LAK - SR 91-04.56
160513 PID - 85147
Dist 12 9/22/2016

Contract Proposal Available @ www.
Contracts.dot.state.oh.us/home

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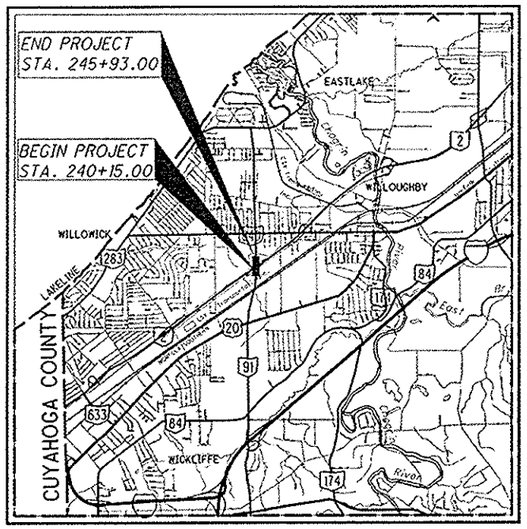


LOCATION MAP

LATITUDE: 41°38'09.5" LONGITUDE: 81°26'15.1"

SCALE IN MILES
0 1 2 4

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
STATE & FEDERAL ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION	SR 91	SR 2
CURRENT ADT (2015)	26,000 VPD	55,000 VPD
DESIGN YEAR ADT (2035)	26,000 VPD	55,000 VPD
DESIGN HOURLY VOLUME (2035)	2,300 VPD	5,000 VPD
DIRECTIONAL DISTRIBUTION	55%	53%
TRUCKS (24 HOUR B&C)	6%	5%
Td	6%	5%
DESIGN SPEED	50 MPH	65 MPH
LEGAL SPEED	50 MPH	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	PRINCIPAL ARTERIAL, URBAN	FREEWAY/EXPRESSWAY, URBAN
NHS PROJECT	YES	YES

DESIGN EXCEPTIONS — NONE

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
Mannik Smith GROUP
TECHNICAL SKILL. CREATIVE VISION.
2225 MERCANTILE ROAD
RICHMOND, OH 44125
TEL: 216-378-1490
FAX: 216-378-1497
www.MannikSmithGroup.com

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LAK-91-4.56

CITY OF EASTLAKE
CITY OF WILLOUGHBY
LAKE COUNTY

INDEX OF SHEETS:

ENGINEERS SEAL:
ENTIRE PLAN EXCEPT STRUCTURES
STATE OF OHIO — KEVIN CHARLES MCDEWITT — 78822 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: Kevin C McDewitt
DATE: 7/28/15

ENGINEERS SEAL:
STRUCTURES 20' AND OVER AND STRUCTURE REPAIR
STATE OF OHIO — STEPHEN C TOMSIC — E-63954 — REGISTERED PROFESSIONAL ENGINEER
SIGNED: Stephen C. Tomsic
DATE: 6/22/15

STANDARD CONSTRUCTION DRAWINGS

AS-1-15	1-16-15	GSD-1-96	7-19-02	MGS-1.1	7-19-13	MT-101.90	7-18-14	TC-41.50	10-18-13	#800	7-15-16
AS-2-15	1-16-15			MGS-2.1	7-19-13	MT-105.10	7-19-13	TC-42.20	10-18-13	#821	4-20-12
		HL-10.11	1-17-14	MGS-3.1	7-18-14			TC-51.11	1-17-14	#832	1-17-14
BP-1.1	7-28-00	HL-10.12	1-17-14	MGS-3.2	7-18-13	PCB-91	1-18-13	TC-52.10	10-18-13	#847	4-18-14
BP-2.1	7-19-13	HL-10.13	1-16-15	MGS-4.3	1-18-13			TC-52.20	7-18-14	#848	4-18-14
BP-2.2	7-18-08	HL-20.11	1-16-15	MGS-5.3	7-19-13	RM-4.2	4-18-14	TC-61.30	7-18-14	#849	1-18-13
BP-2.5	7-19-13	HL-20.14	1-16-15	MGS-6.1	7-19-13			TC-64.10	1-16-15	#902	12-31-12
BP-3.1	7-18-14	HL-30.11	1-16-15			SBR-1-13	1-17-14	TC-71.10	1-17-14	#921	4-20-12
BP-5.1	7-19-13	HL-30.22	1-17-14	MT-95.30	7-18-14	SBR-2-13	1-17-14	TC-81.21	1-16-15		
BP-9.1	7-19-13	HL-30.31	1-17-14	MT-95.41	7-18-14			TC-82.10	10-18-13		
		HL-30.32	1-17-14	MT-95.50	7-19-14	SICD-1-96	7-18-14	TC-84.20	10-18-13		
CB-2.3	1-18-13	HL-30.33	1-17-14	MT-95.70	7-19-13			TC-84.21	10-18-13		
		HL-30.41	7-18-14	MT-95.71	7-19-13	TC-12.30	10-18-13	TC-85.20	1-16-15	SPECIAL PROVISIONS	
DM-1.1	1-18-13	HL-50.21	1-16-15	MT-95.82	7-19-13	TC-17.10	1-17-14				
DM-1.2	1-18-13	HL-60.11	1-17-14	MT-98.29	7-19-13	TC-21.20	1-16-15	VPF-1-90	4-15-11		
DM-4.4	7-20-12			MT-99.30	1-16-15	TC-22.10	10-18-13				
				MT-100.00	7-19-13	TC-22.20	1-17-14				
EXJ-4-87	7-19-02			MT-101.60	7-19-13	TC-41.20	10-18-13				
				MT-101.70	1-17-14	TC-41.30	10-18-13				

PROJECT DESCRIPTION

THE PROJECT INCLUDES BRIDGE DECK REPLACEMENT ON SR91 OVER SR2, OVERLAY OF THE BRIDGE DECK ON SR91 OVER LAKELAND BLVD AND OVERLAY OF THE BRIDGE DECK ON SR91 OVER NORFOLK SOUTHERN COMBINED AND CSX RAILROADS IN LAKE COUNTY, OHIO.

PROJECT DISTURBED AREA:
N/A (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:
N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT EARTH DISTURBED AREA:
N/A (MAINTENANCE PROJECT)

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2013 SPECIFICATIONS

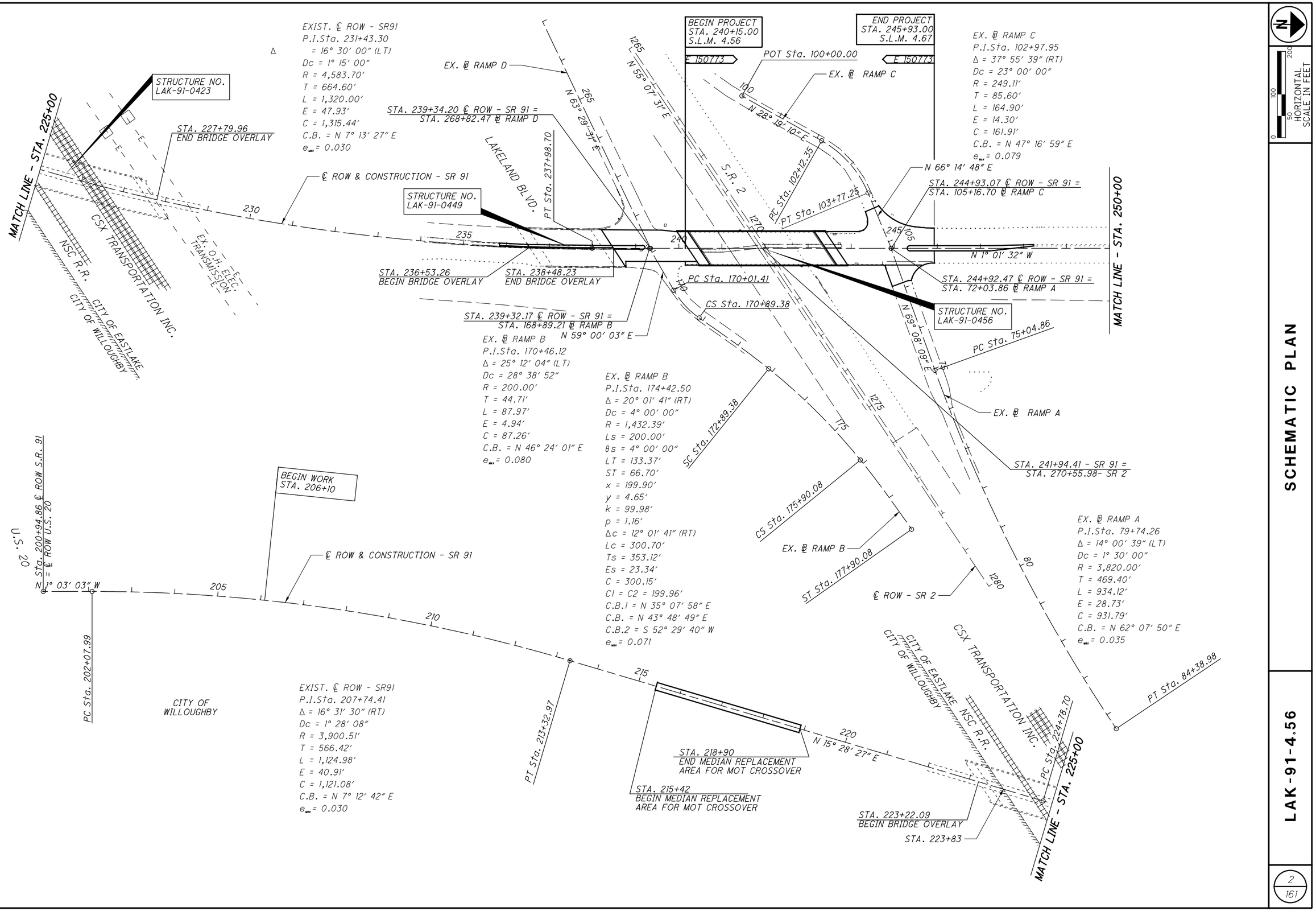
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR THE RAMPS AS DESCRIBED ON SHEETS 57-59 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED Myers S. LL
DATE 11-10-15 DISTRICT DEPUTY DIRECTOR

APPROVED Jerry Wray PE
DATE 11-7-15 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E 150(773)
PID NO. 85147
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
LAK-91-4.56
1 / 161


EXIST. ℄ ROW - SR91
P.I.Sta. 231+43.30
Δ = 16° 30′ 00″ (LT)
Dc = 1° 15′ 00″
R = 4,583.70′
T = 664.60′
L = 1,320.00′
E = 47.93′
C = 1,315.44′
C.B. = N 7° 13′ 27″ E
e_max = 0.030
STRUCTURE NO. LAK-91-0423
STA. 227+79.96 END BRIDGE OVERLAY
MATCH LINE - STA. 225+00
CSX TRANSPORTATION INC.
NSC R.R.
CITY OF EASTLAKE
CITY OF WILLOUGHBY
EX. O.H. ELEC. TRANSMISSION
℄ ROW & CONSTRUCTION - SR 91
STA. 239+34.20 ℄ ROW - SR 91 = STA. 268+82.47 ℄ RAMP D
EX. ℄ RAMP D
N 63° 29′ 31″ E
265
STRUCTURE NO. LAK-91-0449
LAKELAND BLVD.
PT Sta. 237+98.70
230
235
STA. 236+53.26 BEGIN BRIDGE OVERLAY
STA. 238+48.23 END BRIDGE OVERLAY
STA. 239+32.17 ℄ ROW - SR 91 = STA. 168+89.21 ℄ RAMP B
N 59° 00′ 03″ E
BEGIN PROJECT STA. 240+15.00 S.L.M. 4.56
E 150773
POT Sta. 100+00.00
EX. ℄ RAMP C
N 55° 07′ 31″ E
1265
190
N 28° 19′ 10″ E
S.R. 2
PC Sta. 102+12.35
PT Sta. 103+77.25
1270
240
PC Sta. 170+01.41
CS Sta. 170+89.38
END PROJECT STA. 245+93.00 S.L.M. 4.67
E 150773
EX. ℄ RAMP C
P.I.Sta. 102+97.95
Δ = 37° 55′ 39″ (RT)
Dc = 23° 00′ 00″
R = 249.11′
T = 85.60′
L = 164.90′
E = 14.30′
C = 161.91′
C.B. = N 47° 16′ 59″ E
e_max = 0.079
N 66° 14′ 48″ E
STA. 244+93.07 ℄ ROW - SR 91 = STA. 105+16.70 ℄ RAMP C
245
105
N 1° 01′ 32″ W
STA. 244+92.47 ℄ ROW - SR 91 = STA. 72+03.86 ℄ RAMP A
MATCH LINE - STA. 250+00
STRUCTURE NO. LAK-91-0456
N 69° 08′ 09″ E
PC Sta. 75+04.86
75
EX. ℄ RAMP A
EX. ℄ RAMP B
P.I.Sta. 170+46.12
Δ = 25° 12′ 04″ (LT)
Dc = 28° 38′ 52″
R = 200.00′
T = 44.71′
L = 87.97′
E = 4.94′
C = 87.26′
C.B. = N 46° 24′ 01″ E
e_max = 0.080
EX. ℄ RAMP B
P.I.Sta. 174+42.50
Δ = 20° 01′ 41″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
Ls = 200.00′
θs = 4° 00′ 00″
LT = 133.37′
ST = 66.70′
x = 199.90′
y = 4.65′
k = 99.98′
p = 1.16′
Δc = 12° 01′ 41″ (RT)
Lc = 300.70′
Ts = 353.12′
Es = 23.34′
C = 300.15′
C1 = C2 = 199.96′
C.B.1 = N 35° 07′ 58″ E
C.B. = N 43° 48′ 49″ E
C.B.2 = S 52° 29′ 40″ W
e_max = 0.071
SC Sta. 172+89.38
175
1275
STA. 241+94.41 - SR 91 = STA. 270+55.98- SR 2
CS Sta. 175+90.08
EX. ℄ RAMP B
ST Sta. 177+90.08
℄ ROW - SR 2
1280
80
EX. ℄ RAMP A
P.I.Sta. 79+74.26
Δ = 14° 00′ 39″ (LT)
Dc = 1° 30′ 00″
R = 3,820.00′
T = 469.40′
L = 934.12′
E = 28.73′
C = 931.79′
C.B. = N 62° 07′ 50″ E
e_max = 0.035
PT Sta. 84+38.98
U.S. 20
N 1° 03′ 03″ W
N Sta. 200+94.86 ℄ ROW S.R. 91 = ℄ ROW U.S. 20
BEGIN WORK STA. 206+10
℄ ROW & CONSTRUCTION - SR 91
205
210
PC Sta. 202+07.99
CITY OF WILLOUGHBY
EXIST. ℄ ROW - SR91
P.I.Sta. 207+74.41
Δ = 16° 31′ 30″ (RT)
Dc = 1° 28′ 08″
R = 3,900.51′
T = 566.42′
L = 1,124.98′
E = 40.91′
C = 1,121.08′
C.B. = N 7° 12′ 42″ E
e_max = 0.030
215
PT Sta. 213+32.97
STA. 218+90 END MEDIAN REPLACEMENT AREA FOR MOT CROSSOVER
STA. 215+42 BEGIN MEDIAN REPLACEMENT AREA FOR MOT CROSSOVER
220
N 15° 28′ 27″ E
CITY OF EASTLAKE
CITY OF WILLOUGHBY
NSC R.R.
CSX TRANSPORTATION INC.
PC Sta. 224+78.70
STA. 223+22.09 BEGIN BRIDGE OVERLAY
STA. 223+83
MATCH LINE - STA. 225+00
HORIZONTAL SCALE IN FEET
0
50
100
200
N
SCHEMATIC PLAN
LAK-91-4.56
2
161
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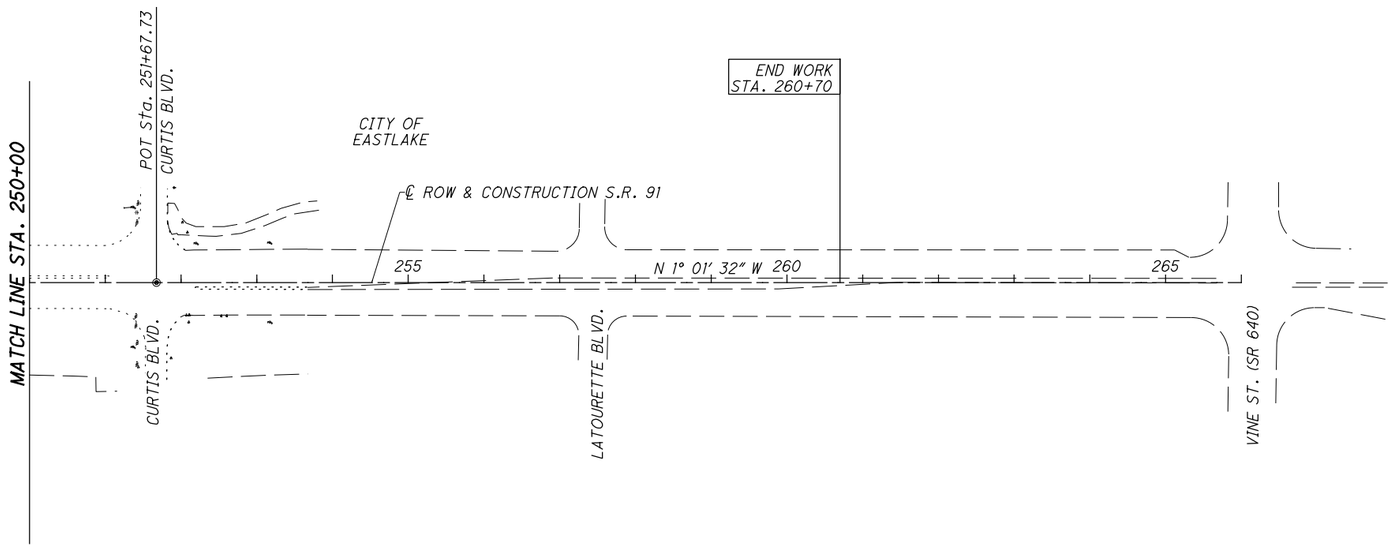


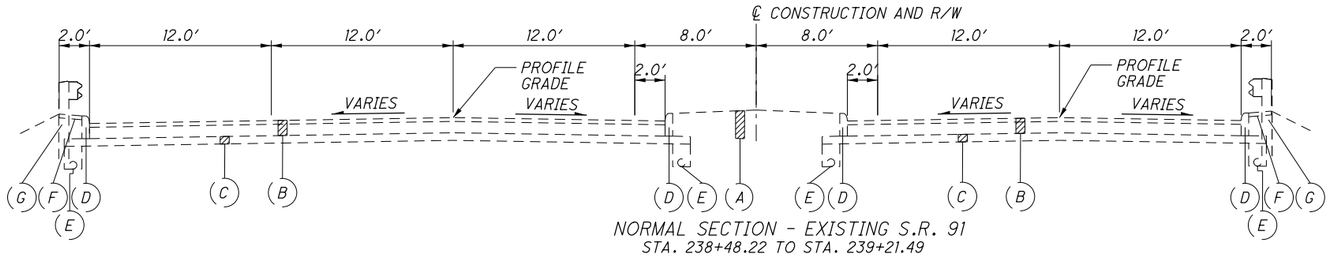
PRIMARY PROJECT CONTROL INFORMATION						
	GRID COORDINATES U.S. SURVEY FEET		GROUND COORDINATES U.S. SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	
POINT NUMBER	NORTHING	EASTING	NORTHING	EASTING		DESCRIPTION
CRP17	715202.2899	2258317.3036	715218.6040	2258368.8170	672.42	I. PIN IN MON BOX
CRP19	716427.5854	2258455.9604	716443.9275	2258507.4770	660.26	I. PIN IN MON BOX
MON72/BM #1	718897.7357	2258857.2973	718914.1341	2258908.8230	657.24	CONCRETE MONUMENT
MON4/BM #4	720205.5092	2258902.5523	720221.9375	2258954.0790	638.04	I. PIN IN MON BOX
BM #3	719429.1222	2258957.9599	719445.5328	2259009.488	651.11	IRON PIN
BM #2	719534.6429	2259055.5951	719551.0559	2259107.125	646.52	IRON PIN

N

0 50 100 200
HORIZONTAL SCALE IN FEET

SCHEMATIC PLAN

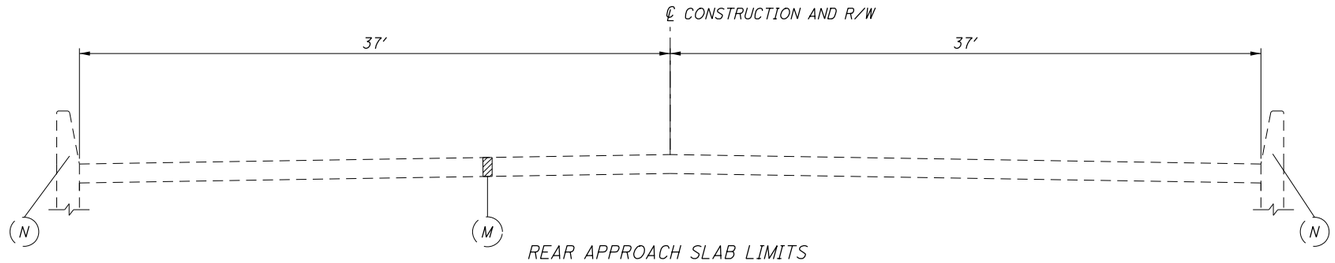
LAK-91-4.56



NORMAL SECTION - EXISTING S.R. 91
STA. 238+48.22 TO STA. 239+21.49
STA. 245+30.13 TO STA. 245+93.00
NORTH OF RAMP A AND RAMP C INTERSECTIONS AND NORTH OF RAMP B AND C INTERSECTIONS

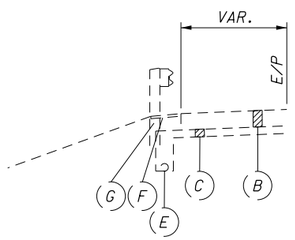
NOTES:

BRIDGE LIMITS - S.R. 91 OVER S.R. 2
STA. 240+46.50 TO STA. 243+40.92

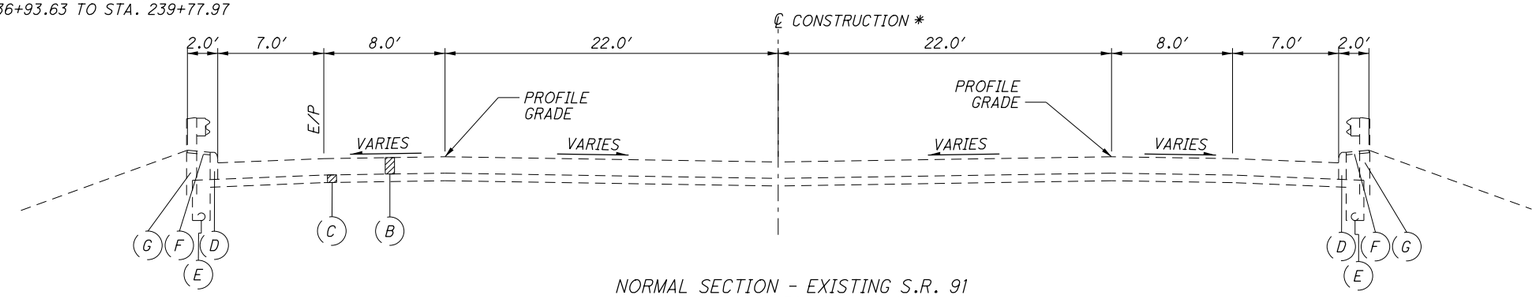


REAR APPROACH SLAB LIMITS
STA. 240+21.50 TO STA. 240+46.50

FORWARD APPROACH SLAB LIMITS
STA. 243+40.92 TO STA. 243+65.92



SHOULDER SECTION
STA. 236+93.63 TO STA. 239+77.97



NORMAL SECTION - EXISTING S.R. 91
STA. 239+21.49 TO STA. 240+21.50
STA. 243+65.92 TO STA. 245+30.13
SOUTH OF SR 2 BRIDGE, NORTH TO RAMP A AND RAMP C INTERSECTIONS

EXISTING LEGEND

- (A) EX. GRASS MEDIAN
- (B) EX. 13"± ASPHALT PAVEMENT
- (C) EX. 6"± AGGREGATE BASE
- (D) EX. CONCRETE CURB
- (E) EX. UNDERDRAIN
- (F) EX. PAVEMENT UNDER GUARDRAIL
- (G) EX. GUARDRAIL
- (H) EX. 11.5"± CONCRETE PAVEMENT
- (J) EX. 12"± CEMENT STABILIZED SUBGRADE
- (K) EX. 9"± CONCRETE PAVEMENT
- (L) EX. 3"± ASPHALT PAVEMENT
- (M) EX. 13"± REINFORCED CONCRETE APPROACH SLAB
- (N) EX. BARRIER WALL

TYPICAL SECTIONS - S.R. 91

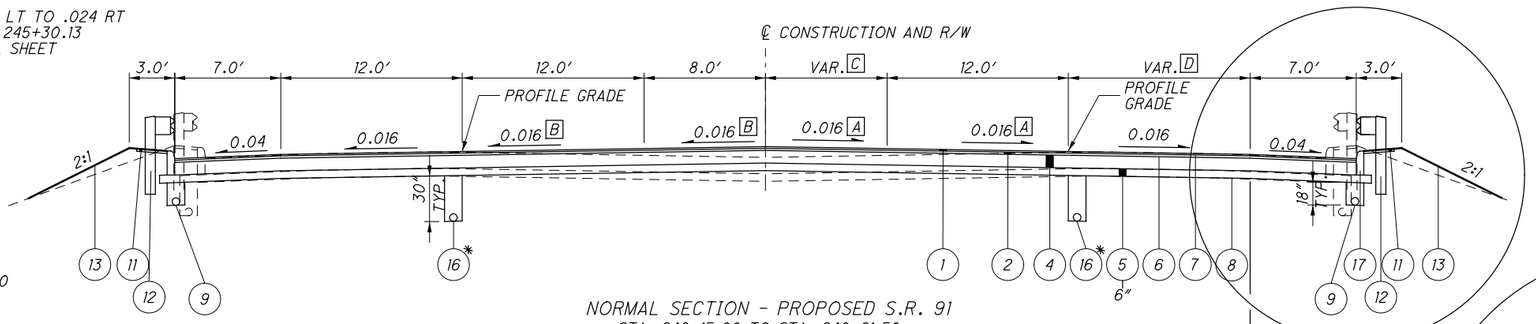
LAK-91-4.56

A CROSS SLOPE VARIES .016 RT TO .024 LT,
STA. 244+29.00 TO STA. 245+30.13
SEE INTERSECTION DETAIL SHEET

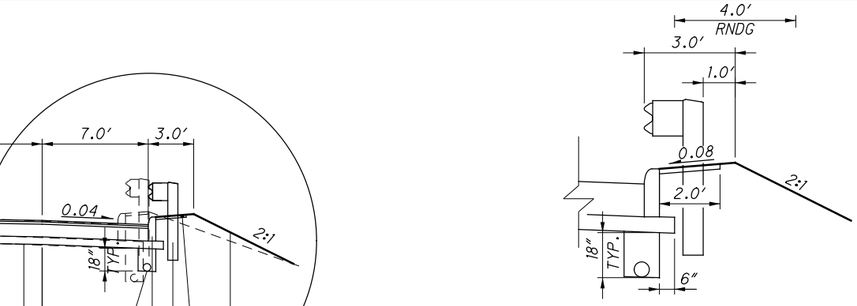
B CROSS SLOPE VARIES .011 LT TO .024 RT
STA. 244+29.00 TO STA. 245+30.13
SEE INTERSECTION DETAIL SHEET

C VARIES
4' AT STA. 240+15.00
TO 4.13' AT STA. 242+21.50
8' FROM STA. 243+65.92
TO STA. 245+30.13

D VARIES
16' AT STA. 240+15.00
TO 15.87' AT STA. 240+21.50
12' FROM STA. 243+65.92
TO STA. 245+30.13

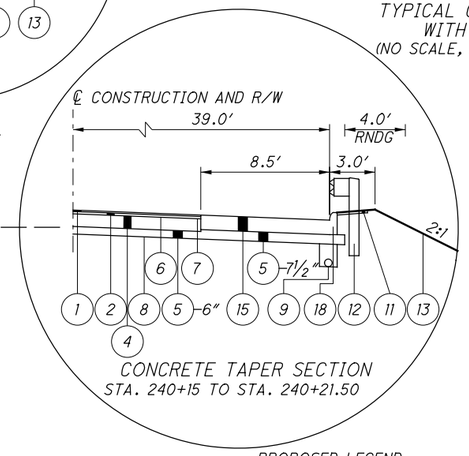


NORMAL SECTION - PROPOSED S.R. 91
STA. 240+15.00 TO STA. 240+21.50
STA. 243+65.92 TO STA. 245+30.13*



TYPICAL GUARDRAIL SECTION
WITH CURB GRADING
(NO SCALE, MIRROR FOR LEFT SIDE)

RAMP A SECTION
STA. 244+74.85 TO STA. 244+93.07

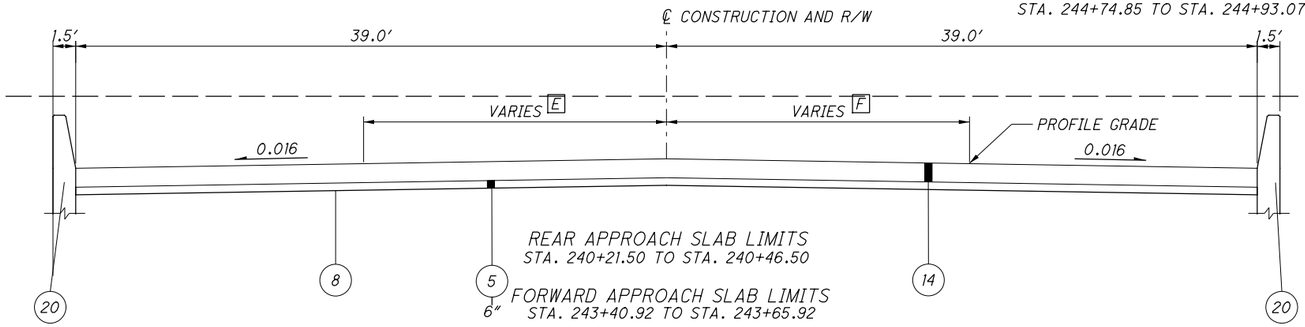


CONCRETE TAPER SECTION
STA. 240+15 TO STA. 240+21.50

NOTE: THE SHOULDER CROSS SLOPE WILL TRANSITION FROM/TO 0.04 SLOPE TO A 0.16 SLOPE ON THE APPROACH SLAB.

E ROADWAY CROWN
VARIES 20.0′ TO 24.0′ FROM
STA. 240+21.50 TO STA. 240+46.50
ROADWAY CROWN
VARIES 24.0′ TO 20.0′ FROM
STA. 243+40.92 TO STA. 243+65.92

F ROADWAY CROWN
VARIES 20.0′ TO 16.0′ FROM
STA. 240+21.50 TO STA. 240+46.50
ROADWAY CROWN
VARIES 16.0′ TO 20.0′ FROM
STA. 243+40.92 TO STA. 243+65.92



REAR APPROACH SLAB LIMITS
STA. 240+21.50 TO STA. 240+46.50

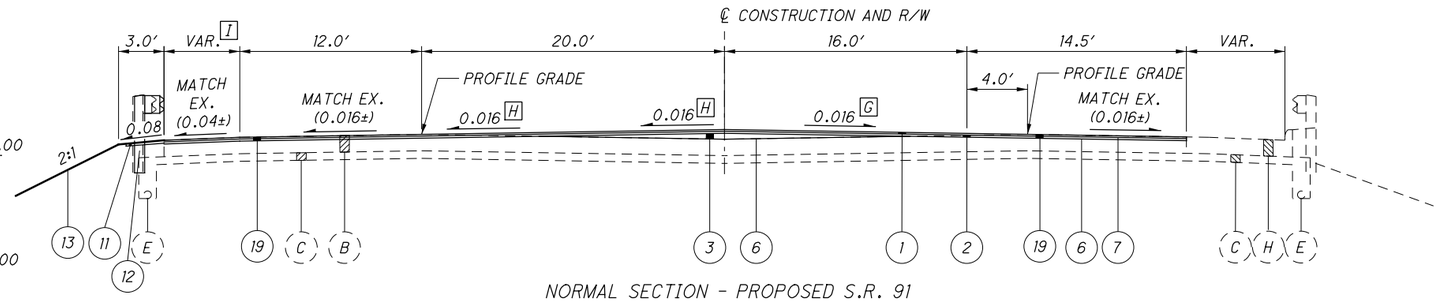
FORWARD APPROACH SLAB LIMITS
STA. 243+40.92 TO STA. 243+65.92

G VARIES
.016 NORMAL LT TO RT
CROSS SLOPE VARIES .009 RT
TO .016 LT.,
STA. 239+21.50 TO STA. 240+15.00
SEE INTERSECTION DETAIL SHEET

H VARIES
.016 NORMAL RT TO LT
CROSS SLOPE VARIES .009 RT
TO .016 LT.
STA. 239+21.50 TO STA. 240+15.00
SEE INTERSECTION DETAIL SHEET

I VARIES FROM 10.6′ TO 10.2′ FROM
STA. 239+21.5 TO 239+58.73

VARIES 10.2′ TO 7.9′ FROM
STA. 239+58.73 TO STA. 239+90.99

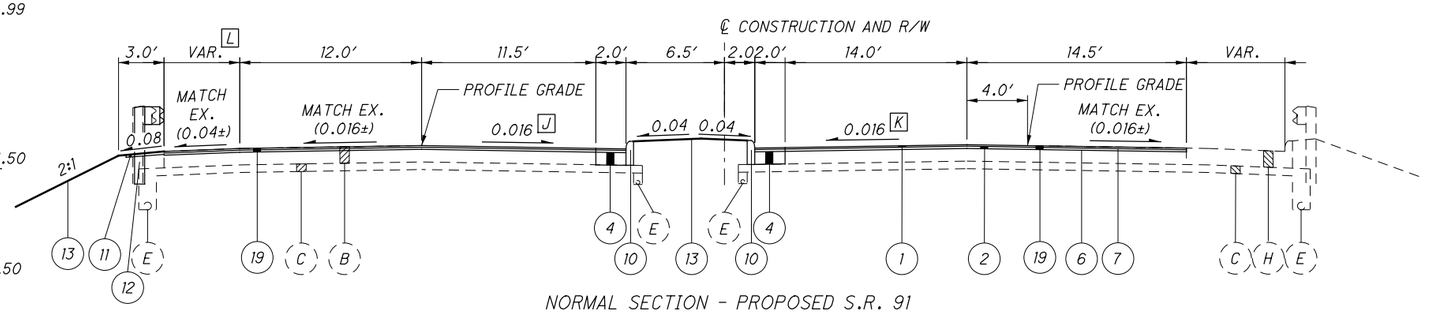


NORMAL SECTION - PROPOSED S.R. 91
STA. 239+21.50 TO STA. 240+15.00

J VARIES
.016 NORMAL LT TO RT
CROSS SLOPE VARIES .009 RT
TO .016 RT.
STA. 238+87.00 TO STA. 239+21.50
SEE INTERSECTION DETAIL SHEET

K VARIES
.016 NORMAL RT TO LT
CROSS SLOPE VARIES .009 LT
TO .016 LT.
STA. 238+87.00 TO STA. 239+21.50
SEE INTERSECTION DETAIL SHEET

L VARIES 11.0′ TO 10.6′ FROM
STA. 238+48.35 TO STA. 239+21.5



NORMAL SECTION - PROPOSED S.R. 91
STA. 238+48.35 TO STA. 239+21.50

NOTE: SEE SHEET 4 FOR EXISTING TYPICAL LEGEND
SEE SHEET 6 FOR MEDIAN REPLACEMENT

PROPOSED LEGEND

1. ITEM 442 1.25″ ASPHALT CONCRETE SURFACE COURSE, 9.5mm, TYPE A, (448), AS PER PLAN
2. ITEM 442 1.75″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE A, (448)
3. ITEM 441 VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), (0″-6″ DEPTH, 3″ MAX LIFT)
4. ITEM 302 10″ ASPHALT CONCRETE BASE, PG64-22
5. ITEM 304 AGGREGATE BASE
6. ITEM 407 TACK COAT @ 0.075 GAL./SY
7. ITEM 407 TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL./SY
8. ITEM 204 SUBGRADE COMPACTION
9. ITEM 605 6″ BASE PIPE UNDERDRAINS WITH FABRIC WRAP
10. ITEM 609 CURB, TYPE 6
11. ITEM 441 2″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL)
12. ITEM 606 GUARDRAIL, TYPE MGS
13. ITEM 659 SEEDING AND MULCHING
14. ITEM 526 REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15″)
15. ITEM 452 11.5″ NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1
16. ITEM 605 6″ SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP
17. ITEM 609 CURB, TYPE 4-C
18. ITEM 609 CURB, TYPE 4-A
19. ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (VARIABLE DEPTH)
20. BRIDGE RAILING (SBR-1-13)
21. ITEM 605 6″ UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP

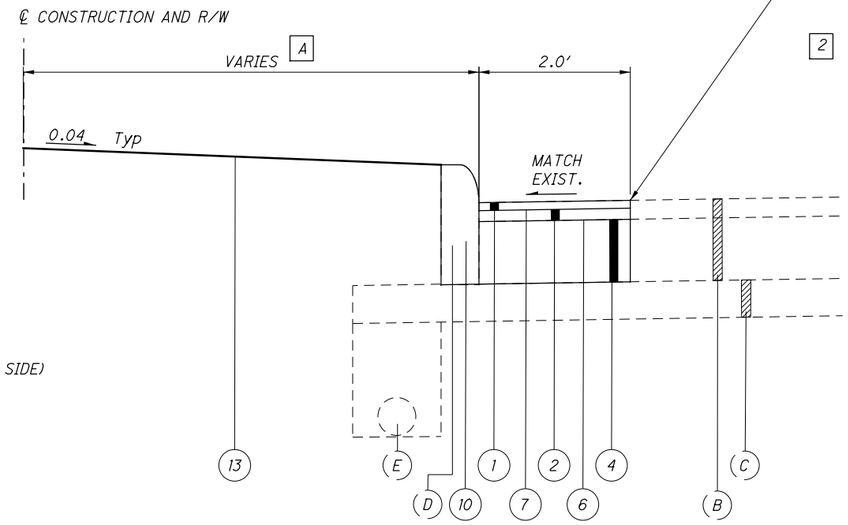
TYPICAL SECTIONS - S.R. 91

LAK-91-4.56

TYPICAL SECTIONS - S.R. 91

[1] FULL DEPTH SAW CUT AND REMOVE EXIST. PAVEMENT AND CURB PRIOR TO CONSTRUCTING TEMPORARY PAVEMENT.

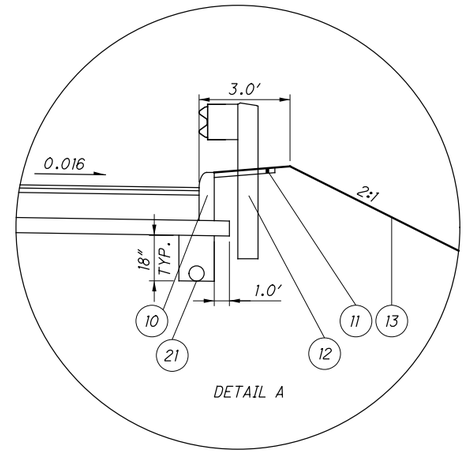
[2] FULL DEPTH SAW CUT AND REMOVE TEMPORARY PAVEMENT UPON COMPLETION OF STAGE 2 CONSTRUCTION AND CONSTRUCT TYPE 6 CURB, PERMANENT PAVEMENT AND GRASS MEDIAN.



MEDIAN REPLACEMENT SECTION - S.R. 91 (REVERSE FOR LEFT SIDE)

STA. 215+42 TO STA. 218+90 (LEFT AND RIGHT)
STA. 235+83 TO STA. 236+53 (LEFT SIDE ONLY)
STA. 238+48.35 TO STA. 239+21.50 (LEFT & RIGHT)
STA. 245+93 TO STA. 248+24 (LEFT & RIGHT)

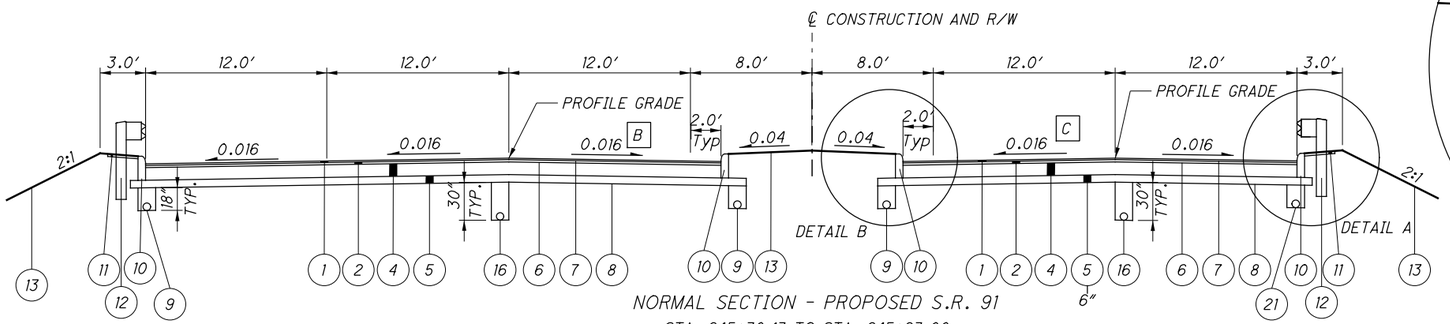
[A] PROPOSED MEDIAN WIDTH TO MATCH EXISTING
9′ WIDE STA. 215+42 TO 218+90 (LEFT AND RIGHT)
VARIES 7.2 TO 6.5′ WIDE STA. 235+83 TO STA. 236+50 (LEFT)
6.5′ WIDE FROM STA. 236+50 TO 236+74 (LEFT)
6.5′ WIDE STA. 238+49.5 TO 239+21.50 (LEFT)
2′ WIDE STA. 238+48.35 TO 239+21.50 (RIGHT)
6′ WIDE STA. 245+93 TO 247+22 (LEFT AND RIGHT)
VARIES 6′ AT STA. 247+22 TO 8.6′ AT STA. 248+24 (LEFT)
VARIES 6′ (RT) AT STA. 247+22 TO 5.3′ (LT) AT STA. 248+24 (RIGHT SIDE)



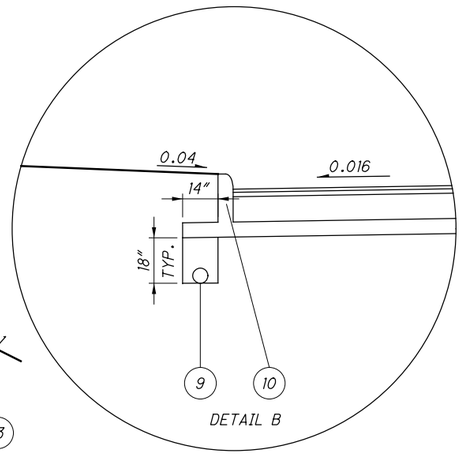
DETAIL A

[B] CROSS SLOPE VARIES .016 RT TO .03 RT,
STA. 245+30.13.00 TO STA. 245+93.00
SEE INTERSECTION DETAIL SHEET

[C] CROSS SLOPE VARIES .016 LT TO .03 LT
STA. 245+30.13 TO STA. 245+93.00
SEE INTERSECTION DETAIL SHEET

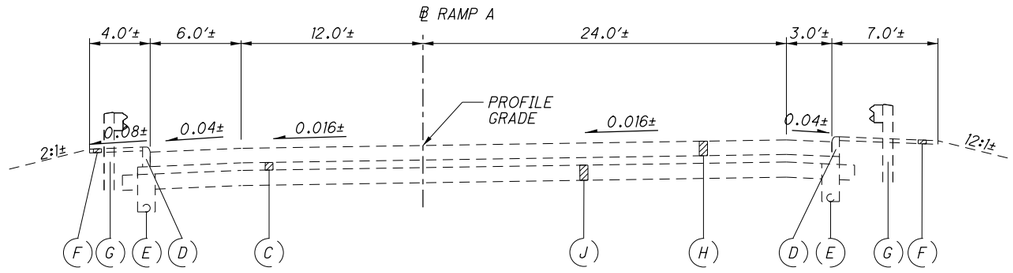


NORMAL SECTION - PROPOSED S.R. 91
STA. 245+30.13 TO STA. 245+93.00

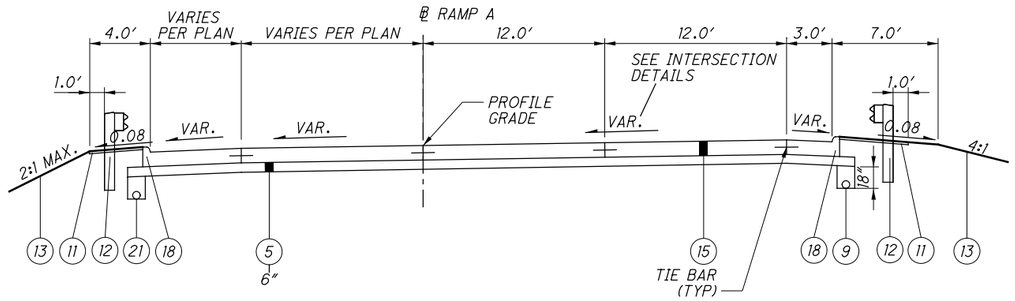


NOTE: SEE SHEET 4 FOR EXISTING TYPICAL LEGEND
SEE SHEET 5 FOR PROPOSED TYPICAL LEGEND
SEE SHEET 5 FOR TYPICAL GUARDRAIL SECTION WITH CURB GRADING DETAIL

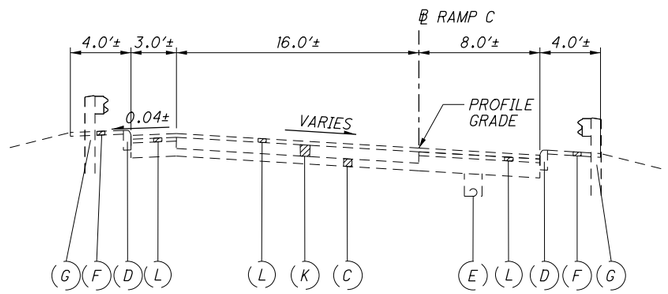
LAK-91-4.56



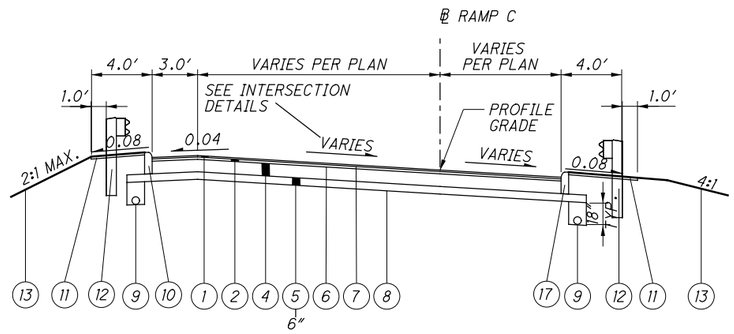
NORMAL SECTION - EXISTING S.R. 91 RAMP A
STA. 72+37.78 TO STA. 72+88.00



NORMAL SECTION - PROPOSED S.R. 91 RAMP A
STA. 72+37.78 TO STA. 72+88.00



NORMAL SECTION - EXISTING S.R. 91 RAMP C
STA. 104+14.93 TO STA. 104+71.48



NORMAL SECTION - PROPOSED S.R. 91 RAMP C
STA. 104+14.93 TO STA. 104+71.48

NOTE: SEE SHEET 4 FOR EXISTING TYPICAL LEGEND.
SEE SHEET 5 FOR PROPOSED TYPICAL LEGEND.

TYPICAL SECTIONS - S.R. 91 RAMPS A & C

LAK-91-4.56

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

LAKE COUNTY ENGINEER
ATTN: JAMES R. GILLS, P.E., P.S.
550 BLACKBROOK ROAD
PAINESVILLE, OHIO 44077
(440) 350-2770

AT&T OHIO
ATTN: SUE PELLINI
13630 LORAIN ROAD
ROOM 200
CLEVELAND, OHIO 44111
(216) 476-6065

LAKE COUNTY UTILITIES
ATTN: ALBERT SAARI, P.E.
SANITARY ENGINEER
105 MAIN STREET
PAINESVILLE, OHIO 44077
(440) 350-2652

CITY OF EASTLAKE
ATTN: NICK RUBERTINO
SERVICE DIRECTOR
35150 LAKESHORE BLVD.
EASTLAKE, OHIO 44095
(440) 951-1416

DOMINION EAST OHIO
ATTN: BRYAN DAYTON
320 SPRINGSIDE DR.
AKRON, OHIO 44333
(330) 664-2409

CITY OF WILLOUGHBY
ATTN: ANGELO TOMASELLI
1 PUBLIC SQUARE
WILLOUGHBY, OH 44094
(440) 951-2800

COBRA PIPELINE CO./
ORWELL NATURAL GAS - ATTN: KEITH KREJCI
3511 LOST NATION ROAD #5
WILLOUGHBY, OHIO 44094
(440) 255-1945

CLEVELAND ELECTRIC ILLUMINATING COMPANY
ATTN: RALPH N. DELLIGATTI
10 ERIE ROAD
WILLOUGHBY, OH 44095
(440) 953-7501

UTILITIES

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

EXISTING TYPICAL SECTIONS

EXISTING TYPICAL SECTIONS HAVE BEEN TAKEN FROM RECORDS AND ARE BELIEVED TO REPRESENT THE EXISTING PAVEMENT, BUT THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THE SAME.

FOR FURTHER INFORMATION IN REGARD TO THE EXISTING TYPICAL SECTIONS, THE CONTRACTOR SHALL REFER TO THE PREVIOUS CONSTRUCTION PLANS.

THESE PLANS MAY BE REVIEWED AT THE FOLLOWING LOCATION:

OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 12 OFFICE
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OHIO 44125

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET 3 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD:	ODOT VRS
MONUMENT TYPE:	CORS STATIONS

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM:	NAVD 88
GEOID:	GEOID09

HORIZONTAL POSITIONING

REFERENCE FRAME:	NAD83 (CORS96)
ELIPSOID:	GRS 80
MAP PROJECTION:	LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM:	OHIO STATE PLANE NORTH ZONE
COMBINED SCALE FACTOR:	1.000022811
ORIGIN OF COORDINATE SYSTEM	0.00, 0.00

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 823.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR : 1 METER = 3.2808333333 U.S. SURVEY FEET.

EXISTING SUBSURFACE DRAINAGE

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS, OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

601, TIED CONCRETE BLOCK MAT, TYPE 1 10 SQ. YD.
611, 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS 50 FT.
611, PRECAST REINFORCED CONCRETE OUTLET 2 EACH
605, 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP 50 FT.
605, AGGREGATE DRAINS 50 FT.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT AND FILLING THE CONDUIT THUS SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

BULKHEADS SHALL BE LOCATED AT THE LIMITS OF THE CONDUIT TO BE FILLED AS INDICATED ON THE PLANS. THE BULKHEADS SHALL CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

THE FILL MATERIAL SHALL BE PUMPED INTO PLACE, OR PLACED BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT, AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH, SHALL BE FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED IN ACCORDANCE WITH THE PROVISIONS OF 203, OR IT MAY BE REMOVED. THE LENGTH, AS SHOWN ON SHEET 66, SHALL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

PROOF ROLLING/ EXCAVATION OF SUBGRADE

THE SUBGRADE WILL BE PROOF ROLLED TO FIND AREAS THAT MAY NEED TO BE UNDERCUT. A CONTINGENCY QUANTITY OF EXCAVATION FOR SUBGRADE AND OF GRANULAR MATERIAL TYPE B HAVE BEEN ADDED TO THE ESTIMATE IN CASE UNSUITABLE MATERIAL IS ENCOUNTERED.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

204, EXCAVATION OF SUBGRADE	256 CY.
204, GRANULAR MATERIAL TYPE B	256 CY.
204, PROOF ROLLING	2 HRS.

RAMP CLOSING

THE CONTRACTOR WILL NOTIFY THE STATE AND CITY PERSONNEL TWO WEEKS PRIOR TO CLOSING ANY RAMP.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 619 - FIELD OFFICE, TYPE B, AS PER PLAN

A TYPE B FIELD OFFICE IS REQUIRED FOR THIS PROJECT.

THE FOLLOWING REVISIONS TO EQUIPMENT SUPPLIED WITH THE TYPE B FIELD OFFICE, AS SPECIFIED IN TABLE 619.02-1, FIELD OFFICE, SHALL APPLY:

THE COPIER SUPPLIED MUST MEET THE REQUIREMENTS OF COPIER SUPPLIED WITH THE TYPE C FIELD OFFICE.

THE BROADBAND INTERNET CONNECTION MUST MEET A MINIMUM DOWNLOAD SPEED OF 10MB PER SECOND AND A MINIMUM UPLOAD SPEED OF 5MB PER SECOND.

ALL OTHER FIELD OFFICE ITEMS SUPPLIED SHALL MEET THE REQUIREMENTS OF A TYPE B, FIELD OFFICE.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 9 PM AND 7 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CONTRACTION AND/OR EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO AND TIED TO EXISTING CONCRETE, THE CONTRACTION JOINT SPACING REQUIRED IN STANDARD CONSTRUCTION DRAWING BP-2.2 WILL BE WAIVED. CONSTRUCT CONTRACTION JOINTS IN THE NEW CONCRETE PAVEMENT TO FORM A CONTINUOUS LINE WITH ALL CONTRACTION JOINTS IN THE EXISTING CONCRETE PAVEMENT. INSTALL EXPANSION JOINTS IN THE NEW CONCRETE PAVEMENT TO FORM A CONTINUOUS LINE WITH ALL EXPANSION JOINTS IN THE EXISTING CONCRETE PAVEMENT.

CALCULATED DPF CHECKED BJK

GENERAL NOTES

LAK-91-4.56

MEDIAN AND/OR CURBING ON APPROACH SLABS

WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

PAVEMENT SAWING

THE CONTRACTOR WILL NOT BE PAID DIRECTLY FOR THE FULL DEPTH PAVEMENT SAWING BUT WILL INCLUDE THE COST IN OTHER PAVEMENT ITEMS.

CONNECTIONS TO DRAINAGE FACILITIES

THE CONTRACTOR SHOULD BE AWARE THAT CONDUIT ANGLES TO THE EXISTING AND PROPOSED DRAINAGE STRUCTURES MAY NOT HAVE PERPENDICULAR ANGLES INTO THE DRAINAGE STRUCTURE. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING A SECURE AND SEALED CONNECTION TO THE DRAINAGE STRUCTURE AT NO ADDITIONAL COST. ANY LABOR, MATERIALS OR EQUIPMENT NECESSARY TO PROVIDE A SECURE SEALED CONDUIT CONNECTION TO THE DRAINAGE STRUCTURE WILL BE INCLUDED IN THE COST OF THE ITEM 611 CONDUIT THAT IS BEING CONNECTED TO THE DRAINAGE STRUCTURE.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659, SOIL ANALYSIS TEST 2 EACH
659, TOPSOIL 150 CU. YD.
659, SEEDING AND MULCHING 1352 SQ. YD.
659, REPAIR SEEDING AND MULCHING 68 SQ. YD
659, INTER-SEEDING 68 SQ. YD.
659, COMMERCIAL FERTILIZER 0.19 TON
659, LIME 0.28 ACRES
659, WATER 7 M. GAL.

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

ITEM 611 CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN

THE ITEM 611 CATCH BASIN ADJUST TO GRADE, AS PER PLAN WILL INCLUDE THE REMOVAL OF THE CASTING, PLACING A STEEL PLATE OVER THE CATCH BASIN, REMOVING THE STEEL PLATE AND ADJUSTING THE CASTING OVER THE EXISTING CATCH BASIN. THIS ITEM WILL INCLUDE ALL THE LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO REMOVE AND REINSTALL THE CASTING FOR THE MAINTAINANCE OF TRAFFIC.

ITEM 442 ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (448), AS PER PLAN

THE COARSE VIRGIN AGGREGATE FOR THIS ITEM SHALL BE LIMITED TO A BLEND OF AIR COOLED BLAST FURNACE SLAG (ACBFS) OR TRAP ROCK FROM ONTARIO AND LIMESTONE. THE CONTRACTOR SHALL USE A MINIMUM 60% OF ACBFS OR TRAP ROCK FROM ONTARIO WITH LIMESTONE COMPRISING THE REMAINING PERCENTAGE.

WHEN ACBFS IS USED FOR A FRACTION OF THE AGGREGATE, ALL REQUIREMENTS OF C&MS 442 APPLY, EXCEPT PROVIDE A TOTAL ASPHALT BINDER CONTENT GREATER THAN OR EQUAL TO 6.2 PERCENT. IF ACBFS MAKES UP 100% OF THE COARSE AGGREGATE, ALL REQUIREMENTS OF C&MS 442 APPLY.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN

THE ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN WILL INCLUDE PLANING THE ASPHALT FROM STA. 239+21.50 TO STA. 240+15.00 SO THAT THE CROWN OF THE ROADWAY IS TRANSITIONED FROM THE CENTER OF THE SR 91 NB AND SB TRAVEL LANES TO THE CENTER OF SR 91. THE OUTSIDE TRAVEL LANES WILL BE PLANED. THE INSIDE TRAVEL TRAVEL LANES AND MEDIAN WILL ONLY BE PLANED WHERE THE 3" OF ASPHALT IS REQUIRED. THE PLANING WILL BE TAPERED IN THE INSIDE LANES AND MEDIAN TO ALLOW 3" OF ASPHALT TO BE PLACED BACK IN THIS AREA. ANY AREA IN THE INSIDE TRAVEL LANES AND MEDIAN THAT WILL REQUIRES MORE THAN 3" OF ASPHALT WILL NOT BE PLANED.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN.

ITEM 623 - CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN

AN OHIO PROFESSIONAL SURVEYOR SHALL DETERMINE THE MINIMUM VERTICAL CLEARANCES OF ALL EXISTING AND NEW BRIDGES WITHIN THE PROJECT LIMITS AFTER COMPLETION OF ALL THE WORK, BUT PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. AT A MINIMUM, MEASUREMENTS SHALL BE TAKEN ALONG THE CENTERLINE OF EACH FASCIA BEAM AT THE EDGE OF SHOULDERS, EDGE LINES, LANE LINES, AND CROWN OF THE ROADWAY BELOW. THE MEASUREMENTS SHALL BE DOCUMENTED ON THE ODOT VERTICAL CLEARANCE SURVEY FORM. THE FORM SHALL BEAR THE STAMP OR SEAL OF THE OHIO PROFESSIONAL SURVEYOR WHO HAS TAKEN THE MEASUREMENTS. THE OHIO PROFESSIONAL SURVEYOR SHALL SUBMIT THE COMPLETED FORM TO THE PROJECT ENGINEER AND THE DISTRICT BRIDGE MAINTENANCE ENGINEER PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

ASPHALT CONCRETE SURFACE COURSE SEALING REQUIREMENTS

IN ADDITION TO THE GUTTER SEALING REQUIREMENTS SPECIFIED IN SCD BP-3.1 AND C&MS 401.15, THE CONTRACTOR SHALL SEAL THE FOLLOWING LOCATIONS:

- ALL CASTINGS INCLUDING BUT NOT LIMITED TO MONUMENTS, MANHOLES, WATER VALVES, CATCH BASINS, CURB INLETS.
- BUTT JOINTS AND FEATHER JOINTS INCLUDING BRIDGE APPROACHES.
- BUTT JOINT BETWEEN PAVED SHOULDER AND DRIVEWAY ASPHALT AND THE TAPERED EDGE WHEN FEATHERING TO AN EXISTING ASPHALT DRIVEWAY.
- PERIMETER OF ALL PAVEMENT REPAIRS OR OTHER ASPHALT INLAYS WHEN THE REPAIR/INLAY IS NOT OVERLAID WITH AN ASPHALT CONCRETE SURFACE COURSE.
- ALL COLD LONGITUDINAL JOINTS BETWEEN PAVED SHOULDERS AND GUARDRAIL ASPHALT.

THE MATERIAL USED SHALL BE A CERTIFIED 702.01 PG BINDER. THE WIDTH OF THE SEALER SHALL BE 2-3 INCHES.

ANY ADDITIONAL COSTS ASSOCIATED WITH THE WORK IDENTIFIED IN THIS NOTE SHALL BE INCLUDED IN THE APPROPRIATE ASHALT CONCRETE SURFACE COURSE ITEM OF WORK.

PAVEMENT RESTORATION FOR DRAINAGE STRUCTURE INSTALLATIONS

THE FOLLOWING QUANTITY IS PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION OF ITEM 611 DRAINAGE STRUCTURES ON RAMP D.

ITEM 301 ASPHALT CONCRETE BASE, PG64-22 2 CU. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 10 INCHES AND A WIDTH OF TWO FEET AROUND THE PERIMETER OF THE DRAINAGE STRUCTURE. PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

625, REMOVE & REERECT EXISTING LIGHT POLE, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING LIGHT POLE, ARM AND LUMINAIRE, STORING IT IN A LOCATION APPROVED BY THE ENGINEER AND REERECTING THE LIGHT POLE, ARM AND LUMINAIRE ON THE NEW PILASTER. IN ADDITION, THE POLES SHALL BE REWIRED USING No. 10 AWG, POLE AND BRACKET CABLE. THE LUMINAIRE SHALL BE CLEANED, REPAIRS TO ENSURE THAT IT IS IN GOOD SERVICEABLE CONDITION MADE, ADJUSTMENTS TO THE OPTICAL COMPONENTS TO ENSURE THAT THE SPECIFIED DISTRIBUTION IS BEING PRODUCED MADE, AND A NEW LAMP INSTALLED IF THE LIGHT SOURCE IS A LAMP.
THE LIGHT POLE SHALL BE CLEANED AND REPAIRS NEEDED FOR THE POLE TO BE IN GOOD SERVICEABLE CONDITION MADE. THE EXISTING POLE NUMBER DECAL SHALL BE REMOVED IF IT IS IN POOR CONDITION OR THE POLE NUMBER HAS CHANGED. A POLE NUMBER DECAL SHALL BE SUPPLIED AND APPLIED IF THE EXISTING DECAL IS REMOVED OR MISSING.
THE PRICE BID FOR EACH " ITEM 625, REMOVE & REERECT EXISTING LIGHT POLE, AS PER PLAN " SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED ABOVE. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE FURNISHED AND CONSIDERED PAID FOR AS PART OF THE ITEM.

CONTRACTOR'S RESPONSIBILITIES

REMOVE AND REERECT EXISTING LIGHT POLES WITH NEW WIRING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BOLT PATTERN FOR THE EXISTING LIGHT POLES MEETS THE REQUIREMENTS OF STD. DRAWING HL-20.14 FOR THE LIGHTING PILASTERS.

INSTALL NEW CONDUIT, JUNCTION BOXES, PULL BOXES, AND APPURTENANCES AS SHOWN ON THE PLANS. THE LOCATIONS OF THE PULL BOXES ARE TO BE FIELD VERIFIED BY THE ENGINEER PRIOR TO CONSTRUCTION.

INSTALL STRUCTURE GROUNDING SYSTEM.

CONTRACTOR TO MAKE A TRANSITION FROM OVERHEAD TO UNDERGROUND AT THE EXISTING POLES ADJACENT TO THE PROPOSED PULL BOXES UTILIZING POLE MOUNTED CONDUIT AND WEATHERHEAD. SPLICE CONDUCTORS OVERHEAD TO CONNECT AND COMPLETE EXISTING LIGHTING CIRCUIT. INCLUDED IN COST FOR ITEM 625, REMOVE & REERECT LIGHT POLE, AS PER PLAN.

LIGHTING SUB SUMMARY

STATION FROM	STATION TO	SIDE	CONNECTION, UNFUSED PERMANENT	CONNECTOR KIT, TYPE II	LIGHT POLE ANCHOR BOLTS ON STRUCTURE	PULL BOX, 725.08, 18"	REMOVE & REERECT EXISTING LIGHT POLE, AS PER PLAN	DISTRIBUTION CABLE: NO. 8 AWG 600 VOLT	TRENCH, 36" DEEP	PLASTIC CAUTION TAPE	DISCONNECT CIRCUIT
			EACH					LIN. FT.	LIN. FT.	LIN. FT.	EACH
239+78.00	241+42.00	LT.	2	2	4	1	1	510	16	16	-
240+32.00	242+85.00	RT.	2	2	4	1	1	774	14	14	-
242+92.00	244+45.00	RT.	2	-	-	1	-	510	58	58	-
TOTAL			6	4	8	3	2	1794	88	88	2

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LIGHT POLE ANCHOR BOLTS

WHEN A LIGHT POLE IS MOUNTED ON A PILASTER ON A BRIDGE PARAPET OR ON A RETAINING WALL, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND/OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF THE ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE PILASTER IS ALSO PART OF THIS WORK.

PAYMENT WILL BE MADE AT EACH SUCH POLE LOCATION AT THE UNIT PRICE BID FOR EACH CMS ITEM 625, "LIGHT POLE ANCHOR BOLTS" AND SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING THE SET OF ANCHOR BOLTS REQUIRED.

CONDUIT EXPANSION AND DEFLECTION

EXPANSION FITTINGS SHALL BE OZ TYPE AX, CROUSE HINDS TYPE XJG, APPLETON TYPE AX, OR EQUAL APPROVED BY THE ENGINEER. EACH EXPANSION FITTING SHALL PROVIDE EITHER 4 OR 8 INCHES TOTAL MOVEMENT AS SPECIFIED BY THE PLAN DETAILS AND SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

DEFLECTION COUPLINGS SHALL BE OZ TYPE DX, CROUSE HINDS TYPE XD, APPLETON TYPE DF, OR EQUAL APPROVED BY THE ENGINEER. EACH DEFLECTION COUPLING SHALL HAVE AN EXTERNAL COPPER BONDING JUMPER, UNLESS SPECIFIED OTHERWISE BY THE PLAN DETAILS.

SPECIAL, MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF THE EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF EXISTING LIGHTING SHALL BE MADE BY ODOT'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF ODOT, THE MAINTAINING AGENCY AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE THE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT SHALL BE MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWNED UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENT.

WHEN THE SEQUENCE OF CONSTRUCTION ACTIVITIES REQUIRES, OR SHOULD THE CONTRACTOR DESIRE, THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY LIGHTING OF THIS PORTION OF THE ROADWAY.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR SETS OF THE TEMPORARY LIGHTING PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATIONS OF POLES, LENGTHS OF BRACKET ARMS, STYLES OF LUMINAIRES, MOUNTING HEIGHTS, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 3:1. MOUNTING HEIGHT OF TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 30 FEET, AND THE MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE OF THE LIGHTING WORK. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFOREMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT.

BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1, AS PER PLAN

THE CONTRACTOR SHALL RE-ASSEMBLE THE BRIDGE TERMINAL ASSEMBLY AFTER INSTALLING DRAINAGE IMPROVEMENTS ON RAMP D UTILIZING SALVAGED BEAM GUARDRAIL AND NEW POSTS (AS NEEDED) AND NEW HARDWARE.

AFTER CLOSING THE SHOULDER BUT PRIOR TO BEGINING INSTALLATION OF THE DRAINAGE IMPROVMENTS, THE CONTRACTOR SHALL CAREFULLY REMOVE THE THRIE BEAM TRANSITION AND FIRST W BEAM AND STORE FOR RE-USE. REMOVAL AND STORAGE OF THE GUARDRAIL MATERIALS SHALL BE INCLUDED IN THE ITEM GUARDRAIL REMOVED FOR REUSE.

UPON COMPLETION OF THE DRAINAGE IMPROVEMENTS AND CONSTRUCTION OF THE CURB AND PAVEMENT, THE CONTRACTOR SHALL RE-INSTALL THE GUARDRAIL ON THE EXISTING POSTS UTILIZING NEW HARDWARE. ANY POSTS DAMAGED DURING THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL COSTS ASSOCIATED WITH RE-INSTALLATION OF THE GUARDRAIL SHALL BE INCLUDED IN THE ITEM BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1, AS PER PLAN.

THE FOLLOWING QUANTITY IS PROVIDED FOR REMOVAL, STORAGE AND RE-INSTALLATION OF THE GUARDRAIL.

ITEM 202	GUARDRAIL REMOVED FOR REUSE	19 FT
ITEM 606	BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1, AS PER PLAN	1 EACH

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR REMOVAL, STORAGE AND RE-INSTALLATION OF THE GUARDRAIL.

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GENERAL NOTES

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ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF 1 LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES ON SR 91 BY THE USE OF THE EXISTING PAVEMENT, TEMPORARY PAVEMENT AND THE COMPLETED PAVEMENT.

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON SR 2 IN ACCORDANCE WITH D12'S PERMITTED LANE CLOSURE SCHEDULE. SEE ODOT D12'S PERMITTED LANE CLOSURE SCHEDULE SHEET 14. THE SHORT TERM CLOSURES SHALL BE MADE IN ACCORDANCE WITH ODOT PIS 209960 (SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY) FOR THE REMOVAL AND ERECTION OF STRUCTURAL BEAMS AND AS NECESSARY TO WORK ON THE STRUCTURE.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

TEMPORARY SIGNAL TIMING MODELS FOR THE DETOUR ROUTE INVOLVING SEVEN SIGNALIZED INTERSECTIONS HAVE BEEN PROVIDED TO THE DISTRICT AND WILL BE PROVIDED UPON REQUEST TO THE CITY OF EASTLAKE, THE CITY OF WILLOUGHBY, AND THE CONTRACTOR. SIGNAL TIMING AND PHASING TO BE FIELD ADJUSTED AS DIRECTED BY ENGINEER.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 12 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 10 M. GAL

ITEM 614, REPLACEMENT SIGN

FLATSHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED, BUT GOOD, CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR ITEM 614, REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 10 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

EARTHWORK FOR MAINTAINING TRAFFIC

THE CONTRACTOR SHALL PROVIDE PAVEMENT FOR MAINTAINING TRAFFIC AS NOTED ON SHEET 20 OF THE PLANS. ONCE THE PAVEMENT FOR MAINTAINING TRAFFIC IS NO LONGER NEEDED, THE MEDIAN SHALL BE GRADED IN ACCORDANCE WITH THE FINAL GRADING REQUIREMENTS AS SHOWN IN THE PLANS. ESTIMATED EXCAVATION QUANTITY IS 531 CY. ESTIMATED EMBANKMENT IS 531 CY.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

SPECIAL- WORK ZONE TRAFFIC SIGNAL

MAINTENANCE OF TRAFFIC INCLUDING LANE CLOSURE SHALL BE AS PROVIDED IN PLAN SHEETS.

1) THE TWO TEMPORARY SIGNALS SHALL INCLUDE THE RE-USE OF EXISTING SIGNAL HEADS, NEW SIGNAL HEADS (AS INDICATED IN PLANS), WIRE TO COMPLETE THE TEMPORARY SIGNAL HEAD INSTALLATION, RE-USE OF CONTROLLER, RE-USE OF CABINET, RE-USE OF EMERGENCY PREEMPTION EQUIPMENT (AS INDICATED IN PLANS) AND ALL OTHER APPARATUSES TO MAINTAIN SIGNAL OPERATION.

2) THE RE-USE OF THE CONTROLLER FOR THE TEMPORARY SIGNAL SHALL BE INCLUDED WITH THE COST OF THE TEMPORARY SIGNAL. TEMPORARY WOOD POLES WITH CONDUIT RISERS AND WEATHER HEADERS SHALL BE PROVIDED FOR THE TEMPORARY SIGNAL SPAN.

3) SPAN WIRE MOUNTED SIGNAL HEADS SHALL BE TETHERED.

4) EMERGENCY PREEMPTION WILL BE MAINTAINED AT THE SR 91/SR 2 EB RAMPS AND SR 91/SR 2 WB RAMPS DURING TEMPORARY SIGNAL OPERATION. AT SR 91/SR 2 WB RAMPS, PREEMPTION RECEIVER AND CONFIRMATION LIGHT FOR POLE P2-1 WILL BE RELOCATED TO A TEMPORARY BRACKET ARM. AT SR 91/SR 2 EB RAMPS, PREEMPTION RECEIVER AND CONFIRMATION LIGHT WILL REMAIN ON POLE P1-1.

5) VIDEO DETECTION FOR ACTUATED SIGNAL OPERATION SHALL BE INSTALLED AS INDICATED IN THE PLANS.

OVERHEAD-MOUNTED WORK ZONE SIGNALS

SIGNALS SHALL BE OVERHEAD MOUNTED IN ACCORDANCE WITH THE DETAILS SHOWN ON SCD MT-96.20.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AND OBJECT MARKER, ONE-WAY.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE B	18 EACH
ITEM 614, OBJECT MARKER, ONE-WAY	18 EACH
ITEM 626, BARRIER REFLECTOR	6 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING BARRIER REFLECTORS AND OBJECT MARKERS.

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL AND ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626.

OBJECT MARKERS SHALL BE INSTALLED ON ALL GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKER SPACING SHALL BE APPROXIMATELY 50 FEET.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE A	2 EACH
ITEM 614, OBJECT MARKER, ONE-WAY	15 EACH
ITEM 626, BARRIER REFLECTOR	13 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEMS.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC (SECTION 642-2).

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PROVISION OF TRAFFIC GENERAL NOTES

MAINTENANCE

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ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 150 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM

TEMPORARY GUARDRAIL

THE CONTRACTOR SHALL INSTALL AND SUBSEQUENTLY REMOVE TYPE 5 GUARDRAIL AND TYPE E ANCHOR ASSEMBLIES AT THE LOCATIONS PROVIDED IN THESE PLANS. ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

SEQUENCE OF CONSTRUCTION

THE FOLLOWING IS THE PROPOSED SEQUENCE OF CONSTRUCTION. ITEMS NOT SPECIFICALLY NOTED IN THE STAGES BELOW MAY BE PERFORMED AT THE CONTRACTORS DISCRETION, PROVIDED THAT NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC IS INCURRED.

SWITCHING BETWEEN STAGES SHALL ONLY OCCUR WHEN THE CONTRACTOR IS AVAILABLE TO RESPOND TO ANY TRAFFIC ISSUES FOR THE NEXT 48 CONSECUTIVE HOURS AFTER A NEW STAGE IS PLACED IN EFFECT.

<u>PRE-STAGE 1</u>
PRIOR TO IMPLEMENTING THE STAGE 1 MAINTENANCE OF TRAFFIC PLAN, THE CONTRACTOR SHALL PERFORM THE FOLLOWING WORK AT THE LOCATIONS AND TO THE SPECIFICATIONS PROVIDED IN THESE PLANS:

1. REMOVE MEDIAN FROM STA. 215+42 TO STA. 218+90, STA. 245+30 TO STA. 248+24 AND INSTALL TEMPORARY PAVEMENT FOR MAINTENANCE OF TRAFFIC CROSSOVER.
2. REMOVE MEDIAN AT STA. 235+83 TO STA. 236+50 AND STA. 238+47 TO STA. 239+22 AND REPLACE WITH TEMPORARY PAVEMENT TO PROVIDE A RIGHT-THRU LANE FOR SR 91 NB TRAFFIC.
3. REMOVE PORTION OF THE MEDIAN ON SR 91 BRIDGE OVER LAKELAND BLVD. AND APPROACH SLAB FROM STA. 236+50 TO STA. 238+47 TO PROVIDE A RIGHT-THRU LANE FOR SR 91 NB TRAFFIC.
4. REMOVE MEDIAN ON THE SR 91 BRIDGE OVER SR 2 BRIDGE AND PROVIDE A TEMPORARY OVERLAY FROM STA. 241+00 TO STA. 243+75 FOR STAGE 1 NB SR 91 TRAFFIC.
5. INSTALL TEMPORARY PAVEMENT, TEMPORARY GUARDRAIL AND TEMPORARY ASPHALT CURB FROM STA. 243+41 TO STA. 244+17 FOR STAGE 1 SR 91 SB TRAFFIC.

THIS PRE-STAGE 1 WORK SHALL BE COMPLETED UTILIZING TRAFFIC CONTROL PER THE ODOT SCD MT-95.30. LANE CLOSURES SHALL NOT BE ALLOWED WEEKDAYS BETWEEN 3 PM AND 7 PM ON SR-91.

<u>STAGE 1</u>
UPON THE COMPLETION OF THE PRE-STAGE 1 WORK, SETUP THE STAGE 1 WORK ZONE AS SHOWN ON SHEETS 18 TO 26. PLACE WORK ZONE MARKINGS, BARRICADES, SIGNS AND PB AS SHOWN IN THE PLANS BEFORE MAINTAINING TRAFFIC ONTO THE PAVEMENT.

LEFT TURN LANES FOR ENTRANCE TO SR 2 FROM SR 91 SHALL BE CLOSED. DETOUR SIGNING AS SHOWN FOR STAGE 1 TRAFFIC MAINTENANCE AS SHOWN ON SHEET 57 TO BE INSTALLED.

DETOUR FOR NB SR 91 TO WB SR 2 SHALL UTILIZE SR 91 TO SR2 TO SR 640 (VINE ST.) TO SR 2.

DETOUR FOR SB SR 91 TO EB SR 2 SHALL UTILIZE SR 91 TO SR 640 EB (VINE ST.) TO SR 2.

PERFORM THE FOLLOWING WORK:

1. OVERLAY THE STAGE 1 PORTION OF THE SR 91 BRIDGE OVER CSX RAILROAD (EAST SIDE)
2. OVERLAY THE STAGE 1 PORTION OF THE SR 91 BRIDGE OVER LAKELAND BLVD. (EAST SIDE)
3. CONSTRUCT THE STAGE 1 PORTION OF THE SR 91 BRIDGE OVER SR 2 (EAST SIDE)

<u>STAGE 1A</u>
UPON THE COMPLETION OF ALL WORK REQUIRED DURING STAGE 1 TRAFFIC MAINTENANCE, SETUP STAGE 1A WORK ZONE AS SHOWN ON SHEETS 27 AND DETOUR AS SHOWN ON SHEET 58. PLACE WORK ZONE MARKINGS, BARRICADES, SIGNS AND PB AS SHOWN IN THE PLANS BEFORE MAINTAINING TRAFFIC ONTO THE PAVEMENT.

DETOUR FOR SR 2 WB TO SR 91 UTILIZES SR 2 TO SR 640 (VINE ST.)

DURATION FOR THIS CLOSURE OF RAMP A SHALL BE LIMITED TO 14 DAYS OR LESS. FAILURE TO MEET THIS CLOSURE DEADLINE SHALL RESULT IN A PENALTY OF $1,300 PER DAY RAMP A REMAINS CLOSED.

PERFORM THE FOLLOWING WORK:

1. CONSTRUCT THE STAGE 1A PORTION OF THE RAMP A (EAST SIDE)
2. CONSTRUCT THE STAGE 1A PORTION OF THE SR 91 (EAST SIDE)

<u>STAGE 1B</u>
UPON THE COMPLETION OF ALL WORK REQUIRED DURING STAGE 1 AND 1A, SETUP STAGE 1B WORK ZONE AS SHOWN ON SHEET 27. PLACE WORK ZONE MARKINGS, BARRICADES, SIGNS AND PB AS SHOWN IN THE PLANS BEFORE MAINTAINING TRAFFIC ONTO THE PAVEMENT. THIS STAGE SHALL BE COMPLETED WITH NIGHT TIME CONSTRUCTION UTILIZING LAW ENFORCEMENT OFFICER AND TEMPORARY RAMP CLOSURES.

PERFORM THE FOLLOWING WORK:

1. RESURFACE THE STAGE 1B PORTION OF SR 91 TO MOVE THE CROWN OF THE ROADWAY TO THE CENTER OF SR 91. PAVEMENT IS TO BE CONSTRUCTED TO THE TOP OF THE INTERMEDIATE COURSE.
2. SEE PLAN SHEET 27, FOR LANE SHIFTS, WORKING HOURS AND DURATION OF CONSTRUCTION

<u>STAGE 2</u>
UPON THE COMPLETION OF THE STAGE 1, STAGE 1A AND STAGE 1B WORK, SETUP THE STAGE 2 WORK ZONE AS SHOWN ON SHEETS 28 TO 35. PLACE WORK ZONE MARKINGS, BARRICADES, SIGNS AND PB AS SHOWN IN THE PLANS BEFORE MAINTAINING TRAFFIC ONTO THE PAVEMENT.

LEFT TURN LANES FOR ENTRANCE TO SR 2 FROM SR 91 SHALL BE CLOSED. DETOUR SIGNING AS SHOWN FOR STAGE 2 TRAFFIC MAINTENANCE AS SHOWN ON SHEET 57 TO BE INSTALLED.

DETOUR FOR NB SR 91 TO WB SR 2 SHALL UTILIZE SR 91 TO SR2 TO SR 640 (VINE ST.) TO SR 2.

DETOUR FOR SB SR 91 TO EB SR 2 SHALL UTILIZE SR 91 TO SR 640 EB (VINE ST.) TO SR 2.

PERFORM THE FOLLOWING WORK:

1. OVERLAY THE STAGE 2 PORTION OF THE SR 91 BRIDGE OVER CSX RAILROAD (WEST SIDE)
2. OVERLAY THE STAGE 2 PORTION OF THE SR 91 BRIDGE OVER LAKELAND BLVD. (WEST SIDE)
3. CONSTRUCT THE STAGE 2 PORTION OF THE SR 91 BRIDGE OVER SR 2 (WEST SIDE)
4. REMOVE TEMPORARY OVERLY AND RECONSTRUCT MEDIAN ON BRIDGE OVER LAKELAND BLVD. DURING STAGE 2.
5. CONSTRUCT DRAINAGE IMPROVEMENTSON THE SOUTH SHOULDER OF RAMP D.

<u>STAGE 2A</u>
DURING STAGE 2 TRAFFIC MAINTENANCE, SETUP STAGE 2A WORK ZONE AS SHOWN ON SHEETS 36 AND 37 AND DETOUR AS SHOWN ON SHEET 59. PLACE WORK ZONE MARKINGS, BARRICADES, SIGNS AND PB AS SHOWN IN THE PLANS BEFORE MAINTAINING TRAFFIC ONTO THE PAVEMENT.

DETOUR FOR SR 91 TO SR 2 UTILIZES SR 640 (VINE ST.) TO SR 2.

DURATION FOR THIS CLOSURE OF RAMP C SHALL BE LIMITED TO 14 DAYS OR LESS. FAILURE TO MEET THIS CLOSURE DEADLINE SHALL RESULT IN A PENALTY OF $1,300 PER DAY RAMP C REMAINS CLOSED.

PERFORM THE FOLLOWING WORK:

1. CONSTRUCT THE STAGE 2A PORTION OF THE RAMP C (WEST SIDE)
2. CONSTRUCT THE STAGE 2A PORTION OF THE SR 91 (WEST SIDE)

<u>STAGE 3</u>
UPON THE COMPLETION OF STAGE 2 AND STAGE 2A WORK, REMOVE THE STAGE 2 AND STAGE 2A WORK ZONE AND DETOURS.

PERFORM THE FOLLOWING WORK:
1. RECONSTRUCT THE FINAL MEDIAN ON SR 91 NORTH AND SOUTH OF THE SR 2 BRIDGE.
2. PLACE ALL FINAL SURFACE COURSES
3. INSTALL ALL FINAL PAVEMENT MARKINGS AND SIGNS

THIS STAGE 3 WORK SHALL BE COMPLETED UTILIZING TRAFFIC CONTROL PER THE ODOT SCD MT-95.30. LANE CLOSURES SHALL NOT BE ALLOWED ON WEEKDAYS BETWEEN THE HOURS OF 3 PM AND 7 PM ON SR-91.

CALCULATED ALT | CHECKED DPF

MAINTENANCE OF TRAFFIC GENERAL NOTES

LAK-91-4.56

ITEM 614, WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND SUBSEQUENTLY REMOVE WORK ZONE SPEED LIMIT (R2-1) (40 SPEED LIMIT) SIGNS AND SUPPORTS WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT SIGNS WITHIN THE REDUCED SPEED ZONE(S). THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED LIMIT SIGNS SHALL BE INCLUDED IN THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK THAT CAUSES THE WARRANTING CONDITION(S) TO OCCUR. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING REMOVAL OF THE WARRANTING CONDITION(S), OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY REMOVAL OF WARRANTING CONDITION(S) SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE.

CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT THE TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED REDUCTION IN THE OPPOSITE DIRECTION. A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION, IN SUCH CASE, IS APPROPRIATE ONLY IF CONDITIONS ARE EXPECTED TO HAVE AN IMPACT ON THE DIRECTIONAL TRAFFIC FLOW, AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF THE WARRANTING CONDITION, AS DETAILED IN THE PLANS OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF A DIRECTIONAL ROADWAY OF DIVIDED HIGHWAYS. THE FIRST WORK ZONE SPEED LIMIT SIGN SHALL BE PLACED APPROXIMATELY 500 FEET IN ADVANCE OF THE LANE REDUCTION, SHIFT TAPER, OR OTHER ROADWAY OR SHOULDER RESTRICTION THAT WARRANTED THE WORK ZONE SPEED ZONE. ON UNDIVIDED HIGHWAYS THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, APPROXIMATELY 250 FEET IN ADVANCE OF SUCH RESTRICTIONS. THE SIGN SHALL BE REPEATED EVERY 1 MILE FOR 60 AND 55 MPH ZONES AND EVERY ONE-HALF MILE FOR 50 MPH AND 45 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH OPEN ENTRANCE RAMP WITHIN THE ZONE.

THE SPEED LIMIT REDUCTION SHALL BE LIMITED TO ONLY THE PORTION OF THE PROJECT AND THE WORK THAT WARRANTED THE WORK ZONE SPEED LIMIT REDUCTION.

SPEED REDUCTION (SPEED ZONE AHEAD SYMBOL) SIGNS (W3-5) SHALL BE ERECTED IN ADVANCE OF THE SPEED REDUCTION, APPROXIMATELY 1250 FEET ON MULTI-LANE HIGHWAYS AND 500 FEET ON TWO-LANE HIGHWAYS.

A SIGN(S) TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD CONDITION, PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF CMS 730.19.

WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO ITEM 630, GROUND MOUNTED SUPPORTS, NO. 3 POSTS, UNLESS MOUNTED ON A TEMPORARY SIGN SUPPORT PER SCD MT 105.10.

WORK ZONE SPEED LIMIT AND RELATED SIGN SIZES, PLACEMENT, SUPPORTS, ETC. SHALL BE PER THE OMUTCD, WITH TWO EXCEPTIONS: 1) EXPRESSWAY SIZE SPEED LIMIT SIGNS MAY BE USED ON FREEWAYS AND EXPRESSWAYS, IF NECESSARY; 2) THE HEIGHT OF SIGNS MOUNTED ON PORTABLE SUPPORTS SHOULD BE THE HEIGHT REQUIRED FOR GROUND-MOUNTED SIGNS BUT SHALL NOT BE MORE THAN 1 FOOT LOWER THAN THE HEIGHT REQUIRED BY THE OMUTCD, OR AS DIRECTED BY THE ENGINEER. PORTABLE SUPPORTS SHOULD NOT BE USED FOR A DURATION OF MORE THAN 3 DAYS.

WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGNS AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE AS DETAILED IN THE PLANS OR AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVING THE SIGNS AND SUPPORTS. SPEED LIMIT SIGNING FOR THE POINT OF RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE PAID FOR AS WORK ZONE SPEED LIMIT SIGNS. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, WORK ZONE SPEED LIMIT SIGN 3 EACH
ITEM 614, SPEED ZONE AHEAD SYMBOL SIGN 2 EACH

THE FOLLOWING TABLE PROVIDES DETAILS ON WORK ZONE SPEED ZONES APPROVED FOR USE ON THIS PROJECT:

WZSZ REVISION NUMBER	COUNTY & ROUTE	SLM FROM	SLM TO	PHASE/PART & DIRECTION	APPROVED SPEED LIMIT(MPH)
WZ-1	LAKE SR 91	4.56	4.56	ALL SR 91 NB	40
WZ-2	LAKE SR 91	4.56	4.56	ALL SR 91 SB	40

SPECIFIC WARRANTING CONDITIONS & FACTORS
WZ-1 NONE
WZ-2 NONE

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE (OFFICE OF MATERIALS MANAGEMENT WEB PAGE). THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FEET AND 475 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH CMS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEETS 57-59 OF THE PLANS. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN _ HOURS FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE. THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

(THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.)

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

FOR THIS PROJECT, 2 PCMS WILL BE REQUIRED FOR A TOTAL OF 7 MONTHS EACH. 1 ADDITIONAL PCMS WILL BE REQUIRED IN STAGE 1A AND 2A (1 MONTH EACH).

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 16 SIGN MONTH

ITEM 614, MAINTAINING TRAFFIC AND ITEM 614 LAW ENFORCEMENT OFFICER

THIS ITEM INCLUDES ANY MAINTENANCE OF TRAFFIC FOR BEAM PAINTING AND ANY HEAT STRAIGHTENING ASSOCIATED WITH THE BRIDGES.

NOTIFICATION OF LANE CLOSURES

IN ADDITION TO THE PORTABLE MESSAGE BOARD NOTIFICATION FOR TEMPORARY LANE CLOSURES, THE LAKE COUNTY ENGINEER WILL BE NOTIFIED IN ORDER TO POST TEMPORARY CLOSURES TO THEIR WEBSITE.

THE LAKE COUNTY ENGINEER WILL BE NOTIFIED A MINIMUM OF 2 WEEKS PRIOR TO THE CONTRACTOR CLOSING LANES ON SR 2 AND/OR SR 91 RAMPS.

THE LAKE COUNTY ENGINEER WILL BE NOTIFIED PRIOR TO ANY DECISIONS REGARDING THE CONTRACTOR CLOSING LANES ON SR 2 AND/OR SR 91 RAMPS.

THE CONTRACTOR SHALL NOTIFY THE CITY OF WILLOGUHBY, THE CITY OF EASTLAKE, THE CITY OF MENTOR, THE CITY OF WICKLIFFE, THE CITY OF WILLOWICK (EMERGENCY ROUTE TO HOSPITAL) AND THE WILLOUGHBY EASTLAKE BOARD OF EDUCATION (SCHOOL BUSSING) A MINIMUM OF 2 WEEKS PRIOR TO THE CLOSING OF ANY LANES OR RAMPS.

PENALTIES FOR KEEPING LANES CLOSED PAST DEADLINE ON SR 2

LANE VALUE CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	RESTICTED TIME PERIOD	TIME UNIT	$ PER TIME UNIT
SR 2 UNDER 91 EAST ONE LANE CLOSURE	3PM TO 7PM	EACH MINUTE	$200.00
SR 2 UNDER 91 WEST ONE LANE CLOSURE	6AM TO 9AM	EACH MINUTE	$200.00
SR 2 UNDER 91 EAST TWO LANE CLOSURE	6AM TO 9PM	EACH MINUTE	$400.00
SR 2 UNDER 91 WEST TWO LANE CLOSURE	5AM TO 8PM	EACH MINUTE	$400.00

NOTE: FOR SR 2 LANE RESTRICTIONS, ONLY WORK IN AREAS THAT HAVE THE DECK REMOVED OR A LONG TERM CLOSURE.

CALCULATED DPF CHECKED BJK

TRAFFIC GENERAL NOTES

MAINTENANCE

LAK-91-4.56

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK ACCEPTED.

2. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT, THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF EASTLAKE FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 4 HOURS AND SHALL NOT INCLUDE THE HOURS OF 11 PM TO 7AM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY CITY OF EASTLAKE POLICE, HIRED BY THE CONTRACTOR.

1. SR 91 (SOM CENTER ROAD) & WB SR 2 RAMPS

2. SR 91 (SOM CENTER ROAD) & EB SR 2 RAMPS

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

ODOT D12 LANE CLOSURE SCHEDULE FOR SR 2

SR 2 REVISION #12			WEEKDAYS		WEEKENDS	
LOCATION	DIRECTION	LANES	1 LANE CLOSED	2 LANES CLOSED	1 LANE CLOSED	2 LANES CLOSED
LAKE COUNTY I-90 TO VINE	EAST	3	7PM - 3PM 20 HOURS	9PM - 6AM	7PM FRI - 3PM MON	9PM FRI-10AM SAT 7PM SAT-10AM SUN 8PM SUN-6AM MON
LAKE COUNTY I-90 TO VINE	WEST	3	9AM - 6AM 21 HOURS	8PM - 5AM	9AM FRI - 6AM MON	8PM FRI-10AM SAT 8PM SAT-10AM SUN 8PM SUN-5AM MON

CALCULATED DPF CHECKED BJK

GENERAL NOTES

MAINTENANCE OF TRAFFIC

LAK-91-4.56

SHEET NO.	REFERENCE NO.	STAGE	PHASE	LOCATION	STATION FROM	STATION TO OR AT	SIDE	614 12336 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 20200 WORK ZONE LANE LINE, CLASS 1, 740.06, TYPE I MILE	614 21200 WORK ZONE CENTER LINE, CLASS 1, 740.06, TYPE I, DOUBLE SOLID MILE	614 22200 WORK ZONE EDGE LINE, CLASS 1, 740.06, TYPE I, WHITE MILE	614 22200 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, YELLOW MILE	614 23400 WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I FT	614 24400 WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I, WHITE FT	614 24400 WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I, YELLOW FT	614 26400 WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I FT	614 30400 WORK ZONE ARROW, CLASS I, 740.06, TYPE I EACH	615 20000 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	622 41000 PORTABLE BARRIER, 32" FT	622 41020 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT
22	DW-1	1		SR 91	208+34	211+58	RT							322						
22	EW-1	1		SR 91	213+33	239+63	LT/RT				0.50									
22	EY-1	1		SR 91	208+34	218+90	LT/RT					0.20								
23	CL-1	1		SR 91	217+20	238+83	LT			0.41										
23	PV-1	1		SR 91	215+42	218+90	LT/RT											851		
24	CH-1	1		SR 91	237+83	238+83	LT						100							
24	CL-2	1		SR 91	240+00	243+83	LT			0.07										
24	DY-1	1		SR 91	238+83	240+00	LT								117					
24	EW-2	1		SR 91	240+00	244+41	LT				0.08									
24	EW-3	1		SR 91	240+00	244+53	LT				0.09									
24	LL-1	1		SR 91	236+33	237+83	LT		0.03											
24	LL-2	1		SR 91	240+00	242+46	LT		0.05											
24	SL-1	1		SR 91		238+83	LT									22				
24	SL-2	1		SR 91		240+00	LT									11				
24	A	1		SR 91		238+73	LT										2			
24	A	1		RAMP D		238+65	LT										1			
24	A	1		RAMP D		238+83	LT										1			
24	A	1		RAMP D		238+97	LT										1			
24	A	1		RAMP D		239+11	LT										1			
24	A	1		SR 91		240+10	LT										1			
24	PB	1		SR 91	240+00	244+44	LT/RT												150	300
24	PB	1		SR 91		240+81	RT												30	
24	IA-1	1		SR 91		240+00	LT/RT	1												
24	PV-2	1		SR 91	235+83	236+52	LT											54		
24	PV-3	1		SR 91	238+43	239+23	LT/RT											108		
25	CH-2	1		SR 91	242+46	243+83	LT						138							
25	CH-3	1		RAMP A	245+13	246+12	RT						289							
25	CH-4	1		SR 91	245+37	251+02	LT						565							
25	CH-5	1		SR 91	245+37	249+62	LT/RT						427							
25	CL-3	1		SR 91	245+37	246+06	LT			0.01										
25	DY-2	1		SR 91	243+83	245+37	LT								153					
25	DY-3	1		SR 91	243+83	244+53	LT								73					
25	EW-4	1		SR 91	245+42	249+62	LT/RT				0.10									
25	EY-2	1		RAMP A	244+53	246+15	LT/RT					0.08								
25	EY-3	1		SR 91	246+06	251+02	LT					0.09								
25	EY-4	1		SR 91	246+06	249+50	LT/RT					0.07								
25	SL-3	1		SR 91		243+83	LT									21				
25	SL-4	1		RAMP A	245+00	245+26	RT									26				
25	SL-5	1		SR 91		245+37	LT									22				
25	A	1		SR 91		243+73	LT										2			
25	A	1		RAMP A		245+11	RT										1			
25	A	1		RAMP A		245+24	RT										1			
25	A	1		RAMP A		245+26	RT										1			
25	A	1		RAMP A		245+43	RT										1			
25	A	1		RAMP A		245+59	RT										1			
25	A	1		RAMP A		245+76	RT										1			
25	A	1		SR 91		245+47	LT										2			
25	A	1		SR 91		250+80	LT										2			
25	A	1		SR 91		250+92	RT										3			
25	PB	1		SR 91		243+84	RT												30	
25	IA-2	1		SR 91		244+44	LT/RT	1												
25	PV-4	1		SR 91	243+43	244+16	LT											17		
25	PV-5	1		SR 91	245+27	248+24	LT/RT											478		
SUBTOTALS THIS SHEET								**2**	**0.08**	**0.49**	**0.77**	**0.44**	**1519**	**322**	**343**	**102**	**22**	**1508**	**210**	**300**

CALCULATED DTB
CHECKED BJK

MAINTENANCE OF TRAFFIC SUBSUMMARY (SHEET 1 OF 3)

LAK-91-4.56

SHEET NO.	REFERENCE NO.	STAGE	PHASE	LOCATION	STATION		SIDE	614 12336 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 20200 WORK ZONE LANE LINE, CLASS 1, 740.06, TYPE I MILE	614 21200 WORK ZONE CENTER LINE, CLASS 1, 740.06, TYPE I, DOUBLE SOLID MILE	614 22200 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, WHITE MILE	614 22200 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, YELLOW MILE	614 23400 WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I FT	614 24400 WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I, WHITE FT	614 24400 WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I, YELLOW FT	614 26400 WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I FT	614 30400 WORK ZONE ARROW, CLASS I, 740.06, TYPE I EACH	615 20000 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	622 41000 PORTABLE BARRIER, 32" FT	622 41020 PORTABLE BARRIER, 32", BRIDGE MOUNTED FT
					FROM	TO OR AT														
26	CH-6	1		SR 91	252+23	254+97	LT						274							
26	CH-7	1		SR 91	253+73	254+97	LT						125							
26	CH-8	1		SR 91	258+53	260+69	LT						216							
26	EW-5	1		SR 91	254+58	256+99	LT				0.05									
26	EW-6	1		SR 91	257+96	260+69	LT				0.05									
26	EY-5	1		SR 91	253+73	256+99	LT/RT					0.06								
26	EY-6	1		SR 91	257+96	260+69	LT					0.05								
26	LL-3	1		SR 91	252+23	256+99	LT		0.09											
26	LL-4	1		SR 91	257+96	258+53	LT		0.01											
26	A	1		SR 91		252+33	LT/RT										3			
26	A	1		SR 91		258+06	LT										2			
27	EW-7	1	A	SR 91	244+53	245+75	LT				0.02									
27	PB	1	A	SR 91	244+44	246+02	LT/RT												160	
27	IA-3	1	A	SR 91		246+02	LT/RT	1												
27	CH-7	1	B	RAMP A	245+13	245+21	RT						23							
27	CL-4	1	B	SR 91	234+22	238+83	RT			0.09										
27	CL-5	1	B	SR 91	240+58	243+95	RT			0.06										
27	DY-4	1	B	SR 91	244+53	245+00	LT/RT								78					
27	EW-8	1	B	SR 91	234+22	237+99	RT				0.07									
27	EY-7	1	B	RAMP A	245+00	245+10	RT					0.01								
27	SL-6	1	B	SR 91		238+83	RT									11				
27	SL-7	1	B	SR 91		243+95	RT									11				
27	SL-8	1	B	RAMP A	245+00	245+42	RT									42				
27	A	1	B	SR 91		238+73	RT										1			
27	A	1	B	SR 91		243+85	RT										1			
27	IA-4	1	B	SR 91		240+10	RT	1												
27	IA-5	1	B	SR 91		244+00	RT	1												
27	PV-4	1	B	SR 91	243+52	244+95	LT/RT											268		
32	CL-6	2		SR 91	218+90	238+83	RT			0.38										
32	EW-9	2		SR 91	215+42	238+79	LT/RT				0.47									
32	EY-8	2		SR 91	215+42	218+90	LT/RT					0.07								
32	EY-9	2		SR 91	214+82	218+90	RT					0.08								
33	CH-8	2		SR 91	237+83	238+83	RT						100							
33	CL-7	2		SR 91	240+10	243+95	RT			0.07										
33	DY-5	2		SR 91	238+83	240+10	RT								127					
33	EW-10	2		SR 91	232+28	238+83	RT				0.13									
33	EW-11	2		SR 91	239+89	244+00	RT				0.08									
33	EW-12	2		SR 91	240+10	244+80	RT				0.09									
33	EY-10	2		SR 91	239+40	239+89	LT/RT					0.01								
33	LL-5	2		SR 91	236+69	237+83	RT		0.02											
33	LL-6	2		SR 91	240+10	242+95	RT		0.05											
33	SL-9	2		SR 91		238+83	RT									21				
33	SL-10	2		SR 91		240+10	RT									11				
33	A	2		SR 91		238+73	RT										2			
33	A	2		RAMP D		238+71	LT										1			
33	A	2		RAMP D		238+87	LT										1			
33	A	2		RAMP D		239+05	LT										1			
33	A	2		RAMP D		239+17	LT										1			
33	A	2		RAMP B		239+84	RT										1			
33	A	2		SR 91		240+20	RT										1			
33	PB	2		SR 91	240+10	244+00	RT												90	300
33	PB	2		SR 91		240+82	RT/LT												30	
SUBTOTALS THIS SHEET								3	0.17	0.60	0.96	0.28	738	0	205	96	15	268	280	300

CALCULATED DTB
CHECKED BJK

MAINTENANCE OF TRAFFIC SUBSUMMARY (SHEET 2 OF 3)

LAK-91-4.56

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161

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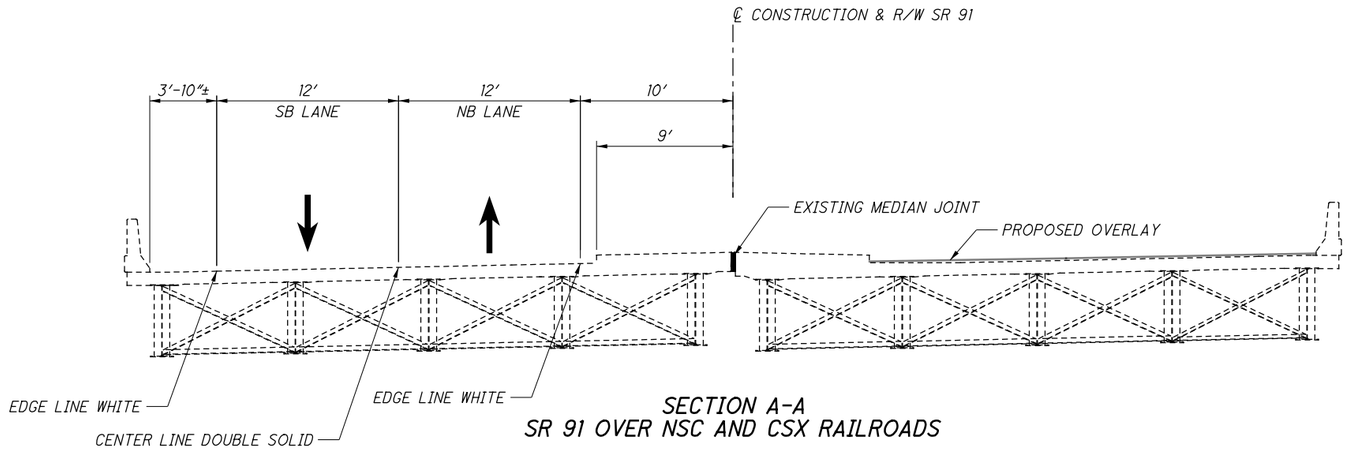
SHEET NO.	REFERENCE NO.	STAGE	PHASE	LOCATION	STATION FROM	STATION TO OR AT	SIDE	614 12336 WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL) EACH	614 20200 WORK ZONE LANE LINE, CLASS 1, 740.06, TYPE I MILE	614 21200 WORK ZONE CENTER LINE, CLASS 1, 740.06, TYPE I, DOUBLE SOLID MILE	614 22200 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, WHITE MILE	614 22200 WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I, YELLOW MILE	614 23400 WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I FT	614 24400 WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I, WHITE FT	614 24400 WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I, YELLOW FT	614 26400 WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I FT	614 30400 WORK ZONE ARROW, CLASS I, 740.06, TYPE I EACH	615 20000 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A SQ YD	622 41000 PORTABLE BARRIER, 32" FT	622 41020 PORTABLE BARRIER, 32" BRIDGE MOUNTED FT
34	CH-9	2		SR 91	242+95	243+95	RT						100							
34	CH-10	2		SR 91	245+87	251+02	LT/RT						517							
34	CL-8	2		SR 91	245+87	246+24	RT			0.01										
34	DW-2	2		SR 91	243+95	245+87	RT							192						
34	DY-6	2		SR 91	243+95	245+87	RT								192					
34	DY-7	2		SR 91	244+11	244+80	RT								74					
34	EW-13	2		RAMP C	244+55	249+70	LT				0.10									
34	EW-14	2		SR 91	245+39	249+62	RT				0.09									
34	EY-11	2		RAMP C	244+40	244+41	LT					0.01								
34	EY-12	2		SR 91	244+80	245+08	RT					0.01								
34	EY-13	2		SR 91	246+24	249+70	LT/RT					0.07								
34	EY-14	2		SR 91	246+24	251+02	LT/RT					0.09								
34	LL-7	2		SR 91	245+87	249+70	RT		0.07											
34	SL-11	2		SR 91		243+95	RT									10				
34	SL-12	2		SR 91	245+86	245+87	LT/RT									23				
34	A	2		SR 91		243+85	RT										1			
34	A	2		SR 91		245+96	LT/RT										2			
34	PB	2		SR 91		243+00	LT/RT												30	
36	DY-8	2	A	SR 91	243+95	246+00	RT								205					
36	EW-15	2	A	SR 91	240+10	243+95	RT				0.07									
36	EW-16	2	A	SR 91	244+00	251+02	LT/RT				0.13									
36	EW-17	2	A	SR 91	245+39	247+70	RT				0.05									
36	EY-15	2	A	SR 91	246+00	249+84	LT/RT				0.07									
36	EY-16	2	A	SR 91	246+00	249+70	LT/RT				0.07									
36	SL-13	2	A	SR 91		246+00	RT									11				
36	A	2	A	SR 91		238+73	RT										1			
36	A	2	A	SR 91		246+18	RT										1			
36	PB	2	A	SR 91	240+00	246+98	LT/RT												300	
36	IA-6	2	A	SR 91		246+98	LT	1												
37	LL-8	2	A	SR 91	248+20	249+70	RT		0.03											
37	A	2	A	SR 91		252+33	LT										1			
58	EL-17	1	A	SR 2	283+24	285+64	LT				0.05									
SUBTOTALS MAINTENANCE OF TRAFFIC SUBSUMMARY SHEET 1 OF 3								2	0.08	0.49	0.77	0.44	1519	322	343	102	22	1508	210	300
SUBTOTALS MAINTENANCE OF TRAFFIC SUBSUMMARY SHEET 2 OF 3								3	0.17	0.60	0.96	0.28	738	0	205	96	15	268	280	300
SUBTOTALS THIS SHEET								1	0.10	0.01	0.63	0.18	617	192	471	44	6	0	330	0
TOTALS CARRIED TO GENERAL SUMMARY								6	0.35	1.10	3.26		2874	1533		242	43	1776	820	600

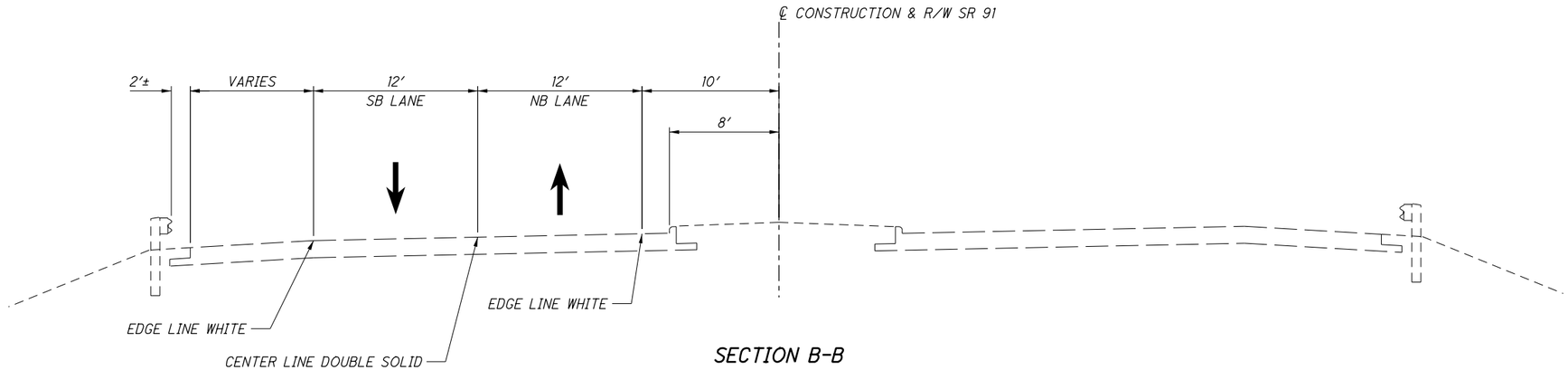
CALCULATED DTB
CHECKED BJK

MAINTENANCE OF TRAFFIC SUBSUMMARY (SHEET 3 OF 3)

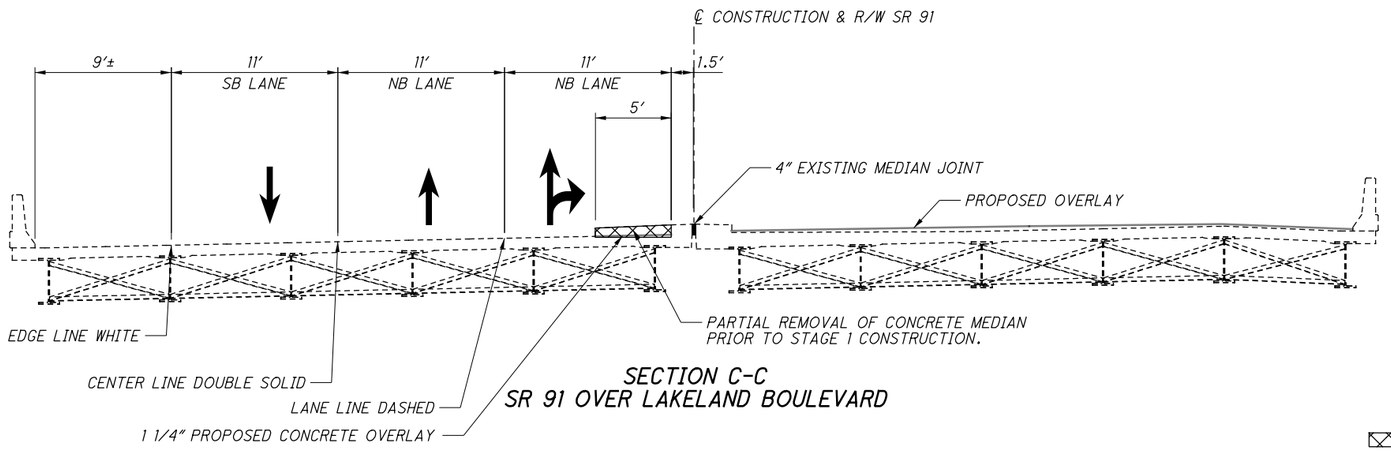
LAK-91-4.56



SECTION A-A
SR 91 OVER NSC AND CSX RAILROADS



SECTION B-B

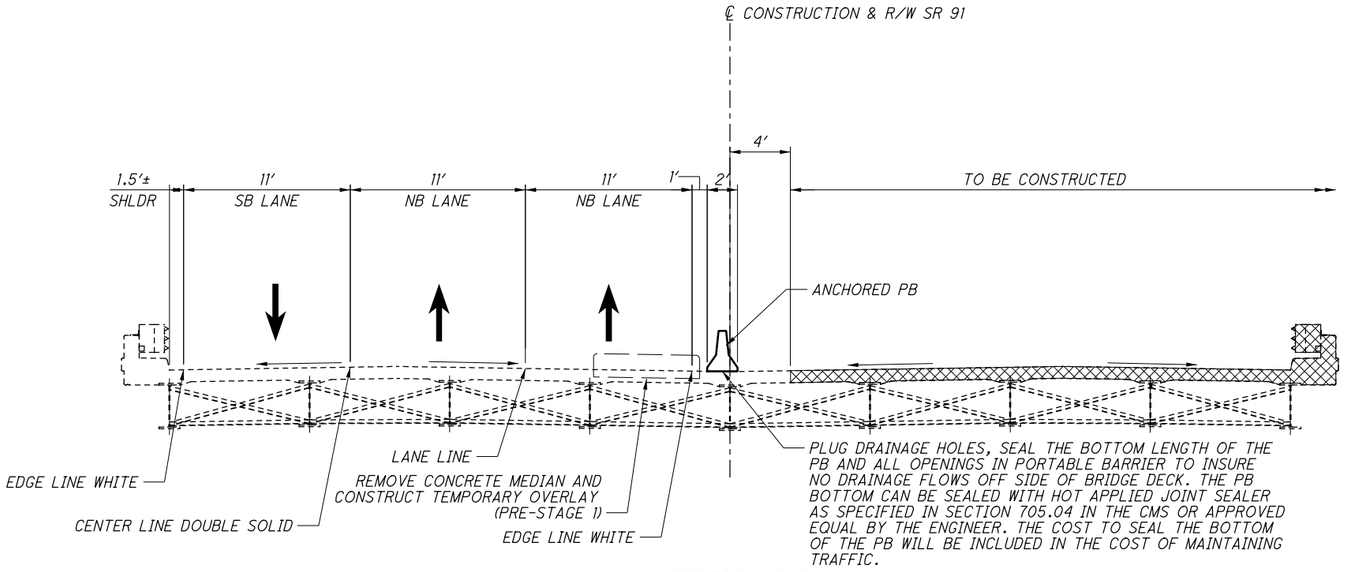


SECTION C-C
SR 91 OVER LAKELAND BOULEVARD

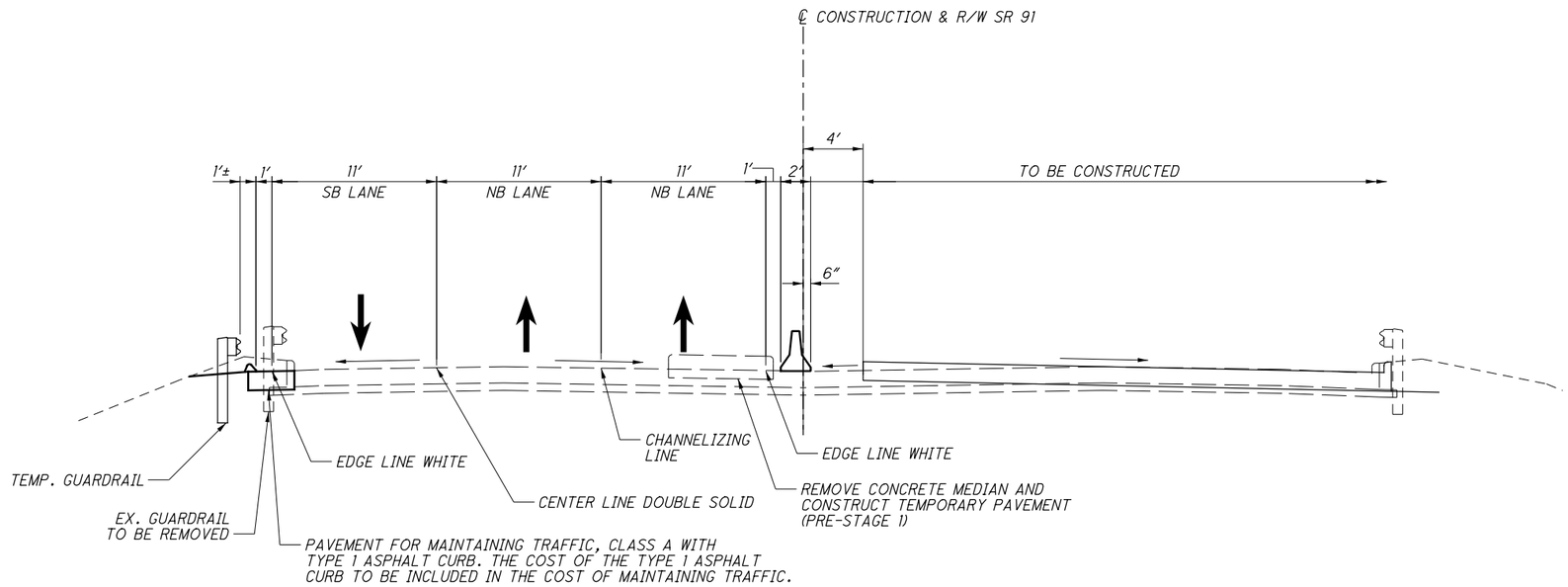
PORTION OF EXISTING ISLAND TO BE REMOVED AND OVERLAY PRIOR TO STAGE 1.

MAINTENANCE OF TRAFFIC SR 91 TYPICAL SECTIONS - STAGE 1

LAK-91-4.56



SECTION D-D
SR 91 OVER SR 2

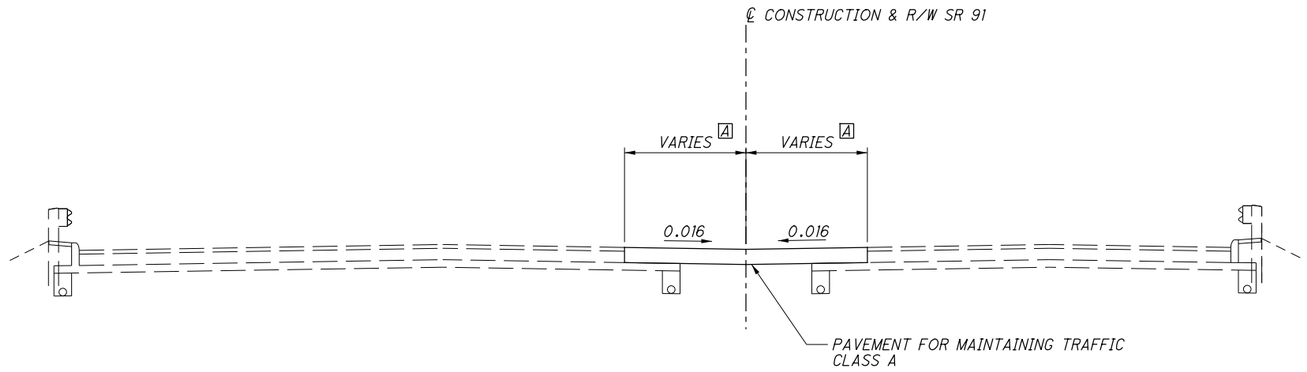


SECTION E-E

TO BE REMOVED AND RECONSTRUCTED

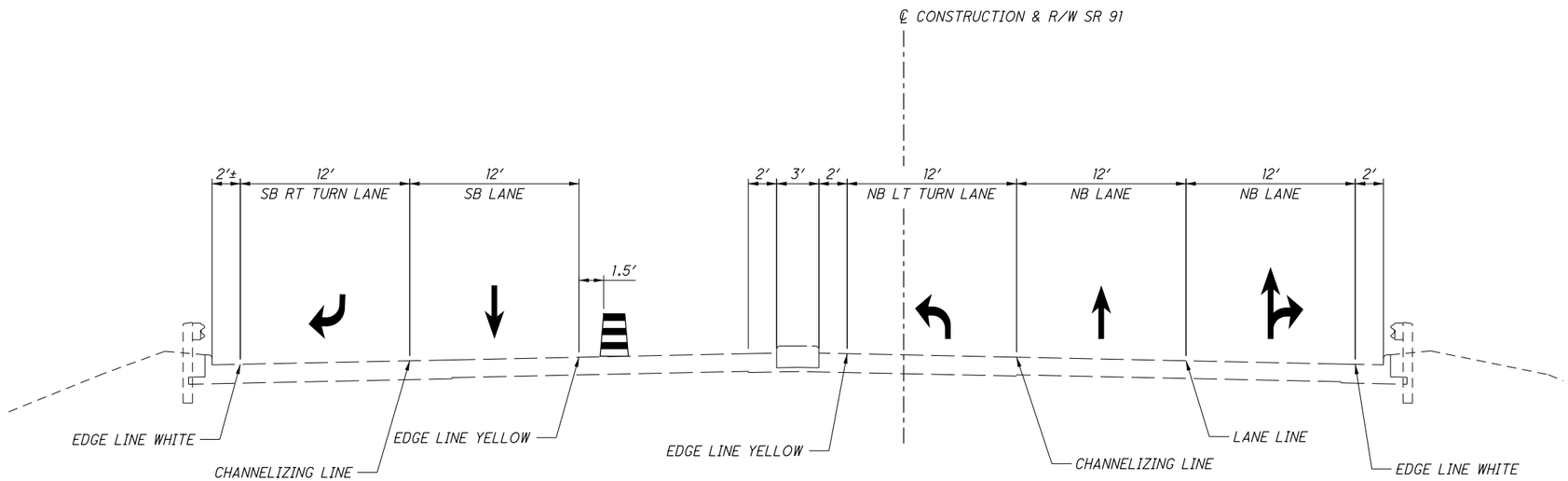
MAINTENANCE OF TRAFFIC SR 91
TYPICAL SECTIONS - STAGE 1

LAK-91-4.56



[A] 11′ FROM STA. 215+42 TO STA. 218+90
8′ FROM STA. 225+83 TO STA. 236+74 (LEFT SIDE ONLY)
4′ LEFT SIDE AND 8.5′ RIGHT SIDE FROM STA. 238+44 TO STA. 239+21.5
8′ FROM STA. 245+83 TO STA. 248+24

TYPICAL CROSSOVER SECTION



SECTION F-F

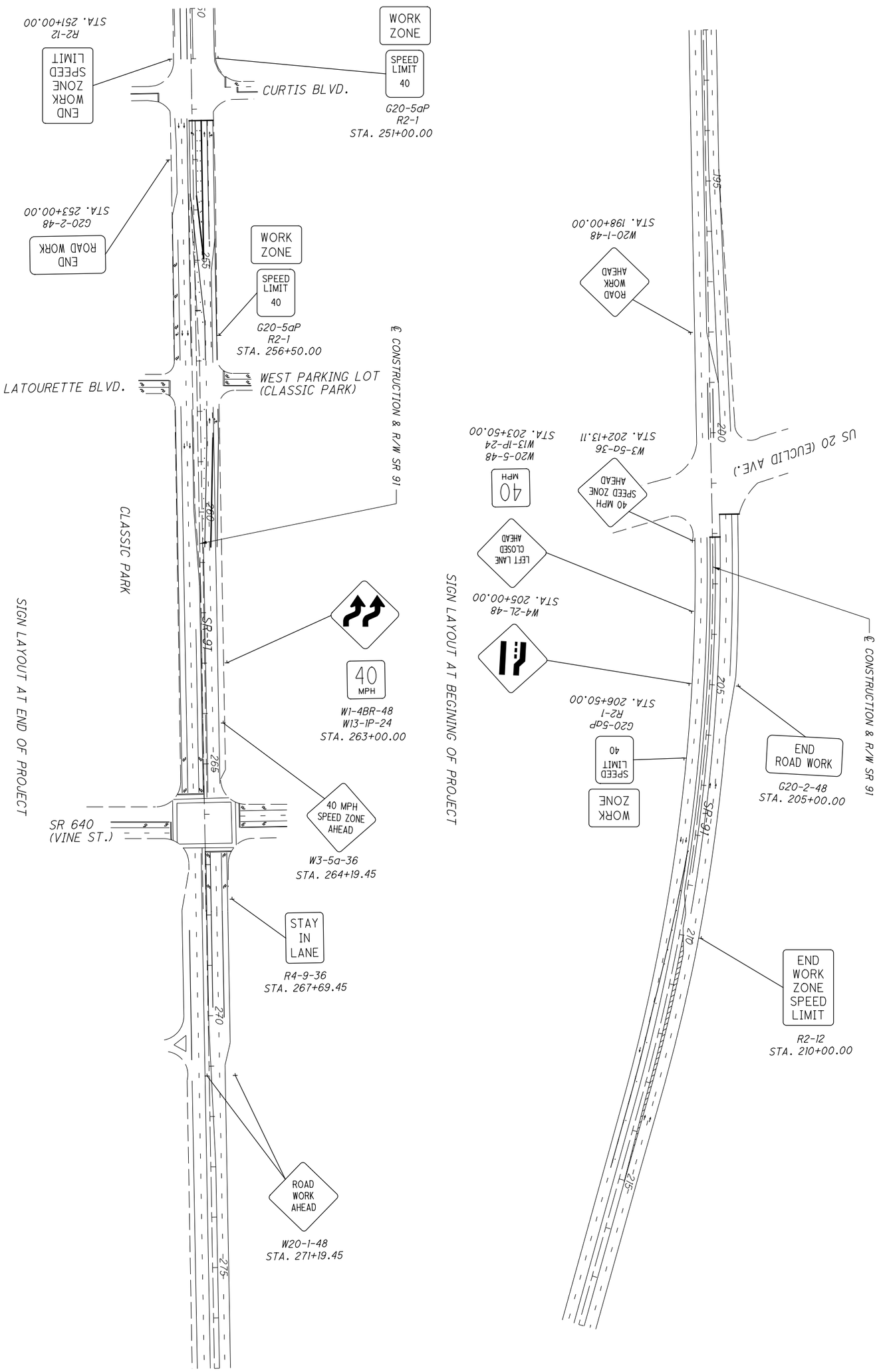
MAINTENANCE OF TRAFFIC SR 91
TYPICAL SECTIONS - STAGE 1

LAK-91-4.56

NOTE:

1. THE SIGNS AND LOCATIONS SHOWN THIS SHEET APPLY TO ALL PHASES OF CONSTRUCTION

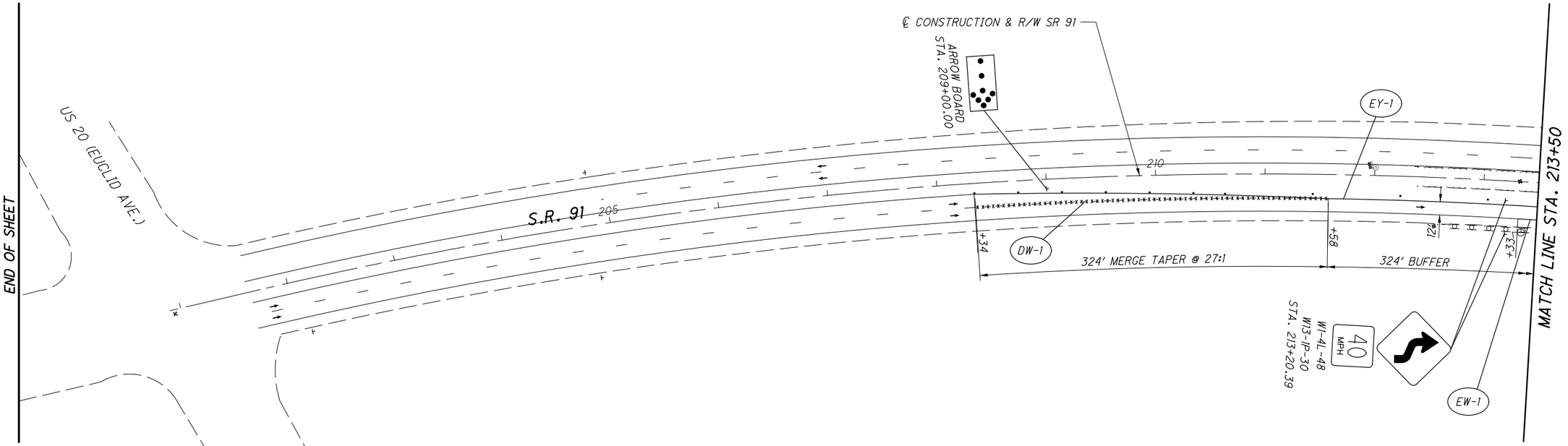
2. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC



21 / 161	LAK-91-4.56	MAINTENANCE OF TRAFFIC PLAN - SR 91 ALL STAGES	CALCULATED BJK / CHECKED DPF	0 100 50 200 HORIZONTAL SCALE IN FEET

LEGEND

	TO BE CONSTRUCTED	CL	CENTER LINE, DOUBLE SOLID	EW	EDGE LINE, WHITE, 4"
→	TRAFFIC FLOW	CH	CHANNELIZING LINE, 8"	EY	EDGE LINE, YELLOW, 4"
	TO BE RESURFACED	DW	DOTTED LINE, WHITE, 8"	LL	LANE LINE, 4"
•	DRUMS	DY	DOTTED LINE, YELLOW, 8"	SL	STOP LINE
	TYPE III BARRICADE				
+	CONSTRUCTION SIGN	[A]	LANE ARROW		
	PORTABLE BARRIER				
XXXX	REMOVE EXISTING MARKINGS				



NOTE:
CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC

HORIZONTAL SCALE IN FEET
0 25 50 100

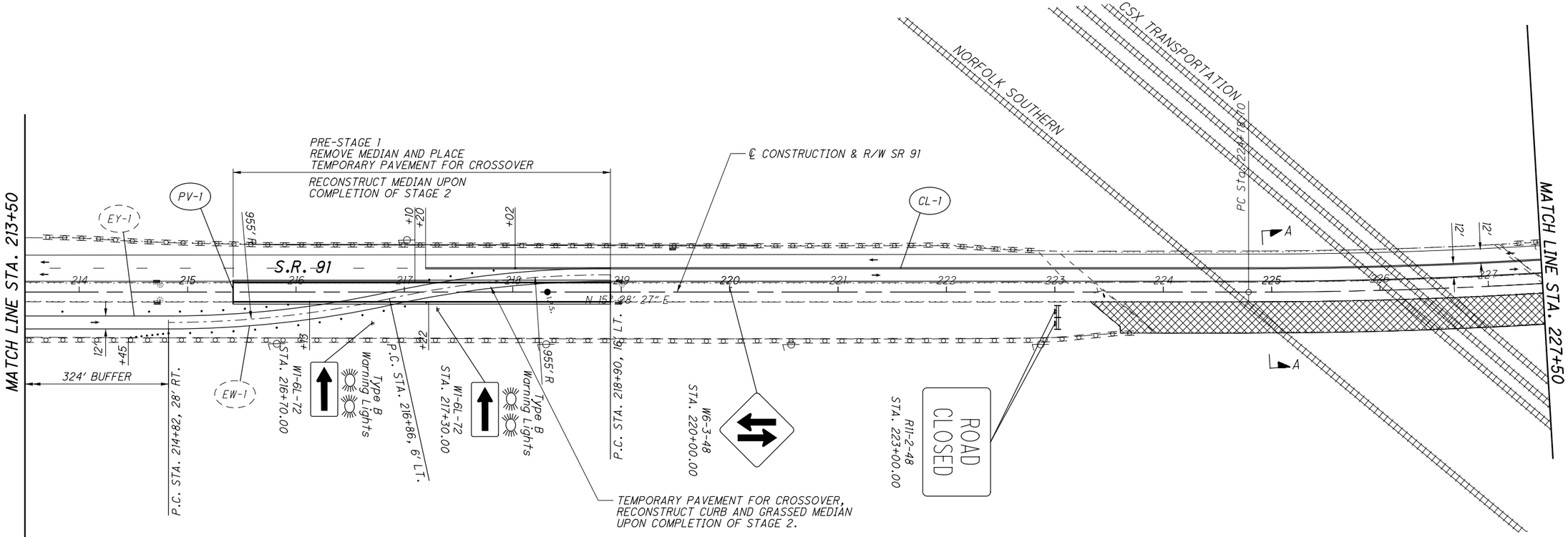
CALCULATED GJM
CHECKED DPF

MAINTENANCE OF TRAFFIC PLAN - SR 91
STAGE 1

LAK-91-4.56

LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER
- (CL) CENTER LINE, DOUBLE SOLID
- (CH) CHANNELIZING LINE, 8"
- (DW) DOTTED LINE, WHITE, 8"
- (DY) DOTTED LINE, YELLOW, 8"
- [A] LANE ARROW
- (EW) EDGE LINE, WHITE, 4"
- (EY) EDGE LINE, YELLOW, 4"
- (LL) LANE LINE, 4"
- (SL) STOP LINE
- (PV) PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A



NOTE:
CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC

HORIZONTAL SCALE IN FEET
0 25 50 100

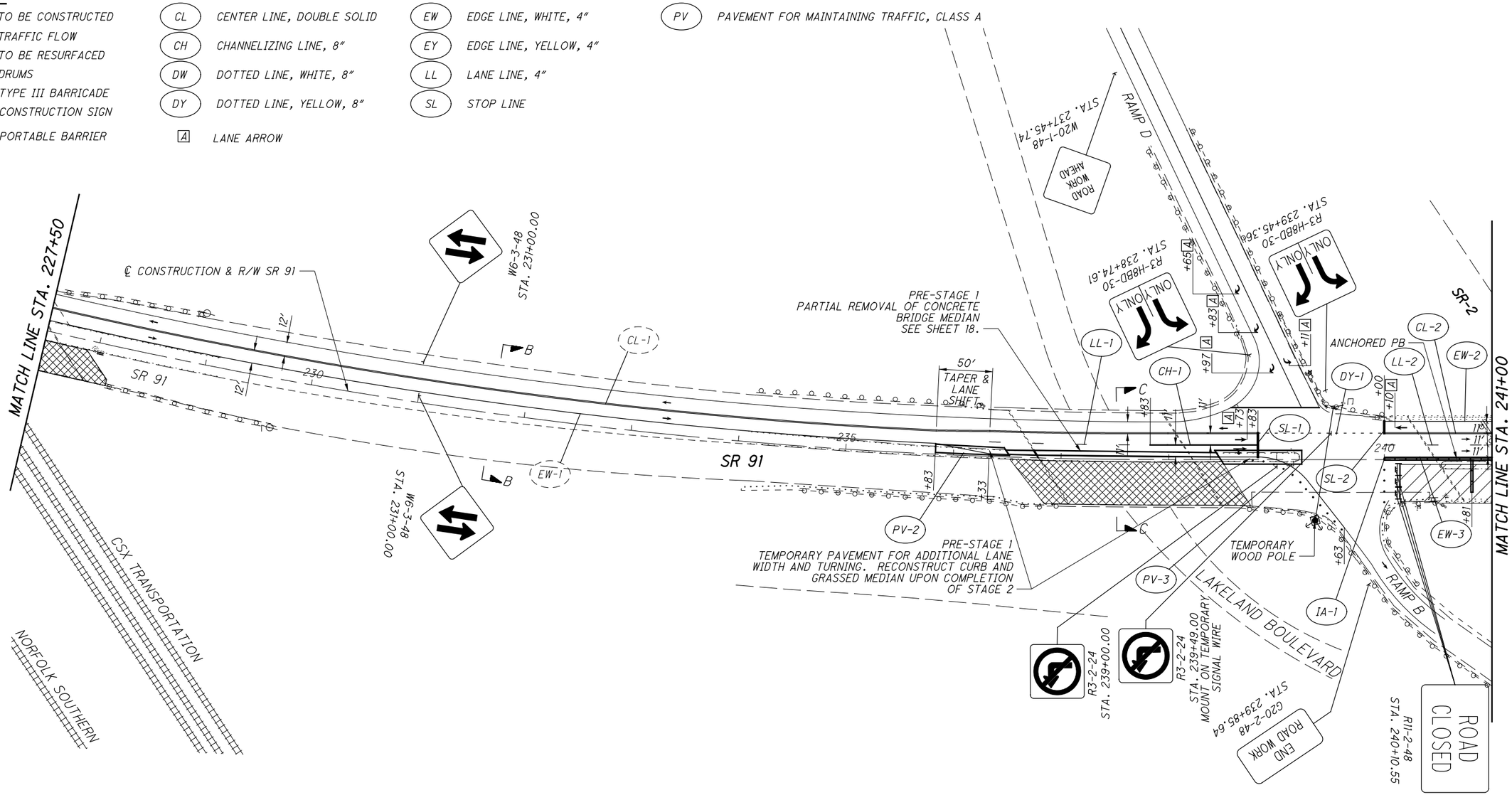
CALCULATED GJM
CHECKED DPF

MAINTENANCE OF TRAFFIC PLAN - SR 91 STAGE 1

LAK-91-4.56

LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER
- (CL) CENTER LINE, DOUBLE SOLID
- (CH) CHANNELIZING LINE, 8"
- (DW) DOTTED LINE, WHITE, 8"
- (DY) DOTTED LINE, YELLOW, 8"
- [A] LANE ARROW
- (EW) EDGE LINE, WHITE, 4"
- (EY) EDGE LINE, YELLOW, 4"
- (LL) LANE LINE, 4"
- (SL) STOP LINE
- (PV) PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A



NOTE:
1. ALL RAMPS OPEN DURING STAGE 1.
2. RAMP D WILL OPERATE AS A RIGHT TURN LANE AND A LEFT TURN LANE ONLY DURING STAGE 1.
3. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC
4. RAMP D LANE CONFIGURATION WILL BE CHANGED TO A LEFT TURN LANE AND A RIGHT TURN LANE
5. SEE DETOUR PLANS FOR COVERING EXISTING OVERHEAD SIGNS

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED GJM
CHECKED DPF

MAINTENANCE OF TRAFFIC PLAN - SR 91 STAGE 1

LAK-91-4.56

LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER

- (CL) CENTER LINE, DOUBLE SOLID
- (CH) CHANNELIZING LINE, 8"
- (DW) DOTTED LINE, WHITE, 8"
- (DY) DOTTED LINE, YELLOW, 8"
- (EW) EDGE LINE, WHITE, 4"
- (EY) EDGE LINE, YELLOW, 4"
- (LL) LANE LINE, 4"
- (SL) STOP LINE
- (PV) PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A
- [A] LANE ARROW

NOTE:
1. ALL RAMPS OPEN DURING STAGE 1. RAMP A WILL BE REDUCED FROM 3 LANES TO 2 LANES.
2. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC

N

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED GJM
CHECKED DPF

MAINTENANCE OF TRAFFIC PLAN - SR 91 STAGE 1

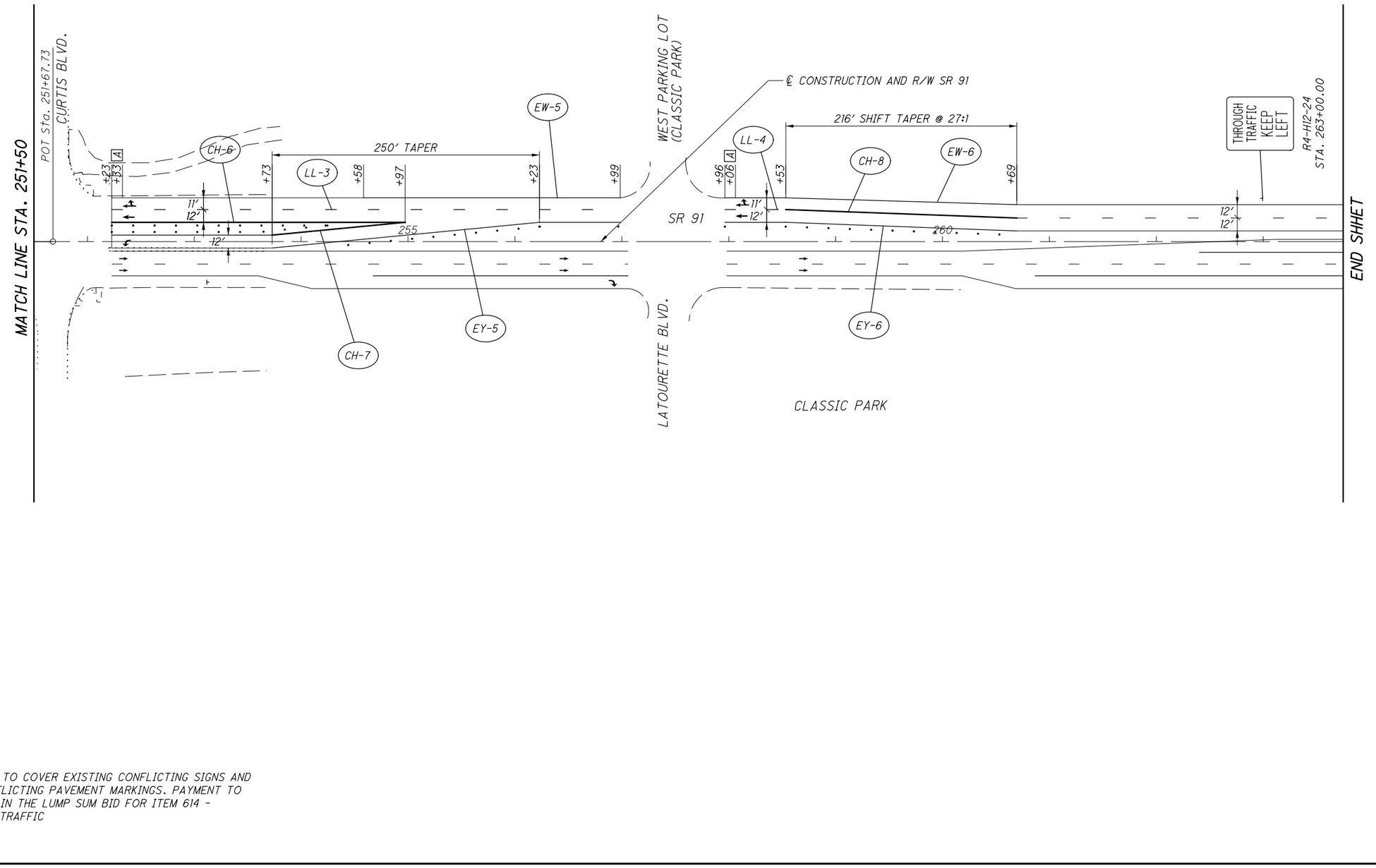
LAK-91-4.56

LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER

- CL — CENTER LINE, DOUBLE SOLID
- CH — CHANNELIZING LINE, 8″
- DW — DOTTED LINE, WHITE, 8″
- DY — DOTTED LINE, YELLOW, 8″
- A — LANE ARROW

- EW — EDGE LINE, WHITE, 4″
- EY — EDGE LINE, YELLOW, 4″
- LL — LANE LINE, 4″
- SL — STOP LINE



NOTE:
CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED GJM
CHECKED DPF

TYPE OF TRAFFIC PLAN - SR 91
STAGE 1

MAINTENANCE OF TRAFFIC

LAK-91-4.56

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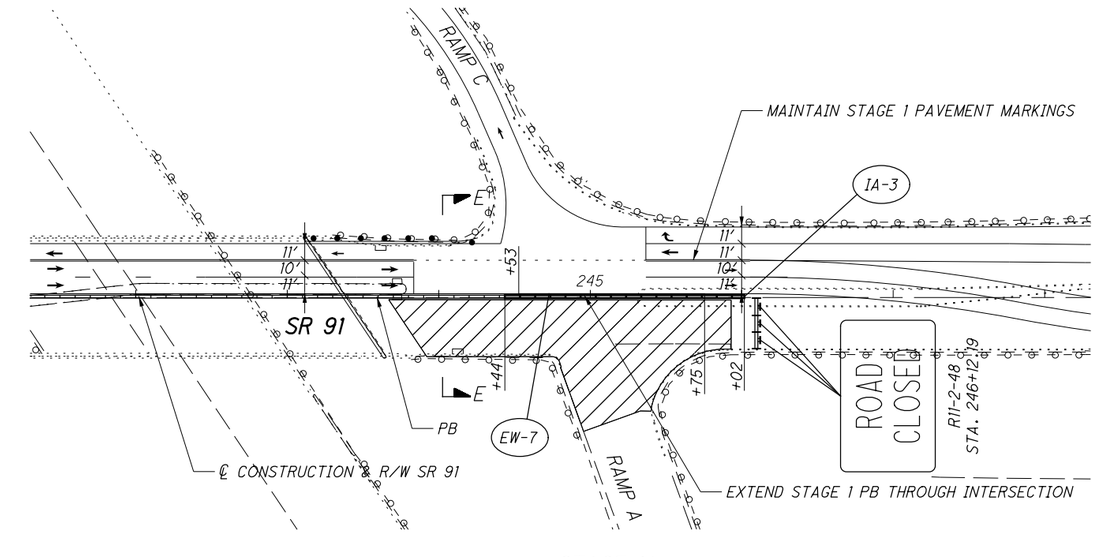
LEGEND

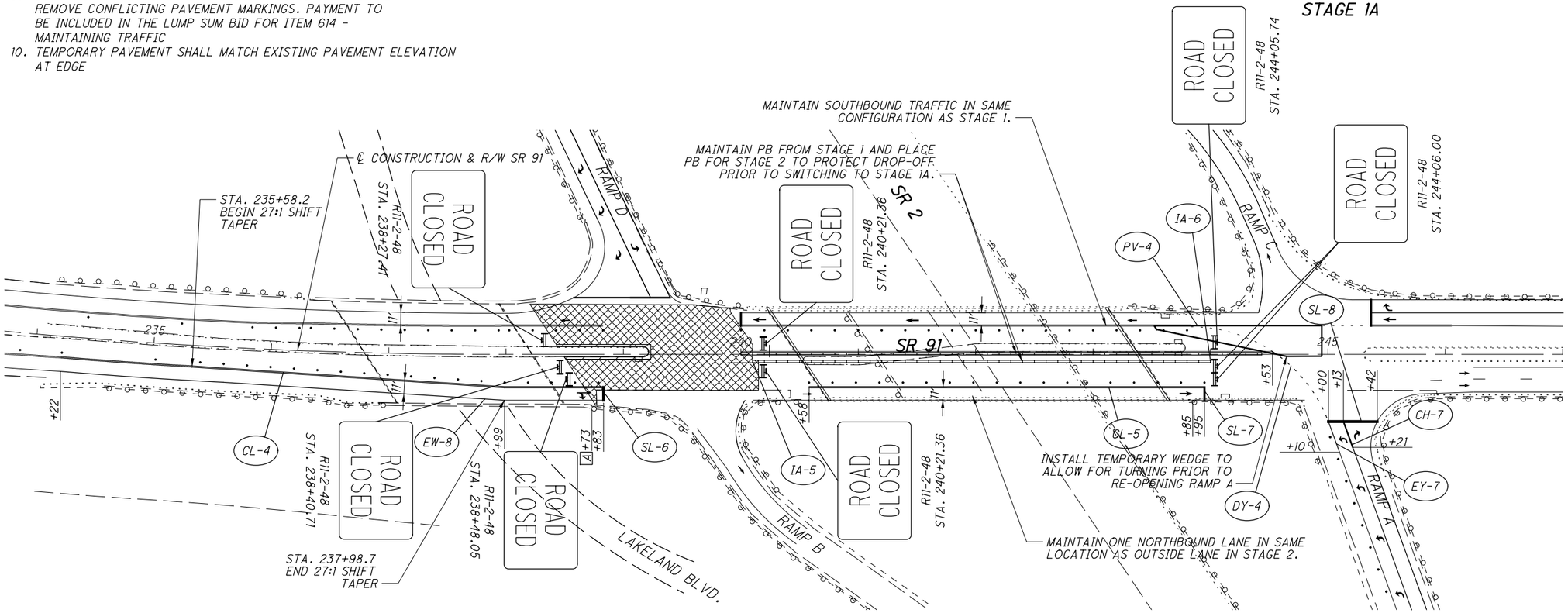
	TO BE CONSTRUCTED	CL	CENTER LINE, DOUBLE SOLID	EW	EDGE LINE, WHITE, 4"
→	TRAFFIC FLOW	CH	CHANNELIZING LINE, 8"	EY	EDGE LINE, YELLOW, 4"
	TO BE RESURFACED	DW	DOTTED LINE, WHITE, 8"	LL	LANE LINE, 4"
·	DRUMS	DY	DOTTED LINE, YELLOW, 8"	SL	STOP LINE
	TYPE III BARRICADE	A	LANE ARROW		
⊥	CONSTRUCTION SIGN				
	PORTABLE BARRIER				

STAGE 1B
NOTE:
1. NIGHT TIME CONSTRUCTION UTILIZING LAW ENFORCEMENT OFFICER AND TEMPORARY RAMP CLOSURES.
2. RESURFACING REQUIRED TO ESTABLISH NEW PROFILE BY MOVING CROWN OF THE ROADWAY TO THE CENTER OF SR 91.
3. TRAFFIC WILL BE SHIFTED, DURING THE INSTALLATION OF THE INTERMEDIATE COURSE, ONE LANE AT A TIME.
4. PAVEMENT TO BE CONSTRUCTED TO TOP OF INTERMEDIATE COURSE DURING THIS STAGE. SURFACE COURSE TO BE CONSTRUCTED AT END OF STAGE 2 UNDER FLAG CONTROL.
5. THE CONTRACTOR WILL COMPLETE THIS WORK BETWEEN THE HOURS OF 9 PM TO 6 AM AND COMPLETE IN A SINGE NIGHT.
6. ALL WORK ZONE MARKINGS ON NEW BRIDGE DECK AND APPROACH SLAB TO BE TYPE I REMOVABLE MARKINGS.
7. SEE STAGE 1 FOR SOUTHBOUND STRIPING NOT SHOWN AND SEE STAGE 2 FOR NORTHBOUND STRIPING NOT SHOWN.
8. CONTRACTOR TO UTILIZE TAPER RATES IN SCD MT-95.30 WHEN SHIFTING SR 91 NB AND SB TRAFFIC FROM STAGE 1 TO STAGE 1B. STAGE 1 MAINTENANCE OF TRAFFIC TRAVEL LANES WILL REMAIN EXCEPT SR 91 NB WILL NOT UTILIZE THE CROSSOVER SOUTH OF THE RAILROAD BRIDGE. THE SR 91 RIGHT LANE WILL BE USED DURING THIS STAGE.
9. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC
10. TEMPORARY PAVEMENT SHALL MATCH EXISTING PAVEMENT ELEVATION AT EDGE

STAGE 1A
NOTE:
1. RAMP A CLOSED APPROX. 14 DAYS OR LESS DURING CONSTRUCTION.
2. SIGNAL ON FLASH (RED TO RAMP, YELLOW TO SR 91)
3. SEE MAINTENANCE OF TRAFFIC STAGE 1 PLANS FOR SIGNING AND STRIPING DETAILS NOT SHOWN



STAGE 1A



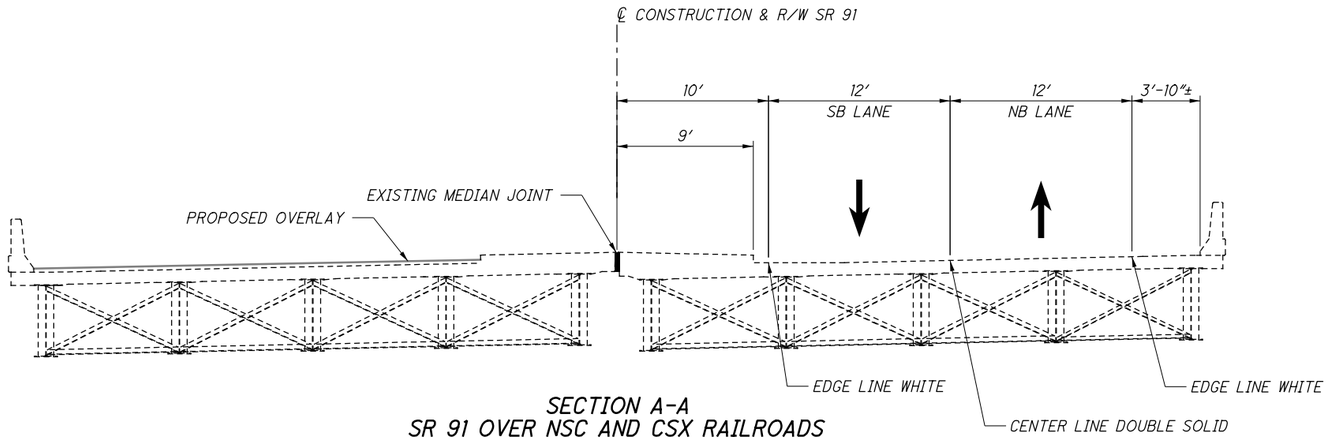
STAGE 1B

HORIZONTAL SCALE IN FEET
0 25 50 100

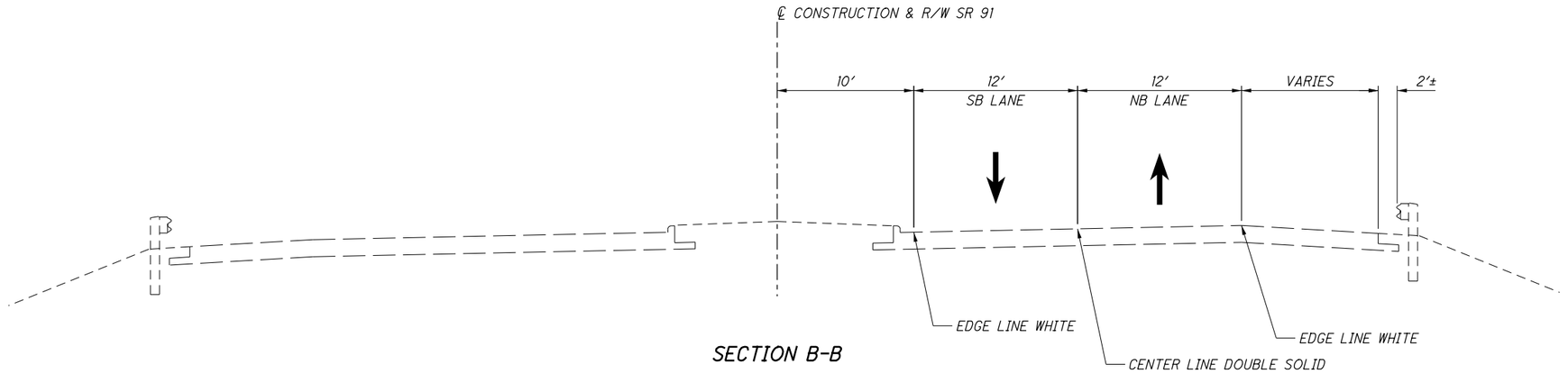
CALCULATED G.JM
CHECKED ALT

MAINTENANCE OF TRAFFIC - SR 91
STAGE 1A & 1B

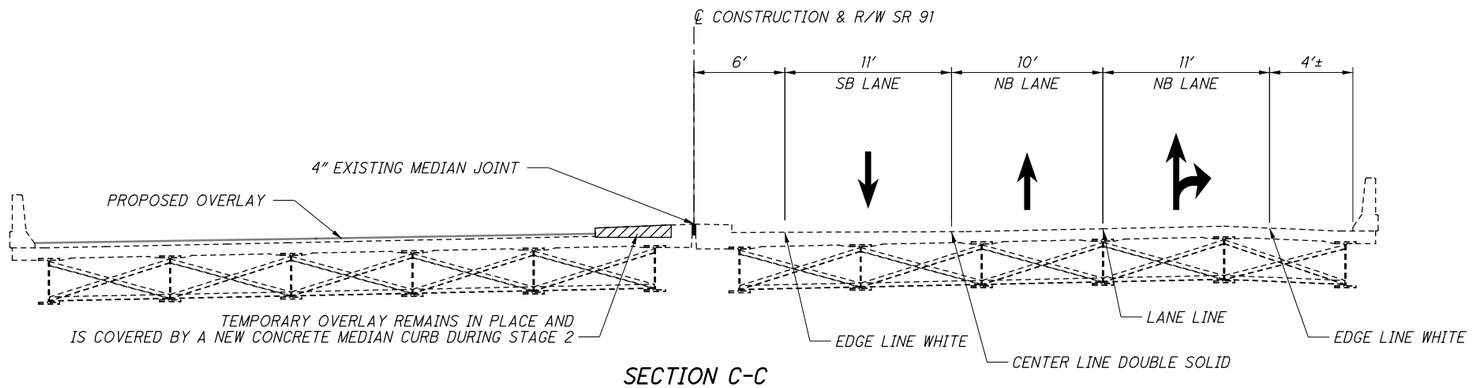
LAK-91-4.56



SECTION A-A
SR 91 OVER NSC AND CSX RAILROADS



SECTION B-B

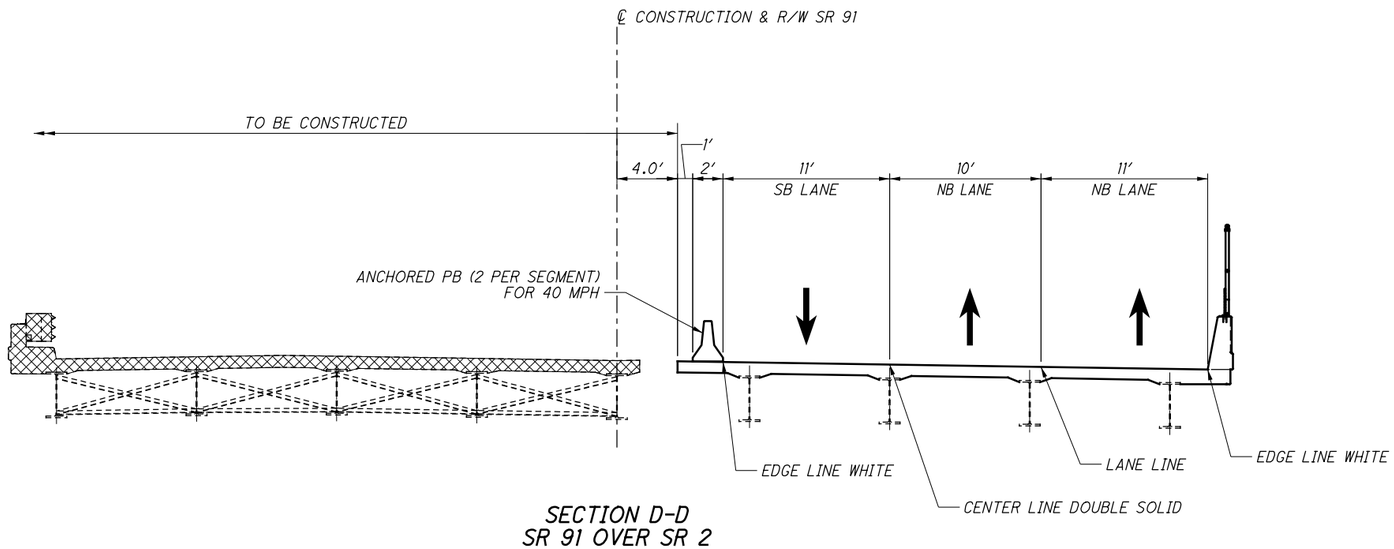


SECTION C-C
SR 91 OVER LAKELAND BOULEVARD

PORTION OF CONCRETE MEDIAN TO BE CONSTRUCTED

MAINTENANCE OF TRAFFIC SR 91
TYPICAL SECTIONS - STAGE 2

LAK-91-4.56

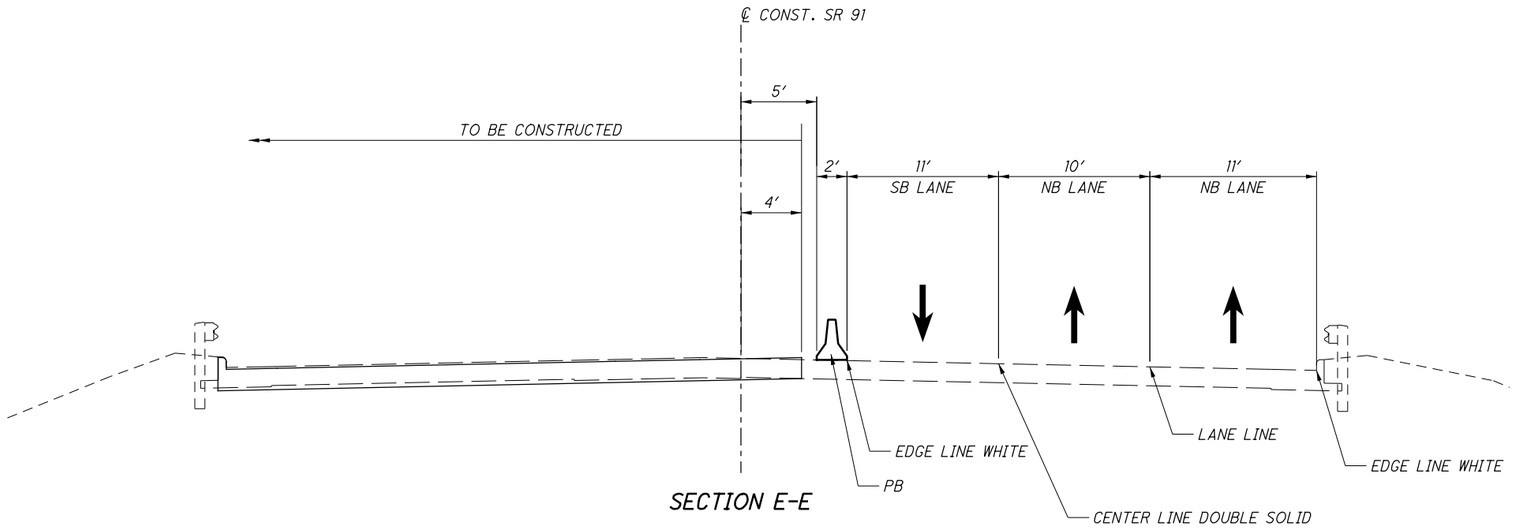


SECTION D-D
SR 91 OVER SR 2

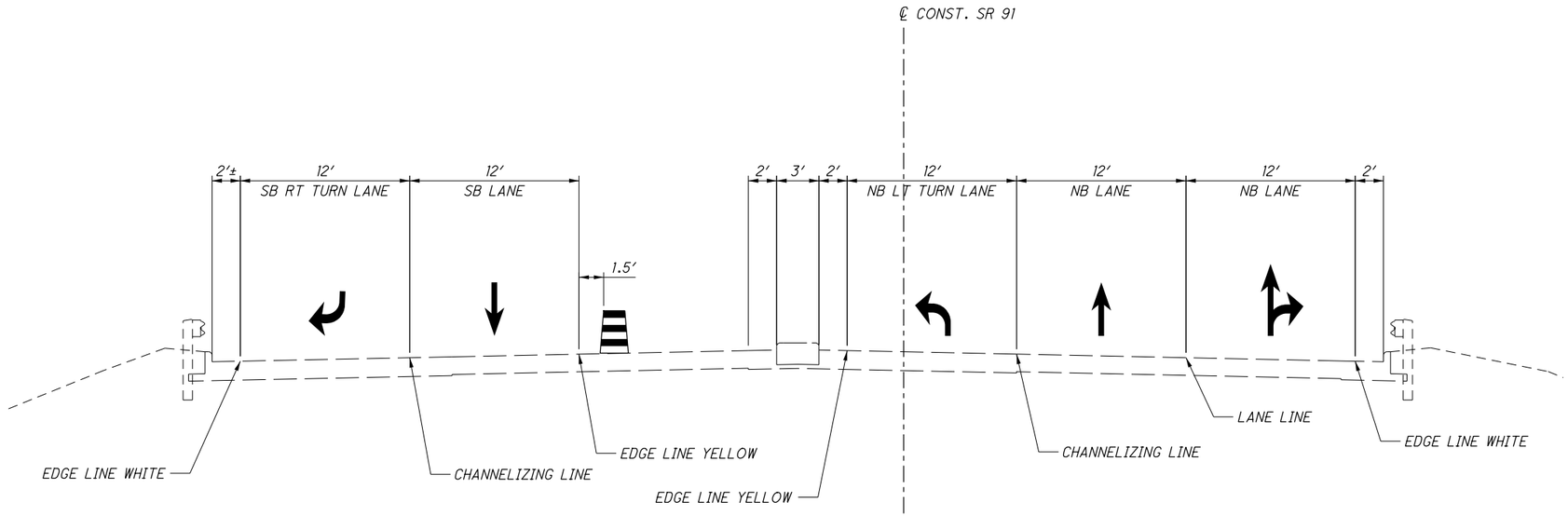
TO BE REMOVED AND RECONSTRUCTED

MAINTENANCE OF TRAFFIC SR 91
TYPICAL SECTIONS - STAGE 2

LAK-91-4.56



SECTION E-E



SECTION F-F

MAINTENANCE OF TRAFFIC SR 91
TYPICAL SECTIONS - STAGE 2

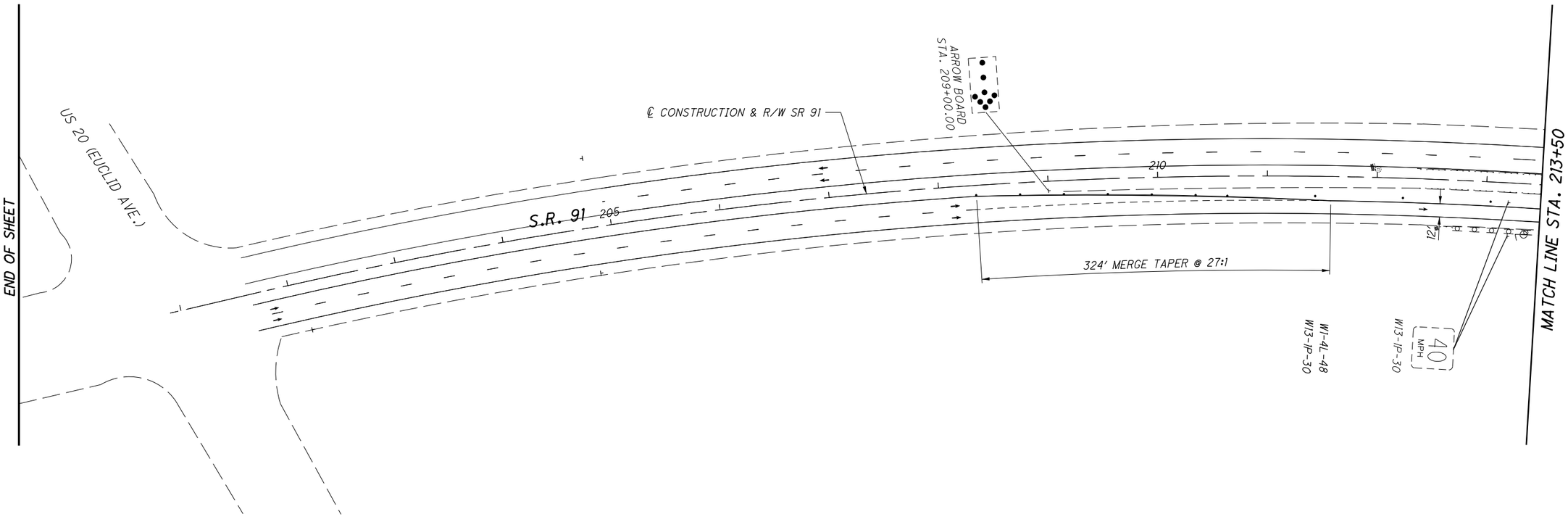
LAK-91-4.56

LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER

- CL — CENTER LINE, DOUBLE SOLID
- CH — CHANNELIZING LINE, 8"
- DW — DOTTED LINE, WHITE, 8"
- DY — DOTTED LINE, YELLOW, 8"
- [A] — LANE ARROW

- EW — EDGE LINE, WHITE, 4"
- EY — EDGE LINE, YELLOW, 4"
- LL — LANE LINE, 4"
- SL — STOP LINE



NOTE:
1. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC
2. SEE MAINTENANCE OF TRAFFIC STAGE 1 FOR SIGNING AND STRIPING DETAILS NOT SHOWN

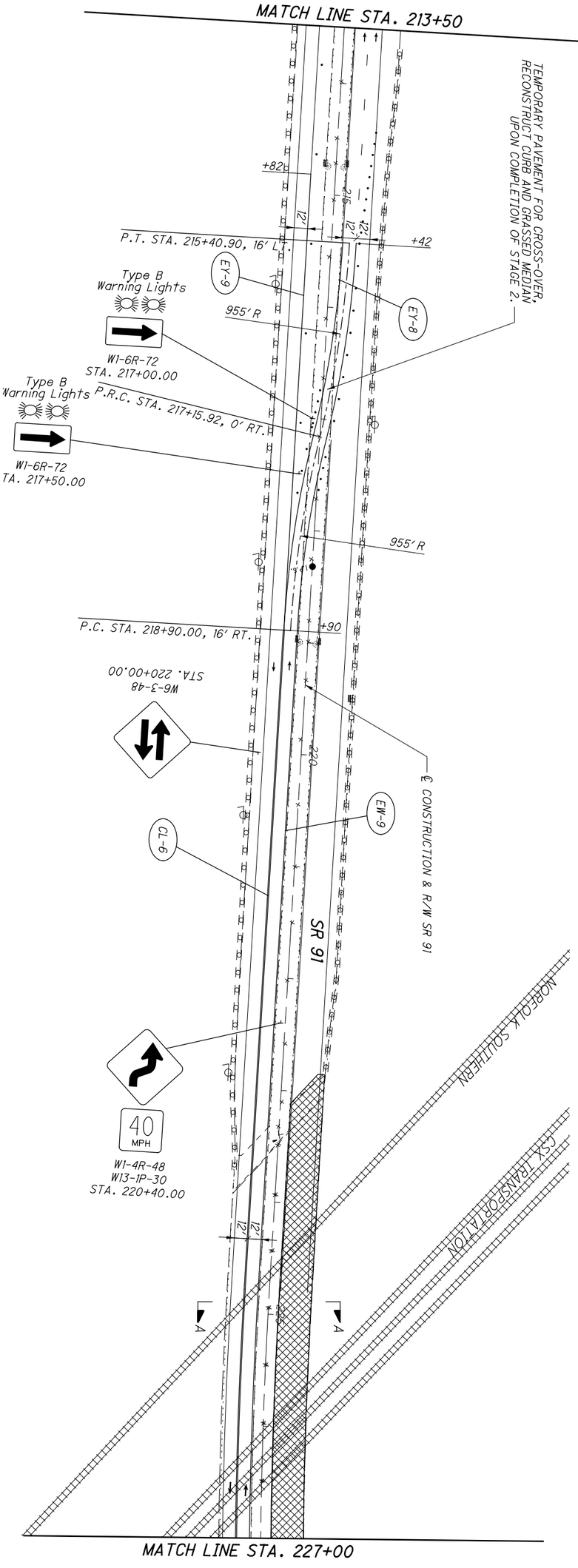
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED GJM
CHECKED DPF

MAINTENANCE OF TRAFFIC PLAN - SR 91 STAGE 2

LAK-91-4.56

NOTE:
1. NB LANE CLOSURE SAME AS IN STAGE 1.
2. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC



LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER
- [A] LANE ARROW
- (CL) CENTER LINE, DOUBLE SOLID
- (CH) CHANNELIZING LINE, 8"
- (DW) DOTTED LINE, WHITE, 8"
- (DY) DOTTED LINE, YELLOW, 8"
- (EW) EDGE LINE, WHITE, 4"
- (EY) EDGE LINE, YELLOW, 4"
- (LL) LANE LINE, 4"
- (SL) STOP LINE

32 / 161	LAK-91-4.56	MAINTENANCE OF TRAFFIC PLAN - SR 91 STAGE 2	CALCULATED GJM / CHECKED DPF	0 50 / 25 100 HORIZONTAL SCALE IN FEET

LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER

- CL — CENTER LINE, DOUBLE SOLID
- CH — CHANNELIZING LINE, 8"
- DW — DOTTED LINE, WHITE, 8"
- DY — DOTTED LINE, YELLOW, 8"
- EW — EDGE LINE, WHITE, 4"
- EY — EDGE LINE, YELLOW, 4"
- LL — LANE LINE, 4"
- SL — STOP LINE
- A — LANE ARROW

NOTE:
1. ALL RAMPS OPEN DURING STAGE 2.
2. RAMP D WILL OPERATE AS A RIGHT TURN LANE AND A LEFT TURN LANE ONLY DURING STAGE 2.
3. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED GJM
CHECKED DPF

MAINTENANCE OF TRAFFIC PLAN - SR 91
STAGE 2

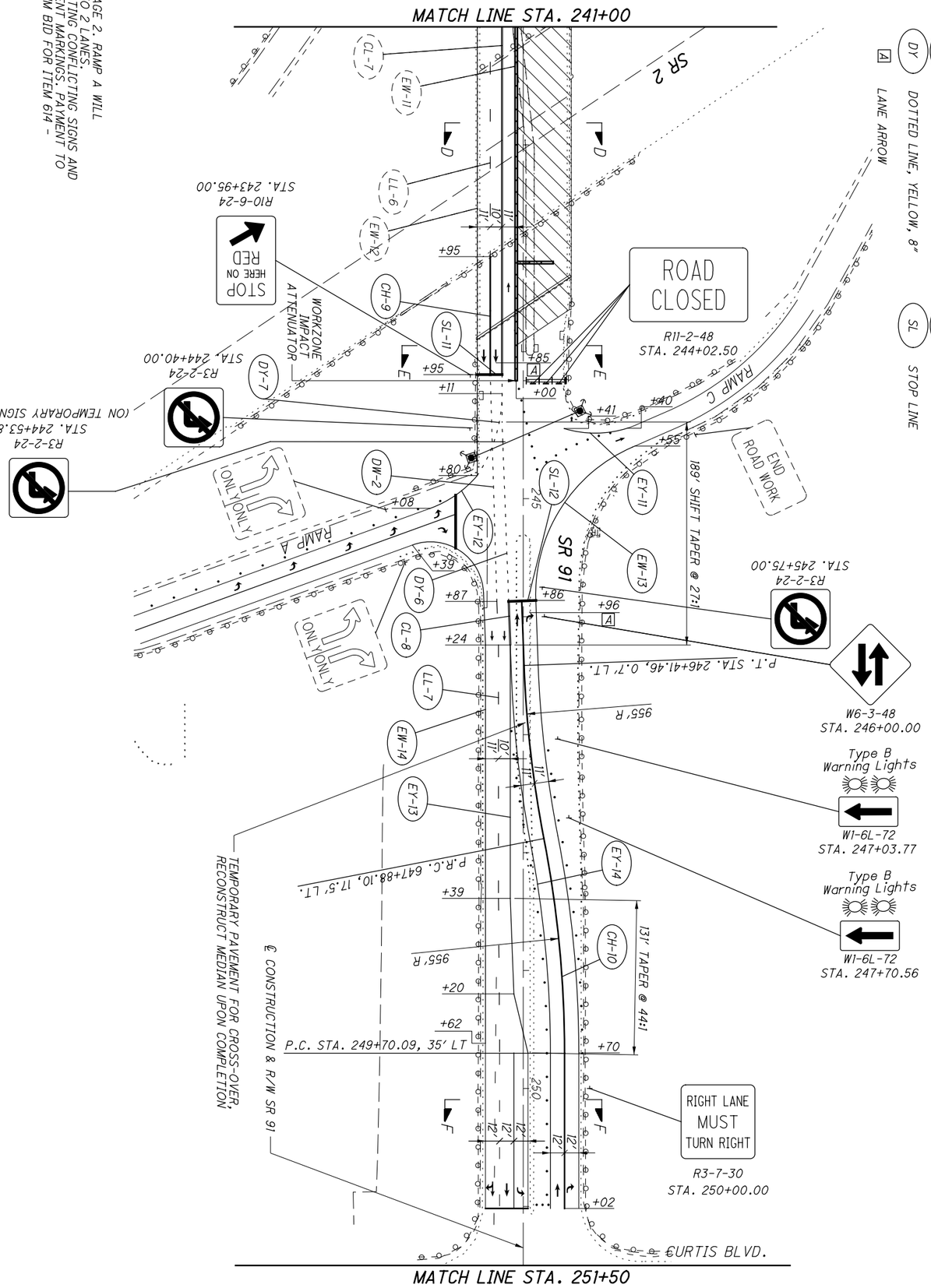
LAK-91-4.56

LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER

- CL — CENTER LINE, DOUBLE SOLID
- CH — CHANNELIZING LINE, 8"
- DW — DOTTED LINE, WHITE, 8"
- DY — DOTTED LINE, YELLOW, 8"
- [A] — LANE ARROW
- EW — EDGE LINE, WHITE, 4"
- EY — EDGE LINE, YELLOW, 4"
- LL — LANE LINE, 4"
- SL — STOP LINE

NOTE:
1. ALL RAMPS OPEN DURING STAGE 2. RAMP A WILL BE REDUCED FROM 3 LANES TO 2 LANES.
2. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC



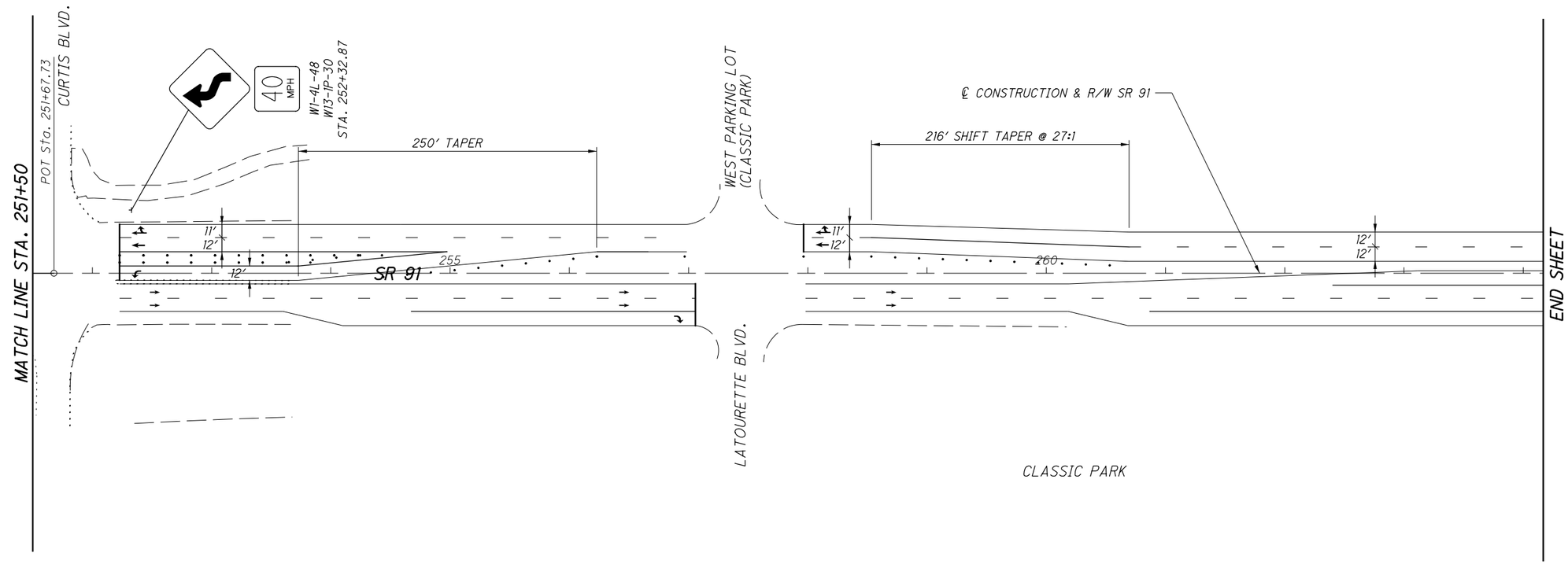
161 / 34	LAK-91-4.56	MAINTENANCE OF TRAFFIC PLAN - SR 91 STAGE 2	CALCULATED GJM CHECKED DPF	0 50 25 100 HORIZONTAL SCALE IN FEET

LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER

- CL — CENTER LINE, DOUBLE SOLID
- CH — CHANNELIZING LINE, 8″
- DW — DOTTED LINE, WHITE, 8″
- DY — DOTTED LINE, YELLOW, 8″
- A — LANE ARROW
- EW — EDGE LINE, WHITE, 4″
- EY — EDGE LINE, YELLOW, 4″
- LL — LANE LINE, 4″
- SL — STOP LINE

NOTE:
TEMPORARY PAVEMENT MARKINGS
ARE THE SAME AS STAGE 1



NOTE:
1. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC
2. SEE MAINTENANCE OF TRAFFIC STAGE 1 FOR STRIPING DETAILS NOT SHOWN

N

0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED GJM
CHECKED DPF

MAINTENANCE OF TRAFFIC PLAN - SR 91
STAGE 2

LAK-91-4.56

LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER

- CL — CENTER LINE, DOUBLE SOLID
- CH — CHANNELIZING LINE, 8"
- DW — DOTTED LINE, WHITE, 8"
- DY — DOTTED LINE, YELLOW, 8"
- A — LANE ARROW
- EW — EDGE LINE, WHITE, 4"
- EY — EDGE LINE, YELLOW, 4"
- LL — LANE LINE, 4"
- SL — STOP LINE

NOTE:

1. RAMP C CLOSED APPROX. 2 WEEKS DURING CONSTRUCTION.
2. NORTHBOUND SR 91 WILL BE REDUCED FROM 2 LANES TO ONE LANE.
3. DURING THIS STAGE, WESTBOUND SR 2 TRUCK TRAFFIC WILL BE DETOURED TO THE VINE STREET EXIT.
4. SEE MAINTENANCE OF TRAFFIC STAGE 2 PLANS FOR SIGNING AND STRIPING DETAILS NOT SHOWN.
5. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC

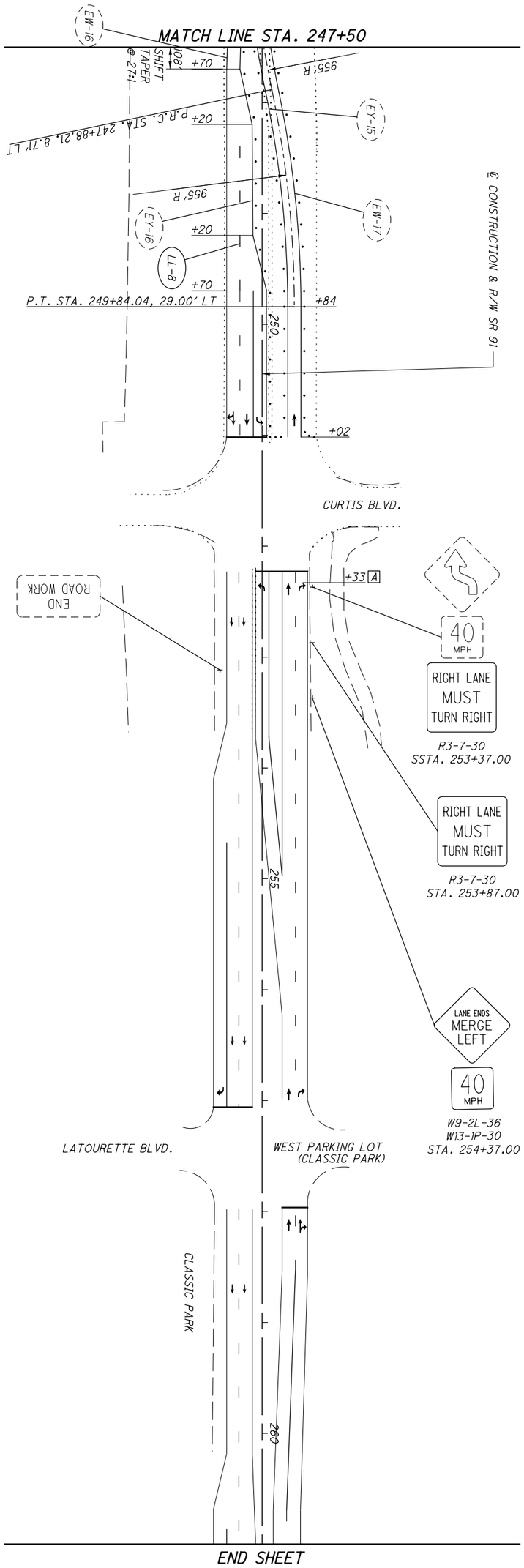
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED GJM
CHECKED ALT

MAINTENANCE OF TRAFFIC PLAN - SR 91 STAGE 2A

LAK-91-4.56

NOTE:
1. SEE MAINTENANCE OF TRAFFIC STAGE 2 PLANS FOR SIGNING AND STRIPING DETAILS NOT SHOWN.
2. CONTRACTOR TO COVER EXISTING CONFLICTING SIGNS AND REMOVE CONFLICTING PAVEMENT MARKINGS. PAYMENT TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 - MAINTAINING TRAFFIC



LEGEND

- TO BE CONSTRUCTED
- TRAFFIC FLOW
- TO BE RESURFACED
- DRUMS
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- PORTABLE BARRIER
- A LANE ARROW
- CL CENTER LINE, DOUBLE SOLID
- CH CHANNELIZING LINE, 8"
- DW DOTTED LINE, WHITE, 8"
- DY DOTTED LINE, YELLOW, 8"
- EW EDGE LINE, WHITE, 4"
- EY EDGE LINE, YELLOW, 4"
- LL LANE LINE, 4"
- SL STOP LINE

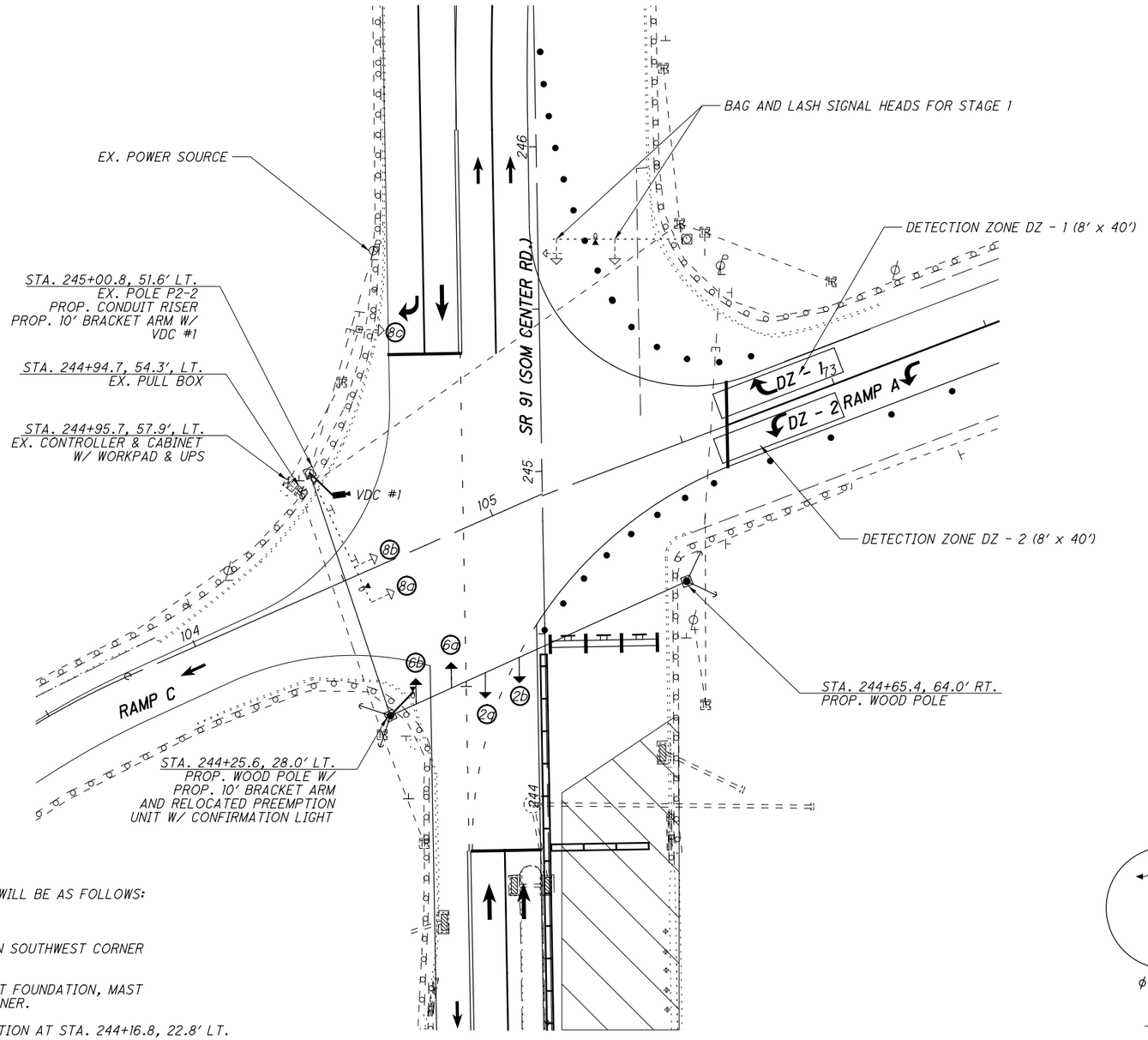
LAK-91-4.56

MAINTENANCE OF TRAFFIC PLAN - SR 91
STAGE 2A

CALCULATED GJM
CHECKED DPF

0 25 50 100
HORIZONTAL SCALE IN FEET

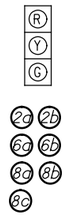
N



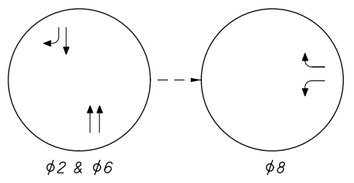
LEGEND

- *EX. 3-SECTION VEHICULAR SIGNAL HEAD*
- *EX. 3-SECTION VEHICULAR SIGNAL HEAD WITH ARROW*
- *EX. 4 OR 5-SECTION VEHICULAR SIGNAL HEAD WITH ARROW*
- *EX. PEDESTRIAN SIGNAL*
- *EX. EMERGENCY PREEMPTION*
- *EX. LUMINAIRE*
- *EX. PEDESTAL*
- *EX. CONTROLLER CABINET AND WORK PAD*
- *EX. PULL BOX*
- *PROP. PULL BOX*
- *EX. MAST ARM*
- *EX. VIDEO DETECTION CAMERA (VDC)*
- *PROP. WOOD POLE*

12" LED VEHICULAR SIGNAL DISPLAY



SIGNAL PHASING



NOTES:

SEQUENCE OF CONSTRUCTION AT THIS INTERSECTION WILL BE AS FOLLOWS:

1) INSTALL TEMPORARY SIGNAL.

2) IMMEDIATELY REMOVE SIGNAL HEADS FROM POLE ON SOUTHWEST CORNER AFTER INSTALLATION OF TEMPORARY SIGNAL.

3) REMOVE EXISTING SIGNAL SUPORT, SIGNAL SUPPORT FOUNDATION, MAST ARM, AND ALL APPURTENANCES FROM SOUTHWEST CORNER.

4) INSTALL NEW PERMANENT SIGNAL SUPPORT FOUNDATION AT STA. 244+16.8, 22.8' LT.

5) REUSE SIGNAL SUPPORT, MAST ARM, AND ALL APPURTENANCES ON NEW SIGNAL SUPPORT FOUNDATION. BAG AND LASH SIGNAL HEADS ON RELOCATED MAST ARM IN SOUTHWEST CORNER.

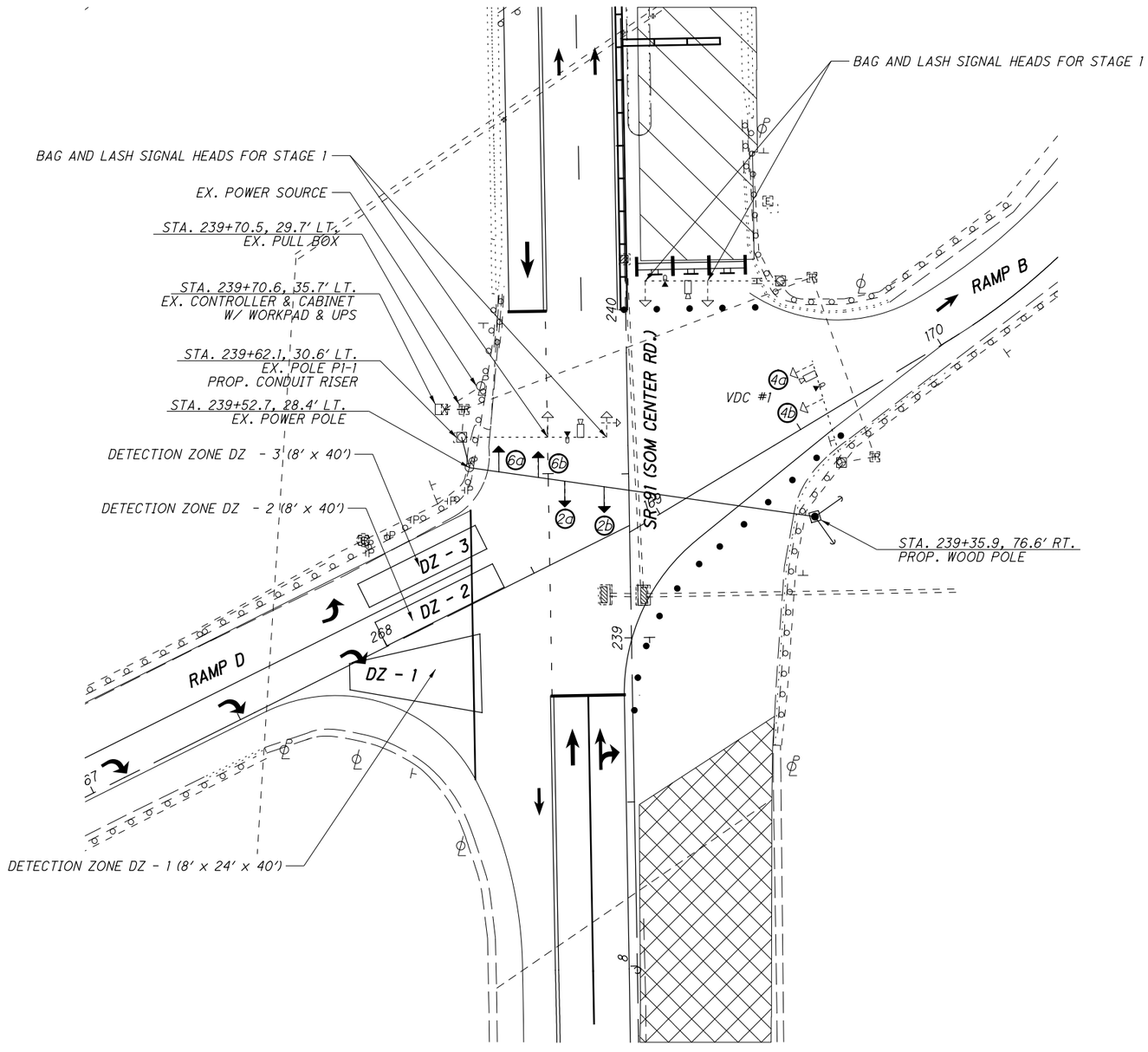
6) PERMANENT SIGNAL HEADS IN SOUTHWEST CORNER NOT TO BE UNLASHED AND UNBAGGED UNTIL THE REMOVAL OF THE TEMPORARY SIGNAL.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL PLAN STAGE 1
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

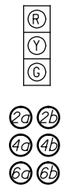
LAK-91-4.56



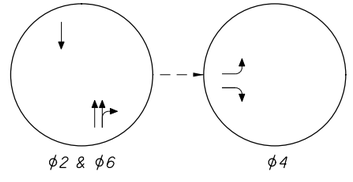
LEGEND

- EX. 3-SECTION VEHICULAR SIGNAL HEAD
- EX. 3-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. 4 OR 5-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. PEDESTRIAN SIGNAL
- EX. EMERGENCY PREEMPTION
- EX. LUMINAIRE
- EX. PEDESTAL
- EX. CONTROLLER CABINET AND WORK PAD
- EX. PULL BOX
- PROP. PULL BOX
- EX. MAST ARM
- EX. VIDEO DETECTION CAMERA (VDC)
- PROP. WOOD POLE

12" LED VEHICULAR SIGNAL DISPLAY



SIGNAL PHASING



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL PLAN STAGE 1 & 1A
SR 91 (SOM CENTER RD.) & EB SR 2 RAMPS

LAK-91-4.56

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SIGNAL TIMING CHART

Start Up
Start In: ◉ y/r flash or ○ all red
Time for Flash or All Red: 6 SEC.
First Phase(s): ϕ2 & ϕ6
Color Displayed ◉ Green; ○ Yellow

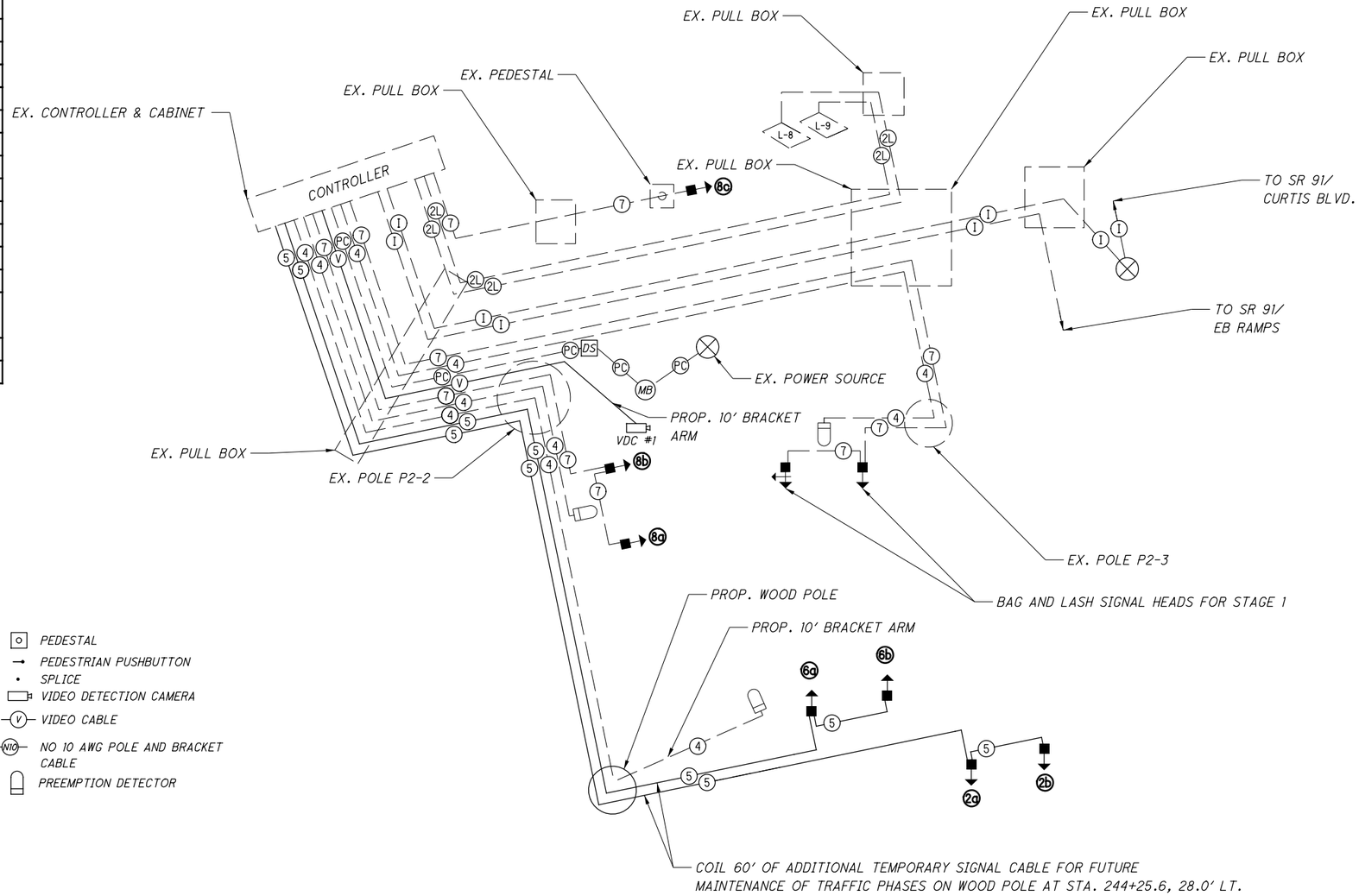
Dual Entry ◉
Rest In Red: Ring 1 ○ Ring 2 ○

	OVERLAP	A	B	C	D
	PHASES				

INTERVAL OR FEATURE		CONTROLLER PHASE ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB
Intersection Movement					
Minimum Green (Initial)	(Sec.)	10	-	10	10
Passage Time (Preset Gap)	(Sec.)	-	-	-	3
Maximum Green I	(Sec.)	34	-	34	45
Maximum Green II	(Sec.)	-	-	-	-
Yellow Change	(Sec.)	4.7	-	4.7	4.1
All Red Clearance	(Sec.)	2.0	-	2.0	2.0
Walk	(Sec.)	-	-	-	-
Pedestrian Clearance	(Sec.)	-	-	-	-
Recall — Maximum	(On/Off)	ON	-	ON	OFF
Recall — Minimum	(On/Off)	OFF	-	OFF	OFF
Recall — Pedestrian	(On/Off)	OFF	-	OFF	OFF
Memory (On/Off)		OFF	-	OFF	OFF
Call To Non Actuated	No. 1	ON	-	ON	OFF
	No. 2	-	-	-	-

NOTE:

PREEMPTION RECEIVING UNIT AND CONFIRMATION LIGHT WILL BE RELOCATED FROM POLE P2-1 TO BRACKET ARM ON TEMPORARY WOOD POLE AT STA. 244+25.6, 28.0' LT.



LEGEND

- 2L — 2/C #14 AWG. (LEAD-IN CABLE)
- 3 — 3/C #14 AWG.
- 4 — 4/C #14 AWG. (PREEMPTION CABLE)
- 5 — 5/C #14 AWG.
- 7 — 7/C #14 AWG.
- DS — DISCONNECT SWITCH
- MB — METER BASE
- SC — SERVICE CABLE, 3/C, NO. 4 AWG.
- PC — POWER CABLE, 2/C, NO. 4 AWG.
- I — INTERCONNECT CABLE
- SS — SPREAD SPECTRUM RADIO COMMUNICATIONS
- VEHICULAR SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL HEAD
- SPREAD SPECTRUM RADIO
- LUMINAIRE, CONVENTIONAL, 250 WATT HPS, 120 VOLT, AS PER PLAN
- PEDESTAL
- PEDESTRIAN PUSHBUTTON
- SPLICE
- VIDEO DETECTION CAMERA
- V — VIDEO CABLE
- N10 — NO 10 AWG POLE AND BRACKET CABLE
- PREEMPTION DETECTOR

COORDINATION TIMING

PLAN	TIME PERIOD(S) IN EFFECT	CYCLE LENGTH (SEC.)	CONTROLLER PHASE - SPLITS (%) ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB	OFFSET (%)
PROGRAM 1 "AM PEAK"	6:30 AM - 2:30 PM 6:30 PM - 9:00 PM	90	42	-	42	58	99
PROGRAM 2 "PM PEAK"	2:30 PM - 6:30 PM	90	46	-	46	54	60
FREE OPERATION	9:00 PM - 6:30 AM	-	-	-	-	-	-

VEHICULAR DETECTORS

ZONE DESIGNATION	ASSOC. PHASE	MVMT.	SIZE	MODE	DELAY (SEC.) CAMERA	DELAY (SEC.) CONTROLLER	EXTENSION (SEC.)	DELAY INHIBITED DURING
DZ-1	ϕ8	WBRT	8' x 40'	PRESENCE	10	-	3	GREEN
DZ-2	ϕ8	WBLT	8' x 40'	PRESENCE	-	-	3	-

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL WIRING DETAIL STAGE 1
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

LAK-91-4.56

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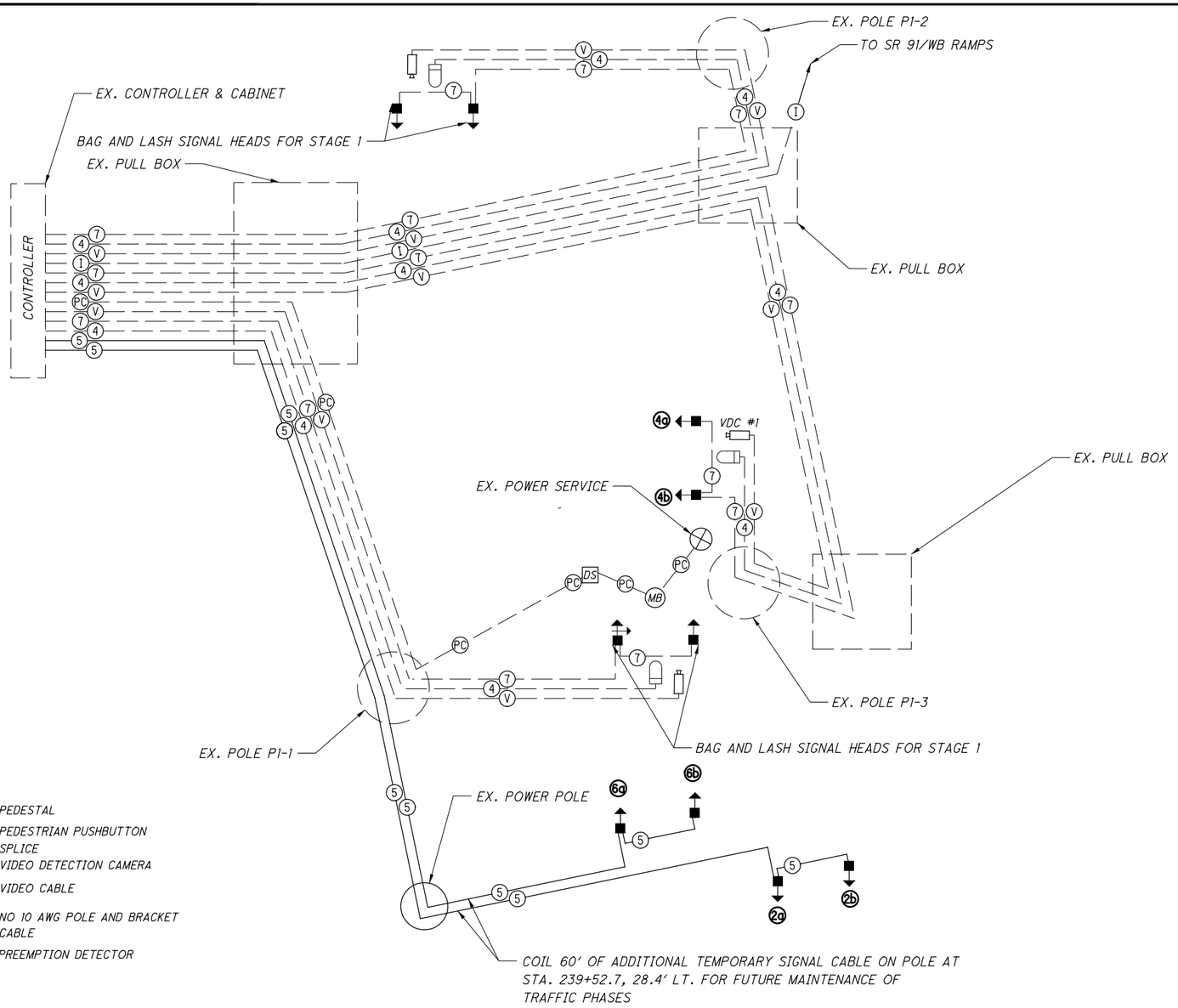
SIGNAL TIMING CHART

Start Up
Start In: ◉ y/r flash or ○ all red
Time for Flash or All Red: 6 SEC.
First Phase(s): ϕ2 & ϕ6
Color Displayed ◉ Green; ○ Yellow

Dual Entry ◉
Rest In Red: Ring 1 ○ Ring 2 ○

		OVERLAP	A	B	C	D
		PHASES				

INTERVAL OR FEATURE		CONTROLLER PHASE			
Intersection Movement		↑ 2	→ 4	↓ 6	← 8
		NB	EB	SB	WB
Minimum Green (Initial)	(Sec.)	10	10	10	-
Passage Time (Preset Gap)	(Sec.)	-	3	-	-
Maximum Green I	(Sec.)	57	34	57	-
Maximum Green II	(Sec.)	-	-	-	-
Yellow Change	(Sec.)	3.9	3.6	3.9	-
All Red Clearance	(Sec.)	1.8	1.4	1.8	-
Walk	(Sec.)	-	-	-	-
Pedestrian Clearance	(Sec.)	-	-	-	-
Recall — Maximum	(On/Off)	ON	OFF	ON	-
Recall — Minimum	(On/Off)	OFF	OFF	OFF	-
Recall — Pedestrian	(On/Off)	OFF	OFF	OFF	-
Memory (On/Off)		OFF	OFF	OFF	-
Call To Non Actuated	No. 1	ON	-	ON	-
	No. 2	-	-	-	-



LEGEND

- 2L — 2/C #14 AWG. (LEAD-IN CABLE)
- 3 — 3/C #14 AWG.
- 4 — 4/C #14 AWG. (PREEMPTION CABLE)
- 5 — 5/C #14 AWG.
- 7 — 7/C #14 AWG.
- DS — DISCONNECT SWITCH
- MB — METER BASE
- SC — SERVICE CABLE, 3/C, NO. 4 AWG.
- PC — POWER CABLE, 2/C, NO. 4 AWG.
- I — INTERCONNECT CABLE
- SS — SPREAD SPECTRUM RADIO COMMUNICATIONS
- VEHICULAR SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL HEAD
- SPREAD SPECTRUM RADIO
- LUMINAIRE, CONVENTIONAL, 250 WATT HPS, 120 VOLT, AS PER PLAN
- PEDESTAL
- PEDESTRIAN PUSHBUTTON
- SPLICE
- VIDEO DETECTION CAMERA
- V — VIDEO CABLE
- N10 — NO 10 AWG POLE AND BRACKET CABLE
- PREEMPTION DETECTOR

COORDINATION TIMING

PLAN	TIME PERIOD(S) IN EFFECT	CYCLE LENGTH (SEC.)	CONTROLLER PHASE - SPLITS (%) ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB	OFFSET (%)
PROGRAM 1 "AM PEAK"	6:30 AM - 2:30 PM 6:30 PM - 9:00 PM	90	70	30	70	-	3
PROGRAM 2 "PM PEAK"	2:30 PM - 6:30 PM	90	57	43	57	-	50
FREE OPERATION	9:00 PM - 6:30 AM	-	-	-	-	-	-

VEHICULAR DETECTORS

ZONE DESIGNATION	ASSOC. PHASE	MVMT.	SIZE	MODE	DELAY (SEC.) CAMERA	DELAY (SEC.) CONTROLLER	EXTENSION (SEC.)	DELAY INHIBITED DURING
DZ-1	ϕ4	EBRT	8' x x 24' x 40'	PRESENCE	10	-	3	GREEN
DZ-2	ϕ4	EB	8' x 40'	PRESENCE	-	-	3	-
DZ-3	ϕ4	EBLT	8' x 40'	PRESENCE	-	-	3	-

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL WIRING DETAIL STAGE 1
SR 91 (SOM CENTER RD.) & EB SR 2 RAMPS

LAK-91-4.56

41
161

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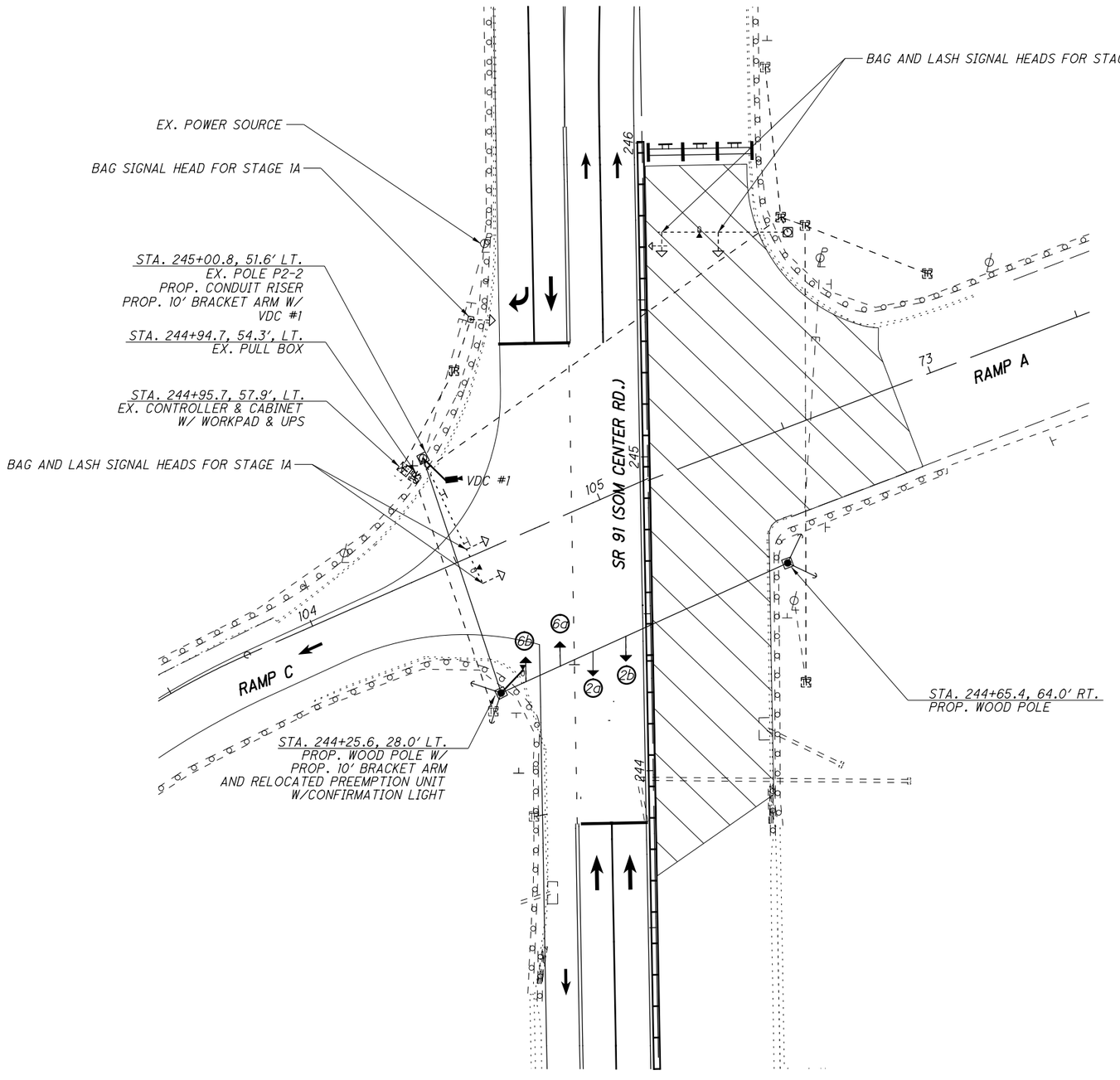
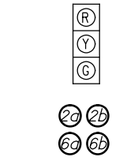


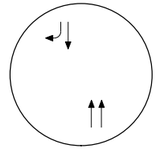
LEGEND

- EX. 3-SECTION VEHICULAR SIGNAL HEAD
- EX. 3-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. 4 OR 5-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. PEDESTRIAN SIGNAL
- EX. EMERGENCY PREEMPTION
- EX. LUMINAIRE
- EX. PEDESTAL
- EX. CONTROLLER CABINET AND WORK PAD
- EX. PULL BOX
- PROP. PULL BOX
- EX. MAST ARM
- EX. VIDEO DETECTION CAMERA (VDC)
- PROP. WOOD POLE

12" LED VEHICULAR SIGNAL DISPLAY



SIGNAL PHASING



NOTE:

SIGNAL WILL OPERATE IN FLASH FOR STAGE 1A (PHASES 2 and 6 IN YELLOW FLASH)

→ VEHICULAR MOVEMENT

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL PLAN STAGE 1A
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

LAK-91-4.56

42
161

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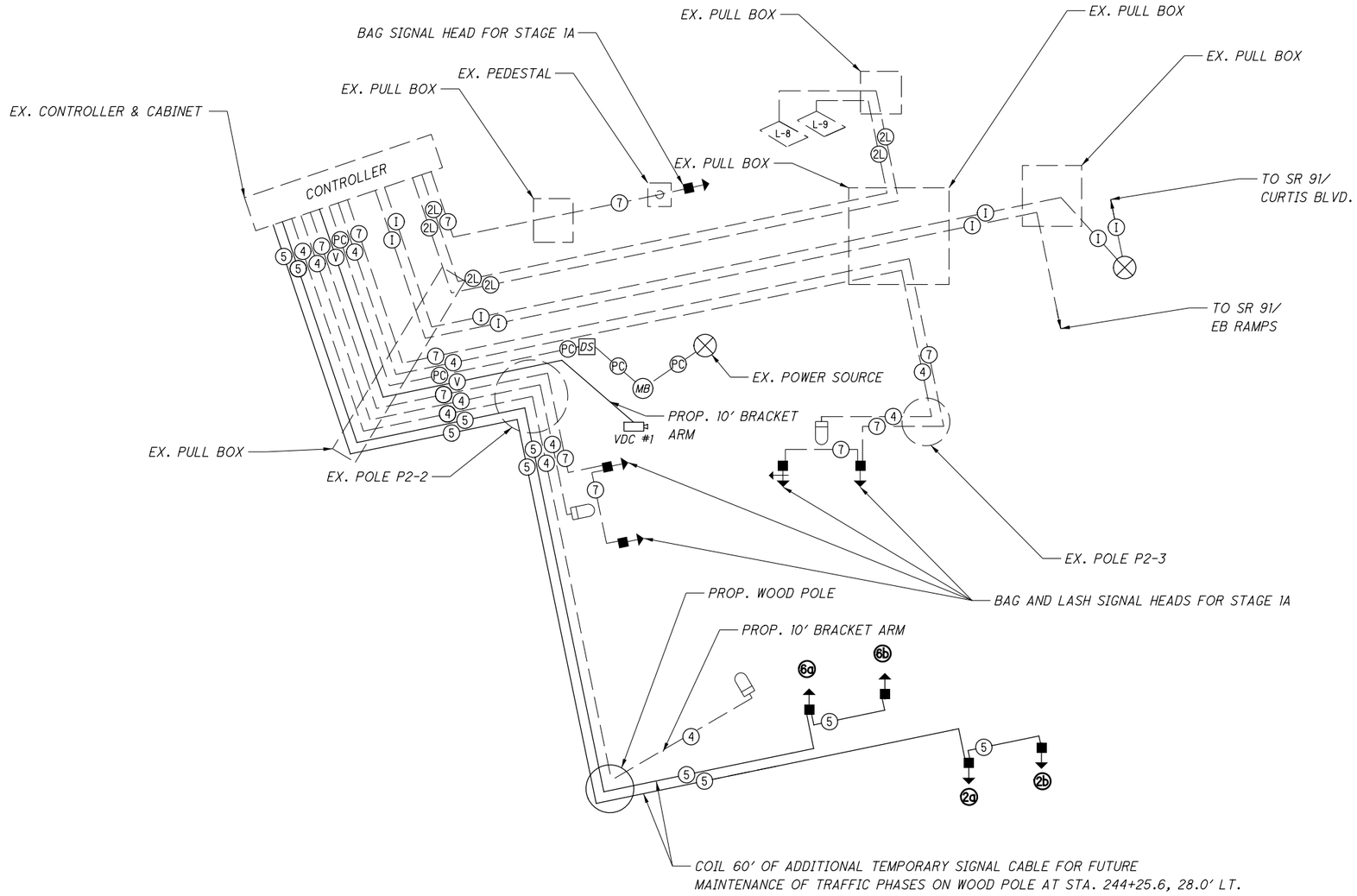


LEGEND

- 2L — 2/C #14 AWG. (LEAD-IN CABLE)
- 3 — 3/C #14 AWG.
- 4 — 4/C #14 AWG. (PREEMPTION CABLE)
- 5 — 5/C #14 AWG.
- 7 — 7/C #14 AWG.
- DS — DISCONNECT SWITCH
- MB — METER BASE
- SC — SERVICE CABLE, 3/C, NO. 4 AWG.
- PC — POWER CABLE, 2/C, NO. 4 AWG.
- I — INTERCONNECT CABLE
- SS — SPREAD SPECTRUM RADIO COMMUNICATIONS
- VEHICULAR SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL HEAD
- SPREAD SPECTRUM RADIO
- LUMINAIRE, CONVENTIONAL, 250 WATT HPS, 120 VOLT, AS PER PLAN
- PEDESTAL
- PEDESTRIAN PUSHBUTTON
- SPLICE
- VIDEO DETECTION CAMERA
- V — VIDEO CABLE
- NTC — NO 10 AWG POLE AND BRACKET CABLE
- PREEMPTION DETECTOR

TEMPORARY SIGNAL WIRING DETAIL STAGE 1A
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

CALCULATED KDB
CHECKED JMH

LAK-91-4.56

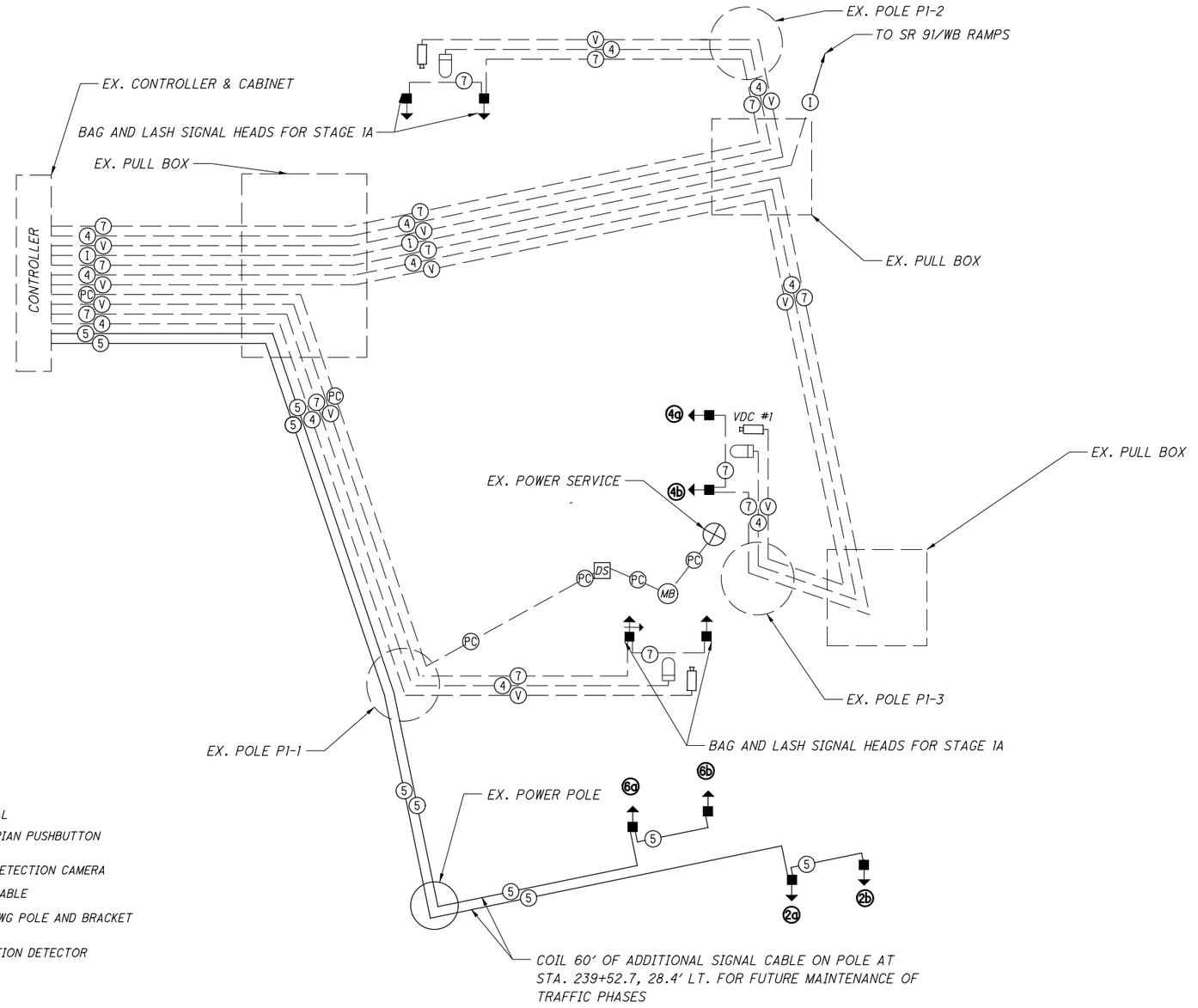
SIGNAL TIMING CHART

Start Up
Start In: ◉ y/r flash or ○ all red
Time for Flash or All Red: 6 SEC.
First Phase(s): ϕ2 & ϕ6
Color Displayed ◉ Green; ○ Yellow

Dual Entry ◉
Rest In Red: Ring 1 ○ Ring 2 ○

		OVERLAP	A	B	C	D
		PHASES				

INTERVAL OR FEATURE		CONTROLLER PHASE ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB
Intersection Movement					
Minimum Green (Initial)	(Sec.)	10	10	10	-
Passage Time (Preset Gap)	(Sec.)	-	3	-	-
Maximum Green I	(Sec.)	55	35	55	-
Maximum Green II	(Sec.)	-	-	-	-
Yellow Change	(Sec.)	3.9	3.6	3.9	-
All Red Clearance	(Sec.)	1.8	1.4	1.8	-
Walk	(Sec.)	-	-	-	-
Pedestrian Clearance	(Sec.)	-	-	-	-
Recall — Maximum	(On/Off)	ON	OFF	ON	-
Recall — Minimum	(On/Off)	OFF	OFF	OFF	-
Recall — Pedestrian	(On/Off)	OFF	OFF	OFF	-
Memory (On/Off)		OFF	OFF	OFF	-
Call To Non Actuated	No. 1	ON	-	ON	-
	No. 2	-	-	-	-



LEGEND

- 2/C #14 AWG. (LEAD-IN CABLE)
- 3/C #14 AWG.
- 4/C #14 AWG. (PREEMPTION CABLE)
- 5/C #14 AWG.
- 7/C #14 AWG.
- DISCONNECT SWITCH
- METER BASE
- SERVICE CABLE, 3/C, NO. 4 AWG.
- POWER CABLE, 2/C, NO. 4 AWG.
- INTERCONNECT CABLE
- SPREAD SPECTRUM RADIO COMMUNICATIONS
- VEHICULAR SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL HEAD
- SPREAD SPECTRUM RADIO
- LUMINAIRE, CONVENTIONAL, 250 WATT HPS, 120 VOLT, AS PER PLAN
- PEDESTAL
- PEDESTRIAN PUSHBUTTON
- SPLICE
- VIDEO DETECTION CAMERA
- VIDEO CABLE
- NO 10 AWG POLE AND BRACKET CABLE
- PREEMPTION DETECTOR

COORDINATION TIMING

PLAN	TIME PERIOD(S) IN EFFECT	CYCLE LENGTH (SEC.)	CONTROLLER PHASE - SPLITS (%) ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB	OFFSET (%)
PROGRAM 1 "AM PEAK"	6:30 AM - 2:30 PM 6:30 PM - 9:00 PM	90	68	32	68	-	90
PROGRAM 2 "PM PEAK"	2:30 PM - 6:30 PM	90	56	44	56	-	51
FREE OPERATION	9:00 PM - 6:30 AM	-	-	-	-	-	-

VEHICULAR DETECTORS

ZONE DESIGNATION	ASSOC. PHASE	MVMT.	SIZE	MODE	DELAY (SEC.) CAMERA	DELAY (SEC.) CONTROLLER	EXTENSION (SEC.)	DELAY INHIBITED DURING
DZ-1	ϕ4	EBRT	8' x 24' x 40'	PRESENCE	10	-	3	GREEN
DZ-2	ϕ4	EB	8' x 40'	PRESENCE	-	-	3	-
DZ-3	ϕ4	EBLT	8' x 40'	PRESENCE	-	-	3	-

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL WIRING DETAIL STAGE 1A
SR 91 (SOM CENTER RD.) & EB SR 2 RAMPS

LAK-91-4.56

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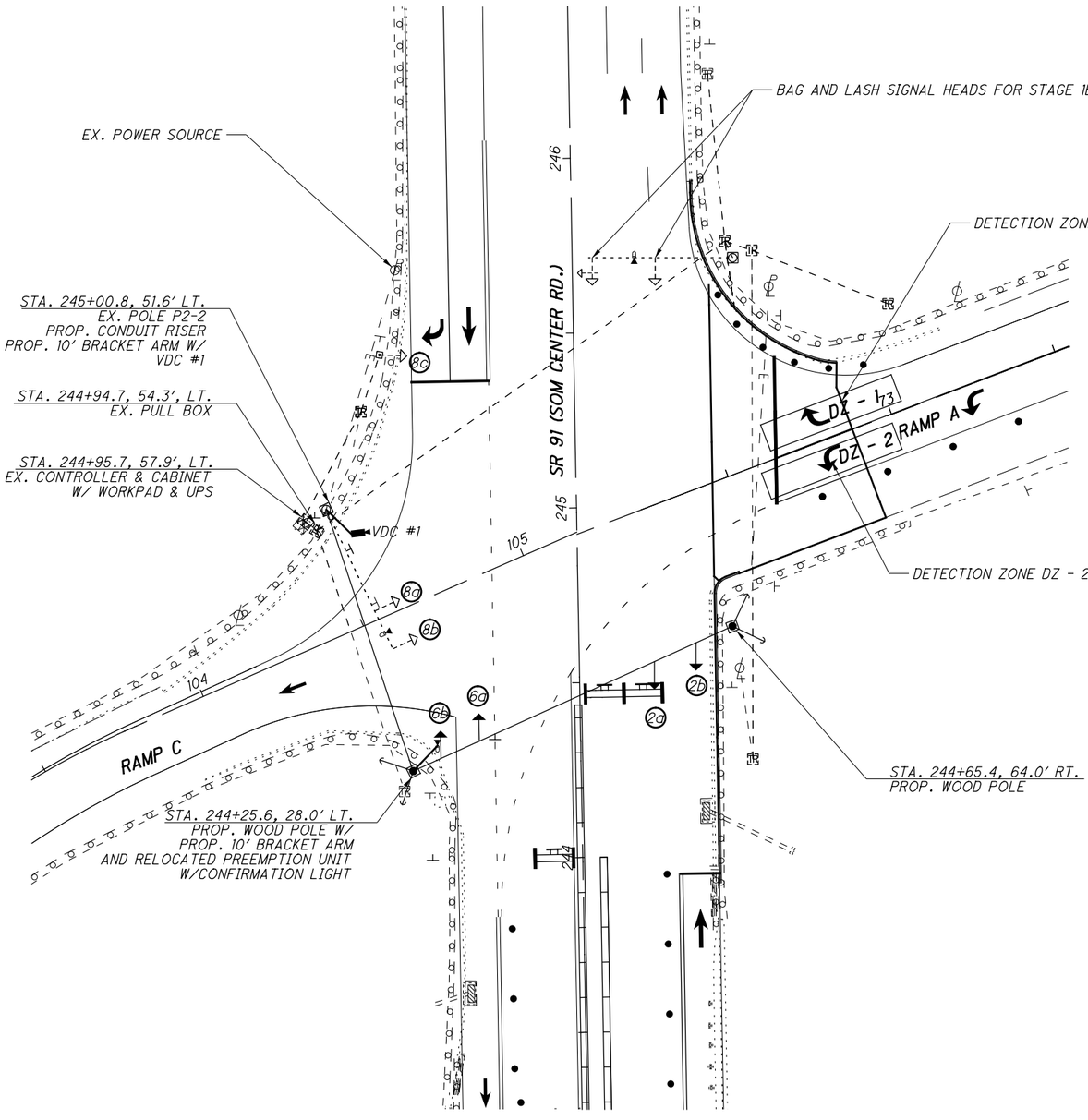
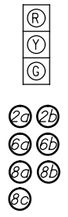


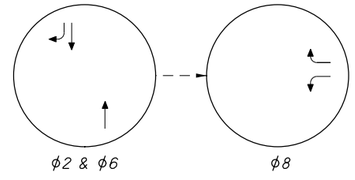
LEGEND

- EX. 3-SECTION VEHICULAR SIGNAL HEAD
- EX. 3-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. 4 OR 5-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. PEDESTRIAN SIGNAL
- EX. EMERGENCY PREEMPTION
- EX. LUMINAIRE
- EX. PEDESTAL
- EX. CONTROLLER CABINET AND WORK PAD
- EX. PULL BOX
- PROP. PULL BOX
- EX. MAST ARM
- EX. VIDEO DETECTION CAMERA (VDC)
- PROP. WOOD POLE

12" LED VEHICULAR SIGNAL DISPLAY



SIGNAL PHASING



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL PLAN STAGE 1B
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

LAK-91-4.56

45
161

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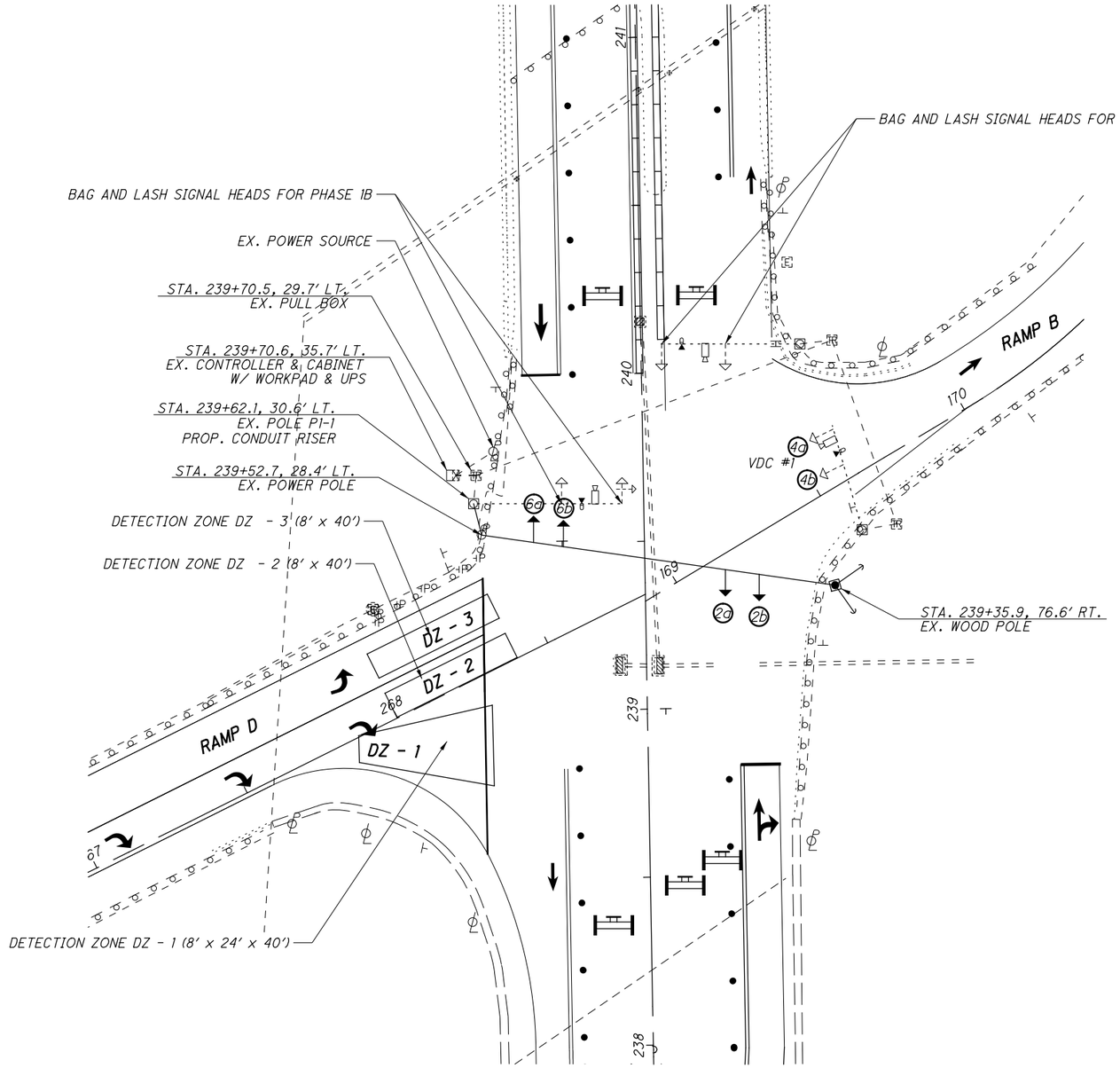
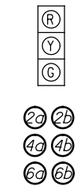


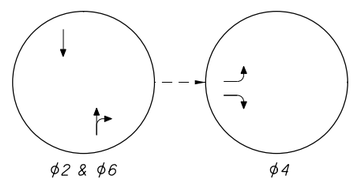
LEGEND

- EX. 3-SECTION VEHICULAR SIGNAL HEAD
- EX. 3-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. 4 OR 5-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. PEDESTRIAN SIGNAL
- EX. EMERGENCY PREEMPTION
- EX. LUMINAIRE
- EX. PEDESTAL
- EX. CONTROLLER CABINET AND WORK PAD
- EX. PULL BOX
- PROP. PULL BOX
- EX. MAST ARM
- EX. VIDEO DETECTION CAMERA (VDC)
- PROP. WOOD POLE

12" LED VEHICULAR SIGNAL DISPLAY



SIGNAL PHASING



→ VEHICULAR MOVEMENT

- - - ► IF DETECTED

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED KDB CHECKED JMH

TEMPORARY SIGNAL PLAN STAGE 1B
SR 91 (SOM CENTER RD.) & EB SR 2 RAMPS

LAK-91-4.56

46
161

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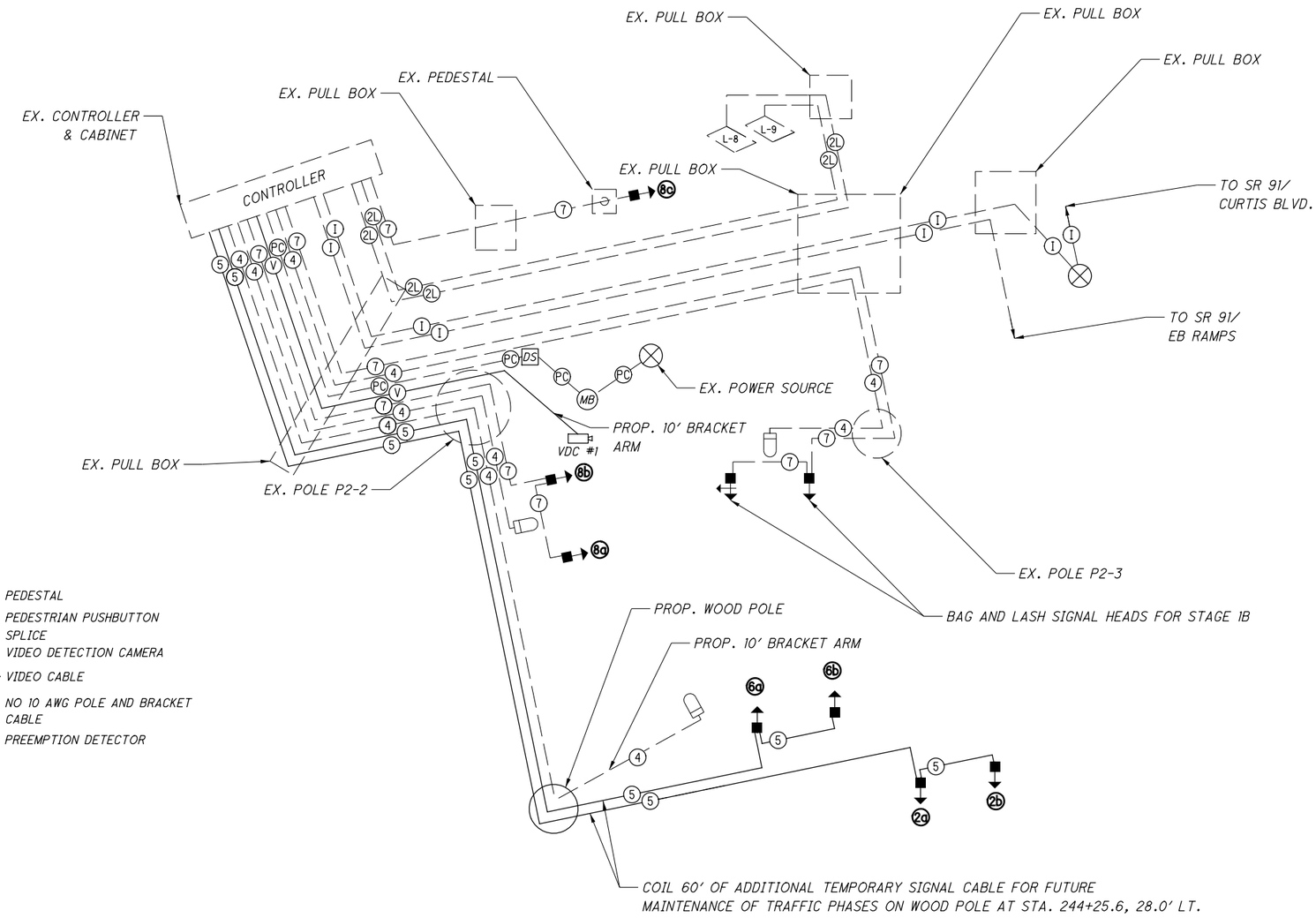
SIGNAL TIMING CHART

Start Up
Start In: ◉ y/r flash or ○ all red
Time for Flash or All Red: 6 SEC.
First Phase(s): ϕ2 & ϕ6
Color Displayed ◉ Green; ○ Yellow

Dual Entry ◉
Rest In Red: Ring 1 ○ Ring 2 ○

		OVERLAP	A	B	C	D
		PHASES				

INTERVAL OR FEATURE		CONTROLLER PHASE			
Intersection Movement		↑ 2	→ 4	↓ 6	← 8
		NB	EB	SB	WB
Minimum Green (Initial)	(Sec.)	10	-	10	10
Passage Time (Preset Gap)	(Sec.)	-	-	-	3
Maximum Green I	(Sec.)	48	-	48	35
Maximum Green II	(Sec.)	-	-	-	-
Yellow Change	(Sec.)	4.4	-	4.4	4.1
All Red Clearance	(Sec.)	2.0	-	2.0	2.0
Walk	(Sec.)	-	-	-	-
Pedestrian Clearance	(Sec.)	-	-	-	-
Recall — Maximum	(On/Off)	ON	-	ON	OFF
Recall — Minimum	(On/Off)	OFF	-	OFF	OFF
Recall — Pedestrian	(On/Off)	OFF	-	OFF	OFF
Memory (On/Off)		OFF	-	OFF	OFF
Call To Non Actuated	No. 1	ON	-	ON	-
	No. 2	-	-	-	-



LEGEND

- (2L) 2/C #14 AWG. (LEAD-IN CABLE)
- (3) 3/C #14 AWG.
- (4) 4/C #14 AWG. (PREEMPTION CABLE)
- (5) 5/C #14 AWG.
- (7) 7/C #14 AWG.
- (DS) DISCONNECT SWITCH
- (MB) METER BASE
- (SC) SERVICE CABLE, 3/C, NO. 4 AWG.
- (PC) POWER CABLE, 2/C, NO. 4 AWG.
- (I) INTERCONNECT CABLE
- (SS) SPREAD SPECTRUM RADIO COMMUNICATIONS
- VEHICULAR SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL HEAD
- SPREAD SPECTRUM RADIO
- LUMINAIRE, CONVENTIONAL, 250 WATT HPS, 120 VOLT, AS PER PLAN
- PEDESTAL
- PEDESTRIAN PUSHBUTTON
- SPLICE
- VIDEO DETECTION CAMERA
- (V) VIDEO CABLE
- (N10) NO 10 AWG POLE AND BRACKET CABLE
- PREEMPTION DETECTOR

COORDINATION TIMING

PLAN	TIME PERIOD(S) IN EFFECT	CYCLE LENGTH (SEC.)	CONTROLLER PHASE - SPLITS (%) ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB	OFFSET (%)
PROGRAM 1 "AM PEAK"	6:30 AM - 2:30 PM 6:30 PM - 9:00 PM	90	53	-	53	47	34
PROGRAM 2 "PM PEAK"	2:30 PM - 6:30 PM	90	61	-	39	61	62
FREE OPERATION	9:00 PM - 6:30 AM	-	-	-	-	-	-

VEHICULAR DETECTORS

ZONE DESIGNATION	ASSOC. PHASE	MVMT.	SIZE	MODE	DELAY (SEC.) CAMERA	DELAY (SEC.) CONTROLLER	EXTENSION (SEC.)	DELAY INHIBITED DURING
DZ-1	ϕ8	WBRT	8' x 40'	PRESENCE	10	-	3	GREEN
DZ-2	ϕ8	WBLT	8' x 40'	PRESENCE	-	-	3	-

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL WIRING DETAIL STAGE 1B
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

LAK-91-4.56

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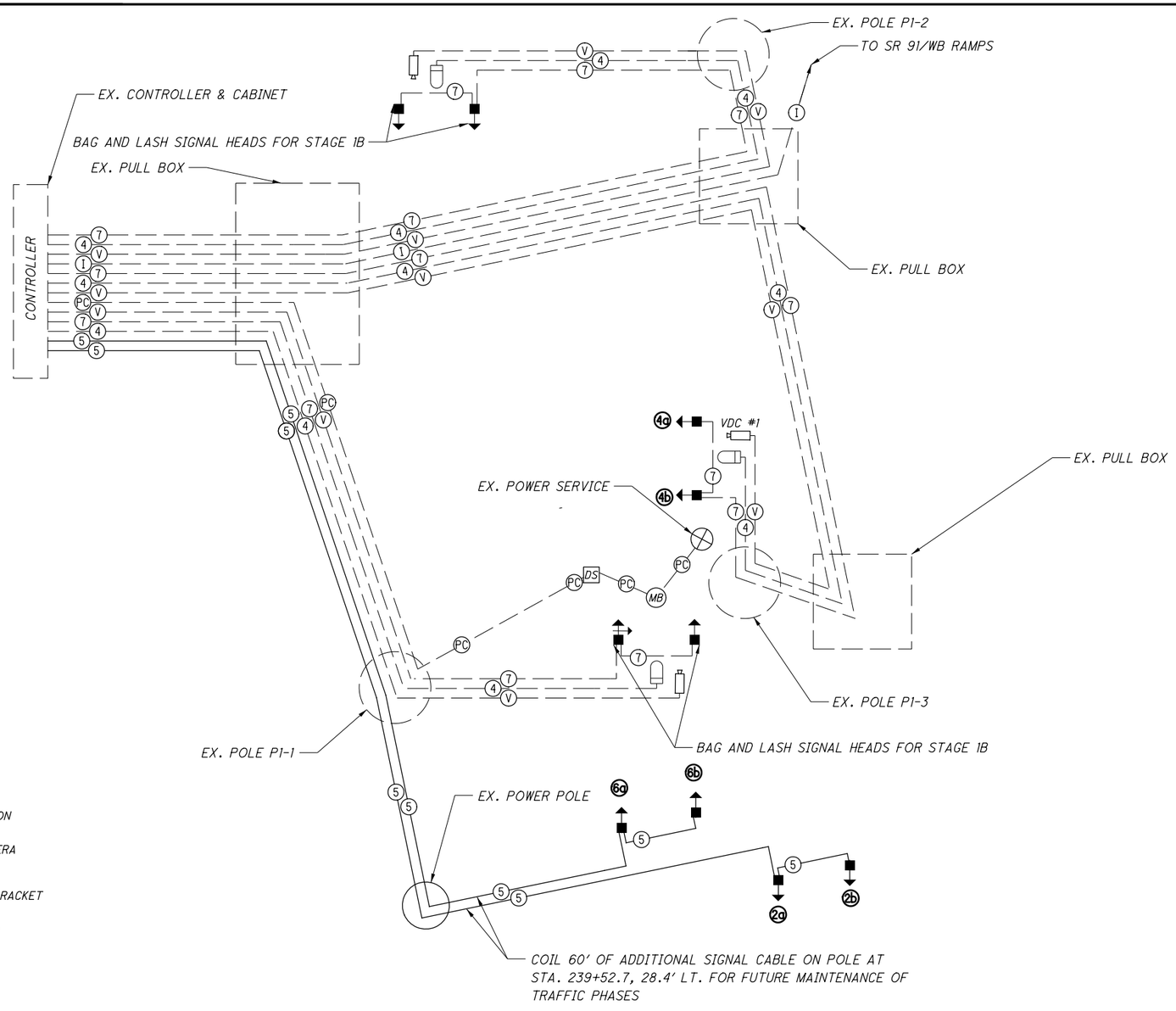
SIGNAL TIMING CHART

Start Up
Start In: ◉ y/r flash or ○ all red
Time for Flash or All Red: 6 SEC.
First Phase(s): ϕ2 & ϕ6
Color Displayed ◉ Green; ○ Yellow

Dual Entry ◉
Rest In Red: Ring 1 ○ Ring 2 ○

OVERLAP	A	B	C	D
PHASES				

INTERVAL OR FEATURE		CONTROLLER PHASE ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB
Intersection Movement					
Minimum Green (Initial)	(Sec.)	10	10	10	-
Passage Time (Preset Gap)	(Sec.)	-	3	-	-
Maximum Green I	(Sec.)	62	16	62	-
Maximum Green II	(Sec.)	-	-	-	-
Yellow Change	(Sec.)	3.9	3.9	3.9	-
All Red Clearance	(Sec.)	2.0	2.0	2.0	-
Walk	(Sec.)	-	-	-	-
Pedestrian Clearance	(Sec.)	-	-	-	-
Recall – Maximum	(On/Off)	ON	OFF	ON	-
Recall – Minimum	(On/Off)	OFF	OFF	OFF	-
Recall – Pedestrian	(On/Off)	OFF	OFF	OFF	-
Memory (On/Off)		OFF	OFF	OFF	-
Call To Non Actuated	No. 1	ON	-	ON	-
	No. 2	-	-	-	-



LEGEND

- 2/C #14 AWG. (LEAD-IN CABLE)
- 3/C #14 AWG.
- 4/C #14 AWG. (PREEMPTION CABLE)
- 5/C #14 AWG.
- 7/C #14 AWG.
- DISCONNECT SWITCH
- METER BASE
- SERVICE CABLE, 3/C, NO. 4 AWG.
- POWER CABLE, 2/C, NO. 4 AWG.
- INTERCONNECT CABLE
- SPREAD SPECTRUM RADIO COMMUNICATIONS
- VEHICULAR SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL HEAD
- SPREAD SPECTRUM RADIO
- LUMINAIRE, CONVENTIONAL, 250 WATT HPS, 120 VOLT, AS PER PLAN
- PEDESTAL
- PEDESTRIAN PUSHBUTTON
- SPLICE
- VIDEO DETECTION CAMERA
- VIDEO CABLE
- NO 10 AWG POLE AND BRACKET CABLE
- PREEMPTION DETECTOR

COORDINATION TIMING

PLAN	TIME PERIOD(S) IN EFFECT	CYCLE LENGTH (SEC.)	CONTROLLER PHASE - SPLITS (%) ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB	OFFSET (%)
PROGRAM 1 "AM PEAK"	6:30 AM - 2:30 PM 6:30 PM - 9:00 PM	90	76	24	76	-	44
PROGRAM 2 "PM PEAK"	2:30 PM - 6:30 PM	90	76	24	76	-	96
FREE OPERATION	9:00 PM - 6:30 AM	-	-	-	-	-	-

VEHICULAR DETECTORS

ZONE DESIGNATION	ASSOC. PHASE	MVMT.	SIZE	MODE	DELAY (SEC.) CAMERA	DELAY (SEC.) CONTROLLER	EXTENSION (SEC.)	DELAY INHIBITED DURING
DZ-1	ϕ4	EBRT	8' x 24' x 40'	PRESENCE	10	-	3	GREEN
DZ-2	ϕ4	EB	8' x 40'	PRESENCE	-	-	3	-
DZ-3	ϕ4	EBLT	8' x 40'	PRESENCE	-	-	3	-

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL WIRING DETAIL STAGE 1B
SR 91 (SOM CENTER RD.) & EB SR 2 RAMPS

LAK-91-4.56

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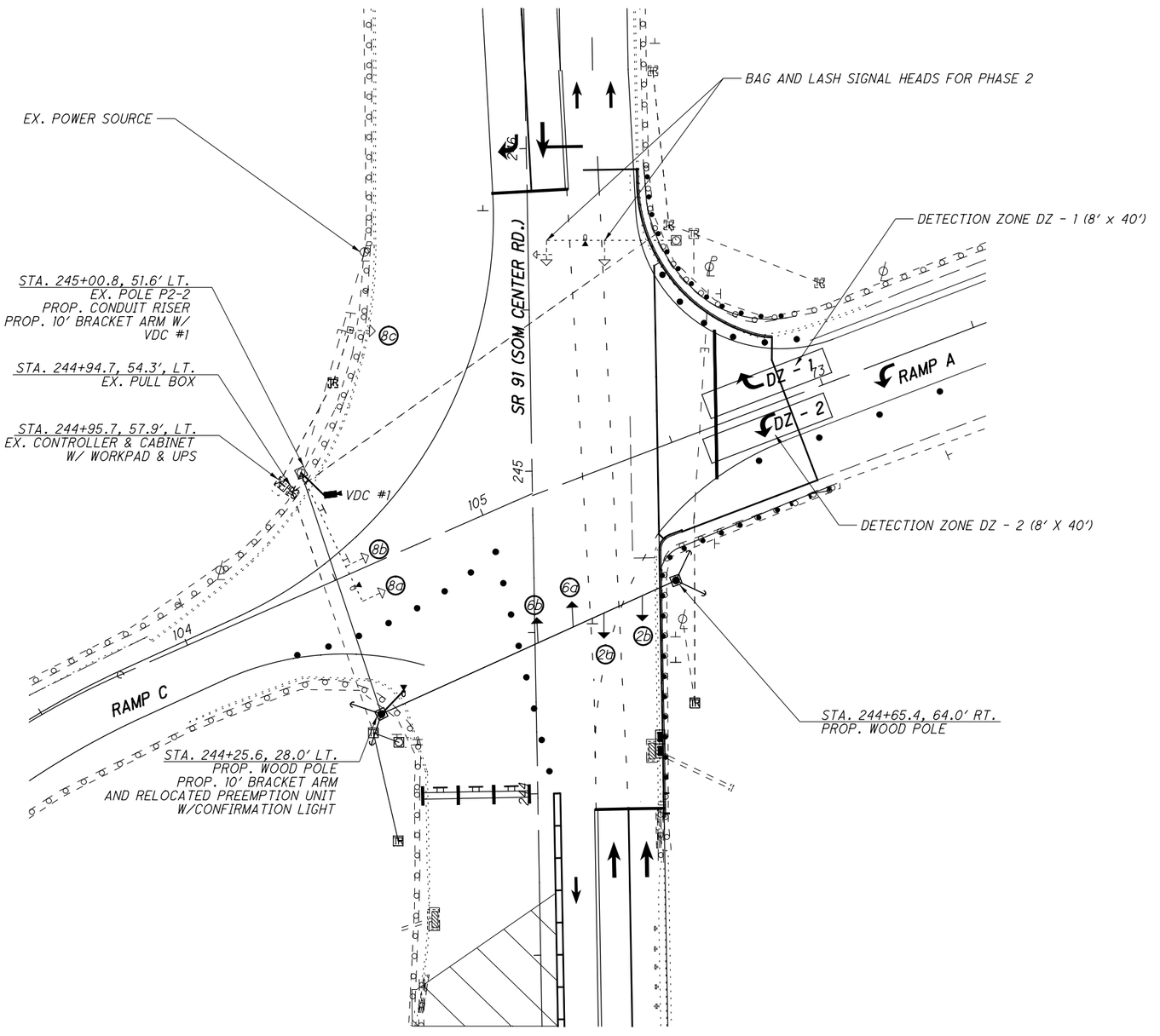


LEGEND

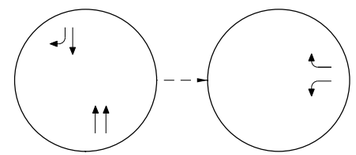
- EX. 3-SECTION VEHICULAR SIGNAL HEAD
- EX. 3-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. 4 OR 5-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. PEDESTRIAN SIGNAL
- EX. EMERGENCY PREEMPTION
- EX. LUMINAIRE
- EX. PEDESTAL
- EX. CONTROLLER CABINET AND WORK PAD
- EX. PULL BOX
- PROP. PULL BOX
- EX. MAST ARM
- EX. VIDEO DETECTION CAMERA (VDC)
- PROP. WOOD POLE

12" LED VEHICULAR SIGNAL DISPLAY

Ⓡ Ⓨ Ⓖ

2a 2b
6a 6b
8a 8b
8c

SIGNAL PHASING



VEHICULAR MOVEMENT

IF DETECTED

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL PLAN STAGE 2
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

LAK-91-4.56

49
161

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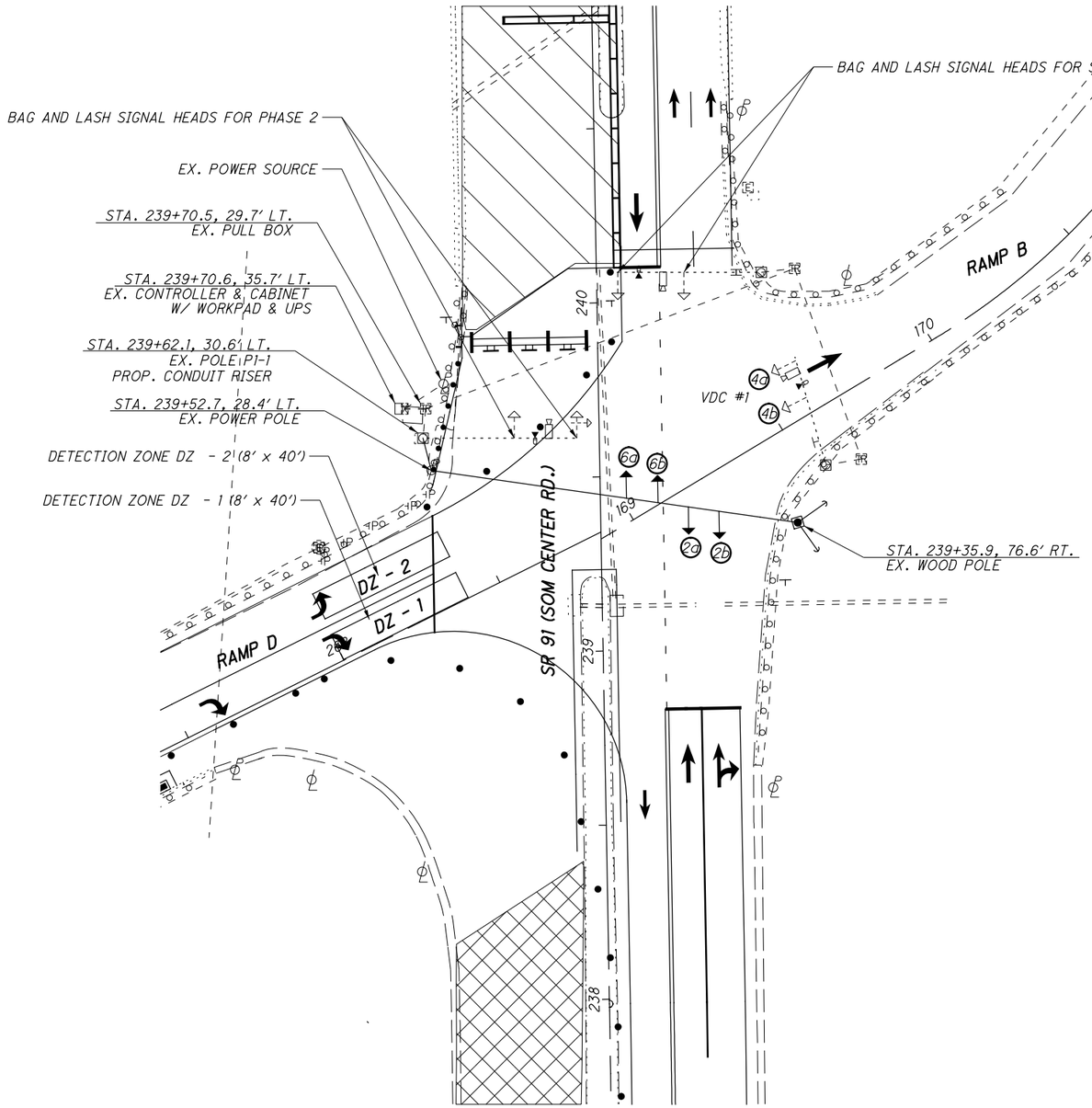
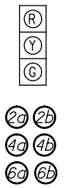
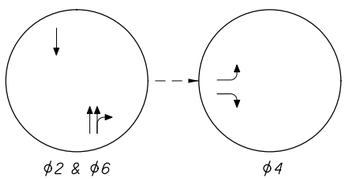


LEGEND	
EX. 3-SECTION VEHICULAR SIGNAL HEAD	
EX. 3-SECTION VEHICULAR SIGNAL HEAD WITH ARROW	
EX. 4 OR 5-SECTION VEHICULAR SIGNAL HEAD WITH ARROW	
EX. PEDESTRIAN SIGNAL	
EX. EMERGENCY PREEMPTION	
EX. LUMINAIRE	
EX. PEDESTAL	
EX. CONTROLLER CABINET AND WORK PAD	
EX. PULL BOX	
PROP. PULL BOX	
EX. MAST ARM	
EX. VIDEO DETECTION CAMERA (VDC)	
PROP. WOOD POLE	

12" LED VEHICULAR SIGNAL DISPLAY



SIGNAL PHASING



VEHICULAR MOVEMENT

IF DETECTED

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL PLAN STAGE 2
SR 91 (SOM CENTER RD.) & EB SR 2 RAMPS

LAK-91-4.56

50
161

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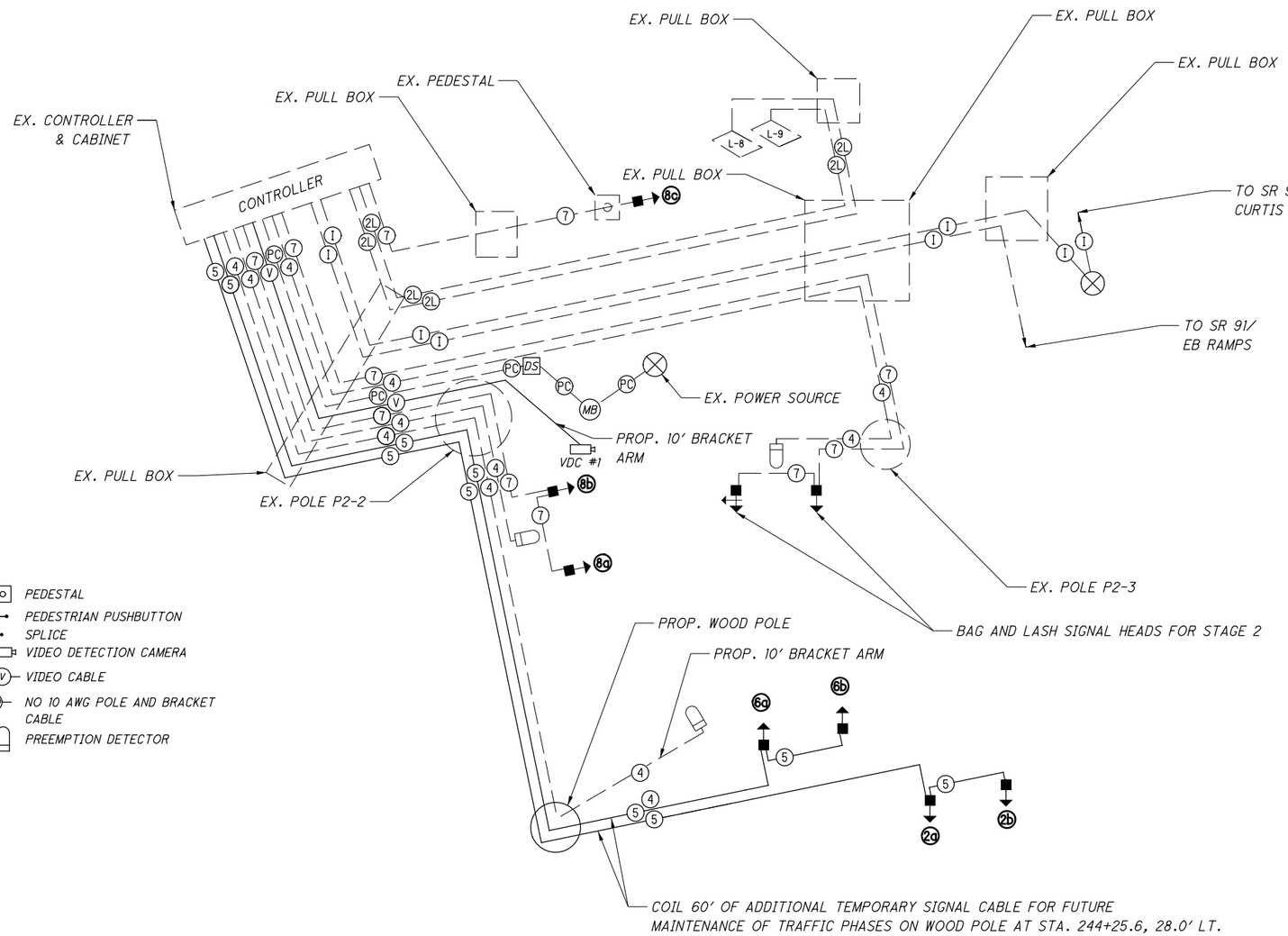
SIGNAL TIMING CHART

Start Up
Start In: ◉ y/r flash or ○ all red
Time for Flash or All Red: 6 SEC.
First Phase(s): ϕ2 & ϕ6
Color Displayed ◉ Green; ○ Yellow

Dual Entry ◉
Rest In Red: Ring 1 ○ Ring 2 ○

	OVERLAP	A	B	C	D
	PHASES				

INTERVAL OR FEATURE		CONTROLLER PHASE			
Intersection Movement		↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB
Minimum Green (Initial)	(Sec.)	10	-	10	10
Passage Time (Preset Gap)	(Sec.)	-	-	-	3
Maximum Green I	(Sec.)	47	-	47	36
Maximum Green II	(Sec.)	-	-	-	-
Yellow Change	(Sec.)	4.4	-	4.4	3.6
All Red Clearance	(Sec.)	2.0	-	2.0	1.8
Walk	(Sec.)	-	-	-	-
Pedestrian Clearance	(Sec.)	-	-	-	-
Recall — Maximum	(On/Off)	ON	-	ON	OFF
Recall — Minimum	(On/Off)	OFF	-	OFF	OFF
Recall — Pedestrian	(On/Off)	OFF	-	OFF	OFF
Memory (On/Off)		OFF	-	OFF	OFF
Call To Non Actuated	No. 1	-	-	-	-
	No. 2	-	-	-	-



LEGEND

- 2L — 2/C #14 AWG. (LEAD-IN CABLE)
- 3 — 3/C #14 AWG.
- 4 — 4/C #14 AWG. (PREEMPTION CABLE)
- 5 — 5/C #14 AWG.
- 7 — 7/C #14 AWG.
- DS — DISCONNECT SWITCH
- MB — METER BASE
- SC — SERVICE CABLE, 3/C, NO. 4 AWG.
- PC — POWER CABLE, 2/C, NO. 4 AWG.
- I — INTERCONNECT CABLE
- SS — SPREAD SPECTRUM RADIO COMMUNICATIONS
- VEHICULAR SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL HEAD
- SPREAD SPECTRUM RADIO
- LUMINAIRE, CONVENTIONAL, 250 WATT HPS, 120 VOLT, AS PER PLAN
- PEDESTAL
- PEDESTRIAN PUSHBUTTON
- SPLICE
- VIDEO DETECTION CAMERA
- V — VIDEO CABLE
- N10 — NO 10 AWG POLE AND BRACKET CABLE
- PREEMPTION DETECTOR

COORDINATION TIMING

PLAN	TIME PERIOD(S) IN EFFECT	CYCLE LENGTH (SEC.)	CONTROLLER PHASE - SPLITS (%) ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB	OFFSET (%)
PROGRAM 1 "AM PEAK"	6:30 AM - 2:30 PM 6:30 PM - 9:00 PM	90	53	-	53	47	57
PROGRAM 2 "PM PEAK"	2:30 PM - 6:30 PM	90	60	-	60	40	66
FREE OPERATION	9:00 PM - 6:30 AM	-	-	-	-	-	-

VEHICULAR DETECTORS

ZONE DESIGNATION	ASSOC. PHASE	MVMT.	SIZE	MODE	DELAY (SEC.) CAMERA	DELAY (SEC.) CONTROLLER	EXTENSION (SEC.)	DELAY INHIBITED DURING
DZ-1	ϕ8	WBRT	8' x 40'	PRESENCE	10	-	3	GREEN
DZ-2	ϕ8	WBLT	8' x 40'	PRESENCE	-	-	3	-

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL WIRING DETAIL STAGE 2
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

LAK-91-4.56

51
161

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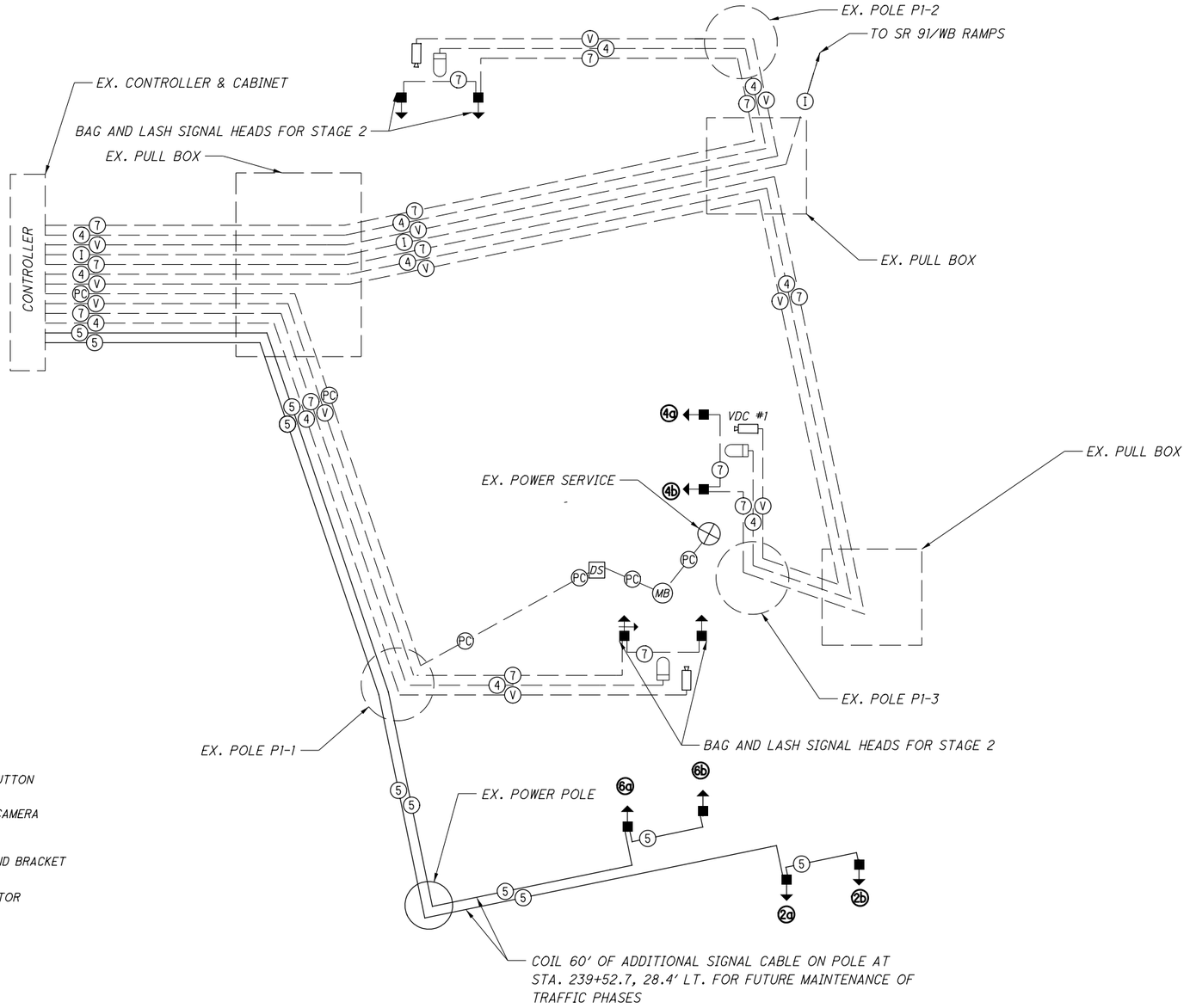
SIGNAL TIMING CHART

Start Up
Start In: ◉ y/r flash or ○ all red
Time for Flash or All Red: 6 SEC.
First Phase(s): ϕ2 & ϕ6
Color Displayed ◉ Green; ○ Yellow

Dual Entry ◉
Rest In Red: Ring 1 ○ Ring 2 ○

		OVERLAP	A	B	C	D
		PHASES				

INTERVAL OR FEATURE		CONTROLLER PHASE ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB
Intersection Movement					
Minimum Green (Initial)	(Sec.)	10	10	10	-
Passage Time (Preset Gap)	(Sec.)	-	3	-	-
Maximum Green I	(Sec.)	63	33	63	-
Maximum Green II	(Sec.)	-	-	-	-
Yellow Change	(Sec.)	3.9	3.9	3.9	-
All Red Clearance	(Sec.)	2.0	2.0	2.0	-
Walk	(Sec.)	-	-	-	-
Pedestrian Clearance	(Sec.)	-	-	-	-
Recall — Maximum	(On/Off)	ON	OFF	ON	-
Recall — Minimum	(On/Off)	OFF	OFF	OFF	-
Recall — Pedestrian	(On/Off)	OFF	OFF	OFF	-
Memory (On/Off)		OFF	OFF	OFF	-
Call To Non Actuated	No. 1	ON	-	ON	-
	No. 2	-	-	-	-



LEGEND

- 2L — 2/C #14 AWG. (LEAD-IN CABLE)
- 3 — 3/C #14 AWG.
- 4 — 4/C #14 AWG. (PREEMPTION CABLE)
- 5 — 5/C #14 AWG.
- 7 — 7/C #14 AWG.
- DS — DISCONNECT SWITCH
- MB — METER BASE
- SC — SERVICE CABLE, 3/C, NO. 4 AWG.
- PC — POWER CABLE, 2/C, NO. 4 AWG.
- I — INTERCONNECT CABLE
- SS — SPREAD SPECTRUM RADIO COMMUNICATIONS
- VEHICULAR SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL HEAD
- SPREAD SPECTRUM RADIO
- LUMINAIRE, CONVENTIONAL, 250 WATT HPS, 120 VOLT, AS PER PLAN
- PEDESTAL
- PEDESTRIAN PUSHBUTTON
- SPLICE
- VIDEO DETECTION CAMERA
- V — VIDEO CABLE
- NIO — NO 10 AWG POLE AND BRACKET CABLE
- PREEMPTION DETECTOR

COORDINATION TIMING

PLAN	TIME PERIOD(S) IN EFFECT	CYCLE LENGTH (SEC.)	CONTROLLER PHASE - SPLITS (%) ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB	OFFSET (%)
PROGRAM 1 "AM PEAK"	6:30 AM - 2:30 PM 6:30 PM - 9:00 PM	90	77	23	77	-	87
PROGRAM 2 "PM PEAK"	2:30 PM - 6:30 PM	90	57	43	57	-	64
FREE OPERATION	9:00 PM - 6:30 AM	-	-	-	-	-	-

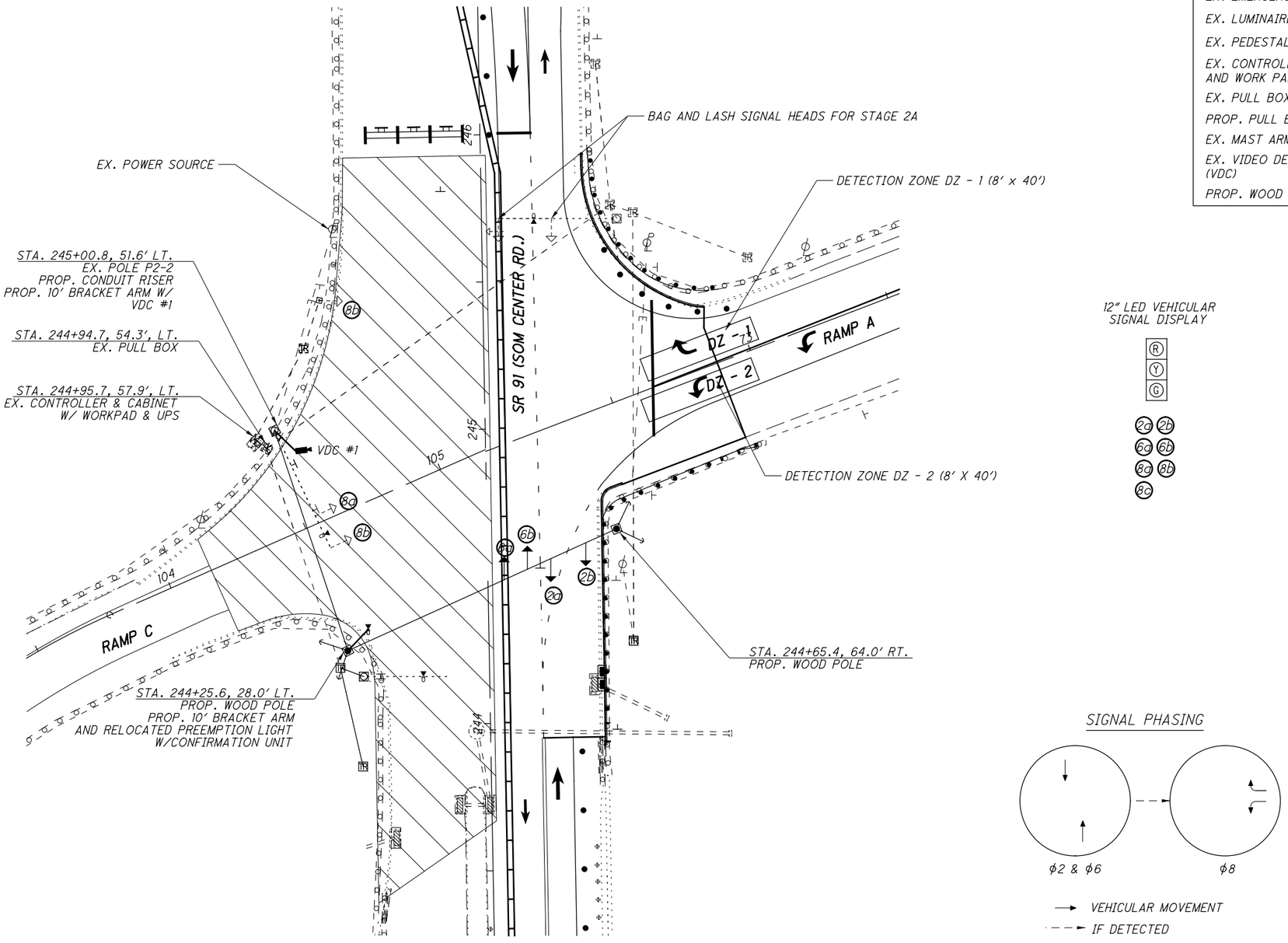
VEHICULAR DETECTORS

ZONE DESIGNATION	ASSOC. PHASE	MVMT.	SIZE	MODE	DELAY (SEC.) CAMERA	DELAY (SEC.) CONTROLLER	EXTENSION (SEC.)	DELAY INHIBITED DURING
DZ-1	ϕ4	EB	8' x 40'	PRESENCE	10	-	3	GREEN
DZ-2	ϕ4	EBLT	8' x 40'	PRESENCE	-	-	3	-

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL WIRING DETAIL STAGE 2
SR 91 (SOMERSET CENTER RD.) & EB SR 2 RAMPS

LAK-91-4.56



LEGEND

- EX. 3-SECTION VEHICULAR SIGNAL HEAD
- EX. 3-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. 4 OR 5-SECTION VEHICULAR SIGNAL HEAD WITH ARROW
- EX. PEDESTRIAN SIGNAL
- EX. EMERGENCY PREEMPTION
- EX. LUMINAIRE
- EX. PEDESTAL
- EX. CONTROLLER CABINET AND WORK PAD
- EX. PULL BOX
- PROP. PULL BOX
- EX. MAST ARM
- EX. VIDEO DETECTION CAMERA (VDC)
- PROP. WOOD POLE

12" LED VEHICULAR SIGNAL DISPLAY

SIGNAL PHASING

VEHICULAR MOVEMENT

IF DETECTED

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL PLAN STAGE 2A
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

LAK-91-4.56

53
161

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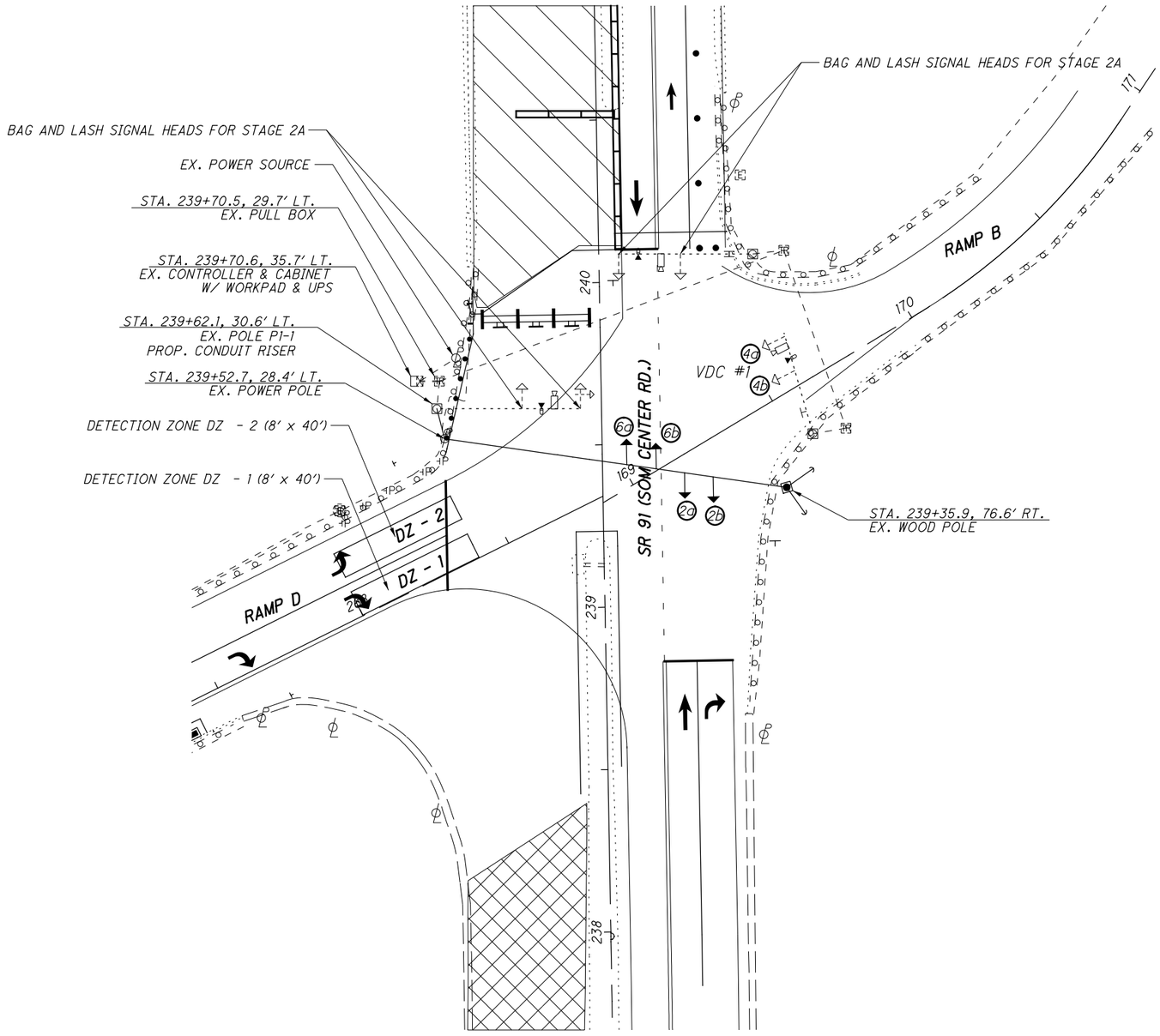
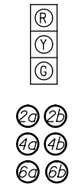
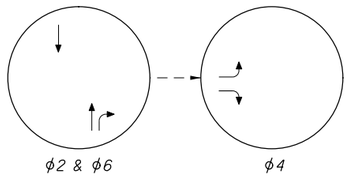


LEGEND	
EX. 3-SECTION VEHICULAR SIGNAL HEAD	
EX. 3-SECTION VEHICULAR SIGNAL HEAD WITH ARROW	
EX. 4 OR 5-SECTION VEHICULAR SIGNAL HEAD WITH ARROW	
EX. PEDESTRIAN SIGNAL	
EX. EMERGENCY PREEMPTION	
EX. LUMINAIRE	
EX. PEDESTAL	
EX. CONTROLLER CABINET AND WORK PAD	
EX. PULL BOX	
PROP. PULL BOX	
EX. MAST ARM	
EX. VIDEO DETECTION CAMERA (VDC)	
PROP. WOOD POLE	

12" LED VEHICULAR SIGNAL DISPLAY



SIGNAL PHASING



→ VEHICULAR MOVEMENT

- - - ► IF DETECTED

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL PLAN STAGE 2A
SR 91 (SOM CENTER RD.) & EB SR 2 RAMPS

LAK-91-4.56

54
161

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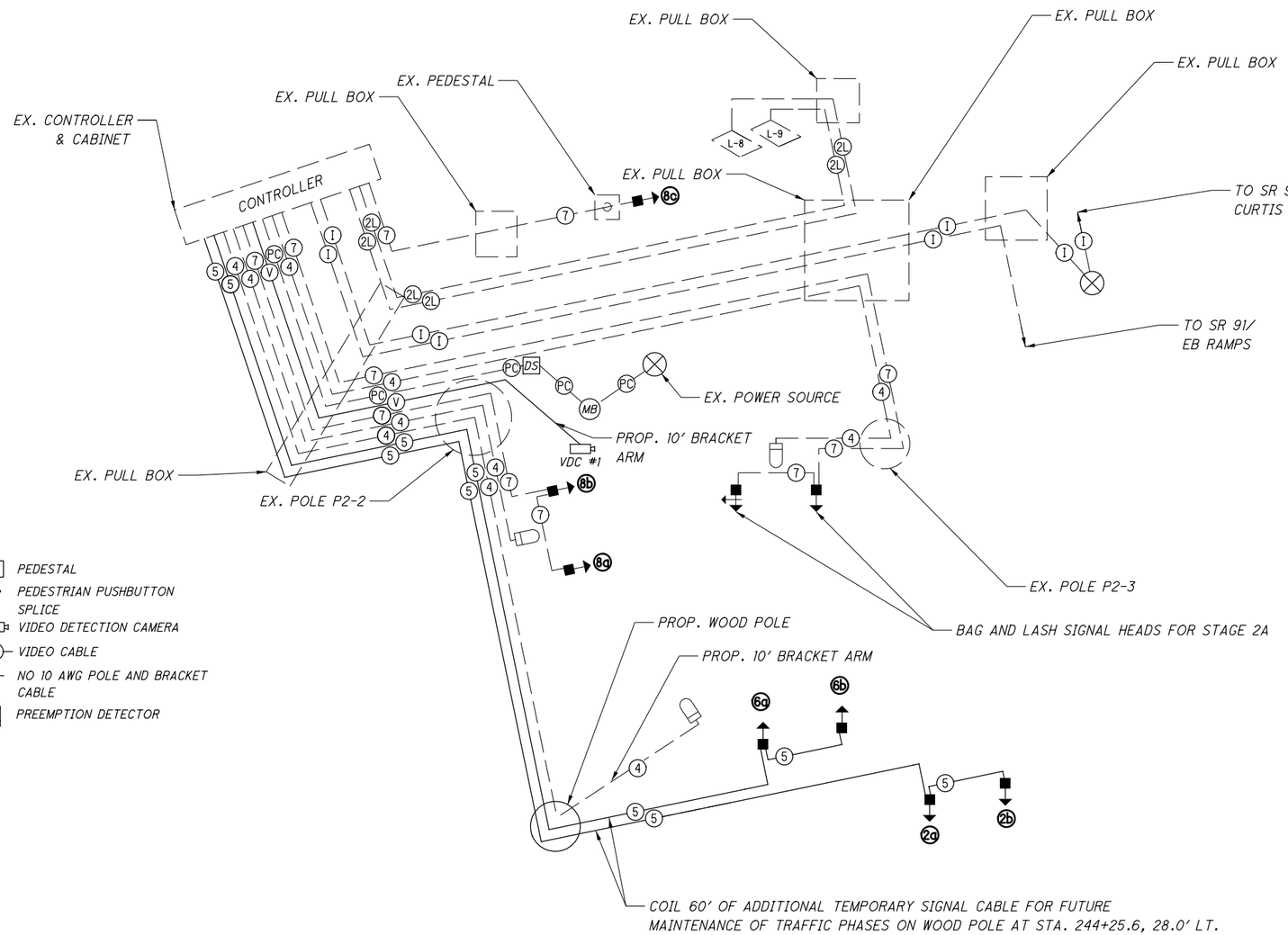
SIGNAL TIMING CHART

Start Up
Start In: ◉ y/r flash or ○ all red
Time for Flash or All Red: 6 SEC.
First Phase(s): ϕ2 & ϕ6
Color Displayed ◉ Green; ○ Yellow

Dual Entry ◉
Rest In Red: Ring 1 ○ Ring 2 ○

OVERLAP	A	B	C	D
PHASES				

INTERVAL OR FEATURE			↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB
Intersection Movement						
Minimum Green (Initial)		(Sec.)	10	-	10	10
Passage Time (Preset Gap)		(Sec.)	-	-	-	3
Maximum Green I		(Sec.)	59	-	59	31
Maximum Green II		(Sec.)	-	-	-	-
Yellow Change		(Sec.)	4.4	-	4.4	3.6
All Red Clearance		(Sec.)	2.0	-	2.0	1.5
Walk		(Sec.)	-	-	-	-
Pedestrian Clearance		(Sec.)	-	-	-	-
Recall	Maximum	(On/Off)	ON	-	ON	OFF
	Minimum	(On/Off)	OFF	-	OFF	OFF
	Pedestrian	(On/Off)	OFF	-	OFF	OFF
Memory (On/Off)			OFF	-	OFF	OFF
Call To Non Actuated	No. 1		ON	-	ON	-
	No. 2		-	-	-	-



LEGEND

- 2L — 2/C #14 AWG. (LEAD-IN CABLE)
- 3 — 3/C #14 AWG.
- 4 — 4/C #14 AWG. (PREEMPTION CABLE)
- 5 — 5/C #14 AWG.
- 7 — 7/C #14 AWG.
- DS — DISCONNECT SWITCH
- MB — METER BASE
- SC — SERVICE CABLE, 3/C, NO. 4 AWG.
- PC — POWER CABLE, 2/C, NO. 4 AWG.
- I — INTERCONNECT CABLE
- SS — SPREAD SPECTRUM RADIO COMMUNICATIONS
- VEHICULAR SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL HEAD
- SPREAD SPECTRUM RADIO
- LUMINAIRE, CONVENTIONAL, 250 WATT HPS, 120 VOLT, AS PER PLAN
- PEDESTAL
- PEDESTRIAN PUSHBUTTON
- SPLICE
- VIDEO DETECTION CAMERA
- V — VIDEO CABLE
- NI0 — NO 10 AWG POLE AND BRACKET CABLE
- PREEMPTION DETECTOR

COORDINATION TIMING

PLAN	TIME PERIOD(S) IN EFFECT	CYCLE LENGTH (SEC.)	CONTROLLER PHASE - SPLITS (%) ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB	OFFSET (%)
PROGRAM 1 "AM PEAK"	6:30 AM - 2:30 PM 6:30 PM - 9:00 PM	90	59	-	59	41	58
PROGRAM 2 "PM PEAK"	2:30 PM - 6:30 PM	90	73	-	27	73	61
FREE OPERATION	9:00 PM - 6:30 AM	-	-	-	-	-	-

VEHICULAR DETECTORS

ZONE DESIGNATION	ASSOC. PHASE	MVMT.	SIZE	MODE	DELAY (SEC.) CAMERA	DELAY (SEC.) CONTROLLER	EXTENSION (SEC.)	DELAY INHIBITED DURING
DZ-1	ϕ8	WBRT	8' x 40'	PRESENCE	10	-	3	GREEN
DZ-2	ϕ8	WBLT	8' x 40'	PRESENCE	-	-	3	-

CALCULATED KDB
CHECKED JMH

TEMPORARY SIGNAL WIRING DETAIL STAGE 2A
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

LAK-91-4.56

SIGNAL TIMING CHART

Start Up
Start In: ◉ y/r flash or ○ all red
Time for Flash or All Red: 6 SEC.
First Phase(s): ϕ2 & ϕ6
Color Displayed ◉ Green; ○ Yellow

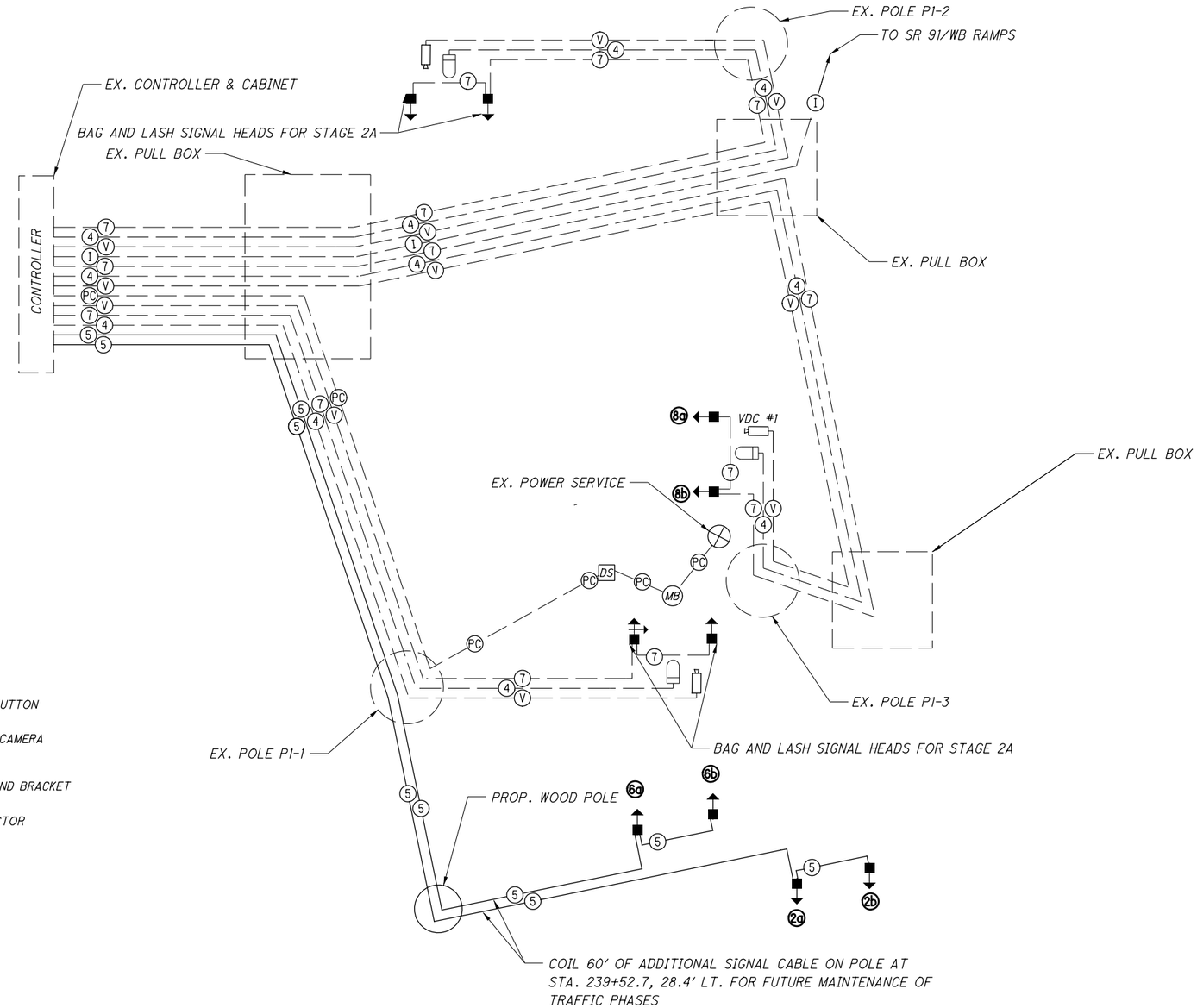
Dual Entry ◉
Rest In Red: Ring 1 ○ Ring 2 ○

OVERLAP	A	B	C	D
PHASES				

INTERVAL OR FEATURE			↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB
Intersection Movement						
Minimum Green (Initial)		(Sec.)	10	10	10	-
Passage Time (Preset Gap)		(Sec.)	-	3	-	-
Maximum Green I		(Sec.)	63	33	63	-
Maximum Green II		(Sec.)	-	-	-	-
Yellow Change		(Sec.)	3.9	3.9	3.9	-
All Red Clearance		(Sec.)	2.0	2.0	2.0	-
Walk		(Sec.)	-	-	-	-
Pedestrian Clearance		(Sec.)	-	-	-	-
Recall	Maximum	(On/Off)	ON	OFF	ON	-
	Minimum	(On/Off)	OFF	OFF	OFF	-
	Pedestrian	(On/Off)	OFF	OFF	OFF	-
Memory (On/Off)			OFF	OFF	OFF	-
Call To Non Actuated		No. 1	ON	-	ON	-
		No. 2	-	-	-	-

LEGEND

- (2L) 2/C #14 AWG. (LEAD-IN CABLE)
- (3) 3/C #14 AWG.
- (4) 4/C #14 AWG. (PREEMPTION CABLE)
- (5) 5/C #14 AWG.
- (7) 7/C #14 AWG.
- (DS) DISCONNECT SWITCH
- (MB) METER BASE
- (SC) SERVICE CABLE, 3/C, NO. 4 AWG.
- (PC) POWER CABLE, 2/C, NO. 4 AWG.
- (I) INTERCONNECT CABLE
- (SS) SPREAD SPECTRUM RADIO COMMUNICATIONS
- VEHICULAR SIGNAL HEAD
- 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- PEDESTRIAN SIGNAL HEAD
- SPREAD SPECTRUM RADIO
- LUMINAIRE, CONVENTIONAL, 250 WATT HPS, 120 VOLT, AS PER PLAN
- PEDESTAL
- PEDESTRIAN PUSHBUTTON
- SPLICE
- VIDEO DETECTION CAMERA
- (V) VIDEO CABLE
- (NIO) NO 10 AWG POLE AND BRACKET CABLE
- PREEMPTION DETECTOR



COORDINATION TIMING

PLAN	TIME PERIOD(S) IN EFFECT	CYCLE LENGTH (SEC.)	CONTROLLER PHASE - SPLITS (%) ↑ 2 NB	→ 4 EB	↓ 6 SB	← 8 WB	OFFSET (%)
PROGRAM 1 "AM PEAK"	6:30 AM - 2:30 PM 6:30 PM - 9:00 PM	90	77	23	77	-	7
PROGRAM 2 "PM PEAK"	2:30 PM - 6:30 PM	90	57	43	57	-	88
FREE OPERATION	9:00 PM - 6:30 AM	-	-	-	-	-	-

VEHICULAR DETECTORS

ZONE DESIGNATION	ASSOC. PHASE	MVMT.	SIZE	MODE	DELAY (SEC.) CAMERA	DELAY (SEC.) CONTROLLER	EXTENSION (SEC.)	DELAY INHIBITED DURING
DZ-1	ϕ4	EB	8' x 40'	PRESENCE	10	-	3	GREEN
DZ-2	ϕ4	EBLT	8' x 40'	PRESENCE	-	-	3	-

TEMPORARY SIGNAL WIRING DETAIL STAGE 2A SR 91 (SOM CENTER RD.) & EB SR 2 RAMPS

CALCULATED KDB
CHECKED JMH

LAK-91-4.56

① DETOUR M4-8-30 EAST M3-4-30 2 M1-5-30-2 ← M6-1L-30

② DETOUR M4-8-30 WEST M3-2-30 2 M1-5-30-2 → M6-1R-30

③ END DETOUR M4-8A-24 2 M1-5-30-2

④ DETOUR AHEAD W20-2-36 2 M1-5-30-2

⑤ DETOUR M4-8-30 WEST M3-4-30 2 M1-5-30-2 ↱ M5-1R-30

⑥ DETOUR M4-8-30 EAST M3-2-30 2 M1-5-30-2 ↰ M5-1L-30

⑦ DETOUR M4-8-30 EAST M3-2-30 2 M1-5-30-2

WORK AREA

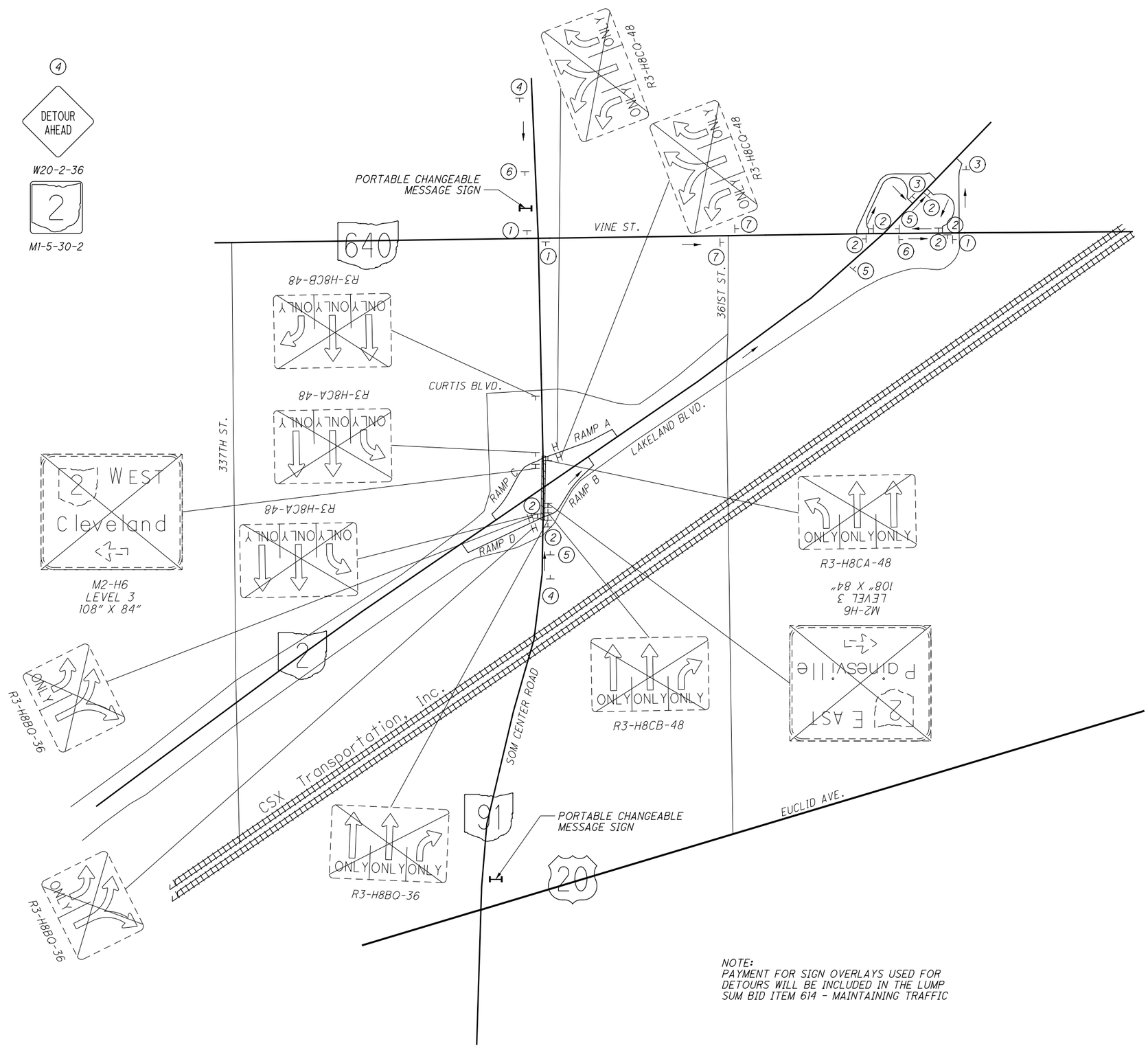
TYPE III BARRICADE

CONSTRUCTION SIGN

DETOUR ROUTE

OVERHEAD CANTILEVER SIGN

OVERLAY EXISTING SIGN



NOTE:
PAYMENT FOR SIGN OVERLAYS USED FOR DETOURS WILL BE INCLUDED IN THE LUMP SUM BID ITEM 614 - MAINTAINING TRAFFIC

HORIZONTAL SCALE IN FEET
0 250 500 1000

CALCULATED DPF
CHECKED BJK

STAGE 1 & STAGE 2 DETOUR ROUTE

LAK-91-4.56

① DETOUR
M4-8-24

M1-5-30-91

M6-1R-30

② TYPE A WARNING LIGHT

DETOUR AHEAD
W20-2-48

M1-5-30-91

③ END DETOUR
M4-8A-24

M1-5-30-91

④ EXIT CLOSED
E5-2A-48

⑤ DETOUR
M4-8-30

M1-5-30-2

⑥ TYPE A WARNING LIGHT

EXIT CLOSED AHEAD
E5-H2C-48

⑦ TYPE A WARNING LIGHT

ROAD WORK AHEAD
W20-1-48

⑧ TYPE A WARNING LIGHT

EXIT CLOSED AHEAD
W20-3-48

⑨ END ROAD WORK
G20-2-48

WORK AREA

TYPE III BARRICADE

CONSTRUCTION SIGN

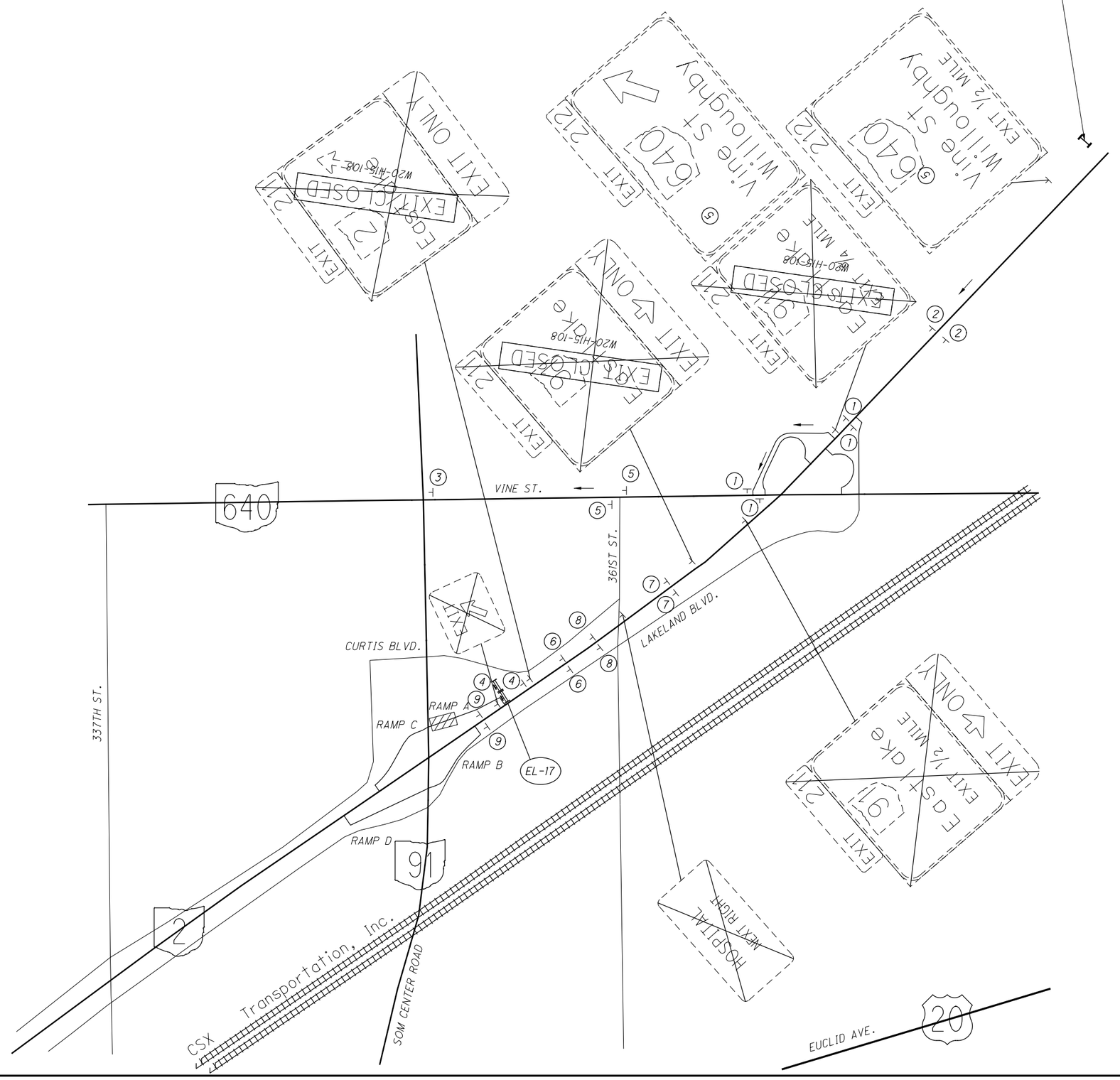
DETOUR ROUTE

OVERLAY EXISTING SIGN

NOTE:
SIGNS AND DRUMS FOR RAMP CLOSURE WILL BE PLACED IN ACCORDANCE WITH SCD MT-98.29. THE DRUMS WILL PLACED IN THE GORE AREA AND BEGIN THE TAPER AT THE END OF THE GORE AREA TO CLOSE OFF THE EXIT RAMP.

NOTE:
PAYMENT FOR SIGN OVERLAYS USED FOR DETOURS WILL BE INCLUDED IN THE LUMP SUM BID ITEM 614 - MAINTAINING TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGN
(PLACE APPROXIMATLEY 800 FEET IN ADVANCE OF SR 640
GUIDE SIGN SEQUENCE, WEST OF SR-2 BRIDGE OVER ERIE ROAD)



N

0 250 500 1000 HORIZONTAL SCALE IN FEET

CALCULATED DPF
CHECKED BJK

STAGE 1A
DETOUR ROUTE

LAK-91-4.56

58
161

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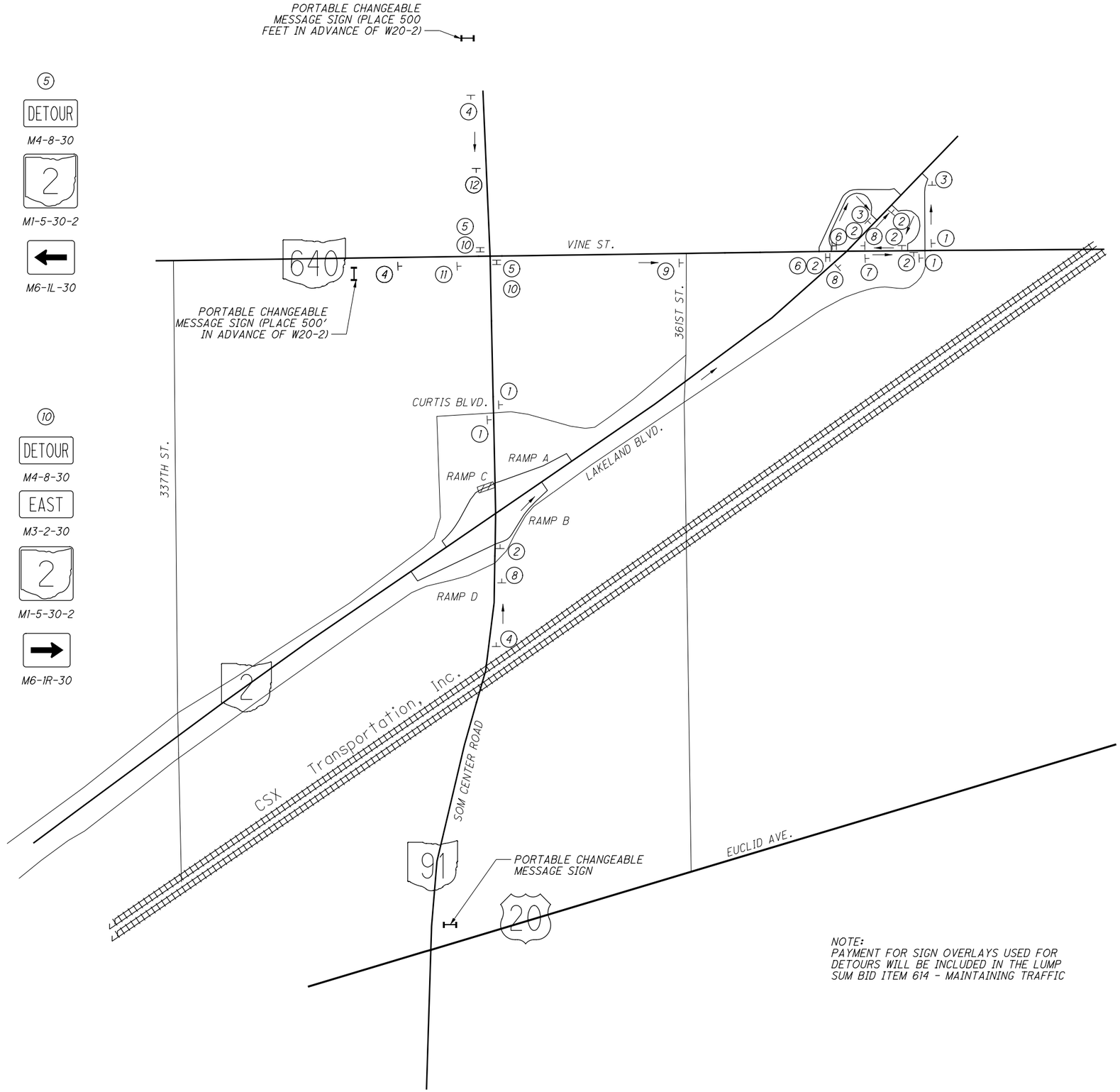
WORK AREA

TYPE III BARRICADE

CONSTRUCTION SIGN

DETOUR ROUTE



NOTE:
PAYMENT FOR SIGN OVERLAYS USED FOR DETOURS WILL BE INCLUDED IN THE LUMP SUM BID ITEM 614 - MAINTAINING TRAFFIC

HORIZONTAL SCALE IN FEET
0 250 500 1000

CALCULATED DPF
CHECKED BJK

STAGE 2A DETOUR ROUTE

LAK-91-4.56

59
161

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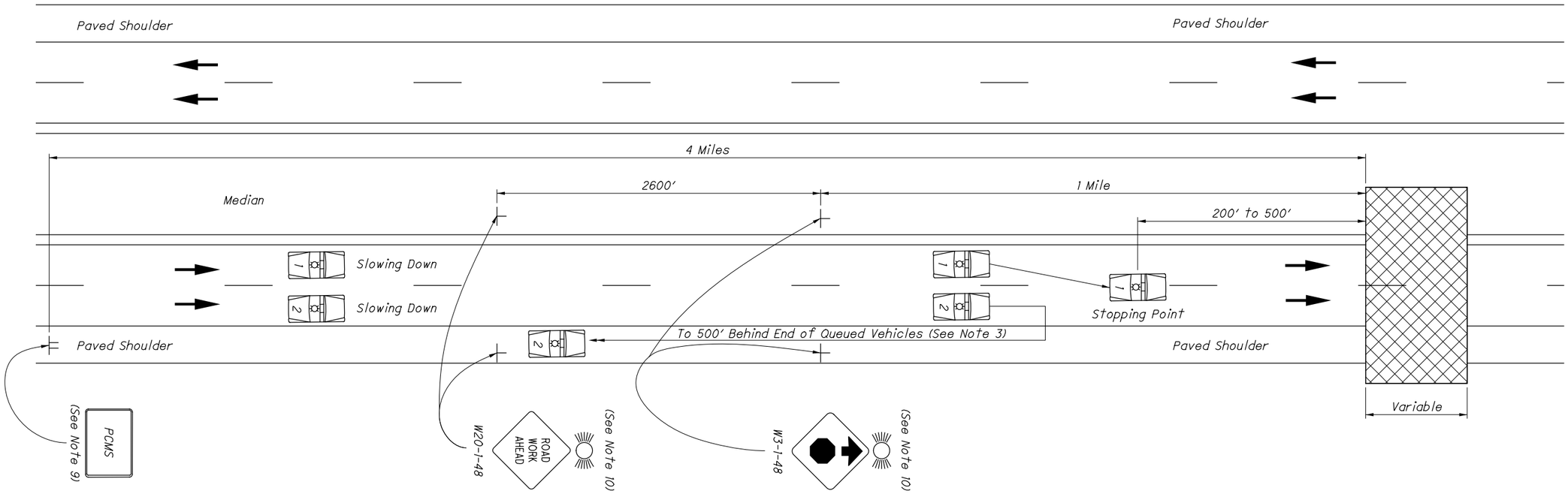

NOTES:

1. This type of highway closure shall be used for all construction, maintenance and utility operations when the duration of closure will not exceed 15 minutes.

2. A minimum of two law enforcement officers with patrol cars per direction shall be provided to block traffic and pace motorists to a stop. The number of patrol cars shall equal the number of lanes closed on the highway.

3. Patrol cars, with lights flashing, should enter the stream of traffic at approximately 3 miles before the point of closure. At approximately 2 miles before the point of closure, they should begin the gradual slow down. Traffic shall be brought to a complete stop a safe distance, between 200′ and 500′, from the work area. This slowing operation shall take no more than 10 minutes. After traffic has been stopped, one patrol car shall travel along the roadway shoulder 500′ behind the end of the queued vehicles.

4. The Contractor shall not begin work until traffic has been brought to a complete stop.

5. All entrance ramps located between the stopped traffic and the work area shall be closed.

6. After the highway has been closed and reopened via this procedure, both of the following requirements shall have been met before implementation of another short duration closure, except with the approval of the Engineer:

   a) A minimum period of 15 minutes shall have elapsed; and

   b) The queued traffic shall have dissipated.

7. The time frame for stopping traffic shall be specified.

8. The public shall be given advance notice of the upcoming closure by providing portable changeable message signs at the site in advance of the scheduled closing. Closure information should also be provided to the Engineer.

9. An ODOT-approved portable changeable message sign shall be provided during operation. The message sign shall be placed approximately 4 miles in advance of the closure or as directed by the Engineer. The message shall be ROAD CLOSED AHEAD (2 sec.), PREPARE TO STOP (2 sec.).

10. The Contractor shall erect and maintain 48″ ROAD WORK AHEAD and Stop Ahead signs on each side of the highway. Each sign shall be equipped with one Type A flashing warning light and one flare. There shall be one flare at each sign on both sides of the roadway. The flare shall be replaced if it burns out.

LEGEND

- WORK AREA
- PATROL CAR
- DIRECTION OF TRAFFIC

THIS DRAWING REPLACES PIS 209960 DATED 07-20-2012.

PLAN INSERT SHEET

SHORT-DURATION CLOSURE OF MULTI-LANE DIVIDED HIGHWAY

PIS 209960

1 / 1

60
161

OFFICE OF ROADWAY ENGINEERING	
DESIGNED	REVIEWED
REVISION DATE 07-18-2014	CHECKED
PIS NUMBER 209960	

SHEET NUMBER											PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8-10	11-13	17	64	65	66	67	85-87	88		OFFICE CALCS	01/BRO/ BR	02/NHS/ BR						
																	ROADWAY	
											LS		201	11000	LS		CLEARING AND GRUBBING	
			409								409		202	23000	409	SY	PAVEMENT REMOVED	
			2582								2582		202	23010	2582	SY	PAVEMENT REMOVED, ASPHALT	
			12								12		202	30600	12	SY	CONCRETE MEDIAN REMOVED	
			1999								1999		202	32000	1999	FT	CURB REMOVED	
					37						37		202	35100	37	FT	PIPE REMOVED, 24" AND UNDER	
			615								615		202	38000	615	FT	GUARDRAIL REMOVED	
19											19		202	38200	19	FT	GUARDRAIL REMOVED FOR REUSE	
			4								4		202	47000	4	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
					1						1		202	58000	1	EACH	MANHOLE REMOVED	
					5						5		202	58100	5	EACH	CATCH BASIN REMOVED	
					187						187		SPECIAL	20270000	187	FT	FILL AND PLUG EXISTING CONDUIT	8
				170							170		203	10000	170	CY	EXCAVATION	
				83							83		203	20000	83	CY	EMBANKMENT	
										2530	2530		204	10000	2530	SY	SUBGRADE COMPACTION	
256											256		204	13000	256	CY	EXCAVATION OF SUBGRADE	
256											256		204	30010	256	CY	GRANULAR MATERIAL, TYPE B	
2											2		204	45000	2	HOUR	PROOF ROLLING	
			450								450		606	15050	450	FT	GUARDRAIL, TYPE MGS	
			25								25		606	15150	25	FT	GUARDRAIL, TYPE MGS HALF POST SPACING	
			37.5								37.5		606	15250	37.5	FT	GUARDRAIL, TYPE MGS QUARTER POST SPACING	
			1								1		606	26150	1	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
1											1		606	35011	1	EACH	BRIDGE TERMINAL ASSEMBLY REBUILT, TYPE 1, AS PER PLAN	10
			2								2		606	35050	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
			2								2		606	35102	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
	19										19		626	00100	19	EACH	BARRIER REFLECTOR	
																	EROSION CONTROL	
10											10		601	21050	10	SY	TIED CONCRETE BLOCK MAT, TYPE 1	
2											2		659	00100	2	EACH	SOIL ANALYSIS TEST	
150											150		659	00300	150	CY	TOPSOIL	
1352											1352		659	10000	1352	SY	SEEDING AND MULCHING	
68											68		659	14000	68	SY	REPAIR SEEDING AND MULCHING	
68											68		659	15000	68	SY	INTER-SEEDING	
0.19											0.19		659	20000	0.19	TON	COMMERCIAL FERTILIZER	
0.28											0.28		659	31000	0.28	ACRE	LIME	
7											7		659	35000	7	MGAL	WATER	
											7938		832	30000	7938	EACH	EROSION CONTROL	
																	DRAINAGE	
					0.21						0.21		602	20000	0.21	CY	CONCRETE MASONRY	
						449					449		605	11110	449	FT	6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP	
50						74					124		605	13410	124	FT	6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP	
						486					486		605	14020	486	FT	6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	
50											50		605	31100	50	FT	AGGREGATE DRAINS	
50						473					523		611	00510	523	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
					55						55		611	04400	55	FT	12" CONDUIT, TYPE B	
					6						6		611	98370	6	EACH	CATCH BASIN, NO. 6	
					4						4		611	98631	4	EACH	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	9
2						5					7		611	99710	7	EACH	PRECAST REINFORCED CONCRETE OUTLET	
																	PAVEMENT	
										1208	1208		254	01001	1208	SY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN	9
2											2		301	46000	2	CY	ASPHALT CONCRETE BASE, PG64-22	
										770	770		302	46000	770	CY	ASPHALT CONCRETE BASE, PG64-22	
										472	472		304	20000	472	CY	AGGREGATE BASE	
										331	331		407	10000	331	GAL	TACK COAT	
										159	159		407	14000	159	GAL	TACK COAT FOR INTERMEDIATE COURSE	
										138	138		442	10501	138	CY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN	9
										200	200		442	20200	200	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448)	
										7	7		441	50700	7	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL)	
										289	289		452	19200	289	SY	NON-REINFORCED CONCRETE PAVEMENT, MISC.:11.5", CLASS QC1	

CALCULATED BJK
CHECKED DPF

GENERAL SUMMARY (SHEET 1 OF 3)

LAK-91-4.56

SHEET NUMBER											PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8-10	11-13	17	64	65	66	67	85-87	88		OFFICE CALCS	01/BRO/ BR	02/NHS/ BR						
			49								49		609	24000	49	FT	CURB, TYPE 4-A	
			274								274		609	24510	274	FT	CURB, TYPE 4-C	
			1687								1687		609	26000	1687	FT	CURB, TYPE 6	
																	LIGHTING	
6											6		625	00480	6	EACH	CONNECTION, UNFUSED PERMANENT	
4											4		625	00500	4	EACH	CONNECTOR KIT, TYPE II	
8											8		625	10614	8	EACH	LIGHT POLE ANCHOR BOLTS ON STRUCTURE	
1794											1794		625	23304	1794	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	
88											88		625	29100	88	FT	TRENCH, 36" DEEP	
3											3		625	30700	3	EACH	PULL BOX, 725.08, 18"	
2											2		625	35011	2	EACH	REMOVE AND REERECT EXISTING LIGHT POLE, AS PER PLAN	9
88											88		625	36000	88	FT	PLASTIC CAUTION TAPE	
											LS		SPECIAL	62540000	LS		MAINTAIN EXISTING LIGHTING	10
2											2		625	75800	2	EACH	DISCONNECT CIRCUIT	
																	TRAFFIC CONTROL	
							130				130		630	02100	130	FT	GROUND MOUNTED SUPPORT, NO. 2 POST	
							54				54		630	04100	54	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
							13				13		630	85100	13	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
							13				13		630	86272	13	EACH	REMOVAL OF GROUND MOUNTED PIPE SUPPORT AND DISPOSAL	
							3				3		630	87100	3	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	
							3.14				3.14		642	00100	3.14	MILE	EDGE LINE, 4", TYPE 1	
							1.6				1.6		642	00200	1.6	MILE	LANE LINE, 4", TYPE 1	
							0.14				0.14		642	00300	0.14	MILE	CENTER LINE, TYPE 1	
							1884				1884		642	00400	1884	FT	CHANNELIZING LINE, 8", TYPE 1	
							357				357		642	00500	357	FT	STOP LINE, TYPE 1	
							555				555		642	00700	555	FT	TRANSVERSE/DIAGONAL LINE, TYPE 1	
							48				48		642	01300	48	EACH	LANE ARROW, TYPE 1	
							326				326		642	01522	326	FT	DOTTED LINE, 8", TYPE 1	
																	TRAFFIC SIGNALS	
								186			186		625	25502	186	FT	CONDUIT, 3", 725.05	
								186			186		625	29000	186	FT	TRENCH	
								2			2		625	30700	2	EACH	PULL BOX, 725.08, 18"	
								1			1		625	31506	1	EACH	PULL BOX REMOVED AND REPLACED	
								1			1		625	31600	1	EACH	PULL BOX, MISC.: REUSE AND ADJUST TO GRADE	93
								1			1		625	32000	1	EACH	GROUND ROD	
								186			186		625	36000	186	FT	PLASTIC CAUTION TAPE	
								7			7		632	26500	7	EACH	DETECTOR LOOP	
								914			914		632	53202	914	FT	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)	
								1			1		632	64010	1	EACH	SIGNAL SUPPORT FOUNDATION	
								1216			1216		632	65200	1216	FT	LOOP DETECTOR LEAD-IN CABLE	
								1			1		632	90101	1	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	93
								1			1		632	90207	1	EACH	REUSE OF SIGNAL SUPPORT, AS PER PLAN	93
																	STRUCTURE REPAIR	
												#					STRUCTURE LAK-91-0423 ESTIMATED QUANTITIES	96
																	STRUCTURE REPAIR	
												#					STRUCTURE LAK-91-0449 ESTIMATED QUANTITIES	100
																	STRUCTURE 20 FOOT SPAN AND OVER	
											#						STRUCTURE LAK-91-0456 ESTIMATED QUANTITIES	109

CALCULATED BJK
CHECKED DPF

GENERAL SUMMARY (SHEET 2 OF 3)

LAK-91-4.56

SHEET NUMBER										OFFICE CALCS	PART. 01/BRO/ BR	PART. 02/NHS/ BR	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
8-10	11-13	17	64	65	66	67	85-87	88										
																	MAINTENANCE OF TRAFFIC	
	150										150		614	11110	150	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
								2			2		SPECIAL	61411300	2	EACH	WORK ZONE TRAFFIC SIGNAL	11
		6									6		614	12336	6	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)	
	2										2		614	12410	2	EACH	SPEED ZONE AHEAD SYMBOL SIGN	
											LS		614	12420	LS		DETOUR SIGNING	
	3										3		614	12470	3	EACH	WORK ZONE SPEED LIMIT SIGN	
	10										10		614	12500	10	EACH	REPLACEMENT SIGN	
	2										2		614	13200	2	EACH	BARRIER REFLECTOR, TYPE A	
	18										18		614	13300	18	EACH	BARRIER REFLECTOR, TYPE B	
	33										33		614	13350	33	EACH	OBJECT MARKER, ONE WAY	
	16										16		614	18601	16	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	13
		0.35									0.35		614	20200	0.35	MILE	WORK ZONE LANE LINE, CLASS I, 740.06, TYPE I	
		1.1									1.1		614	21200	1.1	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I	
		3.26									3.26		614	22200	3.26	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I	
		2874									2874		614	23400	2874	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 740.06, TYPE I	
		1533									1533		614	24400	1533	FT	WORK ZONE DOTTED LINE, CLASS I, 740.06, TYPE I	
		242									242		614	26400	242	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I	
		43									43		614	30400	43	EACH	WORK ZONE ARROW, CLASS I, 740.06, TYPE I	
											LS		615	10000	LS		ROADS FOR MAINTAINING TRAFFIC	
		1776									1776		615	20000	1776	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
	10										10		616	10000	10	MGAL	WATER	
		820									820		622	41000	820	FT	PORTABLE BARRIER, 32"	
		600									600		622	41020	600	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED	
																	INCIDENTALS	
											LS		SPECIAL	10810000	LS		CPM PROGRESS SCHEDULE	
											LS		614	11000	LS		MAINTAINING TRAFFIC	
											20		619	16011	20	MNTH	FIELD OFFICE, TYPE B, AS PER PLAN	8
											LS		623	10001	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	9
											LS		624	10000	LS		MOBILIZATION	

CALCULATED BJK CHECKED DPF

GENERAL SUMMARY (SHEET 3 OF 3)

LAK-91-4.56

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SHEET NUMBER	REFERENCE NUMBER	STATION FROM (OR AT)	STATION TO	SIDE	202 23000 PAVEMENT REMOVED SQ YD	202 23010 PAVEMENT REMOVED, ASPHALT SY	202 30600 CONCRETE MEDIAN REMOVED FT	202 32000 CURB REMOVED FT	202 38000 GUARDRAIL REMOVED EACH	202 47000 BRIDGE TERMINAL ASSEMBLY REMOVED FT	606 15050 GUARDRAIL, TYPE MGS EACH	606 15150 GUARDRAIL, TYPE MGS HALF POST SPACING FT	606 15250 GUARDRAIL, TYPE MGS QUARTER POST SPACING FT	606 26100 ANCHOR ASSEMBLY ,MGS TYPE E EACH	606 35050 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 35102 MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH	609 24000 CURB, TYPE 4-A FT	609 24510 CURB, TYPE 4-C FT	609 26000 CURB, TYPE 6 FT
		SR 91																	
68	R-1	215+42	218+90	LT				348											
68	R-2	215+42	218+90	LT		77													
68	R-3	215+42	218+90	RT				348											
68	R-4	215+42	218+90	RT		77													
68	C-1	215+42	218+90	LT															348
68	C-2	215+42	218+90	RT															348
69	R-1	235+83	236+49	LT				66											
69	R-2	235+83	236+49	LT		14													
69	C-1	235+83	236+49	LT															66
70	R-1	238+43	239+23	LT/RT		39													
70	R-2	238+44	239+21	LT/RT				154											
70	R-3	239+48	240+02	LT					54	1									
70	R-4	239+91	240+48	LT/RT	21	89													
70	R-5	240+11	240+54	RT					44	1									
70	R-6	240+15	240+43	RT				28											
70	C-1	238+44	239+22	LT/RT															154
70	C-2	240+15	240+48	RT														33	
70	G-1	239+48	239+99	LT							50.0					1			
70	G-2	240+11	240+50	RT							12.5				1				
71	R-1	243+44	244+33	LT				134											
71	R-2	243+33	244+31	LT					144	1									
71	R-3	243+90	244+81	RT				95											
71	R-4	243+85	244+94	RT					147	1									
71	R-5	244+64	245+93	LT				145											
71	R-6	244+67	246+00	LT					150										
71	R-7	245+40	245+93	RT				74											
71	R-8	245+46	245+95	RT					76										
71	R-9	243+60	243+79	LT			12												
71	R-10	245+30	245+93	LT/RT				132											
71	R-11	243+40	245+93	LT/RT	388	2176													
71	R-12	245+93	248+24	LT				231											
71	R-13	245+93	248+24	LT		53													
71	R-14	245+93	248+24	LT/RT				232											
71	R-15	245+93	248+24	LT/RT		50													
71	C-1	243+40	244+33	LT														136	
71	C-2	243+92	244+81	RT													6	87	
71	C-3	244+64	245+93	LT															145
71	C-4	245+40	245+93	RT													43		30
71	C-5	245+30	245+93	LT/RT															133
71	C-6	245+93	248+24	LT															231
71	C-7	245+93	248+24	LT/RT															232
71	G-1	243+37	244+31	LT							50.0	25.0	37.5		1				
71	G-2	243+88	244+89	RT							112.5			1		1			
71	G-3	244+67	246+00	LT							150.0								
71	G-4	245+46	245+95	RT							75.0								
73A	R-1	267+25	267+43	RT		7		12										18	
SUBTOTALS THIS SHEET					409	2582	12	1999	615	4	450.0	25.0	37.5	1	2	2	49	274	1687
TOTALS CARRIED TO GENERAL SUMMARY					**409**	**2582**	**12**	**1999**	**615**	**4**	**450.0**	**25.0**	**37.5**	**1**	**2**	**2**	**49**	**274**	**1687**

CALCULATED DTB
CHECKED BJK

ROADWAY SUBSUMMARY

LAK-91-4.56

SHEET NO.	STATION FROM	STATION TO	203 EXCAVATION CU YD	203 EMBANKMENT CU YD	659 SEEDING AND MULCHING SQ YD	
	S.R. 91					
74	238+00	239+00	4	2	63	
75	239+50	240+47	1	0	21	
76	243+41	244+50	29	59	216	
77	245+00	246+00	64	18	111	
78	246+50	247+50	7	3	177	
79	248+00		3	1	36	
	ADDITIONS FOR INTERSECTION					
	215+42	218+90	0	0	657	
	244+13	245+00	29	0	0	
	244+75	245+50	33	0	0	
	267+14 Ramp D	267+44 Ramp D	0	0	71	
SUBTOTAL			170	83	1352	
TOTALS CARRIED TO GENERAL NOTES					**1352**	
TOTALS CARRIED TO GENERAL SUMMARY			**170**	**83**		

CALCULATED DTB
CHECKED BJK

EARTHWORK SUBSUMMARY

LAK-91-4.56

		STATION			202	202	202	202	602	611	611	611
SHEET NUMBER	REFERENCE NUMBER	FROM (OR AT)	TO	SIDE	PIPE REMOVED, 24" AND UNDER	MANHOLE REMOVED	CATCH BASIN REMOVED	SPECIAL - FILL AND PLUG EXISTING CONDUIT	CONCRETE MANONRY	12" CONDUIT, TYPE B	CATCH BASIN, NO. 6	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN
					FT	EACH	EACH	FT	CYD	FT	EACH	EACH
		SR 91										
70	D-1	239+13		LT								1
70	D-2	239+13		RT								1
70	D-3	239+15	240+15	LT			1	100				
71	D-1	243+58	243+60	LT						5	1	
71	D-2	243+65		LT							1	
71	D-3	243+60	243+62	LT	6		1					
71	D-4	243+72		LT	7		1					
71	D-5	243+72	243+95	LT	21		1					
71	D-6	243+95	243+97	LT/RT		1		87				
71	D-7	244+11	244+13	RT	3		1					
71	D-8	244+09	244+13	RT						5	1	
71	D-9	244+17		RT							1	
71	D-10	248+00		LT								1
71	D-11	248+01		LT								1
73A	D-1	267+21.49	267+36.73	RT					0.21	45	2	
SUBTOTALS THIS SHEET					37	1	5	187	0.21	55	6	4
TOTALS CARRIED TO GENERAL SUMMARY					**37**	**1**	**5**	**187**	**0.21**	**55**	**6**	**4**

CALCULATED DTB
CHECKED BJK

DRAINAGE SUBSUMMARY

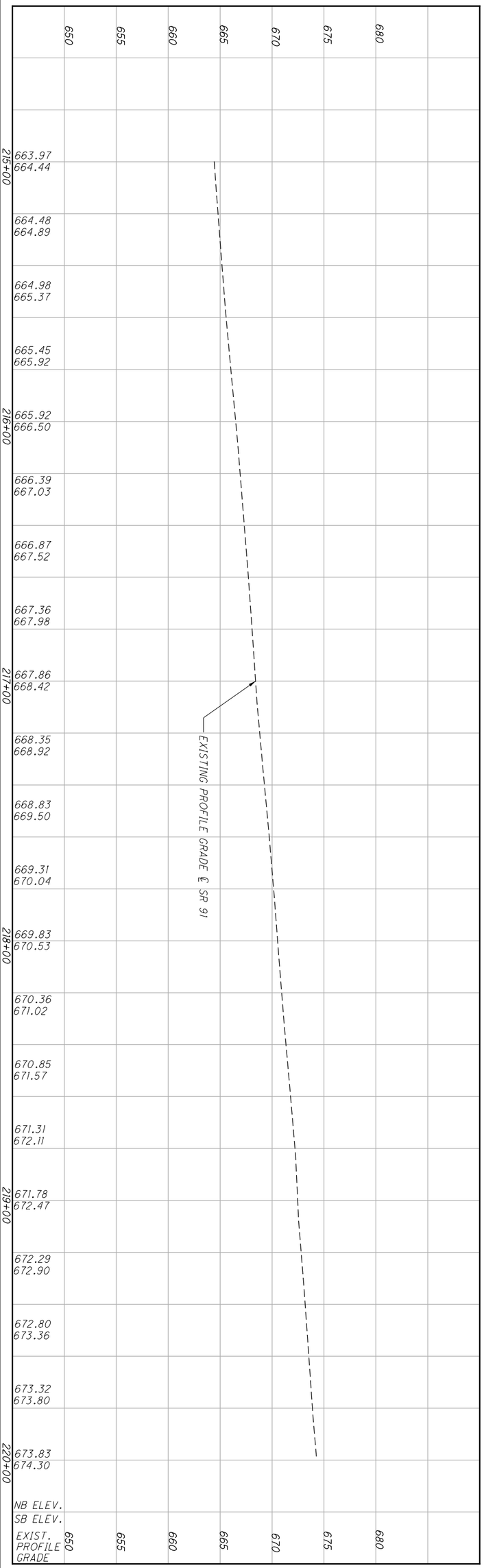
LAK-91-4.56

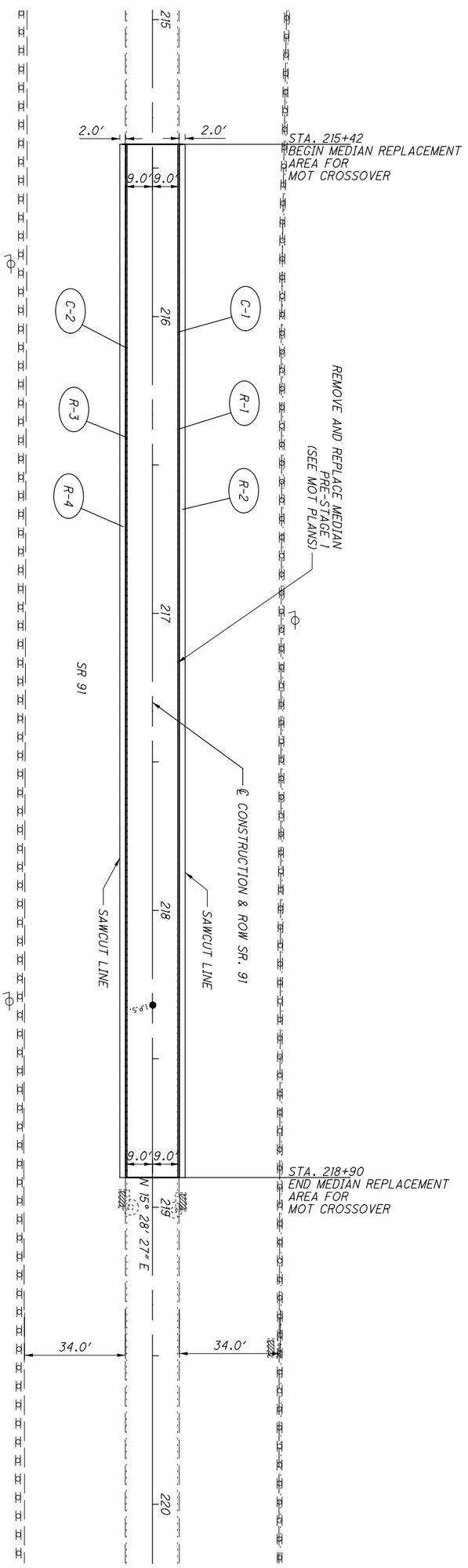
SHEET NUMBER	REFERENCE NUMBER	STATION FROM	STATION TO	605 6" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP	605 6" UNCLASSIFIED PIPE UNDERDRAINS WITH FABRIC WRAP	605 6" BASE PIPE UNDERDRAINS WITH FABRIC WRAP	611 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	611 PRECAST REINFORCED CONCRETE OUTLET	BENDS & BRANCHES (FOR INFORMATION ONLY) CROSS	TEE	BEND	WYE	REMARKS
				FT	FT	FT	FT	EA	EACH	EACH	EACH	EACH	
71	U-1	243+40	244+39			136	63	1			1		
71	U-2	243+55	245+93	238			37			1			
71	U-3	243+82	245+93	211			40				1		
71	U-4	243+92	244+81			93	121	1			1		
71	U-5	244+64	245+10			60	43	1			1		
71	U-6	245+12	246+00			83	60	1			1	1	
71	U-7	245+36	245+93			57	42			1			
71	U-8	245+36	245+93			57	10				1		
71	U-9	245+40	245+93		74		57	1			1		
TOTALS CARRIED TO GENERAL SUMMARY				449	74	486	473	5	-	2	7	1	

CALCULATED BJK
CHECKED DTB

UNDERDRAIN SUBSUMMARY

LAK-91-4.56





191 / 68	LAK-91-4.56	PLAN AND PROFILE STA. 215+00 TO STA. 220+00	CALCULATED DPF CHECKED BJK	0 20 10 40 HORIZONTAL SCALE IN FEET

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N

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED DPF
CHECKED BJK

PLAN AND PROFILE
STA. 234+00 TO STA. 238+00

LAK-91-4.56

CONNECT TO EXIST. GUARDRAIL
STA. 239+49.55, 47.7' LT

BUTT JONT
PER BP-3.1
(TYP)

STA. 239+34.19 ℄ SR 91 =
STA. 268+82.47 ℄ RAMP D

REMOVE AND REPLACE
MEDIAN FOR MOT
PRE-STAGE 1
(SEE MOT PLANS)

RAMP D

℄ RAMP D

N 63° 29' 31" E 268

PROP. MGS BRIDGE
TERMINAL ASSEMBLY,
TYPE 2
STA. 239+58.73, 42.2' LT
BEGIN PAVEMENT TAPER 10:1

STA. 239+90.99, 39.0' LT
END PAVEMENT TAPER
10:1

PULLBOX, 18"
STA. 239+85.00,
43.00' LT *

END OF SLEEPER SLAB
SEE APPROACH
SLAB DETAILS

BEGIN PROJECT
STA. 240+15.00
S.L.M. 4.56

E 150773

STA. 240+21.50
BEGIN APPROACH SLAB

510' DISTRIBUTION CABLE
NO.8 AWG 600V

STRUCTURE
LAK-91-0456

STRUCTURE
JUNCTION BOX

℄ ROW S.R. 2

LIGHT POLE PILASTER
STA. 241+42.00, 41.08' LT.

E.B. S.R. 2

W.B. S.R. 2

REMOVE AND OVERLAY
CONCRETE MEDIAN ON BRIDGE
PRE-STAGE 1
(SEE MOT PLANS)

STA. 241+94.41 SR 91 =
STA. 270+55.98 SR 2

CONST. LIMITS

℄ CONSTRUCTION &
ROW S.R. 91

END APPROACH SLAB
STA. 240+46.50

STRUCTURE
JUNCTION BOX

MATCH LINE STA. 238+00

MATCH LINE STA. 243+00

R-1 R-2 R-3 R-4 R-5 R-6
D-1 D-2 D-3
G-1 G-2
C-1 C-2

SAWCUT
42.8'
8.5'
6.5'
EX. CONTROLLER
4.25 R
115°28'57"
N 01° 01' 32" W
12" HDPE (ABANDON)
119°58'36"
38.4'
8.5'
39.0'
39.0'
39.0'

END EX. APPROACH SLAB
BEGIN RESURFACE AREA
STA. 238+48.35

EXISTING BRIDGE TO
BE OVERLAID. SEE
BRIDGE PLAN SHEET 98 TO 104

BEGIN EX. APPROACH SLAB
STA. 238+23.35

PARTIAL REMOVAL
OF CONCRETE
MEDIAN ON BRIDGE
AND OVERLAY
(SEE MOT PLANS)

STRUCTURE
LAK-91-0449

℄ RAMP B

RAMP B

N 59° 00' 03" E 170

PROP. MGS BRIDGE
TERMINAL ASSEMBLY, TYPE 1

PULLBOX, 18"
STA. 240+37.50,
43.00' RT *

MATCH EXISTING CURB
STA. 240+15.00, 58.87' RT.

CONNECT TO EX. GUARDRAIL
STA. 244+10.88, 41.6' RT

STA. 239+32.17 ℄ SR 91 =
STA. 168+89.21 ℄ RAMP B

CONSTRUCTION
LIMITS

LIGHT POLE PILASTER
STA. 242+85.00, 41.08' RT.

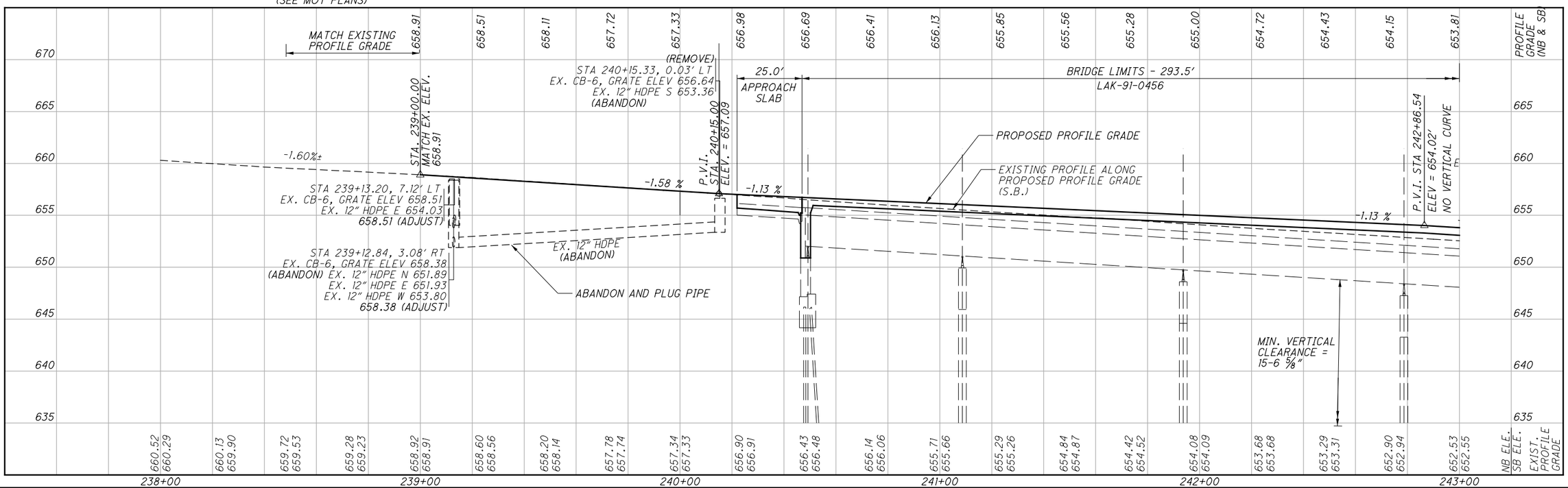
774' DISTRIBUTION CABLE
NO.8 AWG 600V

* INCLUDE 2 CONNECTOR,
UNFUSED PERMANENT
PER PULL BOX

LEGEND

EXISTING
CONCRETE PAVEMENT

RESURFACING AREA



N

0 10 20 40
HORIZONTAL
SCALE IN FEET

CALCULATED DPF
CHECKED BJK

PLAN AND PROFILE
STA. 238+00 TO STA. 243+00

LAK-91-4.56

70
161

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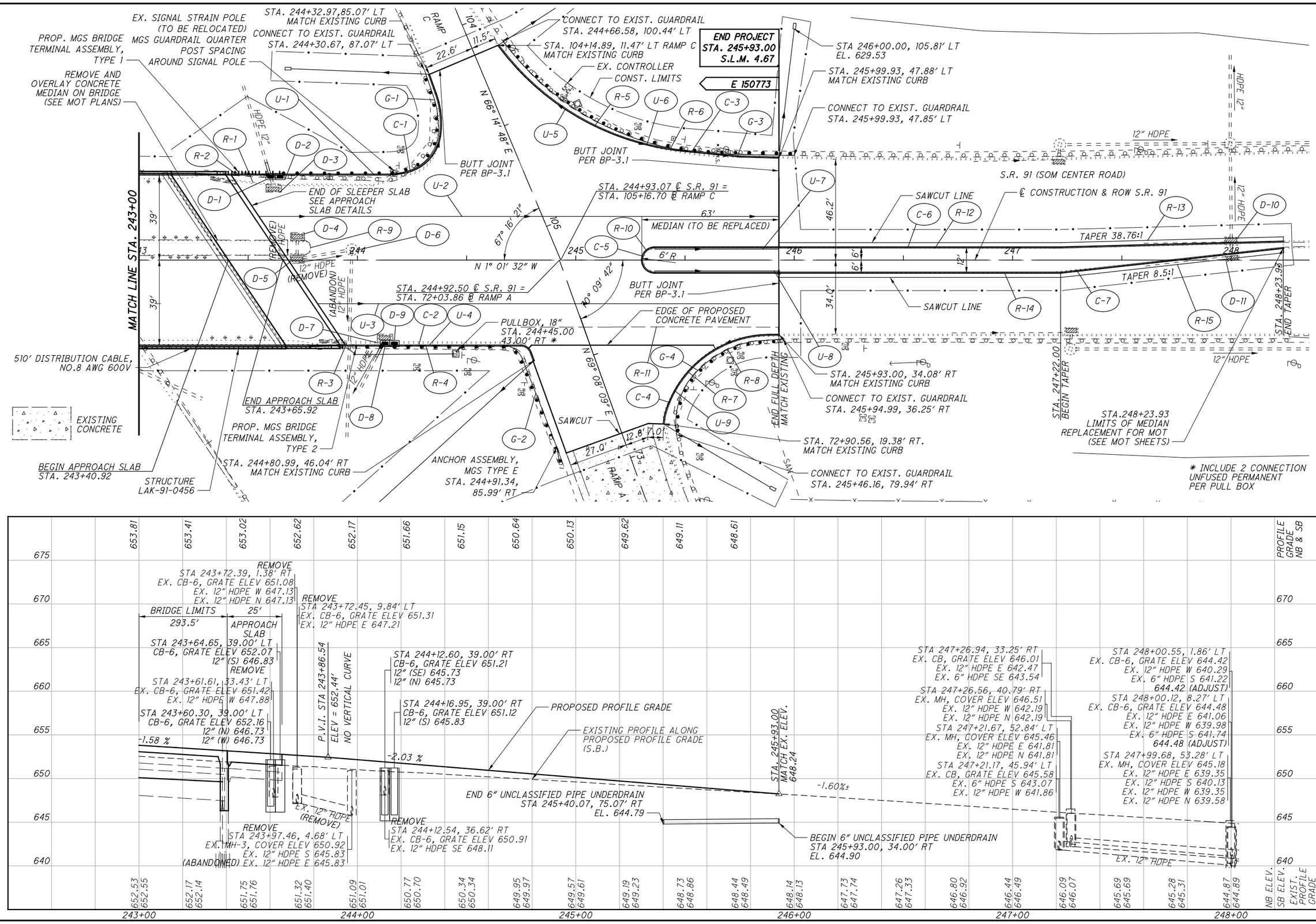

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DPF CHECKED BJK

PLAN AND PROFILE
STA. 243+00 TO STA. 248+23.93

LAK-91-4.56

71
161

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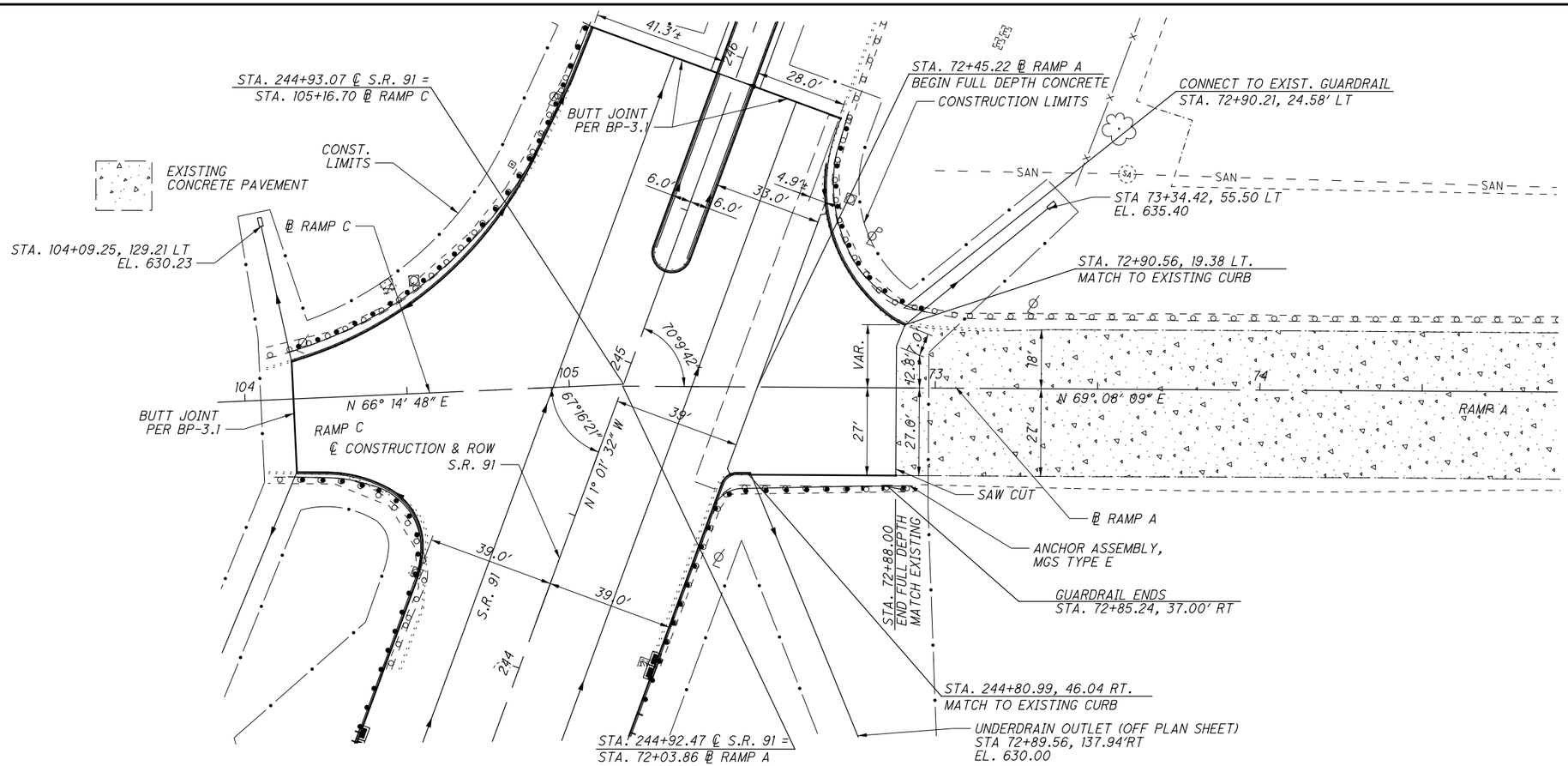

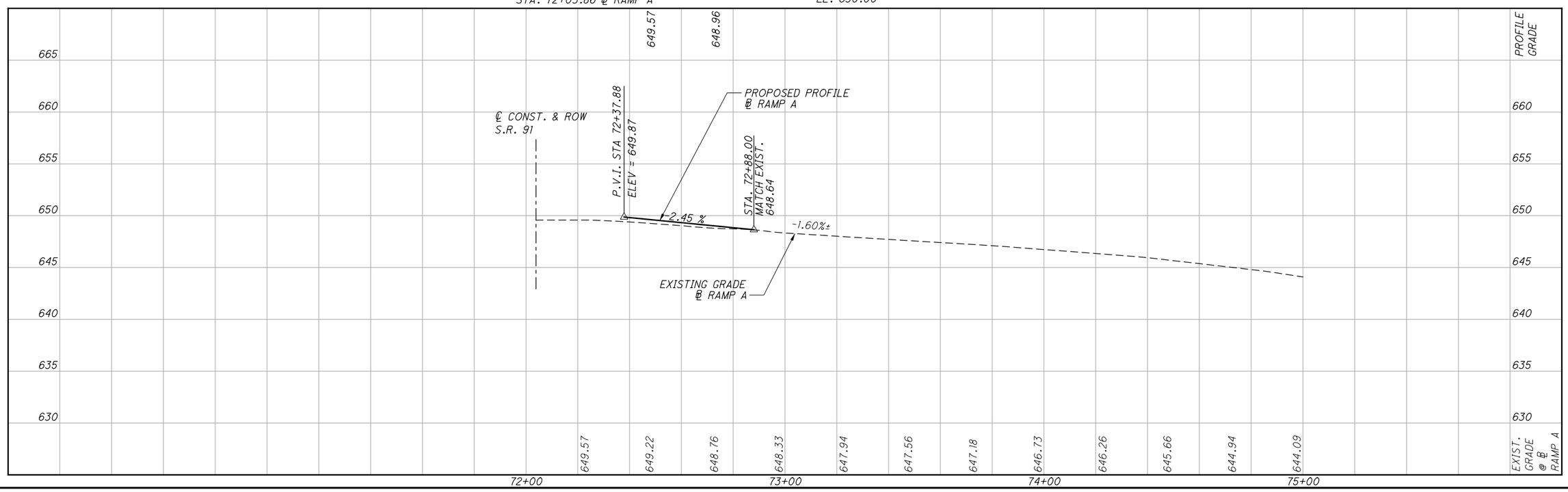

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DPF
CHECKED BJK

PLAN AND PROFILE
RAMP A STA. 72+00 TO 75+00

LAK-91-4.56

72
161

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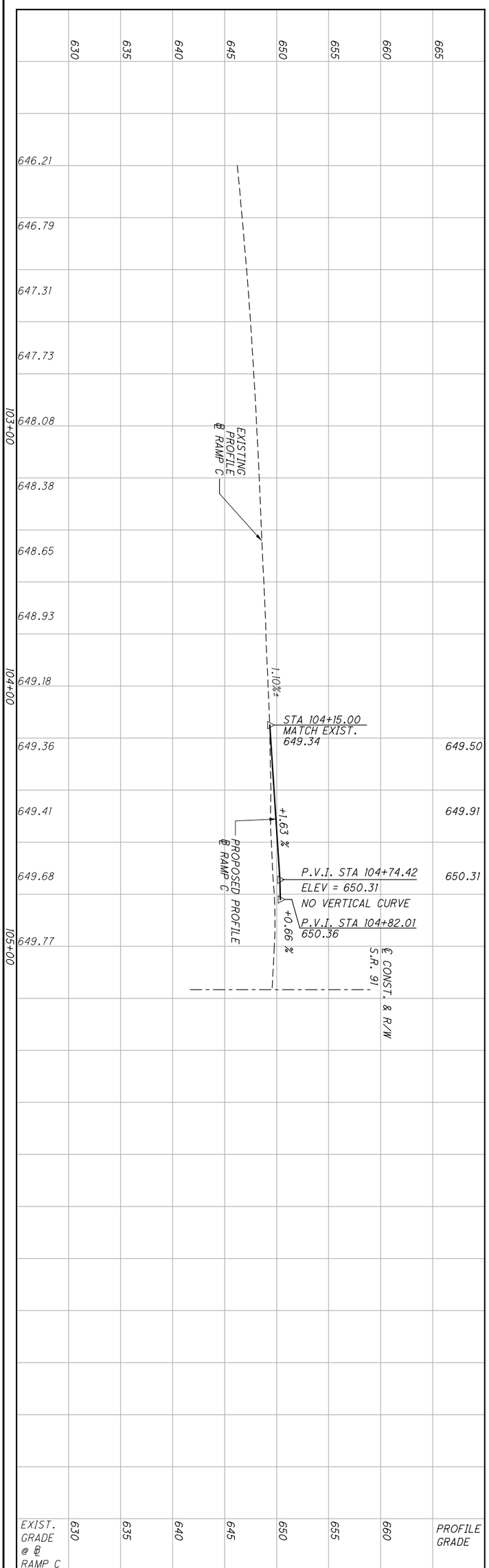
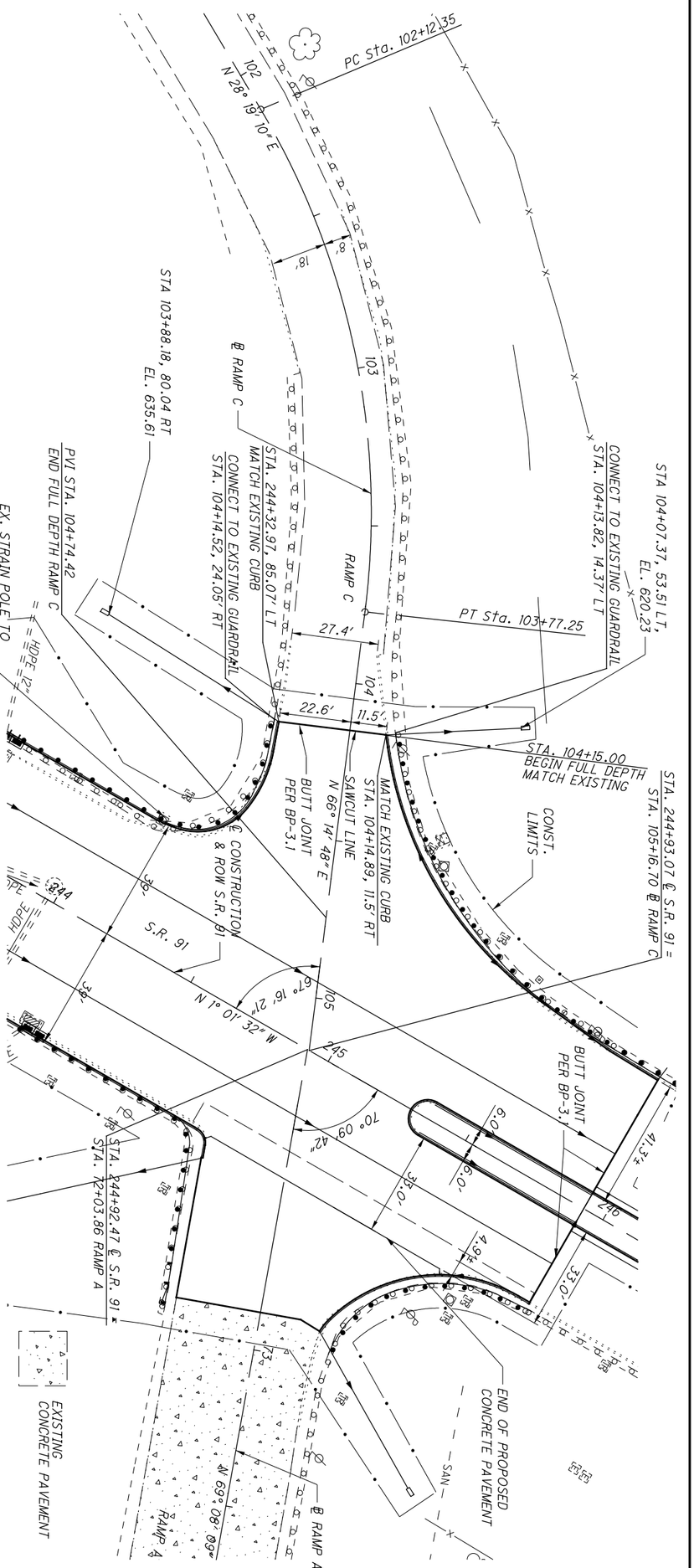
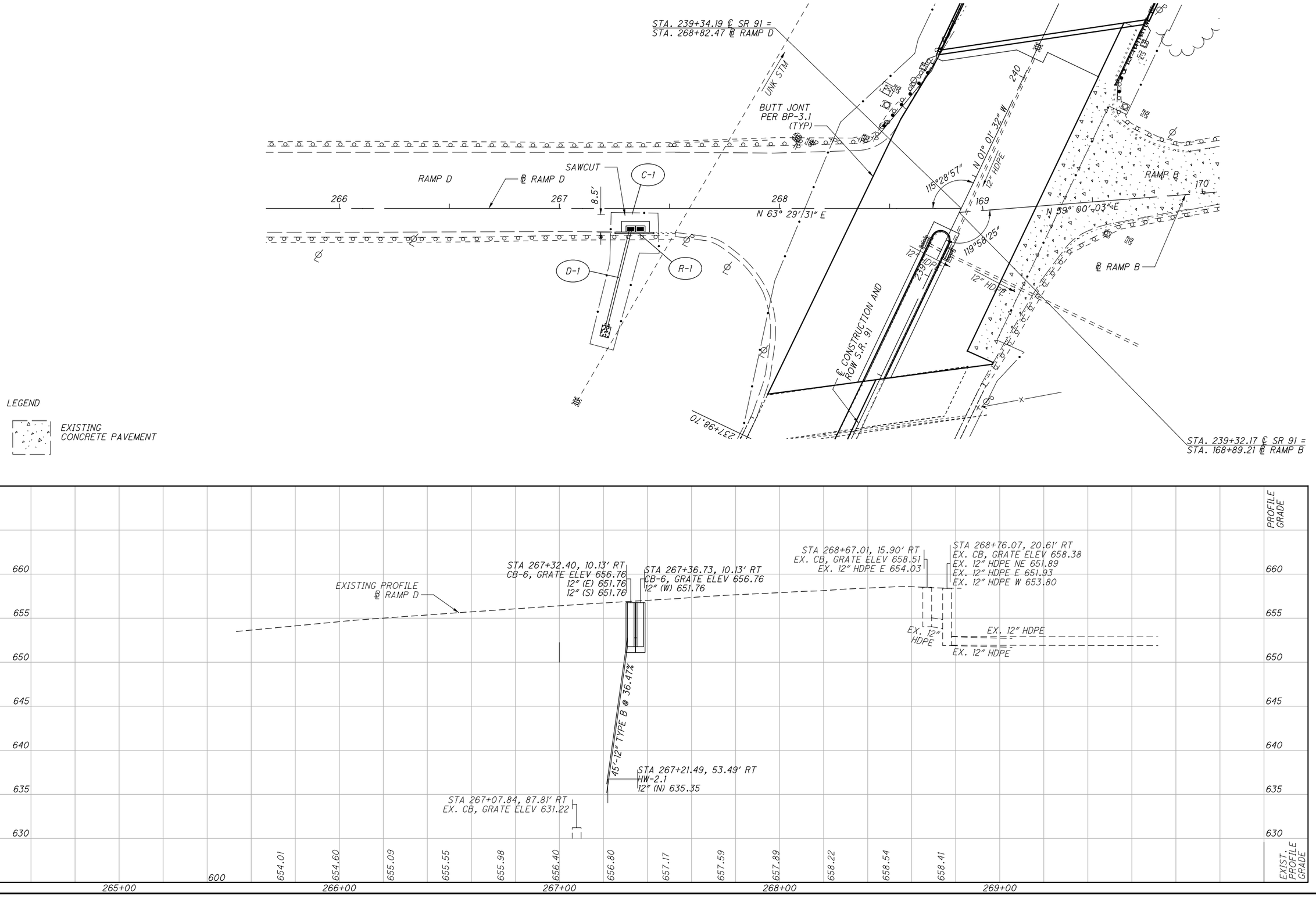




161 / 73	LAK-91-4.56	PLAN AND PROFILE RAMP C - STA. 103+00 TO STA. 105+00	CALCULATED DPF CHECKED BJK	0 20 10 40 HORIZONTAL SCALE IN FEET



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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DPF
CHECKED BJK

PLAN AND PROFILE
RAMP D - END SHEET TO 268+50

LAK-91-4.56

73A
161

SEEDING	
END WIDTH	SQ. YDS.
8	42
8	21
0	
16	63

℄ CONST. & R/W

STA 239+13.20, 7.12' LT
EX. CB, GRATE ELEV 658.51'
12" HDPE E 654.03
658.51 (ADJUST)

STA 239+12.84, 3.08' RT
EX. CB, GRATE ELEV 658.38'
12" HDPE N 651.89
12" HDPE E 651.93 (ABANDON)
12" HDPE W 653.80
658.38 (ADJUST)

12" HDPE

12" HDPE

239+00.00
658.92 (RT)
658.91 (LT)

238+50.00
659.72 (RT)
659.53 (LT)

238+00.00
660.52 (RT)
660.29 (LT)

670 660 650 640 630

110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

END AREA		VOLUME	
CUT	FILL	CUT	FILL
1	1	3	1
1	1		
1	1	1	1
0	0		
2	2	4	2

CALCULATED DPF
CHECKED BJK

CROSS SECTIONS SOM CENTER RD (S.R. 91)
STA. 238+00 TO STA. 239+00

LAK-91-4.56

74
161

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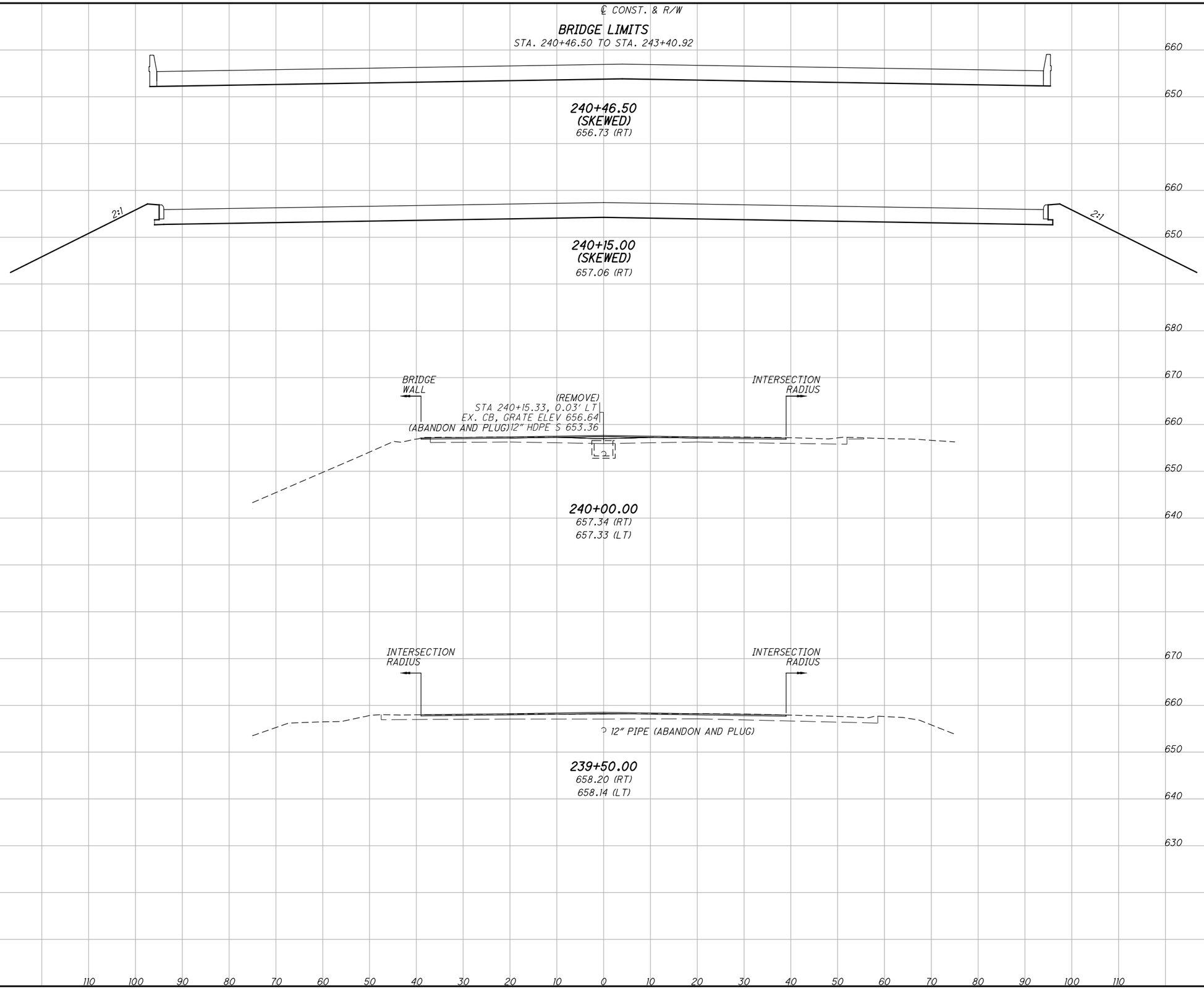

SEEDING	
END WIDTH	SQ. YDS.
0	0
0	21
0	0
0	21

END AREA	
CUT	FILL
0	0
0	0
0	0

VOLUME	
CUT	FILL
0	0
1	0
1	0

CALCULATED DPF
CHECKED BJK

CROSS SECTIONS SOM CENTER RD (S.R. 91)
STA. 239+50 TO STA. 240+46.50

LAK-91-4.56

75
161

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SEEDING	
END WIDTH	SQ. YDS.
5	67
19	149
35	
59	216

℄ CONST. & R/W

RAMP C
INTERSECTION

660 / 650 / 640 / 630

6" UD 6" UD 6" UD 2:1

651.15
244+50.00
650.34 (RT)
650.34 (LT)

(REMOVE)
STA 243+97.46, 4.68' LT
EX. MH, GRATE ELEV 650.92'
12" HDPE S 645.83 (REMOVE)
12" HDPE E 645.83 (ABANDON AND PLUG)

(REMOVE)
STA 244+12.54, 36.62 RT
EX. CB, GRATE ELEV 650.91'
12" HDPE SE 648.11

STA 244+12.60, 39.00' RT
CB-6, GRATE ELEV 651.21
12" (SE) 645.73
12" (N) 645.73

2:1 6" UD 6" UD 6" UD 6" UD 2:1
5' - 12" TYPE B PIPE
CONCRETE COLLAR PER DM-1.1
12" HDPE
12" HDPE (ABANDON)

652.17
244+00.00
651.09 (RT)
651.01 (LT)

STA 244+16.95, 39.00' RT
CB-6, GRATE ELEV 651.12
12" (S) 645.83

STA 243+64.65, 39.00' LT
CB-6, GRATE ELEV 652.07
12" (S) 646.83

STA 243+60.30, 39.00' LT
CB-6, GRATE ELEV 652.16
12" (W) 646.73
12" (N) 646.73

(REMOVE)
STA 243+61.61, 33.43' LT
EX. CB, GRATE ELEV 651.42'
12" HDPE W 647.88

(REMOVE)
STA 243+72.39, 1.38' RT
EX. CB, GRATE ELEV 651.08'
12" HDPE W 647.13
12" HDPE N 647.13

BRIDGE WALL

CONCRETE COLLAR PER DM-1.1
2:1 6" UD
5' - 12" TYPE B PIPE
12" HDPE
12" HDPE (REMOVE)
(REMOVE)
STA 243+72.45, 9.84' LT
EX. CB, GRATE ELEV 651.31'
12" HDPE E 647.21

653.02
243+50.00
651.75 (RT)

243+40.92
(SKEWED)
653.16 (RT)

℄ CONST. & R/W

BRIDGE LIMITS
STA. 240+46.50 TO STA. 243+40.92

110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

END AREA	
CUT	FILL
5	4
11	14
4	33
20	51

VOLUME	
CUT	FILL
15	16
14	43
29	59

CALCULATED DPF
CHECKED BJK

CROSS SECTIONS SOM CENTER RD (S.R. 91)
STA. 243+40.92 TO 244+50

LAK-91-4.56

76
161

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SEEDING	
END WIDTH	SQ. YDS.
11	71
14	40
0	15
25	111

℄ CONST. & R/W

660
650
640
630

246+00.00
648.14 (RT)
648.13 (LT)

RAMP C INTERSECTION RADIUS
RAMP A INTERSECTION RADIUS
2:1
6" UD
6" UD
6" UD
6" UD
6" UD
6" UD

649.12
245+50.00
648.73 (RT)
648.86 (LT)

RAMP C INTERSECTION RADIUS
RAMP A INTERSECTION
6" UD
6" UD
6" UD

650.13
245+00.00
649.57 (RT)
649.61 (LT)

110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

END AREA	
CUT	FILL
1	1
28	10
12	0
41	11

VOLUME	
CUT	FILL
27	9
37	9
15	3
64	18

CALCULATED DPF
CHECKED BJK

CROSS SECTIONS SOM CENTER RD (S.R. 91)
STA. 245+00 TO STA. 246+00

LAK-91-4.56

77
161

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SEEDING	
END WIDTH	SQ. YDS.
9	54
11	61
11	62
31	177

℄ CONST. & R/W

660 650 640 630

247+50.00
645.69 (RT)
645.69 (LT)

STA 247+21.17, 45.49' LT
EX. CB, GRATE ELEV 645.58'
12" HDPE W 641.86
6" HDPE S 643.07

STA 247+21.67, 52.84 LT
EX. MH, GRATE ELEV 645.46'
12" HDPE E 641.81
12" HDPE N 641.81

12" HDPE

STA 247+26.94, 33.25' RT
EX. CB, GRATE ELEV 646.01'
12" HDPE E 642.47
6" HDPE SE 643.54

STA 247+26.56, 40.79' RT
EX. MH, GRATE ELEV 646.51'
12" HDPE W 642.19
12" HDPE N 642.19

12" HDPE

247+00.00
646.44 (RT)
646.49 (LT)

246+50.00
647.26 (RT)
647.33 (LT)

110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

END AREA	
CUT	FILL
2	1
1	1
1	1
4	3

VOLUME	
CUT	FILL
3	1
2	1
2	1
7	3

CALCULATED DPF
CHECKED BJK

CROSS SECTIONS SOM CENTER RD (S.R. 91)
STA. 246+50 TO STA. 247+50

LAK-91-4.56

78
161

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SEEDING	
END WIDTH	SQ. YDS.
4	36
4	36

℄ CONST. & R/W

END AREA	
CUT	FILL
1	1
1	1

VOLUME	
CUT	FILL
3	1
3	1

CALCULATED DPF

CHECKED BJK

STA 247+99.68, 53.28' LT
EX. MH, GRATE ELEV 645.18
12" HDPE E 639.35
12" HDPE S 640.13
12" HDPE W 639.35
12" HDPE N 639.58

STA 248+00.12, 8.27' LT
EX. CB-6, GRATE ELEV 644.48
12" HDPE E 641.06
12" HDPE W 639.98
6" HDPE S 641.71
644.48 (ADJUST)

STA 248+00.55, 1.86' LT
EX. CB-6, GRATE ELEV 644.42'
12" HDPE W 640.29
6" HDPE S 641.22
644.42 (ADJUST)

660
650
640
630

12" HDPE

12" HDPE

12" HDPE

110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

248+00.00
644.87 (RT)
644.89 (LT)

CROSS SECTIONS SOM CENTER RD (S.R. 91)
STA. 248+00

LAK-91-4.56

79
161

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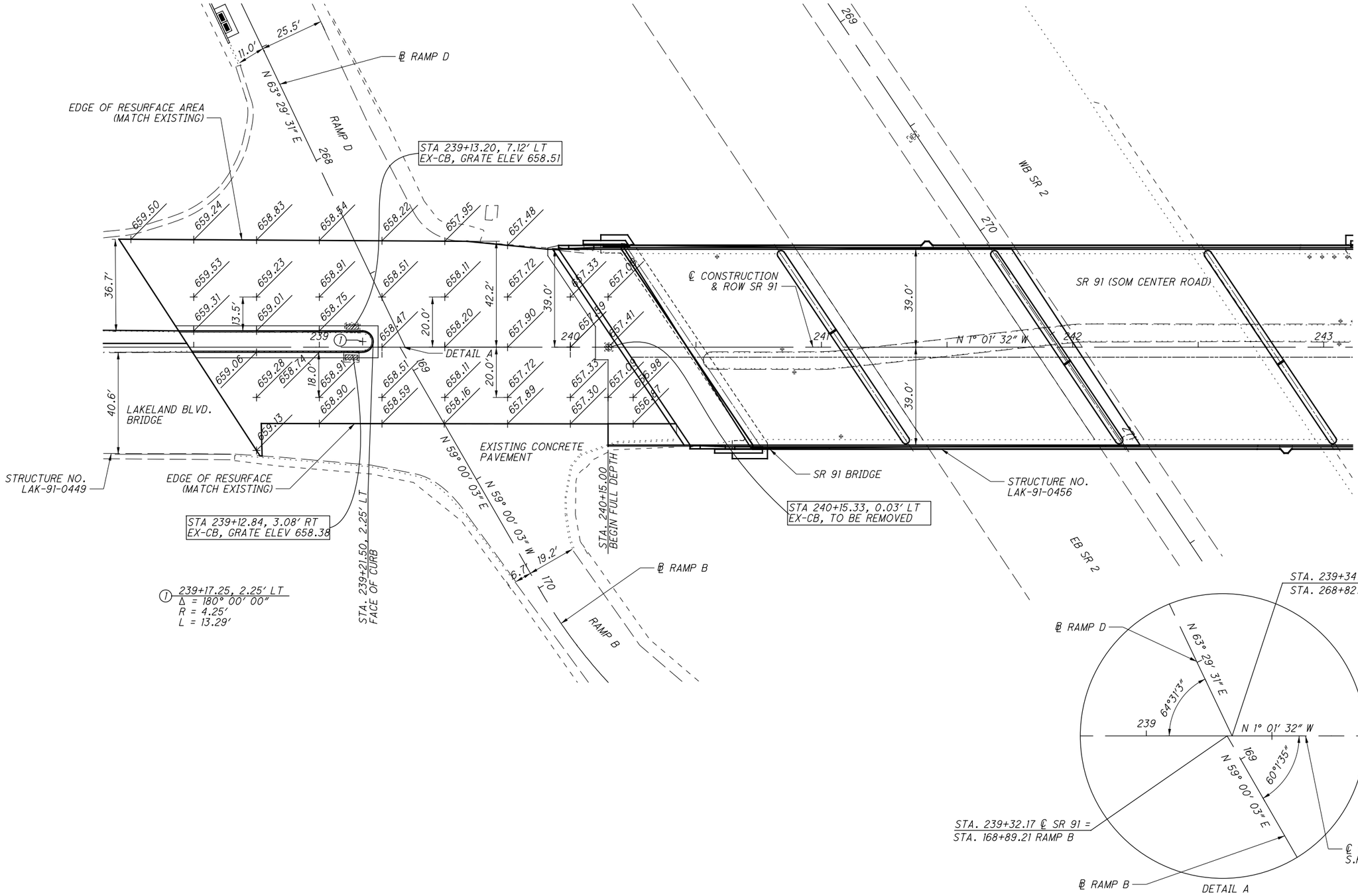

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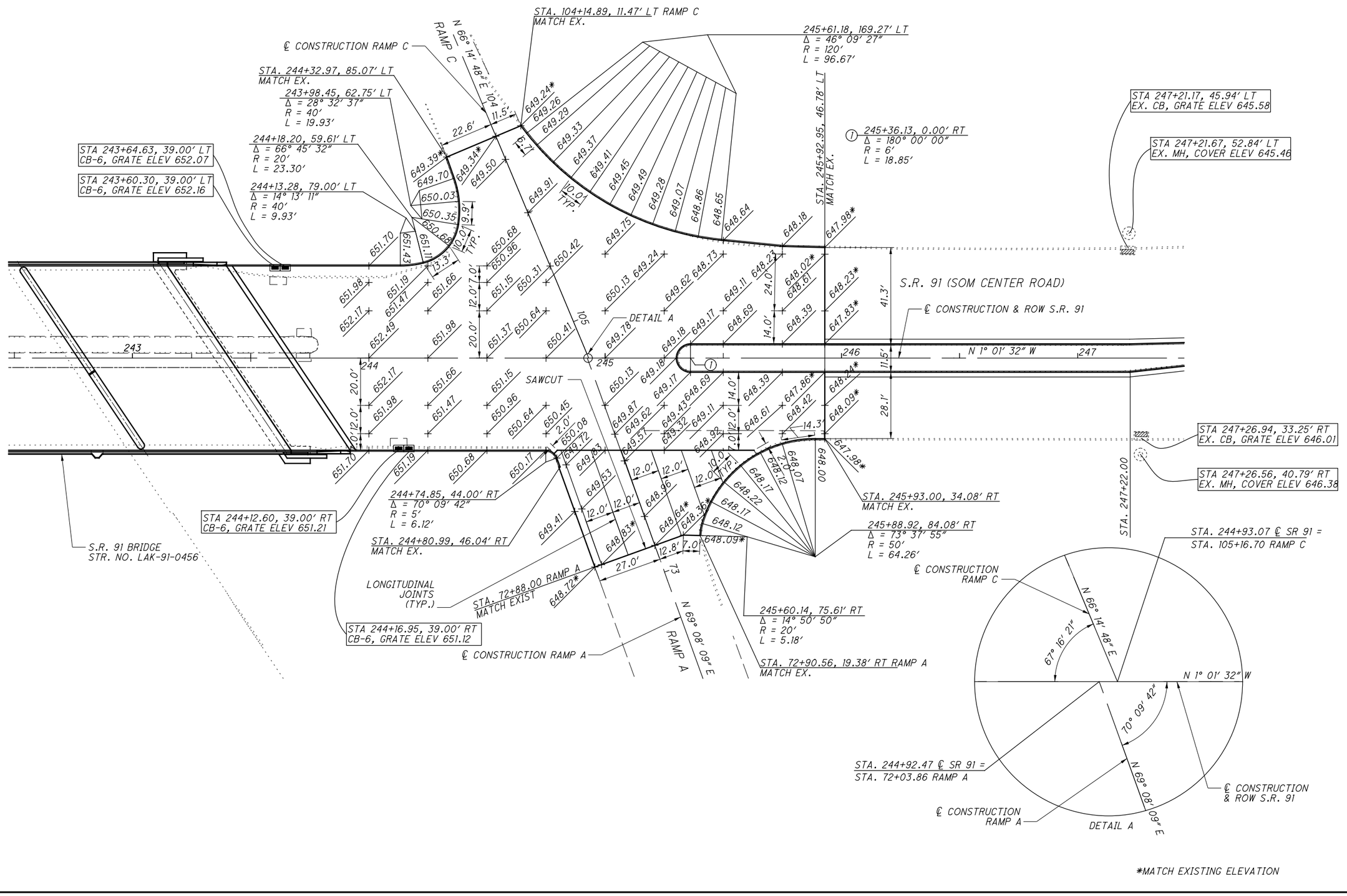
CALCULATED DPF
CHECKED KCM

HORIZONTAL SCALE IN FEET
0 10 20 40

INTERSECTION DETAIL S.R. 91 AND RAMPS B/D

LAK-91-4.56



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED DPF
CHECKED KCM

INTERSECTION DETAIL
S.R. 91 AND RAMPS A/C

LAK-91-4.56

81
161

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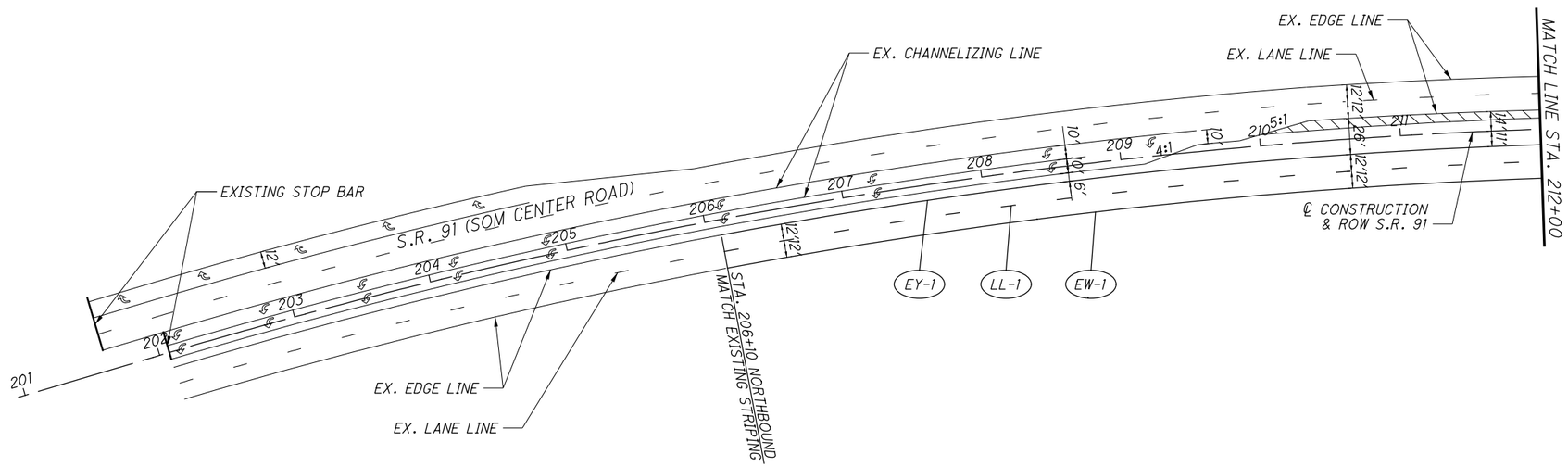
LEGEND

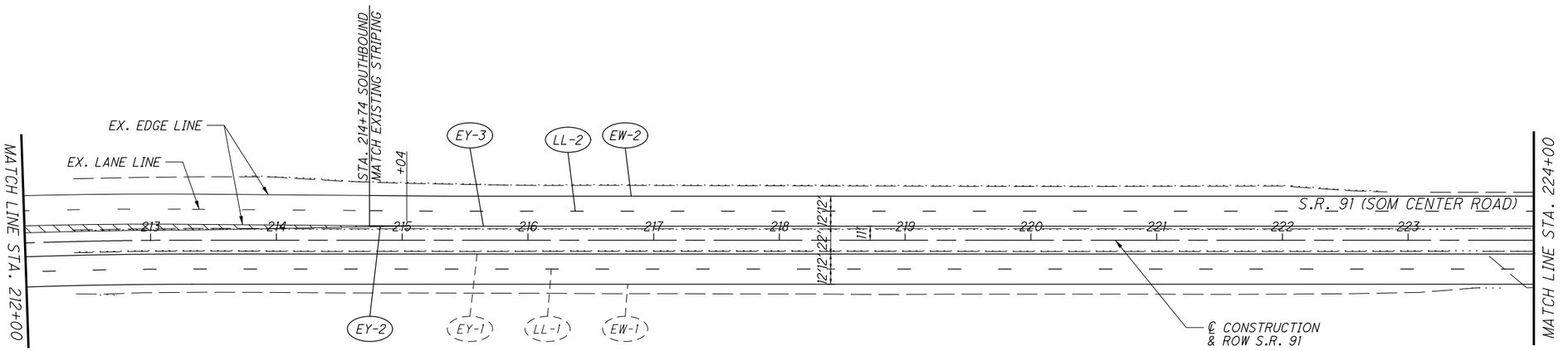
- (CL) CENTER LINE, DOUBLE SOLID
- (CH) CHANNELIZING LINE, 8"
- (DL) DOTTED LINE, WHITE, 8"
- (EW) EDGE LINE, WHITE, 4"
- (EY) EDGE LINE, YELLOW, 4"
- (LL) LANE LINE, 4"
- (TY) TRANSVERSE/DIAGONAL LINE, YELLOW
- (TW) TRANSVERSE/DIAGONAL LINE, WHITE
- (SL) STOP LINE
- [A] LANE ARROW

PROPOSED SIGN

EXISTING SIGN TO REMAIN
(RELOCATED AS NOTED IN PLANS)

EXISTING SIGN TO BE REMOVED





HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BJK
CHECKED BJB

TRAFFIC CONTROL PLAN
STA. 201+00 TO STA. 224+00

LAK-91-4.56

82
161

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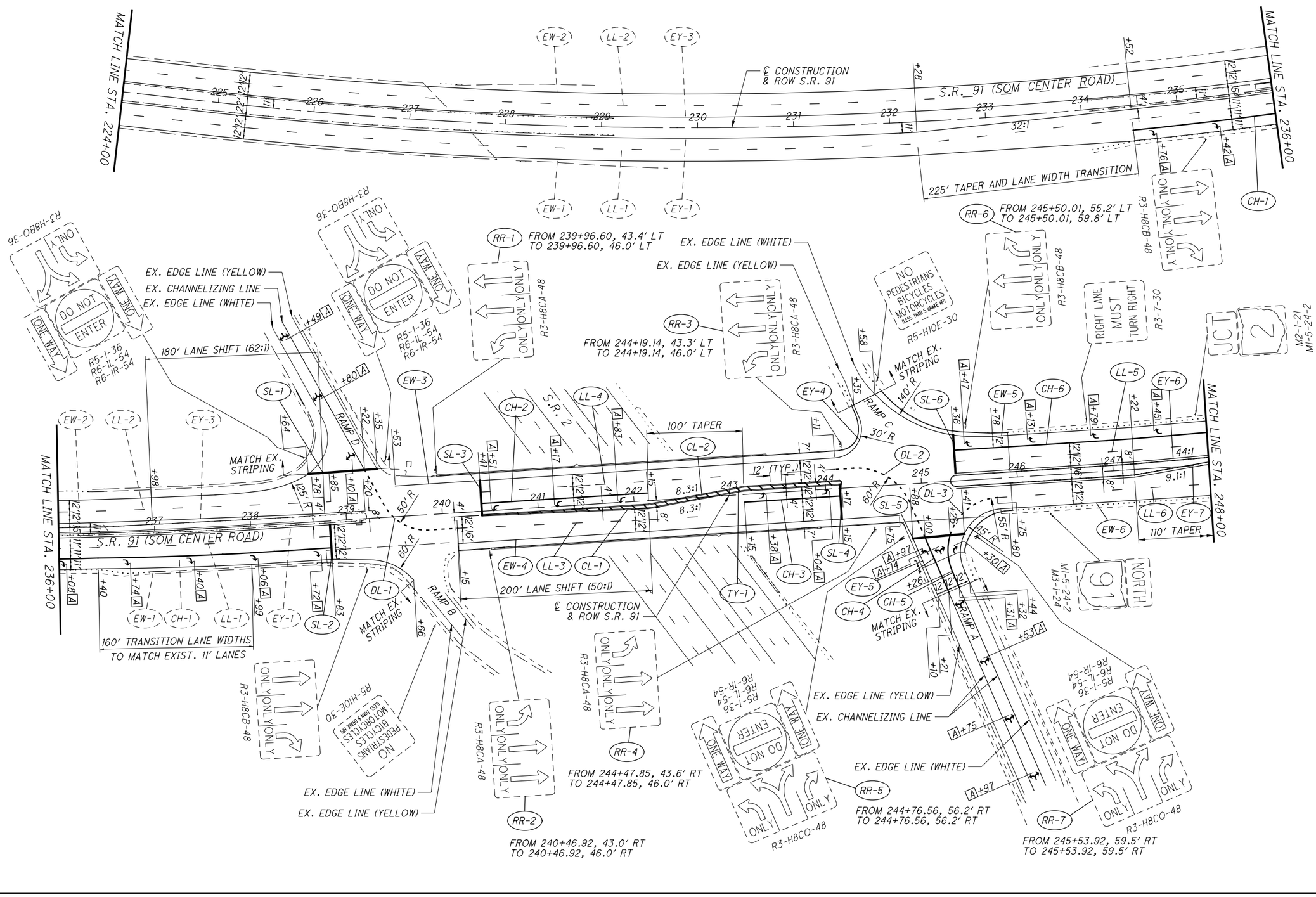
NOTE: SEE SHEET 82 FOR LEGEND



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HORIZONTAL SCALE IN FEET
0 25 50 100

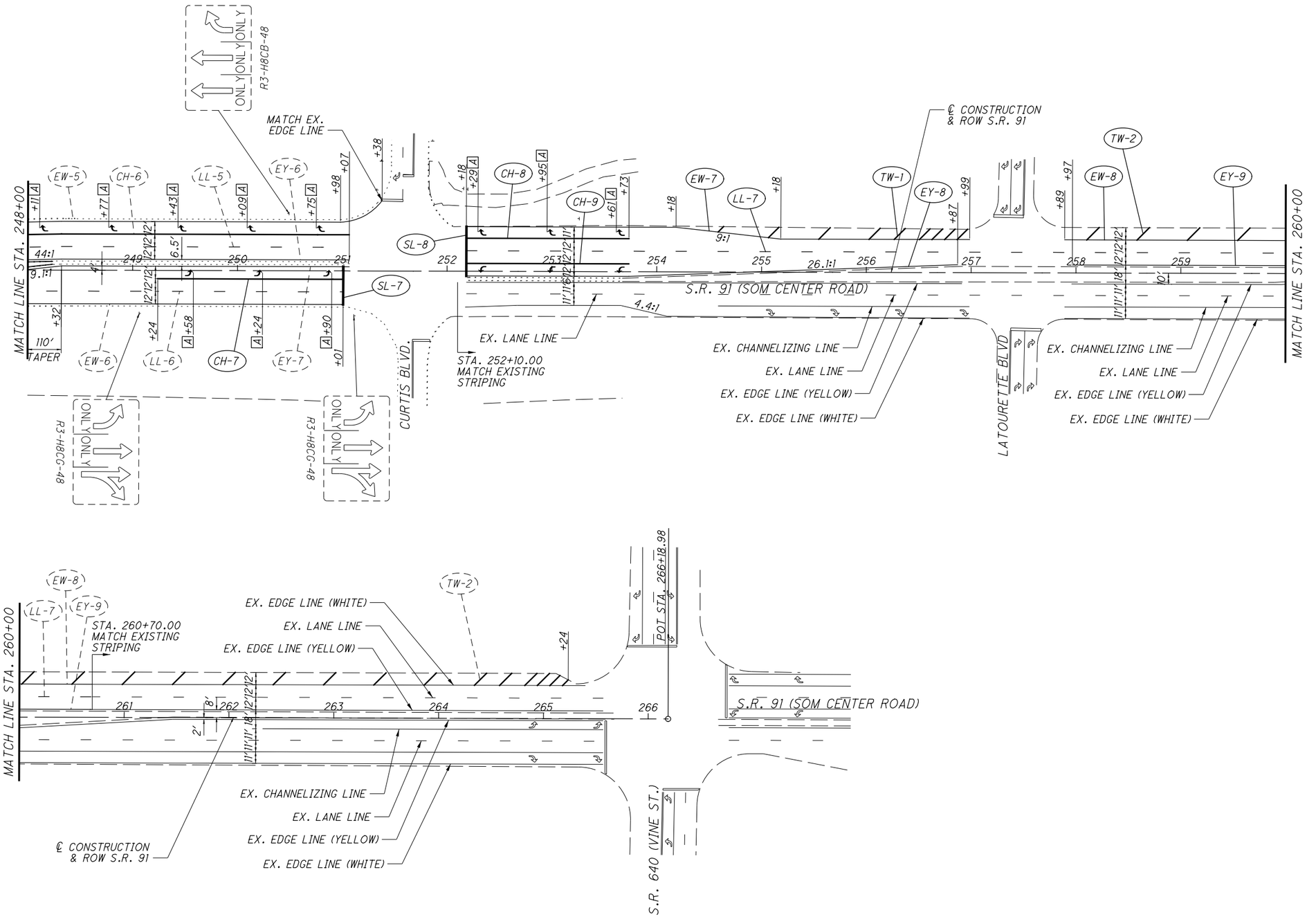
CALCULATED BJK
CHECKED BJB

TRAFFIC CONTROL PLAN
STA. 224+00 TO STA. 248+00

LAK-91-4.56

83
161

NOTE: SEE SHEET 82 FOR LEGEND



TRAFFIC CONTROL PLAN
STA. 248+00 TO STA. 266+00

HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED BJK
CHECKED BJB

LAK-91-4.56

84
161

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO OR AT	SIDE	642 EDGE LINE, 4", TYPE 1, WHITE	642 EDGE LINE, 4", TYPE 1, YELLOW	642 LANE LINE, 4", TYPE 1	642 CENTER LINE, TYPE 1, DOUBLE SOLID	642 CHANNELIZING LINE, 8", TYPE 1	642 STOP LINE, TYPE 1	642 TRANSVERSE/DIAGONAL LINE, TYPE 1, WHITE	642 TRANSVERSE/DIAGONAL LINE, TYPE 1, YELLOW	642 LANE ARROW, TYPE 1	642 DOTTED LINE, 8", TYPE 1
						MILE	MILE	MILE	MILE	FT	FT	FT	FT	EACH	FT
82	EW-1	S.R. 91 (SOM CENTER ROAD)	206+10	239+66	RT	0.64									
82	EW-2	S.R. 91 (SOM CENTER ROAD)	214+74	238+64	LT	0.45									
82	EY-1	S.R. 91 (SOM CENTER ROAD)	206+10	239+20	RT		0.63								
82	EY-2	S.R. 91 (SOM CENTER ROAD)	214+74	215+04	LT		0.01								
82	EY-3	S.R. 91 (SOM CENTER ROAD)	214+74	239+20	LT		0.46								
82	LL-1	S.R. 91 (SOM CENTER ROAD)	206+10	238+83	RT			0.62							
82	LL-2	S.R. 91 (SOM CENTER ROAD)	214+74	238+85	LT			0.46							
83	CH-1	S.R. 91 (SOM CENTER ROAD)	234+52	238+83	RT					433					
83	CH-2	S.R. 91 (SOM CENTER ROAD)	240+41	242+15	LT					174					
83	CH-3	S.R. 91 (SOM CENTER ROAD)	243+15	244+15	RT					100					
83	CH-4	S.R. 91 (SOM CENTER ROAD)	245+00	245+21	RT					62					
83	CH-5	S.R. 91 (SOM CENTER ROAD)	245+26	245+32	RT					57					
83	CH-6	S.R. 91 (SOM CENTER ROAD)	245+36	251+07	LT					571					
83	CL-1	S.R. 91 (SOM CENTER ROAD)	240+41	244+17	LT/RT				0.07						
83	CL-2	S.R. 91 (SOM CENTER ROAD)	240+41	244+17	LT/RT				0.07						
83	DL-1	S.R. 91 (SOM CENTER ROAD)	239+22	240+15	LT/RT										128
83	DL-2	S.R. 91 (SOM CENTER ROAD)	244+11	245+00	LT/RT										131
83	DL-3	S.R. 91 (SOM CENTER ROAD)	245+26	245+75	RT										67
83	EW-3	S.R. 91 (SOM CENTER ROAD)	239+53	244+11	LT	0.09									
83	EW-4	S.R. 91 (SOM CENTER ROAD)	240+15	244+75	RT	0.09									
83	EW-5	S.R. 91 (SOM CENTER ROAD)	244+58	251+38	LT	0.13									
83	EW-6	S.R. 91 (SOM CENTER ROAD)	245+44	251+01	RT	0.12									
83	EY-4	S.R. 91 (SOM CENTER ROAD)	244+11	244+35	LT		0.01								
83	EY-5	S.R. 91 (SOM CENTER ROAD)	244+88	245+10	RT		0.01								
83	EY-6	S.R. 91 (SOM CENTER ROAD)	245+36	251+07	LT		0.11								
83	EY-7	S.R. 91 (SOM CENTER ROAD)	245+36	251+07	LT/RT		0.11								
83	LL-3	S.R. 91 (SOM CENTER ROAD)	240+15	244+15	RT			0.08							
83	LL-4	S.R. 91 (SOM CENTER ROAD)	240+41	244+11	LT			0.07							
83	LL-5	S.R. 91 (SOM CENTER ROAD)	245+36	251+07	LT			0.11							
83	LL-6	S.R. 91 (SOM CENTER ROAD)	245+75	251+01	RT			0.10							
83	SL-1	S.R. 91 (SOM CENTER ROAD)	238+64	239+35	LT						72				
83	SL-2	S.R. 91 (SOM CENTER ROAD)		238+83	RT						36				
83	SL-3	S.R. 91 (SOM CENTER ROAD)		240+41	LT/RT						36				
83	SL-4	S.R. 91 (SOM CENTER ROAD)		244+15	LT/RT						36				
83	SL-5	S.R. 91 (SOM CENTER ROAD)	244+88	245+41	RT						54				
83	SL-6	S.R. 91 (SOM CENTER ROAD)		245+36	LT						40				
83	TY-1	S.R. 91 (SOM CENTER ROAD)	240+41	244+17	LT/RT								130		
83	A	S.R. 91 (SOM CENTER ROAD)		234+76	RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		235+42	RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		236+08	RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		236+74	RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		237+40	RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		238+06	RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		238+49	LT									2	
83	A	S.R. 91 (SOM CENTER ROAD)		238+72	RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		238+80	LT									2	
83	A	S.R. 91 (SOM CENTER ROAD)		239+10	LT									2	
83	A	S.R. 91 (SOM CENTER ROAD)		240+51	LT/RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		241+17	LT/RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		241+83	LT/RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		243+38	LT/RT									1	
SUBTOTALS THIS SHEET						**1.52**	**1.34**	**1.44**	**0.14**	**1397**	**274**	**-**	**130**	**17**	**326**

CALCULATED BJK
CHECKED BJB

PAVEMENT MARKING SUBSUMMARY 1 OF 2

LAK-91-4.56

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO OR AT	SIDE	642 EDGE LINE, 4", TYPE 1, WHITE	642 EDGE LINE, 4", TYPE 1, YELLOW	642 LANE LINE, 4", TYPE 1	642 CENTER LINE, TYPE 1, DOUBLE SOLID	642 CHANNELIZING LINE, 8", TYPE 1	642 STOP LINE, TYPE 1	642 TRANSVERSE/DIAGONAL LINE, TYPE 1, WHITE	642 TRANSVERSE/DIAGONAL LINE, TYPE 1, YELLOW	642 LANE ARROW, TYPE 1	642 DOTTED LINE, 8", TYPE 1
						MILE	MILE	MILE	MILE	FT	FT	FT	FT	EACH	FT
83	A	S.R. 91 (SOM CENTER ROAD)		244+04	LT/RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		244+97	RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		245+14	RT									2	
83	A	S.R. 91 (SOM CENTER ROAD)		245+30	RT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		245+31	RT									2	
83	A	S.R. 91 (SOM CENTER ROAD)		245+47	LT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		245+53	RT									2	
83	A	S.R. 91 (SOM CENTER ROAD)		245+75	RT									2	
83	A	S.R. 91 (SOM CENTER ROAD)		245+97	RT									2	
83	A	S.R. 91 (SOM CENTER ROAD)		246+13	LT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		246+79	LT									1	
83	A	S.R. 91 (SOM CENTER ROAD)		247+45	LT									1	
84	CH-7	S.R. 91 (SOM CENTER ROAD)	249+24	251+01	RT					177					
84	CH-8	S.R. 91 (SOM CENTER ROAD)	252+18	253+73	LT					155					
84	CH-9	S.R. 91 (SOM CENTER ROAD)	252+18	253+73	LT					155					
84	EW-7	S.R. 91 (SOM CENTER ROAD)	252+18	256+99	LT	0.09									
84	EW-8	S.R. 91 (SOM CENTER ROAD)	257+89	260+70	LT	0.05									
84	EY-8	S.R. 91 (SOM CENTER ROAD)	252+18	256+87	LT/RT		0.09								
84	EY-9	S.R. 91 (SOM CENTER ROAD)	257+97	260+70	LT		0.05								
84	LL-7	S.R. 91 (SOM CENTER ROAD)	252+18	260+70	LT			0.16							
84	SL-7	S.R. 91 (SOM CENTER ROAD)		251+01	LT/RT						36				
84	SL-8	S.R. 91 (SOM CENTER ROAD)		252+18	LT/RT						47				
84	TW-1	S.R. 91 (SOM CENTER ROAD)	254+18	256+99	LT							123			
84	TW-2	S.R. 91 (SOM CENTER ROAD)	257+89	265+24	LT							302			
84	A	S.R. 91 (SOM CENTER ROAD)		248+11	LT									1	
84	A	S.R. 91 (SOM CENTER ROAD)		248+77	LT									1	
84	A	S.R. 91 (SOM CENTER ROAD)		249+43	LT									1	
84	A	S.R. 91 (SOM CENTER ROAD)		249+58	RT									1	
84	A	S.R. 91 (SOM CENTER ROAD)		250+09	LT									1	
84	A	S.R. 91 (SOM CENTER ROAD)		250+24	RT									1	
84	A	S.R. 91 (SOM CENTER ROAD)		250+75	LT									1	
84	A	S.R. 91 (SOM CENTER ROAD)		250+90	RT									1	
84	A	S.R. 91 (SOM CENTER ROAD)		252+29	LT/RT									2	
84	A	S.R. 91 (SOM CENTER ROAD)		252+95	LT/RT									2	
84	A	S.R. 91 (SOM CENTER ROAD)		253+61	LT/RT									2	
SUBTOTALS PAVEMENT MARKING SHEET 1 OF 2						**1.52**	**1.34**	**1.44**	**0.14**	**1397**	**274**	**-**	**130**	**17**	**326**
SUBTOTALS THIS SHEET						**0.14**	**0.14**	**0.16**	**-**	**487**	**83**	**425**	**-**	**31**	**-**
TOTALS CARRIED TO GENERAL SUMMARY						**3.14**		**1.60**	**0.14**	**1884**	**357**	**555**		**48**	**326**

CALCULATED BJK
CHECKED BJB

PAVEMENT MARKING SUBSUMMARY 2 OF 2

LAK-91-4.56

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	RELOCATED STATION	SIZE (INCHES)	630 GROUND MOUNTED SUPPORT, NO. 2 POST FT	630 GROUND MOUNTED SUPPORT, NO. 4 POST FT	630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	630 REMOVAL OF GROUND MOUNTED PIPE SUPPORTAND DISPOSAL EACH	630 REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION EACH
83	RR-1	S.R. 91 (SOM CENTER RD)	239+97	LT	239+97		26		1	1	
83	RR-2	S.R. 91 (SOM CENTER RD)	240+47	RT	240+47		26		1	1	
83	RR-3	S.R. 91 (SOM CENTER RD)	244+19	LT	244+19		26		1	1	
83	RR-4	S.R. 91 (SOM CENTER RD)	244+48	RT	244+48		26		1	1	
83	RR-5	S.R. 91 (SOM CENTER RD)	244+77	RT	244+77			27	4	4	
83	RR-6	S.R. 91 (SOM CENTER RD)	245+50	LT	245+50		26		1	1	
83	RR-7	S.R. 91 (SOM CENTER RD)	245+54	RT	245+54			27	4	4	
91	S-2	S.R. 91 (SOM CENTER RD)	244+17	LT	244+17						1
91	S-3	S.R. 91 (SOM CENTER RD)	244+17	LT	244+17						1
91	S-1	S.R. 91 (SOM CENTER RD)	245+01	LT	245+01						1
TOTALS CARRIED TO GENERAL SUMMARY							130	54	13	13	3

CALCULATED BJK
CHECKED BJB

SIGNING SUBSUMMARY

LAK-91-4.56

87
161

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SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
37, 41, 45, 49, 53	38, 42, 46, 50, 54	94	95	98															
			44	142										625	25502	186	FT	CONDUIT, 3", 725.05	
			44	142										625	29000	186	FT	TRENCH	
			1	1										625	30700	2	EA	PULL BOX, 725.08, 18"	
				1										625	31506	1	EA	PULL BOX REMOVED AND REPLACED	
			1											625	31600	1	EA	PULL BOX, MISC: REUSE AND ADJUST TO GRADE	93
			1											625	32000	1	EA	GROUND ROD	
			44	142										625	36000	186	FT	PLASTIC CAUTION TAPE	
			7											632	26500	7	EA	DETECTOR LOOP	
				914										632	53202	914	FT	INTERCONNECT CABLE, 6 PAIR, NO. 19 AWG, SOLID, REA (PE-39)	
			1											632	64010	1	EA	SIGNAL SUPPORT FOUNDATION	
			1216											632	65200	1216	FT	LOOP DETECTOR LEAD-IN CABLE	
		1												632	90101	1	EA	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	93
			1											632	90207	1	EA	REUSE OF SIGNAL SUPPORT, AS PER PLAN	93
1	1													614	11300	2	EA	SPECIAL - WORK ZONE TRAFFIC SIGNAL	10

CALCULATED KDB
CHECKED JMH

TRAFFIC SIGNAL SUBSUMMARY

LAK-91-4.56

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SPECIFICATIONS

EXCEPT AS MODIFIED BY THESE PLANS AND SPECIFICATIONS, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT:

1) OMUTCD
2) NATIONAL MUTCD
3) NATIONAL ELECTRICAL CODE (NEC)
4) NATIONAL ELECTRICAL SAFETY CODE (NESC)
5) ASTM STANDARDS
6) ANSI STANDARDS
7) IMSA STANDARDS

ALL ELECTRICAL EQUIPMENT SHALL CONFORM TO THE FOLLOWING WHEREVER APPLICABLE:

A) NEMA STANDARDS PUBLICATIONS
TS-1-1989(R-1994), TS 2-2003 (R-2008),
TS 3.1-1996, AND TS 3.3-1996
B) UL STANDARDS
C) ELECTRIC INDUSTRIES ASSOCIATION
(EIA) STANDARDS.

WORK ON THIS PROJECT SHALL BE GOVERNED BY THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, 2013 "CONSTRUCTION AND MATERIAL SPECIFICATIONS" (CMS), INCLUDING SUPPLEMENTAL SPECIFICATIONS, AND ODOT "STANDARD CONSTRUCTION DRAWINGS".

COORDINATION OF ACTIVITIES

ALL WORK SHALL BE COORDINATED WITH THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) AND THE ILLUMINATING COMPANY FOR ALL TRAFFIC CONTROL PRODUCTS AND ANY OTHER UTILITIES IMPACTED ON THE PROJECT. NOTIFICATION SHALL BE GIVEN TO ODOT AT LEAST 24 HOURS PRIOR TO ANY AND ALL SCHEDULED WORK AND TESTING ON THIS PROJECT REQUIRING THEIR INSPECTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE UNDERGROUND CONSTRUCTION ACTIVITIES ON A CONTINUING BASIS WITH EACH OF THE UTILITY AGENCIES THAT HAVE FACILITIES IN THE IMMEDIATE VICINITY OF THE PROJECT AREA. ODOT SHALL BE CONTACTED REGARDING COORDINATION OF EXISTING SIGNAL REMOVALS AND PROPOSED SIGNAL INSTALLATIONS.

MISCELLANEOUS CONSTRUCTION NOTES

1) ALL PULL BOXES AND DRAINAGE CONDUIT SHALL DRAIN TOWARD THE ROADWAY RIGHT-OF-WAY, AS APPROPRIATE OR AS INDICATED IN THE PLANS.

2) CONTRACTOR SHALL HAVE AN IMSA LEVEL 2 CERTIFIED TRAFFIC SIGNAL TECHNICIAN ON THE JOB SITE DURING PERFORMANCE OF ANY SIGNAL RELATED CONSTRUCTION OPERATIONS. CONTRACTOR SHALL PROVIDE PROOF OF IMSA LEVEL 2 CERTIFICATION.

SEQUENCE OF CONSTRUCTION

THE SEQUENCE OF CONSTRUCTION SHALL BE PROVIDED TO ODOT FOR REVIEW AT THE COMMENCEMENT OF THE PROJECT:

1) PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. HAZARDS SHALL BE PROTECTED AND WALK SURFACES KEPT CLEAN OF DEBRIS.

2) ALL SIGNAL CHANGE OVERS SHALL NOT OCCUR DURING THE PEAK HOURS OF 6:00 AM-9:00 AM OR 3:00 PM-6:00 PM (WEEKDAYS OR WEEKEND WITHOUT ENGINEER'S APPROVAL).

POWER SUPPLY FOR TRAFFIC SIGNALS

ELECTRIC POWER SHALL BE OBTAINED FROM FIRST ENERGY AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC SIGNAL INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 180 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLERS AND ASSOCIATED EQUIPMENT.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE MAINTAINING AGENCY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL EQUIPMENT WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

SIGNAL ACTIVATION

PRIOR TO ACTIVATING THE NEW TRAFFIC SIGNAL TO STOP-AND-GO MODE AND/OR REMOVING THE EXISTING TRAFFIC SIGNAL FROM SERVICE, ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E., VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC). IF THERE ARE CONSTRUCTABILITY ISSUES (I.E., ROADWAY WIDENING, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIOR TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER. THE DISTRICT TRAFFIC ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND DISTRIC TRAFFIC ENGINEER AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL DESIGNATED DISTRICT TRAFFIC PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUE WRITTEN APPROVAL. IF ISSUES ARE FOUNND DURING THE FINAL INSPECTION THAT EFFECT THE SAFETY OF THE TRAVELING PUBLIC AND/OR THE EFFICIENCY OF THE INTERSECTION, THE SIGNAL SHALL NOT BE ACTIVATED ON THE PROPOSED DATE. ANY PUNCH LIST ITEMS THAT ARE FOUND SHALL BE CORRECTED AND REINSPECTED BY DISTRICT TRAFFIC PERSONNELPRIOR TO FINAL ACCEPTANCE. ODOT FORCES SHALL ONLY ASSUME DAY TO DAY MAINTENANCE OF THE TRAFFIC SIGNAL AFTER FINAL WRITTEN ACCEPTANCE HAS BEEN ISSUED.

WORK INSPECTION

THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER WITH 72 HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

SIGNAL SUPPORT LOCATIONS

DUE TO THE POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATIONS FOR THESE ITEMS, AND CONSEQUENTLY, THE DESIGN OF VARIOUS SUPPORTS, AND/OR ARMS, THE CONTRACTOR SHALL NOT PLACE FINAL ORDERS FOR THESE ITEMS UNTIL FOUNDATIONS HAVE BEEN INSTALLED AND THE ENGINEER HAS PROVIDED WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THESE ITEMS.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.

A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (CMS 725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.

GROUNDING AND BONDING (CONT'D)

B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (CMS 725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.

C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.

D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.

E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.

F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2. CONDUITS.
A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.

B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.

C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3. WIRE FOR GROUNDING AND BONDING.
A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:

I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.

II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUND ROD.

A. A ¾" SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

GROUNDING AND BONDING (CONT'D)

COND. NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED

6. POWER SERVICE AND DISCONNECT SWITCH.

A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.

B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.

I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.

II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT.
A. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

625 - PULL BOX, MISC: REUSE AND ADJUST TO GRADE

THE EXISTING PULL BOX AT STA. 244+19.8, 30.6' LT. SHALL BE REUSED WITH THE COVER ADJUSTED TO THE PROPOSED GROUND ELEVATION AT THIS LOCATION.

632 - REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

REMOVAL OF TRAFFIC SIGNAL WILL INVOLVE THE REMOVAL AND RELOCATION OF A SIGNAL POLE, SIGNAL CABLE, SIGNAL HEADS, AND ALL HARDWARE & APPURTENANCES.

CONTRACTOR SHALL PERFORM ALL WORK AGREEMENTS AS INDICATED IN PLANS AND THIS COST SHALL BE INCLUDED IN THE BID PRICE FOR SIGNAL REMOVALS.

632 - REUSE OF SIGNAL SUPPORT, AS PER PLAN

THE EXISITNG SIGNAL SUPPORT AT STA. 244+16.8, 22.8' LT. SHALL BE RE-ERECTED AT THE PROPOSED LOCATION AS INDICATED IN THE PLANS.

RE-ERECTION WILL INCLUDE THE RE-INSTALLATION OF THE SIGNAL SUPPORT, MAST ARM, SIGNAL CABLE, SIGNAL HEADS, AS WELL AS ALL OTHER HARDWARE AND APPURTENANCES.

CALCULATED KDB CHECKED JMH

TRAFFIC SIGNAL GENERAL NOTES

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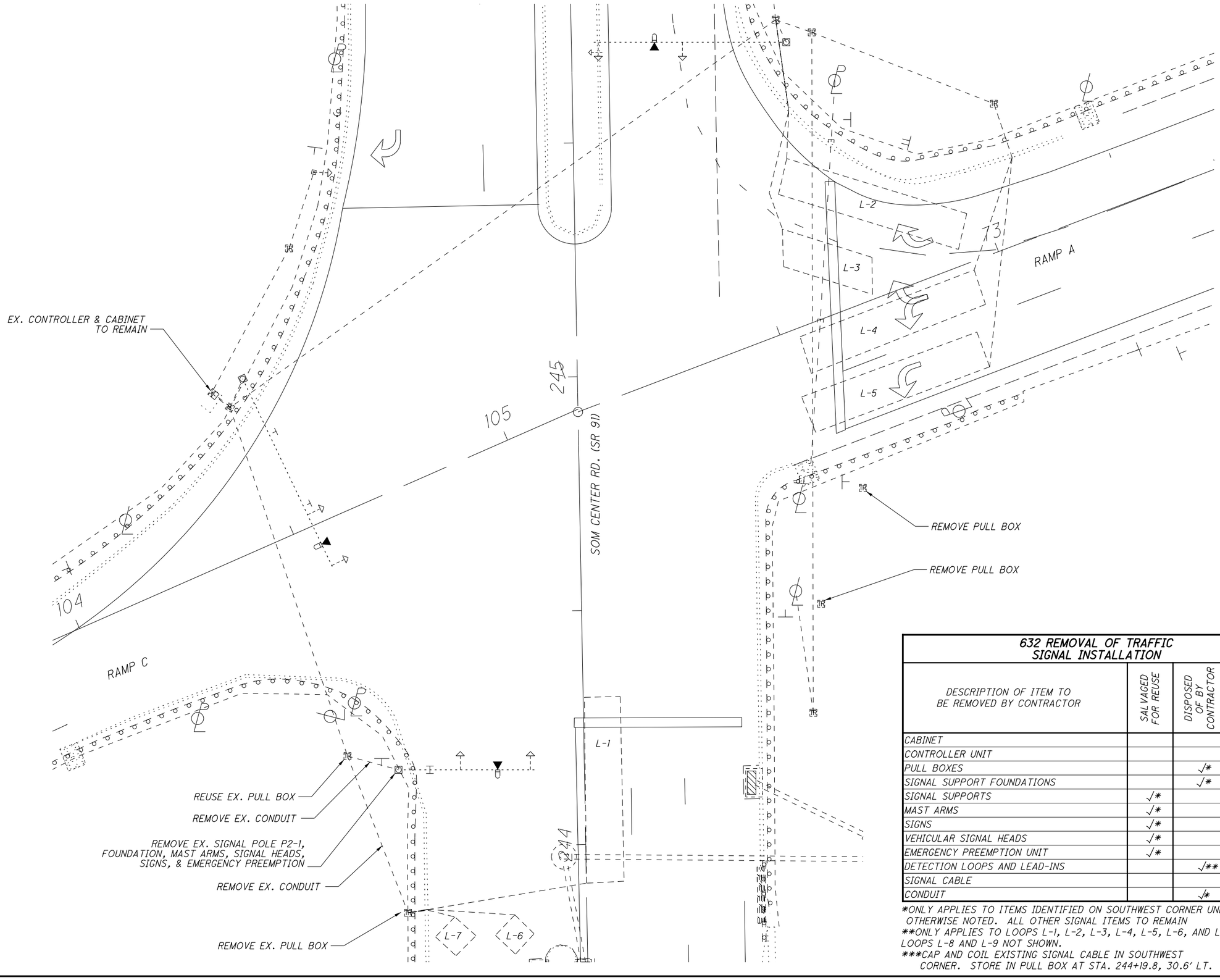

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

DESCRIPTION OF ITEM TO BE REMOVED BY CONTRACTOR	SALVAGED FOR REUSE	DISPOSED OF BY CONTRACTOR	TO REMAIN
CABINET			✓
CONTROLLER UNIT			✓
PULL BOXES		✓*	
SIGNAL SUPPORT FOUNDATIONS		✓*	
SIGNAL SUPPORTS	✓*		
MAST ARMS	✓*		
SIGNS	✓*		
VEHICULAR SIGNAL HEADS	✓*		
EMERGENCY PREEMPTION UNIT	✓*		
DETECTION LOOPS AND LEAD-INS		✓**	
SIGNAL CABLE			✓***
CONDUIT		✓*	

*ONLY APPLIES TO ITEMS IDENTIFIED ON SOUTHWEST CORNER UNLESS OTHERWISE NOTED. ALL OTHER SIGNAL ITEMS TO REMAIN
**ONLY APPLIES TO LOOPS L-1, L-2, L-3, L-4, L-5, L-6, AND L-7. LOOPS L-8 AND L-9 NOT SHOWN.
***CAP AND COIL EXISTING SIGNAL CABLE IN SOUTHWEST CORNER. STORE IN PULL BOX AT STA. 244+19.8, 30.6' LT.

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED KDB
CHECKED JMH

SIGNAL REMOVAL
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

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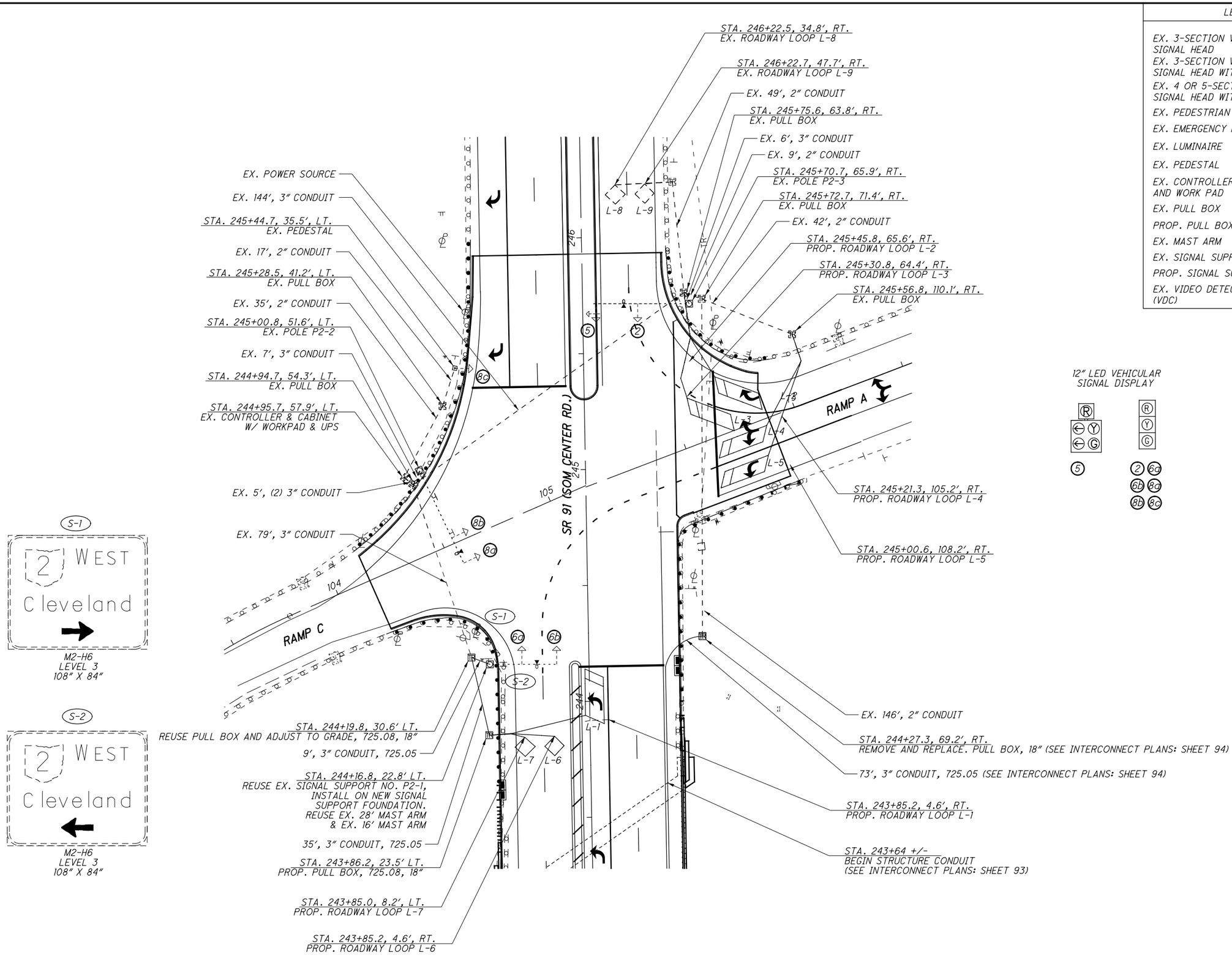
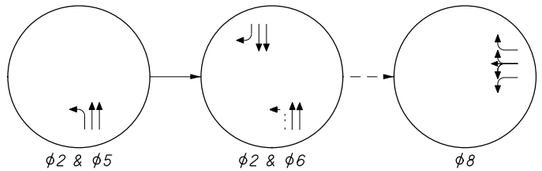


FIELD WIRING HOOK-UP CHART

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
2 (NB)	R	ϕ2R	Y	8a (WB)	R	ϕ8R	R
	Y	ϕ2Y			Y	ϕ8Y	
	G	ϕ2G			G	ϕ8G	
5 (NBLT)	R	ϕ2R	Y	8b (WB)	R	ϕ8R	R
	Y	ϕ2Y			Y	ϕ8Y	
	G	ϕ2G			G	ϕ8G	
	←Y–	ϕ5Y		8c (WB)	R	ϕ8R	R
	←G–	ϕ5G			–Y→	ϕ8Y	
6a (SB)	R	ϕ6R	Y		–G→	ϕ8G	
	Y	ϕ6Y		-	-	-	-
	G	ϕ6G			-	-	
6b (SB)	R	ϕ6R	Y		-	-	
	Y	ϕ6Y			-	-	
	G	ϕ6G			-	-	
PEDESTRIAN MOVEMENTS				OVERLAPS			
-	-	-	-	-	-	-	-
	-	-			-	-	
-	-	-	-	-	-	-	-
	-	-			-	-	
-	-	-	= LS = LOAD SWITCH				
	-	-					

SIGNAL PHASING

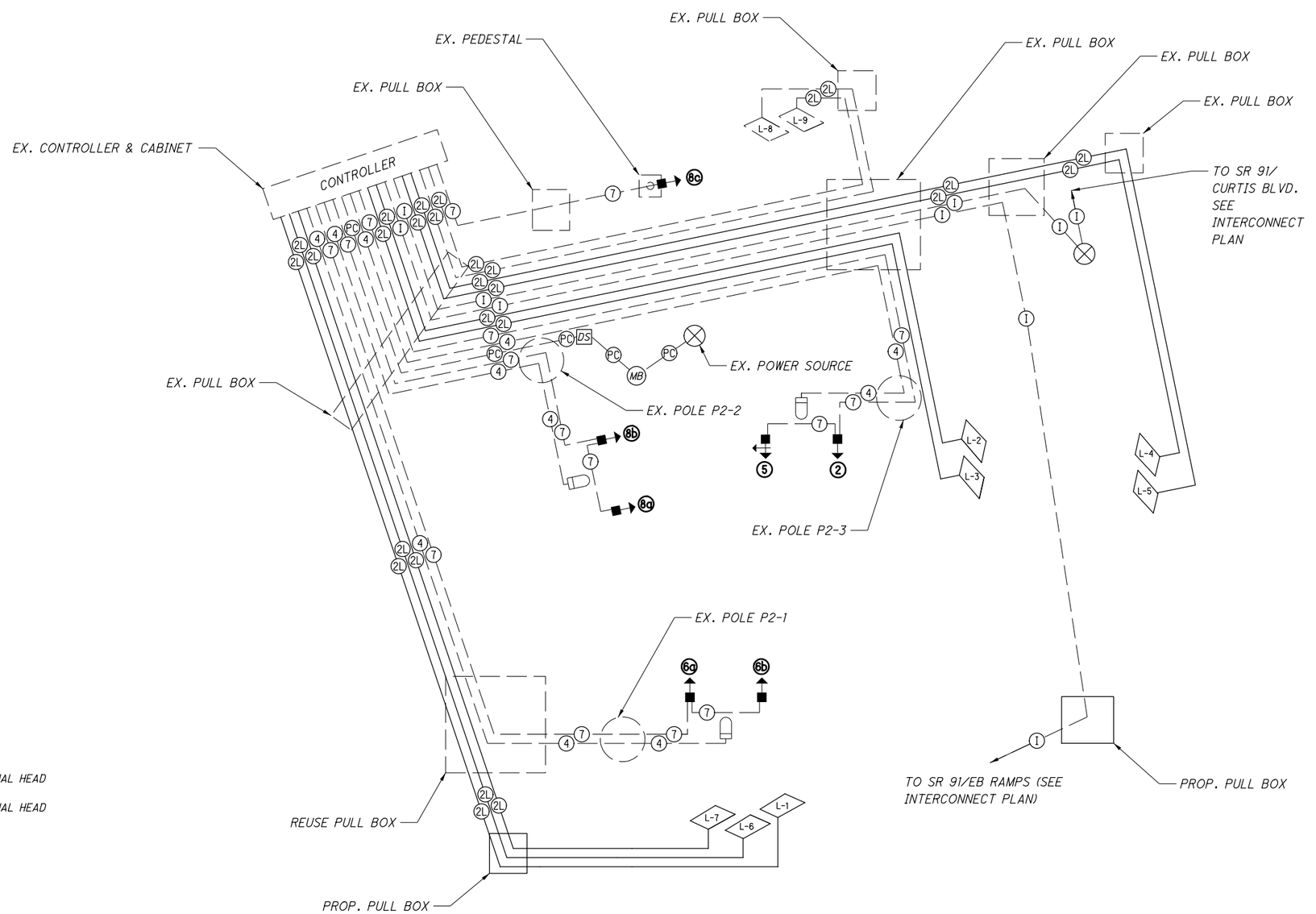


→ VEHICULAR MOVEMENT

- - - ► IF DETECTED

LEGEND

- 2L — 2/C #14 AWG. (LEAD-IN CABLE)
- 3 — 3/C #14 AWG.
- 4 — 4/C #14 AWG. (PREEMPTION CABLE)
- 7 — 7/C #14 AWG.
- DS — DISCONNECT SWITCH
- MB — METER BASE
- SC — SERVICE CABLE, 3/C, NO. 4 AWG.
- PC — POWER CABLE, 2/C, NO. 4 AWG.
- I — INTERCONNECT CABLE
- EX. VEHICULAR SIGNAL HEAD
- EX. 5-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- EX. 3-SECTION VEHICULAR SIGNAL HEAD WITH TURN ARROW
- SPLICE
- VIDEO DETECTION CAMERA
- V — VIDEO CABLE
- PREEMPTION DETECTOR



COORDINATION TIMING

PLAN	TIME PERIOD(S) IN EFFECT	CYCLE LENGTH (SEC.)	CONTROLLER PHASE - SPLITS (%) ↑2 NB	↖5 NBLT	↓6 SB	←8 WB	OFFSET (%)
PROGRAM 1 "AM PEAK"	6:30 AM - 2:30 PM 6:30 PM - 9:00 PM	110	54	18	36	46	29
PROGRAM 2 "PM PEAK"	2:30 PM - 6:30 PM	120	60	21	39	40	12
FREE OPERATION	9:00 PM - 6:30 AM	-	-	-	-	-	-

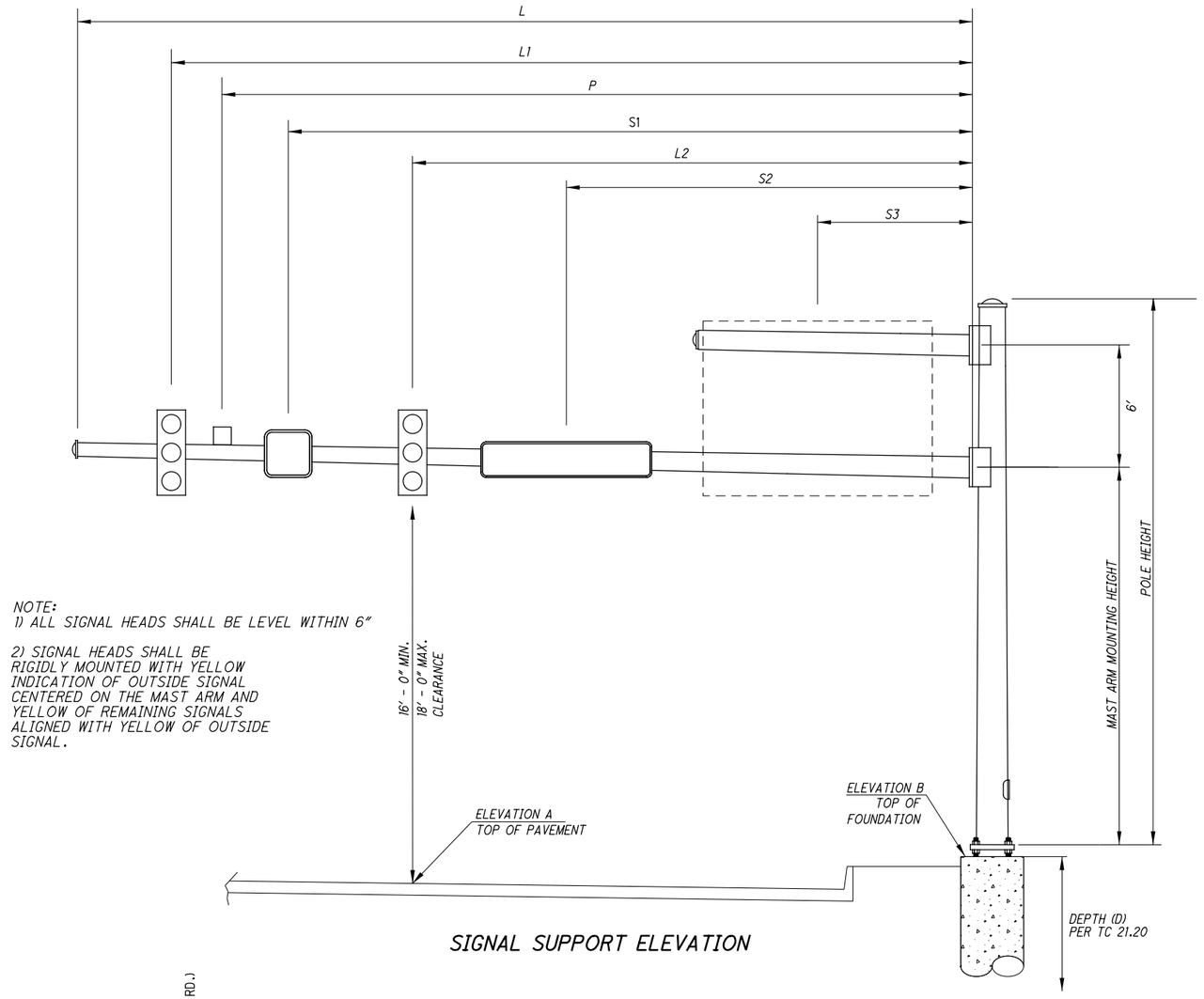
VEHICULAR DETECTORS

ZONE DESIGNATION	CONFIGURATION	ASSOC. PHASE	MVMT.	SIZE	MODE	DELAY (SEC.) CAMERA	DELAY (SEC.) CONTROLLER	EXTENSION (SEC.)	DELAY INHIBITED DURING
L-1	POWERHEAD	ϕ5	NBLT	6' x 20'	PRESENCE	-	-	-	-
L-2	POWERHEAD	ϕ8	WB	6' x 20'	PRESENCE	-	10	-	-
L-3	POWERHEAD	ϕ8	WB	6' x 20'	PRESENCE	-	10	-	-
L-4	POWERHEAD	ϕ8	WB	6' x 20'	PRESENCE	-	-	-	-
L-5	POWERHEAD	ϕ8	WB	6' x 20'	PRESENCE	-	-	-	-
L-6	RECTANGULAR	SYSTEM	-	6' x 6'	PULSE	-	-	-	-
L-7	RECTANGULAR	SYSTEM	-	6' x 6'	PULSE	-	-	-	-
L-8	RECTANGULAR	SYSTEM	-	6' x 6'	PULSE	-	-	-	-
L-9	RECTANGULAR	SYSTEM	-	6' x 6'	PULSE	-	-	-	-

CALCULATED KDB CHECKED JMH

SIGNAL WIRING DETAIL
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

LAK-91-4.56



NOTE:
1) ALL SIGNAL HEADS SHALL BE LEVEL WITHIN 6"

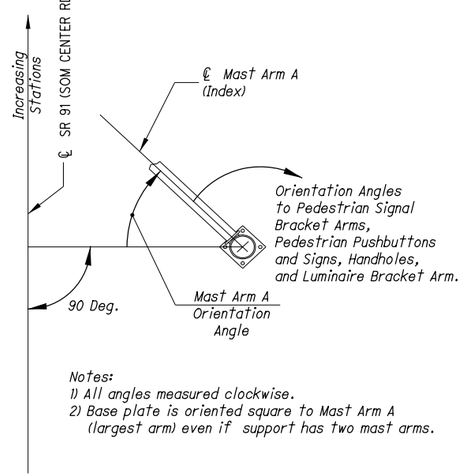
2) SIGNAL HEADS SHALL BE RIGIDLY MOUNTED WITH YELLOW INDICATION OF OUTSIDE SIGNAL CENTERED ON THE MAST ARM AND YELLOW OF REMAINING SIGNALS ALIGNED WITH YELLOW OF OUTSIDE SIGNAL.

SIGNAL SUPPORT ELEVATION

MAST ARM TABLE

SUPPORT #	SIGNAL SUPPORT DETAILS											ELEVATION	
	DESIGN TYPE	DESIGN NO.	POLE HEIGHT, FT.	MAST ARM MOUNTING HEIGHT, FT.	L (FT)	L1 (FT)	L2 (FT)	S1 (FT)	S2 (FT)	S3 (FT)	P (FT)	A	B
P2-1*	TC-81.20	6	27	19	28	27.5	12.5	-	-	-	20	651.9	652.0
-	-	-	-	26	16	-	-	-	-	5.5	-	-	-
P2-2**	TC-81.20	11	23	-	44	43	31	29	12	-	38	649.7	646.6
P2-3**	TC-81.20	11	23	-	40	39	21	-	-	-	27	648.2	647.2
P2-4**	TC-83-20	-	-	-	-	-	-	-	-	-	-	-	650.2
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-

*EXISTING TO BE RELOCATED
**EXISTING TO REMAIN



Notes:
1) All angles measured clockwise.
2) Base plate is oriented square to Mast Arm A (largest arm) even if support has two mast arms.

POLE ORIENTATION

MAST ARM ORIENTATION

SUPPORT NO.	STATION	OFFSET	MAST ARM INDEX ANGLE (DEG.)	ORIENTATION ANGLES (DEG.) FROM MAST ARM A					
				VEHICULAR SIGNAL	BRACKET ARM	HAND HOLE	CONDUIT ELL (POWER)	CONDUIT ELL (SIGNAL)	CONDUIT ELL (SPARE 2")
P2-1*	244+16.8	22.8	1°	-	-	180°	-	203°	-
P2-2**	245+00.8	51.6	66°	-	-	180°	-	49°	-
P2-3**	245+70.7	65.9	1°	-	-	180°	-	65°	-
P2-4**	245+44.7	35.5	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-

*EXISTING TO BE RELOCATED
**EXISTING TO REMAIN

CALCULATED KDB
CHECKED JMH

SIGNAL MAST ARM DETAIL
SR 91 (SOM CENTER RD.) & WB SR 2 RAMPS

LAK-91-4.56

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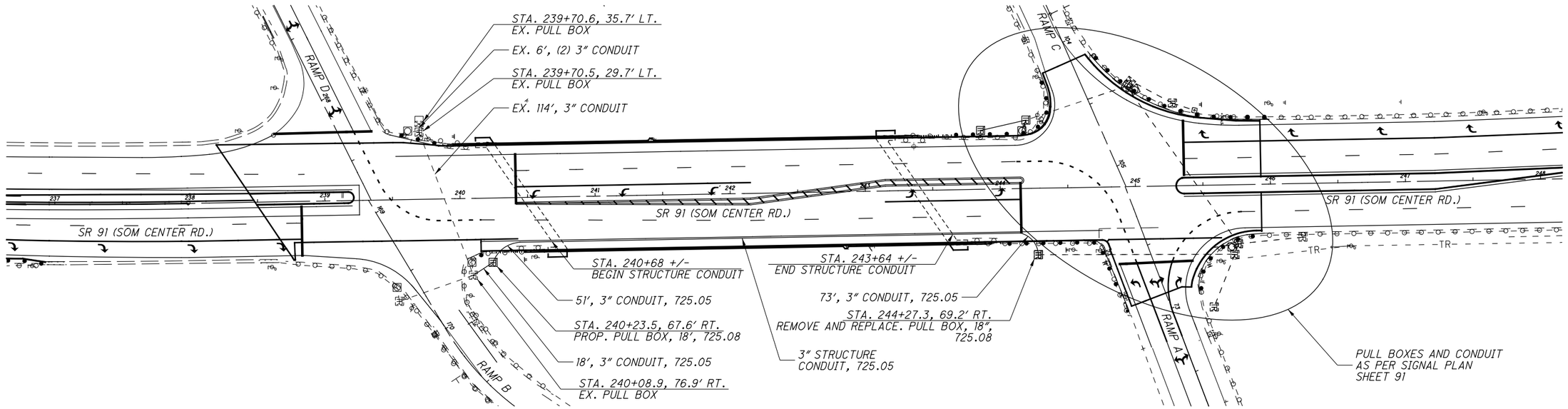

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HORIZONTAL
SCALE IN FEET

CALCULATED KDB
CHECKED JMH

TRAFFIC SIGNAL INTERCONNECT PLAN
SR 91 (SOM CENTER RD.) & SR 2 RAMPS

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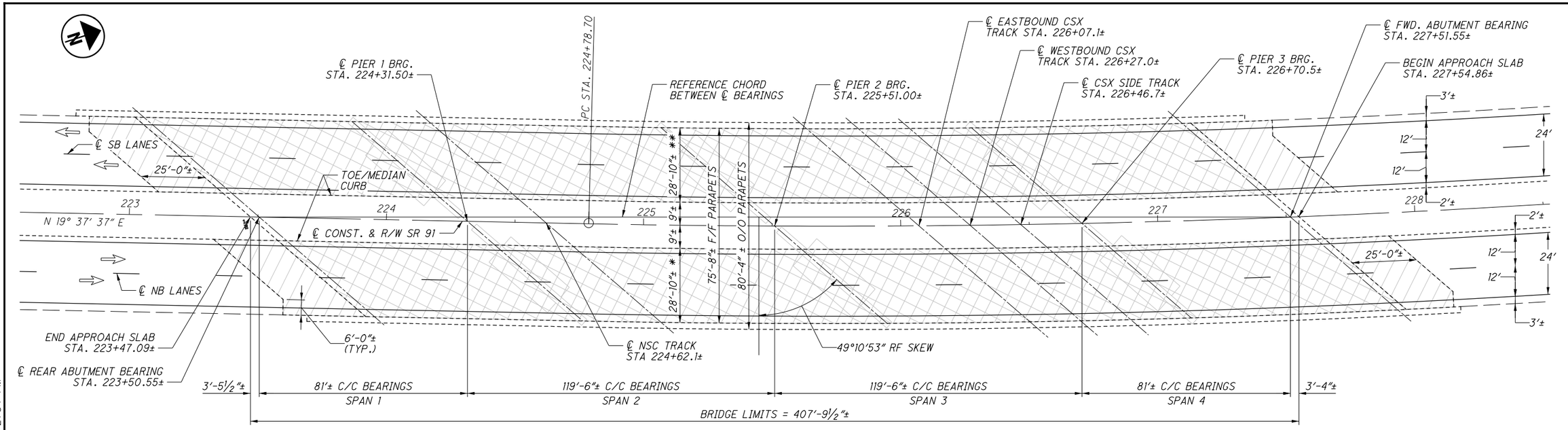


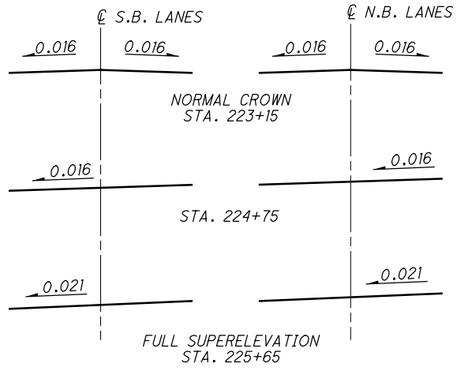
PLAN

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE PROPOSED WORK BLOCK AND GENERAL NOTES.

LEGEND:

* - PHASE 1 CONSTRUCTION
** - PHASE 2 CONSTRUCTION
MSMC - MICRO-SILICA MODIFIED CONCRETE



SUPERELEVATION TRANSITION

DESIGN TRAFFIC:

2016 ADT =	27,700	2016 ADTT =	1,385
2036 ADT =	28,500	2036 ADTT =	1,425

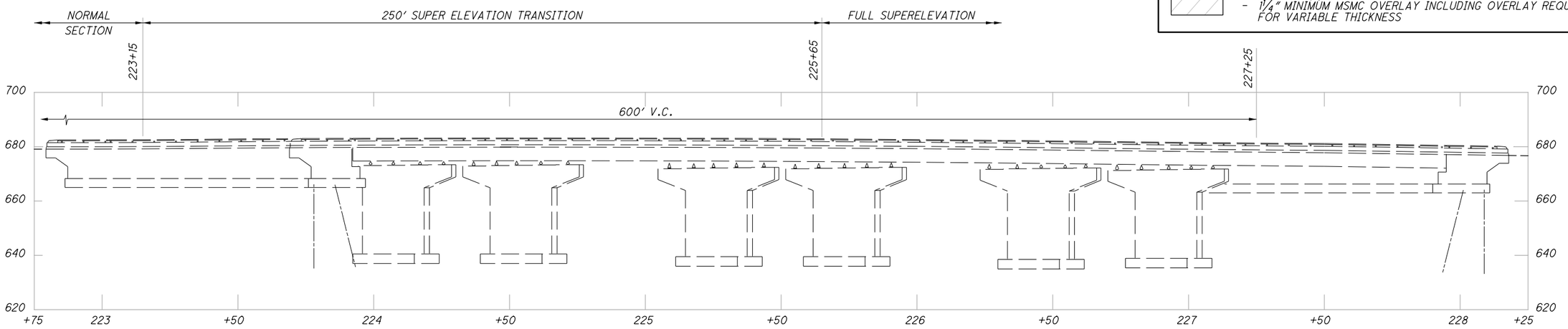
DIRECTIONAL DISTRIBUTION = 0.58

EXISTING STRUCTURE

TYPE: CONTINUOUS WELDED STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES
SPANS: 81'-0", 119'-6", 119'-6", AND 81'-0" (C/C BEARINGS)
ROADWAY: 2 @ 28'-10" F/F SAFETY SHAPED PARAPETS WITH 18' RAISED MEDIAN
SKEW: 49° 10' 53" RIGHT FORWARD
APPROACH SLABS: AS-1-81 (25'-0" LONG)
ALIGNMENT: 1° 15' 00" CURVE LEFT
SUPERELEVATION: 0.021 FT/FT @ FULL SUPERELEVATION
WEARING SURFACE: 1¾" MICRO-SILICA MODIFIED CONCRETE (1994)
COORDINATES: LATITUDE 41° 37' 53.42" LONGITUDE 81° 26' 17.14"

PROPOSED WORK

- REMOVE EXISTING 3"± MSMC OVERLAY AND REPLACE WITH NEW 3" MSMC OVERLAY INCLUDING OVERLAY REQUIRED FOR VARIABLE THICKNESS
- REMOVE 1¼"± OF CONCRETE SURFACE AND REPLACE WITH 1¼" MINIMUM MSMC OVERLAY INCLUDING OVERLAY REQUIRED FOR VARIABLE THICKNESS



ELEVATION

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED AMK | DRAWN AMK | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4305167

LAKE COUNTY
STA. 223+47.09±
STA. 227+54.86±

GENERAL PLAN
LAK-91-0423
SR-91 OVER NSC AND CSX RAILROADS

LAK-91-04.56
PID No. 85147

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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

847 DATED 4/18/14
848 DATED 4/18/14

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF THE ODOT BRIDGE DESIGN MANUAL, 2004; EFFECTIVE 7/18/14.

DECK PROTECTION METHOD

MICRO SILICA MODIFIED CONCRETE OVERLAY

MAINTENANCE OF TRAFFIC

REFER TO MAINTENANCE OF TRAFFIC PLANS SHEETS 11 - 60 OF 161.

EXISTING STRUCTURE VERIFICATION

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSE-QUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAM-INATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPART-MENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 512 - SEALING OF CONCRETE SURFACES

THE COLOR OF CONCRETE SEALER FOR PROPOESD MEDIAN WORK SHALL BE BUFF, FEDERAL COLOR NUMBER 595B-27722.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

ITEM 519, PATCHING CONCRETE STRUCTURES, AS PER PLAN: THIS ITEM INCLUDES PATCHING CONCRETE STRUCTURES PER ITEM 519.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENTS, OR VACUUM ABRASIVE BLASTING.

THE QUANTITY FOR CONCRETE REPAIR BY PATCHING CONCRETE STRUCTURE AS SHOWN IS ESTIMATED TO BE 50% OF THE MEDIAN AREA BASED ON FIELD OBSERVATIONS. THE ACTUAL EXTENT OF PATCHING SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR THE ACTUAL QUANTITY OF CONCRETE REPAIRED BY PATCHING, AS DIRECTED, APPROVED AND ACCEPTED IN PLACE BY THE ENGINEER. PAYMENT INCLUDES ALL COST FOR LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS.

ITEM 847 - EXISTING CONCRETE OVERLAY REMOVED 2 ½" NOMINAL THICKNESS, AS PER PLAN

REMOVE TOP 2½" BY SCARIFICATION PRIOR TO ½" REMOVAL BY HYDRO-DEMOLITION. THIS WILL INCLUDE A NOMINAL 1¾"± THICKNESS OF THE EXISTING CONCRETE OVERLAY AND ¾"± OF EITHER THE EXISTING CONCRETE DECK OR MORE OF THE EXISTING OVERLAY.

ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED ½" NOMINAL THICKNESS, AS PER PLAN

REMOVE AN ADDITIONAL ½" OF THE EXISTING CONCRETE DECK OR THE EXISTING CONCRETE OVERLAY BY HYDR-DEMOLITION. FIELD ADJUST DEPTH AS DIRECTED BY THE ENGINEER.

ITEM 848 - REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY, AS PER PLAN

A LIMITED NUMBER OF CORE SAMPLES OF THE DECK INDICATE THE EXISTING CONCRETE OVERLAY THICKNESS TO RANGE FROM 3"± TO 5"±. THE NOMINAL EXISTING OVERLAY AND DECK REMOVAL THICKNESS WAS CHOSEN TO BE 3" (2½" BY SCARIFICATION AND ½" BY HYDRO-DEMOLITION). ADDITIONAL REMOVAL OF DETERIORATED OVERLAY MATERIAL OR CONCRETE DECK SHALL BE INCLUDED IN THIS ITEM FOR PAYMENT.

ESTIMATED QUANTITIES — CALCULATED: NMS DATE: 4-17-15 — CHECKED: SCT DATE: 4-20-15

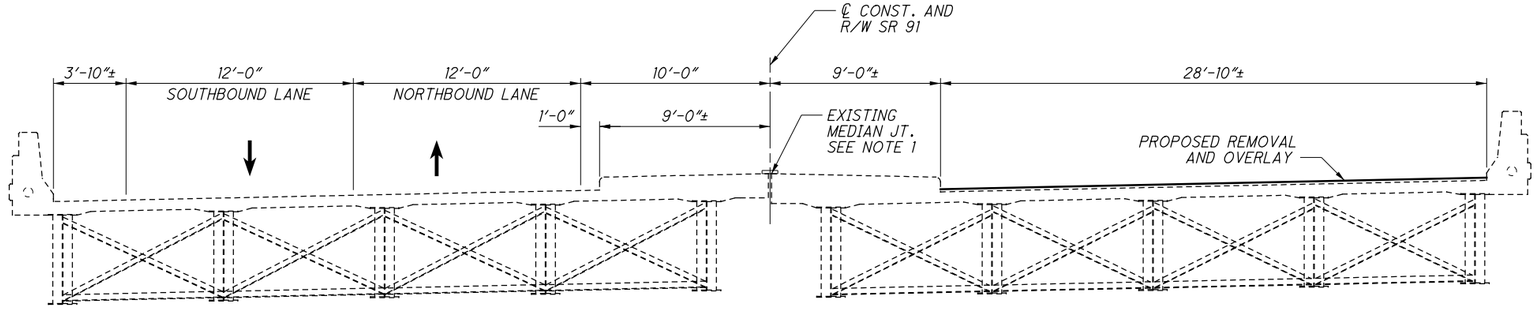
ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	FUNDING SOURCE 01/BRO/BR	FUNDING SOURCE 02/NHS/BR
516	14600	409	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: RAISED CONCRETE MEDIAN JOINT SEAL		409
519	11101	460	SQ FT	PATCHING CONCRETE STRUCTURES, AS PER PLAN		460
847	30401	2613	SQ YD	EXISTING CONCRETE OVERLAY REMOVED 2½" NOMINAL THICKNESS, AS PER PLAN		2613
848	10000	321	SQ YD	MICROSILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, (1¼" THICKNESS)		321
848	10000	2613	SQ YD	MICROSILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, (3" THICKNESS)		2613
848	30001	82	CU YD	MICROSILICA MODIFIED CONCRETE OVERLAY, (VARIABLE THICKNESS) MATERIAL ONLY, AS PER PLAN		82
848	50000	262	SQ YD	HAND CHIPPING		262
848	50100	LUMP		TEST SLAB		LUMP
848	50200	1	CU YD	FULL DEPTH REPAIR		1
848	50320	321	SQ YD	EXISTING CONCRETE OVERLAY REMOVED 1¼" NOMINAL THICKNESS		321
848	50321	2613	SQ YD	EXISTING CONCRETE OVERLAY REMOVED ½" NOMINAL THICKNESS, AS PER PLAN		2613
848	50340	321	SQ YD	REMOVAL DEBONDED OR DETERIORATED EXISTING, VARIABLE THICKNESS CONCRETE OVERLAY		321
848	50341	2613	SQ YD	REMOVAL DEBONDED OR DETERIORATED EXISTING, VARIABLE THICKNESS CONCRETE OVERLAY, AS PER PLAN		2613

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

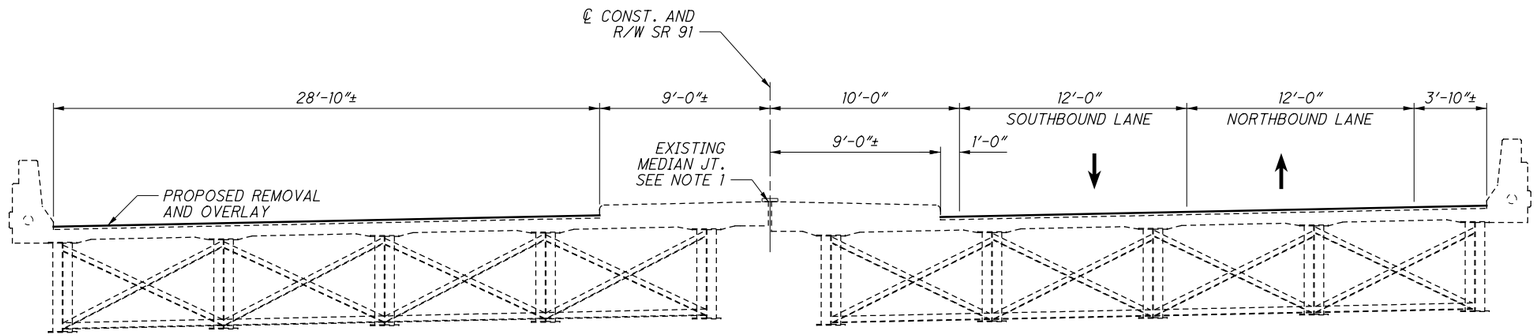
DESIGNED AMK | DRAWN AMK | REVIEWED SCT | DATE 7/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4305167

GENERAL NOTES AND ESTIMATED QUANTITIES
LAK-91-0423
SR-91 OVER NSC AND CSX RAILROADS

LAK-91-04.56
PID No. 85147



STAGE 1 - CONSTRUCTION



STAGE 2 - CONSTRUCTION

NOTE:

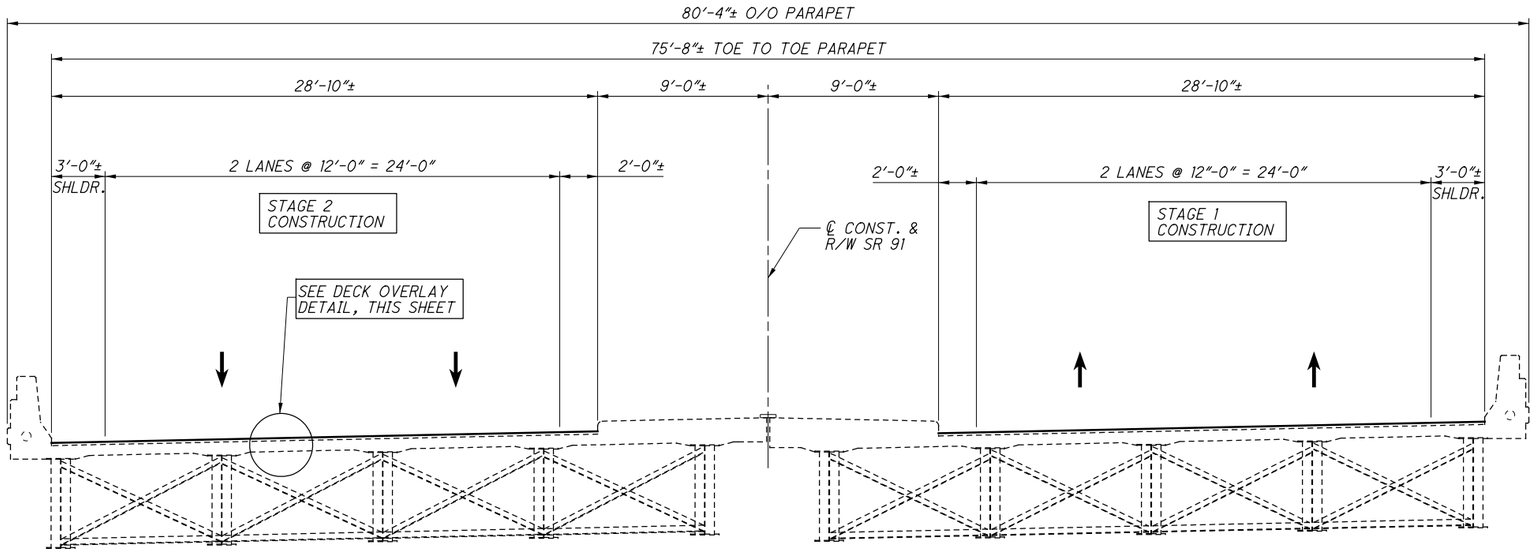
1. EXISTING MEDIAN JOINT SEAL TO BE REPLACED IN KIND AFTER ALL PROPOSED OVERLAY WORK PER ITEM 516: STRUCTURAL JOINT OR JOIN SEALER, MISC.: RAISED CONCRETE MEDIAN JOINT SEAL

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

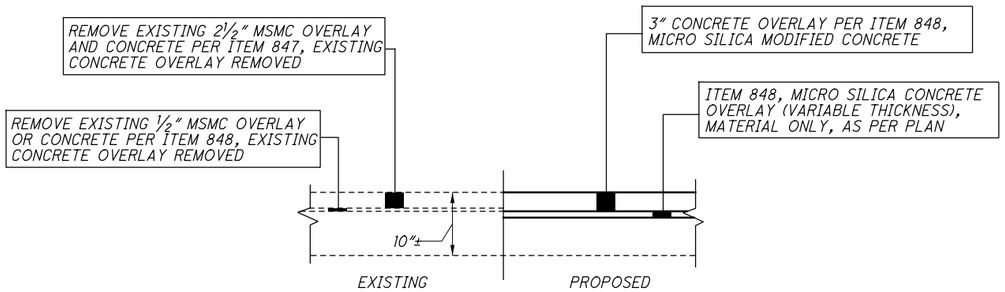
DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4305167	

STAGE CONSTRUCTION DETAILS
LAK-91-0423
SR-91 OVER NSC AND CSX RAILROADS

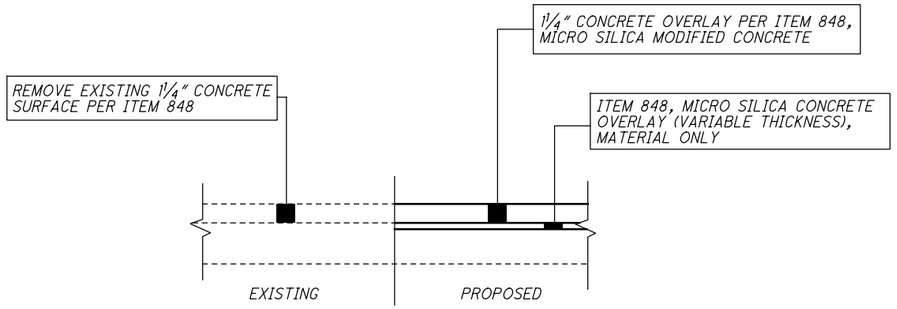
LAK-91-04.56
PID No. 85147



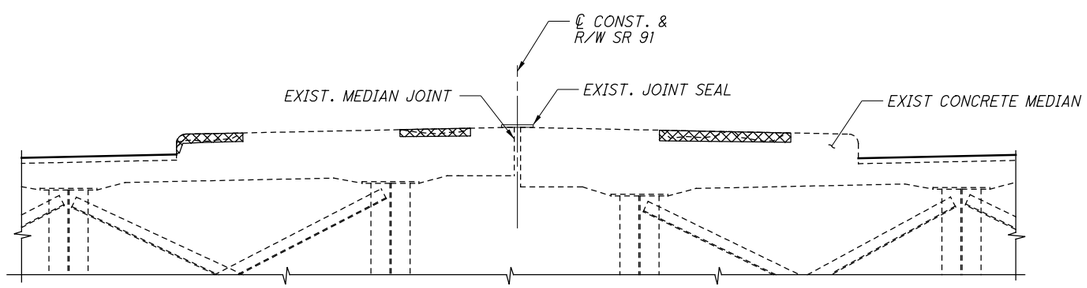
TRANSVERSE SECTION



DECK OVERLAY DETAIL



APPROACH SLAB OVERLAY DETAIL
(LAK-91-0423 ONLY)



MEDIAN REPAIR DETAIL

- DENOTES AREAS OF DELAMINATED OR SPALLED CONCRETE TO BE REPAIRED AND PAID FOR UNDER ITEM 519 - PATCHING OF CONCRETE STRUCTURE, AS PER PLAN

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE PROPOSED WORK BLOCK, FRAMED TEXT AND/OR GENERAL NOTES.
3. SEE MAINTENANCE OF TRAFFIC PLANS, SHEETS 11 - 60 OF 161 FOR ADDITIONAL DETAILS.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

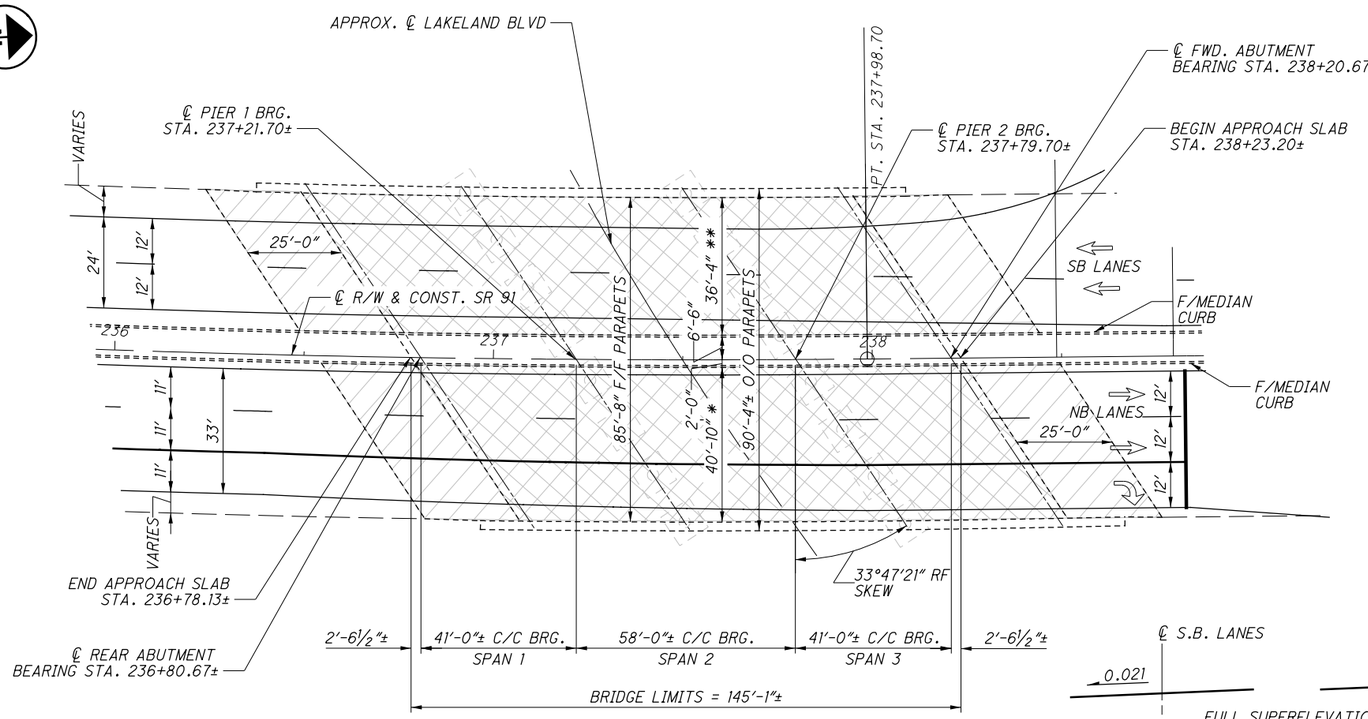
DESIGNED AMK | DRAWN AMK | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4305167

TRANSVERSE SECTION
LAK-91-0423
SR-91 OVER NSC AND CRX RAILROADS

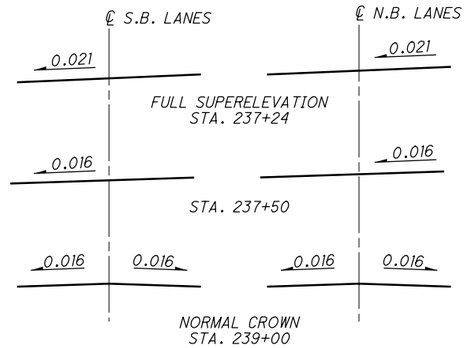
LAK-91-04.56
PID No. 85147

4 / 4

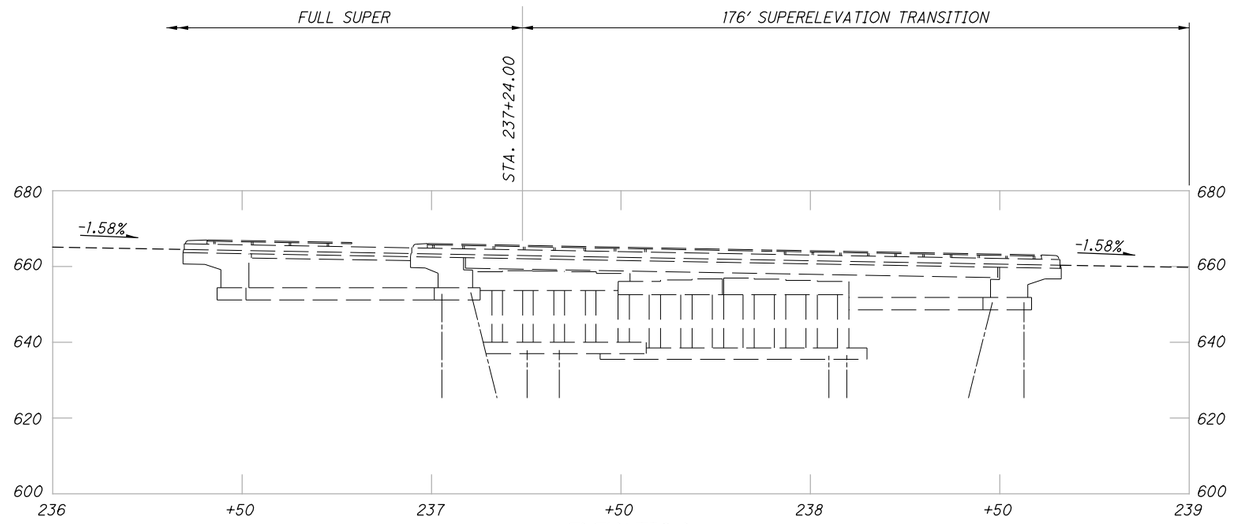
98
161



PLAN



SUPERELEVATION TRANSITION



ELEVATION

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE PROPOSED WORK BLOCK, FRAMED TEXT AND/OR GENERAL NOTES.

DESIGN TRAFFIC:

2016 ADT = 27,700 2016 ADTT = 1,385
2036 ADT = 28,500 2036 ADTT = 1,425
DIRECTIONAL DISTRIBUTION = 0.58

LEGEND:

* - PHASE 1 CONSTRUCTION
** - PHASE 2 CONSTRUCTION
MSMC - MICRO-SILICA MODIFIED CONCRETE

PROPOSED WORK

- REMOVE EXISTING 3"± MSMC OVERLAY AND REPLACE WITH NEW 3" MSMC OVERLAY INCLUDING OVERLAY REQUIRED FOR VARIABLE THICKNESS

- REAR APPROACH SLAB: REMOVE EXISTING 3"± ASPHALT OVERLAY AND REPLACE WITH 3" MSMC OVERLAY INCLUDING OVERLAY REQUIRED FOR VARIABLE THICKNESS
- FWD. APPROACH SLAB: REMOVE EXISTING 5"± ASPHALT OVERLAY AND REPLACE WITH 5" MSMC OVERLAY INCLUDING OVERLAY REQUIRED FOR VARIABLE THICKNESS

EXISTING STRUCTURE

TYPE: CONTINUOUS ROLLED STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 41'-0", 58'-0", 41'-0"
ROADWAY: 2 @ 33'-10" F/F SAFETY SHAPED PARAPETS WITH 18'-0" RAISED MEDIAN
SKEW: 33° 37' 19" RF
APPROACH SLABS: AS-1-54 25'-0" LONG
ALIGNMENT: 1° 15' 00" CURVE LEFT
SUPERELEVATION: 0.021 FT/FT @ FULL SUPERELEVATION
WEARING SURFACE: 1¾" MICRO-SILICA MODIFIED CONCRETE (1994)
COORDINATES: LATITUDE 41° 38' 04.92"
LONGITUDE 81 26' 15.10"

MANNIK SMITH GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED AMK | DRAWN AMK | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4305191

LAKE COUNTY
STA. 236+78.13±
STA. 238+23.20±

GENERAL PLAN
LAK-91-0449
SR-91 OVER LAKELAND BLVD.

LAK-91-04.56
PID No. 85147

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

EXJ-4-87 REVISED 7/19/02

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

847 DATED 4/18/14
848 DATED 4/18/14

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF THE ODOT BRIDGE DESIGN MANUAL, 2004; EFFECTIVE 7/18/14.

DESIGN STRESSES

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI

DECK PROTECTION METHOD

MICRO SILICA MODIFIED CONCRETE OVERLAY

MAINTENANCE OF TRAFFIC

REFER TO MAINTENANCE OF TRAFFIC PLANS SHEETS 11 - 60 OF 161.

EXISTING STRUCTURE VERIFICATION

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 202 - REMOVE PORTIONS OF EXISTING STRUCTURE, AS PER PLAN

REMOVE PORTIONS OF EXISTING STRUCTURE AS SHOWN ON SHEET 6/6.

ITEM 512 - SEALING OF CONCRETE SURFACES, EPOXY URETHANE, AS PER PLAN

THE COLOR OF CONCRETE SEALER FOR PROPOSED CONCRETE MEDIAN WORK SHALL BE BUFF, FEDERAL COLOR NUMBER 595B-27722.

ITEM 516 - STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN

REPLACE PART OF THE STRUCTURAL STEEL EXPANSION JOINT PER THE DETAILS AND NOTES ON SHEET 6/6.

ITEM 516 - ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN

REMOVE AND REPLACE ENTIRE EXISTING EXPANSION JOINT STRIP SEAL GLAND PER THE DETAILS AND NOTES ON SHEET 6/6.

ITEM 847 - EXISTING CONCRETE OVERLAY REMOVED 2 ½" NOMINAL THICKNESS, AS PER PLAN

REMOVE TOP 2½" BY SCARIFICATION PRIOR TO ½" REMOVAL BY HYDRO-DEMOLITION. THIS WILL INCLUDE A NOMINAL 1¾"± THICKNESS OF THE EXISTING CONCRETE OVERLAY AND ¾"± OF EITHER THE EXISTING CONCRETE DECK OR MORE OF THE EXISTING OVERLAY.

ITEM 848 - EXISTING CONCRETE OVERLAY REMOVED ½" NOMINAL THICKNESS, AS PER PLAN

REMOVE AN ADDITIONAL ½" OF THE EXISTING CONCRETE DECK OR THE EXISTING CONCRETE OVERLAY BY HYDR-DEMOLITION. FIELD ADJUST DEPTH AS DIRECTED BY THE ENGINEER.

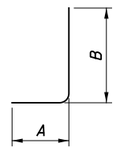
ITEM 848 - REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY, AS PER PLAN

A LIMITED NUMBER OF CORE SAMPLES OF THE DECK INDICATE THE EXISTING CONCRETE OVERLAY THICKNESS TO RANGE FROM 3"± TO 5"±. THE NOMINAL EXISTING OVERLAY AND DECK REMOVAL THICKNESS WAS CHOSEN TO BE 3" (2½" BY SCARIFICATION AND ½" BY HYDRO-DEMOLITION). ADDITIONAL REMOVAL OF DETERIORATED OVERLAY MATERIAL OR CONCRETE DECK SHALL BE INCLUDED IN THIS ITEM FOR PAYMENT.

ESTIMATED QUANTITIES — CALCULATED: DRH DATE: 4-17-15 — CHECKED: KRH DATE: 4-20-15

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	FUNDING SOURCE 01/BRO/BR	FUNDING SOURCE 02/NHS/BR
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN		LUMP
509	10000	3692	POUND	EPOXY COATED REINFORCING STEEL		3766
510	10000	278	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		278
511	34410	20	CU YD	CLASS QC2 CONCRETE, SUPERSTRUCTURE		20
512	10101	120	SQ YD	SEALING OF CONCRETE SURFACES, EPOXY URETHANE, AS PER PLAN		120
516	01301	102	LF	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS, AS PER PLAN		102
516	12201	12	LF	STRUCTURAL STEEL EXPANSION JOINT, AS PER PLAN		12
847	10000	109	SQ YD	MICROSILICA MODIFIED CONCRETE OVERLAY, (1¾" THICKNESS)		109
847	30401	1243	SQ YD	EXISTING CONCRETE OVERLAY REMOVED 2½" NOMINAL THICKNESS, AS PER PLAN		1243
848	10000	215	SQ YD	MICROSILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, (5" THICKNESS)		215
848	10000	215	SQ YD	MICROSILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, (3" THICKNESS)		215
848	10000	1243	SQ YD	MICROSILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, (3" THICKNESS)		1243
848	20000	430	SQ YD	SURFACE PREPERATION USING HYDRO-DEMOLITION		430
848	30001	47	CU YD	MICROSILICA MODIFIED CONCRETE OVERLAY, (VARIABLE THICKNESS) MATERIAL ONLY, AS PER PLAN		47
848	50000	125	SQ YD	HAND CHIPPING		125
848	50100	LUMP		TEST SLAB		LUMP
848	50200	1	CU YD	FULL DEPTH REPAIR		1
848	50300	430	SQ YD	WEARING COURSE REMOVED, ASPHALT		430
848	50321	1243	SQ YD	EXISTING CONCRETE OVERLAY REMOVED ½" NOMINAL THICKNESS, AS PER PLAN		1243
848	50341	1243	SQ YD	REMOVAL DEBONDED OR DETERIORATED EXISTING, VARIABLE THICKNESS CONCRETE OVERLAY, AS PER PLAN		1243

MARK	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
LS501	254	5'-1"	1347	1	0'-9"	4'-6"					
LS502	12	5'-7"	70	1	0'-9"	5'-0"					
LS503	12	6'-4"	79	1	0'-9"	5'-8 ½"					
LS601	24	30'-0"	1081	STR							
LS602	6	32'-7"	294	STR							
LS603	10	23'-6"	354	STR							
LS604	12	25'-11"	467	STR							
		SUB-TOTAL	3,692								



TYPE-1

BENDING DIAGRAM

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

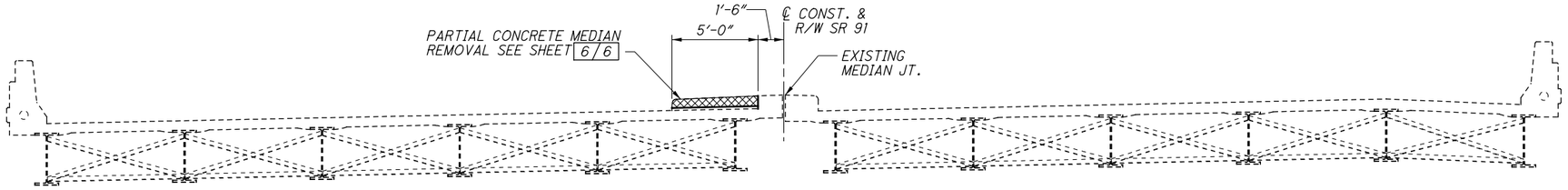
DESIGNED AMK | DRAWN AMK | REVIEWED SCT | DATE 7/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4305191

GENERAL NOTES
LAK-91-0449
SR-91 OVER LAKELAND BLVD.

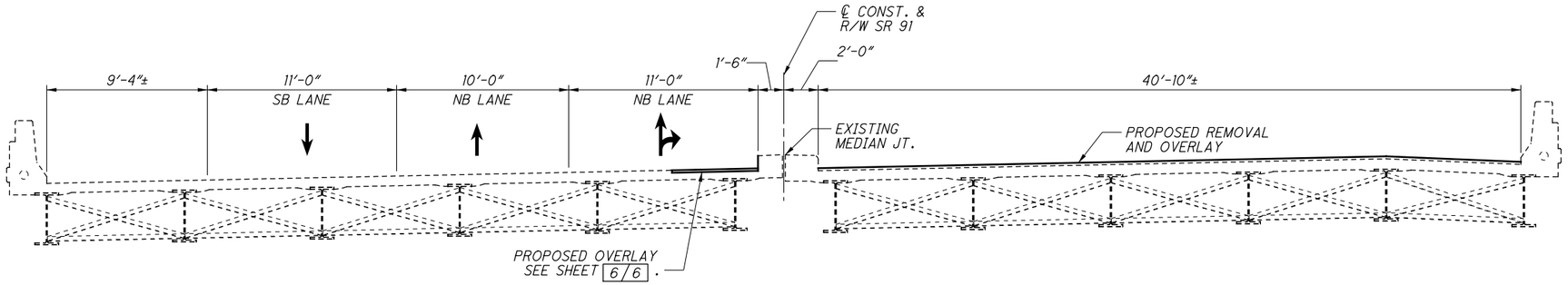
LAK-91-04.56
PID No. 85147

2 / 6

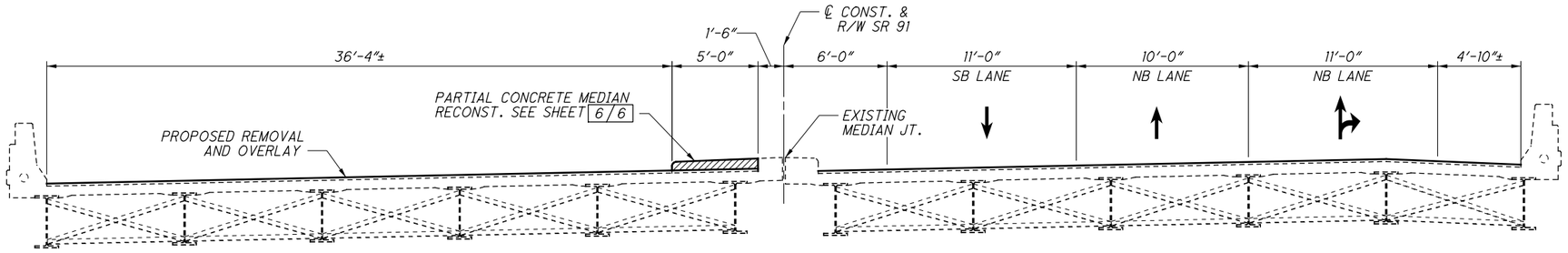
100 / 161



STAGE 1 - REMOVAL



STAGE 1 - CONSTRUCTION



STAGE 2 - CONSTRUCTION

LEGEND:

PORTION OF CONCRETE MEDIAN TO BE REMOVED (TO BE PAID WITH ITEM 202: PORTIONS OF STRUCTURE REMOVED)

PORTION OF CONCRETE MEDIAN TO BE CONSTRUCTED

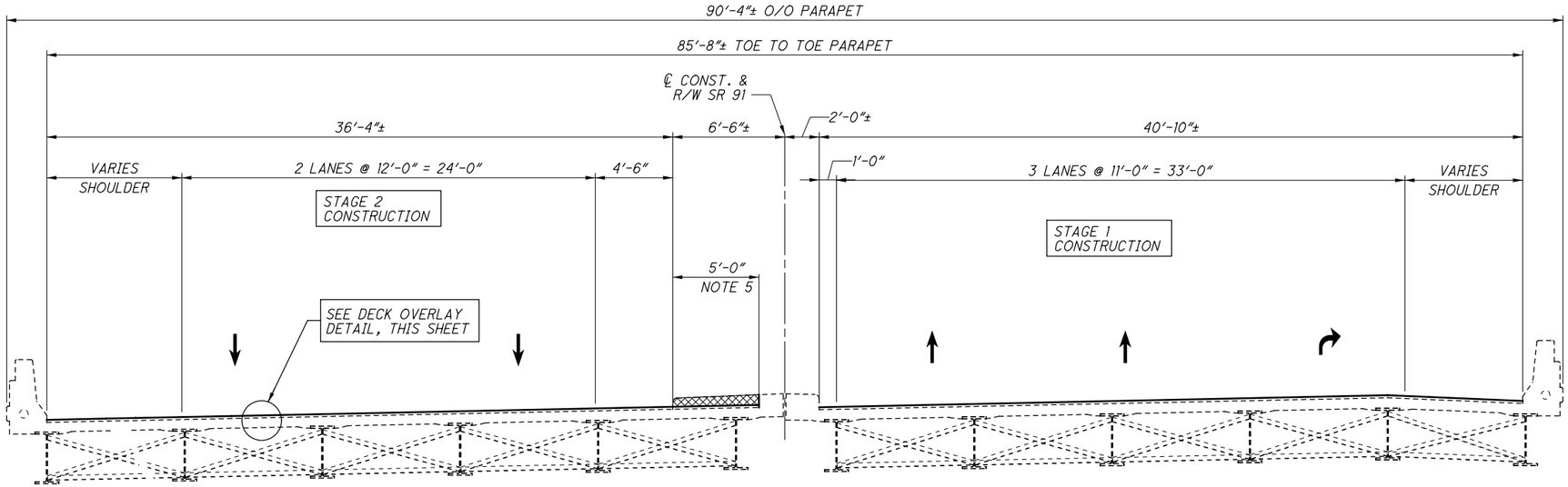
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4305191	

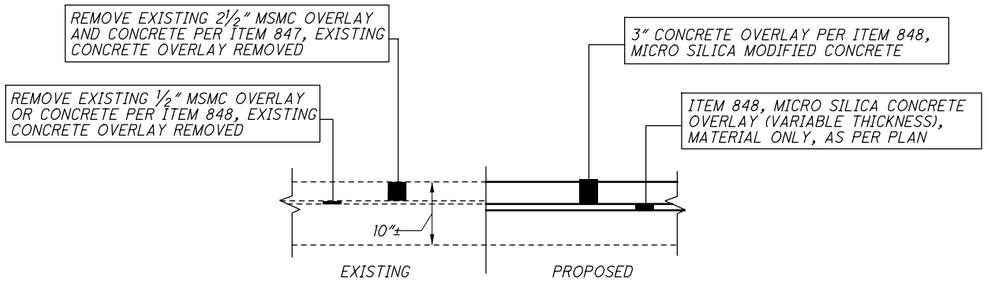
STAGE CONSTRUCTION DETAILS

LAK-91-0449
SR 91 OVER LAKELAND BLVD.

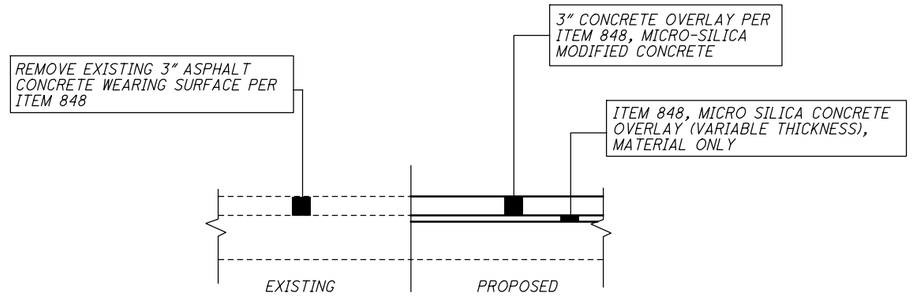
LAK-91-04.56
PID No. 85147



TRANSVERSE SECTION

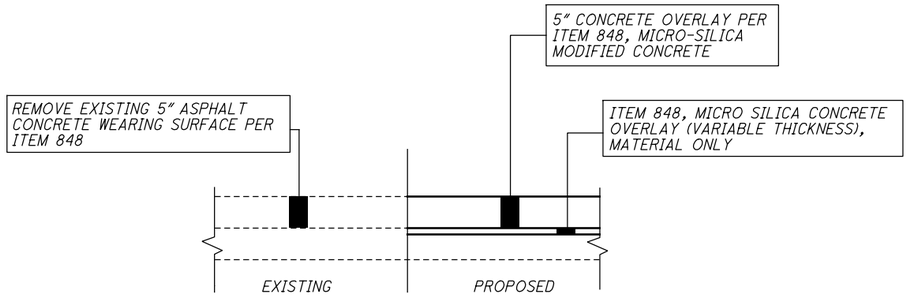


DECK OVERLAY DETAIL



REAR APPROACH SLAB OVERLAY DETAIL

(LAK-91-0449 ONLY)



FORWARD APPROACH SLAB OVERLAY DETAIL

(LAK-91-0449 ONLY)

NOTES:

1. DETAILS ON THIS SHEET ARE TAKEN FROM EXISTING PLANS AND SHOULD BE USED FOR INFORMATION ONLY.
2. PERFORM ONLY THE WORK AS INDICATED IN THE PROPOSED WORK BLOCK, FRAMED TEXT AND/OR GENERAL NOTES.
3. SEE MAINTENANCE OF TRAFFIC PLANS, SHEETS 11 - 60 OF 161 FOR ADDITIONAL DETAILS.
4. REMOVE PART OF RAISED MEDIAN AND PLACE A 1¾" MICRO-SILICA MODIFIED CONCRETE OVERLAY PRIOR TO THE STAGE 1 MOT. RAISED MEDIAN SHALL BE RECONSTRUCTED DURING STAGE 2. SEE SHEET 6/6 FOR DETAILS. PAYMENT TO BE INCLUDED WITH ITEM 847: MICROSILICA MODIFIED CONCRETE OVERLAY, (1¾" THICKNESS)

LEGEND:

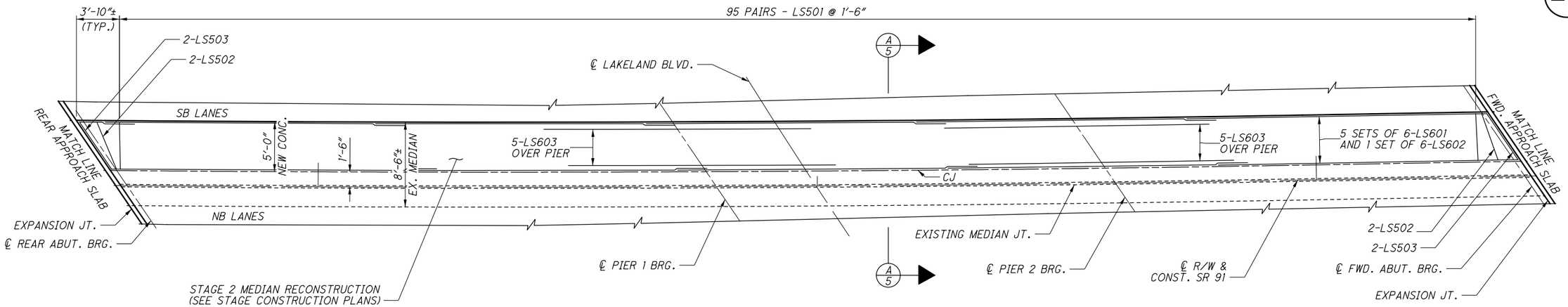
▨ - PORTIONS OF EXISTING RAISED MEDIAN TO BE REMOVED

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

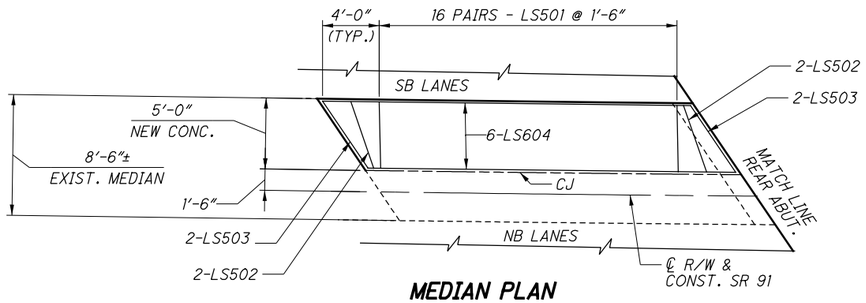
DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4305191	

TRANSVERSE SECTION
LAK-91-0449
SR-91 OVER LAKELAND BLVD.

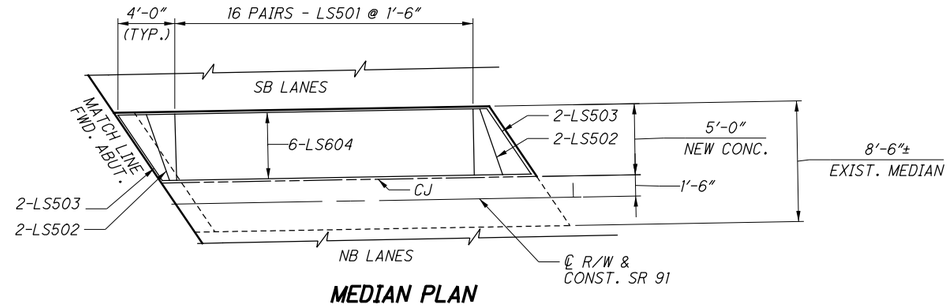
LAK-91-04.56
PID No. 85147



MEDIAN PLAN
DECK

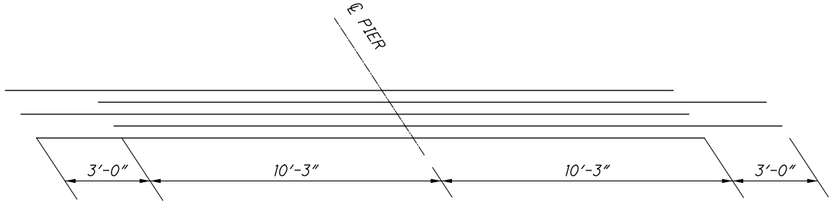


MEDIAN PLAN
REAR APPROACH SLAB

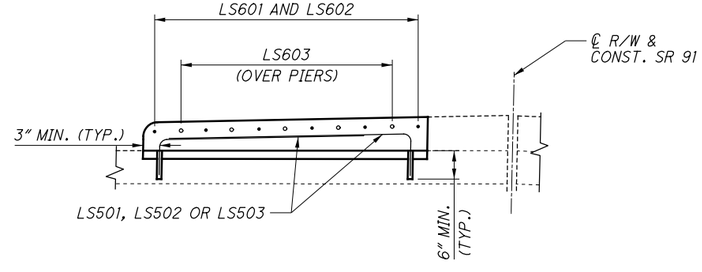


MEDIAN PLAN
FORWARD APPROACH SLAB

MEDIAN REINFORCING REQUIRED LAP LENGTHS	
NO. 5 BARS	2'-5" MIN.
NO. 6 BARS	2'-11" MIN.



S603 BARS STAGGERED OVER PIERS



SECTION A-A
SEE MEDIAN PLAN, THIS SHEET

NOTES:

1. FOR ADDITIONAL INFORMATION, SEE SHEET 6/6.

7/28/2015 3:22:20 PM
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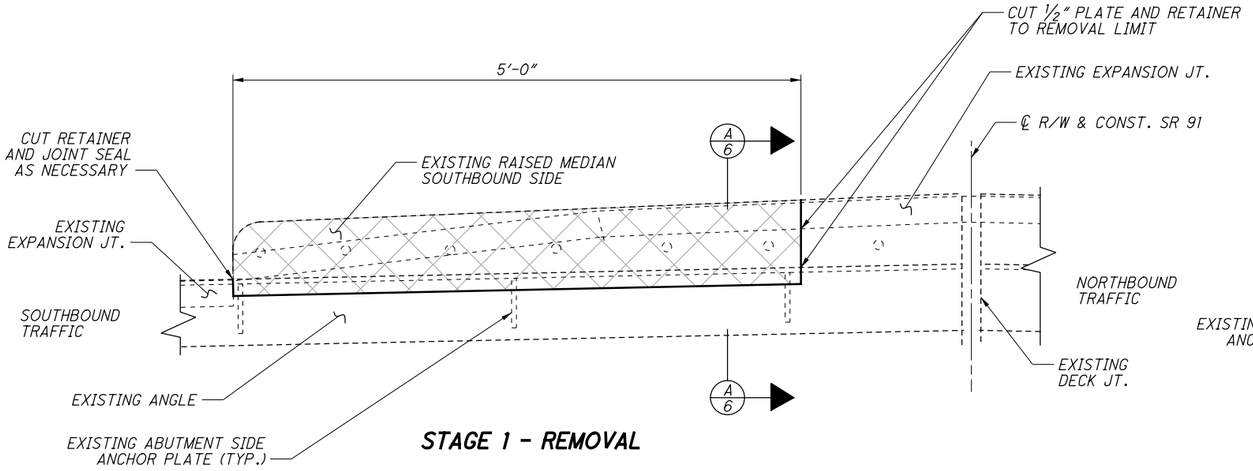
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

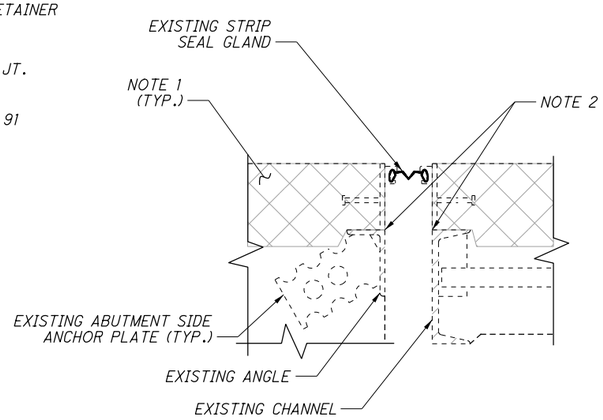
DESIGNED AMK | DRAWN AMK | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 430591

MEDIAN PLAN
LAK-91-0449
SR-91 OVER LAKELAND BLVD.

LAK-91-04.56
PID No. 85147



STAGE 1 - REMOVAL



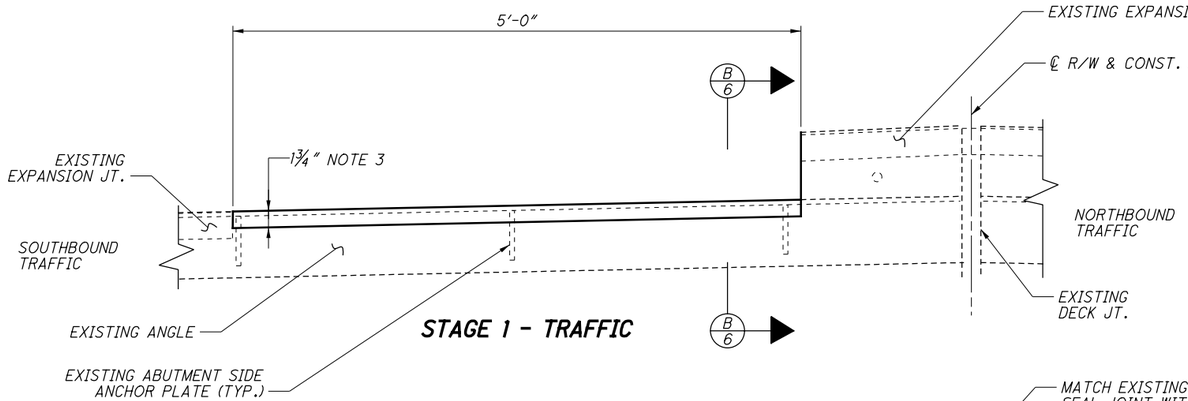
SECTION A-A

NOTES:

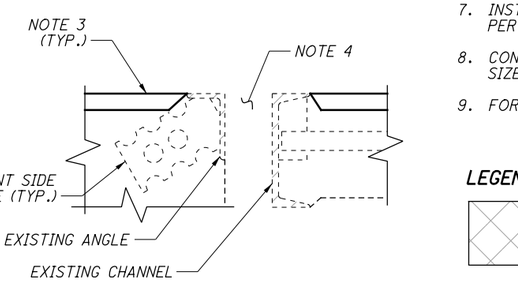
1. REMOVE RAISED MEDIAN PLUS ADDITIONAL 1¾" OF DECK. CUT ANY REINFORCING STEEL FLUSH WITH HORIZONTAL LIMIT (TYP. ENTIRE LENGTH OF MEDIAN). INCLUDE WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
2. REMOVE THE EXISTING JOINT ARMOR BY CUTTING THE ½" PLATES AT THE WELD ABOVE THE ANGLE AND CHANNEL. GRIND THE TOP OF ANGLE AND CHANNEL SMOOTH. INCLUDE WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
3. PROVIDE A 1¾" MSMC OVERLAY FOR A SMOOTH DRIVING SURFACE DURING STAGE 1 CONSTRUCTION.
4. EXPANSION JOINT TO REMAIN OPEN (TEMPORARILY) DURING STAGE 1 CONSTRUCTION.
5. CAST NEW RAISED MEDIAN, MATCH EXISTING LOCATION, HEIGHT, AND CROSS SLOPE. INCLUDE NEW, RAISED MEDIAN ON SUPERSTRUCTURE AND SUBSTRUCTURE WITH ITEM 511 - CLASS QC2 CONCRETE, SUPERSTRUCTURE.
6. DOWEL MEDIAN REINFORCING 6" INTO DECK. INCLUDE WITH ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT.
7. INSTALL NEW ½" PLATES AND STEEL RETAINERS PER STD. DWG. EXJ-4-87.
8. CONTRACTOR SHALL FIELD VERIFY JOINT ARMOR SIZES AND DIMENSIONS PRIOR TO CONSTRUCTION.
9. FOR ADDITIONAL MEDIAN REINFORCING SEE SHEET 5/6.

LEGEND:

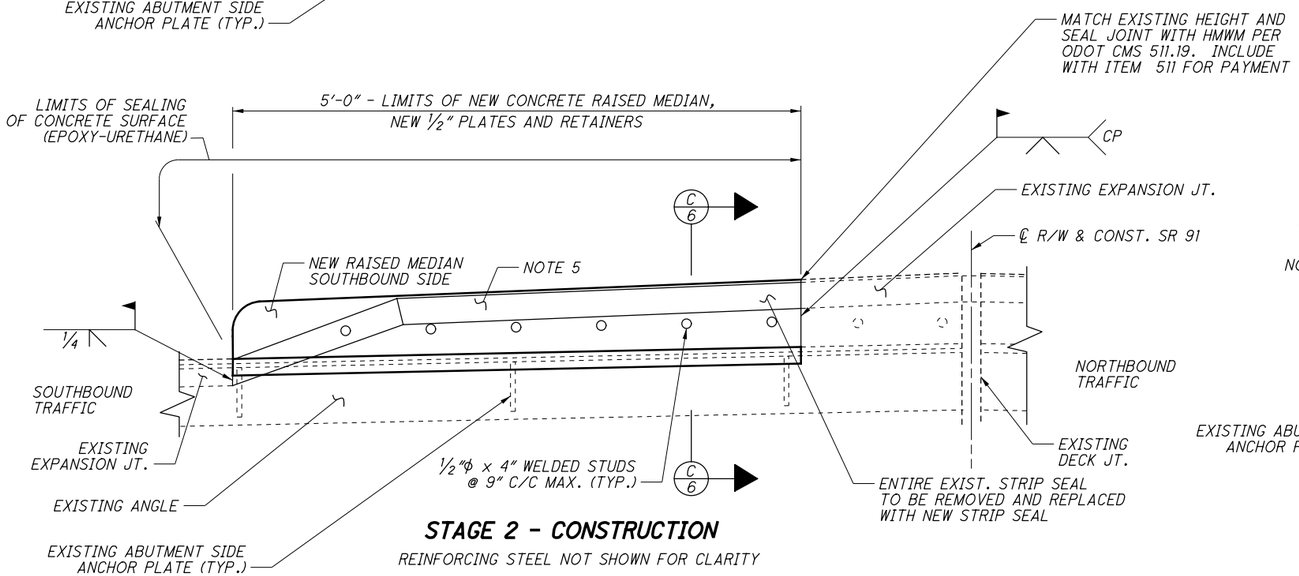
- LIMITS OF REMOVAL



STAGE 1 - TRAFFIC

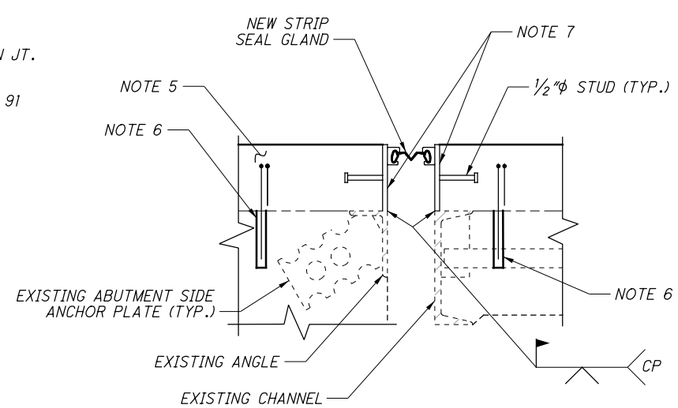


SECTION B-B



STAGE 2 - CONSTRUCTION

REINFORCING STEEL NOT SHOWN FOR CLARITY



SECTION C-C

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4305191	

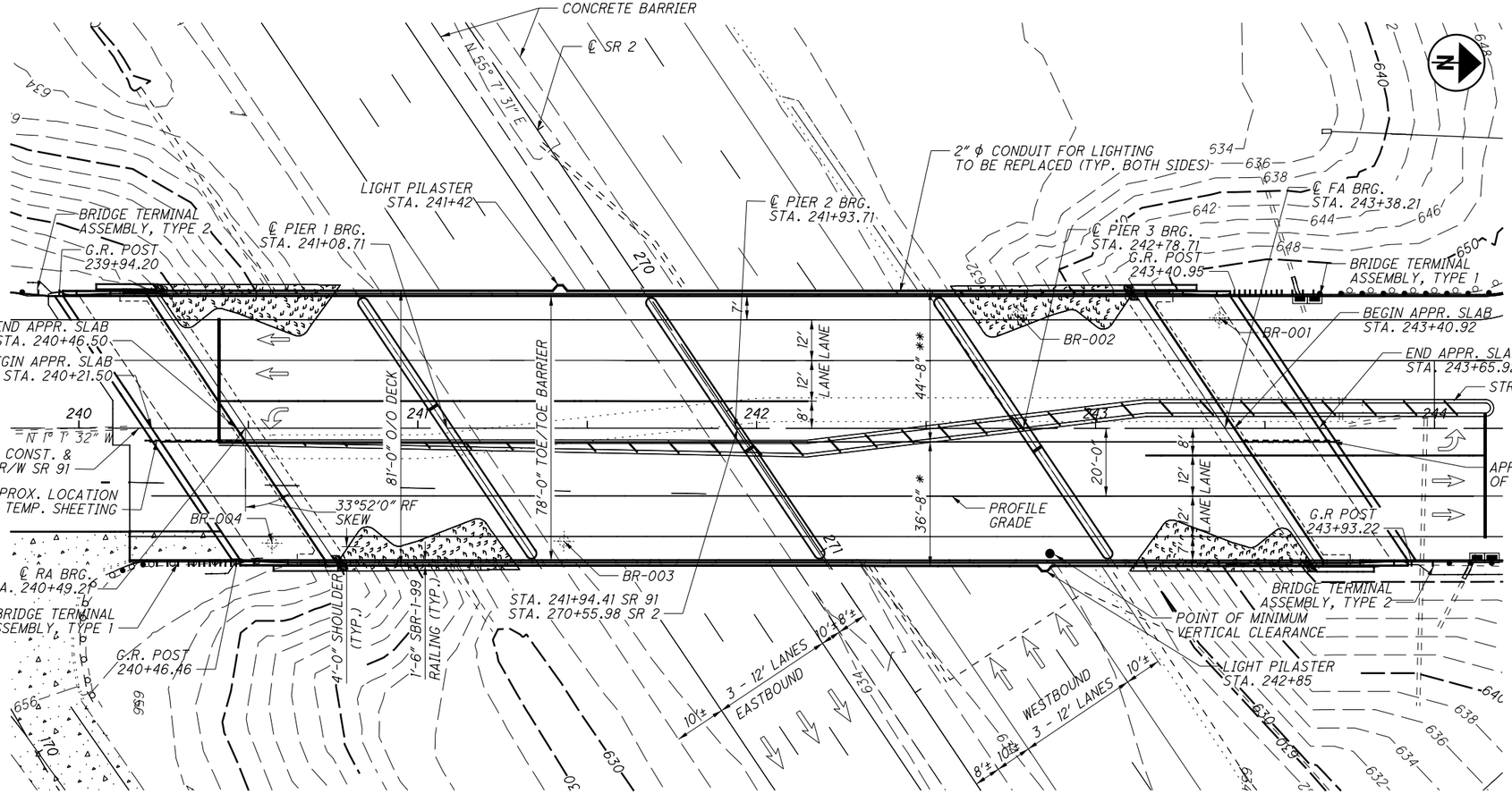
MEDIAN DETAIL

LAK-91-0449
SR 91 OVER LAKELAND BLVD.

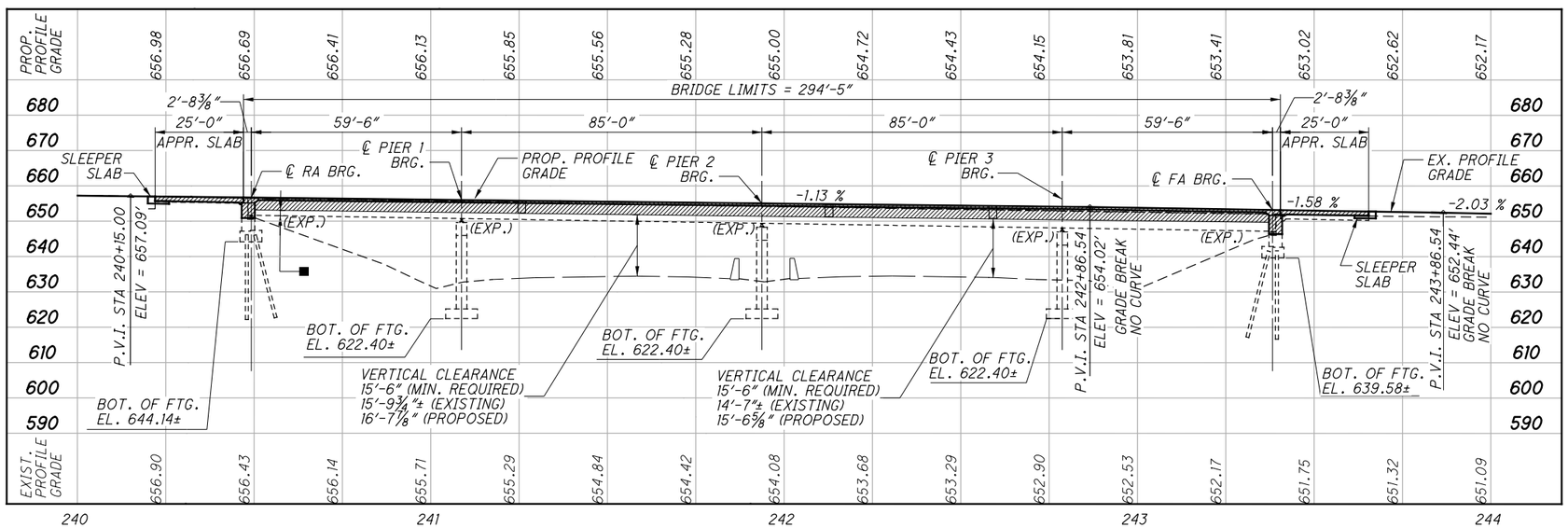
LAK-91-04.56
PID No. 85147

6 / 6

104 / 161



PLAN



PROFILE
SR 91 OVER SR 2

BENCHMARK DATA

BM #1 STA. 238+60.83,	ELEV. 657.24,	OFFSET 68.63',	LT.
BM #2 STA. 244+94.22,	ELEV. 646.52,	OFFSET 141.01',	RT.
BM #3 STA. 243+90.46,	ELEV. 651.11,	OFFSET 41.50',	RT.
BM #4 STA. 251+67.73,	ELEV. 638.04,	OFFSET 0.00',	RT.

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY SHEET 3/161

NOTES:

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

DESIGN TRAFFIC:

2016 ADT = 27,700 2016 ADTT = 1,385
2036 ADT = 28,500 2036 ADTT = 1,425
DIRECTIONAL DISTRIBUTION = 0.58

LEGEND:

- CRUSHED AGGREGATE SLOPE PROTECTION
- ⊹ - DECK CORE LOCATION
- * - STAGE 1 CONSTRUCTION
- ** - STAGE 2 CONSTRUCTION
- ● 15'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
  14'-7"± EXISTING MINIMUM VERTICAL CLEARANCE
  15'-6⅝" PROPOSED MINIMUM VERTICAL CLEARANCE
- ■ EXIST. BEAMS RAISED AT ℄ TO CREATE CROWN

EXISTING STRUCTURE

TYPE: FOUR SPAN CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURES

SPANS: 59'-6", 85'-0", 85'-0", 59'-6" C/C BEARINGS
ROADWAY: 74'-0" F/F SAFETY CURB
LOADING: CF 400 (57)
SKEW: 33° 52' 00" R.F.
APPROACH SLABS: 25'-0" LONG
WEARING SURFACE: MICROSILICA MODIFIED CONRETE OVERLAY
ALIGNMENT: TANGENT
CROWN: .016 FT/FT
STRUCTURAL FILE NUMBER: 4300459
DATE BUILT: 1969
DISPOSITION: DECK RELACEMENT, VERTICAL EXTENSION OF SUBSTRUCTURE TO IMPROVE VERTICAL CLEARENCE, MISCELLANEOUS REPAIRS.

PROPOSED STRUCTURE

PROPOSED WORK: NEW COMPOSITE REINFORCED CONCRETE DECK AND PARTIALLY RECONSTRUCTED SUBSTRUCTURES

SPANS: 59'-6", 85'-0", 85'-0", 59'-6" C/C BEARINGS
ROADWAY: 79'-0" TOE/TOE PARAPET
LOADING: HS20 CASE II AND ALTERNATE MILITARY
SKEW: 33°-52'-00" R.F.
APPROACH SLABS: 25'-0" LONG (AS-1-81)
WEARING SURFACE: 1" MONOLITHIC CONCRETE
FUTURE WEARING SURFACE: 60 PSF
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
COORDINATES: LATITUDE N 41° 38' 9.42"
LONGITUDE W 81° 26' 15.22"

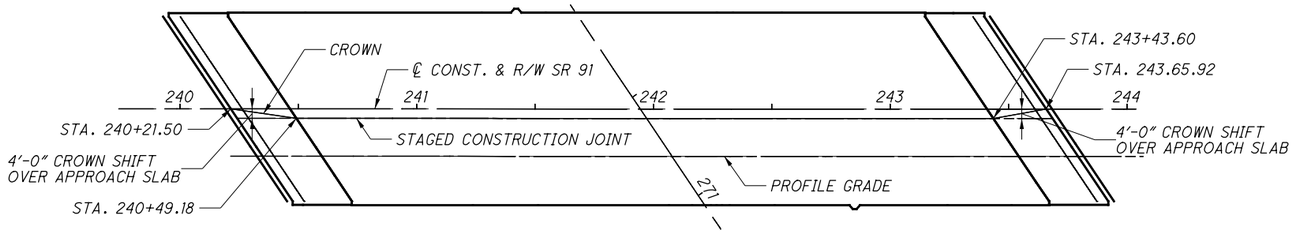
Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

REVIEWED SCT | DATE 4/15
DRAWN AMK | REVISED
DESIGNED KRH | CHECKED TLR
STRUCTURE FILE NUMBER 4300459

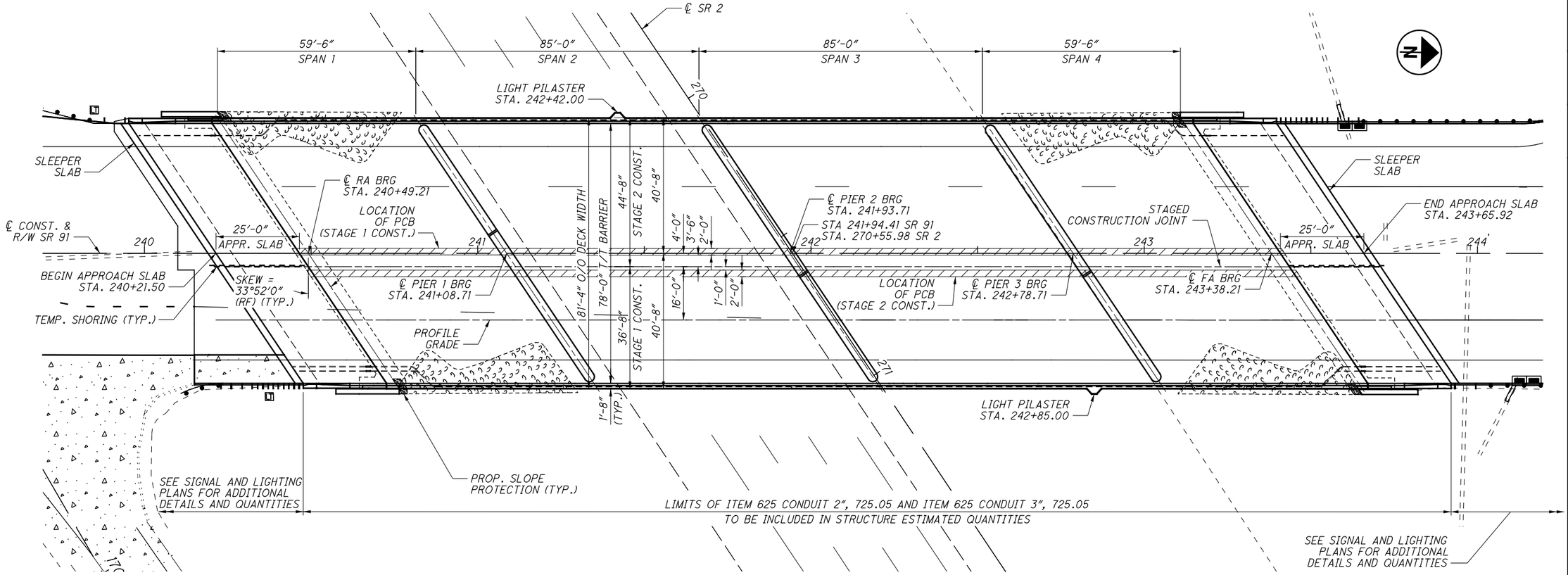
LAKE COUNTY
STA. 240+46.50
STA. 243+40.92

SITE PLAN
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



CROWN SHIFT SCHEMATIC PLAN



DESCRIPTION OF PROPOSED WORK

1. REMOVE EXISTING CONCRETE MEDIAN AND PROVIDE TEMPORARY OVERLAY TO THE LIMITS SHOWN IN THE STAGE CONSTRUCTION PLANS.
2. IMPLEMENT STAGE 1 MAINTENANCE OF TRAFFIC.
3. REMOVE PORTIONS OF EXISTING STRUCTURE INCLUDING CONCRETE DECK, PARAPETS, APPROACHES AND PORTIONS OF SUBSTRUCTURE TO THE LIMITS SHOWN IN THE PLANS.
4. RAISE STRUCTURAL STEEL FRAMING SYSTEM TO ACCOMMODATE SUBSTRUCTURE MODIFICATIONS.
5. CONSTRUCT MODIFICATIONS TO THE EXISTING SUBSTRUCTURES AND SET PROPOSED ELASTOMERIC BEARINGS FOR STAGE 1.
6. REMOVE CROSSFRAMES BETWEEN BEAMS 7 AND 8. RESET BEAMS 8 AND 9.
7. REMOVE CROSSFRAMES BETWEEN BEAMS 6 AND 7. RESET BEAM 7 AND INSTALL NEW TYPE 1 CROSSFRAMES BETWEEN BEAMS 7 AND 8. REPEAT THIS PROCEDURE FOR BEAM 6.
8. PERFORM STRAIGHTENING OF DAMAGED STRUCTURAL STEEL TO BEAM 9.
9. PLACE NEW SEMI-INTEGRAL DIAPHRAGMS, CONCRETE DECK, PARAPETS AND APPROACHES, AND SEAL TO THE LIMITS OF STAGE 1.
10. REMOVE STAGE 1 MAINTENANCE OF TRAFFIC.
11. IMPLEMENT STAGE 2 MAINTENANCE OF TRAFFIC.
12. REMOVE PORTIONS OF EXISTING STRUCTURE INCLUDING CONCRETE DECK, PARAPETS, APPROACHES, AND PORTIONS OF SUBSTRUCTURE TO THE LIMITS SHOWN IN THE PLANS.
13. RAISE STRUCTURAL STEEL FRAMING SYSTEM TO ACCOMMODATE SUBSTRUCTURE MODIFICATIONS.
14. CONSTRUCT MODIFICATIONS TO EXISTING SUBSTRUCTURE, AND SET PROPOSED ELASTOMERIC BEARINGS FOR STAGE 2.
15. REMOVE CROSSFRAMES BETWEEN BEAMS 2 AND 3. RESET BEAMS 1 AND 2.
16. REMOVE CROSSFRAMES BETWEEN BEAMS 3 AND 4. RESET BEAM 3 AND INSTALL NEW TYPE 1 CROSSFRAMES BETWEEN BEAMS 2 AND 3. REPEAT THIS PROCEDURE FOR BEAMS 4 AND 5.
17. INSTALL TYPE 1 CROSSFRAMES BETWEEN BEAMS 5 AND 6.
18. PLACE NEW CONCRETE DECK, PARAPETS AND APPROACHES, AND SEAL CONCRETE SURFACES TO THE LIMITS OF STAGE 2.
19. REMOVE STAGE 2 MAINTENANCE OF TRAFFIC.
20. PREPARE SURFACE, FIELD APPLY PRIME, INTERMEDIATE COAT AND FINISH COAT TO BEAMS EXISTING CROSSFRAMES AND CROSSFRAME CONNECTION AREAS. ONLY APPLY PRIME COAT TO BEAM ENDS EMBEDDED IN SEMI-INTEGRAL DIAPHRAGMS. FIELD APPLY INTERMEDIATE AND FINISH COAT TO PROPOSED CROSSFRAMES. TO BE PERFORMED IN STAGE 3. IF STAGE 3 WORK CAN NOT BE COMPLETED IN FIRST CONSTRUCTION SEASON, THIS WORK MAY BE COMPLETED IN SPRING OF FOLLOWING CONSTRUCTION SEASON.

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN AMK | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

GENERAL PLAN
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15 1/16/15	PCB-91 REVISED 1/18/13
AS-2-15 1/16/15	SBR-1-13 REVISED 1/17/14
GSD-1-96 REVISED 7/19/02	SBR-2-13 REVISED 1/17/14
HL-20.14 REVISED 1/16/15	SICD-1-96 REVISED 7/18/14
HL-30.32 REVISED 1/17/14	VPF-1-90 REVISED 4/15/11
HL-50.21 REVISED 1/16/15	

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800 REVISED 10/16/15	848 REVISED 4/18/14
847 REVISED 4/18/14	849 REVISED 1/18/13

DESIGN SPECIFICATIONS

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING THE 2013 INTERM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL 2004, REVISED 7/18/14.

DESIGN LOADING

PROPOSED SUPERSTRUCTURE AND SUBSTRUCTURE:

DESIGN LOADING: HS20, CASE II AND THE ALTERNATE MILITARY LOADING.

FUTURE WEARING SURFACE (FWS) OF 60 LBS/FT²

EXISTING SUBSTRUCTURE:

HS-20

DESIGN STRESSES

CONCRETE QC2 - COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996 GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI, SPIRAL REINFORCEMENT MAY BE PLAIN BARS, ASTM A82 OR A615

STRUCTURAL STEEL (EXISTING/PROPOSED) - ASTM A709 GRADE 36 - YIELD STRENGTH 36,000 PSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL

2½" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

CONSTRUCTION CLEARANCE

CONSTRUCTION CLEARANCE: SEE ROADWAY SHEETS 11 TO 60 OF 161 FOR MAINTENANCE OF TRAFFIC PLANS.

EXISTING PILE FOUNDATIONS

EXISTING PILE FOUNDATIONS: FROM EXISTING PLAN NOTES, THE EXISTING ABUTMENT PILES ARE 10BP42 STEEL END BEARING PILES WITH AN ESTIMATED LENGTH OF 24'-0" AND 25'-0" FOR REAR AND FORWARD, RESPECTIVELY. THE APPROXIMATE BEARING CAPACITY FOR THE EXISTING ABUTMENT PILING IS 55 TONS PER PILE. THE MAXIMUM PROPOSED BEARING VALUE IS 54 TONS PER PILE.

FOUNDATION BEARING PRESSURE

FOUNDATION BEARING PRESSURE: EXISTING PIER FOOTINGS TO REMAIN, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 7.1 TONS PER SQUARE FOOT. THE ALLOWABLE BEARING PRESSURE IS 10 TONS PER SQUARE FOOT.

UTILITY LINES

UTILITY LINES: THE UTILITIES SHALL ASSUME ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

EXISTING STRUCTURE VERIFICATION

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSE-QUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAM-INATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPART-MENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

PROTECTION OF TRAFFIC

PROTECTION OF TRAFFIC: PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AT LEAST 30 DAYS BEFORE CONSTRUCTION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. MAINTAIN TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

DESCRIPTION: THIS WORK CONSISTS OF THE REMOVAL OF THE FOLLOWING ITEMS AS INDICATED IN THE PLANS AND GENERAL NOTES:

- CONCRETE DECKS INCLUDING PARAPETS, FENCE, RAISED MEDIAN, DECK JOINTS, AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, END CROSSFRAMES, DIAPHRAGMS)
- PARTIAL REMOVAL OF ABUTMENTS
- PARTIAL REMOVAL OF STEEL CROSSFRAMES, INCLUDING WELD MATERIAL ON STEEL TO REMAIN.
- REMOVAL OF SCUPPERS, DOWNSPOUTS AND SUPPORT BRACKETS

THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PROMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (I-BEAM, STEEL BEAM, STEEL GIRDER, ETC.) THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G. FINISHING MACHINE,SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE DIRECTOR. OBTAIN THE DIRECTOR'S APPROVAL BEFORE PERFORMING REPAIR.

WELD MATERIAL ATTACHING EXISTING STEEL TO BE REMOVED TO EXISTING STEEL TO REMAIN ON THE BRIDGE SHALL BE GROUND COMPLETELY OFF THE STEEL TO BE PRESERVED. EXISTING STEEL TO BE REMOVED INCLUDES, BUT IS NOT LIMITED TO CROSSFRAMES, OVERHEAD SIGN SUPPORTS AND SCUPPER SUPPORTS. EXISTING STEEL TO REMAIN INCLUDES, BUT IS NOT LIMITED TO GIRDER FLANGES AND WEBS, AND CONNECTION PLATES AT THE ABUTMENT CROSSFRAMES.

CUT LINE CONSTRUCTION JOINT PREPERATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVAL ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH THE REINFORCING STEELTHAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 202 - REMOVAL MISC: TIMBER SUBDECKING

WORK UNDER THIS ITEM INCLUDES THE COMPLETE REMOVAL OF THE TIMBER SUBDECKING FROM UNDER SPANS 2 AND 3. ITEMS TO BE REMOVED INCLUDE THE SUBDECKING, FRAME, FASTENERS, SUPPORTS AND SHIMS. DEBRIS AND DIRT SHALL BE REMOVED FROM THE BOTTOM FLANGE OF THE GIRDERS. RECYCLE OR DISPOSE OF ALL REMOVED MATERIALS PER 105.16 AND 105.17.

SPECIAL REMOVAL PROVISIONS:
1) ALL EXISTING SUBDECKING UNDER STAGE 2 SHALL REMAIN IN PLACE THROUGH STAGE 1.

PAYMENT FOR ALL LABOR, MATERIALS, AND EQUIPMENT FOR REMOVAL SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER LUMP SUM FOR ITEM 202 - REMOVAL MISC: TIMBER SUBDECKING.

ITEM 202 - REMOVAL MISC: EXISTING INTERMEDIATE CROSSFRAMES

WORK UNDER THIS ITEM INCLUDES THE COMPLETE REMOVAL OF THE EXISTING INTERMEDIATE CROSSFRAMES AS DESIGNATED ON THE PLANS. FLAME OR SAW THE CROSSFRAME MEMBERS TO WITHIN ⅛ INCH OF THE BEAM WEB USING A MECHANICAL GUIDE ACCORDING TO CMS 513.12. PROVIDE SHIELDING AS NECESSARY TO PREVENT DAMAGE TO THE BEAMS. GRIND THE REMAINING CROSSFRAME MEMBER AND WELD MATERIAL TO A SMOOTH SURFACE ON THE WEB. CAREFULLY GRIND PARALLEL TO THE FLANGES. DO NOT OVERGRIND AS TO REDUCE THE BEAM WEB THICKNESS.

PAYMENT FOR ALL LABOR, MATERIALS, AND EQUIPMENT FOR REMOVAL SHALL BE INCLUDED IN THE CONTRACT BID PRICE PER LUMP SUM FOR ITEM 202 - REMOVAL MISC: EXISTING INTERMEDIATE CROSSFRAMES.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN: THE BACK-FILL MATERIAL BEHIND THE ABUTMENTS SHALL BE TYPE B GRANULAR MATERIAL, 703.17, PLACED AND COMPACTED IN 6 INCH LIFTS AS PER 304.05. THIS ITEM DOES NOT INCLUDE QUANTITIES INCIDENTAL TO ITEM 202 (SEE DETAILS HEREIN).

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN: IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN

ITEM 511 - SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN: THE DEPARTMENT WILL PAY FOR ALL CONCRETE, REINFORCING STEEL, AND DOWEL HOLES WITH ABOVE ITEM.

ITEM 512 - CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN

ITEM 512, CONCRETE REPAIR BY EPOXY INJECTION, SUBSTRUCTURE, AS PER PLAN: THIS WORK INCLUDES EPOXY INJECTION PER ITEM 519. THE QUANTITY FOR CONCRETE REPAIR BY EPOXY INJECTION AS SHOWN IS BASED ON FIELD INSPECTION / OBSERVATIONS. THE ACTUAL QUANTITY OF REPAIR WILL VARY DUE TO INACCESSABLE AREAS DURING INSPECTION, ADDITIONAL DETERIORATION, PATCHING AREA OVERLAP, ETC. THE ACTUAL EXTENT OF EPOXY INJECTION SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR THE ACTUAL QUANTITY OF CONCRETE REPAIRED BY EPOXY INJECTION, AS DIRECTED, APPROVED AND ACCEPTED IN PLACE BY THE ENGINEER. PAYMENT INCLUDES ALL COST FOR LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS.

ITEM 512 - SEALING OF CONCRETE SURFACES

THE COLOR OF CONCRETE SEALER FOR PARAPETS, ABUTMENTS AND PIERS SHALL BE BUFF, FEDERAL COLOR NUMBER 595B-27722.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN:

ALL REQUIREMENTS OF 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PREQUALIFIED AS IN SUPPLEMENT 1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE IN ACCORDANCE WITH 501.06, TO THE ENGINEER. PROVIDE THE ENGINEER "AS-BUILT" DRAWINGS ACCORDING TO 513.06, EXCEPT 501.04 DOES NOT APPLY. UPON RECEIPT OF THE ENGINEER'S ACCEPTANCE, SUPPLY A COPY OF THE DRAWINGS, ACCORDING TO SUPPLEMENT 1002, TO THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

THE FOLLOWING MEMBERS ARE INCLUDED IN THIS ITEM: TYPE 1 INTERMEDIATE CROSSFRAMES

ITEM 514 - FIELD PAINTING OF STRUCTURAL STEEL

PROPOSED CROSSFRAMES SHALL BE SHOP PRIMED. ALL OTHER EXISTING STRUCTURAL STEEL SHALL BE PRIMED IN THE FIELD. FIELD APPLY INTERMEDIATE AND FINISH COAT TO ALL STRUCTURAL STEEL EXCEPT BEAM ENDS EMBEDDED IN SEMI-INTEGRAL DIAPHRAGMS. THE FINISH COAT SHALL BE LIGHT BLUE, GLOSS, FEDERAL STANDARD COLOR NUMBER 595B-15450, AND CONFORM TO CMS 708~~.02.~~

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPER-STRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 0.89 KIPS FOR A TOTAL MACHINE LOAD OF 7.11 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN JLK | CHECKED TLR | REVIEWED SCT | DATE 4/15 | REVISED | STRUCTURE FILE NUMBER 4300459

GENERAL NOTES 1 OF 2

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

INSPECTION OF EXISTING STRUCTURAL STEEL

INSPECTION OF EXISTING STRUCTURAL STEEL: THE ENGINEER WILL VISUALLY INSPECT ALL EXISTING BUTT-WELDED SPLICES AND/OR TOP FLANGE COVER PLATE FILLET WELDS TO ENSURE THE WELDS, PLATES AND BEAMS OR GIRDERS ARE FREE OF DEFECTS AND CRACKS. IF NECESSARY, REMOVE ALL DECK SLAB HAUNCH FORMS IMMEDIATELY ADJACENT TO SUCH WELDS THAT MAY INTERFERE WITH THE ENGINEER'S INSPECTION. THE INSPECTION WILL NOT TAKE PLACE UNTIL THE TOP FLANGES ARE CLEANED ACCORDING TO 511.10, BUT IT WILL BE DONE BEFORE THE DECK SLAB REINFORCEMENT IS INSTALLED. THE DEPARTMENT WILL PAY FOR THE COST ASSOCIATED WITH THIS INSPECTION WITH ITEM 511, SUPERSTRUCTURE CONCRETE. THE ENGINEER WILL REPORT ALL CRACKS FOUND TO THE OFFICE OF CONSTRUCTION ADMINISTRATION, BRIDGE CONSTRUCTION SPECIALIST, ALONG WITH SPECIFIC INFORMATION ON LOCATION OF THE CRACKS, LENGTH, AND DEPTH SO AN EVALUATION AND. REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN: THIS ITEM INCLUDES PATCHING CONCRETE STRUCTURE PER ITEM 519.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENTS, OR VACUUM ABRASIVE BLASTING.

THE QUANTITY FOR CONCRETE REPAIR BY PATCHING CONCRETE STRUCTURE AS SHOWN IS BASED ON FIELD INSPECTION / OBSERVATIONS. THE ACTUAL QUANTITY OF REPAIR WILL VARY DUE TO INACCESSABLE AREAS DURING INSPECTION, ADDITIONAL DETERIORATION, ETC. THE ACTUAL EXTENT OF PATCHING SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR THE ACTUAL QUANTITY OF CONCRETE REPAIRED BY PATCHING, AS DIRECTED, APPROVED AND ACCEPTED IN PLACE BY THE ENGINEER. PAYMENT INCLUDES ALL COST FOR LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

THIS ITEM SHALL BE PER THE DETAILS IN THE PLAN WITH THE APPLICABLE PORTIONS OF STANDARD DRAWING VPF-1-90 AND THE MANUFACTURER'S RECOMMENDATION.

THE ANCHORS SHALL BE CAST IN PLACE WITH 7 INCH MINIMUM EMBEDMENT OR INSTALLED IN THREADED FERRULE CONCRETE INSERTS. THE INSERTS SHALL BE APPROVED BY THE DIRECTOR. NO DOWELLED AND GROUTED ANCHORS ARE PERMITTED.

THE COLOR OF THE FENCE FABRIC, RAILS, POSTS, TIE WIRES, AND ADDITIONAL VISUAL HARDWARE AND CAULK SHALL BE BLACK.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 607 - VANDAL PROTECTION FENCE, 6 FOOT STRAIGHT, COATED FABRIC, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM SPECIAL - ASBESTOS ABATEMENT STRUCTURE 20 FOOT SPAN AND OVER (LAK-91-0456)

AN ABESTOS SURVEY OF THE SR-91 (S.O.M. CENTER ROAD) BRIDGE OVER SR-2 WAS COMPLETED ON JUNE 14, 2013 BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. NO ASBESTOS CONTAINING MATERIAL (ACM) WAS IDENTIFIED ON THE BRIDGE.

THE REMOVAL AND DISPOSAL OF ANY ASBESTOS CONTAINING MATERIAL DURING THE DECK REPLACEMENT OF THE BRIDGE MUST COMPLY WITH THE OHIO ADMINISTRATIVE CODE, THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, AND THE FEDERAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAP) STANDARDS FOR ASBESTOS.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS WITH SECTIONS I-IV, VI AND VII COMPLETED IS INCLUDED WITH THE BID PACKAGE. THE CONTRACTOR WILL COMPLETE SECTIONS V, VIII-XVIII OF THE FORM AND SUBMIT THE FORM TO THE LOCAL AIR AUTHORITY AT LEAST TEN (10) DAYS PRIOR TO RECONSTRUCTION OF THE BRIDGES. THE CONTRACTOR WILL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER. THE LOCAL AIR AUTHORITY IS:

ATTN: BERT MECHENBIER
LAKE COUNTY
AIR POLLUTION CONTROL
33 MILL STREET
PAINESVILLE, OHIO 44077

THE CONTRACTOR WILL PROVIDE AN INDIVIDUAL TRAINED IN THE PROVISIONS OF NESHAP THAT WILL BE ON-SITE DURING REMOVAL OF THE ASBESTOS CONTAINING MATERIALS. IN ADDITION TO THE ASBESTOS CONTAINING MATERIAL IDENTIFIED IN THE ASBESTOS SURVEY REPORT, THIS INDIVIDUAL WILL ALSO, MONITOR ANY ADDITIONAL NON-VISIBLE ASBESTOS ENCOUNTERED WITHIN THE PROJECT WORK LIMITS.

THE CONTRACTOR WILL FURNISH ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE, SUBMIT AND COMPLY WITH THE OEPA NOTIFICATION FORM AND TO REMOVE, TRANSPORT, AND DISPOSE OF THE MATERIALS CONTAINING ASBESTOS FROM WITHIN THE PROJECT WORK LIMITS. PAYMENT OF THIS WORK WILL BE INCLUDED IN THE BID LUMP SUM PRICE ITEM SPECIAL - ASBESTOS ABATEMENT

ITEM	UNIT
ITEM SPECIAL - ASBESTOS ABATEMENT	LUMP SUM

ABBREVIATIONS:

ABUT. - ABUTMENT
APPR. - APPROACH
APPROX. - APPROXIMATELY
BRG - BEARING
BOT. - BOTTOM
BTWN. - BETWEEN
C/C - CENTER TO CENTER
C.I.P. - CAST IN PLACE
CJ - CONSTRUCTION JOINT
CLR. - CLEAR
CONC. - CONCRETE
CONST. - CONSTRUCTION
DIA. - DIAMETER
DIM. - DIMENSION
DWG. - DRAWING
EF - EACH FACE
EL. OR ELEV. - ELEVATION
EOD - EDGE OF DECK
EOP - EDGE OF PAVEMENT
EQ. - EQUAL
EX. OR EXIST. - EXISTING
EXP. - EXPANSION
FF - FRONT FACE
FS - FIELD SPLICE
FWD. - FORWARD
INV. - INVERT
JT. - JOINT
LT. - LEFT
MAX. - MAXIMUM
MIN. - MINIMUM
NO. - NUMBER
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
O/O - OUT TO OUT
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PG - PROFILE GRADE
PROP. - PROPOSED
RT. - RIGHT
SER - SERIES
SR - SERIES OF
SHLDR. - SHOULDER
SPA. - SPACE OR SPACES
STA. - STATION
STD. - STANDARD
STR - STRAIGHT
T - TOP
TEMP. - TEMPORARY
T.O.S. - TOP OF SLOPE
T/T - TOE TO TOE
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE
VAR. - VARIES

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN JLK | REVIEWED SCT | DATE 7/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

GENERAL NOTES 2 OF 2
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

ESTIMATED QUANTITIES

CALCULATED: RJS
CHECKED: DRH
DATE: 3-26-15
DATE: 4-2-15

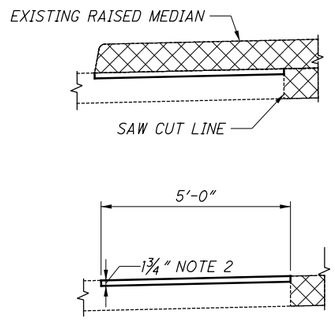
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #	FUNDING SOURCE 01/BRO/BR	FUNDING SOURCE 02/NHS/BR
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	6, 8	LUMP	
202	22900	447	SQ YD	APPROACH SLAB REMOVED				447		447	
202	98000	LUMP		REMOVAL MISC.: TIMBER SUBDECKING				LUMP		LUMP	
202	98100	138	EACH	REMOVAL MISC.: EXISTING INTERMEDIATE CROSSFRAMES				138	8	138	
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP		LUMP	
503	21101	439	CU YD	UNCLASSIFIED EXCAVATION, AS PER PLAN				439		439	
509	10001	249986	POUND	EPOXY COATED REINFORCING STEEL, AS PER PLAN	5036	13385	227266	4299	3	249986	
510	10000	636	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	220	464				636	
511	21522	825	CU YD	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			825			825	
511	33501	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	2				3	2	
511	34448	105	CU YD	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)				105		105	
511	42511	61	CU YD	CLASS QC1 CONCRETE, PIER CAP, AS PER PLAN		61			27-29	61	
511	44111	34	CU YD	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN	34				15,22	34	
511	46510	24	CU YD	CLASS QC1 CONCRETE, FOOTING	24					24	
512	10100	1514	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	192	619	703			1514	
512	10601	71	FT	CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN		71			3	71	
512	33000	2	SQ YD	TYPE 2 WATERPROOFING	2					2	
512	74000	52	SQ YD	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	52					52	
513	10201	23640	LBS	STRUCTURAL STEEL, UF, AS PER PLAN			138		3	23640	
513	20000	7803	EACH	WELDED STUD SHEAR CONNECTORS			7803			7803	
514	00050	32034	SQ FT	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			32034			32034	
514	00060	27538	SQ FT	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			27538			27538	
514	00066	27538	SQ FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			27538			27538	
514	00056	32034	SQ FT	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			32034			32034	
514	00504	45	MN HR	GRINDING FINS, TEARS, SLIVERS, ON EXISTING STRUCTURAL STEEL			45			45	
514	10000	4	EACH	FINAL INSPECTION REPAIR			4		3	4	
516	13900	83	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	83					83	
516	14020	216	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	216					216	
516	44200	18	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (12"x15"x3.3829")	18					18	
516	44100	18	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (13"x20"x2.4835")		18				18	
516	44100	9	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (13"x20"x2.2735")			9			9	
516	10010	196	FT	ARMORLESS PREFORMED JOINT SEAL				196		196	
516	47000	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE			LUMP		4	LUMP	
518	21200	147	CU YD	POROUS BACKFILL WITH FILTER FABRIC	147					147	
518	40000	214	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	214					214	
518	40010	36	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	36					36	
519	11101	370	SQ FT	PATCHING CONCRETE STRUCTURE, AS PER PLAN	370				9-12	370	
526	25000	452	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15")				452		452	
526	90030	196	FT	APPROACH SLAB, TYPE C INSTALLATION				196		196	
601	20000	4	SQ YD	CRUSHED AGGREGATE SLOPE PROTECTION	4					4	
607	39901	589	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN			589		4	589	
625	25402	591	FT	CONDUIT 2", 725.05				591		591	
625	25502	296	FT	CONDUIT 3", 725.05				296		296	
625	29920	2	EACH	STRUCTURE JUNCTION BOX				2		2	
625	33000	2	EACH	STRUCTURE GROUNDING SYSTEM				2		2	
626	00100	10	EACH	BARRIER REFLECTOR				10		10	
690	71000	LUMP		SPECIAL - ASBESTOS ABATEMENT STRUCTURE 20 FOOT SPAN AND OVER (LAK-91-0456)				LUMP		LUMP	
848	10000	192	SQ YD	MICRO SILICA MODIFIED CONCRETE OVERLAY, (1¾" THICKNESS)				192		192	
849	10000	LUMP		DAMAGE ASSESSMENT				LUMP		LUMP	
849	10500	LUMP		SURFACE PREPARATION				LUMP		LUMP	
849	10600	2	HOUR	REPAIRING DAMAGED MEMBERS BY GRINDING				2		2	
849	10700	LUMP		STRAIGHTENING DAMAGED MEMBERS				LUMP		LUMP	

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED NMS | DRAWN AMK | REVIEWED SCT | DATE 7/15
CHECKED RJS | REVISED | STRUCTURE FILE NUMBER 4300459

ESTIMATED QUANTITIES
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



MEDIAN REMOVAL DETAIL

SEQUENCE OF CONSTRUCTION:

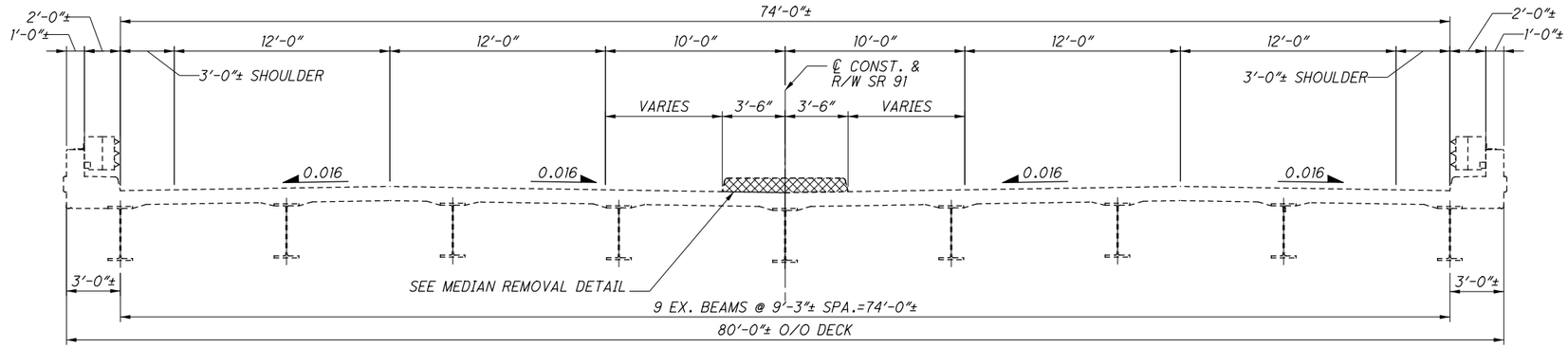
1. REMOVE RAISED MEDIAN PLUS ADDITIONAL 1¾" OF DECK. CUT ANY REINFORCED STEEL FLUSH WITH HORIZONTAL LIMIT (TYP. ENTIRE LENGTH OF MEDIAN)
2. PROVIDE A 1¾" MICRO-SILICA MODIFIED CONCRETE OVERLAY FOR A SMOOTH DRIVING SURFACE DURING STAGE 1 CONSTRUCTION. INCLUDE WITH ITEM 848-MICRO-SILICA MODIFIED CONCRETE OVERLAY, (1¾" THICKNESS).
3. ANCHOR AND SEAL PORTABLE CONCRETE BARRIER DIRECT TRAFFIC TO LEFT SIDE OF STRUCTURE.
4. REMOVE DECK FROM RIGHT SIDE OF STRUCTURE.
5. CONSTRUCT RIGHT SIDE OF PROPOSED STRUCTURE.
6. ANCHOR PORTABLE CONCRETE BARRIER DIRECT TRAFFIC TO RIGHT SIDE OF STRUCTURE.
7. REMOVE DECK FROM LEFT SIDE OF STRUCTURE.
8. CONSTRUCT LEFT SIDE OF PROPOSED STRUCTURE.
9. REMOVE PORTABLE CONCRETE BARRIER AND GROUT REMAINING ANCHOR HOLES.

NOTES:

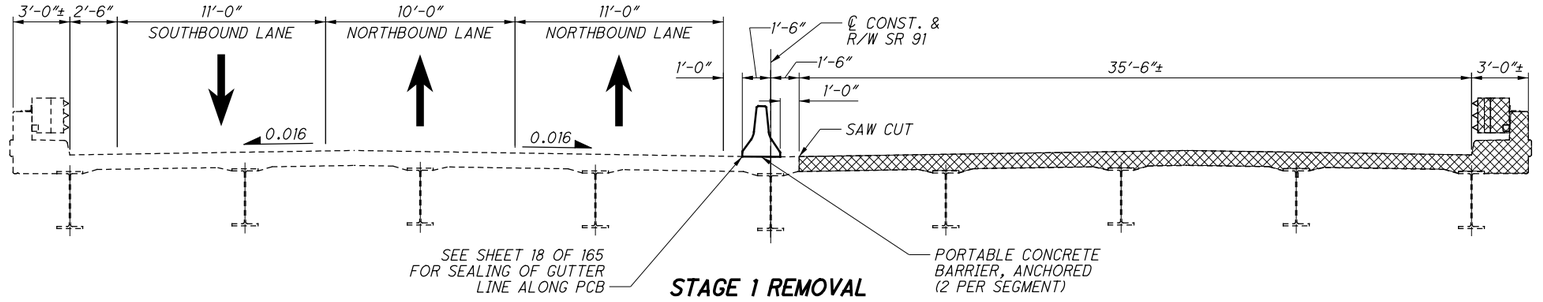
1. FOR ADDITIONAL DETAILS, SEE ODOT STD. DWG. PCB-91.

LEGEND

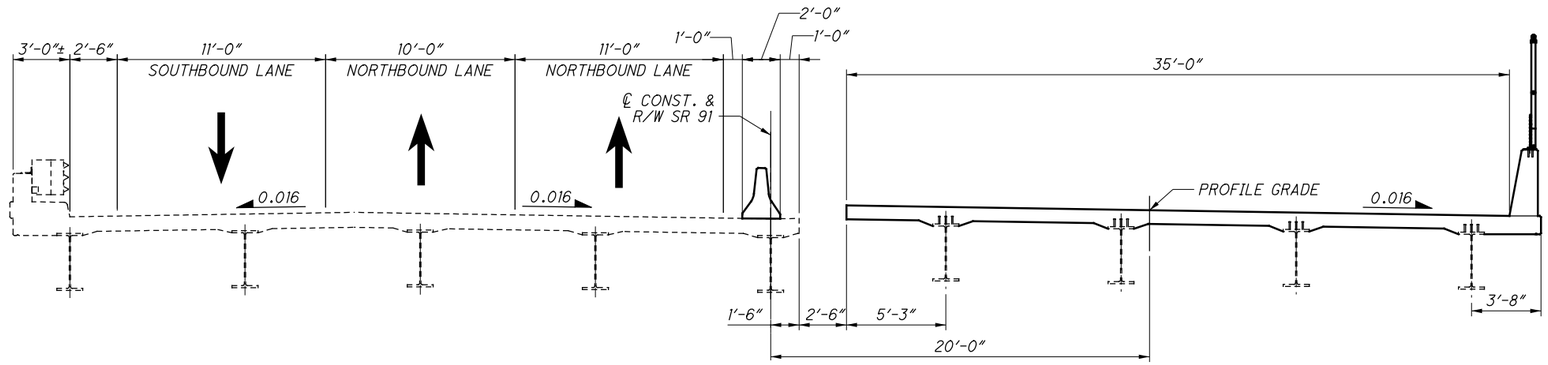
▨ - INDICATES PORTION TO BE REMOVED



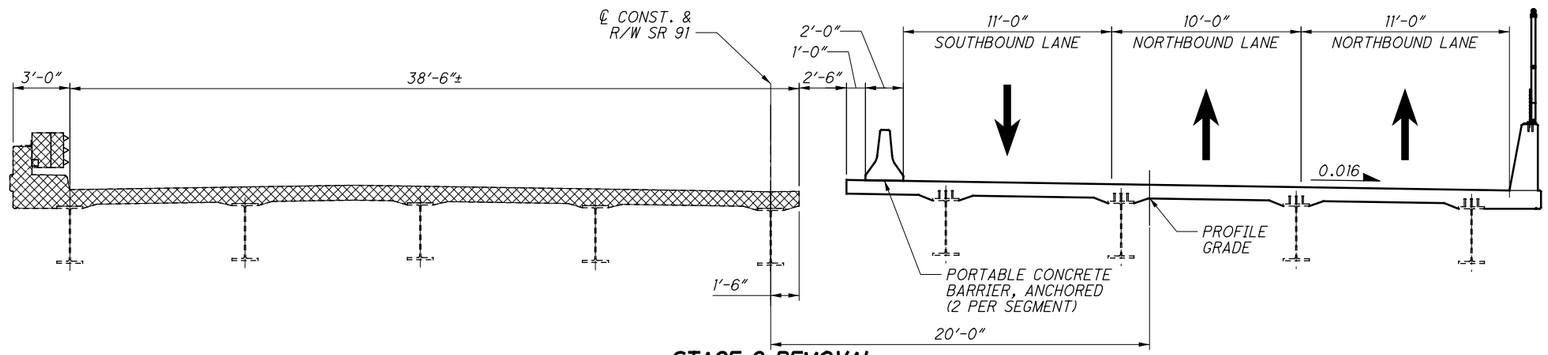
EXISTING TRANSVERSE SECTION MEDIAN REMOVAL LIMITS



STAGE 1 REMOVAL



STAGE 1 CONSTRUCTION



STAGE 2 REMOVAL

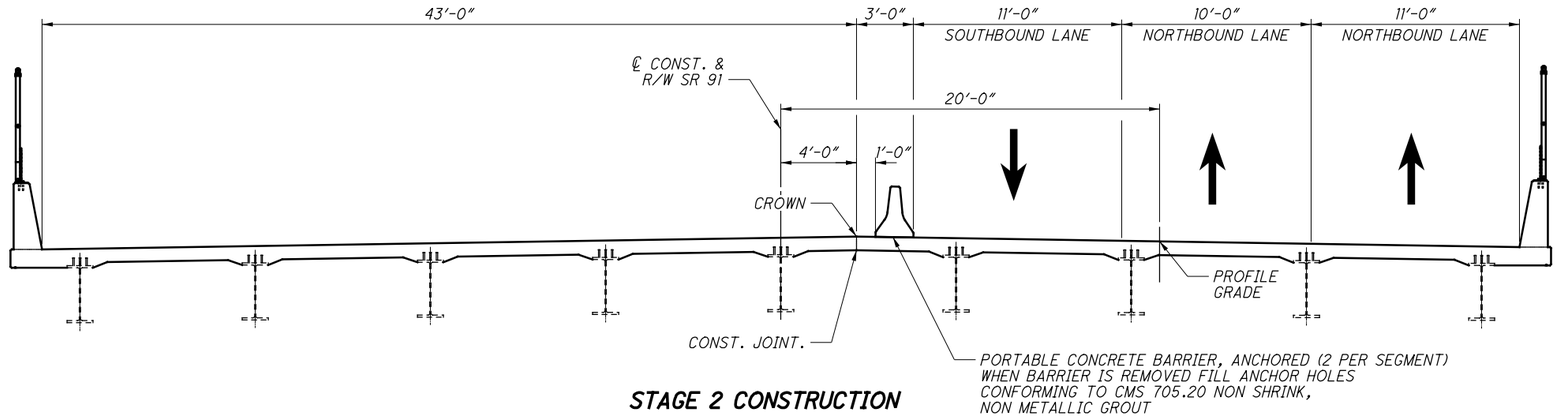
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	DRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

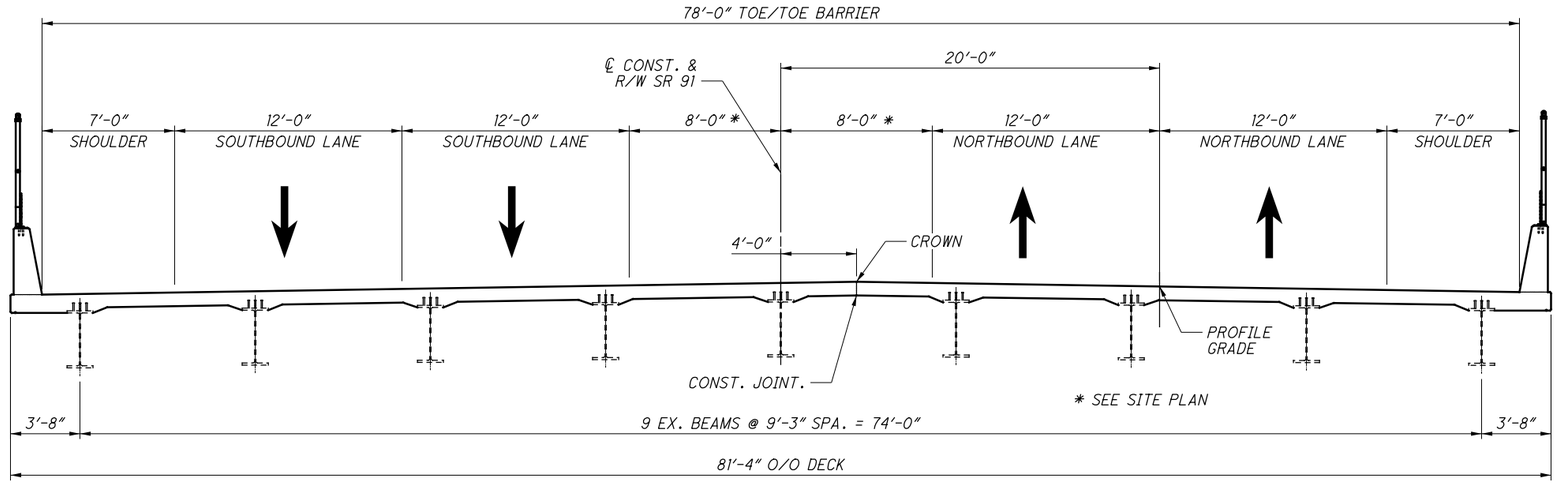
STAGE CONSTRUCTION DETAILS (SHEET 1 OF 2)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



STAGE 2 CONSTRUCTION



PROPOSED TRANSVERSE SECTION

NOTES:

1. FOR ADDITIONAL DETAILS SEE ODOT STD. DWG PCB-91.
2. FOR ADDITIONAL NOTES, SEE SHEET 6/57.

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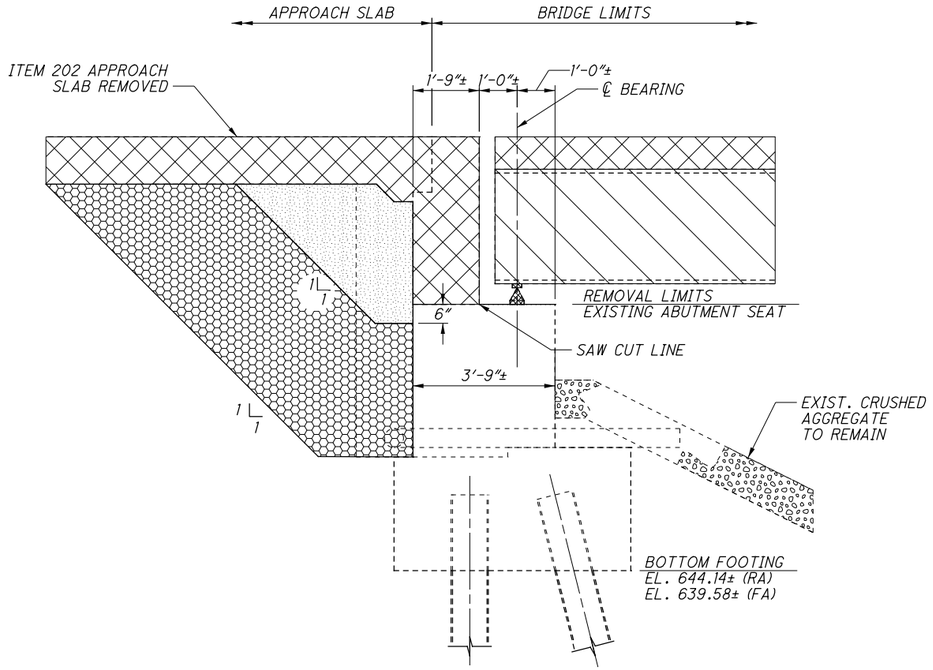
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

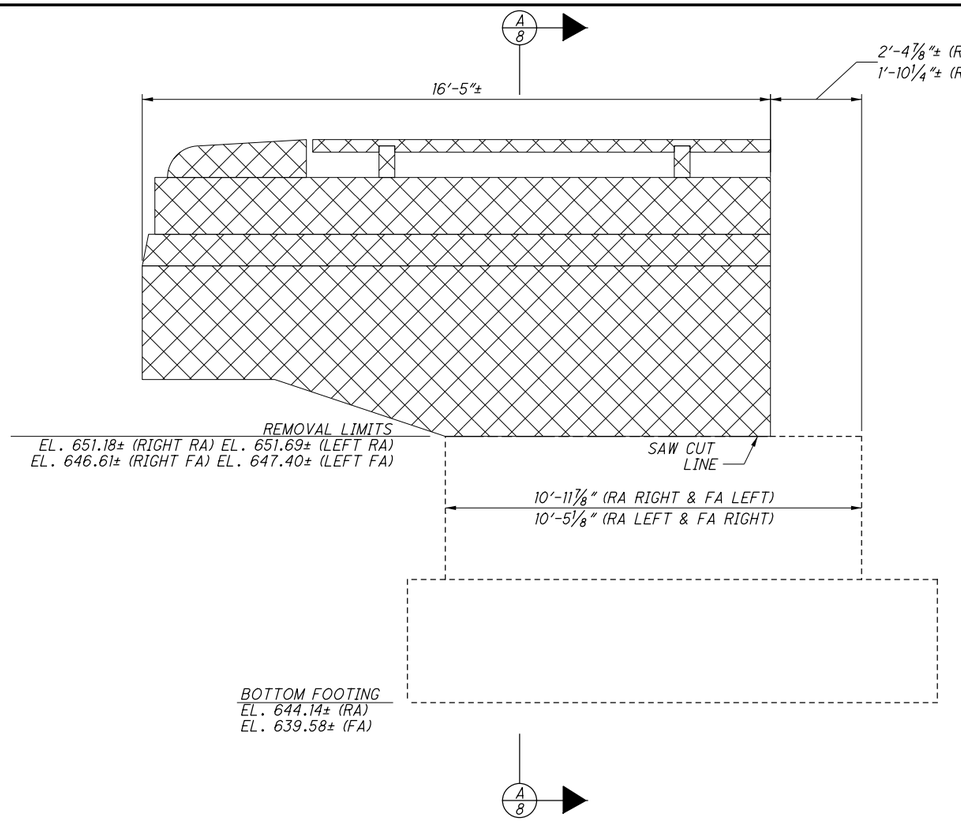
DESIGNED	DRAWN	REVIEWED	DATE
KRH	DRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

STAGE CONSTRUCTION DETAILS (SHEET 2 OF 2)
LAK-91-0456
SR-91 OVER SR-2

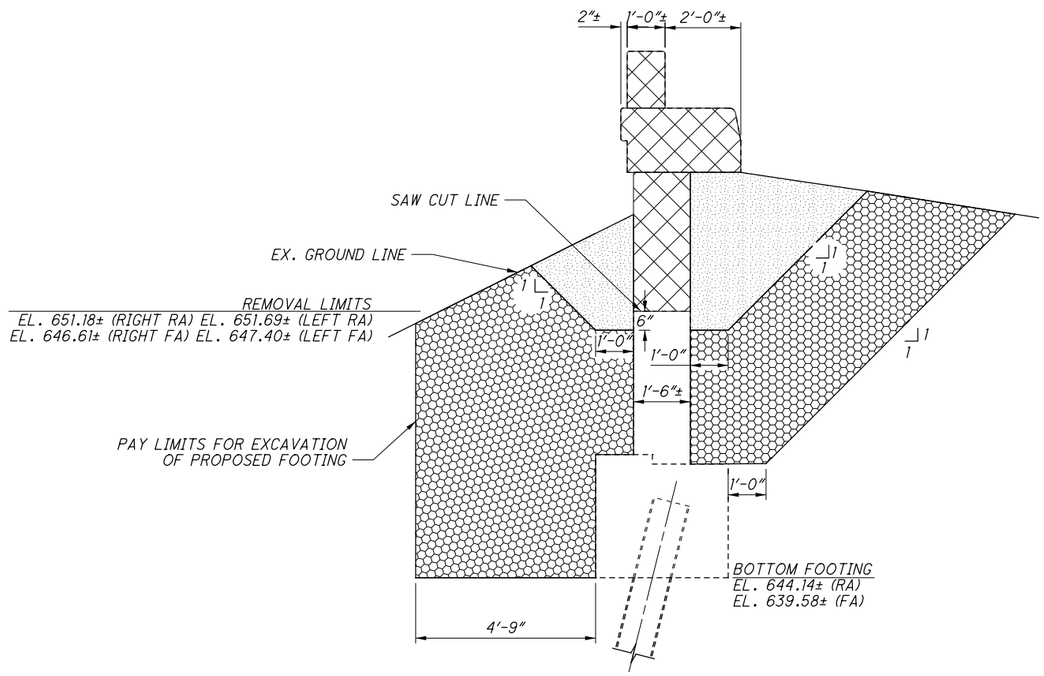
LAK-91-04.56
PID No. 85147



EXISTING ABUTMENT SECTION



EXISTING WINGALL ELEVATION



SECTION A-A

LEGEND

- PAY LIMITS FOR ITEM 503 - UNCLASSIFIED EXCAVATION (SEE GENERAL NOTES)
- PAY LIMITS FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOR SPAN (SEE GENERAL NOTES)
- TO BE REMOVED
- TO BE REMOVED AND RESET

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

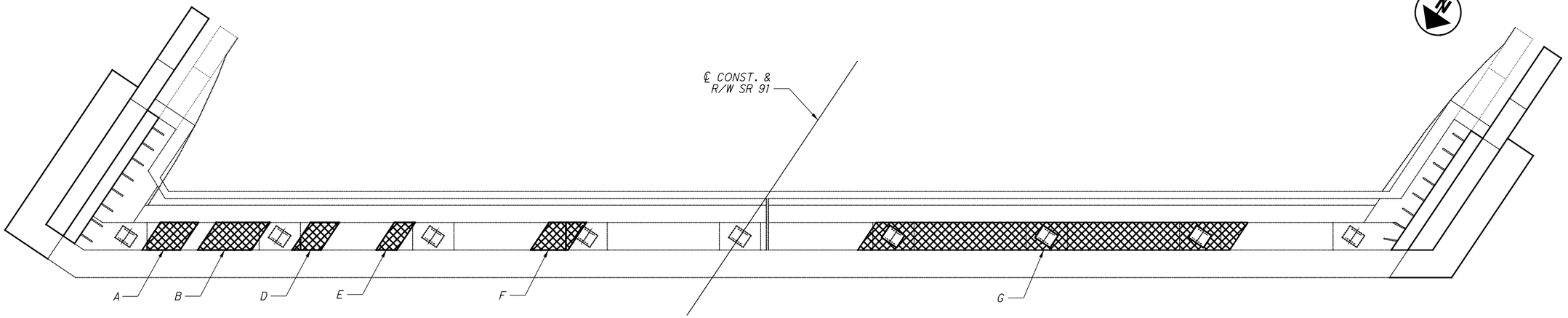
DESIGNED KRH
DRAWN KRH
CHECKED TLR
REVIEWED SCT
DATE 4/15
REVISED
STRUCTURE FILE NUMBER 4300459

REMOVAL DETAILS
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

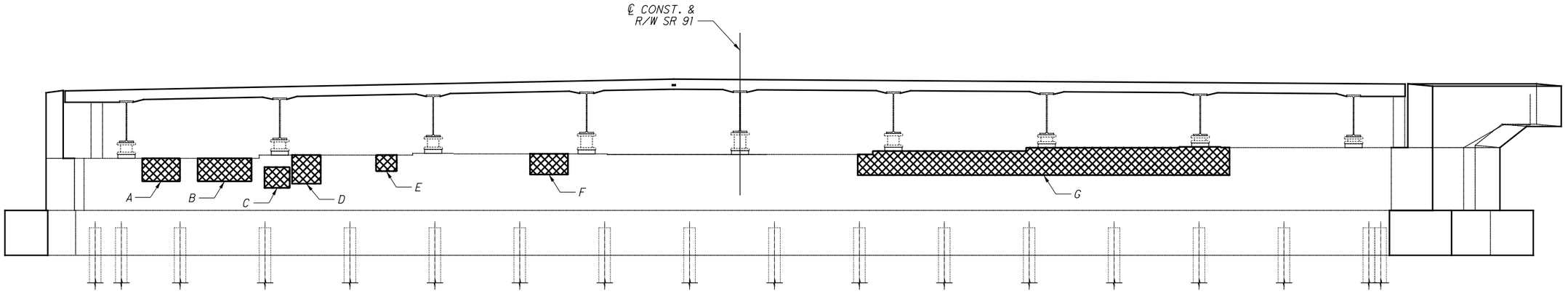
8 / 57

112 / 161



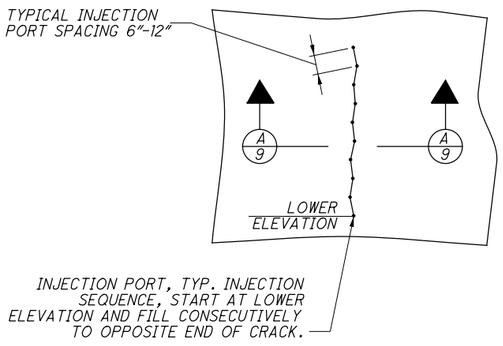
REAR ABUTMENT PLAN VIEW REHABILITATION DETAIL

SEE REHABILITATION TABLES (THIS SHEET) FOR LOCATION DESCRIPTIONS

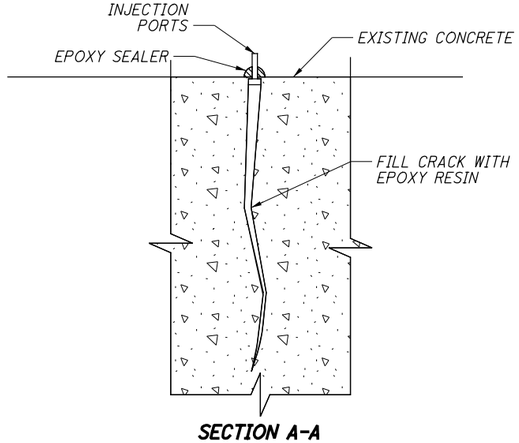


REAR ABUTMENT ELEVATION VIEW REHABILITATION DETAIL

SEE REHABILITATION TABLES (THIS SHEET) FOR LOCATION DESCRIPTIONS



TYPICAL INJECTION PORT PLACING



SECTION A-A

REHABILITATION TABLE 1	
LOCATION	ACTUAL MEASUREMENT
A	3'-8"± X 2'-9"± DELAMINATION
B	3'-8"± X 3'-11"± DELAMINATION
C	1'-6"± X 1'-10"± DELAMINATION
D	4'-1"± X 2'-1"± DELAMINATION
E	3'-2"± X 1'-6"± DELAMINATION
F	3'-6"± X 2'-9"± DELAMINATION
G	3'-6"± X 27'-0"± DELAMINATION

NOTES

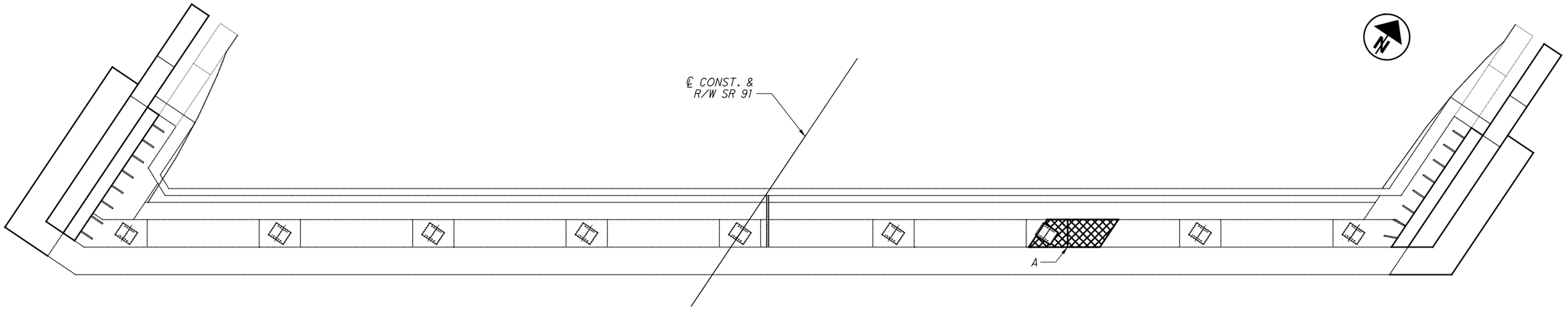
1. ▨ - DENOTES DELAMINATED OR SPALLED CONCRETE TO BE REPAIRED AND PAID FOR UNDER ITEM 519 PATCHING OF CONCRETE STRUCTURE, AS PER PLAN
2. ALL CRACKS IN CONCRETE SURFACES, INCLUDING ABUTMENTS AND PIERS SHALL BE REPAIRED AND PAID FOR UNDER ITEM 512 CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED AMK | DRAWN AMK | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

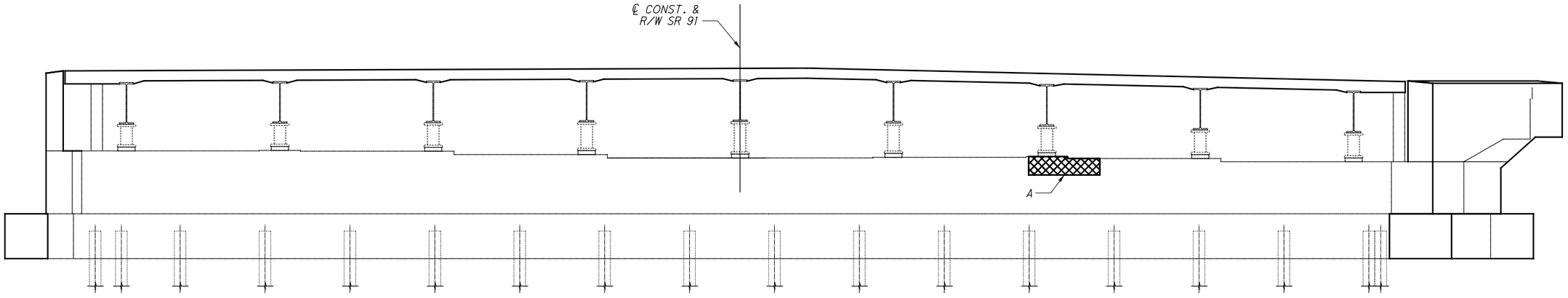
REHABILITATION DETAILS - REAR ABUTMENT
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



FORWARD ABUTMENT PLAN VIEW REHABILITATION DETAIL

SEE REHABILITATION TABLES (THIS SHEET) FOR LOCATION DESCRIPTIONS



FORWARD ABUTMENT ELEVATION VIEW REHABILITATION DETAIL

SEE REHABILITATION TABLES (THIS SHEET) FOR LOCATION DESCRIPTIONS

REHABILITATION TABLE 1	
LOCATION	ACTUAL MEASUREMENT
A	3'-4"± X 5'-2"± DELAMINATION

NOTES

1. ▨ - DENOTES DELAMINATED OR SPALLED CONCRETE TO BE REPAIRED AND PAID FOR UNDER ITEM 519 PATCHING OF CONCRETE STRUCTURE, AS PER PLAN

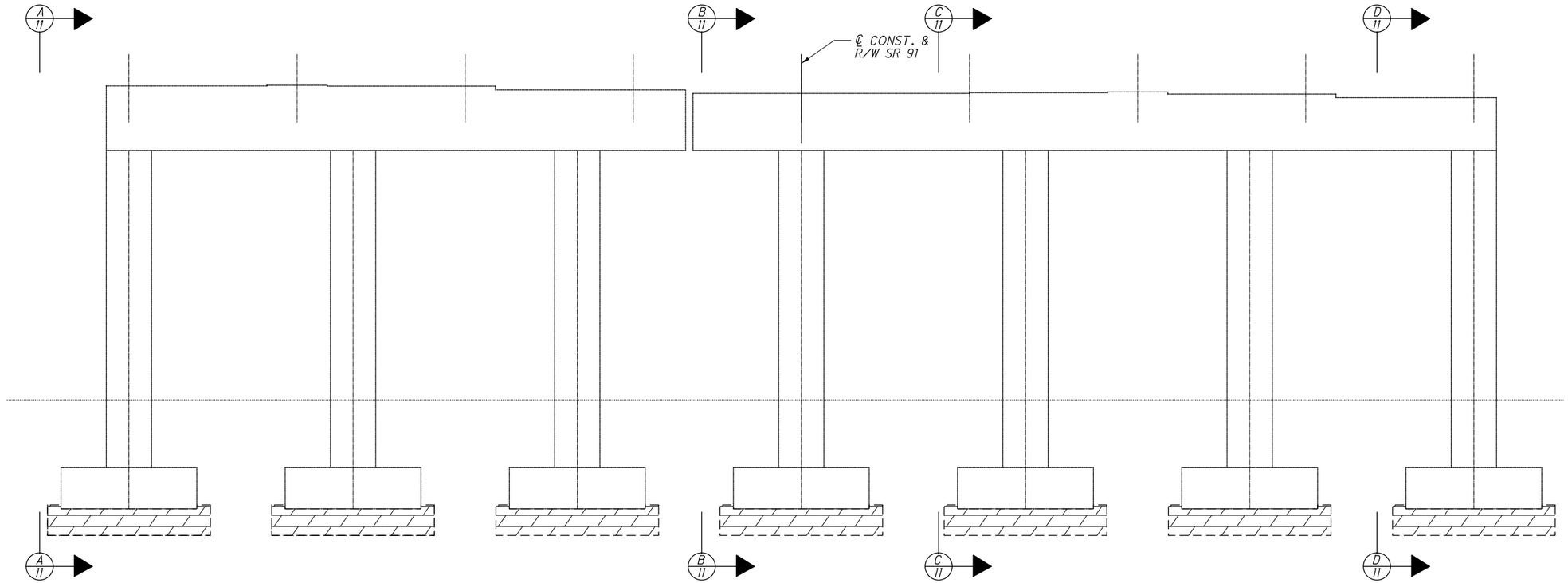
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED AMK | DRAWN AMK | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

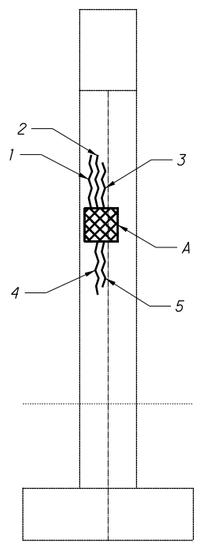
REHABILITATION DETAILS - FORWARD ABUTMENT

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

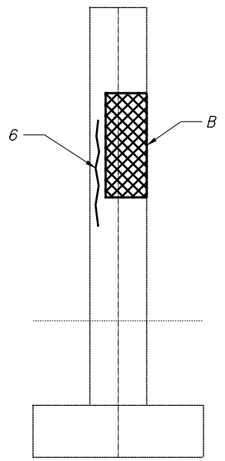


PIER 1 ELEVATION VIEW REHABILITATION DETAIL



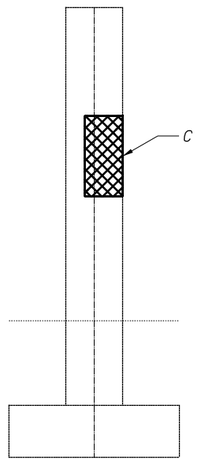
VIEW A-A

SEE REHABILITATION TABLES FOR DETERIORATION AREAS



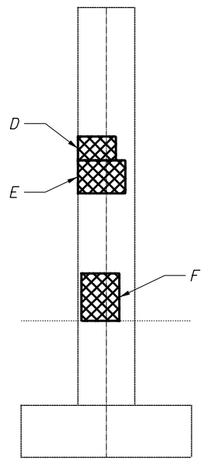
VIEW B-B

SEE REHABILITATION TABLES FOR DETERIORATION AREAS



VIEW C-C

SEE REHABILITATION TABLES FOR DETERIORATION AREAS



VIEW D-D

SEE REHABILITATION TABLES FOR DETERIORATION AREAS

REHABILITATION TABLE 1	
LOCATION	ACTUAL MEASUREMENT
1	2'-6"± CRACK
2	2'-6"± CRACK
3	2'-6"± CRACK
4	2'-9"± CRACK
5	2'-3"± CRACK
6	5'-6"± CRACK

REHABILITATION TABLE 2	
LOCATION	ACTUAL MEASUREMENT
A	1'-9"± X 1'-9"± DELAMINATION
B	2'-2"± X 5'-6"± DELAMINATION
C	2'-0"± X 4'-3"± DELAMINATION
D	2'-0"± X 1'-3"± DELAMINATION
E	2'-6"± X 1'-9"± DELAMINATION
F	2'-0"± X 2'-6"± DELAMINATION

NOTES

1. ▨ - DENOTES DELAMINATED OR SPALLED CONCRETE TO BE REPAIRED AND PAID FOR UNDER ITEM 519 PATCHING OF CONCRETE STRUCTURE, AS PER PLAN
2. ALL CRACKS IN CONCRETE SURFACES, INCLUDING ABUTMENTS AND PIERS SHALL BE REPAIRED AND PAID FOR UNDER ITEM 512 CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN

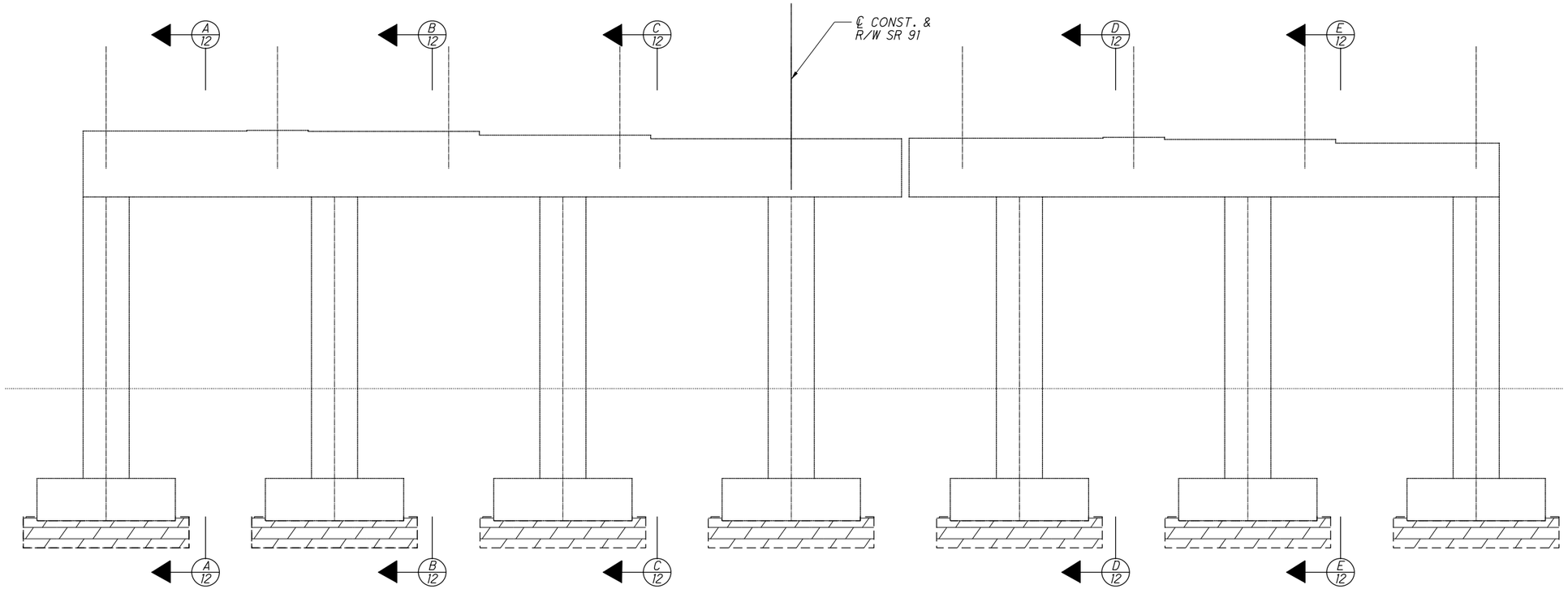
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

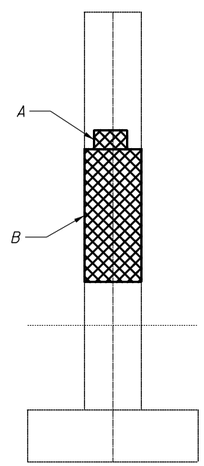
REHABILITATION DETAILS - PIER 1

LAK-91-0456
SR-91 OVER SR-2

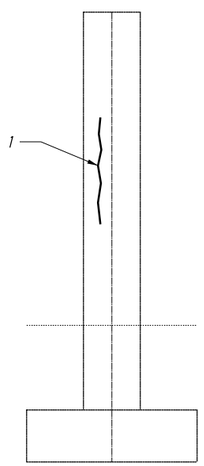
LAK-91-04.56
PID No. 85147



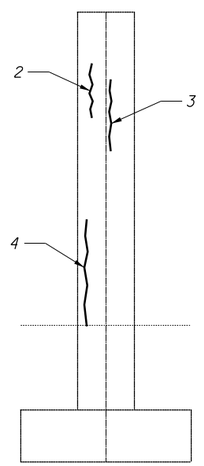
PIER 3 ELEVATION VIEW REHABILITATION DETAIL



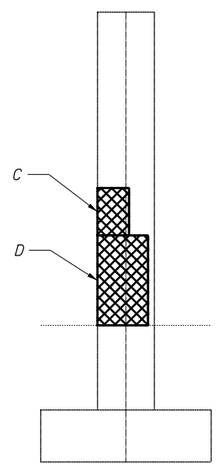
VIEW A-A
SEE REHABILITATION TABLES FOR DETERIORATION AREAS



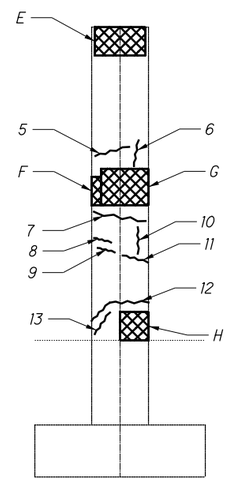
VIEW B-B
SEE REHABILITATION TABLES FOR DETERIORATION AREAS



VIEW C-C
SEE REHABILITATION TABLES FOR DETERIORATION AREAS



VIEW D-D
SEE REHABILITATION TABLES FOR DETERIORATION AREAS



VIEW E-E
SEE REHABILITATION TABLES FOR DETERIORATION AREAS

REHABILITATION TABLE 1

LOCATION	ACTUAL MEASUREMENT
1	4'-4"± CRACK
2	1'-0"± CRACK
3	2'-10"± CRACK
4	3'-8"± CRACK
5	2'-6"± CRACK
6	1'-0"± CRACK
7	3'-9"± CRACK
8	1'-0"± CRACK
9	1'-0"± CRACK
10	1'-4"± CRACK
11	2'-0"± CRACK
12	2'-9"± CRACK
13	1'-3"± CRACK

REHABILITATION TABLE 2

LOCATION	ACTUAL MEASUREMENT
A	1'-9"± X 1'-0"± DELAMINATION
B	2'-9"± X 7'-0"± DELAMINATION
C	1'-8"± X 2'-6"± DELAMINATION
D	2'-8"± X 4'-9"± DELAMINATION
E	1'-6"± X 2'-8"± DELAMINATION
F	1'-6"± X 0'-6"± DELAMINATION
G	2'-8"± X 1'-11"± DELAMINATION
H	1'-6"± X 1'-6"± DELAMINATION

NOTES

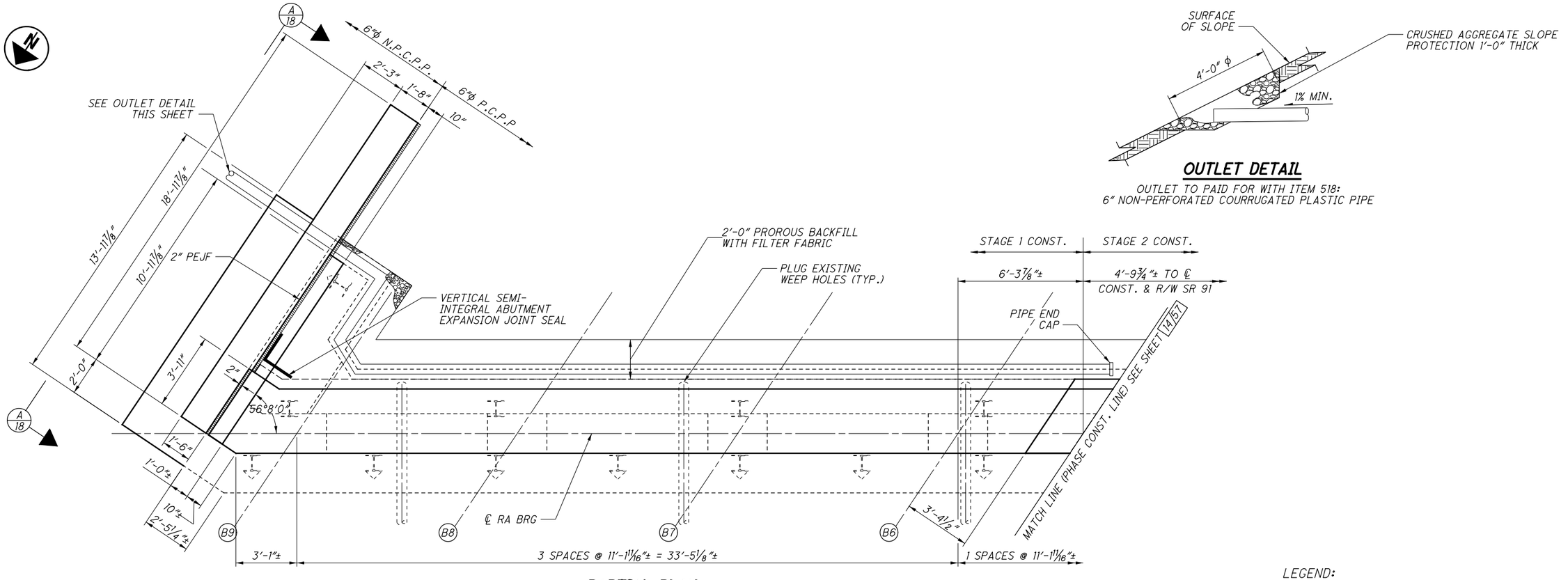
1. ▨ - DENOTES DELAMINATED OR SPALLED CONCRETE TO BE REPAIRED AND PAID FOR UNDER ITEM 519 PATCHING OF CONCRETE STRUCTURE, AS PER PLAN
2. ALL CRACKS IN CONCRETE SURFACES, INCLUDING ABUTMENTS AND PIERS SHALL BE REPAIRED AND PAID FOR UNDER ITEM 512 CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

REHABILITATION DETAILS - PIER 3
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



PARTIAL PLAN

OUTLET DETAIL

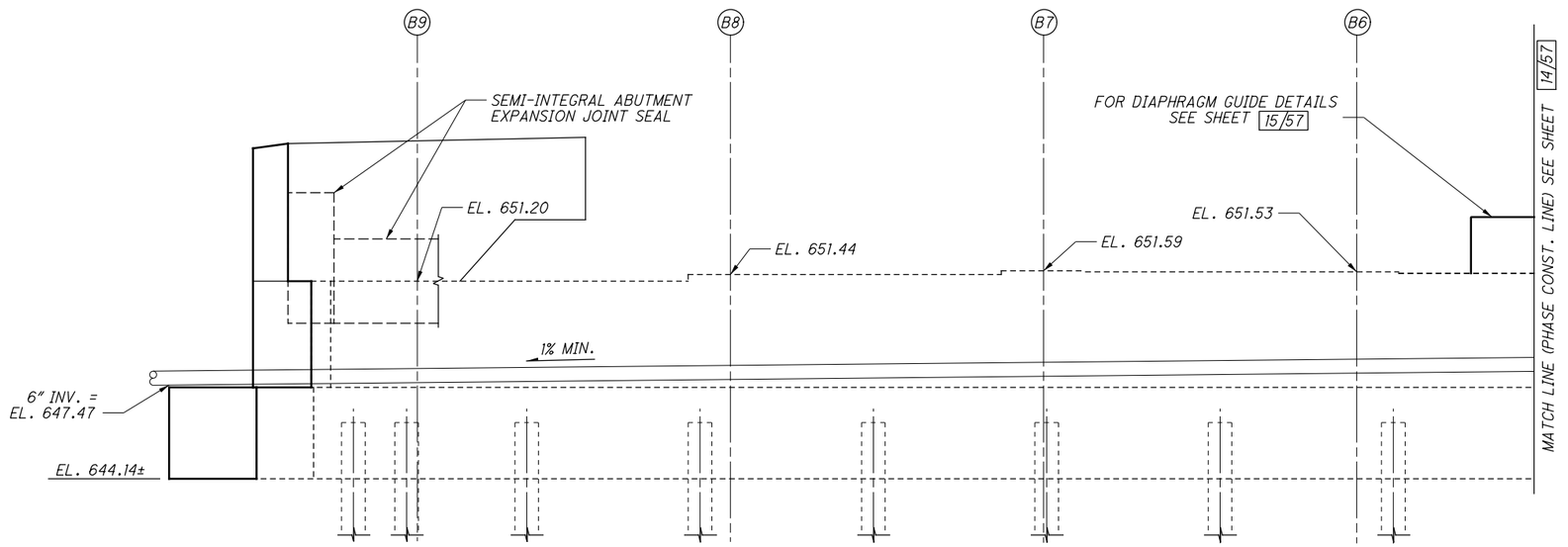
OUTLET TO PAID FOR WITH ITEM 518:
6" NON-PERFORATED COURRUGATED PLASTIC PIPE

LEGEND:

(B#) - BEAM NUMBER

NOTE:

FOR VIEW A-A, SEE SHEET 18/57.



PARTIAL ELEVATION

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	DRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

REAR ABUTMENT PLAN AND ELEVATION (STAGE 1)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

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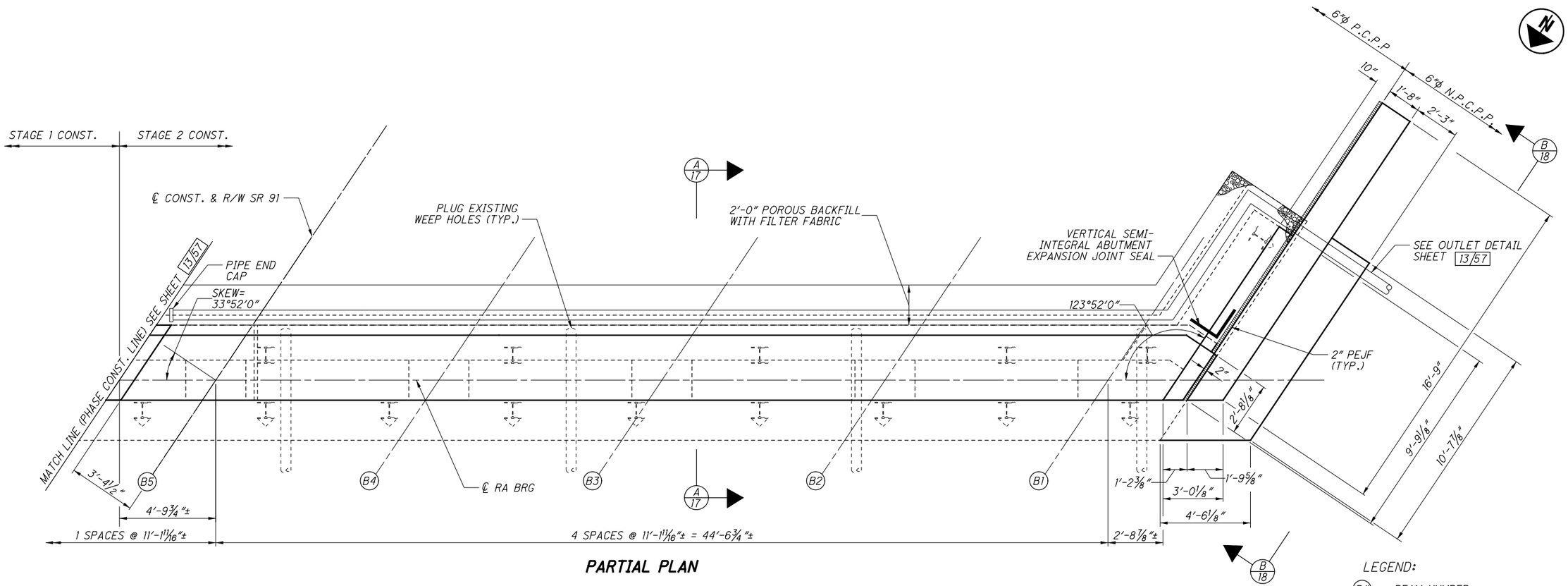


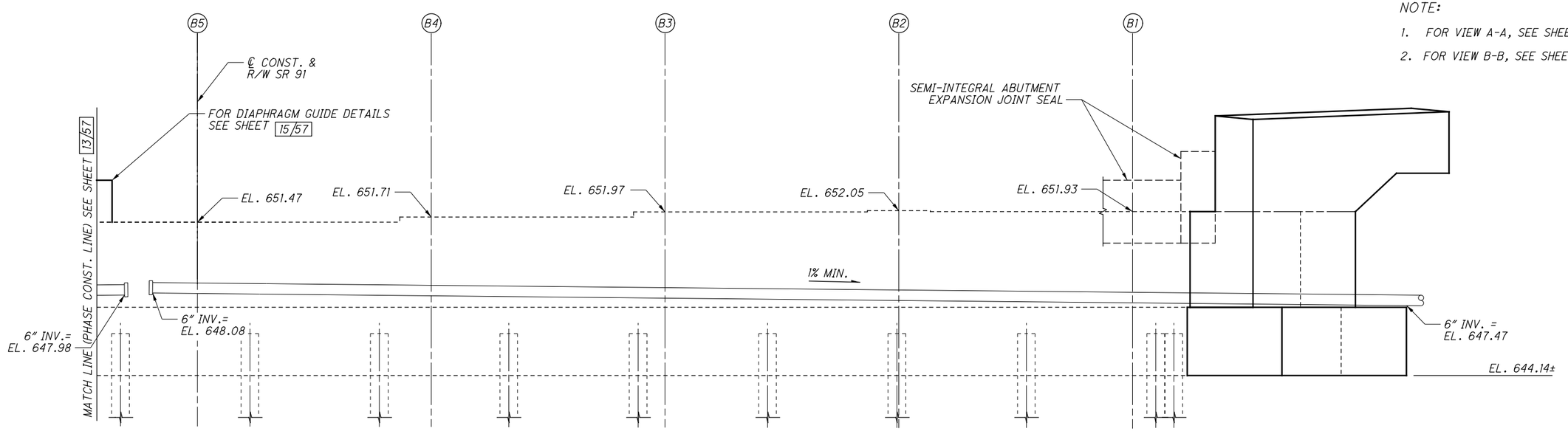
PARTIAL PLAN

LEGEND:

(B#) - BEAM NUMBER

NOTE:

1. FOR VIEW A-A, SEE SHEET 17/57.
2. FOR VIEW B-B, SEE SHEET 18/57.



PARTIAL ELEVATION

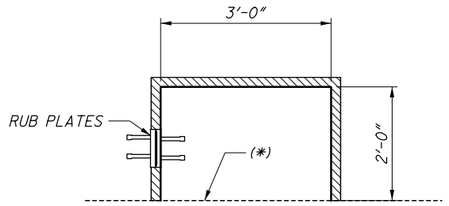
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	DRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

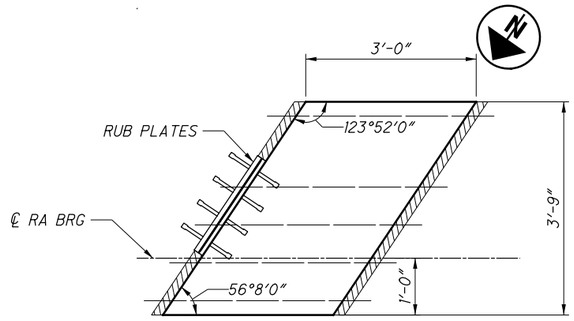
REAR ABUTMENT PLAN AND ELEVATION (STAGE 2)

LAK-91-0456
SR-91 OVER SR-2

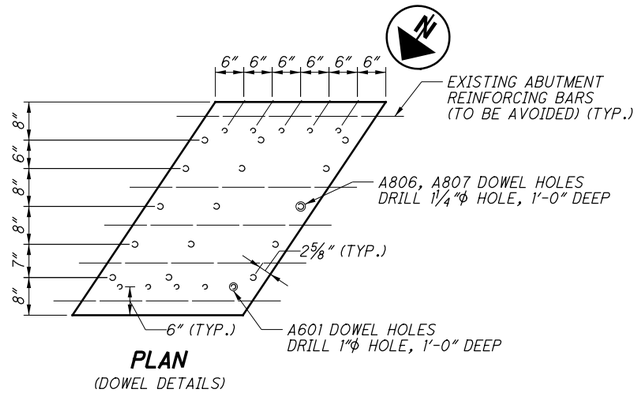
LAK-91-04.56
PID No. 85147



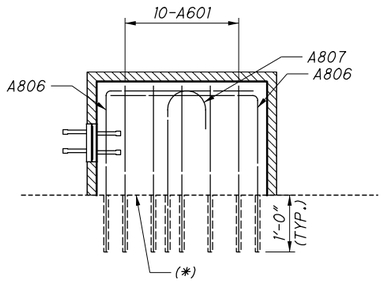
ELEVATION
(REINFORCING NOT SHOWN FOR CLARITY)



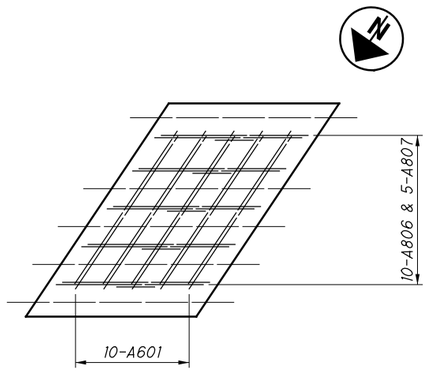
PLAN
(REINFORCING NOT SHOWN FOR CLARITY)



PLAN
(DOWEL DETAILS)



ELEVATION
(REINFORCING)



PLAN
(REINFORCING)

NOTES:

1. FOR ADDITIONAL DETAILS SEE ODOT STD. DWG. SICD-2-14.
2. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS NOTED OTHERWISE
3. PLACE DOWEL BAR HOLES TO AVOID INTERFERENCE WITH EXISTING REINFORCING STEEL IN THE ABUTMENTS.

LEGEND:

(*) - ¼" SCARIFICATIONS: THE EXISTING PIER BRIDGE SEAT SURFACE SHALL BE SCARIFIED ¼" TO SOUND CONCRETE PRIOR TO PLACEMENT OF NEW CONCRETE. THE SURFACE SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, AND FOREIGN MATERIALS BY USE OF WATER, AIR PRESSURE, OR OTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS THE CONCRETE IS PLACED. PAYMENT SHALL BE INCIDENTAL TO ITEM 511 CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
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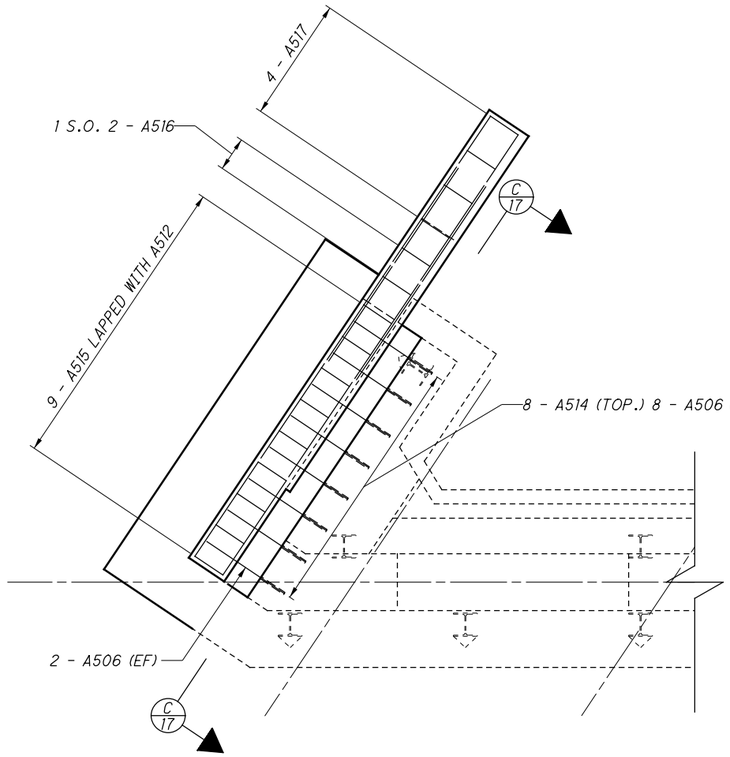
TLR		4300459	

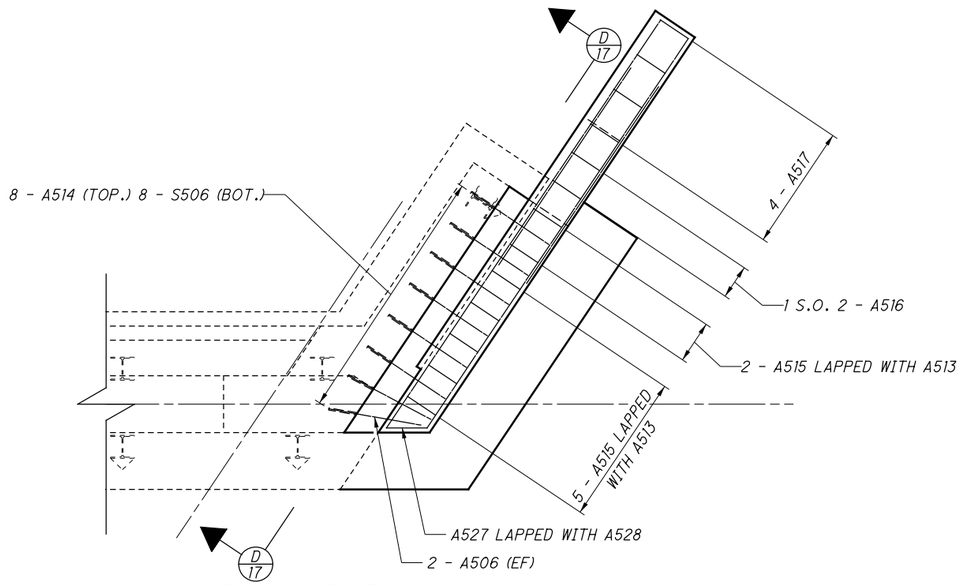
REAR SEMI-INTEGRAL DIAPHRAGM GUIDE DETAILS (STAGE 1)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

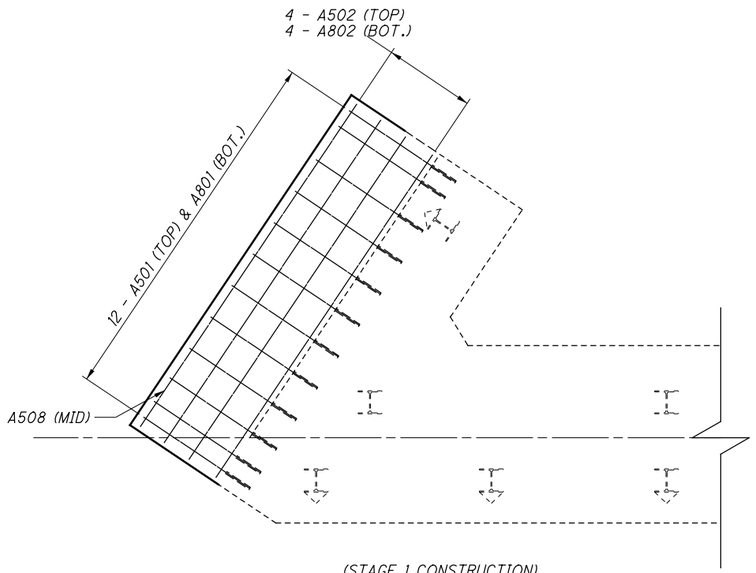


(STAGE 1 CONSTRUCTION)

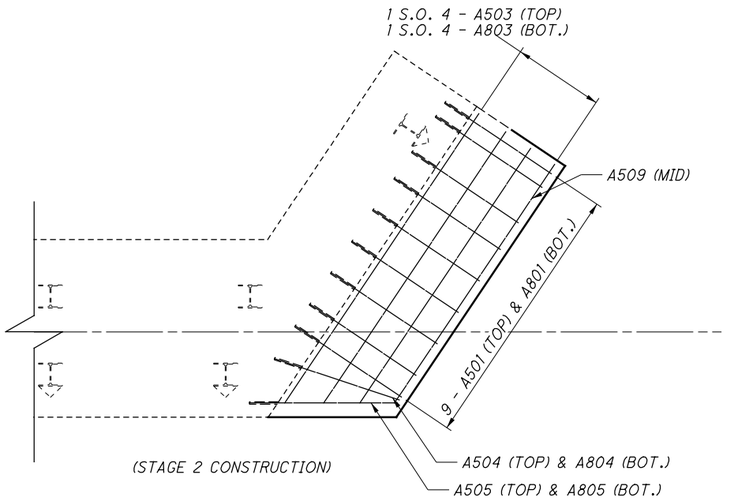


(STAGE 2 CONSTRUCTION)

WINGWALL PLAN



(STAGE 1 CONSTRUCTION)



(STAGE 2 CONSTRUCTION)

FOOTING PLAN

NOTES

1. FOR DOWEL DETAILS SEE SHEET 17/57.
2. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS NOTED OTHERWISE.
3. FOR SECTIONS C-C AND D-D, SEE SHEET 17/57.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

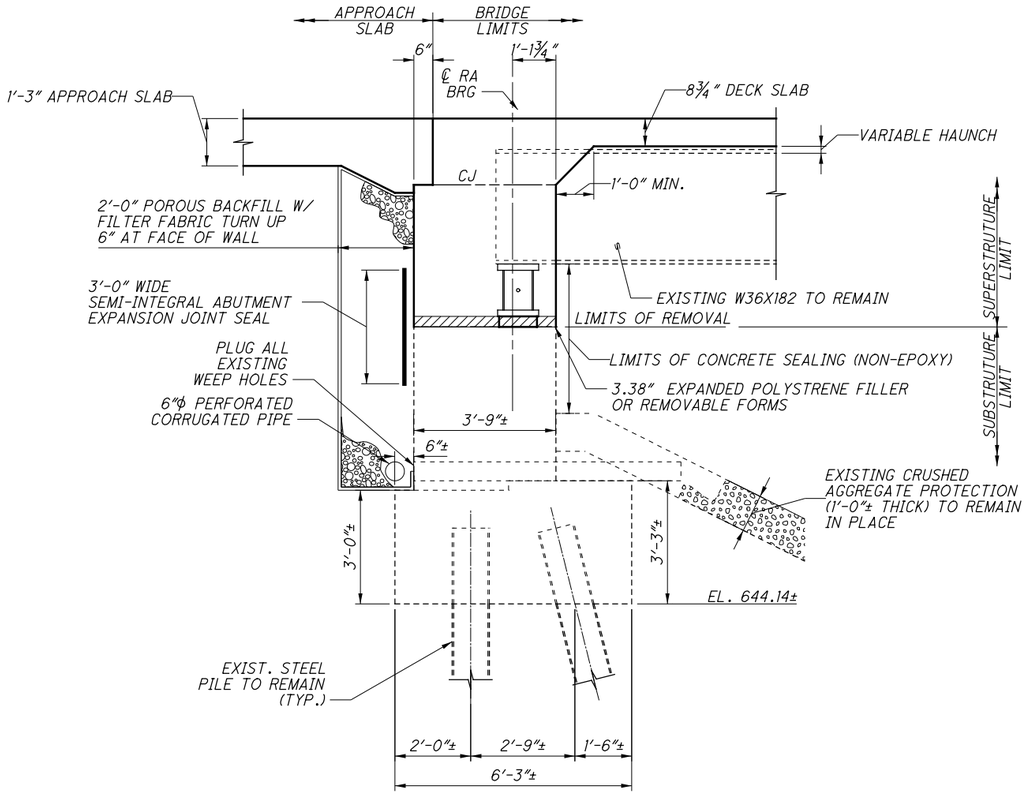
REAR ABUTMENT PLAN REINFORCING

LAK-91-0456
SR-91 OVER SR-2

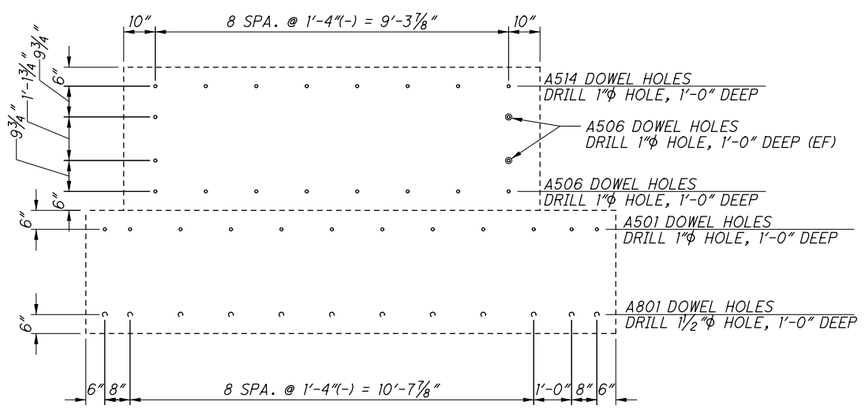
LAK-91-04.56
PID No. 85147

16 / 57

120
161



SECTION A-A

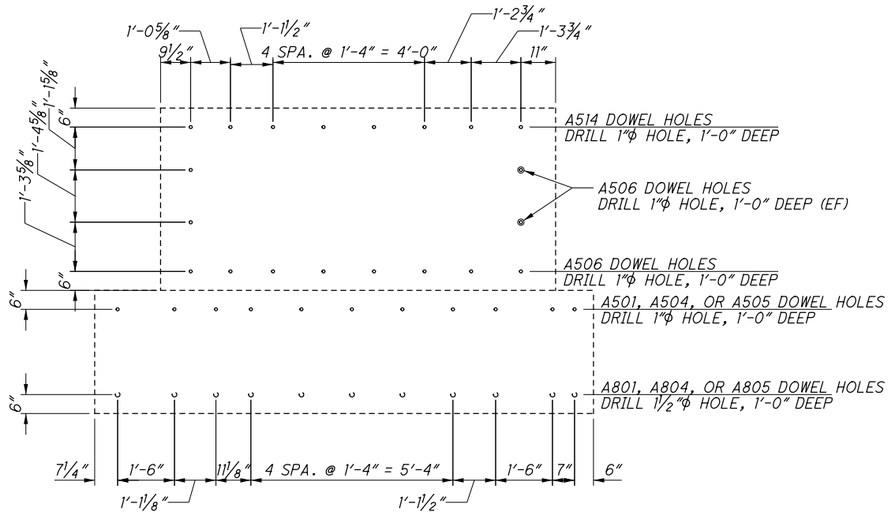


SECTION C-C

(DOWEL DETAILS)
(STAGE 1 CONSTRUCTION)

NOTES

1. FOR REMOVAL LIMITS, SEE SHEET 8/57
2. FOR ADDITIONAL SEMI-INTEGRAL ABUTMENT DETAILS, SEE ODOT STD. DWG. SICD-1-96.
3. PLACE DOWEL BAR HOLES TO AVOID INTERFERENCE WITH EXISTING REINFORCING STEEL IN THE ABUTMENTS.
4. FOR SECTION A-A LOCATION, SEE SHEET 14/57.
5. FOR SECTIONS C-C, AND D-D LOCATION, SEE SHEET 16/57.



SECTION D-D

(DOWEL DETAILS)
(STAGE 2 CONSTRUCTION)

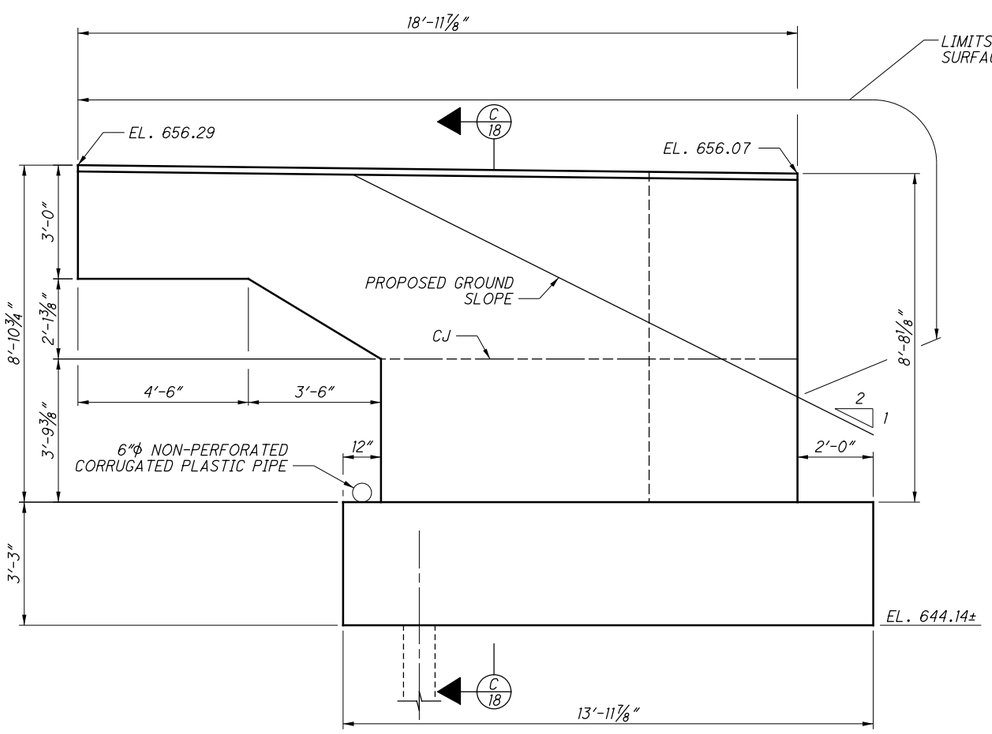
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH
DRAWN KRH
REVIEWED SCT
DATE 4/15
CHECKED TLR
REVISED
STRUCTURE FILE NUMBER 4300459

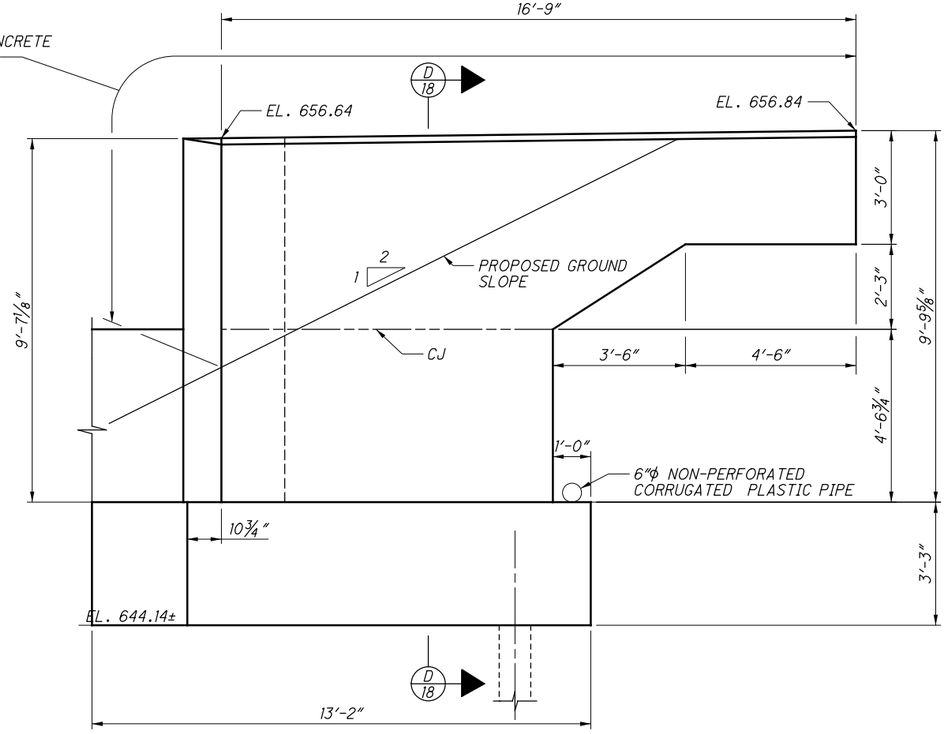
REAR ABUTMENT SECTION AND DOWEL DETAIL

LAK-91-0456
SR-91 OVER SR-2

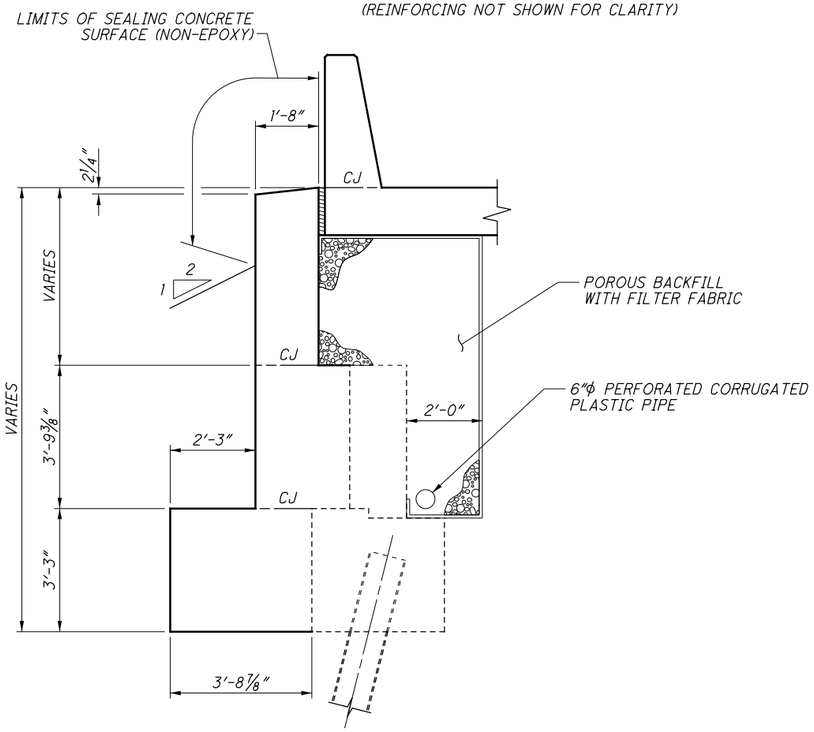
LAK-91-04.56
PID No. 85147



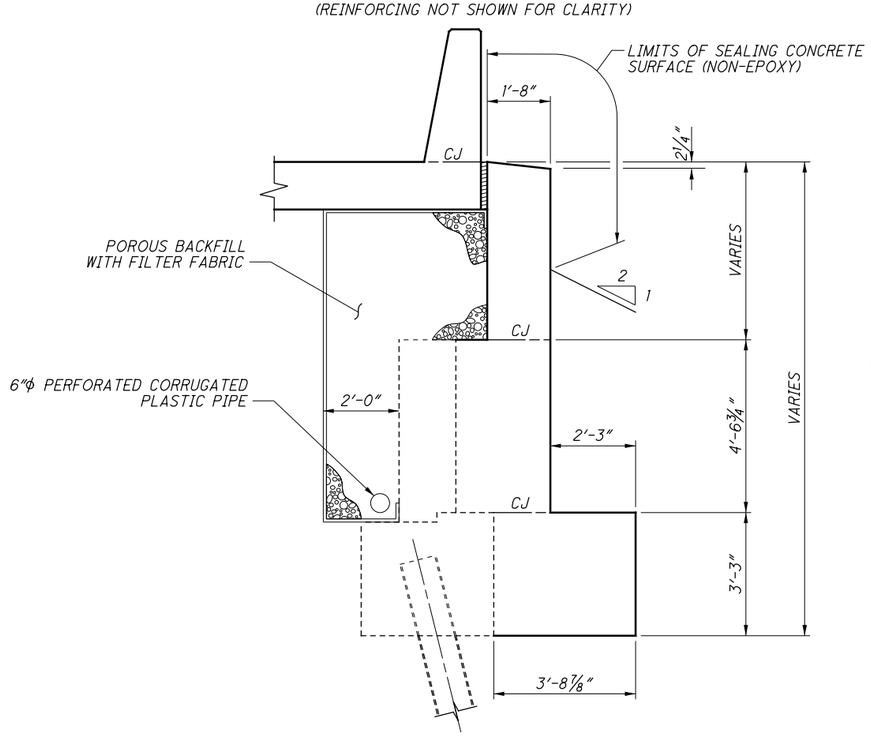
VIEW A-A
(REINFORCING NOT SHOWN FOR CLARITY)



VIEW B-B
(REINFORCING NOT SHOWN FOR CLARITY)



SECTION C-C
(REINFORCING NOT SHOWN FOR CLARITY)



SECTION D-D
(REINFORCING NOT SHOWN FOR CLARITY)

NOTES

1. FOR ADDITIONAL DETAILS SEE ODOT STD. DWG. SICD-1-96.
2. FOR REINFORCING DETAILS SEE SHEET 19/57.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

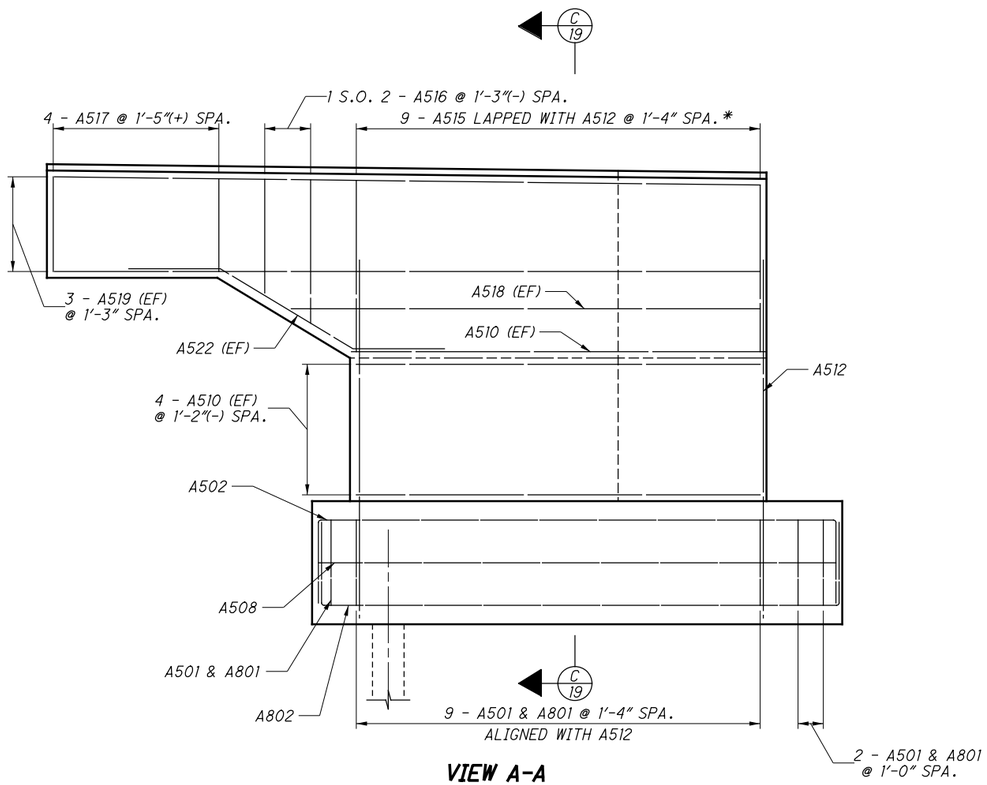
REAR ABUTMENT WINGWALLS

LAK-91-0456
SR-91 OVER SR-2

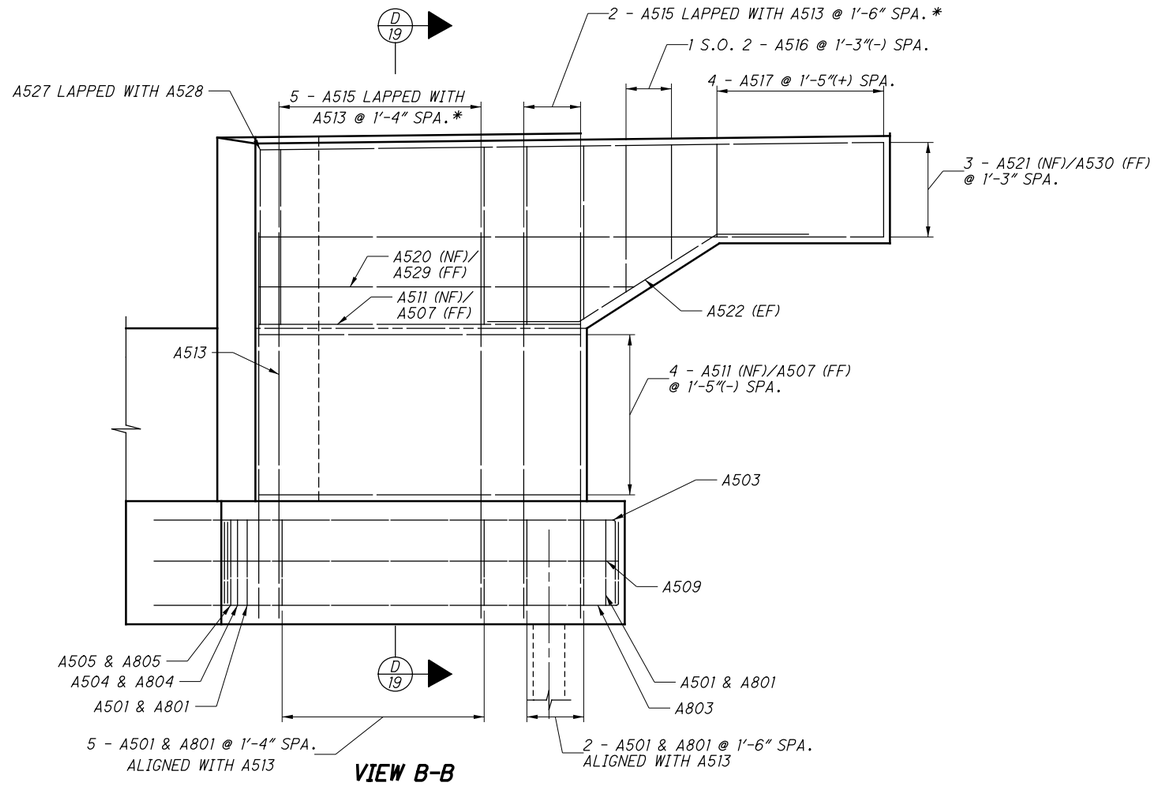
LAK-91-04.56
PID No. 85147

18 / 57

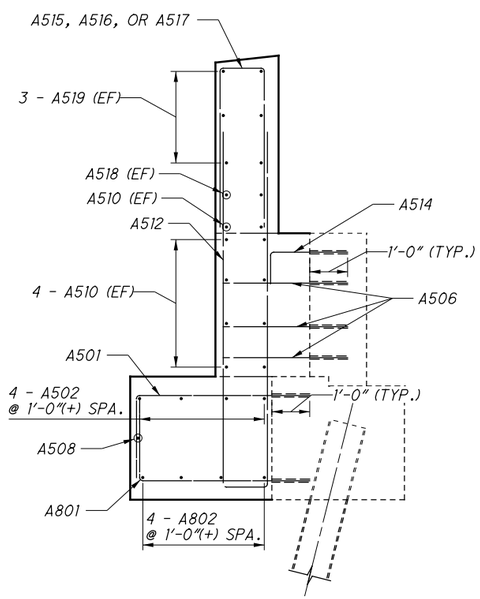
122
161



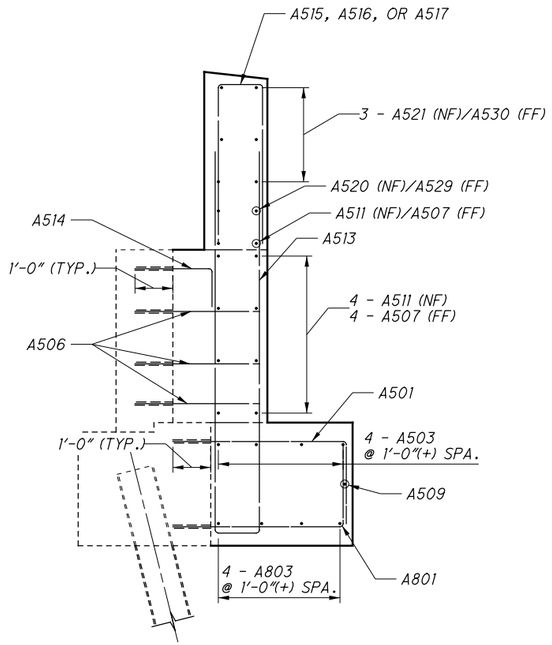
VIEW A-A
(STAGE 1 CONSTRUCTION)



VIEW B-B
(STAGE 2 CONSTRUCTION)



SECTION C-C
(STAGE 1 CONSTRUCTION)



SECTION D-D
(STAGE 2 CONSTRUCTION)

NOTES

1. FOR DOWEL LAYOUT, SEE SHEET 17/57
2. FOR ADDITIONAL DETAILS, SEE ODOT STD. DWG. SICD-1-96.
3. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS NOTED OTHERWISE

* LAP #5 BARS 2'-5" MIN.

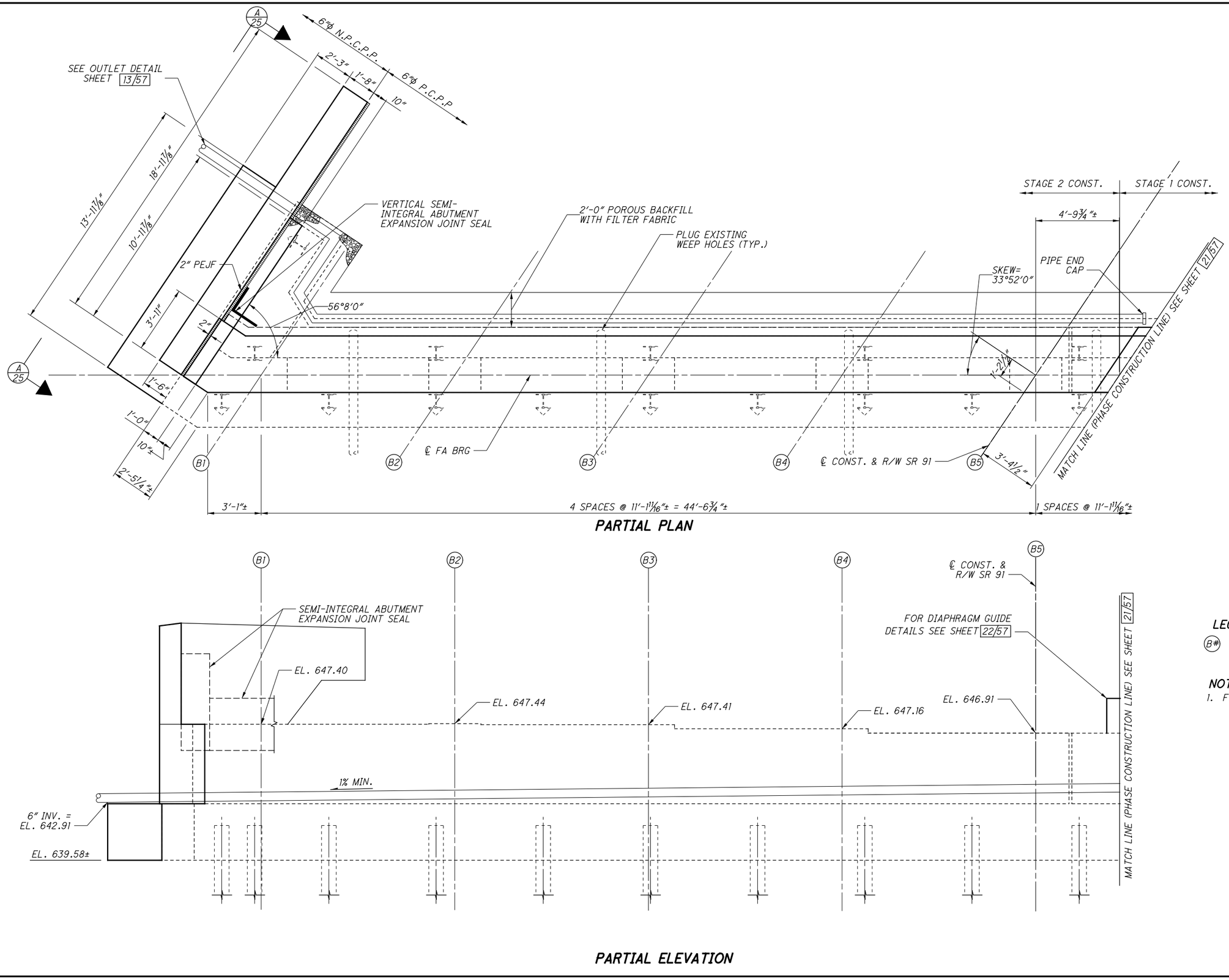
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

REAR ABUTMENT WINGWALL REINFORCING

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



LEGEND:

(B#) - BEAM NUMBER

NOTES:

1. FOR VIEW A-A SEE SHEET 25/57.

W:\Projects\Projects K-O\ODOT0053\85147\Structures\Struc_1 (over SR 2)\Sheets\091_0456CAF001.dgn 7/28/2015 3:29:31 PM

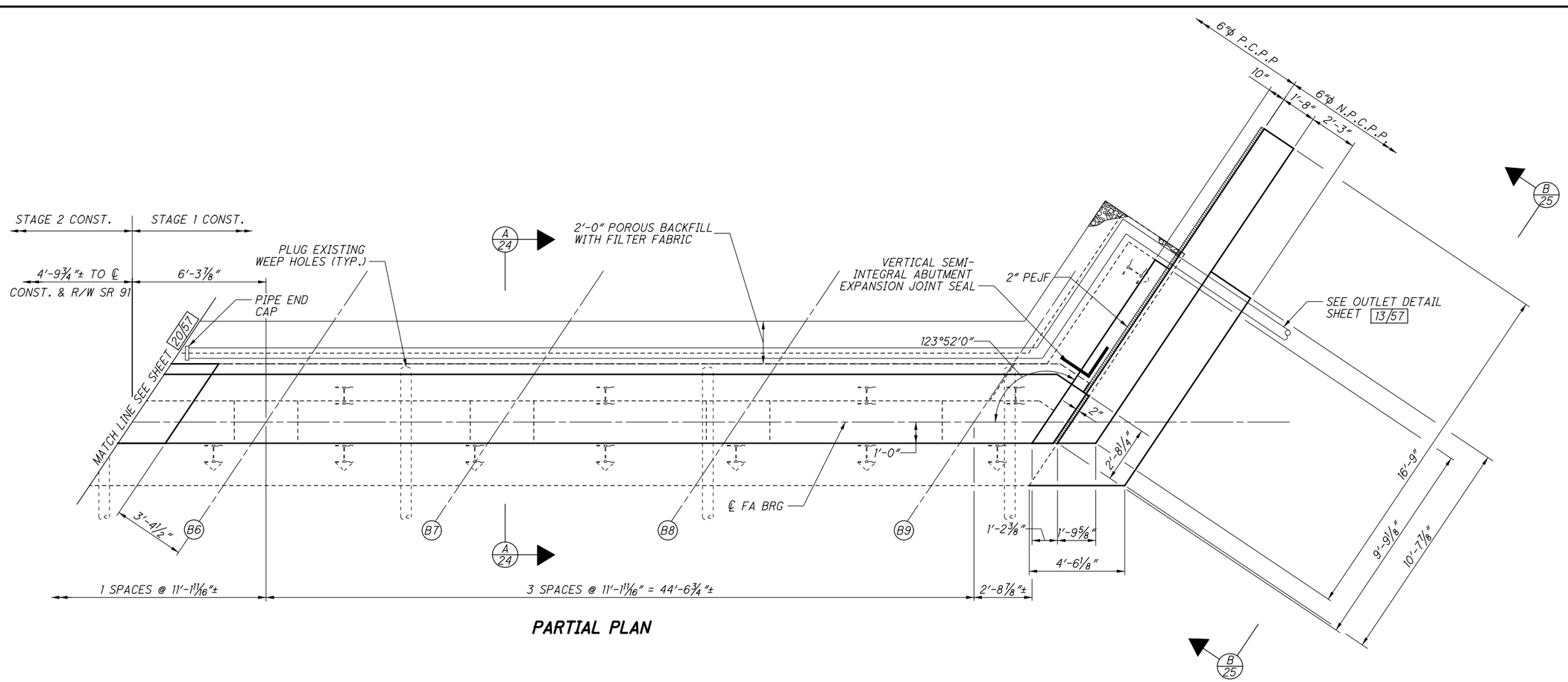
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

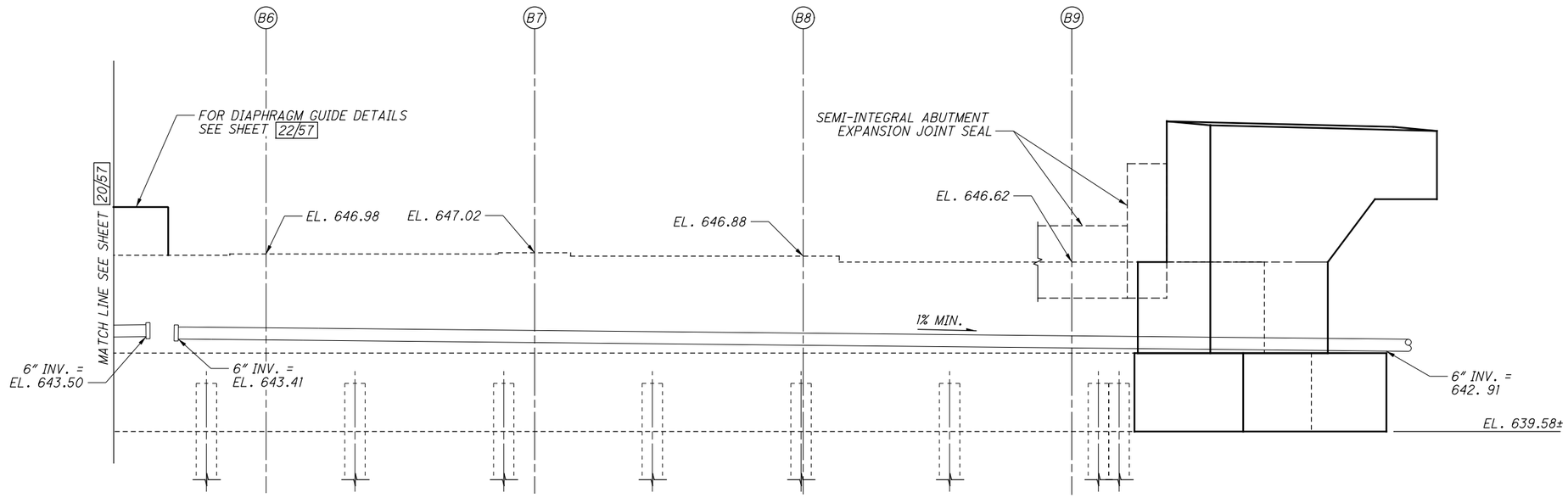
FORWARD ABUTMENT PLAN AND ELEVATION (STAGE 2)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



PARTIAL PLAN



PARTIAL ELEVATION

LEGEND:

(B#) - BEAM NUMBER

NOTES:

1. FOR SECTION A-A, SEE SHEET 24/57.
2. FOR VIEW B-B, SEE SHEET 25/57.

FORWARD ABUTMENT PLAN AND ELEVATION (STAGE 1)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

21 / 57

125 / 161

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	AMK	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

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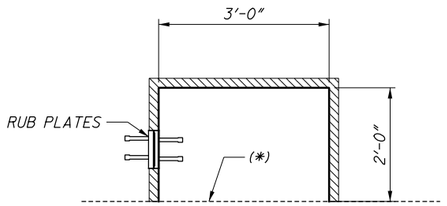
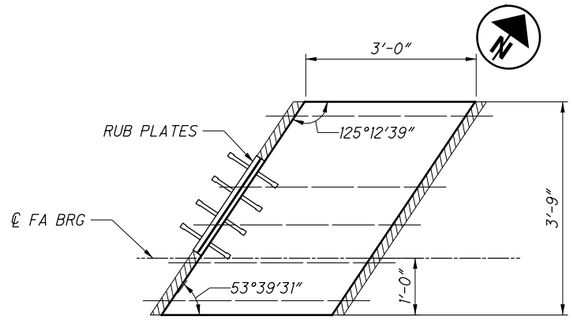


ELEVATION
(REINFORCING NOT SHOWN FOR CLARITY)



PLAN
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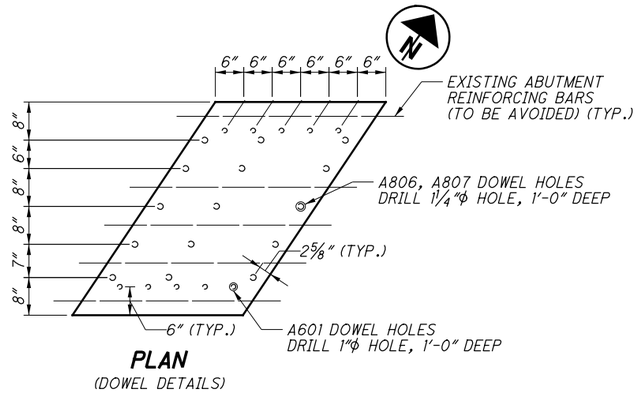
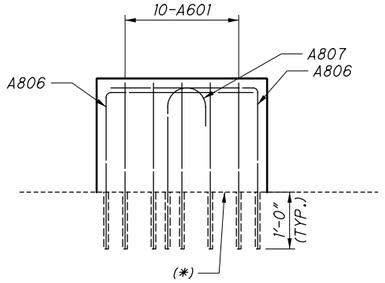
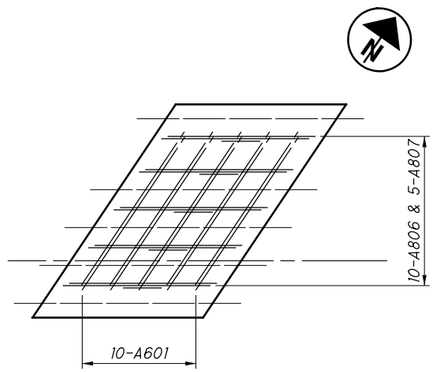


PLAN
(DOWEL DETAILS)



ELEVATION
(REINFORCING)



PLAN
(REINFORCING)

NOTES:

1. FOR ADDITIONAL DETAILS SEE ODOT STD. DWG. SICD-2-14.
2. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS NOTED OTHERWISE
3. PLACE DOWEL BAR HOLES TO AVOID INTERFERENCE WITH EXISTING REINFORCING STEEL IN THE ABUTMENTS.

LEGEND:

(*) - ¼" SCARIFICATIONS: THE EXISTING PIER BRIDGE SEAT SURFACE SHALL BE SCARIFIED ¼" TO SOUND CONCRETE PRIOR TO PLACEMENT OF NEW CONCRETE. THE SURFACE SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, AND FOREIGN MATERIALS BY USE OF WATER, AIR PRESSURE, OR OTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS THE CONCRETE IS PLACED. PAYMENT SHALL BE INCIDENTAL TO ITEM 511 CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN.

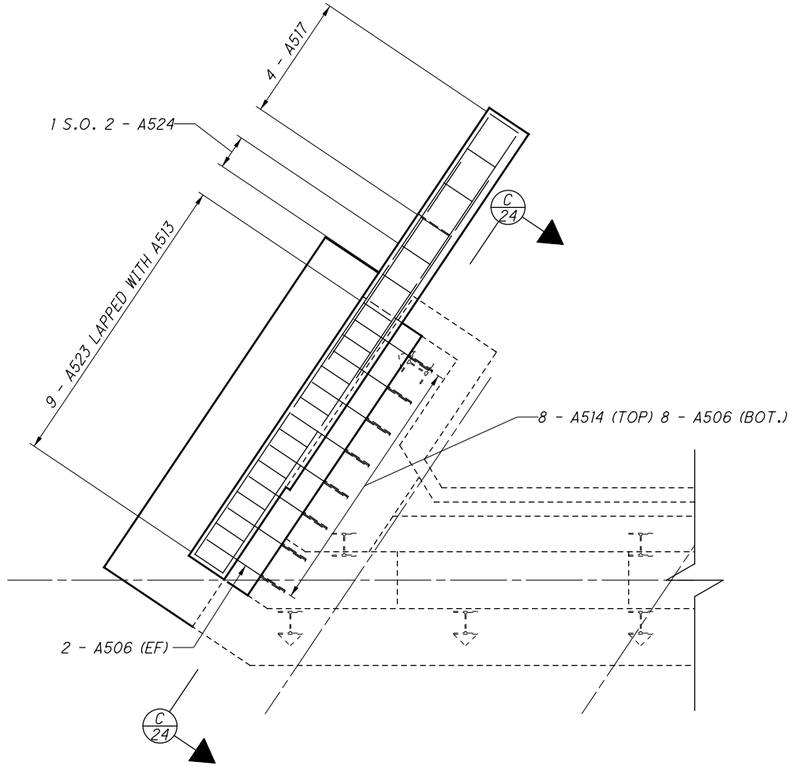
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

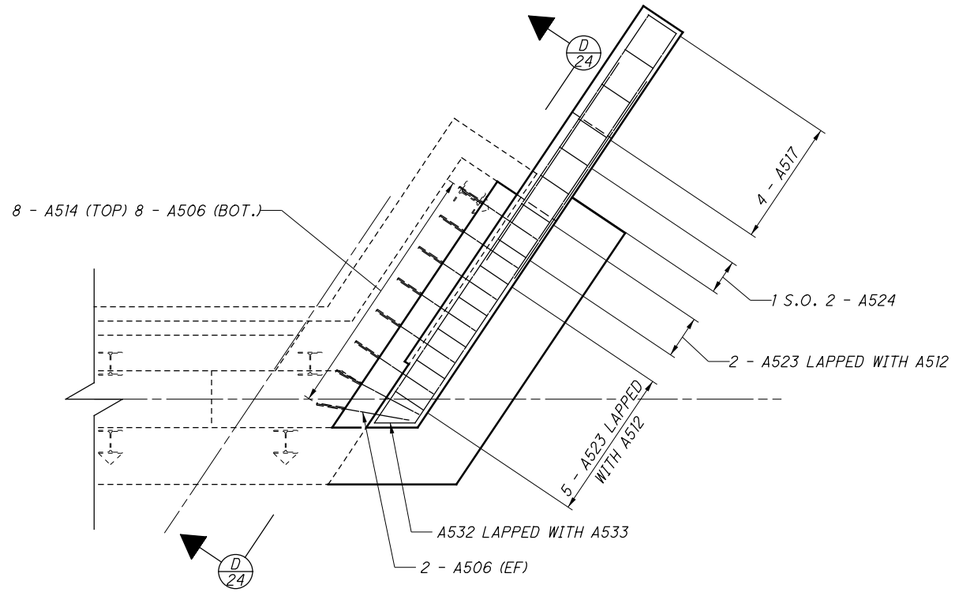
FORWARD SEMI-INTEGRAL DIAPHRAGM GUIDE DETAILS (STAGE 1)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

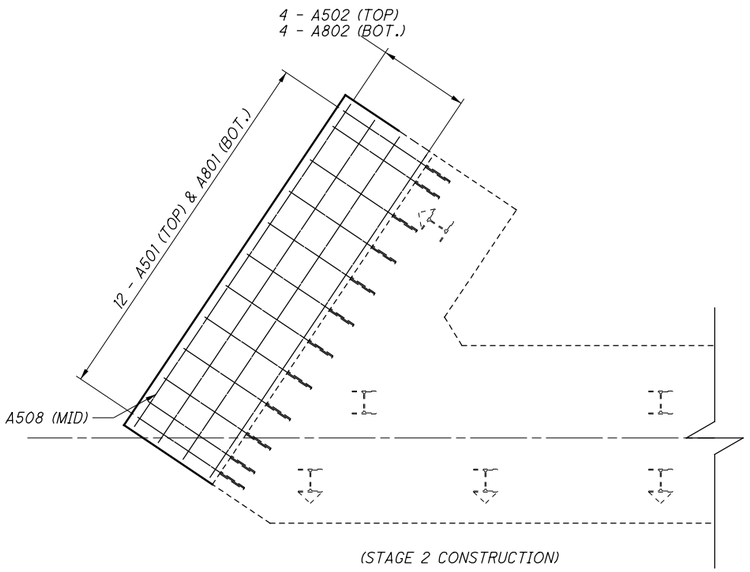


(STAGE 2 CONSTRUCTION)

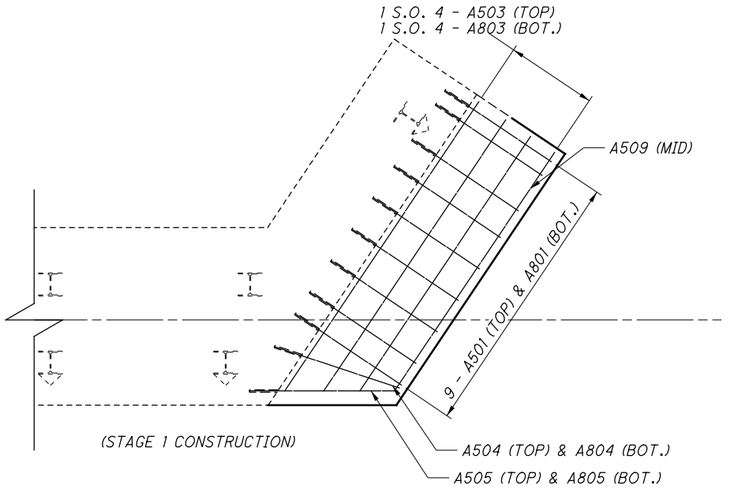


(STAGE 1 CONSTRUCTION)

WINGWALL PLAN



(STAGE 2 CONSTRUCTION)



(STAGE 1 CONSTRUCTION)

FOOTING PLAN

NOTES

1. FOR DOWEL DETAILS SEE SHEET 24/57.
2. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS NOTED OTHERWISE.
3. FOR SECTIONS C-C AND D-D, SEE SHEET 24/57.

FORWARD ABUTMENT PLAN REINFOCING

LAK-91-0456
SR-91 OVER SR-2

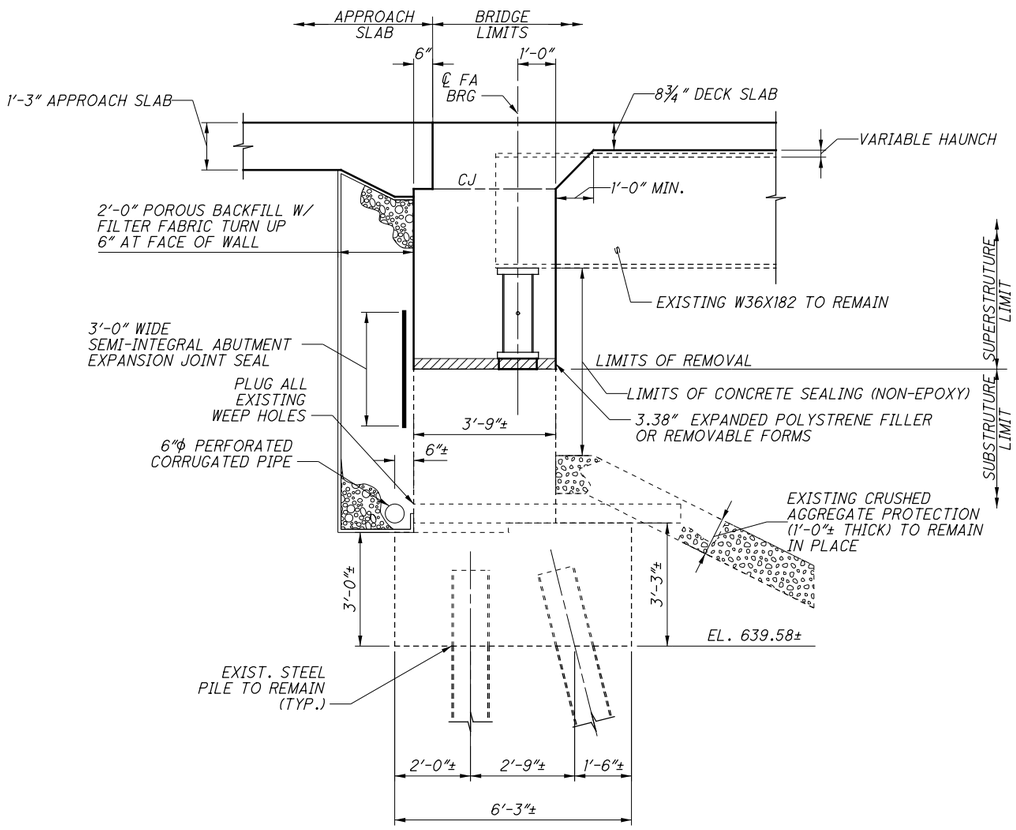
LAK-91-04.56
PID No. 85147

23 / 57

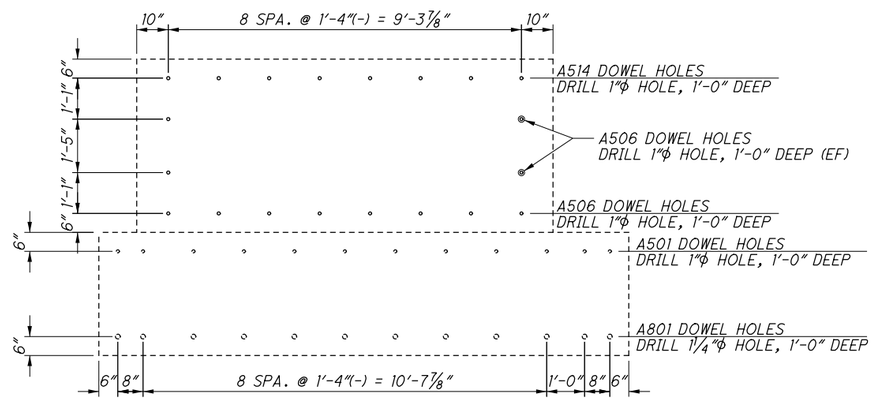
127
161

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

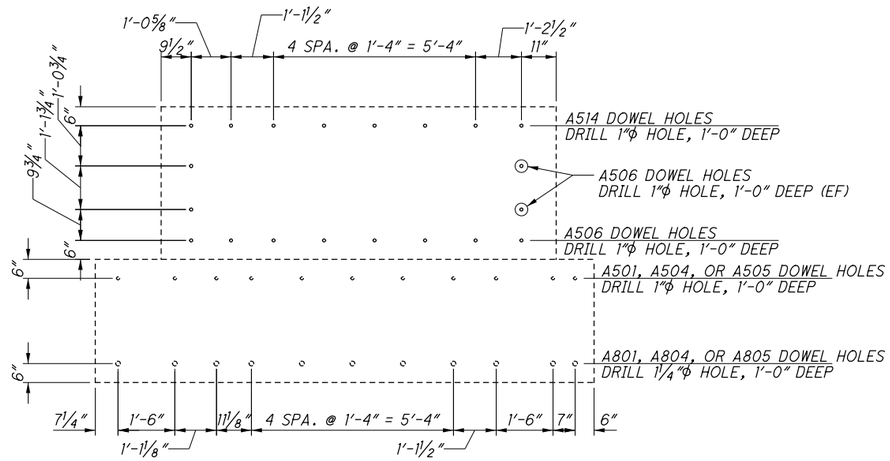


SECTION A-A



SECTION C-C

(DOWEL DETAILS)
(STAGE 2 CONSTRUCTION)



SECTION D-D

(DOWEL DETAILS)
(STAGE 1 CONSTRUCTION)

NOTES

1. FOR REMOVAL LIMITS, SEE SHEET 8/57
2. FOR ADDITIONAL SEMI-INTEGRAL ABUTMENT DETAILS, SEE ODOT STD. DWG. SICD-1-96.
3. PLACE DOWEL BAR HOLES TO AVOID INTERFERENCE WITH EXISTING REINFORCING STEEL IN THE ABUTMENTS.

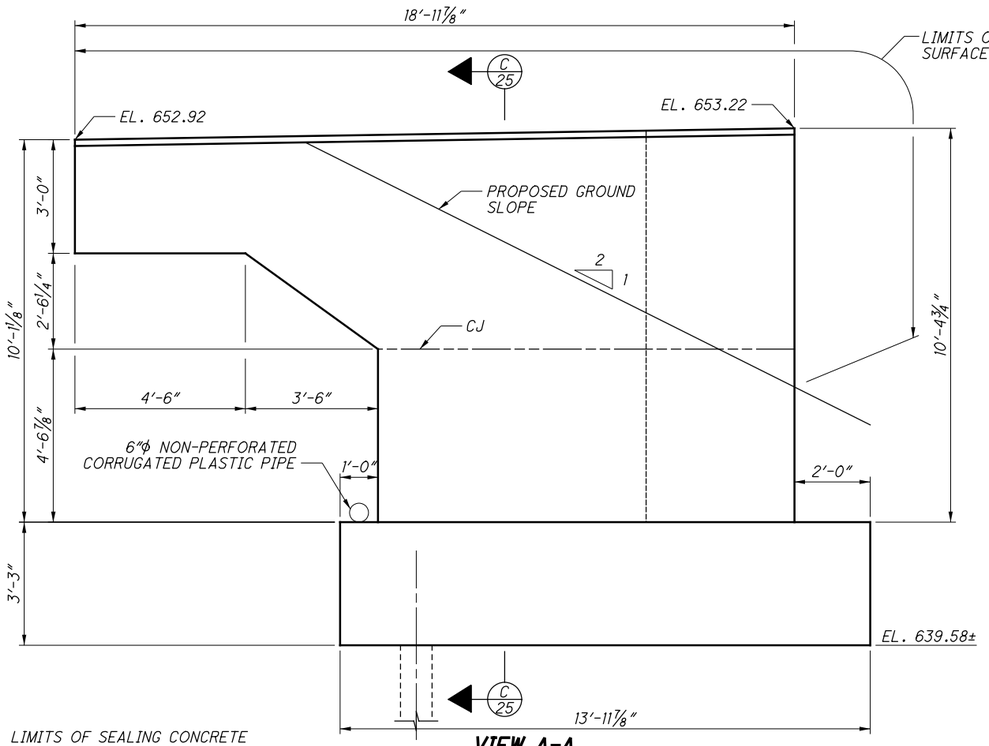
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

FORWARD ABUTMENT SECTION AND DOWEL DETAIL

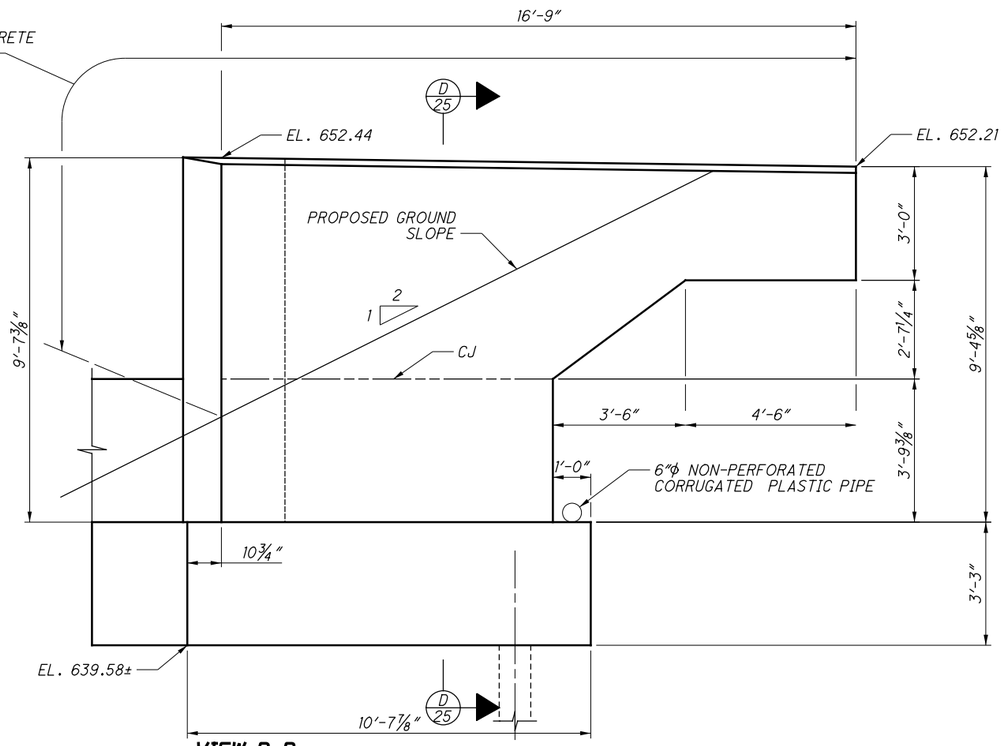
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



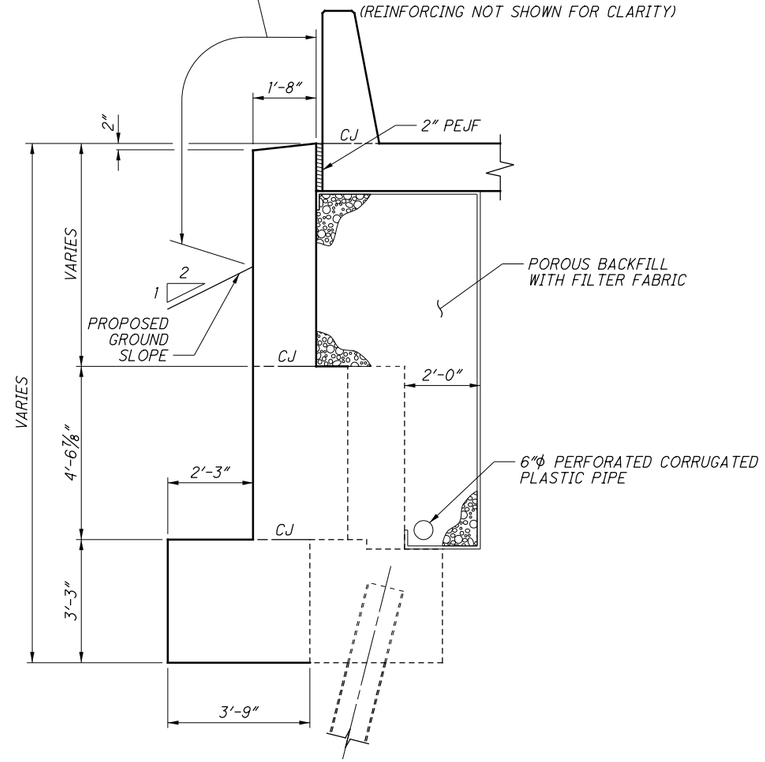
VIEW A-A

(REINFORCING NOT SHOWN FOR CLARITY)



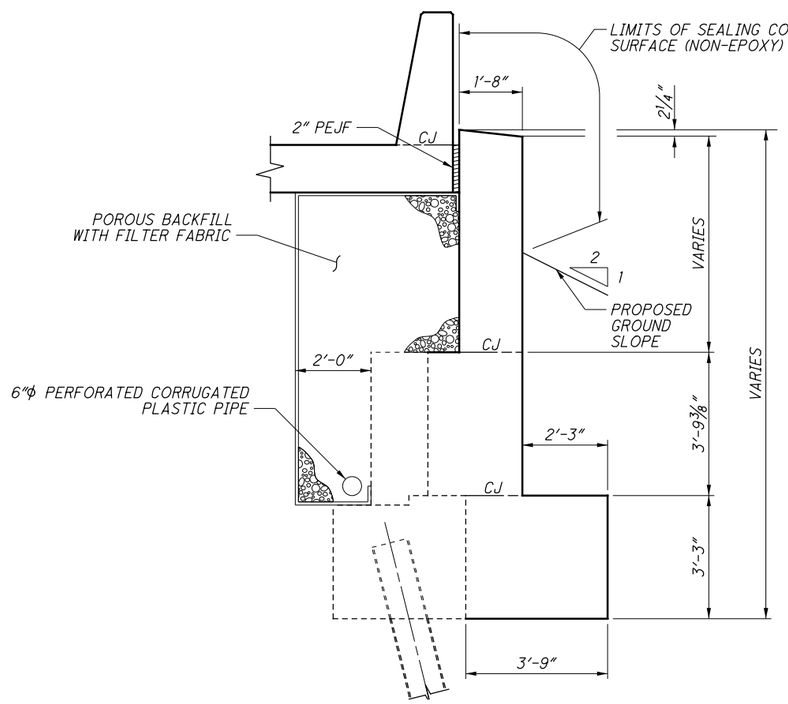
VIEW B-B

(REINFORCING NOT SHOWN FOR CLARITY)



SECTION C-C

(REINFORCING NOT SHOWN FOR CLARITY)



SECTION D-D

(REINFORCING NOT SHOWN FOR CLARITY)

NOTES

1. FOR ADDITIONAL DETAILS SEE ODOT STD. DWG. SICD-1-96.
2. FOR REINFORCING DETAILS SEE SHEET 26/57.

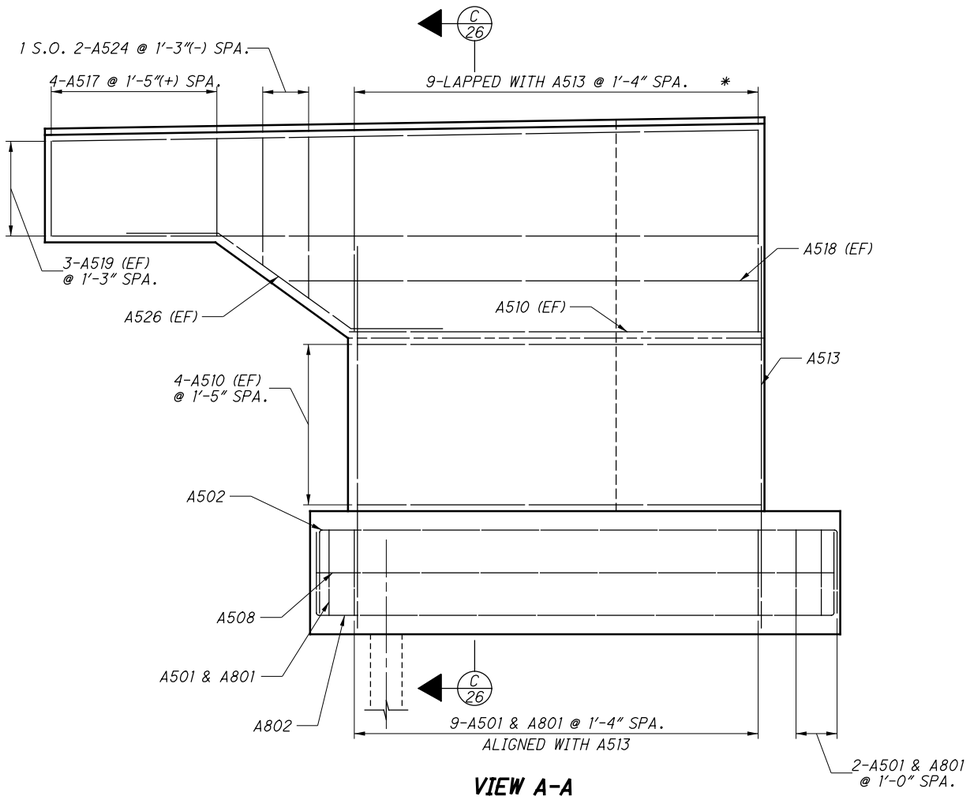
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	AMK	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

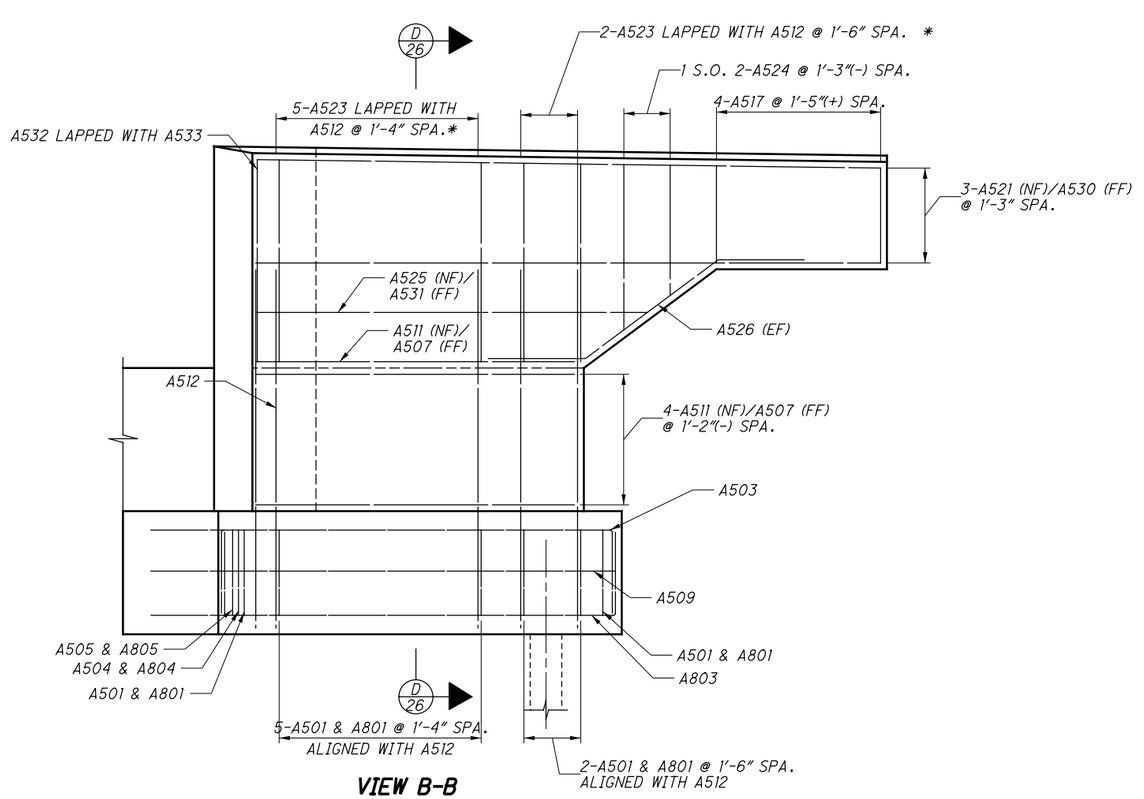
FORWARD ABUTMENT WINGWALLS

LAK-91-0456
SR-91 OVER SR-2

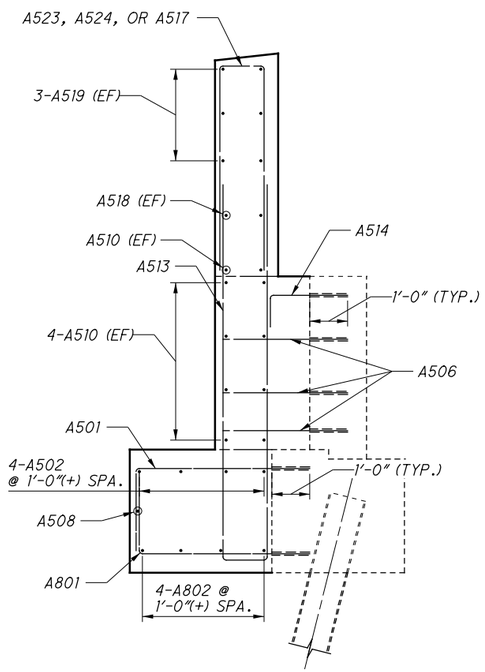
LAK-91-04.56
PID No. 85147



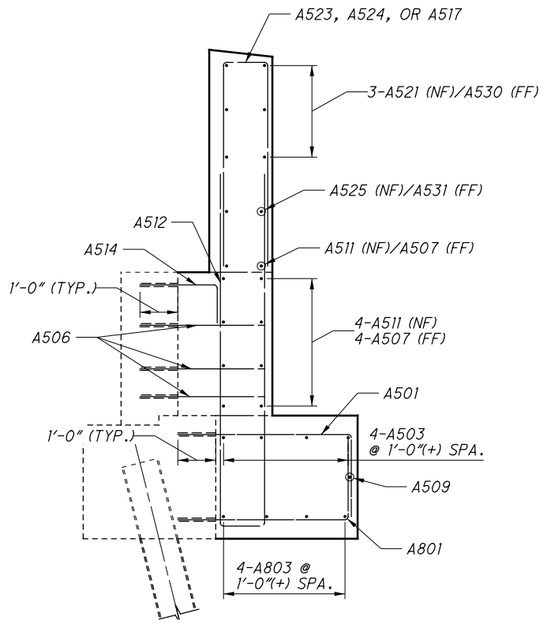
VIEW A-A
(STAGE 2 CONSTRUCTION)



VIEW B-B
(STAGE 1 CONSTRUCTION)



SECTION C-C
(STAGE 2 CONSTRUCTION)



SECTION D-D
(STAGE 1 CONSTRUCTION)

NOTES

1. FOR DOWEL LAYOUT, SEE SHEET 24/57
2. FOR ADDITIONAL DETAILS, SEE ODOT STD. DWG. SICD-1-96.
3. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS NOTED OTHERWISE

* LAP No. 5 BARS 2'-5" MIN.

1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

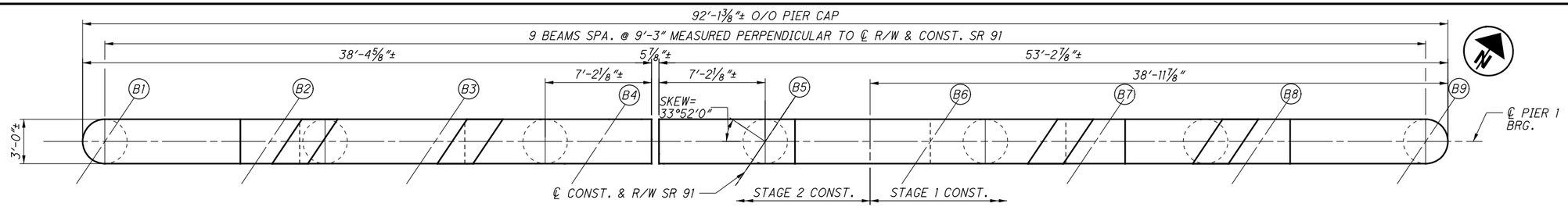
FORWARD ABUTMENT WINGWALL REINFORCING

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

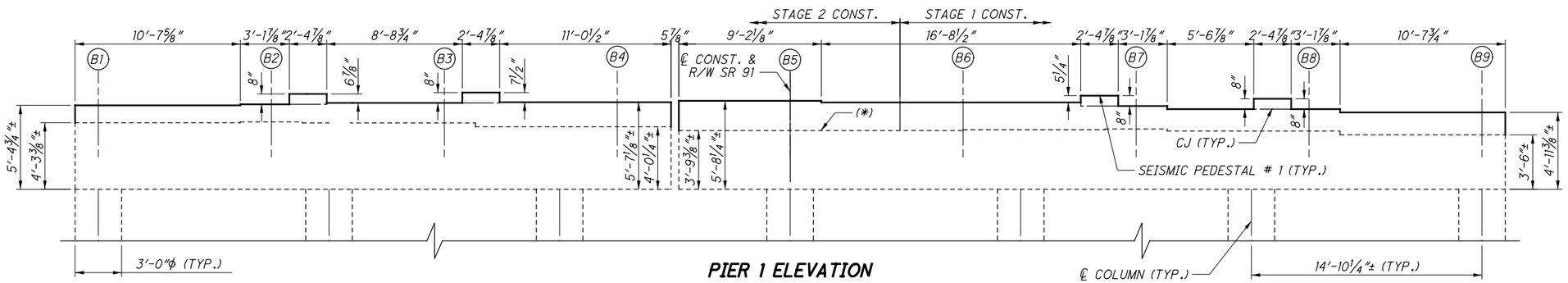
26 / 57

130
161

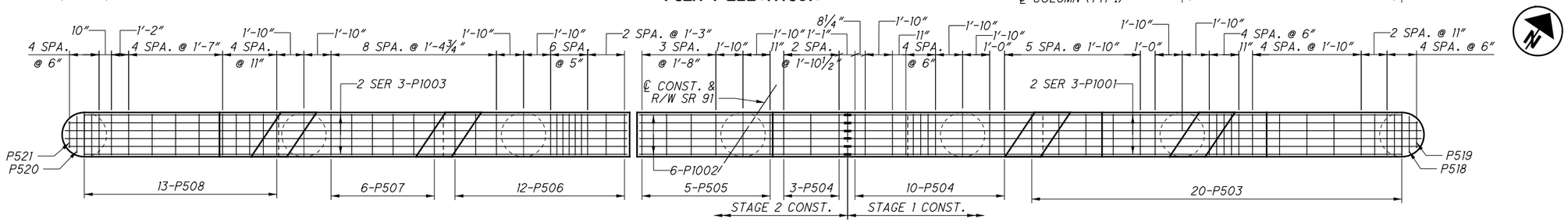


PIER 1 PLAN

PIER 1 BEAM SEAT ELEVATIONS	
BEAM	ELEVATION
B1	651.58
B2	651.65
B3	651.73
B4	651.80
B5	651.86
B6	651.77
B7	651.55
B8	651.32
B9	651.11

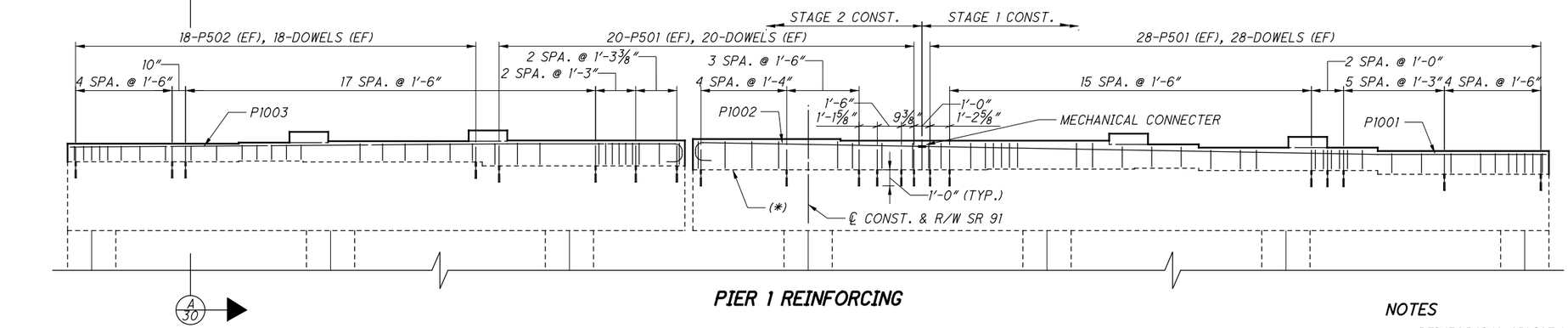


PIER 1 ELEVATION



PIER 1 REINFORCING

(DOWEL BARS NOT SHOWN FOR CLARITY)



PIER 1 REINFORCING

LEGEND

(*) - 1/4" SCARIFICATIONS: THE EXISTING PIER BRIDGE SEAT SURFACE SHALL BE SCARIFIED 1/4" TO SOUND CONCRETE PRIOR TO PLACEMENT OF NEW CONCRETE. THE SURFACE SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, AND FOREIGN MATERIALS BY USE OF WATER, AIR PRESSURE, OR OTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS THE CONCRETE IS PLACED. PAYMENT SHALL BE INCIDENTAL TO ITEM 511 CLASS QC1 CONCRETE WITH QC/QA, PIER CAP, AS PER PLAN.

(B#) - BEAM NUMBER

NOTES

1. REINFORCING SPLICE LENGTHS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   #5 BARS - 2'-5"
2. PLACE DOWEL BAR HOLES TO AVOID INTERFERENCE WITHE EXISTING REINFORCING STEEL IN THE PIERS.
3. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE NOTED.
4. SEE SHEET 30/57 FOR CONCRETE SEALING DETAIL.
5. SEE SHEET 30/57 FOR SEISMIC PEDESTAL DETAILS.
6. SEE SHEET 30/57 FOR ADDITIONAL PIER CAP DETAILS.

1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

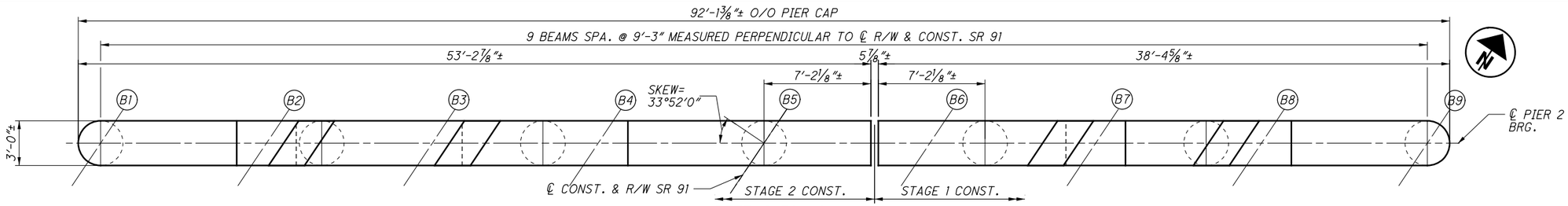
DESIGNED NMS | DRAWN DRH | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

PIER DETAILS (SHEET 1 OF 4)
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

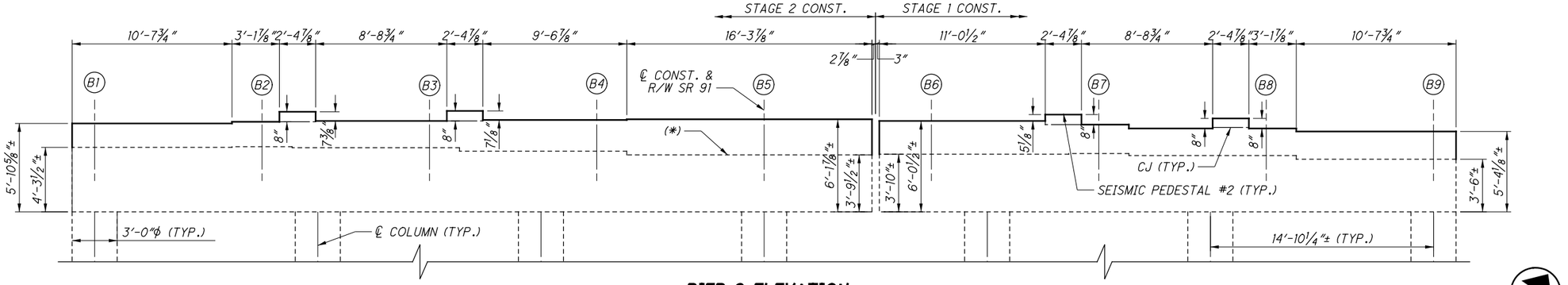
27 / 57

131 / 161

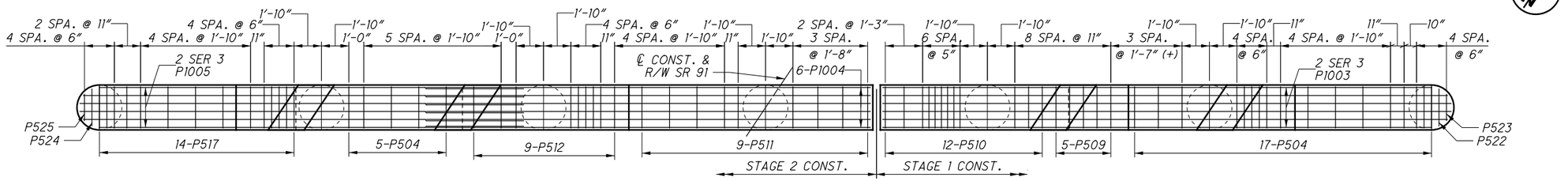


PIER 2 PLAN

PIER 2 BEAM SEAT ELEVATIONS	
BEAM	ELEVATION
B1	650.60
B2	650.67
B3	650.74
B4	650.80
B5	650.86
B6	650.75
B7	650.52
B8	650.28
B9	650.07

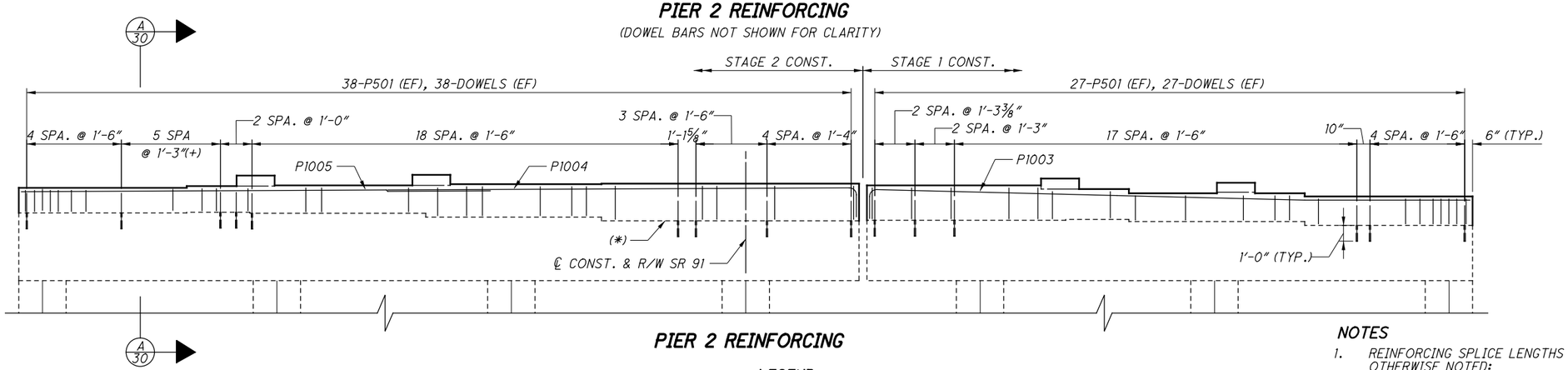


PIER 2 ELEVATION



PIER 2 REINFORCING

(DOWEL BARS NOT SHOWN FOR CLARITY)



PIER 2 REINFORCING

LEGEND

(*) - 1/4" SCARIFICATIONS: THE EXISTING PIER BRIDGE SEAT SURFACE SHALL BE SCARIFIED 1/4" TO SOUND CONCRETE PRIOR TO PLACEMENT OF NEW CONCRETE. THE SURFACE SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, AND FOREIGN MATERIALS BY USE OF WATER, AIR PRESSURE, OR OTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS THE CONCRETE IS PLACED. PAYMENT SHALL BE INCIDENTAL TO ITEM 511 CLASS QC1 CONCRETE WITH QC/QA, PIER CAP, AS PER PLAN.

(B#) - BEAM NUMBER

NOTES

1. REINFORCING SPLICE LENGTHS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   #5 BARS - 2'-5"
2. PLACE DOWEL BAR HOLES TO AVOID INTERFERENCE WITHE EXISTING REINFORCING STEEL IN THE PIERS.
3. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE NOTED.
4. SEE SHEET 30/57 FOR CONCRETE SEALING DETAIL.
5. SEE SHEET 30/57 FOR SEISMIC PEDESTAL DETAILS.
6. SEE SHEET 30/57 FOR ADDITIONAL PIER CAP DETAILS.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

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PIER DETAILS (SHEET 2 OF 4)
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

28 / 57

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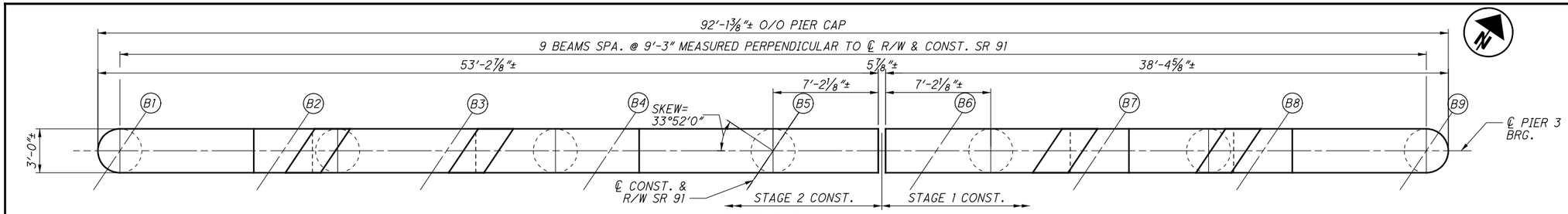
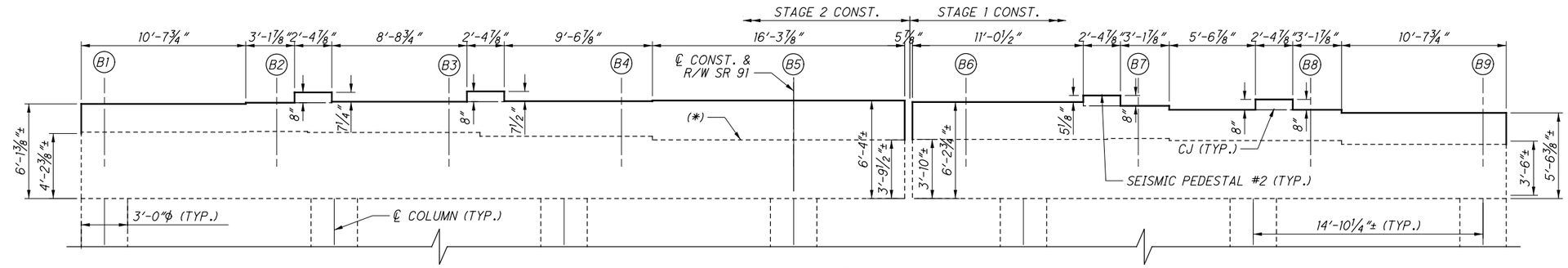
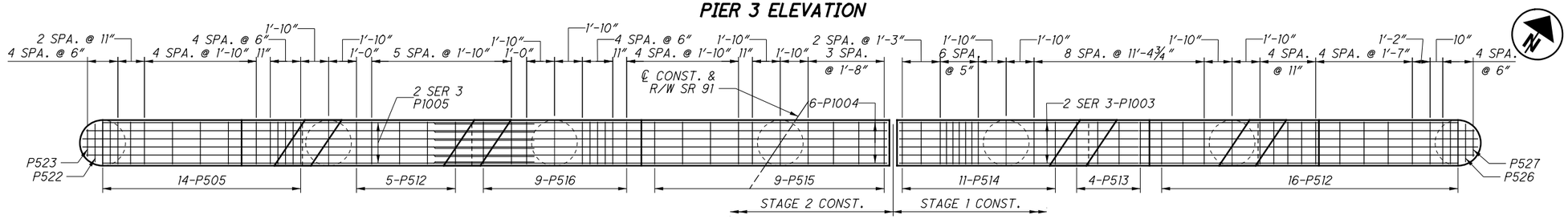


PIER 3 PLAN

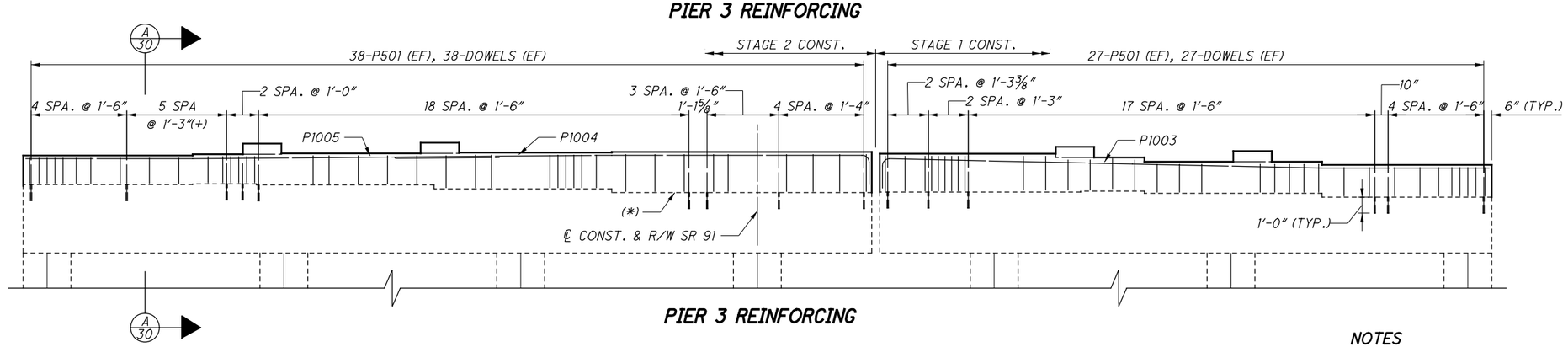
PIER 3 BEAM SEAT ELEVATIONS	
BEAM	ELEVATION
B1	649.58
B2	649.65
B3	649.70
B4	649.75
B5	649.81
B6	649.69
B7	649.46
B8	649.20
B9	648.98



PIER 3 ELEVATION



PIER 3 REINFORCING



PIER 3 REINFORCING

LEGEND

(*) - 1/4" SCARIFICATIONS: THE EXISTING PIER BRIDGE SEAT SURFACE SHALL BE SCARIFIED 1/4" TO SOUND CONCRETE PRIOR TO PLACEMENT OF NEW CONCRETE. THE SURFACE SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, AND FOREIGN MATERIALS BY USE OF WATER, AIR PRESSURE, OR OTHER METHOD THAT PRODUCES RESULTS SATISFACTORY TO THE ENGINEER. THE CONCRETE BONDING SURFACE SHALL BE WET WITHOUT FREE WATER AS THE CONCRETE IS PLACED. PAYMENT SHALL BE INCIDENTAL TO ITEM 511 CLASS QC1 CONCRETE WITH QC/QA, PIER CAP, AS PER PLAN.

(B#) - BEAM NUMBER

NOTES

1. REINFORCING SPLICE LENGTHS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
   #5 BARS - 2'-5"
2. PLACE DOWEL BAR HOLES TO AVOID INTERFERENCE WITHE EXISTING REINFORCING STEEL IN THE PIERS.
3. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE NOTED.
4. SEE SHEET 30/57 FOR CONCRETE SEALING DETAIL.
5. SEE SHEET 30/57 FOR SEISMIC PEDESTAL DETAILS.
6. SEE SHEET 30/57 FOR ADDITIONAL PIER CAP DETAILS.

Mannik Smith GROUP
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MAUMEE, OHIO 43537

DESIGNED NMS | DRAWN DRH | REVIEWED SCT | DATE 4/15
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PIER DETAILS (SHEET 3 OF 4)
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

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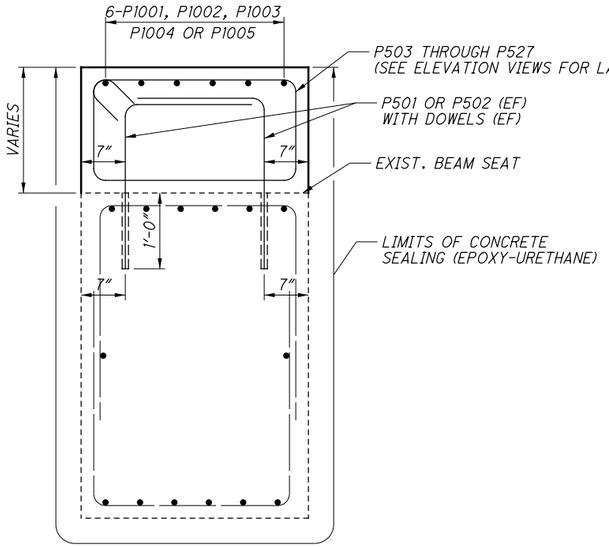
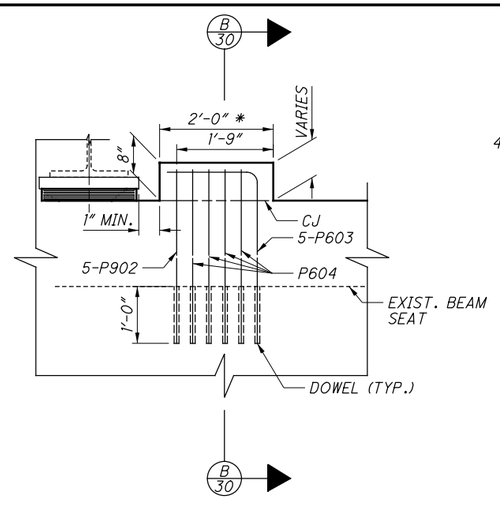
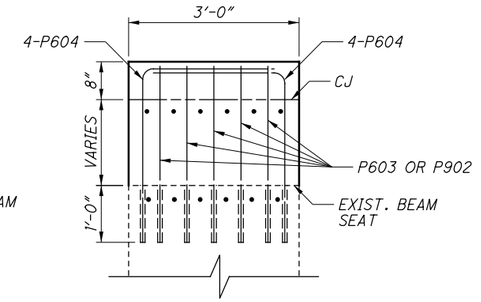


SECTION A-A

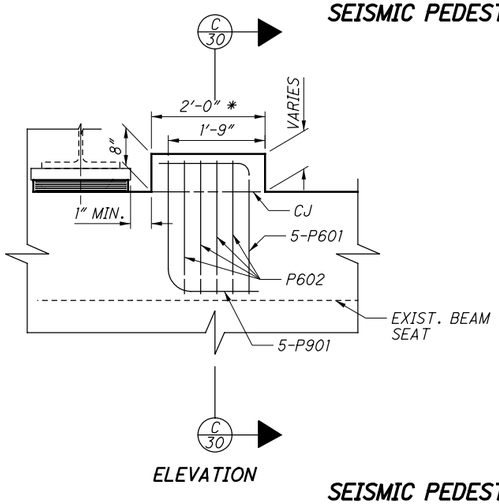


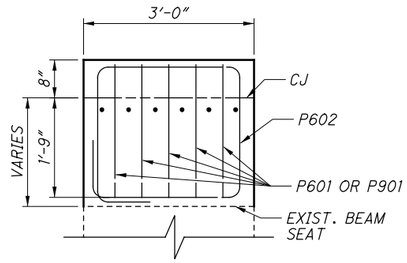


SECTION B-B

ELEVATION

SEISMIC PEDESTAL #1





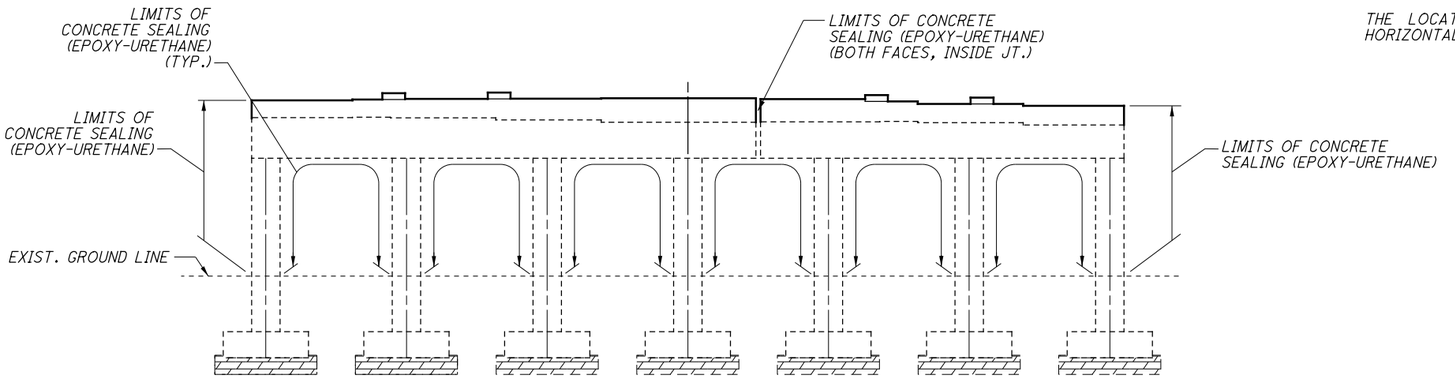
SECTION C-C

ELEVATION

SEISMIC PEDESTAL #2

* - THE SURFACE OF THE BEAM SEAT IN THIS AREA SHALL BE FINISHED WITH A SERRATED TROWEL. THE SERRATIONS SHALL BE 1/4" DEEP MIN.

THE LOCATION OF THE MAIN REINFORCEMENT IN THE PIER CAP MAY BE ADJUSTED HORIZONTALLY ±1" TO ACCOMODATE THE P901 OR P902 BARS.



CONCRETE SEALING DETAIL

(PIERS 2 & 3 SHOWN; PIER 1 SIMILAR, OPPOSITE HAND)

NOTES:

1. PLACE DOWEL BAR HOLES TO AVOID INTERFERENCE WITHE EXISTING REINFORCING STEEL IN THE PIERS.
2. MINIMUM CLEARANCE TO REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE NOTED.
3. FOR SECTION A-A, SEE SHEETS 27-29/57 .

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
NMS	DRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

PIER DETAILS (SHEET 4 OF 4)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

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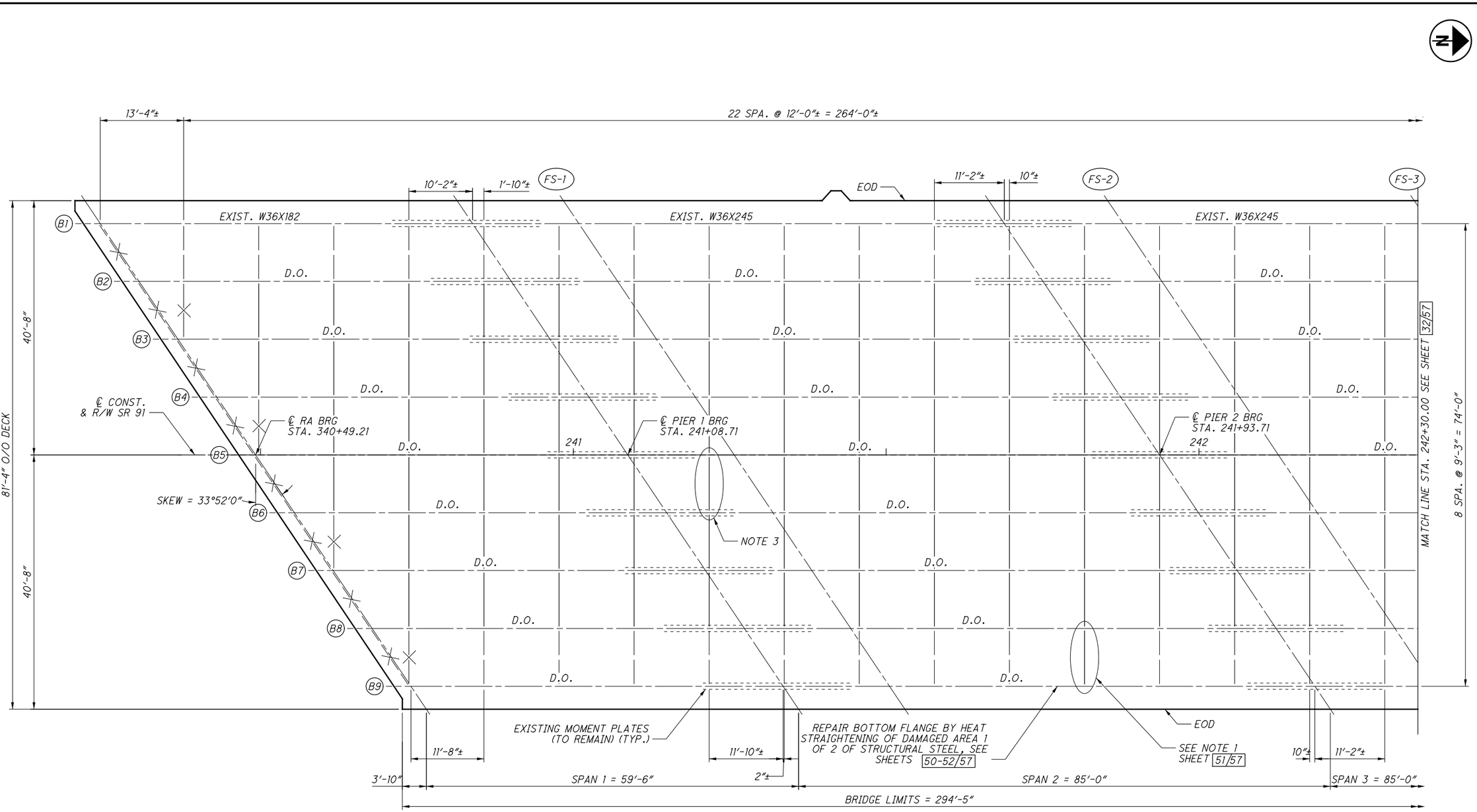

LEGEND:

- CROSSFRAMES TO BE REPLACED WITH TYPE 1 CROSSFRAMES. INCLUDE REMOVAL WITH ITEM 202 - REMOVAL MISC.: EXISTING INTERMEDIATE CROSSFRAMES. PAYMENT FOR NEW CROSSFRAMES SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, LEVEL UF, AS PER PLAN.
- EXISTING END CROSSFRAMES TO BE REMOVED, INCLUDE WITH ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- EXISTING INTERMEDIATE CROSSFRAMES TO BE REMOVED, INCLUDE WITH ITEM 202 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.
- EXISTING CROSSFRAMES TO REMAIN.

NOTES:

1. FOR SHEAR STUD DETAILS AND ADDITIONAL STEEL DETAILS, SEE SHEET 33/57.
2. FOR DECK PLAN, SEE SHEETS 37-38/57.
3. INSTALL INTERMEDIATE CROSSFRAMES IN BETWEEN BEAMS B5 AND B6 PRIOR TO STAGE 2 DECK PLACEMENT.

Mannik Smith GROUP
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MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED SCT | DATE 4/15
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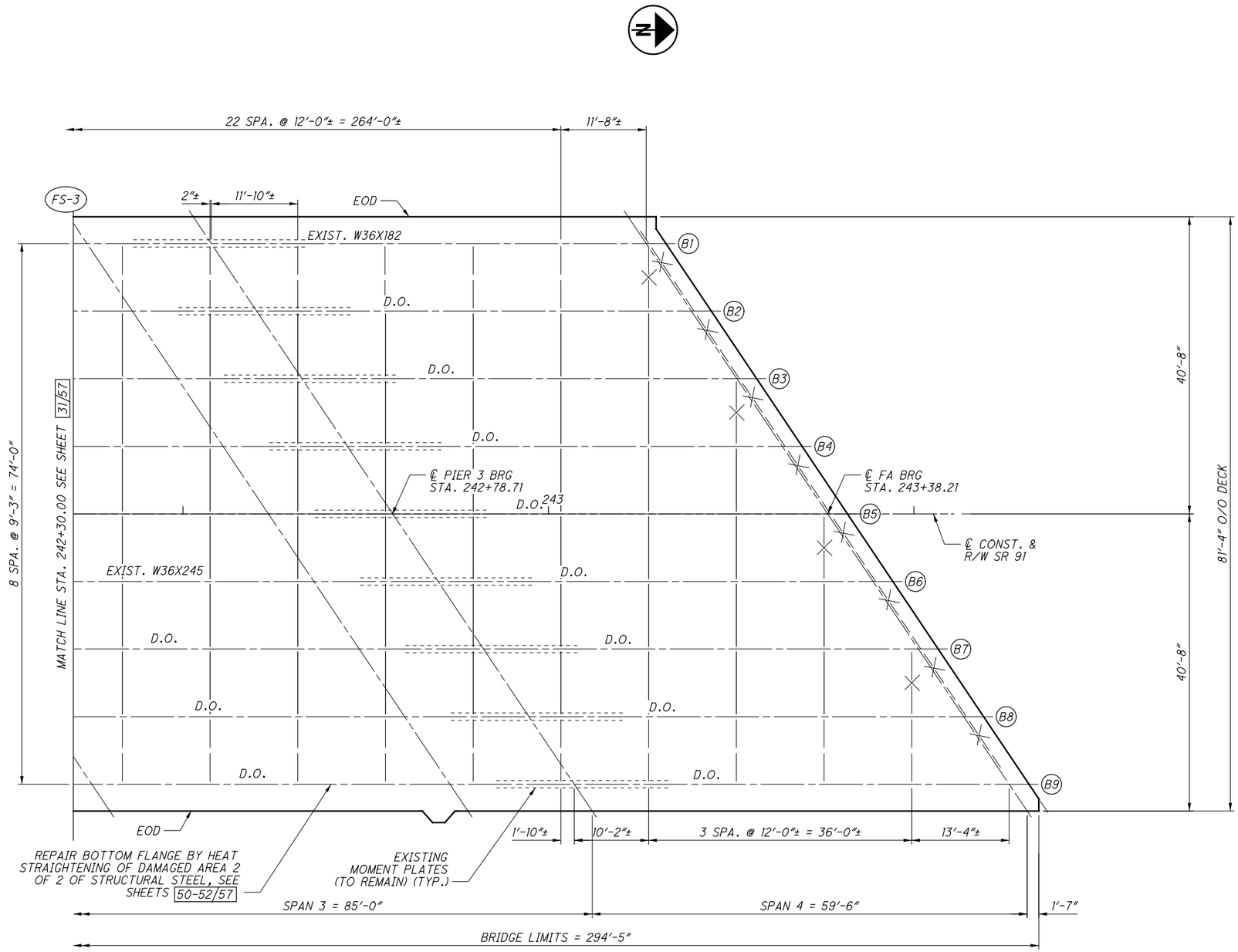
FRAMING PLAN (1 OF 2)
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



NOTES:

1. FOR NOTES AND LEGEND, SEE SHEET 31/57.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
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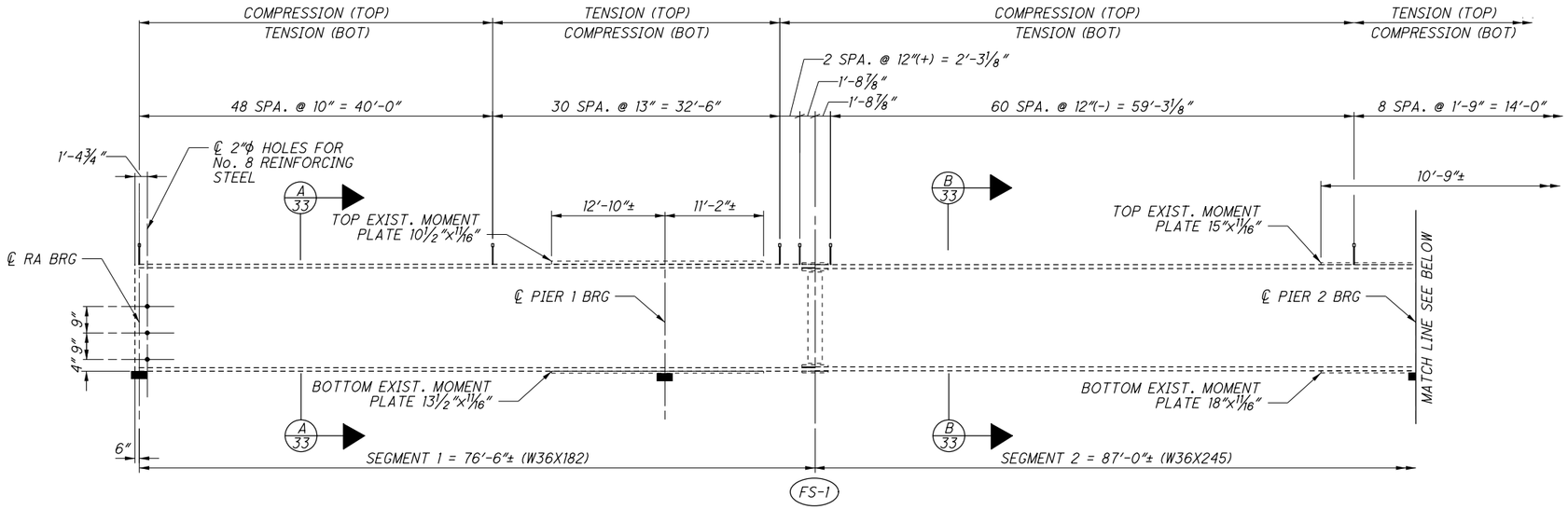
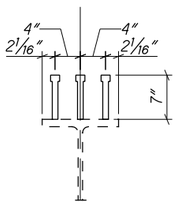
DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

FRAMING PLAN (2 OF 2)

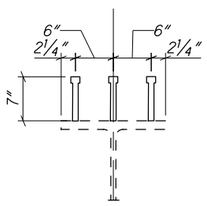
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

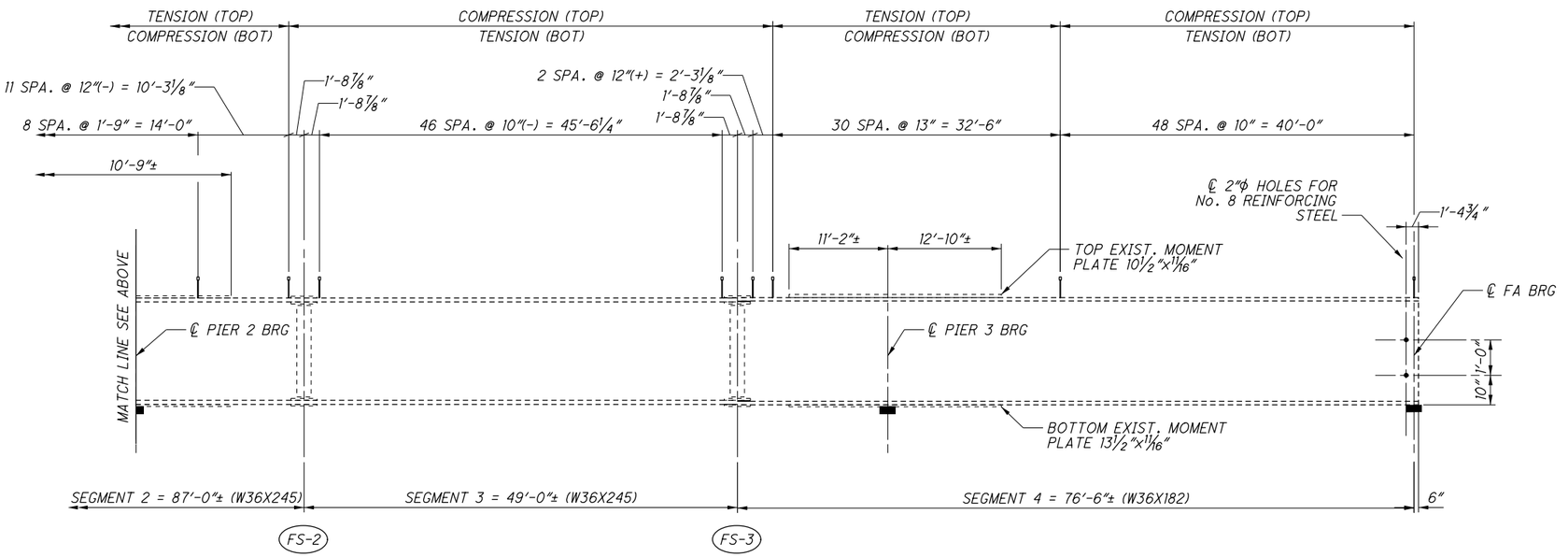




SECTION A-A
(W36X182)



SECTION B-B
(W36X245)



BEAM ELEVATION

NOTES:

1. WELD ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS ON THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM THE EDGE OF FLANGE, BE NO MORE THAN 2" LONG AND BE AT LEAST 1/4" FOR THICKNESSES UP TO 3/4" OR 5/16" FOR GREATER THAN 3/4" THICK.
2. FOR PRIMING/PAINTING NOTES, SEE SHEET 2/57.

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MAUMEE, OHIO 43537

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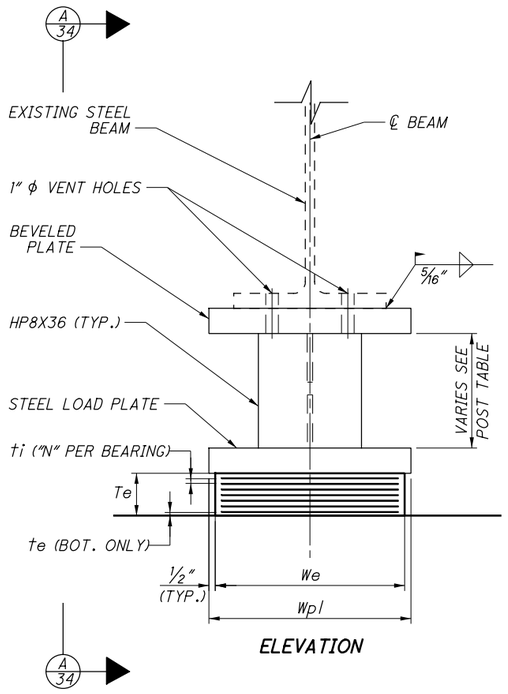
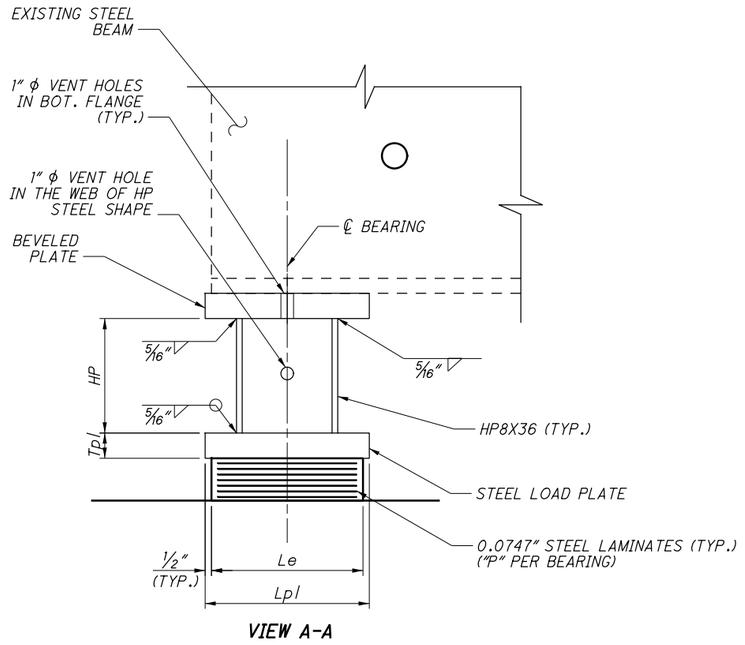
MISC. STEEL DETAILS
LAK-91-0456
SR-91 OVER SR-2

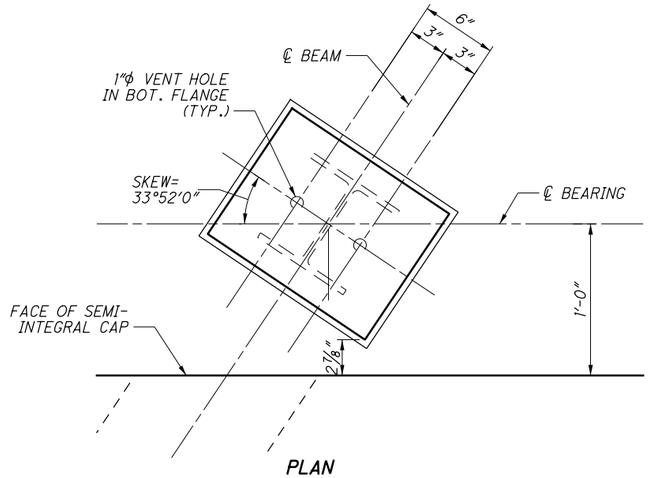
LAK-91-04.56
PID No. 85147



ELEVATION

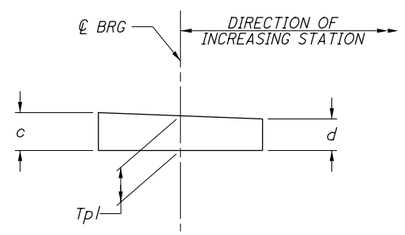


VIEW A-A



PLAN

LAMINATED ELASTOMERIC EXPANSION BEARING DETAILS (AT ABUTMENTS)



BEVELED TOP PLATE DETAIL

NOTES:

1. LOAD PLATE: THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
2. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
3. FOR PIERS 1, 2, & 3 BEARING DETAILS SEE SHEET 35/57
4. STEEL FOR LOAD PLATES AND PEDESTAL SHALL BE ASTM A709 GRADE 50
5. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED
6. EXPOSED STEEL SURFACES SHALL BE PRIME PAINTED IN THE SHOP AND FIELD PAINTED WITH INTERMEDIATE AND FINISH COAT PAINT. PAINTING SHALL CONFORM TO CMS 514 AND BE FED COLOR NO FCN-595B-15450, LIGHT BLUE GLOSS. INCLUDE WITH BEARINGS FOR PAYMENT.

HP POST DIMENSIONS (IN INCHES)

	REAR ABUTMENT	FORWARD ABUTMENT
BEAM	HP	HP
B1	2 3/8"	16"
B2	1 7/8"	16 5/16"
B3	3 13/16"	17 3/16"
B4	7 13/16"	20 3/4"
B5	11 5/8"	24 5/16"
B6	9 7/8"	22 1/16"
B7	6 9/16"	18 11/16"
B8	5 11/16"	17 1/8"
B9	6 1/16"	17 11/16"

		ELASTOMER							STEEL LAMINATES		BOTTOM PLATE			BEVELED TOP PLATE					LOAD (KIPS)		
LOCATION	TYPE	DUROMETER	Le	We	Te	ti	te	N	P	t	Lpl	Wpl	Tpl	Lpl	Wpl	Tpl	c	d	DL	LL	TOTAL
RA	EXP	50	12"	15"	3.3829"	0.37"	0.27"	7	7	0.0747"	13"	16"	2"	13"	16"	2"	2 1/16"	1 15/16"	90.02	52.64	142.66
FA	EXP	50	12"	15"	3.3829"	0.37"	0.27"	7	7	0.0747"	13"	16"	2"	13"	16"	2"	2 1/16"	1 15/16"	96.58	52.64	149.22

Le - LENGTH OF LAMINATED ELASTOMERIC BEARING
We - WIDTH OF LAMINATED ELASTOMERIC BEARING
Te - TOTAL THICKNESS OF LAMINATED ELASTOMERIC BEARING
ti - THICKNESS OF INTERNAL ELASTOMER LAYER
te- THICKNESS OF EXTERNAL ELASTOMER LAYER
N- NUMBER OF INTERNAL ELASTOMER LAYERS
t- THICKNESS OF STEEL LAMINATES
P- NUMBER OF STEEL LAMINATES

DIMENSION "c" IS DOWNSTATION FROM CENTERLINE OF BEARING
DIMENSION "d" IS UPSTATION FROM CENTERLINE OF BEARING

Mannik Smith GROUP
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MAUMEE, OHIO 43537

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ABUTMENT BEARING DETAILS
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

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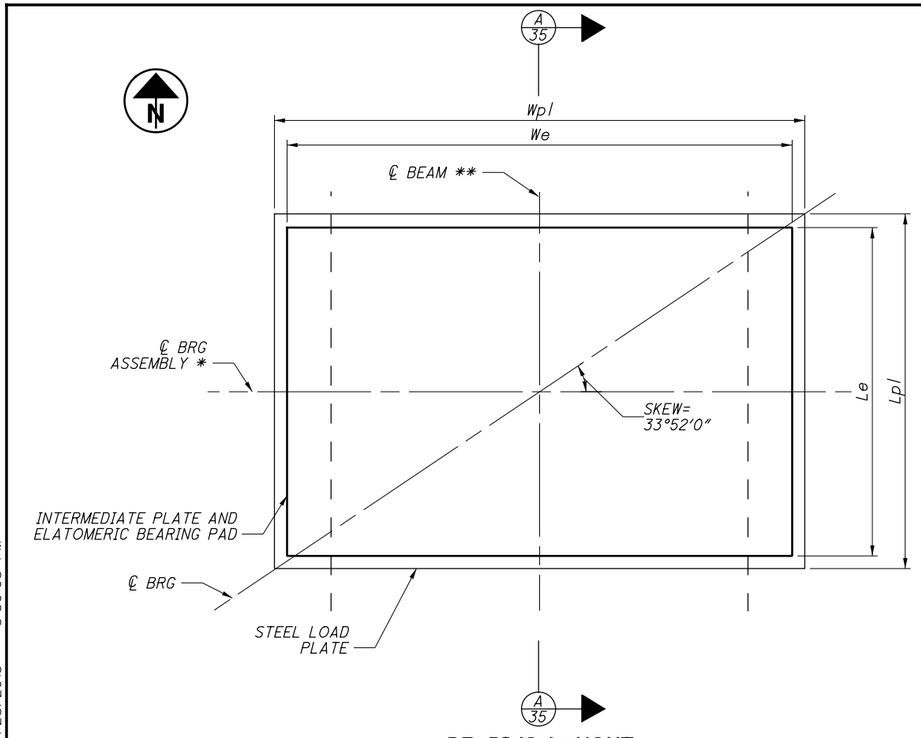


BEARING LAYOUT

		ELASTOMER							STEEL LAMINATES		LOAD PLATE					LOAD (KIPS)		
LOCATION	TYPE	DUROMETER	Le	We	Te	ti	te	N	P	t	Lpl	Wpl	Tpl	c	d	DL	LL	TOTAL
PIER 1	EXP	50	13"	20"	2.4835"	0.37"	0.26"	5	5	0.0747"	14"	21"	2 1/16"	2 1/2"	2 3/8"	163.79	69.78	233.57
PIER 2	EXP	50	13"	20"	2.2735"	0.33"	0.25"	5	5	0.0747"	14"	21"	2 5/8"	2 11/16"	2 9/16"	185.37	74.31	259.68
PIER 3	EXP	50	13"	20"	2.4835"	0.37"	0.26"	5	5	0.0747"	14"	21"	2 1/16"	2 1/2"	2 3/8"	163.79	69.78	233.57

DIMENSION "c" IS DOWNSTATION FROM CENTERLINE OF BEARING
DIMENSION "d" IS UPSTATION FROM CENTERLINE OF BEARING

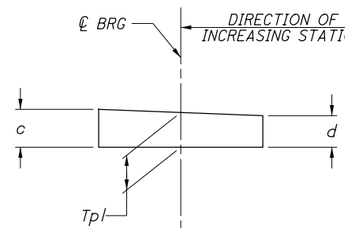
Le - LENGTH OF LAMINATED ELASTOMERIC BEARING
We - WIDTH OF LAMINATED ELASTOMERIC BEARING
Te - TOTAL THICKNESS OF LAMINATED ELASTOMERIC BEARING
ti - THICKNESS OF INTERNAL ELASTOMER LAYER
te - THICKNESS OF EXTERNAL ELASTOMER LAYER
N - NUMBER OF INTERNAL ELASTOMER LAYERS
t - THICKNESS OF STEEL LAMINATES
No. - NUMBER OF STEEL LAMINATES

NOTES:

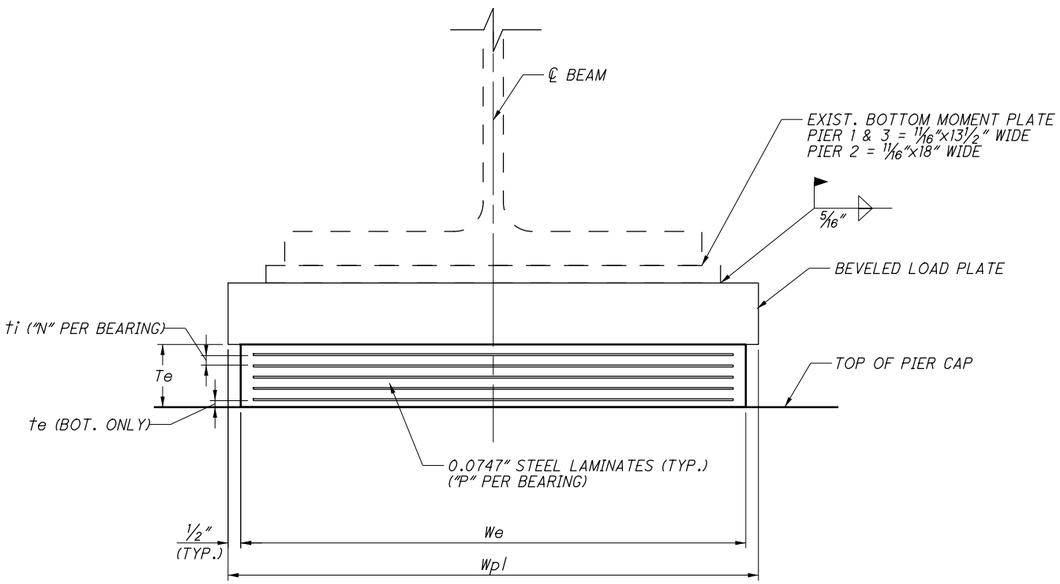
1. LOAD PLATE AND MASONRY PLATE:
   THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.
2. ELASTOMERIC BEARING:
   THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER DIVISION I, SECTION 14.6.6 (METHOD A) OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
3. FOR REAR AND FORWARD ABUTMENT BEARING DETAILS, SEE SHEET 34/56
4. STEEL FOR LOAD PLATES AND PEDESTAL SHALL BE ASTM A709 GRADE 50
5. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED
6. EXPOSED STEEL SURFACES SHALL BE PRIME PAINTED IN THE SHOP AND FIELD PAINTED WITH INTERMEDIATE AND FINISH COAT PAINT. PAINTING SHALL CONFORM TO CMS 514 AND BE FED COLOR NO FCN-595B-15450, LIGHT BLUE GLOSS. INCLUDE WITH BEARINGS FOR PAYMENT.

LEGEND:

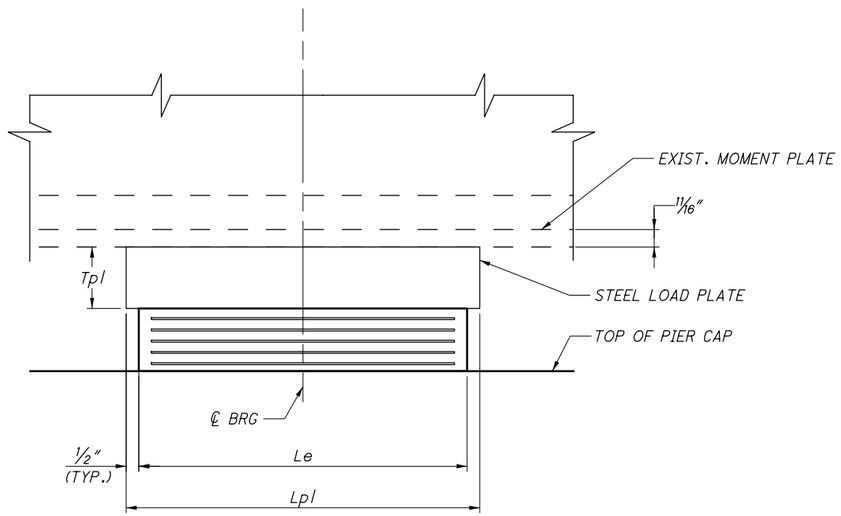
* - DIMENSIONS SYMMETRICAL ABOUT ℄ BRG ASSEMBLY
** - DIMENSIONS SYMMETRICAL ABOUT ℄ BEAM



BEVELED LOAD PLATE DETAIL



ELEVATION



SECTION A-A

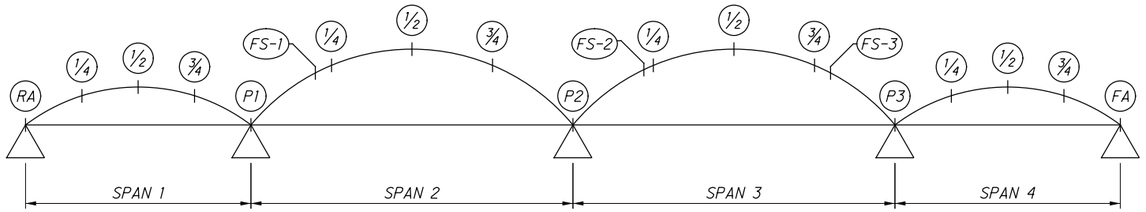
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED NMS | DRAWN KRH | REVIEWED SCT | DATE 4/15
CHECKED BWP | REVISED | STRUCTURE FILE NUMBER 4300459

PIER BEARING DETAILS
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

35/57
139/161



DEAD LOAD DEFLECTION DIAGRAM

CAMBER TABLE

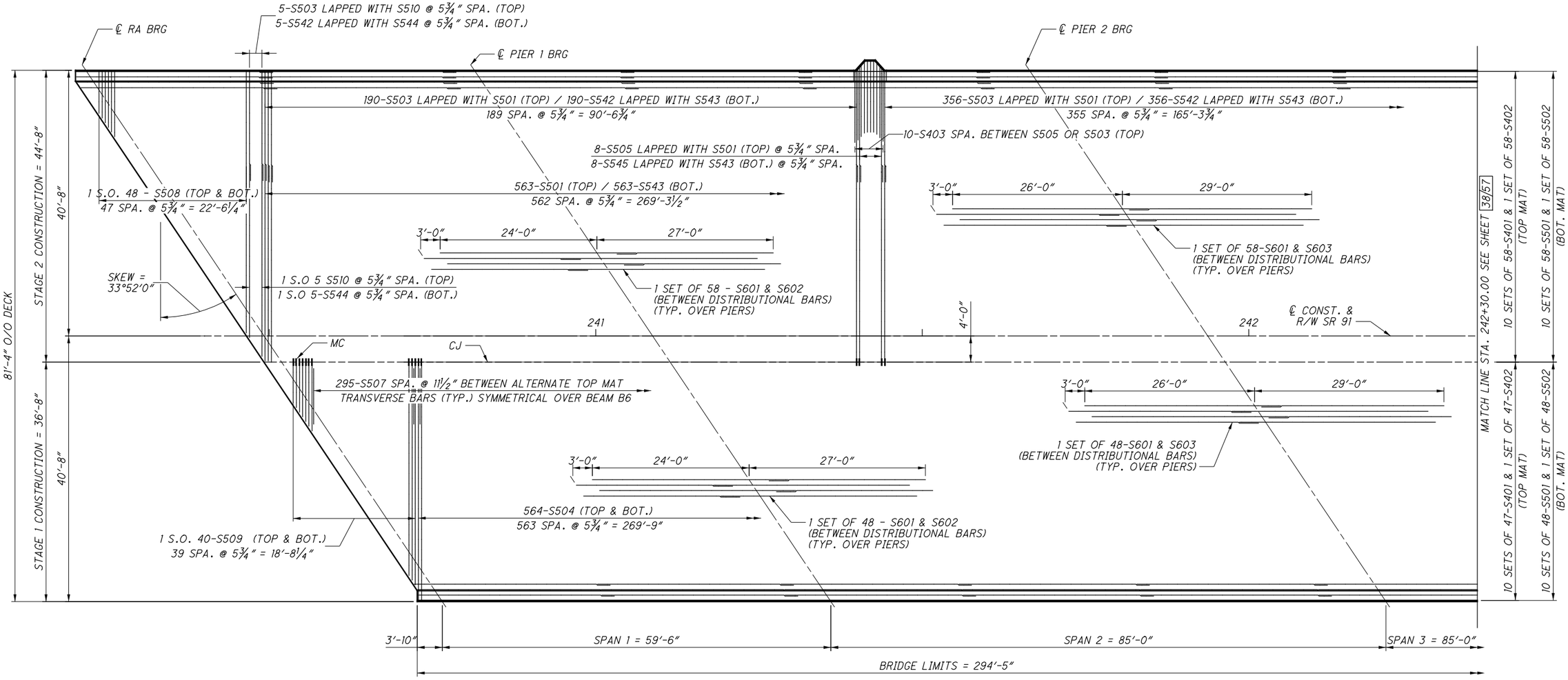
	SPAN 1					SPAN 2					SPAN 3						SPAN 4				
	CL RA BRG	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1 BRG	CL FS-1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2 BRG	CL FS-2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL FS-3	CL PIER 3 BRG	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL FA BRG
AFTER PHASE 1 CONST																				
DEFL. DUE TO SLAB	0.000	0.297	0.324	0.119	0.000	0.289	0.361	0.596	0.305	0.000	0.271	0.305	0.596	0.361	0.289	0.000	0.119	0.324	0.297	0.000
DEFL. DUE TO COMP. DL	0.000	0.025	0.027	0.010	0.000	0.030	0.037	0.060	0.031	0.000	0.028	0.031	0.060	0.037	0.030	0.000	0.100	0.027	0.025	0.000
TOTAL DEFLECTION (IN)	0	5/16	3/8	1/8	0	5/16	3/8	5/8	5/16	0	5/16	5/16	5/8	3/8	5/16	0	1/4	3/8	5/16	0
AFTER PHASE 2 CONST																				
DEFL. DUE TO SLAB	0.000	0.233	0.254	0.093	0.000	0.226	0.283	0.468	0.239	0.000	0.213	0.239	0.468	0.283	0.226	0.000	0.093	0.254	0.233	0.000
DEFL. DUE TO COMP. DL	0.000	0.027	0.029	0.011	0.000	0.032	0.040	0.064	0.033	0.000	0.029	0.033	0.064	0.040	0.032	0.000	0.011	0.029	0.027	0.000
TOTAL DEFLECTION (IN)	0	1/4	5/16	1/8	0	1/4	5/16	9/16	1/4	0	1/4	1/4	9/16	5/16	1/4	0	1/8	5/16	1/4	0

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED NMS | DRAWN KRH | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

CAMBER DETAILS
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



NOTES

1. FOR TRANSVERSE SECTION AND ADDITIONAL NOTES, SEE SHEET 39/57
2. FOR SEMI-INTEGRAL CAP DETAILS, SEE SHEETS 42-43/57
3. FOR REINFORCING SCHEDULE, SEE SHEET 53-55/57
4. FOR SCREED AND HAUNCH THICKNESS, SEE SHEET 40/57
5. FOR TOP OF HAUNCH AND FINAL DECK SURFACE ELVATION, SEE SHEET 41/57
6. FOR RAILING DETAILS, SEE SHEETS 44-45/57
7. FOR APPROACH SLAB PLAN, SEE SHEETS 46-49/57
8. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A VARIABLE HAUNCH THICKNESS AND CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS ±3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH ITEM 511.23.
9. PLACE INTERMEDIATE CROSSFRAME IN BEAM BAY WITH CONSTRUCTION JOINT PRIOR TO PLACEMENT OF STAGE 2 DECK.

DECK REINFORCING REQUIRED LAP LENGTHS	
NO. 4 BARS	1'-11" MIN.
NO. 5 BARS	2'-5" MIN.
NO. 6 BARS	2'-11" MIN.

MANNIK SMITH GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

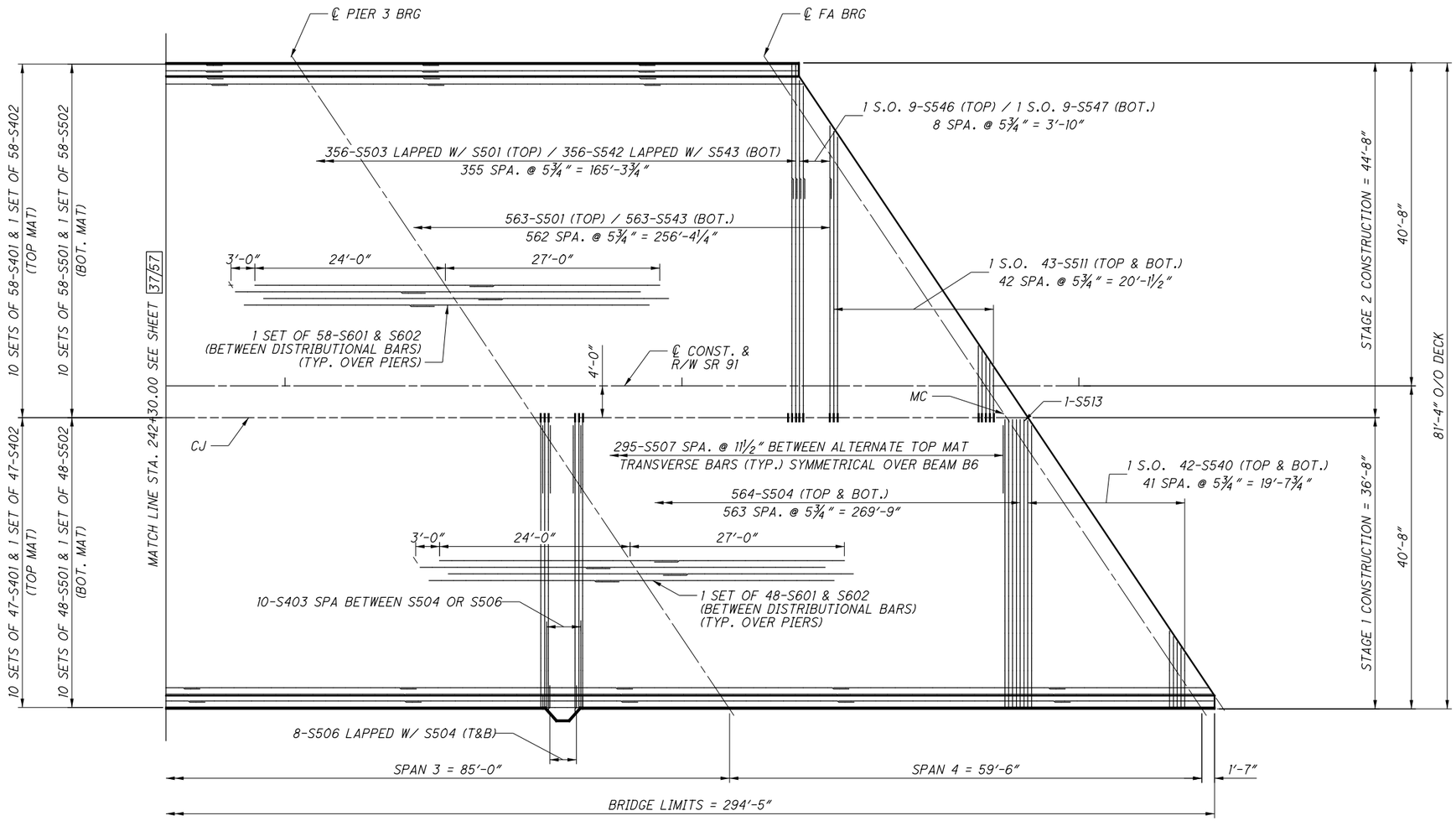
DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

DECK PLAN (1 OF 2)
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

37/57

141/161



DECK REINFORCING REQUIRED LAP LENGTHS	
NO. 4 BARS	1'-11" MIN.
NO. 5 BARS	2'-5" MIN.
NO. 6 BARS	2'-11" MIN.

NOTES

1. FOR NOTES, SEE SHEET 37/57

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

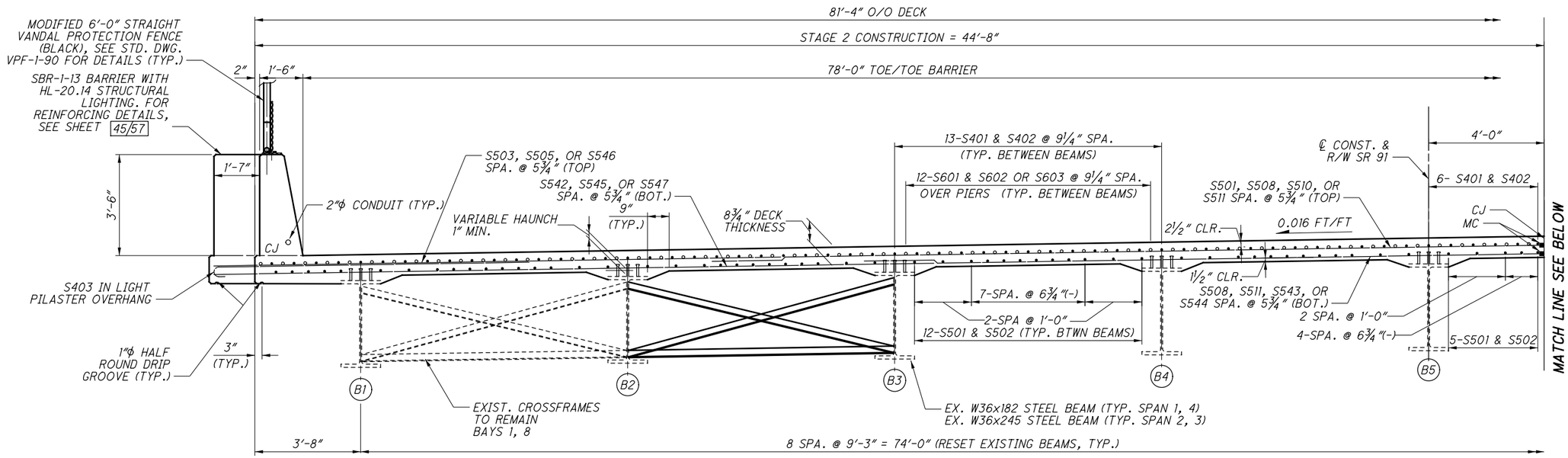
DESIGNED KRH | DRAWN KRH | CHECKED TLR | REVIEWED SCT | DATE 4/15 | REVISED | STRUCTURE FILE NUMBER 4300459

DECK PLAN (2 OF 2)
LAK-91-0456
SR-91 OVER SR-2

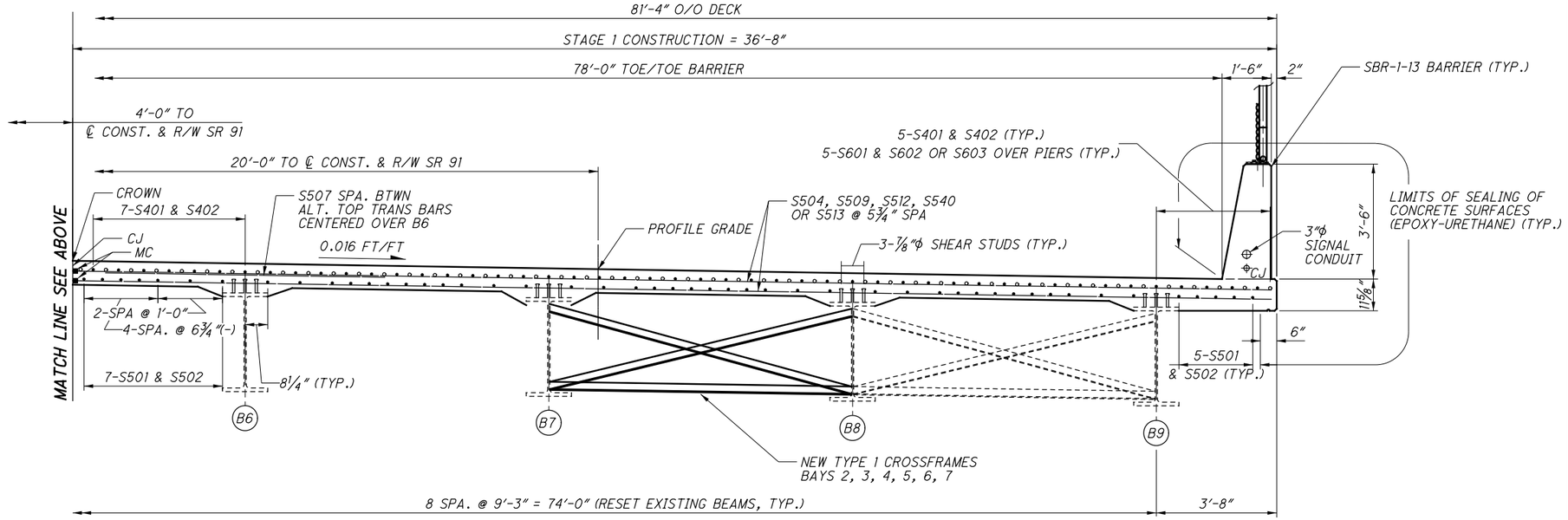
LAK-91-04.56
PID No. 85147

38/57

142/161



TRANSVERSE SECTION



TRANSVERSE SECTION

DECK REINFORCING REQUIRED LAP LENGTHS	
NO. 4 BARS	1'-11" MIN.
NO. 5 BARS	2'-5" MIN.
NO. 6 BARS	2'-11" MIN.

LEGEND:

(B#) - DESIGNATES BEAM NUMBER

NOTES:

1. FOR DECK PLAN, SEE SHEETS 37-38/57
2. FOR RAILING DETAILS, SEE SHEETS 44-45/57
3. FOR STEEL DIAPHRAGM DETAILS, SEE ODOT STANDARD DRAWING GSD-1-96
4. FOR VARIABLE HAUNCH THICKNESS SEE SHEET, 40/57
5. DECK SLAB CONCRETE QUANTITY: THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM/GIRDER HAUNCH. THE ESTIMATE ASSUMES A VARIABLE HAUNCH THICKNESS AND CONSTANT HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE OF 9 INCHES. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE. THE ALLOWABLE TOLERANCE FOR THE HAUNCH WIDTH OUTSIDE THE EDGE OF EACH BEAM/GIRDER FLANGE IS ±3 INCHES.

   THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM/GIRDER, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH ITEM 511.23.
6. PLACE INTERMEDIATE CROSSFRAME IN BEAM BAY WITH CONSTRUCTION JOINT PRIOR TO PLACEMENT OF STAGE 2 DECK.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | CHECKED TLR | REVIEWED SCT | DATE 4/15

STRUCTURE FILE NUMBER 4300459

REVISED

TRANSVERSE SECTION

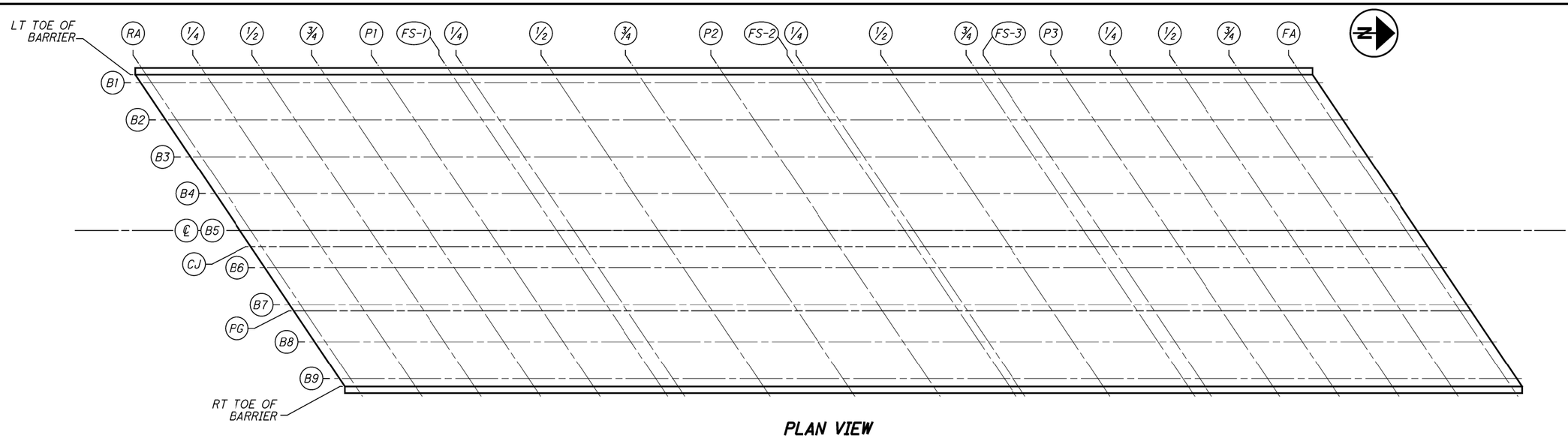
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56

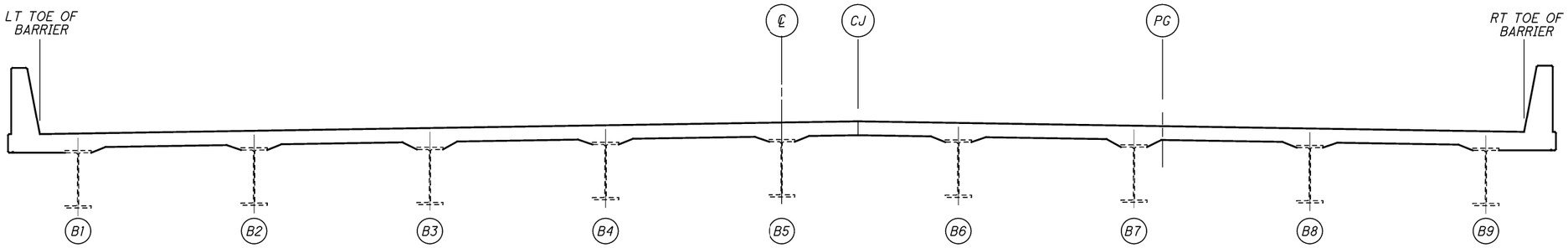
PID No. 85147

39 / 57

143 / 161



PLAN VIEW



TRANSVERSE SECTION

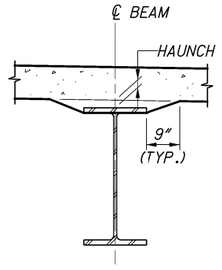
SCREED ELEVATION TABLE

SCREED ELEVATIONS	CL RA BRG	1/4	1/2	3/4	CL PIER 1 BRG	C/L F.S. 1	1/4	1/2	3/4	CL PIER 2 BRG	C/L F.S. 2	1/4	1/2	3/4	C/L F.S. 3	CL PIER 3 BRG	1/4	1/2	3/4	CL FA BRG
LT TOE OF BARRIER	656.64	656.69	656.55	656.20	655.91	655.96	655.98	655.99	655.44	654.95	654.98	654.96	655.03	654.54	654.43	653.98	653.94	653.96	653.68	653.20
C/L BRIDGE	656.89	656.97	656.87	656.51	656.22	656.28	656.29	656.30	655.75	655.26	655.29	655.27	655.34	654.85	654.74	654.30	654.22	654.17	653.88	653.39
CONST. JOINT	656.92	657.07	656.96	656.54	656.25	656.37	656.39	656.40	655.84	655.29	655.39	655.36	655.43	654.94	654.83	654.33	654.37	654.26	653.96	653.41
PROFILE GRADE	656.55	656.70	656.59	656.17	655.88	656.00	656.01	656.02	655.47	654.92	655.02	654.99	655.06	654.57	654.46	653.93	653.95	653.84	653.54	652.99
RT TOE OF BARRIER	656.11	656.26	656.15	655.73	655.44	655.56	655.57	655.58	655.03	654.48	654.58	654.55	654.62	654.13	654.02	653.44	653.45	653.34	653.04	652.50

VARIABLE HAUNCH THICKNESS TABLE

VARIABLE HAUNCH THICKNESS (IN INCHES)

	SPAN 1					SPAN 2				SPAN 3				SPAN 4			
BEAM	RA BRG.	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 1	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 2	1/4 SPAN	1/2 SPAN	3/4 SPAN	PIER 3	1/4 SPAN	1/2 SPAN	3/4 SPAN	FA BRG.
B1	1 3/4	1 3/8	1 1/4	1 3/8	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8	2	2 1/8	2 1/4	2 3/8	2 1/2	2 5/8	2	1 1/4
B2	1 5/8	1 1/4	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8	2	2 1/8	2 1/4	2 3/8	2 1/2	2 1/2	2 3/8	1 3/4	1
B3	1 1/4	1	1 1/8	1 1/4	1 3/8	1 1/2	1 3/4	1 7/8	2	2 1/8	2 3/8	2 1/2	2 5/8	2 3/4	2 3/8	1 3/4	1
B4	1 1/8	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 7/8	2	2 1/4	2 3/8	2 5/8	2 3/4	3	3	2 3/8	1 5/8	1
B5	1	1 1/8	1 1/4	1 3/8	1 5/8	1 3/4	2	2 1/4	2 3/8	2 5/8	2 3/4	3	3 1/4	3	2 3/8	1 5/8	1
B6	1	1 1/8	1 3/8	1 1/2	1 5/8	1 7/8	2 1/8	2 3/8	2 5/8	2 3/4	3	3 1/4	3 1/2	3	2 1/4	1 5/8	1
B7	1	1 1/8	1 3/8	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 1/2	2 7/8	2 1/4	1 5/8	1
B8	1	1 1/4	1 3/8	1 5/8	1 7/8	2 1/8	2 1/2	2 3/4	3 1/8	3 3/8	3 5/8	4	3 3/4	3 1/8	2 1/2	1 7/8	1 3/8
B9	1	1 1/4	1 3/8	1 5/8	1 7/8	2 1/8	2 1/2	2 3/4	3 1/8	3 3/8	3 5/8	4	3 3/8	2 3/4	2 1/8	1 5/8	1



TYPICAL CONCRETE DECK HAUNCH DETAIL

NOTES:

1. SCREED ELEVATIONS SHOWN REPRESENT THE THEORETICAL DECK SURFACE LOCATION PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.
2. THE VARIABLE HAUNCH THICKNESS SHOWN REPRESENTS THE THEORETICAL DIFFERENCE IN ELEVATION BETWEEN THE TOP OF HAUNCH AND THE TOP OF BEAM. AFTER ALL DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS. THE TOP OF BEAM IS TOP OF TOP FLANGE NEGLECTING COVER AND SPLICE PLATES
3. FOR DECK REINFORCING DETAILS SEE SHEET 37-39/57.
4. FOR TOP OF HAUNCH AND FINAL DECK ELEVATIONS SEE SHEET 41/57.

MANNIK SMITH GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

SCREED TABLE
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

TOP OF HAUNCH ELEVATIONS

TOP OF HAUNCH ELEVATIONS	SPAN 1					SPAN 2					SPAN 3					SPAN 4				
	CL RA BRG	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1 BRG	CL FS-1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2 BRG	CL FS-2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL FS-3	CL PIER 3 BRG	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL FA BRG
C/L B1	655.92	655.97	655.84	655.49	655.19	655.25	655.26	655.27	654.72	654.23	654.27	654.24	654.31	653.82	653.71	653.27	653.23	653.25	652.96	652.48
C/L B2	655.98	656.03	655.92	655.56	655.27	655.32	655.34	655.35	654.80	654.31	654.34	654.32	654.39	653.90	653.79	653.35	653.30	653.31	653.01	652.52
C/L B3	656.04	656.10	655.99	655.63	655.34	655.40	655.41	655.42	654.87	654.38	654.42	654.39	654.46	653.97	653.86	653.42	653.38	653.35	653.06	652.57
C/L B4	656.10	656.17	656.06	655.71	655.41	655.47	655.49	655.50	654.94	654.45	654.49	654.46	654.54	654.05	653.94	653.49	653.45	653.40	653.10	652.62
C/L B5 & C/L CONST. SR 91	656.16	656.24	656.14	655.78	655.49	655.55	655.56	655.57	655.02	654.53	654.56	654.54	654.61	654.12	654.01	653.57	653.49	653.45	653.15	652.66
C/L B6	656.07	656.22	656.11	655.69	655.40	655.52	655.53	655.54	654.99	654.44	654.54	654.51	654.58	654.09	653.98	653.48	653.50	653.39	653.09	652.54
C/L B7	655.86	656.00	655.90	655.48	655.19	655.31	655.32	655.33	654.78	654.22	654.32	654.30	654.37	653.88	653.77	653.24	653.26	653.15	652.85	652.30
C/L B8	655.64	655.79	655.68	655.26	654.97	655.09	655.11	655.12	654.56	654.01	654.11	654.08	654.15	653.66	653.55	653.00	653.02	652.91	652.61	652.06
C/L B9	655.43	655.57	655.47	655.05	654.76	654.88	654.89	654.90	654.35	653.80	653.89	653.87	653.94	653.45	653.34	652.76	652.77	652.66	652.37	651.82

TOP OF HAUNCH ELEVATIONS SHOWN REPRESENT THE THEORETICAL LOCATION OF THE BOTTOM OF THE DECK ABOVE THE BEAM HAUCH PRIOR TO DEFLECTIONS CAUSED BY DECK PLACEMENT AND OTHER ANTICIPATED DEAD LOADS.

TOP OF DECK ELEVATIONS

FINAL DECK ELEVATIONS	SPAN 1					SPAN 2					SPAN 3					SPAN 4				
	CL RA BRG	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 1 BRG	CL FS-1	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL PIER 2 BRG	CL FS-2	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL FS-3	CL PIER 3 BRG	1/4 SPAN	1/2 SPAN	3/4 SPAN	CL FA BRG
LT TOE OF BARRIER	656.64	656.44	656.24	656.07	655.91	655.71	655.67	655.43	655.19	654.95	654.73	654.71	654.46	654.22	654.18	653.98	653.82	653.65	653.43	653.20
C/L B1	656.65	656.45	656.26	656.09	655.92	655.73	655.68	655.44	655.20	654.96	654.75	654.72	654.48	654.24	654.19	654.00	653.83	653.66	653.44	653.21
C/L B2	656.71	656.51	656.33	656.16	656.00	655.80	655.76	655.52	655.28	655.04	654.82	654.80	654.56	654.31	654.27	654.07	653.91	653.72	653.49	653.25
C/L B3	656.77	656.57	656.41	656.24	656.07	655.88	655.83	655.59	655.35	655.11	654.89	654.87	654.63	654.39	654.34	654.15	653.98	653.77	653.54	653.30
C/L B4	656.83	656.65	656.48	656.31	656.14	655.95	655.90	655.66	655.42	655.18	654.97	654.94	654.70	654.46	654.42	654.22	654.05	653.82	653.58	653.35
C/L B5 & C/L CONST. SR 91	656.89	656.72	656.55	656.39	656.22	656.03	655.98	655.74	655.50	655.26	655.04	655.02	654.78	654.54	654.49	654.30	654.10	653.86	653.63	653.39
CONSTRUCTION JOINT	656.92	656.75	656.59	656.42	656.25	656.06	656.01	655.77	655.53	655.29	655.08	655.05	654.81	654.57	654.52	654.33	654.12	653.88	653.65	653.41
C/L B6	656.80	656.63	656.46	656.30	656.13	655.94	655.89	655.65	655.41	655.17	654.95	654.93	654.69	654.45	654.40	654.21	653.98	653.74	653.51	653.27
C/L B7	656.59	656.42	656.25	656.08	655.91	655.72	655.67	655.43	655.19	654.95	654.74	654.71	654.47	654.23	654.19	653.97	653.74	653.50	653.27	653.03
PROFILE GRADE	656.55	656.38	656.22	656.05	655.88	655.69	655.64	655.40	655.16	654.92	654.70	654.68	654.44	654.20	654.15	653.93	653.70	653.46	653.23	652.99
C/L B8	656.37	656.20	656.04	655.87	655.70	655.51	655.46	655.22	654.98	654.74	654.52	654.50	654.26	654.02	653.97	653.73	653.50	653.26	653.03	652.79
C/L B9	656.16	655.99	655.82	655.65	655.49	655.29	655.25	655.01	654.76	654.52	654.31	654.28	654.04	653.80	653.76	653.49	653.25	653.02	652.78	652.55
RT TOE OF BARRIER	656.11	655.94	655.78	655.61	655.44	655.25	655.20	654.96	654.72	654.48	654.26	654.24	654.00	653.76	653.70	653.44	653.20	652.97	652.73	652.50

FINAL DECK SURFACE ELEVATIONS SHOWN REPRESENT THE DECK SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURRED.

NOTES:

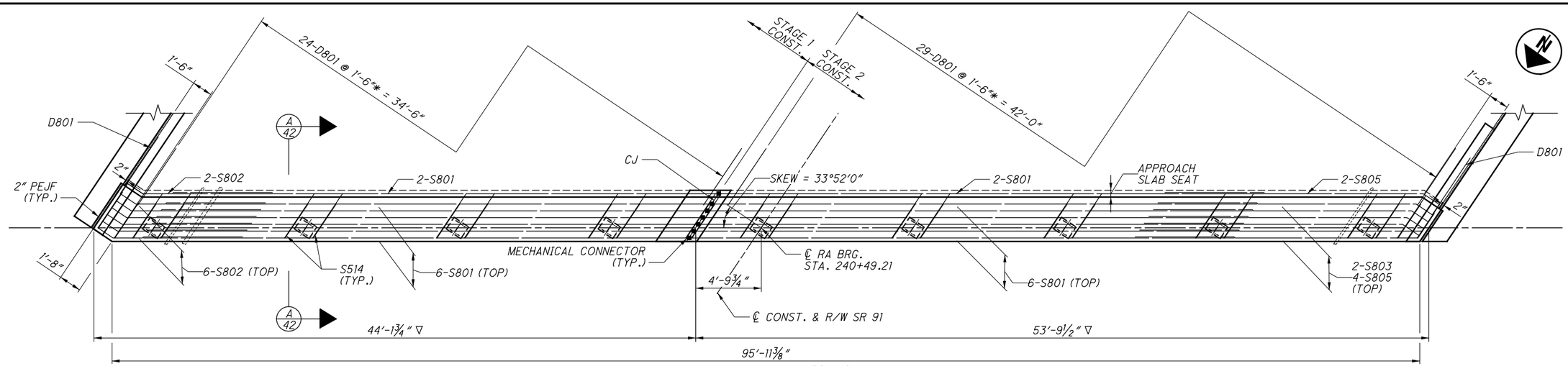
FOR PLAN VIEW AND TRANSVERSE SECTION SCHEMATICS SEE SHEET 40/57

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

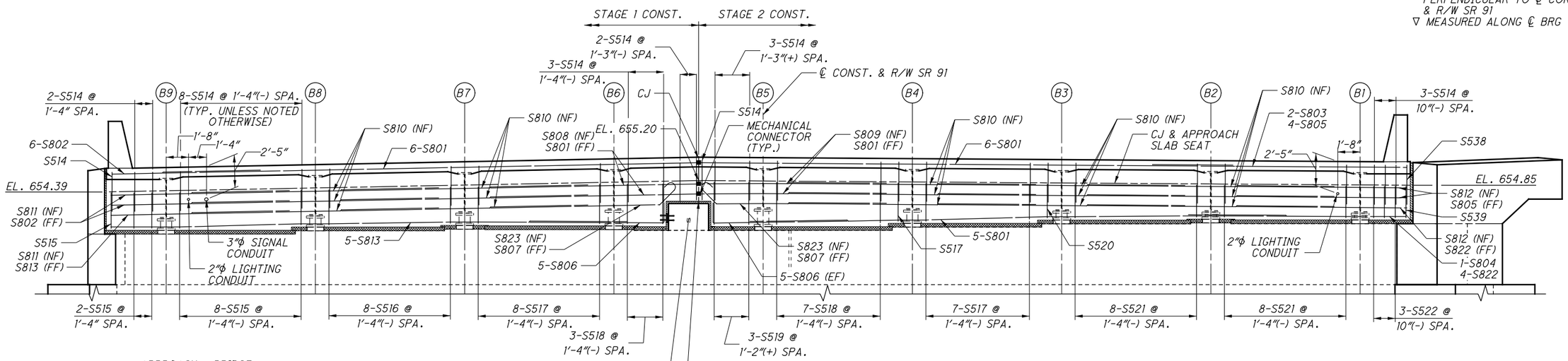
TOP OF HAUNCH AND FINAL DECK ELEVATIONS
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

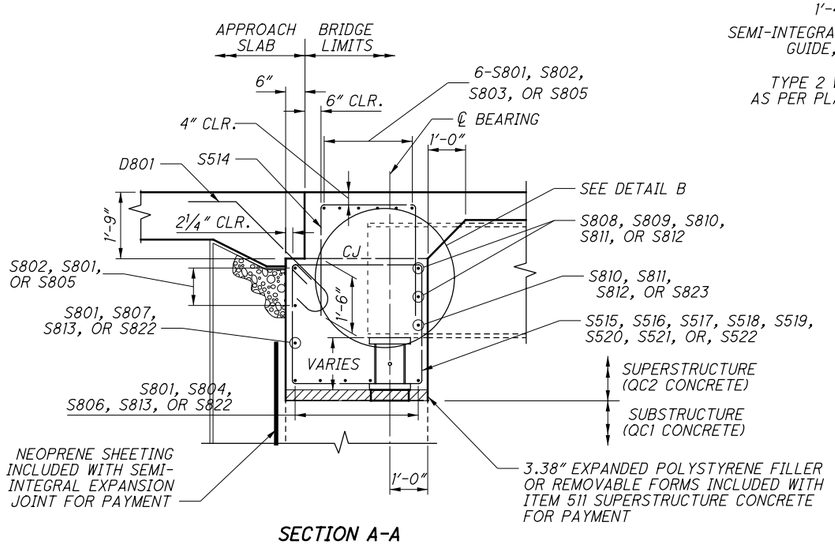


PLAN
(BRIDGE RAILING NOT SHOWN)

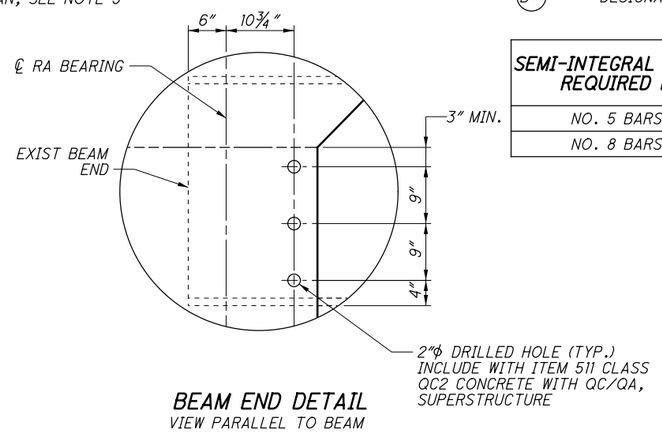
* D801 C/C SPACING MEASURED PERPENDICULAR TO ℄ CONST. & R/W SR 91
▽ MEASURED ALONG ℄ BRG



ELEVATION



SECTION A-A



BEAM END DETAIL
VIEW PARALLEL TO BEAM

LEGEND
(B#) - DESIGNATES BEAM NUMBER

SEMI-INTEGRAL CAP REINFORCING REQUIRED LAP LENGTHS	
NO. 5 BARS	2'-5" MIN.
NO. 8 BARS	7'-3" MIN.

NOTES

1. FOR ADDITIONAL SEMI-INTEGRAL CONSTRUCTION DETAILS AND NEOPRENE SHEETING REQUIREMENTS, SEE ODOT STD. DRAWING SCID-1-96. PAYMENT FOR NEOPRENE SHEETING, MATERIALS AND LABOR, SHALL BE INCLUDED IN ITEM 516, SEMI-INTEGRAL EXPANSION JOINT SEAL.
2. ABUTMENT DIAPHRAGM CONCRETE, STEEL SUPERSTRUCTRE, PHASE 1 CONSTRUCTION: PLACE THE CONCRETE IN THE ABUTMENT DIAPHRAGM ENCASING STRUCTURAL STEEL MEMBERS OF AN INDIVIDUAL PHASE SEPARATELY OR WITH THE DECK CONCRETE OF PHASE 1. IF THE DIAPHRAGM CONCRETE IS PLACED SEPARATELY, ALLOW 48 HOURS OF SET TIME BEFORE PLACING DECK CONCRETE. LOCATE THE HORIZONTAL CONSTRUCTION JOINT BETWEEN THE DIAPHRAGM AND DECK CONCRETE AT THE APPROACH SLAB SEAT. PLACING OF THE PHASE 2 ABUTMENT DIAPHRAGM SHALL BE CONCURRENT WITH THE DECK PLACEMENT.
3. FOR ADDITIONAL SEMI-INTEGRAL DIAPHRAGM DETAILS SEE SHEETS 15,22/57 .
4. FOR POST HEIGHT TABLE SEE SHEET 34/57.
5. TYPE 2 WATERPROOFING, AS PER PLAN SHALL BE APPLIED TO VERTICAL CONSTRUCTION JOINTS PRIOR TO APPLICATION OF SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL.

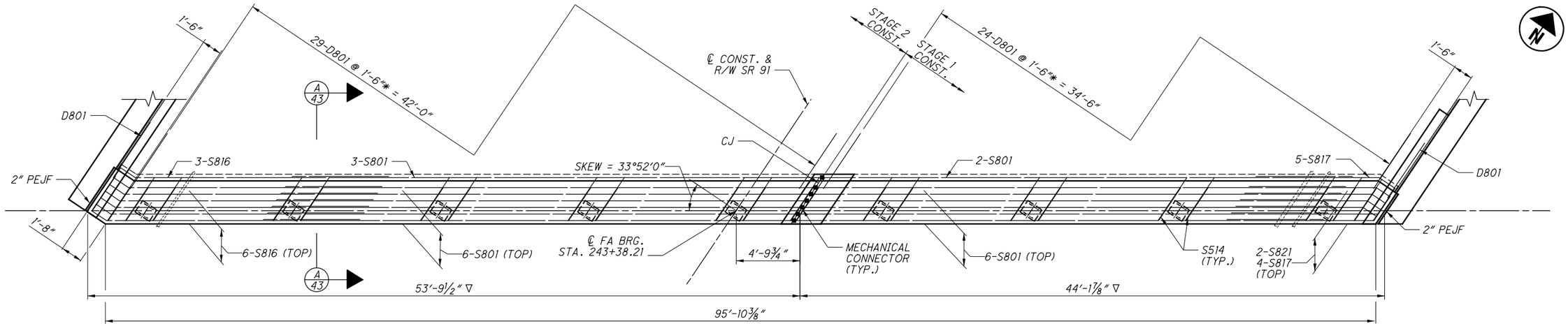
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | CHECKED TLR | REVIEWED SCT | DATE 4/15 | REVISED | STRUCTURE FILE NUMBER 4300459

REAR SEMI-INTEGRAL CAP DETAILS

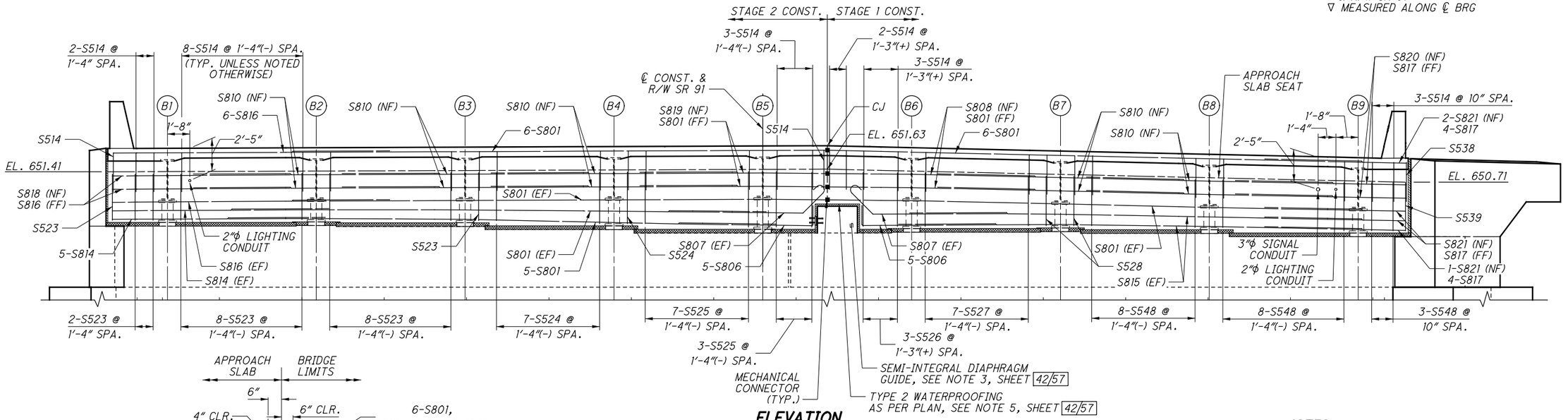
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

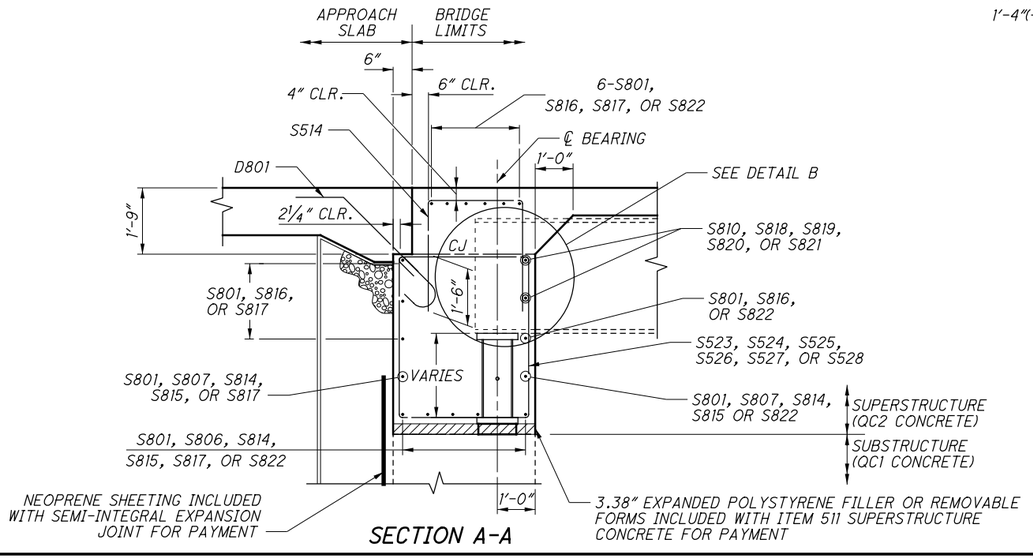


PLAN
(BRIDGE RAILING NOT SHOWN)

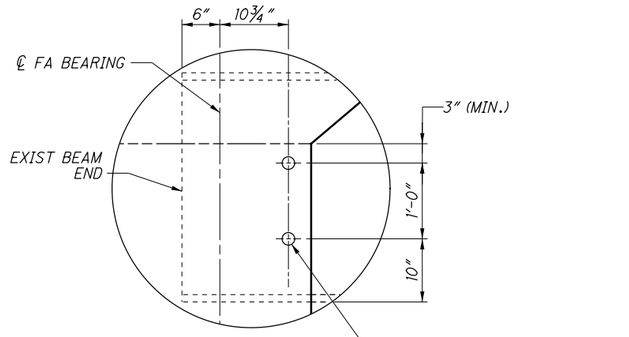
* D801 C/C SPACING MEASURED PERPENDICULAR TO ℄ CONST. & R/W SR 91
▽ MEASURED ALONG ℄ BRG



ELEVATION



SECTION A-A



BEAM END DETAIL
VIEW PARALLEL TO BEAM

NOTES
1. FOR SEMI-INTEGRAL CAP NOTES SEE SHEET 42/57.

LEGEND
(B#) - DESIGNATES BEAM NUMBER

SEMI-INTEGRAL CAP REINFORCING REQUIRED LAP LENGTHS	
NO. 5 BARS	2'-5" MIN.
NO. 8 BARS	7'-3" MIN.

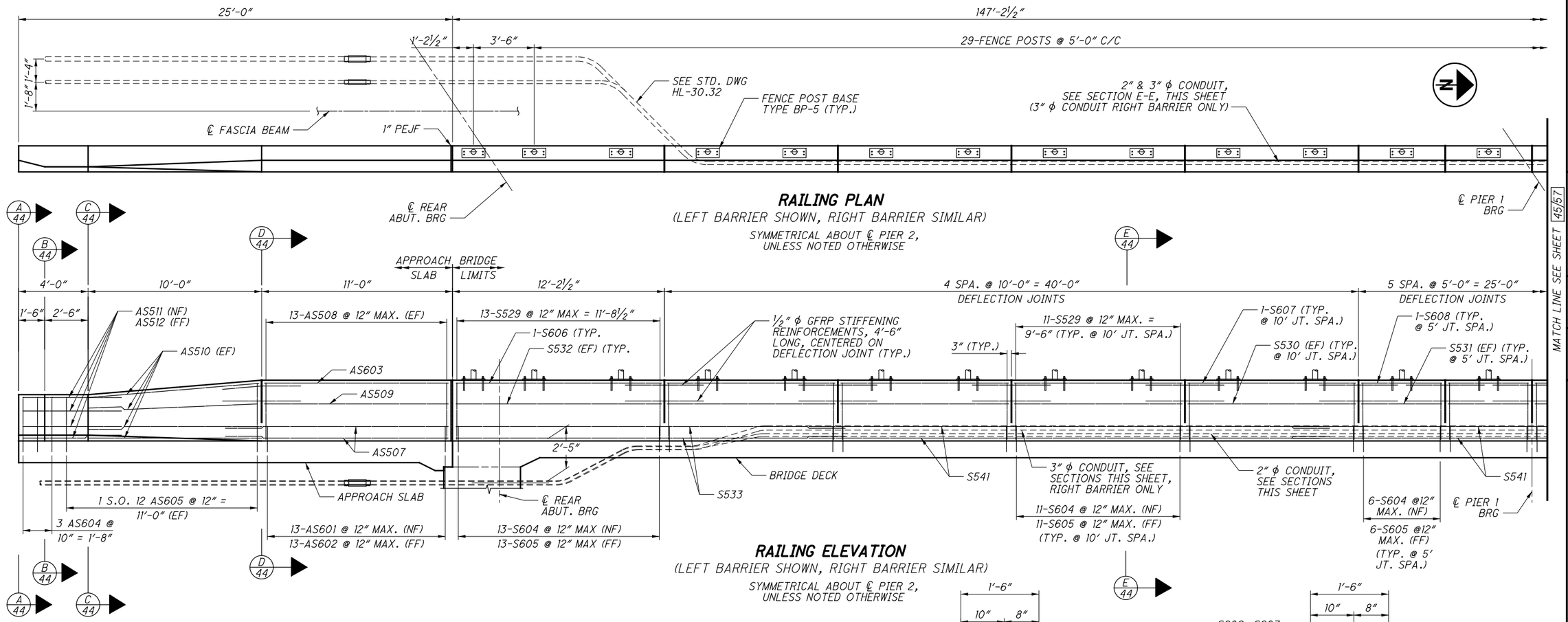
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | CHECKED TLR | REVIEWED SCT | DATE 4/15 | REVISED | STRUCTURE FILE NUMBER 4300459

FORWARD SEMI-INTEGRAL CAP DETAILS

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



RAILING PLAN

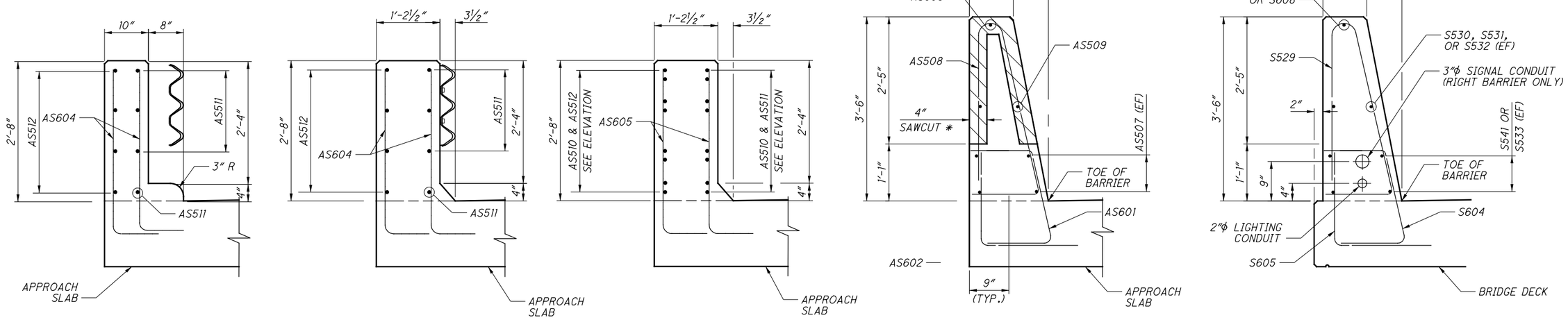
(LEFT BARRIER SHOWN, RIGHT BARRIER SIMILAR)

SYMMETRICAL ABOUT ℄ PIER 2, UNLESS NOTED OTHERWISE

RAILING ELEVATION

(LEFT BARRIER SHOWN, RIGHT BARRIER SIMILAR)

SYMMETRICAL ABOUT ℄ PIER 2, UNLESS NOTED OTHERWISE



SECTION A-A

SECTION B-B

SECTION C-C

* GFRP NOT SHOWN

SECTION D-D

SECTION E-E

NOTES:

1. FOR RAILING NOTES SEE SHEET 45/57.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED AMK | DRAWN AMK | CHECKED TLR | REVIEWED SCT | DATE 4/15 | REVISED | STRUCTURE FILE NUMBER 4300459

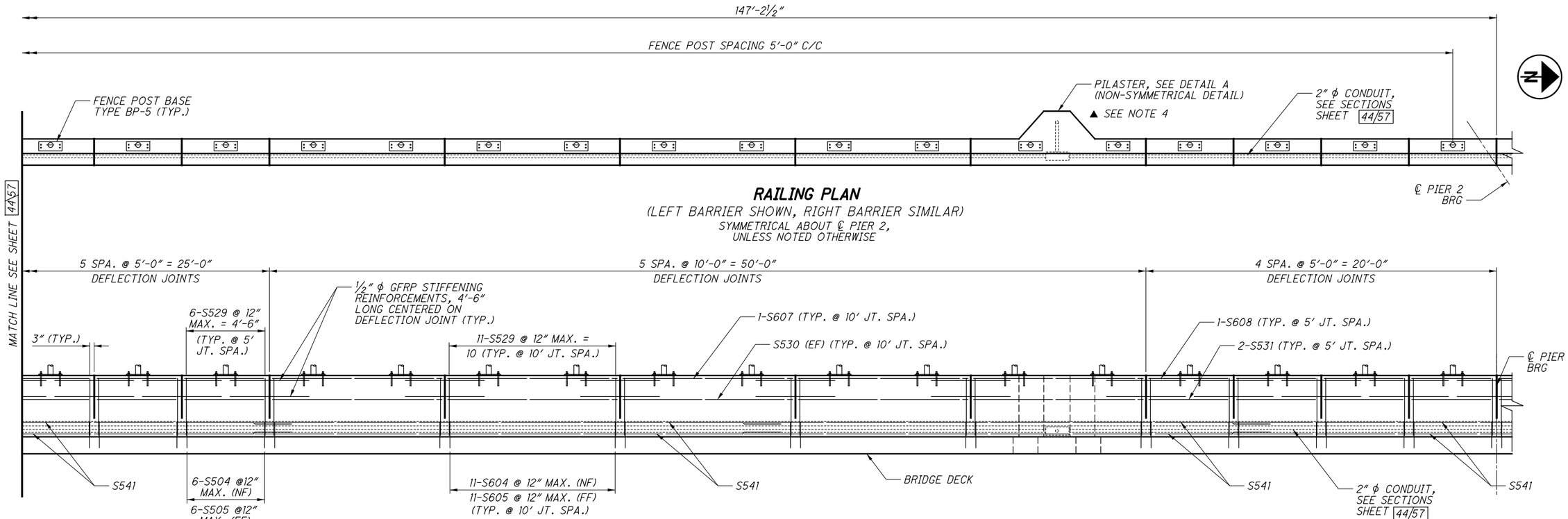
RAILING DETAILS

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

44 / 57

148 / 161

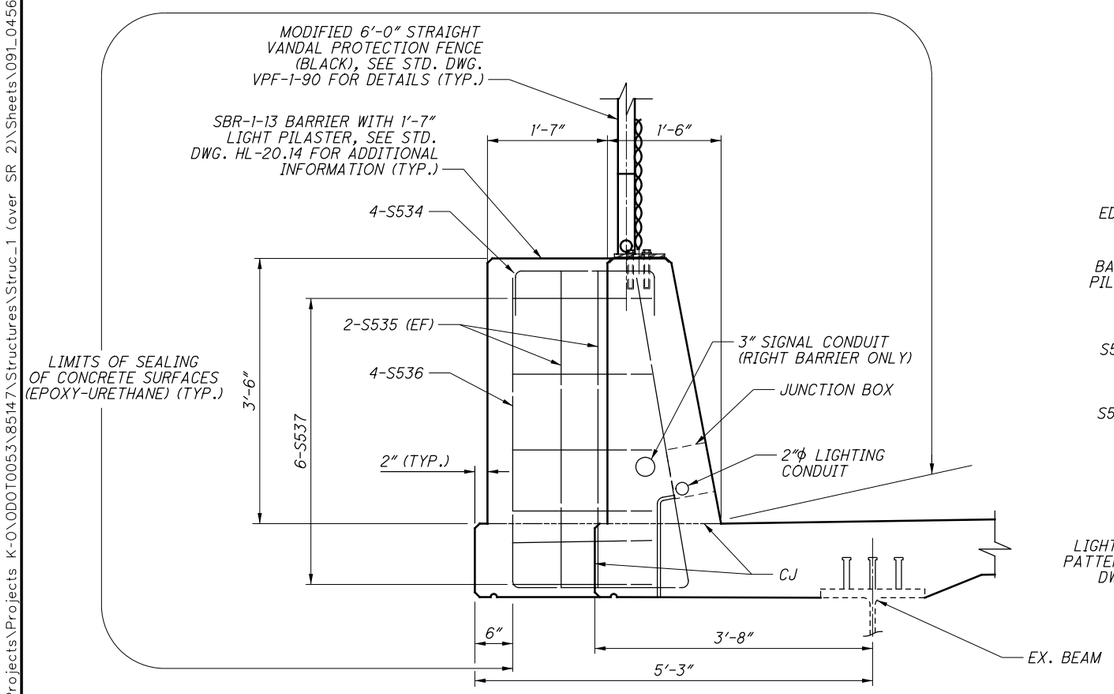


RAILING PLAN

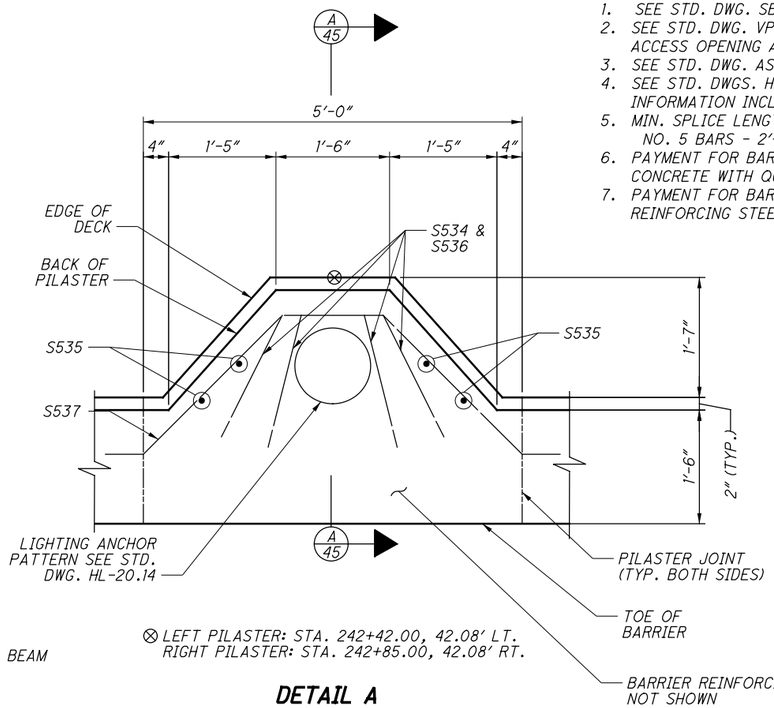
(LEFT BARRIER SHOWN, RIGHT BARRIER SIMILAR)
SYMMETRICAL ABOUT ℄ PIER 2, UNLESS NOTED OTHERWISE

RAILING ELEVATION

(LEFT BARRIER SHOWN, RIGHT BARRIER SIMILAR)
SYMMETRICAL ABOUT ℄ PIER 2, UNLESS NOTED OTHERWISE



SECTION A-A



DETAIL A

NOTES:

1. SEE STD. DWG. SBR-1-13 FOR ADDITIONAL RAILING DETAILS.
2. SEE STD. DWG. VPF-1-90 FOR ADDITIONAL FENCING DETAILS, INCLUDING ACCESS OPENING AT LIGHT POLES.
3. SEE STD. DWG. AS-1-15 & AS-2-15 FOR ADDITIONAL APPROACH SLAB DETAILS.
4. SEE STD. DWGS. HL-20.14, HL-30.32 AND HL-50.21 FOR ADDITIONAL LIGHTING INFORMATION INCLUDING GROUNDING.
5. MIN. SPLICE LENGTH ON BARRIER:
   NO. 5 BARS - 2'-5"
6. PAYMENT FOR BARRIER CONCRETE SHALL BE INCLUDED WITH ITEM 511 CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET).
7. PAYMENT FOR BARRIER REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509, REINFORCING STEEL.

1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED AMK | DRAWN AMK | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

RAILING DETAILS
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

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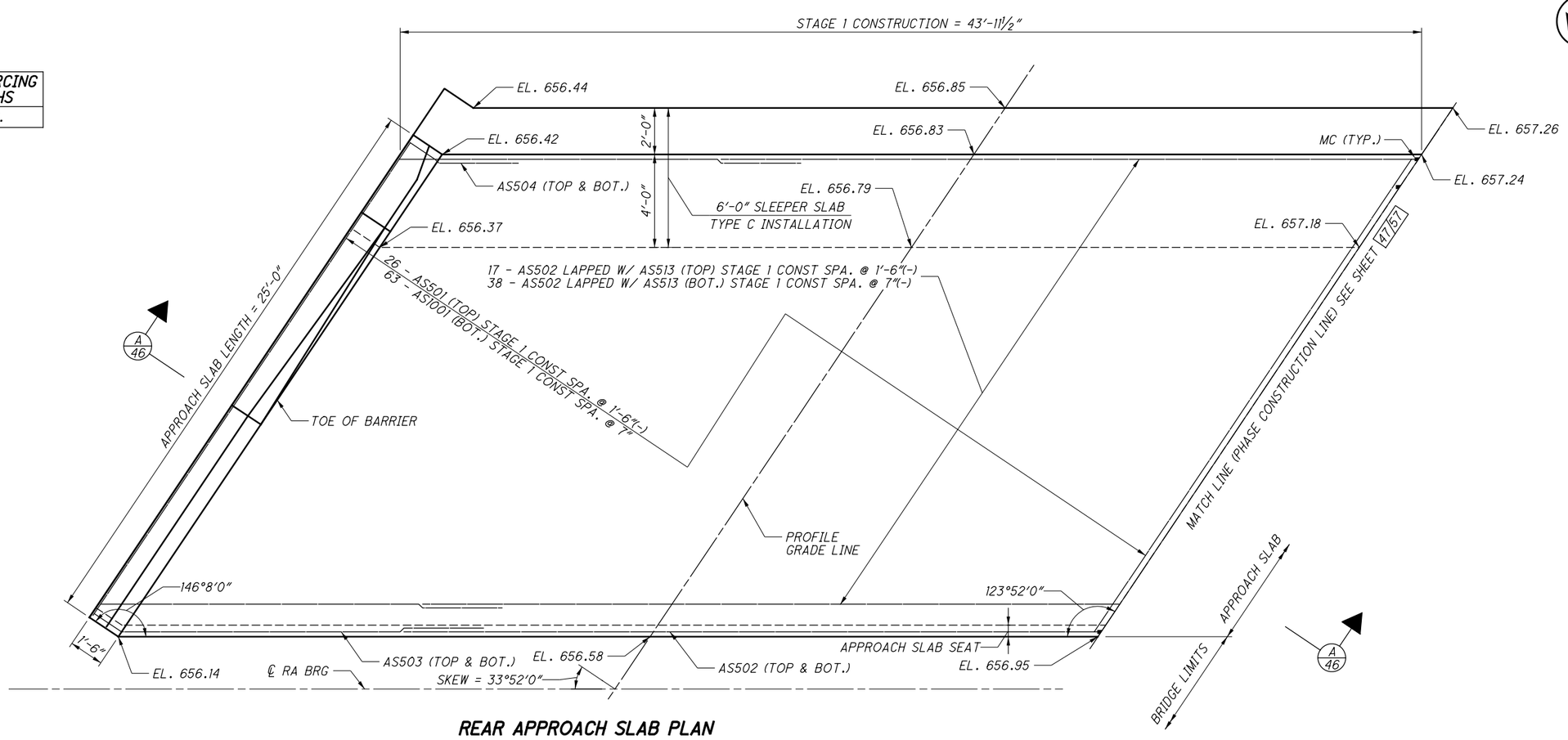
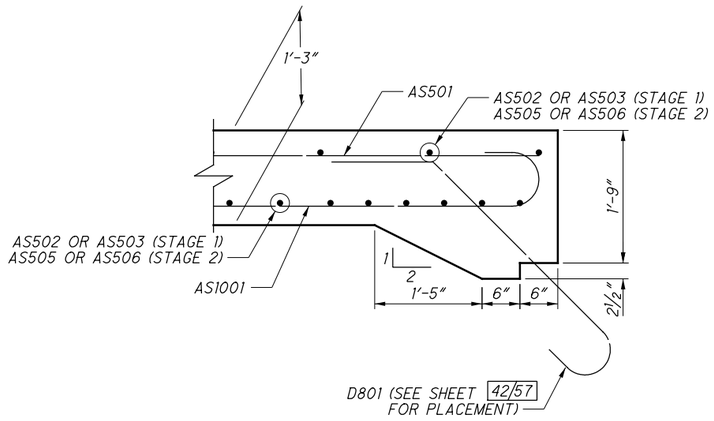
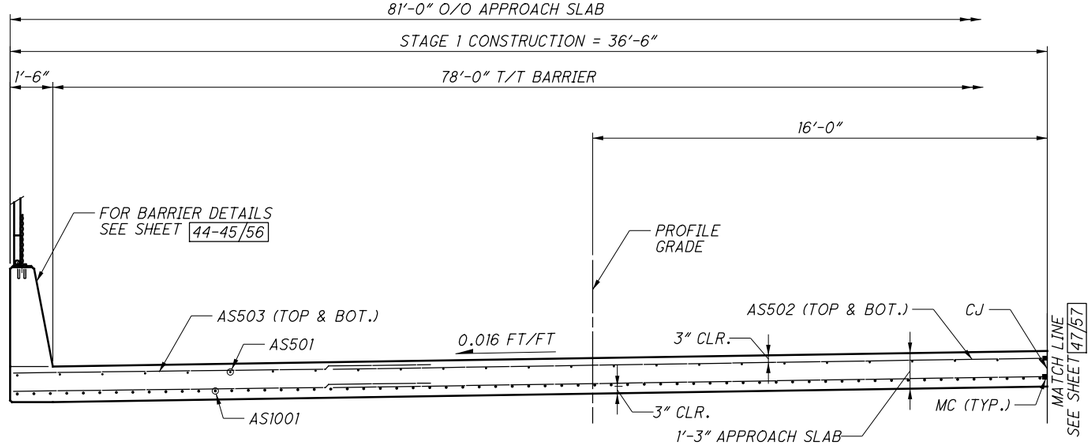
APPROACH SLAB REINFORCING REQUIRED LAP LENGTHS	
NO. 5 BARS	3'-5" MIN.



REAR APPROACH SLAB PLAN



APPROACH SLAB SEAT DETAIL



SECTION A-A

NOTES

1. HMWM SEALER INCLUDED WITH ITEM 512 SEALING OF CONCRETE BRIDGE DECKS WITH HMWM RESIN AS PER PLAN FOR PAYMENT
2. SEE STD. DWG. AS-1-15 AND AS-2-15 FOR ADDITIONAL DETAILS

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

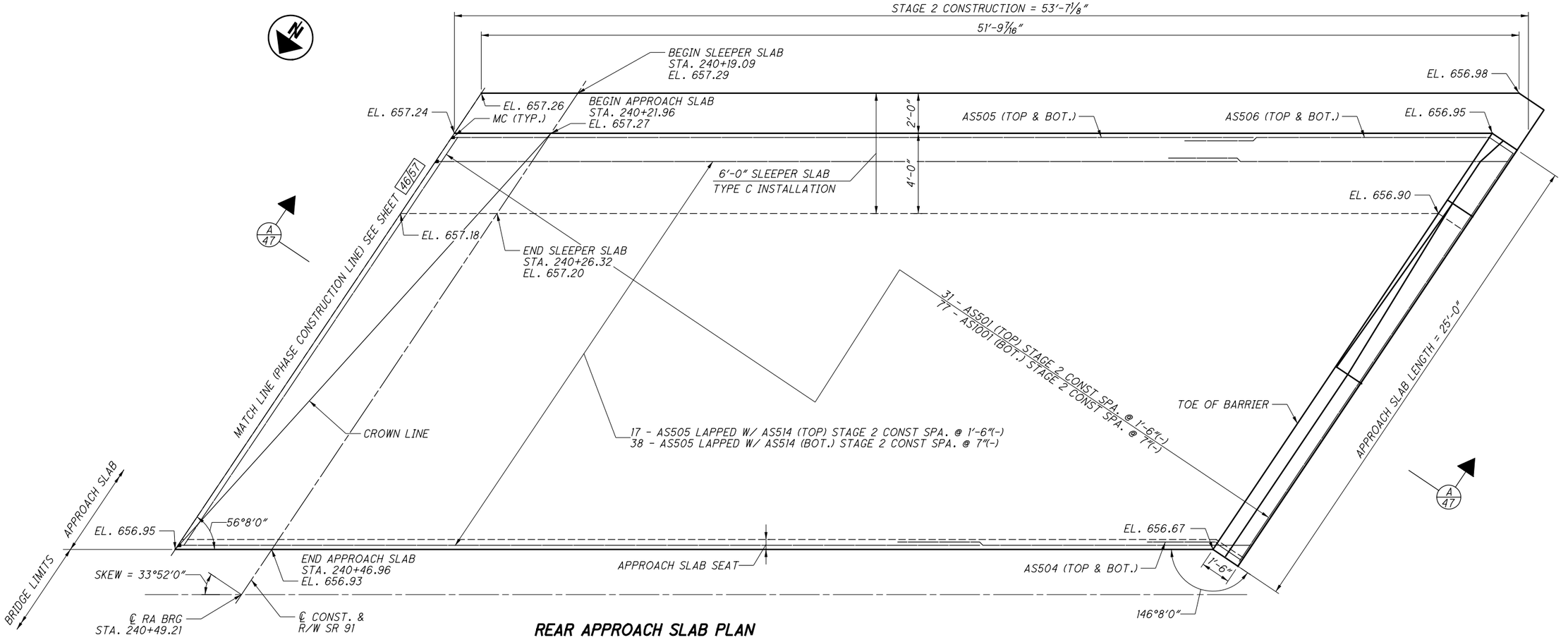
REAR APPROACH SLAB DETAILS (1 OF 2) (STAGE 1 CONST.)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

46 / 57

150 / 161

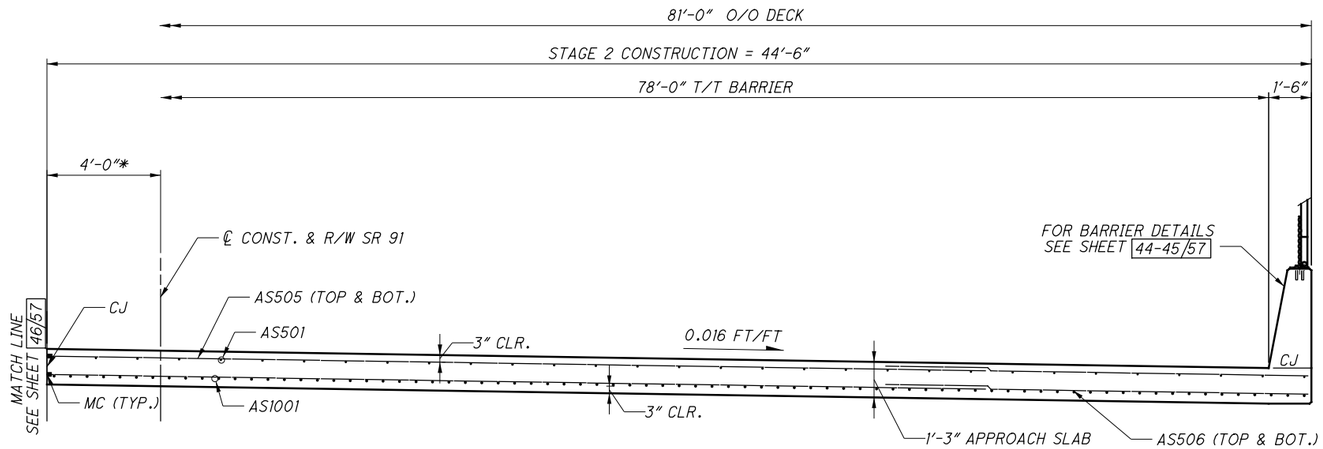


REAR APPROACH SLAB PLAN

APPROACH SLAB REINFORCING REQUIRED LAP LENGTHS	
NO. 5 BARS	3'-5" MIN.

NOTES

1. HMWM SEALER INCLUDED WITH ITEM 512 SEALING OF CONCRETE BRIDGE DECKS WITH HMWM RESIN AS PER PLAN FOR PAYMENT
2. SEE STD. DWG. AS-1-15 AND AS-2-15 FOR ADDITIONAL DETAILS
3. FOR APPROACH SLAB SEAT DETAIL, SEE SHEET 46/57



SECTION A-A

* CROWN SHIFTS FROM CJ AT END APPROACH SLAB TO ℄ CONST. & R/W SR 91 AT BEGIN APPROACH SLAB

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

REAR APPROACH SLAB DETAILS (2 OF 2) (STAGE 2 CONST.)
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

47 / 57

151
161

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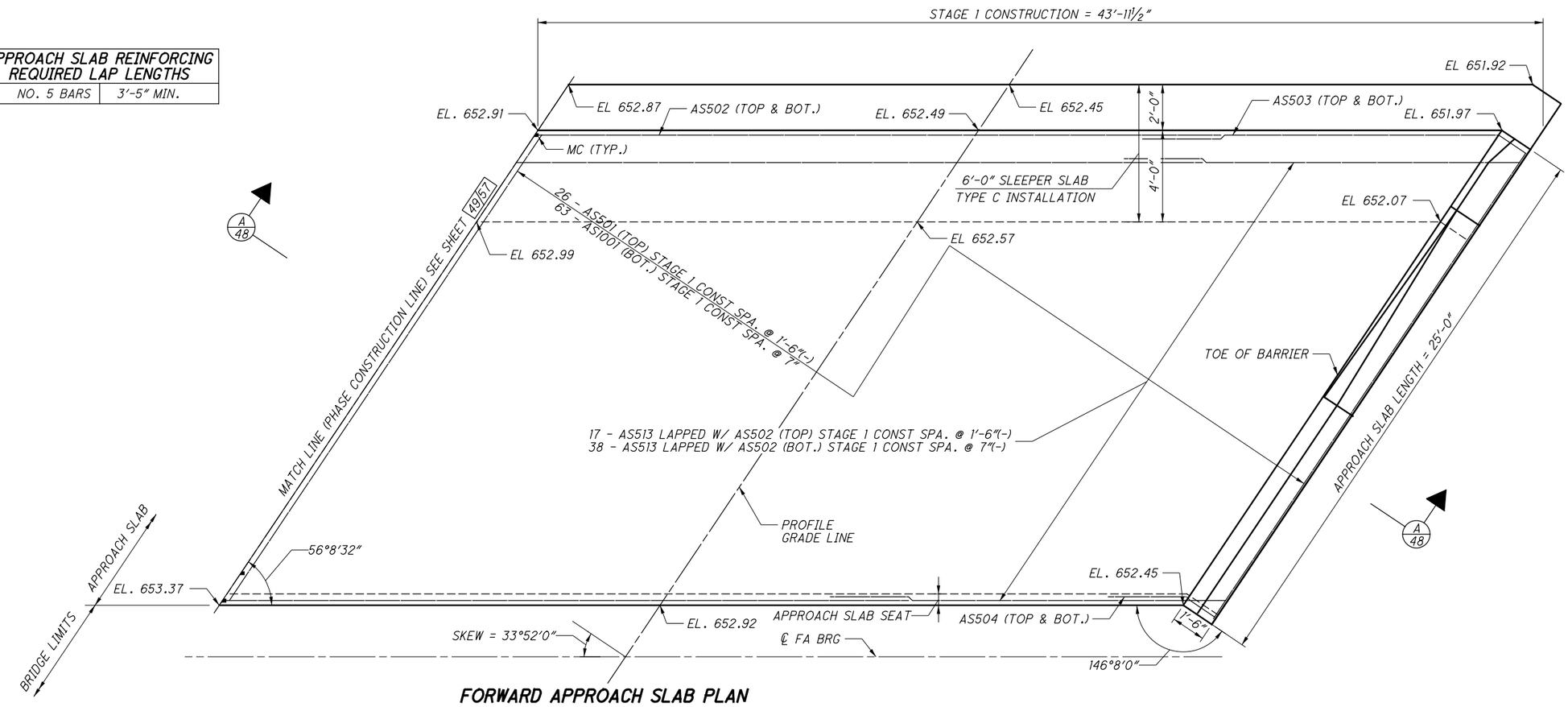
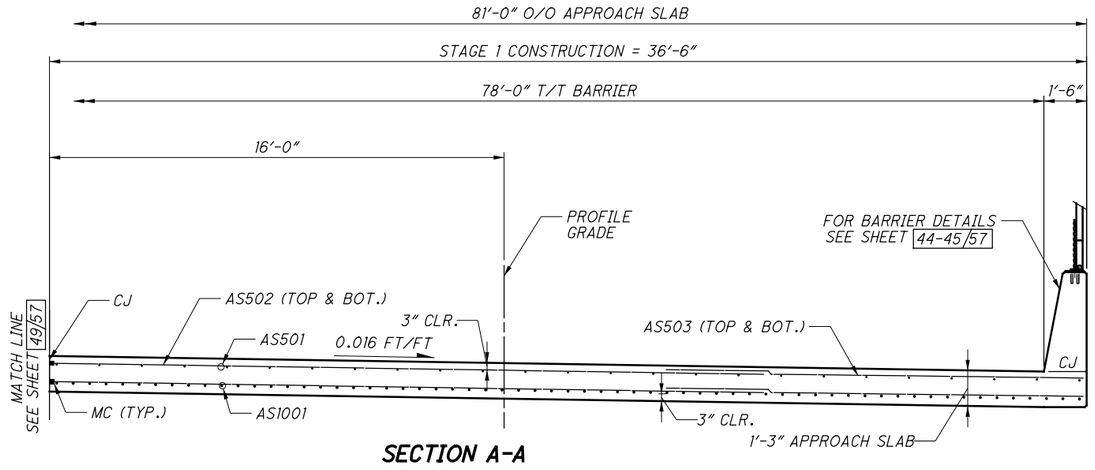
APPROACH SLAB REINFORCING REQUIRED LAP LENGTHS	
NO. 5 BARS	3'-5" MIN.



FORWARD APPROACH SLAB PLAN



SECTION A-A

NOTES

1. HMWM SEALER INCLUDED WITH ITEM 512 SEALING OF CONCRETE BRIDGE DECKS WITH HMWM RESIN AS PER PLAN FOR PAYMENT
2. SEE STD. DWG. AS-1-15 AND AS-2-15 FOR ADDITIONAL DETAILS
3. FOR APPROACH SLAB SEAT DETAIL, SEE SHEET 46/57

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Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

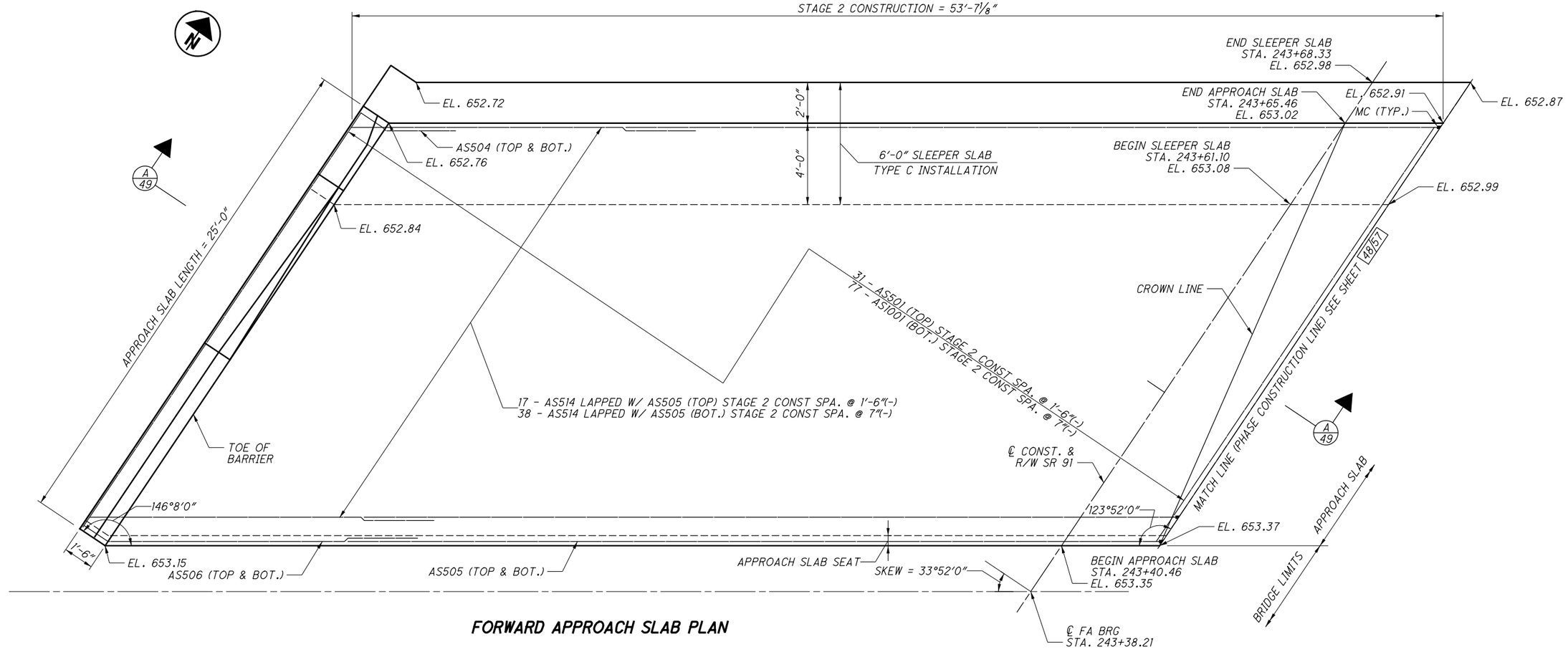
DESIGNED	DRAWN	REVIEWED	DATE
KRH	KRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

FORWARD APPROACH SLAB DETAILS (1 OF 2) (STAGE 1 CONST.)
LAK-91-0456
SR-91 OVER SR-2

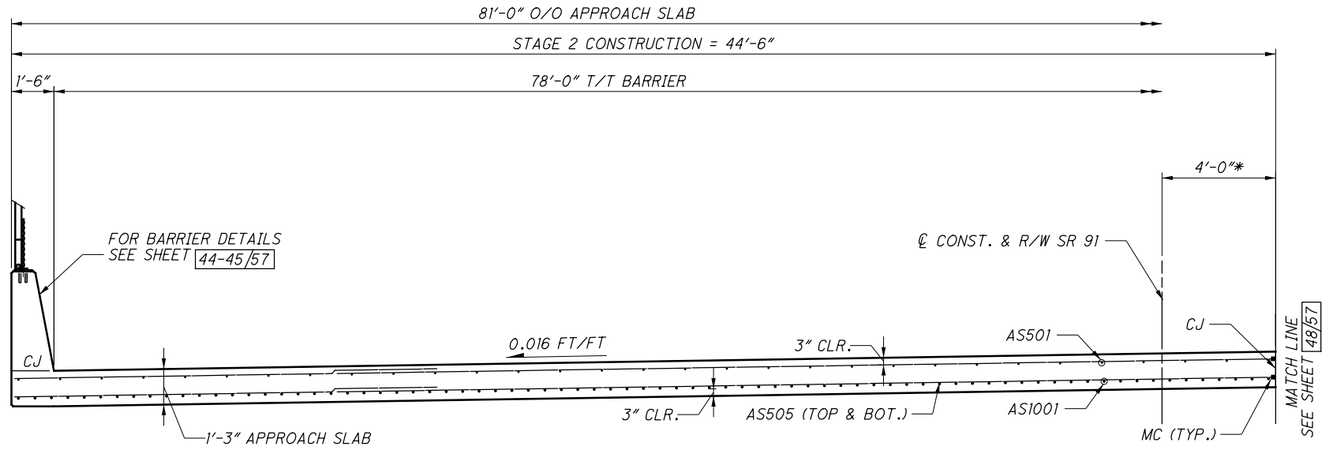
LAK-91-04.56
PID No. 85147

48/57

152/161



FORWARD APPROACH SLAB PLAN



SECTION A-A

* CROWN SHIFTS FROM CJ AT BEGIN APPROACH SLAB TO ℄ CONST. & R/W SR 91 AT END APPROACH SLAB

APPROACH SLAB REINFORCING REQUIRED LAP LENGTHS	
NO. 5 BARS	3'-5" MIN.

NOTES

1. HMWM SEALER INCLUDED WITH ITEM 512 SEALING OF CONCRETE BRIDGE DECKS WITH HMWM RESIN AS PER PLAN FOR PAYMENT
2. SEE STD. DWG. AS-1-15 AND AS-2-15 FOR ADDITIONAL DETAILS
3. FOR APPROACH SLAB SEAT DETAIL, SEE SHEET 46/57

Mannik Smith Group
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED KRH | DRAWN KRH | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

FORWARD APPROACH SLAB DETAILS (2 OF 2) (STAGE 2 CONST.)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

ITEM 614 - MAINTAINING TRAFFIC: DO NOT EXCEED THE PERMITTED LANE CLOSURE TIMES POSTED ON THE DEPARTMENT'S PERMITTED LANE CLOSURE WEB SITE OR THE LANE VALUE CONTRACT TABLE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SUBMIT A LANE CLOSURE APPLICATION REQUEST FORM TO THE ENGINEER IN WRITING, THREE (3) WORKING DAYS IN ADVANCE OF THE LANE(S) CLOSURE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. NO LANE CLOSURES WILL BE PERMITTED DURING HOLIDAYS OR SPECIAL EVENTS, SEE SPECIAL EVENTS / HOLIDAY NOTE. MONITOR TRAFFIC FLOW AND RE-OPEN LANES IF ANY BACKUP BEGINS TO OCCUR.

MAINTAIN TRAFFIC UNDER THE BRIDGE ACCORDING TO STANDARD DRAWING MT-95.30 CLOSE THE RIGHT OR LEFT LANES AS NEEDED OR DIRECTED BY THE ENGINEER.

CLOSING THE LANES BEFORE THE ALLOWABLE TIME AND/OR FAILURE TO RE-OPEN ALL LANES TO TRAFFIC AS DESIGNATED IN THE PLANS WILL RESULT IN A DISINCENTIVE AS DESIGNATED IN THE LANE VALUE CONTRACT TABLE LISTED BELOW AND ACCORDING TO THE LANE VALUE CONTRACT PROPOSAL NOTE.

PLACE AN UNOCCUPIED PROTECTION VEHICLE, CLOSE TO THE WORK WHENEVER WORKERS ARE IN THE WORK AREA, WHENEVER MAINTAINING TRAFFIC ACCORDING TO STANDARD DRAWING MT-95.30 AS DIRECTED BY THE ENGINEER. REMOVE THESE VEHICLES FROM THE PAVEMENT WHENEVER WORKERS ARE NOT IN THE WORK AREA. EQUIP THE VEHICLES WITH A 360 DEGREE ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE FROM A MINIMUM DISTANCE OF 1 QUARTER MILE.

PERFORM ALL WORK AND SUPPLY ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH C&MS 614 AND LATEST VERSION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

LANE VALUE CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	$ PER TIME UNIT
SR 2 UNDER 91 EAST ONE LANE CLOSURE	3PM TO 7PM	EACH MINUTE	$200.00
SR 2 UNDER 91 WEST ONE LANE CLOSURE	6AM TO 9AM	EACH MINUTE	$200.00
SR 2 UNDER 91 EAST TWO LANE CLOSURE	6AM TO 9PM	EACH MINUTE	$400.00
SR 2 UNDER 91 WEST TWO LANE CLOSURE	5AM TO 8PM	EACH MINUTE	$400.00

NOTE: FOR SR 2 LANE RESTRICTIONS, ONLY WORK IN THE AREAS THAT HAVE THE DECK REMOVED FOR A LONG TERM CLOSURE.

SPECIAL EVENTS HOLIDAY.

THE FOLLOWING HOLIDAY OR SPECIAL EVENT RESTRICTIONS APPLY:

MAY 30, 2016 MEMORIAL DAY

JULY 4, 2016 INDEPENDENCE DAY

SEPTEMBER 5, 2016 LABOR DAY

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR: IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), PROVIDE A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP-MOUNTED EMERGENCY FLASHING LIGHTS FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED. DO NOT USE LAW ENFORCEMENT OFFICERS (LEOS) WHERE THE OMUTCD INTENDS THAT FLAGGERS ARE TO BE USED.

EMPLOY AND SUPERVISE THE ACTIONS AND PLACEMENT OF THE LEOS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. SUPPLY A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. MAKE ARRANGEMENTS FOR THESE SERVICES WITH THE STATE HIGHWAY PATROL OR LOCAL GOVERNMENTS. ARRANGEMENTS INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED. CONTRACTORS MAY UTILIZE LEOS FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN SPECIFIED IN THESE PLANS, AT THEIR OWN EXPENSE.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE PROJECT LUMP SUM CONTRACT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR.

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS SECTIONS 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

EXISTING PLANS: EXISTING PLANS CAN BE INSPECTED IN THE LOCAL ODOT DISTRICT OFFICE.

EXISTING ASTM A709 GRADE 36 - DO NOT SUBJECT ANY PART OF THE STRUCTURE TO A JACKING, PULLING OR RESTRAINING UNIT STRESS EXCEEDING 18,000 PSI (124.1 MPA).

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

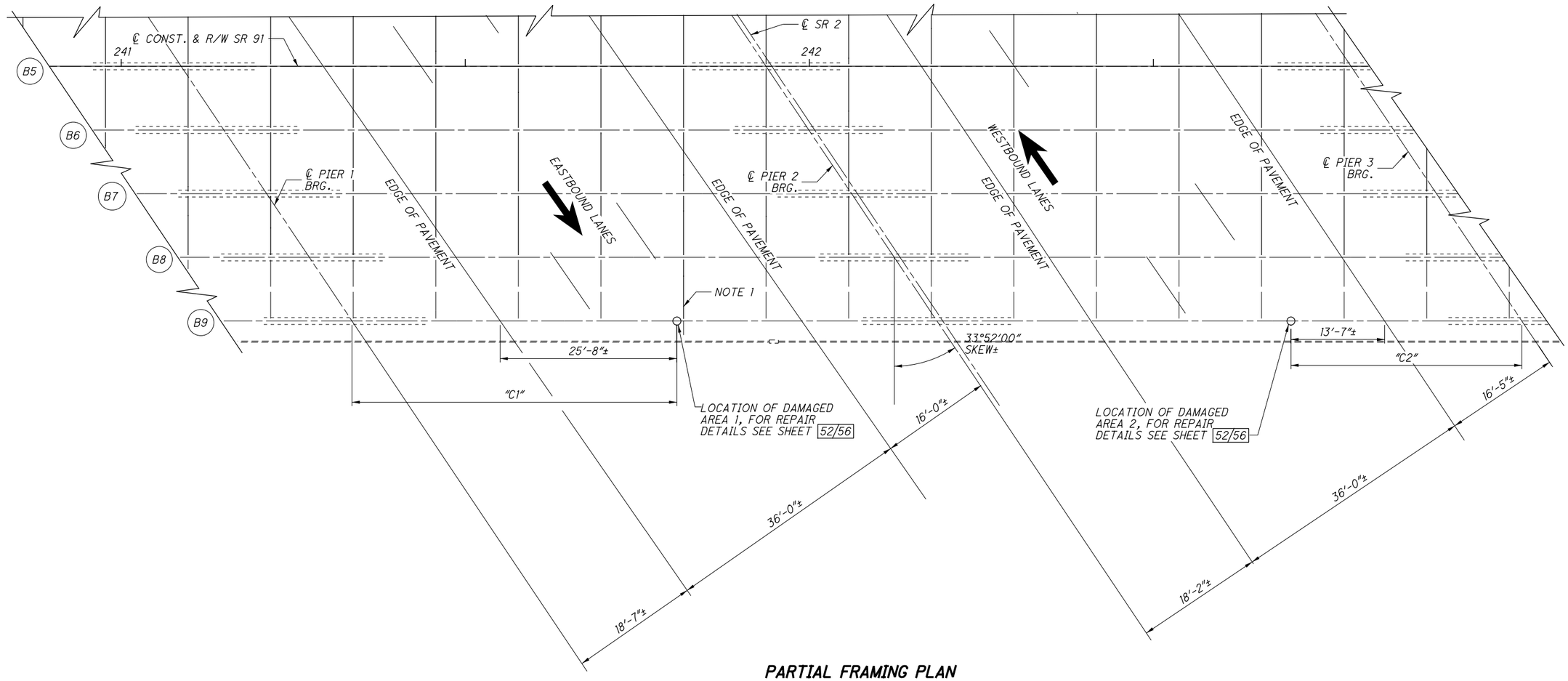
HEAT STRAIGHTENING OF DAMAGED STRUCTURAL STEEL (1 OF 3)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

ORIENTATION NOTE:

ABUTMENTS AND PIERS ARE NUMBERED IN THE CARDINAL DIRECTION (FROM SOUTH TO NORTH OR WEST TO EAST).
BEAMS ARE NUMBERED FROM LEFT TO RIGHT WHEN FACING IN THE CARDINAL DIRECTION.
BAYS ARE NUMBERED TO MATCH THE MAIN MEMBER LINE NUMBER TO THE LEFT OF THE CROSSFRAME BAY WHEN FACING IN THE CARDINAL DIRECTION.



PARTIAL FRAMING PLAN

NOTES:

1. REPLACE DAMAGED CROSSFRAME. INCLUDE REPLACED CROSSFRAMES WITH ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF FOR PAYMENT. REMOVAL SHALL BE INCLUDED WITH ITEM 202 - REMOVAL MISC.: EXISTING INTERMEDIATE CROSSFRAMES.

EXISTING STRUCTURE:	LAK-91-4.56
ROUTE ON STRUCTURE	SR 91
ROUTE BELOW STRUCTURE	SR 2
TYPE:	CONTINUOUS STEEL GIRDER
SPANS:	4
ROADWAY WIDTH:	79'-0" TOE/TOE PARAPET
SKEW:	33° 52' 00" R.F.
ALIGNMENT:	TANGENT
SUPERELEVATION:	NORMAL CROWN
YEAR BUILT:	1969
NUMBER OF BEAMS	9
STEEL TYPE:	ROLLED STEEL
PAINT TYPE:	OZEU
PAINT DATE:	01/01/92

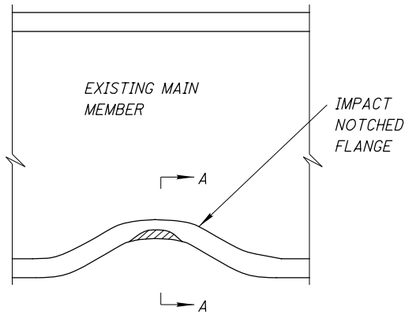
Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED AMK | DRAWN AMK | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

HEAT STAIGHTENING OF DAMAGED STRUCTURAL STEEL (2 OF 3)

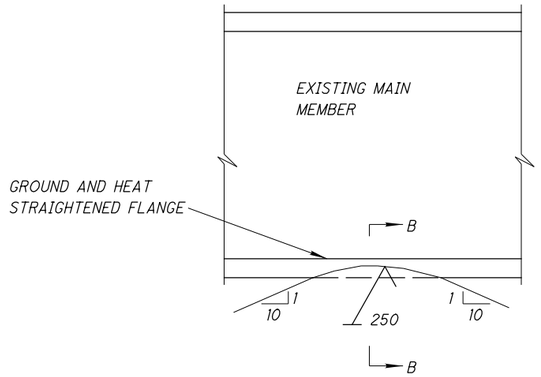
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147



COLLISION REPAIR FC2-1

SEE NOTE 1



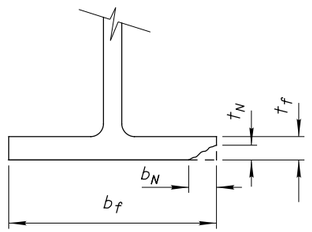
COLLISION REPAIR FC2-2

IF AREA (t_n, b_n) AFTER GRINDING $\leq$ 98% OF AREA (t_f, b_f) NOTE #3 APPLIES

1. AFTER HEAT STAIGHTENING, DETERMINE IF IMPACT NOTCH IS CRACKED USING MAGNETIC PARTICLE INSPECTION.
2. IF CRACK DOES NOT EXTEND THROUGH THE FLANGE. DETERMINE DEPTH OF CRACK BY GRINDING.
3. IF NOTCH OR PARTIAL DEPTH CRACK CAN BE REMOVED BY GRINDING ACCORDING TO SUPPLEMENTAL SPECIFICATION 849, REPAIR DAMAGED MEMBERS. PERFORM GRINDING ACCORDING TO SUPPLEMENTAL SPECIFICATION 849 AND AS ILLUSTRATED IN DETAIL FC2-2.
4. IF NOTCH OR PARTIAL DEPTH CRACK MUST BE REPAIRED BY WELDING ACCORDING TO SUPPLEMENTAL SPECIFICATION 849 REPAIRING DAMAGED MEMBERS, AS ILLUSTRATED IN DETAIL FC2-3. PERFORM COMPLETE PENETRATION WELDING ACCORDING TO C&MS 513.21 BY ATTACHING RUN OFF TABS AND GRIND ALL WELDED SURFACES SMOOTH ACCORDING TO ANSI B46.1 OF 250 mil.
5. PERFORM NDT TESTING ACCORDING TO C&MS 513.25A.

TABLE OF REPAIRS

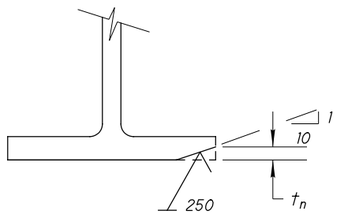
DAMAGED AREA No.	MEMBER LINE No. A	PIER OR ABUTMENT	DIM. C	REPAIR DETAIL TYPE	DRILLING HOLES (EACH)	COPE HOLES (EACH)	STEEL MEMBER LEVEL UP (POUNDS)	CP WELD (FEET)	FILLET WELD (FEET)
1	BEAM 9	1	47'-0"±	FC2	-	-	-	-	-
2	BEAM 9	3	33'-7"±	FC2	-	-	-	-	-



SECTION A-A

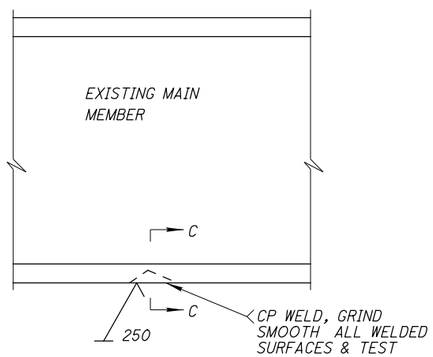
SEE NOTE 1 THROUGH 4

FLANGE NOT SHOWN WITH BEND FOR CLARITY



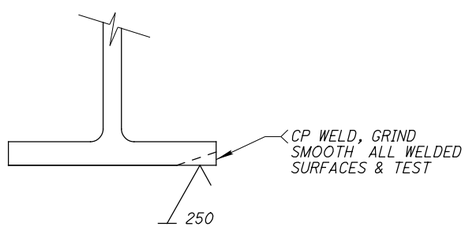
SECTION B-B

SEE NOTE 3



COLLISION REPAIR FC2-3

IF AREA (t_n, b_n) AFTER GRINDING $\geq$ 98% OF AREA (t_f, b_f) NOTE 4 & 5 APPLIES



SECTION C-C

SEE NOTE 4 & 5

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
AMK	AMK	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

HEAT STRAIGHTENING OF DAMAGED STRUCTURAL STEEL (3 OF 3)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

STAGE 1 CONSTRUCTION

MARK	NUMBER REAR	NUMBER FORWARD	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENT													
A501	12	9	21	6′-8″	146	1	**2′-3″**	4′-7″					
A502	4		4	17′-10″	74	2	2′-3″	13′-7″	2′-3″				
A503		1 SR OF 4	1 SR OF 4	14′-7″ TO 17′-1″	66	2	2′-3″	10′-4″ TO 12′-10″	2′-3″				0′-10″
A504		1	1	6′-9″	7	1	2′-3″	4′-8″					
A505		1	1	7′-4″	8	1	2′-3″	5′-3″					
A506	12	12	24	3′-4″	84	STR							
A507		5	5	9′-4″	49	STR							
A508	1		1	13′-7″	14	STR							
A509		1	1	10′-4″	11	STR							
A510	10		10	10′-8″	112	STR							
A511		5	5	8′-5″	44	STR							
A512	9	7	16	19′-11″	332	2	9′-6″	1′-2″	9′-6″				
A514	8	8	16	2′-10″	48	1	2′-0″	1′-0″					
A515	9		9	10′-9″	101	2	4′-11″	1′-2″	4′-11″				
A516	1 SR OF 2		1 SR OF 2	7′-3″ TO 8′-7″	17	2	3′-2″ TO 3′-10″	1′-2″	3′-2″ TO 3′-10″				0′-9″
A517	4	4	8	6′-3″	52	2	2′-8″	1′-2″	2′-8″				
A518	2		2	12′-6″	26	STR							
A519	6		6	18′-8″	117	STR							
A521		3	3	16′-5″	52	STR							
A522	2		2	8′-11″	19	38	2′-5″	3′-8″	2′-5″	2′-4″	4′-4″		
A523		7	7	11′-5″	83	2	5′-3″	1′-2″	5′-3″				
A524			1 SR OF 2	7′-7″ TO 9′-5″	18	2	3′-4″ TO 4′-3″	1′-2″	3′-4″ TO 4′-3″				0′-11″
A525		1	1	10′-4″	11	STR							
A526		2	2	9′-3″	20	38	2′-7″	3′-6″	2′-7″	2′-7″	4′-4″		
A530		3	3	17′-3″	54	STR							
A531		1	1	11′-2″	12	STR							
A532		1	1	11′-8″	12	2	5′-3″	1′-5″	5′-3″				
A533		1	1	22′-11″	24	2	9′-6″	1′-5″	9′-6″				
A601	10	10	20	5′-11″	178	1	3′-3″	2′-10″					
A801	12	9	21	6′-7″	369	1	2′-3″	4′-7″					
A802	4		4	17′-8″	189	2	2′-3″	13′-7″	2′-3″				
A803		1 SR OF 4	1 SR OF 4	14′-5″ TO 16′-11″	167	2	2′-3″	10′-4″ TO 12′-10″	2′-3″				0′-10″
A804		1	1	6′-9″	18	1	2′-3″	4′-8″					
A805		1	1	7′-4″	20	1	2′-3″	5′-3″					
A806	10	10	20	5′-2″	276	1	2′-7″	2′-10″					
A807	5	5	10	3′-8″	98	16	2′-10″						
				SUB-TOTAL	2782								

STAGE 2 CONSTRUCTION

MARK	NUMBER REAR	NUMBER FORWARD	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
ABUTMENT													
A501	9	12	21	6′-8″	146	1	2′-3″	4′-7″					
A502		4	4	17′-10″	74	2	2′-3″	13′-7″	2′-3″				
A503	1 SR OF 4		1 SR OF 4	14′-7″ TO 17′-1″	66	2	2′-3″	10′-4″ TO 12′-10″	2′-3″				0′-10″
A504	1		1	6′-9″	7	1	2′-3″	4′-8″					
A505	1		1	7′-4″	8	1	2′-3″	5′-3″					
A506	12	12	24	3′-4″	84	STR							
A507	5		5	9′-4″	49	STR							
A508		1	1	13′-7″	14	STR							
A509	1		1	10′-4″	11	STR							
A510		10	10	10′-8″	112	STR							
A511	5		5	8′-5″	44	STR							
A513	7	9	16	21′-5″	357	2	10′-3″	1′-2″	10′-3″				
A514	8	8	16	2′-10″	48	1	2′-0″	1′-0″					
A515	7		7	10′-9″	79	2	4′-7″	1′-2″	4′-7″				
A516	1 SR OF 2		1 SR OF 2	7′-2″ TO 8′-7″	17	2	3′-2″ TO 3′-10″	1′-2″	3′-2″ TO 3′-10″				0′-8″
A517	4	4	8	6′-3″	52	2	2′-8″	1′-2″	2′-8″				
A518		2	2	12′-6″	26	STR							
A519		6	6	18′-8″	117	STR							
A520	1		1	10′-0″	11	STR							
A521	3		3	16′-5″	52	STR							
A522	2		2	8′-11″	19	38	2′-5″	3′-8″	2′-5″	2′-4″	4′-4″		
A523	9		9	11′-5″	108	2	5′-3″	1′-2″	5′-3″				
A524		1 SR OF 2	1 SR OF 2	7′-7″ TO 9′-5″	18	2	3′-4″ TO 4′-3″	1′-2″	3′-4″ TO 4′-3″				0′-11″
A526		2	2	8′-11″	19	38	2′-7″	3′-6″	2′-7″	2′-7″	4′-4″		
A527	1		1	10′-4″	11	2	4′-7″	1′-5″	4′-7″				
A528	1		1	21′-8″	23	2	10′-3″	1′-5″	10′-3″				
A529	1		1	10′-10″	11	STR							
A530	3		3	17′-3″	54	STR							
A801	9	12	21	6′-7″	369	1	2′-3″	4′-7″					
A802		4	4	17′-8″	189	2	2′-3″	13′-7″	2′-3″				
A803	1 SR OF 4		1 SR OF 4	14′-5″ TO 16′-11″	167	2	2′-3″	10′-4″ TO 12′-10″	2′-3″				
A804	1		1	6′-9″	18	1	2′-3″	4′-8″					
A805	1		1	7′-4″	20	1	2′-3″	5′-3″					
													0′-10″
				SUB-TOTAL	2254								

NOTES

1. FOR BAR BEND DIAGRAMS, SEE SHEET 57/57 .
2. FOR REIFORCING STEEL NOTES, SEE SHEET 54/57 .

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED RJS | DRAWN DRH | REVIEWED SCT | DATE 4/15
CHECKED TLR | REVISED | STRUCTURE FILE NUMBER 4300459

REINFORCING LIST (1 OF 5)
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

STAGE 1 CONSTRUCTION

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S401			470	30'-0"	9419	STR							
S402			47	21'-7"	678	STR							
S403			10	10'-11"	73	16	10'-11"						
S501 *			480	30'-0"	15019	STR							
S502			48	28'-3"	1414	STR							
S504 *			1128	36'-5"	42848	STR							
S506			16	5'-1"	85	STR							
S507			300	8'-6"	2660	STR							
S509 *			2 SR OF 40	6'-3" TO 34'-1"	1683	STR							0'-8 ½"
S512			1 SR OF 2	6'-4" TO 7'-9"	15	STR							1'-5"
S513			1	36'-3"	38	STR							
S514	32	32	64	8'-7"	573	2	2'-11"	3'-0"	2'-11"				
S515	11		11	13'-10"	159	3	4'-1"	2'-6"					
S516	8		8	14'-0"	117	3	4'-1"	2'-7"					
S517	8		8	14'-2"	118	3	4'-1"	2'-8"					
S518	3		3	14'-10"	46	3	4'-1"	3'-0"					
S526		3	3	16'-10"	53	3	4'-1"	4'-0"					
S527		7	7	16'-4"	119	3	4'-1"	3'-9"					
S528		2	2	16'-2"	34	3	4'-1"	3'-8"					
S529			332	7'-4"	2538	23	0'-11"	3'-3"	3'-0"			0'-2 ¾"	
S530			36	9'-8"	363	STR							
S531			36	4'-8"	175	STR							
S532			4	11'-11"	50	STR							
S533			8	24'-2"	202	STR							
S534			4	2'-9"	11	2	0'-7"	1'-10"	0'-7"				
S535			4	4'-2"	17	STR							
S536			4	10'-3"	43	9	0'-8"	4'-1"	2'-4"	4'-1"			
S537			6	7'-5"	46	21	1'-4"	1'-10"	0'-6"	1'-10"			
S538		1	1	10'-8"	11	3	2'-11"	2'-1"					
S539		1	1	13'-10"	14	3	3'-0"	3'-7"					
S540			2 SR OF 42	6'-9" TO 36'-1"	1876	STR							0'-8 ½"
S541			36	30'-0"	1126	STR							
S548			19	16'-0"	317	3	4'-1"	3'-7"					
S601			144	30'-0"	6489	STR							
S602			96	25'-1"	3616	STR							
S603			48	29'-1"	2097	STR							
S604			332	3'-5"	1706	28	1'-9"	1'-0"					
S605			332	2'-7"	1287	1	1'-0"	1'-9"					
S606			2	11'-11"	36	STR							
S607			18	9'-8"	261	STR							
S608			18	4'-8"	126	STR							
S801 *	7	10	17	40'-0"	1815	STR							
S802	8		8	10'-9"	230	19	9'-6"	1'-1"	9"				
S806	5	5	10	11'-0"	294	1	9'-8"	1'-6"					
S807	1	2	3	13'-4"	107	18	2'-7"	7'-2"	6'-11"				
S808 *	2	2	4	15'-6"	166	STR							
S810	6	4	10	18'-2"	485	STR							
S811	3		3	13'-6"	108	19	12'-3"	1'-1"	0'-9"				
S813	6		6	38'-8"	620	19	37'-5"	1'-1"	0'-9"				
S815		4	4	35'-2"	376	STR							
S817		12	12	10'-10"	347	19	9'-8"	1'-0"	0'-8"				
S820		2	2	13'-10"	74	STR							
S821		5	5	11'-3"	151	STR							
S823	1		1	14'-2"	38	18	1'-9"	7'-5"	9'-0"				
SUB-TOTAL					102363								

NOTES

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. MECHANICAL CONNECTORS SHALL BE INCIDENTAL TO ITEM 509 FOR PAYMENT.
3. FOR BAR BEND DIAGRAMS, SEE SHEET 57/57.
4. * - INDICATES PRESCENCE OF MECHANICAL CONNECTOR WHEN BAR IS ADJACENT TO CONTSTRUCTION JOINT.
5. ** - INDICATES ITEM IS INCLUDED IN COST OF APPROACH SLAB.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED RJS | DRAWN DRH | REVIEWED SCT | DATE 4/15
CHECKED DRH | REVISED | STRUCTURE FILE NUMBER 4300459

REINFORCING LIST (2 OF 5)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

STAGE 2 CONSTRUCTION

MARK	NUMBER REAR	NUMBER FORWARD	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S401			580	30'-0"	11623	STR							
S402			58	21'-7"	836	STR							
S403			10	10'-11"	73	16	10'-11"						
S501*			1143	30'-0"	35765	STR							
S502			58	28'-3"	1709	STR							
S503			560	17'-11"	10461	STR							
S505			16	19'-6"	325	STR							
S508			2 SR OF 48	6'-5" TO 40'-0"	2324	STR							0'-8 ½"
S510			1 SR OF 5	26'-3" TO 29'-1"	144	STR							0'-8 ½"
S511*			2 SR OF 43	6'-2" TO 36'-0"	1891	STR							0'-8 ½"
S514	39	39	78	8'-7"	698	2	2'-11"	3'-0"	2'-11"				
S517	8		8	14'-2"	118	3	4'-1"	2'-8"					
S518	7		7	14'-10"	108	3	4'-1"	3'-0"					
S519	4		3	15'-0"	47	3	4'-1"	3'-1"					
S520	1		1	13'-8"	14	3	4'-1"	2'-5"					
S521	16		16	13'-6"	225	3	4'-1"	2'-4"					
S522	3		3	13'-4"	42	3	4'-1"	2'-3"					
S523		20	20	15'-10"	330	3	4'-1"	3'-6"					
S524		8	8	16'-6"	138	3	4'-1"	3'-10"					
S525		10	10	17'-2"	179	3	4'-1"	4'-2"					
S529			332	7'-4"	2538	23	0'-11"	3'-3"	3'-0"			0'-2 ¾"	
S530			36	9'-8"	363	STR							
S531			36	4'-8"	175	STR							
S532			4	11'-11"	50	STR							
S533			8	24'-2"	202	STR							
S534			4	2'-9"	11	2	0'-7"	1'-10"	0'-7"				
S535			4	4'-2"	17	STR							
S536			4	10'-3"	43	9	0'-8"	4'-1"	2'-4"	4'-1"			
S537			6	7'-5"	46	21	1'-4"	1'-10"	0'-6"	1'-10"			
S538	1		1	7'-8"	8	2	**2'-11"**	**2'-1"**	2'-11"				
S539	1		1	13'-10"	14	3	3'-0"	3'-7"					
S541			36	30'-0"	1126	STR							
S542			560	25'-0"	14602	STR							
S543*			563	22'-11"	13453	STR							
S544			1 SR OF 5	19'-2" TO 22'-0"	107	STR							0'-8 ½"
S545			8	26'-9"	223	STR							
S546			1 SR OF 9	10'-2" TO 15'-10"	122	STR							0'-8 ½"
S547			1 SR OF 9	17'-3" TO 22'-11"	189	STR							0'-8 ½"
				SUB-TOTAL	100339								

STAGE 2 CONSTRUCTION

MARK	NUMBER REAR	NUMBER FORWARD	NUMBER TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS A	B	C	D	E	R	INC
SUPERSTRUCTURE													
S601			174	30'-0"	7840	STR							
S602			116	25'-1"	4370	STR							
S603			58	29'-1"	2534	STR							
S604			332	3'-5"	1706	28	1'-9"	1'-0"					
S605			332	2'-7"	1287	1	1'-0"	1'-9"					
S606			2	11'-11"	36	STR							
S607			18	9'-8"	261	STR							
S608			18	4'-8"	126	STR							
S801*	15	17	32	40'-0"	3418	STR							
S803	2		2	20'-10"	112	STR							
S804	1		1	17'-11"	48	STR							
S805	6		6	20'-5"	327	19	19'-3"	1'-0"	0'-8"				
S806	5	5	10	11'-0"	294	1	9'-8"	1'-6"					
S807	1	2	3	13'-4"	107	18	2'-7"	7'-2"	6'-11"				
S809*	2		2	14'-0"	75	STR							
S810	9	6	15	18'-2"	728	STR							
S812	3		3	14'-3"	114	STR							
S814		7	7	17'-1"	319	19	15'-10"	1'-1"	0'-9"				
S816		10	10	20'-5"	545	19	19'-2"	1'-1"	0'-9"				
S818		2	2	13'-9"	73	19	12'-6"	1'-1"	0'-9"				
S819*		2	2	14'-0"	75	STR							
S822	5		5	17'-10"	238	19	16'-7"	1'-1"	0'-8"				
S823	1		1	14'-2"	38	18	1'-9"	7'-5"	9'-0"				
				SUB-TOTAL	24564								

NOTES

1. FOR BAR BEND DIAGRAMS, SEE SHEET 57/57 .
2. FOR REIFORCING STEEL NOTES, SEE SHEET 54/57.

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED RJS | DRAWN DRH | REVIEWED SCT | DATE 4/15
CHECKED DRH | REVISED | STRUCTURE FILE NUMBER 4300459

REINFORCING LIST (3 OF 5)
LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

55/57

159/161

STAGE 1 CONSTRUCTION

MARK	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
PIERS											
P501	164	3′-10″	656	1	1′-8″	2′-4″					
P503	20	8′-4″	174	3	2′-8″	1′-2″					
P504	27	9′-1″	256	3	2′-8″	1′-7″					
P509	5	9′-4″	49	3	2′-8″	1′-8″					
P510	12	9′-11″	124	3	2′-8″	1′-11″					
P512	16	9′-7″	160	3	2′-8″	1′-9″					
P513	4	9′-9″	41	3	2′-8″	1′-10″					
P514	11	10′-4″	119	3	2′-8″	2′-2″					
P518	1	7′-10″	8	3	2′-5″	1′-2″					
P519	1	6′-6″	7	3	1′-9″	1′-2″					
P522	1	8′-6″	9	3	2′-5″	1′-6″					
P523	1	7′-3″	8	3	1′-9″	1′-6″					
P526	1	9′-3″	10	3	2′-5″	1′-9″					
P527	1	7′-8″	8	3	1′-9″	1′-9″					
P601	20	3′-9″	113	1	1′-7″	2′-4″					
P602	16	10′-6″	252	3	2′-6″	2′-4″					
P603	10	4′-5″	66	1	1′-7″	3′-0″					
P604	16	5′-2″	124	1	2′-4″	3′-0″					
P901	20	3′-8″	250	1	1′-7″	2′-4″					
P902	10	3′-0″	102	STR							
P1001*	6	38′-10″	1003	STR							
P1003	12	39′-8″	2049	1	38′-1″	1′-11″					
		SUB-TOTAL	5588								

STAGE 2 CONSTRUCTION

MARK	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
PIERS											
P501	192	3′-10″	768	1	1′-8″	2′-4″					
P502	40	4′-0″	167	1	1′-11″	2′-4″					
P504	8	9′-1″	76	3	2′-8″	1′-6″					
P505	19	9′-4″	185	3	2′-8″	1′-8″					
P506	12	8′-8″	109	3	2′-8″	1′-4″					
P507	6	8′-1″	51	3	2′-8″	1′-0″					
P508	13	7′-9″	105	3	2′-8″	0′-10″					
P511	9	10′-3″	96	3	2′-8″	2′-1″					
P512	14	9′-7″	140	3	2′-8″	1′-10″					
P515	9	10′-8″	100	3	2′-8″	2′-4″					
P516	9	10′-1″	95	3	2′-8″	2′-0″					
P517	14	8′-8″	127	3	2′-8″	1′-4″					
P520	1	7′-3″	8	3	2′-5″	0′-10″					
P521	1	5′-11″	6	3	1′-9″	0′-10″					
P522	1	8′-10″	9	3	2′-5″	1′-8″					
P523	1	7′-6″	8	3	1′-9″	1′-8″					
P524	1	8′-2″	9	3	2′-5″	1′-4″					
P525	1	6′-10″	7	3	1′-9″	1′-4″					
P601	20	3′-9″	113	1	1′-7″	2′-4″					
P602	16	10′-6″	252	3	2′-6″	2′-4″					
P603	10	4′-5″	66	1	1′-7″	3′-0″					
P604	16	5′-2″	124	1	2′-4″	3′-0″					
P901	20	3′-8″	250	1	1′-7″	2′-4″					
P902	10	3′-0″	102	STR							
P1002*	6	15′-6″	400	16	14′-1″						
A1004	12	35′-11″	1855	1	34′-5″	1′-10″					
P1005	12	30′-0″	1549	STR							
P1006	6	39′-6″	1020	16	38′-1″						
		SUB-TOTAL	7797								

STAGE 1 CONSTRUCTION

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
APPROACH SLAB													
AS501**	26	26	52	24′-6″	1329	STR							
AS502**	57	57	114	30′-0″	3567	STR							
AS503**	2	2	4	17′-0″	71	19	15′-7″	1′-2″	0′-10″				
AS504**	2	2	4	4′-10″	20	19	3′-5″	1′-2″	0′-10″				
AS513**	55	55	110	17′-7″	2016	STR							
AS1001**	63	63	154	25′-11″	17174	16	24′-6″						
AS507	4	4	8	13′-3″	111	STR							
AS508	12	12	24	7′-4″	184	23	0′-11″	3′-3″	3′-0″			0′-2 ¾″	
AS509	2	2	4	10′-8″	45	STR							
AS510	8	8	16	10′-0″	167	STR							
AS511	4	4	8	5′-9″	48	25	1′-10″	2′-5″	1′-5″	0′-1 ½″	0′-5″		
AS512	4	4	8	5′-8″	47	STR							
AS601	12	12	24	3′-5″	123	28	1′-9″	1′-0″					
AS602	12	12	24	2′-7″	93	1	1′-0″	1′-9″					
AS603	1	1	2	10′-8″	32	STR							
AS604	6	6	12	4′-0″	72	1	1′-0″	3′-2″					
AS605	2 SR OF 12	2 SR OF 12	4 SR OF 12	4′-1″ TO 4′-10″	321	1	1′-0″	3′-3″ TO 4′-0″					0′-0 ¾″
D801	25	25	50	6′-2″	824	18	4′-0″	1′-0″	1′-0″				
				SUB-TOTAL	2067								

STAGE 2 CONSTRUCTION

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS						
	REAR	FORWARD	TOTAL				A	B	C	D	E	R	INC
APPROACH SLAB													
AS501**	31	31	62	24′-6″	1584	STR							
AS504**	2	2	4	4′-10″	20	19	3′-5″	1′-2″	0′-10″				
AS505**	57	57	114	40′-0″	4756	STR							
AS506**	2	2	4	16′-8″	70	19	15′-3″	1′-2″	0′-10″				
AS514**	55	55	110	17′-2″	1974	STR							
AS1001**	77	77	154	25′-11″	17174	16	24′-6″						
AS507	4	4	8	13′-3″	111	STR							
AS508	12	12	24	7′-4″	184	23	0′-11″	3′-3″	3′-0″			0′-2 ¾″	
AS509	2	2	4	10′-8″	45	STR							
AS510	8	8	16	10′-0″	167	STR							
AS511	4	4	8	5′-9″	48	25	1′-10″	2′-5″	1′-5″	0′-1 ½″	0′-5″		
AS512	4	4	8	5′-8″	47	STR							
AS601	12	12	24	3′-5″	123	28	1′-9″	1′-0″					
AS602	12	12	24	2′-7″	93	1	1′-0″	1′-9″					
AS603	1	1	2	10′-8″	32	STR							
AS604	6	6	12	4′-0″	72	1	1′-0″	3′-2″					
AS605	2 SR OF 12	2 SR OF 12	4 SR OF 12	4′-1″ TO 4′-10″	321	1	1′-0″	3′-3″ TO 4′-0″					0′-0 ¾″
D801	30	30	60	6′-2″	989	18	4′-0″	1′-0″	1′-0″				
				SUB-TOTAL	2232								

NOTES

1. FOR BAR BEND DIAGRAMS, SEE SHEET 57/57 .
2. FOR REIFORCING STEEL NOTES, SEE SHEET 54/57 .

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED RJS | DRAWN DRH | REVIEWED SCT | DATE 4/15
CHECKED DRH | REVISED | STRUCTURE FILE NUMBER 4300459

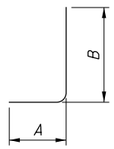
REINFORCING LIST (4 OF 5)

LAK-91-0456
SR-91 OVER SR-2

LAK-91-04.56
PID No. 85147

56 / 57

160 / 161



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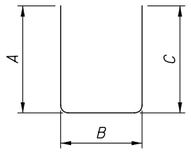

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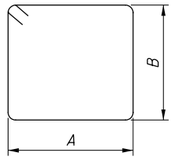

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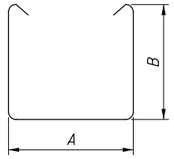

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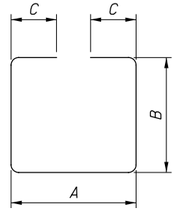

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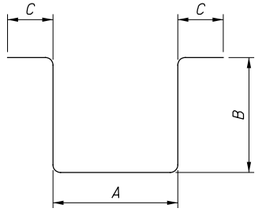
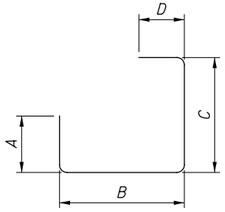


TYPE-6



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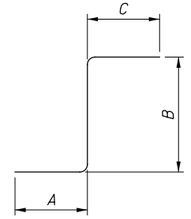

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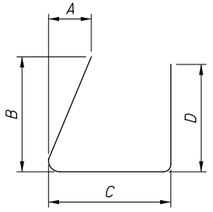

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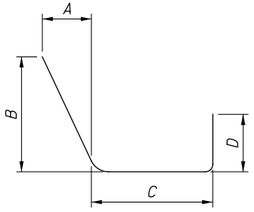

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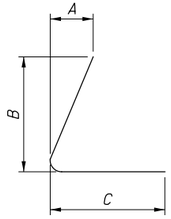

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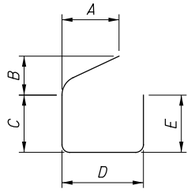

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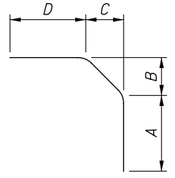

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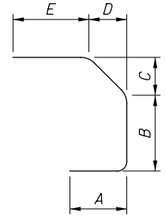

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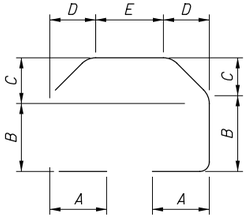

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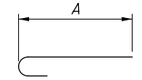
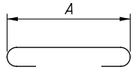
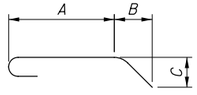


TYPE-16



TYPE-17



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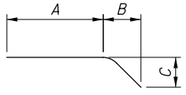

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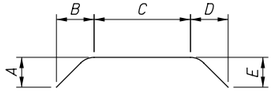

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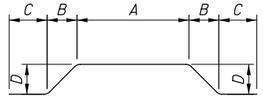

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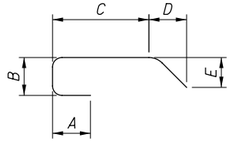

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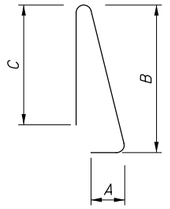

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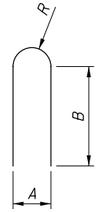

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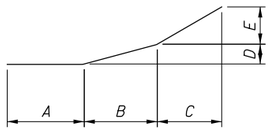

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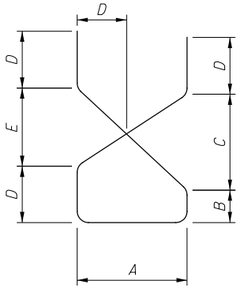

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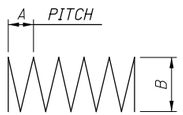
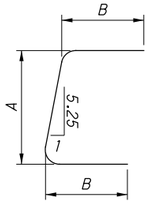


TYPE - 27



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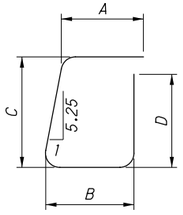

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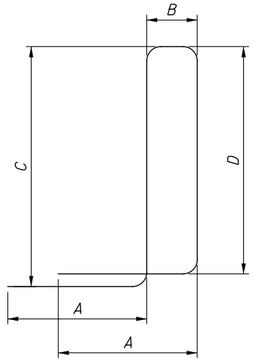

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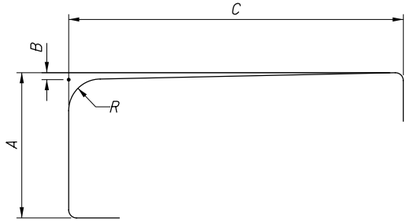
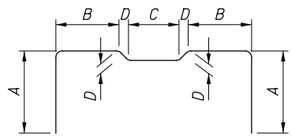


TYPE-31



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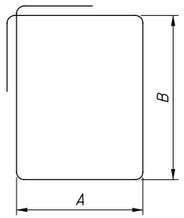

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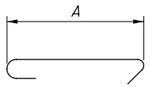

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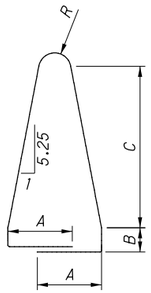

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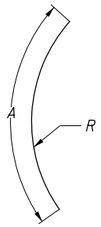
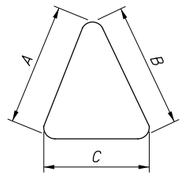


TYPE-36



TYPE-37

NOTES

1. FOR REIFORCING STEEL NOTES, SEE SHEET 54/57.

REINFORCING LIST (5 OF 5)

LAK-91-0456
SR-91 OVER SR-2

Mannik Smith GROUP
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DESIGNED	DRAWN	REVIEWED	DATE
RJS	DRH	SCT	4/15
CHECKED	REVISED	STRUCTURE FILE NUMBER	
TLR		4300459	

LAK-91-04.56
PID No. 85147

57 / 57

161
161

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