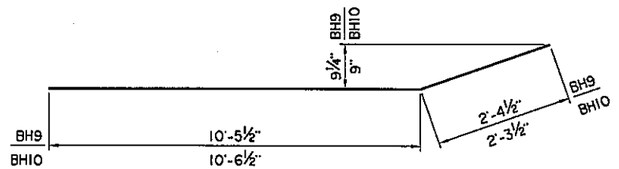
SC #4 x 3'-5"



BH8 #4 x 6'-2"



S1 #5 x 15'-8"
S2 #5 x 15'-1"



BH9 #4 x 12'-10"
BH10 #4 x 12'-10"

ABUTMENT NO. 1 BAR LIST

	MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
	EPOXY COATED REINFORCING BARS					
	BH1	#4	4	BNT.	12'-10"	
	BH2	#4	4	BNT.	12'-11"	
	BH3	#9	10	STR.	11'-2"	
	BH4	#9	2	BNT.	11'-2"	
	BH5	#4	1	STR.	11'-2"	
	BH6	#4	3	BNT.	11'-2"	
	BH7	#4	2	BNT.	11'-2"	
	BH8	#4	9	BNT.	6'-2"	
(1)	BV1	#4	22	STR.	5'-0" AVG.	4'-11" TO 5'-1"
	BV2	#4	4	STR.	3'-4"	
	BV3	#4	4	STR.	5'-10"	
	BV4	#4	22	STR.	4'-1"	
	BV5	#4	4	STR.	7'-10"	
	S1	#5	2	BNT.	15'-8"	
	S2	#5	10	BNT.	15'-1"	
	SC	#4	2	BNT.	3'-5"	
	WT1	#5	4	BNT.	11'-6"	
	WT2	#5	3	BNT.	19'-0"	
	WT3	#5	1	BNT.	9'-2"	
	WT4	#5	1	BNT.	8'-4"	
	WH1	#5	8	STR.	11'-7"	
	WH2	#5	4	STR.	10'-2"	
	WH3	#5	2	STR.	6'-0"	
	WH4	#5	2	BNT.	10'-6"	
	WV1	#5	8	STR.	5'-5"	
(2)	WV2	#5	14	STR.	6'-9" AVG.	5'-10" TO 7'-8"
	WP1	#4	3	BNT.	8'-8"	
	WP2	#4	4	STR.	1'-7"	

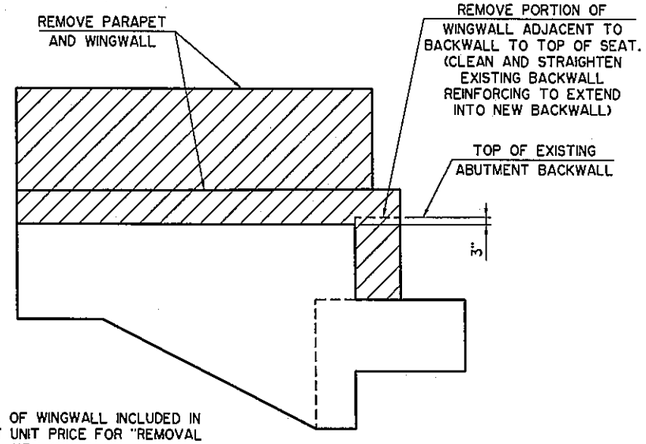
(1) 2 SETS OF 11.
(2) 2 SETS OF 7.
(3) 2 SETS OF 8.

ABUTMENT NO. 2 BAR LIST

	MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
	EPOXY COATED REINFORCING BARS					
	BH3	#9	10	STR.	11'-2"	
	BH5	#4	1	STR.	11'-2"	
	BH6	#4	2	BNT.	11'-2"	
	BH7	#4	3	BNT.	11'-2"	
	BH8	#4	9	BNT.	6'-2"	
	BH9	#4	4	BNT.	12'-10"	
	BH10	#4	4	BNT.	12'-10"	
	BH11	#9	2	BNT.	11'-2"	
(1)	BV1	#4	22	STR.	5'-0" AVG.	4'-11" TO 5'-1"
	BV2	#4	4	STR.	3'-4"	
	BV3	#4	4	STR.	5'-10"	
	BV4	#4	22	STR.	4'-1"	
	BV5	#4	2	STR.	7'-10"	
	S1	#5	2	BNT.	15'-8"	
	S2	#5	9	BNT.	15'-1"	
	SC	#4	3	BNT.	3'-5"	
	WT4	#5	1	BNT.	8'-4"	
	WT5	#5	4	BNT.	10'-2"	
	WT6	#5	3	BNT.	19'-8"	
	WT7	#5	1	BNT.	9'-4"	
	WH3	#5	2	STR.	6'-0"	
	WH5	#5	8	STR.	12'-2"	
	WH6	#5	4	STR.	11'-3"	
	WH7	#5	2	BNT.	11'-8"	
	WV3	#5	8	STR.	5'-2"	
(3)	WV4	#5	16	STR.	6'-7" AVG.	5'-6" TO 7'-8"
	WP1	#4	3	BNT.	8'-8"	
	WP2	#4	4	STR.	1'-7"	

ABUTMENT QUANTITIES

ITEM	UNIT	ABUT. NO. 1	ABUT. NO. 2	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	30	30	60
CLSM BACKFILL	C.Y.	20	44	64
CLASS A CONCRETE	C.Y.	11.6	11.7	23.3
EPOXY COATED REINFORCING STEEL	LB.	1,440	1,440	2,880
PILES, FURNISHED (HP10x42)	L.F.	177	169	346
PILES, DRIVEN (HP10x42)	L.F.	177	169	346
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.			1
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	13	13	26
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	10	10	20
6" NON-PERF. PIPE UNDERDRAIN ROUND	L.F.	12	18	30
REMOVAL OF BRIDGE ITEM (TYPE A)	EA.	1	1	2
REMOVAL OF EXISTING PARAPET	L.F.	16.0	16.0	32.0



NOTE:
REMOVAL OF WINGWALL INCLUDED IN CONTRACT UNIT PRICE FOR "REMOVAL OF BRIDGE ITEM (TYPE A)".
REMOVAL OF PARAPET INCLUDED IN CONTRACT UNIT PRICE FOR "REMOVAL OF EXISTING PARAPET".

ABUTMENT WING REMOVAL DETAIL

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	SAS
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

ABUTMENT BAR LIST
AOK RAILROAD
BRIDGE "S" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B34

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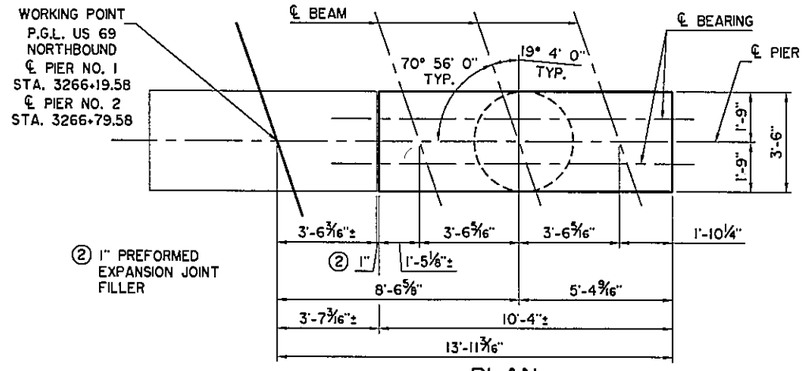
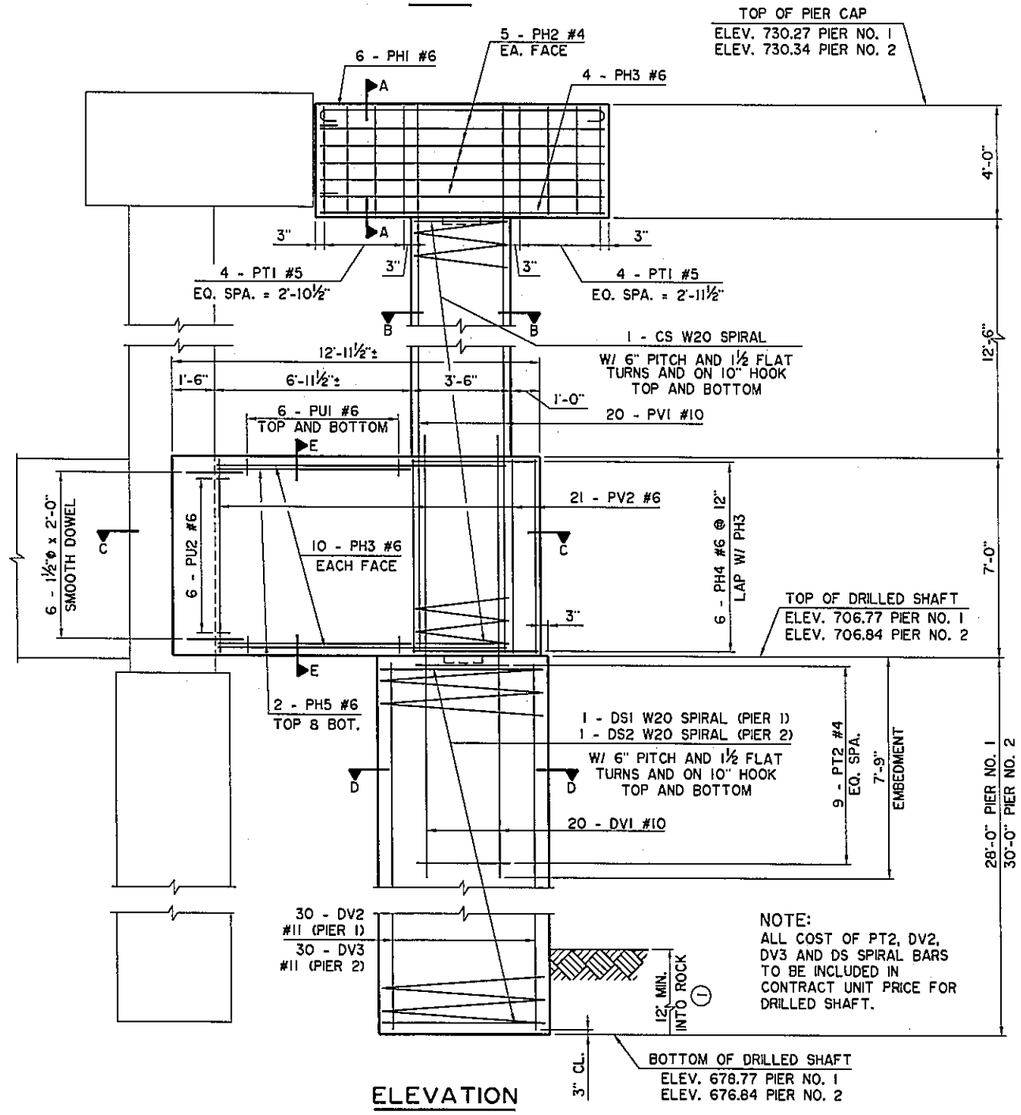
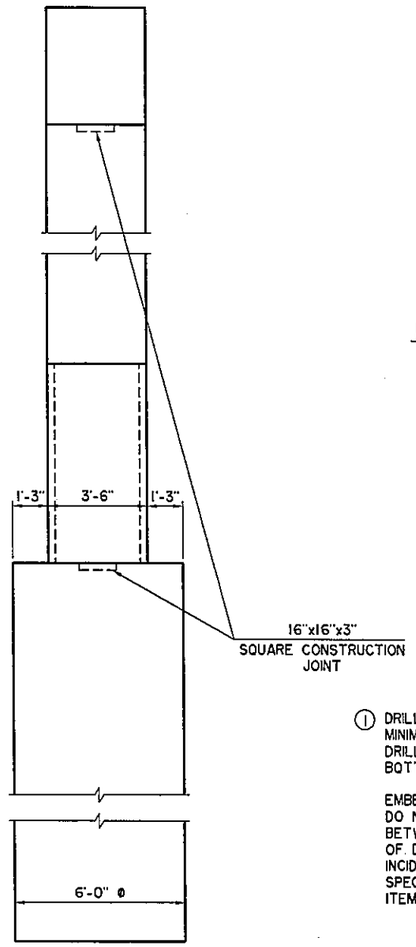


PLAN



NOTE:
ALL COST OF PT2, DV2, DV3 AND DS SPIRAL BARS TO BE INCLUDED IN CONTRACT UNIT PRICE FOR DRILLED SHAFT.

ELEVATION



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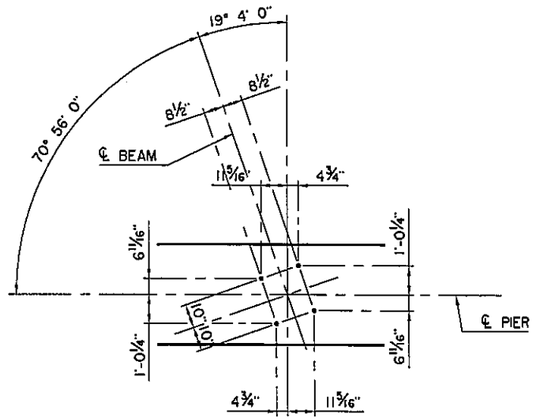
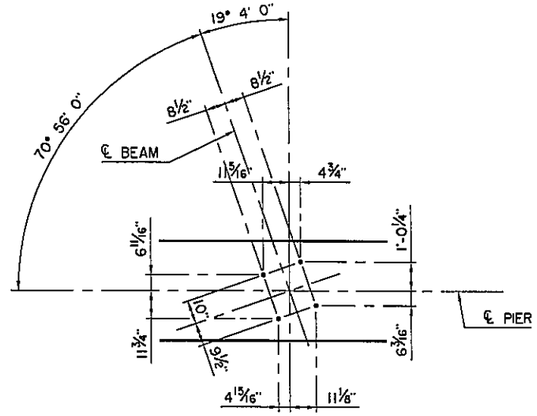


ANCHOR BOLT LAYOUT PLAN
PIER NO. 1



ANCHOR BOLT LAYOUT PLAN
PIER NO. 2

NOTE:
FOR BAR BENDS, BAR LIST AND PIER QUANTITIES, SEE SHEET B36.
FOR SECTIONS A-A, B-B, C-C, D-D AND E-E, SEE SHEET B36.

① DRILLED SHAFT SHALL BE INSTALLED THE SPECIFIED MINIMUM DISTANCE INTO ROCK. THE BOTTOM OF THE DRILLED SHAFT SHALL BE NO HIGHER THAN THE BOTTOM OF SHAFT ELEVATION SHOWN ON PLANS.

EMBED DOWELS MINIMUM 1'-0" INTO EXISTING COLUMN. DO NOT EPOXY OR APPLY SIMILAR BONDING AGENT BETWEEN DOWELS AND EXISTING COLUMN. ALL COST OF DOWELS, LABOR, EQUIPMENT AND OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED ON THE PLANS WILL BE INCLUDED IN OTHER ITEMS OF WORK.

Design	TAC	
Drawn	HEJ	
Checked	SAS	
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

PIER NO. 1 AND NO. 2
AOK RAILROAD
BRIDGE "S" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B35

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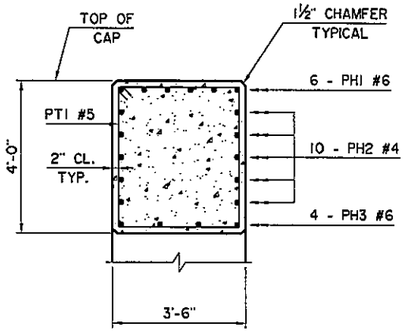
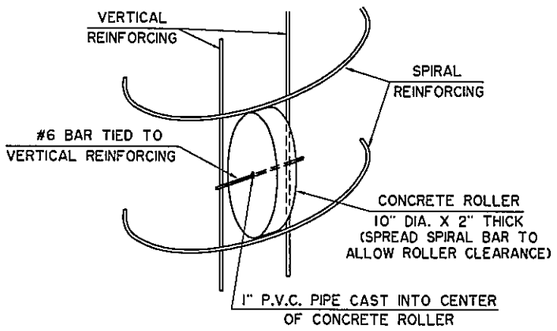
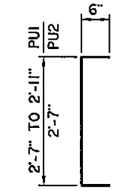


SECTION A-A

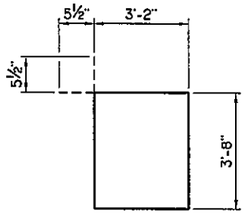


DRILLED SHAFT ROLLER DETAIL

NOTE:
CONCRETE USED IN THE CONCRETE ROLLER SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI. SLAB BOLSTERS, HIGH CHAIRS, OR PLASTIC ROLLERS SHALL NOT BE SUBSTITUTED FOR THE CONCRETE ROLLERS.



PU1 #6 x 3'-9" AVG.
PU2 #6 x 3'-7"



PT1 #5 x 14'-7"

PIER NO. 1 BAR LIST

	MARK	SIZE	NO.	FORM	LENGTH	VARIATION
	EPOXY COATED REINFORCING BARS					
	DV1	#10	20	STR.	15'-6"	
	PH1	#6	6	BNT.	11'-4"	
	PH2	#4	10	STR.	10'-0"	
	PH3	#6	24	STR.	10'-0"	
	PH4	#6	6	BNT.	10'-8"	
	PH5	#6	4	STR.	6'-10"	
	PT1	#5	8	BNT.	14'-7"	
③	PU1	#6	12	BNT.	3'-9" AVG.	3'-7" TO 3'-11"
	PU2	#6	6	BNT.	3'-7"	
	PV1	#10	20	STR.	23'-2"	
	PV2	#6	21	STR.	6'-8"	
	PLAIN REINFORCING BARS					
①	CS	W20	1	BNT.	387'-1"	
①②	DS1	W20	1	BNT.	906'-2"	
②	DV2	#11	30	STR.	27'-6"	
②	PT2	#4	9	BNT.	10'-11"	

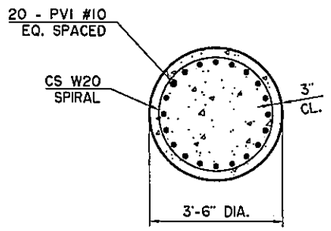
PIER NO. 2 BAR LIST

	MARK	SIZE	NO.	FORM	LENGTH	VARIATION
	EPOXY COATED REINFORCING BARS					
	DV1	#10	20	STR.	15'-6"	
	PH1	#6	6	BNT.	11'-4"	
	PH2	#4	10	STR.	10'-0"	
	PH3	#6	24	STR.	10'-0"	
	PH4	#6	6	BNT.	10'-8"	
	PH5	#6	4	STR.	6'-10"	
	PT1	#5	8	BNT.	14'-7"	
③	PU1	#6	12	BNT.	3'-9" AVG.	3'-7" TO 3'-11"
	PU2	#6	6	BNT.	3'-7"	
	PV1	#10	20	STR.	23'-2"	
	PV2	#6	21	STR.	6'-8"	
	PLAIN REINFORCING BARS					
①	CS	W20	1	BNT.	387'-1"	
②	DS2	W20	1	BNT.	968'-7"	
②	DV3	#11	30	STR.	29'-6"	
②	PT2	#4	9	BNT.	10'-11"	

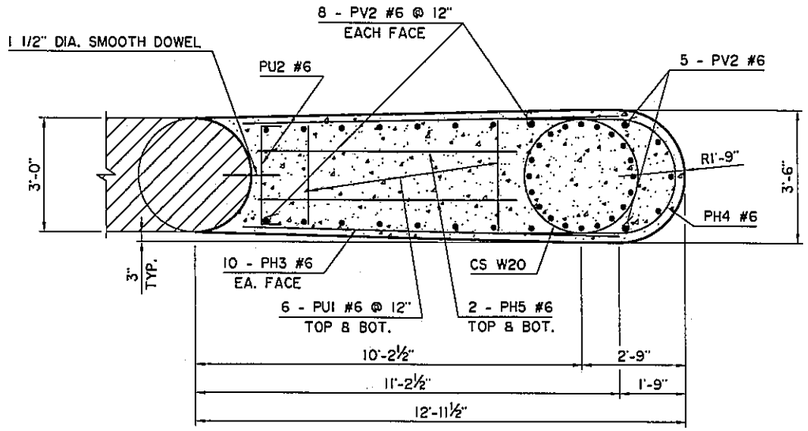
① LENGTH SHOWN DOES NOT ACCOUNT FOR SPLICES. CONTRACTOR MAY ADD SPLICES AS NECESSARY, BUT PAYMENT WILL NOT BE MADE FOR EXTRA LENGTH REQUIRED FOR SPLICES.

② ALL COST TO BE INCLUDED IN CONTRACT UNIT PRICE FOR "DRILLED SHAFTS 72" DIAMETER".

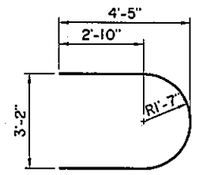
③ TWO SETS OF 6.



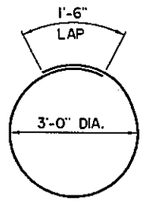
SECTION B-B



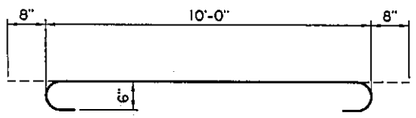
SECTION C-C



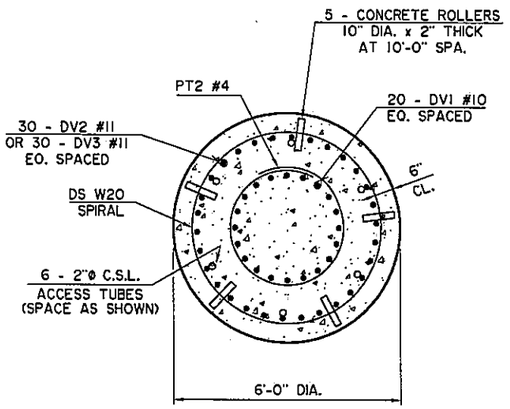
PH4 #6 x 10'-8"



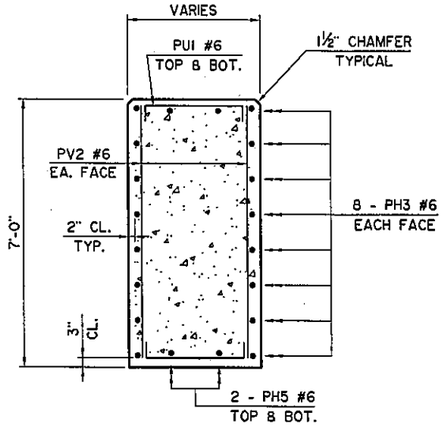
PT2 #4 x 10'-11"



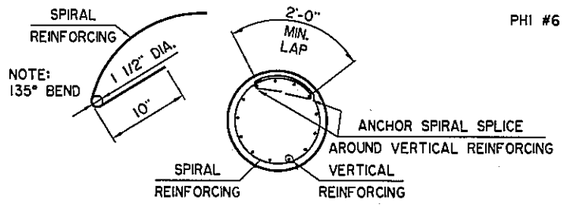
PH1 #6 x 11'-4"



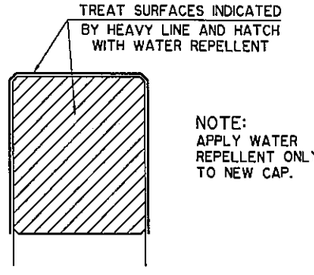
SECTION D-D



SECTION E-E



SPIRAL REINFORCING SPLICE DETAIL



WATER REPELLENT DETAIL

PIER QUANTITIES

ITEM	UNIT	PIER NO. 1	PIER NO. 2	TOTAL
CLASS A CONCRETE	C.Y.	19.7	19.7	39.4
REINFORCING STEEL	LB.	260	260	520
EPOXY COATED REINFORCING STEEL	LB.	4,420	4,420	8,840
WATER REPELLANT (VISUALLY INSPECTED)	S.Y.	15	15	30
DRILLED SHAFTS 72" DIAMETER	L.F.	28	30	58
CROSSHOLE SONIC LOGGING	EA.			1

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	SAS
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

PIER DETAILS
AOK RAILROAD
BRIDGE "S" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B36

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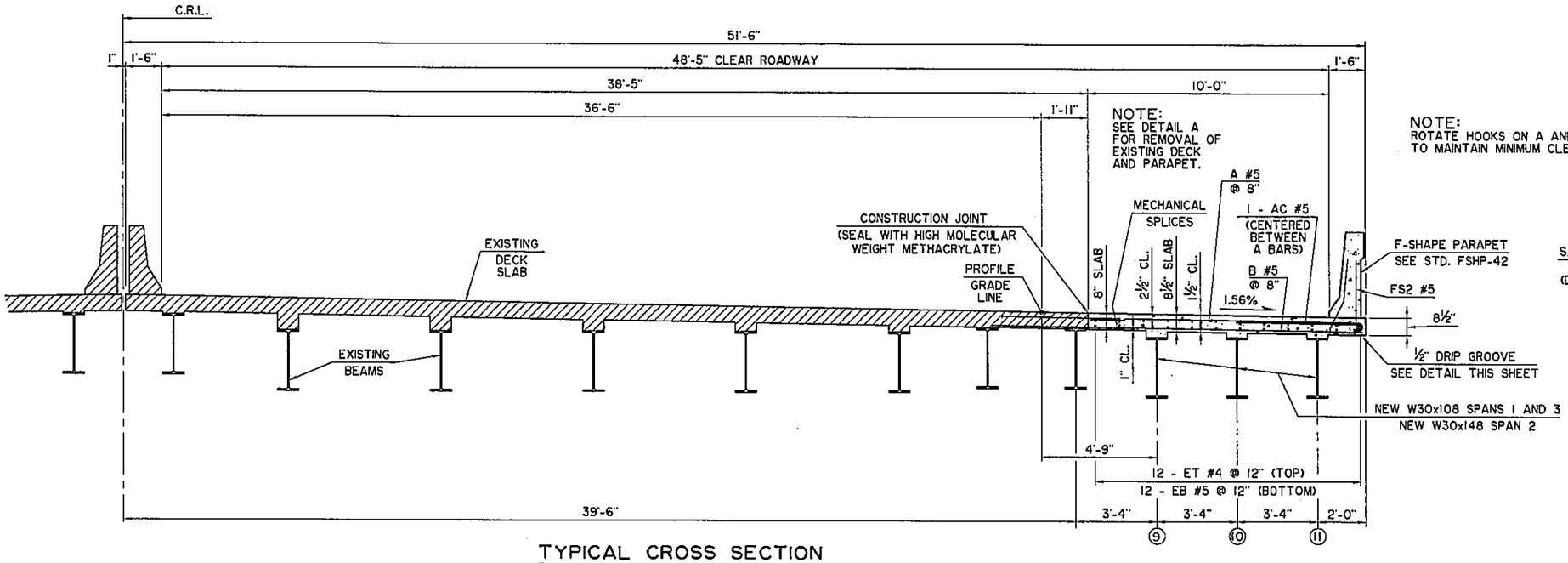
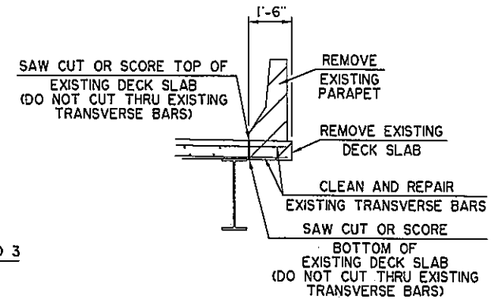


TYPICAL CROSS SECTION

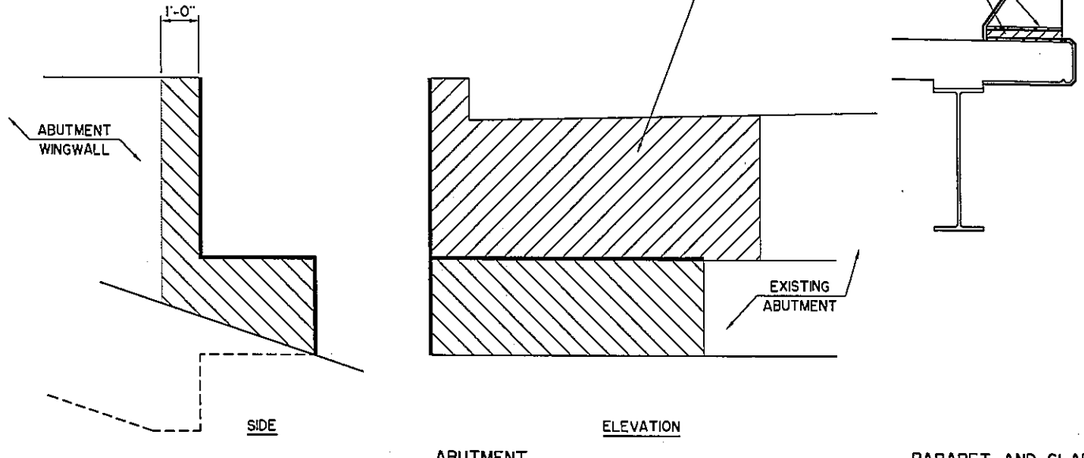
NOTE:
ROTATE HOOKS ON A AND AC BARS
TO MAINTAIN MINIMUM CLEARANCE.



DETAIL A

DO NOT PLACE THE CONCRETE FOR THE DECK SLAB OR APPLY OTHER MASSIVE LOADS TO THE BEAMS UNTIL THE DIAPHRAGMS ARE IN PLACE AND ALL BOLTS ARE TIGHTENED.

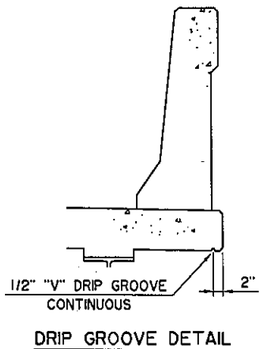
NOTE:
APPLY WATER REPELLENT ONLY
TO NEW ABUTMENT CONSTRUCTION
AND EAST PARAPET.



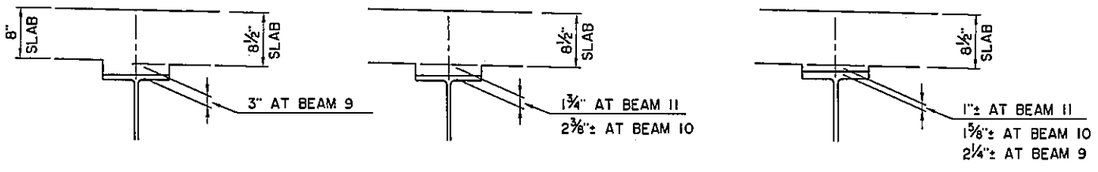
ABUTMENT

PARAPET AND SLAB
SPANS 1 AND 3 SHOWN (WITH OPENINGS)
SPAN 2 SAME EXCEPT WITHOUT OPENINGS

WATER REPELLENT DETAILS



DRIP GROOVE DETAIL



SPANS 1 AND 3

SPAN 2

HAUNCH DETAILS
AT ℄ BEARING

NOTE:
PLAN QUANTITIES FOR CLASS AA CONCRETE INCLUDE BEAM HAUNCHES. THE HAUNCH HEIGHT SHOWN IS THE THEORETICAL HAUNCH HEIGHT AT THE CENTERLINE BEARING ONLY, MEASURED FROM THE BOTTOM OF THE DECK SLAB TO THE TOP OF THE BEAM, AND VARIES ACROSS THE SPAN. DETERMINE THE ACTUAL HAUNCH HEIGHT (ACCOUNTING FOR BEAM CAMBER, DEAD LOAD DEFLECTION AND ROADWAY GRADE) AFTER ERECTION OF BEAMS AND SUBMIT TO THE ENGINEER FOR APPROVAL. THE ENGINEER WILL NOT MEASURE DIFFERENCES BETWEEN THE THEORETICAL AND THE ACTUAL HAUNCH HEIGHTS FOR PAYMENT.

Design	TAC	
Drawn	HEJ	KGL
Checked	ADT	SAS
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER
TYPICAL CROSS SECTION
AOK RAILROAD
BRIDGE "S" NORTHBOUND
JOB PIECE NO. 14999(04) SHEET NO. 837

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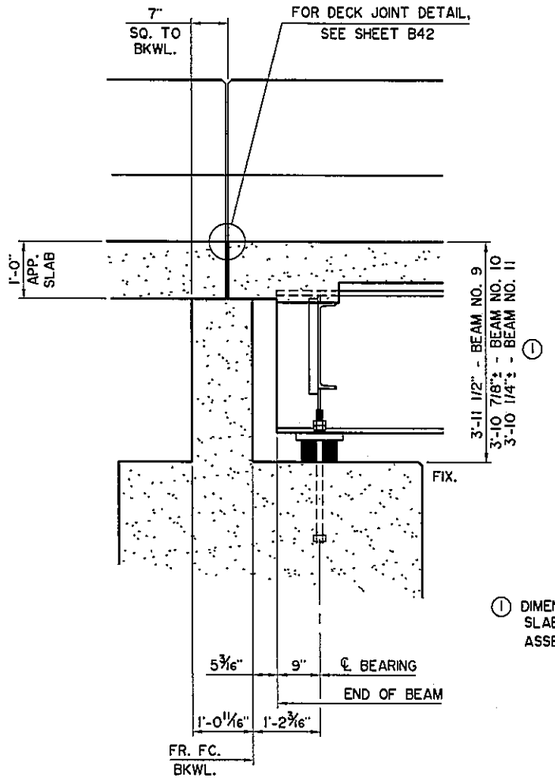
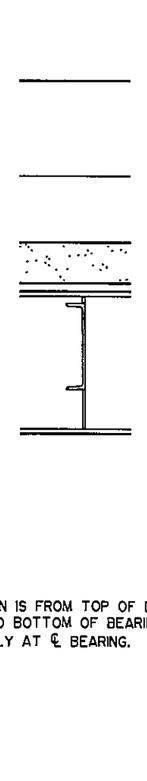
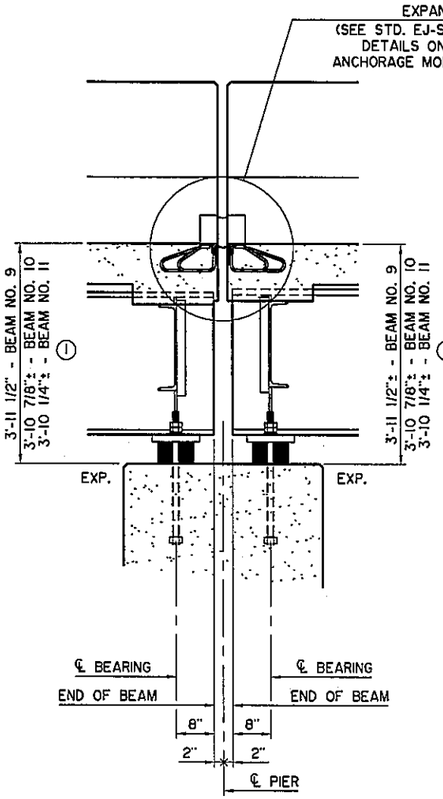


ABUTMENT NO. 1

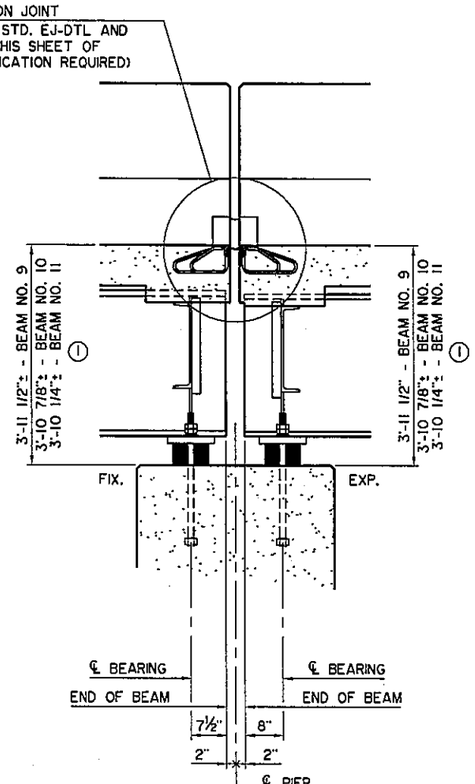
Ⓘ DIMENSION IS FROM TOP OF DECK SLAB TO BOTTOM OF BEARING ASSEMBLY AT ℄ BEARING.



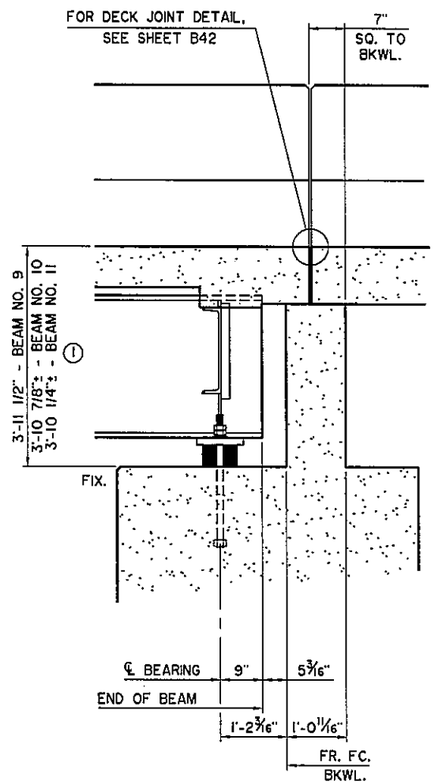
INTERMEDIATE DIAPHRAGM



PIER NO. 1

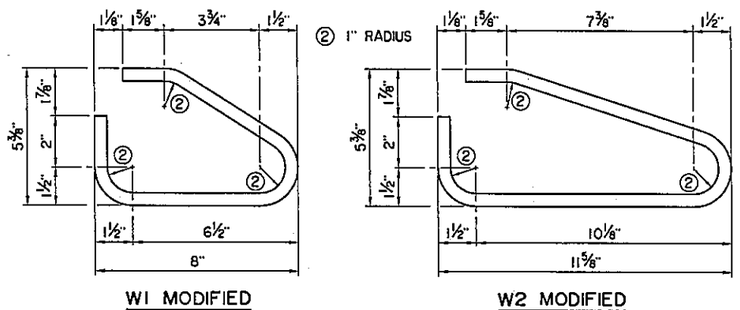


PIER NO. 2



ABUTMENT NO. 2

LONGITUDINAL SECTION



EXPANSION JOINT ANCHOR BAR DETAILS

NOTE:
FABRICATE MODIFIED W1 AND W2 BARS FROM W20 DEFORMED STEEL WIRE.

SUPERSTRUCTURE QUANTITIES

	DESCRIPTION	UNIT	BRIDGE "S"		BRIDGE "T"	
			PHASE 1A	PHASE 2A	PHASE 1A	PHASE 2A
	SAW-CUT GROOVING	S.Y.	168.7			
	SEALED EXPANSION JOINT	L.F.	82.0	63.4	36.7	63.4
	CONCRETE PARAPET	L.F.		5.3	5.3	5.3
	42" F-SHAPED PARAPET	L.F.	151.7			
	STRUCTURAL STEEL	LB.	63,240			
	STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	9			
	STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	9			
	CLASS AA CONCRETE	C.Y.	48.0	5.9	2.9	5.9
③	MECHANICAL SPLICES	EA.	239			
	EPOXY COATED REINFORCING STEEL	LB.	11,300	1,110	440	1,110
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	129	2	2	2
	SEALER CRACK PREPARATION	L.F.	150.2			
	SEALER RESIN	GAL.	2			
	DECK AREA SEALED (FLOODCOATS)	S.Y.	150.3	496.0	285.2	497.4
	(PL) REPLACE BRIDGE ITEM (TYPE A)	EA.		10		10
	REMOVAL OF EXISTING PARAPET	L.F.		5.3	5.3	5.3
	REMOVAL OF DECK	S.Y.		19.4	11.5	19.4

③ FOR #5 REBAR

EXPANSION JOINT SETTING SCHEDULE

TEMPERATURE	OPENING
PIER NO. 1	
10° F	2 3/8"
27° F	2 1/4"
43° F	2 1/8"
60° F	2"
77° F	1 7/8"
93° F	1 3/4"
110° F	1 5/8"
PIER NO. 2	
21° F	2 1/8"
60° F	2"
99° F	1 7/8"

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	JKJ
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

LONGITUDINAL SECTION
AOK RAILROAD
BRIDGE "S" NORTHBOUND, BRIDGE "T" SOUTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B38

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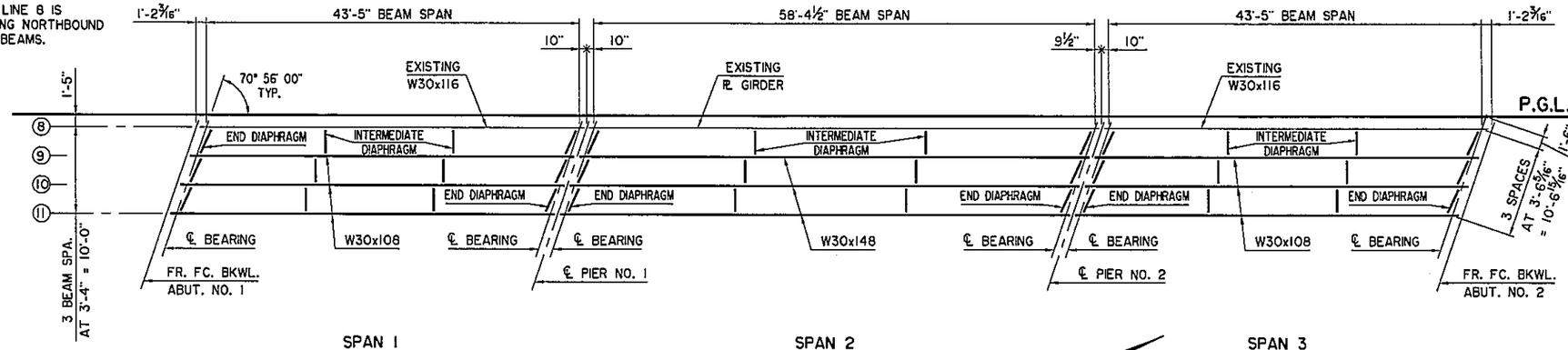
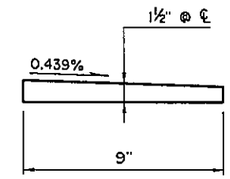
NOTE:
BEAM LINE 8 IS EXISTING NORTHBOUND EDGE BEAMS.



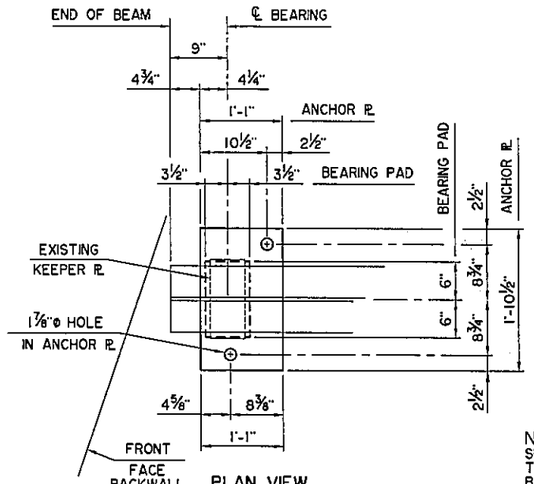
P.G.L. NORTHBOUND US HIGHWAY 69
N 25° 18' 40.3" E

BEAM FRAMING PLAN

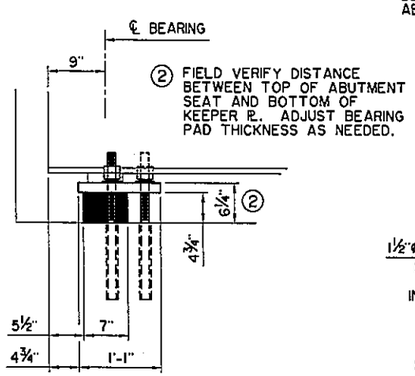


BEVELED ANCHOR PLATE DETAIL

NOTE:
BEVELED PLATE REQUIRED AT SPAN 1, ABUTMENT AND PIER 1. PAINT THICKEST EDGE RED. THICK EDGE FACES ABUTMENT NO. 2.

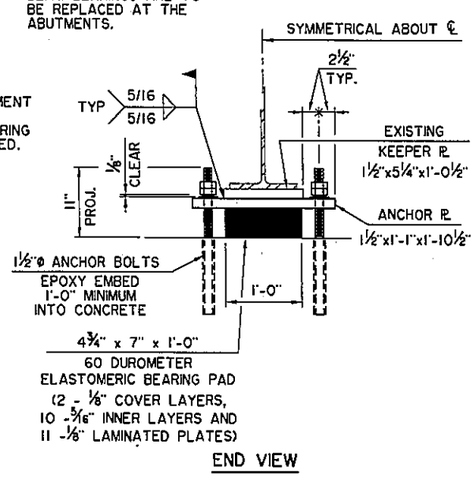


PLAN VIEW



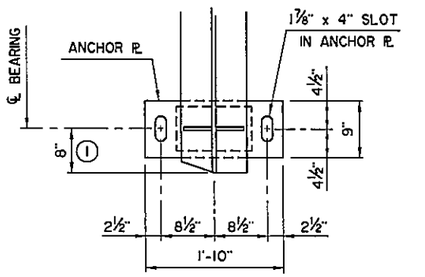
SIDE VIEW

NOTE:
SEE SHEET B47 FOR THE 20 LOCATIONS WHERE BEAM BEARINGS ARE TO BE REPLACED AT THE ABUTMENTS.

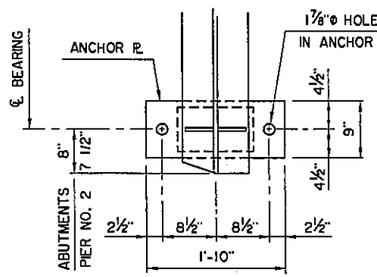


END VIEW

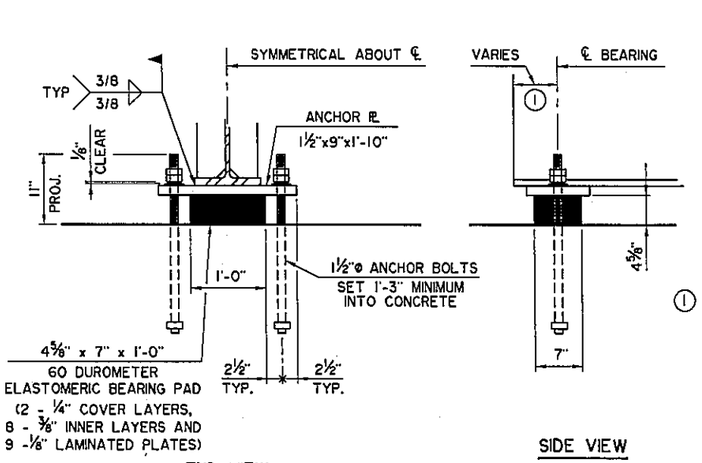
BEARING DETAILS
REPLACEMENT - PHASE 2A



EXPANSION BEARING PLAN



FIXED BEARING PLAN

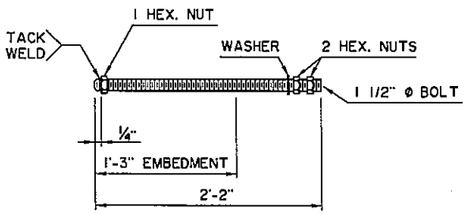


END VIEW

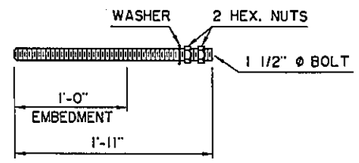
SIDE VIEW

① CENTER ANCHOR BOLTS IN SLOTS DURING SETTING OF BEAMS. DIMENSION MAY VARY DEPENDING ON TEMPERATURE AT THE TIME OF BEAM SETTING.

BEARING DETAILS
NEW CONSTRUCTION - PHASE 1A



NEW CONSTRUCTION



REPLACEMENT

ANCHOR BOLT DETAILS

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	SAS
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER
BEAM FRAMING PLAN AND BEARING DETAILS
AOK RAILROAD
BRIDGE "S" NORTHBOUND
JOB PIECE NO. 14999(04) SHEET NO. B39

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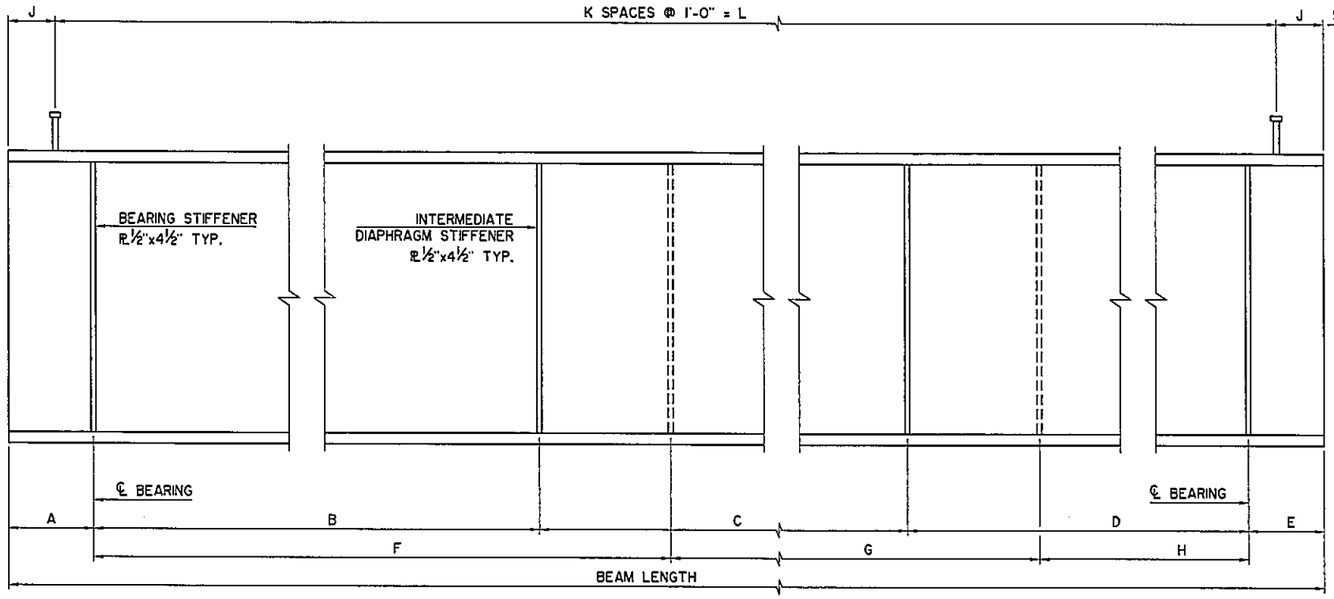
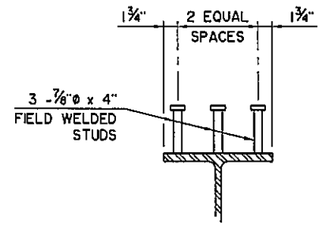


ELEVATION

W 30X108, SPANS 1 AND 3
W 30X148, SPAN 2



SHEAR CONNECTOR DETAIL

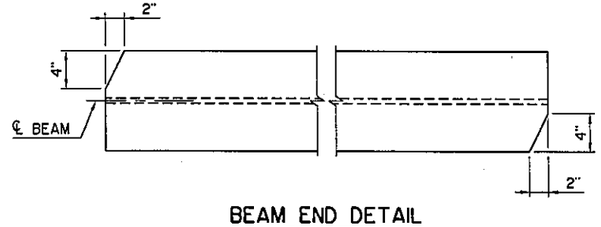
BEAM SCHEDULE						
	SPAN 1 BEAM 9, 10	SPAN 1 BEAM 11	SPAN 2 BEAM 9, 10	SPAN 2 BEAM 11	SPAN 3 BEAM 9, 10	SPAN 3 BEAM 11
DIMENSION A	9"	9"	8"	8"	8"	6"
DIMENSION B	13'-7 7/16"	(1)	18'-7 ¾"	(1)	13'-8 7/16""	(1)
DIMENSION C	14'-11 5/16"	(1)	19'-10 11/16"	(1)	14'-11 5/16"	(1)
DIMENSION D	14'-10 ¼"	(1)	19'-10 1/16"	(1)	14'-9 ¼"	(1)
DIMENSION E	8"	8"	7 ½"	7 ½"	9"	9"
DIMENSION F	14'-9 ¼"	14'-9 ¼"	19'-9 9/16"	19'-9 9/16"	14'-10 ¼"	14'-10 ¼"
DIMENSION G	14'-11 5/16"	14'-11 5/16"	19'-10 11/16"	19'-10 11/16"	14'-11 5/16"	14'-11 5/16"
DIMENSION H	13'-8 7/16"	13'-8 7/16"	18'-8 ¼"	18'-8 ¼"	13'-7 7/16"	13'-7 7/16"
DIMENSION J	5"	5"	4"	4"	5"	5"
K	44	44	59	59	44	44
DIMENSION L	44'-0"	44'-0"	59'-0"	59'-0"	44'-0"	44'-0"
SPAN	43'-5"	43'-5"	58'-4½"	58'-4½"	43'-5"	43'-5"
BEAM	W30x108	W30x108	W30x148	W30x148	W30x108	W30x108
BEAM LENGTH	44'-10"	44'-10"	59'-8"	59'-8"	44'-10"	44'-10"

(1) NO INTERMEDIATE DIAPHRAGM STIFFENER AT EXTERIOR FACE OF BEAM 11.

DEAD LOAD DEFLECTION DIAGRAM

SPAN	BEAM AND DIAPHRAGM DEFLECTION						
	BEAM	BRG.	.1 & .9	.2 & .8	.3 & .7	.4 & .6	.5
1, 3	9, 10, 11	0.00"	0.02"	0.04"	0.06"	0.07"	0.07"
2	9, 10, 11	0.00"	0.06"	0.12"	0.17"	0.20"	0.21"
SPAN	DECK SLAB, HAUNCH, SIP FORMS AND TRAFFIC RAIL DEFLECTION (2)						
	BEAM	BRG.	.1 & .9	.2 & .8	.3 & .7	.4 & .6	.5
1, 3	9, 10	0.00"	0.08"	0.15"	0.21"	0.25"	0.26"
	11	0.00"	0.08"	0.14"	0.20"	0.23"	0.24"
2	9, 10	0.00"	0.18"	0.34"	0.46"	0.54"	0.57"
	11	0.00"	0.17"	0.32"	0.43"	0.51"	0.53"

(2) THE DEAD LOAD DEFLECTION SHOWN AT THE TENTH POINTS ARE THE DEFLECTIONS DUE TO DECK SLAB + HAUNCH + 5 P.S.F. SIP DECK FORM ALLOWANCE + CONCRETE TRAFFIC RAIL. IT DOES NOT INCLUDE THE BEAM WEIGHT, DIAPHRAGMS OR FUTURE WEARING SURFACE.



BEAM END DETAIL

NOTE:
BEAMS DO NOT NEED TO BE CLIPPED AT ABUTMENT ENDS.

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	SAS
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

ROLLED BEAM DETAILS
AOK RAILROAD
BRIDGE "S" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B40

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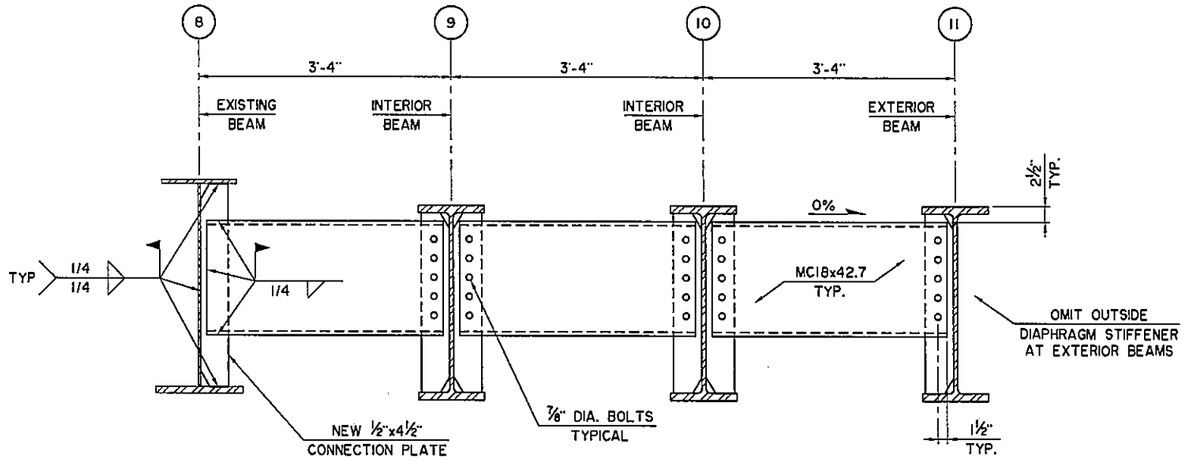
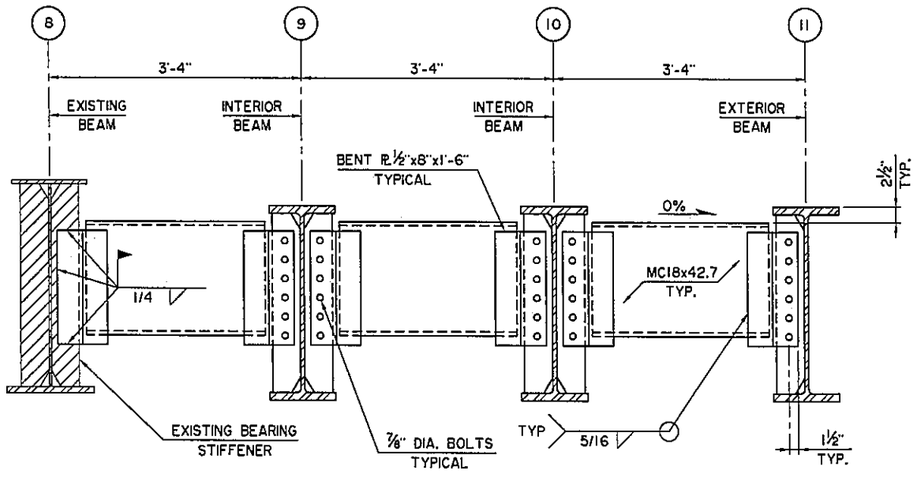
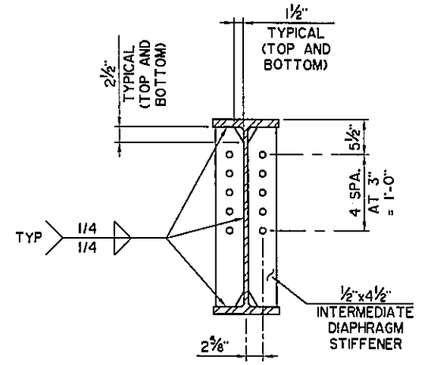


INTERMEDIATE DIAPHRAGM ELEVATION

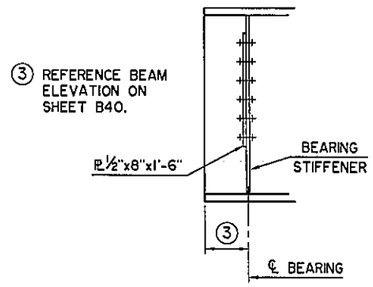
NOTE:
CONTRACTOR MAY ELECT TO FABRICATE A BENT PLATE DIAPHRAGM IN LIEU OF CHANNEL AND GUSSET PLATE. PLATE SHALL BE ½" MINIMUM THICKNESS AND FORMED IN THE SHAPE OF CHANNEL WITH MINIMUM 4" FLANGES. DEPTH OF BENT PLATE DIAPHRAGM SHALL BE EQUAL OR GREATER THAN THAT SHOWN FOR COMBINED CHANNEL AND GUSSET PLATE. COST TO CONSTRUCT BENT PLATE DIAPHRAGM SHALL BE AT CONTRACTOR'S EXPENSE.



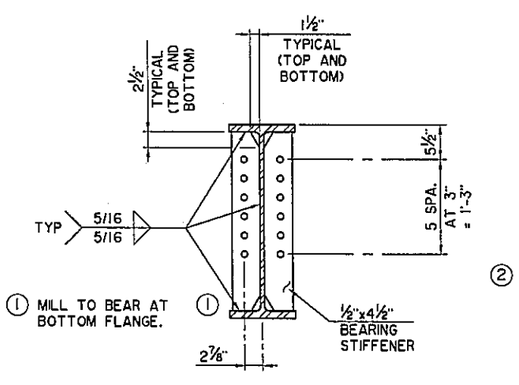
BEARING DIAPHRAGM ELEVATION



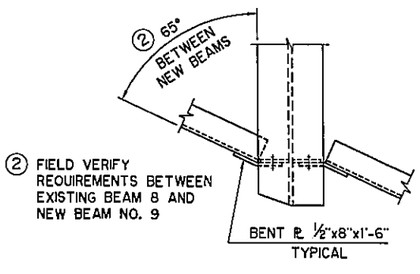
INTERMEDIATE DIAPHRAGM STIFFENER DETAILS



END DIAPHRAGM SECTION

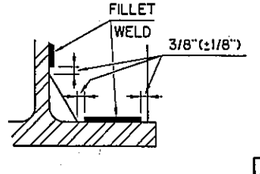


END



PLAN

BEARING DIAPHRAGM STIFFENER DETAILS



FILLET WELD TERMINATION DETAIL

Design	TAC		U.S. HIGHWAY 69 - McALESTER
Drawn	KGL	HEJ	DIAPHRAGM DETAILS
Checked	ADT	SAS	AOK RAILROAD
Approved	CEG		BRIDGE "S" NORTHBOUND
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B41

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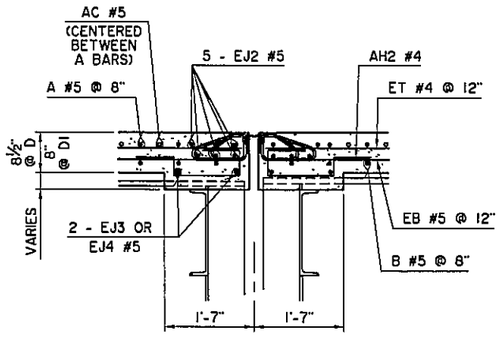
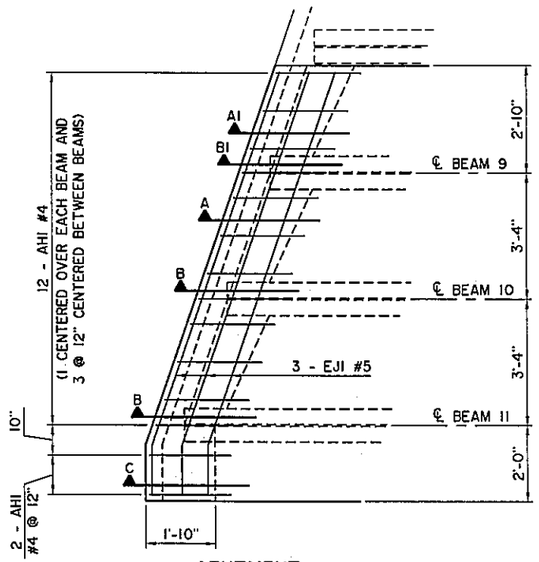
SUPERSTRUCTURE BAR LIST
EPOXY COATED REINFORCING

	MARK	SIZE	NO.	FORM	LENGTH	VARIATION
	BRIDGE "S", PHASE 1A					
②①	A1	#5	206	BNT.	11'-10"	
②①	A2	#5	2	BNT.	9'-8" AVG.	8'-8" TO 10'-8"
③①	A3	#5	10	STR.	5'-2" AVG.	1'-4" TO 9'-0"
④①	A4	#5	4	BNT.	9'-1" AVG.	8'-1" TO 10'-1"
	A5	#5	5	STR.	5'-8" AVG.	1'-10" TO 9'-6"
②①	AC1	#5	215	BNT.	5'-10"	
②①	AC2	#5	5	BNT.	4'-9" AVG.	2'-10" TO 6'-8"
⑤②①	AC3	#5	8	BNT.	4'-9" AVG.	3'-4" TO 6'-2"
②	AH1	#4	28	BNT.	3'-8"	
②	AH2	#4	36	BNT.	3'-7"	
⑥	B1	#5	209	STR.	10'-0"	
	B2	#5	5	STR.	6'-1" AVG.	2'-2" TO 10'-0"
⑦⑥	B3	#5	6	STR.	4'-7" AVG.	2'-8" TO 6'-6"
	B4	#5	2	STR.	2'-0"	
	B5	#5	4	STR.	11'-3"	
⑧	B6	#5	10	STR.	6'-0" AVG.	2'-0" TO 10'-0"
⑥	B7	#5	4	STR.	5'-4" AVG.	2'-5" TO 8'-3"
	EB1	#5	20	STR.	45'-7"	
	EB2	#5	2	STR.	45'-9"	
	EB3	#5	12	STR.	59'-8"	
	EB4	#5	2	STR.	45'-5"	
②	EJ1	#5	10	BNT.	11'-9"	
⑨②	EJ2	#5	20	BNT.	21'-2"	
	EJ3	#5	8	STR.	2'-5"	
	EJ4	#5	8	STR.	5'-10"	
	ET1	#4	20	STR.	45'-7"	
	ET2	#4	2	STR.	45'-9"	
	ET3	#4	12	STR.	59'-8"	
	ET4	#4	2	STR.	45'-5"	
⑩	FS2	#5	125	BNT.	7'-4"	
⑩	L	#4	32	BNT.	1'-3"	
	BRIDGE "T", PHASE 1A					
②	EJ5	#5	20	BNT.	19'-1"	
⑪	EP	#5	8	BNT.	5'-5"	
⑫⑪	PR1	#5	8	BNT.	5'-0"	
	BRIDGE "S" AND BRIDGE "T", PHASE 2A ONE SHOWN, TWO REQUIRED					
②	AH3	#4	92	BNT.	2'-10"	
⑥②	EJ6	#5	20	BNT.	32'-7"	
	EJ7	#5	8	STR.	25'-4"	
⑪	EP	#5	8	BNT.	5'-5"	
⑫⑪	PR1	#5	8	BNT.	5'-0"	

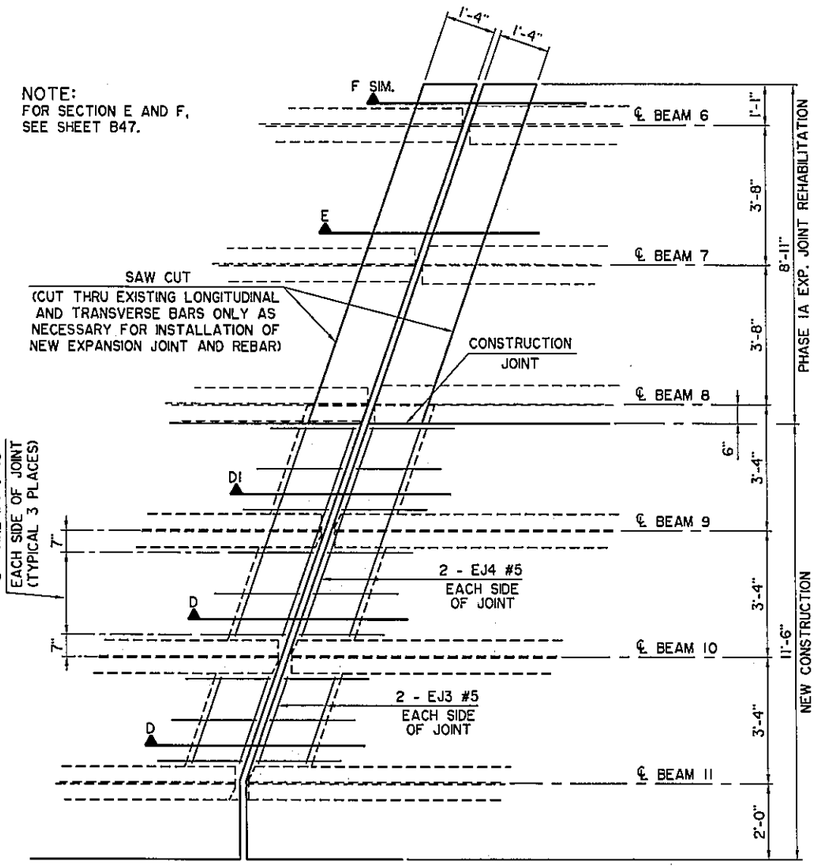
① ROTATE BAR TO MAINTAIN MINIMUM CLEARANCE
② FOR BAR BEND, SEE SHEET B46
③ 2 SETS OF 5
④ 2 SETS OF 2
⑤ 2 SETS OF 4
⑥ MECHANICAL SPLICE TO EXISTING REINFORCING
⑦ 2 SETS OF 3
⑧ 2 SETS OF 5
⑨ PROVIDE MECHANICAL SPLICE FOR BARS IN PHASE 2A
⑩ FOR BAR BEND, SEE STD. FSHP-42
⑪ FOR BAR BEND, SEE STD. SFPI-2
⑫ INCLUDED IN CONTRACT UNIT PRICE OF "CONCRETE PARAPET"



SECTION D AND D1

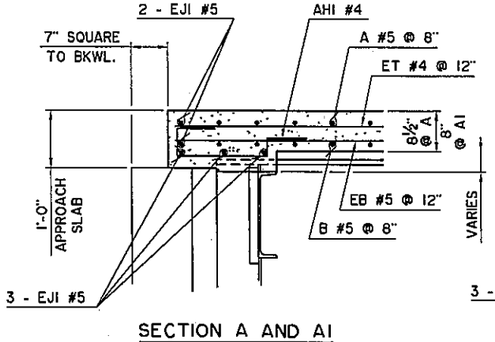


ABUTMENT

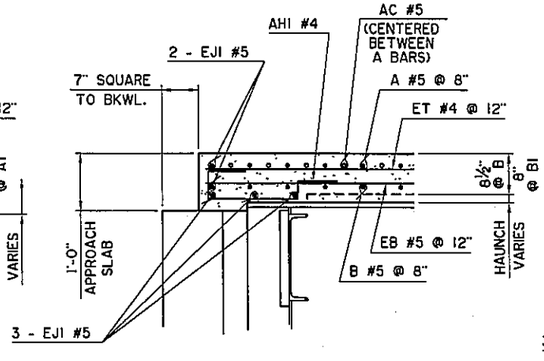


PIER

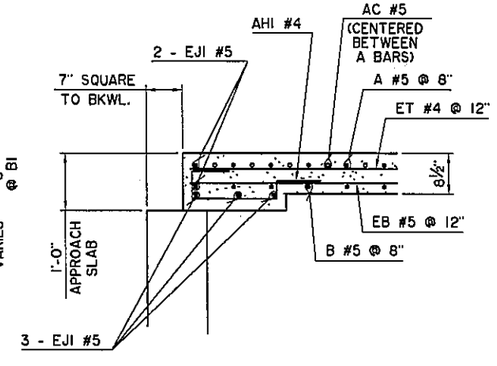
ADDITIONAL SLAB REINFORCING PLAN



SECTION A AND A1



SECTION B AND SECTION B1 SIMILAR



SECTION C

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	SAS
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

SLAB REINFORCING DETAILS
AOK RAILROAD
BRIDGE "S" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B42

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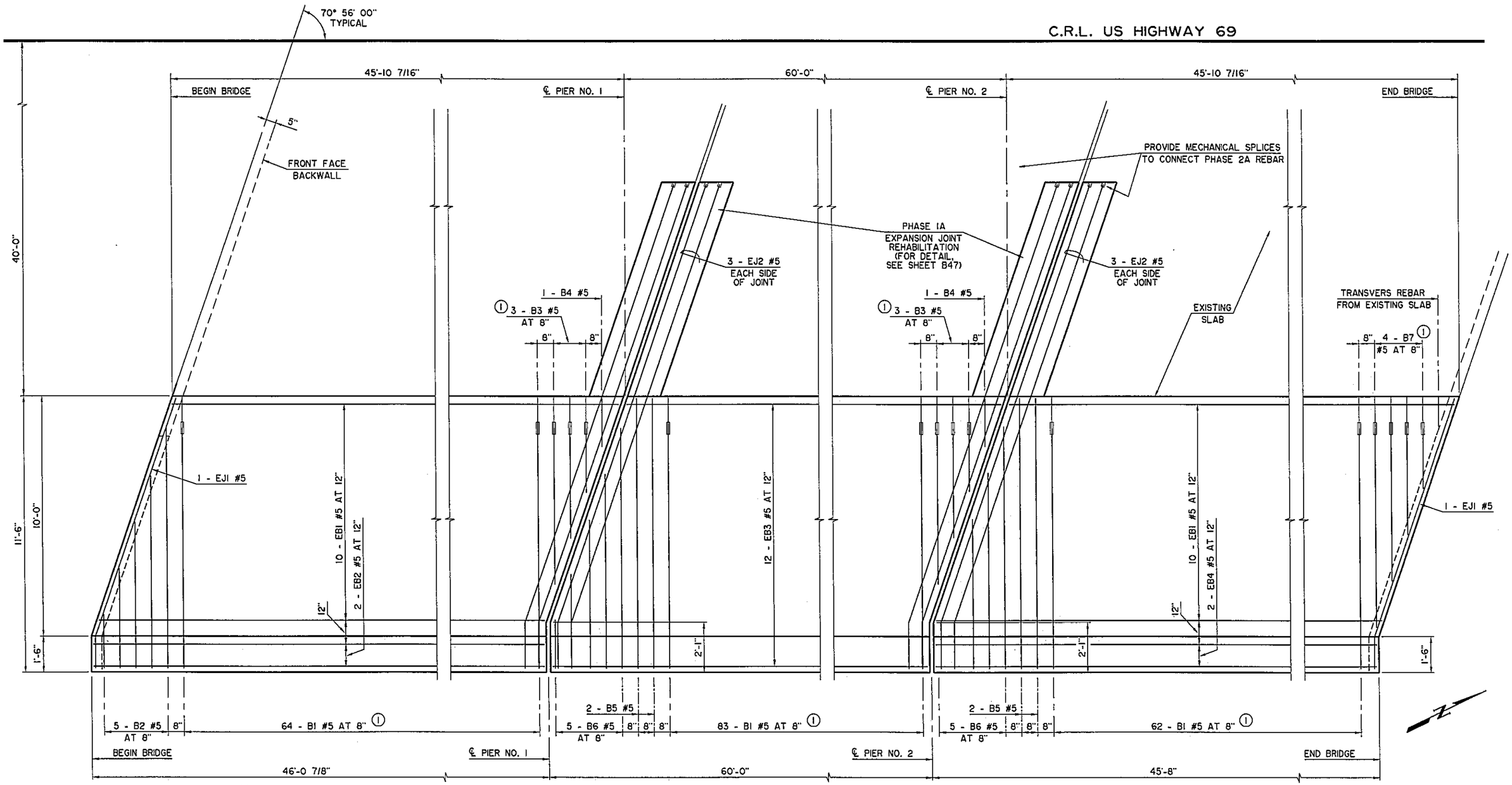
C.R.L. US HIGHWAY 69



① MECHANICAL SPLICE TO TRANSVERSE REINFORCING FROM EXISTING SLAB

PLAN OF REINFORCING IN BOTTOM OF SLAB

NOTE:
LONGITUDINAL DIMENSIONS ALONG PARAPET ARE ALONG INSIDE FACE OF PARAPET.

NOTE:
FOR PLAN OF REINFORCING IN TOP OF SLAB, SEE SHEET B44.
FOR ADDITIONAL REINFORCING IN SLAB, SEE SHEET B42.
FOR PARAPET REINFORCING, SEE SHEET B46.

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	SAS
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

SLAB BOTTOM REINFORCING PLAN
AOK RAILROAD
BRIDGE "S" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B43

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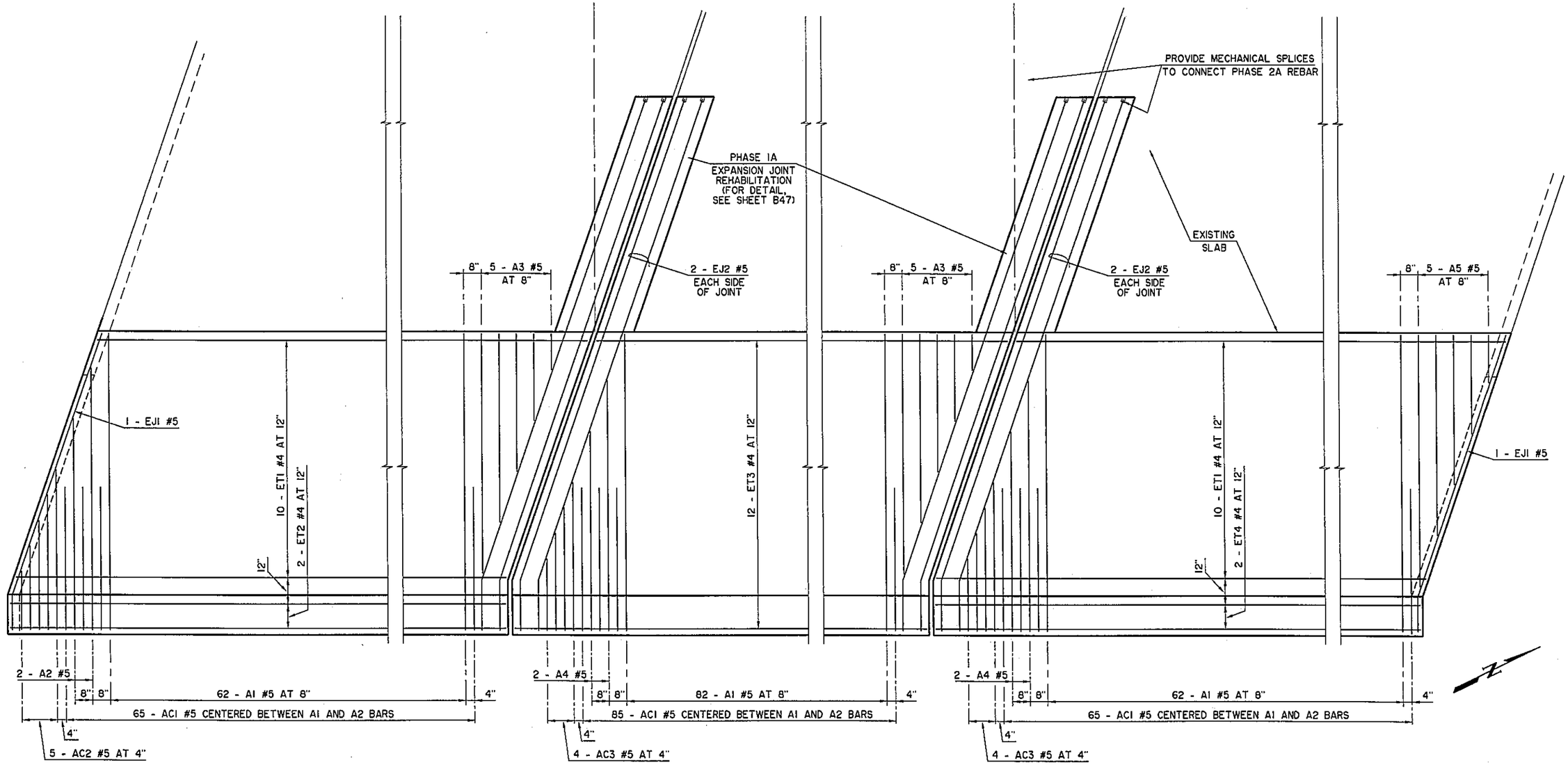

PLAN OF REINFORCING IN TOP OF SLAB

NOTE:
FOR PLAN OF REINFORCING IN BOTTOM OF SLAB, SEE SHEET B43.
FOR ADDITIONAL REINFORCING IN SLAB, SEE SHEET B42.
FOR PARAPET REINFORCING, SEE SHEET B46.

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	SAS
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

SLAB TOP REINFORCING PLAN
AOK RAILROAD
BRIDGE "S" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B44

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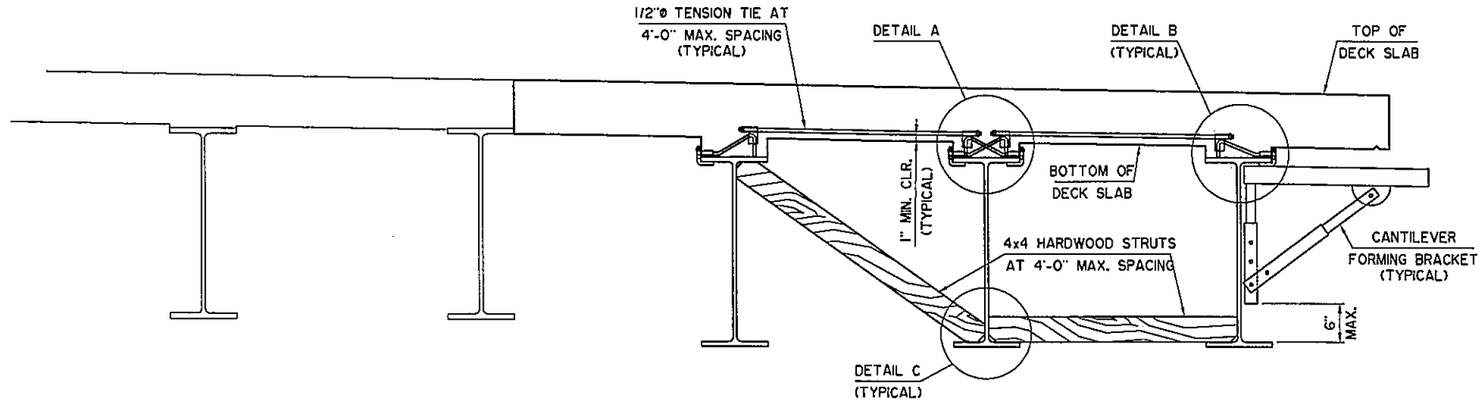
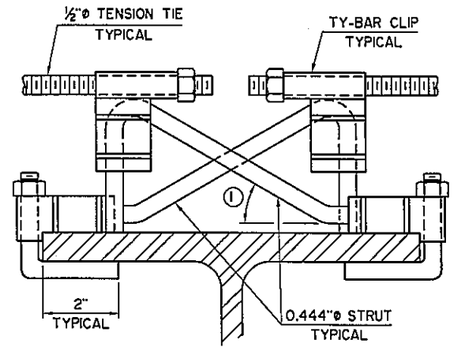
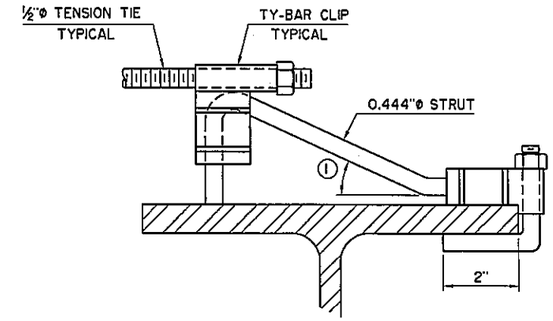


BEAM BRACING FOR DECK SLAB PLACEMENT

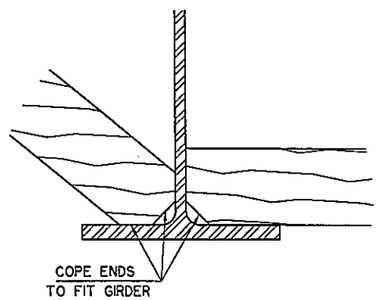


DETAIL A



DETAIL B

① SET ANGLE TO ACCOMODATE BEAM HAUNCHES



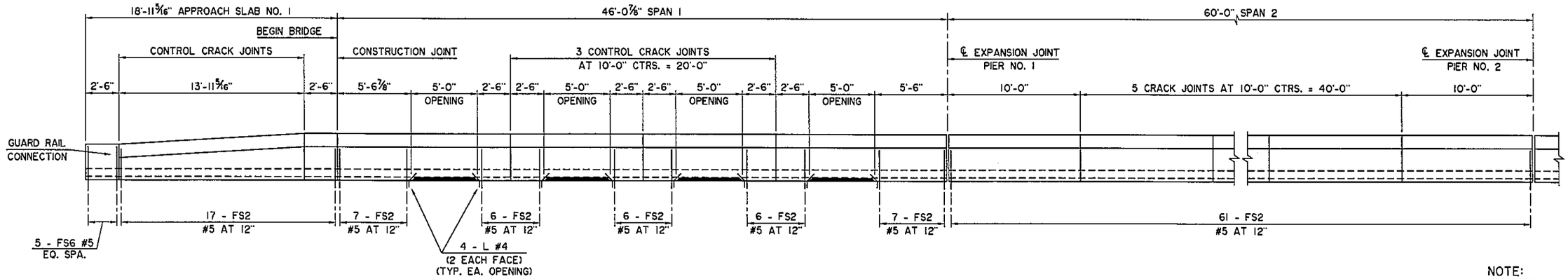
DETAIL C

Design	CEG	
Drawn	KGL	
Checked	ADT	
Approved	CEG	
Squad	WEA	

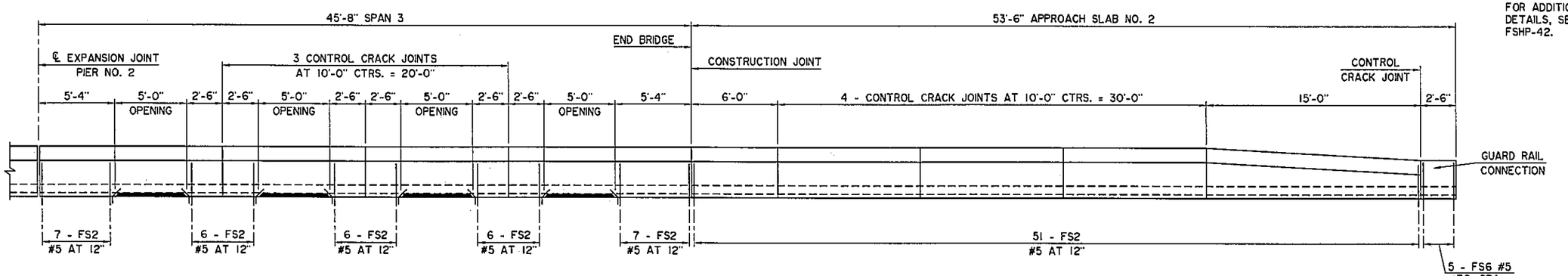
U.S. HIGHWAY 69 - McALESTER

BEAM BRACING DETAILS
AOK RAILROAD
BRIDGE "S" NORTHBOUND

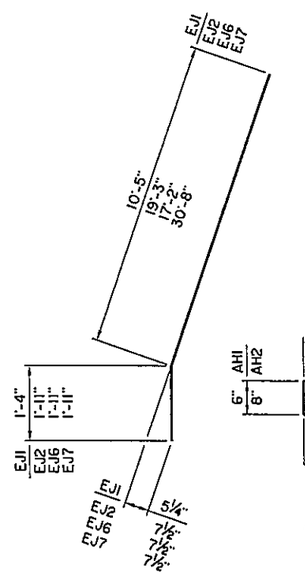
JOB PIECE NO. 14999(04) SHEET NO. B45



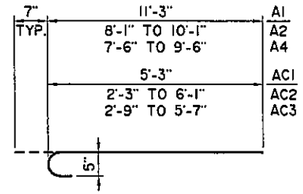
NOTE:
ALL DIMENSIONS ARE ALONG THE INSIDE FACE OF PARAPET. FOR ADDITIONAL DETAILS, SEE STD. FSHP-42.



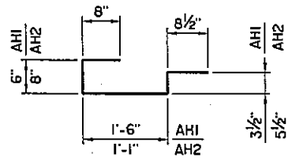
PARAPET ELEVATION
OUTSIDE FACE



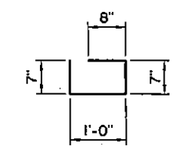
EJ1 #5 x 11'-9"
EJ2 #5 x 21'-2"
EJ6 #5 x 19'-1"
EJ7 #5 x 32'-7"



A1 #5 x 11'-10"
A2 #5 x 9'-8" AVG.
A4 #5 x 9'-1" AVG.
AC1 #5 x 5'-10"
AC2 #5 x 4'-9" AVG.
AC3 #5 x 4'-9" AVG.



AH1 #4 x 3'-8"
AH2 #4 x 3'-7"



AH3 #4 x 2'-10"

Design	TAC		**U.S. HIGHWAY 69 - McALESTER**
Drawn	KGL	HEJ	PARAPET ELEVATION
Checked	ADT	SAS	AOK RAILROAD
Approved	CEG		BRIDGE "S" NORTHBOUND
Squad	WEA		JOB PIECE NO. 14999(04) SHEET NO. B46

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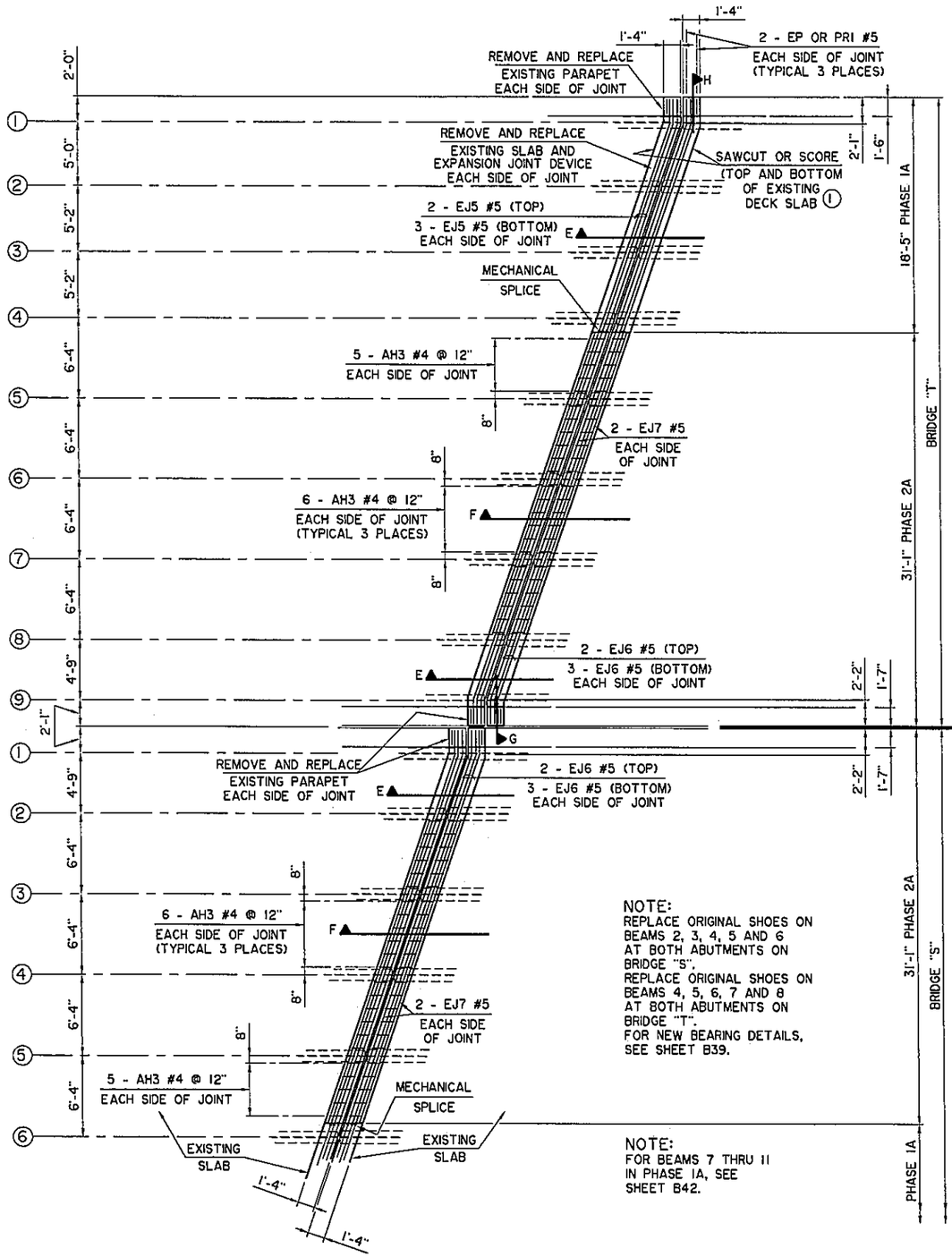
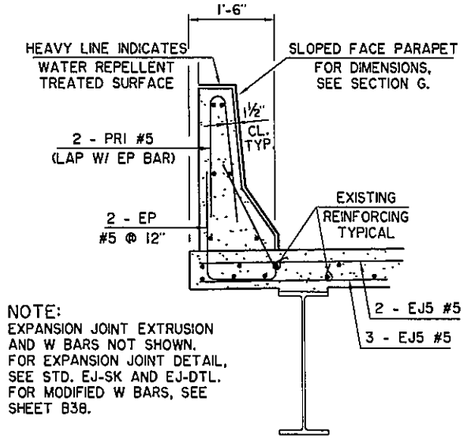


(1) DO NOT SAWCUT THRU EXISTING REINFORCING. REMOVE CONCRETE WITH HAND TOOLS. CUT INDIVIDUAL REINFORCING BARS ONLY AS REQUIRED TO REMOVE EXISTING EXPANSION JOINT AND INSTALL NEW REINFORCING AND EXPANSION JOINT.

NOTE:
REPLACE ORIGINAL SHOES ON BEAMS 2, 3, 4, 5 AND 6 AT BOTH ABUTMENTS ON BRIDGE "S".
REPLACE ORIGINAL SHOES ON BEAMS 4, 5, 6, 7 AND 8 AT BOTH ABUTMENTS ON BRIDGE "T".
FOR NEW BEARING DETAILS, SEE SHEET B39.

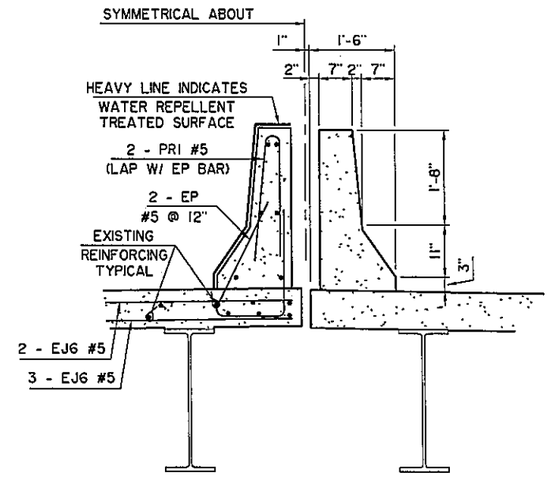
NOTE:
FOR BEAMS 7 THRU 11 IN PHASE 1A, SEE SHEET B42.

EXPANSION JOINT REHABILITATION PLAN AT PIERS

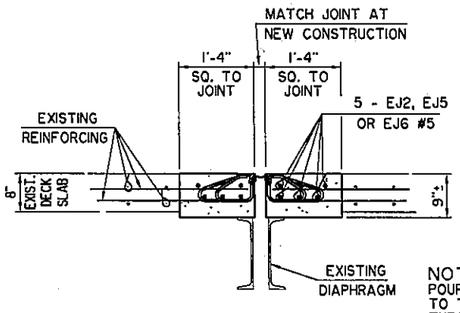


NOTE:
EXPANSION JOINT EXTRUSION AND W BARS NOT SHOWN. FOR EXPANSION JOINT DETAIL, SEE STD. EJ-SK AND EJ-DTL. FOR MODIFIED W BARS, SEE SHEET B38.

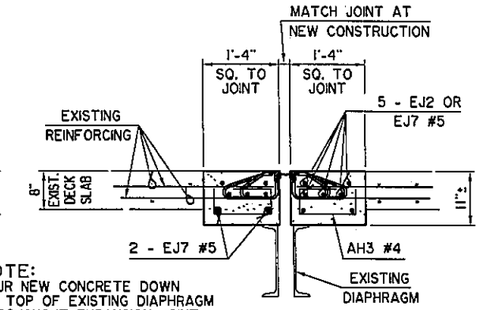
SECTION H



SECTION G



SECTION E



NOTE:
POUR NEW CONCRETE DOWN TO TOP OF EXISTING DIAPHRAGM THROUGHOUT EXPANSION JOINT REHABILITATION AREA.

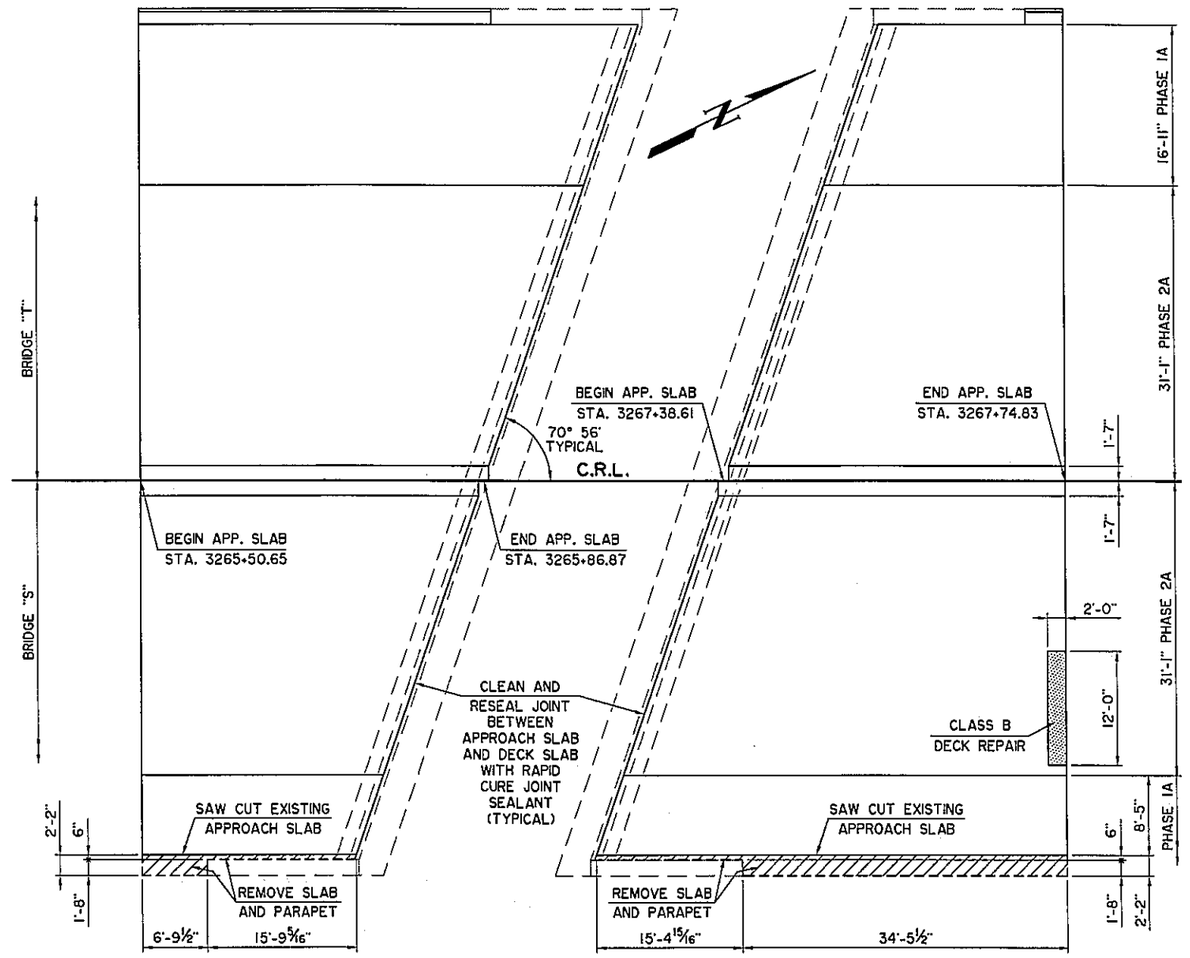
SECTION F

Design	CEG	
Drawn	KGL	HEJ
Checked	ADT	
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

EXPANSION JOINT REHABILITATION DETAILS
AOK RAILROAD
BRIDGE "S" NORTHBOUND, BRIDGE "T" SOUTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B47



APPROACH SLAB NO. 1

APPROACH SLAB NO. 2

APPROACH SLAB REMOVAL AND REPAIR PLANS

APPROACH SLAB QUANTITIES

	ITEM	UNIT	BRIDGE "S"						BRIDGE "T"					
			PHASE 1A			PHASE 2A			PHASE 1A			PHASE 2A		
			APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL
	APPROACH SLAB	S.Y.	27.4	69.2	96.6									
	SAW-CUT GROOVING	S.Y.	24.2	60.3	84.5									
	42" F-SHAPED PARAPET	L.F.	18.9	53.5	72.4									
(1)	RAPID CURE JOINT SEALANT	L.F.	8.9	8.9	17.8	32.7	32.7	65.4	17.9	17.9	35.8	32.7	32.7	65.4
	CLASS B BRIDGE DECK REPAIR	S.Y.					2.7	2.7						
	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	9	25	34									
	DECK AREA SEALED (FLOODCOATS)	S.Y.	22.5	45.3	67.8	100.2	137.2	237.4	93.8	42.4	136.2	137.2	100.2	237.4
	REMOVAL OF EXISTING SLAB	S.Y.	2.5	9.2	11.7									
	REMOVAL OF EXISTING PARAPET	L.F.	6.8	34.5	41.3									

(1) JOINT AT EXISTING SLAB ONLY, JOINT AT NEW APPROACH SLAB IS INCLUDED IN CONTRACT UNIT PRICE FOR "APPROACH SLAB"

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

APPROACH SLAB REMOVAL AND REPAIR
AOK RAILROAD
BRIDGE "S" NORTHBOUND, BRIDGE "T" SOUTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B48

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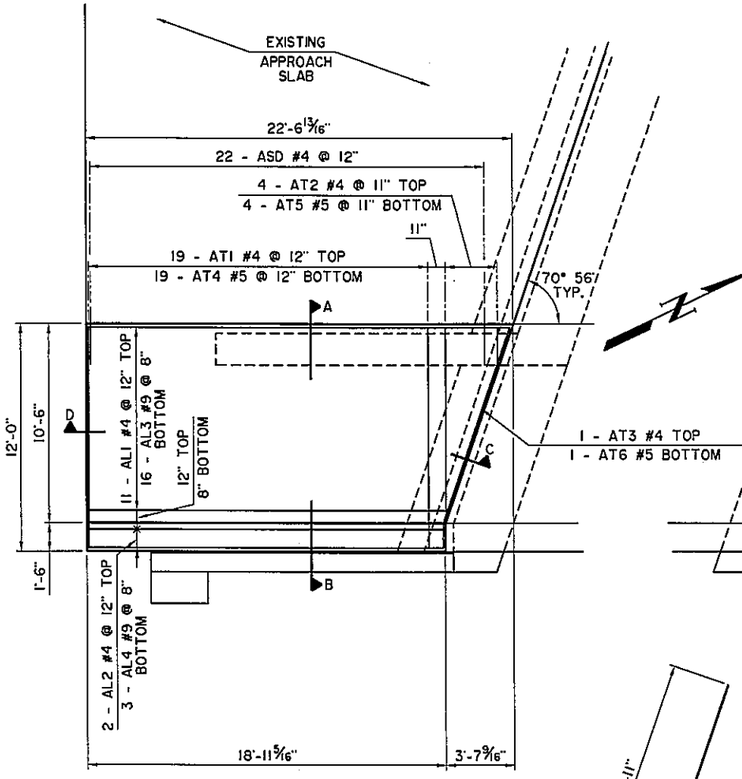
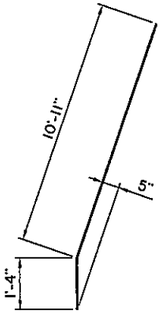
APPROACH SLAB NO. 1 BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING BARS					
AL1	#4	11	STR.	20'-8" AVG.	19'-0" TO 22'-4"
AL2	#4	2	STR.	18'-9"	
AL3	#9	16	STR.	20'-8" AVG.	19'-0" TO 22'-4"
AL4	#9	3	STR.	18'-9"	
ASD	#4	22	STR.	3'-0"	
AT1	#4	19	STR.	11'-8"	
AT2	#4	4	STR.	5'-9" AVG.	1'-9" TO 9'-9"
AT3	#4	1	BNT.	12'-3"	
AT4	#5	19	STR.	11'-8"	
AT5	#5	4	STR.	5'-9" AVG.	1'-9" TO 9'-9"
AT6	#5	1	BNT.	12'-3"	
(1)(1) FS2	#5	17	BNT.	7'-4"	
(1)(1) FS6	#5	5	BNT.	7'-6 1/2"	

APPROACH SLAB NO. 2 BAR LIST					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
EPOXY COATED REINFORCING BARS					
AL5	#4	13	STR.	27'-3"	
AL6	#4	2	STR.	25'-9"	
AL7	#4	11	STR.	23'-10" AVG.	22'-2" TO 25'-6"
AL8	#9	16	STR.	51'-5" AVG.	49'-9" TO 53'-1"
AL9	#9	3	STR.	53'-4"	
ASD	#4	50	STR.	3'-0"	
AT1	#4	51	STR.	11'-8"	
AT3	#4	1	BNT.	12'-3"	
AT4	#5	50	STR.	11'-8"	
AT6	#5	1	BNT.	12'-3"	
AT7	#4	4	STR.	7'-1" AVG.	3'-1" TO 11'-1"
AT8	#5	4	STR.	7'-1" AVG.	3'-1" TO 11'-1"
(1) FS2	#5	51	BNT.	7'-4"	
(1) FS6	#5	5	BNT.	7'-6 1/2"	

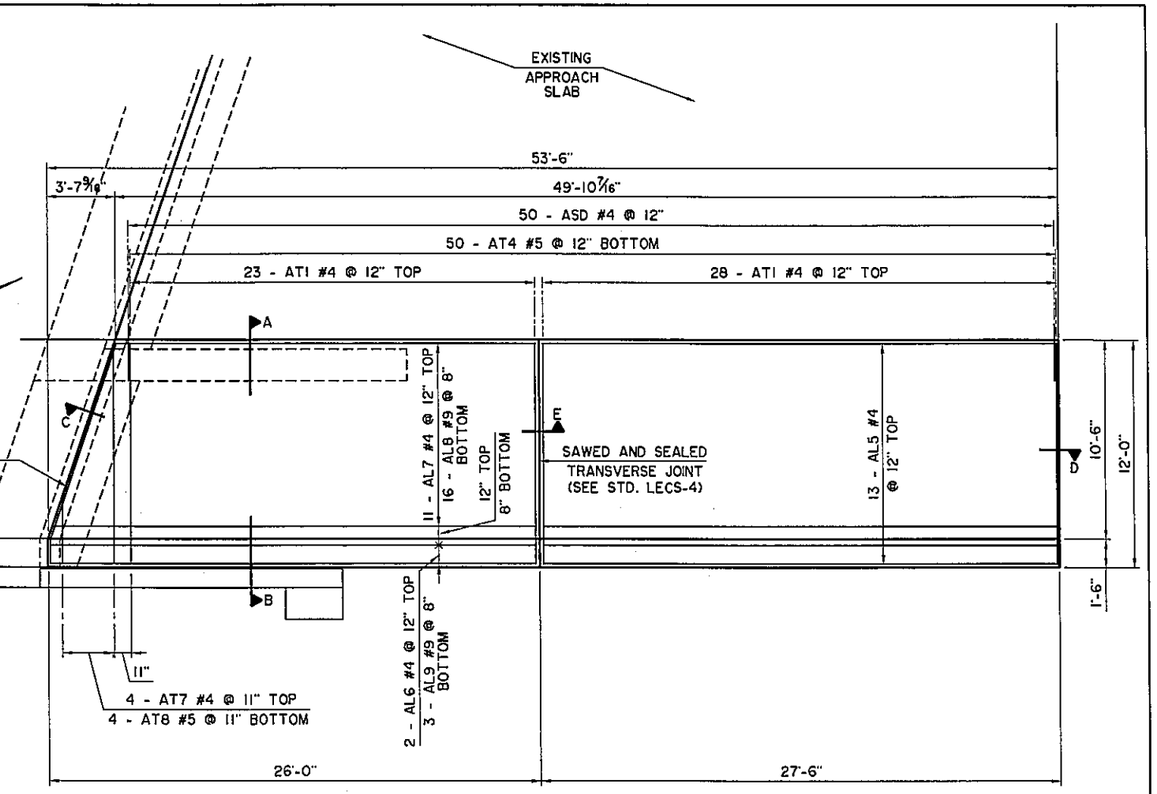
(1) FOR BAR BEND, SEE STD. FSHP-42.



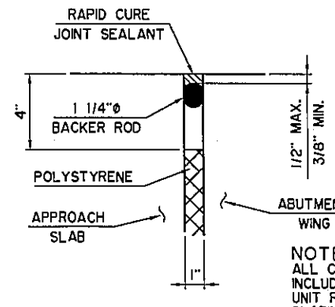
APPROACH SLAB NO. 1



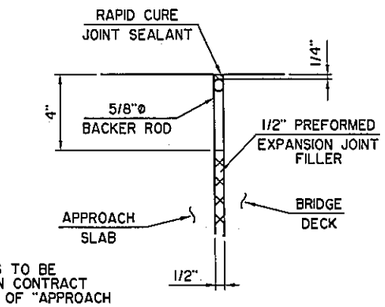
AT3 #4 x 12'-3"
AT6 #5 x 12'-3"



APPROACH SLAB NO. 2



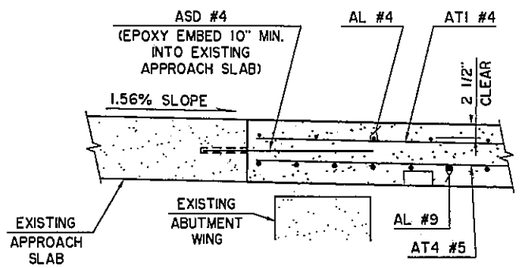
WING JOINT DETAIL



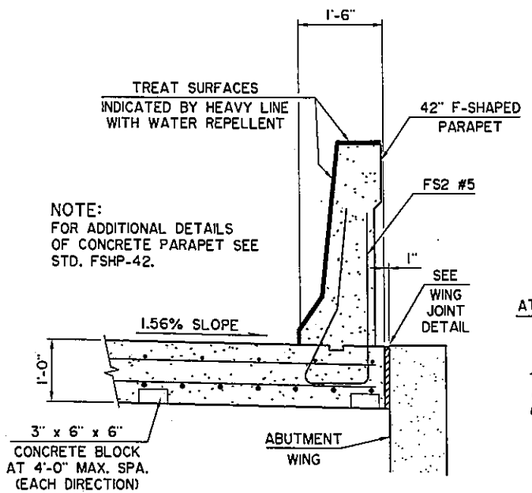
DECK JOINT DETAIL

NOTE:
ALL COSTS TO BE INCLUDED IN CONTRACT UNIT PRICE OF "APPROACH SLAB".

NOTE:
PLACE REINFORCING IN THE TOP OF THE APPROACH SLAB 2" FROM EITHER SIDE OF THE SAWED AND SEALED TRANSVERSE JOINT. FOR ADDITIONAL DETAILS OF SAWED AND SEALED JOINT, SEE LONGITUDINAL JOINT ON STD. LECS-4.

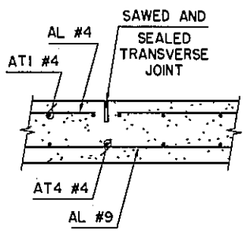


SECTION A



NOTE:
FOR ADDITIONAL DETAILS OF CONCRETE PARAPET SEE STD. FSHP-42.

SECTION B



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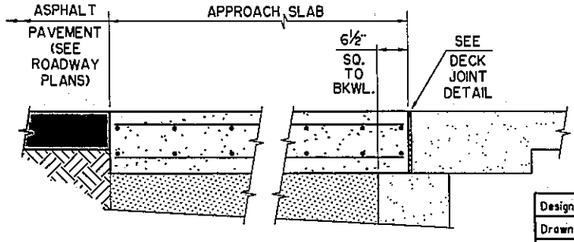


SECTION D

SECTION C

NOTES:
FOR PARAPET ELEVATION AND REINFORCING, SEE SHEET B46.

Design	TAC	
Drawn	KGL	HEJ
Checked	ADT	SAS
Approved	CEG	
Squad	WEA	

U.S. HIGHWAY 69 - McALESTER

APPROACH SLAB DETAILS
AOK RAILROAD
BRIDGE "S" NORTHBOUND

JOB PIECE NO. 14999(04) SHEET NO. B49

LIGHT POLE SCHEDULE

LOCATION				FOOTING				POLE ASSEMBLY									
SHEET NO.	POLE NO.	STATION (CTR. OR REF. LINE)	DISTANCE FROM EDGE OF TRAVEL LANE FT	TYPE	STRL. CONC. CY	CLASS 'A' CONC. CY	STL. LB	B.BASE DESIGN NO.	POLE LENGTH FT	ARM NO. 1 FT	ARM NO. 2 FT	NO./WATTS EA/WATT	IES DIST. TYPE	1/C NO 12 AWG TYPE THW FT	1/C NO 10 AWG TYPE THW FT	LIGHTNING ARRESTOR EA	REMARKS
	1	377+55 CL (MAINLINE I-240)	18	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125		1	
	2	AS SHOWN (N SERVICE RD)	18	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125		1	
	3	AS SHOWN (S SERVICE RD)	16	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125			
	4	379+00 CL (MAINLINE I-240)	16	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125			
	5	379+80 CL (S SERVICE RD)	16	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125			
	6	AS SHOWN (N SERVICE RD)	16	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125			
	7	380+45 CL (MAINLINE I-240)	16	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125			
	8	380+90 CL (N SERVICE RD)	16	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125		1	
	9	381+25 CL (S SERVICE RD)	16	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125		1	
	10	381+90 CL (MAINLINE I-240)	16	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125			
	11	382+40 CL (N SERVICE RD)	16	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125			
	12	382+70 CL (S SERVICE RD)	16	GMF24X60	0.58		33.4		40	5'		1 - 196	MS3	125			
	13	383+35 CL (MAINLINE I-240)	16	GMF24X60	0.58		33.4	B	40	5'		1 - 196	MS3	125			
	14	383+90 CL (N SERVICE RD)	16	GMF24X60	0.58		33.4	B	40	5'		1 - 196	MS3	125		1	
	15	384+80 CL (MAINLINE I-240)	16	GMF24X60	0.58		33.4	B	40	5'		1 - 196	MS3	125		1	
		UNDERPASS LIGHT	BR. DECK BRACKET									1 - 39	MS3		100		
		UNDERPASS LIGHT	BR. DECK BRACKET									1 - 39	MS3		100		
		UNDERPASS LIGHT	BR. DECK BRACKET									1 - 39	MS3		100		
		UNDERPASS LIGHT	BR. DECK BRACKET									1 - 39	MS3		100		
		UNDERPASS LIGHT	BR. DECK BRACKET									1 - 39	MS3		100		
		UNDERPASS LIGHT	BR. DECK BRACKET									1 - 39	MS3		100		
TOTALS					8.7	0.00	501	3	15 - 40' ROUND POLES			15-196 6-39		1875	600	6	

SERVICE POLE SCHEDULE

		LOCATION			CONTROLLER							WOOD POLE			METER EQUIP.		
					RATING			CIRCUIT LOADING									
SHEET NO.	SERVICE POLE NO.	STATION (CTR. OR REF. LINE)	TYPE	SECONDARY VOLTAGE & NO. PHASE	QUANTITY	NO. OF CONTACTS	AMP RATE OF CONTACTS	CIRCUIT ID	EST. AMPS PER CIR.	MIN. FUSE AMP/CIR.	VOLTAGE DROP %	N=NEW E=EX.	TOTAL LENGTH FT	CLASS	IM=INSTALL METER BASE NM=NOT METERED	DISCONNECT SWITCH 100 AMP	REMARKS
	1	3260+33 150' RT.	UG/1	480-1	1	2	60	A	7.75	15	0.66	N	35	6	NM	YES	
								B	6.8	15	0.06						

R. WAYNE RUSSELL, P.E. # 16030
C.A. # 1160, RENEWAL 06-30-17

7-7-16
DATE

REGISTERED PROFESSIONAL ENGINEER
R. WAYNE RUSSELL
16030
OKLAHOMA

Traffic Engineering Consultants, Inc.
6000 S. Western, Suite 300 - Oklahoma City, OK 73139,
Ph: 405-720-7721, Fax: 405-720-9848, Web: www.tecok.com

Design	RWR	07-07-16
Drawn	SB	07-07-16

TEC
A CLEAR DIRECTION

LIGHTING SCHEDULES

State Job No. 14999(04) Sheet No. L1

PITTSBURG COUNTY

REVISIONS		
NO.	DESCRIPTION	DATE

07-07-16 C:\0Projects\T-2462A US 69 Interch @ Kinkead Rd Traffic Control& Lighting\CAD\SCHEDULES.dgn

REVISIONS		
NO.	DESCRIPTION	DATE

0 50' 100'

KIAMICHI DR.

WADE WATTS AVE.

Kiamichi Area Vocational

16" Water Line (ncl)

AOK Railroad

Tire Center

Charlie's Chicken

6" Water Line (ncl)

2" Gas Line

U.S. 69

ON RAMP FROM U.S. 270

OFF RAMP TO U.S. 270

LIGHT POLE NO. 1 STA. 3260+00. 18' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 2 STA. 3260+05. 18' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 3 STA. 3261+80. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 4 STA. 3261+95. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 5 STA. 3263+65. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 6 STA. 3263+85. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 7 STA. 3265+50. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 8 STA. 3265+75. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 9 STA. 3267+50. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 10 STA. 3267+75. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 11 STA. 3269+20. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 12 STA. 3267+65. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 13 STA. 3270+90. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 14 STA. 3271+60. 16' BK REMOVE EX. LIGHT POLE

LIGHT POLE NO. 15 STA. 3272+60. 16' BK REMOVE EX. LIGHT POLE

LEAVE EX. LIGHT POLE END EX. CIRCUIT SOUTH

SERVICE POLE NO. 1
STA. 3260+33. 150'RT

Top 2" PVC Gas Line = 694.2'

FL 696.84

3/8" IPF Curtis L.S. 603

Gridboard

RR-control Box

SEE "UNDERPASS LIGHTING DETAIL" SHEET FOR MORE INFORMATION

CONTRACTOR SHALL REMOVE EXISTING CONDUIT CROSSING BRIDGE ON BOTH SIDES. UNLESS NEEDED FOR CONTINUING EXISTING LIGHTING CIRCUIT TO THE SOUTH.

CONTACTOR WILL BE RESPONSIBLE FOR KEEPING THE EXISTING LIGHTING CIRCUITS WORKING.

LEGEND

- $1\frac{1}{4}$" ELECT. CONDUIT (EXPOSED)
- 2" ELECT. PVC CONDUIT (TRENCHED)
- 2" ELECT. CONDUIT (BORED)
- EXISTING CONDUIT
- SPECIAL MEDIAN BARRIER PULL BOX
- SIZE I PULL BOX
- ELECTRIC SERVICE LOCATION
- (A) CIRCUIT DESIGNATION
- LIGHT POLE W/O BREAKAWAY BASE
- LIGHT POLE W/ BREAKAWAY BASE
- TWIN LIGHT POLE W/O BREAKAWAY BASE
- TWIN LIGHT POLE W/ BREAKAWAY BASE

R. WAYNE RUSSELL, P.E. # 16030
C.A. # 1160, RENEWAL 06-30-17

7-7-16
DATE

Traffic Engineering Consultants, Inc.
6000 S. Western, Suite 300 - Oklahoma City, OK 73139,
Ph: 405-720-7721, Fax: 405-720-9848, Web: www.tecok.com

REGISTERED PROFESSIONAL ENGINEER — R. WAYNE RUSSELL — 16030 — OKLAHOMA

Design	RWR	07-07-16
Drawn	SB	07-07-16

TEC — A CLEAR DIRECTION

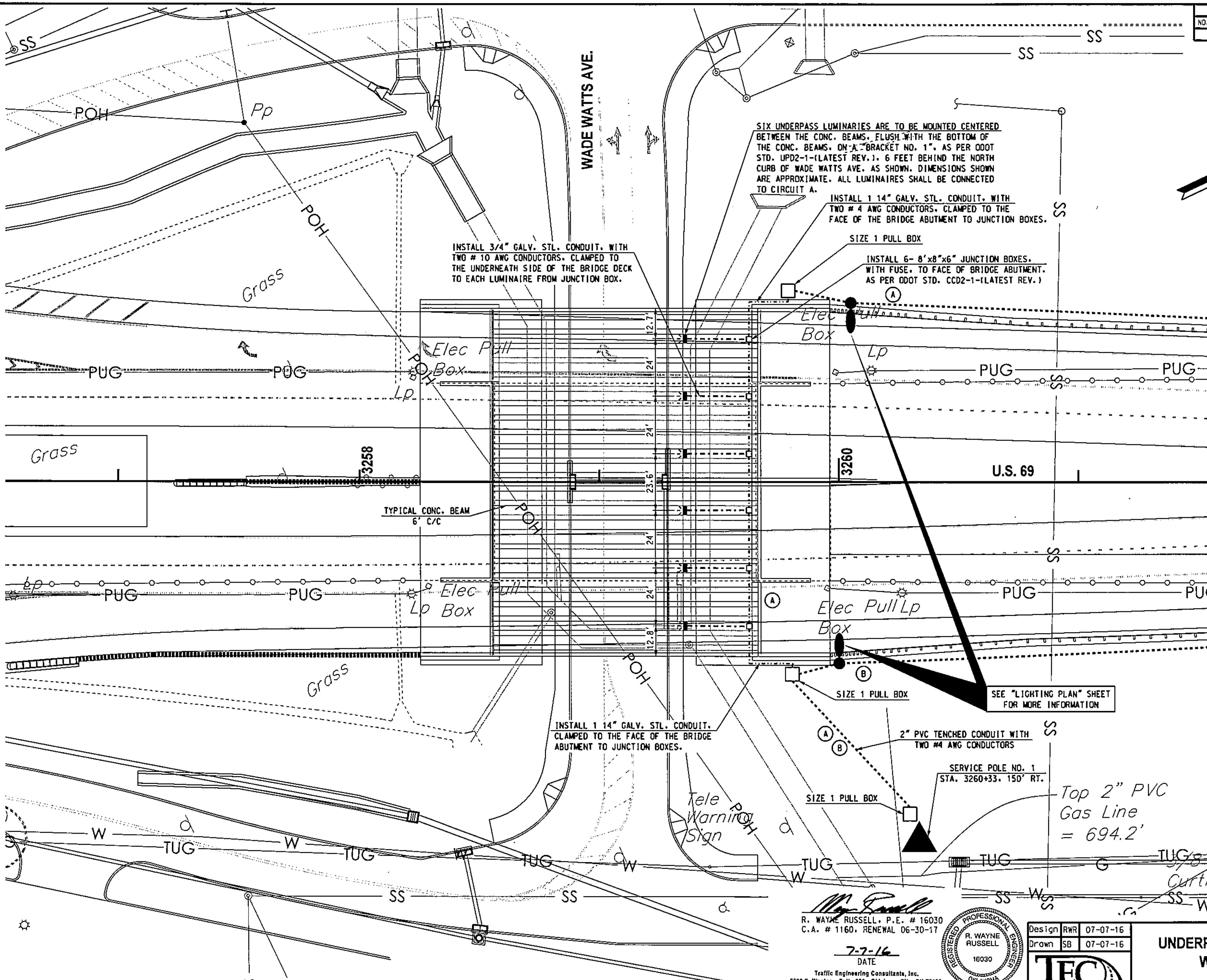
LIGHTING PLAN
U.S. 69

State Job No. 14999(04) Sheet No. L2

PITTSBURG COUNTY

07-07-16 G:\0Projects\17-2462A US 69 Interch @ Kinkead Rd Traffic Control & Lighting\CAD\LIGHTING.dgn

REVISIONS		
NO.	DESCRIPTION	DATE


WADE WATTS AVE.
U.S. 69
3258
3260
SIX UNDERPASS LUMINARIES ARE TO BE MOUNTED CENTERED BETWEEN THE CONC. BEAMS, FLUSH WITH THE BOTTOM OF THE CONC. BEAMS, ON A "BRACKET NO. 1", AS PER ODOT STD. UPD2-1-(LATEST REV.). 6 FEET BEHIND THE NORTH CURB OF WADE WATTS AVE. AS SHOWN. DIMENSIONS SHOWN ARE APPROXIMATE. ALL LUMINAIRES SHALL BE CONNECTED TO CIRCUIT A.
INSTALL 1 1/4" GALV. STL. CONDUIT, WITH TWO # 4 AWG CONDUCTORS, CLAMPED TO THE FACE OF THE BRIDGE ABUTMENT TO JUNCTION BOXES.
SIZE 1 PULL BOX
INSTALL 6- 8"x8"x6" JUNCTION BOXES, WITH FUSE, TO FACE OF BRIDGE ABUTMENT. AS PER ODOT STD. CCD2-1-(LATEST REV.)
INSTALL 3/4" GALV. STL. CONDUIT, WITH TWO # 10 AWG CONDUCTORS, CLAMPED TO THE UNDERNEATH SIDE OF THE BRIDGE DECK TO EACH LUMINAIRE FROM JUNCTION BOX.
TYPICAL CONC. BEAM 6' C/C
12.7'
24'
24'
23.6'
24'
24'
12.8'
SEE "LIGHTING PLAN" SHEET FOR MORE INFORMATION
SIZE 1 PULL BOX
2" PVC TENCHED CONDUIT WITH TWO #4 AWG CONDUCTORS
SERVICE POLE NO. 1 STA. 3260+33, 150' RT.
SIZE 1 PULL BOX
INSTALL 1 1/4" GALV. STL. CONDUIT, CLAMPED TO THE FACE OF THE BRIDGE ABUTMENT TO JUNCTION BOXES.
Top 2" PVC Gas Line = 694.2'
Grass
Grass
Grass
Elec Pull Box
Elec Pull Box
Elec Pull Box
Elec Pull Box
Lp
Pp
POH
PUG
TUG
SS
W
G
Tele Warning Sign
Curtis
A
B
0 20' 40'

R. WAYNE RUSSELL, P.E. # 16030
C.A. # 1160, RENEWAL 06-30-17

7-7-16
DATE

Traffic Engineering Consultants, Inc.
6000 S. Western, Suite 300 - Oklahoma City, OK 73139,
Ph: 405-720-7721, Fax: 405-720-9848, Web: www.tecok.com

REGISTERED PROFESSIONAL ENGINEER R. WAYNE RUSSELL 16030 OKLAHOMA

Design	RWR	07-07-16
Drawn	SB	07-07-16

TEC A CLEAR DIRECTION

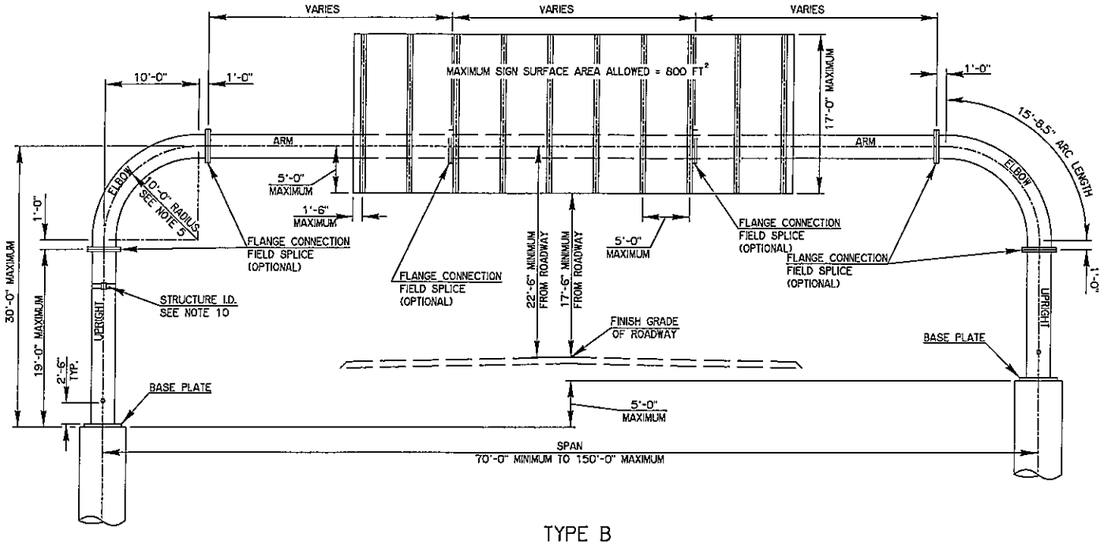
UNDERPASS LUMINAIRE DETAIL
WADE WATTS AVE.

State Job No. 14999(04) Sheet No. L3

PITTSBURG COUNTY

G:\DProjects\T-2462A US 69 Interch @ Kinkead Rd Traffic Control& Lighting\CADD\UP LIGHTING.dgn

07-07-16



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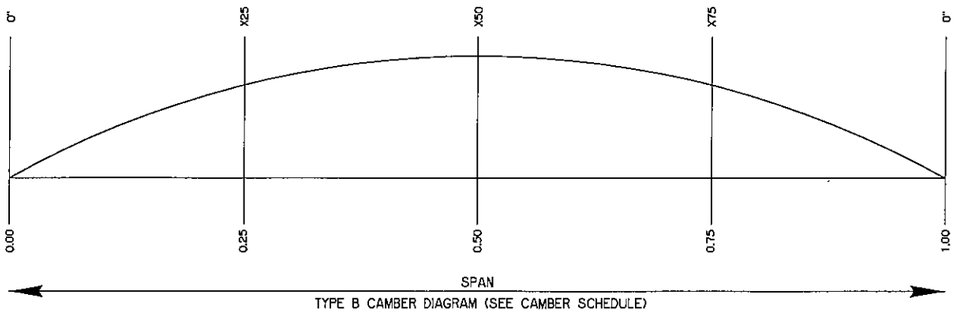
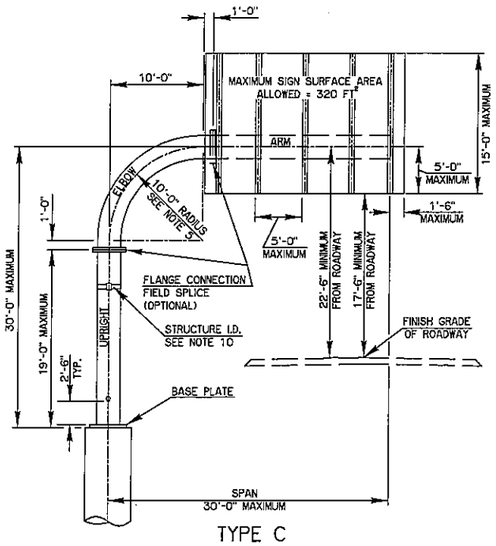
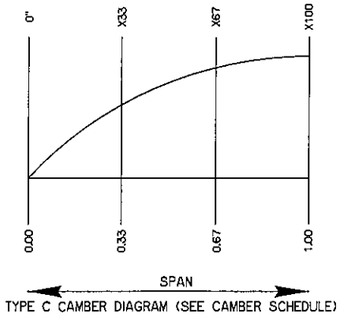


TYPE B CAMBER DIAGRAM (SEE CAMBER SCHEDULE)



TYPE C



TYPE C CAMBER DIAGRAM (SEE CAMBER SCHEDULE)

TYPE B CAMBER SCHEDULE			
SPAN (FT)	X25 (IN)	X50 (IN)	X75 (IN)
70	1.08	1.27	1.08
75	1.20	1.43	1.20
80	1.32	1.61	1.32
85	1.46	1.81	1.46
90	1.61	2.03	1.61
95	1.62	1.94	1.62
100	1.77	2.22	1.77
105	1.93	2.46	1.93
110	2.10	2.72	2.10
115	2.28	3.00	2.28
120	2.48	3.31	2.48
125	2.60	3.65	2.60
130	2.92	4.01	2.92
135	3.17	4.40	3.17
140	3.43	4.83	3.43
145	3.71	5.29	3.71
150	4.02	5.78	4.02

TYPE C CAMBER SCHEDULE			
SPAN (FT)	X33 (IN)	X67 (IN)	X100 (IN)
30	0.86	1.44	2.03

GENERAL INSTALLATION PROCEDURES

ENSURE THAT ALL ANCHOR BOLTS, BASE PLATES, AND FLANGE PLATES ARE PROPERLY ALIGNED TO PREVENT UNACCEPTABLE DISTORTION OF THE STRUCTURE UPON FINAL INSTALLATION. IN THE EVENT THAT THE DRILLED SHAFT AND ANCHOR BOLTS ARE INSTALLED PRIOR TO THE FABRICATION OF THE MONOTUBE STRUCTURE, THE MONOTUBE FABRICATOR SHOULD COORDINATE WITH THE DRILLED SHAFT CONTRACTOR TO ENSURE THAT THE BASE PLATES AND FLANGES ARE FABRICATED SO THAT PROPER ALIGNMENT OF ALL BOLT HOLES IS ACHIEVED. IN THE EVENT THAT THE MONOTUBE SIGN STRUCTURE IS FABRICATED PRIOR TO THE INSTALLATION OF THE DRILLED SHAFT AND ANCHOR BOLTS, THE DRILLED SHAFT CONTRACTOR SHOULD COORDINATE WITH THE SIGN STRUCTURE FABRICATOR TO ENSURE THAT THE ANCHOR BOLT INSTALLATION ALLOWS FOR PROPER ALIGNMENT OF ALL BOLTED CONNECTIONS. CONSTRUCTION TOLERANCES SET FORTH IN THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SHALL APPLY.

ERECT MONOTUBE SIGN STRUCTURE IN A MANNER APPROVED BY THE RESIDENT ENGINEER. SUPPORT ALL COMPONENTS OF THE STRUCTURE UNTIL FINAL TENSIONING OF ALL BOLTS AND FASTENERS IS COMPLETE.

INSTALLATION OF ALL FASTENERS AND BOLTS USING DIRECT TENSION INDICATORS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. ENSURE THAT THE MONOTUBE SIGN STRUCTURE IS PROPERLY ATTACHED TO THE ANCHOR BOLTS AND THAT ALL LEVELING NUTS ARE FLUSH WITH THE BOTTOM OF THE BASE PLATE. ENSURE THAT ALL FLANGES HAVE BEEN SECURELY FASTENED.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
852(D)	OVHD.SN.STR., MONOTUBE TYPE B	EA
852(E)	OVHD.SN.STR., MONOTUBE TYPE C	EA

GENERAL NOTES

1. MAXIMUM SIGN HEIGHT TO BE USED ON THE TYPE C STRUCTURE SHALL BE 15 FEET. MAXIMUM SIGN HEIGHT TO BE USED ON THE TYPE B STRUCTURE SHALL BE 17 FEET.
2. MAXIMUM SIGN AREA TO BE USED ON THE TYPE C STRUCTURE SHALL BE 320 SQUARE FEET. MAXIMUM SIGN AREA TO BE USED ON THE TYPE B STRUCTURE SHALL BE 800 SQUARE FEET.
3. FOR SIGNS LESS THAN 10'-0" TALL, SIGNS SHALL BE CENTERED ON THE SPAN. FOR SIGNS GREATER THAN OR EQUAL TO 10'-0" TALL, BOTTOM OF SIGNS SHALL BE 5'-0" BELOW ℄ OF THE SPAN.
4. THE LENGTH OF THE ARM MEMBERS LABELED AS 'VARIES' SHOULD BE A MINIMUM OF 30'-0" FOR TYPE 'B' MONOTUBE SIGN STRUCTURES.
5. ADJUST BEND RADIUS ACCORDING TO CAMBER DIAGRAM. ALL TRANSVERSE PLATES CONNECTING TO AN ELBOW SHALL BE PERPENDICULAR TO THE CENTERLINE OF THE ELBOW AT THE LOCATION OF THE CONNECTION.
6. STRUCTURAL STEEL TUBING USED IN THE FABRICATION OF MONOTUBES SHALL EITHER BE COLD-FORMED WELDED OR SEAMLESS TUBING CONFORMING TO THE ASTM A500, GRADE C (MEETING AASHTO M270 ZONE 2 FRACTURE CRITICAL CHARPY V-NOTCH REQUIREMENTS) OR API 5L PSL 2, GRADE X52 (MEETING AASHTO M270 ZONE 2 FRACTURE CRITICAL CHARPY V-NOTCH REQUIREMENTS).
7. BASE PLATES, FLANGE PLATES, AND FILLER PLATES TO BE STRUCTURAL STEEL CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION: A709, GRADE 50.
8. ALL FLANGE BOLTS TO CONFORM TO THE SPECIFICATIONS OF ASTM A490, TYPE 1,AND SHALL BE TIGHTENED AND INSPECTED USING DIRECT TENSION INDICATORS TO CONFORM TO THE SPECIFICATIONS OF ASTM F959,TYPE 490. ALL WASHERS TO CONFORM TO THE SPECIFICATIONS OF ASTM F436, TYPE 1. ALL NUTS USED TO FASTEN ASTM A490 BOLTS SHALL BE ASTM A563, GRADE DH. ALL ANCHOR BOLTS TO CONFORM TO THE SPECIFICATIONS OF ASTM F1554-GRADE 55 (MEETING ASTM F1554 CHARPY V-NOTCH REQUIREMENTS) AND TO BE TIGHTENED AND INSPECTED USING DIRECT TENSION INDICATORS CONFORMING TO THE SPECIFICATIONS OF ASTM F2437 (TYPE 1 GRADE 55). ALL ANCHOR BOLT NUTS TO CONFORM TO THE SPECIFICATIONS OF ASTM A563-GRADE A. ALL ANCHOR BOLT WASHERS TO CONFORM TO THE SPECIFICATIONS OF ASTM F436, TYPE 1.
9. HOT-DIP GALVANIZE ALL TUBE MEMBERS AND PLATES PER ASTM A123. COAT ASTM A490 FASTENERS PER ASTM F1136, GRADE 3. WHEN COATING ASTM A490 FASTENERS HYDROGEN EMBRITTLEMENT SHALL BE INVESTIGATED AND PREVENTED PER THE APPLICABLE ASTM SPECIFICATIONS. COAT NUTS USED WITH ASTM A490 FASTENERS PER ASTM F1136, GRADE 5. COAT WASHERS USED WITH ASTM A490 FASTENERS PER ASTM F1136, GRADE 3. COAT ANCHOR BOLTS, NUTS USED WITH ANCHOR BOLTS, AND WASHERS USED WITH ANCHOR BOLTS PER ASTM F2329.
10. STAMP STRUCTURE IDENTIFICATION ON UPRIGHT OF STRUCTURE WITH THE FOLLOWING INFORMATION: JP#,TYPE 'B' OR TYPE 'C', STRUCTURE LENGTH, MAXIMUM ALLOWABLE SIGN AREA, MAXIMUM ALLOWABLE SIGN HEIGHT, DATE MANUFACTURED, AND MANUFACTURER'S NAME.
11. MAST ARMS TO BE TEMPORARILY SUPPORTED TO TAKE ALL LOAD OFF OF THE FIELD SPLICES WHILE BOLTS ARE BEING TIGHTENED IN ORDER TO FIRMLY SEAT THE FLANGE PLATES AND BASE PLATES.
12. POSTS FOR TUBULAR SIGN STRUCTURES TO BE FORMED TO THE RADII SHOWN ON THE PLANS BY FABRICATION METHODS WHICH WILL NOT CRIMP OR BUCKLE THE INTERIOR RADIUS OF THE PIPE BEND.
13. CLIPS, EYES OR REMOVABLE BRACKETS TO BE AFFIXED TO ALL POSTS AND MAST ARMS, AS NECESSARY, TO SECURE THE SIGN DURING SHIPPING AND FOR LIFTING AND MOVING DURING ERECTION. THIS IS TO PREVENT DAMAGE TO THE FINISHED GALVANIZED OR PAINTED SURFACES. BRACKETS ON TUBULAR SIGN STRUCTURES TO BE REMOVED AFTER ERECTION. DETAILS OF SUCH DEVICES TO BE SHOWN ON THE SHOP DRAWINGS.
14. BOLTS WITH DIAMETERS EXCEEDING BY UP TO 1/4 INCH THE DIAMETER OF THE BOLTS SHOWN ON THE PLANS MAY BE USED, PROVIDED THAT THE REQUIRED CLEARANCES AND EDGE DISTANCE ARE NOT REDUCED BELOW THAT REQUIRED FOR THE LARGER BOLT.
15. FABRICATE ALL SIGN STRUCTURES TO THE LARGEST PRACTICAL SECTIONS PRIOR TO GALVANIZING. SPLICE LOCATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AND THE CONTRACTOR SHALL NOT COMMENCE FABRICATION UNTIL SUCH SPLICE LOCATIONS ARE APPROVED.
16. ALL TYPE 'C' SIGN STRUCTURES TO HAVE A REMOVABLE CAP ON THE END OF THE HORIZONTAL MEMBER OF THE STRUCTURE.
17. WELDING OF STEEL TO CONFORM TO THE REQUIREMENTS OF AWS D1.1(LATEST REVISION). GRIND ALL AREAS TO BE WELDED TO BRIGHT METAL. COMPLETE ALL WELDING AND REQUIRED NON -DESTRUCTIVE TESTING BEFORE MATERIAL IS GALVANIZED. TEST ALL CIRCUMFERENTIAL WELDS NON- DESTRUCTIVELY USING THE ENHANCED MAGNETIC PARTICLE METHOD IN ACCORDANCE WITH ODOT STANDARD SPECIFICATION 720.03B. MAXIMUM WELD UNDERCUT SHALL BE 0.01".
18. ALL TUBE-TO-TRANSVERSE PLATE COMPLETE JOINT PENETRATION (CJP) GROOVE WELDS SHALL BE ULTRASONICALLY TESTED (UT) FOR CRACKS BEFORE AND AFTER GALVANIZATION.
19. WELD FILLER MATERIAL SHALL MEET ALL CHARPY V-NOTCH REQUIREMENTS SPECIFIED IN AWS D1.1 AT A TEMPERATURE OF 40°F.
20. ALL BASE METAL SHALL BE PREHEATED IN ACCORDANCE WITH AWS D1.1 PRIOR TO WELDING.
21. BACKING RING SHALL BE THOROUGHLY FUSED WITH THE WELD MATERIAL.
22. SMAW ELECTRODES SHALL BE THE LOW-HYDROGEN CLASSIFICATION AS DEFINED BY AWS D1.1.
23. STORAGE, HANDLING, AND USE OF LOW-HYDROGEN ELECTRODES SHALL BE IN CONFORMANCE WITH AWS D1.1.
24. THERE SHALL BE NO POST WELD HEAT TREATMENT OF THE TUBE-TO-TRANSVERSE PLATE CONNECTION.
25. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO ODOT BRIDGE DIVISION. A WELDING PROCEDURE SPECIFICATION (WPS) SHALL BE ATTACHED TO THE SHOP DRAWINGS.
26. BACKING RING MATERIAL SHALL BE IN ACCORDANCE WITH AWS D1.1.

REVISIONS

NO.	DESCRIPTION	DATE

PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
BRIDGE DESIGN DIVISION

7/5/2016
DATE

JASON D. GIEBLER
OKLA. REG. NO. 24272
Signing for Monotube Sheets: M1-M7

LICENSED PROFESSIONAL ENGINEER
JASON D. GIEBLER
24272
OKLAHOMA

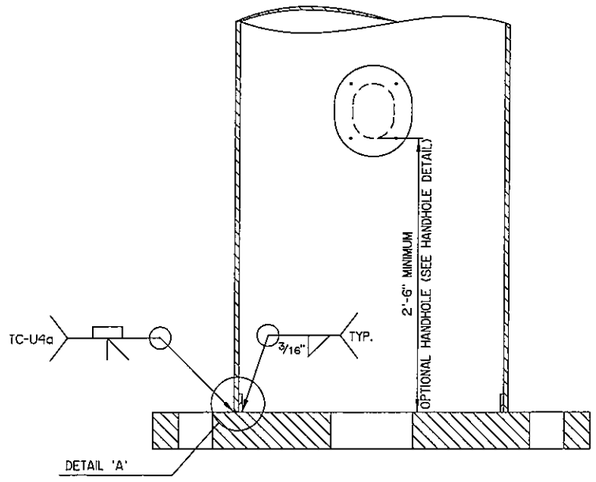
MONOTUBE STRUCTURE (TYPE 'B' & TYPE 'C')

Design	JG	JW
Detail	JG	JW
Check	JG	JW
Squad SUPERVISOR		
Engr. ENGINEER		

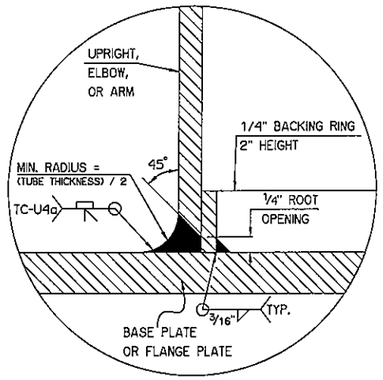
STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 14999(04) | SHEET NO. M1

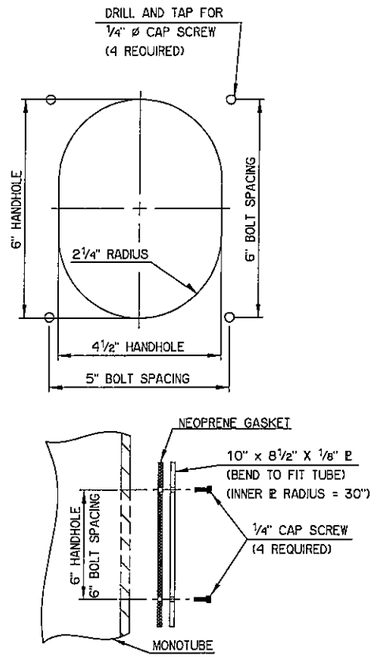
REVISIONS			
REV. NO.	DESCRIPTION		BY/DT.



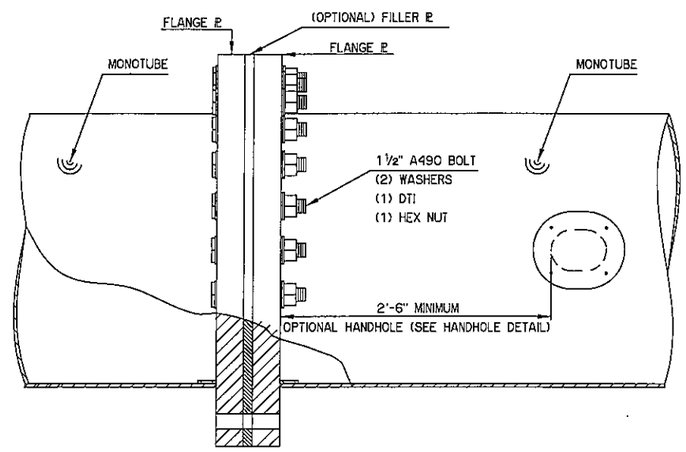
TUBE-TO-TRANSVERSE-PLATE DETAIL (TYPICAL)
(DETAIL TYPICAL FOR BASE AND FLANGE PLATES)



DETAIL 'A'



HANDHOLE DETAIL
(OPTIONAL)



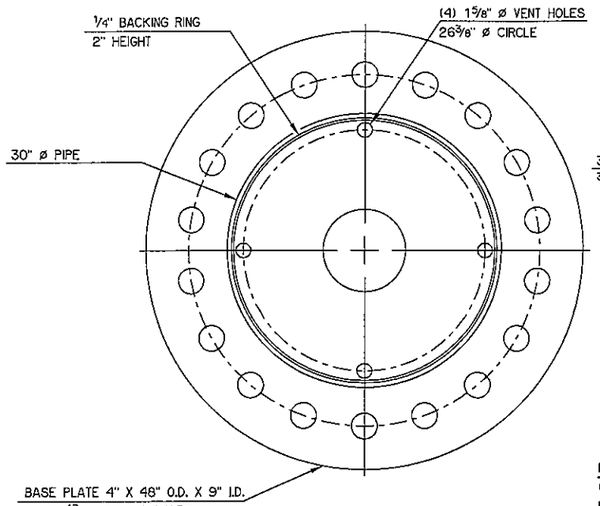
TYPICAL FLANGE CONNECTION DETAIL

NOTE: OPTIONAL HANDHOLES FOR TYPE 'B' STRUCTURES SHOULD BE POSITIONED ON THE ROADWAY FACE OF THE TUBE.

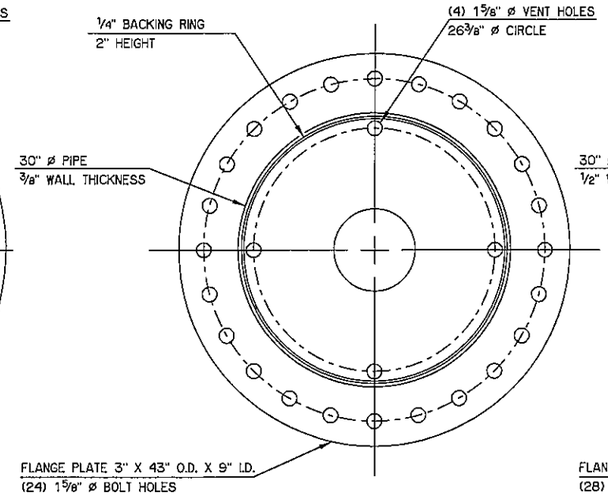
OPTIONAL FILLER PLATE NOTE:

DURING ASSEMBLY OF THE FLANGE CONNECTIONS, THE TWO ADJOINING MEMBERS SHALL NOT BE PULLED TOGETHER AND TIGHTENED IF A GAP OF OVER 1/8" EXISTS. IF A GAP EXCEEDING THIS TOLERANCE IS ENCOUTERED, THE CONTRACTOR IS PERMITTED TO USE A FILLER PLATE AT A HORIZONTAL MEMBER FLANGE CONNECTION. THE MAXIMUM THICKNESS OF A FILLER PLATE AT ANY SINGLE FLANGE CONNECTION IS 1". IF MORE THAN 1", BUT LESS THAN OR EQUAL TO 6", IS REQUIRED FOR ASSEMBLY THE REQUIRED DIMENSION SHALL BE SEPERATED INTO TWO DIFFERENT FLANGE CONNECTIONS AND THE TWO FLANGE CONNECTIONS SHALL BE LOCATED SYMMETRICALLY ALONG THE TYPE B MONOTUBE STRUCTURE. ADDITION OF FILLER PLATES SHALL BE AT THE COST OF THE CONTRACTOR.

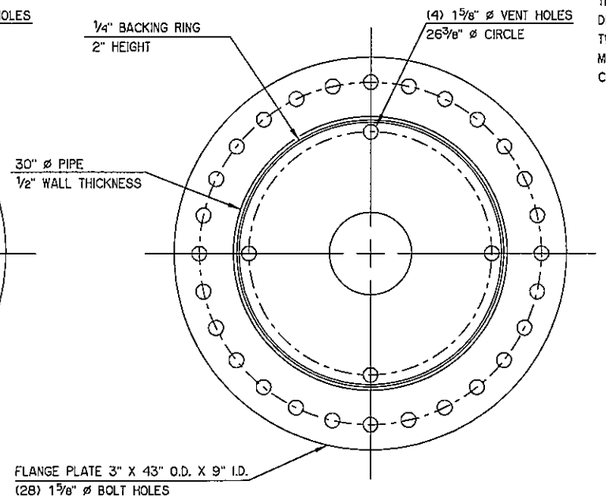
MONOTUBE SCHEDULE				
SPAN	TUBE DIAMETER (ALL TUBES)	TUBE THICKNESS (ALL TUBES)	BASE PL	FLANGE PL
70FT - 90FT	30"	3/8"	TYPICAL	A
95FT - 150FT	30"	1/2"	TYPICAL	B



BASE PLATE



FLANGE PLATE 'A'



FLANGE PLATE 'B'

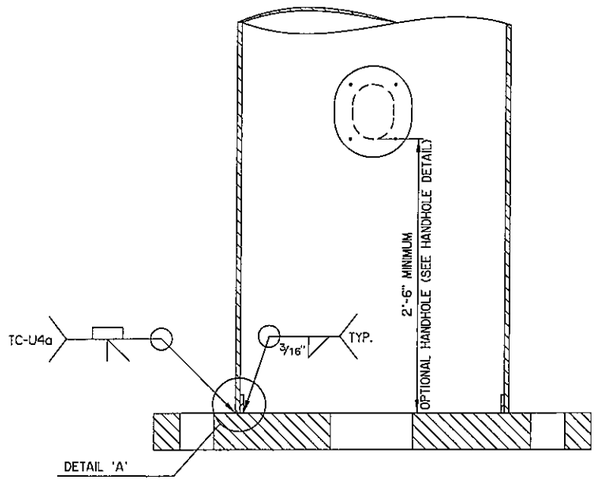
MONOTUBE STRUCTURE
(TYPE 'B' DETAIL)

Design	JG	JW
Detail	JG	JW
Check	JG	JW

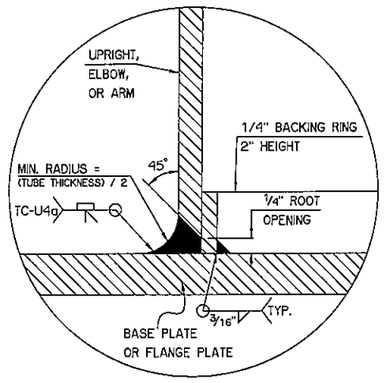
Supvr: SUPERVISOR
Engr: ENGINEER

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 14999(04) | SHEET NO. M2

REVISIONS		
REV. NO.	DESCRIPTION	DATE



TUBE-TO-TRANSVERSE-PLATE DETAIL (TYPICAL)
(DETAIL TYPICAL FOR BASE AND FLANGE PLATES)



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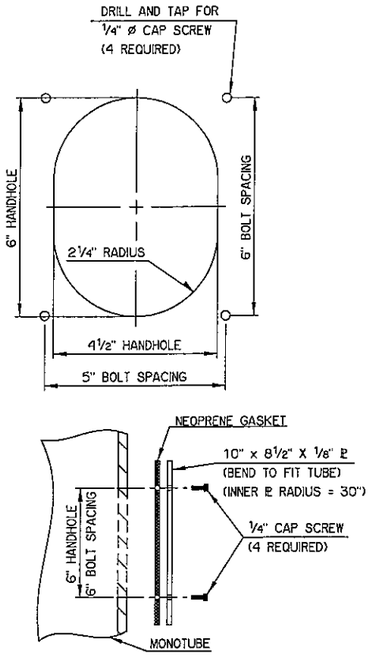
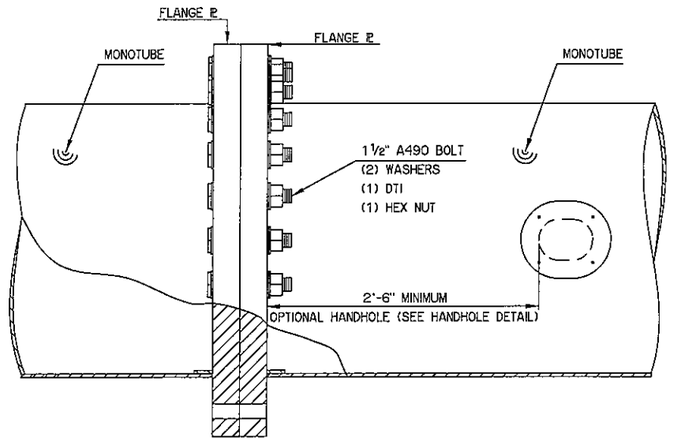
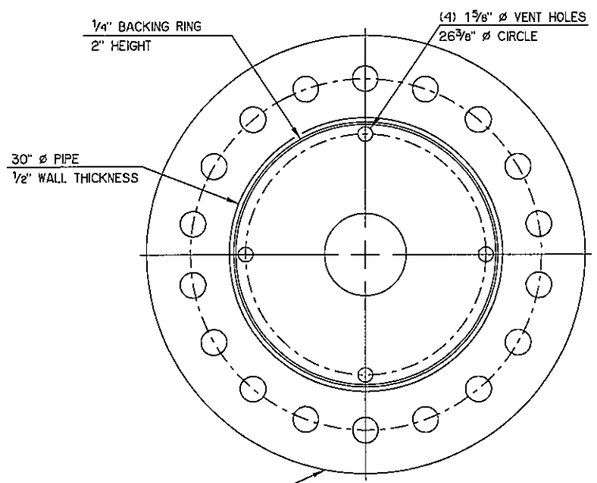


HANDHOLE DETAIL
(OPTIONAL)

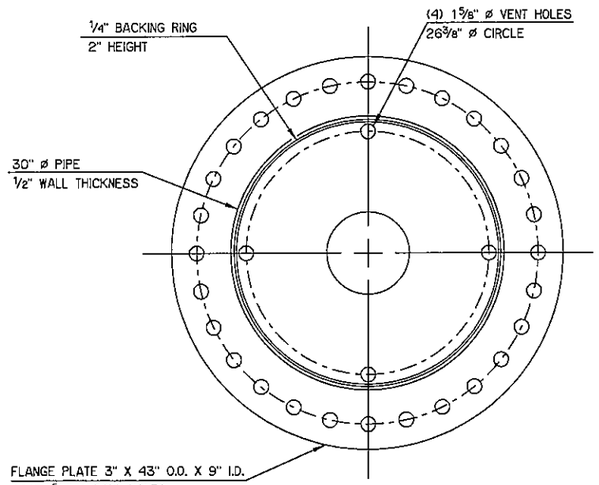


TYPICAL FLANGE CONNECTION DETAIL

NOTE: OPTIONAL HANDHOLES FOR TYPE 'C' STRUCTURES SHOULD BE POSITIONED ON THE DOWN TRAFFIC FACE OF THE TUBE.



BASE PLATE



FLANGE PLATE

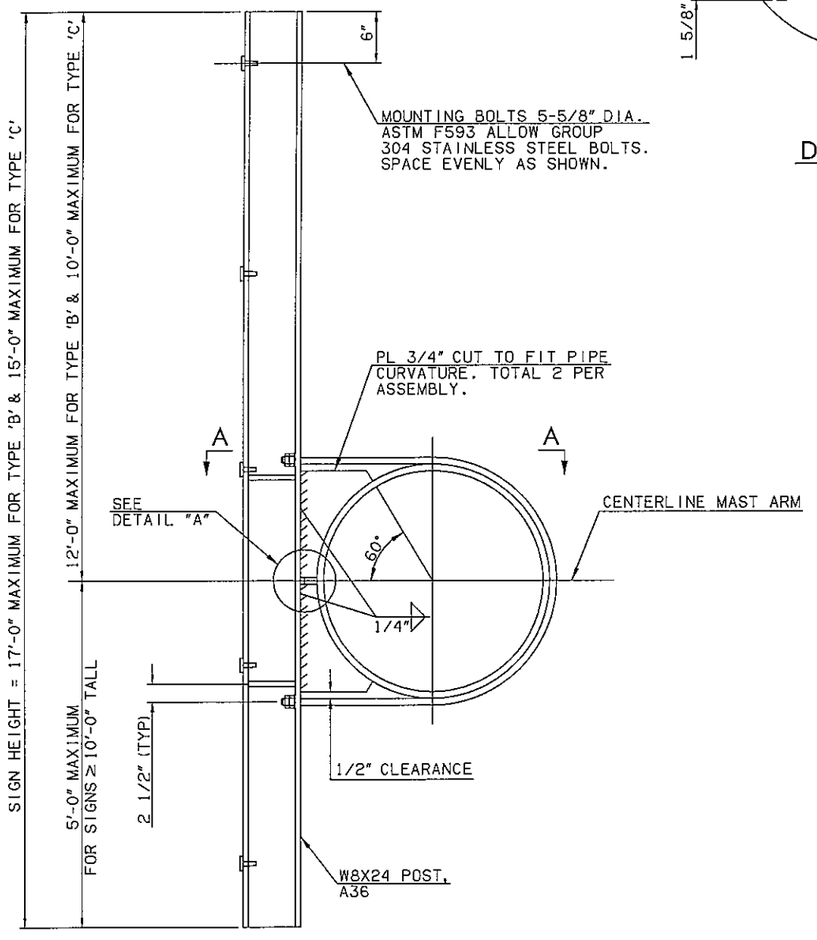
MONOTUBE STRUCTURE
(TYPE 'C' DETAILS)

Design	JG	JW
Detail	JG	JW
Check	JG	JW

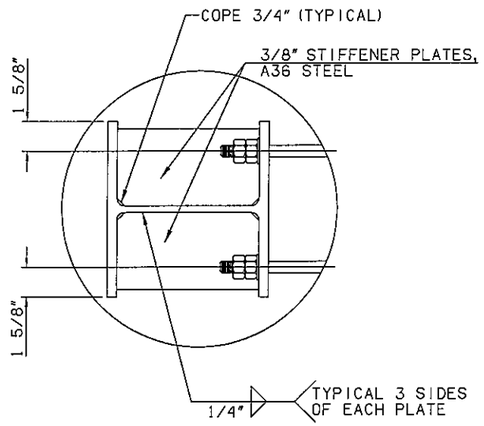
Squad: SUPERVISOR
Engr. ENGINEER

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 14999(04) | SHEET NO. M3

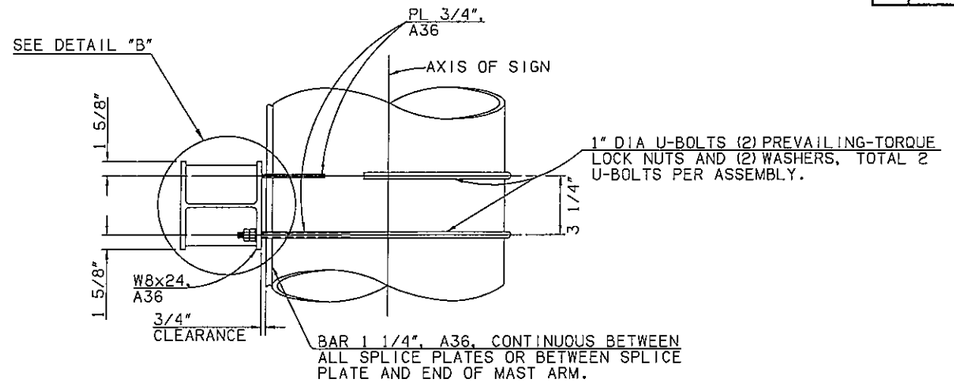
REVISIONS		
REV. NO.	DESCRIPTION	DATE



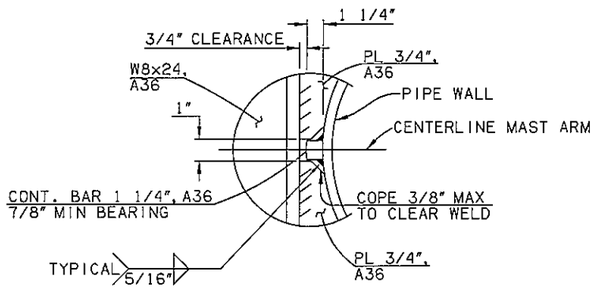
SIGN MOUNTING BRACKET



DETAIL 'B'



VIEW A-A



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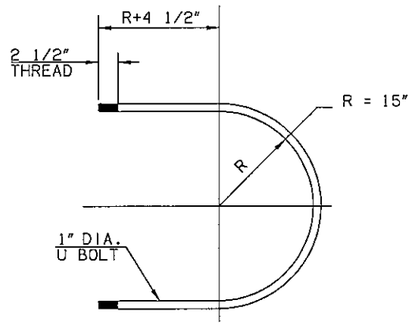


U BOLT DETAIL

GENERAL NOTES

1. ALL U-BOLTS SHALL CONFORM TO THE MATERIAL SPECIFICATIONS OF ASTM A193-B7, AND THREADS SHALL CONFORM TO ASTM A325 SECTION 7.2. ALL U-BOLT NUTS SHALL BE PREVAILING- TORQUE LOCK NUTS AND SHALL CONFORM TO THE SPECIFICATION OF ASTM A194-2H. ALL WASHERS SHALL CONFORM TO THE SPECIFICATIONS OD ASTM F436.

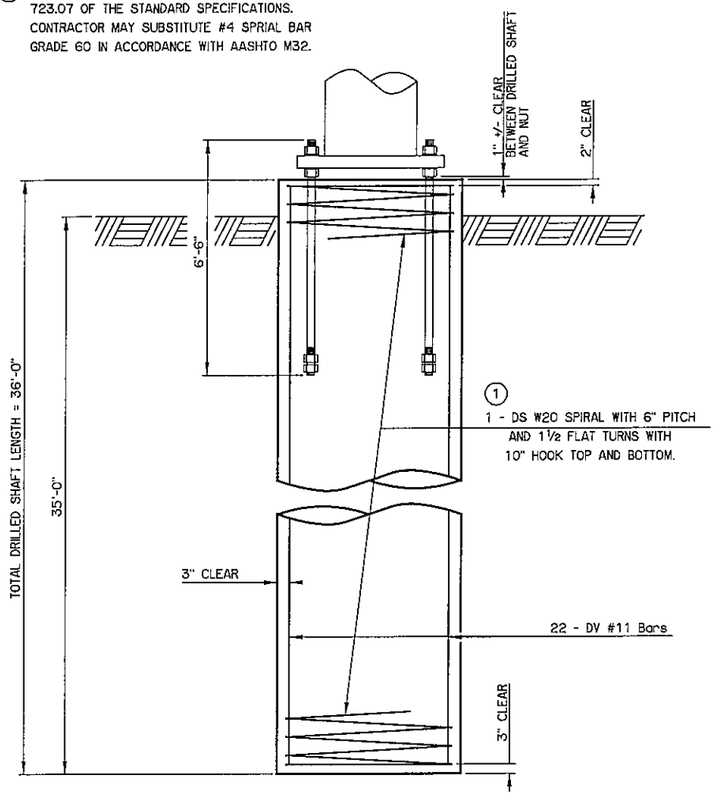
MONOTUBE STRUCTURE
(OVERHEAD SIGN BRACKET DETAIL)

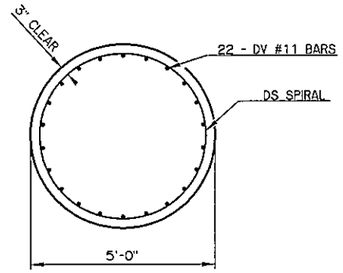
Design	JG	JW
Detail	JG	JW
Check	JG	JW
Supvr. SUPERVISOR		
Engr. ENGINEER		

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 14999(04) | SHEET NO. M4

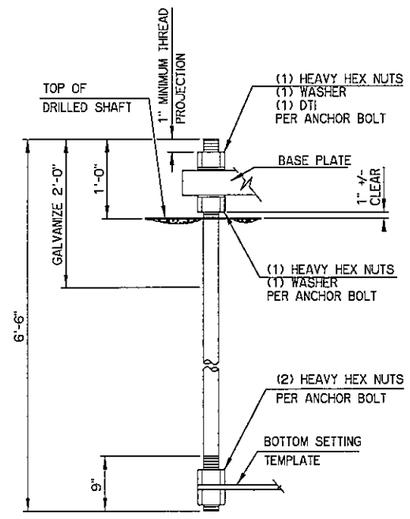
REVISIONS		
REV. NO.	DESCRIPTION	DATE

(1) USE W20 SPIRAL IN ACCORDANCE WITH 723.07 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY SUBSTITUTE #4 SPRIAL BAR GRADE 60 IN ACCORDANCE WITH AASHTO M32.





TYPICAL SECTION THRU
60" DRILLED SHAFT



2½" ø ANCHOR BOLT DETAIL
(F1554 GR. 55)

DRILLED SHAFT NOTES:

MATERIAL PROPERTIES
- CLASS 'AA' CONCRETE = 4,000 PSI
- REINFORCING STEEL = 60,000 PSI

THE DRILLED SHAFT FOR THE MONOTUBE SIGN STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING PROPERTIES:

-- COHESIVE SOIL
- UNIT WEIGHT = 120 PCF
- COHESION = 1000 PSF

-- GRANULAR SOIL
- UNIT WEIGHT = 120 PCF
- INTERNAL FRICTION ANGLE = 28 DEGREES

IF SITE CONDITIONS ARE ENCOUNTERED THAT DIFFER FROM THOSE SPECIFIED ABOVE, THE ENGINEER SHALL BE CONTACTED. SUCH CONDITIONS ARE, BUT NOT LIMITED TO, AS FOLLOWS:

-- SOIL HAS HIGH ORGANIC CONTENT OR CONSISTS OF SATURATED SILT AND CLAY.
-- THE SITE WON'T SUPPORT THE WEIGHT OF THE DRILLING RIG.
-- ROCK IS ENCOUNTERED.

DRILLED SHAFTS SHALL BE CONSTRUCTED ACCORDING TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND ASSOCIATED SPECIAL PROVISIONS. THE USE OF THE "DOUBLE CASING METHOD" IS NOT ALLOWED FOR THIS DESIGN.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING THAT THE LOCATION AND ELEVATION OF THE DRILLED SHAFT ARE AS REQUIRED IN THE PLANS. THE CONTRACTOR SHALL COORDINATE WITH THE MONOTUBE SUPPLIER TO ENSURE THAT THE ORIENTATION OF THE ANCHOR BOLTS IN THE DRILLED SHAFT ALLOW FOR PROPER ALIGNMENT OF ALL BASE PLATES AND FLANGES UPON FINAL INSTALLATION.

NOTE: FOR ADDITIONAL DRILLED SHAFT DETAILS, SEE "MONOTUBE STRUCTURE (DRILLED SHAFT DETAILS) (SHEET 3 OF 3)". FOR DRILLED SHAFT DETAILS IN THE MEDIAN, SEE "MONOTUBE STRUCTURE (DRILLED SHAFT DETAILS) (SHEET 2 OF 3)".

DRILLED SHAFT BAR LIST
(INCLUDED IN CONTRACT UNIT PRICE OF DRILLED SHAFT)

MARK	SIZE	NO.	FORM	LENGTH
PLAIN REINFORCING BARS				
DS	W20	1	BNT	1,052'-9"
DV	#11	22	STR	35'-7"

BASIS OF PAYMENT

	ITEM NO.	DESCRIPTION	UNIT
(2)	516(A)	DRILLED SHAFTS 60" DIAMETER	L.F.

(2) ALL COSTS OF CONCRETE AND REINFORCING IN DRILLED SHAFTS SHALL BE INCLUDED IN THE PRICE BID FOR "DRILLED SHAFTS 60" DIAMETER".

MONOTUBE STRUCTURE
(DRILLED SHAFT DETAILS)
(SHEET 1 OF 3)

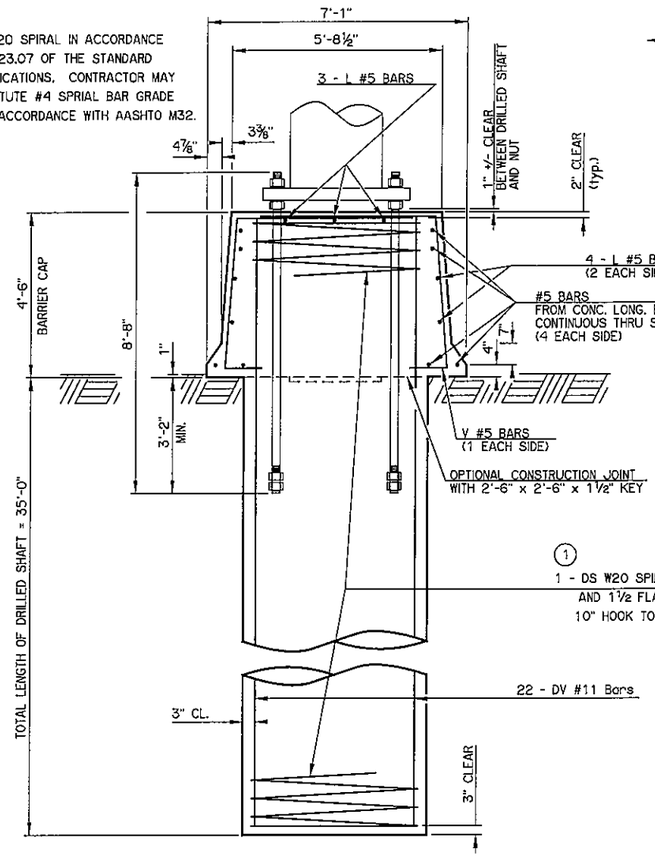
Design	JG	JW
Detail	JG	JW
Check	JG	JW

Squad: SUPERVISOR
Engr. ENGINEER

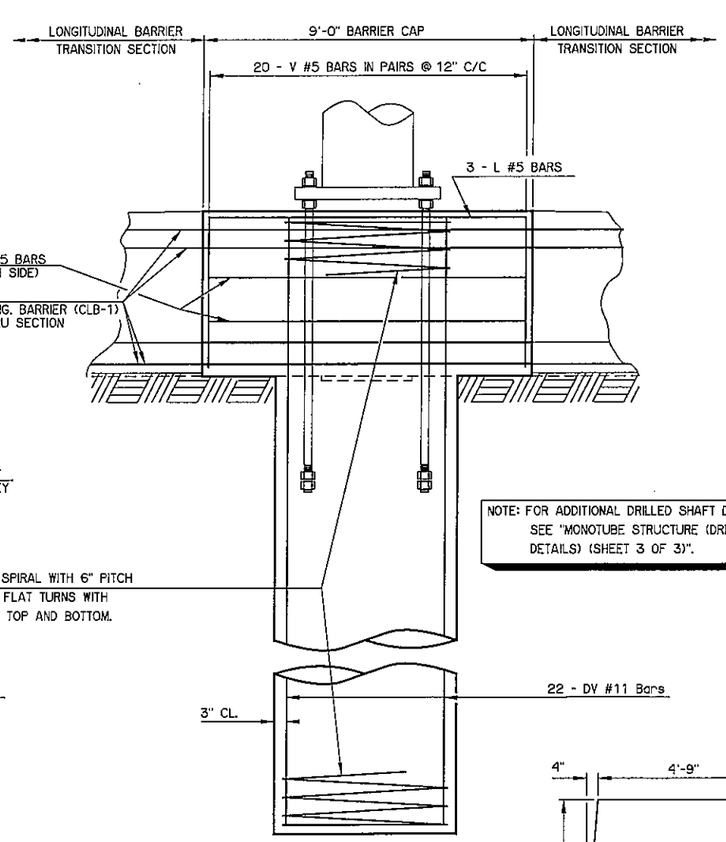
STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 14999(04) | SHEET NO. M5

REVISIONS			
REV. NO.	DESCRIPTION		DATE

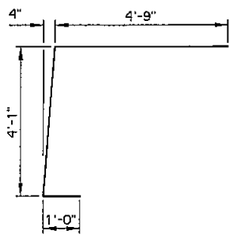
(1) USE W20 SPIRAL IN ACCORDANCE WITH 723.07 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY SUBSTITUTE #4 SPRIAL BAR GRADE 60 IN ACCORDANCE WITH AASHTO M32.



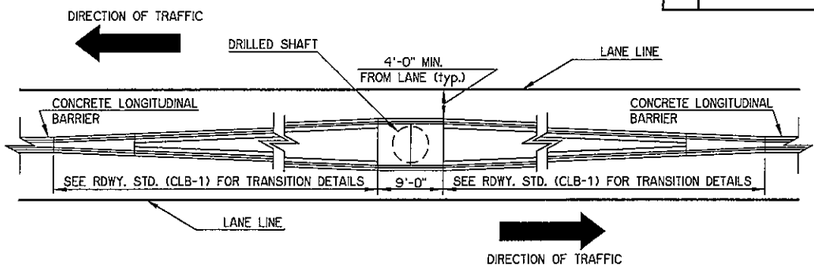
CROSS SECTION (PARALLEL TO TRAFFIC)



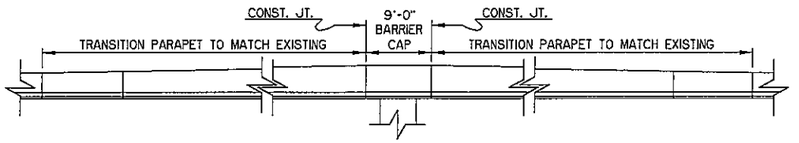
CROSS SECTION (PERPENDICULAR TO TRAFFIC)



V #5 BAR X 9'-11"



CONCRETE LONGITUDINAL BARRIER DETAIL (PLAN VIEW)



CONCRETE LONGITUDINAL BARRIER DETAIL (ELEVATION VIEW)

NOTE: FOR ADDITIONAL DRILLED SHAFT DETAILS, SEE "MONOTUBE STRUCTURE (DRILLED SHAFT DETAILS) (SHEET 3 OF 3)".

NOTE: CONCRETE LONGITUDINAL BARRIER SHALL BE CONSTRUCTED IN ACCORDANCE WITH ROADWAY STANDARD CLB-1 EXCEPT FOR AS SHOWN HERE.

DRILLED SHAFT NOTES:

MATERIAL PROPERTIES
- CLASS 'AA' CONCRETE = 4,000 PSI
- REINFORCING STEEL = 60,000 PSI

THE DRILLED SHAFT FOR THE MONOTUBE SIGN STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING PROPERTIES:

-- COHESIVE SOIL
- UNIT WEIGHT = 120 PCF
- COHESION = 1000 PSF

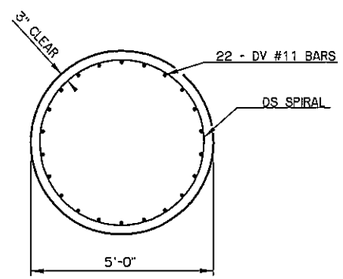
-- GRANULAR SOIL
- UNIT WEIGHT = 120 PCF
- INTERNAL FRICTION ANGLE = 28 DEGREES

IF SITE CONDITIONS ARE ENCOUNTERED THAT DIFFER FROM THOSE SPECIFIED ABOVE, THE ENGINEER SHALL BE CONTACTED. SUCH CONDITIONS ARE, BUT NOT LIMITED TO, AS FOLLOWS:

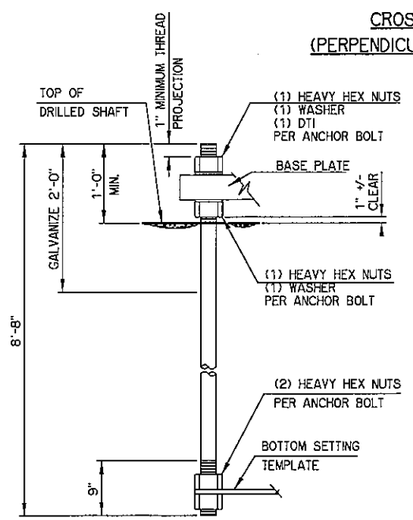
-- SOIL HAS HIGH ORGANIC CONTENT OR CONSISTS OF SATURATED SILT AND CLAY.
-- THE SITE WON'T SUPPORT THE WEIGHT OF THE DRILLING RIG.
-- ROCK IS ENCOUNTERED.

DRILLED SHAFTS SHALL BE CONSTRUCTED ACCORDING TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND ASSOCIATED SPECIAL PROVISIONS. THE USE OF THE "DOUBLE CASING METHOD" IS NOT ALLOWED FOR THIS DESIGN.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING THAT THE LOCATION AND ELEVATION OF THE DRILLED SHAFT ARE AS REQUIRED IN THE PLANS. THE CONTRACTOR SHALL COORDINATE WITH THE MONOTUBE SUPPLIER TO ENSURE THAT THE ORIENTATION OF THE ANCHOR BOLTS IN THE DRILLED SHAFT ALLOW FOR PROPER ALIGNMENT OF ALL BASE PLATES AND FLANGES UPON FINAL INSTALLATION.



TYPICAL SECTION THRU 60" DRILLED SHAFT



2½" ø ANCHOR BOLT DETAIL (F1554 GR. 55)

BARRIER CAP QUANTITIES
(INCLUDED IN CONTRACT UNIT PRICE OF DRILLED SHAFT)

ITEM	UNIT	QTY.
CLASS AA CONCRETE	CY	12.50
REINFORCING STEEL	LB	270.00

BARRIER CAP BAR LIST
(INCLUDED IN CONTRACT UNIT PRICE OF DRILLED SHAFT)

MARK	SIZE	NO.	FORM	LENGTH
PLAIN REINFORCING BARS				
L	#5	7	STR	8'-8"
V	#5	20	BNT	9'-11"

DRILLED SHAFT BAR LIST
(INCLUDED IN CONTRACT UNIT PRICE OF DRILLED SHAFT)

MARK	SIZE	NO.	FORM	LENGTH
PLAIN REINFORCING BARS				
DS	W20	1	BNT	1,156'-6"
DV	#11	22	STR	39'-1"

BASIS OF PAYMENT

ITEM NO.	DESCRIPTION	UNIT
(2) 516(A)	DRILLED SHAFTS 60" DIAMETER	L.F.

(2) ALL COSTS OF CONCRETE AND REINFORCING IN DRILLED SHAFTS SHALL BE INCLUDED IN THE PRICE BID FOR "DRILLED SHAFTS 60" DIAMETER". ALL COSTS OF CONCRETE AND REINFORCING IN THE BARRIER CAP SHALL BE INCLUDED IN THE PRICE BID FOR "DRILLED SHAFTS 60" DIAMETER".

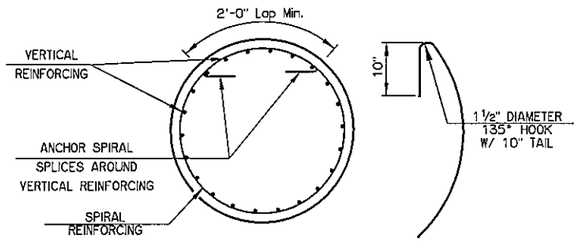
MONOTUBE STRUCTURE (DRILLED SHAFT DETAILS) (SHEET 2 OF 3)

Design	JG	JW
Detail	JG	JW
Check	JG	JW
Supvr: SUPERVISOR		
Engr. ENGINEER		

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

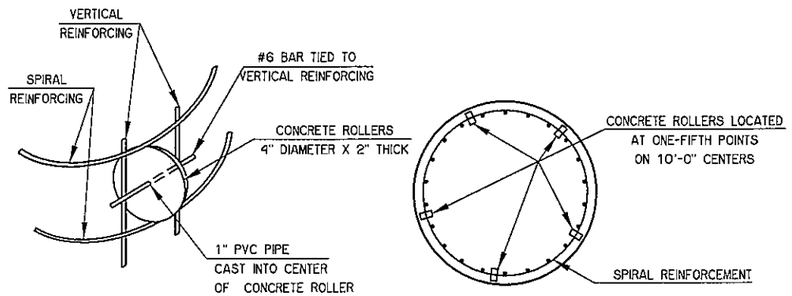
JOB PIECE NO. 14999(04) | SHEET NO. M6

REVISIONS		
REV. NO.	DESCRIPTION	DATE



SPIRAL REINFORCING SPLICE DETAIL

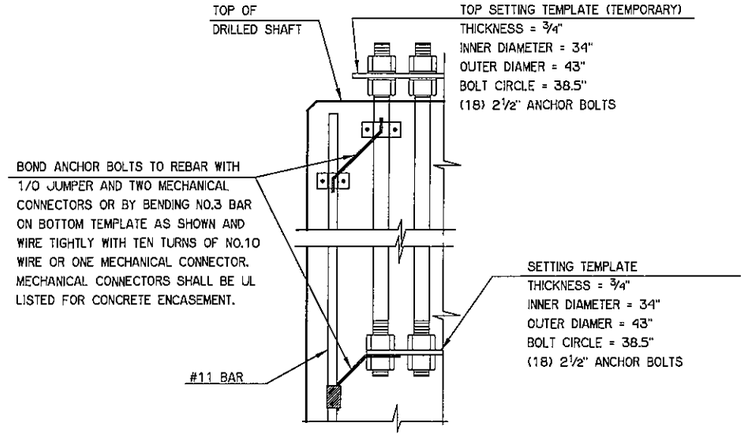
NOTE: SPIRAL BAR LENGTH QUANTITY DOES NOT INCLUDE LAP. IF LAP IS REQUIRED, THE LENGTH OF THE LAP SHALL BE AS SHOWN.



ROLLER INSTALLATION ROLLER PLACEMENT

DETAIL OF CONCRETE ROLLERS

NOTE: CONCRETE USED IN THE CONCRETE ROLLERS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I. SLAB BOLSTERS, HIGH CHAIRS, AND PLASTIC ROLLERS SHALL NOT BE SUBSTITUTED FOR THE CONCRETE ROLLERS.



ANCHOR BOLT TEMPLATE AND LIGHTING PROTECTION SYSTEM

MONOTUBE STRUCTURE
(DRILLED SHAFT DETAILS)
(SHEET 3 OF 3)

Design	JG	JW
Detail	JG	JW
Check	JG	JW

Suprv: SUPERVISOR
Engr. ENGINEER

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 14999(04) | SHEET NO. M7

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

SURVEY DATA
U.S. HIGHWAY No.69
FROM
INDIAN NATION TURNPIKE TO STATE HIGHWAY No.113
PITTSBURG COUNTY
SURVEY WORK ORDER No.3751(1)
ENGINEERING CONTRACT No.529
JOB No.14815(04)

SURVEY DATA

1. HORIZONTAL CONTROL:

   A. Horizontal control for this survey is from the Oklahoma State Plane Coordinate System, South Zone, Nod 83 (1993). The distances shown are grid distances in meters.

   B. Accuracy – 3rd Order or better

2. BEARINGS:

   A. The bearings shawn are grid bearings derived from the Oklahoma State Plane Coordinate System, South Zone, NAD 83 (1993), and are not astronomical. The angle af variance between Grid North(GN) and Astronamicol True North(TN) is depicted diagrammaticolly

3. VERTICAL CONTROL:

   A. Level data is NAVD 1988, in meters.

   B. Accuracy – 3rd Order or better

4. SECTION LINE NUMERICAL DESCRIPTION:

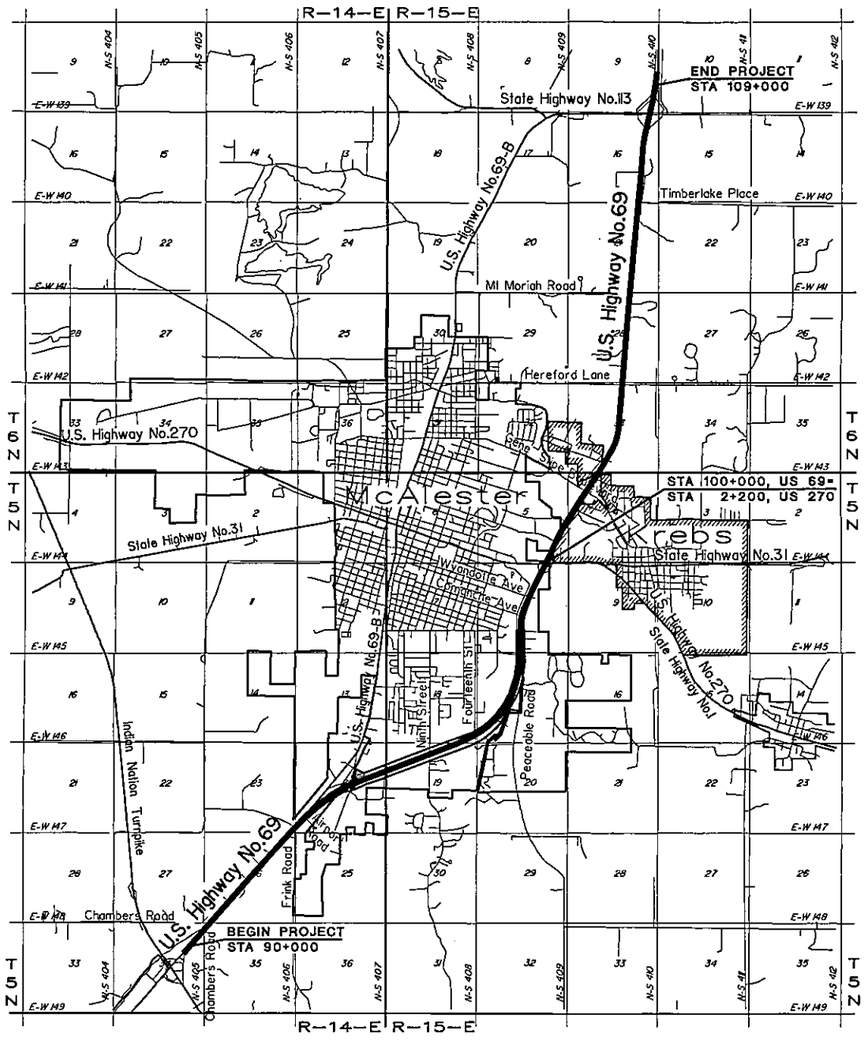
   A. The Section Line Numerical Description used on this survey is as set out in Section I of Senate Bill No.667 of the State of Oklohoma Thirty–first Legislature.

SCALES

Plan	1:1000
Profile Horizontal	1:1000
Profile Vertical	1:500
Layout Map	1:50000±

McAlester, Oklahoma (Inc. Population 17,783)
Krebs, Oklahoma (Inc. Population 2,051)

This entire project is located within Pittsburg County, Oklahoma. It is portially located within the corporate and urban city limits of the cities of McAlester and Krebs, Oklahoma.



INDEX OF SHEETS

The Surveyor's Report for this project contains additional survey information. It includes copies of the Certified Corner Record for section corners, references for aerial control, bench level run reports, and other pertinent survey information required for this Survey Work Order.

CRAIG & KEITHLINE, INC.
Consulting Engineers
Tulsa, Oklahoma

Craig & Keithline, Inc.
Oklahoma Certificate of Authorization No. 1216
Renewal Date - June 30, 2018

INDIAN NATIONS TURNPIKE - HORIZONTAL ALIGNMENT

A002 Survey Baseline (SBL) and Construction Reference Line(CRL)

2926		N 562792.8561	E 2625026.7576	S	23+22.395		
	N 35-22'24.9" W	958.439 ft					
2965		N 563574.3620	E 2624471.9126	S	32+80.833	U.S. HIGHWAY 69	
	N 35-22'24.9" W	1010.061 ft					
2928		N 564397.9609	E 2623887.1829	S	42+90.895		

U.S. HIGHWAY 270 - HORIZONTAL ALIGNMENT

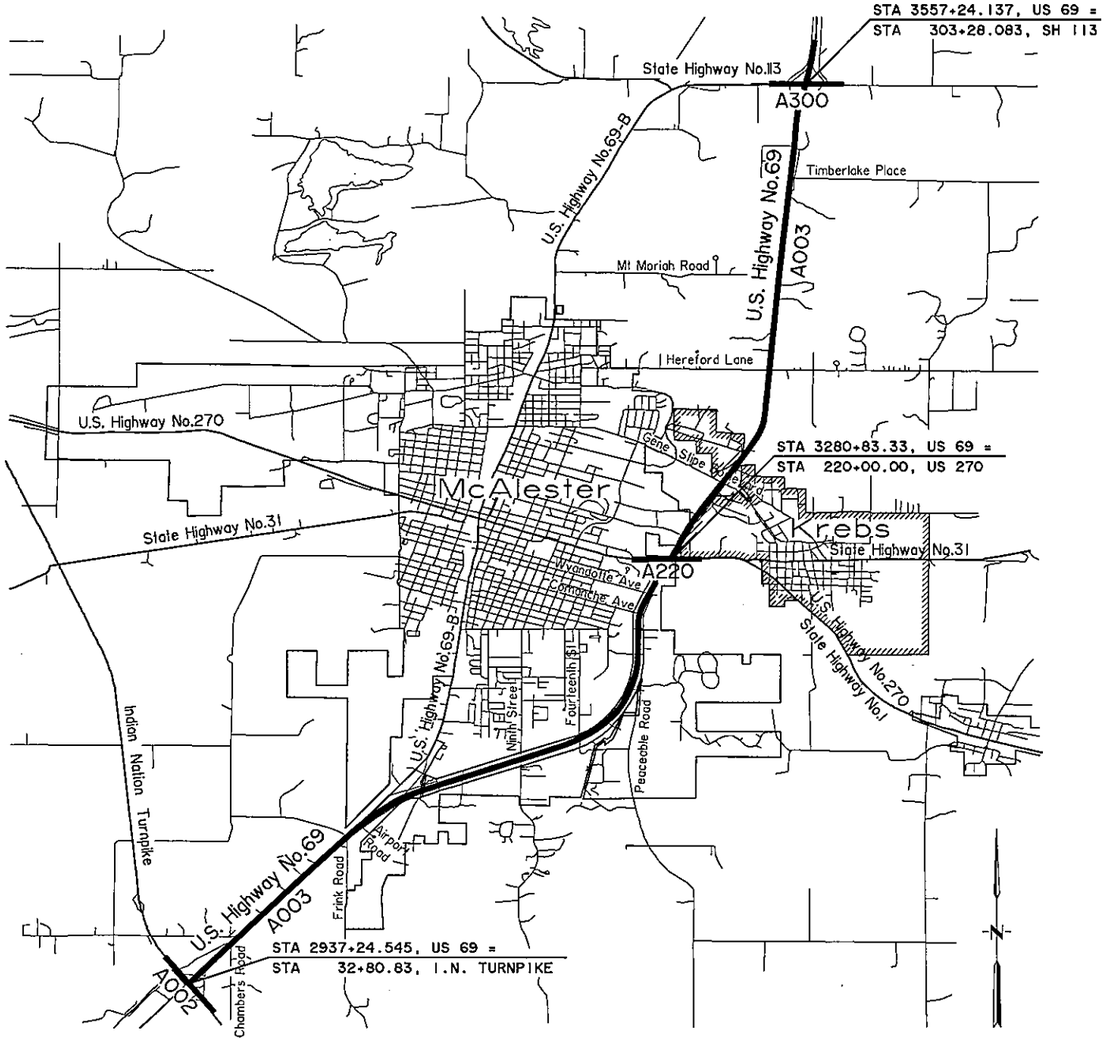
A220 Survey Baseline (SBL) and Construction Reference Line(CRL)

2500		N 587687.8991	E 2644443.3364	S	206+80.000		
	N 88-30'11.3" E	978.536 ft					
2502		N 587713.4608	E 2645421.5369	S	216+58.536		
	N 88-30'11.3" E	341.464 ft					
2934		N 587722.3807	E 2645762.8860	S	220+00.000	U.S. HIGHWAY 69	
	N 88-30'11.3" E	784.046 ft					
2503		N 587742.8618	E 2646546.6641	S	227+84.046		
	N 88-30'11.3" E	975.954 ft					
2501		N 587768.3561	E 2647522.2854	S	237+60.000		

STATE HIGHWAY 113 - HORIZONTAL ALIGNMENT

A300 Survey Baseline (SBL) and Construction Reference Line(CRL)

3277		N 614221.1548	E 2649762.6815	S	288+62.020		
	N 89-07'05.3" E	246.062 ft					
3208		N 614224.9418	E 2650008.7149	S	291+08.083		
	N 89-07'05.3" E	666.340 ft					
3267		N 614235.1972	E 2650674.9758	S	297+74.422		
	N 89-07'05.3" E	553.661 ft					
3209		N 614243.7184	E 2651228.5712	S	303+28.083	U.S. HIGHWAY 69	
	N 89-07'05.3" E	415.620 ft					
9095		N 614250.1150	E 2651644.1422	S	307+43.704		
	N 88-49'22.5" E	119.039 ft					
3234		N 614252.5604	E 2651763.1563	S	308+62.743		
	N 88-49'22.5" E	510.380 ft					
3210		N 614263.0450	E 2652273.4281	S	313+73.122		
	N 88-49'22.5" E	246.062 ft					
3278		N 614268.0998	E 2652519.4387	S	316+19.185		



ALIGNMENT LOCATION MAP

Not to Scale

U.S. HIGHWAY 69 - HORIZONTAL ALIGNMENT

A003 Survey Baseline (SBL) and Construction Reference Line(CRL)

2965		N 563574.3620	E 2624471.9126	S	2937+24.545	INDIAN NATIONS TURNPIKE	
	N 39-38'50.5" E	1766.660 ft					
PC29	DB = N 39-38'50.5" E	N 564934.6655	E 2625599.1488	S	2954+91.205		
	T = 155.6497	L = 311.2803	DEL= + 01-33'23.1"				
P129	DC = N 40-25'32.0" E	N 565054.5136	E 2625698.4628	S	2956+46.855		
	LC = 311.2708	R =11459.1330	DEG= 00-30'00.0"				
PT29	DA = N 41-12'13.6" E	N 565171.6200	E 2625800.9954	S	2958+02.486		
	N 41-12'13.6" E	1260.933 ft					
PC30	DB = N 41-12'13.6" E	N 566120.3103	E 2626631.6211	S	2970+63.419		
	T = 155.6498	L = 311.2804	DEL= + 01-33'23.1"				
P130	DC = N 40-25'32.0" E	N 566237.4167	E 2626734.1537	S	2972+19.068		
	LC = 311.2709	R =11459.1330	DEG= 00-30'00.0"				
PT30	DA = N 39-38'50.5" E	N 566357.2649	E 2626833.4677	S	2973+74.699		
	N 39-38'50.5" E	8969.360 ft					
PC1	DB = N 39-38'50.5" E	N 573263.5471	E 2632556.4639	S	3063+44.059		
	T = 1407.8422	L = 2742.1480	DEL= + 31-59'30.4"				
P11	DC = N 55-38'35.7" E	N 574347.5660	E 2633454.7527	S	3077+51.901		
	LC = 2706.6651	R = 4911.0570	DEG= 01-10'00.0"				
PT1	DA = N 71-38'21.0" E	N 574791.0371	E 2634790.9237	S	3090+86.207		
	N 71-38'21.0" E	63.357 ft					
2969		N 574810.9944	E 2634851.0549	S	3091+49.564		
	N 71-38'21.0" E	1242.099 ft					
PC6	DB = N 71-38'21.0" E	N 575202.2564	E 2636029.9210	S	3103+91.663		
	T = 564.1706	L = 1127.9363	DEL= - 03-45'35.3"				
P16	DC = N 69-45'33.3" E	N 575379.9705	E 2636565.3705	S	3109+55.834		
	LC = 1127.7339	R =17188.6995	DEG= 00-20'00.0"				
PT6	DA = N 67-52'45.7" E	N 575592.4135	E 2637088.0142	S	3115+19.600		
	N 67-52'45.7" E	4614.348 ft					
PC2	DB = N 67-52'45.7" E	N 577329.9832	E 2641362.7139	S	3161+33.947		
	T = 3365.9490	L = 5901.5932	DEL= - 68-51'07.4"				
P12	DC = N 33-27'12.0" E	N 578597.4583	E 2644480.9056	S	3194+99.896		
	LC = 5552.8515	R = 4911.0570	DEG= 01-10'00.0"				
PT2	DA = N 00-58'21.7" W	N 581962.9223	E 2644423.7652	S	3220+35.541		
	N 00-58'21.7" W	2158.026 ft					
PC3	DB = N 00-58'21.7" W	N 584120.6376	E 2644387.1306	S	3241+93.567		
	T = 668.8669	L = 1314.1915	DEL= + 26-17'02.0"				
P13	DC = N 12-10'09.3" E	N 584789.4082	E 2644375.7759	S	3248+62.434		
	LC = 1302.6983	R = 2864.7832	DEG= 02-00'00.0"				
PT3	DA = N 25-18'40.3" E	N 585394.0633	E 2644661.7394	S	3255+07.758		
	N 25-18'40.3" E	2575.575 ft					
2934		N 587722.3807	E 2645762.8860	S	3280+83.333	US HIGHWAY 270	
	N 25-18'40.3" E	2274.254 ft					
PC9	DB = N 25-18'40.3" E	N 589778.3044	E 2646735.2076	S	3303+57.587		
	T = 422.1978	L = 843.5375	DEL= + 06-19'35.6"				
P19	DC = N 28-28'28.0" E	N 590159.9709	E 2646915.7116	S	3307+79.785		
	LC = 843.1090	R = 7639.4220	DEG= 00-45'00.0"				
PT9	DA = N 31-38'15.8" E	N 590519.4224	E 2647137.1741	S	3312+01.125		
	N 31-38'15.8" E	4474.648 ft					
PC5	DB = N 31-38'15.8" E	N 594329.0559	E 2649484.3354	S	3356+75.773		
	T = 749.5979	L = 1468.9079	DEL= - 28-09'14.8"				
P15	DC = N 17-33'38.4" E	N 594967.2499	E 2649877.5344	S	3364+25.371		
	LC = 1454.1742	R = 2989.3390	DEG= 01-55'00.0"				
PT5	DA = N 03-29'01.0" E	N 595715.4627	E 2649923.0821	S	3371+44.681		
	N 03-29'01.0" E	15735.041 ft					
PC8	DB = N 03-29'01.0" E	N 611421.4294	E 2650879.1883	S	3528+79.722		
	T = 419.2505	L = 838.1271	DEL= + 04-11'26.3"				
P18	DC = N 05-34'44.1" E	N 611839.9052	E 2650904.6631	S	3532+98.972		
	LC = 837.9403	R =11459.1330	DEG= 00-30'00.0"				
PT8	DA = N 07-40'27.3" E	N 612255.4006	E 2650960.6501	S	3537+17.849		
	N 07-40'27.3" E	2006.287 ft					
2974		N 614243.7184	E 2651228.5712	S	3557+24.137	STATE HIGHWAY 113	
	N 07-40'27.3" E	2250.835 ft					
PC10	DB = N 07-40'27.3" E	N 616474.3938	E 2651529.1494	S	3579+74.972		
	T = 159.1956	L = 318.3092	DEL= - 03-10'59.2"				
P110	DC = N 06-04'57.7" E	N 616632.1635	E 2651550.4085	S	3581+34.168		
	LC = 318.2683	R = 5729.5665	DEG= 01-00'00.0"				
PT10	DA = N 04-29'28.1" E	N 616790.8703	E 2651562.8743	S	3582+93.281		

SURVEY CONTROL DATA

Horizontal Control

1. Horizontal control for this survey is the NGS Oklahoma State Plane Coordinate System NAD 83(1993), Lambert Projection (South Zone).
2. Accuracy - Third Order/Class I or better.

Bearings

The bearings shown are grid bearings derived from the NGS Oklahoma State Plane Coordinate System and are not Astronomical. The angle of variance between grid north (GN) and the astronomical true north (TN) is depicted diagrammatically.

Vertical Control

1. Level datum is Mean Sea Level (NGS), NAVD 1988.
2. Accuracy - Third Order or better.

Survey	CKS	
Drawn	CKD	
Checked	RDS	
Approved		
Plotted	7/14/16	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

U.S. HIGHWAY 69 - McALESTER
SURVEY DATA SHEET
SURVEY BASELINE AND ALIGNMENTS

SWO 3751(1) Job Piece No. 14999(04) Sheet No. S2

S:\Projects\ODOT\US 69 Comanche\Vcadd\wp\ACAD PROJECT 11SR002-ALIGNMENT.dwg, 7/14/2016 11:08:15 AM

VERTICAL CONTROL

BM	Elevation	Description	Station
L-16	209.763	NGS Vertical Control Monument	
1	679.39	2" chiseled square at NE corner of triple concrete box culvert	Sta 2921+94, 100' Rt, SBL
2	699.14	80d spike in SE side of 12" Maple	Sta 2928+39, 200' Lt, SBL
3	697.47	2" chiseled square at top centerline of headwall	Sta 2935+73, 104' Rt, SBL
4	692.23	80d spike in SE side of 8" Water Oak	Sta 2945+49, 170' Lt, SBL
5	690.05	80d spike in E side of 12" Water Oak	Sta 2949+00, 70' Lt, SBL
6	691.44	80d spike in W side of 14" Water Oak	Sta 2954+79, 41' Rt, SBL
7	692.13	80d Spike in South Side 24" Sycamore	Sta 2958+60, 13' Rt, SBL
1007	698.82	No.5 rebar w/Aluminum cap in concrete	Sta 2961+83, 105' Lt, SBL
8	696.97	2" chiseled square at top of W end of headwall	Sta 2964+39, 52' Rt, SBL
9	712.65	80d spike in E side of 20" Walnut	Sta 2968+33, 118' Lt, SBL
10	714.06	80d spike in W side of 34" Water Oak	Sta 2972+34, 34' Lt, SBL
11	709.58	80d spike in SW side of Cedar	Sta 2976+26, 8' Lt, SBL
1011	720.13	No.5 Rebar w/aluminum cap set in concrete	Sta 2980+09, 167' Lt, SBL
1012	713.14	No.5 Rebar w/aluminum cap set in concrete	Sta 2984+15, 1' Lt, SBL
1013	728.91	No.5 Rebar w/aluminum cap set in concrete	Sta 2988+50, 205' Lt, SBL
12	731.00	Chiseled square at E end of concrete retaining wall	Sta 2991+41, 303' Lt, SBL
1014	733.83	No.5 Rebar w/aluminum cap set in concrete	Sta 2994+41, 201' Lt, SBL
13	731.52	2" chiseled square at top curb, east end of north drive	Sta 2996+57, 4' Lt, SBL
14	737.97	80d Spike in SW side of 20" Oak	Sta 2999+58, 276, Lt, SBL
15	734.53	80d Spike in N side of 8" Oak	Sta 3002+70, 300' Lt, SBL
1015	732.08	No.5 Rebar w/aluminum cap in concrete	Sta 3005+70, 155' Lt, SBL
16	729.09	80d Spike in E side of 10" Ash	Sta 3009+62, 283' Lt, SBL
1016	734.72	No.5 Rebar w/aluminum cap in concrete	Sta 3013+19, 152' Lt, SBL
17	735.02	80d Spike in S side of 12" Elm	Sta 3017+36, 306' Lt, SBL
18	735.27	80d Spike in E side of 20" Blackjack Oak	Sta 3020+17, 317' Lt, SBL
1017	733.16	No.5 Rebar w/aluminum cap in concrete	Sta 3024+97, 156' Lt, SBL
19	727.69	2" chiseled square on N end of E headwall for box culvert	Sta 3029+68, 226' Lt, SBL
1018	727.78	No.5 Rebar w/aluminum cap in concrete	Sta 3033+42, 75' Rt, SBL
20	733.05	80d Spike in road crown of 8" Elm	Sta 3037+38, 19' Rt, SBL
1019	735.19	No.5 Rebar w/aluminum cap in concrete	Sta 3038+97, 152' Lt, SBL
21	738.15	80d Spike in E side of 6" Oak	Sta 3042+53, 292' Lt, SBL
1020	741.59	No.5 Rebar w/aluminum cap in concrete	Sta 3045+70, 152' Lt, SBL
22	735.87	2" chiseled x in top of triangular F.A.P. concrete monument	Sta 3047+97, 104' Rt, SBL
23	737.11	2" chiseled square on NW corner concrete walk	Sta 3051+03, 192' Rt, SBL
1021	740.27	No.5 Rebar w/aluminum cap in concrete	Sta 3054+38, 218' Rt, SBL
24	740.27	80d Spike in W side of 16" Oak	Sta 3057+70, 421' Rt, SBL
1022	746.95	No.5 Rebar w/aluminum cap in concrete	Sta 3060+50, 51' Lt, SBL
25	750.96	N ring bolt of Fire Hydrant	Sta 3064+71, 50 Lt, SBL
26	749.27	2" chiseled square in E end of concrete walk	Sta 3067+72, 440' Rt, SBL
27	748.34	2" chiseled x in S end top of curb	Sta 3072+61, 396' Rt, SBL
MKT-82	733.60	NGS Vertical Control Monument	
28	746.36	Chiseled square top of center of headwall	Sta 3079+42, 323' Rt, SBL
1023	747.98	No.5 Rebar w/aluminum cap in concrete	Sta 3083+44, 299' Rt, SBL
29	750.53	Chiseled square top of SEE curb return	Sta 3087+25, 301' Rt, SBL
1024	753.18	No.5 Rebar w/aluminum cap in concrete	Sta 3090+12, 256' Rt, SBL
30	761.43	Chiseled square top of curb at parking lot	Sta 3094+85, 294' Rt, SBL
31	768.84	Top South ring bolt of fire hydrant	Sta 3097+10, 219' Rt, SBL
32	773.44	Chiseled square top north end of concrete island	Sta 3099+68, 181' Rt, SBL
33	784.47	Chiseled square top of curb	Sta 3102+75, 168' Lt, SBL
1031	785.93	No.5 Rebar w/aluminum cap in concrete	Sta 3106+69, 174' Lt, SBL
34	798.88	Top North ring bolt of fire hydrant	Sta 3111+20, 156' Lt, SBL
1033	803.79	No.5 Rebar w/aluminum cap in concrete	Sta 3113+34, 141' Rt, SBL
35	809.88	Top North ring bolt of fire hydrant	Sta 3115+28, 146' Rt, SBL
36	817.27	Top North ring bolt of fire hydrant	Sta 3119+39, 127' Lt, SBL
37	828.66	Chiseled square top curb SW corner parking lot	Sta 3125+39, 166' Lt, SBL
38	831.33	Chiseled square top curb SE corner parking lot	Sta 3129+08, 156' Lt, SBL
39	835.17	Top North ring bolt of fire hydrant	Sta 3132+24, 138' Lt, SBL
40	837.30	Chiseled square top curb west end	Sta 3134+81, 135' Rt, SBL
1039	832.22	No.5 Rebar w/aluminum cap in concrete	Sta 3139+34, 144' Rt, SBL
41	820.27	80d spike South side of 8" Sycamore	Sta 3143+53, 270' Lt, SBL
42	824.41	80d spike South side of 8" Persimmon	Sta 3147+81, 212' Lt, SBL
43	820.98	80d spike South side of 10" Wild Cherry	Sta 3150+84, 96' Lt, SBL
1042	812.56	No.5 Rebar w/aluminum cap in concrete	Sta 3155+13, 140' Lt, SBL
44	779.69	80d spike South side 14" Oak	Sta 3160+31, 118' Lt, SBL
45	769.98	80d spike South side 14" Oak	Sta 3163+74, 117' Lt, SBL
46	764.42	80d spike South side 12" Oak	Sta 3168+42, 97' Lt, SBL
47	772.97	RR spike East side 18" Oak	Sta 3172+91, 183' Lt, SBL
1045	782.02	No.5 Rebar w/aluminum cap in concrete	Sta 3170+17, 139' Rt, SBL
48	778.55	80d spike West side 14" Sycamore	Sta 3175+67, 106' Rt, SBL
49	775.37	Top North ring bolt of fire hydrant	Sta 3178+79, 95' Rt, SBL
1050	765.00	No.5 Rebar w/aluminum cap in concrete	Sta 3182+15, 152' Rt, SBL
1051	752.90	No.5 Rebar w/aluminum cap in concrete	Sta 3185+88, 164' Lt, SBL
50	747.08	Chiseled square West side of concrete walk	Sta 3189+52, 97' Lt, SBL
51	718.09	80d spike East side of triple 12" Oak	Sta 3192+23, 98' Lt, SBL
52	712.10	80d spike NE side of 18" Oak	Sta 3195+76, 210' Lt, SBL
53	705.84	Chiseled square NW concrete sign base	Sta 3198+42, 151' Rt, SBL
54	697.64	80d spike West side 14" Willow	Sta 3202+17, 94' Rt, SBL
55	699.49	Chiseled square top NW headwall	Sta 3206+12, 230' Rt, SBL
1056	701.20	No.5 Rebar w/aluminum cap in concrete	Sta 3211+99, 149' Rt, SBL
56	708.63	Chiseled square on concrete wall	Sta 3208+72, 129' Lt, SBL
1057	716.38	No.5 Rebar w/aluminum cap in concrete	Sta 3215+48, 161' Lt, SBL
57	709.23	Chiseled square West side of curb cut	Sta 3219+24, 174' Rt, SBL
58	719.54	Chiseled square SE top curb island	Sta 3223+16, 138' Lt, SBL
59	723.12	Chiseled square top curb NE corner parking	Sta 3227+45, 140' Lt, SBL
1060	721.28	No.5 Rebar w/aluminum cap in concrete	Sta 3229+16, 138' Rt, SBL
60	734.13	Chiseled square top of curb	Sta 3232+69, 148' Lt, SBL
61	738.16	Chiseled square top of curb	Sta 3235+36, 144' Lt, SBL
1061	738.07	No.5 Rebar w/aluminum cap in concrete	Sta 3238+65, 147' Lt, SBL
62	735.98	Chiseled square top curb South entrance	Sta 3242+59, 136' Lt, SBL
63	734.09	Chiseled square top curb SW island	Sta 3246+04, 149' Lt, SBL
1064	726.03	No.5 Rebar w/aluminum cap in concrete	Sta 3250+20, 142' Lt, SBL
64	722.50	Chiseled square on concrete walk	Sta 3253+21, 138' Lt, SBL
1065	715.07	No.5 Rebar w/aluminum cap in concrete	Sta 3256+88, 212' Lt, SBL
65	700.12	Chiseled square on top SW curb	Sta 3260+56, 220' Lt, SBL
66	702.09	Chiseled square top West curb	Sta 3264+54, 219' Lt, SBL
67	703.26	Chiseled square top center headwall	Sta 3268+40, 163' Lt, SBL
68	710.91	Top North ring bolt of fire hydrant	Sta 3271+68, 147' Lt, SBL
1068	716.18	No.5 Rebar w/aluminum cap in concrete	Sta 3273+94, 151' Lt, SBL
69	715.04	Chiseled square top curb corner of parking lot	Sta 3276+06, 443' Lt, SBL
70	727.72	Chiseled square top hubguard NW corner of bridge	Sta 3280+71, 128' Lt, SBL
J 166	749.62	NGS Vertical Control Monument	
71	724.78	80d spike East side of 16" Oak	Sta 3280+91, 494' Lt, SBL
1072	724.43	No.5 Rebar w/aluminum cap in concrete	Sta 3286+68, 231' Lt, SBL
72	732.69	80d spike East side of 12" Oak	Sta 3292+15, 362' Lt, SBL
1073	753.60	No.5 Rebar w/aluminum cap in concrete	Sta 3297+39, 103' Lt, SBL
73	728.75	80d spike South side of 16" Oak	Sta 3305+55, 153' Lt, SBL
74	725.97	80d spike South side of 16" Oak	Sta 3311+82, 151' Lt, SBL
75	704.96	Chiseled square on SE corner of concrete sign base	Sta 3318+84, 251' Lt, SBL
1075	697.86	No.5 Rebar w/aluminum cap in concrete	Sta 3324+20, 510' Lt, SBL
76	662.21	Chiseled square top West end of curb north side of street	Sta 3329+95, 797' Lt, SBL

VERTICAL CONTROL

BM	Elevation	Description	Station
1076	653.85	No.5 Rebar w/aluminum cap in concrete	Sta 3339+09, 375' Lt, SBL
77	644.68	80d spike South side of 6" Elm	Sta 3343+23, 165' Lt, SBL
1078	639.41	No.5 Rebar w/aluminum cap in concrete	Sta 3348+97, 179' Lt, SBL
1079	641.60	No.5 Rebar w/aluminum cap in concrete	Sta 3355+50, 181' Lt, SBL
78	629.53	80d spike South side 22" Pecan	Sta 3365+31, 203' Lt, SBL
1081	637.84	No.5 Rebar w/aluminum cap in concrete	Sta 3376+16, 196' Lt, SBL
79	679.93	80d spike South side 14" Oak	Sta 3386+38, 180' Lt, SBL
80	685.88	80d spike East side of 18" Oak	Sta 3390+91, 384' Lt, SBL
1082	701.50	No.5 Rebar w/aluminum cap in concrete	Sta 3396+66, 518' Lt, SBL
1083	693.63	No.5 Rebar w/aluminum cap in concrete	Sta 3403+39, 170' Rt, SBL
1085	721.29	No.5 Rebar w/aluminum cap in concrete	Sta 3411+18, 169' Rt, SBL
81	725.95	80d spike West side of 8" Hackberry	Sta 3417+58, 217' Rt, SBL
82	766.98	80d spike West side of 6" Hackberry	Sta 3426+67, 203' Rt, SBL
83	811.52	80d spike West side of 8" Elm	Sta 3433+82, 184' Rt, SBL
84	840.50	80d spike East side of 10" Blackjack Oak	Sta 3440+87, 135' Lt, SBL
85	871.19	80d spike NW side of 8" Oak	Sta 3449+70, 230' Rt, SBL
86	831.87	80d spike SW side of 6" Ash	Sta 3456+23, 236' Rt, SBL
87	803.81	80d spike North side of 8" Pine	Sta 3463+31, 180' Rt, SBL
88	787.61	80d spike North side of 20" Pine	Sta 3471+61, 98' Lt, SBL
89	780.91	80d spike East side of 18" Pine	Sta 3478+40, 98' Lt, SBL
90	771.05	80d spike North side of 20" Oak	Sta 3485+59, 112' Lt, SBL
91	777.54	80d spike NW side of 22" Oak	Sta 3495+14, 171' Rt, SBL
92	790.60	80d spike SW side of twin 6" Oak	Sta 3500+94, 180' Rt, SBL
93	801.76	Chiseled square North edge of concrete drive	Sta 3507+74, 164' Rt, SBL
1086	817.31	No.5 Rebar w/aluminum cap in concrete	Sta 3515+31, 112' Lt, SBL
94	785.73	80d spike North side 12" Oak	Sta 3520+99, 157' Lt, SBL
95	754.11	80d spike East side 12" Oak	Sta 3526+90, 118' Lt, SBL
96	722.70	80d spike North side of Blackjack Oak	Sta 3533+26, 118' Lt, SBL
97	666.19	80d spike East side of 8" Winged Elm	Sta 3539+63, 256' Lt, SBL

HORIZONTAL CONTROL

Pnt.	Station	Offset	Northing	Easting	Elev.	Description
1007	2961+83.23	105.41 L	565527.5208	2625972.5007	698.82	No.5 Rebar w/aluminum cap in concrete
1011	2980+08.60	167.39 L	566952.1709	2627109.0489	720.13	No.5 Rebar w/aluminum cap in concrete
1012	2984+15.31	1.25 L	567159.3217	2627496.4779	713.14	No.5 Rebar w/aluminum cap in concrete
1013	2988+50.08	204.63 L	567623.8539	2627617.2890	728.91	No.5 Rebar w/aluminum cap in concrete
1014	2994+40.88	201.12 L	568076.5266	2627996.9582	733.83	No.5 Rebar w/aluminum cap in concrete
1015	3005+69.74	155.41 L	568916.5610	2628752.4331	732.08	No.5 Rebar w/aluminum cap in concrete
1016	3013+19.28	152.26 L	569491.6838	2629233.1126	734.72	No.5 Rebar w/aluminum cap in concrete
1017	3024+96.66	155.99 L	570400.6328	2629981.4818	733.16	No.5 Rebar w/aluminum cap in concrete
1018	3033+42.36	74.77 R	570904.5741	2630698.7675	727.78	No.5 Rebar w/aluminum cap in concrete
1019	3038+96.82	151.98 L	571476.1782	2630877.9495	735.19	No.5 Rebar w/aluminum cap in concrete
1020	3045+69.72	151.69 L	571994.1214	2631307.5294	741.59	No.5 Rebar w/aluminum cap in concrete
1021	3054+38.39	217.76 R	572427.2521	2632146.2636	740.27	No.5 Rebar w/aluminum cap in concrete
1022	3060+50.18	50.73 L	573069.6331	2632329.8872	746.95	No.5 Rebar w/aluminum cap in concrete
1023	3083+43.77	299.09 R	574238.4604	2634242.4966	747.98	No.5 Rebar w/aluminum cap in concrete
1024	3090+12.12	256.33 R	574525.1324	2634805.1969	753.18	No.5 Rebar w/aluminum cap in concrete
1031	3106+68.93	173.60 L	575455.5709	2636235.0218	785.93	No.5 Rebar w/aluminum cap in concrete
1033	3113+33.51	140.80 R	575392.2715	2636966.8550	803.79	No.5 Rebar w/aluminum cap in concrete
1039	3139+34.31	144.07 R	576368.2246	2639379.2321	832.22	No.5 Rebar w/aluminum cap in concrete
1042	3155+13.43	140.33 L	577226.3239	2640735.0263	812.56	No.5 Rebar w/aluminum cap in concrete
1045	3170+16.96	139.23 R	577616.5219	2642221.1680	782.02	No.5 Rebar w/aluminum cap in concrete
1050	3182+14.95	151.64 R	578388.1516	2643179.6205	765.00	No.5 Rebar w/aluminum cap in concrete
1051	3185+87.60	164.14 L	578875.9417	2643189.2162	752.90	No.5 Rebar w/aluminum cap in concrete
1056	3211+98.96	149.37 R	581106.4759	2644514.4413	701.20	No.5 Rebar w/aluminum cap in concrete
1057	3215+48.08	161.41 L	581489.1841	2644246.9950	716.38	No.5 Rebar w/aluminum cap in concrete
1060	3229+16.33	138.45 R	582845.9354	2644547.2444	721.28	No.5 Rebar w/aluminum cap in concrete
1061	3238+65.11	147.50 L	583789.7278	2644245.2292	738.07	No.5 Rebar w/aluminum cap in concrete
1064	3250+19.66	141.91 L	584975.2631	2644354.8491	726.03	No.5 Rebar w/aluminum cap in concrete
1065	3256+87.67	211.55 L	585647.1446	2644547.4169	715.07	No.5 Rebar w/aluminum cap in concrete
1068	3273+93.65	150.80 L	587163.3814	2645331.6992	716.18	No.5 Rebar w/aluminum cap in concrete
1072	3286+67.63	231.05 L	588349.3689	2645803.8265	724.43	No.5 Rebar w/aluminum cap in concrete
1073	3297+39.03	102.53 L	589262.9688	2646378.0635	753.60	No.5 Rebar w/aluminum cap in concrete
1075	3324+20.31	509.81 L	591824.8341	2647342.6485	697.86	No.5 Rebar w/aluminum cap in concrete
1076	3339+08.80	374.54 L	593021.1502	2648238.6048	653.85	No.5 Rebar w/aluminum cap in concrete
1078	3348+96.59	178.60 L	593759.3558	2648923.5558	639.41	No.5 Rebar w/aluminum cap in concrete
1079	3355+50.27	180.74 L	594317.0114	2649264.6221	641.60	No.5 Rebar w/aluminum cap in concrete
1081	3376+16.47	195.76 L	596198.2734	2649756.3517	637.84	No.5 Rebar w/aluminum cap in concrete
1082	3396+66.49	518.55 L	598264.1240	2649558.7189	701.46	No.5 Rebar w/aluminum cap in concrete
1083	3403+38.54	169.61 R	598893.1178	2650286.4474	693.63	No.5 Rebar w/aluminum cap in concrete
1085	3411+17.89	169.45 R	599671.0323	2650333.6449	721.29	No.5 Rebar w/aluminum cap in concrete
1086	3515+30.13	111.68 L	610081.1158	2650685.7091	817.31	No.5 Rebar w/aluminum cap in concrete

VERTICAL CONTROL

The following existing NGS NAVD 88 benchmarks were used for this project: L-16, MKT-82, J-166, S-16. A Leica Digital Level was used to run differential level loops between each benchmark. The benchmarks were established in March and April of 1996.

Benchmarks were established according to ODOT standards. The benchmarks south of Highway 270 are considered urban and are spaced 300 feet apart. The benchmarks north of Highway 270 are considered rural and are spaced 600 feet apart.

For complete benchmark descriptions and stationing locations, see the Surveyor's Report for Vertical Control or the plan and profile sheets for this set of functional plans.

SURVEY BASELINE

The horizontal and vertical control shown on this sheet is referenced to the survey baseline alignment choin A003.

HORIZONTAL CONTROL

The following existing NGS NAD 83 (1993) monuments were used for this project: P 16 RESET, ADEL, A 16 RESET, B 160. These manuments were established by NGS GPS observations and were adjusted by NGS in May 1994.

Horizontal control manuments were established by GPS observations according to ODOT standards.

For complete horizontal control descriptions and stationing locations, see the Surveyor's Report for Horizontal Control or the plan and profile sheets for this set of functional plans.

PLS	CKS	
DRAWN	CKD	
CHECKED	RDS	
APPROVED		
Plotted	7/14/16	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

U.S. HIGHWAY 69 - McALESTER
SURVEY DATA SHEET
HORIZONTAL AND VERTICAL CONTROL

SWO 375(I) JOB PIECE NO. 14999(04) SHEET NO. S3

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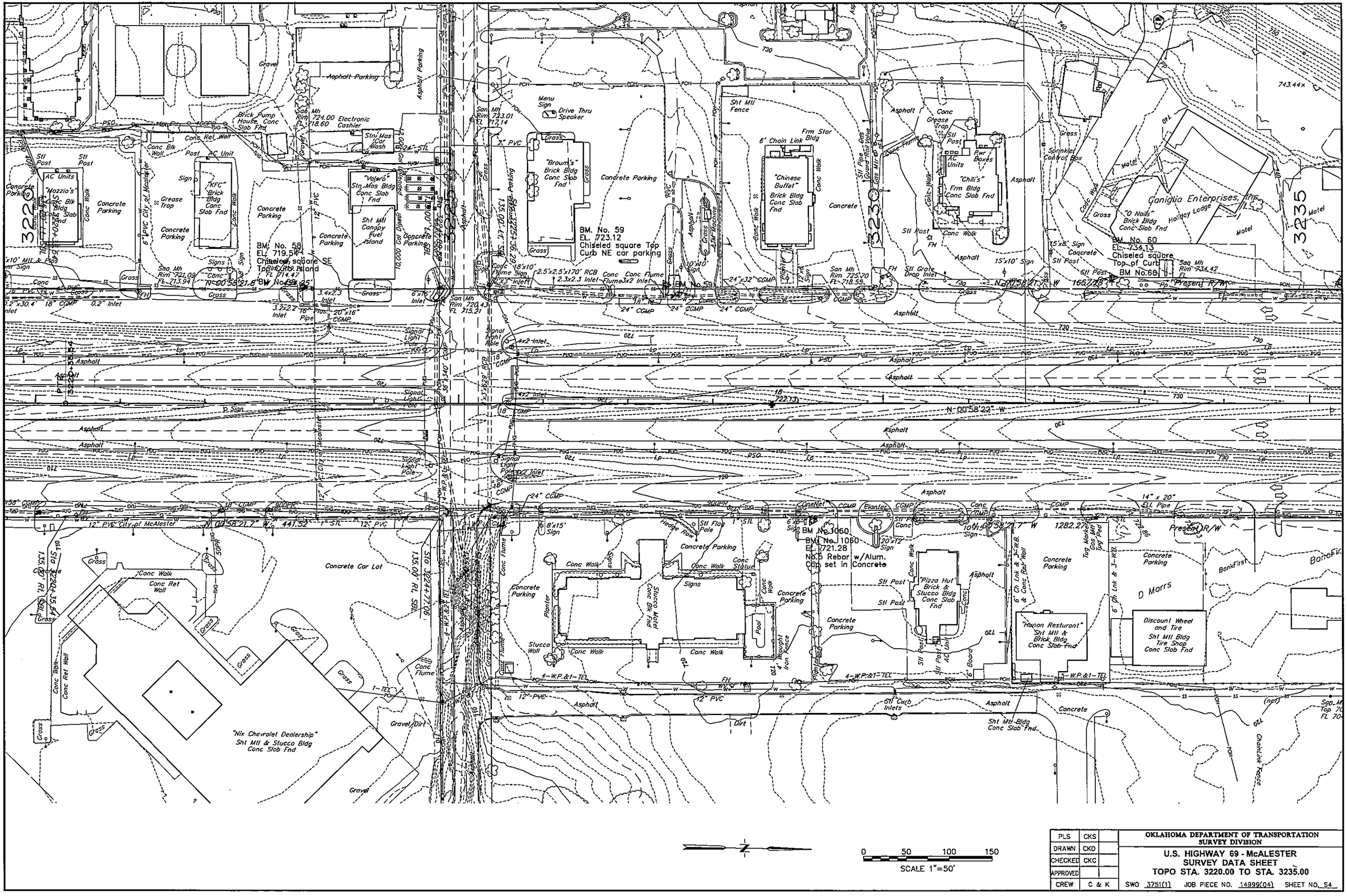

PLS	CKS	
DRAWN	CKD	
CHECKED	CKC	
APPROVED		
CREW	C & K	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

U.S. HIGHWAY 69 - McALESTER
SURVEY DATA SHEET
TOPO STA. 3220.00 TO STA. 3235.00

SWO 3751(1) JOB PIECE NO. 14999(04) SHEET NO. S4

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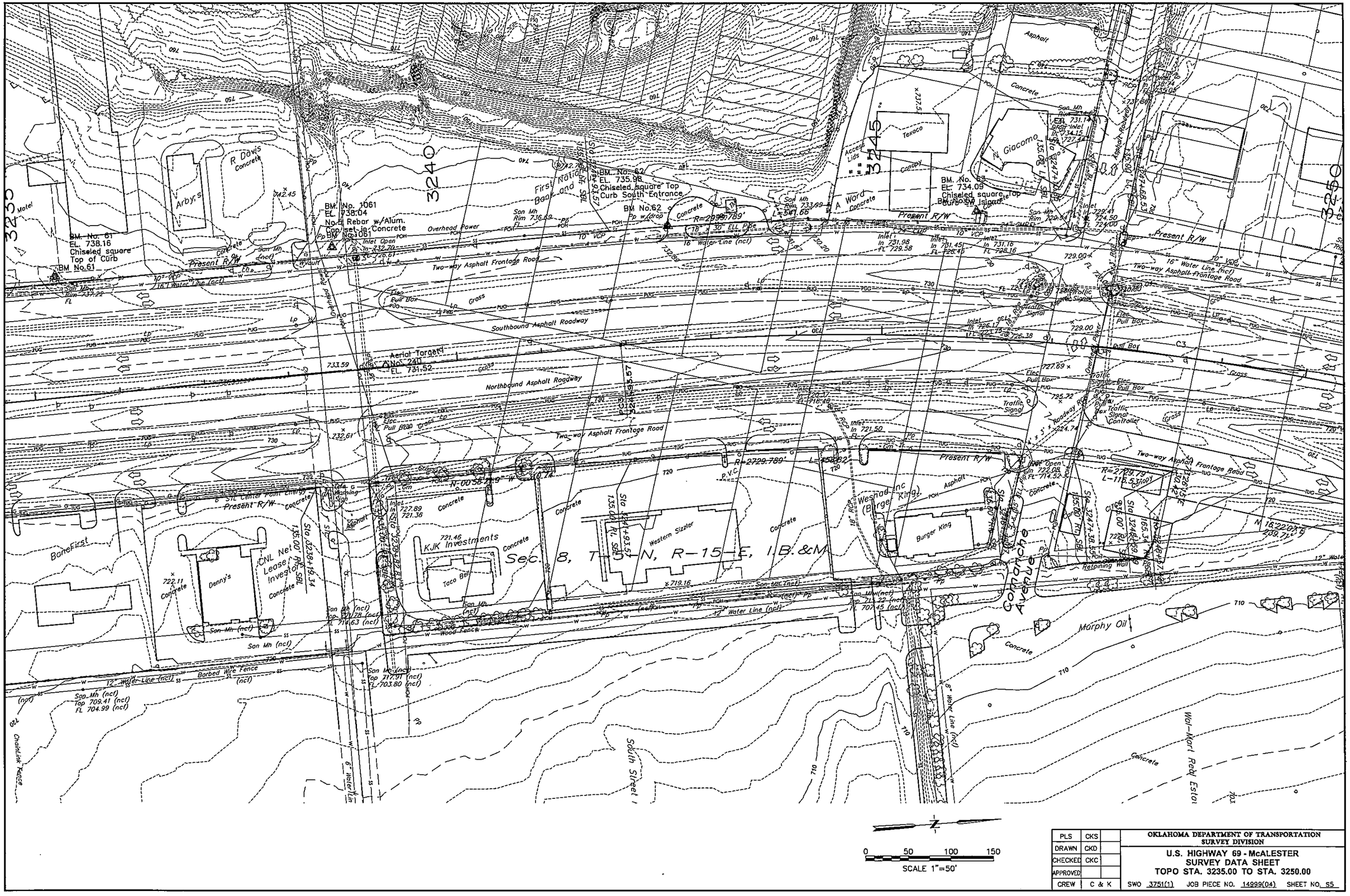

PLS	CKS		OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
DRAWN	CKD		U.S. HIGHWAY 69 - McALESTER SURVEY DATA SHEET TOPO STA. 3235.00 TO STA. 3250.00
CHECKED	CKC		
APPROVED			
CREW	C & K		SWO 3751(1) JOB PIECE NO. 14999(04) SHEET NO. S5

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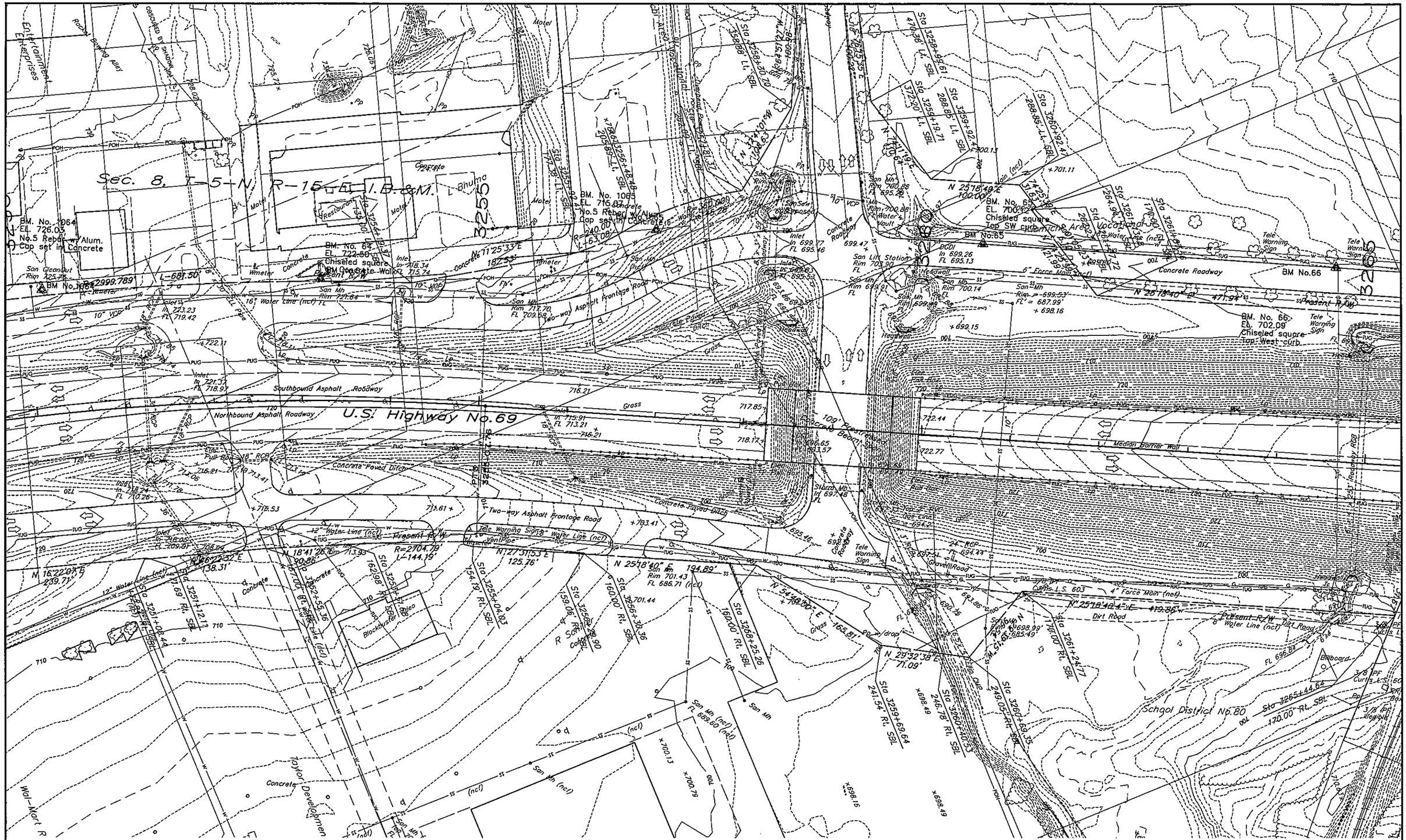

PLS	CKS	
DRAWN	CKD	
CHECKED	CKC	
APPROVED		
CREW	C & K	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

U.S. HIGHWAY 69 - McALESTER
SURVEY DATA SHEET
TOPO STA. 3235.00 TO STA. 3250.00

SWO 3751(1) JOB PIECE NO. 14999(04) SHEET NO. S6

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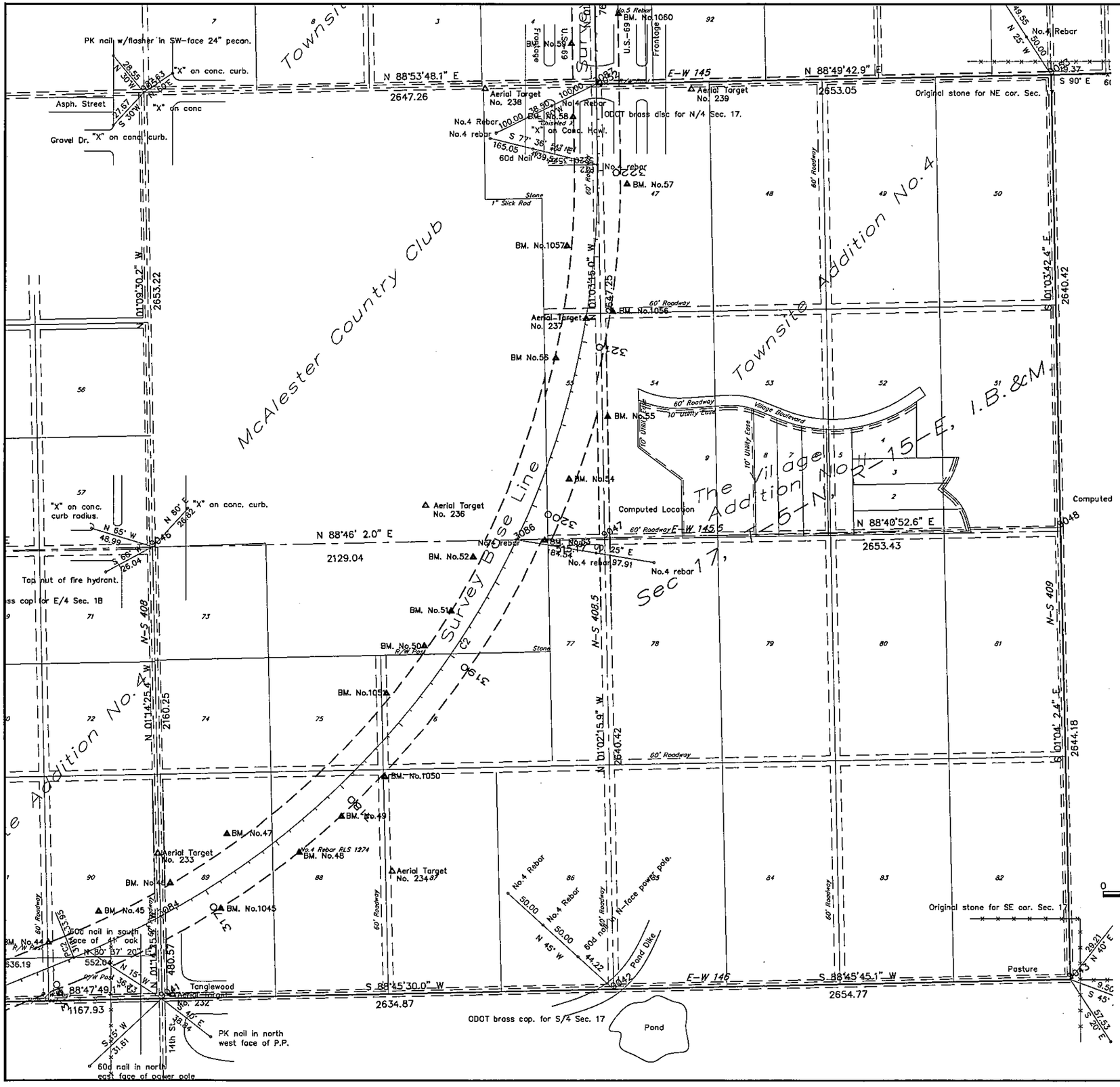

SURVEY CONTROL DATA

HORIZONTAL CONTROL

1. Horizontal control for this survey is the NGS Oklahoma State Plane Coordinate System NAD 83(1993), Lambert Projection (South Zone).
2. Accuracy – Third Order/Class 1 or better.

BEARINGS

The bearings shown are grid bearings derived from the NGS Oklahoma State Plane Coordinate System and are not Astronomical. The angle of variance between grid north (GN) and the astronomical true north (TN) is depicted diagrammatically.

VERTICAL CONTROL

1. Level datum is Mean Sea Level (NGS), NAVD 19BB.
2. Accuracy – Third Order or better.

SO17 SECTION 17

Sec 17-5-15

9053		N	582488.1821	E	2647070.0297 NE Cor
	S 01-03'42.4" E		2640.424 ft		
9048		N	579848.2116	E	2647118.9577 E 1/4 Cor
	S 01-04'02.4" E		2644.181 ft		
9043		N	577204.4893	E	2647168.2119 SE Cor
	S 88-45'45.1" W		2654.775 ft		
9042		N	577147.1557	E	2644514.0561 S 1/4 Cor
	S 88-45'30.0" W		2634.868 ft		
9041		N	577090.0591	E	2641879.8068 SW Cor
	N 01-14'25.4" W		480.569 ft		
3084		N	577570.5150	E	2641869.4039 SBL
	N 01-14'25.4" W		2160.249 ft		
9046		N	579730.2579	E	2641822.6409 W 1/4 Cor
	N 01-09'30.2" W		2653.220 ft		
9051		N	582382.9360	E	2641769.0025 NW Cor
	N 88-53'48.1" E		2647.257 ft		
3087		N	582433.9095	E	2644415.7686 SBL
	N 88-53'48.1" E		1.762 ft		
9052		N	582433.9434	E	2644417.5307 N 1/4 Cor
	N 88-49'42.9" E		2653.053 ft		
9053		N	582488.1821	E	2647070.0297 NE Cor

S117 SECTION 17

Sec 17-5-15, E-W 1/4 Line

9046		N	579730.2579	E	2641822.6409 W 1/4 Cor
	N 88-46'02.0" E		2129.039 ft		
3086		N	579776.0627	E	2643951.1871 SBL
	N 88-46'02.0" E		515.166 ft		
9047		N	579787.1462	E	2644466.2344 Center
	N 88-40'52.6" E		2653.426 ft		
9048		N	579848.2116	E	2647118.9577 E 1/4 Cor

S217 SECTION 17

Sec 17-5-15, N-S 1/4 Line

9042		N	577147.1557	E	2644514.0561 S 1/4 Cor
	N 01-02'15.9" W		2640.424 ft		
9047		N	579787.1462	E	2644466.2344 Center
	N 01-03'15.0" W		2647.245 ft		
9052		N	582433.9434	E	2644417.5307 N 1/4 Cor

Survey	CKS	
Drawn	CKD	
Checked	RDS	
Approved		
Plotted	7/14/16	

OKLAHOMA DEPARTMENT OF TRANSPORTATION
SURVEY DIVISION

U.S. HIGHWAY 69 - McALESTER
SURVEY DATA SHEET
SECTION 17, T-5-N, R-15-E, I.B.&M.

SWO 3751(1) Job Piece No. 14999(04) Sheet No. S7

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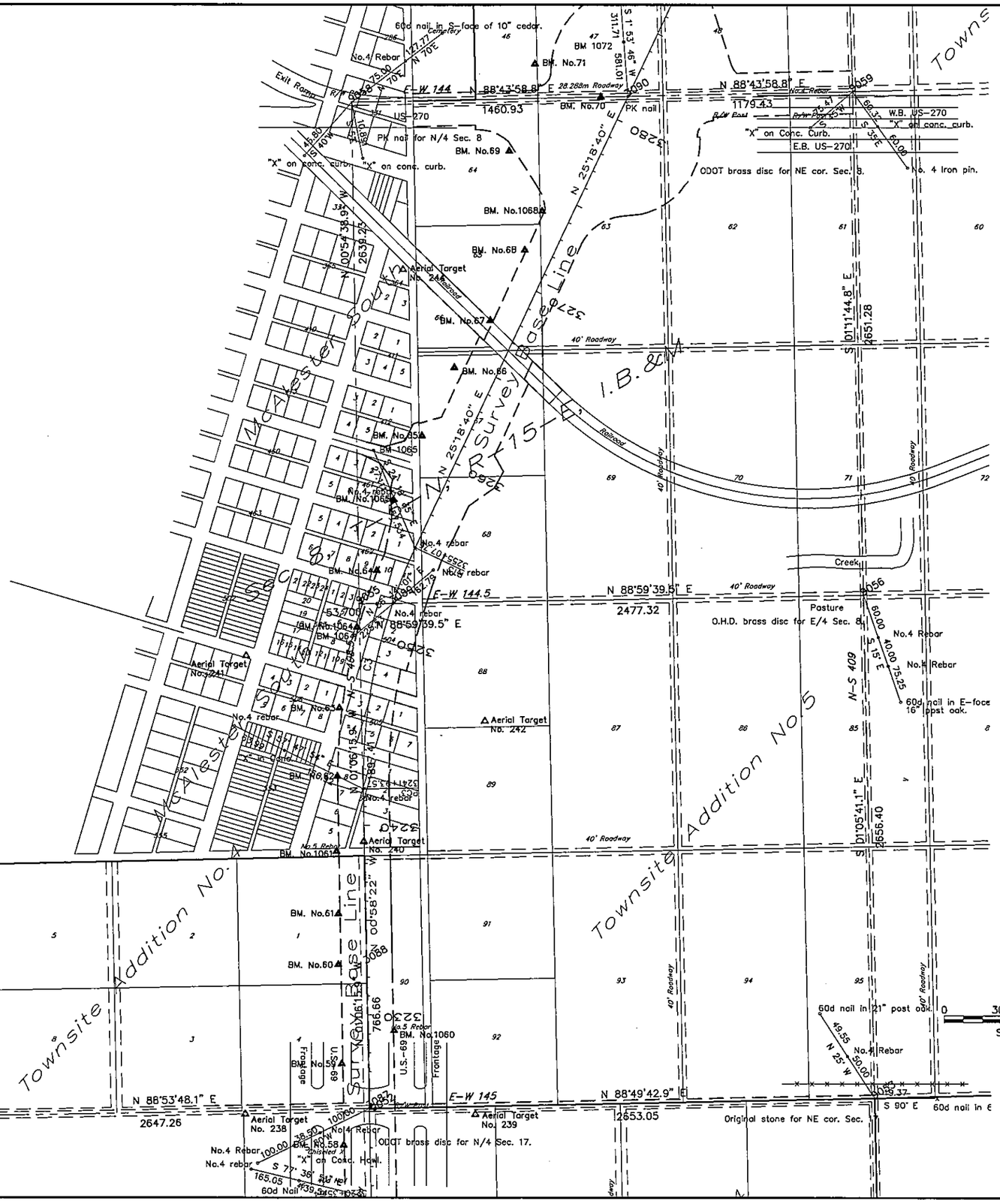

S008 SECTION 8

Sec 8-5-15

9058		N	587736.4170	E	2644324.2294	N 1/4 Cor
	N 88-43'58.8" E		1460.930 ft		
3090		N	587768.7206	E	2645784.8018	SBL
	N 88-43'58.8" E		1179.434 ft		
9059		N	587794.7998	E	2646963.9479	NE Cor
	S 01-11'44.8" E		2651.281 ft		
9056		N	585144.0961	E	2647019.2771	E 1/4 Cor
	S 01-05'41.1" E		2656.399 ft		
9053		N	582488.1821	E	2647070.0297	SE Cor
	S 88-49'42.9" W		2653.053 ft		
9052		N	582433.9434	E	2644417.5307	S 1/4 Cor
	S 88-53'48.1" W		1.762 ft		
3087		N	582433.9095	E	2644415.7686	SBL
	S 88-53'48.1" W		2647.257 ft		
9051		N	582382.9360	E	2641769.0025	SW Cor

S108 SECTION 8

Sec 8-5-15, E-W 1/4 Line

9055		N	585097.5230	E	2644366.1821	Center
	N 88-59'39.5" E		176.180 ft		
3089		N	585100.6153	E	2644542.3352	SBL
	N 88-59'39.5" E		2477.324 ft		
9056		N	585144.0961	E	2647019.2771	E 1/4 Cor

S208 SECTION 8

Sec 8-5-15, N-S 1/4 Line

9052		N	582433.9434	E	2644417.5307	S 1/4 Cor
	N 01-06'15.9" W		766.662 ft		
3088		N	583200.4631	E	2644402.7537	SBL
	N 01-06'15.9" W		1897.412 ft		
9055		N	585097.5230	E	2644366.1821	Center
	N 00-54'38.9" W		2639.227 ft		
9058		N	587736.4170	E	2644324.2294	N 1/4 Cor

SURVEY CONTROL DATA

HORIZONTAL CONTROL

1. Horizontol control for this survey is the NGS Oklahoma State Plane Coordinate System NAD 83(1993), Lambert Projection (South Zone).
2. Accuracy – Third Order/Class 1 or better.

BEARINGS

The bearings shown are grid bearings derived from the NGS Oklahoma State Plane Coordinate System and are not Astronomical. The angle of variance between grid north (GN) and the astronomical true north (TN) is depicted diagrammatically.

VERTICAL CONTROL

1. Level datum is Mean Sea Level (NGS), NAVD 1988.
2. Accuracy – Third Order or better.

Survey	CKS		OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION
Drawn	CKD		U.S. HIGHWAY 69 - McALESTER SURVEY DATA SHEET
Checked	RDS		SECTION 8, T-5-N, R-15-E, I.B.&M.
Approved			
Plotted	7/14/16		SWO 3751(1) Job Piece No. 14999(04) Sheet No. S8

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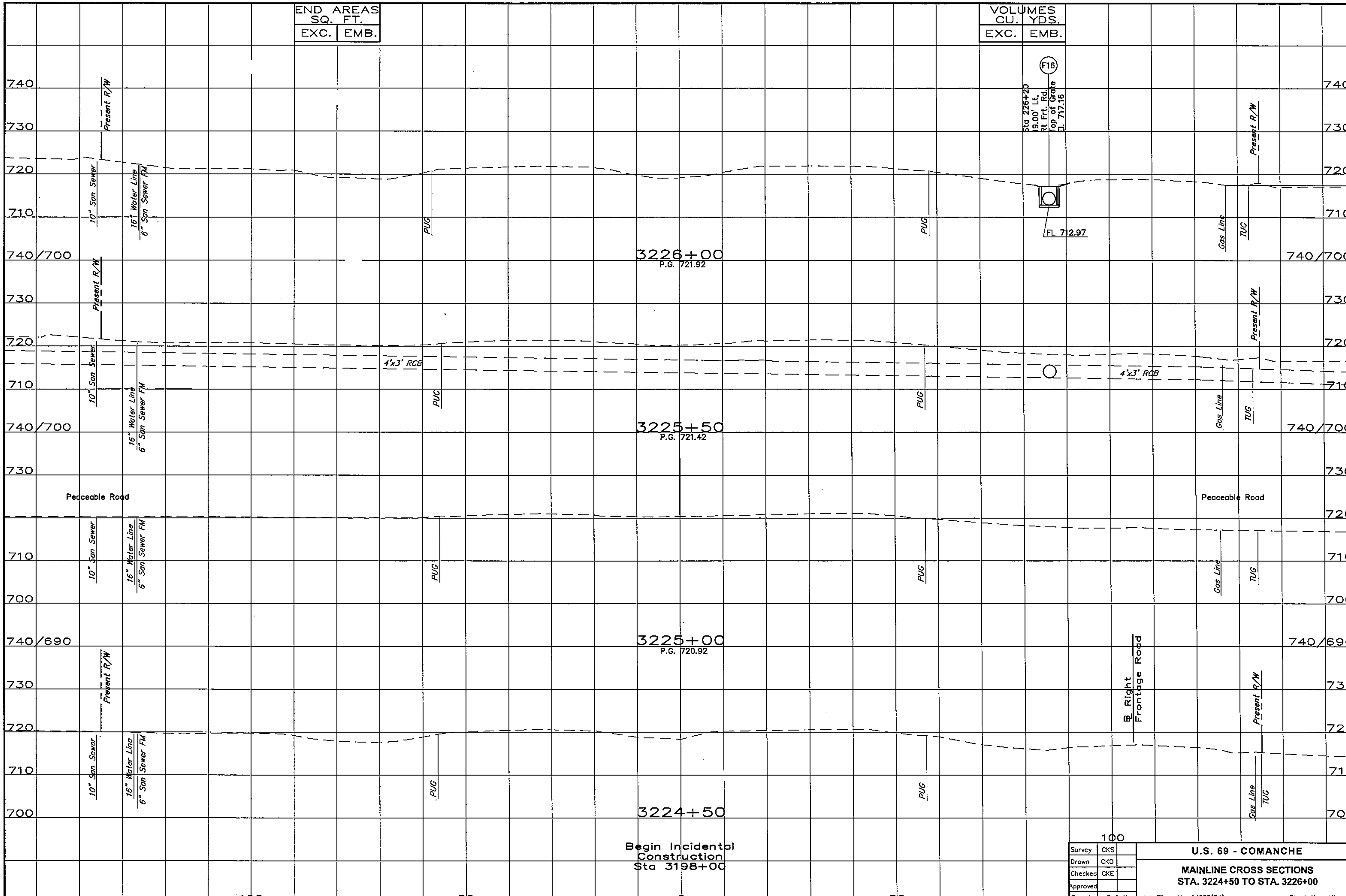

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3224+50 TO STA. 3226+00

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

Job Piece No. 14999(04)

Sheet No. X1

END AREAS SQ. FT.	EXC.	EMB.
PHASE 1A	0.00	0.00
PHASE 1B	70.68	5.04
PHASE 2	0.00	0.00
PHASE 1A	0.00	0.00
PHASE 1B	61.16	8.20
PHASE 2	0.00	0.00

VOLUMES CU. YDS.	EXC.	EMB.
PHASE 1A	0.00	0.00
PHASE 1B	141.83	10.22
PHASE 2	0.00	0.00
PHASE 1A	0.00	0.00
PHASE 1B	73.24	8.46
PHASE 2	0.00	0.00

740 730 720 710 740/700 730 720 710 740/700 730 720 710 740/700 730 720 700

Present R/W
10" San Sewer
16" Water Line
6" San Sewer FM
PUG
Gas Line TUG

3228+00
P.G. 723.92

3227+70
P.G. 723.62
Begin Project

3227+50
P.G. 723.42

3227+00
P.G. 722.92

A2
Sta 3228+00
59.00' Rt, ML CRL
Top of Grate
El. 722.79

F14
Sta 3228+00
86.00' Rt ML CRL
Grate EL 719.11

FL 717.57
5 LF 18" RCP
S=3.53%
FL 715.54
FL 717.04

36" RCP
36" RCP
36" RCP

100 50 0 50 100

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3226+50 TO STA. 3228+00

Job Piece No. 14999(04) Sheet No. X2

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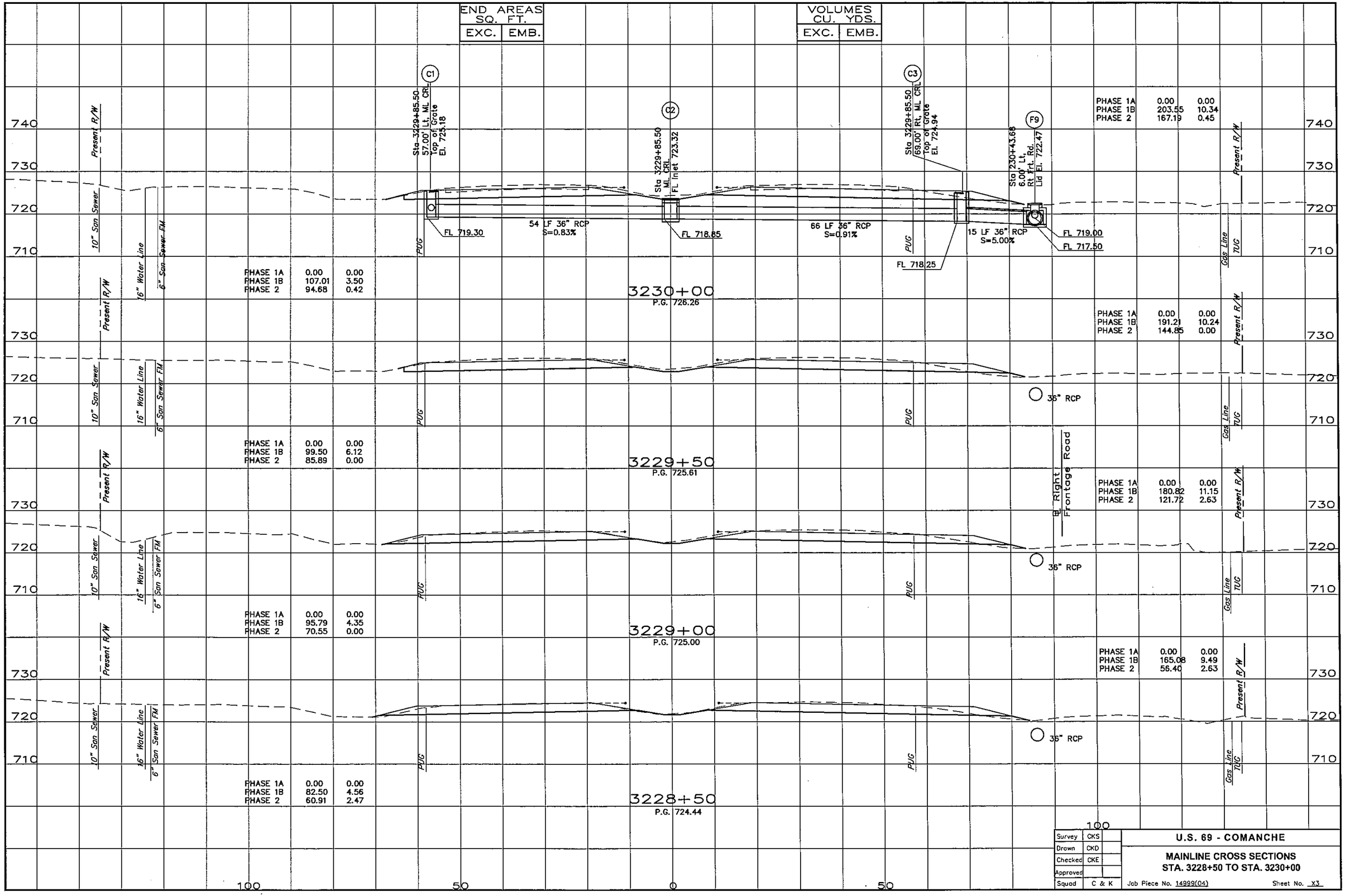
END AREAS SQ. FT.		VOLUMES CU. YDS.	
EXC.	EMB.	EXC.	EMB.



Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3228+50 TO STA. 3230+00

Job Piece No. 14999(04) Sheet No. X3

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	END AREAS SQ. FT.		VOLUMES CU. YDS.	
	EXC.	EMB.	EXC.	EMB.
PHASE 1A	0.00	0.00	0.00	0.00
PHASE 1B	127.32	21.45	239.43	41.80
PHASE 2	136.60	0.00	257.03	8.39

3232+00
P.G. 728.93

PHASE 1A	0.00	0.00	0.00	0.00
PHASE 1B	123.00	12.54	231.78	36.19
PHASE 2	118.20	0.00	235.93	0.00

3231+50
P.G. 728.26

PHASE 1A	0.00	0.00	0.00	0.00
PHASE 1B	122.54	5.74	227.35	19.46
PHASE 2	118.04	0.00	218.74	0.00

3231+00
P.G. 727.60

PHASE 1A	0.00	0.00	0.00	0.00
PHASE 1B	112.82	6.21	217.93	12.72
PHASE 2	107.82	0.00	209.13	0.00

3230+50
P.G. 726.93

FL 727.67

18" CMP In
18" RCP Out

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3230+50 TO STA. 3232+00

Job Piece No. 14999(04) Sheet No. X4

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END AREAS SQ. FT.	EXC.	EMB.
PHASE 1A	0.00	0.00
PHASE 1B	136.27	25.16
PHASE 2	142.83	7.89

VOLUMES CU. YDS.	EXC.	EMB.
PHASE 1A	0.00	0.00
PHASE 1B	257.33	50.07
PHASE 2	266.27	18.12

3234+00
P.G. 731.61

4' Bottom Ditch
2%
E 729.89
PUG
PUC
1:3
10" San Sewer
16" Water Line
Present R/W
Gas Line
TUG
℄ Right Frontage Road

END AREAS SQ. FT.	EXC.	EMB.
PHASE 1A	0.00	0.00
PHASE 1B	141.65	21.86
PHASE 2	144.74	9.13

VOLUMES CU. YDS.	EXC.	EMB.
PHASE 1A	0.00	0.00
PHASE 1B	257.08	44.55
PHASE 2	266.74	21.26

3233+50
P.G. 730.94

4' Bottom Ditch
2%
E 729.22
PUG
PUC
1:3
10" San Sewer
16" Water Line
Present R/W
Gas Line
TUG
℄ Right Frontage Road

END AREAS SQ. FT.	EXC.	EMB.
PHASE 1A	0.00	0.00
PHASE 1B	136.00	19.98
PHASE 2	143.34	10.84

VOLUMES CU. YDS.	EXC.	EMB.
PHASE 1A	0.00	0.00
PHASE 1B	247.46	40.24
PHASE 2	263.27	19.93

3233+00
P.G. 730.27

4' Bottom Ditch
2%
E 728.59
PUG
PUC
1:3
6" San Sewer FM
16" Water Line
Present R/W
Gas Line
TUG
℄ Right Frontage Road

A1 Sta 3232+52 65.00' Lt. ML CRL Top of Grate El. 727.90
D1 Sta 3232+52 57.00' Lt. ML CRL Top of Grate El. 728.74
D2 Sta 3229+52 69.00' Rt. ML CRL Top of Grate El. 728.50
F6 Sta 233+10 6.00' Lt. Rt. Frt. Rd. Ld El. 724.87
FL 725.34
6 LF 18" RCP S=0.33%
FL 724.90
18" RCP Out
FL 721.40
15 LF 18" RCP S=4.40%
FL 720.74

END AREAS SQ. FT.	EXC.	EMB.
PHASE 1A	0.00	0.00
PHASE 1B	131.26	17.81
PHASE 2	140.99	7.88

3232+50
P.G. 729.60

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3232+50 TO STA. 3234+00

Job Piece No. 14999(04) Sheet No. X5

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END AREAS SQ. FT.		VOLUMES CU. YDS.	
EXC.	EMB.	EXC.	EMB.

750 740 730 720 710 750/700 740 730 720 710 740/700 730 720 710 740/700 730 720 710 740/700 730 720 710

Present R/W — 10" San Sewer — 16" Water Line — 4' Bottom Ditch — 2% — E 732.41 — 18" RCP — PUG — 2.00% — 1:3 — Gas Line — TUG — Present R/W

PHASE 1A 0.00 0.00
PHASE 1B 83.23 23.16
PHASE 2 96.89 9.58

PHASE 1A 0.00 0.00
PHASE 1B 165.67 50.13
PHASE 2 193.73 20.01

3236+00
P.G. 733.83

Present R/W — 10" San Sewer — 16" Water Line — 4' Bottom Ditch — 2% — E 731.71 — 18" RCP — PUG — D3 — Sta 3235+00 57.00' Lt, ML CRL Top of Grate El. 732.02 — 1:3 — Gas Line — TUG — Present R/W

PHASE 1A 0.00 0.00
PHASE 1B 95.69 23.92
PHASE 2 112.34 9.21

PHASE 1A 0.00 0.00
PHASE 1B 193.95 55.11
PHASE 2 225.49 15.98

3235+50
P.G. 733.43

D5 — 3235+00 CRL ML Inlet 730.16 — D6 — Sta 3235+00 67.00' Rt, ML CRL Top of Grate El. 731.82

Present R/W — 10" San Sewer — 16" Water Line — 4' Bottom Ditch — 2% — E 731.19 — 18" FL 728.47 — PUG — 18" FL 727.43 — 64 LF 18" RCP S=2.00% — PUG — FL 726.15 — 1:3 — Gas Line — TUG — Present R/W

PHASE 1A 0.00 0.00
PHASE 1B 113.78 27.84
PHASE 2 131.19 5.80

PHASE 1A 0.00 0.00
PHASE 1B 255.78 60.09
PHASE 2 251.09 13.37

3235+00
P.G. 732.91

Present R/W — 10" San Sewer — 16" Water Line — 4' Bottom Ditch — 2% — E 730.56 — PUG — PUG — 1:3 — Gas Line — TUG — Present R/W

PHASE 1A 0.00 0.00
PHASE 1B 130.06 28.59
PHASE 2 139.99 6.76

PHASE 1A 0.00 0.00
PHASE 1B 246.60 57.23
PHASE 2 261.87 15.60

3234+50
P.G. 732.28

100 50 0 50 100

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3234+50 TO STA. 3236+00

Job Piece No. 14999(04) Sheet No. X6

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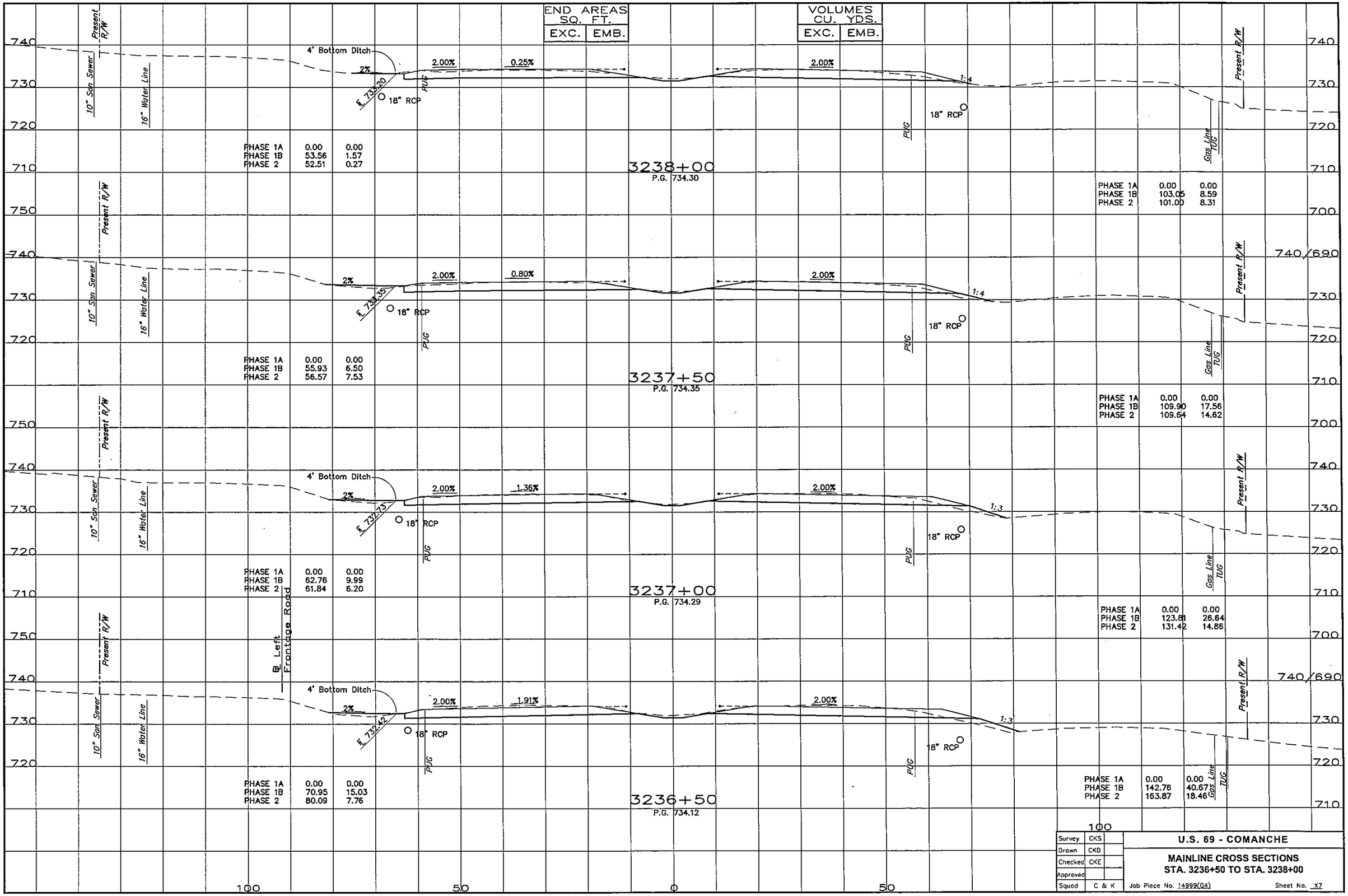

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3236+50 TO STA. 3238+00

Job Piece No. 14999(04) Sheet No. X7

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END AREAS SQ. FT.		VOLUMES CU. YDS.	
EXC.	EMB.	EXC.	EMB.

3240+00
P.G. 733.38

4' Bottom Ditch
2%
2.00%
1.97%
F 732.86
24" RCP
PUG
2.00%
1:4
18" RCP
PUG
Present R/W
Gas Line
TUG
10" San Sewer
16" Water Line
FL 735.08

PHASE 1A	0.00	0.00
PHASE 1B	95.70	5.18
PHASE 2	59.52	7.76

PHASE 1A	0.00	0.00
PHASE 1B	168.81	5.64
PHASE 2	109.27	11.78

G3
Sta 238+65
26.50' Lt.
Lt Frt. Rd.
Top of Grate
El. 732.35
F 732.76
FL 729.21
2%
2.00%
1.42%
2.00%
1:4
18" RCP
PUG
Present R/W
Gas Line
TUG
10" San Sewer
16" Water Line
FL 735.33

PHASE 1A	0.00	0.00
PHASE 1B	86.61	0.12
PHASE 2	58.49	3.30

PHASE 1A	0.00	0.00
PHASE 1B	161.15	0.13
PHASE 2	121.87	3.51

3239+50
P.G. 733.63

D4
Sta 3238+91
72.00' Lt. ML CRL
Lid El. 734.60
D9
Sta 3238+92
70.00' Rt. ML CRL
Lid El. 730.75
F 732.89
36" RCP S=2%
2%
2.00%
0.86%
2.00%
1:4
F 730.05
FL 726.92
FL 725.42
PUG
FL 724.00
FL 722.50
PUG
Present R/W
32"x42" EDL Pipe
Gas Line
TUG
10" San Sewer
16" Water Line

PHASE 1A	0.00	0.00
PHASE 1B	87.43	0.00
PHASE 2	73.13	0.00

PHASE 1A	0.00	0.00
PHASE 1B	184.13	0.00
PHASE 2	146.70	0.00

3239+00
P.G. 733.88

4' Bottom Ditch
2%
2.00%
0.31%
2.00%
1:4
F 733.04
F 730.37
18" RCP
18" RCP
PUG
PUG
Present R/W
Gas Line
TUG
10" San Sewer
16" Water Line

PHASE 1A	0.00	0.00
PHASE 1B	111.43	0.00
PHASE 2	85.31	0.00

PHASE 1A	0.00	0.00
PHASE 1B	154.44	1.67
PHASE 2	127.61	0.29

3238+50
P.G. 734.13

740
730
720
710
700
740/690
750

100 50 0 50 100

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3238+50 TO STA. 3240+00

Job Piece No. 14999(04)

Sheet No. X8

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END AREAS SQ. FT.		VOLUMES CU. YDS.	
EXC.	EMB.	EXC.	EMB.

3242+00
P.G. 732.38

PHASE 1A	0.00	0.00
PHASE 1B	115.37	4.78
PHASE 2	89.91	0.60

PHASE 1A	0.00	0.00
PHASE 1B	208.40	12.87
PHASE 2	161.42	1.18

3241+50
P.G. 732.63

PHASE 1A	0.00	0.00
PHASE 1B	109.70	7.31
PHASE 2	84.42	0.51

PHASE 1A	0.00	0.00
PHASE 1B	200.90	18.89
PHASE 2	148.55	1.33

3241+00
P.G. 732.88

PHASE 1A	0.00	0.00
PHASE 1B	107.27	10.43
PHASE 2	76.01	0.74

PHASE 1A	0.00	0.00
PHASE 1B	195.05	19.42
PHASE 2	134.54	7.27

3240+50
P.G. 733.13

PHASE 1A	0.00	0.00
PHASE 1B	103.38	7.81
PHASE 2	69.29	6.09

PHASE 1A	0.00	0.00
PHASE 1B	184.33	13.83
PHASE 2	119.27	14.75

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3240+50 TO STA. 3242+00

Job Piece No. 14999(04) Sheet No. X9

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END AREAS SQ. FT.		VOLUMES CU. YDS.	
EXC.	EMB.	EXC.	EMB.

(68) Sta 243+25, 23' Rt, 1-1/2 Ft. Rd., Top of Grate El. 730.80

4' Bottom Ditch, 2%, 1:4, 2.00%, 5.55%, 1:3

E 731.23, FL 726.22, 30" RCP

PUG, TUG, Present R/W, Gas Line

10" San Sewer, 16" Water Line

PHASE 1A	0.00	0.00
PHASE 1B	109.60	6.33
PHASE 2	95.59	11.24

3244+00
P.G. 731.34

PHASE 1A	0.00	0.00
PHASE 1B	207.22	11.72
PHASE 2	175.61	19.54

4' Bottom Ditch, 2%, 1:4, 2.00%, 5.55%, 1:3

E 731.51, 24" RCP

PUG, TUG, Present R/W, Gas Line

10" San Sewer, 16" Water Line

PHASE 1A	0.00	0.00
PHASE 1B	114.20	4.68
PHASE 2	94.07	7.11

3243+50
P.G. 731.62

PHASE 1A	0.00	0.00
PHASE 1B	210.08	8.70
PHASE 2	172.10	13.98

4' Bottom Ditch, 2%, 1:4, 2.00%, 5.31%, 1:3

E 731.80, 24" RCP

PUG, TUG, Present R/W, Gas Line

10" San Sewer, 16" Water Line

PHASE 1A	0.00	0.00
PHASE 1B	112.69	3.49
PHASE 2	91.80	6.02

(G5) Sta 241+70, 23.50' Rt, Lt Ptc Rd., Top of Grate 731.48

3243+00
P.G. 731.88

PHASE 1A	0.00	0.00
PHASE 1B	211.11	11.22
PHASE 2	173.10	9.49

2%, 2.00%, 4.75%, 1:3

24" FL 727.55

PUG, TUG, Present R/W, Gas Line

10" San Sewer, 16" Water Line

PHASE 1A	0.00	0.00
PHASE 1B	115.31	7.05
PHASE 2	95.15	2.89

3242+50
P.G. 732.13

PHASE 1A	0.00	0.00
PHASE 1B	213.59	12.60
PHASE 2	171.35	3.72

100 50 0 50 100

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3242+50 TO STA. 3244+00

Job Piece No. 14999(04) Sheet No. X10

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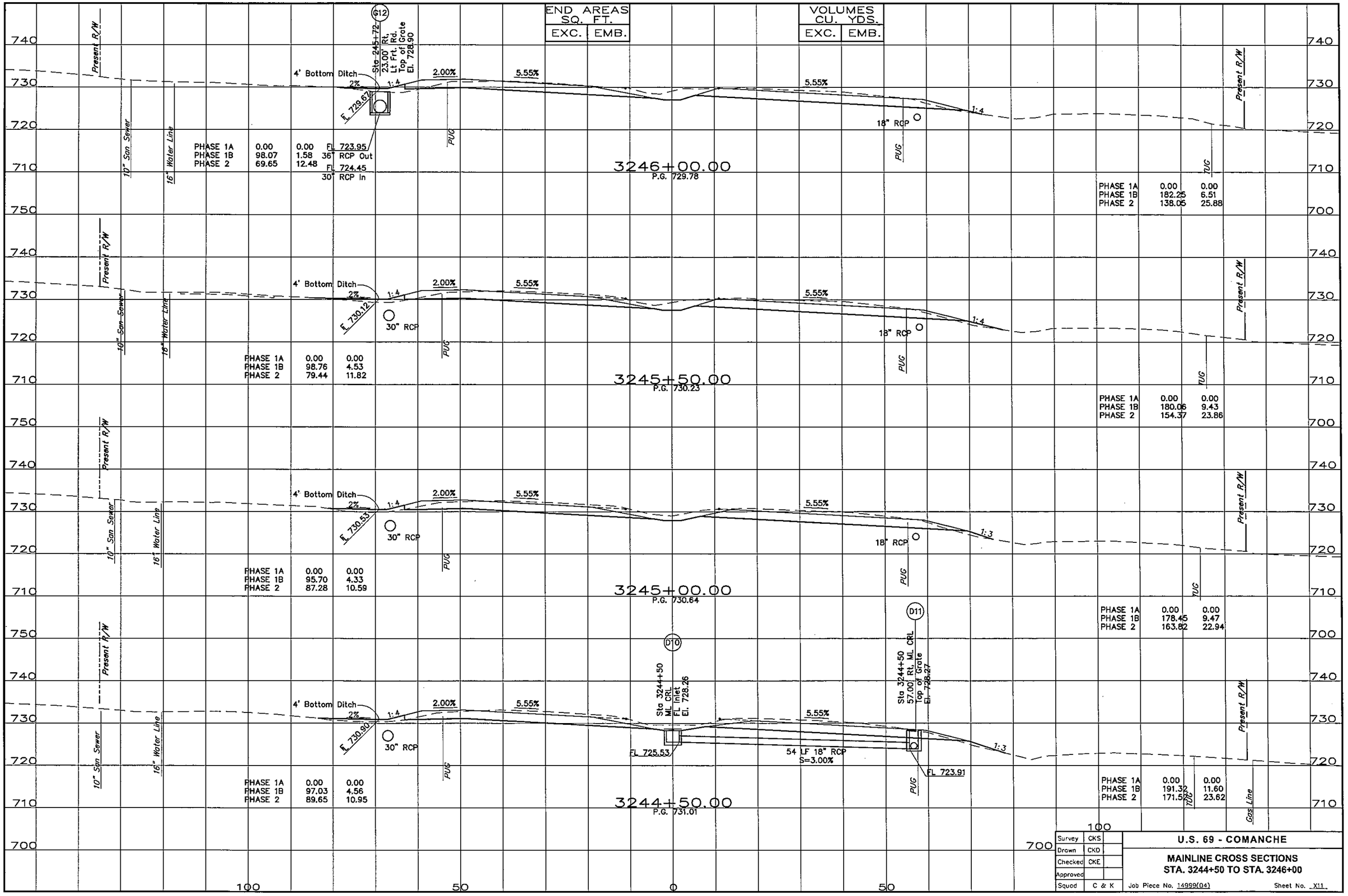

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3244+50 TO STA. 3246+00

Job Piece No. 14999(04) Sheet No. X11

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END AREAS SQ. FT.	
EXC.	EMB.

VOLUMES CU. YDS.	
EXC.	EMB.

740
730
720
710
700

Present R/W

10" San Sewer

16" Water Line

4' Bottom Ditch 2%

F 726.27 1:4

2.00%

5.55%

24" RCP

PUG

3248+00
P.G. 727.58

PHASE 1A	0.00	0.00
PHASE 1B	73.03	1.44
PHASE 2	14.45	72.21

PHASE 1A	0.00	0.00
PHASE 1B	110.42	1.53
PHASE 2	57.83	161.54

Comanche Avenue

740/690

H1
Sta 247+15
6.00' Rt.
Lt Frt. Rd.
Lid El. 727.75

G16
Sta 246+15.5
23.00' Rt.
Lt Frt. Rd.
Top of Grate
El. 727.34

4'x3' RCB

Existing Ground at G16

FL 721.00

FL 720.55
36" RCP In
4'X3' RCB Out

6 LF 4'X3' RCB
S=2.36%

3247+50
P.G. 728.19

PHASE 1A	0.00	0.00
PHASE 1B	46.22	0.00
PHASE 2	48.01	79.5

PHASE 1A	0.00	0.00
PHASE 1B	120.61	0.00
PHASE 2	107.96	84.65

36" RCP

3247+00
P.G. 728.76

PHASE 1A	0.00	0.00
PHASE 1B	84.04	0.00
PHASE 2	68.59	0.00

PHASE 1A	0.00	0.00
PHASE 1B	146.56	23.56
PHASE 2	104.94	17.28

G14
Sta 246+24
23.00' Rt.
Lt Frt. Rd.
Top of Grate
El. 728.40

4' Bottom Ditch 2%

F 729.18 1:4

2.00%

5.55%

18" RCP

D12
Sta 3246+55
MH. CRL
FL Inlet
El. 726.49

Inlet

FL 723.76

54 LF 18" RCP
S=4.18%

D13
Sta 3246+55
57.00' Rt. MH. CRL
Top of Grate
El. 726.50

FL 721.50

E7
Sta 246+98
18.00' Lt. Rt Frt. Rd
Lid El. 724.84

15 LF 18"
S=4.00%

FL 720.90

FL 716.57

FL 716.07

24" RCP Out

FL 722.75
36" RCP In/Out

18" Temp. CGMP Connection

3246+50
P.G. 729.29

PHASE 1A	0.00	0.00
PHASE 1B	74.24	22.13
PHASE 2	44.74	16.23

PHASE 1A	0.00	0.00
PHASE 1B	159.55	25.25
PHASE 2	105.92	30.57

Sta 247+36
28' Rt, Rt Frt. Rd.

4'x3' RCB

FL 715.50

PHASE 1A	0.00	0.00
PHASE 1B	146.56	23.56
PHASE 2	104.94	17.28

100 50 0 50 100

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3246+50 TO STA. 3248+00

Job Piece No. 14999(04)

Sheet No. X12

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END AREAS SQ. FT.	
EXC.	EMB.

VOLUMES CU. YDS.	
EXC.	EMB.

730 720 710 700 740 730 720 710 700 740 730 720 710 700 740 730 720 710 700 690

Present R/W

16" Water Line

10" San Sewer

4' Bottom Ditch 2%

E 723.41 1:4

2.00%

5.55%

24" RCP

PUC

3250+00
P.G. 724.72

5.55%

1:4

E 718.88

Present R/W
171.52' Rt

PHASE 1A	0.00	0.00
PHASE 1B	60.00	21.32
PHASE 2	27.79	47.56

PHASE 1A	0.00	0.00
PHASE 1B	107.98	29.48
PHASE 2	30.14	99.23

TUC

Present R/W

FL 723.11

16" Water Line

10" San Sewer

4' Bottom Ditch 2%

E 724.19 1:4

2.00%

5.55%

24" RCP

PUC

3249+50
P.G. 725.50

5.55%

1:4

E 719.66

Present R/W
170.11' Rt

PHASE 1A	0.00	0.00
PHASE 1B	56.62	6.37
PHASE 2	4.76	45.63

D15

PHASE 1A	0.00	0.00
PHASE 1B	107.85	8.12
PHASE 2	13.40	94.75

TUC

D14

Present R/W

16" Water Line

10" San Sewer

4' Bottom Ditch 2%

E 724.32 1:4

2.00%

5.55%

24" RCP

PUC

Sta 3249+00
ML CRL
FL Inlet
El. 723.48

3249+00
P.G. 726.23

18" FL 720.75

54 LF 18" RCP
S=3.39%

5.55%

Sta 3249+00
57.00' Rt. ML CRL
Top of Grate
El. 723.49

1:4

FL 718.92

Present R/W
167.89' Rt

PHASE 1A	0.00	0.00
PHASE 1B	59.86	1.26
PHASE 2	9.71	43.35

PHASE 1A	0.00	0.00
PHASE 1B	119.32	4.87
PHASE 2	19.79	113.87

TUC

Present R/W

Present R/W

16" Water Line

10" San Sewer

4' Bottom Ditch 2%

E 725.62 1:4

2.00%

5.55%

24" RCP

PUC

3248+50
P.G. 726.93

5.55%

1:4

PHASE 1A	0.00	0.00
PHASE 1B	69.01	3.31
PHASE 2	11.66	63.59

PHASE 1A	0.00	0.00
PHASE 1B	131.52	5.06
PHASE 2	24.18	144.60

TUC

100 50 0 50 100

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3248+50 TO STA. 3250+00

Job Piece No. 14989(04)

Sheet No. X13

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END AREAS SQ. FT.		VOLUMES CU. YDS.	
EXC.	EMB.	EXC.	EMB.

Proposed PUE/TCE | Present R/W | 16" Water Line | 10" San Sewer

PHASE 1A 0.00 0.00
PHASE 1B 64.24 34.73
PHASE 2 72.75 1.28

PHASE 1A 0.00 0.00
PHASE 1B 107.99 78.75
PHASE 2 125.33 3.45

E 721.50 | 1:5 | 2.00% | 5.55% | 5.55% | PUG

3252+00
P.G. 721.26

Proposed PUE/TCE | Present R/W | 16" Water Line | 10" San Sewer | 18" RCP

Make Temp. Drain Connection to Structure H2

E 721.40 | 1:5 | 2.00% | 5.55% | 5.55% | PUG | 18" RCP

PHASE 1A 0.00 0.00
PHASE 1B 52.39 39.23
PHASE 2 62.61 1.96

PHASE 1A 0.00 0.00
PHASE 1B 100.38 108.64
PHASE 2 90.44 79.35

H2
Sta 3251+23
79.00 Lt.
US-69
Top of Grate
El. 721.58

77 LF 42" RCP
S=8.00%

Proposed PUE/TCE | Present R/W | 16" Water Line | 10" San Sewer | 18" RCP

4' Bottom Ditch
2%
E 721.85 | 1:5 | 2.00% | 5.55% | 5.55% | PUG

3251+50
P.G. 722.16

10 LF Temp. 18" CGSP
24" RCP FL 718.20
30" RCP FL 717.70
26 LF 30" RCP S=4.23%
Existing Ground at H2
30" RCP

PHASE 1A 0.00 0.00
PHASE 1B 103.71 104.65
PHASE 2 57.90 120.68

Proposed PUE/TCE | Present R/W | 16" Water Line | 10" San Sewer

4' Bottom Ditch
2%
E 722.62 | 1:4 | 2.00% | 5.55% | 5.55% | PUG

3251+00
P.G. 723.05

24" RCP

PHASE 1A 0.00 0.00
PHASE 1B 107.40 60.48
PHASE 2 51.17 94.06

PHASE 1A 0.00 0.00
PHASE 1B 55.99 35.48
PHASE 2 27.47 40.77

3250+50
P.G. 723.91

740 730 720 710 700 690 680

200 150 100 50

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS STA. 3250+50 TO STA. 3252+00

Job Piece No. 14999(04) Sheet No. X14

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740
730
720
710
700
730/690
720
710
700
730/690
720
710
700
730/690
720
710
700
690
680

5.55%
5.55%
PUG
PUG
1:6
E 716.67
℄ Right Frontage Road
TUG
Present R/W
Present R/W 12" Water Line

3252+00
P.G. 721.26
5.55%
5.55%
PUG
PUG
18" RCP
E 716.42
1:6
2%
Make Temp. Drain Connection to Structure H4 With 18" CGMP
H3
Sta 3251+23 57.00' Rt. ML CRL Top of Grate El. 719.90
H4
Sta 3251+24 79.00' Lt. US-69 Top of Grate El. 716.29
TUG
Present R/W
12" Water Line

3251+50
P.G. 722.16
5.55%
5.55%
PUG
PUG
E 717.12
1:6
2%
30" RCP
18" RCP
FL 715.38
30" RCP
FL 712.62
27 LF 30" RCP
S=1.93%
30" RCP
FL 712.10
FL 711.60
Existing Ground at H3
TUG
36" RCP
Present R/W
12" Water Line

3251+00
P.G. 723.05
5.55%
5.55%
PUG
PUG
E 716.08
1:5
2%
TUG
Present R/W
12" Water Line

3250+50
P.G. 723.91

0
50
100
150
200

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS STA. 3250+50 TO STA. 3252+00

Job Piece No. 14999(04)

Sheet No. X15

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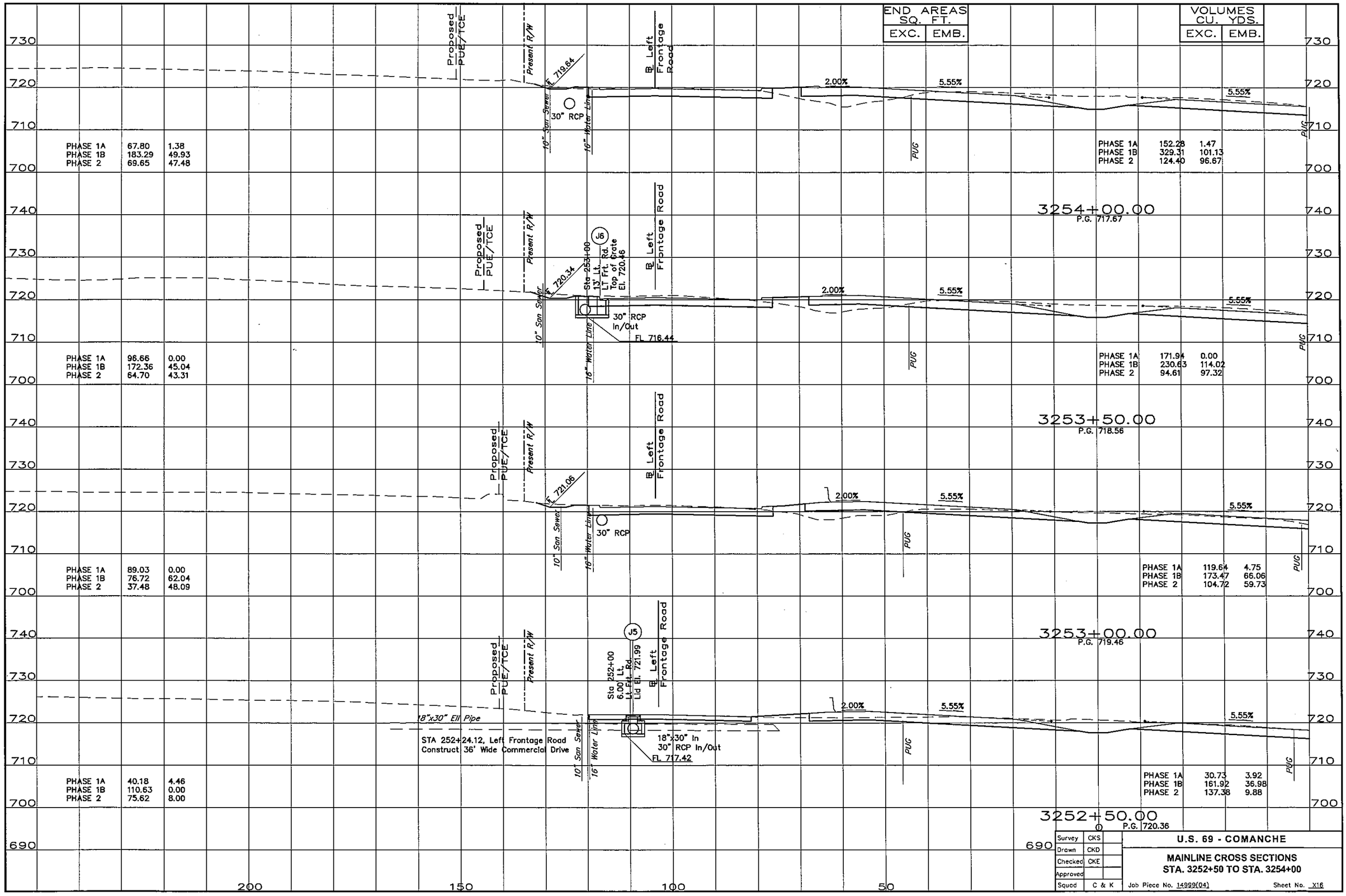

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3252+50 TO STA. 3254+00

Job Piece No. 14999(04) Sheet No. X16

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730
720
710
700
740/690

5.55%
5.55%
PUG
PUG
℄ Right Frontage Road
Present R/W
Proposed PUE/TCE
12" Water Line
TUG

3254+00.00
P.G. 717.67

730
720
710
700
740/690

5.55%
5.55%
PUG
PUG
℄ Right Frontage Road
Present R/W
Proposed PUE/TCE
12" Water Line
TUG

3253+50.00
P.G. 718.56

730
720
710
700
740/690

5.55%
5.55%
PUG
PUG
℄ Right Frontage Road
Present R/W
Proposed PUE/TCE
12" Water Line
TUG

3253+00.00
P.G. 719.48

730
720
710
700
740/690

5.55%
5.55%
PUG
PUG
Present R/W
TUG
12" Water Line

STA 252+77.3, Right Frontage Road
Construct 36' Wide Commercial Drive

3252+50.00
P.G. 720.36

690

0 50 100 150 200

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3252+50 TO STA. 3254+00

Job Piece No. 14999(04)

Sheet No. X17

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REV. NO.	DESCRIPTION	DATE
1	ADD DRIVEWAY	1-20-12

END AREAS SQ. FT.		VOLUMES CU. YDS.	
EXC.	EMB.	EXC.	EMB.

PHASE 1A 367.59 210.61
PHASE 1B 258.47 378.50
PHASE 2 0.00 0.00

PHASE 1A 207.49 116.09
PHASE 1B 135.19 239.56
PHASE 2 0.00 0.00

PHASE 1A 337.71 155.40
PHASE 1B 270.94 175.55
PHASE 2 54.60 68.40

PHASE 1A 189.54 81.70
PHASE 1B 143.96 115.90
PHASE 2 0.00 0.00

PHASE 1A 312.38 73.38
PHASE 1B 317.25 97.43
PHASE 2 114.48 134.93

PHASE 1A 116.25 0.00
PHASE 1B 148.66 42.54
PHASE 2 58.97 64.24

PHASE 1A 212.92 6.79
PHASE 1B 349.31 98.46
PHASE 2 124.37 117.09

PHASE 1A 97.48 0.00
PHASE 1B 193.97 42.54
PHASE 2 64.67 62.48

3256+00
P.G. 716.03

3255+50
P.G. 716.13

3255+00
P.G. 716.43

3254+50
P.G. 716.95

Proposed PUE/TCE
Present R/W
Frontage Road
PUG
16" Water Line
10" San Sewer
30" RCP
18" RCP In
30" RCP In
30" RCP Out
FL 710.26
FL 705.94
FL 710.30
FL 710.42
Ditch FL 713.50
2.20%
3.04%
3.87%
4.70%
Sta 255+80 23.00' Lt. Lt Frt. Rd. Top of Grate El. 714.08 (J12)
Sta 255+80, 13.00' Lt, Lt Frt. Rd. Top of Grate El. 713.92 (J11)
Sta 255+80 13.00' Rt, Lt Frt. Rd. Top of Grate El. 713.92 (J10)
Sta 254+70 23.00' Lt, Lt Frt. Rd. Top of Grate El. 718.04 (J9)
Sta 254+70, 13.00' Lt, Lt Frt. Rd. Top of Grate El. 717.90 (J8)
Sta 55+00 4.05' Rt, Ramp A Top of Grate El. 717.55 (J7)
Sta 3255+00 65' Lt, US-69 Top of Grate El. 718.08 (J14)
18" RCP In
30" RCP In
30" RCP Out
FL 713.76
FL 712.16
FL 713.80
18" RCP
51 LF 18" RCP S=0.40%
5 LF 18" RCP S=5.00%
FL 714.00
FL 714.25
FL 718.96

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS STA. 3254+50 TO STA. 3256+00

Job Piece No. 14999(04) Sheet No. X18

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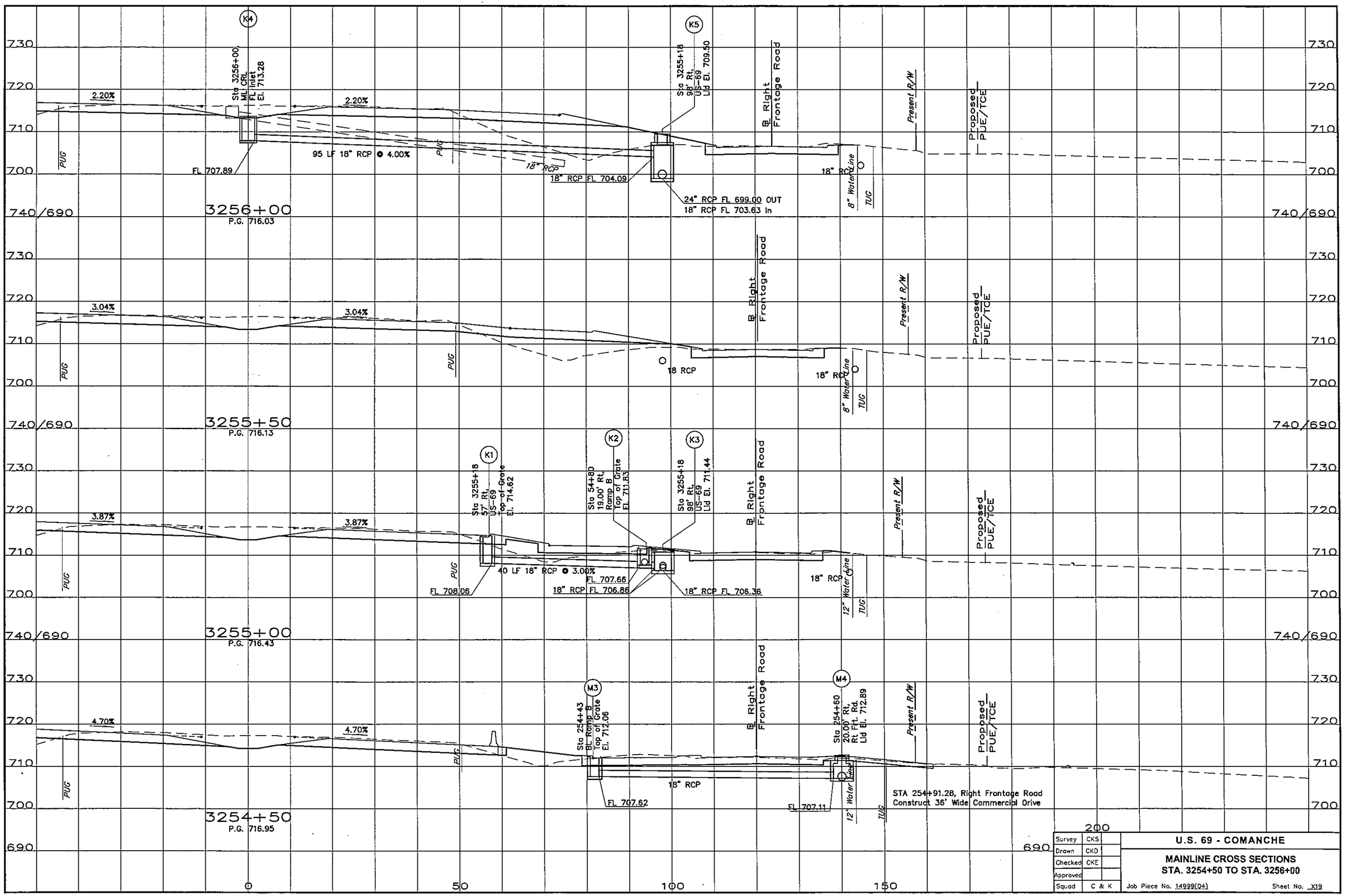

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3254+50 TO STA. 3256+00

Job Piece No. 14999(04) Sheet No. X19

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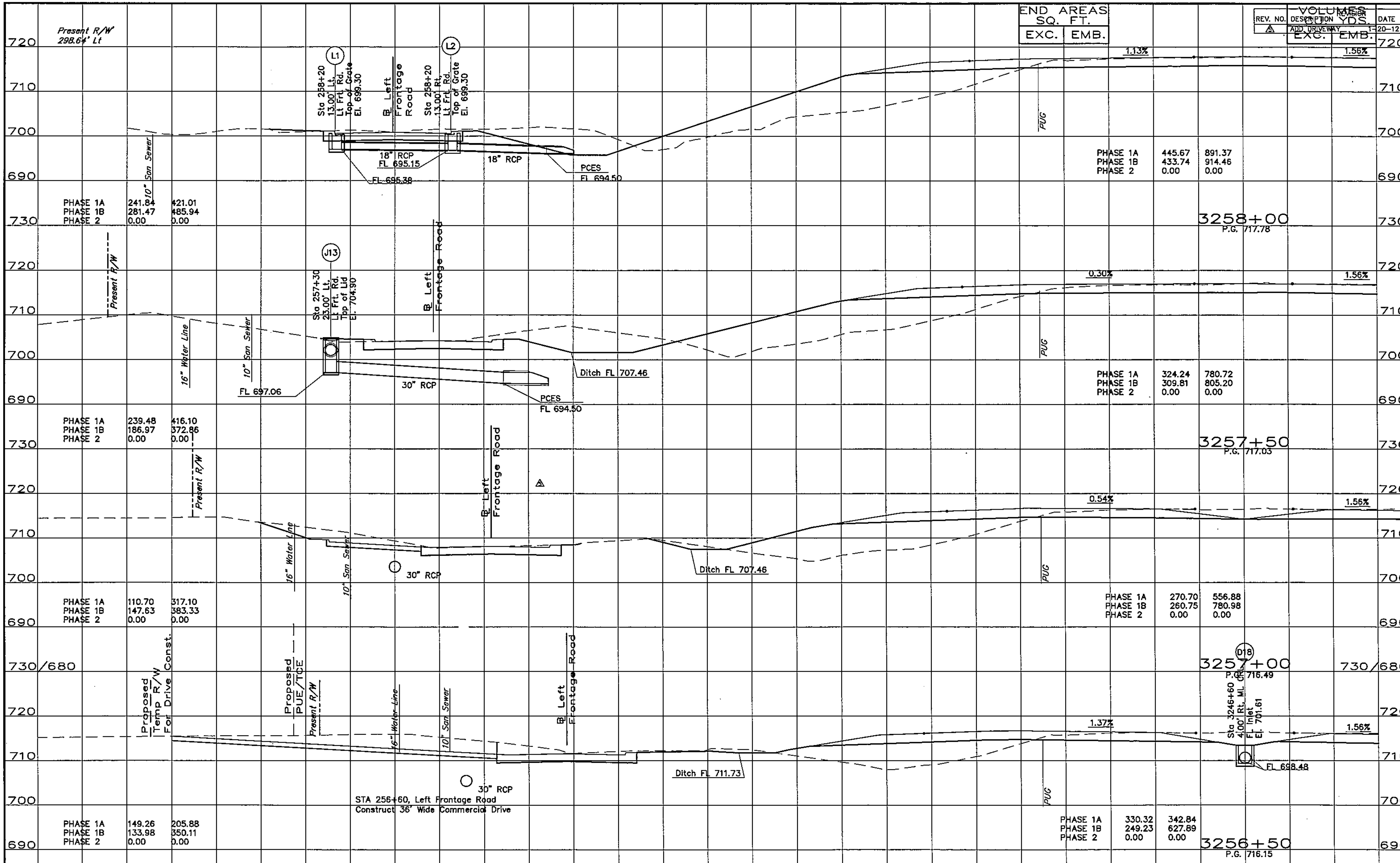


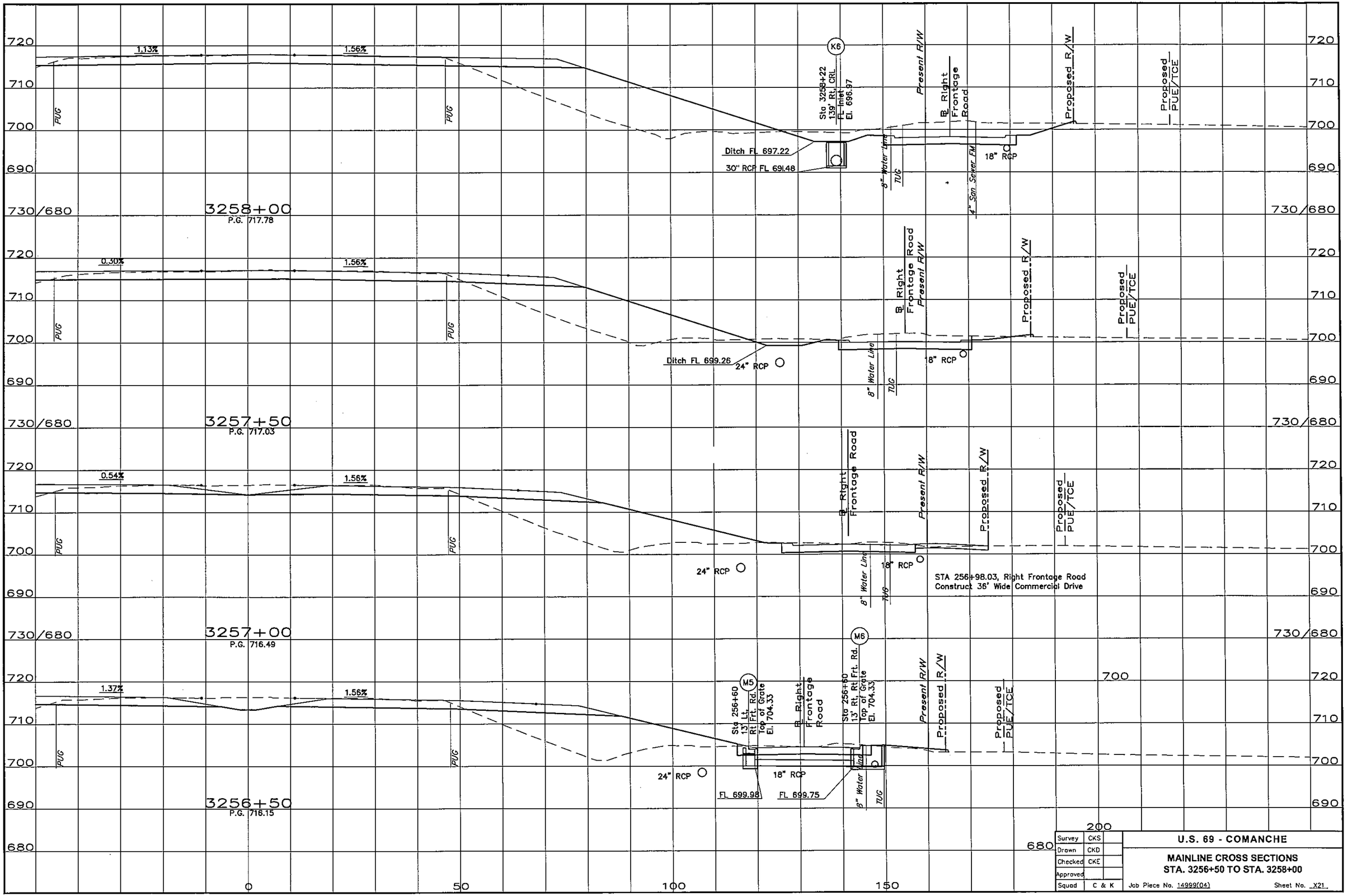
END AREAS SQ. FT.
EXC. EMB.
VOLUMES CU. YDS.
EXC. EMB.
REV. NO. DESCRIPTION DATE
ADD DRIVEWAY 1-20-12
Present R/W 298.64' Lt
Sta 258+20 13.00' Lt. Lt Frt. Rd. Top of Grate El. 699.30
B Left Frontage Road
Sta 258+20 13.00' Rt. Lt Frt. Rd. Top of Grate El. 699.30
18" RCP FL 695.15
18" RCP
FL 695.38
PCES FL 694.50
10" San Sewer
PUG
1.13%
1.56%
PHASE 1A 445.67 891.37
PHASE 1B 433.74 914.46
PHASE 2 0.00 0.00
PHASE 1A 241.84 421.01
PHASE 1B 281.47 485.94
PHASE 2 0.00 0.00
3258+00
P.G. 717.78
Present R/W
Sta 257+30 23.00' Lt. Lt Frt. Rd. Top of Lid El. 704.90
B Left Frontage Road
16" Water Line
10" San Sewer
FL 697.06
30" RCP
PCES FL 694.50
Ditch FL 707.46
0.30%
1.56%
PHASE 1A 324.24 780.72
PHASE 1B 309.81 805.20
PHASE 2 0.00 0.00
PHASE 1A 239.48 416.10
PHASE 1B 186.97 372.86
PHASE 2 0.00 0.00
3257+50
P.G. 717.03
Present R/W
B Left Frontage Road
16" Water Line
10" San Sewer
30" RCP
Ditch FL 707.46
0.54%
1.56%
PHASE 1A 270.70 556.88
PHASE 1B 260.75 780.98
PHASE 2 0.00 0.00
PHASE 1A 110.70 317.10
PHASE 1B 147.63 383.33
PHASE 2 0.00 0.00
3257+00
P.G. 716.49
Proposed Temp R/W For Drive Const.
Proposed PUE/TCE
Present R/W
16" Water Line
10" San Sewer
B Left Frontage Road
Sta 3246+60 4.00' Rt. ML FL Inlet El. 701.61
1.37%
1.56%
FL 698.48
Ditch FL 711.73
30" RCP
STA 256+60, Left Frontage Road
Construct 36' Wide Commercial Drive
PHASE 1A 149.26 205.88
PHASE 1B 133.98 350.11
PHASE 2 0.00 0.00
PHASE 1A 330.32 342.84
PHASE 1B 249.23 627.89
PHASE 2 0.00 0.00
3256+50
P.G. 716.15
250 200 150 100 50

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3256+50 TO STA. 3258+00

Job Piece No. 14999(04) Sheet No. X20



Survey	CKS	U.S. 69 - COMANCHE
Drawn	CKD	MAINLINE CROSS SECTIONS
Checked	CKE	STA. 3256+50 TO STA. 3258+00
Approved		
Squad	C & K	Job Piece No. 14999(04) Sheet No. X21

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	END AREAS SQ. FT.		VOLUMES CU. YDS.	
	EXC.	EMB.	EXC.	EMB.
PHASE 1A	126.62	1402.38	259.95	1500.12
PHASE 1B	0.00	0.00	0.00	0.00
PHASE 2	0.00	0.00	0.00	0.00

Present R/W 288.85' Lt

10" San Sewer

PUE

3260+00

Present R/W 337.50' Lt

BRIDGE 'R & Q'

PHASE 1A	155.13	6.43	26.40	1.26
PHASE 1B	0.00	0.00	0.00	0.00
PHASE 2	0.00	0.00	0.00	0.00

3259+50

Present R/W 468.45' Lt

BRIDGE 'R & Q'

3259+00

℄ Left Frontage Road

BRIDGE 'R & Q'

PHASE 1A	304.85	392.22	690.42	1381.45
PHASE 1B	149.26	0.00	143.38	0.00
PHASE 2	0.00	0.00	0.00	0.00

3258+50

740 730 720 710 700 690 720/680

250 200 150 100 50 0

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS STA. 3258+50 TO STA. 3260+00

Job Piece No. 14999(04) Sheet No. X22

740
730
720
710
700
690

3260+00
720/680

710
BRIDGE 'R & Q'
700
690

3259+50
720/680

710
BRIDGE 'R & Q'
700
690

3259+00
720/680

710
BRIDGE 'R & Q'
700
690

3258+50
680

PUG
TUG
8" Water Line
4" San Sewer FM
℄ Right Frontage Road
℄ Right Frontage Road
18" RCP Stm
18" RCP Stm
18" RCP Stm
Present R/W
Proposed R/W
Present R/W
Proposed R/W
Proposed PUE/TCE
Proposed PUE/TCE
Proposed PUE/TCE
Proposed PUE/TCE
M7
Sta 258+70
13' Lt. Rt Frt. Rd
Top of Grate
El. 696.97
M8
Sta 258+70
13' Rt. Rt Frt. Rd.
Top of Grate
El. 696.97
℄ Right Frontage Road
Present R/W
18" RCP
FL 693.47
FL 693.24
8" Water Line
TUG

0 50 100 150 200 250

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3258+50 TO STA. 3260+00

Job Piece No. 14999(04)

Sheet No. X23

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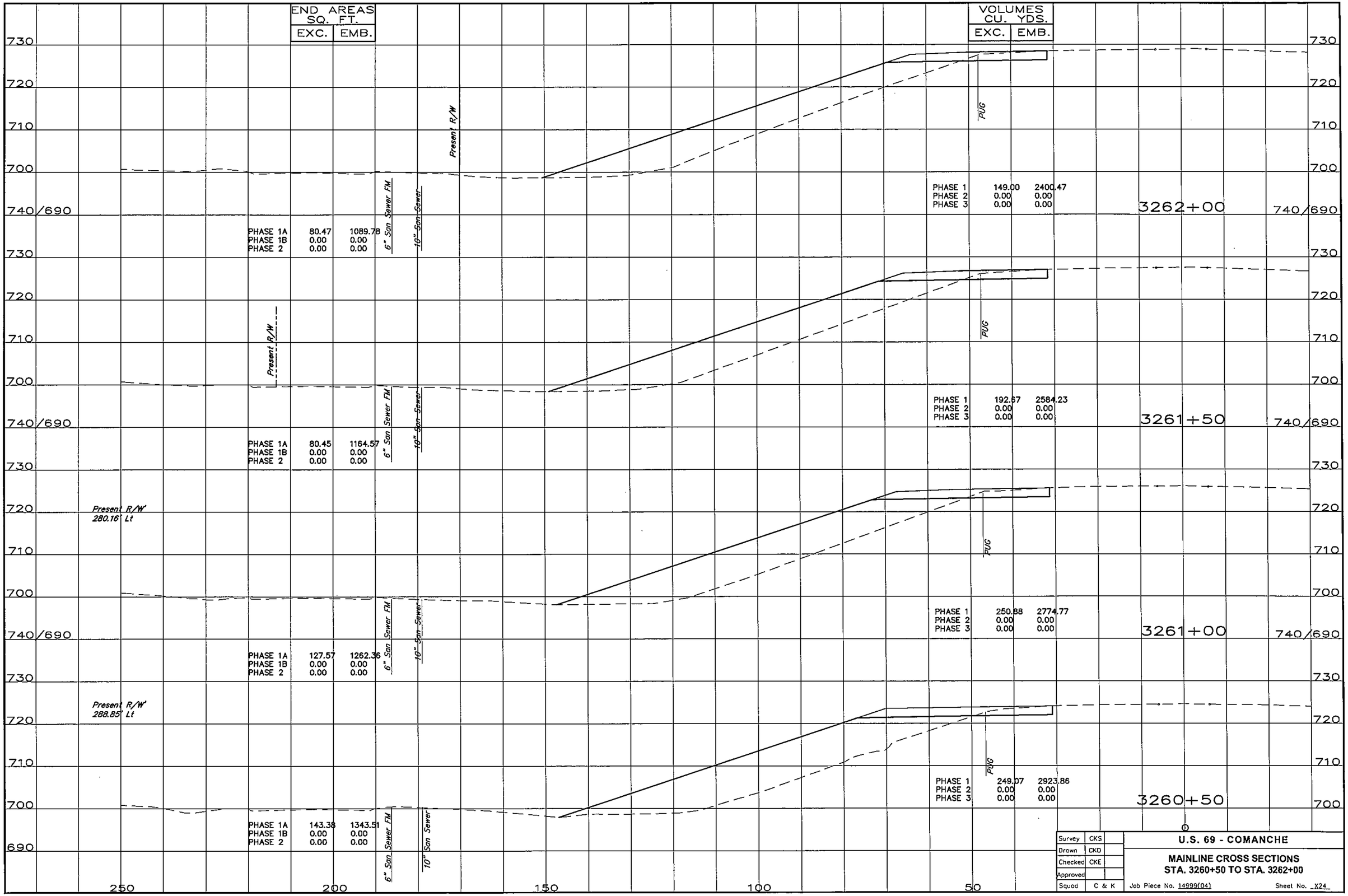

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3260+50 TO STA. 3262+00

Job Piece No. 14999(04) Sheet No. X24

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REV. NO.	DESCRIPTION	REVISION DATE
1	REVISED R/W	3-30-10

730
720
710
700
740/690
730
720
710
700
740/690
730
720
710
700
730/690
720
710
700
690

3262+00
3261+50
3261+00
3260+50

PUG
TUG
Present R/W
℄ Right Frontage Road
Proposed R/W
Proposed PUE/TCE
18" RCP Strm
4" San Sewer FM
8" Water Line
8" Water Line
4" San Sewer FM
Sta 3260+50 CRL, 157.5' RT, CRL FL 694.69
Sta 3260+34.37 CRL, 209.50' RT, CRL FL 690.50
54 LF 24" RCP S=0.70%
18" E 691.38(In)
24" E 690.88(Out)
18" E 690.88(In)
30" E 690.50(In)
24" E 690.50(In)
10'x3' E 690.50(In)
6.5'x5' E 689.65(Out)
6.5'x5' CMP Ellip

0 50 100 150 200 250

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS STA. 3260+50 TO STA. 3262+00

Job Piece No. 14999(04) Sheet No. X25

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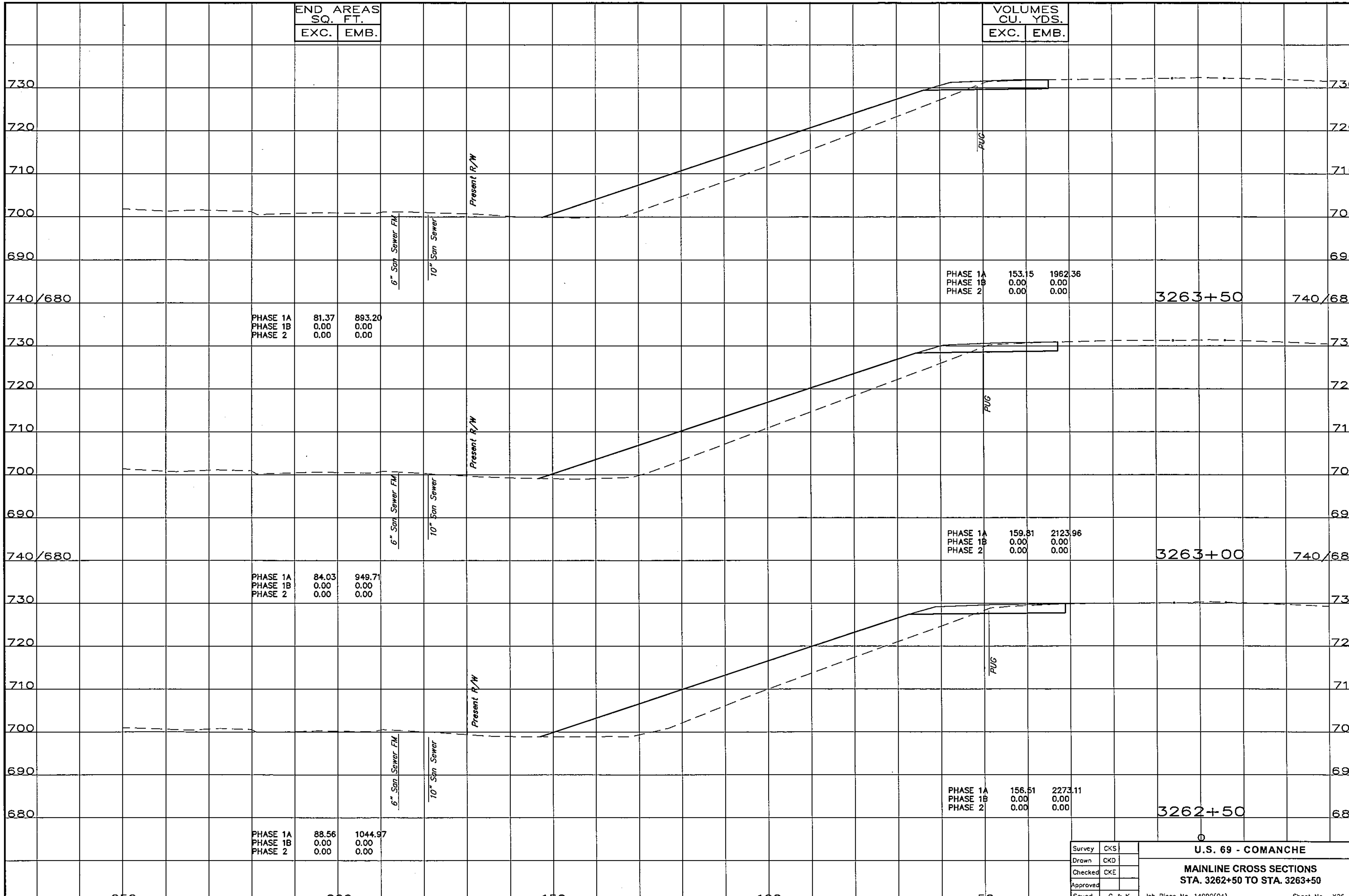
END AREAS SQ. FT.
EXC. EMB.
VOLUMES CU. YDS.
EXC. EMB.
730
720
710
700
690
740/680
PUG
Present R/W
6" San Sewer FM
10" San Sewer
PHASE 1A 153.15 1962.36
PHASE 1B 0.00 0.00
PHASE 2 0.00 0.00
3263+50
PHASE 1A 81.37 893.20
PHASE 1B 0.00 0.00
PHASE 2 0.00 0.00
PHASE 1A 159.81 2123.96
PHASE 1B 0.00 0.00
PHASE 2 0.00 0.00
3263+00
PHASE 1A 84.03 949.71
PHASE 1B 0.00 0.00
PHASE 2 0.00 0.00
PHASE 1A 156.51 2273.11
PHASE 1B 0.00 0.00
PHASE 2 0.00 0.00
3262+50
680
PHASE 1A 88.56 1044.97
PHASE 1B 0.00 0.00
PHASE 2 0.00 0.00
250
200
150
100
50
0
Survey CKS
Drawn CKD
Checked CKE
Approved
Squad C & K
U.S. 69 - COMANCHE
MAINLINE CROSS SECTIONS
STA. 3262+50 TO STA. 3263+50
Job Piece No. 14999(04)
Sheet No. X26

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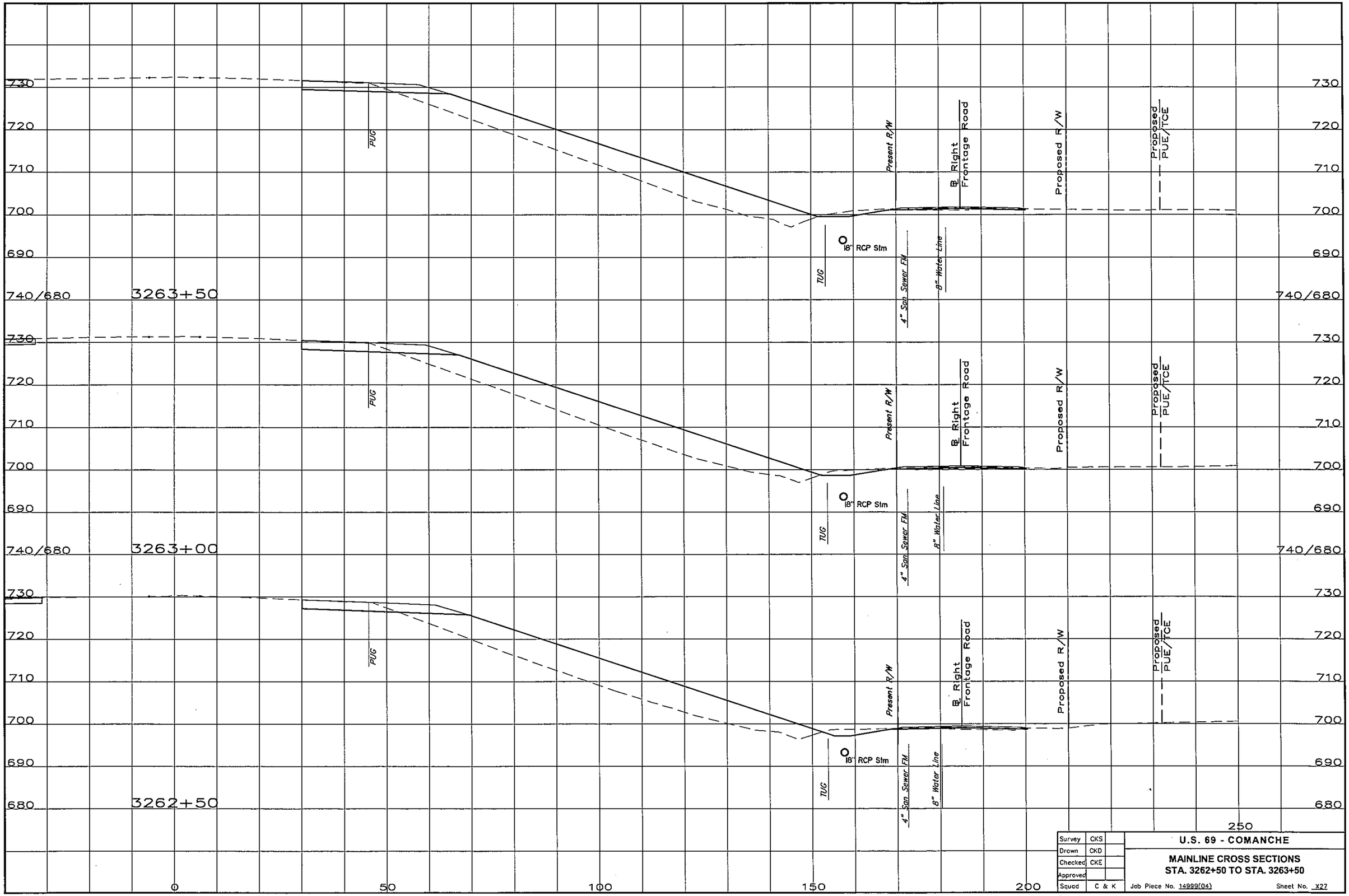

Survey	CKS	
Drown	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3262+50 TO STA. 3263+50

Job Piece No. 14999(04) Sheet No. X27

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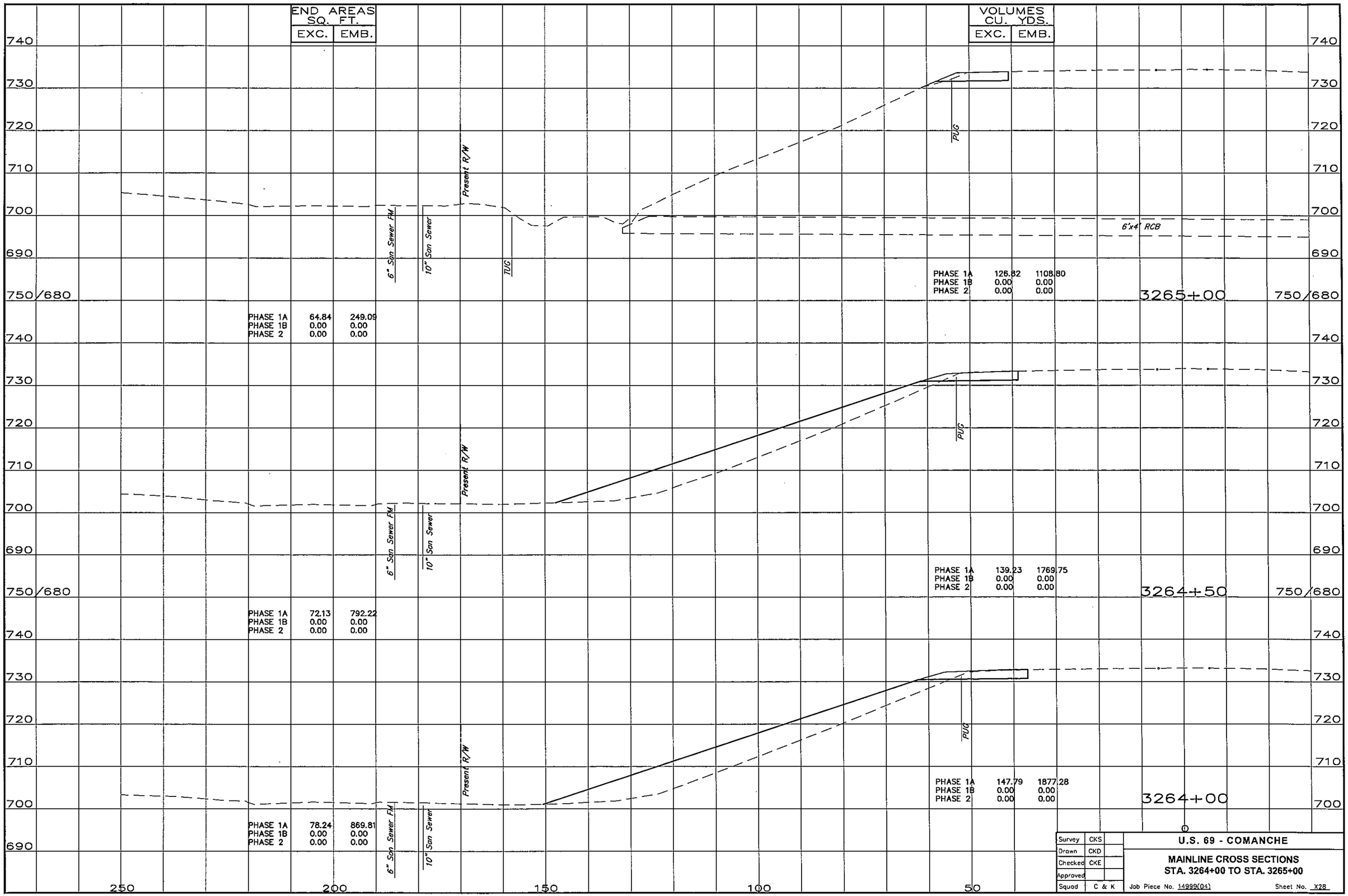

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3264+00 TO STA. 3265+00

Job Piece No. 14999(04) Sheet No. X28

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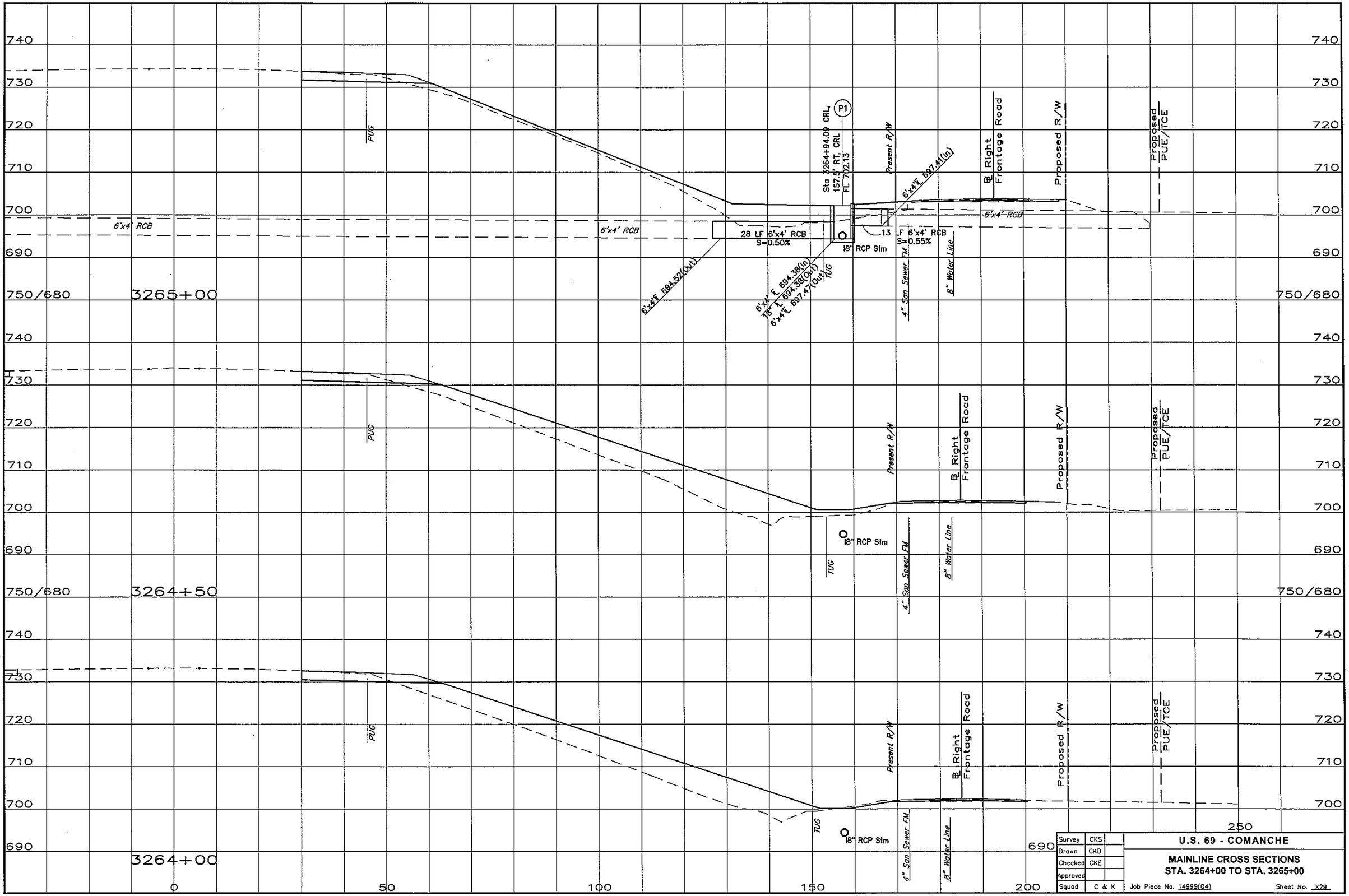

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3264+00 TO STA. 3265+00

Job Piece No. 14999(04) Sheet No. X29

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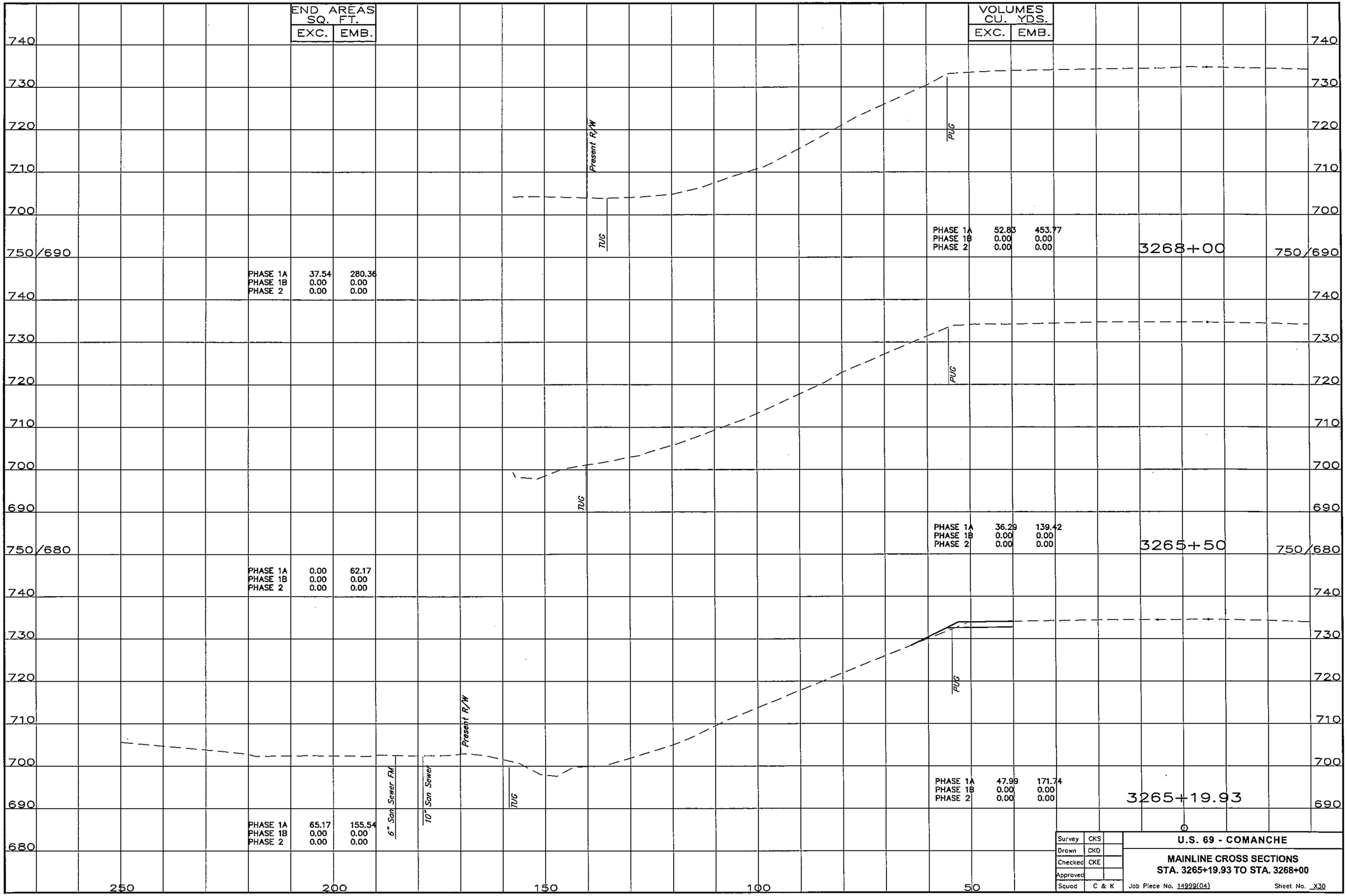

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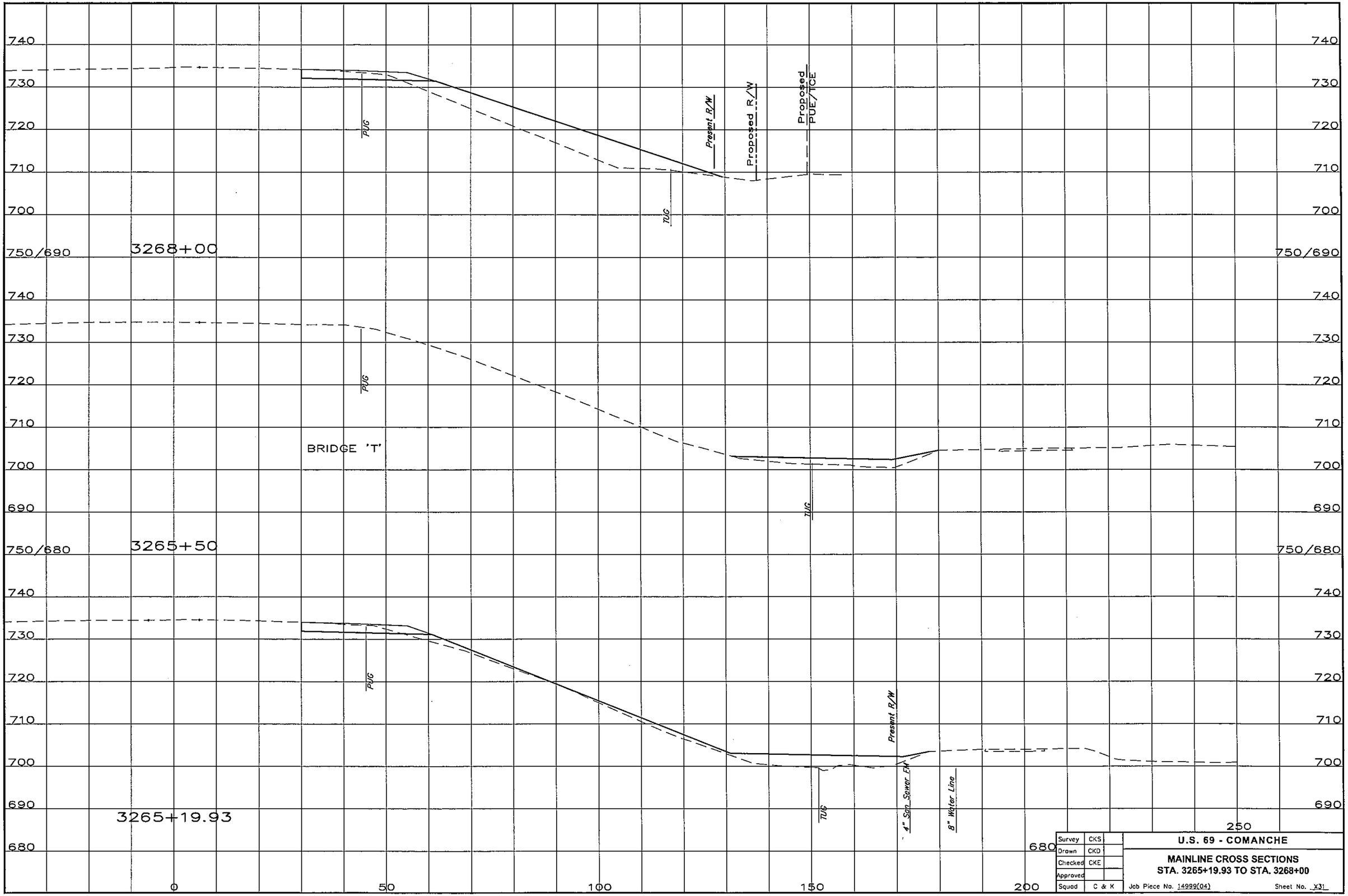
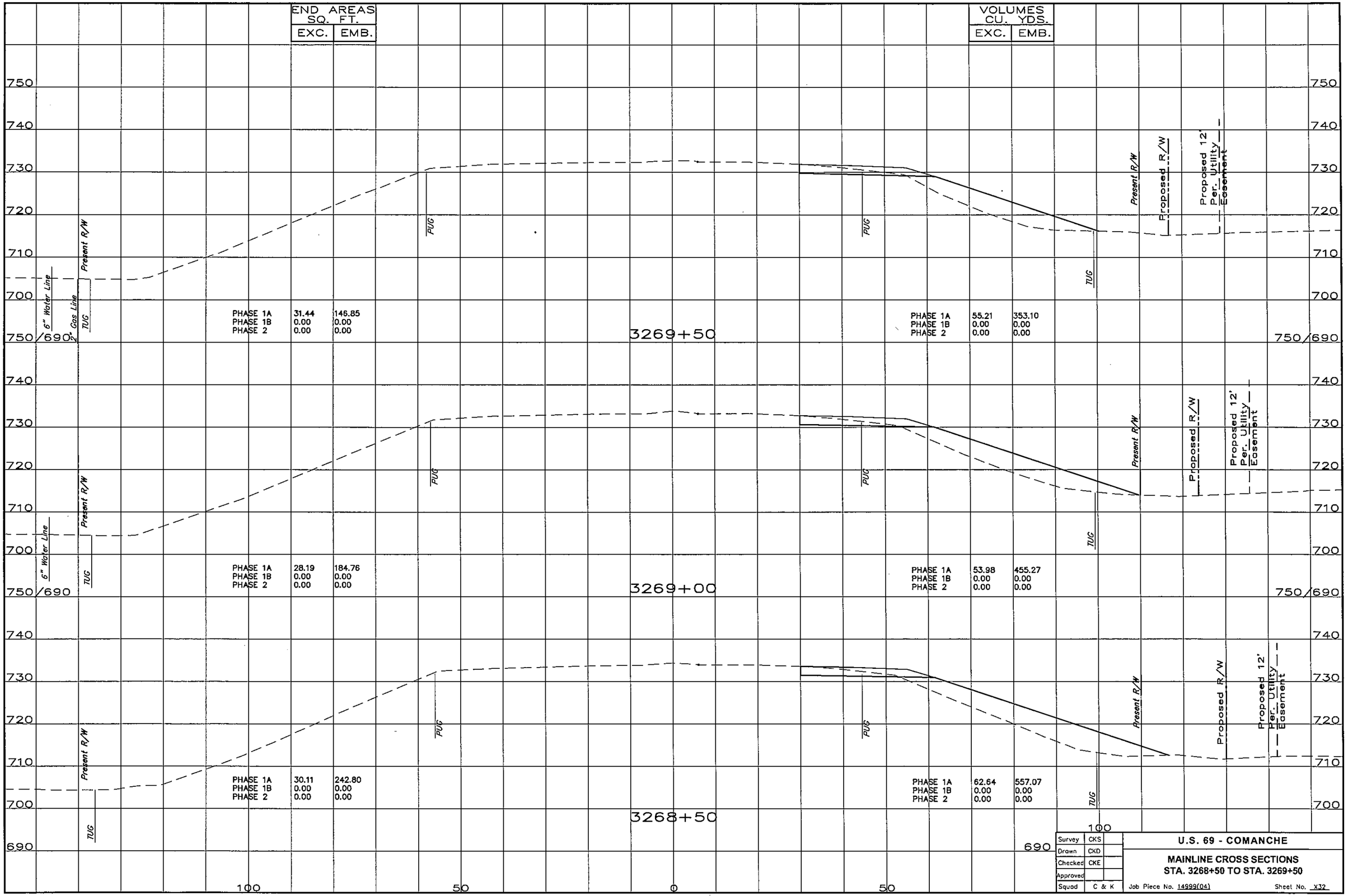


Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3265+19.93 TO STA. 3268+00

Job Piece No. 14999(04) Sheet No. X31



Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3268+50 TO STA. 3269+50

Job Piece No. 14999(04) Sheet No. X32

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END AREAS SQ. FT.	EXC.	EMB.
PHASE 1A	43.02	8.04
PHASE 1B	0.00	0.00
PHASE 2	0.00	0.00

VOLUMES CU. YDS.	EXC.	EMB.
PHASE 1A	70.95	45.98
PHASE 1B	0.00	0.00
PHASE 2	0.00	0.00

3271+00

END AREAS SQ. FT.	EXC.	EMB.
PHASE 1A	33.61	35.14
PHASE 1B	0.00	0.00
PHASE 2	0.00	0.00

VOLUMES CU. YDS.	EXC.	EMB.
PHASE 1A	62.32	146.26
PHASE 1B	0.00	0.00
PHASE 2	0.00	0.00

3270+50

END AREAS SQ. FT.	EXC.	EMB.
PHASE 1A	33.70	102.22
PHASE 1B	0.00	0.00
PHASE 2	0.00	0.00

VOLUMES CU. YDS.	EXC.	EMB.
PHASE 1A	60.31	265.21
PHASE 1B	0.00	0.00
PHASE 2	0.00	0.00

3270+00

Survey	CKS	
Drawn	CKD	
Checked	CKE	
Approved		
Squad	C & K	

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3270+00 TO STA. 3271+00

Job Piece No. 14999(04) Sheet No. X33

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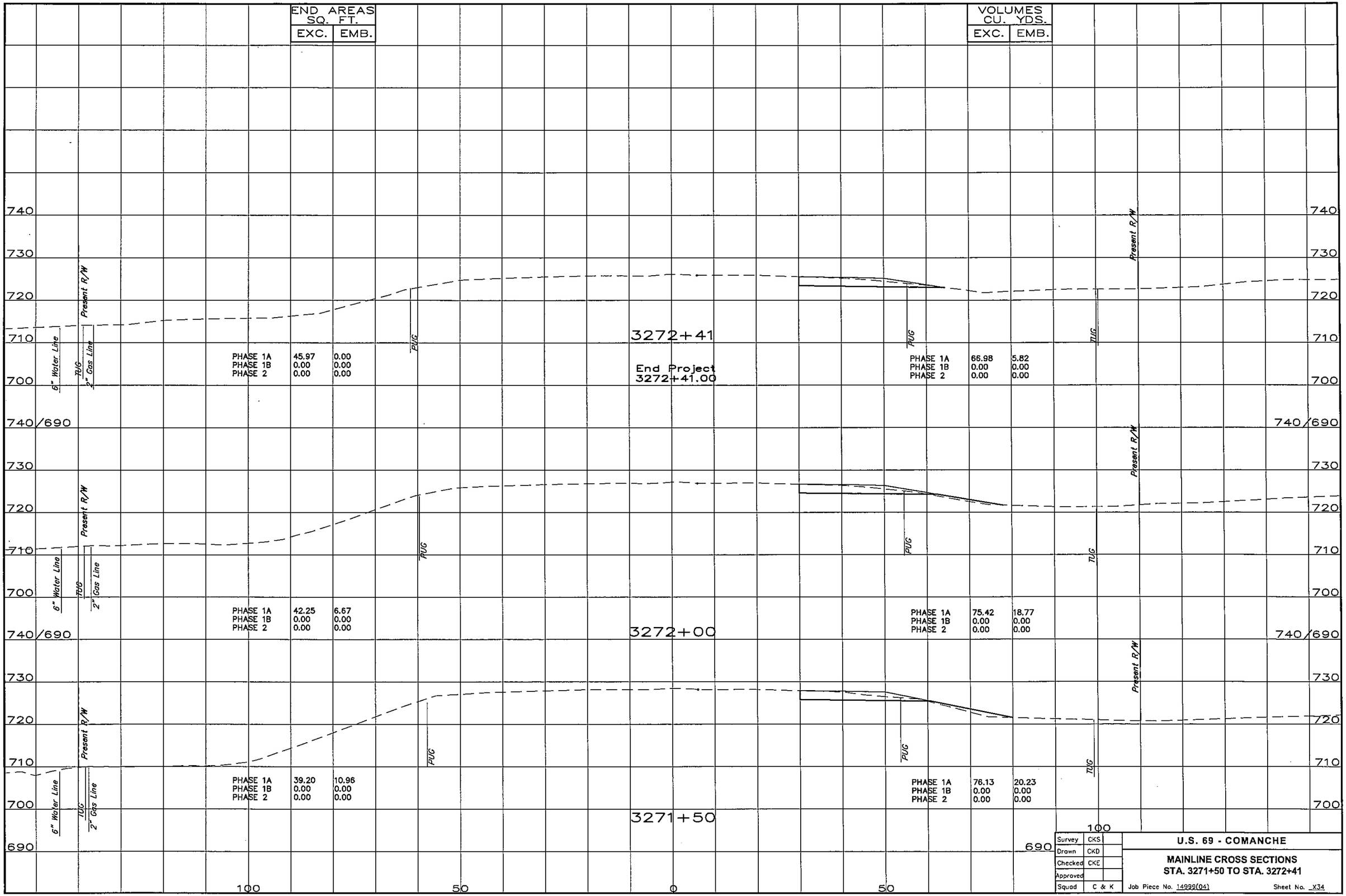

Survey	CKS
Drawn	CKD
Checked	CKE
Approved	
Squad	C & K

U.S. 69 - COMANCHE

MAINLINE CROSS SECTIONS
STA. 3271+50 TO STA. 3272+41

Job Piece No. 14999(04) Sheet No. X34

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