

STATE OF OKLAHOMA  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED  
COUNTY BRIDGE

BRIDGE AND APPROACH PLANS  
WALNUT CREEK  
CARTER COUNTY

PROJECT NO. STP-210D(059)CI

STATE JOB NO. 28448(04)

LOCATION: 10N3150E1940000

CONSTRUCT NBI NO. 31704

INDEX OF SHEETS

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THE FOLLOWING STANDARDS WILL BE REQUIRED FOR THIS PROJECT.

STATE BRIDGE 2009	COUNTY BRIDGE 2009	ROADWAY 2009	TRAFFIC 2009
TR3-2-01E	CB26-C-SK30-ABUT-PC2-2-02E	SSS-1-1	GRAU1-1-00
HP1-2-01E	CB26-C-SK30-XSECT-PC234-01E	TSC2-3-2	GRH1-1-00
EJ-SK-04E	CB26-C-SK30-LSECT-PCB-01E	TSD-2-0	GRH2-1-00
EJ-DTL-02E	CB26-C-SK30-DKSLB-1-01E	PSE-1-0	TCS1-1-01
	CB26-C-SK30-DKSLB-2-01E	PCES-4-1	TCS2-1-00
	CB26-C-SK30-DKSLB-BLIST-01E	SPI-4-1	TCS4-1-01
	CB26-C-SK30-DIA-END-PC234-01E	SPB-1-4	TCS5-1-00
	CB26-C-SK30-SPR-QUAN-PCB-1-01E	FHTMPP-1-0	TCS7-1-02
	CB26-C-SK30-SPR-QUAN-PCB-2-01E	RDI-3-1	TCS9-1-01
	CB26-C-SK0.30-PCB-II-50-01E	DC-3-2	WSD1-1-00
	CB26-C-SK0.30-PCB-III-80-01E	RWF2-2-1	WSD2-1-00
	CB26-C-SK0.30-DIA-INT-PCB-01E	MI-3-0	RSD1-1-00
	CB26-C-SK0.30-BRG-PC2-01E	SUEL1-3-2	PM3-1-02
	CB26-C-SK0.30-BRG-PC3-01E	SUEL2-3-2	
	CB26.32-C-SK30-WING-PC2-01E	SUEL4-3-2	
	CB26.32-C.1-SK0.30-PCB-DTL-1-01E		
	CB26.32-C.1-SK0.30-PCB-DTL-2-01E		
	CB26.32-C.1-SK0.30-GRAU-BC-00E		

SURVEY CONTROL DATA

- 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
- BEARINGS:
  - THE BEARINGS SHOWN HEREIN OR HEREON ARE GRID BEARINGS DERIVED FROM THE USC & GS OKLAHOMA PLANE COORDINATE SYSTEM AND ARE NOT ASTRONOMICAL.
- VERTICAL CONTROLS:
  - A. LEVEL DATUM IS NGVS, NAVD 88, TAKEN FROM ADJUSTED PRIMARY CONTROL UTILIZING DIFFERENTIAL LEVELING TECHNIQUES.
  - B. ACCURACY - 3RD ORDER OR BETTER

LATITUDE 34° 12' 08"  
LONGITUDE 97° 23' 16"

DESIGN DATA

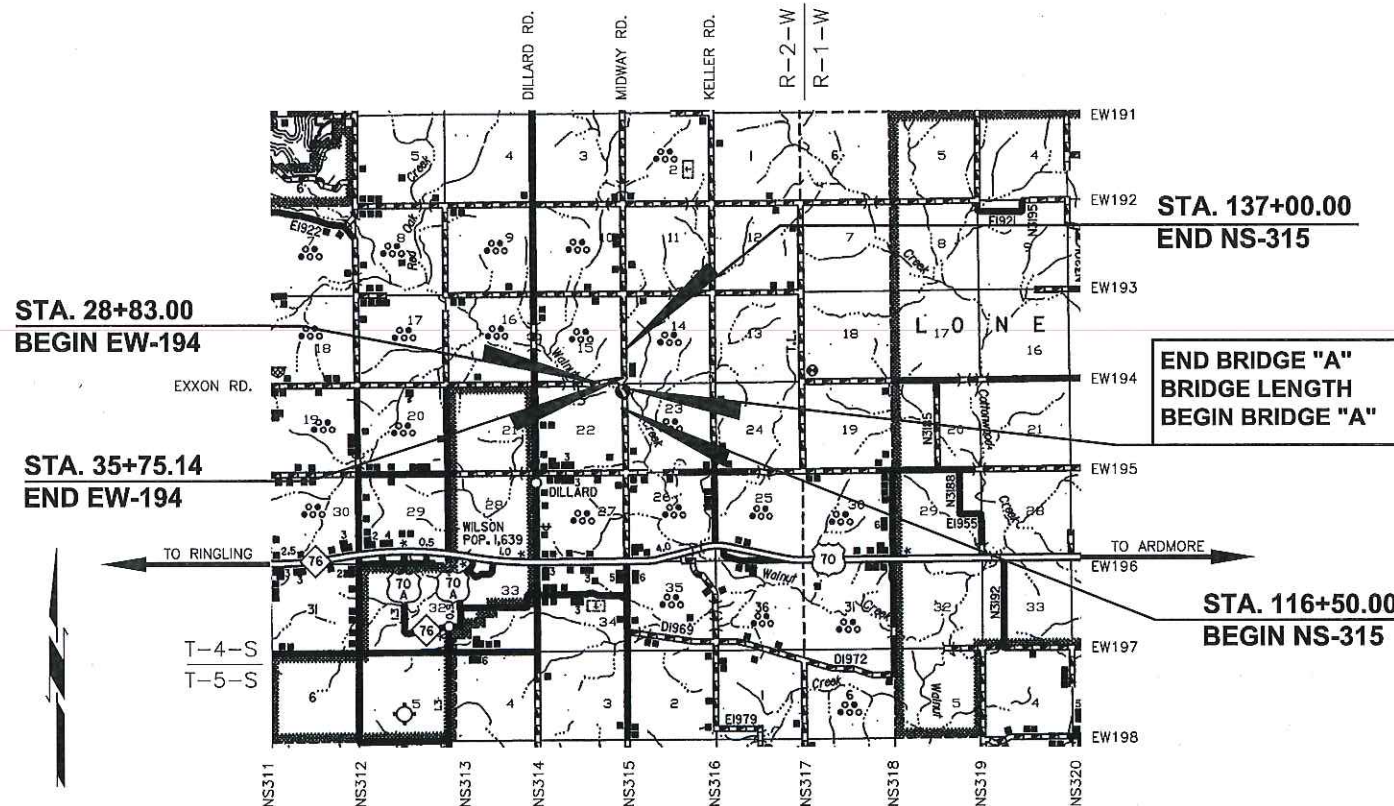
ADT 2014	-	200
ADT 2034	-	298
DD%	-	55%
T <sub>3</sub> (%ADT)	-	12%
V	-	45 M.P.H.
Flex. ESALs	-	0.23 M

SCALES

PLAN	1:50
PROFILE HOR.	1:50
VER.	1:5
LAYOUT MAP	1" = 5280'

CONVENTIONAL SIGNS

	PROPOSED ROADS
	SECTION LINES
	QUARTER SECTION LINES
	FENCES
	EXISTING GRADE
	EXISTING ROADS
	BASE LINE
	PROPOSED GRADE
	COMMUNICATION LINES (EXISTING)
	POWER LINES (EXISTING)
	GAS LINE (EXISTING)
	SANITARY SEWER LINES (EXISTING)
	WATER LINES (EXISTING)
	COMMUNICATION LINES (PROPOSED)
	POWER LINES (PROPOSED)
	GAS LINE (PROPOSED)
	SANITARY SEWER LINES (PROPOSED)
	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



END BRIDGE "A" 128+52.64  
BRIDGE LENGTH 189.89'  
BEGIN BRIDGE "A" 126+62.75

CARTER COUNTY BOARD OF COMMISSIONERS

DISTRICT NO. 1	<i>[Signature]</i>	DATE: 5-9-16
DISTRICT NO. 2		DATE:
DISTRICT NO. 3	<i>[Signature]</i>	DATE: 5-9-16

ATTEST

*[Signature]*  
KAYELYN CLUBB  
COUNTY CLERK  
DATE: MAY 09 2016

PREPARED BY:  
CEC CORPORATION  
CA32 6/30/18  
OKLAHOMA CITY, OKLAHOMA  
*[Signature]*  
AMANDA FAY BAKER  
OKLA. REG. NO. 26474  
DATE: 7-12-17

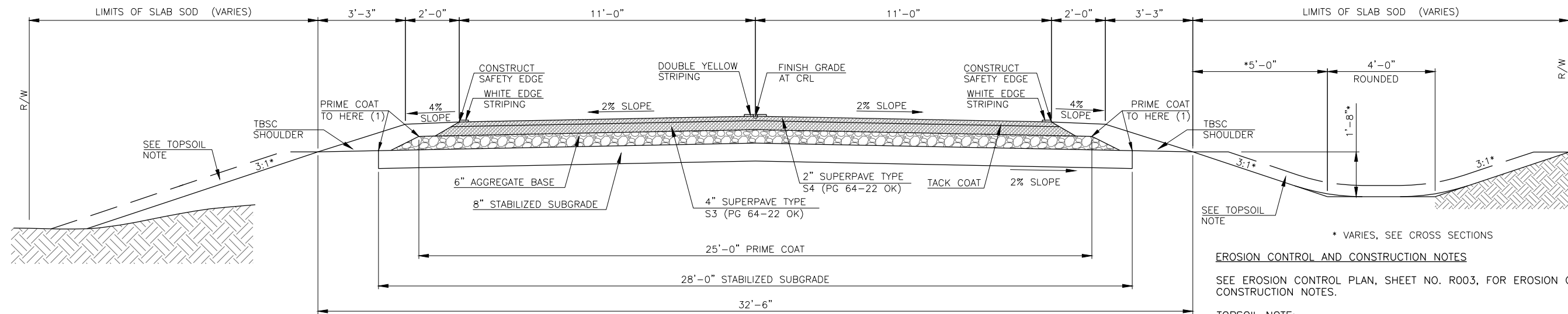
PREPARED BY:  
CEC CORPORATION  
CA32 6/30/18  
OKLAHOMA CITY, OKLAHOMA  
*[Signature]*  
BENJAMIN J. KNIPSTEIN  
OKLA. REG. NO. 28081  
DATE: 7-12-17

BRIDGE "A"  
SHEETS B005-B009

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED	DATE APPROVED
BY	BY
CHIEF ENGINEER	DIVISION ADMINISTRATOR
PROJECT NO. STP-210D(059)CI	SHEET NO. 0001

PROJECT LENGTH BASED ON CRL

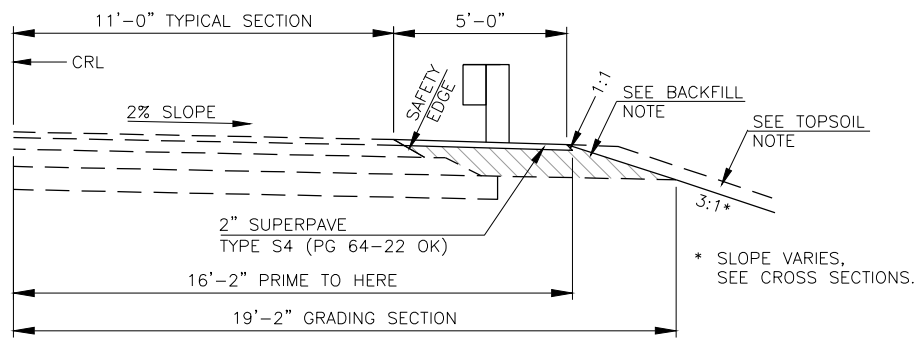
ROADWAY LENGTH:	2,552.25 FT.	....	0.483 MILES
BRIDGE LENGTH:	189.89 FT.	....	0.035 MILES
PROJECT LENGTH:	.....		0.518 MILES
EQUATIONS:	NONE		
EXCEPTIONS:	NONE		



**TYPICAL SECTION**

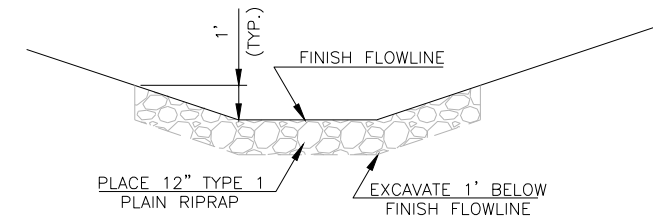
CRL NS-315 STA. 116+50 TO STA. 126+62.75 AND STA. 128+52.64 TO STA. 137+00  
 CRL EW-194 STA. 28+83.00 TO STA. 35+75.14

\* VARIES, SEE CROSS SECTIONS  
**EROSION CONTROL AND CONSTRUCTION NOTES**  
 SEE EROSION CONTROL PLAN, SHEET NO. R003, FOR EROSION CONTROL AND CONSTRUCTION NOTES.  
 TOPSOIL NOTE:  
 RESERVED TOPSOIL SHALL BE SPREAD APPROX. 5 INCHES THICK FIRST ON COMPLETED FORE SLOPES OF FILL SECTIONS AND THE REMAINDER ON COMPLETED CUT SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER.  
 (1) PRIME COAT TO BE APPLIED TO THE TOP OF THE AGGREGATE BASE AND STABILIZED SUBGRADE.

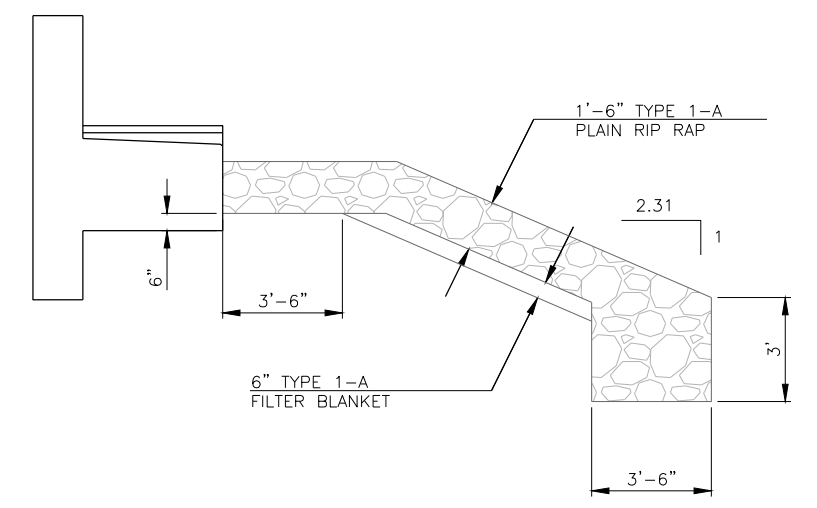


**GUARDRAIL WIDENING DETAIL**

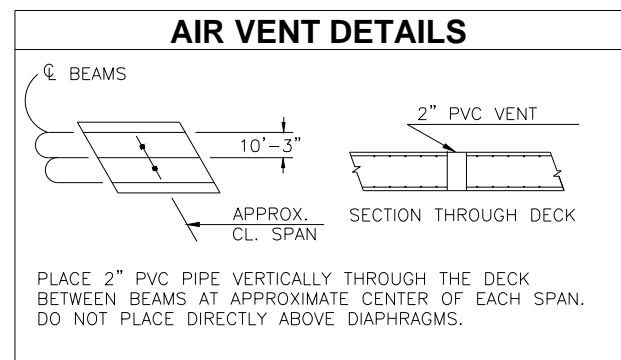
BACK FILL NOTE:  
 SHOULDERS SHALL BE BACK FILLED AND COMPACTED AS PART OF THE FINISHING OPERATION, PRICE TO BE INCLUDED IN EARTHWORK.



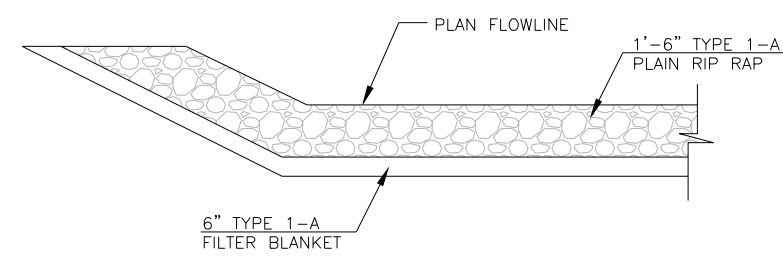
**RIPRAP DITCH DETAIL**



**ABUTMENT RIPRAP DETAIL**



PLACE 2" PVC PIPE VERTICALLY THROUGH THE DECK BETWEEN BEAMS AT APPROXIMATE CENTER OF EACH SPAN. DO NOT PLACE DIRECTLY ABOVE DIAPHRAGMS.



**CROSS DRAIN RIPRAP DETAIL**



0200 – BRIDGE				
BRIDGE "A" PAY QUANTITIES				
50'-80'-50' X 26' CLEAR ROADWAY PCB SPAN SKEWED 30 DEGREES RIGHT FORWARD				
ITEM	DESCRIPTION		UNITS	QUANTITY
501(B)	1307	SUBSTRUCTURE EXCAVATION COMMON	(R-1) CY	190.00
501(G)	6309	CLSM BACKFILL	(R-1) CY	88.00
503(A)	1311	PRESTRESSED CONCRETE BEAMS (TYPE II)	(R-1) LF	298.00
503(A)	1312	PRESTRESSED CONCRETE BEAMS (TYPE III)	(R-1) LF	239.00
504(B)	1305	SAW-CUT GROOVING	(R-1) SY	455.90
504(C)	6250	SEALED EXPANSION JOINT	(R-1) LF	33.06
504(D)	6239	CONCRETE RAIL (TR3)	(R-1) LF	437.50
506(A)	1322	STRUCTURAL STEEL	(R-1) LB	1,220.00
507(A)	6172	WEATHERING STEEL FIXED BEARING ASSEMBLY	EA	6.00
507(B)	6176	WEATHERING STEEL EXPANSION BEARING ASSEMBLY	EA	12.00
509(A)	1326	CLASS AA CONCRETE	(R-1) CY	146.70
509(B)	1328	CLASS A CONCRETE	(R-1) CY	170.80
511(A)	1332	REINFORCING STEEL	(R-1) LB	69,260.00
514(A)	6010	PILES, FURNISHED (HP 10X42)	LF	140.00
514(A)	6011	PILES, FURNISHED (HP 12X53)	LF	325.00
514(B)	6292	PILES, DRIVEN (HP 10X42)	LF	140.00
514(B)	6294	PILES, DRIVEN (HP 12X53)	LF	325.00
514(L)	6220	PILE SPLICE, H-PILE (NON-BIDDABLE)	EA	1.00
516(A)	6098	DRILLED SHAFTS 72" DIAMETER	LF	112.00
516(C)	6200	CROSSHOLE SONIC LOGGING	(16) EA	1.00
601(B)	1353	TYPE I-A PLAIN RIPRAP	(1) TON	1,857.00
601(C)	1355	TYPE I-A FILTER BLANKET	(2) TON	523.00
613(H)	6204	6" PERFORATED PIPE UNDERDRAIN ROUND	LF	60.00
613(I)	6207	6" NON-PERF. PIPE UNDERDRAIN RND.	LF	60.00
623(F)	5686	GUARDRAIL ANCHOR UNIT (TYPE D-BF)	EA	4.00
623(F)	6029	GUARDRAIL ANCHOR UNIT (TYPE A)	(3) EA	4.00
880(J)	8905	CONSTRUCTION TRAFFIC CONTROL	(4) LSUM	1.00

0640 – CONSTRUCTION				
PAY QUANTITIES				
220	2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1.00
641	1399	MOBILIZATION	LSUM	1.00

0600 – STAKING				
PAY QUANTITIES				
642(B)	0096	CONSTRUCTION STAKING LEVEL II	(5) LSUM	1.00

0100 – ROADWAY				
ROADWAY PAY QUANTITIES				
ITEM	DESCRIPTION		UNITS	QUANTITY
201(A)	0102	CLEARING AND GRUBBING	LSUM	1.00
202(H)	0185	EARTHWORK	(6)(7)(8) LSUM	1.00
221(C)	2801	TEMPORARY SILT FENCE	(9) LF	1,800.00
221(F)	0100	TEMPORARY SILT DIKE	(9) LF	480.00
230(A)	2806	SOLID SLAB SODDING	(R-7)(R-8) SY	27,458.00
233(A)	2817	VEGETATIVE MULCHING	(R-11) AC	9.46
303(A)	2100	AGGREGATE BASE TYPE A	CY	1,236.00
307(K)	4300	STABILIZED SUBGRADE	SY	7,941.00
402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E	(10)(11) TON	937.00
407(B)	0250	TACK COAT	(R-30)(17) GAL	1,030.00
408	5774	PRIME COAT	(R-31)(18) GAL	5,262.00
411(B)	5945	SUPERPAVE, TYPE S3 (PG 64-22 OK)	(R-32)(19) TON	1,481.00
411(C)	5960	SUPERPAVE, TYPE S4 (PG 64-22 OK)	(R-32)(20) TON	747.00
509(D)	0325	CLASS C CONCRETE	(R-41) CY	20.00
601(A)	0297	TYPE I PLAIN RIPRAP	TON	804.00
601(B)	0536	TYPE I-A PLAIN RIPRAP	TON	2,158.00
601(C)	0538	TYPE I-A FILTER BLANKET	TON	618.00
611(G)	6006	INLET (SMD-TYPE 2B)	EA	1.00
613(A)	0494	36" R.C.PIPE CLASS III	(12) LF	48.00
613(A)	4497	36" X 22" R.C.PIPE ARCH CLASS A-III	(12) LF	94.00
613(B)	4527	21" X 15" CORR. GALV. STEEL PIPE ARCH	(12) LF	128.00
613(B)	4528	28" X 20" CORR. GALV. STEEL PIPE ARCH	(12) LF	42.00
613(L)	4504	21" X 15" PREFAB. CULVERT END SECTION, ARCH	EA	4.00
613(L)	4516	28" X 20" PREFAB. CULVERT END SECTION, ARCH	EA	2.00
613(L)	4526	36" X 22" PREFAB. CULVERT END SECTION, ARCH	EA	3.00
613(L)	5734	36" PREFAB. CULVERT END SECTION, ROUND	EA	2.00
619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS	(R-48)(21) LSUM	1.00
624(C)	4458	FENCE-STYLE SWF (4 BARBED WIRE)	(R-52)(R-53)(13) LF	10,036.00
624(C)	4459	FENCE-STYLE SWF (5 BARBED WIRE)	(R-52)(R-53)(13) LF	986.00
850(A)	8110	SHEET ALUMINUM SIGNS	SF	77.93
851(C)	8327	2 1/4" SQUARE TUBE POST	LF	221.00
854(A)	8800	TRAFFIC STRIPE (PAINT) (4" WIDE)	(14) LF	11,218.00
855(A)	8825	TRAFFIC STRIPE (PAINT) (24" WIDE)	(15) LF	11.00

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-7) FOR 230(A) PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 LBS. PER 1,000 SQUARE YARDS.
- (R-8) FOR 230(A) PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 80 GALLONS PER SQUARE YARD.
- (R-11) THE QUANTITY ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 4.73 ACRES.
- (R-30) PRICE BID TO INCLUDE COST OF 1,030 GALLONS OF TACK COAT MEETING THE REQUIREMENTS OF SECTION 407 OF THE STANDARD SPECIFICATIONS.
- (R-31) PRICE BID TO INCLUDE COST OF 5,244 GALLONS OF PRIME COAT MEETING THE REQUIREMENTS OF SECTION 408 OF THE STANDARD SPECIFICATIONS AND ESTIMATED AS 0.35 GAL. PER SQ. YD. ON TOP OF COMPLETED SUBGRADE AND 0.25 GAL. PER SQ. YD. ON TOP OF AGGREGATE BASE. THE ACTUAL CUTBACK PRIME COAT REQUIRED FOR PLACEMENT OPERATIONS WILL BE DETERMINED BY THE CONTRACTOR AND SHALL CONSIDER THE RESIDUE FROM DISTILLATION PERCENTAGE SHOWN IN SECTION 708.03 OF THE STANDARD SPECIFICATIONS.
- (R-32) ESTIMATED AT 112 LBS. PER SQ. YD. PER 1" THICK.
- (R-41) QUANTITY INCLUDES AN ESTIMATED 20 C.Y. TO BE USED AS DIRECTED BY THE ENGINEER.
- (R-48) INCLUDES REMOVAL OF ALL EXISTING ROADWAY DRAINAGE STRUCTURES, HEADWALLS (UNLESS OTHERWISE SPECIFIED), INLETS, FENCES AND OTHER STRUCTURES WITHIN THE RIGHT-OF-WAY.
- (R-52) INCLUDES 2% FOR GROUND MEASUREMENT.
- (R-53) ALL GATES AND GATE END POSTS FOR STRANDED WIRE FENCE (SWF) SHALL BE CONSTRUCTED AT THE SAME WIDTH AS THE EXISTING, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- (1) ESTIMATED AT 110 LBS./CU. FT.
- (2) ESTIMATED AT 105 LBS./CU. FT.
- (3) PRICE BID TO INCLUDE THE COST OF 4 TYPE 1 CODE 3 DELINEATORS. (AMBER COLOR).
- (4) CONSTRUCTION TRAFFIC CONTROL SHALL INCLUDE ALL BARRICADES AND SIGNS REQUIRED ON EACH END OF THE CONSTRUCTION AREA AND OTHER AREAS DESIGNATED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SIGNS, BARRICADES, LIGHTS, ETC., ACCORDING TO THE STANDARDS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND AS SHOWN ON THE STANDARD DRAWINGS. COST OF ALL NECESSARY CONSTRUCTION SIGNING WILL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "CONSTRUCTION TRAFFIC CONTROL."
- (5) 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.
- (6) SEE SUMMARY OF GRADING QUANTITIES, SHEET NO. R004.
- (7) ITEM "EARTHWORK" INCLUDES OBLITERATION OF EXISTING ROADWAY WITHIN THE PROJECT LIMITS. COSTS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.
- (8) INCLUDES COST OF SALVAGING AND PLACING TOPSOIL APPROXIMATELY 75 FEET WIDE BY 5 INCHES DEEP FROM STA. 116+50 TO 137+00 AND FROM STA. 28+83 TO 35+75 AND 18-46-0 FERTILIZER (ESTIMATED AT 150 LBS PER ACRE). SEE TOPSOIL NOTE, SHEET NO. R003.
- (9) PRICE BID TO INCLUDE COST OF TEMPORARY SEDIMENT REMOVAL.
- (10) ESTIMATED AT 140 LBS./CU. FT.
- (11) INCLUDES 120 TONS FOR RURAL DRIVES.
- (12) PRICE BID TO INCLUDE TRENCH EXCAVATION AND STANDARD BEDDING MATERIAL.
- (13) ALL GATE, CORNER AND STRETCH POSTS SHALL BE STEEL PIPE. COST INCLUDES 5,510 LF FOR TEMPORARY FENCING.
- (14) INCLUDES 5,642 FEET WHITE FOR EDGE STRIPE AND 5,598 FEET YELLOW FOR DOUBLE SOLID CENTERLINE STRIPE.
- (15) INCLUDES 11 FEET WHITE STRIPE FOR STOP BAR AT EW-194 AND NS-315 INTERSECTION.
- (16) TO BE PERFORMED IN ACCORDANCE WITH SPECIAL PROVISION 516-3.
- (17) INCLUDES 16 GALLONS FOR RURAL DRIVES.
- (18) INCLUDES 227 GALLONS FOR RURAL DRIVES.
- (19) INCLUDES 34 TONS FOR RURAL DRIVES.
- (20) INCLUDES 23 TONS FOR RURAL DRIVES.
- (21) INCLUDES REMOVAL OF REINFORCED CONCRETE BOX AT APPROXIMATE STA. 127+50.

GENERAL NOTES

SPECIFICATIONS:

COMPLY WITH THE REQUIREMENTS OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, AS APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION JANUARY 4, 2010, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

ANCHOR PLATES- SLOTTED FOR EXPANSION:

ALLOWANCE SHALL BE MADE FOR TEMPERATURE AT TIME OF SETTING OF EXPANSION ANCHOR PLATES. ANCHOR PLATES SHALL BE SET WITH ANCHOR BOLTS IN CENTER OF SLOT FOR 60°F. FOR EACH 100' OF EXPANSION TO THE BEARING ASSEMBLY, THE CENTERLINE OF THE SLOT SHALL BE 1/8" FROM THE CENTERLINE OF THE ANCHOR BOLT IN THE DIRECTION OF EXPANSION FOR EACH 15' THE TEMPERATURE IS ABOVE 60°F, OR SHALL BE SET 1/8" FROM THE CENTERLINE OF THE ANCHOR BOLT IN THE DIRECTION OF THE CONTRACTION FOR EACH 15' THE TEMPERATURE IS BELOW 60°F.

AIR VENTS:

2" PVC PIPE SHALL BE PLACED VERTICALLY THROUGH THE DECK BETWEEN THE BEAMS AS SHOWN IN THE DETAIL SHOWN ON SHEET NO. 0002, TYPICAL SECTION AND MISCELLANEOUS DETAILS.

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.

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 AND STAKING OF RIGHT-OF-WAY; (2) REMOVAL AND RELOCATION OF CATTLE GUARDS; (3) UTILITY RELOCATION; (4) DETOUR SIGNING, IF REQUIRED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SIGNING.

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 FENCE SHALL BE RESTORED OR INSTALLED IN A MANNER APPROVED BY THE ENGINEER. ROADWAY SHALL BE CLOSED TO THROUGH TRAFFIC DURING THE CONSTRUCTION PERIOD. CONTRACTOR SHALL PROVIDE ACCESS TO ADJACENT LAND OWNERS AND TENANTS.

(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. 48 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKIE1" 1-800-522-6543 OR 811.

THE CONTRACTOR SHALL NOTIFY THE CARTER COUNTY BOARD OF COMMISSIONERS, CED 6 AND ODOT DIVISION VII OFFICE IN DUNCAN, IN WRITING, FOURTEEN CALENDAR DAYS PRIOR TO BEGINNING CONSTRUCTION.

ENVIRONMENTAL MITIGATION NOTES

THIS PROJECT IS IN CLOSE PROXIMITY TO AREAS THAT HAVE HISTORICALLY BEEN USED FOR THE EXPLORATION AND EXTRACTION OF CRUDE OIL. AS A RESULT, THERE IS A POTENTIAL TO ENCOUNTER CRUDE OIL PRODUCTS AND RELATED WASTES. IF SUCH MATERIALS ARE FOUND, THE RESIDENT ENGINEER SHOULD BE NOTIFIED IMMEDIATELY.

IN ADDITION, THERE IS A POTENTIAL TO ENCOUNTER GATHERING LINES AND OTHER PIPING, AND ABANDONED OIL, GAS OR SALTWATER DISPOSAL WELLS. ANY WELLS ENCOUNTERED DURING CONSTRUCTION ACTIVITIES MUST BE PLUGGED, BY PROPERLY LICENSED PERSONNEL, IN ACCORDANCE WITH ALL APPLICABLE OKLAHOMA CORPORATION COMMISSION RULES AND REGULATIONS.

CLIFF SWALLOWS AND BARN SWALLOWS ARE SMALL COLONIAL NESTING BIRDS PROTECTED BY THE MIGRATORY BIRD TREATY ACT. THESE SPECIES COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR THE SWALLOWS RUNS FROM APRIL 1 TO AUGUST 31. ANY ACTIVITIES WHICH WOULD DESTROY ACTIVE NESTS OR HARM EGGS OR BIRDS WOULD VIOLATE THE MIGRATORY BIRD TREATY ACT. SWALLOW USE OF THE LOW WATER CROSSING AT STA. 126+62.75 WAS NOT OBSERVED DURING THE INITIAL SURVEYS CONDUCTED AS PART OF THE BIOLOGICAL STUDIES IN DECEMBER 2014. SWALLOWS MAY OCCUPY THE BRIDGE IN THE FUTURE NESTING SEASONS. THE RESIDENT ENGINEER WILL EVALUATE THE CONTRACTOR'S PROPOSED WORK METHODS AND CONCLUDE WHETHER THE PROPOSED WORK WOULD POSE DISRUPTION TO ANY NESTING BIRDS BEFORE WORK NEAR THE STRUCTURE IS AUTHORIZED. IF THE PROPOSED WORK WILL HARM ANY NESTING BIRDS, THE BRIDGE MAY BE NETTED PRIOR TO APRIL 1 OR THE WORK DELAYED UNTIL THE NESTING SEASON IS COMPLETE. METHODS OTHER THAN NETTING MUST BE PRE-APPROVED BY THE ODOT BIOLOGIST.

**SUMMARY OF PAY QUANTITIES AND GENERAL NOTES**

**PILE DRIVING AND CAPACITY**

THE FACTORED REACTION FOR EACH HP 12X53 PILE AT THE ABUTMENT IS 67.6 TONS ON BRIDGE "A".

THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES.

$$\text{AXIAL LOAD RESISTANCE} = \phi [0.875 \sqrt{E} \log_{10}(10N)] - 50$$

WHERE:

$\phi$  = RESISTANCE FACTOR OF 0.4

E = ENERGY PRODUCED BY THE HAMMER PER BLOW IN FOOT-POUNDS. FOR GRAVITY AND SINGLE ACTING DIESEL HAMMERS, THE VALUE IS BASED ON THE ACTUAL RAM STROKE OBSERVED IN THE FIELD AND MEASURED IN FEET MULTIPLIED BY THE RAM WEIGHT IN POUNDS.

N = AVERAGE NUMBER OF HAMMER BLOWS PER INCH OF PILE PENETRATION FOR THE LAST 10 TO 20 BLOWS DELIVERED TO THE PILE HEAD.

THE ABOVE FORMULA IS ONLY APPLICABLE WHEN:

- THE PILE DRIVING HAMMER HAS A FREE FALL (GRAVITY AND SINGLE ACTING HAMMERS ONLY).
- THE HEAD OF THE PILE IS NOT BROOMED, CRUSHED OR OTHERWISE DAMAGED.
- THE PENETRATION IS QUICK AND UNIFORM.
- THERE IS NO APPRECIABLE REBOUND OF THE HAMMER AND A FOLLOWER IS NOT USED.

THE NUMBER OF BLOWS PER INCH OF PILE PENETRATION MAY BE MEASURED EITHER DURING INITIAL DRIVING OR BY RE-DRIVING WITH A WARM HAMMER OPERATED AT FULL ENERGY AFTER A PILE SET PERIOD, AS DETERMINED BY THE ENGINEER. IF WATER JETS ARE USED IN CONNECTION WITH THE DRIVING, DETERMINE THE AXIAL LOAD RESISTANCE BY THE FORMULA ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

**SUMMARY OF GUARDRAILS**

STATION TO STATION	LT.	RT.	TYPE D-BF (EACH)	TYPE A (EACH)	LENGTH INCLUDING ANCHOR UNITS (FEET)
125+42.15 - 126+42.15	X		1	1	100.00
125+56.68 - 126+56.68		X	1	1	100.00
128+58.71 - 129+07.60	X		1	1	87.00 *
128+73.24 - 129+73.24		X	1	1	100.00
TOTALS			4	4	387.00

\* SEE GUARDRAIL BENDING DETAILS THIS SHEET.

**SUMMARY OF SIGNS**

DESCRIPTION	SIGN NO.	STATION	SIDE	READ FROM	AREA (SQ. FT.)	POST LENGTH (FEET)
LEFT REVERSE CURVE	W1-4(L)	116+60	RT.	SOUTH	6.25	13
CURVE RIGHT	W1-2(R)	121+15	LT.	NORTH	6.25	13
CHEVRON*	W1-8	122+00 TO 125+00	LT.	NORTH	21.00	91
SIDE ROAD	W2-2	125+00	RT.	SOUTH	6.25	13
DOUBLE ARROW	W1-7	129+20	RT.	WEST	8.00	26
SIDE ROAD	W2-2	132+50	LT.	NORTH	6.25	13
RIGHT REVERSE CURVE	W1-4(R)	136+75	LT.	NORTH	6.25	13
STOP AHEAD	W3-1	29+00	RT.	WEST	6.25	13
T - SYMBOL	W2-4	32+00	RT.	WEST	6.25	13
STOP	R1-1	35+50	RT.	WEST	5.18	13
TOTALS					77.93	221

\* SERIES OF SEVEN SIGNS AT 50 FOOT SPACES.

**SUMMARY OF STRIPING**

ALIGNMENT	STATION TO STATION	DESCRIPTION	4" PAINT		24" PAINT
			WHITE (SOLID) (FEET)	YELLOW (SOLID) (FEET)	WHITE (SOLID) (FEET)
N-S 315 CRL	116+50 - 129+09	EDGE LINE LT.	1,326		
N-S 315 CRL	116+50 - 128+95	DOUBLE SOLID CENTER		2,590	
N-S 315 CRL	116+50 - 137+00	EDGE LINE RT.	2,150		
N-S 315 CRL	129+31 - 137+00	EDGE LINE LT.	831		
N-S 315 CRL	129+45 - 137+00	DOUBLE SOLID CENTER		1,610	
E-W 194 CRL	28+83 - 35+50	EDGE LINE LT.	671		
E-W 194 CRL	28+83 - 35+50	EDGE LINE RT.	664		
E-W 194 CRL	28+83 - 35+50	DOUBLE SOLID CENTER		1,334	
E-W 194 CRL	35+50 - 35+52	STOP BAR			11
TOTALS			5,642	5,534	11

**SUMMARY OF DRAINAGE STRUCTURES**

STR. NO.	ALIGN.	STATION	DESCRIPTION	DESIGN	CGSPA		RCP	RCPA	PCES TYPE 1		PCES TYPE 2		SMD
					21"X15" (FEET)	28"X20" (FEET)	36" (FEET)	36"X22" (FEET)	21"X15" (EACH)	28"X20" (EACH)	36" (EACH)	36"X22" (EACH)	TYPE 2B (EACH)
1	N-S 315 CRL	119+00 RT.	SIDE DRAIN	CGSPA	90				2				
2	N-S 315 CRL	120+00	CROSS DRAIN	RCPA				48				2	
3	N-S 315 CRL	129+18 LT.	SIDE DRAIN	RCPA				46				1	1
4	N-S 315 CRL	129+80 RT.	SIDE DRAIN	CGSPA		42				2			
5	N-S 315 CRL	136+24 RT.	SIDE DRAIN	CGSPA	38				2				
6	E-W 194 CRL	30+82	CROSS DRAIN	RCP			48					2	
TOTALS					128	42	48	94	4	2	2	3	1

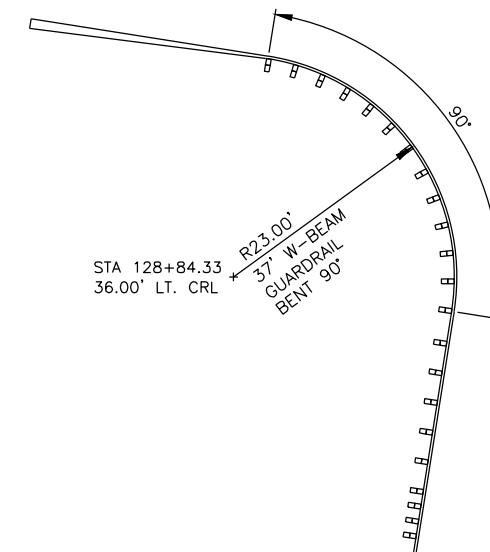
**SUMMARY OF DRIVES**

STATION	DESCRIPTION	SIZE	TBSC (TON)	3" S3 ASPHALT (TON)	2" S4 ASPHALT (TON)	PRIME COAT (GAL)	TACK COAT (GAL)
116+56 - 117+91 RT	SIDE ROAD	10' X 136'	24			53	
119+00 RT	RURAL DRIVE	26' X 39'	61			68	
123+80 RT	RURAL DRIVE	14' X 59'	35			37	
129+80 RT	RURAL DRIVE	14' X 90'		24	16	49	11
136+24 RT	RURAL DRIVE	14' X 28'		10	7	20	5
TOTALS			120	34	23	227	16

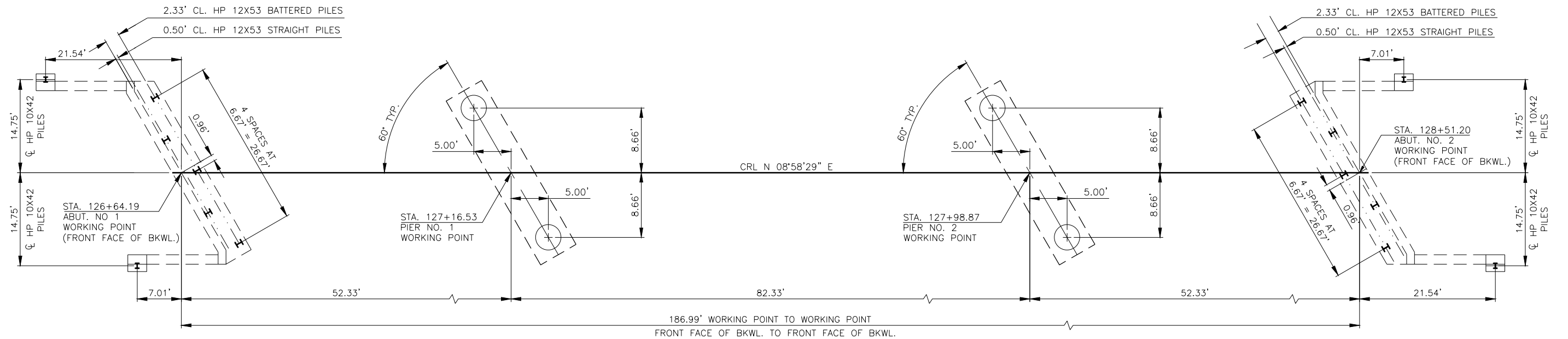
CONSTRUCT ALL DRIVES AND RAMPS PER STD. RDI-3.

**SUMMARY OF FENCING**

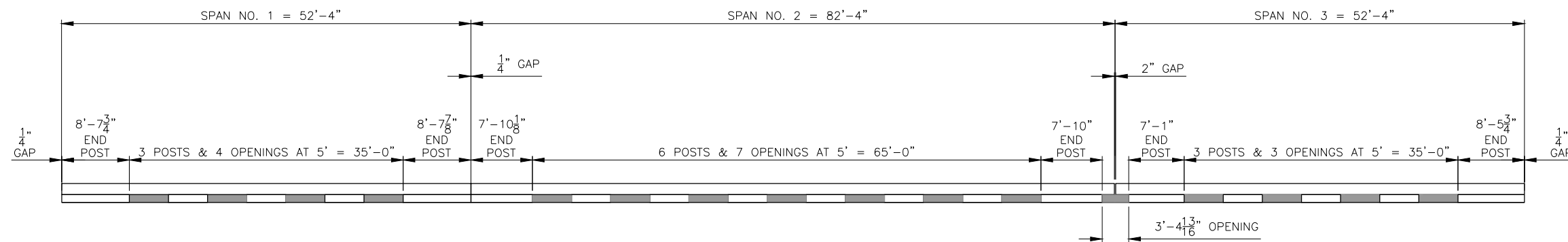
SHT. NO.	ALIGNMENT	TEMP. OR PERM.	LT.	RT.	STATION TO STATION	(4 BARBED WIRE)	(5 BARBED WIRE)
						(LF)	(LF)
9	NS SL 315	PERM.		X	116+30 - 118+86	266	
9	NS SL 315	TEMP.		X	116+30 - 118+86	266	
9	NS SL 315	PERM.	X		116+30 - 126+58	1,080	
9	NS SL 315	TEMP.	X		116+30 - 126+58	1,080	
9	NS SL 315	PERM.		X	119+32 - 126+42	832	
9	NS SL 315	TEMP.		X	119+32 - 126+42	832	
9	NS SL 315	PERM.	X		127+29 - 128+50		118
9	NS SL 315	TEMP.	X		127+29 - 128+50	118	
9,10	NS SL 315	PERM.	X		129+37 - 137+25	834	
9,10	NS SL 315	TEMP.	X		129+37 - 137+25	834	
9,10	NS SL 315	PERM.		X	129+63 - 135+81		638
9,10	NS SL 315	TEMP.		X	129+63 - 135+81	638	
9,10	NS SL 315	PERM.	X		135+97 - 138+00		210
9,10	NS SL 315	TEMP.	X		135+97 - 138+00	210	
11	EW SL 194	PERM.		X	27+60 - 34+74	756	
11	EW SL 194	TEMP.	X		27+60 - 34+74	756	
11	EW SL 194	PERM.	X		28+78 - 35+09	668	
11	EW SL 194	TEMP.	X		28+78 - 35+09	668	
TOTALS						9,838	966



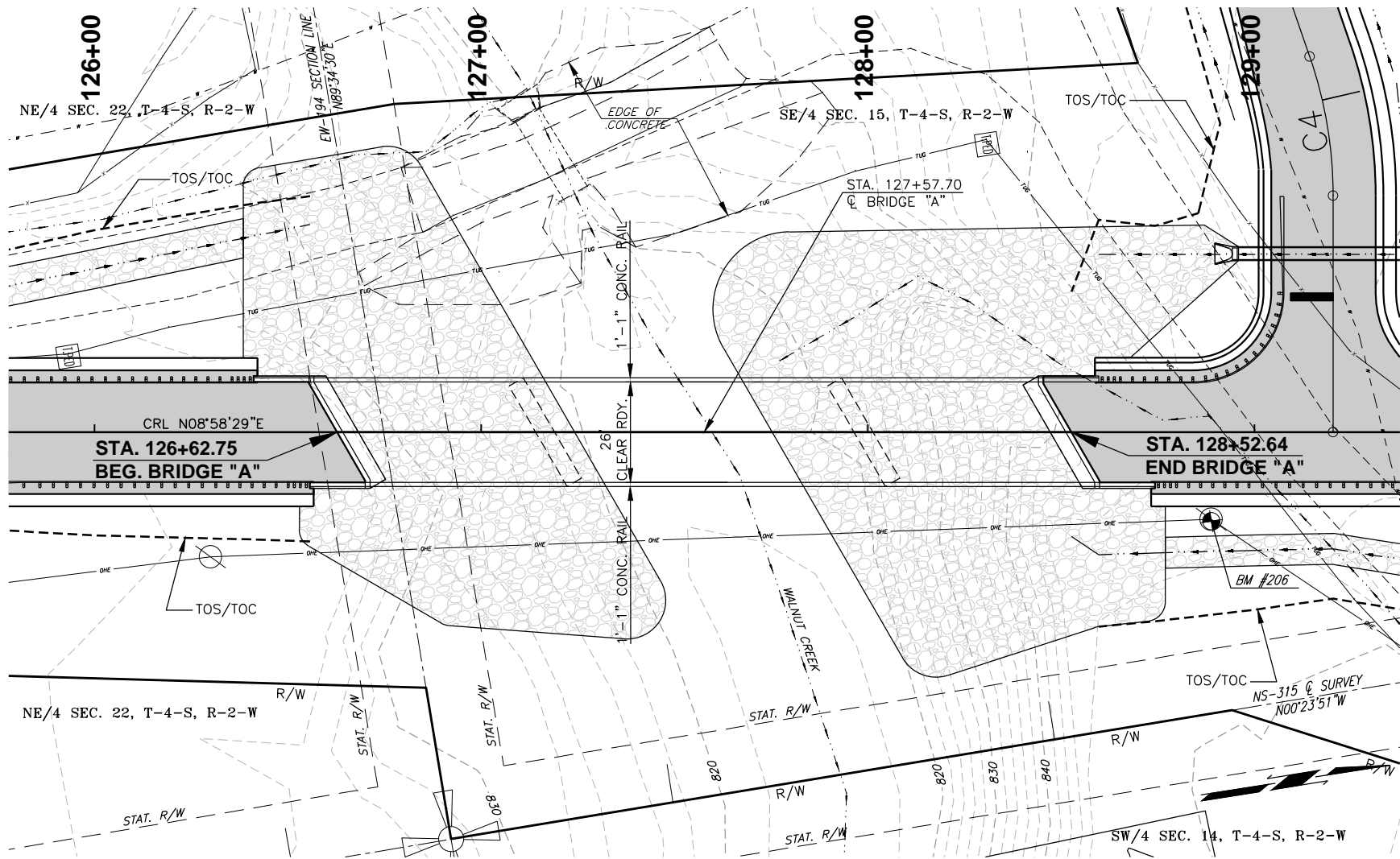
**GUARDRAIL BEND DETAIL**



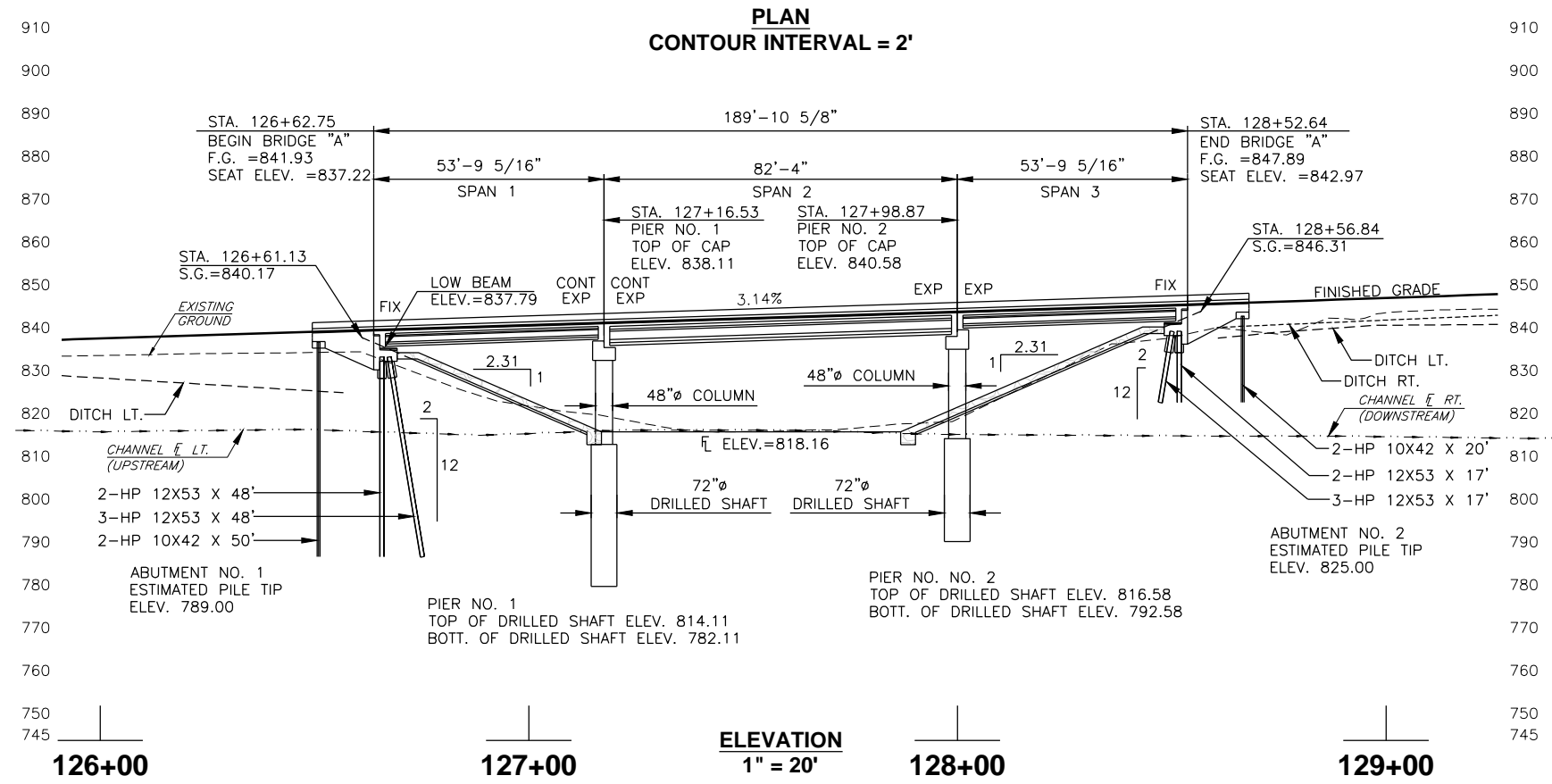
**STAKING DIAGRAM BRIDGE "A"**



**CONCRETE RAIL (TR3) DETAIL**



**PLAN**  
CONTOUR INTERVAL = 2'



**ELEVATION**  
1" = 20'

APPROX. LIMITS OF RIPRAP: 74 FEET LEFT, 63 FEET RIGHT.  
CARRY RIPRAP TO SECOND GUARD RAIL POST AT EACH WING WALL  
UNLESS OTHERWISE SHOWN.

HYDRAULIC DATA			
TOTAL DRAINAGE AREA = 81.16 SQ. MI.			
CONTROLLED DRAINAGE AREA = 20.71 SQ. MI.			
EFFECTIVE DRAINAGE AREA = 60.45 SQ. MI.			
Q2 = 2,330 CFS	Q25 = 10,800 CFS		
V2 = 2.73 FPS	V25 = 6.95 FPS		
CHW = 828.45 FT	CHW = 836.69 FT		
Q5 = 4,730 CFS	Q50 = 14,000 CFS		
V5 = 4.18 FPS	V50 = 8.25 FPS		
CHW = 831.22 FT	CHW = 836.71 FT		
Q10 = 7,020 CFS	Q100 = 17,100 CFS		
V10 = 5.34 FPS	V100 = 9.58 FPS		
CHW = 833.43 FT	CHW = 837.54 FT		
Qot = Q16			

LOAD AND RESISTANCE FACTOR DESIGN DATA	
CONCRETE CLASS AA	f'c = 4 KSI
CONCRETE CLASS A	f'c = 3 KSI
REINF. STEEL	fy = 60 KSI
STRUCTURAL STEEL	
M270 (GRADE 50W)	Fy = 50 KSI
LFD OPERATING RATING: HS 29.0	
LOADING: HL-93	
20 P.S.F. FUTURE WEARING SURFACE.	
5 P.S.F. STAY-IN-PLACE FORMS	
DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION WITH 2010 INTERIMS, EXCEPT AS MODIFIED BY CURRENT ODOT BRIDGE DIVISION DESIGN POLICIES. ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.	

PIER FOUNDATION LOADS				
LOCATION	DESIGN LOAD PER SHAFT	FRICTION* (TONS)	BEARING (TONS)	TOTAL (TONS)
PIER NO. 1	264.6	264.6	316.7	581.3
PIER NO. 2	286.7	286.7	277.1	563.8

PERMITTED FOUNDATION RESISTANCE:  
POINT BEARING: PIER 1-16 TONS/S.F., PIER 2-14 TONS/S.F.  
\*FRICTION: PIER 1-2.6 TONS/S.F., PIER 2-2.6 TONS/S.F.  
\*NEGLECT TOP 6 FEET OF SHALE FOR FRICTION.

ABUTMENT FOUNDATION DATA	
<b>ABUTMENTS: HP 12X53 PILING</b>	<b>ABUTMENTS NO. 1 &amp; 2</b>
FACTORED PILE REACTION	67.6 TON/PILE
SEE SHEET NO. AX01 FOR PILE DRIVING AND CAPACITY NOTES. ALL ABUTMENT PILING SHALL BE DRIVEN THROUGH THE COMPACTED FILL. PILING SHALL BE DRIVEN TO POINT BEARING ON SOLID FOUNDATION MATERIAL AT THE APPROXIMATE ELEVATION SHOWN ON THE PLANS. IF THE REQUIRED CAPACITY IS NOT OBTAINED AT THIS ELEVATION, DRIVING SHALL CONTINUE UNTIL THE REQUIRED CAPACITY IS OBTAINED. THE LENGTH OF STEEL PILING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY.	

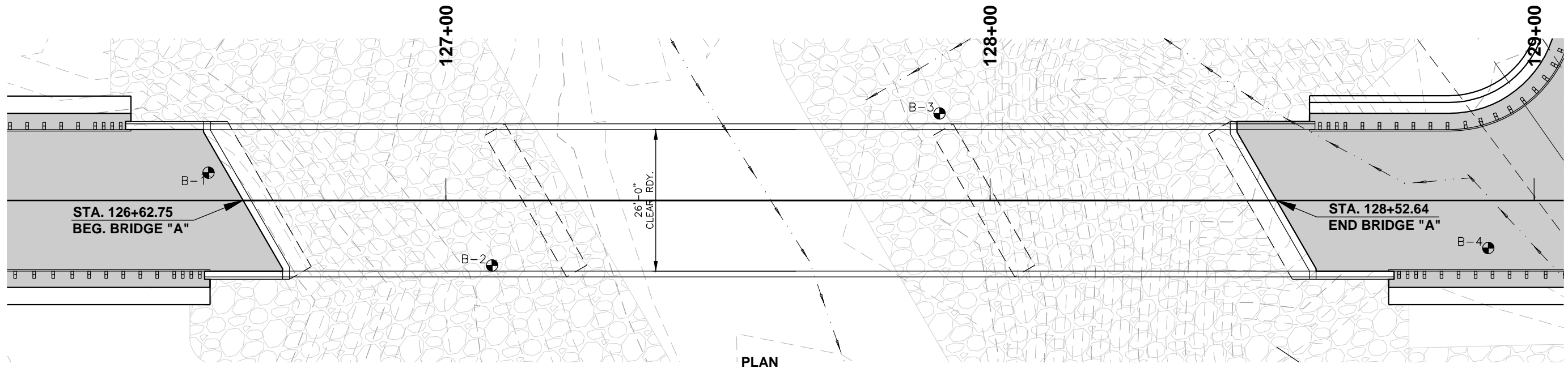
BRIDGE "A" PAY QUANTITIES						
50'-80'-50' X 26' CLEAR ROADWAY PCB SPAN SKEWED 30 DEGREES RIGHT FORWARD						
ITEM	DESCRIPTION	UNITS	ABUTMENTS	SUPSTR.	PIERS	TOTALS
501(B)	SUBSTRUCTURE EXCAVATION COMMON	CY	190.00			190.00
*501(G)	CLSM BACKFILL	CY	88.00			88.00
503(A)	PRESTRESSED CONCRETE BEAMS (TYPE II)	LF		298.00		298.00
503(A)	PRESTRESSED CONCRETE BEAMS (TYPE III)	LF		239.00		239.00
504(B)	SAW-CUT GROOVING	SY		455.90		455.90
504(C)	SEALED EXPANSION JOINT	LF		33.06		33.06
504(D)	CONCRETE RAIL (TR3)	LF	57.60	379.90		437.50
506(A)	STRUCTURAL STEEL	LB		1,220.00		1,220.00
507(A)	WEATHERING STEEL FIXED BEARING ASSEMBLY	EA		6.00		6.00
507(B)	WEATHERING STEEL EXPANSION BEARING ASSEMBLY	EA		12.00		12.00
509(A)	CLASS AA CONCRETE	CY		146.70		146.70
509(B)	CLASS A CONCRETE	CY	68.00		102.80	170.80
511(A)	REINFORCING STEEL	LB	9,780.00	41,960.00	17,520.00	69,260.00
514(A)	PILES, FURNISHED (HP 10X42)	LF	140.00			140.00
514(A)	PILES, FURNISHED (HP 12X53)	LF	325.00			325.00
514(B)	PILES, DRIVEN (HP 10X42)	LF	140.00			140.00
514(B)	PILES, DRIVEN (HP 12X53)	LF	325.00			325.00
514(L)	PILE SPLICE, H-PILE (NON-BIDDABLE)	EA	1.00			1.00
516(A)	DRILLED SHAFTS 72" DIAMETER	LF			112.00	112.00
516(C)	CROSSHOLE SONIC LOGGING	EA			1.00	1.00
601(B)	TYPE I-A PLAIN RIPRAP	TON	1,857.00			1,857.00
601(C)	TYPE I-A FILTER BLANKET	TON	523.00			523.00
613(H)	6" PERFORATED PIPE UNDERDRAIN ROUND	LF	60.00			60.00
613(I)	6" NON-PERF. PIPE UNDERDRAIN RND.	LF	60.00			60.00
623(F)	GUARDRAIL ANCHOR UNIT (TYPE D-BF)	EA	4.00			4.00
623(F)	GUARDRAIL ANCHOR UNIT (TYPE A)	EA	4.00			4.00
880(J)	CONSTRUCTION TRAFFIC CONTROL	LSUM	1.00			1.00

\*NOTE: CLSM TO BE USED IN PLACE OF GRANULAR BACKFILL. SEE DETAILS PROVIDED ON SHEETS B004 AND B010.

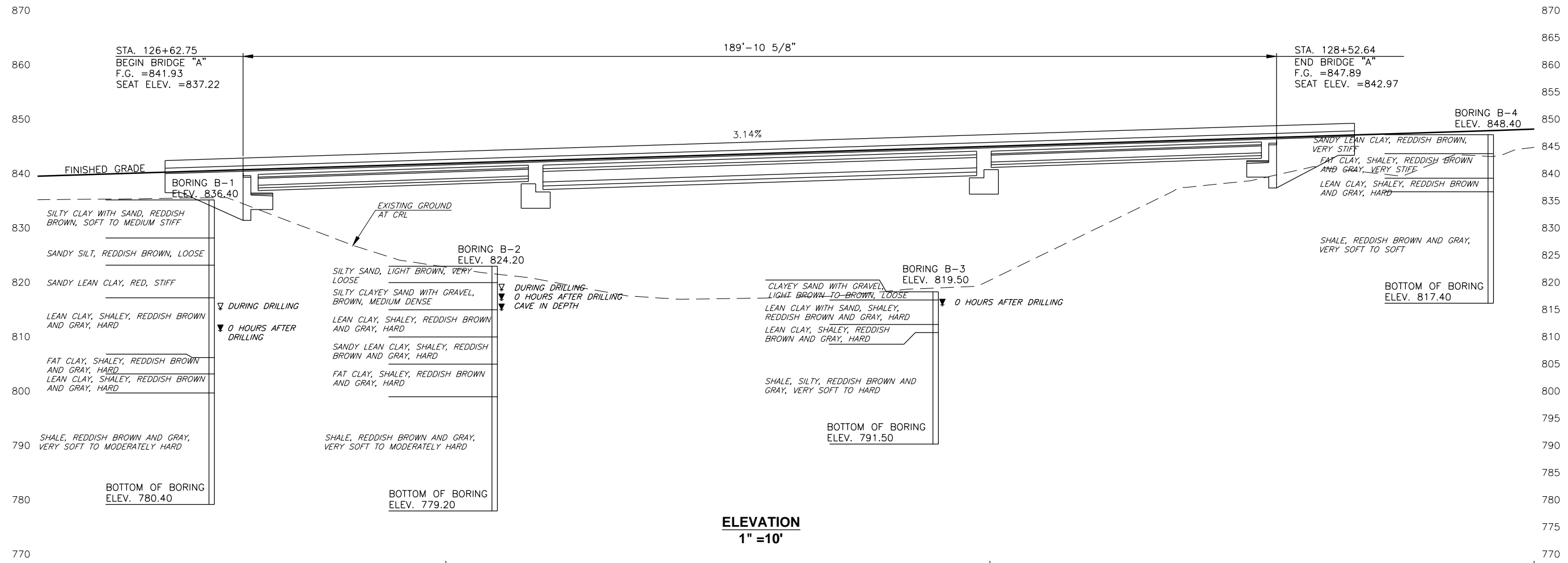
BRIDGE "A": CONST. 50' TYPE II - 80' TYPE III - 50' TYPE II  
P.C. BEAM CONVENTIONAL SPAN BRIDGE  
SK. 30' RT. FORWARD CL STATION 127+57.70.  
EXISTING STRUCTURE: 8'x4'x24' RCB (REMOVE).

BM #205 STA. 123+65.09 AT 167.58' LT.  
SET RR SPIKE E FACE 36" DBL TRUNK  
ELEV. 837.69'

BM #206 STA. 128+49.17 AT 49.12' LT.  
SET RR SPIKE N FACE PP  
ELEV. 848.63'



PLAN  
CONTOUR INTERVAL = 1'



ELEVATION  
1" = 10'

BM #205 STA. 123+65.09 AT 167.58' LT.  
SET RR SPIKE E FACE 36" DBL TRUNK  
ELEV. 837.69'

BM #206 STA. 128+49.17 AT 49.12' LT.  
SET RR SPIKE N FACE PP  
ELEV. 848.63'

BRIDGE "A": CONST. 50' TYPE II - 80' TYPE III - 50' TYPE II P.C. BEAM CONVENTIONAL SPAN BRIDGE SKEWED. 30° RT. FORWARD CL STATION 127+57.70.

**PENETROMETER RESULTS 127+00**

BORING B-1		
ELEV.	RESULTS	
800.40	50/3.5"	50/3.0"
795.40	50/5.3"	50/3.8"
790.40	50/1.5"	50/1.0"
785.40	50/3.5"	50/2.3"
780.40	50/3.0"	50/2.5"

**PENETROMETER RESULTS 127+00**

BORING B-2		
ELEV.	RESULTS	
799.20	50/5.5"	50/4.5"
794.20	50/1.1"	50/1.0"
789.20	50/3.8"	50/3.3"
784.20	50/4.5"	50/3.3"
779.20	50/2.5"	50/1.9"

**PENETROMETER RESULTS 128+00**

BORING B-3		
ELEV.	RESULTS	
811.50	50/2.0"	50/1.5"
806.50	50/1.1"	50/0.4"
801.50	50/5.0"	50/3.8"
796.50	50/4.4"	50/4.4"
791.50	50/4.4"	50/4.5"

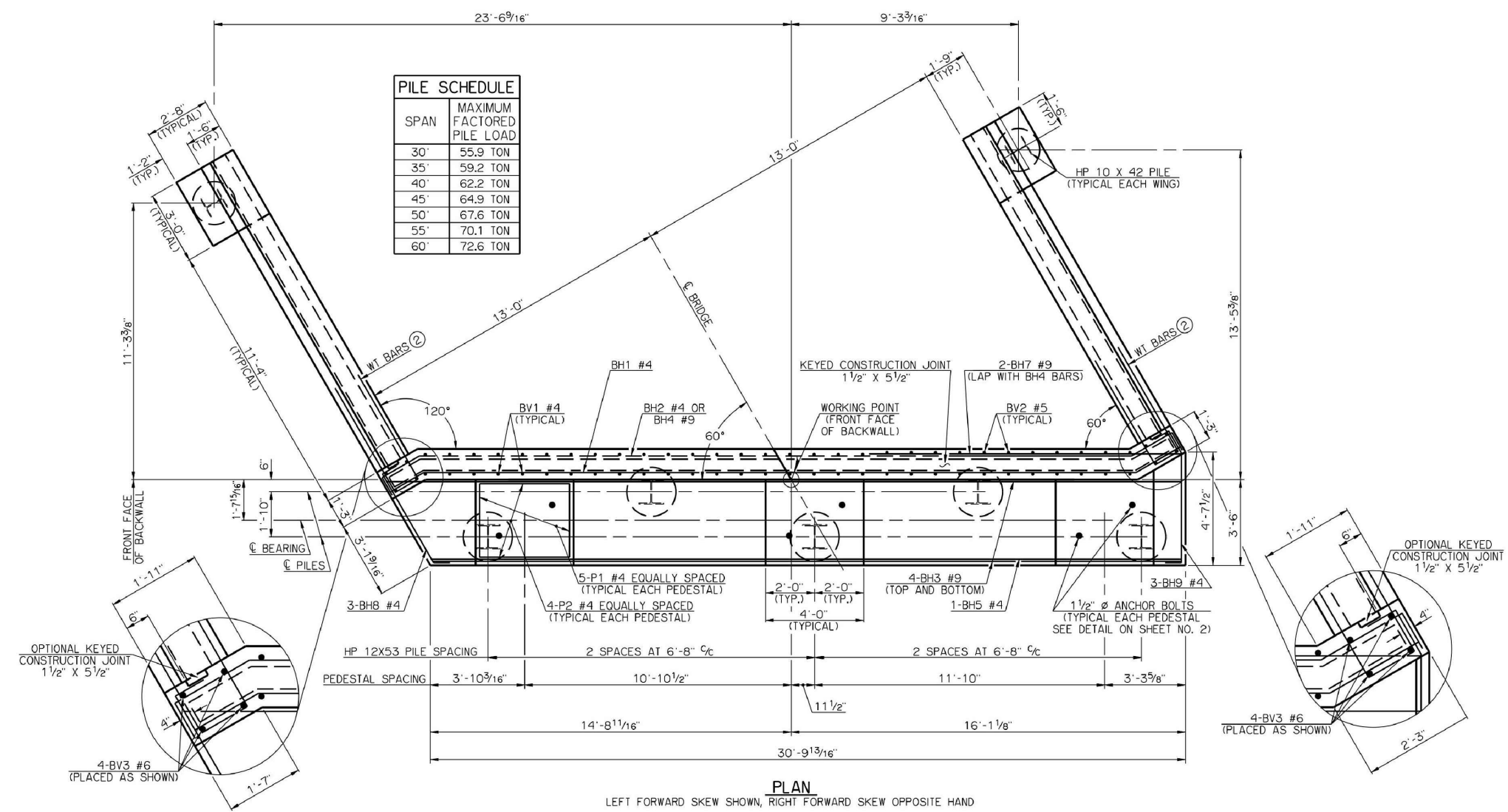
**PENETROMETER RESULTS 129+00**

BORING B-4		
ELEV.	RESULTS	
837.40	50/3.5"	50/3.3"
832.40	50/5.0"	50/4.0"
827.40	50/2.3"	50/1.3"
822.40	50/4.3"	50/3.8"
817.40	50/2.3"	50/1.0"

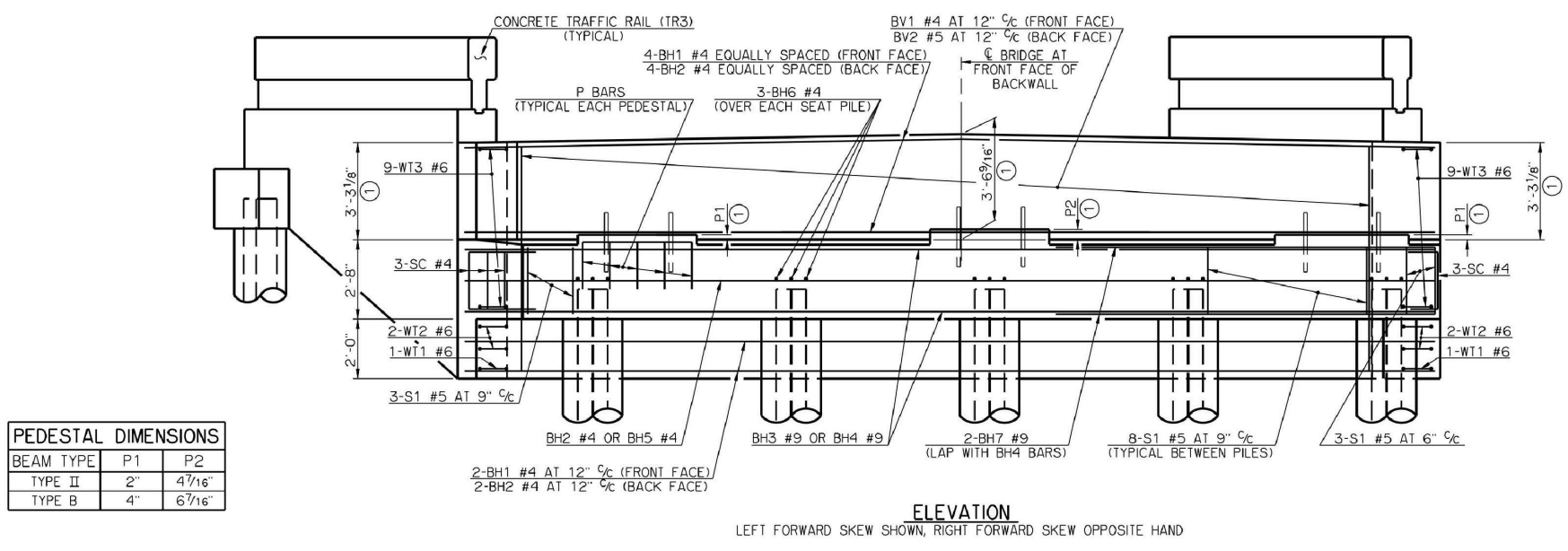
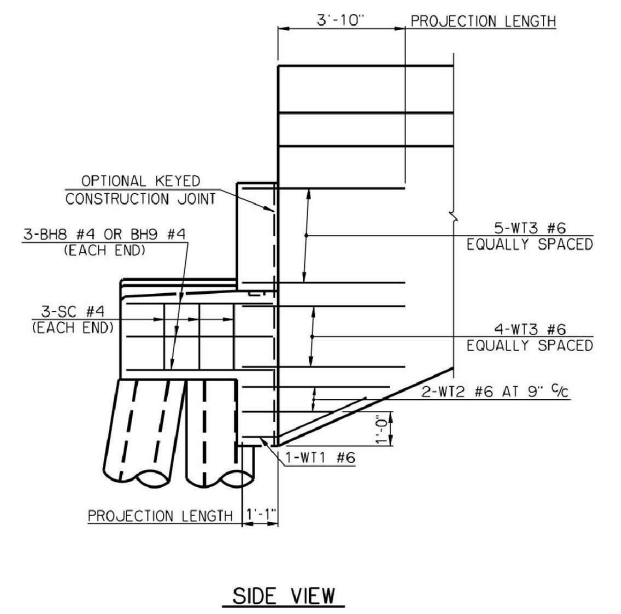
WALNUT CREEK CARTER COUNTY

**GEOTECHNICAL INFORMATION  
BRIDGE "A"**

JOB PIECE NO. 28448(04) SHEET NO. B003



PILE SCHEDULE	
SPAN	MAXIMUM FACTORED PILE LOAD
30'	55.9 TON
35'	59.2 TON
40'	62.2 TON
45'	64.9 TON
50'	67.6 TON
55'	70.1 TON
60'	72.6 TON



PEDESTAL DIMENSIONS		
BEAM TYPE	P1	P2
TYPE II	2"	4 7/16"
TYPE B	4"	6 7/16"

SUMMARY OF QUANTITIES - ONE ABUTMENT ③		
ITEM	UNIT	TOTAL
SUBSTRUCTURE EXCAVATION, COMMON	CY	65.00
CLSM BACKFILL	CY	44.00
CLASS A CONCRETE	CY	23.80
REINFORCING STEEL	LB	3,110.00
PILES, FURNISHED (HP 12X53)	LF	-
PILES, DRIVEN (HP 12X53)	LF	-
6" PERFORATED PIPE UNDERDRAIN	LF	30.00
6" NON-PERFORATED PIPE UNDERDRAIN	LF	-

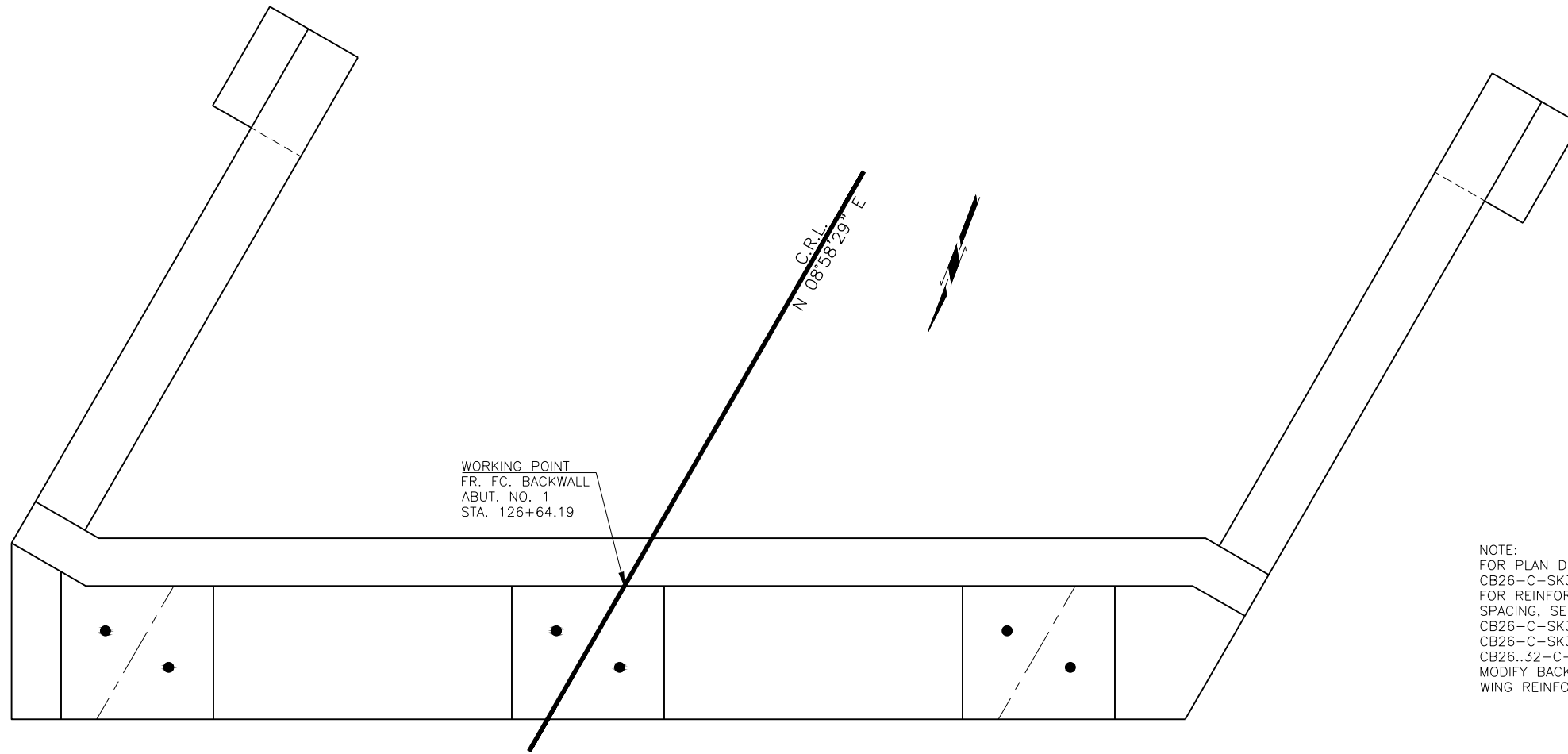
- ① DIMENSIONS ARE FROM TOP OF BRIDGE SEAT AT FRONT FACE OF BACKWALL.
- ② ALL WT WING REINFORCING STEEL TIED TO THE ABUTMENT BRIDGE SEAT, BACKWALL AND CURTAIN WALL REINFORCING STEEL MUST BE IN PLACE PRIOR TO POURING ABUTMENT CONCRETE. FOR ADDITIONAL INFORMATION SEE WING DETAILS.
- ③ EXCLUDES WINGS

WALNUT CREEK CARTER COUNTY

### ABUTMENT DETAILS

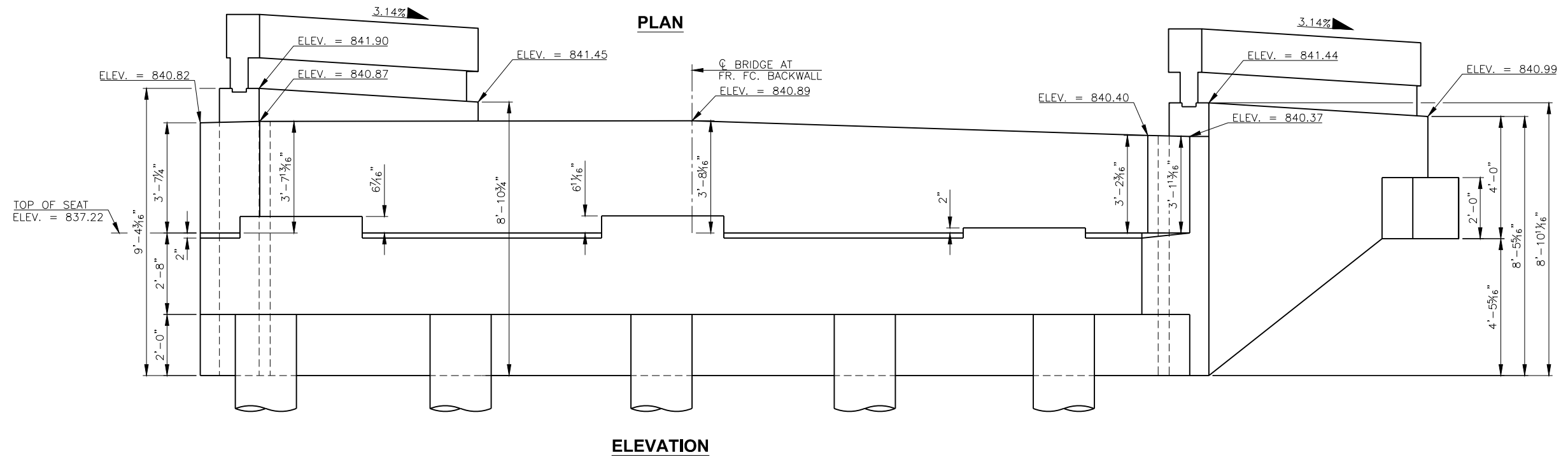
JOB PIECE NO. 28448(04) SHEET NO. B004





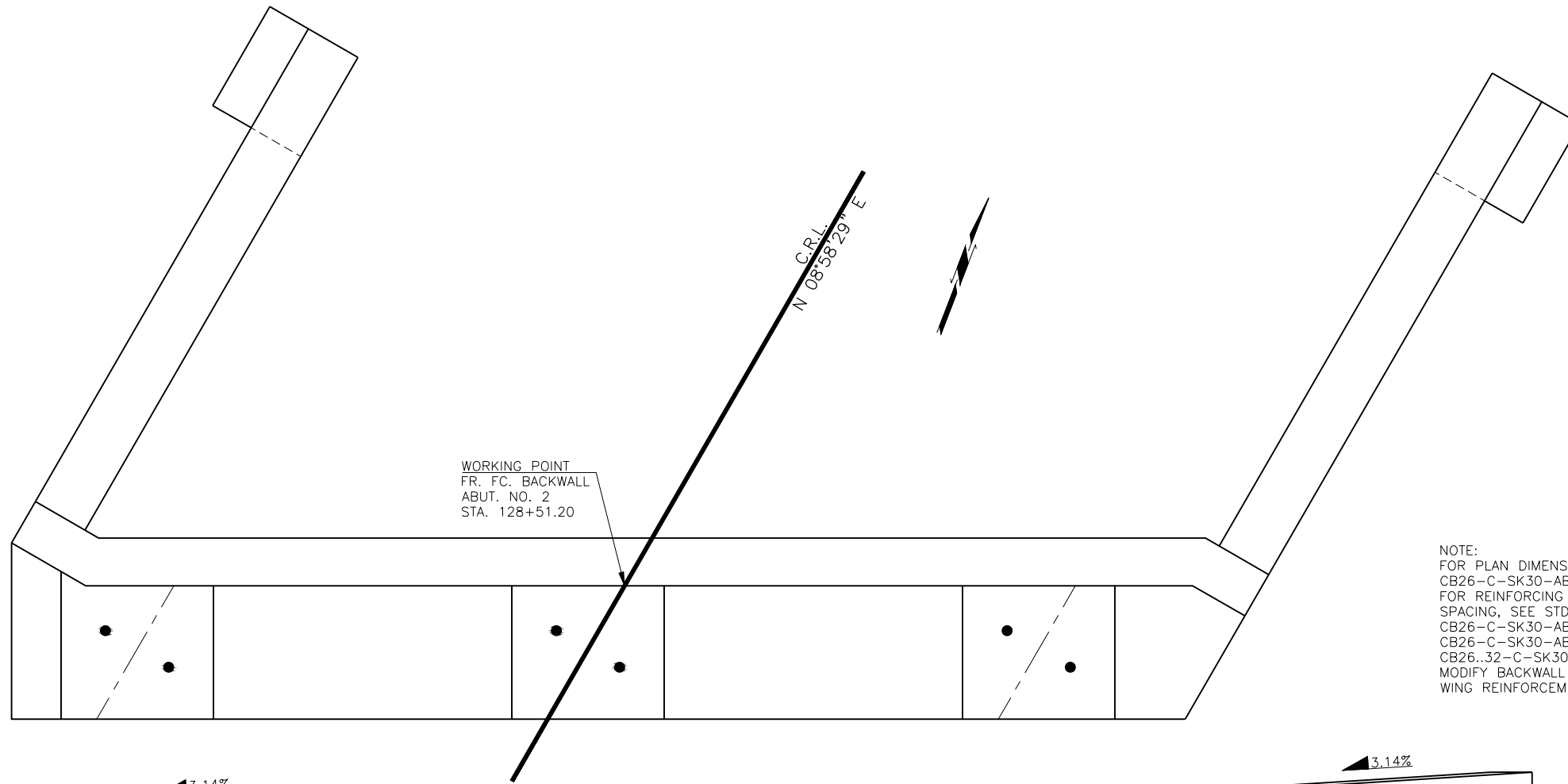
WORKING POINT  
FR. FC. BACKWALL  
ABUT. NO. 1  
STA. 126+64.19

NOTE:  
FOR PLAN DIMENSIONS, SEE STD.  
CB26-C-SK30-ABUT-PC2-1-01E.  
FOR REINFORCING DETAILS AND PILE  
SPACING, SEE STDS.  
CB26-C-SK30-ABUT-PC2-1-01E,  
CB26-C-SK30-ABUT-PC2-2-02E, AND  
CB26.32-C-SK30-WING-PC2-01E.  
MODIFY BACKWALL REINFORCEMENT AND  
WING REINFORCEMENT TO FIT.



PLAN

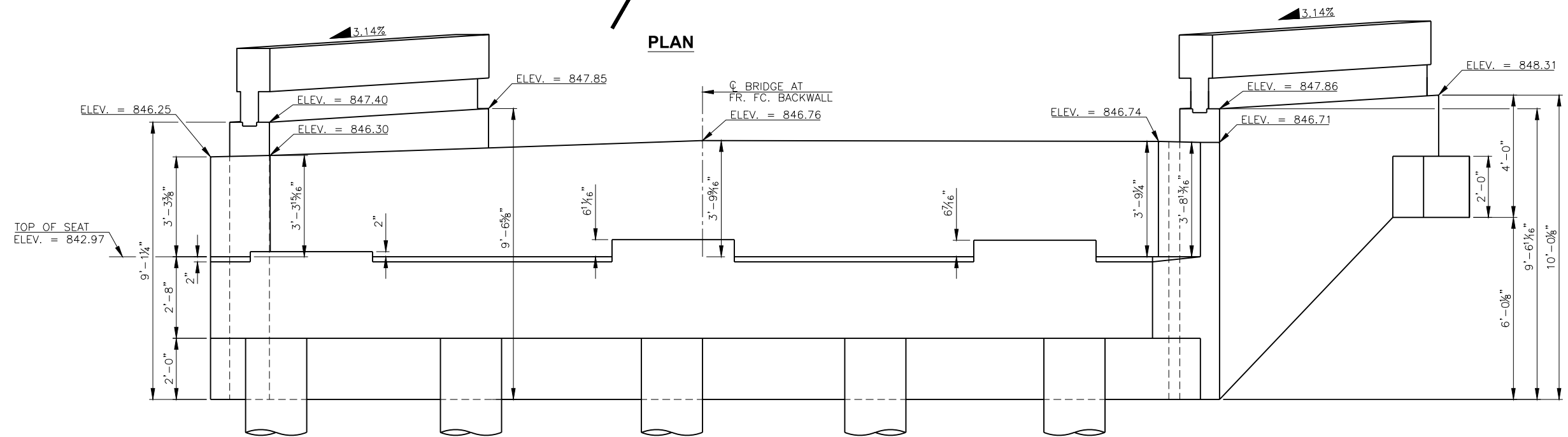
ELEVATION



WORKING POINT  
FR. FC. BACKWALL  
ABUT. NO. 2  
STA. 128+51.20

NOTE:  
FOR PLAN DIMENSIONS, SEE STD.  
CB26-C-SK30-ABUT-PC2-1-01E.  
FOR REINFORCING DETAILS AND PILE  
SPACING, SEE STDS.  
CB26-C-SK30-ABUT-PC2-1-01E,  
CB26-C-SK30-ABUT-PC2-2-02E, AND  
CB26.32-C-SK30-WING-PC2-01E.  
MODIFY BACKWALL REINFORCEMENT AND  
WING REINFORCEMENT TO FIT.

**PLAN**



**ELEVATION**

**PIER NO. 1 BAR LIST**

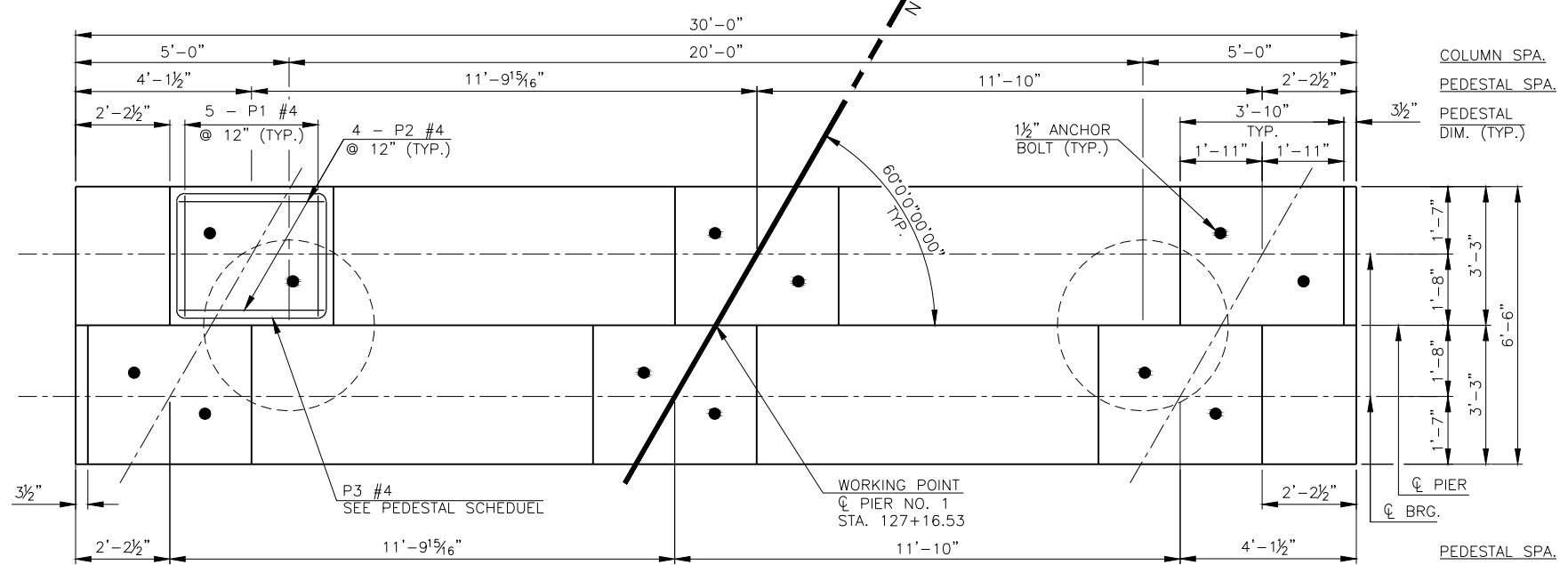
PLAIN REINFORCING				
MARK	SIZE	NO.	FORM	LENGTH
CS1	W20	2	BNT.	462'-1"
CV1	#9	34	STR.	30'-11"
DS1	W20	2	BNT.	1030'-3"
DV1	#11	52	STR.	31'-6"
P1	#4	30	BNT.	5'-10"
P2	#4	24	BNT.	6'-5"
P3	#4	4	BNT.	13'-7"
PH1	#5	10	STR.	29'-8"
PH2	#8	16	BNT.	31'-6"
PH3	#8	16	STR.	29'-8"
PH4	#5	6	BNT.	7'-8"
PV1	#5	6	BNT.	5'-0"
PV2	#5	4	BNT.	5'-8"
S1	#5	52	BNT.	16'-3"
S2	#5	26	BNT.	9'-5"
T1	#4	16	BNT.	14'-0"

NOTE:  
FOR ANCHOR BOLT  
LAYOUTS, SEE SHEET B009.

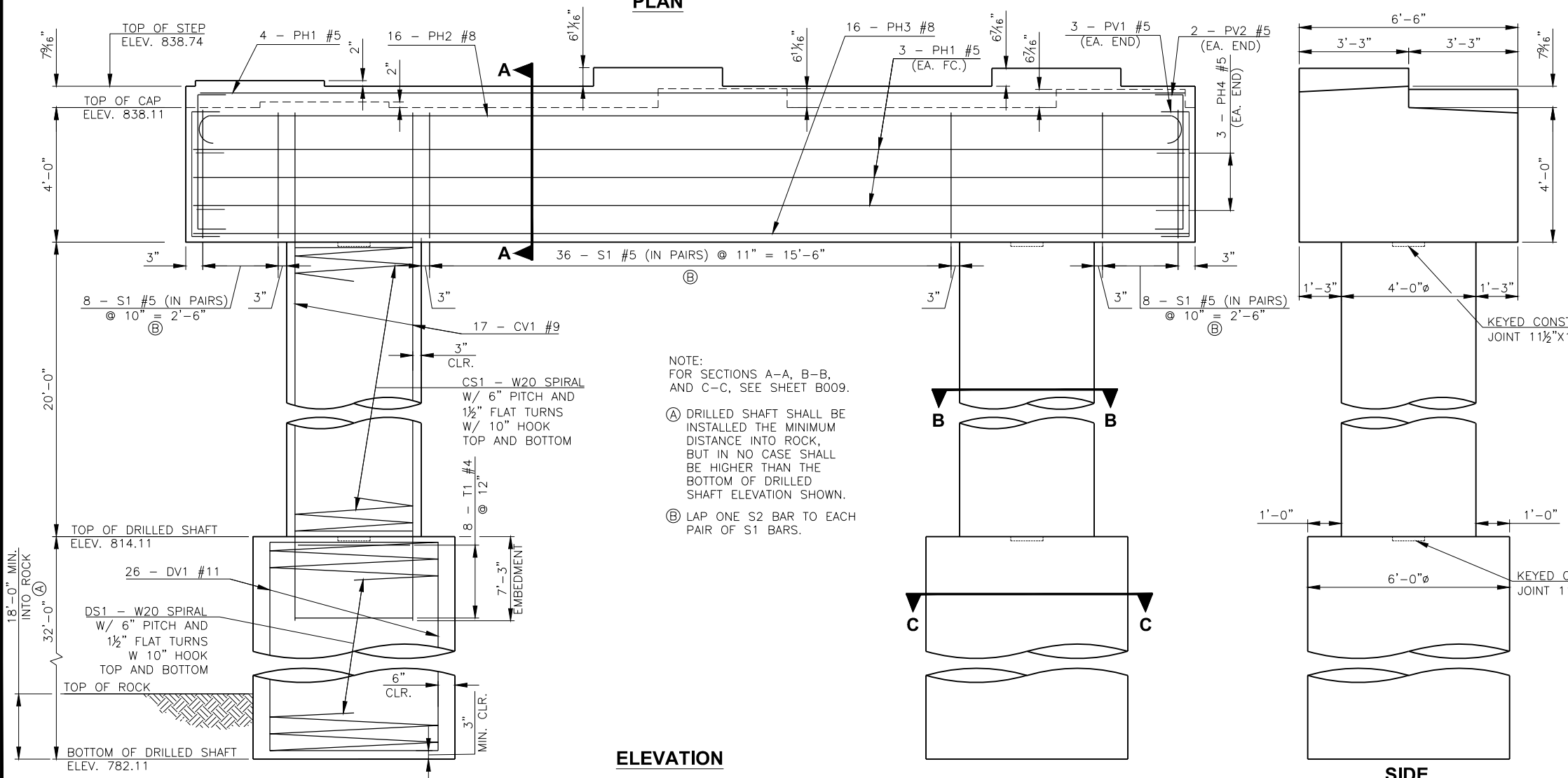
**PEDESTAL SCHEDULE**

PEDESTAL HEIGHT	# OF P3 BARS
0"-5"	0
5"-11"	1

- ① LENGTH SHOWN DOES NOT ACCOUNT FOR SPLICES. CONTRACTOR MAY ADD SPLICES AS NECESSARY, BUT PAYMENT WILL NOT BE MADE FOR EXTRA LENGTH REQUIRED FOR SPLICES.
- ② INCLUDED IN THE CONTRACT UNIT PRICE OF DRILLED SHAFTS.



**PLAN**



**ELEVATION**

**SIDE**

NOTE:  
FOR SECTIONS A-A, B-B,  
AND C-C, SEE SHEET B009.

Ⓐ DRILLED SHAFT SHALL BE INSTALLED THE MINIMUM DISTANCE INTO ROCK, BUT IN NO CASE SHALL BE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN.

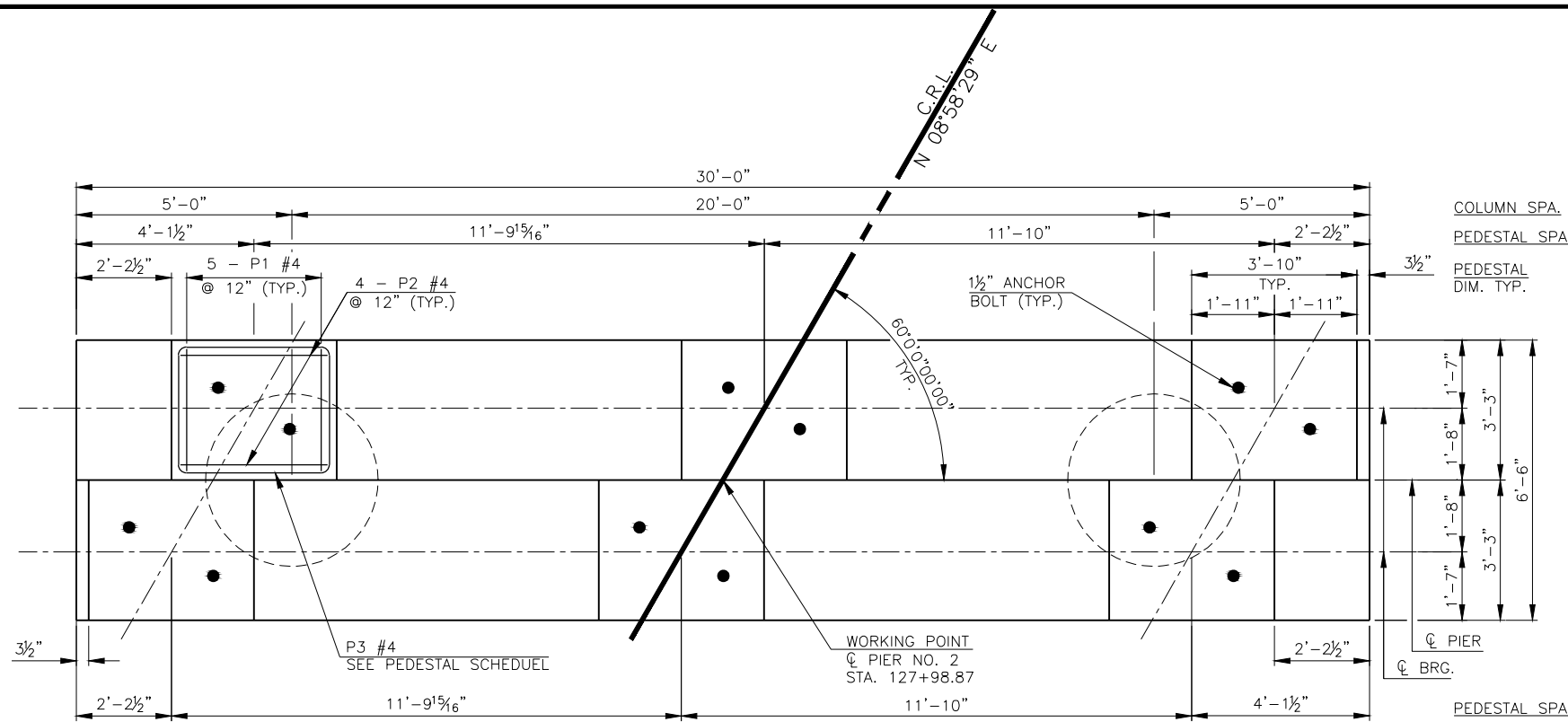
Ⓑ LAP ONE S2 BAR TO EACH PAIR OF S1 BARS.

WALNUT CREEK CARTER COUNTY

**PIER NO. 1 DETAILS**

JOB PIECE NO. 28448(04) SHEET NO. B007

N:\OKC\Bridge\Projects\Production\CEC County Department\13228 Walnut Creek - Carter County\Drawings\PIER NO. 1 DETAILS.dwg, 4/20/2017 8:19:10 AM, James Rinehart



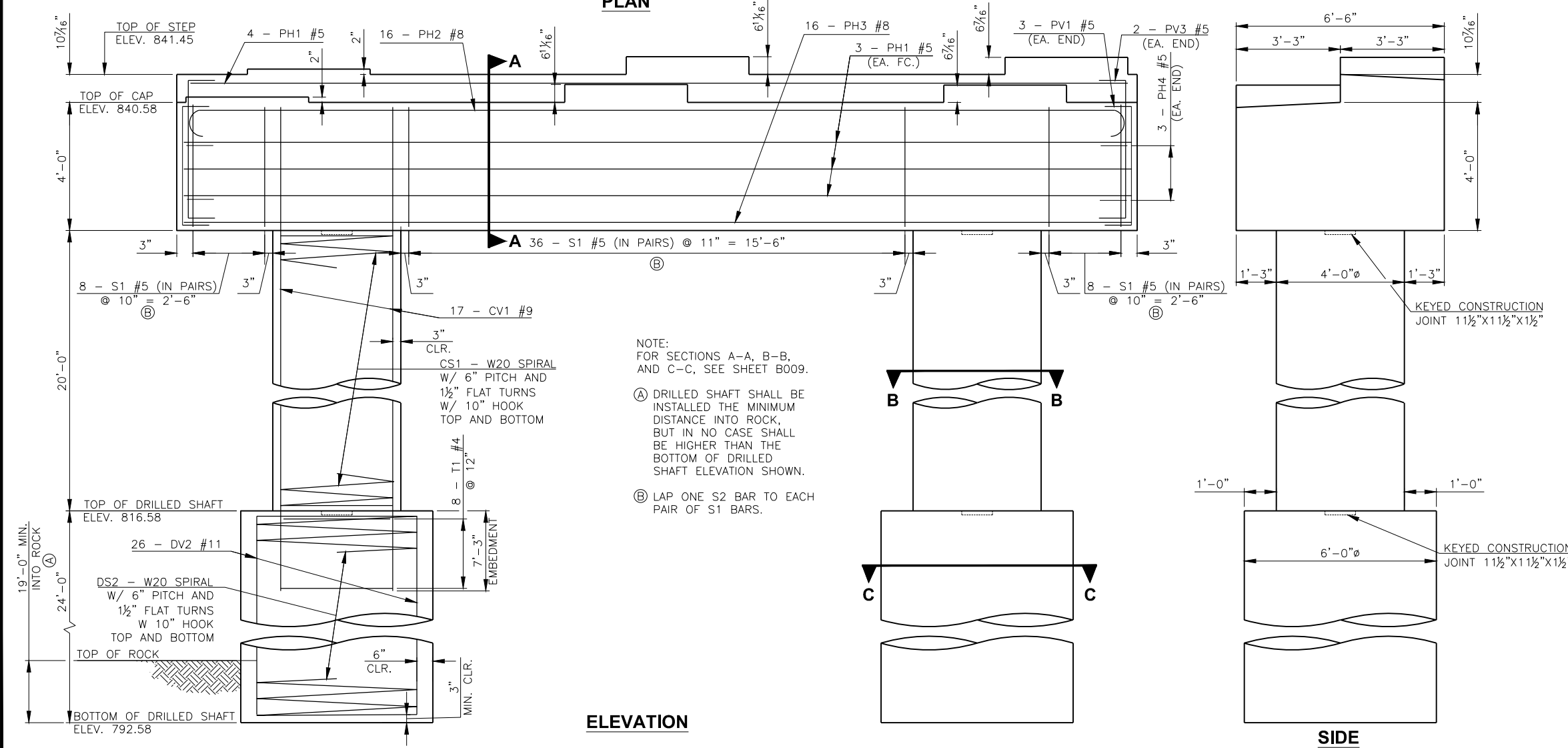
NOTE:  
FOR ANCHOR BOLT  
LAYOUTS, SEE SHEET B009.

PEDESTAL SCHEDULE	
PEDESTAL HEIGHT	# OF P3 BARS
0"-5"	0
5"-11"	1

PIER NO. 2 BAR LIST				
PLAIN REINFORCING				
MARK	SIZE	NO.	FORM	LENGTH
CS1	W20	2	BNT.	462'-1"
CV1	#9	34	STR.	30'-11"
DS2	W20	2	BNT.	780'-11"
DV2	#11	52	STR.	23'-6"
P1	#4	30	BNT.	5'-10"
P2	#4	24	BNT.	6'-5"
P3	#4	4	BNT.	13'-7"
PH1	#5	10	STR.	29'-8"
PH2	#8	16	BNT.	31'-6"
PH3	#8	16	STR.	29'-8"
PH4	#5	6	BNT.	7'-8"
PV1	#5	6	BNT.	5'-0"
PV3	#5	4	BNT.	5'-11"
S1	#5	52	BNT.	16'-3"
S2	#5	26	BNT.	9'-5"
T1	#4	16	BNT.	14'-0"

- ① LENGTH SHOWN DOES NOT ACCOUNT FOR SPLICES. CONTRACTOR MAY ADD SPLICES AS NECESSARY, BUT PAYMENT WILL NOT BE MADE FOR EXTRA LENGTH REQUIRED FOR SPLICES.
- ② INCLUDED IN THE CONTRACT UNIT PRICE OF DRILLED SHAFTS.

**PLAN**



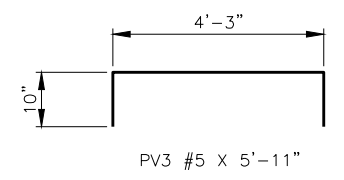
**ELEVATION**

**SIDE**

NOTE:  
FOR SECTIONS A-A, B-B,  
AND C-C, SEE SHEET B009.

Ⓐ DRILLED SHAFT SHALL BE  
INSTALLED THE MINIMUM  
DISTANCE INTO ROCK,  
BUT IN NO CASE SHALL  
BE HIGHER THAN THE  
BOTTOM OF DRILLED  
SHAFT ELEVATION SHOWN.

Ⓑ LAP ONE S2 BAR TO EACH  
PAIR OF S1 BARS.



NOTE:  
FOR ADDITIONAL BAR BENDS,  
SEE SHEET B007.

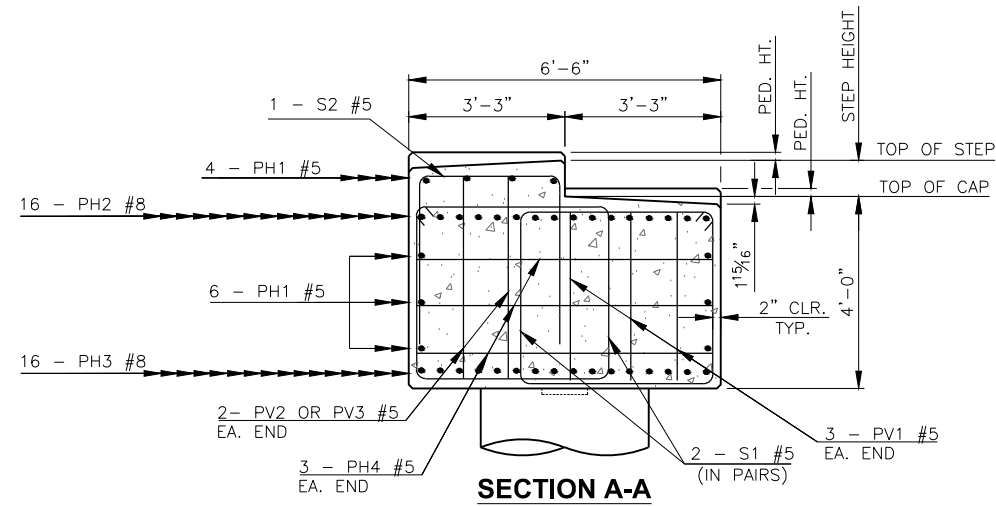
WALNUT CREEK CARTER COUNTY

**PIER NO. 2 DETAILS**

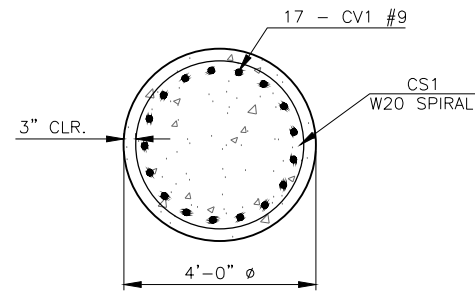
JOB PIECE NO. 28448(04) SHEET NO. B008

N:\OKC\Bridge\Projects\Production\CEC County Department\13228 Walnut Creek - Carter County\Drawings\18 PIER NO 2 DETAILS.dwg, 4/20/2017 8:15:15 AM, James Rinehart

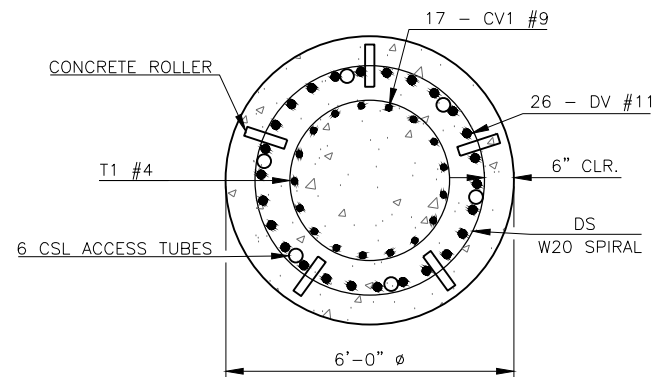




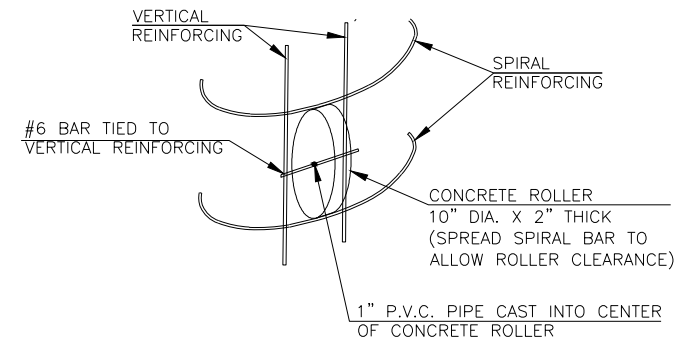
**SECTION A-A**



**SECTION B-B**



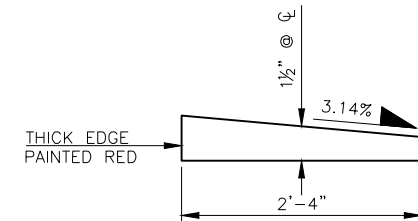
**SECTION C-C**



**DRILLED SHAFT ROLLER DETAIL**

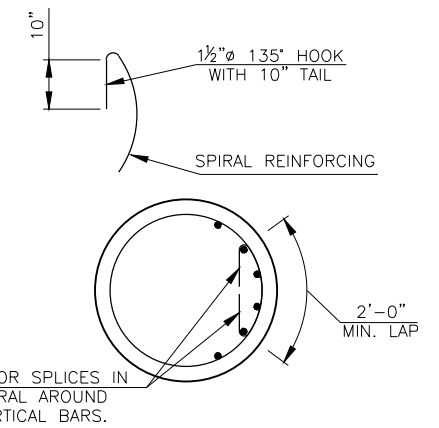
NOTE:  
CONCRETE USED IN THE CONCRETE ROLLER SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI. SLAB BOLSTERS, HIGH CHAIRS, OR PLASTIC ROLLERS SHALL NOT BE SUBSTITUTED FOR THE CONCRETE ROLLERS.

THE CONTRACTOR MAY USE ALTERNATE METHODS OF MAINTAINING DRILLED SHAFT REINFORCING STEEL CLEARANCE, SUBJECT TO APPROVAL BY THE ENGINEER.

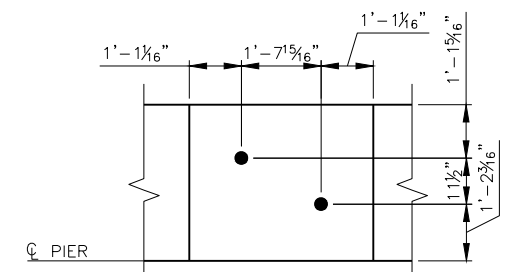


**BEVELED ANCHOR PLATE DETAILS**

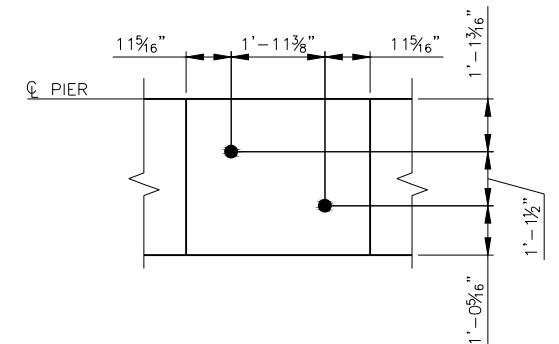
NOTE:  
THIS BRIDGE REQUIRES BEVELED ANCHOR PLATES. FOR ADDITIONAL DETAIL OF BEVELED ANCHOR PLATES, SEE STANDARD CB26-C-SK0..30-BRG-PC2-01E AND CB26-C-SK0..30-BRG-PC3-01E



**SPIRAL REINFORCING SPLICE DETAIL**

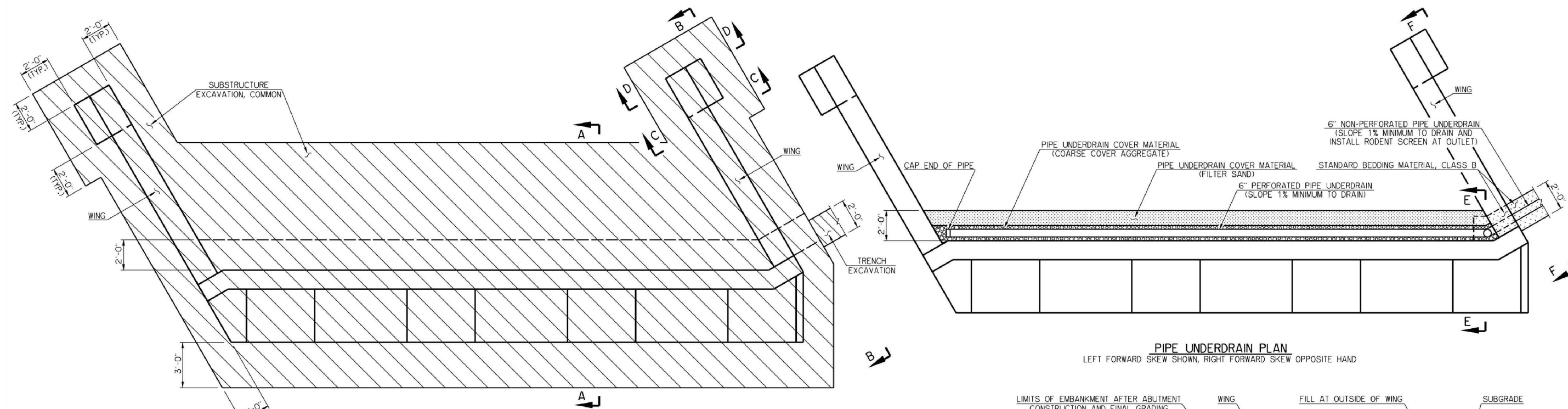


**TYPE II ANCHOR BOLT LAYOUT**



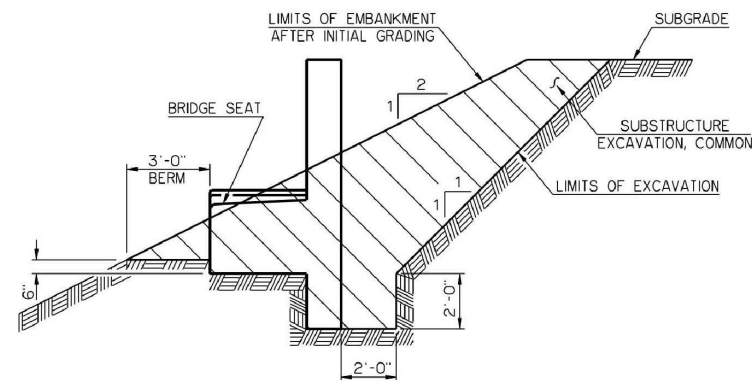
**TYPE III ANCHOR BOLT LAYOUT**

PIER QUANTITIES				
ITEM	UNIT	PIER NO. 1	PIER NO. 2	TOTAL
CLASS A CONCRETE	C.Y.	51.0	51.8	102.8
REINFORCING STEEL	LB.	8,760	8,760	17,520
DRILLED SHAFT 72" DIAMETER	L.F.	64	48	112
CROSSHOLE SONIC LOGGING	EA.	1		1

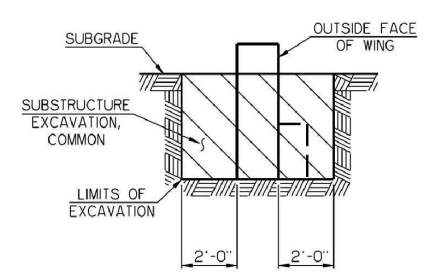


**EXCAVATION PLAN**  
LEFT FORWARD SKEW SHOWN, RIGHT FORWARD SKEW OPPOSITE HAND

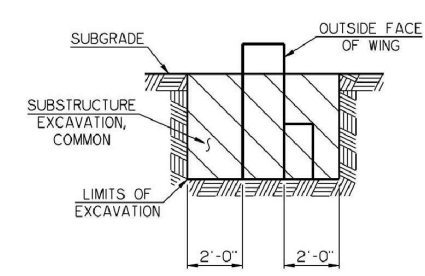
**PIPE UNDERDRAIN PLAN**  
LEFT FORWARD SKEW SHOWN, RIGHT FORWARD SKEW OPPOSITE HAND



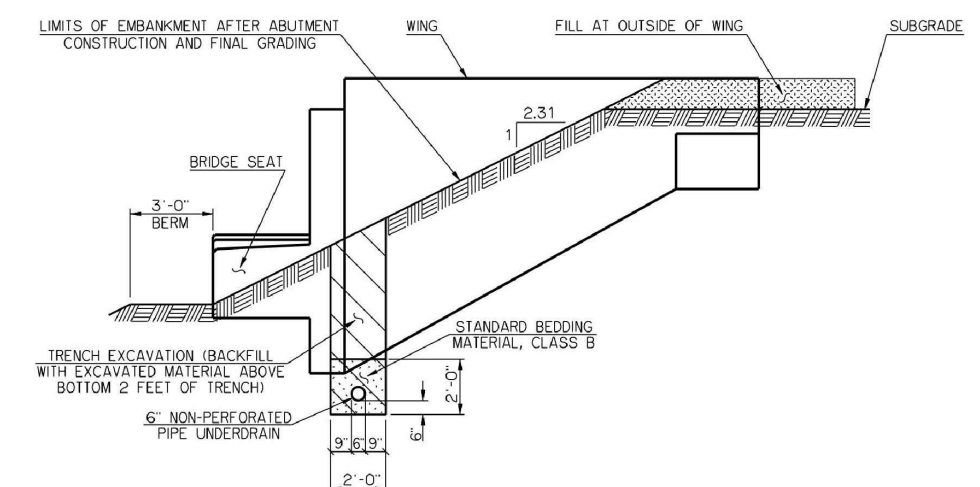
**SECTION A-A**



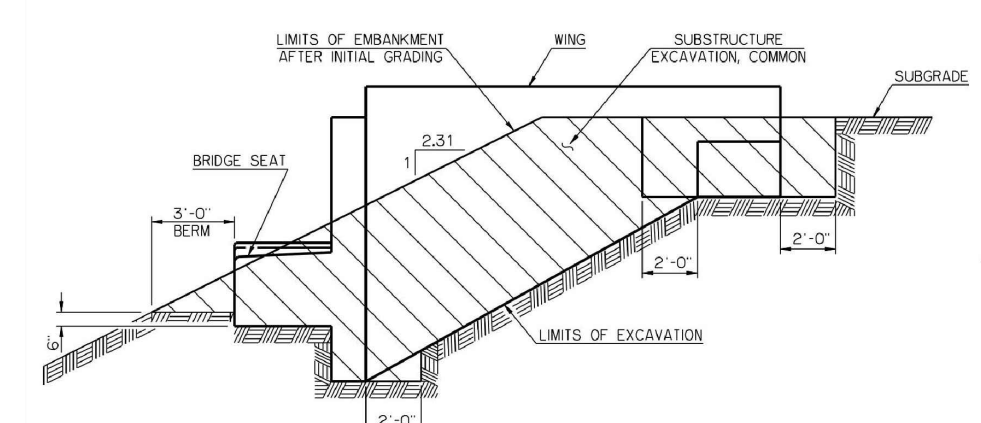
**SECTION C-C**



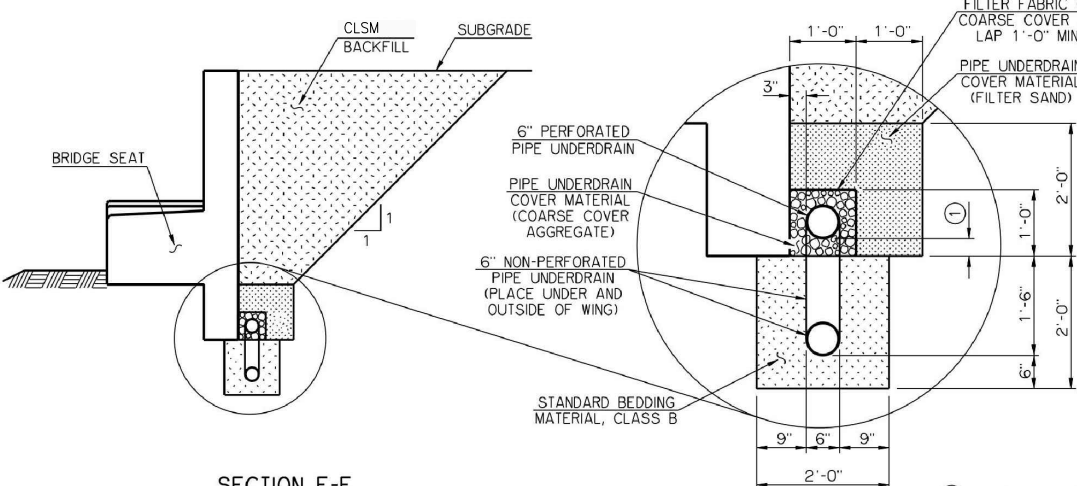
**SECTION D-D**



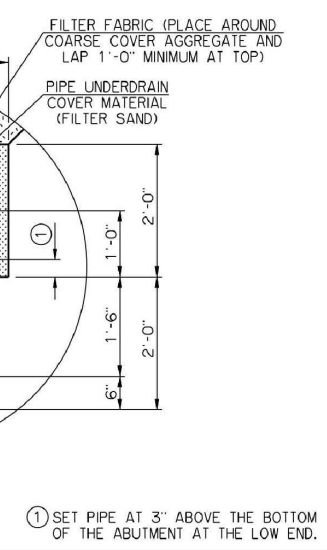
**SECTION F-F**



**SECTION B-B**



**SECTION E-E**



① SET PIPE AT 3" ABOVE THE BOTTOM OF THE ABUTMENT AT THE LOW END.

**NOTES**

CONCRETE MAY BE PLACED AGAINST THE LIMITS OF EXCAVATION IF THE MATERIAL IS EXCAVATED TO THE NEAT LINES OF THE ABUTMENT AND APPROVED BY THE ENGINEER. IF NECESSARY, FORMS SHALL BE USED ON THE BACK VERTICAL FACE OF THE ABUTMENT AND REMOVED AFTER THE CONCRETE HAS SET. THE MEASUREMENT AND PAYMENT FOR "SUBSTRUCTURE EXCAVATION COMMON" AT THE ABUTMENTS SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS.

CLSM BACKFILL SHALL NOT BE PLACED UNTIL THE CONCRETE IN THE ABUTMENT WINGS HAS ATTAINED A STRENGTH OF 3,000 PSI.

INSTALLATION OF THE PIPE UNDERDRAIN SHALL BE AS SHOWN IN THE PLANS AND ON ROADWAY STANDARD DRAWING PUD-3. THE EXTENT, LOCATION AND DEPTH OF THE 6" NON-PERFORATED PIPE UNDERDRAIN MAY BE ADJUSTED BY THE ENGINEER DURING CONSTRUCTION. ALL COST OF THE PERFORATED AND NON-PERFORATED PIPE, PIPE UNDERDRAIN COVER MATERIAL, FILTER FABRIC, TRENCH EXCAVATION, STANDARD BEDDING MATERIAL, PIPE CAPS, RODENT SCREENS, BACKFILLING OF TRENCH EXCAVATION, MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "6" PERFORATED PIPE UNDERDRAIN" AND "6" NON-PERFORATED PIPE UNDERDRAIN."

# STORM WATER MANAGEMENT PLAN

## SITE DESCRIPTION

PROJECT LIMITS: \_\_\_\_\_  
PROJECT LIES ALONG NORTH-SOUTH SECTION LINE 315 AND EAST-WEST  
SECTION LINE 194 WITHIN SECTIONS 14, 15, 22, AND 23, TOWNSHIP 4 SOUTH,  
RANGE 2 WEST, CARTER COUNTY, OKLAHOMA.

PROJECT DESCRIPTION: \_\_\_\_\_  
CONSTRUCTION OF A 50'-80'-50' PCB SPAN BRIDGE SKEWED RIGHT FROWARD  
AND ROADWAY APPROACHES.

- SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES: \_\_\_\_\_
1. INSTALL PERIMETER EROSION CONTROL DEVICES
  2. VEGETATIVE STRIPPING, UNDERCUT & STOCKPILE EXISTING TOPSOIL
  3. ROADWAY EXCAVATION AND EMBANKMENT
  4. INSTALL SILK FENCE, DIKES WITHIN PROJECT LIMITS
  5. ABUTMENT CONSTRUCTION
  6. PLACE CHANNEL RIP-RAP
  7. COMPLETE BRIDGE CONSTRUCTION
  8. CULVERT TRENCHING AND CONSTRUCTION
  9. VEGETATIVE MULCHING
  10. CONST. FINISHED ROADWAY PAVING
  11. SPREAD TOPSOIL
  12. INSTALL SOLID SLAB SOD

SOIL TYPE: \_\_\_\_\_ ALLUVIUM UNDERLAIN BY OSCAR UNIT

AREA TO BE DISTURBED: \_\_\_\_\_ 4.73 AC.

OFFSITE AREA TO BE DISTURBED: \_\_\_\_\_  
(FOR CONTRACTOR USE)

MAXIMUM ACRES TO BE DISTURBED AT ANY ONE TIME: \_\_\_\_\_  
(FOR CONTRACTORS USE)

LATITUDE & LONGITUDE OF CENTER OF PROJECT: \_\_\_\_\_  
34° 12' 08"  
97° 23' 16"

NAME OF RECEIVING WATERS: \_\_\_\_\_ WALNUT CREEK

SENSITIVE WATERS OR WATERSHEDS: YES  NO

303(d) IMPAIRED WATERS: YES  NO

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
- PERMANENT SODDING, SPRIGGING OR SEEDING
- VEGETATIVE MULCHING
- \_\_\_\_\_ SOIL RETENTION BLANKET
- PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS ARE TO BE USED ON  
ALL DISTURBED AREAS WHERE CONST. 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
- TEMPORARY SILT FENCE
- TEMPORARY SILT DIKES
- \_\_\_\_\_ TEMPORARY FIBER LOG
- \_\_\_\_\_ DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- \_\_\_\_\_ DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- \_\_\_\_\_ ROCK FILTER DAMS
- \_\_\_\_\_ TEMPORARY SLOPE DRAIN
- \_\_\_\_\_ PAVED DITCH W/ DITCH LINER PROTECTION
- \_\_\_\_\_ TEMPORARY DIVERSION CHANNELS
- \_\_\_\_\_ TEMPORARY SEDIMENT BASINS
- \_\_\_\_\_ TEMPORARY SEDIMENT TRAPS
- \_\_\_\_\_ TEMPORARY SEDIMENT FILTERS
- TEMPORARY SEDIMENT REMOVAL
- RIP RAP
- \_\_\_\_\_ INLET SEDIMENT FILTER
- \_\_\_\_\_ TEMPORARY BRUSH SEDIMENT BARRIERS
- \_\_\_\_\_ SANDBAG BERMS
- \_\_\_\_\_ TEMPORARY STREAM CROSSINGS

### OFFSITE VEHICLE TRACKING:

- HAUL ROADS DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS TO BE COVERED WITH TARPULAIN
- \_\_\_\_\_ 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 MUST BE DOCUMENTED IN THE SWPPP, I.E., BORROW PITS, WORK ROADS, DISPOSAL  
SITES, ASPHALT/CONCRETE PLANTS, ETC. THE BASIC GOAL OF STORM WATER MANAGEMENT IS TO  
IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF  
FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND  
THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE  
PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE  
INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST  
PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

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

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

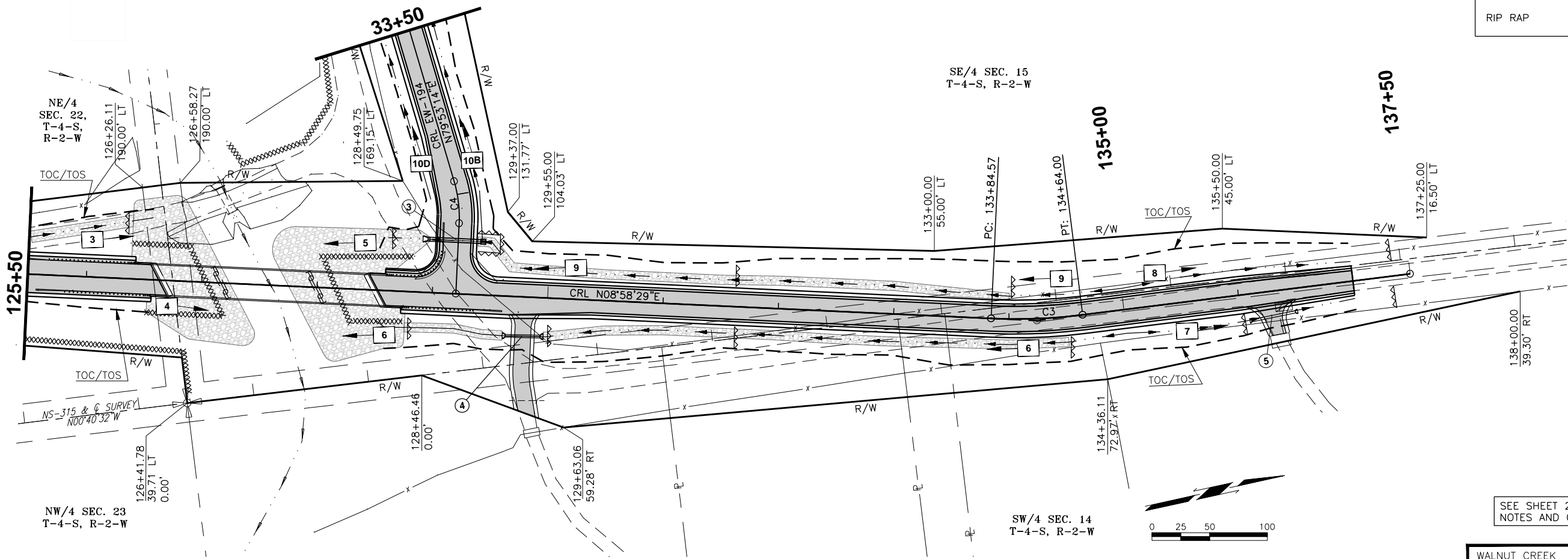
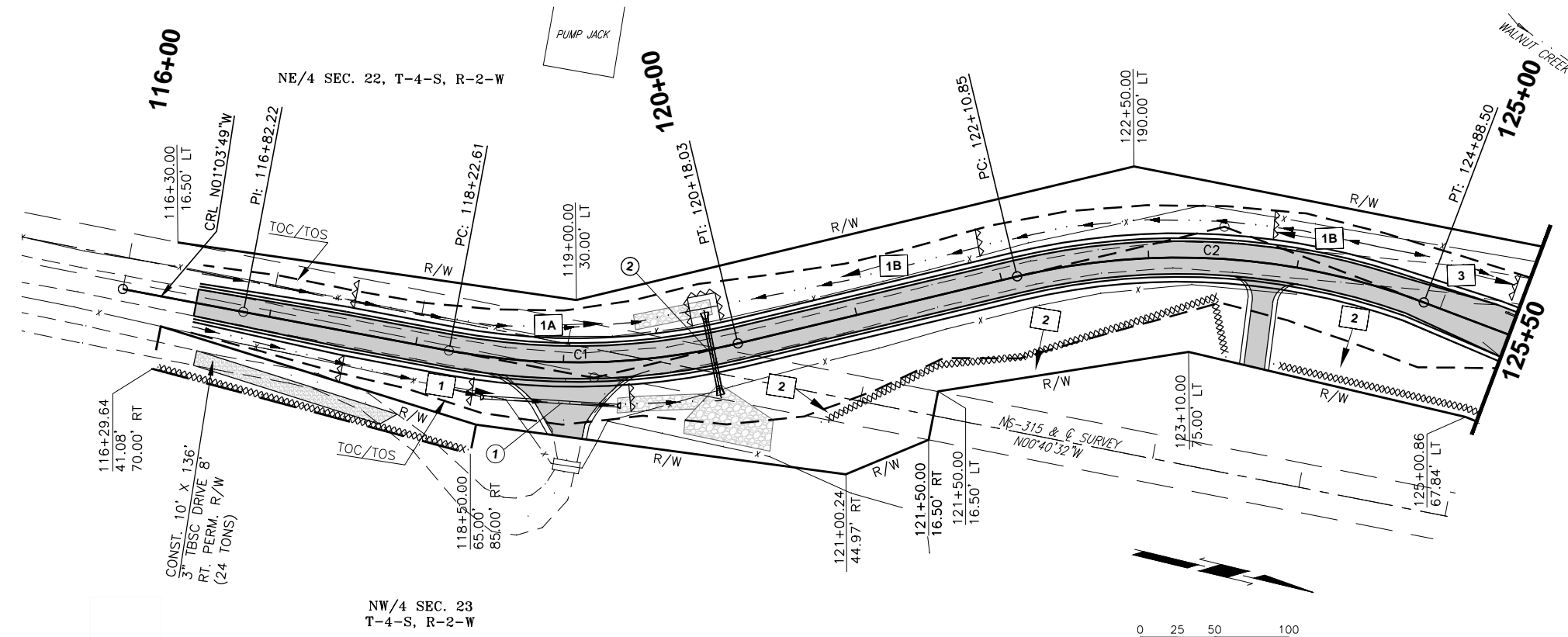
#### IN ADDITION:

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

WALNUT CREEK CARTER COUNTY

### STORM WATER MANAGEMENT PLAN

JOB PIECE NO. 28448(04) SHEET NO. R001

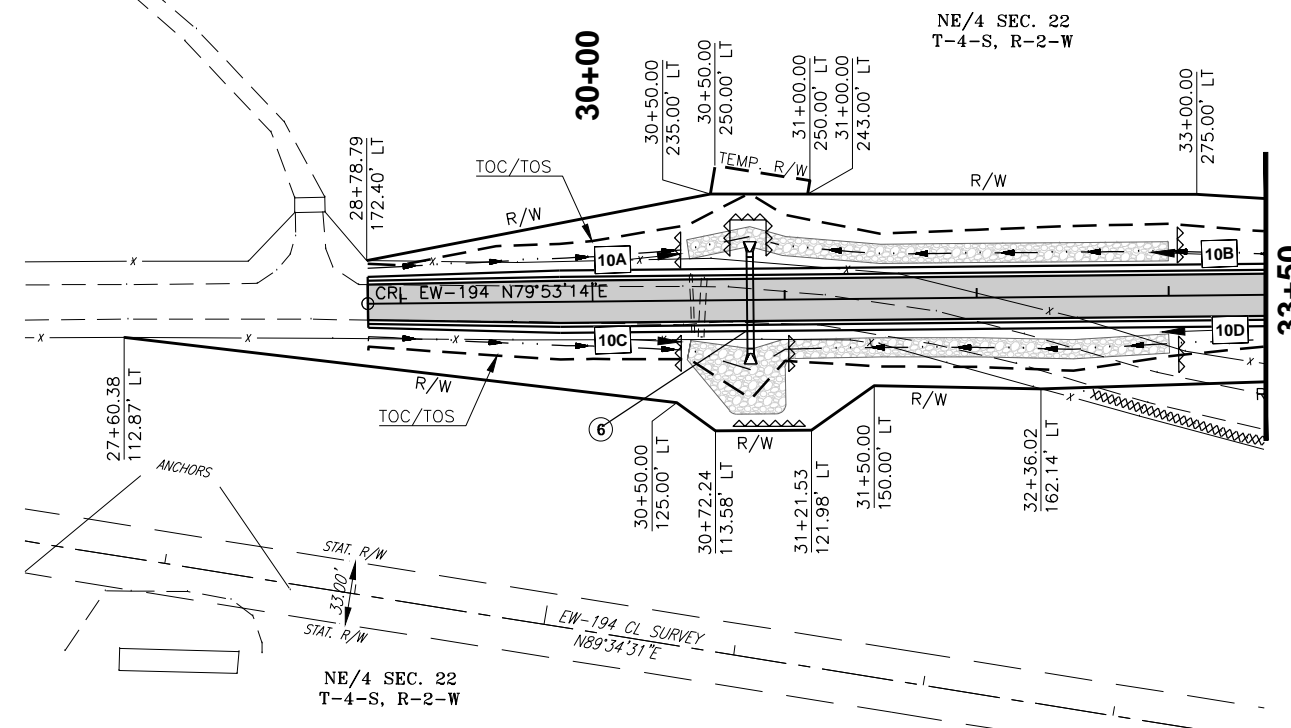


STR. NO. OR LOCATION	D.A.	DISTURBED AREA	TOTAL DISTURBED AREA
2	1	0.28 AC.	
2	1A	0.26 AC.	
2	1B	0.39 AC.	0.93 AC.
STA. 120+00 TO 125+50 RT.	2	0.55 AC.	0.55 AC.
BRIDGE "A"	3	0.30 AC.	
BRIDGE "A"	4	0.15 AC.	
BRIDGE "A"	5	0.20 AC.	
BRIDGE "A"	6	0.71 AC.	1.36 AC.
STA. 135+00 TO 137+00 RT.	7	0.15 AC.	0.15 AC.
STA. 135+00 TO 137+00 LT.	8	0.20 AC.	0.20 AC.
3	9	0.58 AC.	0.58 AC.

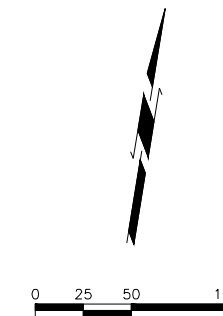
LEGEND	
TEMPORARY SILT DIKE	
TEMPORARY SILT FENCE	
RIP RAP	

SEE SHEET 2 OF 2 FOR EROSION CONTROL NOTES AND QUANTITIES.





STR. NO. OR LOCATION	D.A.	DISTURBED AREA	TOTAL DISTURBED AREA
6	10A	0.15 AC.	
6	10B	0.36 AC.	
6	10C	0.14 AC.	
6	10D	0.31 AC.	0.96 AC.



**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:  
RESERVED TOPSOIL SHALL BE SPREAD APPROX. 5 INCHES THICK FIRST ON COMPLETED FORE SLOPES OF FILL SECTIONS AND THE REMAINDER ON COMPLETED CUT SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER.

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.

EROSION CONTROL QUANTITIES			
DESCRIPTION		UNITS	QUANTITY
TEMPORARY SILT FENCE	(1)	LF	1,800.00
TEMPORARY SILT DIKE	(1)	LF	480.00
SOLID SLAB SODDING		SY	27,458.00
VEGETATIVE MULCHING	(2)	AC	9.46
CLASS C CONCRETE	(3)	CY	20.00
TYPE 1 PLAIN RIPRAP		TON	804.00
TYPE 1-A PLAIN RIPRAP		TON	2,158.00
TYPE 1-A FILTER BLANKET		TON	618.000

- (1) ESTIMATED QUANTITY FOR USE IN CONJUNCTION WITH THIS SHEET AND AS DIRECTED BY THE ENGINEER.
- (2) QUANTITY BASED ON 4.73 ACRES AT TWO APPLICATIONS.
- (3) QUANTITY INCLUDES 20 C.Y. FOR USE AS DIRECTED BY THE ENGINEER.

LEGEND	
TEMPORARY SILT DIKE	
TEMPORARY SILT FENCE	
RIP RAP	

**UTILITY CONTACTS**

SEE SHEET NO. R005.

CURVE NO. 1  
 P.I. STA. 119+21.79  
 R = 465.000'  
 T = 99.175'  
 Δ = 24°04'45"  
 L = 195.421'  
 C = 193.986'  
 D = 12°19'18"  
 EMAX 8%  
 V = 45 MPH

NOTE: ALL DISTANCES SHOWN TO RIGHTS-OF-WAY, FENCES, UTILITIES AND OTHER EXISTING OBJECTS ARE FROM CENTERLINE OF SURVEY, NS-315 SECTION LINE.

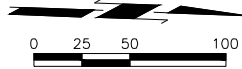
STA. 116+50 CONTRACTOR TO MEET AND MATCH EXISTING ROADWAY. SHAPE TO DRAIN STA. 116+25± TO STA. 116+50.

WARNING: GAS LINE

WARNING: OVERHEAD ELECTRIC

CURVE NO. 2  
 P.I. STA. 123+53.95  
 R = 465.000'  
 T = 143.101'  
 Δ = 34°12'39"  
 L = 277.648'  
 C = 273.542'  
 D = 12°19'18"  
 EMAX 8%  
 V = 45 MPH

SUMMARY OF GRADING QUANTITIES  
 EXC. 14,583 C.Y.  
 EMB.+20% 2,884 C.Y.  
 EXCESS EXC. 11,699 C.Y.



STA. 116+50.00  
 BEGIN J/P 28448(04)  
 21.07' RT. CL SURVEY

BM 205 STA. 123+65.09 167.58' LT.  
 SET RR SPIKE E FACE 36" DBL TRUNK  
 ELEV. 837.69

**HYDRAULIC DATA**

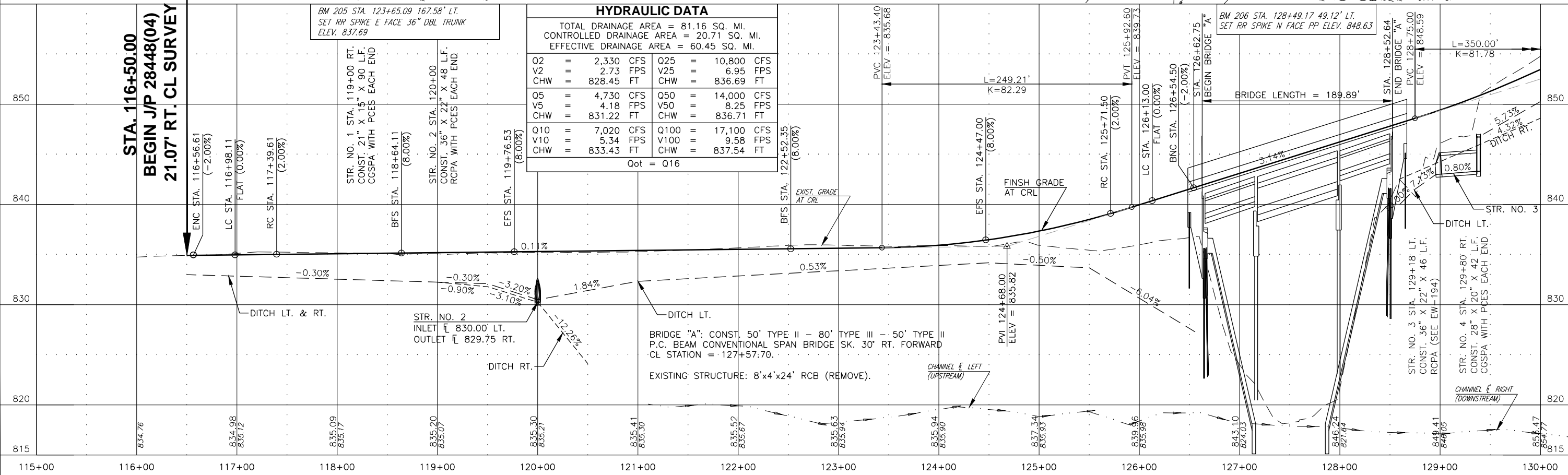
TOTAL DRAINAGE AREA = 81.16 SQ. MI.  
 CONTROLLED DRAINAGE AREA = 20.71 SQ. MI.  
 EFFECTIVE DRAINAGE AREA = 60.45 SQ. MI.

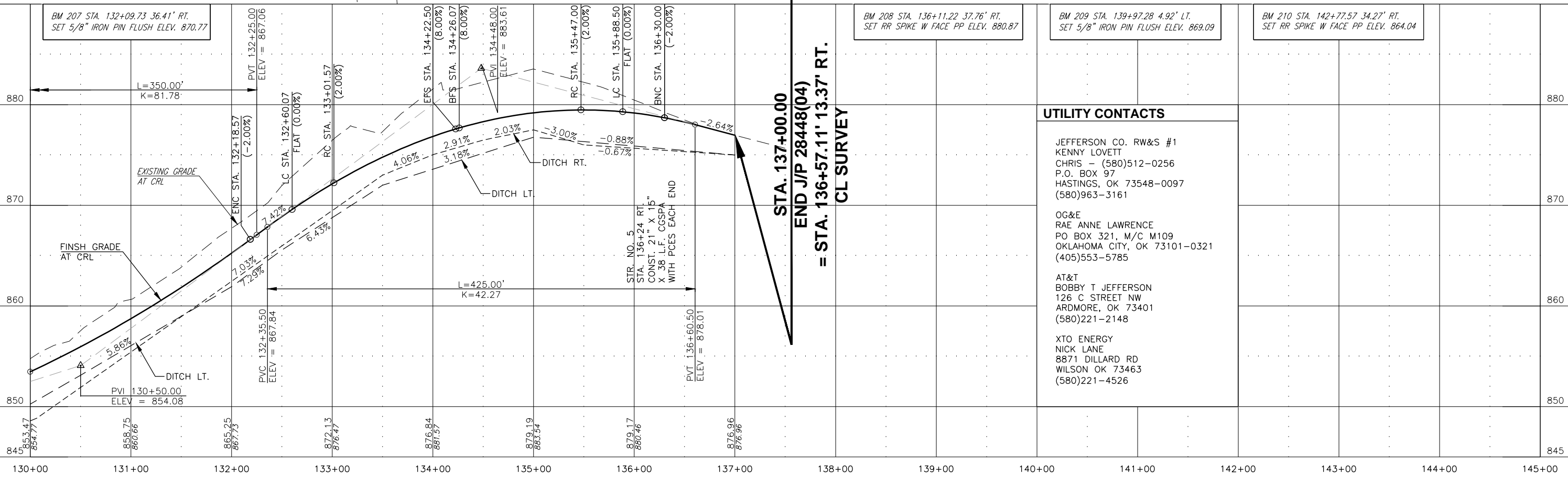
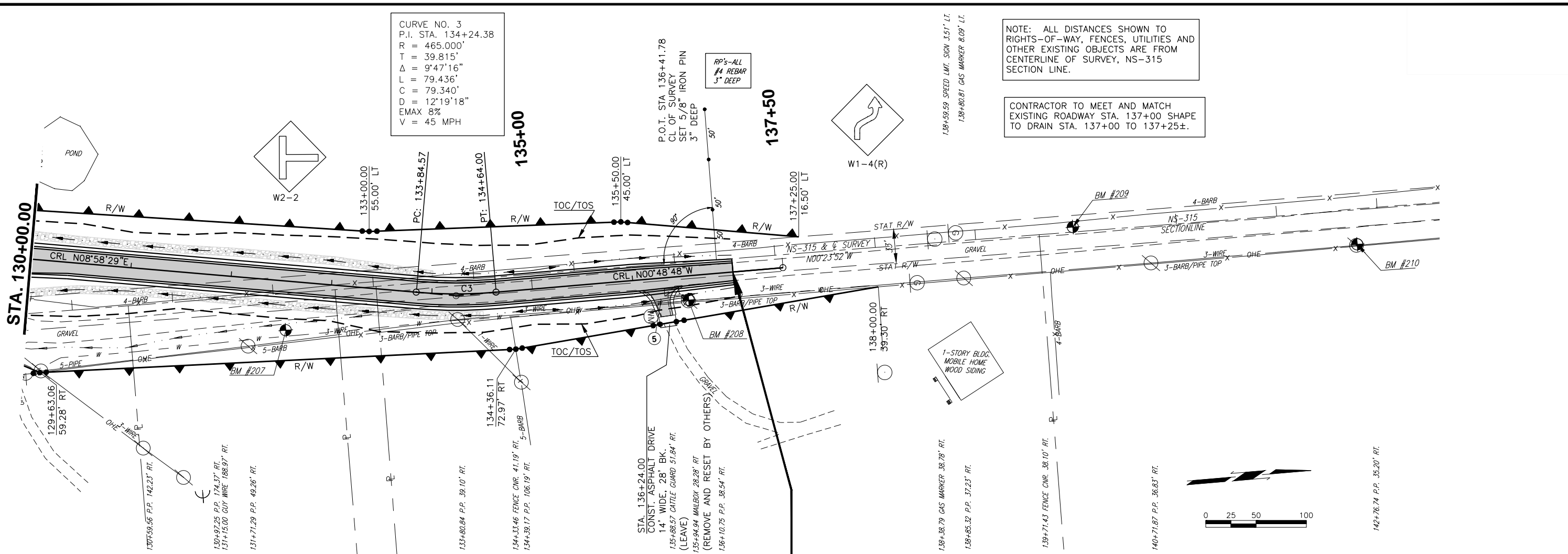
Q2 = 2,330 CFS	Q25 = 10,800 CFS
V2 = 2.73 FPS	V25 = 6.95 FPS
CHW = 828.45 FT	CHW = 836.69 FT
Q5 = 4,730 CFS	Q50 = 14,000 CFS
V5 = 4.18 FPS	V50 = 8.25 FPS
CHW = 831.22 FT	CHW = 836.71 FT
Q10 = 7,020 CFS	Q100 = 17,100 CFS
V10 = 5.34 FPS	V100 = 9.58 FPS
CHW = 833.43 FT	CHW = 837.54 FT
Qot = Q16	

STR. NO. 1 STA. 119+00 RT.  
 CONST. 21" X 15" X 90 L.F.  
 CGSPA, WITH PCES EACH END

STR. NO. 2 STA. 120+00  
 CONST. 36" X 22" X 48 L.F.  
 RCPC WITH PCES EACH END

BM 206 STA. 128+49.17 49.12' LT.  
 SET RR SPIKE N FACE PP ELEV. 848.63





**UTILITY CONTACTS**

JEFFERSON CO. RW&S #1  
KENNY LOVETT  
CHRIS - (580)512-0256  
P.O. BOX 97  
HASTINGS, OK 73548-0097  
(580)963-3161

OC&E  
RAE ANNE LAWRENCE  
PO BOX 321, M/C M109  
OKLAHOMA CITY, OK 73101-0321  
(405)553-5785

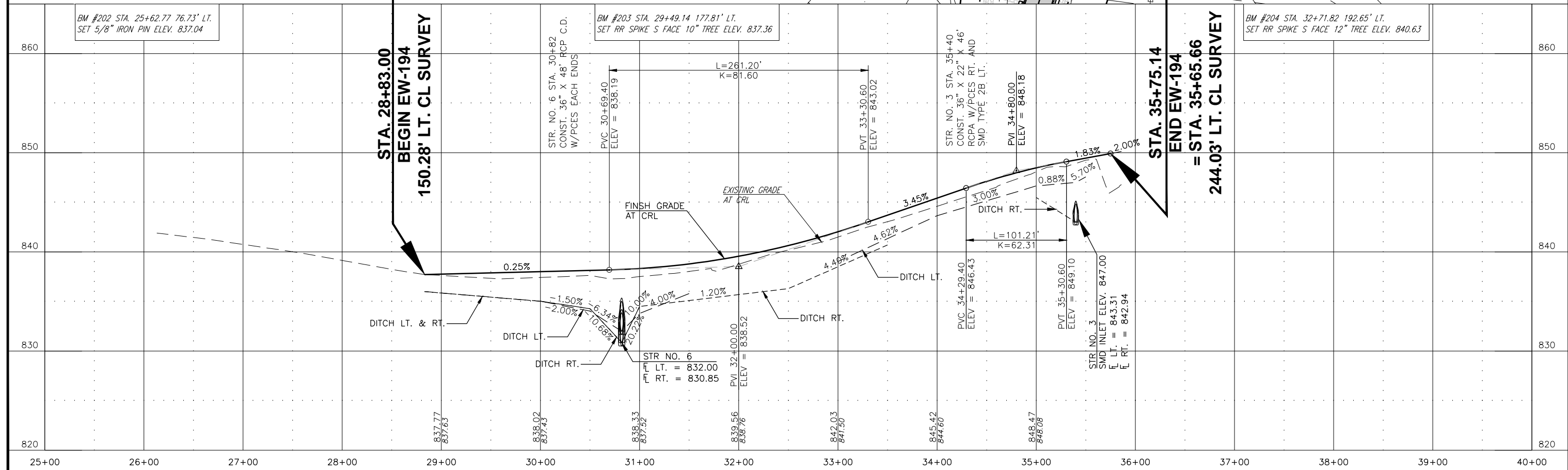
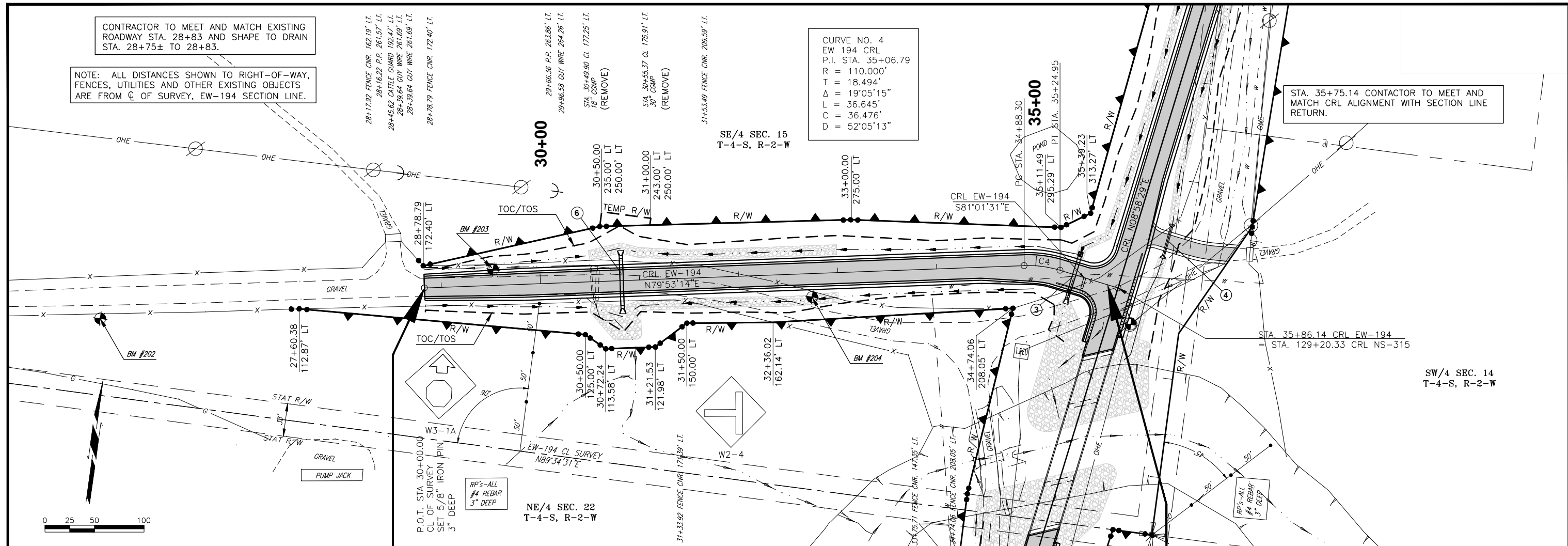
AT&T  
BOBBY T JEFFERSON  
126 C STREET NW  
ARDMORE, OK 73401  
(580)221-2148

XTO ENERGY  
NICK LANE  
8871 DILLARD RD  
WILSON OK 73463  
(580)221-4526

CONTRACTOR TO MEET AND MATCH EXISTING ROADWAY STA. 28+83 AND SHAPE TO DRAIN STA. 28+75± TO 28+83.

NOTE: ALL DISTANCES SHOWN TO RIGHT-OF-WAY, FENCES, UTILITIES AND OTHER EXISTING OBJECTS ARE FROM CL OF SURVEY, EW-194 SECTION LINE.

CURVE NO. 4  
 EW 194 CRL  
 P.I. STA. 35+06.79  
 R = 110.000'  
 T = 18.494'  
 Δ = 19°05'15"  
 L = 36.645'  
 C = 36.476'  
 D = 52°05'13"



BM #202 STA. 25+62.77 76.73' LT.  
 SET 5/8" IRON PIN ELEV. 837.04

STA. 28+83.00  
 BEGIN EW-194  
 150.28' LT. CL SURVEY

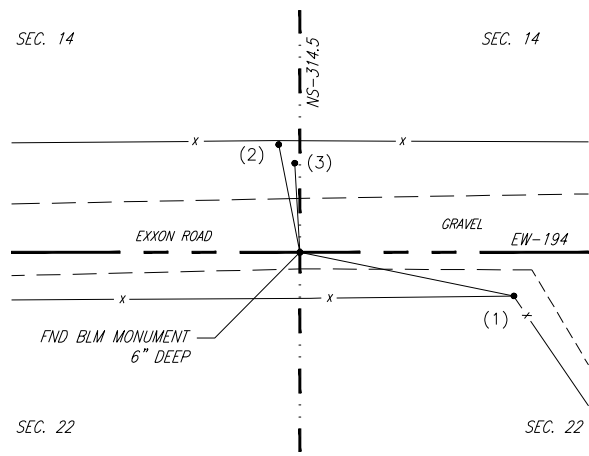
STR. NO. 6 STA. 30+82  
 CONST. 36" X 48" RCP C.D.  
 W/PCES EACH ENDS

BM #203 STA. 29+49.14 177.81' LT.  
 SET RR SPIKE S FACE 10" TREE ELEV. 837.36

STA. 35+75.14  
 END EW-194  
 = STA. 35+65.66  
 244.03' LT. CL SURVEY

BM #204 STA. 32+71.82 192.65' LT.  
 SET RR SPIKE S FACE 12" TREE ELEV. 840.63





**STA. 10+00.00**  
S COR. SEC 15, T-4-S, R-2-W  
FOUND BLM MONUMENT 6" DEEP

- (1) FOUND W. FACE 6" IRON POST 56.91' AT S 78°28'16" E
- (2) FOUND PK W/ SHINER IN S. FACE 16" TREE 28.60' AT N 11°08'34" W
- (3) FOUND 60D NAIL 23.25' AT N 03°17'37" W  
N: 316614.2360 E: 2151150.5901

SEC. 22, T-4-S, R-2-W

CURVE NO. 2  
CRL NS 315  
P.I. STA. 123+53.95  
R = 465.000'  
T = 143.101'  
Δ = 34°12'39"  
L = 277.648'  
C = 273.542'  
eMAX = 8%  
V = 45 MPH

P.O.T. STA 20+00.00  
CL OF SURVEY  
SET 5/8" IRON PIN  
3" DEEP

P.O.T. STA 30+00.00  
CL OF SURVEY  
SET 5/8" IRON PIN  
3" DEEP

**BENCHMARK DESCRIPTIONS**

- BM 201 STA. 21+65.75 49.28' LT. SET RR SPIKE S FACE 24" TREE ELEV. 840.14
- BM 202 STA. 25+62.77 76.73' LT. SET 5/8" IRON PIN ELEV. 837.04
- BM 203 STA. 29+49.14 177.81' LT. SET RR SPIKE S FACE 10" TREE ELEV. 837.36
- BM 204 STA. 32+71.82 192.65' LT. SET RR SPIKE S FACE 12" TREE ELEV. 840.63
- BM 205 STA. 123+65.09 167.58' LT. SET RR SPIKE E FACE 36" DBL TRUNK ELEV. 837.69
- BM 206 STA. 128+49.17 49.12' LT. SET RR SPIKE N FACE PP ELEV. 848.63
- BM 207 STA. 132+09.73 36.41' RT. SET 5/8" IRON PIN FLUSH ELEV. 870.77
- BM 208 STA. 136+11.22 37.76' RT. SET RR SPIKE W FACE PP ELEV. 880.87
- BM 209 STA. 139+97.28 4.92' LT. SET 5/8" IRON PIN FLUSH ELEV. 869.09
- BM 210 STA. 142+77.57 34.27' RT. SET RR SPIKE W FACE PP ELEV. 864.04

CURVE NO. 4  
EW 194 CRL  
P.I. STA. 35+06.79  
R = 110.000'  
T = 18.494'  
Δ = 19°05'15"  
L = 36.645'  
C = 36.476'  
D = 52°05'13"

SEC. 15, T-4-S, R-2-W

STA 116+50.00  
BEGIN J/P 28448(04)  
21.07' RT. NS-315 CL SURVEY  
N: 315642.3774  
E: 2153826.3907

CURVE NO. 1  
CRL NS 315  
P.I. STA. 119+21.79  
R = 465.000'  
T = 99.175'  
Δ = 24°04'45"  
L = 195.421'  
C = 193.986'  
D = 12°19'18"  
eMAX = 8%  
V = 45 MPH

CURVE NO. 3  
CRL NS 315  
P.I. STA. 134+24.38  
R = 465.000'  
T = 39.815'  
Δ = 9°47'16"  
L = 79.436'  
C = 79.340'  
D = 12°19'18"  
eMAX = 8%  
V = 45 MPH

STA 137+00.00  
END J/P 28448(04)  
= STA 136+57.11 13.37 RT.  
NS-315 CL SURVEY  
N: 317649.2409  
E: 2153800.3141

SEC. 23, T-4-S, R-2-W

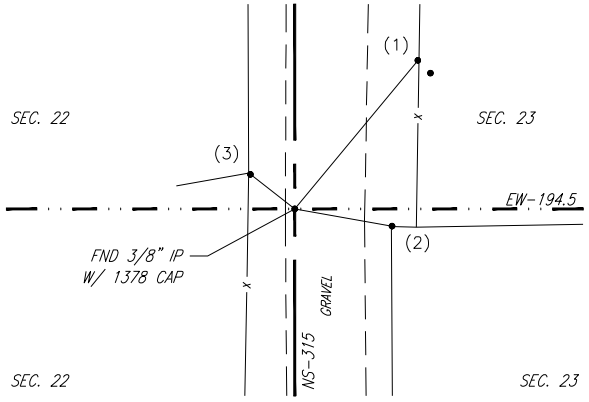
SEC. 14, T-4-S, R-2-W

P.O.T. STA 106+41.78  
CL OF SURVEY  
SET 5/8" IRON PIN  
3" DEEP

P.O.T. STA 116+41.78  
CL OF SURVEY  
SET 5/8" IRON PIN  
3" DEEP

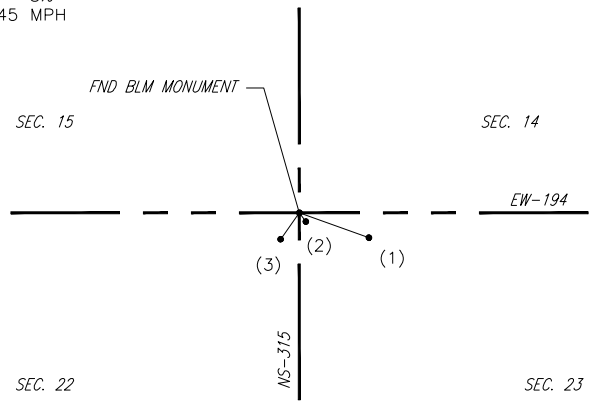
P.I. STA 126+41.78  
CL OF SURVEY & E.O.P.  
STA 36+43.11 CL OF SURVEY  
FOUND BLM MONUMENT

P.O.T. STA 145+91.78  
CL OF SURVEY  
SET 5/8" IRON PIN  
3" DEEP



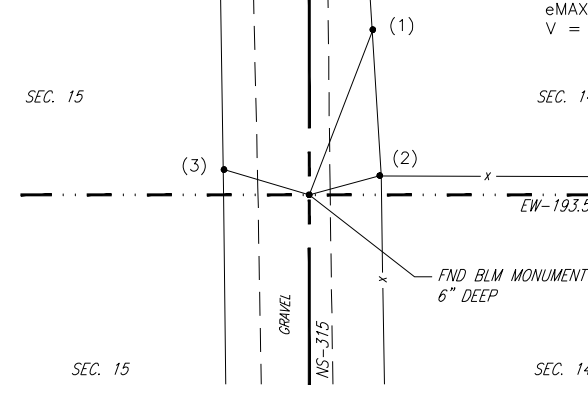
**STA. 100+00.00**  
E COR. SEC 22, T-4-S, R-2-W  
FOUND 3/8" IRON PIN W/ 1378 CAP

- (1) FOUND SW FACE 4" STEEL BRACE POST 50.22' AT N 39°40'35" E
- (2) FOUND SW FACE 6" STEEL CORNER POST 25.76' AT S 79°55'15" E
- (3) FOUND SE FACE 3" STEEL CORNER POST 14.62' AT N 52°07'48" W  
N: 313992.2437 E: 2153824.7741



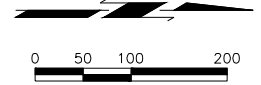
**STA. 126+41.78**  
E COR. SEC 15, T-4-S, R-2-W  
FOUND BLM MONUMENT

- (1) FOUND 60D NAIL W FACE 8" TREE 19.25' AT S 70°13'40" E
- (2) FOUND PK W/ SHINER IN W. FACE 10" DBL TREE 2.85' AT S 36°12'23" E
- (3) FOUND PK W/ SHINER IN N. FACE 10" DBL TREE 8.45' AT S 35°14'48" W  
N: 3166338360 E: 2153793.6301



**STA. 152+84.76**  
E COR. SEC 15, T-4-S, R-2-W  
FOUND BLM MONUMENT 6" DEEP

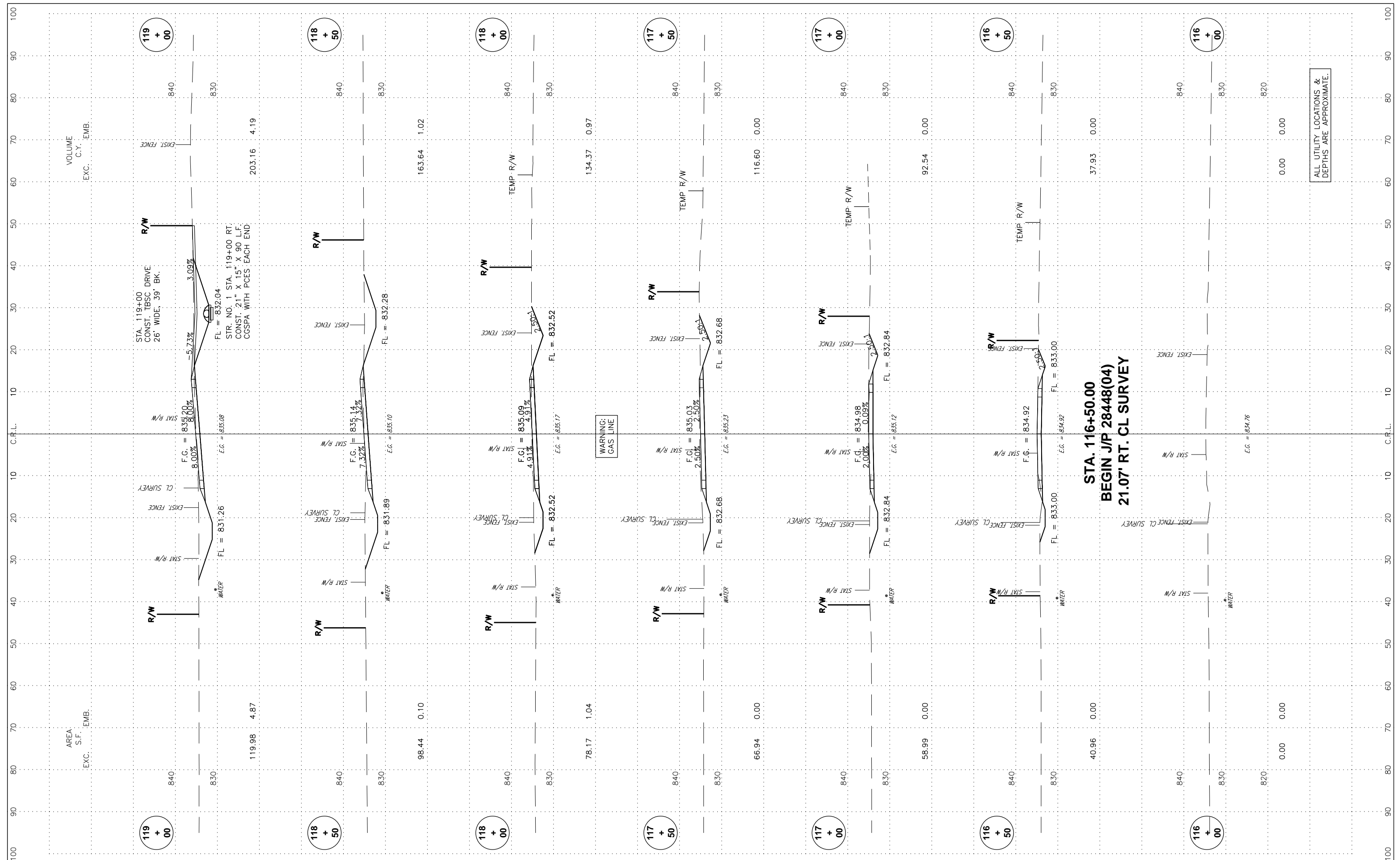
- (1) FOUND PK W/ SHINER IN S. FACE TREE 46.05' AT N 21°06'17" E
- (2) FOUND W. FACE 6" STEEL CORNER POST 19.05' AT N 74°55'33" E
- (3) FOUND E. FACE 2" STEEL FENCE POST 23.12' AT N 73°37'30" W  
N: 319276.7596 E: 2153775.2897



WALNUT CREEK CARTER COUNTY

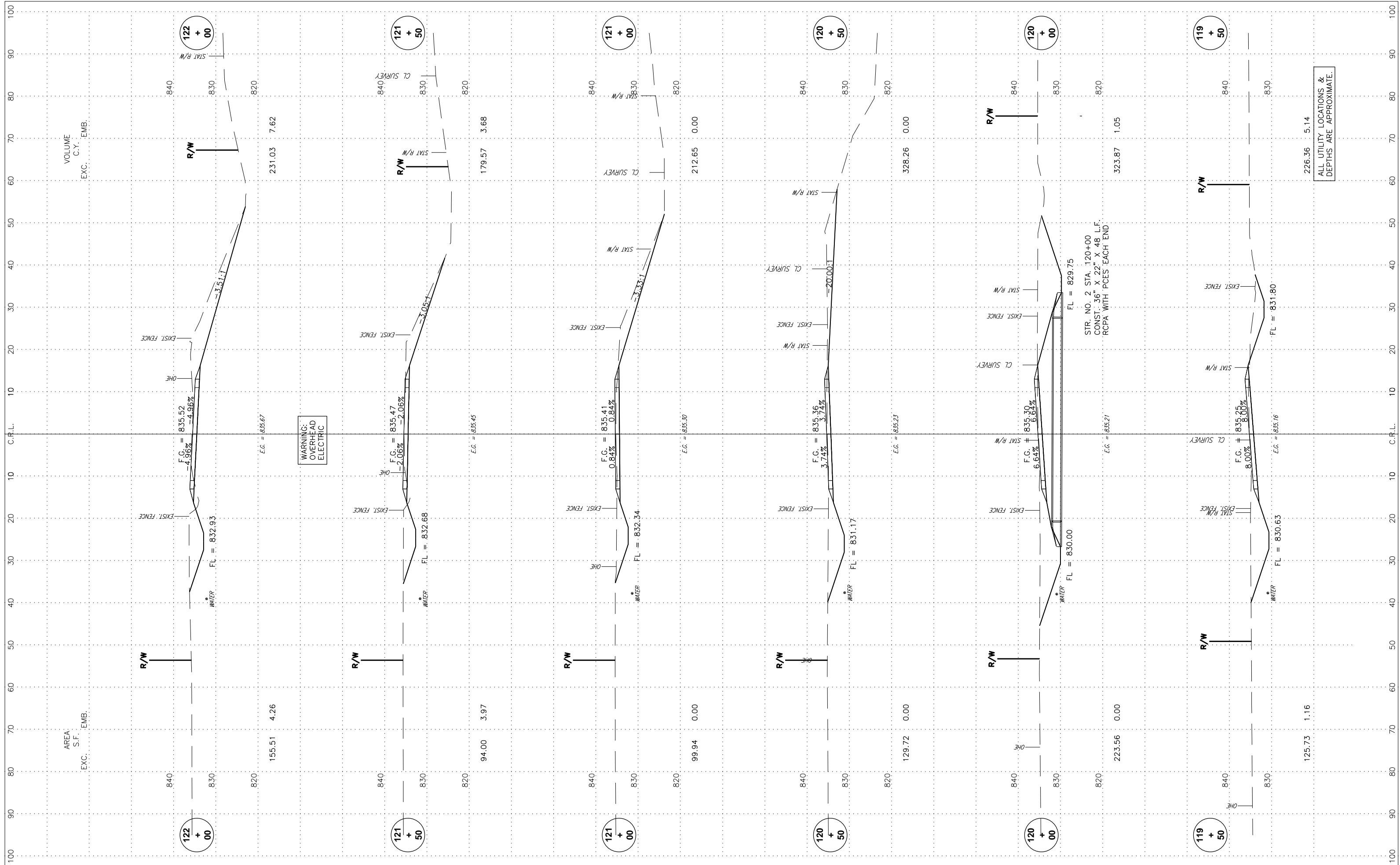
**ALIGNMENT DATA SHEET**

JOB PIECE NO. 28448(04) SHEET NO. R007



**STA. 116+50.00  
BEGIN J/P 28448(04)  
21.07' RT. CL SURVEY**

ALL UTILITY LOCATIONS & DEPTHS ARE APPROXIMATE.



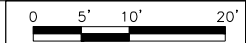
VOLUME  
C.Y. EXC. EMB.

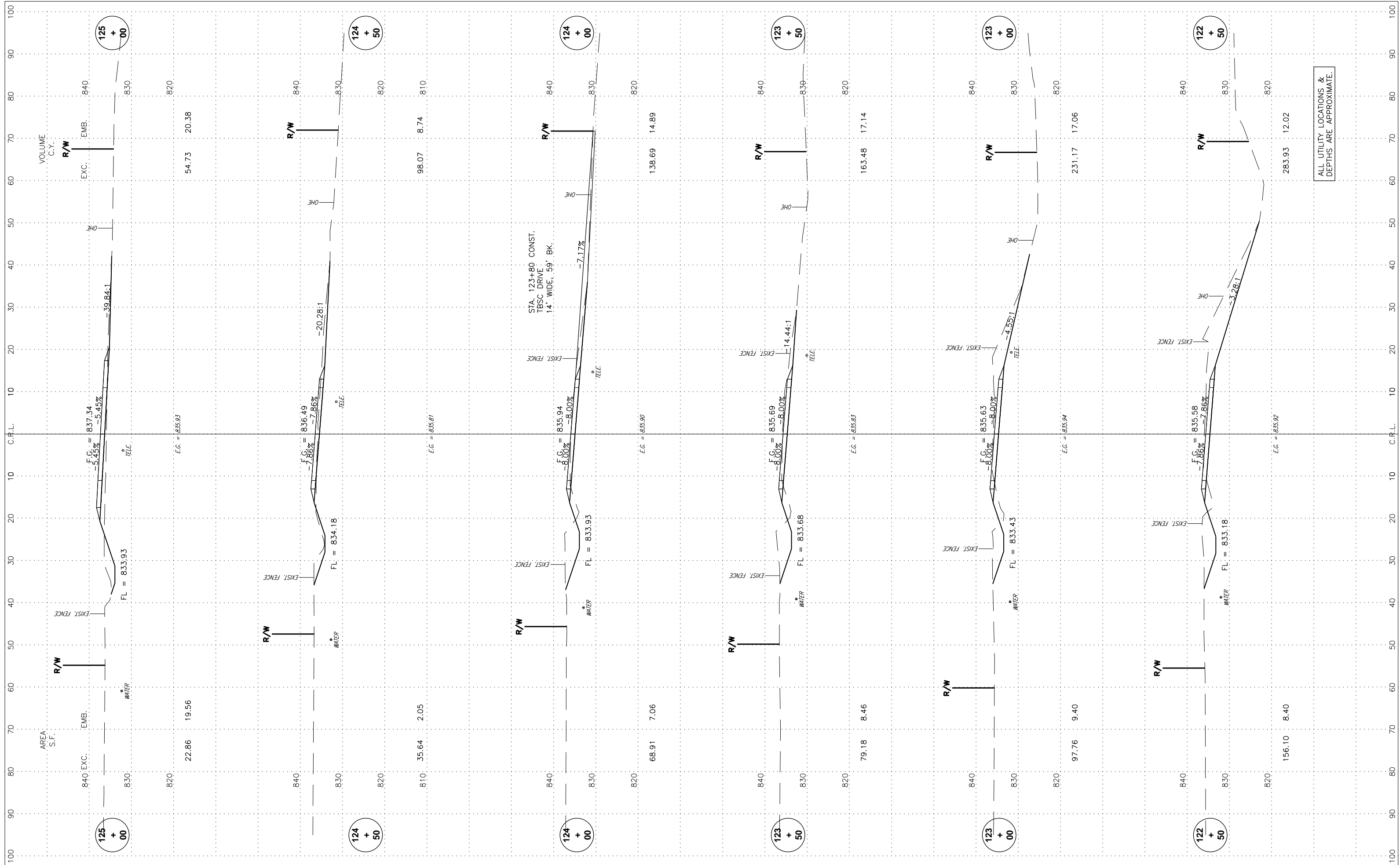
AREA  
S.F. EXC. EMB.

WARNING:  
OVERHEAD  
ELECTRIC

STR. NO. 2 STA. 120+00  
CONST. 36" X 22" X 48' L.F.  
PCPA WITH PCES EACH END

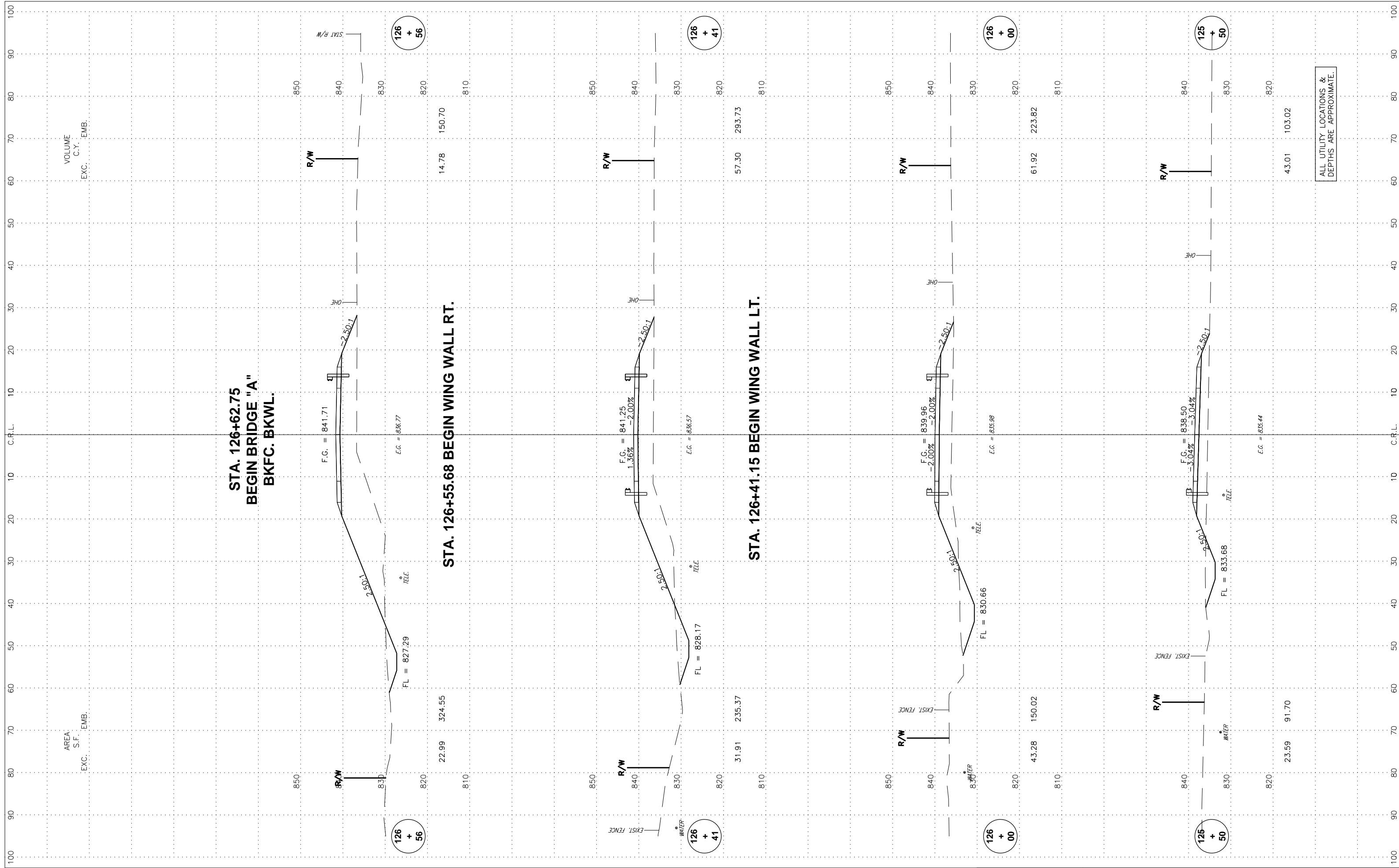
226.36 5.14  
ALL UTILITY LOCATIONS &  
DEPTHS ARE APPROXIMATE.



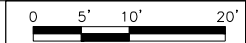


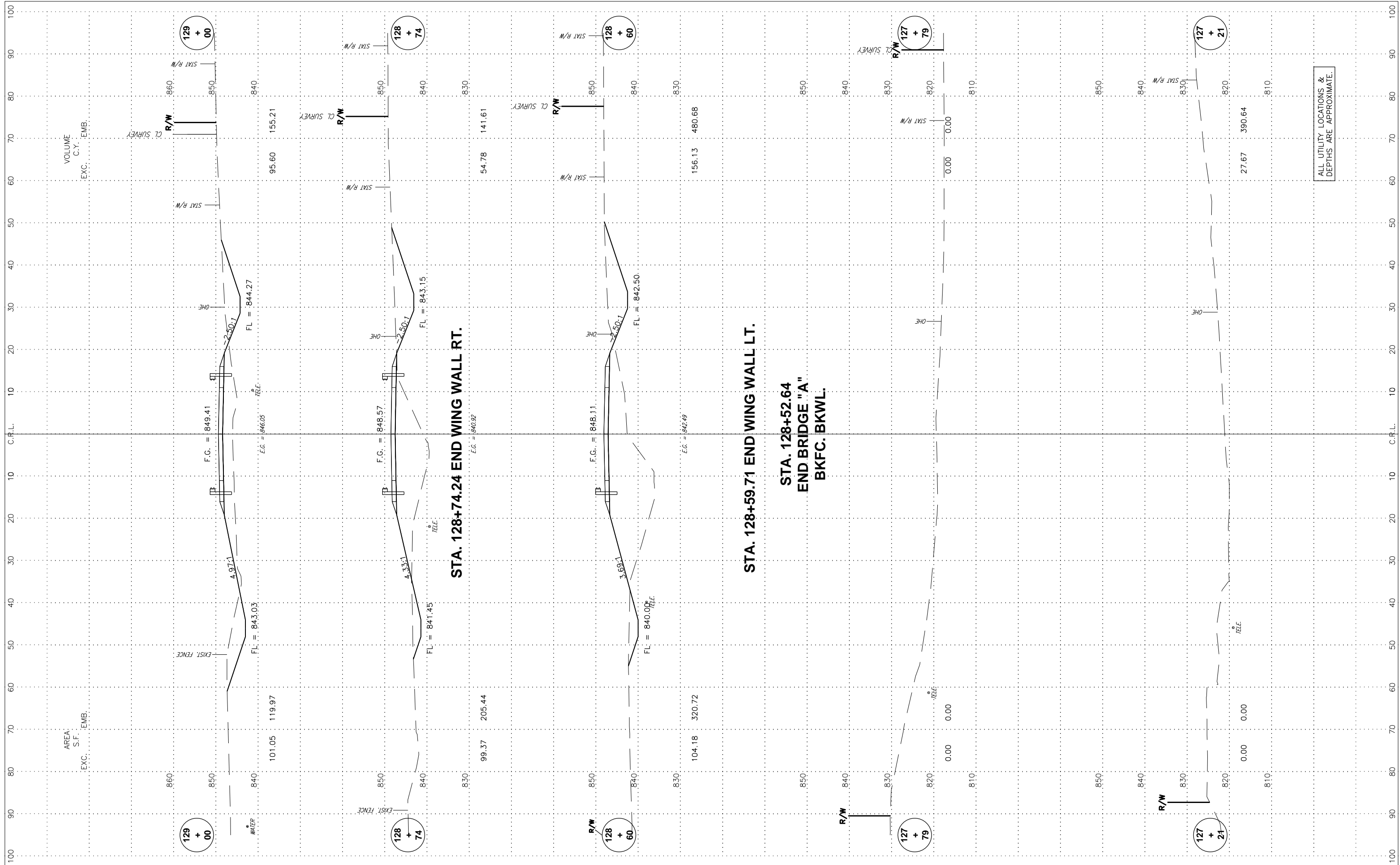
ALL UTILITY LOCATIONS & DEPTHS ARE APPROXIMATE.



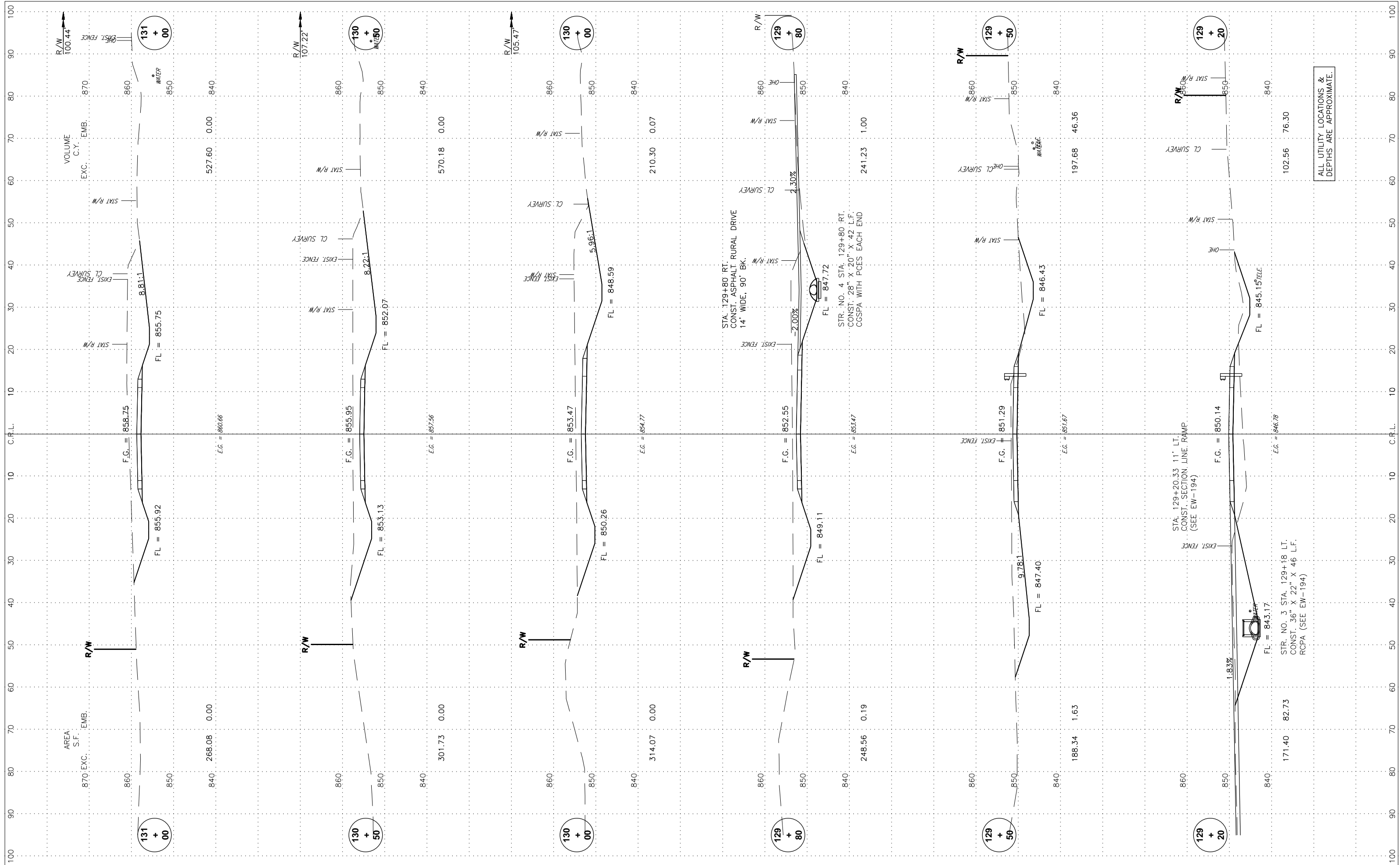


ALL UTILITY LOCATIONS & DEPTHS ARE APPROXIMATE.

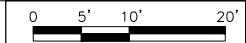


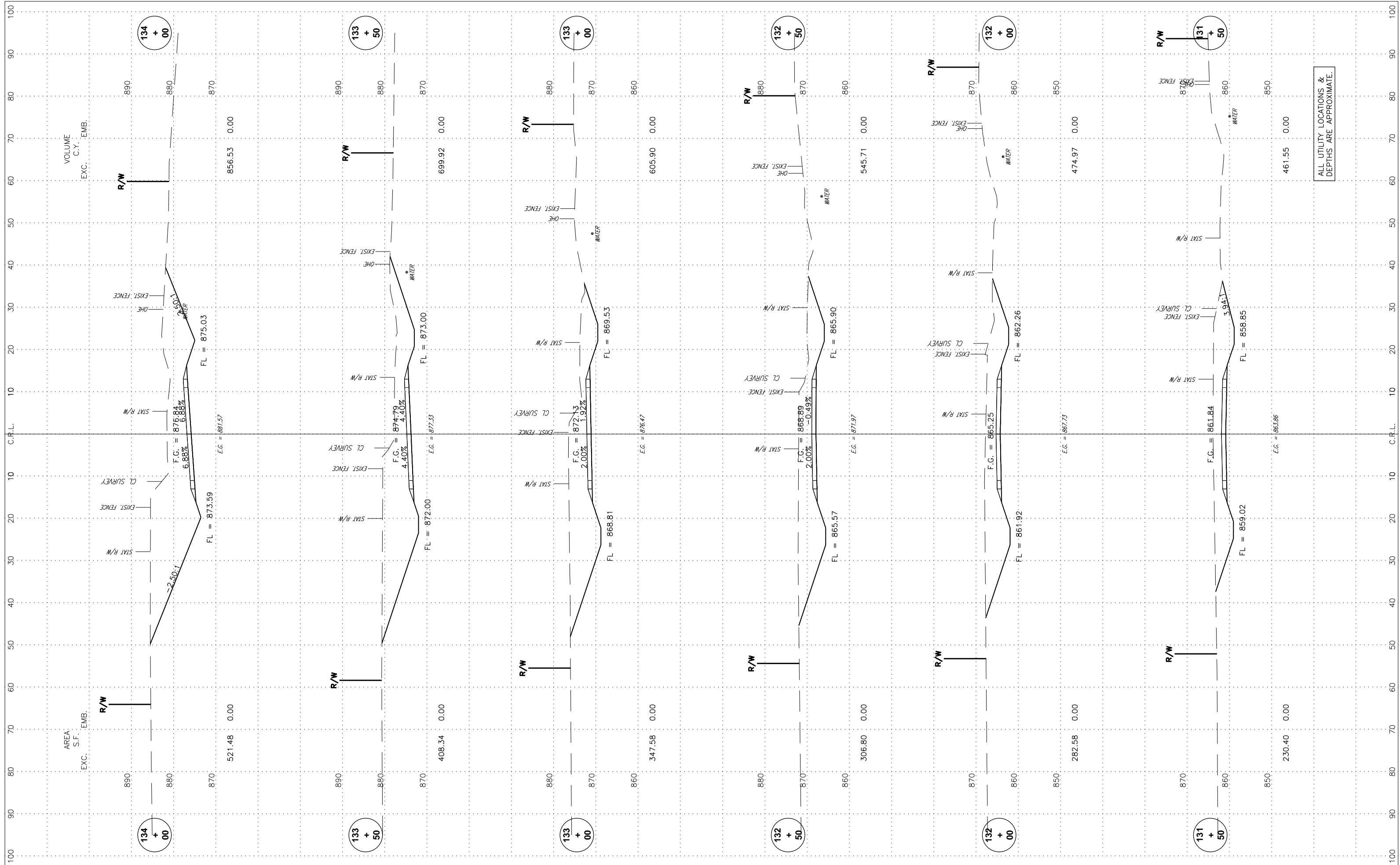


ALL UTILITY LOCATIONS & DEPTHS ARE APPROXIMATE.

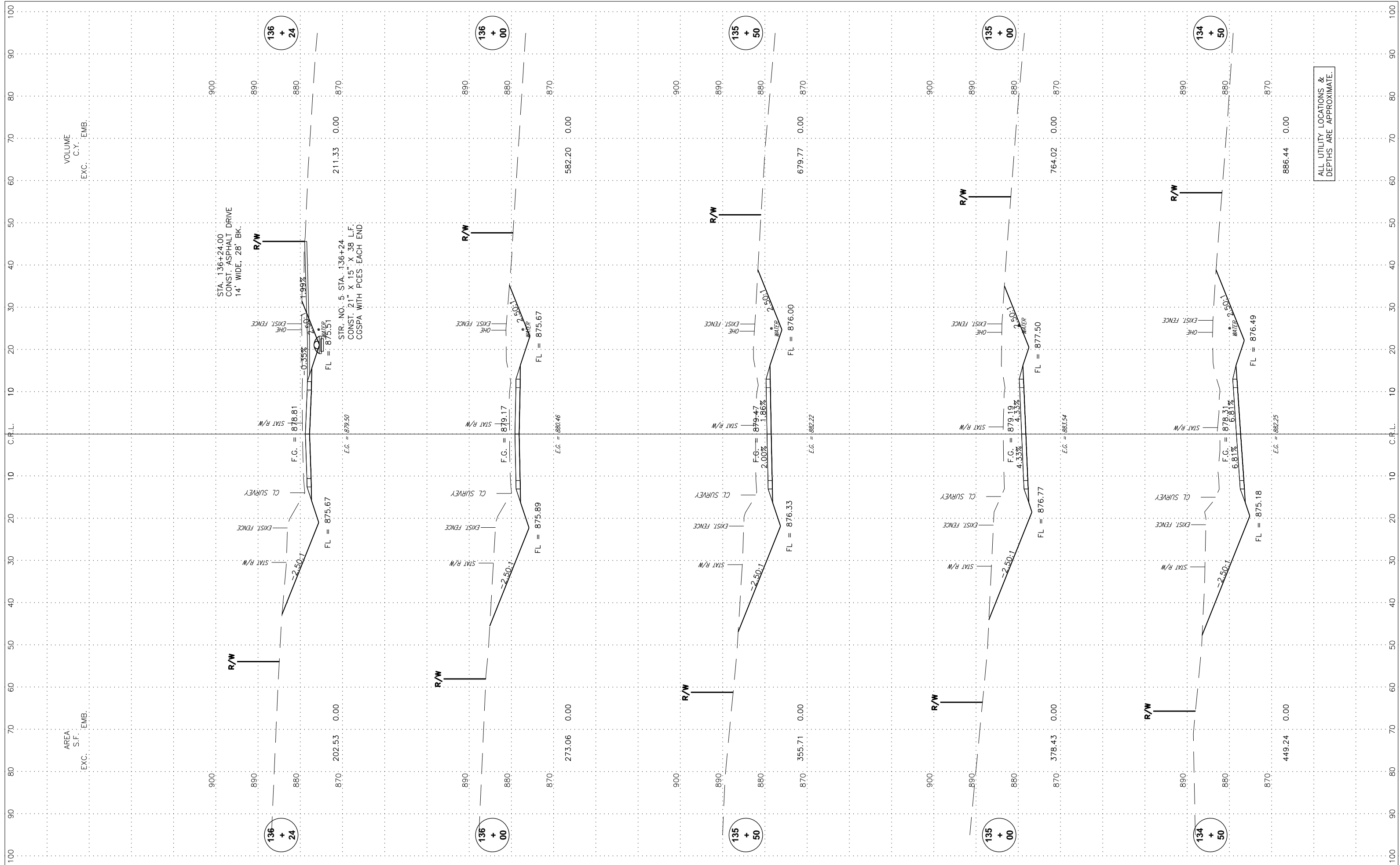


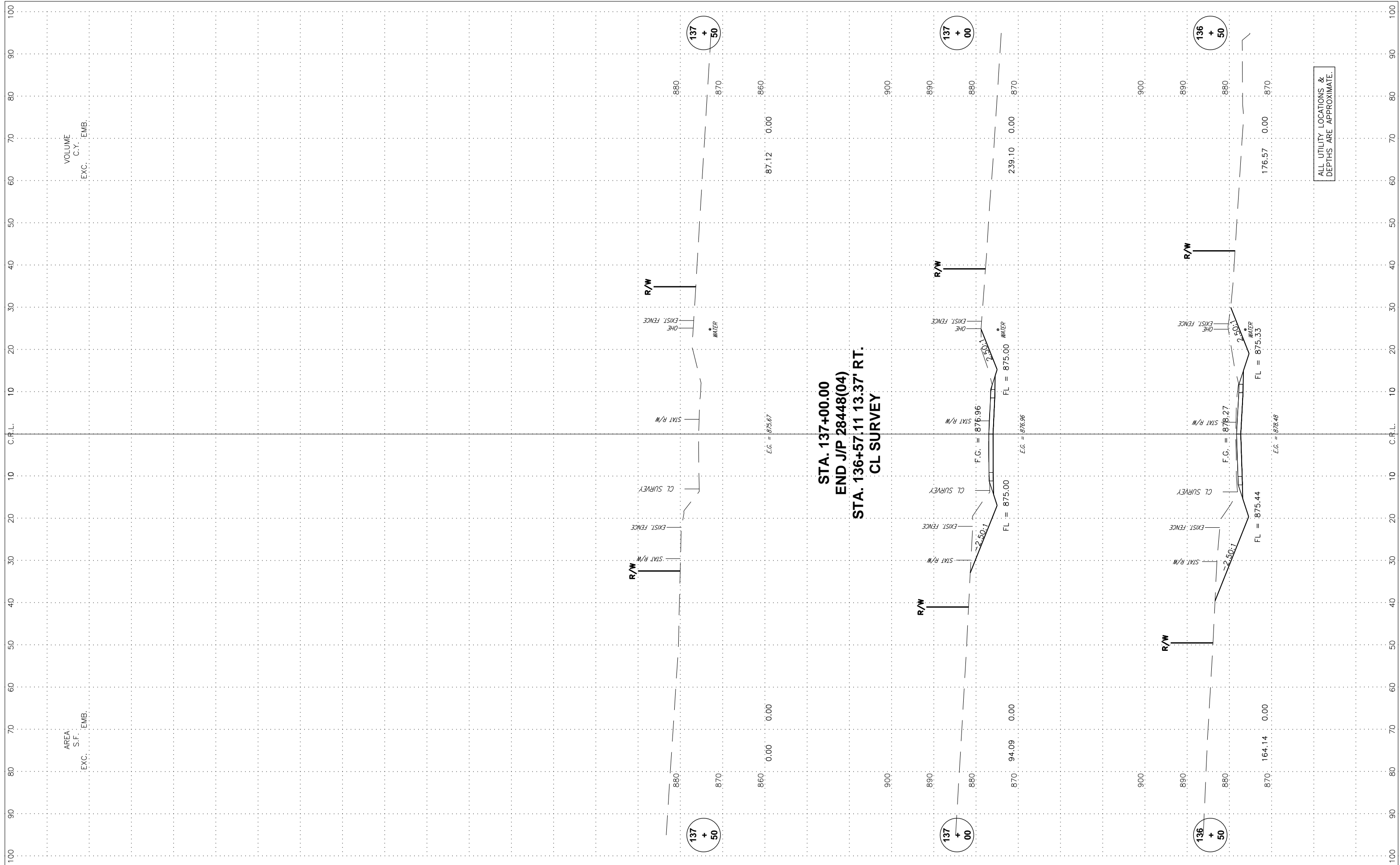
ALL UTILITY LOCATIONS & DEPTHS ARE APPROXIMATE.





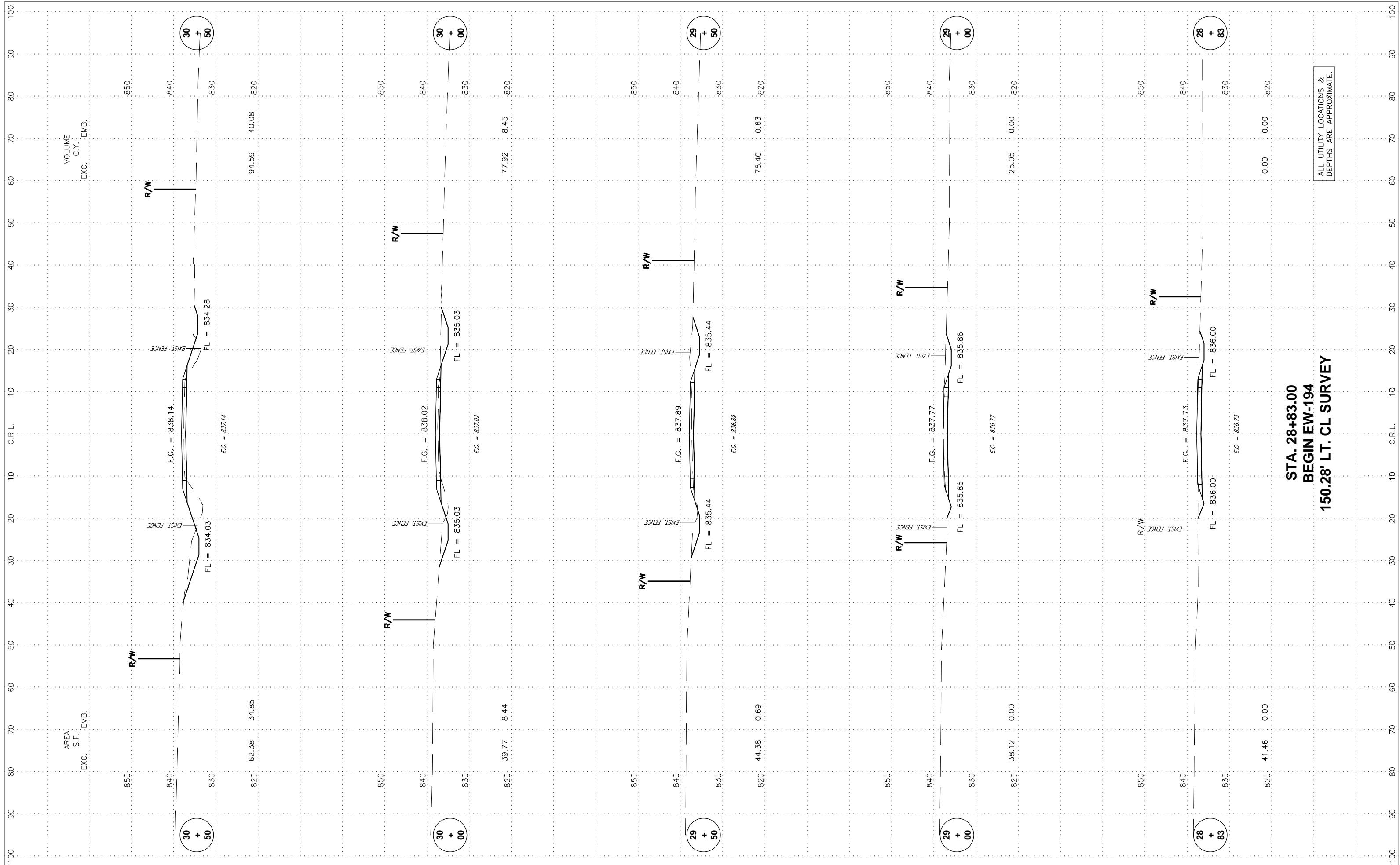
ALL UTILITY LOCATIONS & DEPTHS ARE APPROXIMATE.





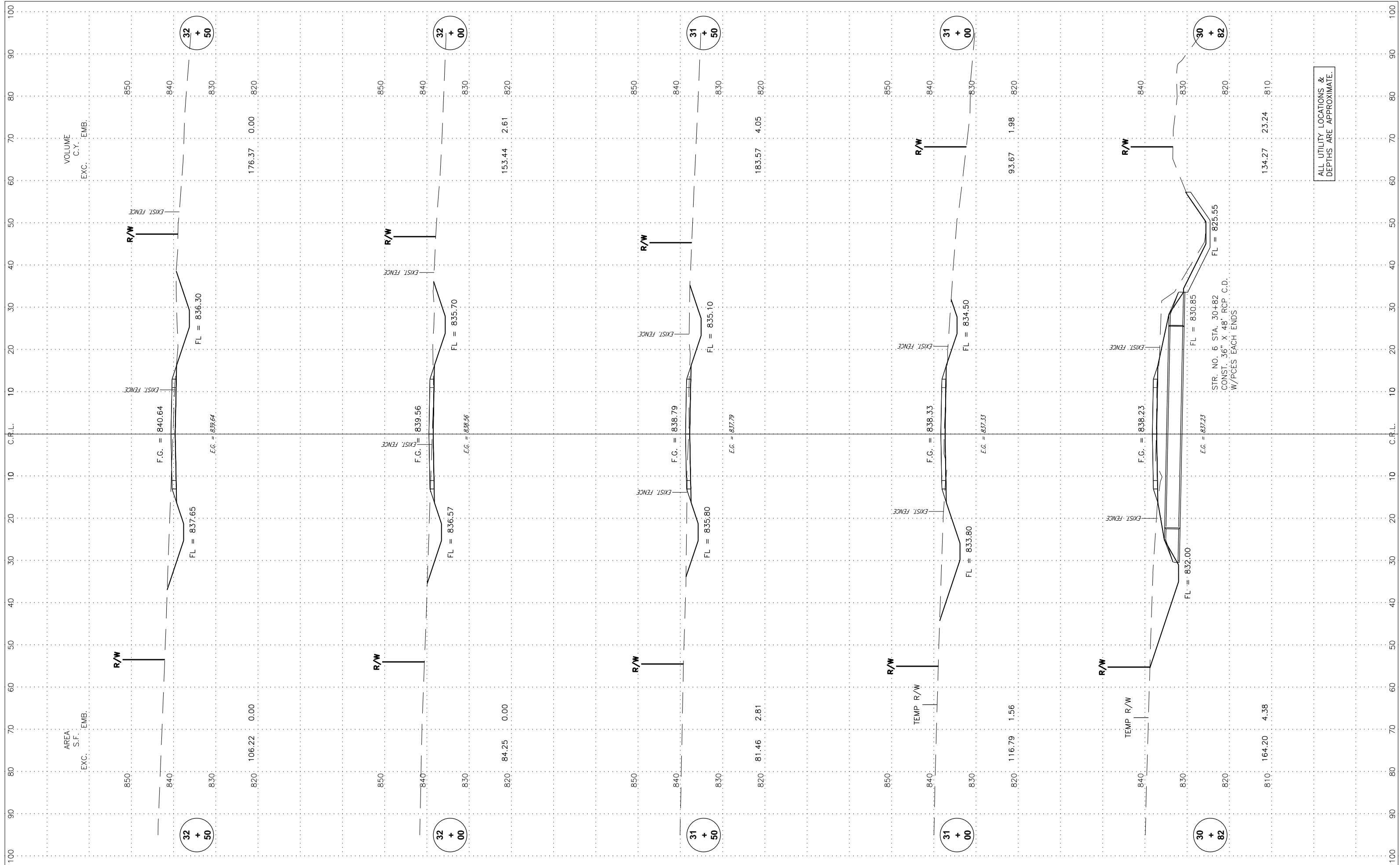
ALL UTILITY LOCATIONS & DEPTHS ARE APPROXIMATE.





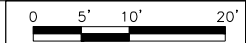
**STA. 28+83.00  
BEGIN EW-194  
150.28' LT. CL SURVEY**

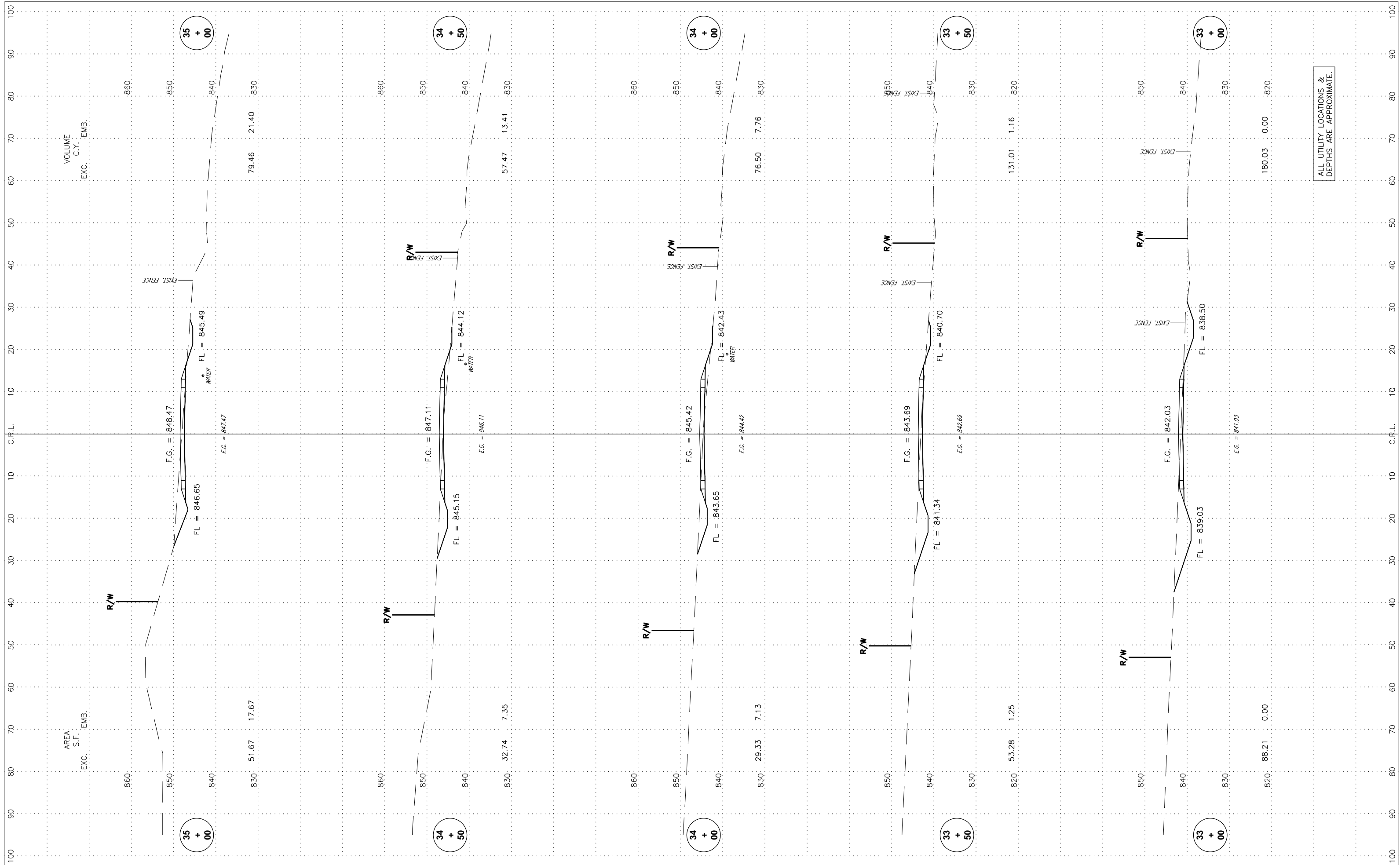
ALL UTILITY LOCATIONS & DEPTHS ARE APPROXIMATE.



ALL UTILITY LOCATIONS & DEPTHS ARE APPROXIMATE.

STR. NO. 6 STA. 30+82  
CONST. 36" X 48" RCP C.D.  
W/PCES EACH END





ALL UTILITY LOCATIONS & DEPTHS ARE APPROXIMATE.

