SURVEY CONTROL DATA

1. HORIZONTAL DATUM IS THE OKLAHOMA STATE PLANE COORDINATE SYSTEM, N.A.D. 83(2011) LAMBERT PROJECTION, SOUTH ZONE ADJUSTED TO N.G.S. STATE PLANE COORDINATES, UTILIZING OPUS.

   A. ACCURACY – 3RD ORDER OR BETTER.

2. BEARINGS:

   THE BEARINGS SHOWN HEREIN OR HEREON ARE GRID BEARINGS DERIVED FROM THE USC & GS OKLAHOMA PLANE COORDINATE SYSTEM AND ARE NOT ASTRONOMICAL.

3. VERTICAL CONTROLS:

   A. LEVEL DATUM IS NGS, NAVD 88, TAKEN FROM ADJUSTED PRIMARY CONTROL UTILIZING DIFFERENTIAL LEVELING TECHNIQUES.

   B.ACCURACY – 3RD ORDER OR BETTER

DESIGN DATA

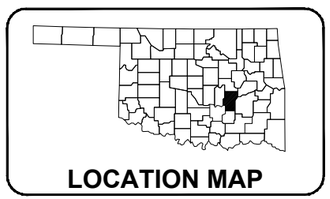
ADT 2025	– 100
ADT 2045	– 150
V	45 MPH

SCALES

PLAN 1"=100'
PROFILE HORIZ. 1"=100'
VERT. 1"=10'
LAYOUT MAP 1"=10,560'

CONVENTIONAL SIGNS

- PROPOSED ROADS
- SECTION LINES
- QUARTER SECTION LINES
- FENCES
- EXISTING GRADE
- EXISTING ROADS
- BASE LINE
- PROPOSED GRADE
- TUG COMMUNICATION LINES (EXISTING)
- POWER LINES (EXISTING)
- G GAS LINE (EXISTING)
- SS SANITARY SEWER LINES (EXISTING)
- W WATER LINES (EXISTING)
- COMMUNICATION LINES (PROPOSED)
- POWER LINES (PROPOSED)
- G GAS LINE (PROPOSED)
- SS SANITARY SEWER LINES (PROPOSED)
- W WATER LINES (PROPOSED)
- BUILDINGS
- DRAINAGE STRUCTURES (EXISTING)
- DRAINAGE STRUCTURES (PROPOSED)
- RIGHT-OF-WAY LINES (EXISTING)
- RIGHT-OF-WAY LINES (PROPOSED)
- RIGHT-OF-WAY FENCE
- FLOWLINE (EXISTING)
- FLOWLINE (PROPOSED)
- TOE OF SLOPE (EXISTING)
- TOE OF SLOPE (PROPOSED)
- CITY LIMITS
- LANDSCAPE



LOCATION MAP

DWIGHT H. BARNETT
COMMISSIONER, DISTRICT NO. 1
HUGHES COUNTY

THOMAS HOOVER
LOCAL GOVERNMENT DIVISION
OKLAHOMA DEPARTMENT OF TRANSPORTATION

P.E. NO. 34998(01)

STATE OF OKLAHOMA

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED

COUNTY BRIDGE

BRIDGE AND APPROACH PLANS

SPAULDING ROAD OVER LITTLE RIVER
HUGHES COUNTY

FEDERAL AID PROJECT NO. STP–232C(078)CI

STATE JOB NO. 34998(04)

LOCATION: 32N3690E1390006

LEAVE IN PLACE NBI NO. 14178 CONSTRUCT NBI NO. 33161

LATITUDE 34° 59' 28" N, LONGITUDE 96° 26' 30" W

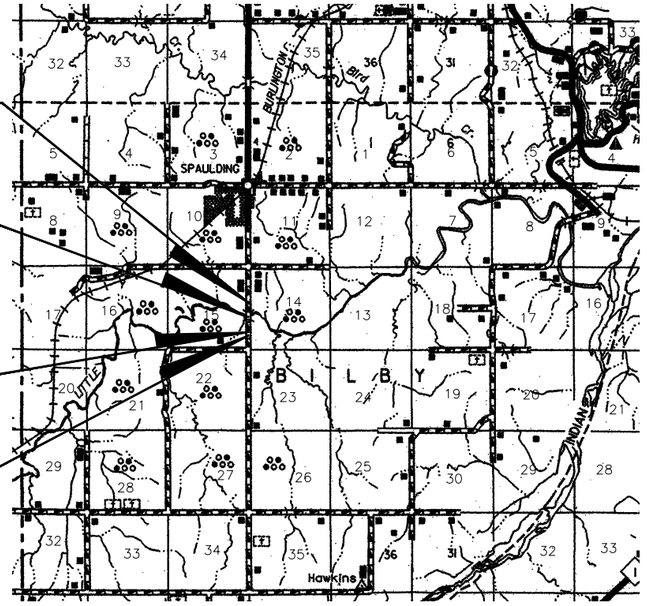
STA. 42+14.00
END PROJECT

BRIDGE "A"

NBI NO. 33161	
BEGIN BRIDGE STA.	30+28.17
BRIDGE LENGTH	322.83'
END BRIDGE STA.	33+51.00

STA. 22+00.00
END INCIDENTAL CONSTRUCTION
BEGIN PROJECT

STA. 20+70.00
BEGIN INCIDENTAL CONSTRUCTION



PROJECT LENGTH BASED ON CENTERLINE OF SURVEY

ROADWAY LENGTH:	1,691.17 FT.	0.320 MILES
BRIDGE 'A' LENGTH:	322.83 FT.	0.061 MILES
PROJECT LENGTH:	.....	0.381 MILES
EQUATIONS:	NONE	
EXCEPTIONS:	NONE	

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

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
0001.	TITLE SHEET
0002.	TYPICAL SECTION AND MISCELLANEOUS DETAILS
AB01.	GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE)
AE01.	ENVIRONMENTAL NOTES
AR01.	GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (ROADWAY)
AT01.	GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (TRAFFIC)
AX01.	SUMMARY SHEET (ROADWAY)
B001.	GENERAL PLAN AND ELEVATION
B002.	SUMMARY OF BRIDGE QUANTITIES
B003.	SUBSURFACE FENCE DIAGRAM
B004.	SUBSTRUCTURE STAKING DIAGRAM
B005.–B007.	DETAILS OF PIERS
R001.	STORM WATER MANAGEMENT PLAN
R002.	EROSION CONTROL PLAN
R003.–R004.	PLAN AND PROFILE
R005.	EARTHWORK PHASING
T001.	GUARDRAIL ANCHOR UNIT DETAIL
T002.	GUARDRAIL HARDWARE DETAIL
T003.	SIGN DETAILS
T004.–T005.	TRAFFIC CONTROL PLAN
X001.–X019.	CROSS SECTIONS

CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE

THE FOLLOWING STANDARDS WILL BE REQUIRED FOR THIS PROJECT.

ROADWAY 2019
BMPR–0
TESCA–0
RSF–0
TSD–0
TRFD–0
SSS–2–1
PCES–5–2
CCI–1–0
CCI–2–0
TCI–1–0
PBB–1–3
PUD–4–1
MI–4–2
RDI–4–1
RWF2–3–1

BRIDGE 2009	
CB26–I–SKO–ABUT–PC4–01E	CB26..32–C..I–SKO..30–PCB–DTL–1–01E
CB26–I–SKO–XSECT–PC234–01E	CB26..32–C..I–SKO..30–PCB–DTL–2–01E
CB26–I–SKO–XSECT–PC5–01E	CB26..32–C..I–SKO..30–GRAU–BC–00E
CB26–I–SKO–LSECT–PCB–01E	TR3–2–01E
CB26–I–SKO–DKSLB–BLIST–PCB–01E	HP1–2–01E
CB26–I–SKO–PCB–IV–80–01E	
CB26–I–SKO–PCB–IV–105–01E	
CB26–I–SKO–PCB–J–135–1–01E	
CB26–I–SKO–PCB–J–135–2–01E	
CB26–I–SKO–DIA–ABUT–PC4–01E	
CB26–I–SKO–DIA–INTPR–PCB–01E	
CB26–I–SKO–BRG–PC4–01E	
CB26–I–SKO–BRG–PC5–01E	
CB26–I–SKO–SPR–QUAN–PCB–1–01E	
CB26–I–SKO–SPR–QUAN–PCB–2–01E	
CB26..32–I–SKO–WING–PC4–01E	
CB26..32–I–SKO–ABUT–MISC–01E	

TRAFFIC CONTROL 2009
TCS1–1–01
TCS2–1–00
TCS3–1–01
TCS4–1–01
TCS5–1–00
TCS6–1–02
TCS7–1–02
TCS8–1–00
TCS9–1–01
TCS10–1–00
TCS11–1–01
TCS14–1–00

TRAFFIC SIGNING 2009
WSD1–1–00
SBS1–1–00
GMS1–1–00
SSP1–1–02
SSA1–1–00

APPROVED:
HUGHES COUNTY BOARD OF COMMISSIONERS

Dwight Barnett — DISTRICT NO. 1 — DATE: 1-12-2025

DISTRICT NO. 2 — DATE: 12/1/25

DISTRICT NO. 3 — DATE: 1-12-2025

ATTEST
COUNTY CLERK — DATE: 12-1-2025

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

LICENSED PROFESSIONAL ENGINEER — LAUREN ROMANO — 30415 — OKLAHOMA

LAUREN ROMANO — DATE 11/19/25
LAUREN ROMANO
OKLA. REG. NO. 30415

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

LICENSED PROFESSIONAL ENGINEER — ERIK REYES — 33498 — OKLAHOMA

ERIK REYES — DATE 11/19/25
ERIK REYES
OKLA. REG. NO. 33498

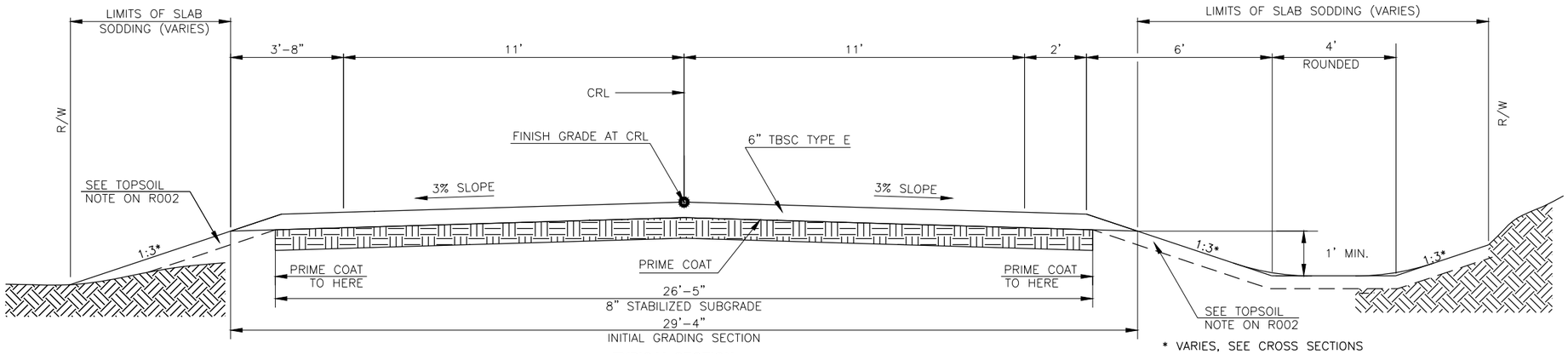
OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED	DATE APPROVED
BY	BY
	DIVISION ADMINISTRATOR

F.A. PROJECT NO. STP–232C(078)CI

SHEET NO. 001

CEC // TRANSPORTATION

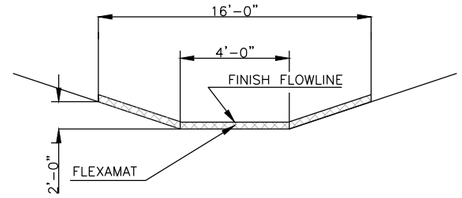
REVISIONS	
DESCRIPTION	DATE



TYPICAL SECTION

STA. 22+00.00 TO STA. 30+28.17
STA. 33+51.00 TO STA. 42+14.00

* VARIES, SEE CROSS SECTIONS



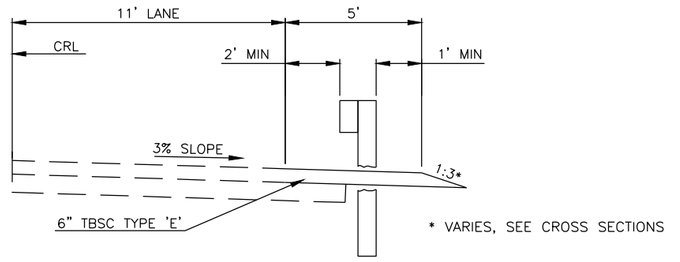
FLEXAMAT DITCH DETAIL

STA. 40+50 TO 41+50 LT.

EROSION CONTROL AND CONSTRUCTION NOTES

SEE EROSION CONTROL PLAN, SHEET NO. R002, FOR EROSION CONTROL, CONSTRUCTION AND TOPSOIL NOTES.

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 CALCULATIONS.

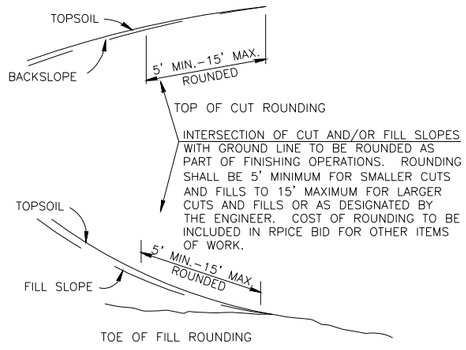


* VARIES, SEE CROSS SECTIONS

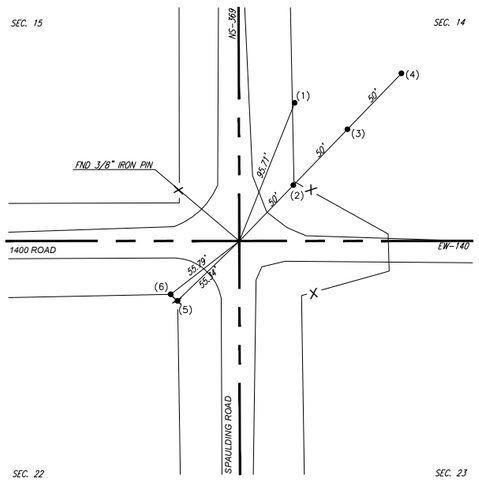
GUARD RAIL WIDENING SECTION**

STA. 28+57.33 TO STA. 30+16.83 LT.
STA. 28+57.33 TO STA. 30+16.83 RT.
STA. 33+62.31 TO STA. 35+21.83 LT.
STA. 33+62.31 TO STA. 35+21.83 RT.

**EXTENTS DO NOT INCLUDE THE LENGTH OF THE 14:1 TAPER FROM EDGE OF SHOULDER

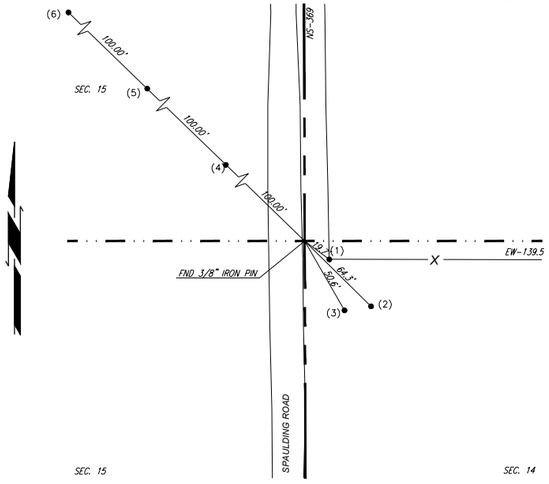


ROUNDING DETAIL



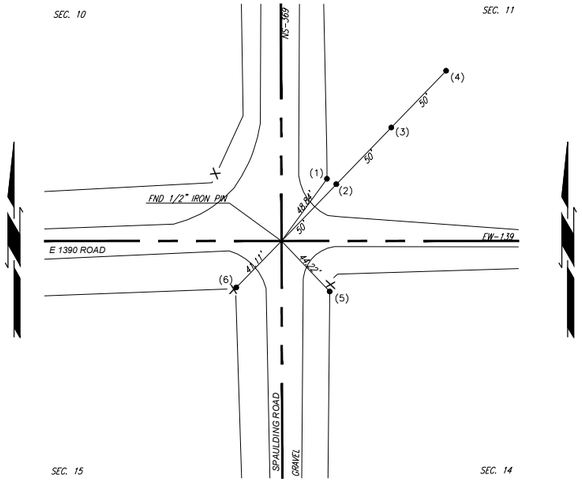
STA. 10+00.00
SE COR. SEC 15, T-6-N, R-8-E
FOUND 3/8" IRON PIN

1) TOP CENTER OF GAS VENT PIPE 95.71 @ N 21°49'16" E
2) SET 1/2" IRON PIN 50' @ N 44°03'13" E
3) SET 1/2" IRON PIN 100' @ N 44°03'13" E
4) SET 1/2" IRON PIN 150' @ N 44°03'13" E
5) NE FACE OF 2" STEEL CORNER POST 55.34' @ N 46°01'17" W
6) NE FACE OF 2" STEEL CORNER POST 55.79' @ N 52°07'36" W



STA. 36+35.88
E 1/4 COR. SEC 15, T-6-N, R-8-E
FOUND 3/8" IRON PIN WITH TLSO CA 1293

1) WEST FACE OF 3" STEEL CORNER POST 19.7' @ S 53°09'42" E
2) 60D NAIL IN NW FACE OF 10" OAK 64.3' @ S 45°28'52" E
3) 60D NAIL IN NE FACE OF 12" OAK 50.6 FEET @ S 29°53'14" E
4) SET 1/2" IRON PIN 100' @ N 45°57'02" W
5) SET 1/2" IRON PIN 200' @ N 45°57'02" W
6) SET 1/2" IRON PIN 300' @ N 45°57'02" W



STA. 62+71.58
NE COR. SEC 15, T-6-N, R-8-E
FOUND 1/2" IRON PIN

1) SET TOP CENTER OF 4" STEEL CORNER POST 48.84' @ N 36°11'00" E
2) SET 1/2" IRON PIN 50' @ N 44°02'58" E
3) SET 1/2" IRON PIN 100' @ N 44°02'58" E
4) SET 1/2" IRON PIN 150' @ N 44°02'58" E
5) SET TOP CENTER OF WESTERN 3" STEEL BRACE POST 44.22' @ S 43°43'09" E
6) FOUND 60D NAIL IN NE FACE 14" CORNER POST 41.11' @ S 44°13'03" W

SECTION CORNER LAND TIES

SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY

TYPICAL SECTION AND MISCELLANEOUS DETAILS

JOB PIECE NO. 34998(04) SHEET NO. 0002

CEC // TRANSPORTATION

REVISIONS

	DESCRIPTION	DATE
1	ADJUSTED ROUNDING	1/16/26

BRIDGE GENERAL NOTES

SPECIFICATIONS -

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

EXISTING PLANS -

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

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

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

FORMING AND PLACING CONCRETE -

ALL PEDESTAL CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER. ALL OTHER EXPOSED CONCRETE EDGES OF THE SUBSTRUCTURE SHALL HAVE A 1 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL EXPOSED CONCRETE EDGES OF THE SUPERSTRUCTURE SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.

PILE DRIVING AND CAPACITY -

THE FACTORED PILE REACTION FOR EACH HP10X42 PILE AT ABUTMENT NO. 1 IS 75.2 TONS. THE FACTORED PILE REACTION FOR EACH HP10X42 PILE AT ABUTMENT NO. 2 IS 76.2 TONS. THE GATES EQUATION, AS GIVEN IN SECTION 514.04.E(2) OF THE SPECIFICATIONS, SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES.

THE CONTRACTOR SHALL USE A PILE DRIVING HAMMER OF THE SIZE AND TYPE CAPABLE OF CONSISTENTLY DELIVERING THE EFFECTIVE DYNAMIC ENERGY SUFFICIENT TO DRIVE THE PILES TO THE REQUIRED TIP ELEVATION AND TO ACHIEVE THE FACTORED PILE CAPACITY WITHOUT EXCEEDING THE LIMITATIONS SET ON THE ALLOWABLE DRIVING STRESSES IN ACCORDANCE WITH SECTION 514.03.A OF THE SPECIFICATIONS.

STRUCTURAL STEEL -

STRUCTURAL STEEL FOR PILING SHALL CONFORM TO AASHTO M270 (ASTM A572), GRADE 50.

CLSM BACKFILL -

CLSM BACKFILL SHALL BE USED IN LIEU OF GRANULAR BACKFILL AS NOTED IN THE SPECIFICATIONS FOR SUBSTRUCTURE EXCAVATION.

PERFORATED PIPE UNDERDRAIN -

PAY ITEM "6" PERFORATED PIPE UNDERDRAIN-ROUND" INCLUDES 26 FEET OF PERFORATED PIPE AT EACH ABUTMENT. THE INSTALLATION OF THE PERFORATED PIPE AND COVER MATERIAL SHALL BE AS SHOWN IN THE PLANS AND ON ODOT STANDARDS FOR PIPE UNDERDRAIN INSTALLATION AND SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN ASSEMBLY DETAILS.

ALL COSTS OF THE PERFORATED PIPE UNDERDRAIN INSTALLATION INCLUDING MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE PER BID PER FOOT OF "6" PERFORATED PIPE UNDERDRAIN-ROUND."

NON-PERFORATED PIPE UNDERDRAIN -

PAY ITEM "6" NON-PERFORATED PIPE UNDERDRAIN-ROUND" INCLUDES 25 FEET OF NON-PERFORATED PIPE AT EACH ABUTMENT. THE INSTALLATION OF THE NON-PERFORATED PIPE AND COVER MATERIAL SHALL BE AS SHOWN IN THE PLANS AND ON ODOT STANDARDS FOR PIPE UNDERDRAIN INSTALLATION AND SUBSTRUCTURE EXCAVATION AND PIPE UNDERDRAIN ASSEMBLY DETAILS.

A MARKER POST SHALL BE SET AT DRAIN OUTLETS BY THE CONTRACTOR IN A MANNER DIRECTED BY THE ENGINEER. MARKER POST SHALL BE TREATED WOOD MEETING THE REQUIREMENTS OF SECTION 732.02. EXPOSED PORTION OF MARKER POST TO BE PAINTED YELLOW. A REFLECTIVE BAND TO BE FASTENED TO THE MARKER POST IN AN APPROVED MANNER SHALL BE SILVER-WHITE REFLECTIVE SHEETING MEETING THE REQUIREMENTS OF SUBSECTION 719.04, TYPE III. THE SHEETING SHALL BE MOUNTED ON A METAL BAND MEETING THE REQUIREMENTS OF ASTM A526 IN MINIMUM 30 GAUGE (.0157" THICKNESS) FOR GALVANIZED METAL OR ASTM B-209 ALLOY 1060 H-12 IN MINIMUM .016" THICKNESS. THE METAL BANDS SHALL BE FULLY CLEANED AND DEGREASED TO ENSURE BOND WITH REFLECTIVE SHEETING. WORDING PRODUCED BY PHOTOGRAPHIC PROCESS, SILK SCREENING OR HAND LETTERING SHALL BE IN OR ON THE REFLECTIVE SHEETING.

ALL COSTS OF THE NON-PERFORATED PIPE UNDERDRAIN, MARKER POST AND REFLECTIVE METAL BAND INSTALLATION INCLUDING MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF "6" NON-PERFORATED PIPE UNDERDRAIN-ROUND."

RIPRAP AND FILTER BLANKET -

AN 18" THICK LAYER OF TYPE I-A PLAIN RIPRAP WITH A 6" THICK LAYER OF TYPE I-A FILTER BLANKET SHALL BE PLACED ALONG THE CHANNEL OF BRIDGE "A" AS SHOWN IN THE PLANS. THE FILTER BLANKET SHALL BE PLACED IN ONE LAYER.

WEATHERING STEEL FIXED BEARING ASSEMBLIES -

PROVIDE AND INSTALL FIXED BEARING ASSEMBLIES OF THE SIZE, SHAPE, AND LOCATION AS SHOWN IN THE PLANS. THERE IS ESTIMATED TOTAL OF 540 POUNDS OF WEATHERING STEEL FOR FIXED BEARING ASSEMBLIES. WELD ASSEMBLIES IN ACCORDANCE WITH AWS D1.5, STRUCTURAL WELDING CODE. ANCHOR BOLTS SHALL BE INSTALLED IN FRESH CONCRETE AS SHOWN IN THE BEARING DETAILS SHEET(S).

ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE FIXED BEARING ASSEMBLIES AS SHOWN ON THE PLANS, INCLUDING ANCHOR PLATES, CONTACT PLATES, ANCHOR BARS, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER EACH OF "WEATHERING STEEL FIXED BEARING ASSEMBLY".

WEATHERING STEEL EXPANSION BEARING ASSEMBLIES -

PROVIDE AND INSTALL EXPANSION BEARING ASSEMBLIES OF THE SIZE, SHAPE, AND LOCATION AS SHOWN IN THE PLANS. THERE IS ESTIMATED TOTAL OF 2,490 POUNDS OF WEATHERING STEEL FOR EXPANSION BEARING ASSEMBLIES. WELD ASSEMBLIES IN ACCORDANCE WITH AWS D1.5, STRUCTURAL WELDING CODE. ANCHOR BOLTS SHALL BE INSTALLED IN FRESH CONCRETE AS SHOWN IN THE BEARING DETAILS SHEET(S).

ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE EXPANSION BEARING ASSEMBLIES AS SHOWN ON THE PLANS, INCLUDING ELASTOMERIC PADS, ANCHOR PLATES, CONTACT PLATES, CONTACT ANGLES, ANCHOR BOLTS, NUTS, WASHERS, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER EACH OF "WEATHERING STEEL EXPANSION BEARING ASSEMBLY".

ELASTOMERIC PADS ON BEAMS -

WHERE SHOWN IN THE PLANS, PROVIDE AND INSTALL ELASTOMERIC PADS BETWEEN THE TOP SURFACE OF THE BEAMS AND THE BOTTOM SURFACE OF THE DECK SLABS. THE ELASTOMERIC PADS SHALL BE OF THE SIZE AND SHAPE AS DETAILED IN THE PLANS AND LOCATED AT EACH BEAM END ABOVE PIERS. THE ELASTOMERIC PADS SHALL BE BONDED TO THE TOP OF THE BEAMS TO PREVENT MOVEMENT DURING PLACEMENT OF THE DECK SLAB CONCRETE. THE BONDING SHALL BE ACCOMPLISHED WITH AN ADHESIVE BY THE ENGINEER.

INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE ELASTOMERIC PADS ABOVE THE BEAMS INCLUDING THE COST OF ALL ELASTOMERIC PADS, ADHESIVES, MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS IN THE UNIT PRICE BID PER EACH OF "ELASTOMERIC BEARING PADS".

BRIDGE DECK FINISHING -

THE BRIDGE DECK SURFACE SHALL BE FINISHED IN ACCORDANCE WITH ODOT SPECIAL PROVISION 504-007. ALL COSTS OF APPLYING THE TEXTURED FINISH TO THE BRIDGE DECK SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

REPAIR OF CRACKS -

AN ESTIMATED QUANTITY OF 50 LINEAR FEET OF "PREPARATION OF CRACKS, ABOVE WATER" AND 4.0 GALLONS OF "EPOXY RESIN, ABOVE WATER" ARE INCLUDED IN THE EVENT CRACKS ARE DEVELOPED AT THE PROPOSED ABUTMENTS. THE ACTUAL LOCATION AND EXTENT OF THE CRACK REPAIRS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. THE CRACK REPAIRS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 520 OF THE STANDARD SPECIFICATIONS.
ALL COSTS NECESSARY TO COMPLETE THE WORK AS SPECIFIED OR AS SHOWN IN THE PLANS INCLUDING THE COST OF MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "PREPARATION OF CRACKS, ABOVE WATER" AND THE UNIT PRICE BID PER GALLON OF "EPOXY RESIN, ABOVE WATER."

J.P. NO. 34998(04)
0200 BRIDGE "A"
NBI NO. 33161

PAY QUANTITIES

SPAULDING RD OVER LITTLE RIVER
105'-135'-80' TYPE IV AND TYPE J P.C. BEAM SPANS, 0° SKEW,
26'-0" CLEAR ROADWAY, TR-3 CONCRETE RAILS, ℄ STA. 31+89.58

ITEM NO.		DESCRIPTION		UNIT	QUANTITY	
501(B)	1300	SUBSTRUCTURE EXCAVATION COMMON	(BR-1)	C.Y.	100	
501(G)	1800	CLSM BACKFILL	(BR-1)(BR-2)	C.Y.	70	
503(A)	4240	PRESTRESSED CONCRETE BEAMS (TYPE IV)	(BR-1)	L.F.	553	
503(A)	4270	PRESTRESSED CONCRETE BEAMS (TYPE J BT)	(BR-1)	L.F.	404	
504(D)	5410	CONCRETE RAIL (TR3)	(BR-1)	L.F.	707.4	
506(A)	7200	STRUCTURAL STEEL	(BR-1)	LB.	1,450	
507(A)	8210	WEATHERING STEEL FIXED BEARING ASSEMBLY	(BR-1)	EA.	6	
507(B)	8310	WEATHERING STL EXP. BEARING ASSEMBLY	(BR-1)	EA.	12	
507(C)	8400	ELASTOMERIC BEARING PADS	(BR-1)	EA.	12	
509(A)	0210	CLASS AA CONCRETE	(BR-1)	C.Y.	279.9	
509(B)	0320	CLASS A CONCRETE	(BR-1)	C.Y.	130.0	
511(A)	2210	REINFORCING STEEL	(BR-1)	LB.	87,390	
514(A)	5210	PILES, FURNISHED (HP 10X42)	(BR-3)	L.F.	779	
514(B)	5310	PILES, DRIVEN (HP 10X42)		L.F.	779	
514(L)	6300	PILE SPLICE, H-PILE (NON-BIDDABLE)	(BR-4)	EA.	1	1
516(A)	8240	DRILLED SHAFTS 60" DIAMETER	(BR-5)	L.F.	210	
516(C)	8400	CROSSHOLE SONIC LOGGING		EA.	1	
520(A)	1200	PREPARATION OF CRACKS, ABOVE WATER		L.F.	50	
520(C)	1400	EPOXY RESIN, ABOVE WATER	(BR-6)	GAL.	4	1
601(B)	1230	TYPE I-A PLAIN RIPRAP	(BR-7)	TON	2,560	
601(C)	1310	TYPE I-A FILTER BLANKET	(BR-8)	TON	560	
613(H)	6205	6" PERFORATED PIPE UNDERDRAIN ROUND	(BR-1)	L.F.	52	
613(I)	6310	6" NON-PERF. PIPE UNDERDRAIN RND.		L.F.	50	

BRIDGE PAY ITEM NOTES

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

(BR-2) CLSM BACKFILL SHALL BE USED IN LIEU OF GRANULAR BACKFILL AS SHOWN ON ODOT BRIDGE STANDARDS CB26..32-I-SK0-ABUT-MISC AND CB26-I-SK0-ABUT-PC4.

(BR-3) 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-4) PAY ITEM "PILE SPLICE, H-PILE (NON-BIDDABLE)" IS TO BE USED IN ADDITION TO THE QUANTITIES PROVIDED IN THE STANDARD ABUTMENT QUANTITIES.

(BR-5) SOLUBLE SULFATES WERE ENCOUNTERED IN THE SELECTED SAMPLES OBTAINED AT THE BRIDGE LOCATION DURING THE GEOTECHNICAL INVESTIGATION. THE CEMENT USED SHALL BE TYPE II PORTLAND CEMENT IN ACCORDANCE WITH SECTION 701 OF THE ODOT 2019 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. ALL COSTS ASSOCIATED WITH THE USAGE OF TYPE II PORTLAND CEMENT, INCLUDING MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "DRILLED SHAFTS 60" DIAMETER".

(BR-6) EPOXY RESIN ESTIMATED AT 0.080 GALLONS PER FOOT OF CRACK REPAIR.

(BR-7) RIPRAP QUANTITY ESTIMATED AT 120 LBS. PER CUBIC FOOT.

(BR-8) FILTER BLANKET QUANTITY ESTIMATED AT 105 LBS. PER CUBIC FOOT.

DESIGN	E.B.R.	
DRAWN	J.F.R.	B.F.E.
CHECKED	E.B.R.	
APPROV.	E.B.R.	
SQUAD	CEC	

SPAULDING RD OVER LITTLE RIVER — HUGHES COUNTY
BRIDGE "A"

GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE)

JOB PIECE NO. 34998(04) SHEET NO. AB01

N:\OKC\Bridge\Bridge Projects\Production\CEC County Department\200302 Little River-Hughes Co\7 Drawings\DWG Files\AB01-3499804-GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE).dwg
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ENVIRONMENTAL MITIGATION NOTES

EARTHWORK NOTE:
THE CONTRACTOR MUST ENSURE THAT ANY MATERIAL INCORPORATED INTO THE PROJECT IS FREE OF ANY HAZARDOUS, INDUSTRIAL OR CONTAMINATED WASTE, REFER TO SUB-SECTIONS 106.01 AND 202.02 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

IMPORTED MATERIAL (EG. BORROW) - IF MATERIAL IS IMPORTED TO THE PROJECT AND AT ANY POINT THE MATERIAL IS DETERMINED BY THE ENGINEER TO INCLUDE ANY TYPE OF UNACCEPTABLE CONTAMINATION, THE MATERIAL MAY REQUIRE REMOVAL, IN WHOLE, OR IN PART. IF REMOVAL IS REQUIRED, THEN THE INITIAL PLACEMENT, REMOVAL AND PROPER DISPOSAL OF THIS MATERIAL SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE DISPOSAL OF THE UNACCEPTABLE MATERIAL SHALL BE APPROVED BY THE ENGINEER, REFER TO SUB-SECTION 107.15 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

TO ASSIST THE CONTRACTOR, THE "OFF PROJECT FACILITY/BORROW SITE HAZARDOUS MATERIALS QUESTIONNAIRE" IS PROVIDED ON THE DEPARTMENT'S WEB SITE:

https://oklahoma.gov/content/dam/ok/en/odot/documents/ok-gov-docs/programs-and-projects/environmental/hazard-questionnaire-2016.pdf

THIS QUESTIONNAIRE IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR SO THAT A CLEARER UNDERSTANDING OF THE CHARACTERISTICS OF THE PROPOSED SITE/ MATERIAL IS ACHIEVED. COMPLETION AND SUBMITTAL OF THIS FORM TO THE ENGINEER DOES NOT EXCUSE THE CONTRACTOR FROM PROVIDING MATERIALS THAT ARE FREE OF HAZARDOUS AND INDUSTRIAL COMPOSITION IN ACCORDANCE WITH SUB-SECTIONS 106.01 AND 202.02 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

NON-COMPLIANCE NOTE:
FAILURE TO IMPLEMENT THE COMMITMENTS SPECIFIED IN THE PLAN NOTES CAN RESULT IN NON-COMPLIANCE ISSUES ON THE PROJECT. WORK ACTIVITIES MAY BE SUSPENDED ON THE PROJECT, FOR AN UNDETERMINED DURATION, WHILE WORKING WITH REGULATORS TO BRING THE PROJECT BACK INTO COMPLIANCE. THE CONTRACTOR WILL NOT BE COMPENSATED FOR TIME LOST.

WATER QUALITY CONSERVATION NOTE:
APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE IMPACTS FROM STORM WATER DISCHARGES AND SEDIMENTATION IN STREAMS, AS ESTABLISHED BY THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY, SHALL BE CONSCIENTIOUSLY IMPLEMENTED THROUGHOUT THE PROPOSED CONSTRUCTION PERIODS, IN ORDER TO MINIMIZE ANY POTENTIAL IMPACTS TO ANY LISTED SPECIES. THE EFFECTIVENESS OF EROSION CONTROLS SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION ACTIVITIES. HAZARDOUS MATERIALS, CHEMICALS, FUELS, LUBRICATING OILS, AND OTHER SUCH SUBSTANCES SHALL BE STORED AT LEAST 100 FEET FROM THE ORDINARY HIGH WATER MARK (OHWM). REFUELING OF CONSTRUCTION EQUIPMENT SHALL ALSO BE CONDUCTED AT LEAST 100 FEET FROM THE OHWMS. SEDIMENT AND EROSION CONTROLS SHALL BE INSTALLED AROUND STAGING AREAS TO PROHIBIT DISCHARGE OF MATERIALS FROM THESE SITES. CONSTRUCTION WASTE MATERIALS AND DEBRIS SHALL BE STOCKPILED AT LEAST 25 FEET OUTSIDE OF THE OHWMS, AND THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF PROPERLY FOLLOWING COMPLETION OF THE PROJECT. PREVENTATIVE MEASURES MUST BE TAKEN TO PROHIBIT THE DISCHARGE OF CONTAMINANTS INTO ANY SURFACE WATERS.

ENVIRONMENTAL MITIGATION NOTES

CULTURAL RESOURCES PLAN NOTES
LOCATIONS OUTSIDE THE PROJECT AREA IN THE FOLLOWING AREA MUST NOT BE UTILIZED FOR BORROW, EQUIPMENT STAGING,
HAUL ROADS, SPOIL DUMPS OR ANY OFF-SITE PROJECT-RELATED ACTIVITY.
T8N R6E
SECTION 10: NE ¼ NE ¼ SE ¼
SE ¼ NW ¼ SE ¼
SECTION 13: N ½ N ½ NE ¼
SECTION 15: SW ¼ SW ¼ NW ¼
W ½ SE ¼ SW ¼

AMERICAN BURYING BEETLE NOTE: THE AMERICAN BURYING BEETLE IS A LARGE CARRION BURYING BEETLE THAT OCCURS WITHIN THE PROJECT LIMITS. ARTIFICIAL LIGHTING MAY BE USED DURING CONSTRUCTION FOR NIGHT ACTIVITIES IF THE EQUIPMENT SPECIFICATIONS OUTLINED IN SPECIAL PROVISION 656-5(A-B)19 FOR ABB ARE ADHERED TO AND MEASURES TO MINIMIZE USE OF ARTIFICIAL LIGHTING HAVE BEEN IMPLEMENTED. CARCASSES AND ALL FOOD TRASH SHALL CONTINUOUSLY BE REMOVED FROM THE PERMANENT AND TEMPORARY RIGHT-OF-WAY THROUGHOUT THE DURATION OF PROJECT ACTIVITIES. POLLUTION PREVENTION REQUIREMENTS AS SPECIFIED BY THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY GENERAL PERMIT OKRL0 FOR STORM WATER DISCHARGES SHALL BE IMPLEMENTED WHEN APPROPRIATE. ADDITIONALLY, ALL EQUIPMENT WILL BE FUELED, AND ALL FUEL AND MOTOR VEHICLE OIL WILL NOT BE STORED WITHIN AREAS OF NATIVE VEGETATION (IE. OUTSIDE OF ABB HABITAT).

BALD EAGLE NOTE:
THE BALD EAGLE NESTING SEASON IN OKLAHOMA EXTENDS FROM SEPTEMBER 16, THROUGH MAY 31. A BALD EAGLE SURVEY WAS COMPLETED FOR THIS PROJECT IN MARCH 2024. NO NESTS WERE OBSERVED WITHIN THE EXPECTED IMPACT AREA. SURVEY RESULTS ARE VALID ONLY FOR THE NESTING SEASON IN WHICH THE SURVEY WAS PERFORMED. IF CONSTRUCTION ACTIVITIES HAVE BEGUN, BUT ARE NOT COMPLETED BY SEPTEMBER 16, 2024, THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST. THE ODOT BIOLOGIST SHALL SCHEDULE ANY ADDITIONAL SURVEYS THAT MAY BE REQUIRED AS SOON AS LEAVES FALL OFF THE TREES (APPROXIMATELY NOVEMBER 1). BECAUSE NO NESTS WERE OBSERVED DURING THE INITIAL SURVEY, AND IT CAN TAKE A PAIR OF EAGLES ONE TO THREE MONTHS TO CONSTRUCT A NEW NEST, IF CONSTRUCTION ACTIVITIES HAVE BEGUN BEFORE OCTOBER 31, 2024, THEY MAY CONTINUE WHILE ADDITIONAL NEST SEARCH SURVEYS ARE CONDUCTED AFTER LEAF-OFF. IF CONSTRUCTION ACTIVITIES HAVE NOT BEGUN BY OCTOBER 31, 2024, A NEW NEST SURVEY SHALL BE COMPLETED BY THE ODOT BIOLOGIST BEFORE CONSTRUCTION ACTIVITIES CAN BEGIN. NEST SEARCH SURVEYS CAN ONLY BE CONDUCTED WHEN LEAVES ARE NOT ON THE TREES TYPICALLY BETWEEN DECEMBER 1ST AND FEBRUARY 28TH. IF NESTS ARE OBSERVED, UP TO A 660-FOOT NO-WORK BUFFER SHALL BE PLACED AROUND THE NEST. THE EXACT DISTANCE OF THE BUFFER ZONE SHALL BE ESTABLISHED BY THE ODOT BIOLOGIST IN CONSULTATION WITH US FISH AND WILDLIFE SERVICES. IF THE BUFFER CANNOT BE MAINTAINED, ALL CLEARING, EXTERNAL CONSTRUCTION AND LANDSCAPING ACTIVITIES WITHIN THE BUFFER SHALL BE CONDUCTED BETWEEN JUNE 1 AND SEPTEMBER 15 (OUTSIDE THE NESTING SEASON).

MIGRATORY BIRD NOTE: MIGRATORY BIRDS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. MANY BIRDS COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR MOST MIGRATORY BIRD SPECIES EXTENDS FROM MARCH 1 TO AUGUST 31. MIGRATORY BIRD NESTING USE OF THE EXISTING LITTLE RIVER BRIDGE (NBI:14178) WAS OBSERVED. PAINTING, REPAIR, RETROFIT, REHABILITATION OR DEMOLITION OF THE EXISTING BRIDGE SHALL BE CONDUCTED BETWEEN SEPTEMBER 1, AND FEBRUARY 28, WHEN MIGRATORY BIRD NESTS ARE NOT OCCUPIED. IF PAINTING, REPAIR, RETROFIT, REHABILITATION OR DEMOLITION CANNOT BE COMPLETED BETWEEN SEPTEMBER 1 AND FEBRUARY 28, THE BRIDGE SHALL BE PROTECTED FROM NEW NEST ESTABLISHMENT PRIOR TO MARCH 1, BY MEANS THAT DO NOT RESULT IN BIRD DEATH OR INJURY. OPTIONS INCLUDE THE EXCLUSION OF ADULT BIRDS FROM SUITABLE NEST SITES ON OR WITHIN A STRUCTURE BY THE PLACEMENT OF WEATHER-RESISTANT POLYPROPYLENE NETTING WITH 0.25-INCH OR SMALLER OPENINGS, PRIOR TO MARCH 1. METHODS OTHER THAN NETTING MUST BE PRE-APPROVED BY THE ODOT BIOLOGIST.

REVISIONS

REV. NO.	DESCRIPTION	DATE

Species (choose those that apply)	Seasonal Restriction Period
Bald Eagle	September 16 – May 31
Migratory Birds: Swallows and Phoebes (NESTS PRESENT)	March 1 – August 31

ENVIRONMENTAL NOTES

DETAIL
REVIEW
APPROVED
ENVIRONMENTAL DIVISION

STATE OF OKLAHOMA | DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 34998(04) | SHEET NO. AE01

0100 – ROADWAY — ROADWAY PAY QUANTITIES — 34998(04)

ITEM		DESCRIPTION		UNITS	QUANTITY
201(A)	1200	CLEARING AND GRUBBING		LSUM	1.00
202(A)	2200	UNCLASSIFIED EXCAVATION	(R-1)(1)(2)	CY	9,962.00
202(D)	2500	UNCLASSIFIED BORROW	(1)(3)	CY	26,469.00
205(A)	6200	TYPE A-SALVAGED TOPSOIL	(R-4)(4)	LSUM	1.00
221(B)	2300	TEMPORARY SILT FENCE	(R-8)	LF	1,333.00
221(E)	2600	TEMPORARY SILT DIKE	(R-8)	LF	238.00
221(F)	2710	TEMPORARY ROCK FILTER DAM TYPE 2	(R-8)	CY	57.00
230(A)	7200	SOLID SLAB SODDING	(R-6)(R-7)	SY	22,732.00
233(A)	0200	VEGETATIVE MULCHING	(R-11)(5)	AC	9.66
307(K)	4200	STABILIZED SUBGRADE	(R-19)	SY	4,981.00
402(E)	2600	TRAFFIC BOUND SURFACE COURSE TYPE E	(R-20)(6)	TON	2,066.00
408	8100	PRIME COAT	(R-23)	GAL	1,746.00
509(D)	0500	CLASS C CONCRETE	(R-33)	CY	10.00
602(B)	2310	REVETMENT MATTRESSES	(7)	SY	150.00
613(B)	5528	36" CORR. GALV. STEEL PIPE	(8)	LF	62.00
613(E)	5900	18" CORRUGATED POLYETHYLENE PIPE		LF	52.00
613(E)	5912	36" CORRUGATED POLYETHYLENE PIPE		LF	190.00
613(L)	6708	18" PREFAB. CULVERT END SEC., ROUND		EA	4.00
613(L)	6728	36" PREFAB. CULVERT END SEC., ROUND		EA	8.00
619(A)	6200	REMOVAL OF STRUCTURES & OBSTRUCTIONS	(R-39)(R-40)	LSUM	1.00
623(A)	1200	BEAM GUARDRAIL W-BEAM SINGLE		LF	200.00
623(F)	1704	GUARDRAIL ANCHOR UNIT (TYPE A)	(9)	EA	4.00
623(F)	1724	GUARDRAIL ANCHOR UNIT (TYPE D-BF)		EA	4.00
624(C)	3400	FENCE-STYLE SWF (4 BARBED WIRE)	(R-44)(10)	LF	2,000.00

0600 – STAKING — STAKING PAY QUANTITIES — 34998(04)

642(B)	3300	CONSTRUCTION STAKING LEVEL II	(11)	LSUM	1.00

0640 – CONSTRUCTION — CONSTRUCTION PAY QUANTITIES — 34998(04)

220	1100	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1.00
641	2100	MOBILIZATION	LSUM	1.00

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-4) AN ESTIMATED QUANTITY OF 3,212 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-6) FOR 230(A) PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 LBS. PER 1,000 SQUARE YARDS.

(R-7) FOR 230(A) PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 80 GALLONS PER SQUARE YARD.

(R-8) PRICE BID TO INCLUDE COST OF ALL NECESSARY MAINTENANCE, MAINTAINING DEVICE IN PROPER UPRIGHT POSITION, REMOVAL OF DEVICE, AND REMOVAL OF SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE DEVICE.

(R-11) THE QUANTITY ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 9.66 ACRES.

(R-19) PRICE BID TO INCLUDE THE CHEMICAL ADDITIVE(S) TO ACHIEVE THE RATE SPECIFIED FOR THE APPROPRIATE SOIL CLASSIFICATION AS SPECIFIED IN THE MOST CURRENT ODOT MATERIALS DIVISION OHD L-50. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CLASSIFY THE SOIL AND DETERMINE THE APPROPRIATE ADDITIVE(S).

(R-20) ESTIMATED AT 150 LBS. PER CU. FT.

(R-23) 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-33) QUANTITY INCLUDES AN ESTIMATED 10.00 C.Y. TO BE USED AS DIRECTED BY THE ENGINEER.

(R-39) INCLUDES REMOVAL OF ALL EXISTING ROADWAY DRAINAGE STRUCTURES, HEADWALLS (UNLESS OTHERWISE SPECIFIED), INLETS, FENCES, AND OTHER STRUCTURES WITHIN THE RIGHT OF WAY.

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

(R-44) ALL GATES AND GATE END POSTS FOR STANDARD WIRE FENCE (SWF) SHALL BE CONSTRUCTED AT THE SAME WIDTH AS THE EXISTING, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

(1) SEE SUMMARY OF GRADING QUANTITIES ON AX01 AND R005.

(2) INCLUDES 50 C.Y. FOR INCIDENTAL CONSTRUCTION FOR EAST DITCH FROM STA. 20+70 TO STA. 22+00.

(3) INCLUDES 100 C.Y. FOR PHASE 2 TEMPORARY SLOPES AND 1,049 C.Y. FOR DRIVE EMBANKMENTS.

(4) SEE TOPSOIL NOTE, SHEET NO. R002.

(5) QUANTITY BASED ON 4.83 ACRES AT TWO APPLICATIONS.

(6) INCLUDES 172 TONS FOR GUARDRAIL WIDENING, 128 TONS FOR RURAL DRIVES AND 100 TONS TO BE USED AS DIRECTED BY THE ENGINEER AS TEMPORARY ACCESS.

(7) REVETMENT MATTRESS TO BE FLEXAMAT® OR APPROVED EQUAL. MATTRESS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. PLAN QUANTITY INCLUDES 1.5 FT OF BURIED MATTRESS AT TOP AND TOE OF SLOPE. COST OF ALL ANCHORAGE MATERIALS AND LABOR TO BE INCLUDED IN PRICE BID FOR REVETMENT MATTRESS.

(8) PRICE BID TO INCLUDE OPEN TRENCHING INSTALLATION, PIPE BEDDING AND BACKFILL ACCORDING TO PBB-1-2 AND THE COST OF REMOVAL. PIPE IS TO BE INSTALLED PRIOR TO PHASE 1 (SEE SHEET R005 AND T004-T005) THROUGH MEANS OF OPEN TRENCHING AND TEMPORARY LANE CLOSURE. TO BE REMOVED IN PHASE 3 AND PLACED IN THE R/W TO BECOME PROPERTY OF AND HAULED OFF BY THE COUNTY.

(9) PRICE BID TO INCLUDE THE COST OF 4 TYPE 1 CODE 3 DELINEATORS (AMBER COLOR). TYPE A ANCHOR UNIT AS INDICATED ON T001. INCLUDES ALL MATERIALS AND LABOR TO INSTALL 4 W-BEAM END SHOES AND ANCHOR UNITS AS INDICATED ON T001 AND T002.

(10) 2,000 L.F. SHALL BE USED FOR TEMPORARY FENCING AT THE ENGINEER'S DISCRETION. PRICE BID WILL INCLUDE COST OF REMOVAL.

(11) IN ADDITION TO THE RESPONSIBILITIES SHOWN IN THE SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND/OR REESTABLISHING THE SURVEY CONTROL POINTS SHOWN ON THE PLANS, STAKING THE CENTERLINE OF CONSTRUCTION AND REESTABLISHING RIGHT-OF-WAY STAKES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING BENCH MARKS SHOWN ON THE PLANS AND FOR ESTABLISHING NEW BENCH MARKS AS NEEDED TO CONSTRUCT THE PROJECT.

CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE

GENERAL NOTES

SPECIFICATIONS: COMPLY WITH THE REQUIREMENTS OF THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, AS APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION DECEMBER 18, 2019 EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

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.

CREEK AND RIVER BANKS SHALL BE KEPT IN THEIR NATURAL STATE AS MUCH AS POSSIBLE. THE CONTRACTOR SHALL NOT UNDULY STRIP EXISTING PROTECTIVE VEGETATION IN THE VICINITY OF THE STREAM BANKS AND SHALL SO CONDUCT HIS OPERATIONS AS NOT TO DAMAGE THE BANKS WITH HIS EQUIPMENT. NO BANK UPSTREAM OR DOWNSTREAM SHALL BE EXCAVATED EXCEPT AS APPROVED FOR AND AS SHOWN ON THE PLANS. NO WORK ROADS SHALL BE CONSTRUCTED UPSTREAM WHERE IT IS NECESSARY TO CUT THE STREAM OR RIVER BANKS EXCEPT BY THE APPROVAL OF THE ENGINEER. BANK CUTS FOR WORK ROADS SHALL BE LOCATED DOWNSTREAM AND REPLACED BY THE CONTRACTOR TO THEIR ORIGINAL SHAPE AND DENSITY. UNNECESSARY STRIPPING OF VEGETATION GROWTH ALONG BANKS IN THE CONSTRUCTION AREA IS NOT PERMITTED.

THE FOLLOWING ITEMS WILL BE THE RESPONSIBILITY OF THE COUNTY AND NOT A PART OF THIS CONTRACT: (1) ACQUISITION OF RIGHT-OF-WAY; (2) UTILITY RELOCATION.

(CAUTION) THE LOCATION AND DEPTH OF ALL UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES 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 UTILITIES, IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC., "CALL OKIE" 1-800-522-6543 OR 811, 48 HOURS PRIOR TO BEGINNING EXCAVATION.

THE CONTRACTOR SHALL NOTIFY THE HUGHES COUNTY BOARD OF COMMISSIONERS, CED 4, AND ODOT DIVISION 3 OFFICE IN WEWOKA, IN WRITING, FOURTEEN CALENDAR DAYS PRIOR TO BEGINNING CONSTRUCTION.

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.

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.

SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY

GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (ROADWAY)

JOB PIECE NO. 34998(04) SHEET NO. AR01

0300 – TRAFFIC		**TRAFFIC PAY QUANTITIES**			34998(04)
823	6100	(SP)PORTABLE TRAFFIC SIGNAL SYSTEM	(TC-26)(TC-84)(2)	SD	242.00
850(A)	1200	SHEET ALUMINUM SIGNS	(TS-33)	SF	25.00
851(C)	2420	2 1/4" SQUARE TUBE POST		LF	46.00
853	5115	DELINEATORS(TYPE 2, CODE 1)	(1)	EA	12.00
880(B)	6300	CONSTRUCTION SIGNS 0 TO 6.25 SF	(TC-26)(TC-33)(TC-84)(TS-28)(2)	SD	966.00
880(B)	6310	CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF ⚠1	(TC-26)(TC-33)(TC-84)(TS-29)(2)	SD	1,449.00
880(B)	6320	CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF ⚠1	(TC-26)(TC-33)(TC-84)(2)	SD	3,381.00
880(C)	6410	CONSTRUCTION BARRICADES(TYPE III)	(TC-26)(TC-84)(2)	SD	966.00
880(E)	6600	WARNING LIGHTS(TYPE A)	(TC-26)(TC-84)(2)	SD	5,313.00
880(E)	6610	WARNING LIGHTS(TYPE C)	(TC-26)(TC-84)(2)	SD	8,936.00
880(F)	6700	DRUMS	(TC-26)(TC-84)(2)	SD	8,936.00

PAY QUANTITY NOTES

(TC-26) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH 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-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.

(TC-84) 210 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.

(TS-28) INCLUDED IN THIS TIME 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 TIME SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TS-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.

(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).

(1) DELINEATORS SHALL BE PLACED ALONG GUARDRAIL AT 50' MAX SPACING ON TOP OF GUARDRAIL BLOCK OUT.

(2) INCLUDES 15% TO ACCOUNT FOR WEATHER DELAYS.

CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE
⚠1 PAY ITEM NAME UPDATED	01/16/2025

GENERAL NOTES

SPECIFICATIONS: COMPLY WITH THE REQUIREMENTS OF THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, AS APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION DECEMBER 18, 2019 EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

ROADWAY SHALL REMAIN OPEN TO THROUGH TRAFFIC DURING THE CONSTRUCTION PERIOD. CONTRACTOR SHALL PROVIDE ACCESS TO ADJACENT LAND OWNERS AND TENANTS. SEE SHEETS R005 AND T004-T005 FOR EARTHWORK AND TRAFFIC PHASING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SIGNING.

THE CONTRACTOR SHALL NOTIFY THE HUGHES COUNTY BOARD OF COMMISSIONERS, CED 4, AND ODOT DIVISION 3 OFFICE IN WEWOKA, IN WRITING, FOURTEEN CALENDAR DAYS PRIOR TO BEGINNING CONSTRUCTION.

SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY

GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (TRAFFIC)

JOB PIECE NO. 34998(04) SHEET NO. AT01

CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

SUMMARY OF TRAFFIC CONTROL

	PORTABLE TRAFFIC SIGNAL SYSTEM 823		CONSTRUCTION SIGNS 880(B)									CONSTRUCTION BARRICADES (TYPE III) 880(C)		WARNING LIGHTS TYPE (A) 880(E)		WARNING LIGHTS TYPE (C) 880(E)		DRUMS 880(F)	
			0 TO 6.25 S.F.			6.26 S.F. TO 15.99 S.F.			16.0 S.F. TO 32.99 S.F.										
	EA	SD	SIGN NO.	EA	SD	SIGN NO.	EA	SD	SIGN NO.	EA	SD	EA	SD	EA	SD	EA	SD	EA	SD
	1.00	210.00	CONTRACTOR SIGN 2	2.00	420.00	CONTRACTOR SIGN 1	2.00	420.00	W1-4(L)	2.00	420.00	4.00	840.00	22.00	4,620.00	37.00	7,770.00	37.00	7,770.00
			R10-6	2.00	420.00	R11-2(LANE)	4.00	840.00	W1-4(R)	2.00	420.00								
									W3-3	2.00	420.00								
									W3-4	2.00	420.00								
									W20-1	6.00	1,260.00								
TOTALS	1.00	210.00		4.00	840.00		6.00	1,260.00		14.00	2,940.00	4.00	840.00	22.00	4,620.00	37.00	7,770.00	37.00	7,770.00

SUMMARY OF DRAINAGE STRUCTURES

STR. NO.	STATION	DESCRIPTION	DESIGN	18" CORR. HDPE 613(E)	36" CORR. HDPE 613(E)	36" CGSP 613(EE)	18" PCES 613(L)	36" PCES 613(L)
				FT	FT	FT	EA	EA
1	26+44	36" SIDE DRAIN	HDPE		46.00			2.00
2	26+79	36" SIDE DRAIN	HDPE		44.00			2.00
3	28+19	36" SIDE DRAIN	HDPE		54.00			2.00
T1	35+00	36" TEMP. X DRAIN	CGMP			62.00		
4	36+58	36" SIDE DRAIN	HDPE		46.00			2.00
5	38+83	18" SIDE DRAIN	HDPE	26.00			2.00	
6	40+13	18" SIDE DRAIN	HDPE	26.00			2.00	
			TOTALS	52.00	190.00	62.00	4.00	8.00

SUMMARY OF GUARDRAIL

STATION TO STATION	LT.	RT.	TYPE D-BF 623(F) (EACH)	TYPE A 623(F) (EACH)	W-BEAM SINGLE 623(A) (FEET)	DELINEATORS TYPE 2, CODE 1 853 (EACH)	LENGTH INCLUDING ANCHOR UNITS (FEET)
29+14.33 TO 30+14.33	X		1.00	1.00	50.00	3.00	150.00
29+14.33 TO 30+14.33		X	1.00	1.00	50.00	3.00	150.00
33+64.81 TO 34+64.81	X		1.00	1.00	50.00	3.00	150.00
33+64.81 TO 34+64.81		X	1.00	1.00	50.00	3.00	150.00
	TOTALS		4.00	4.00	200.00	12.00	

SUMMARY OF DRIVES

STATION	DESCRIPTION	SIZE	T.B.S.C. TYPE E 402(E)
			TONS
26+44 LT.	TBSC FIELD ENTRY	16' X 54'	18.00
26+79 RT.	TBSC PVT. DRIVE	16' X 96'	31.00
27+56 LT.	MAILBOX TURNOUT	6' X 24'	5.00
28+19 RT.	TBSC FIELD ENTRY	16' X 108'	33.00
36+58 LT.	TBSC FIELD ENTRY	16' X 60'	20.00
38+83 LT.	TBSC FIELD ENTRY	12' X 43	12.00
40+13 RT.	TBSC FIELD ENTRY	12' X 45'	9.00
		TOTALS	128.00
CONSTRUCT ALL DRIVES AND RAMPS PER STD. RDI-4-1.			

SUMMARY OF GUARDRAIL WIDENING

ALIGNMENT	STATION TO STATION	T.B.S.C TYPE E 402(E)
		TONS
CRL	27+87.33 TO 30+16.83	43.00
CRL	27+87.33 TO 30+16.83	43.00
CRL	33+62.31 TO 35+91.83	43.00
CRL	33+62.31 TO 35+91.83	43.00
	TOTALS	172.00

SUMMARY OF SURFACING

ALIGNMENT	STATION TO STATION	T.B.S.C. TYPE E 402(E)	PRIME COAT 408	STABILIZED SUBGRADE 307(K)
		TONS	GAL	SY
CRL	22+00.00 TO 30+28.17	815.00	855.00	2,439.00
CRL	33+51.00 TO 42+14.00	851.00	891.00	2,542.00
	TOTALS	1,666.00	1,746.00	4,981.00

SUMMARY OF SIGNS

ALIGNMENT	STATION	SIDE	DESCRIPTION	READ FROM	SIGN AREA 850(A)	BASE POST 2-1/4" SQUARE TUBE 851(C)
					SF	FT
CRL	21+91	RT	W1-4(L)	SOUTH	6.25	10.50
CRL	29+62	LT	W1-4(L)	NORTH	6.25	12.50
CRL	34+89	RT	W1-4(R)	SOUTH	6.25	12.50
CRL	41+58	LT	W1-4(R)	NORTH	6.25	10.50
			TOTALS		25.00	46.00

SUMMARY OF EARTHWORK

PHASE	EXCAVATION	*EMBANKMENT	BORROW	EXCESS EXCAVATION
1	2,322	27,642	25,320	
2	1,908	259		1,649
3	5,682	247		5,435
TOTALS	9,912	28,148	25,320	7,084

*15% ADDED FOR COMPACTION

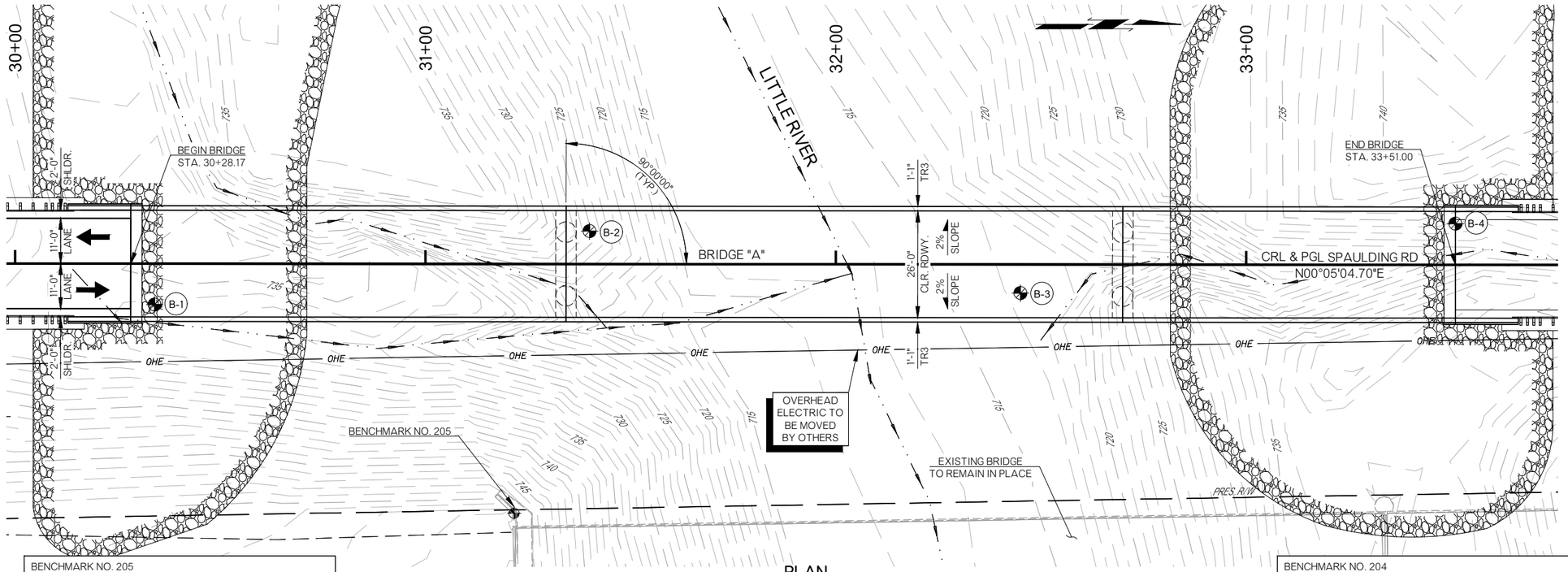
SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY

SUMMARY SHEET (ROADWAY)

JOB PIECE NO. 34998(04) SHEET NO. AX01

CEC // TRANSPORTATION

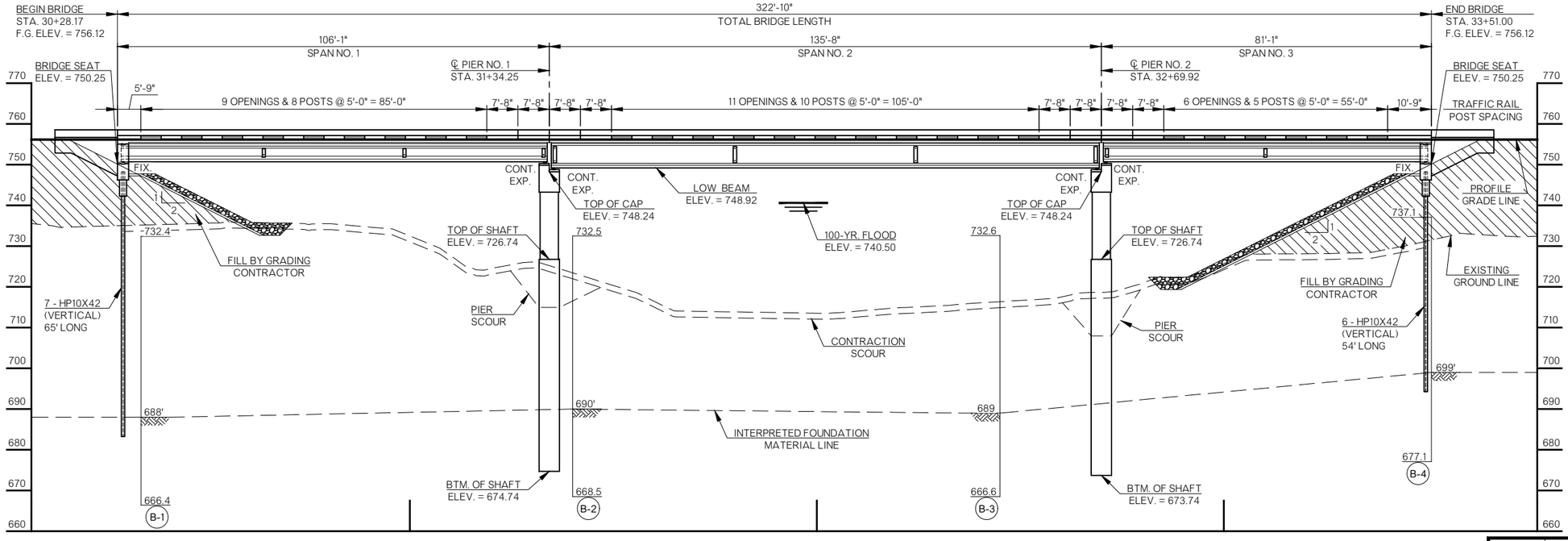
REVISIONS	
DESCRIPTION	DATE



PLAN
1" = 15'

BENCHMARK NO. 205
CUT 'X' ON WINGWALL
23.91' LEFT, ℄ SURVEY STATION 31+08.00, ELEVATION 754.60

BENCHMARK NO. 204
CUT 'X' ON WINGWALL
24.42' LEFT, ℄ SURVEY STATION 33+74.05, ELEVATION 754.64



ELEVATION
1" = 15'

DESIGN DATA
LOAD AND RESISTANCE FACTOR DESIGN

CLASS AA CONCRETE	f'c = 4 K.S.I.
CLASS A CONCRETE	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.

LOADING:
HL-93
20 P.S.F. FUTURE WEARING SURFACE
5 P.S.F. STAY-IN-PLACE FORMS

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION
ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE

LFD OPERATING RATING: HS 42.0

INDEX OF BRIDGE SHEETS

AB01	GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE)
B001	GENERAL PLAN AND ELEVATION
B002	SUMMARY OF BRIDGE QUANTITIES
B003	SUBSURFACE FENCE DIAGRAM
B004	SUBSTRUCTURE STAKING DIAGRAM
B005-B007	DETAILS OF PIERS

STANDARDS

CB26-I-SK0-ABUT-PC4-01E
CB26-I-SK0-XSECT-PC234-01E
CB26-I-SK0-XSECT-PC5-01E
CB26-I-SK0-LSECT-PCB-01E
CB26-I-SK0-DKSLB-BLIST-PCB-01E
CB26-I-SK0-PCB-IV-80-01E
CB26-I-SK0-PCB-IV-105-01E
CB26-I-SK0-PCB-J-135-1-01E
CB26-I-SK0-PCB-J-135-2-01E
CB26-I-SK0-DIA-ABUT-PC4-01E
CB26-I-SK0-DIA-INTPR-PCB-01E
CB26-I-SK0-BRG-PC4-01E
CB26-I-SK0-BRG-PC5-01E
CB26-I-SK0-SPR-QUAN-PCB-1-01E
CB26-I-SK0-SPR-QUAN-PCB-2-01E
CB26..32-I-SK0-WING-PC4-01E
CB26..32-I-SK0-ABUT-MISC-01E
CB26..32-C..I-SK0..30-PCB-DTL-1-01E
CB26..32-C..I-SK0..30-PCB-DTL-2-01E
CB26..32-C..I-SK0..30-GRAU-BC-00E
TR3-2-01E
HP1-2-01E
PUD-4-1

NOTES:
FOR FOUNDATION DATA, HYDRAULIC DATA AND SUMMARY OF BRIDGE QUANTITIES, SEE SHEET B002.

FOR ADDITIONAL BORING INFORMATION, SEE SHEET B003.

FOR ADDITIONAL INFORMATION ON PROPOSED RIGHT-OF-WAY LOCATION AND EXTENTS OF RIPRAP, SEE SHEET R003.



VERTICAL PROFILE DATA
P.G.L. SPAULDING RD

ALL STATIONS AND ELEVATIONS ARE ALONG C.R.L.

NOTE:
INTERPRETED FOUNDATION MATERIAL LINE IS FOR ESTIMATING PURPOSES ONLY.

DESIGN	E.B.R.	
DRAWN	J.F.R.	B.F.E.
CHECKED	E.B.R.	
APPROV.	E.B.R.	
SQUAD	CEC	

SPAULDING RD OVER LITTLE RIVER — HUGHES COUNTY
BRIDGE "A"

GENERAL PLAN AND ELEVATION

105'-135'-80' TYPE IV AND TYPE J P.C. BEAM SPANS, 0° SKEW,
26'-0" CLEAR ROADWAY, TR-3 CONCRETE RAILS, ℄ STA. 31+89.58

JOB PIECE NO. 34998(04) SHEET NO. B001

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CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

SUMMARY OF BRIDGE QUANTITIES

ITEM	UNIT	ABUTMENTS	PIERS	SUPER-STRUCTURE	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	100	–	–	100
CLSM BACKFILL	C.Y.	70	–	–	70
PRESTRESSED CONCRETE BEAMS (TYPE IV)	L.F.	–	–	553	553
PRESTRESSED CONCRETE BEAMS (TYPE J BT)	L.F.	–	–	404	404
CONCRETE RAIL (TR3)	L.F.	61.6	–	645.8	707.4
STRUCTURAL STEEL	LB.	–	–	1,450	1,450
WEATHERING STEEL FIXED BEARING ASSEMBLY	EA.	–	–	6	6
WEATHERING STL EXP. BEARING ASSEMBLY	EA.	–	–	12	12
ELASTOMERIC BEARING PADS	EA.	–	–	12	12
CLASS AA CONCRETE	C.Y.	–	–	279.9	279.9
CLASS A CONCRETE	C.Y.	41.8	88.2	–	130.0
REINFORCING STEEL	LB.	6,920	15,500	64,970	87,390
PILES, FURNISHED (HP 10X42)	L.F.	779	–	–	779
PILES, DRIVEN (HP 10X42)	L.F.	779	–	–	779
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.	1	–	–	1
DRILLED SHAFTS 60" DIAMETER	L.F.	–	210	–	210
CROSSHOLE SONIC LOGGING	EA.	–	1	–	1
PREPARATION OF CRACKS, ABOVE WATER	L.F.	–	–	–	50
EPOXY RESIN, ABOVE WATER	GAL.	–	–	–	4.0
TYPE I-A PLAIN RIPRAP	TON	–	–	–	2,560
TYPE I-A FILTER BLANKET	TON	–	–	–	560
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	52	–	–	52
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	50	–	–	50

FOUNDATION DATA

ABUTMENTS (HP10X42 PILING)

	ABUTMENT NO. 1		ABUTMENT NO. 2	
FACTORED PILE REACTION	= 75.2	TONS/PILE	= 76.2	TONS/PILE
PILE LENGTHS	= 65.00	FT.	= 54.00	FT.

STEEL PILING:

ALL PILING SHALL BE DRIVEN THRU COMPACTED FILL. PILING SHALL BE DRIVEN TO A POINT BEARING ON SOLID FOUNDATION MATERIAL AT THE APPROXIMATE ELEVATION SHOWN ON THE PLANS. IF THE REQUIRED AXIAL LOAD RESISTANCE IS NOT OBTAINED AT THIS ELEVATION, DRIVING SHALL CONTINUE UNTIL THE REQUIRED AXIAL LOAD RESISTANCE IS OBTAINED. THE LENGTH OF STEEL PILING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY.

PIERS (60" DIAMETER DRILLED SHAFTS)

	PIER NO. 1		PIER NO. 2	
MINIMUM DEPTH INTO ROCK	= 15.00	FT.	= 15.00	FT.
DEPTH OF ROCK NEG'D FOR FRICTION	= 5.00	FT.	= 5.00	FT.
NOMINAL UNIT BEARING RESISTANCE	= 26.9	T.S.F.	= 26.9	T.S.F.
BEARING RESISTANCE FACTOR	= 0.7		= 0.7	
FACTORED BEARING RESISTANCE	= 369.7	T/SHAFT	= 369.7	T/SHAFT
NOMINAL UNIT FRICTION RESISTANCE	= 6.7	T.S.F.	= 6.7	T.S.F.
FRICTION RESISTANCE FACTOR	= 0.45		= 0.45	
FACTORED FRICTION RESISTANCE	= 473.6	T/SHAFT	= 473.6	T/SHAFT
TOTAL FACTORED RESISTANCE	= 843.3	T/SHAFT	= 843.3	T/SHAFT
FACTORED REACTION	= 629.3	T/SHAFT	= 594.1	T/SHAFT

HYDRAULIC DATA

TOTAL DRAINAGE AREA	=	912.10	SQ. MI.
CONTROLLED DRAINAGE AREA	=	-	SQ. MI.
EFFECTIVE DRAINAGE AREA	=	-	SQ. MI.

FREQ.	Q (CFS)	CHW (FT)	V (FPS)
2	7,619	730.89	4.56
5	11,873	735.25	5.07
10	14,207	737.26	5.27
25	16,628	738.96	5.45
50	18,085	739.83	5.57
100	19,293	740.50	5.66
500	21,394	741.57	5.84
OT>500	37,550	746.65	7.36

SCOUR (100YR)				SCOUR (500YR)			
CONTRACTION	=	1.46	FT.	CONTRACTION	=	2.32	FT.
PIER	=	6.94	FT.	PIER	=	6.69	FT.
TOTAL	=	8.40	FT.	TOTAL	=	9.01	FT.

DESIGN	E.B.R.	
DRAWN	J.F.R.	B.F.E.
CHECKED	E.B.R.	
APPROV.	E.B.R.	
SQUAD	CEC	

SPAULDING RD OVER LITTLE RIVER — HUGHES COUNTY
BRIDGE "A"

SUMMARY OF BRIDGE QUANTITIES

JOB PIECE NO. 34998(04) SHEET NO. B002

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NOTE: ALL GEOTECHNICAL INFORMATION CONTAINED ON THIS SHEET IS COVERED BY THE ENGINEERING SEAL AFFIXED TO AN ORIGINAL GEOTECHNICAL ENGINEERING REPORT THAT HAS BEEN STAMPED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN OKLAHOMA.

NOTE: THE WEWOKA UNIT (Pwk) CONSISTS OF AT LEAST FOUR GRAY TO BROWN, THIN-BEDDED TO MASSIVE, MODERATELY SOFT TO MODERATELY HARD SANDSTONE MEMBERS UP TO 130 FEET THICK IN HUGHES COUNTY. THE SANDSTONE MEMBERS CAP SCARPS AND SHALES FORM THE SLOPES AND VALLEYS.

Elevation (feet)

740
730
720
710
700
690
680
670
660

B-1
STA. 30+34 @ 10' RT

FILL - DOZER PAD

FAT CLAY (CH)
dark brown
stiff

Soluble Sulfates = 160 ppm

SANDY SILT (ML)
reddish brown
stiff
very moist

SILTY SAND (SM)
reddish brown
loose to medium dense
very moist

WELL GRADED SAND with SILT and GRAVEL (SW-SM)
brown
loose to dense
very moist

El. 688'

WEATHERED SHALE wih SAND
gray
soft

WEATHERED CLAYEY SANDSTONE
gray
soft
poorly cemented

moderately hard at 65 feet

Bottom of boring
approximately 66 feet

N:SPT=16
N:SPT=10
N:SPT=8
N:SPT=8
N:SPT=10
N:SPT=12
N:SPT=6
N:SPT=25
N:SPT=32/6 50/3
TCP=50/2.6 50/1.3
TCP=50/2.7 50/1.4
TCP=50/1.2 50/1.1
TCP=50/2.7 50/2.9
TCP=50/0.6 50/0.5

B-2
STA. 31+40 @ 8' LT

FILL - DOZER PAD

LEAN CLAY (CL)
reddish brown
medium stiff to stiff

Soluble Sulfates = 160 ppm

SILTY SAND (SM)
reddish brown
loose
very moist

LEAN CLAY (CL)
brown
very stiff

WELL GRADED SAND with SILT and GRAVEL (SW-SM)
brown
medium dense to dense

El. 690'

WEATHERED SANDSTONE
brown, reddish brown
moderately hard

WEATHERED CLAYEY SANDSTONE
gray
soft with moderately hard seams
poorly cemented

Bottom of boring 64 feet

N:SPT=4
N:SPT=16
N:SPT=8
N:SPT=5
N:SPT=10
N:SPT=20
N:SPT=49
N:SPT=23
N:SPT=50/3
TCP=50/1.4 50/1.1
TCP=50/1.7 50/1.0
TCP=50/2.2 50/1.6
TCP=50/0.8 50/0.4
TCP=50/2.7 50/1.9

B-3
STA. 32+45 @ 7' RT

Dozer Cleared

SANDY SILT (ML)
brown
medium stiff to stiff

SILTY SAND with CLAY SEAMS (SC-SM)
reddish brown
medium dense

LEAN CLAY with SAND (CL)
reddish brown
medium stiff
very moist

SILTY SAND (SM)
reddish brown
loose to medium dense
very moist

Soluble Sulfates = 160 ppm

SILTY SAND with GRAVEL (SM)
reddish brown, brown, gray
dense

WEATHERED SANDSTONE
gray
soft to moderately hard
poorly cemented

El. 689'

Bottom of boring
approximately 66 feet

N:SPT=6
N:SPT=10
N:SPT=10
N:SPT=5
N:SPT=6
N:SPT=15
N:SPT=14
N:SPT=45
N:SPT=50/1
TCP=50/2.9 50/2.0
TCP=50/1.7 50/0.6
TCP=50/0.7 50/0.1
TCP=50/1.3 50/0.3
TCP=50/0.3 50/0.2

B-4
STA. 33+51 @ 10' LT

Dozer Cleared
LEAN CLAY (CL)
brown
medium stiff
Soluble Sulfates = 120 ppm

SILTY SAND (SM)
light brown
medium dense

SANDY LEAN CLAY (CL)
reddish brown
very stiff

SILTY SAND (SM)
reddish brown, brown
loose
very moist

dense

El. 699'

WEATHERED CLAYEY SANDSTONE
gray with brown seams
soft to moderately hard
poorly cemented

Bottom of boring
approximately 60 feet

N:SPT=6
N:SPT=13
N:SPT=18
N:SPT=4
N:SPT=6
N:SPT=10
N:SPT=50
N:SPT=50/1
TCP=50/1.8 50/1.6
TCP=50/0.7 50/0.3
TCP=50/0.5 50/0.7
TCP=50/0.8 50/0.8
TCP=50/0.1 50/0.6

Hinderliter Geotechnical Engineering
4071 NW 3rd Street
Oklahoma City, OK 73107
Telephone: (405) 942-4090
Website:

LEGEND:
N:SPT=Standard Penetration Test
TCP=Texas Cone Penetrometer
R=Recovery
RQD=Rock Quality Designation
UC=Unconfined Compressive Strength

SUBSURFACE FENCE DIAGRAM

Project: State Job No. 34998(04)

Location: Spaulding Road - Hughes County

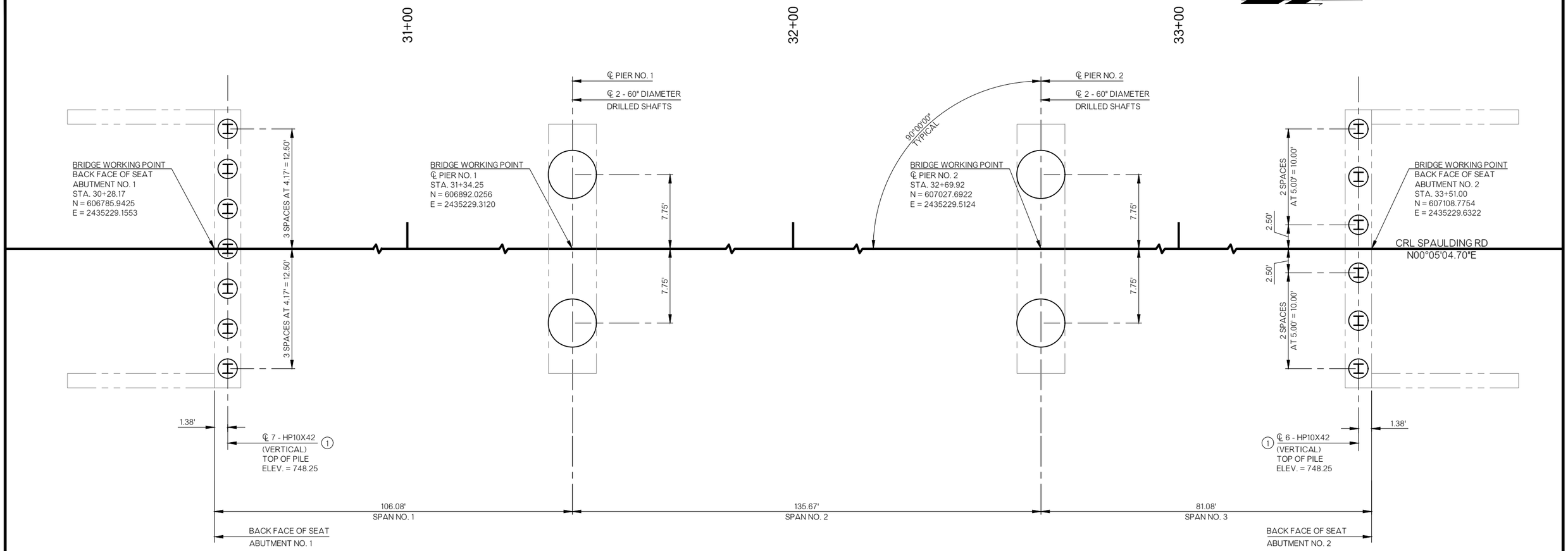
Number: CEC-22-27

B003

FENCE COPY GEOLOGY CEC-22-27.GPJ DT HINDERLITER 20180222.GDT 2/14/23

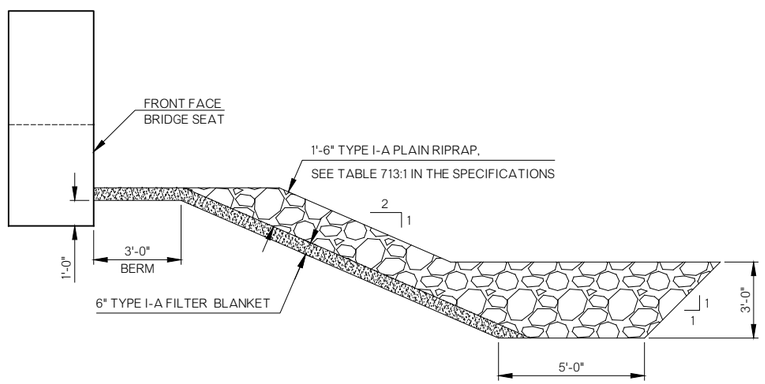
CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE



SUBSTRUCTURE STAKING DIAGRAM

(NOT TO SCALE)



DETAIL OF RIPRAP AT ABUTMENTS

(DIMENSIONS AND SLOPE PERPENDICULAR TO FACE OF ABUTMENT)

(1) FOR PILE ENCASEMENT DETAILS, SEE ODOT BRIDGE STD. HP1-2.

ABUTMENT SEAT PILES SHALL BE ORIENTED SUCH THAT THE FACE OF THE WEB IS PARALLEL TO THE BACK FACE OF SEAT.

DESIGN	E.B.R.	
DRAWN	J.F.R.	B.F.E.
CHECKED	E.B.R.	
APPROV.	E.B.R.	
SQUAD	CEC	

SPAULDING RD OVER LITTLE RIVER — HUGHES COUNTY
BRIDGE "A"

SUBSTRUCTURE STAKING DIAGRAM

JOB PIECE NO. 34998(04) SHEET NO. B004

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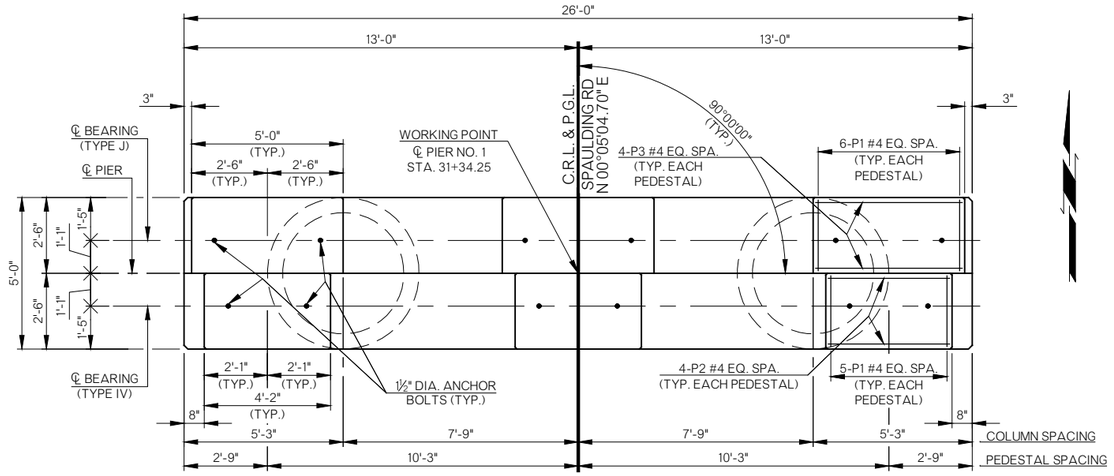
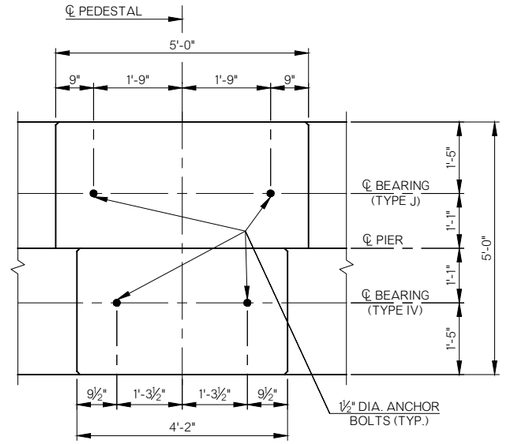
CEC // TRANSPORTATION		
REVISIONS		
DESCRIPTION		DATE



PLAN
(PIER NO. 1)



ANCHOR BOLT LAYOUT

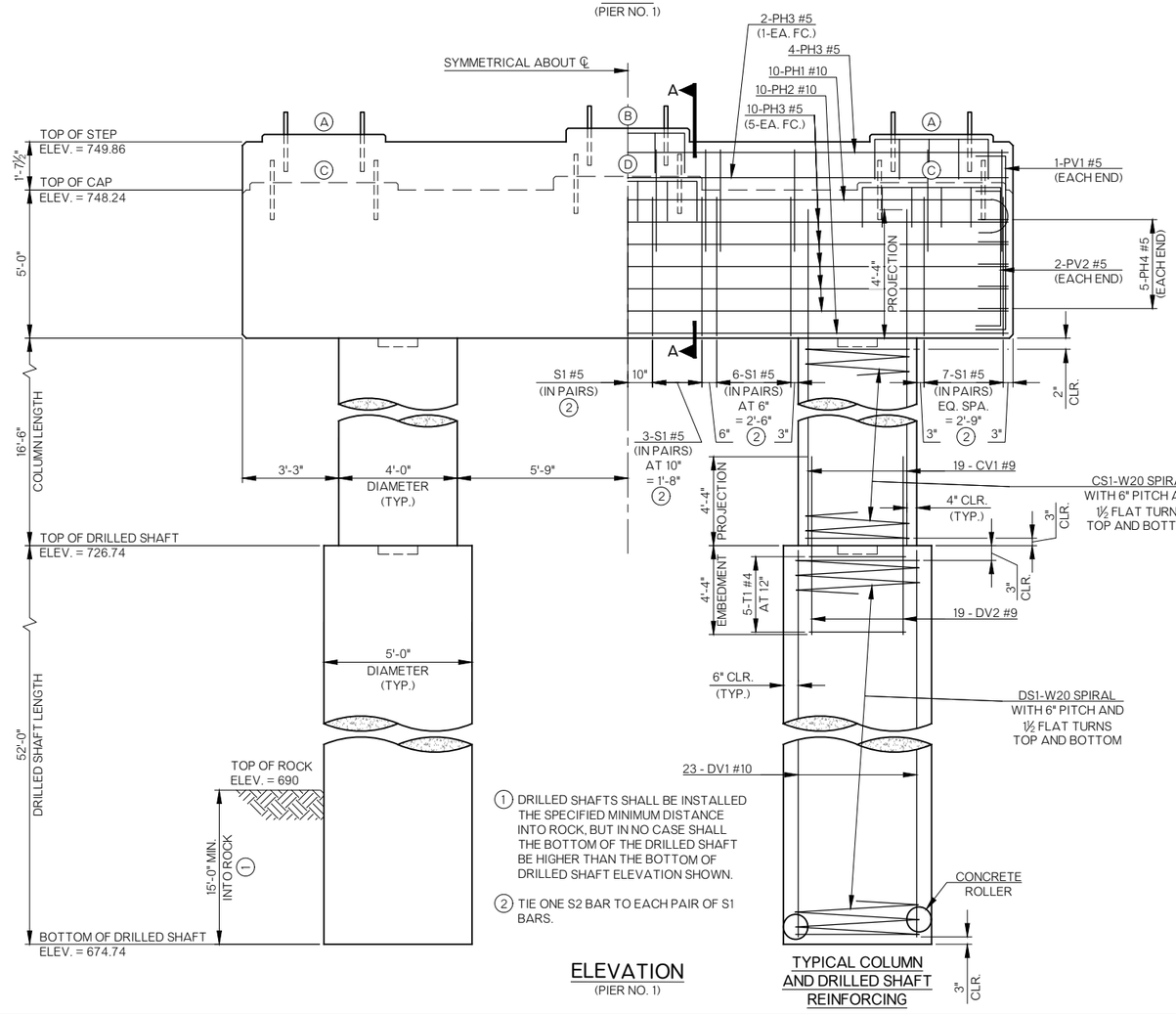
PEDESTAL SCHEDULE		
PEDESTAL	PED. HEIGHT	PED. ELEV.
(A)	3"	750.11
(B)	5 7/16"	750.32
(C)	3"	748.49
(D)	5 7/16"	748.69

PIER NO. 1 BAR LIST				
PLAIN REINFORCING STEEL				
MARK	SIZE	NO.	FORM	LENGTH
CS1	W20	2	BNT.	365'-9"
CV1	#9	38	STR.	20'-7"
(3)(4) DS1	W20	2	BNT.	1,320'-10"
(4) DV1	#10	46	STR.	51'-6"
(4) DV2	#9	38	STR.	8'-8"
P1	#4	33	BNT.	4'-10"
P2	#4	12	BNT.	6'-6"
P3	#4	12	BNT.	7'-4"
PH1	#10	10	BNT.	28'-6"
PH2	#10	10	STR.	25'-8"
PH3	#5	16	STR.	25'-8"
PH4	#5	10	BNT.	6'-2"
PV1	#5	2	BNT.	7'-8"
PV2	#5	4	BNT.	6'-0"
S1	#5	66	BNT.	16'-3"
S2	#5	33	BNT.	9'-0"
(4) T1	#4	10	BNT.	13'-6"

(3) 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.

(4) INCLUDED IN THE CONTRACT UNIT PRICE BID PER LINEAR FOOT OF DRILLED SHAFTS.

NOTE:
FOR BAR BENDS AND SECTION VIEW DETAILS, SEE SHEET B007.

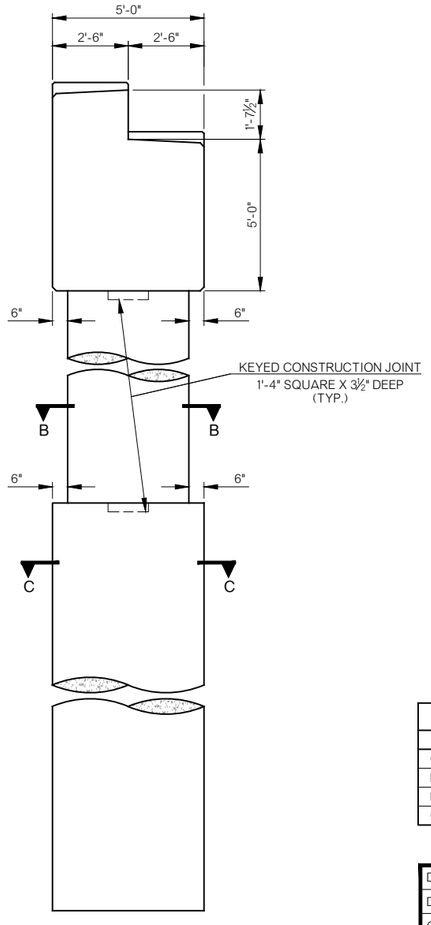


(1) DRILLED SHAFTS SHALL BE INSTALLED THE SPECIFIED MINIMUM DISTANCE INTO ROCK, BUT IN NO CASE SHALL THE BOTTOM OF THE DRILLED SHAFT BE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN.

(2) TIE ONE S2 BAR TO EACH PAIR OF S1 BARS.

ELEVATION
(PIER NO. 1)

TYPICAL COLUMN AND DRILLED SHAFT REINFORCING



SIDE

PIER QUANTITIES				
ITEM	UNIT	PIER NO. 1	PIER NO. 2	TOTAL
CLASS A CONCRETE	C.Y.	44.1	44.1	88.2
REINFORCING STEEL	LB.	7,750	7,750	15,500
DRILLED SHAFT 60" DIAMETER	L.F.	104	106	210
CROSSHOLE SONIC LOGGING	EA.	1	—	1

DESIGN	E.B.R.	
DRAWN	J.F.R.	
CHECKED	E.B.R.	
APPROV.	E.B.R.	
SQUAD	CEC	

SPAULDING RD OVER LITTLE RIVER BRIDGE "A" — HUGHES COUNTY

DETAILS OF PIERS
(SHEET 1 OF 3)

JOB PIECE NO. 34998(04) SHEET NO. B005

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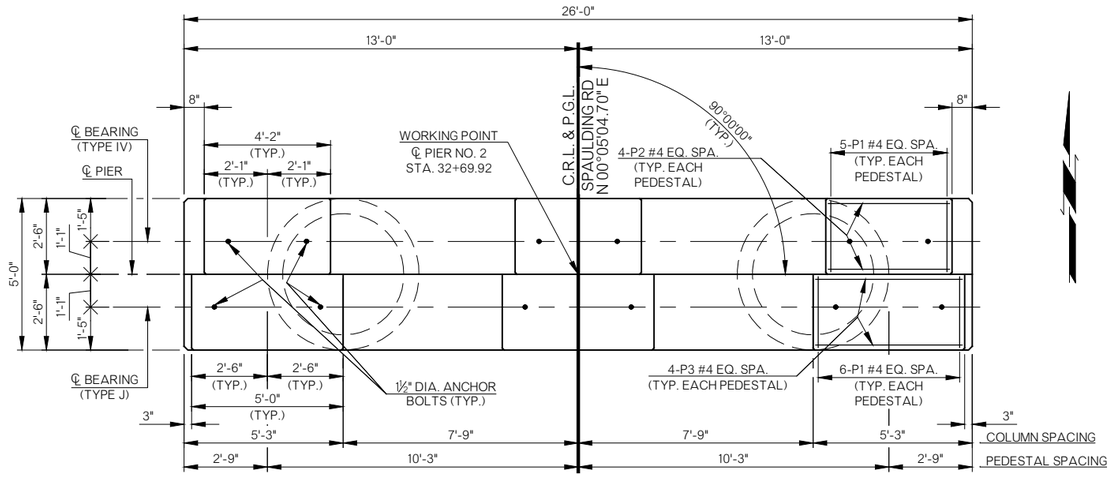
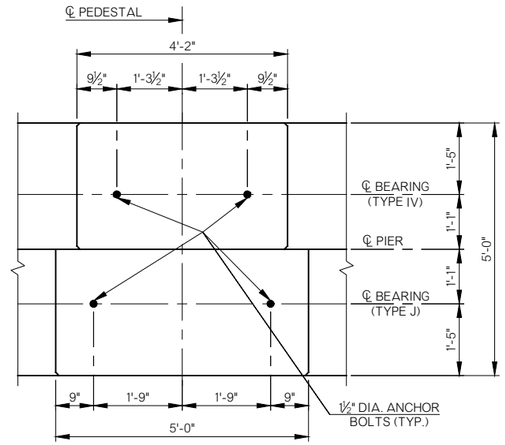
CEC // TRANSPORTATION		
REVISIONS		
DESCRIPTION		DATE



PLAN
(PIER NO. 2)



ANCHOR BOLT LAYOUT

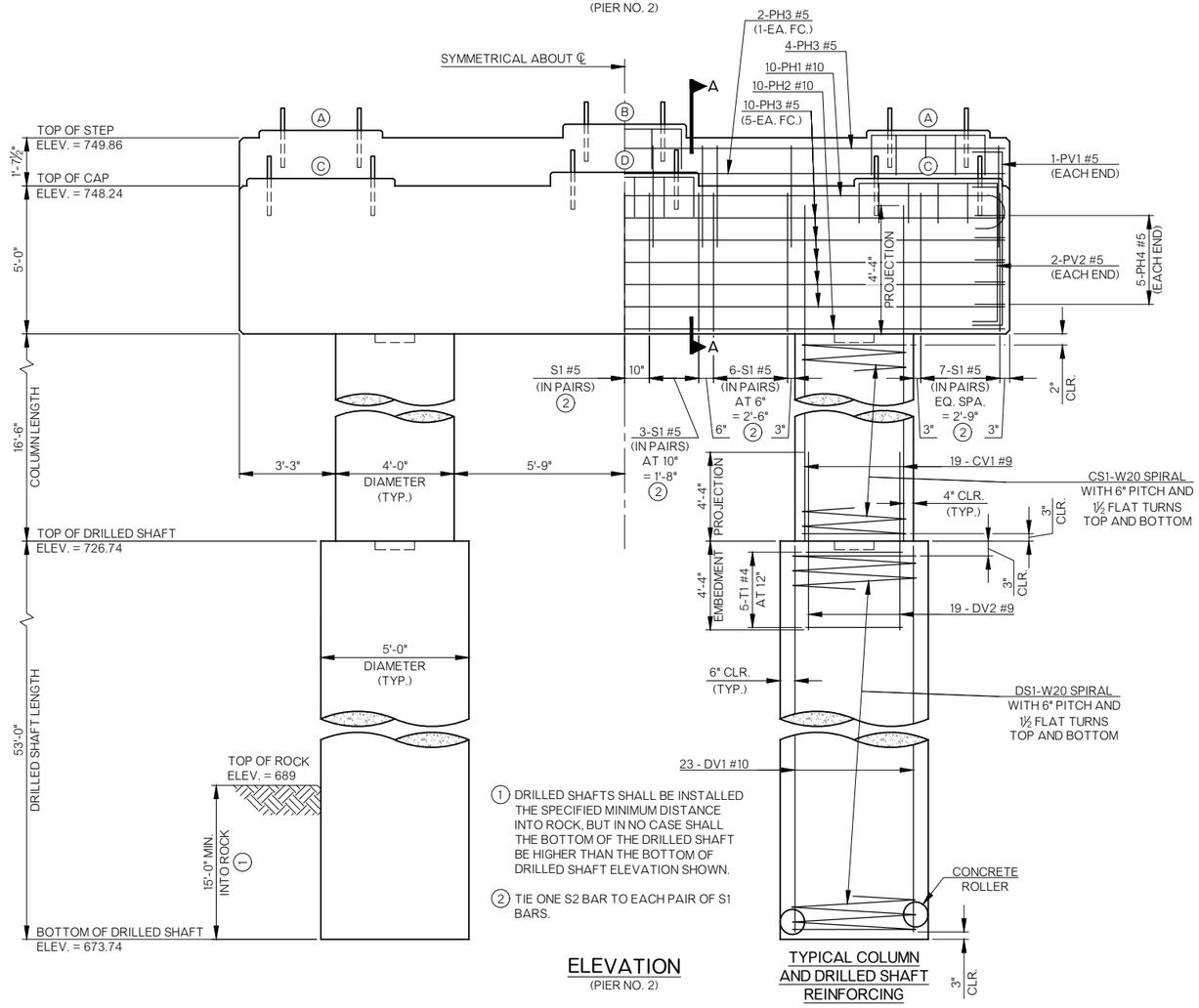
PEDESTAL SCHEDULE		
PEDESTAL	PED. HEIGHT	PED. ELEV.
Ⓐ	3"	750.11
Ⓑ	5 7/16"	750.32
Ⓒ	3"	748.49
Ⓓ	5 7/16"	748.69

PIER NO. 2 BAR LIST				
PLAIN REINFORCING STEEL				
MARK	SIZE	NO.	FORM	LENGTH
CS1	W20	2	BNT.	365'-9"
CV1	#9	38	STR.	20'-7"
(3)(4) DS1	W20	2	BNT.	1,345'-8"
(4) DV1	#10	46	STR.	52'-6"
(4) DV2	#9	38	STR.	8'-8"
P1	#4	33	BNT.	4'-10"
P2	#4	12	BNT.	6'-6"
P3	#4	12	BNT.	7'-4"
PH1	#10	10	BNT.	28'-6"
PH2	#10	10	STR.	25'-8"
PH3	#5	16	STR.	25'-8"
PH4	#5	10	BNT.	6'-2"
PV1	#5	2	BNT.	7'-8"
PV2	#5	4	BNT.	6'-0"
S1	#5	66	BNT.	16'-3"
S2	#5	33	BNT.	9'-0"
(4) T1	#4	10	BNT.	13'-6"

(3) 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.

(4) INCLUDED IN THE CONTRACT UNIT PRICE BID PER LINEAR FOOT OF DRILLED SHAFTS.

NOTE:
FOR BAR BENDS AND SECTION VIEW DETAILS, SEE SHEET B007.



(1) DRILLED SHAFTS SHALL BE INSTALLED THE SPECIFIED MINIMUM DISTANCE INTO ROCK, BUT IN NO CASE SHALL THE BOTTOM OF THE DRILLED SHAFT BE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN.

(2) TIE ONE S2 BAR TO EACH PAIR OF S1 BARS.

ELEVATION
(PIER NO. 2)

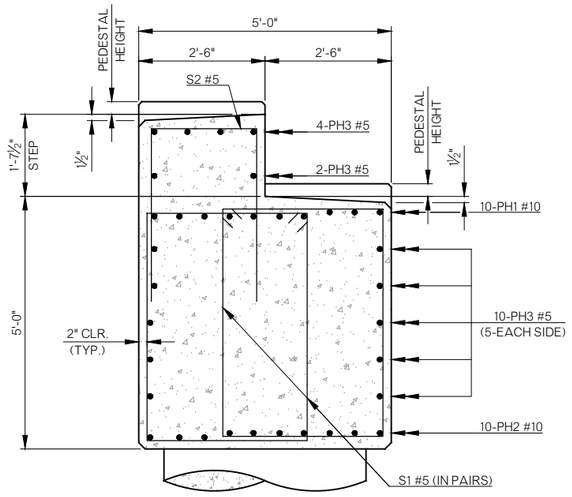
TYPICAL COLUMN AND DRILLED SHAFT REINFORCING

SIDE

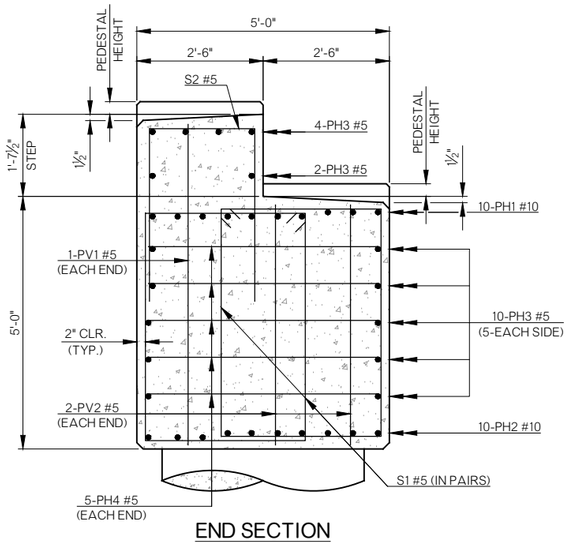
DESIGN	E.B.R.		SPAULDING RD OVER LITTLE RIVER BRIDGE "A" — HUGHES COUNTY
DRAWN	J.F.R.		DETAILS OF PIERS (SHEET 2 OF 3)
CHECKED	E.B.R.		JOB PIECE NO. 34998(04) SHEET NO. B006
APPROV.	E.B.R.		
SQUAD	CEC		

CEC // TRANSPORTATION

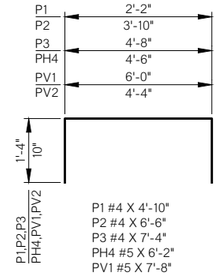
REVISIONS	
DESCRIPTION	DATE



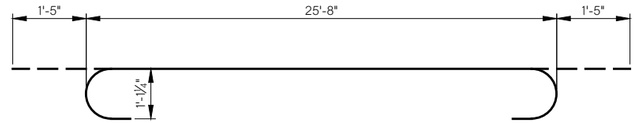
SECTION A-A



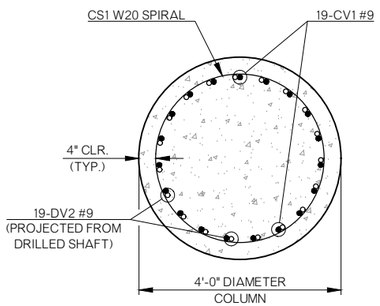
END SECTION



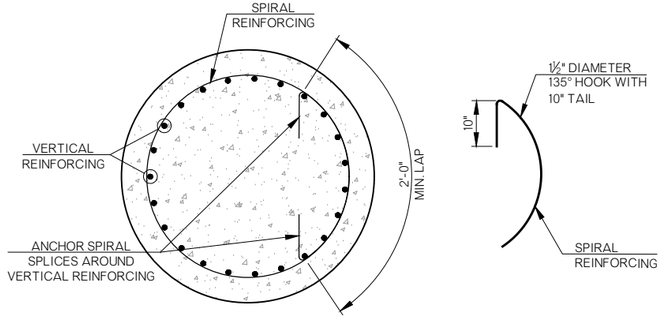
P1 #4 X 4'-10"
P2 #4 X 6'-6"
P3 #4 X 7'-4"
PH4 #5 X 6'-2"
PV1 #5 X 7'-8"
PV2 #5 X 6'-0"



PH1 #10 X 28'-6"



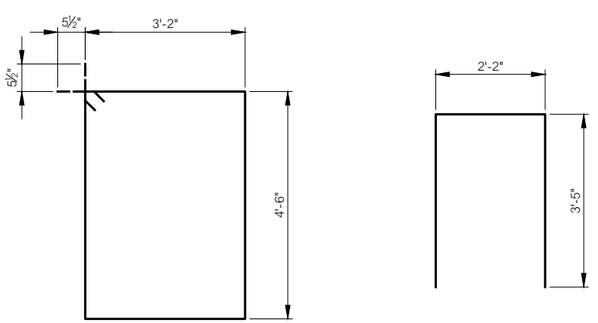
SECTION B-B



SECTION THRU COLUMN
OR DRILLED SHAFT

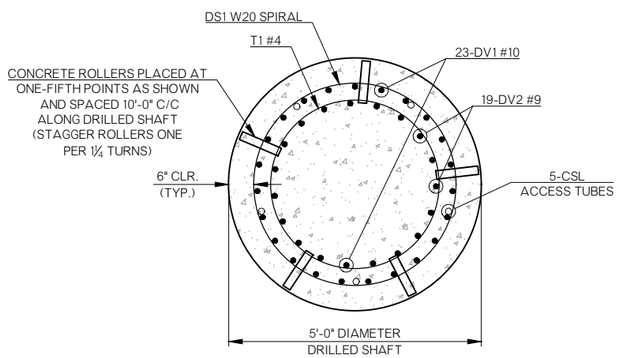
DETAIL OF 135° HOOK

DETAIL OF SPIRAL REINFORCING SPLICE

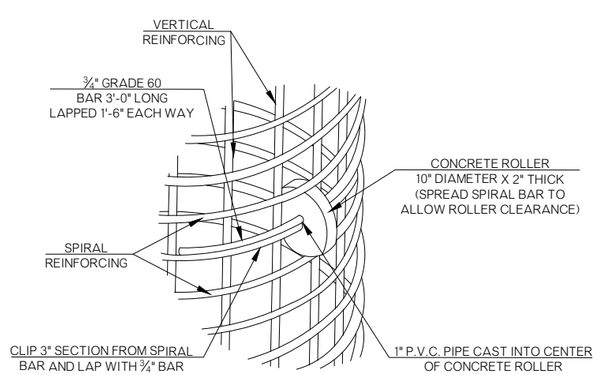


S1 #5 X 16'-3"

S2 #5 X 9'-0"

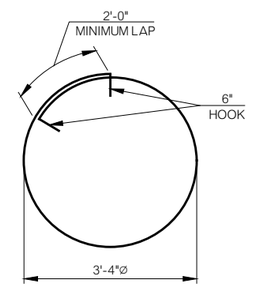


SECTION C-C



DETAIL OF CONCRETE ROLLER INSTALLATION

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. COST OF CONCRETE ROLLERS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FEET OF DRILLED SHAFT.



T1 #4 X 13'-6"

DESIGN	E.B.R.		SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY
DRAWN	J.F.R.		BRIDGE "A"
CHECKED	E.B.R.		DETAILS OF PIERS
APPROV.	E.B.R.		(SHEET 3 OF 3)
SQUAD	CEC		JOB PIECE NO. 34998(04) SHEET NO. B007

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⚠ STORM WATER MANAGEMENT PLAN

CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE
⚠ REVISED SHEET VERSION	02/18/26

SITE DESCRIPTION

PROJECT LIMITS: PROJECT LIES ALONG NS-369, BETWEEN SECTIONS 14 AND 15, TOWNSHIP 6 NORTH, RANGE 8 EAST, HUGHES COUNTY. IT BEGINS APPROX. 1.8 MILES SOUTH OF SPAULDING AND EXTENDS NORTH APPROX. 0.4 MILES.

PROJECT DESCRIPTION: GRADE, DRAIN, SURFACE AND BRIDGE PLANS REPLACING A STEEL I-BEAM SPAN BRIDGE WITH A 105'-135'-80' TYPE IV AND TYPE J BEAM SPAN BRIDGE

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:

1. VEGETATIVE STRIPPING
2. UNDERCUT & STOCKPILE EXISTING TOPSOIL
3. INSTALL PERIMETER EROSION CONTROL MEASURES
4. ROADWAY EXCAVATION AND EMBANKMENT
5. INSTALL SOD DITCHES, & VEGETATIVE MULCH
6. CONSTRUCT BRIDGE STRUCTURE
7. CONST. FINISHED ROADWAY PAVING
8. SPREAD TOPSOIL
9. INSTALL SOLID SLAB SOD

SOIL TYPE: LEAN CLAY

TOTAL AREA OF THE CONSTRUCTION SITE: 7.69 AC.

ESTIMATED AREA TO BE DISTURBED: 4.83 AC.

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 0.91 AC.

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 1.19 AC.

POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE: 0.385

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 34°59'28" N, 96°26'30" W

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: LITTLE RIVER

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

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

IF YES, LIST IMPAIRMENT: ENTEROCOCCI

LOCATED IN A TMDL: YES [X] NO [ ]

LAKE THUNDERBIRD TMDL: YES [ ] NO [X]

MS4 ENTITY YES [ ] NO [X]

IF YES, LOCATION:

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
- [ ] HYDROMULCH / HYDROSEED

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
- [ ] DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- [ ] DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- [X] ROCK FILTER DAMS
- [ ] TEMPORARY SLOPE DRAIN
- [ ] PAVED DITCH W/ DITCH LINER PROTECTION
- [ ] TEMPORARY DIVERSION CHANNELS
- [ ] TEMPORARY SEDIMENT BASINS
- [ ] TEMPORARY SEDIMENT TRAPS
- [ ] TEMPORARY SEDIMENT FILTERS
- [X] TEMPORARY SEDIMENT REMOVAL
- [X] RIP RAP
- [ ] INLET PROTECTION
- [ ] TEMPORARY BRUSH SEDIMENT BARRIERS
- [ ] SANDBAG BERMS
- [ ] TEMPORARY STREAM CROSSINGS
- [X] REVETMENT MATTRESS
- [ ] COMPOST FILTER SOCKS
- [ ] EROSION CONTROL MATS AND BLANKETS

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:

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 SHOULD OBTAIN A SEPARATE STORMWATER AUTHORIZATION AND 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 2019 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
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, OCTOBER 18, 2022.

ADDITIONAL PERMITS REQUIRED FROM OKLAHOMA WATER RESOURCES BOARD AND/OR MUNCIPALITY FOR USE OF SURFACE, GROUND OR CITY WATER SOURCES FOR ACTIVITIES SUCH AS WATERING.

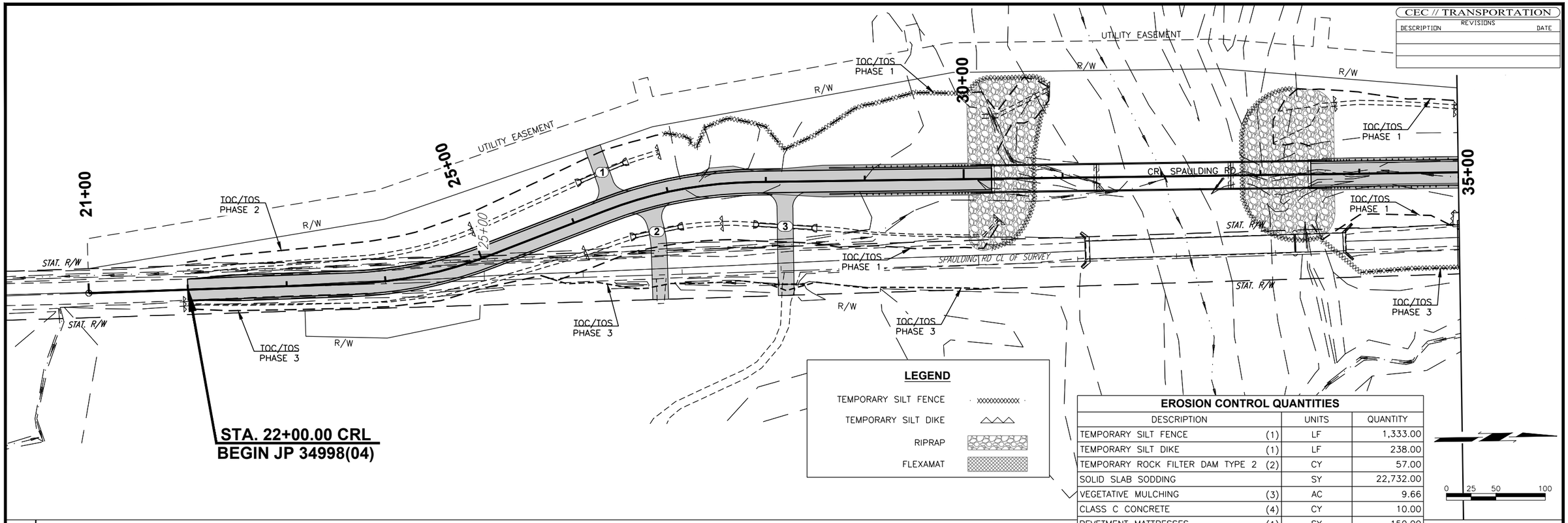
DESIGN		OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION
DRAWN		
CHECKED		STORM WATER MANAGEMENT PLAN
APPROVED		
SQUAD		

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER STATE JOB NO. 34998(04) SHEET NO. R001

REVISED 8-1-2022

CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE



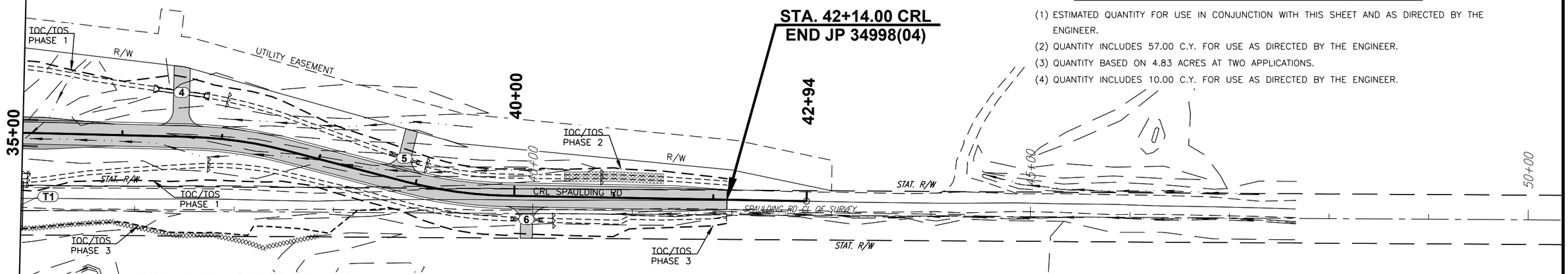
LEGEND

- TEMPORARY SILT FENCE
- TEMPORARY SILT DIKE
- RIPRAP
- FLEXAMAT

EROSION CONTROL QUANTITIES

DESCRIPTION		UNITS	QUANTITY
TEMPORARY SILT FENCE	(1)	LF	1,333.00
TEMPORARY SILT DIKE	(1)	LF	238.00
TEMPORARY ROCK FILTER DAM TYPE 2	(2)	CY	57.00
SOLID SLAB SODDING		SY	22,732.00
VEGETATIVE MULCHING	(3)	AC	9.66
CLASS C CONCRETE	(4)	CY	10.00
REVETMENT MATTRESSES	(1)	SY	150.00

0 25 50 100



(1) ESTIMATED QUANTITY FOR USE IN CONJUNCTION WITH THIS SHEET AND AS DIRECTED BY THE ENGINEER.

(2) QUANTITY INCLUDES 57.00 C.Y. FOR USE AS DIRECTED BY THE ENGINEER.

(3) QUANTITY BASED ON 4.83 ACRES AT TWO APPLICATIONS.

(4) QUANTITY INCLUDES 10.00 C.Y. FOR USE AS DIRECTED BY THE ENGINEER.

0 25 50 100

EROSION CONTROL AND CONSTRUCTION NOTES

SOLID SLAB SODDING SHALL BE PLACED ON ALL DISTURBED AREAS.

THE PLANTING OF SOLID SLAB SOD SHALL BE RESTRICTED TO THE PERIOD FROM MARCH 1 TO AUGUST 31.

AT THE BEGINNING OF TURFING OPERATIONS, ANY AREAS INCLUDED IN PLANNED QUANTITIES THAT HAVE GROWN A SATISFACTORY VOLUNTEER TURF OF PERENNIAL GRASS, AS DETERMINED BY THE ENGINEER, SHALL BE FERTILIZED AND WATERED AS CALLED FOR ON THE PLANS, BUT SHALL NOT BE SEEDED, SODDED OR SPRIGGED.

VEGETATIVE MULCHING: THE VEGETATIVE MULCH SHALL BE ANCHORED IN ACCORDANCE WITH THE "MULCHING–TILLER METHOD", AS SPECIFIED IN 233.04B(2) OF THE STANDARD SPECIFICATIONS.

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 SPECIFICATIONS. RESERVED TOPSOIL SHALL BE SPREAD APPROX. 5 INCHES THICK 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 OPERATION SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

AREAS ON WHICH SALVAGED TOPSOIL IS TO BE REPLACED SHALL HAVE 18–46–0 FERTILIZER APPLIED AT THE RATE OF 150 POUNDS PER ACRE JUST PRIOR TO THE REPLACEMENT OF SALVAGED TOPSOIL.

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 CALCULATIONS.

0 25 50 100

SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY

EROSION CONTROL PLAN

JOB PIECE NO. 34998(04) SHEET NO. R002

NOTE: ALL DISTANCES SHOWN TO RIGHT-OF-WAY, FENCES, UTILITIES, AND OTHER EXIST. OBJECTS ARE FROM ℄ OF SURVEY.

CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE

CURVE NO. 1
CRL SPAULDING RD
P.I. STA. 24+38.19
N: 606209.9808
E: 2435323.7233
R = 430.000'
T = 72.340'
Δ = 19°05'56.90"
L = 143.337'
C = 142.675'
D = 13°19'28.56"
eMAX = 0.04
V = 45 MPH
S = 0.04

CURVE NO. 2
CRL SPAULDING RD
P.I. STA. 27+11.22
N: 606467.3735
E: 2435228.6847
R = 430.000'
T = 77.178'
Δ = 20°21'02.15"
L = 152.730'
C = 151.928'
D = 13°19'28.56"
eMAX = 0.04
V = 45 MPH
S = 0.04

SE/4 SEC. 15
T-6-N, R-8-E

SW/4 SEC. 14
T-6-N, R-8-E

STA. 26+44
CONST. TBSC FIELD ENTRY
16' WIDE, 54' BK.
W/ 36" HDPE S.D.

MAILBOX TURNOUT

STA. 26+79
CONST. TBSC
PVT. DRIVE
16' WIDE, 97' BK.
W/ 36" HDPE S.D.

STA. 28+19
CONST. TBSC
FIELD ENTRY
16' WIDE, 108' BK.
W/ 36" HDPE S.D.

INCIDENTAL CONSTRUCTION:
CONTRACTOR TO MEET AND MATCH EXISTING ROADWAY STA. 22+00 TO STA. 21+50 AND SHAPE EAST DITCH TO DRAIN TO STA. 20+70.

W1-4(L)
STA. 21+90.85
20'RT

W1-4(L)
STA. 29+62.20
20'LT

W1-4(R)
STA. 34+89
20'RT

PARCEL 1
BAR S RANCH LLC

PARCEL 3
DELETED

PARCEL 4
WOODS

PARCEL 5
DELETED

PARCEL 6
DELETED

PARCEL 7
DELETED

KENDALL, TOMMY & JANE
BOOK: 1064 PAGE: 851

WOODS, LOUIS & ALINE
NO BOOK & PAGE INFO

FAULKNER, TONY
BOOK: 1012 PAGE: 764

BAR S RANCH LLC
BOOK: 1262 PAGE: 465

SHERRY, JACK, JOHN
BOB & LATISHA
BOOK: 1017 PAGE: 567

BM #207
BM #206
BM #205
BM #204

TOC/TOS PHASE 1
TOC/TOS PHASE 2
TOC/TOS PHASE 3

CRL SPAULDING RD
N01°10'00.54"W
N20°15'57.45"W
N00°05'04.70"E
SPAULDING RD CL OF SURVEY
N00°56'46.89"W

PC 23+65.85
PT 25+09.19
PC 26+34.06
PT 27+86.78

UTILITY EASEMENT
R/W
STAT. R/W
GRAVEL
OHE
4-WIRE
2-WIRE
4-BARB
5-BARB
6-BARB-ZINC
JBWY
TUG
PIPE
RIP-RAP

STA. 22+00.00 CRL
BEGIN JP 34998(04)
0.39' LT. ℄ SURVEY
N: 605971.84
E: 2435328.57

BM # 208	BM # 207	BM # 206	BM # 205	BM # 204
STA. 19+39.96 @ 16.53' RT.	STA. 23+08.00 @ 42.38 LT.	STA. 27+08.17 @ 44.64' LT.	STA. 31+08.00 @ 23.91' LT.	STA. 33+74.05 @ 24.42' LT.
BM SET 5/8IN IP	BM SET 5/8IN IP	BM SET 5/8IN IP	BM SET CUT X ON WINGWALL	BM SET CUT X ON WINGWALL
ELEV= 746.52'	ELEV= 748.84'	ELEV= 748.94'	ELEV= 754.60'	ELEV= 754.64'
NORTHING: 605712.1	NORTHING: 606079.1	NORTHING: 606479.2	NORTHING: 606879.3	NORTHING: 607145.3
EASTING: 2435349.8	EASTING: 2435284.8	EASTING: 2435275.9	EASTING: 2435290.1	EASTING: 2435285.2

HYDRAULIC DATA

DRAINAGE AREA = 912.10 SQ. MI.

Q2 =	7,619	CFS	Q25 =	16,628	CFS
V2 =	4.56	FPS	V25 =	5.45	FPS
CHW =	730.89	FT	CHW =	738.96	FT
Q5 =	11,873	CFS	Q50 =	18,085	CFS
V5 =	5.07	FPS	V50 =	5.57	FPS
CHW =	735.25	FT	CHW =	739.83	FT
Q10 =	14,207	CFS	Q100 =	19,293	CFS
V10 =	5.27	FPS	V100 =	5.66	FPS
CHW =	737.26	FT	CHW =	740.50	FT

Qot > Q500

UTILITY COMPANY	CONTACT	PHONE
AT&T	WESLEY COOPER	(918) 684-7377
PEOPLE'S ELECTRIC	BUDDY WRIGHT	(580) 320-2913
BCZ LAND	JOHN JEFFREYS	(405) 748-0021

PI STA=22+00.00
ELEV=747.49

PVC 25+40.27
ELEV = 749.57

PVT 28+45.27
ELEV = 753.93

PVI 26+92.77
ELEV = 750.50

PVC 28+80.45
ELEV = 754.73

PVI 29+42.45
ELEV = 756.12

PVT 30+04.45
ELEV = 756.12

BEGIN BRIDGE "A" 30+28.17

END BRIDGE "A" 33+51.00

PVC 33+75.99
ELEV = 756.12

PVI 34+40.99
ELEV = 756.12

L=305.00'
K=186.13

L=124.00'
K=55.12

L=130.00'
K=42.54

BRIDGE LENGTH 322.83'

0.611%
0.400%
-0.493%
2.775%
2.250%
0.000%
-0.400%
1.500%
0.300%

FINISHED GRADE @ CRL
EXIST. GRADE @ CRL
DITCH RT.
DITCH LT.

BRIDGE "A": 105'-135'-80' TYPE IV AND TYPE J P.C. BEAM SPANS, 0° SKEW, 26' CLEAR ROADWAY, TR-3 CONCRETE RAILS
CENTERLINE STATION 31+89.58

EXISTING BRIDGE: 210' RIVETED THROUGH TRUSS & 50' STEEL BEAM SPAN

LEAVE IN PLACE WITH REMOVAL OF EXISTING APPROACHES AFTER CONSTRUCTION PHASING

747.31 747.49 747.49 748.13 748.10 748.61 748.71 748.23 749.32 749.06 750.03 747.97 751.23 744.35 752.97 746.81 755.13 736.30 756.12 732.49 756.12 733.53 756.12 725.67 756.12 733.29 756.05 735.60 754.31

21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00

760 750 740 730 727 770

P&P CRL SPAULDING RD

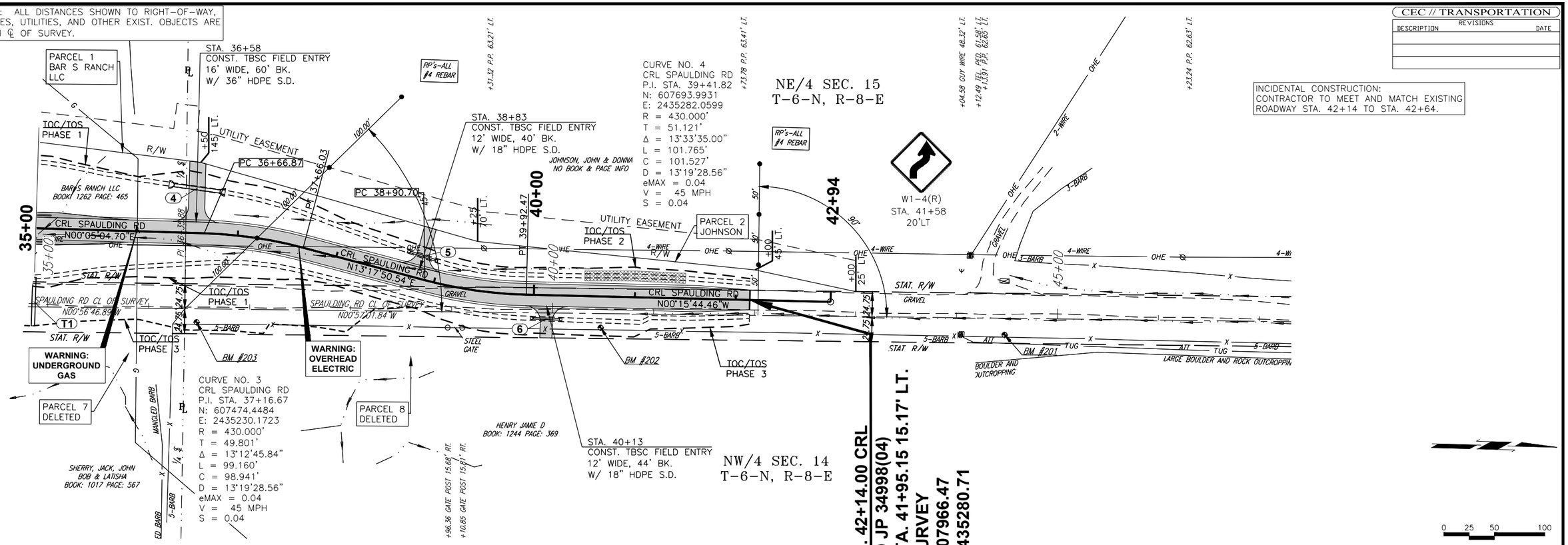
COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. R003

NOTE: ALL DISTANCES SHOWN TO RIGHT-OF-WAY, FENCES, UTILITIES, AND OTHER EXIST. OBJECTS ARE FROM ℄ OF SURVEY.

CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

INCIDENTAL CONSTRUCTION:
CONTRACTOR TO MEET AND MATCH EXISTING ROADWAY STA. 42+14 TO STA. 42+64.

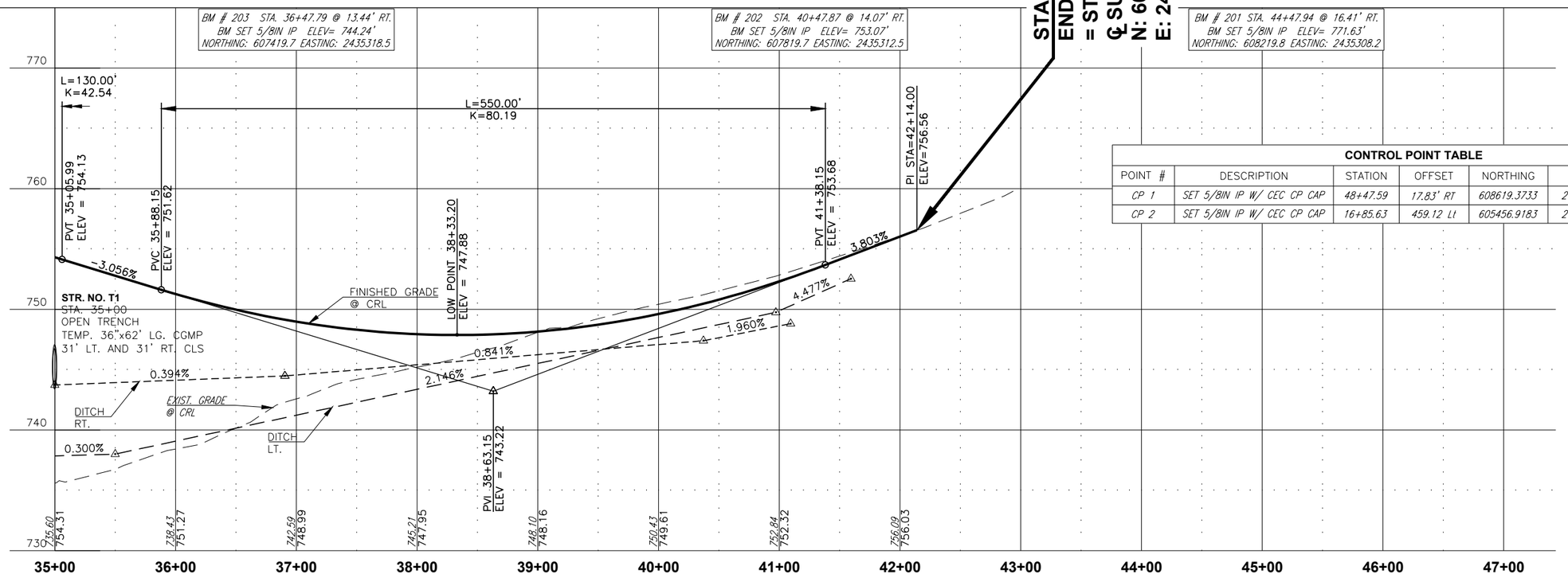


STA. 42+14.00 CRL
END JP 34998(04)
= STA. 41+95.15 15.17' LT.
℄ SURVEY
N: 607966.47
E: 2435280.71

BM # 203 STA. 36+47.79 @ 13.44' RT.
BM SET 5/8IN IP ELEV= 744.24'
NORTHING: 607419.7 EASTING: 2435318.5

BM # 202 STA. 40+47.87 @ 14.07' RT.
BM SET 5/8IN IP ELEV= 753.07'
NORTHING: 607819.7 EASTING: 2435312.5

BM # 201 STA. 44+47.94 @ 16.41' RT.
BM SET 5/8IN IP ELEV= 771.63'
NORTHING: 608219.8 EASTING: 2435308.2



CONTROL POINT TABLE

POINT #	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING	ELEVATION
CP 1	SET 5/8IN IP W/ CEC CP CAP	48+47.59	17.83' RT	608619.3733	2435302.9739	824.43'
CP 2	SET 5/8IN IP W/ CEC CP CAP	16+85.63	459.12 Lt	605456.9183	2435299.2039	749.21'

P&P CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. R004

CEC // TRANSPORTATION

REVISIONS

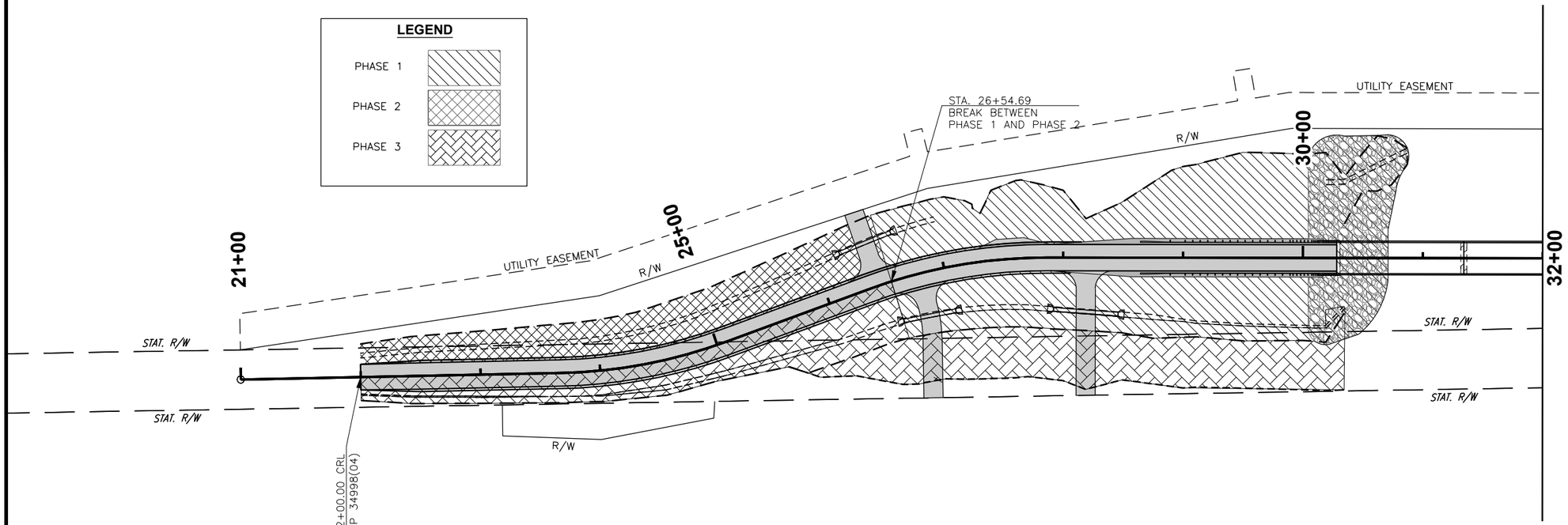
DESCRIPTION	DATE

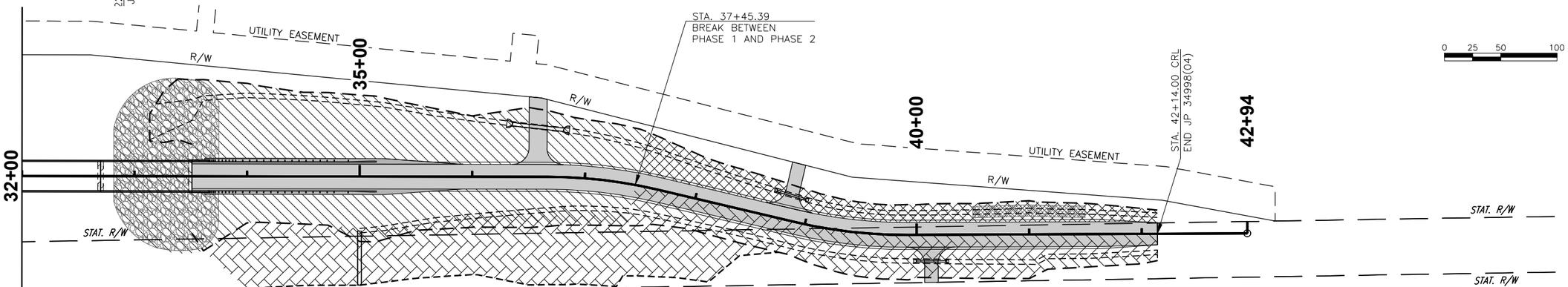
LEGEND

PHASE 1

PHASE 2

PHASE 3

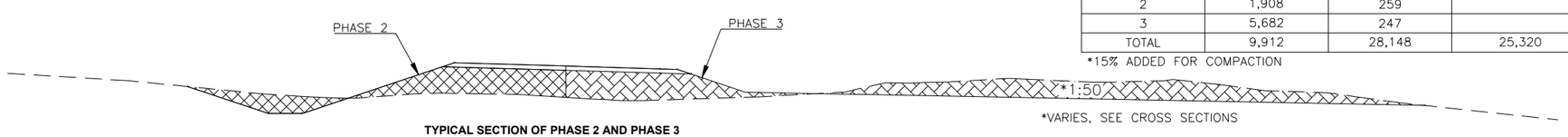




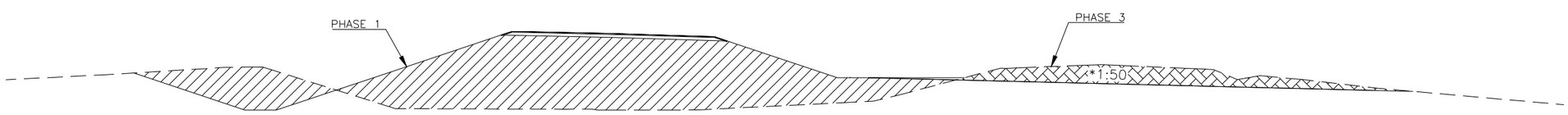
0 25 50 100

SUMMARY OF EARTHWORK				
PHASE	EXCAVATION	*EMBANKMENT	BORROW	EXCESS EXCAVATION
1	2,322	27,642	25,320	
2	1,908	259		1,649
3	5,682	247		5,435
TOTAL	9,912	28,148	25,320	7,084

*15% ADDED FOR COMPACTION



TYPICAL SECTION OF PHASE 2 AND PHASE 3



TYPICAL SECTION OF PHASE 1 AND PHASE 3

SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY

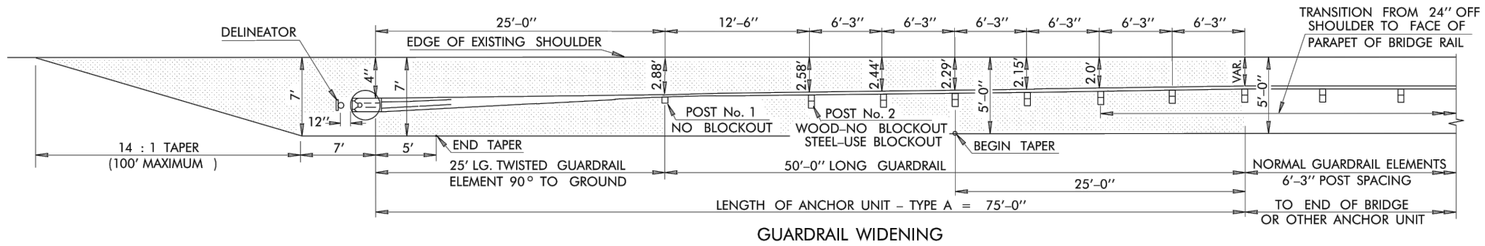
EARTHWORK PHASING

JOB PIECE NO. 34998(04) SHEET NO. R005

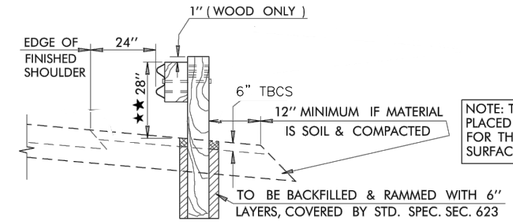
CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE



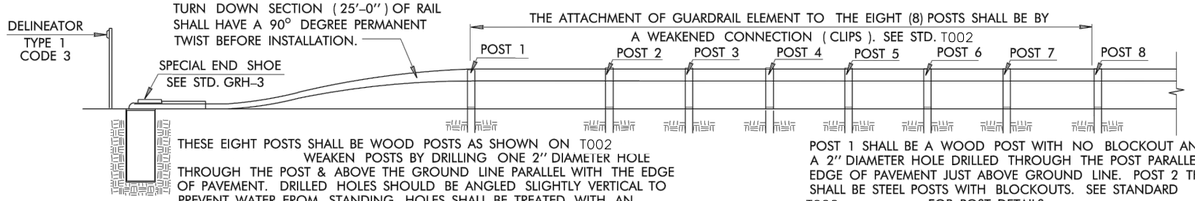
GUARDRAIL WIDENING



NOTE: TYPICAL BASE WIDENING PLACED BY SURFACING CONTRACTOR. FOR THICKNESS AND SLOPE SEE SURFACING PLANS.

DETAIL OF GUARDRAIL POST
IN SHOULDER BASE WIDENING

POST NO.	DIMENSION ● A
1	26"
2	27"
3	27½"
4 – 8	28"



THESE EIGHT POSTS SHALL BE WOOD POSTS AS SHOWN ON T002 WEAKEN POSTS BY DRILLING ONE 2" DIAMETER HOLE THROUGH THE POST & ABOVE THE GROUND LINE PARALLEL WITH THE EDGE OF PAVEMENT. DRILLED HOLES SHOULD BE ANGLED SLIGHTLY VERTICAL TO PREVENT WATER FROM STANDING. HOLES SHALL BE TREATED WITH AN APPROVED PRESERVATIVE. BLOCKOUT SHALL NOT BE USED AT POST 1 & 2.

WOOD POSTS OPTION

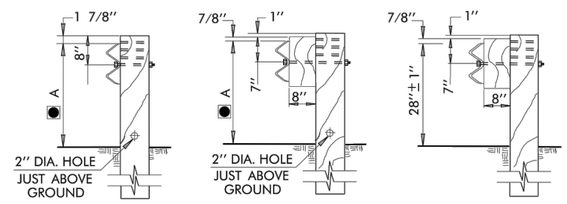
ELEVATION

ANCHOR UNIT – TYPE A

POST 1 SHALL BE A WOOD POST WITH NO BLOCKOUT AND WITH A 2" DIAMETER HOLE DRILLED THROUGH THE POST PARALLEL TO EDGE OF PAVEMENT JUST ABOVE GROUND LINE. POST 2 THRU 8 SHALL BE STEEL POSTS WITH BLOCKOUTS. SEE STANDARD T002 FOR POST DETAILS.

STEEL POSTS OPTION

★★ MEASURE DIRECTLY BELOW RAIL, GUARDRAIL TO BE INSTALLED THIS DIMENSION + 1". WHEN INSTALLING GUARDRAIL IN AN AREA WITH NO SHOULDER WIDENING THE RAIL HEIGHT SHALL BE MEASURED AS FOLLOWS:
FOR NEGATIVE GRADE SHOULDERS, MEASURE TO A LINE FROM THE SHOULDER ON THE SAME SLOPE AS THE SHOULDER.
FOR POSITIVE GRADE & LEVEL SHLDRS, MEASURE FROM A LINE LEVEL WITH THE EDGE OF SHOULDER.



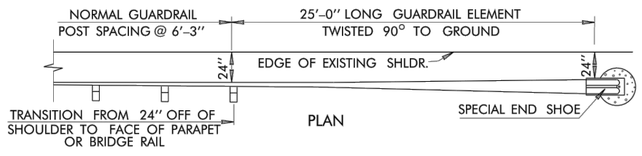
POST 1 & 2
NO BLOCKOUT CLIPPED CONNECTIONS (STEEL POST WITH BLOCKOUT MAY BE USED FOR POST 2)

POST 3 THRU 8
BLOCKOUT WITH CLIPPED CONNECTIONS (STEEL POSTS & BLOCKOUTS MAY BE USED)

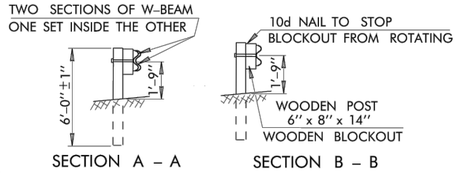
STANDARD POSTS FORWARD
(STEEL POSTS & BLOCKOUTS MAY BE USED)

WOOD POST DETAIL
RECTANGULAR POSTS SHOWN
SEE RDY. STD. DRAWING T002

ANCHOR UNIT – TYPE A – APPROACH END



PLAN



SECTION A – A

SECTION B – B

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2019 ENGLISH STANDARD SPECIFICATIONS.
2. THE BRIDGE CONTRACTOR SHALL PROVIDE HOLES FOR THE CONNECTION OF W–BEAM TERMINAL CONNECTOR (SPECIAL END SHOE) TO BRIDGE RAIL AND SLOPED FACE PARAPET. RETROFIT CONNECTIONS FOR GUARDRAIL (SPECIAL END SHOE) SHALL BE FIELD DRILLED BY THE SURFACING CONTRACTOR.
3. GUARDRAIL COMPONENTS SHALL MEET THE APPLICABLE STANDARDS OF "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE" PREPARED AND APPROVED BY THE AASHTO–ARTBA–AGC JOINT COMMITTEE, TECHNICAL BULLETIN NO. 268 B.
4. STEEL POST AND BLOCKOUT MAY BE USED IN LIEU OF WOOD POST AND BLOCKOUT FOR ANCHOR UNIT TYPE D(BF).
5. POST SPACING AND FACE OF RAIL ALIGNMENT REMAINS THE SAME.

SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY

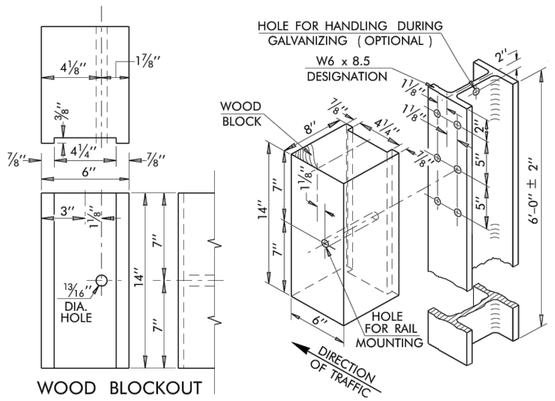
GUARDRAIL ANCHOR UNIT DETAIL

JOB PIECE NO. 34998(04) SHEET NO. T001

CEC // TRANSPORTATION

REVISIONS

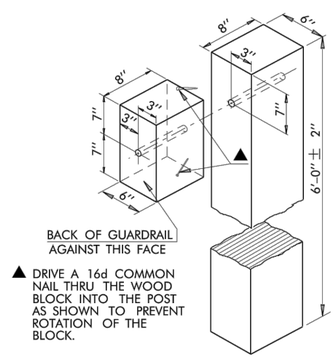
DESCRIPTION	DATE



WOOD BLOCKOUT

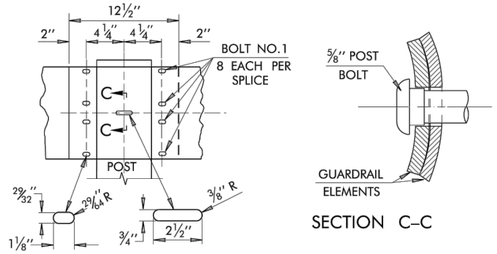
STEEL POST & WOOD BLOCKOUT

FABRICATED STEEL BEAMS OF THE SAME BASIC DIMENSIONS AND BENDING PERFORMANCE WILL BE AN ACCEPTABLE ALTERNATE. ALL HOLES IN STEEL TO BE 13/16" DIAMETER AND SHALL BE PUNCHED OR DRILLED BEFORE GALVANIZING. USE BOLT NO. 5 TO MOUNT RAIL AND BLOCKOUT TO POST. SEE TABLE OF BOLTS ON THIS SHEET FOR DETAILS. POST UNIT TO BE GALVANIZED AFTER FABRICATION. ON INITIAL INSTALLATION, THE BLOCKOUT AND RAIL ELEMENT SHALL BE ATTACHED TO THE POST USING THE SINGLE HOLE IN THE POST AND BLOCKOUT (ONE BOLT IS REQUIRED). OTHER HOLES IN POST ARE FOR FUTURE VERTICAL ADJUSTMENT. BEAM WASHERS ARE NO LONGER USED.



WOOD POSTS & BLOCKOUT

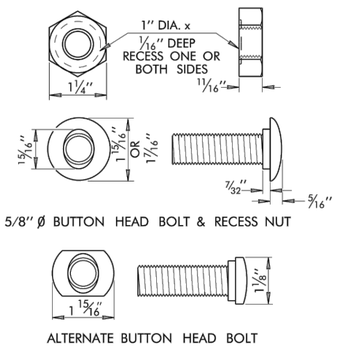
ALL HOLES IN WOOD TO BE 3/4" IN DIAMETER AND DRILLED, AS SHOWN ON THE LONGITUDINAL CENTER OF THE 6" FACE AND TREATED WITH AN APPROVED PRESERVATIVE. ON INITIAL INSTALLATIONS, THE RAIL AND BLOCKOUT SHALL BE ATTACHED TO THE POST USING ONE BOLT NO. 2 THROUGH THE RAIL, THE CENTER HOLE IN THE BLOCKOUT AND THE BOTTOM HOLE IN THE THE POST.



SECTION C–C

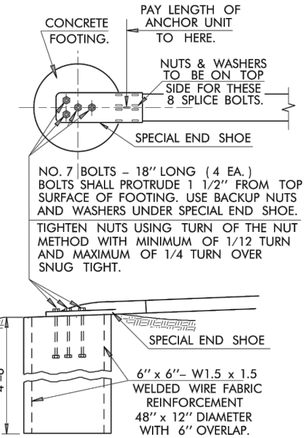
GUARDRAIL SHALL BE LAPPED IN THE DIRECTION OF NEAREST TRAFFIC AT ALL LOCATIONS WHERE SPLICES OCCUR (EXCEPT AT NARROW OR ONE LANE BRIDGE APPROACHES, WHERE LAPS SHALL BE TOWARD THE BRIDGE ON BOTH SIDES OF THE APPROACH ROADWAY).

RAIL SPLICE



5/8" Ø BUTTON HEAD BOLT & RECESS NUT

ALTERNATE BUTTON HEAD BOLT



NO. 7 BOLTS – 18" LONG (4 EA.) BOLTS SHALL PROTRUDE 1 1/2" FROM TOP SURFACE OF FOOTING. USE BACKUP NUTS AND WASHERS UNDER SPECIAL END SHOE.

TIGHTEN NUTS USING TURN OF THE NUT METHOD WITH MINIMUM OF 1/12 TURN AND MAXIMUM OF 1/4 TURN OVER SNUG TIGHT.

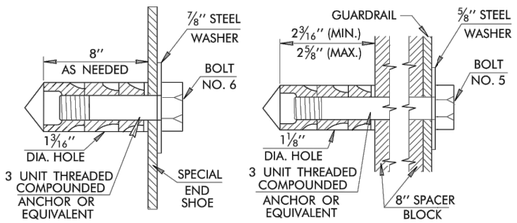
CLASS A CONCRETE TO BE PLACED INTO 18" DIA. HOLE TO A DEPTH OF APPROX. 4'–6". SHAPE CONCRETE TO DRAIN OR FIT SLOPES. END SHOE MUST REMAIN LEVEL. CLASS A CONCRETE = 0.26 C.Y.

DETAIL OF CONCRETE & BOLTS USED IN ANCHOR

NOTE: PRECAST FOOTING (EQUIV. SIZE & DESIGN) MAY BE SUBSTITUTED FOR CAST–IN–PLACE FOOTING, IF APPROVED BY THE ENGINEER.

OPTIONAL TYPE POSTS OR BLOCKOUTS FOR STANDARD LINE GUARDRAIL

THE CONTRACTOR MAY, AT HIS OPTION, SELECT AND USE ONE OF THE TYPE POSTS SHOWN ABOVE. THIS POST & BLOCKOUT CHOICE MUST BE USED ON THE ENTIRE PROJECT. THE ONLY OBLIGATORY USE OF WOODPOST IS FOR POST NO. 1, AS SHOWN ON ANCHOR UNIT TYPE A. ALTERNATIVE POST & BLOCKOUT COMBINATIONS, INCLUDING RECYCLED MATERIAL, RUBBER, PLASTIC AND COMPOSITE PRODUCTS, MUST BE OF A TYPE WHICH PASSES NCHRP 350, TESTING LEVEL 3, BE SUBMITTED WITH FHWA CERTIFICATION AND BE APPROVED FOR USE BEFORE INSTALLATION.



ANCHOR DEVICE (7/8" BOLT)

USE TO ANCHOR SPECIAL END SHOE TO BRIDGE PIER, BRIDGE CURB, OR TO CONCRETE PARAPET IN LIEU OF BOLTS THROUGH THE PARAPET.

ANCHOR DEVICE (5/8" BOLT)

USE WHERE CONNECTION IS MADE TO ROUND PIERS, AS IN TYPE C, G, OR GE UNIT.

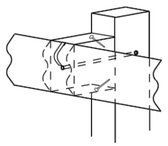
EQUVALENT ANCHOR SYSTEM SPECIFICATIONS & DATA				
ANCHOR BOLT SIZE	BAR SIZE #	BAR DIA. (d) in.	BOND STRESS (u) psi	BOND CAPACITY (U) lb/in
1/2"	4	0.500	667	1048
5/8"	5	0.626	667	1310
3/4"	6	0.750	581	1369
	7	0.875	498	1369
	8	1.000	436	1369
1"	9	1.128	386	1369
	10	1.270	343	1369
1 1/4"	11	1.410	309	1369
1 1/2"	14	1.693	274	1457

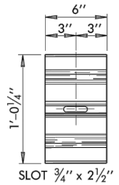
ALTERNATIVE ANCHOR BOLT SYSTEMS MEETING THE MINIMUM STRENGTH REQUIREMENTS, AS SHOWN IN THE SPEC. & DATA TABLE ABOVE, MAY BE USED IN ATTACHMENT APPLICATIONS IN LIEU OF COMPOUND OR THROUGH BOLT ANCHORS IF APPROVED BY THE ENGINEER.

WHERE, T = U x L = PULL–OUT STRENGTH
U = BOND CAPACITY PER INCH
L = EMBEDMENT DEPTH IN INCHES

TABLE OF BOLTS, NUTS, & WASHERS			
	ITEM	ASSEMBLY	NOMENCLATURE & DIMENSIONS
②	BOLT 1	RECESS NUT & SPECIFIED WASHER	5/8–11 UNC – 2A x 1 1/4" LONG BUTTON HEAD W/ OVAL SHOULDER.
②	BOLT 2	RECESS NUT & STEEL WASHER	5/8–11 UNC – 2A x 18" LONG BUTTON W/ OVAL SHOULDER.
②	BOLT 3	HEX NUT & LOCK WASHER	5/8–11 UNC – 2A x 1 1/2" LONG HEX–HEAD BOLT.
②	BOLT 4	RECESS NUT & 5/8" STEEL WASHER	5/8–11 UNC – 2A x ___ " LONG BUTTON HEAD W/OVAL SHOULDER.
②	BOLT 5	5/8" STEEL WASHER & ANCHOR DEVICE	5/8–11 UNC – 2A x 10 1/2" LONG HEX–HEAD BOLT.
① ②	BOLT 6	7/8" STEEL WASHER & ANCHOR DEVICE	7/8– 9 UNC – 2A x 8" LONG HEX–HEAD BOLT.
① ③	BOLT 7	7/8" STEEL WASHER & 7/8" HEX NUT	7/8– 9 UNC – 2A x ___ " LONG HIGH STRENGTH STL. HEX–HEAD BOLT
⑥	RECESS NUT		5/8–11 UNC – 2B SEMI–FINISHED.
⑥	5/8" HEX NUT		5/8–11 UNC – 2B SEMI–FINISHED.
① ④	7/8"HEX NUT		7/8– 9 UNC – 2B SEMI–FINISHED.
⑤	5/8"STEEL WSHR.		11/16" x 1 3/4" x 0.141" TYPE A PLAIN WASHER.
⑤	7/8"STEEL WSHR.		15/16" x 2 1/4" x 0.156" TYPE A PLAIN WASHER.
①	LOCK WASHER		11/16" I.D. GALVANIZED STANDARD HARDWARE ITEM.

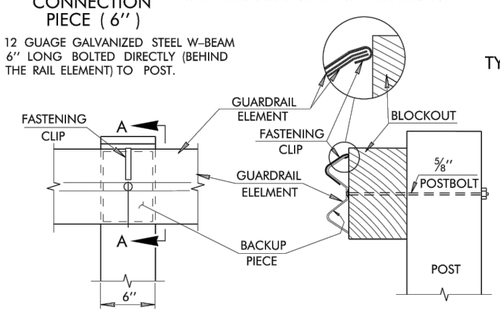
① NOT A STANDARD ITEM IN "A GUIDE TO STANDARIZED HIGHWAY BARRIER RAIL HARDWARE".TECHNICAL BULLETIN #268–B.
② SHALL MEET REQUIREMENTS OF A.S.T.M. A307 & A153.
③ SHALL MEET REQUIREMENTS OF A.S.T.M. A325 OR A449 & A153.
④ SHALL MEET REQUIREMENTS OF A.S.T.M. A153 & A563 GRADE B OR BETTER.
⑤ SHALL MEET REQUIREMENTS OF A.S.T.M. A153 & A.N.S.I. B27.2.
⑥ SHALL MEET REQUIREMENTS OF A.S.T.M. A153 & A563. GRADE A OR BETTER.





BACKUP CONNECTION PIECE (6")

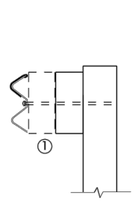
12 GUAGE GALVANIZED STEEL W–BEAM 6" LONG BOLTED DIRECTLY (BEHIND THE RAIL ELEMENT) TO POST.



SECTION A–A

DETAIL OF WEAKENED CONNECTION

NOTE: WEAKENED CONNECTION TO BE USED ONLY WITH GUARDRAIL ANCHOR UNIT TYPE A.

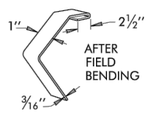


DETAIL ADDITIONAL BLOCKOUTS

① ONE ADDITIONAL BLOCKOUT MAY BE ADDED AND ATTACHED USING EXTENDED BOLT.

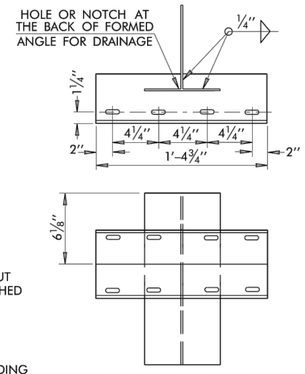


BEFORE BENDING



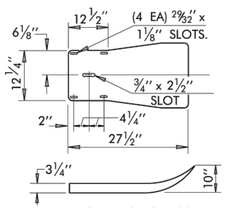
FASTENING CLIP

3/16" x 12" A36 (MILD) GALVANIZED STEEL PLATE FIELD SHAPED WITH A HAMMER FOR A TIGHT FIT. HOOK FITS OVER BACKUP CONNECTION PIECE AND GUARDRAIL ELEMENT TO FORM A WEAK–ENED CONNECTION. COAT WITH A ZINC–RICH GALVANIZATING PAINT AFTER BENDING.



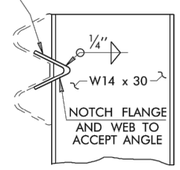
BRIDGE SPECIAL STEEL ANCHOR POST DETAIL

UNIT TO BE GALVANIZED AFTER FABRICATION



TYPE 1 END SECTION

2 PLATES (1'–4¾" x 5½" x¼") WELDED TO FORM A 70° ANGLE OR 1 PLATE (1'–4¾" x 11" x ¼") BENT TO A 70° ANGLE



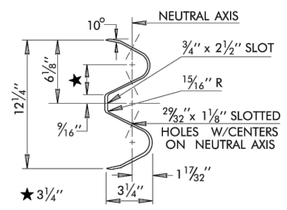
NOTE: GUARDRAIL COMPONENTS SHALL MEET THE APPLICABLE STD'S OF "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE" PREPARED AND APPROVED BY THE AASHTO–ARTBA–AGC JOINT COOPER–ATIVE COMMITTEE, TECHNICAL BULLETIN NO. 268 B.

MATERIALS SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SUBSECTIONS OF THE 2019 STD. SPEC'S.

PORTLAND CEMENT CONCRETE	701
REINFORCING STEEL	723
◀ G. RAIL POSTS & SPACER BLOCKS	732
METAL PLATE STEEL BEAM	732
FITTINGS	732
GALVANIZATION	732

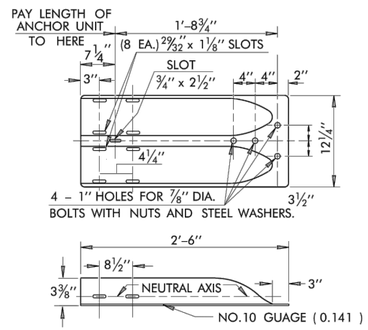
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCE.

◀ WOOD POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732.



SECTION THRU 12 GAUGE STEEL RAIL ELEMENT

MAY VARY DUE TO TOLERANCES. NOMINAL THICKNESS OF 0.105", EXCLUSIVE OF PROTECTIVE COATING.



SPECIAL END SHOE

SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY

GUARDRAIL HARDWARE DETAIL

JOB PIECE NO. 34998(04) SHEET NO. T002

CEC // TRANSPORTATION

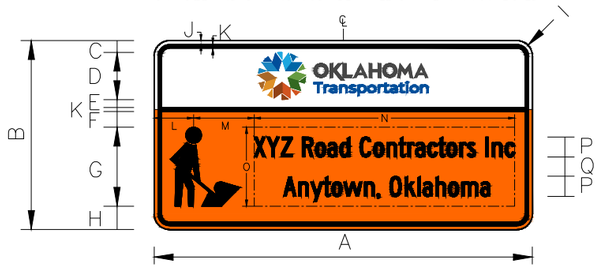
REVISIONS

DESCRIPTION	DATE

CONTRACTOR SIGN

CS–CONTRACTOR 1

OKLAHOMA LOGO IS CENTERED VERTICALLY ON PANEL
OKLAHOMA LOGO SIZE PROPORTIONAL BASED ON DIAMETER OF CIRCLE
CONTRACTOR NAME AND LOCATION ARE VARIABLE, TEXT IS TO BE PLACED WITHIN THE DASHED AREA
FONT SIZE AND SPACING MUST BE AT LEAST THE MINIMUM LISTED



*SEE PAGE 6–59 OF THE 2004 STANDARD HIGHWAY SIGNS MANUAL FOR SYMBOL DESIGN

ALL DIMENSIONS IN INCHES

A	B	C	D	E	F	G	H	I	J	K
48	24	1.75	6	0.75	2	10	3	1.5	0.5	0.5
72	36	2.63	9	1.12	3	15	4.5	1.5	.75	.75
96	48	2.63	12	1.5	4	20	6	1.5	1	1

L	M	N	O	P MINIMUM	Q MINIMUM
5	7	33	10	2.5C	2.5
7.6	10.5	49.5	15	3.75C	3.75
10.1	14	66	20	5C	5

	UPPER SECTION	LOWER SECTION
COLORS: LEGEND, BORDER	– BLACK	BLACK
BACKGROUND	– WHITE (RETROREFLECTIVE)	ORANGE (RETROREFLECTIVE)

CONTRACTOR SIGN

CS–CONTRACTOR 2 & 3

TEXT LENGTH IS VARIABLE, STRING IS CENTERED VERTICALLY ON PANEL
COMPLETION SIGN TEXT CAN READ EITHER "SPRING", "SUMMER", "FALL", OR "WINTER"
ALTERNATIVELY MONTH NAMES MAY BE USED AND ABBREVIATED IF NECESSARY
ONE OF THE FOLLOWING SIGNS SHOULD BE PLACED BELOW THE CONTRACTOR SIGN



ALL DIMENSIONS IN INCHES

A	B	C	D	E	F	G	H
48	12	4.5	3C	3B	1.5	0.5	0.5
72	18	6.75	4.5C	4.5B	1.5	0.75	0.75
96	24	9	6C	6B	1.5	1	1

COLORS: LEGEND, BORDER	– BLACK
BACKGROUND	– ORANGE (RETROREFLECTIVE)

OKLAHOMA TRANSPORTATION LOGO

DIMENSIONS ARE ALL APPROXIMATE
COLORS ARE LISTED AS RGB AND PANTONE VALUES
DESIGN GUIDELINES AND IMAGES MAY BE FOUND AT _____



A	B	C	D
6	21.4	1.8	1.3
9	32.1	2.7	2
12	42.8	3.6	2.7



12

9 OR 10
(10 IS PREFERRED)

1	2	3	4	5	6	7	8	9	10	11	12
SKY BLUE BRIGHT	SKY BLUE DARK	WOODLAND GREEN BRIGHT	WOODLAND GREEN DARK	CLAY RED BRIGHT	CLAY RED DARK	PRARIE GOLD BRIGHT	PRARIE GOLD DARK	WATER BLUE BRIGHT	WATER BLUE DARK	SLATE GREY BRIGHT	SLATE GREY DARK
R28 G166 B223 #1CA6DF	R0 G102 B166 #0066A6	R102 G155 B65 #669B41	R50 G104 B32 #326820	R209 G84 B32 #D15420	R145 G65 B21 #914115	R222 G144 B39 #DE9027	R169 G103 B40 #A96728	R24 G123 B192 #187BC0	R0 G78 B154 #004E9A	R120 G120 B120 #787878	R70 G70 B70 #464646
2171	2384	7490	2280	7580	7587	131	132	660	7686	COOL GRAY 8	COOL GRAY 10

SPAULDING RD OVER LITTLE RIVER — HUGHES COUNTY

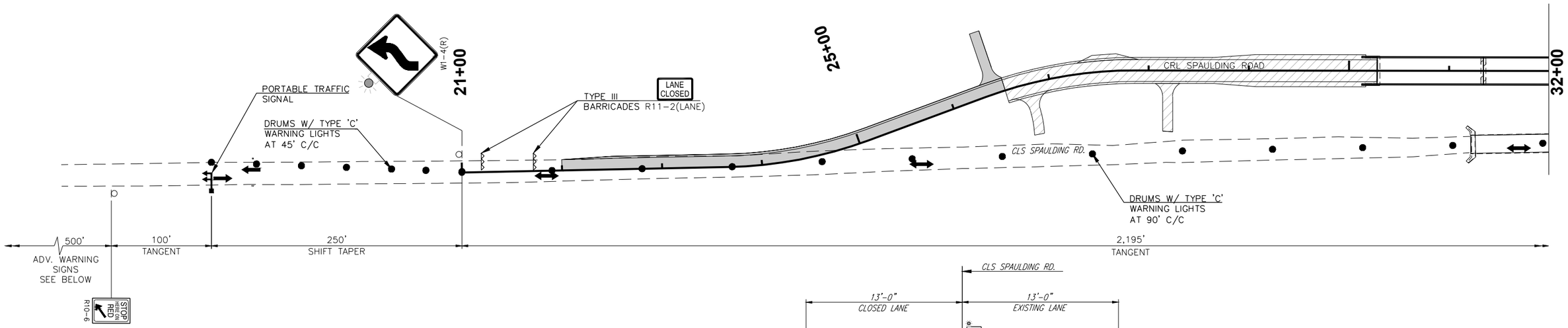
SIGN DETAILS

JOB PIECE NO. 34998(04) SHEET NO. T003

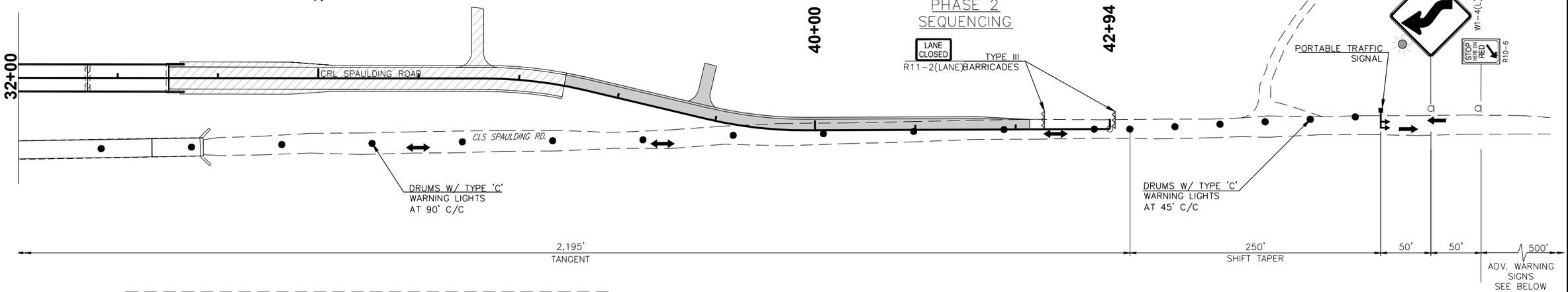
CEC // TRANSPORTATION

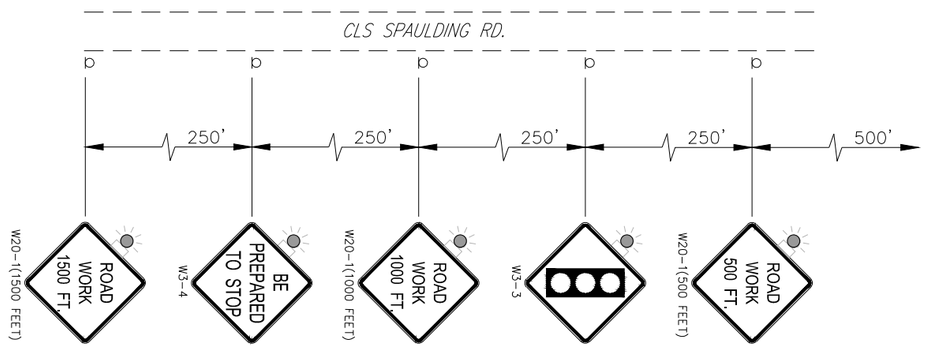
REVISIONS

DESCRIPTION	DATE



SPAULDING RD.
PHASE 2
SEQUENCING





ADVANCE WARNING – CLS SPAULDING RD.

NORTHBOUND SHOWN, SOUTHBOUND SIMILAR

CONSTRUCTION SEQUENCING

PHASE 1: CONSTRUCT BRIDGE, APPROACH ROADWAY, DRIVE AT STATION 36+58 LT. AND DRIVES AT STATIONS 26+79 RT. AND 28+19 RT. TO PHASE 1 TOC/TOS. INSTALL PORTABLE TRAFFIC SIGNALS AND TRANSITION TRAFFIC TO SINGLE LANE OPERATION ON THE EAST HALF OF THE EXISTING SPAULDING ROAD.

PHASE 2: INSTALL PORTABLE TRAFFIC SIGNALS AND TRANSITION TRAFFIC TO SINGLE LANE OPERATION ON THE EAST HALF OF THE EXISTING SPAULDING ROAD.
CONSTRUCT ROADWAY AND DRIVES FOR THE WEST HALF OF THE PROPOSED SPAULDING ROAD. MAINTAIN PORTABLE TRAFFIC SIGNALS AND TRAFFIC TO SINGLE LANE OPERATION ON THE EAST HALF OF THE EXISTING SPAULDING ROAD.

PHASE 3: CONSTRUCT ROADWAY, DRIVES FOR EASTERN HALF OF THE PROPOSED SPAULDING ROAD AND REMAINING PORTIONS OF DRIVES AT STATIONS 26+79 RT. AND 28+19 RT. SHIFT TRAFFIC TO SINGLE LANE OPERATION ON THE NEWLY CONSTRUCTED WEST HALF OF THE PROPOSED SPAULDING ROAD.

LEGEND

- PROPOSED TEMPORARY SIGN
- TRAFFIC FLOW
- DRUMS W/ TYPE 'C' WARNING LIGHTS
- PORTABLE TRAFFIC SIGNAL
- TYPE III BARRICADE
- PREVIOUS PHASE WORK AREA
- CURRENT PHASE WORK AREA

0 25 50 100

SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY

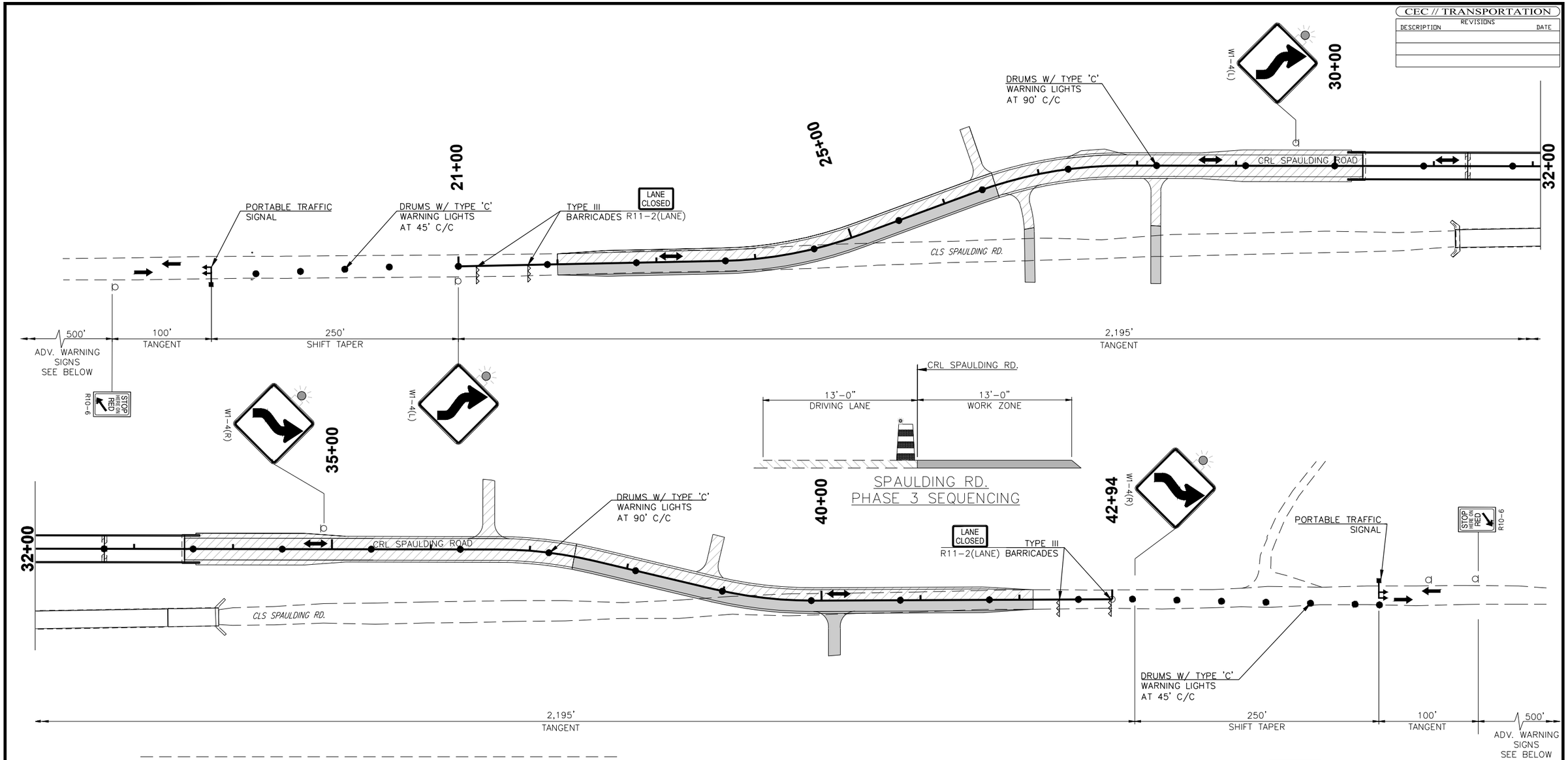
TRAFFIC CONTROL PLAN PHASE 1 & 2

JOB PIECE NO. 34998(04) SHEET NO. T004

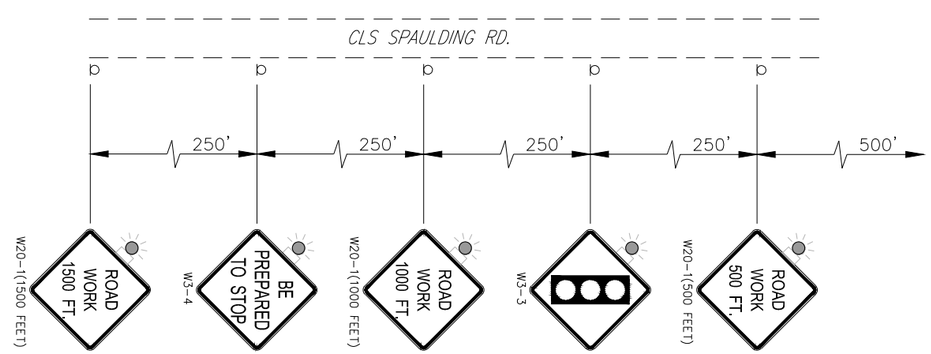
CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE



SPAULDING RD.
PHASE 3 SEQUENCING



ADVANCE WARNING – CLS SPAULDING RD.

NORTHBOUND SHOWN, SOUTHBOUND SIMILAR

CONSTRUCTION SEQUENCING

PHASE 1: CONSTRUCT BRIDGE, APPROACH ROADWAY, DRIVE AT STATION 36+58 LT. AND DRIVES AT STATIONS 26+79 RT. AND 28+19 RT. TO PHASE 1 TOC/TOS. INSTALL PORTABLE TRAFFIC SIGNALS AND TRANSITION TRAFFIC TO SINGLE LANE OPERATION ON THE EAST HALF OF THE EXISTING SPAULDING ROAD.

PHASE 2: INSTALL PORTABLE TRAFFIC SIGNALS AND TRANSITION TRAFFIC TO SINGLE LANE OPERATION ON THE EAST HALF OF THE EXISTING SPAULDING ROAD. CONSTRUCT ROADWAY AND DRIVES FOR THE WEST HALF OF THE PROPOSED SPAULDING ROAD. MAINTAIN PORTABLE TRAFFIC SIGNALS AND TRAFFIC TO SINGLE LANE OPERATION ON THE EAST HALF OF THE EXISTING SPAULDING ROAD.

PHASE 3: CONSTRUCT ROADWAY, DRIVES FOR EASTERN HALF OF THE PROPOSED SPAULDING ROAD AND REMAINING PORTIONS OF DRIVES AT STATIONS 26+79 RT. AND 28+19 RT. SHIFT TRAFFIC TO SINGLE LANE OPERATION ON THE NEWLY CONSTRUCTED WEST HALF OF THE PROPOSED SPAULDING ROAD.

LEGEND

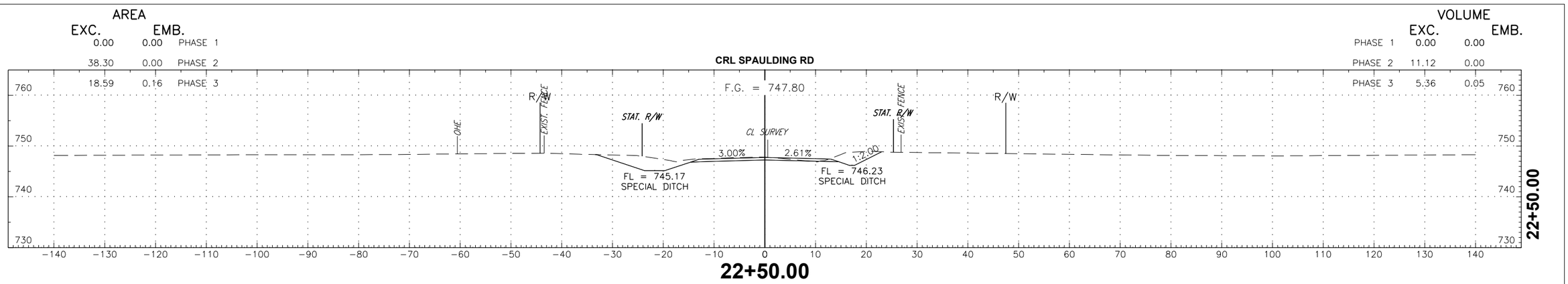
- PROPOSED TEMPORARY SIGN
- TRAFFIC FLOW
- DRUMS W/ TYPE 'C' WARNING LIGHTS
- PORTABLE TRAFFIC SIGNAL
- TYPE III BARRICADE
- PREVIOUS PHASE WORK AREA
- CURRENT PHASE WORK AREA

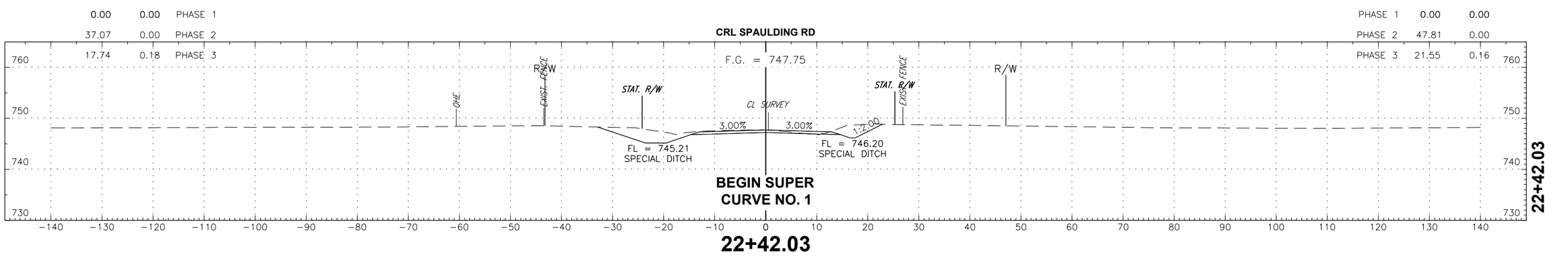
0 25 50 100

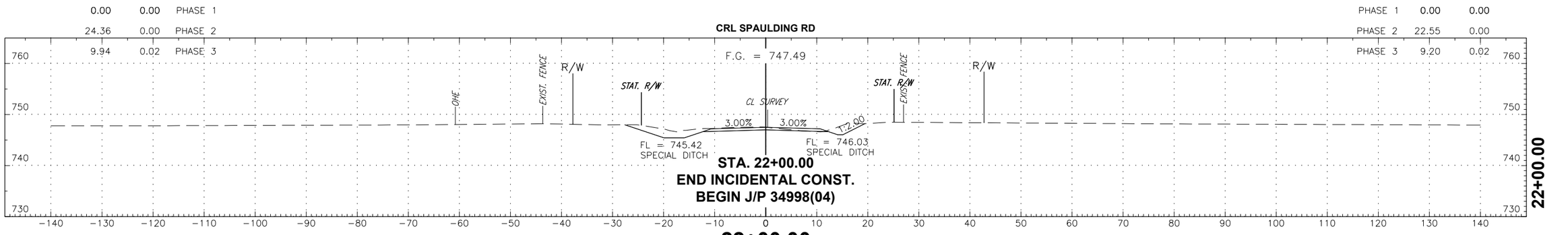
SPAULDING RD OVER LITTLE RIVER HUGHES COUNTY

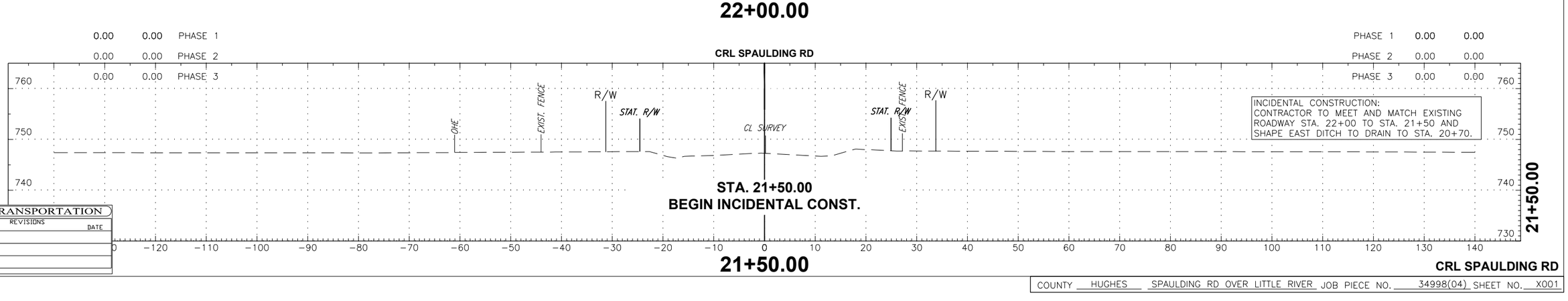
TRAFFIC CONTROL PLAN PHASE 3

JOB PIECE NO. 34998(04) SHEET NO. T005









CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X001

AREA

EXC. EMB.

0.00 0.00 PHASE 1

64.77 0.00 PHASE 2

15.68 2.55 PHASE 3

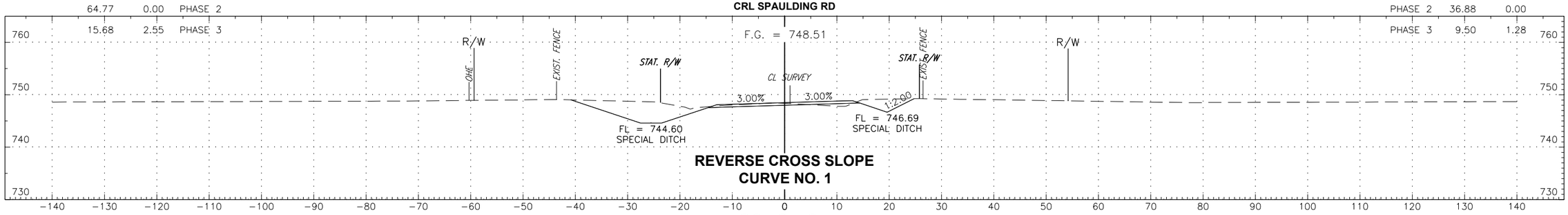
VOLUME

EXC. EMB.

PHASE 1 0.00 0.00

PHASE 2 36.88 0.00

PHASE 3 9.50 1.28



REVERSE CROSS SLOPE
CURVE NO. 1

23+65.85

23+65.85

0.00 0.00 PHASE 1

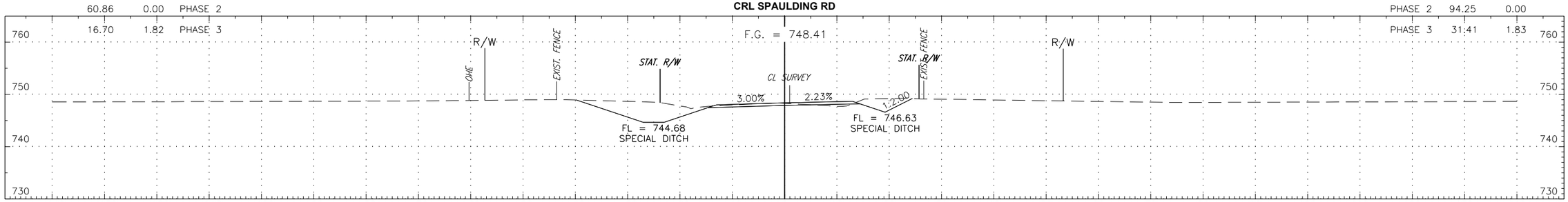
60.86 0.00 PHASE 2

16.70 1.82 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 94.25 0.00

PHASE 3 31.41 1.83



23+50.00

0.00 0.00 PHASE 1

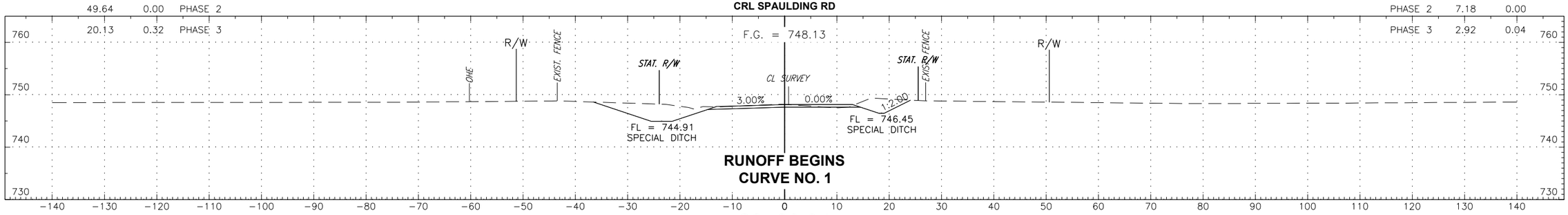
49.64 0.00 PHASE 2

20.13 0.32 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 7.18 0.00

PHASE 3 2.92 0.04



RUNOFF BEGINS
CURVE NO. 1

23+03.94

23+03.94

0.00 0.00 PHASE 1

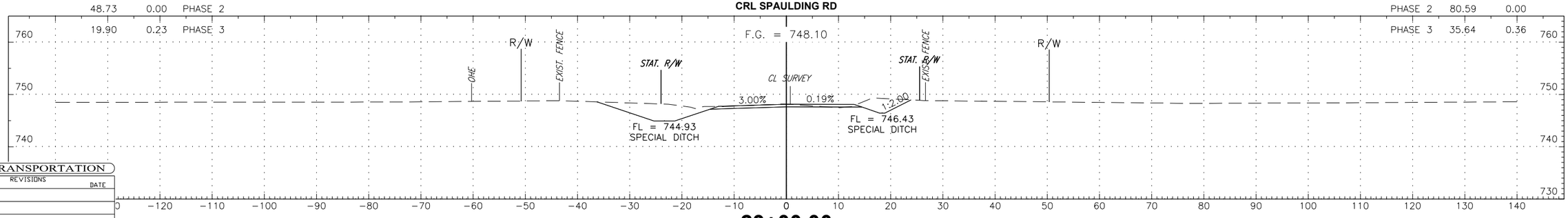
48.73 0.00 PHASE 2

19.90 0.23 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 80.59 0.00

PHASE 3 35.64 0.36



23+00.00

23+00.00

CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X002

AREA

EXC. EMB.

0.00 0.00 PHASE 1

103.30 2.64 PHASE 2

12.85 7.21 PHASE 3

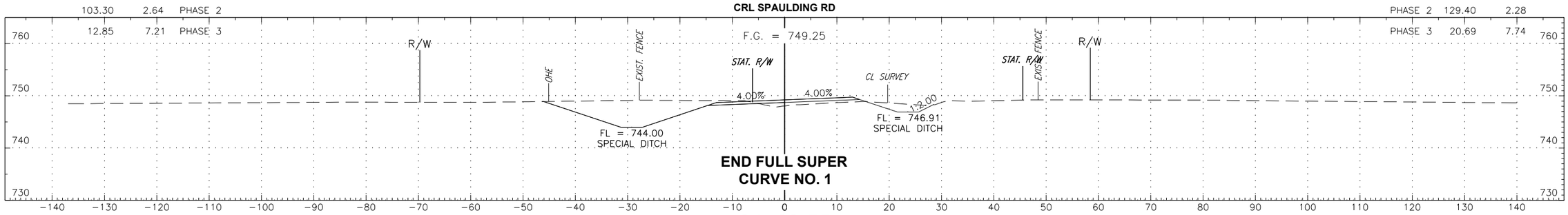
VOLUME

EXC. EMB.

PHASE 1 0.00 0.00

PHASE 2 129.40 2.28

PHASE 3 20.69 7.74



24+88.55

24+88.55

0.00 0.00 PHASE 1

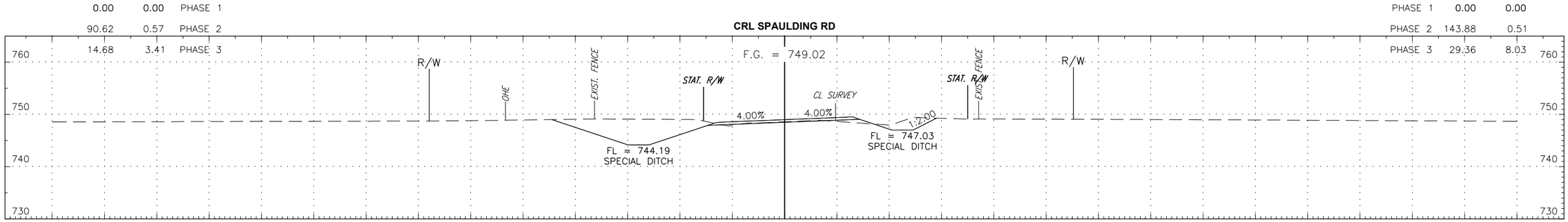
90.62 0.57 PHASE 2

14.68 3.41 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 143.88 0.51

PHASE 3 29.36 8.03



24+50.00

24+50.00

0.00 0.00 PHASE 1

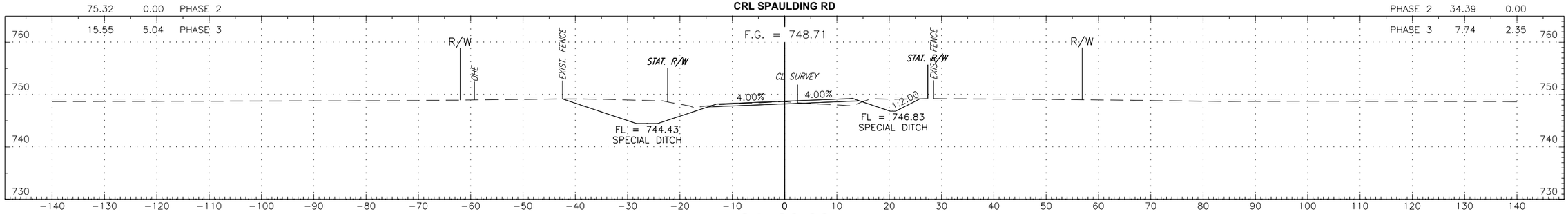
75.32 0.00 PHASE 2

15.55 5.04 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 34.39 0.00

PHASE 3 7.74 2.35



24+00.00

24+00.00

0.00 0.00 PHASE 1

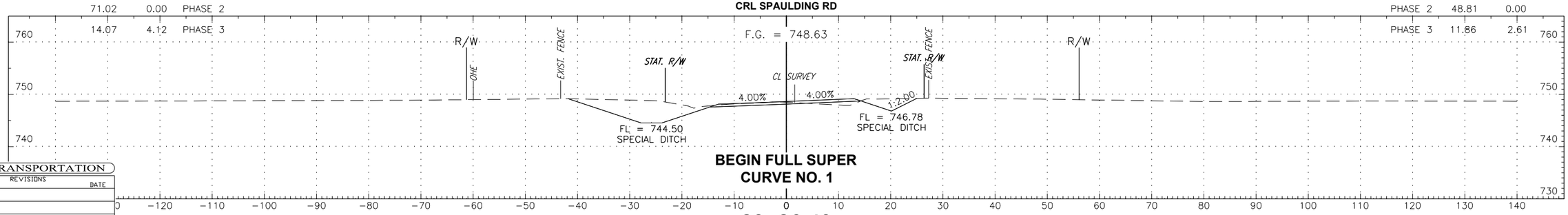
71.02 0.00 PHASE 2

14.07 4.12 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 48.81 0.00

PHASE 3 11.86 2.61



23+86.49

23+86.49

CRL SPAULDING RD

CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X003

AREA

EXC. EMB.

0.00 0.00 PHASE 1

106.55 2.57 PHASE 2

78.41 2.91 PHASE 3

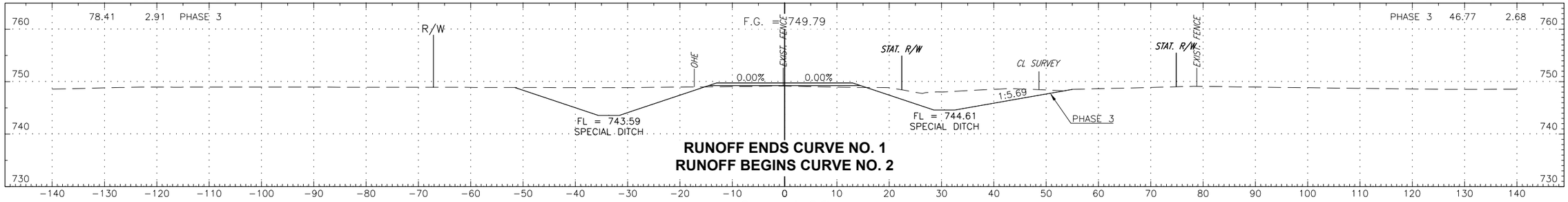
VOLUME

EXC. EMB.

PHASE 1 0.00 0.00

PHASE 2 85.32 1.05

PHASE 3 46.77 2.68



RUNOFF ENDS CURVE NO. 1
RUNOFF BEGINS CURVE NO. 2

25+71.62

25+71.62

0.00 0.00 PHASE 1

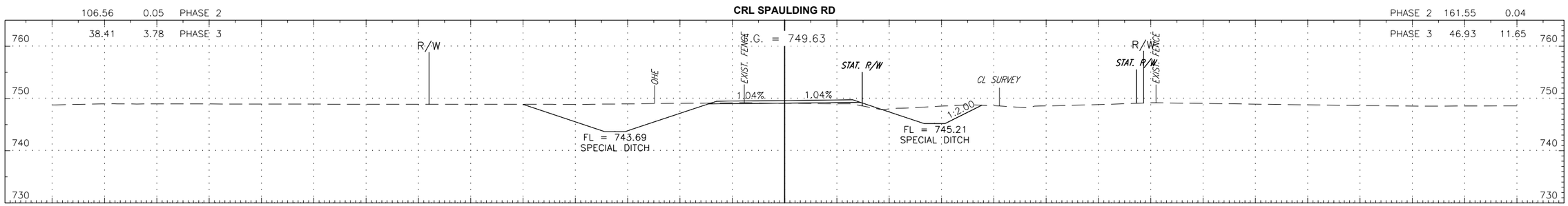
106.56 0.05 PHASE 2

38.41 3.78 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 161.55 0.04

PHASE 3 46.93 11.65



25+50.00

0.00 0.00 PHASE 1

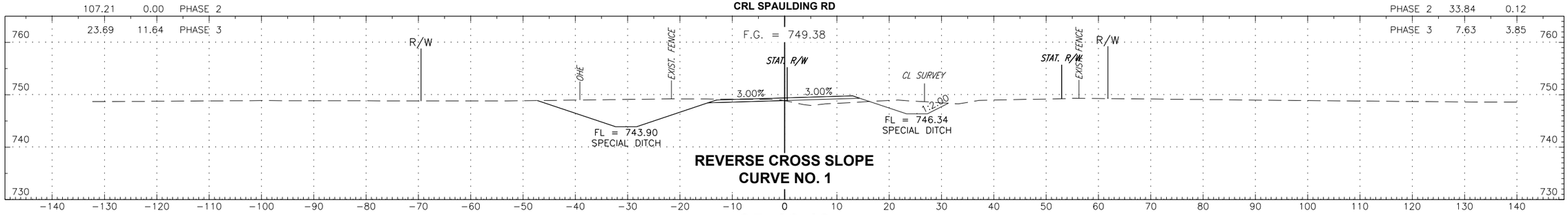
107.21 0.00 PHASE 2

23.69 11.64 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 33.84 0.12

PHASE 3 7.63 3.85



REVERSE CROSS SLOPE
CURVE NO. 1

25+09.19

25+09.19

0.00 0.00 PHASE 1

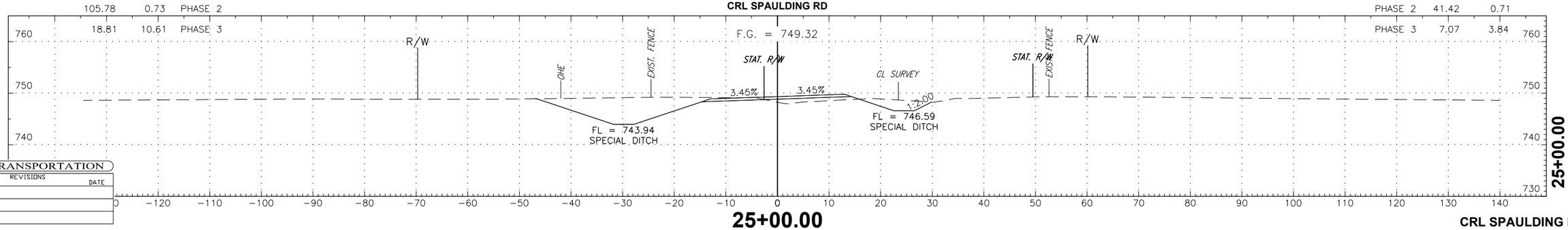
105.78 0.73 PHASE 2

18.81 10.61 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 41.42 0.71

PHASE 3 7.07 3.84



25+00.00

25+00.00

CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X004

AREA

EXC. EMB.

218.51 41.91 PHASE 1

117.49 28.10 PHASE 2

82.52 0.00 PHASE 3

VOLUME

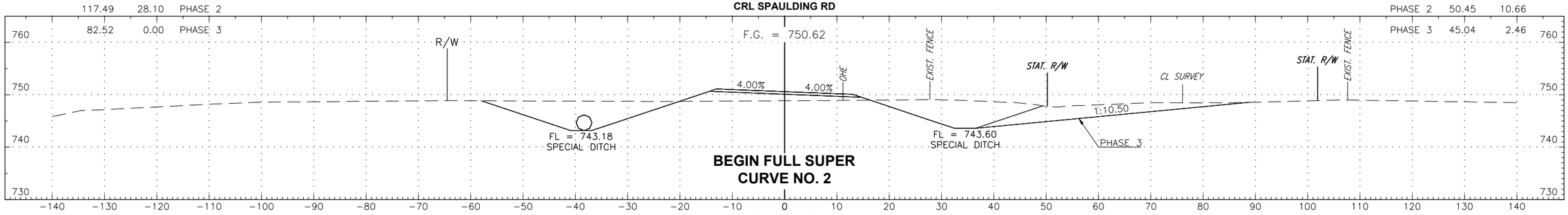
EXC. EMB.

PHASE 1 43.81 8.38

PHASE 2 50.45 10.66

PHASE 3 45.04 2.46

CRL SPAULDING RD



BEGIN FULL SUPER
CURVE NO. 2

26+54.69

26+54.69

0.00 0.00 PHASE 1

116.36 24.63 PHASE 2

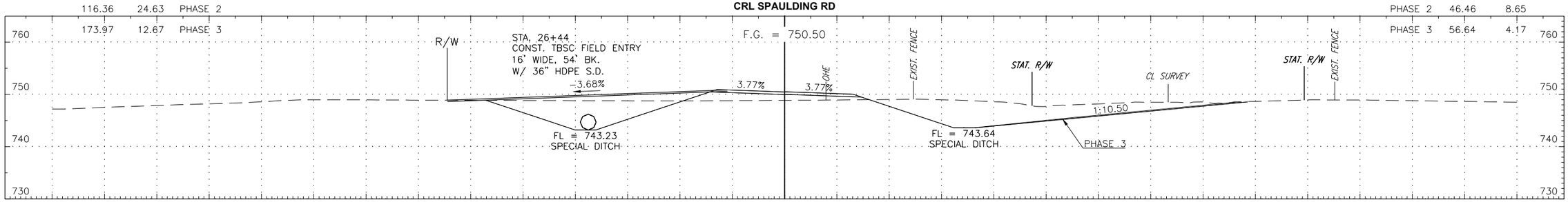
173.97 12.67 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 46.46 8.65

PHASE 3 56.64 4.17

CRL SPAULDING RD



26+44.00

26+44.00

0.00 0.00 PHASE 1

115.35 21.34 PHASE 2

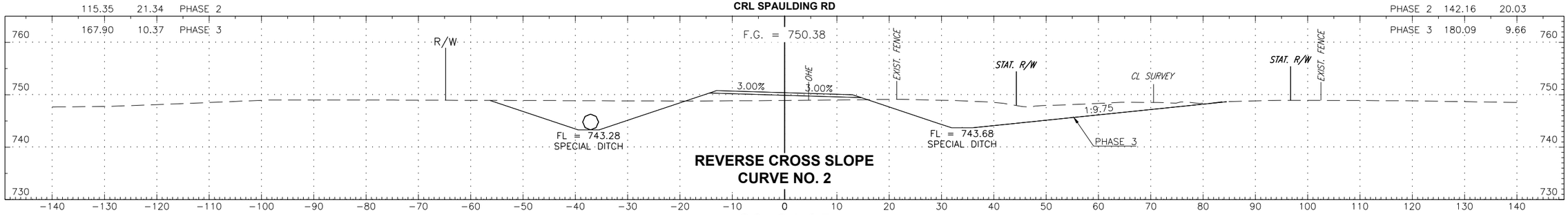
167.90 10.37 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 142.16 20.03

PHASE 3 180.09 9.66

CRL SPAULDING RD



REVERSE CROSS SLOPE
CURVE NO. 2

26+34.05

26+34.05

0.00 0.00 PHASE 1

110.11 10.42 PHASE 2

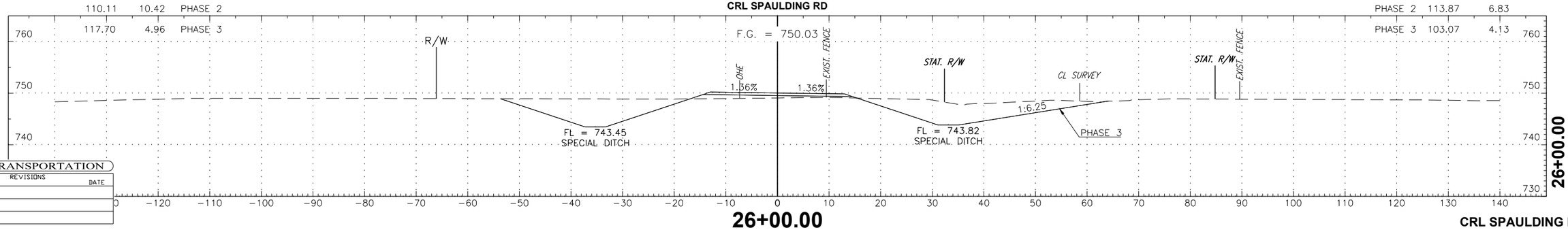
117.70 4.96 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 113.87 6.83

PHASE 3 103.07 4.13

CRL SPAULDING RD



26+00.00

26+00.00

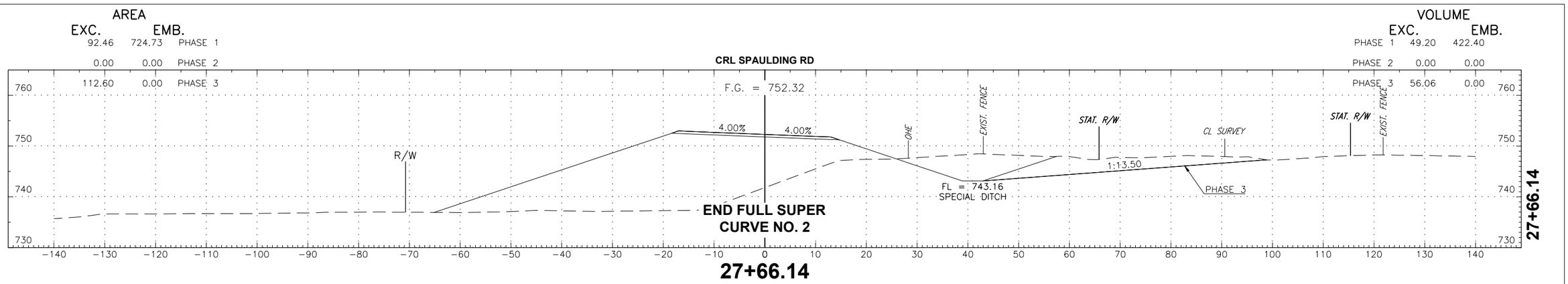
CEC // TRANSPORTATION

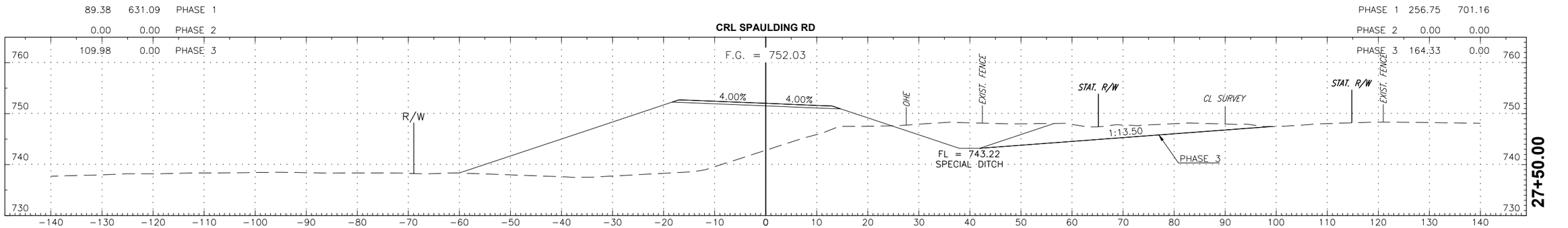
REVISIONS

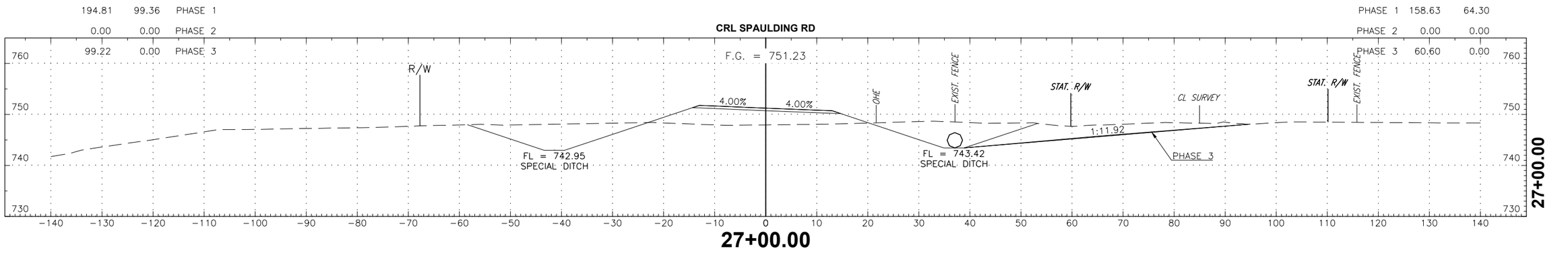
DESCRIPTION	DATE

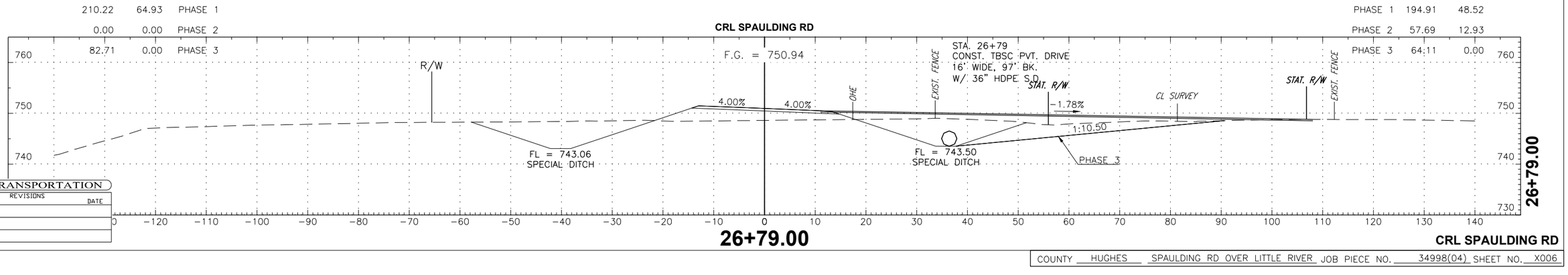
CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X005









CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X006

AREA

EXC. EMB.

80.96 316.68 PHASE 1

0.00 0.00 PHASE 2

135.86 0.00 PHASE 3

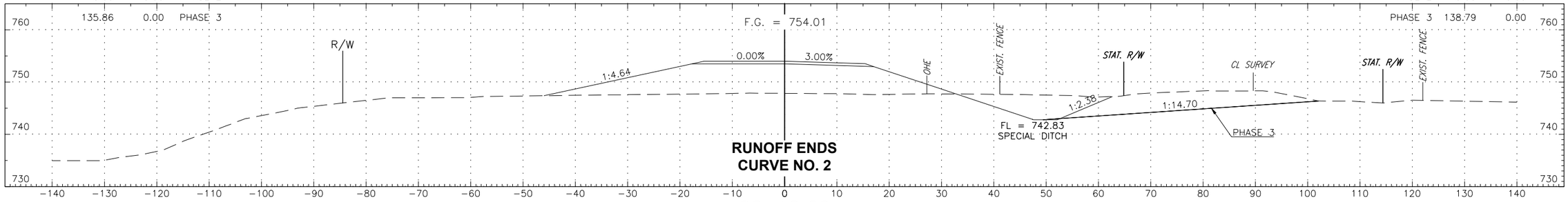
VOLUME

EXC. EMB.

PHASE 1 91.49 289.82

PHASE 2 0.00 0.00

PHASE 3 138.79 0.00



28+48.69

28+48.69

85.44 210.44 PHASE 1

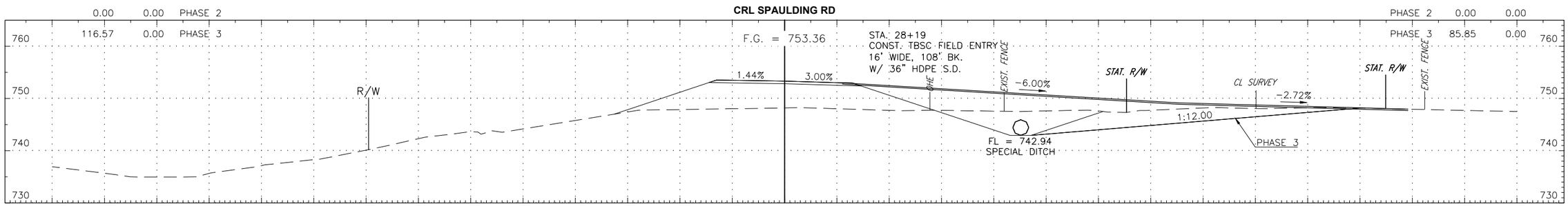
0.00 0.00 PHASE 2

116.57 0.00 PHASE 3

PHASE 1 58.49 247.10

PHASE 2 0.00 0.00

PHASE 3 85.85 0.00



28+19.00

28+19.00

80.79 491.83 PHASE 1

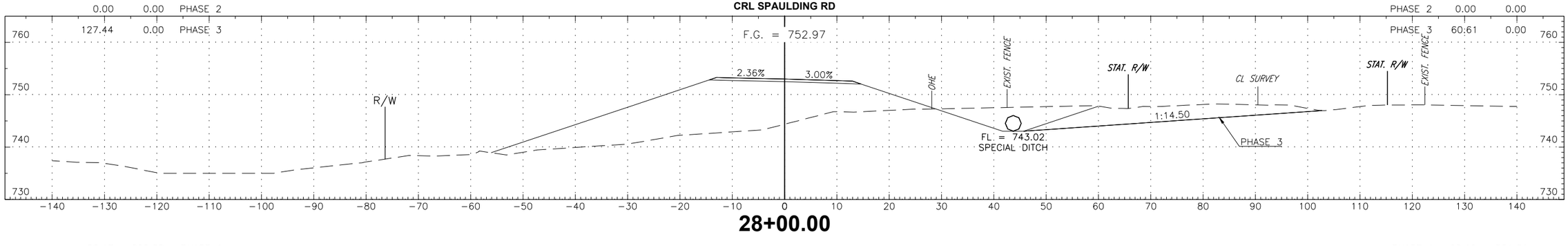
0.00 0.00 PHASE 2

127.44 0.00 PHASE 3

PHASE 1 39.90 282.57

PHASE 2 0.00 0.00

PHASE 3 60.61 0.00



28+00.00

28+00.00

82.17 662.38 PHASE 1

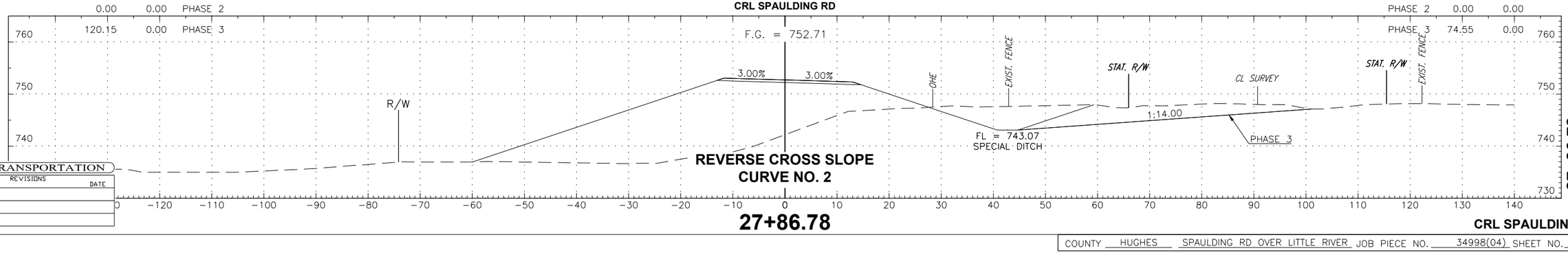
0.00 0.00 PHASE 2

120.15 0.00 PHASE 3

PHASE 1 60.19 551.31

PHASE 2 0.00 0.00

PHASE 3 74.55 0.00



27+86.78

27+86.78

CEC // TRANSPORTATION

REVISIONS

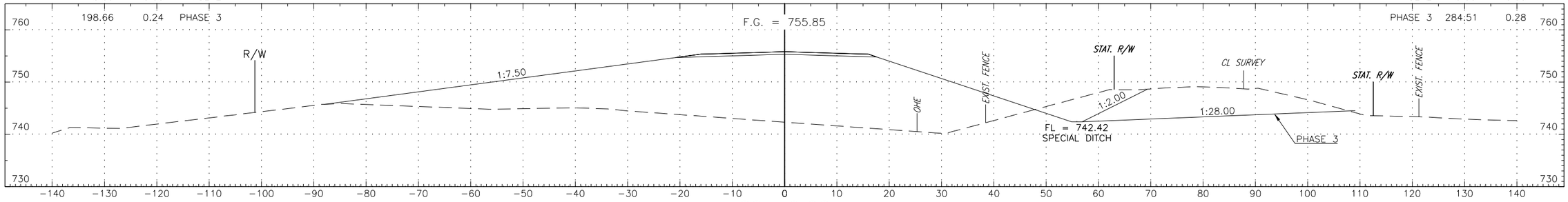
DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X007

AREA
EXC. EMB.
57.97 1078.23 PHASE 1
0.00 0.00 PHASE 2
198.66 0.24 PHASE 3

VOLUME
EXC. EMB.
PHASE 1 72.62 1285.08
PHASE 2 0.00 0.00
PHASE 3 284.51 0.28

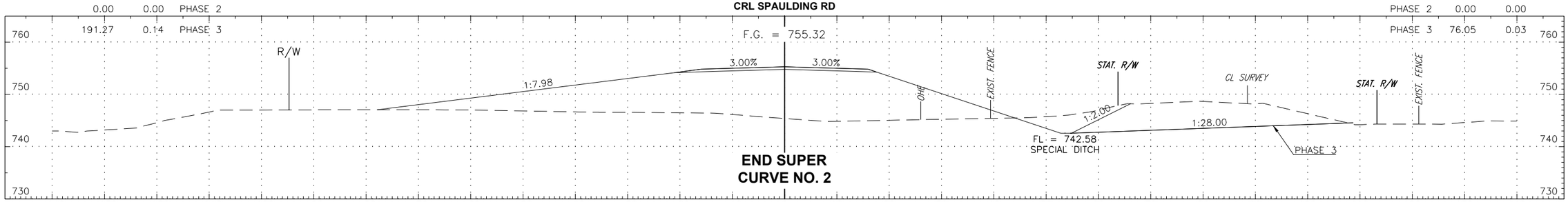


29+50.00

29+50.00

41.56 683.04 PHASE 1
0.00 0.00 PHASE 2
191.27 0.14 PHASE 3

PHASE 1 18.17 248.44
PHASE 2 0.00 0.00
PHASE 3 76.05 0.03



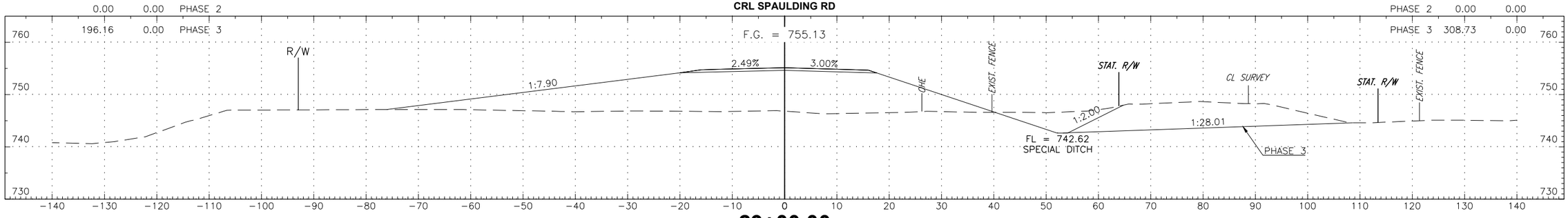
END SUPER
CURVE NO. 2

29+10.60

29+10.60

50.98 582.58 PHASE 1
0.00 0.00 PHASE 2
196.16 0.00 PHASE 3

PHASE 1 121.13 836.08
PHASE 2 0.00 0.00
PHASE 3 308.73 0.00

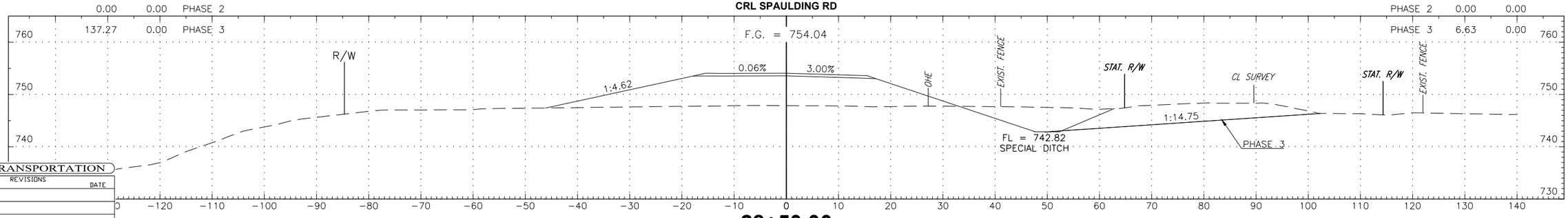


29+00.00

29+00.00

79.83 320.39 PHASE 1
0.00 0.00 PHASE 2
137.27 0.00 PHASE 3

PHASE 1 3.90 15.45
PHASE 2 0.00 0.00
PHASE 3 6.63 0.00



28+50.00

CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X008

AREA

EXC. EMB.

74.06 0.00 PHASE 1

0.00 0.00 PHASE 2

0.00 0.00 PHASE 3

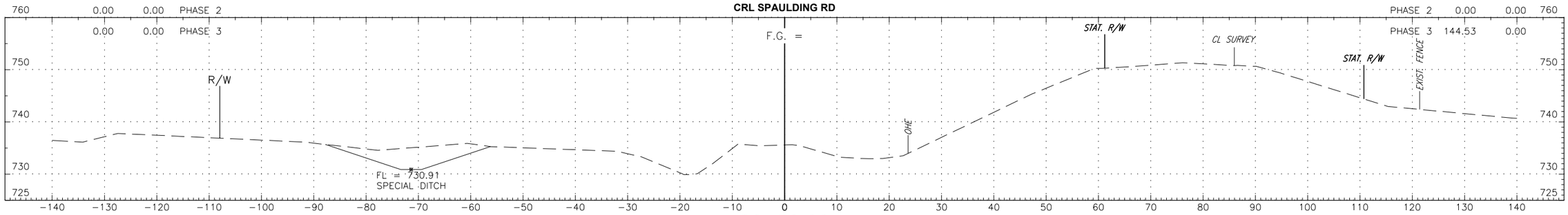
VOLUME

EXC. EMB.

PHASE 1 30.96 554.77

PHASE 2 0.00 0.00

PHASE 3 144.53 0.00



30+50.00

30+50.00

2.52 1372.32 PHASE 1

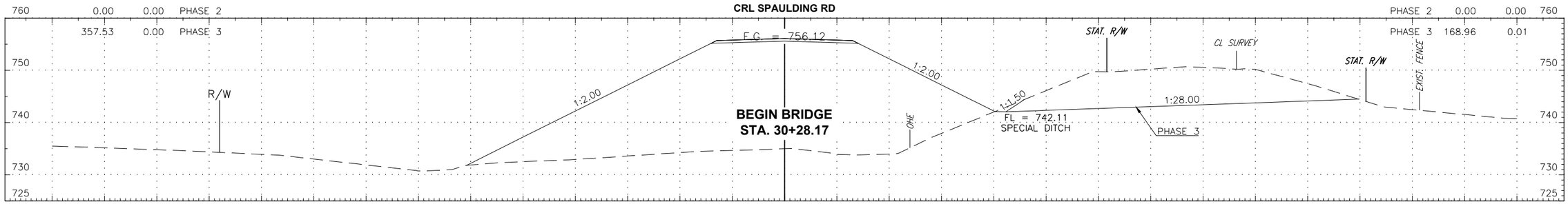
0.00 0.00 PHASE 2

357.53 0.00 PHASE 3

PHASE 1 23.61 908.83

PHASE 2 0.00 0.00

PHASE 3 168.96 0.01



30+28.17

30+28.17

80.60 1826.97 PHASE 1

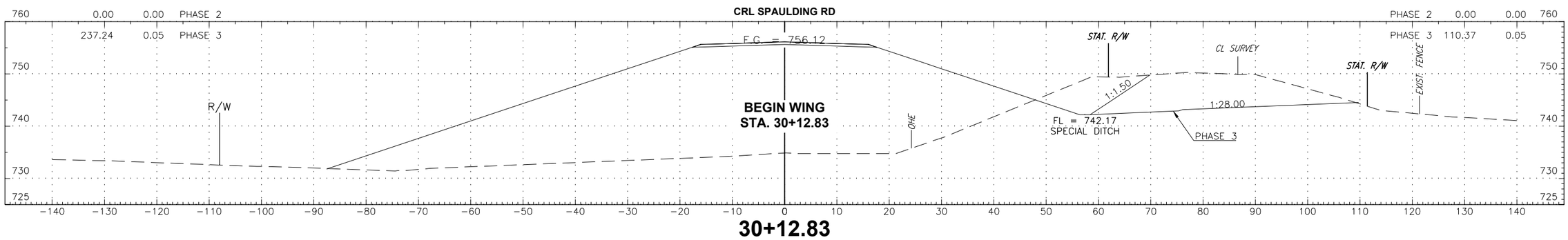
0.00 0.00 PHASE 2

237.24 0.05 PHASE 3

PHASE 1 36.47 817.52

PHASE 2 0.00 0.00

PHASE 3 110.37 0.05



30+12.83

30+12.83

72.92 1613.89 PHASE 1

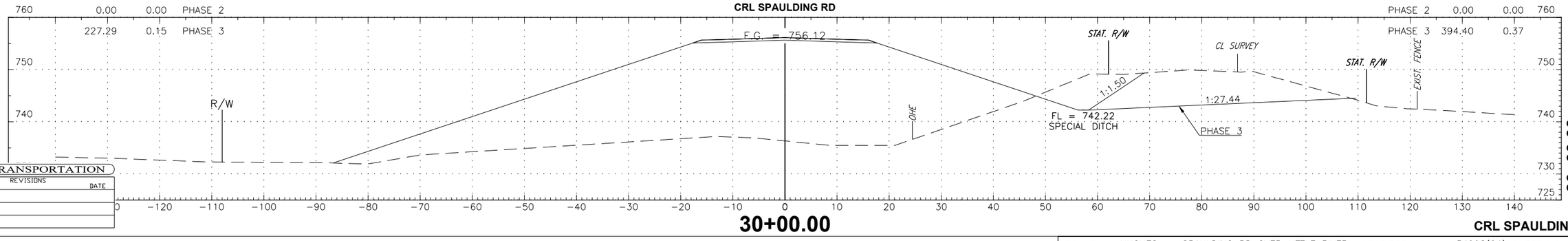
0.00 0.00 PHASE 2

227.29 0.15 PHASE 3

PHASE 1 121.20 2492.70

PHASE 2 0.00 0.00

PHASE 3 394.40 0.37



30+00.00

30+00.00

CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X009

AREA

EXC. EMB.

30.22 1352.67 PHASE 1

0.00 0.00 PHASE 2

295.64 0.00 PHASE 3

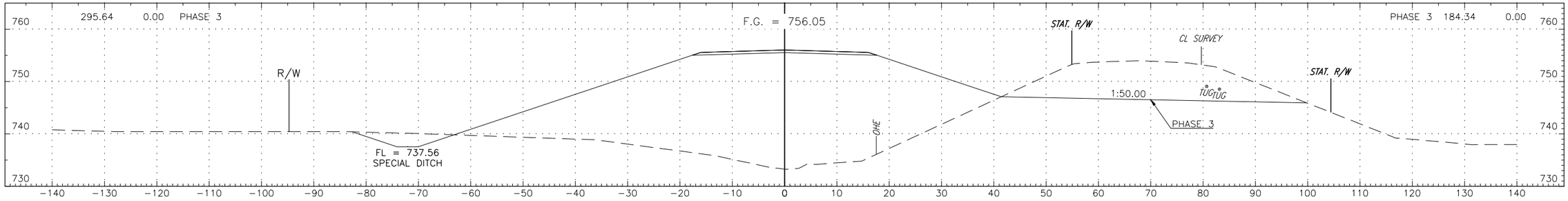
VOLUME

EXC. EMB.

PHASE 1 61.01 1718.80

PHASE 2 0.00 0.00

PHASE 3 184.34 0.00



34+00.00

34+00.00

67.62 1403.95 PHASE 1

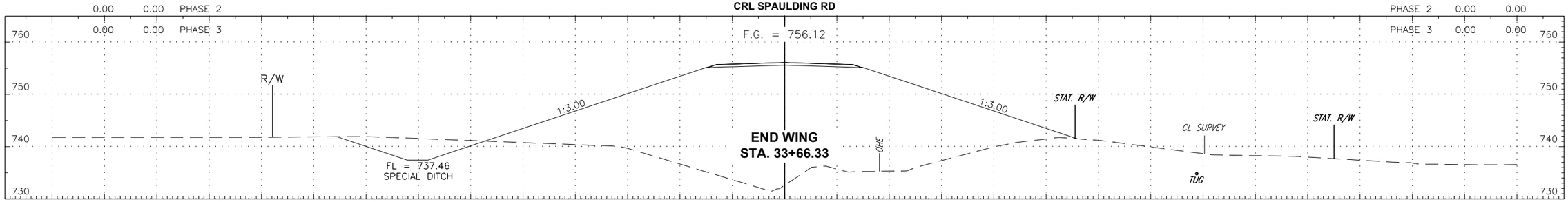
0.00 0.00 PHASE 2

0.00 0.00 PHASE 3

PHASE 1 58.58 734.50

PHASE 2 0.00 0.00

PHASE 3 0.00 0.00



33+66.33

33+66.33

138.71 1183.34 PHASE 1

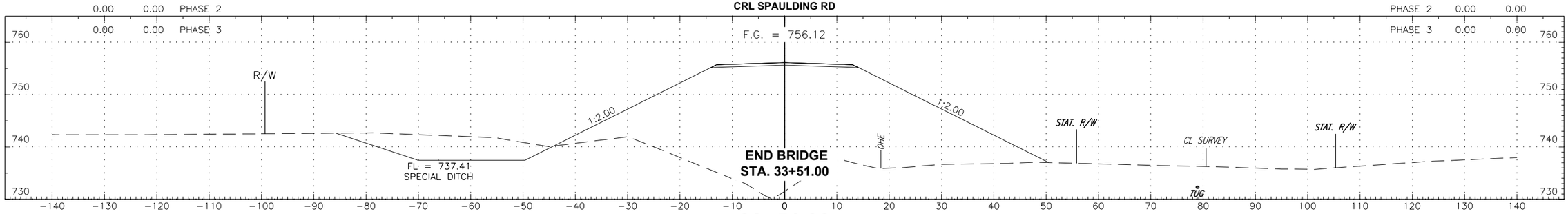
0.00 0.00 PHASE 2

0.00 0.00 PHASE 3

PHASE 1 131.01 1117.60

PHASE 2 0.00 0.00

PHASE 3 0.00 0.00



33+51.00

33+51.00

0.00 0.00 PHASE 1

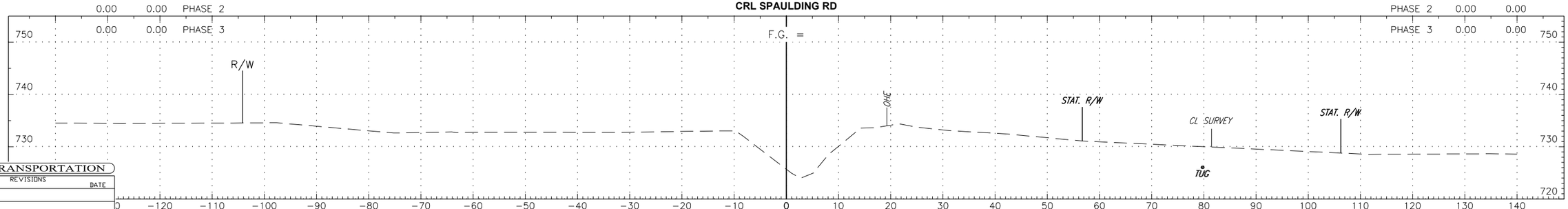
0.00 0.00 PHASE 2

0.00 0.00 PHASE 3

PHASE 1 342.88 0.00

PHASE 2 0.00 0.00

PHASE 3 0.00 0.00



33+00.00

33+00.00

CEC // TRANSPORTATION

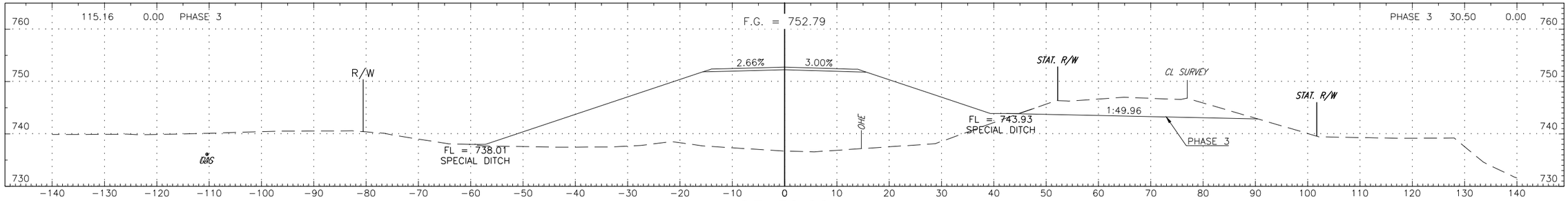
REVISIONS	
DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X010

AREA
EXC. EMB.
0.00 991.21 PHASE 1
0.00 0.00 PHASE 2
115.16 0.00 PHASE 3

VOLUME
EXC. EMB.
PHASE 1 0.08 260.56
PHASE 2 0.00 0.00
PHASE 3 30.50 0.00

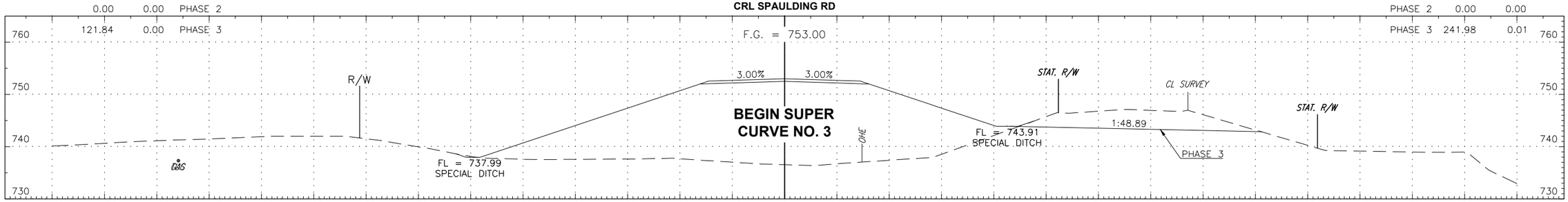


35+50.00

35+50.00

0.61 1033.30 PHASE 1
0.00 0.00 PHASE 2
121.84 0.00 PHASE 3

PHASE 1 36.27 1760.39
PHASE 2 0.00 0.00
PHASE 3 241.98 0.01

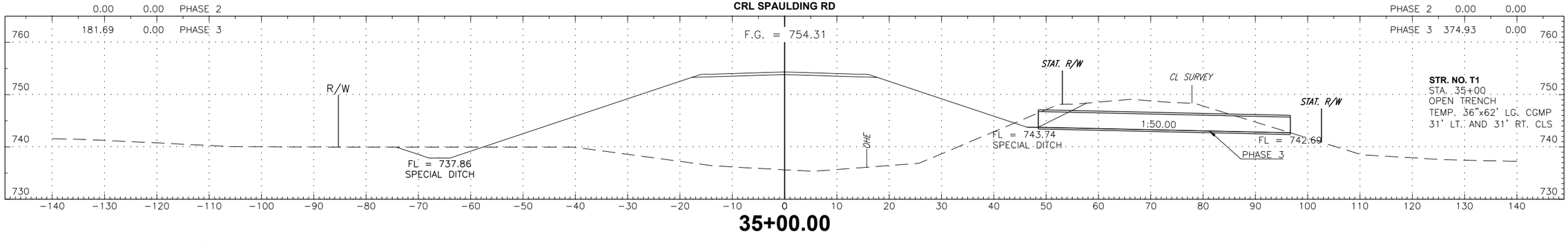


35+43.05

35+43.05

44.89 1174.86 PHASE 1
0.00 0.00 PHASE 2
181.69 0.00 PHASE 3

PHASE 1 46.63 2342.57
PHASE 2 0.00 0.00
PHASE 3 374.93 0.00

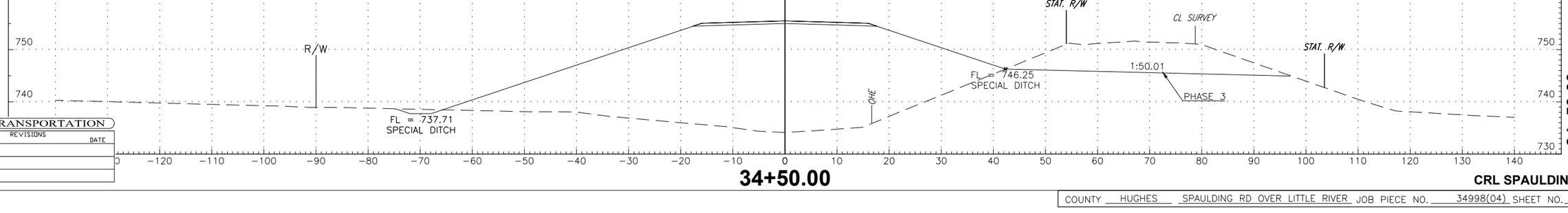


35+00.00

35+00.00

5.47 1355.11 PHASE 1
0.00 0.00 PHASE 2
223.23 0.00 PHASE 3

PHASE 1 33.04 2507.20
PHASE 2 0.00 0.00
PHASE 3 480.44 0.00



34+50.00

34+50.00

CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X011

AREA

EXC. EMB.

72.47 465.21 PHASE 1

0.00 0.00 PHASE 2

79.05 0.00 PHASE 3

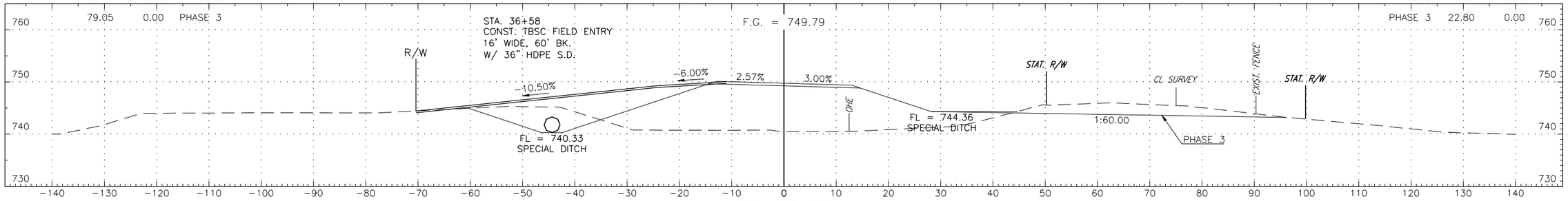
VOLUME

EXC. EMB.

PHASE 1 22.77 143.27

PHASE 2 0.00 0.00

PHASE 3 22.80 0.00



36+58.00

81.25 501.84 PHASE 1

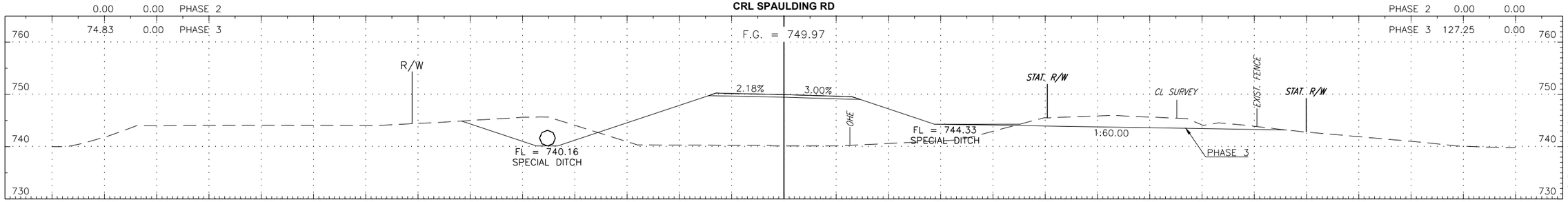
0.00 0.00 PHASE 2

74.83 0.00 PHASE 3

PHASE 1 69.88 992.63

PHASE 2 0.00 0.00

PHASE 3 127.25 0.00



36+50.00

2.53 688.25 PHASE 1

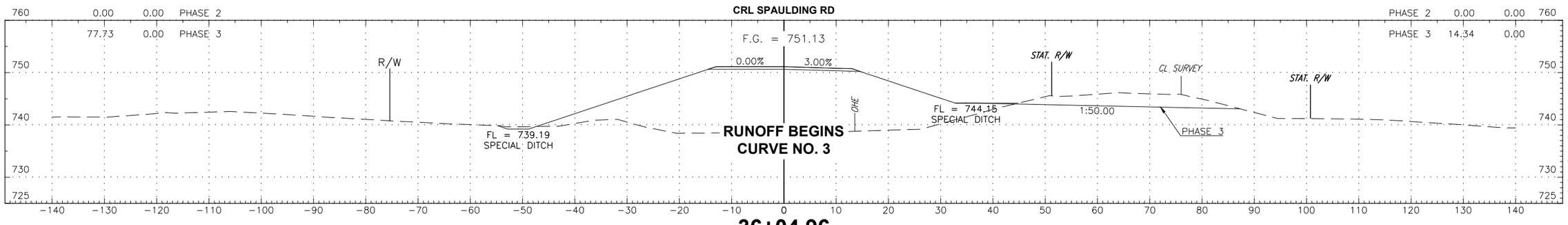
0.00 0.00 PHASE 2

77.73 0.00 PHASE 3

PHASE 1 0.27 128.81

PHASE 2 0.00 0.00

PHASE 3 14.34 0.00



36+04.96

0.41 714.10 PHASE 1

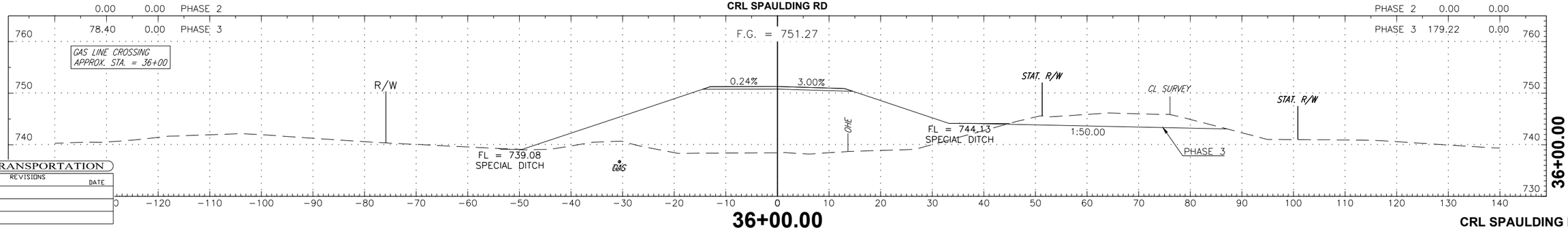
0.00 0.00 PHASE 2

78.40 0.00 PHASE 3

PHASE 1 0.38 1578.99

PHASE 2 0.00 0.00

PHASE 3 179.22 0.00



36+00.00

CRL SPAULDING RD

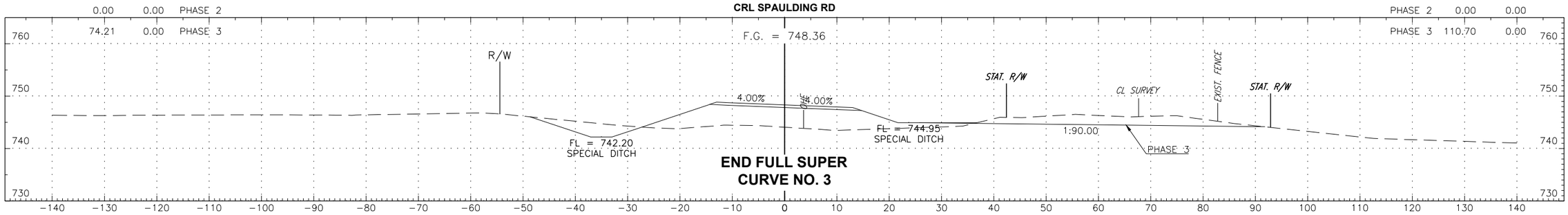
CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X012

AREA
EXC. EMB.
32.70 168.64 PHASE 1
0.00 0.00 PHASE 2
74.21 0.00 PHASE 3

VOLUME
EXC. EMB.
PHASE 1 57.71 385.14
PHASE 2 0.00 0.00
PHASE 3 110.70 0.00



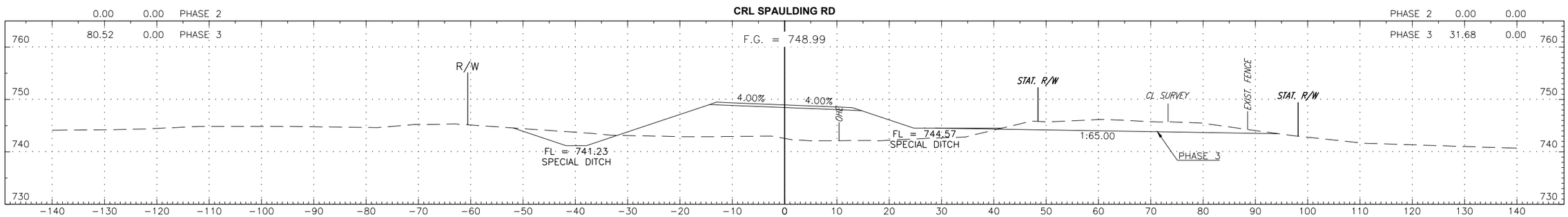
END FULL SUPER CURVE NO. 3

37+45.39

37+45.39

30.23 290.76 PHASE 1
0.00 0.00 PHASE 2
80.52 0.00 PHASE 3

PHASE 1 15.84 143.10
PHASE 2 0.00 0.00
PHASE 3 31.68 0.00

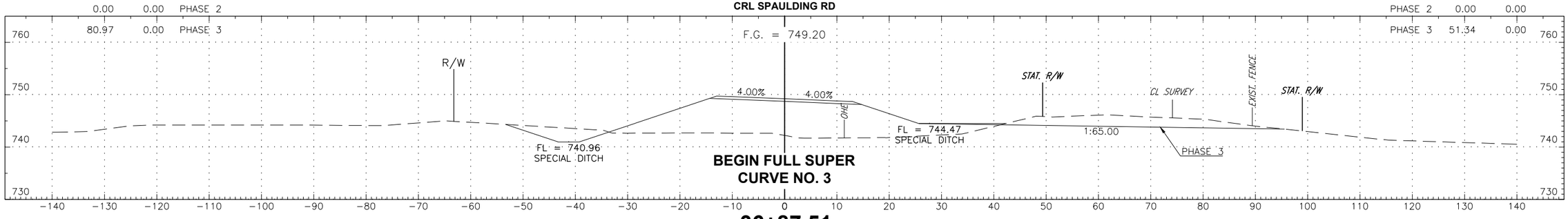


37+00.00

37+00.00

32.15 330.01 PHASE 1
0.00 0.00 PHASE 2
80.97 0.00 PHASE 3

PHASE 1 39.53 287.93
PHASE 2 0.00 0.00
PHASE 3 51.34 0.00



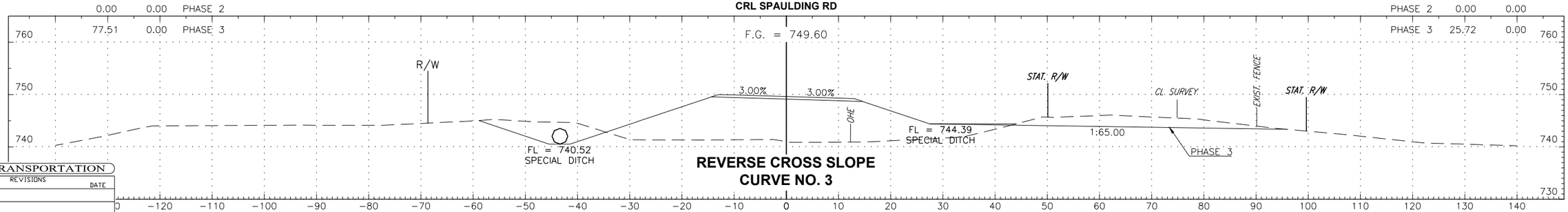
BEGIN FULL SUPER CURVE NO. 3

36+87.51

36+87.51

61.55 425.17 PHASE 1
0.00 0.00 PHASE 2
77.51 0.00 PHASE 3

PHASE 1 22.01 146.25
PHASE 2 0.00 0.00
PHASE 3 25.72 0.00



REVERSE CROSS SLOPE CURVE NO. 3

36+66.87

36+66.87

CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X013

AREA

EXC. EMB.

0.00 0.00 PHASE 1

28.15 20.45 PHASE 2

59.06 18.13 PHASE 3

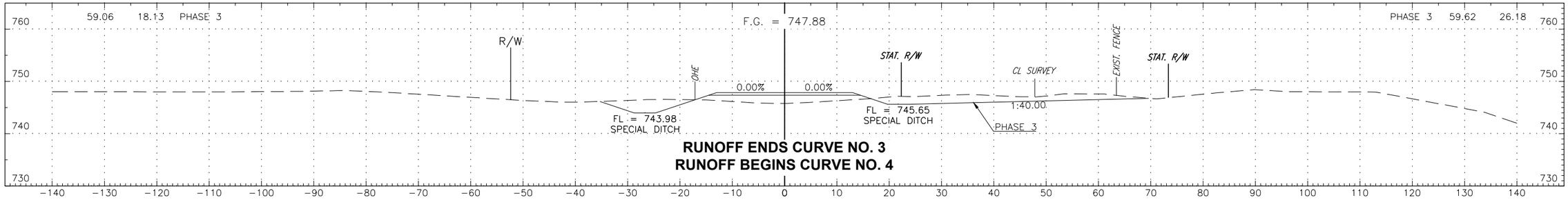
VOLUME

EXC. EMB.

PHASE 1 0.00 0.00

PHASE 2 27.26 28.61

PHASE 3 59.62 26.18



RUNOFF ENDS CURVE NO. 3

RUNOFF BEGINS CURVE NO. 4

38+28.37

38+28.37

0.00 0.00 PHASE 1

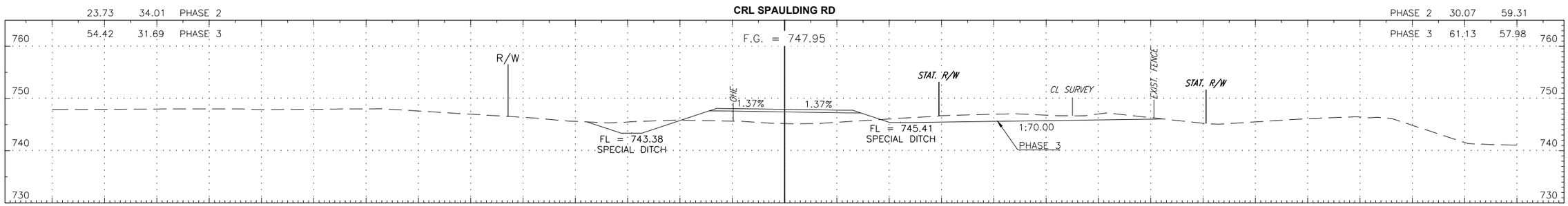
23.73 34.01 PHASE 2

54.42 31.69 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 30.07 59.31

PHASE 3 61.13 57.98



38+00.00

38+00.00

0.00 0.00 PHASE 1

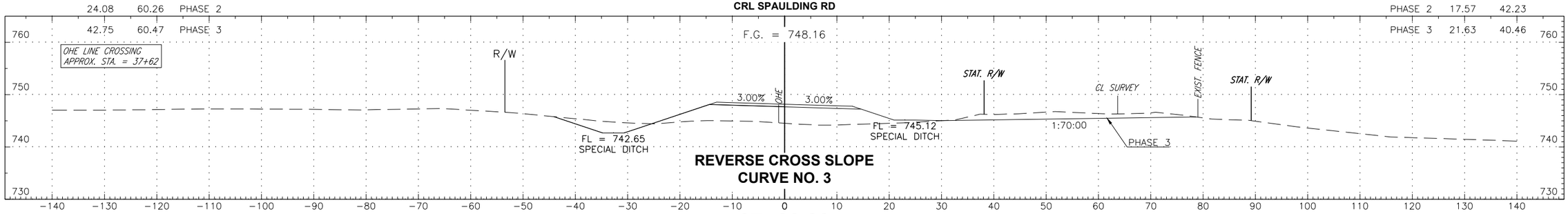
24.08 60.26 PHASE 2

42.75 60.47 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 17.57 42.23

PHASE 3 21.63 40.46



REVERSE CROSS SLOPE
CURVE NO. 3

37+66.03

37+66.03

0.00 0.00 PHASE 1

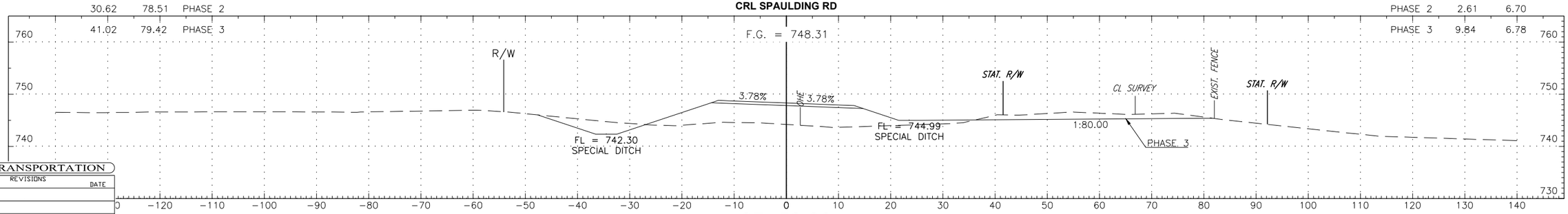
30.62 78.51 PHASE 2

41.02 79.42 PHASE 3

PHASE 1 2.79 14.40

PHASE 2 2.61 6.70

PHASE 3 9.84 6.78



37+50.00

37+50.00

CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X014

AREA

EXC. EMB.

0.00 0.00 PHASE 1

21.09 0.00 PHASE 2

30.34 0.00 PHASE 3

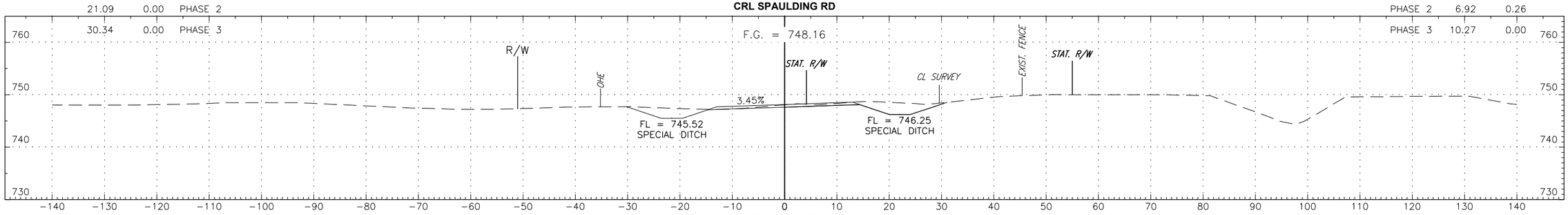
VOLUME

EXC. EMB.

PHASE 1 0.00 0.00

PHASE 2 6.92 0.26

PHASE 3 10.27 0.00



39+00.00

39+00.00

0.00 0.00 PHASE 1

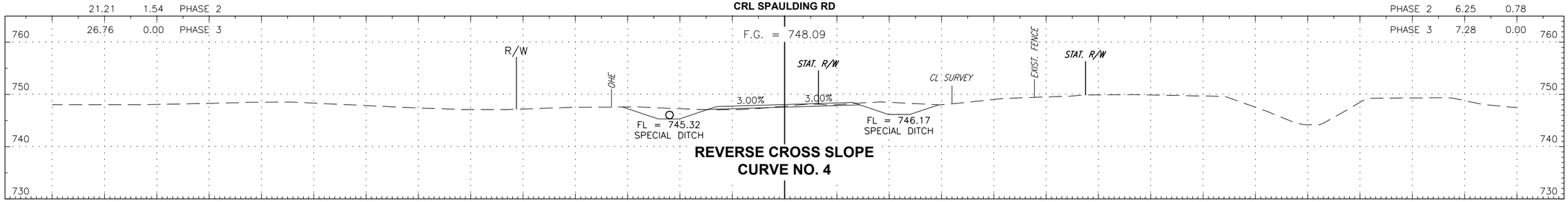
21.21 1.54 PHASE 2

26.76 0.00 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 6.25 0.78

PHASE 3 7.28 0.00



REVERSE CROSS SLOPE
CURVE NO. 4

38+90.70

38+90.70

0.00 0.00 PHASE 1

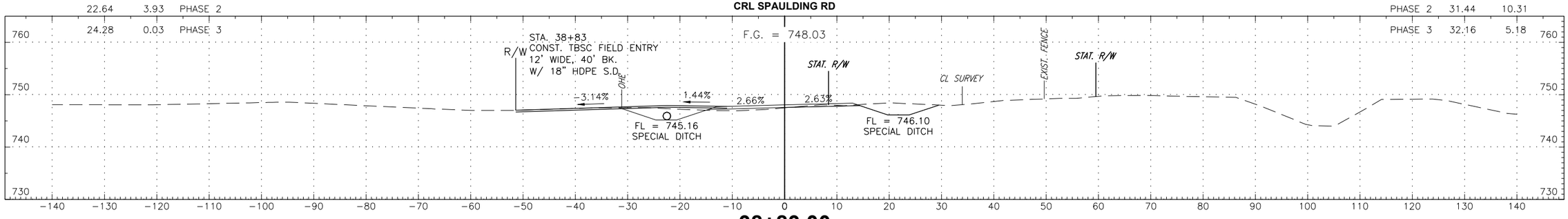
22.64 3.93 PHASE 2

24.28 0.03 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 31.44 10.31

PHASE 3 32.16 5.18



38+83.00

38+83.00

0.00 0.00 PHASE 1

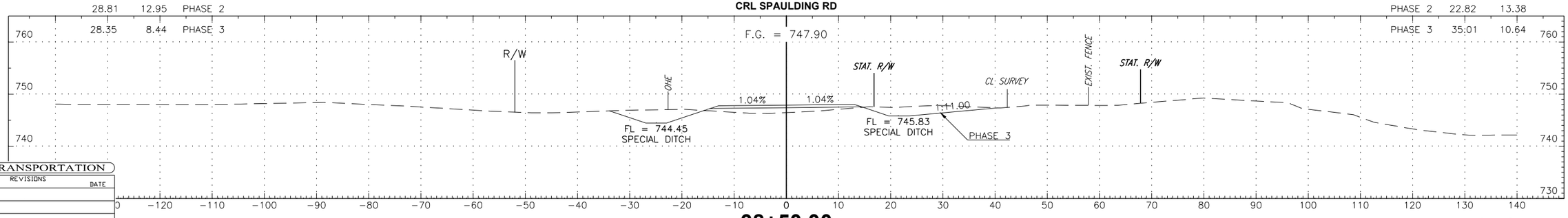
28.81 12.95 PHASE 2

28.35 8.44 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 22.82 13.38

PHASE 3 35.01 10.64



38+50.00

38+50.00

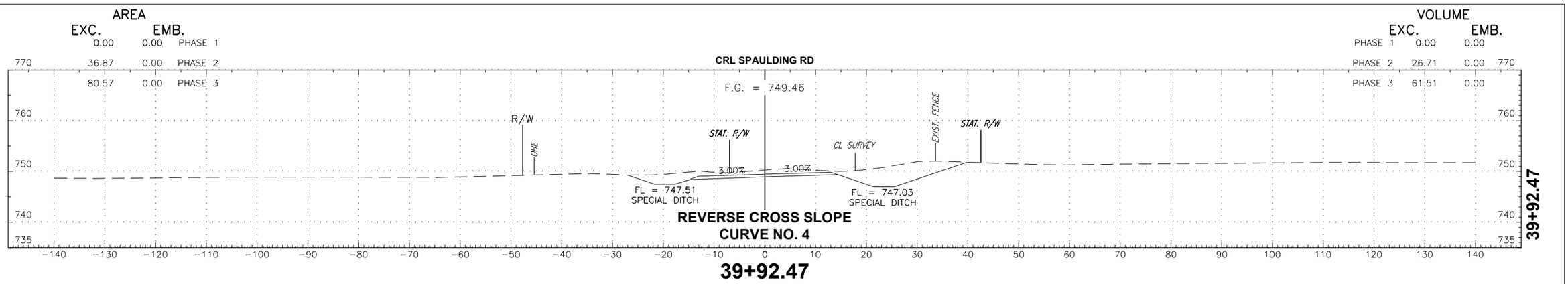
CEC // TRANSPORTATION

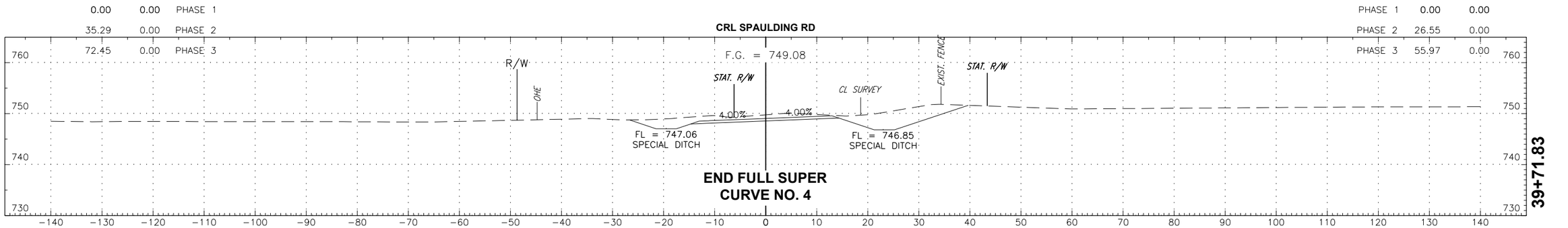
REVISIONS

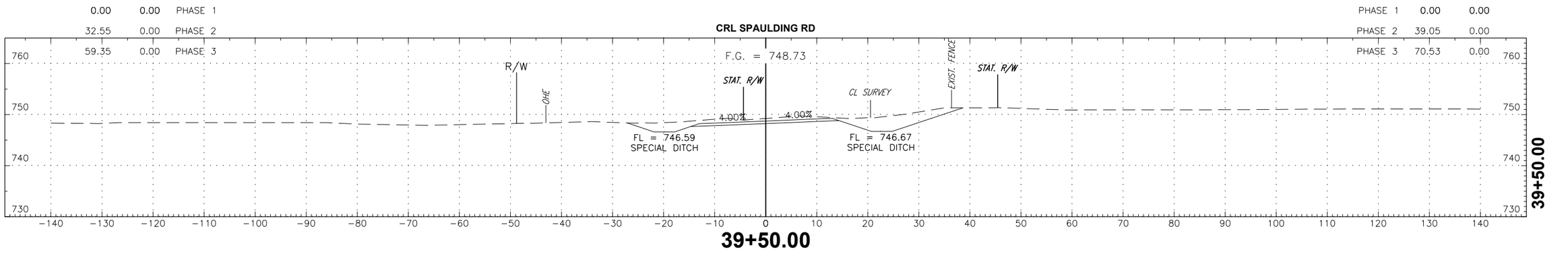
DESCRIPTION	DATE

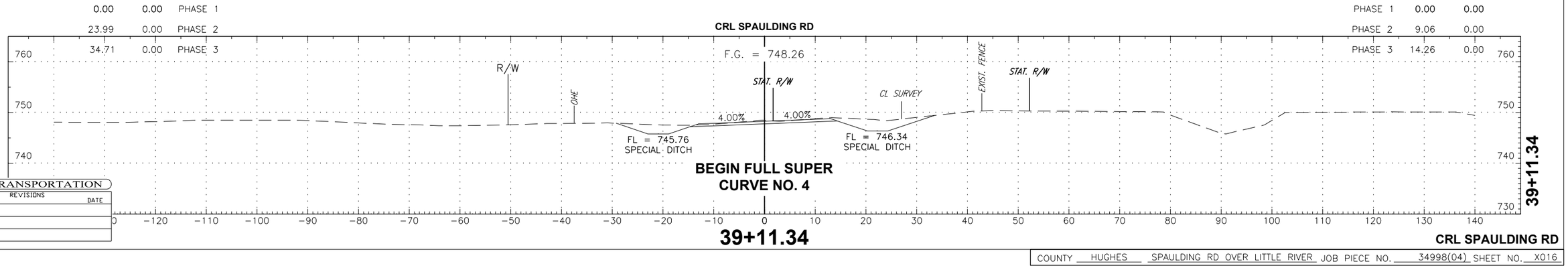
CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X015









CEC // TRANSPORTATION

REVISIONS	
DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X016

AREA

EXC. EMB.

0.00 0.00 PHASE 1

37.15 0.01 PHASE 2

86.61 0.00 PHASE 3

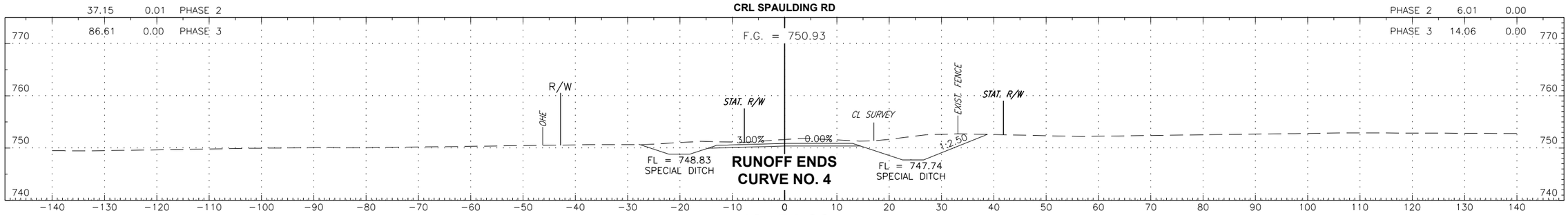
VOLUME

EXC. EMB.

PHASE 1 0.00 0.00

PHASE 2 6.01 0.00

PHASE 3 14.06 0.00



40+54.38

40+54.38

0.00 0.00 PHASE 1

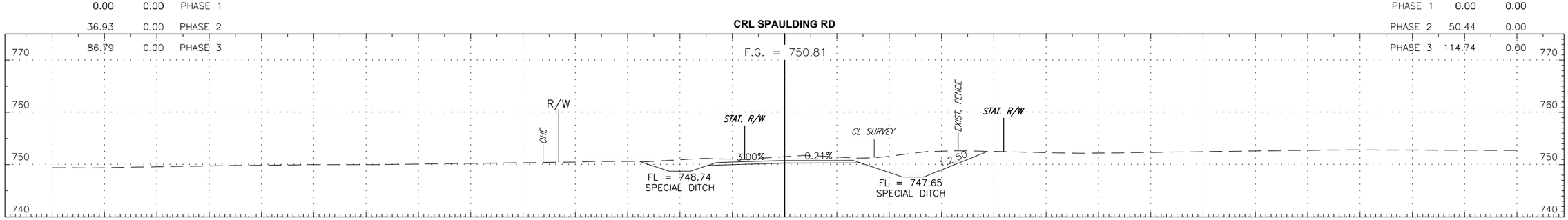
36.93 0.00 PHASE 2

86.79 0.00 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 50.44 0.00

PHASE 3 114.74 0.00



40+50.00

40+50.00

0.00 0.00 PHASE 1

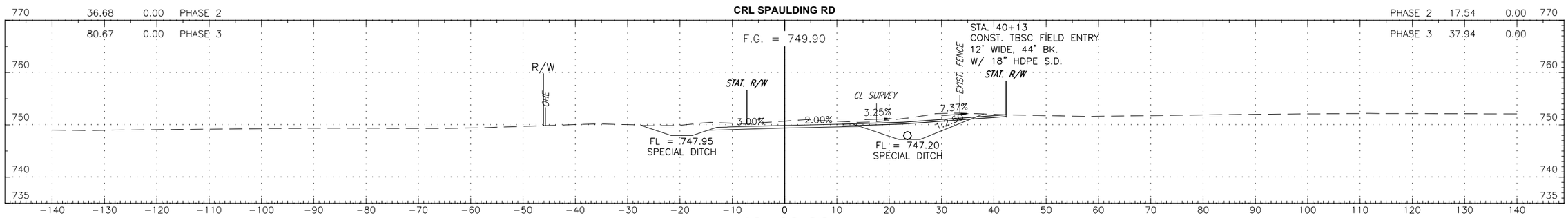
36.68 0.00 PHASE 2

80.67 0.00 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 17.54 0.00

PHASE 3 37.94 0.00



40+13.00

40+13.00

0.00 0.00 PHASE 1

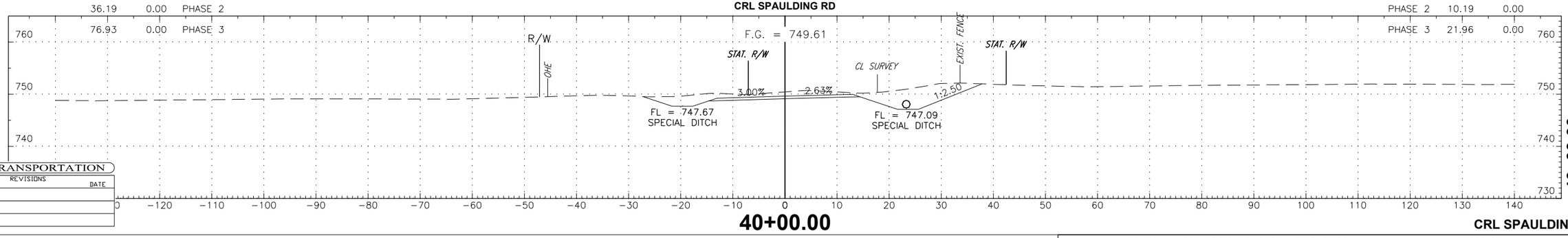
36.19 0.00 PHASE 2

76.93 0.00 PHASE 3

PHASE 1 0.00 0.00

PHASE 2 10.19 0.00

PHASE 3 21.96 0.00



40+00.00

40+00.00

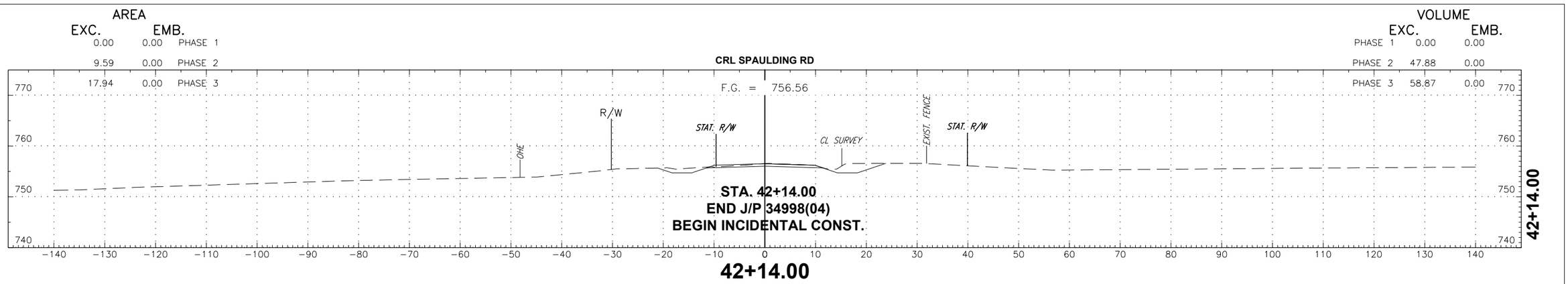
CEC // TRANSPORTATION

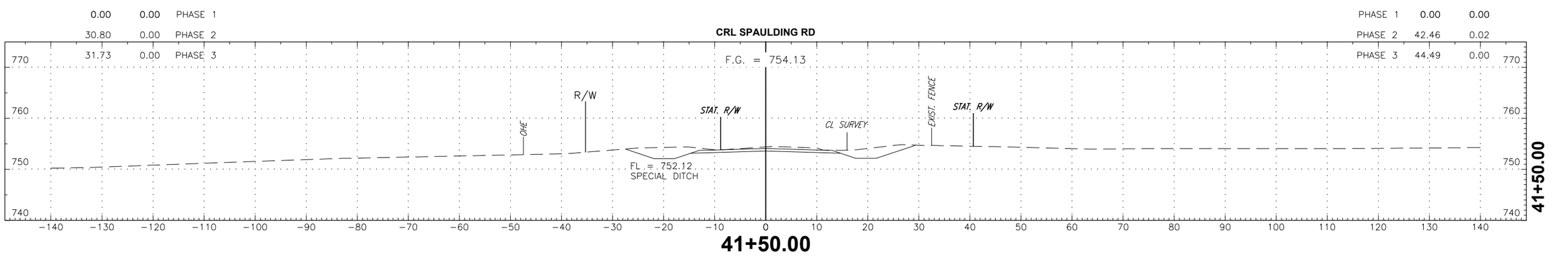
REVISIONS

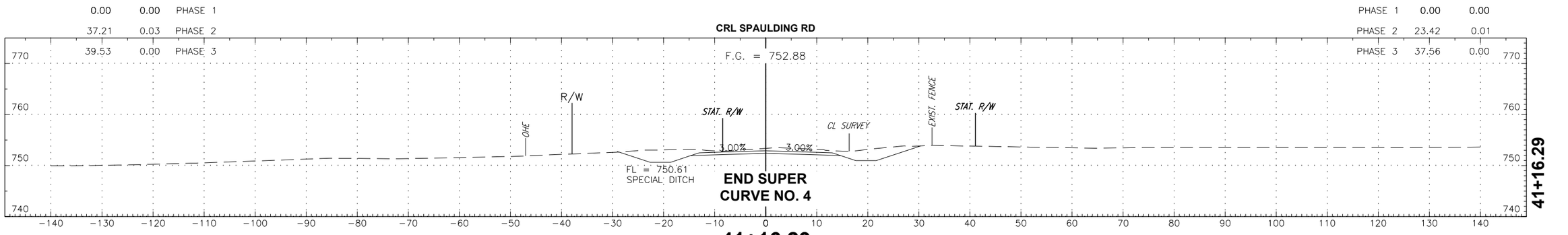
DESCRIPTION	DATE

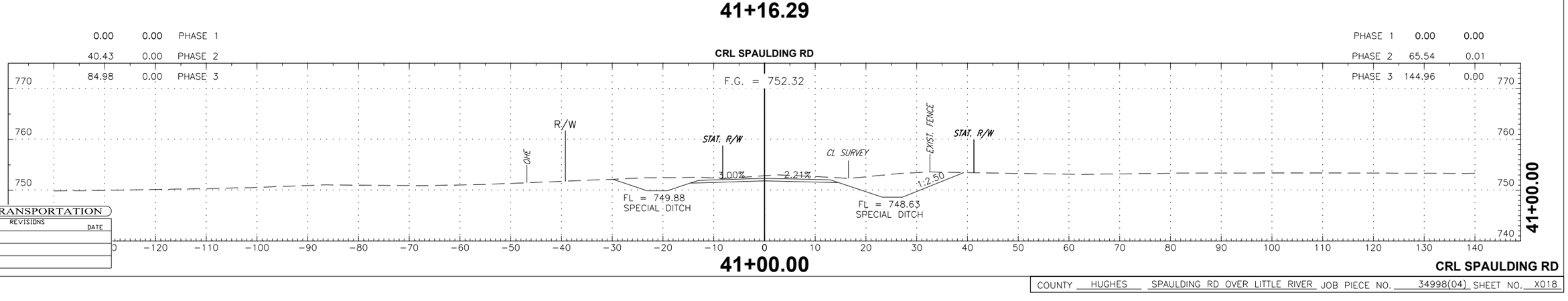
CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X017









CEC // TRANSPORTATION

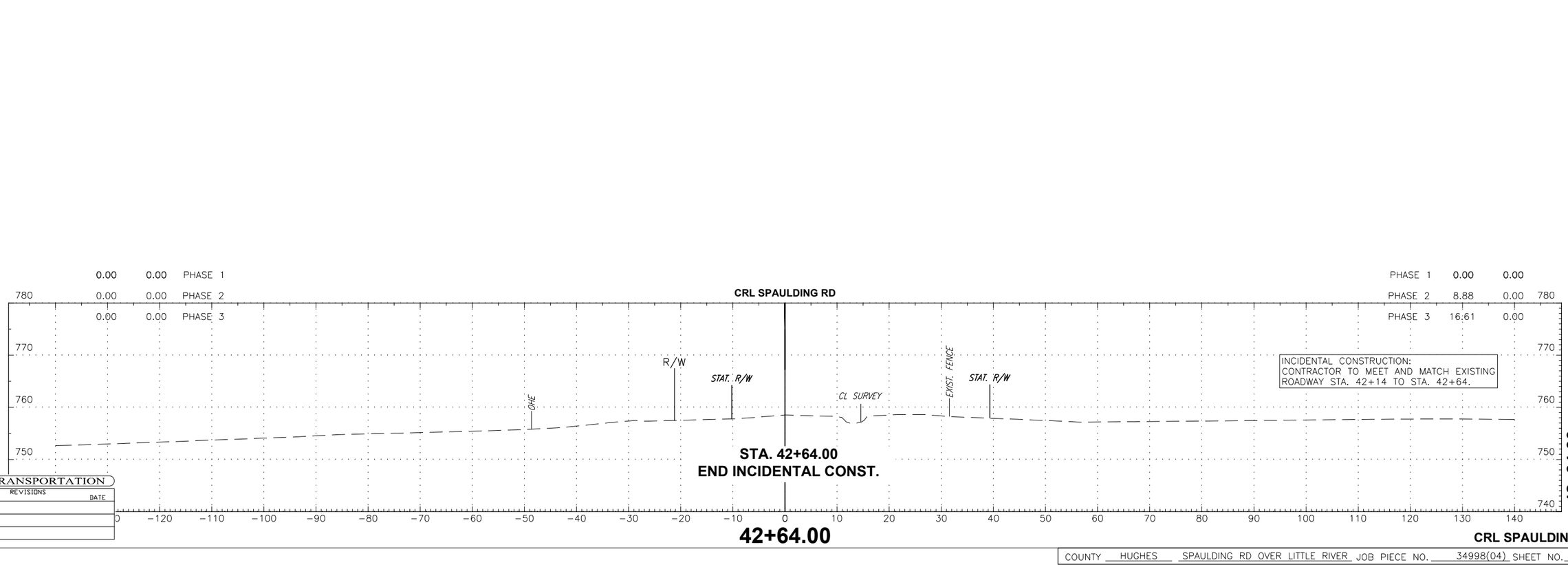
REVISIONS	
DESCRIPTION	DATE

CRL SPAULDING RD

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X018

AREA EXC.	AREA EMB.	VOLUME EXC.	VOLUME EMB.
0.00	0.00	PHASE 1	
0.00	0.00	PHASE 2	
0.00	0.00	PHASE 3	

VOLUME EXC.	VOLUME EMB.	
PHASE 1	0.00	0.00
PHASE 2	8.88	0.00
PHASE 3	16.61	0.00



CEC // TRANSPORTATION

REVISIONS

DESCRIPTION	DATE

COUNTY HUGHES SPAULDING RD OVER LITTLE RIVER JOB PIECE NO. 34998(04) SHEET NO. X019