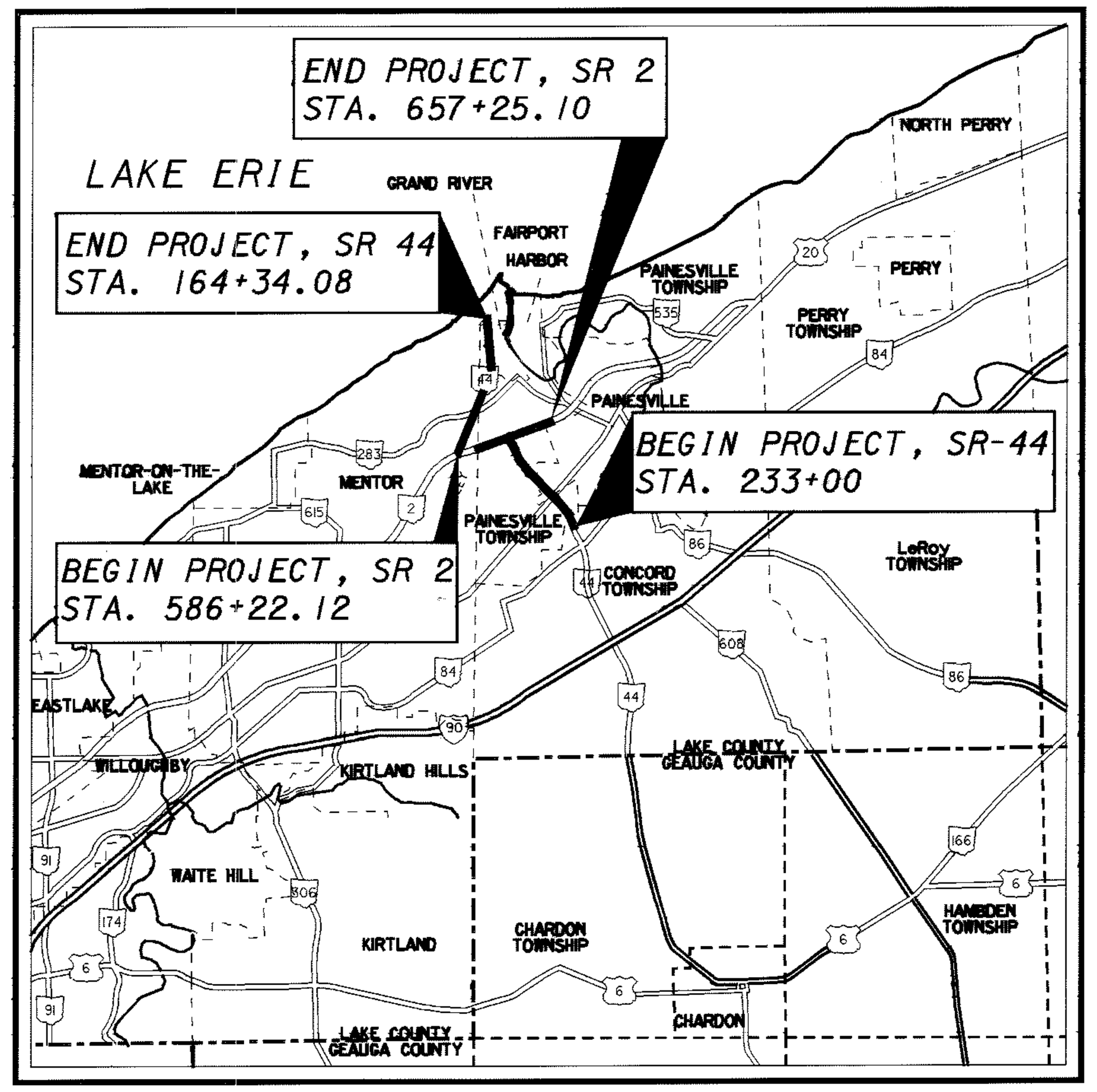
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LAK-2/ 44-13.05/ 4.14

CITY OF MENTOR
CITY OF PAINESVILLE
VILLAGE OF GRAND RIVER
PAINESVILLE TOWNSHIP
CONCORD TOWNSHIP

LAKE COUNTY



LOCATION MAP

LATITUDE: N 41°-43'-18" LONGITUDE: W 81°-16'-57"

SCALE IN MILES

0 1 2 3

N

PORTION TO BE IMPROVED................

STATE & FEDERAL ROUTES................

OTHER ROADS...........................

DESIGN DESIGNATION	SR-2	SR-44	SR-44(N)
CURRENT ADT (2002).............	52,450	20,830	19,160
DESIGN YEAR ADT (2022).........	67,520	27,450	23,710
DESIGN HOURLY VOLUME (2019).....	6,752	2,745	2,371
DIRECTIONAL DISTRIBUTION..........	62%	62%	62%
TRUCKS (24 HOUR B&C)...............	4%	9.5%	10.5%
DESIGN SPEED...................	60 MPH	60 MPH	60 MPH
LEGAL SPEED....................	60 MPH	60 MPH	50 MPH

DESIGN FUNCTIONAL CLASSIFICATION - FREEWAY (URBAN)

DESIGN EXCEPTIONS: NONE REQUIRED

INDEX OF SHEETS:

PROJECT DESCRIPTION:

IMPROVEMENT OF 4.89 MILES OF S.R. 44 FROM JUST NORTH OF S.R. 84 TO S.R. 2 AND FROM S.R. 2 TO HEADLANDS ROAD ALONG WITH S.R. 2 FROM THE MENTOR EAST CORP. LIMIT TO THE PAINESVILLE WEST CORP. LIMIT, 1.80 MILES, BY RESURFACING THE ROADWAY.

INCIDENTAL CONSTRUCTION CONSIST OF WIDENING RAMPS AT S.R. 283 AND JACKSON ST., STRIPING, MINOR SIGN WORK AND MINOR BRIDGE WORK.

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 REVISED CODE OF OHIO.

1997 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 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH IN THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (H) OF THE OHIO REVISED CODE, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

UNDERGROUND UTILITIES

TWO WORKING DAYS BEFORE YOU DIG

CALL 1-800-362-2764 (TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS MUST BE CALLED DIRECTLY

PLAN PREPARED BY:

OHIO DEPARTMENT OF TRANSPORTATION DISTRICT 12 LOCATION & DESIGN

STATE OF OHIO — REGISTERED PROFESSIONAL ENGINEER — E-57390

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	
BP-2.1	07-28-00	GR-3.2M	10-21-97	HL-10.11M	05-01-95	TC-51.11	04-20-01	MT-95.30M	04-25-94	806	9-9-97
BP-2.2	07-28-00	GR-3.3M	10-21-97	HL-10.12	07-20-01	TC-51.12	04-20-01	MT-98.12M	06-24-93	825	7-11-00
BP-2.5	07-28-00	GR-3.4M	10-21-97	HL-50.11	07-20-01	TC-52.10	04-20-01	MT-98.13M	06-24-93	828	12-14-00
BP-3.1	07-28-00	GR-4.2M	10-21-97	HL-60.11	07-20-01	TC-52.20	04-20-01	MT-98.14M	06-24-93	830	10-21-98
BP-4.1	07-28-00			HL-60.12	07-20-01			MT-98.15M	06-24-93	842	1-6-99
BP-5.1	07-28-00	RM-4.2M	10-21-97			TC-61.10	01-19-01	MT-98.16M	06-24-93	844	1-6-99
BP-7.1	07-28-00	RM-4.3M	10-21-97			TC-65.10M	11-01-95	MT-98.17M	04-25-94	847	6-30-98
BP-9.1	07-28-00	RM-4.5M	10-21-97	TC-12.30	01-19-01	TC-65.11M	11-01-95	MT-98.18M	04-25-94	848	6-30-98
F-1.1	07-28-00			TC-21.20	01-19-01			MT-99.20M	01-30-95	870	3-27-01
F-3.1	07-28-00	CB-1.1	07-20-01	TC-22.10	01-19-01	TC-71.10M	09-01-93	MT-105.10M	04-25-94	877	4-13-99
F-3.3	07-28-00	CB-2.2	07-20-01	TC-22.20	01-19-01	TC-72.20	01-19-01	MT-105.11M	04-25-94	880	11-7-00
F-3.4	07-28-00	CB-3.2	07-20-01	TC-31.21	04-20-01					889	9-14-99
				TC-32.10M	03-31-94	TC-82.10	01-19-01	AS-1-81	04-20-01	899	10-21-98
GR-1.1M	10-21-97	MH-1.2	07-20-01					EXJ-4-87	04-20-01	906	5-5-98
GR-1.2M	01-03-96			TC-41.10	01-19-01			PCB-91	07-06-99	908	11-7-00
GR-1.3M	11-30-94	DM-1.1	07-20-01	TC-41.20	01-19-01	MT-35.10	04-20-01	SBR-1-99	01-12-99	925	9-14-99
GR-2.1M	04-14-98	DM-1.2	07-20-01	TC-42.10	01-19-01			TBR-91M	12-19-94	932	10-2-96
GR-3.1M	10-21-97	DM-4.4	07-20-01	TC-42.20	04-20-01			VPF-1-90M	03-20-95	954	9-9-97

APPROVED [signature]
DATE 22 AUG 2001 DISTRICT DEPUTY DIRECTOR

APPROVED [signature: Gordon Proctor]
DATE 10-10-01 DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. TE21 G010 (151)

PID NO. 18391

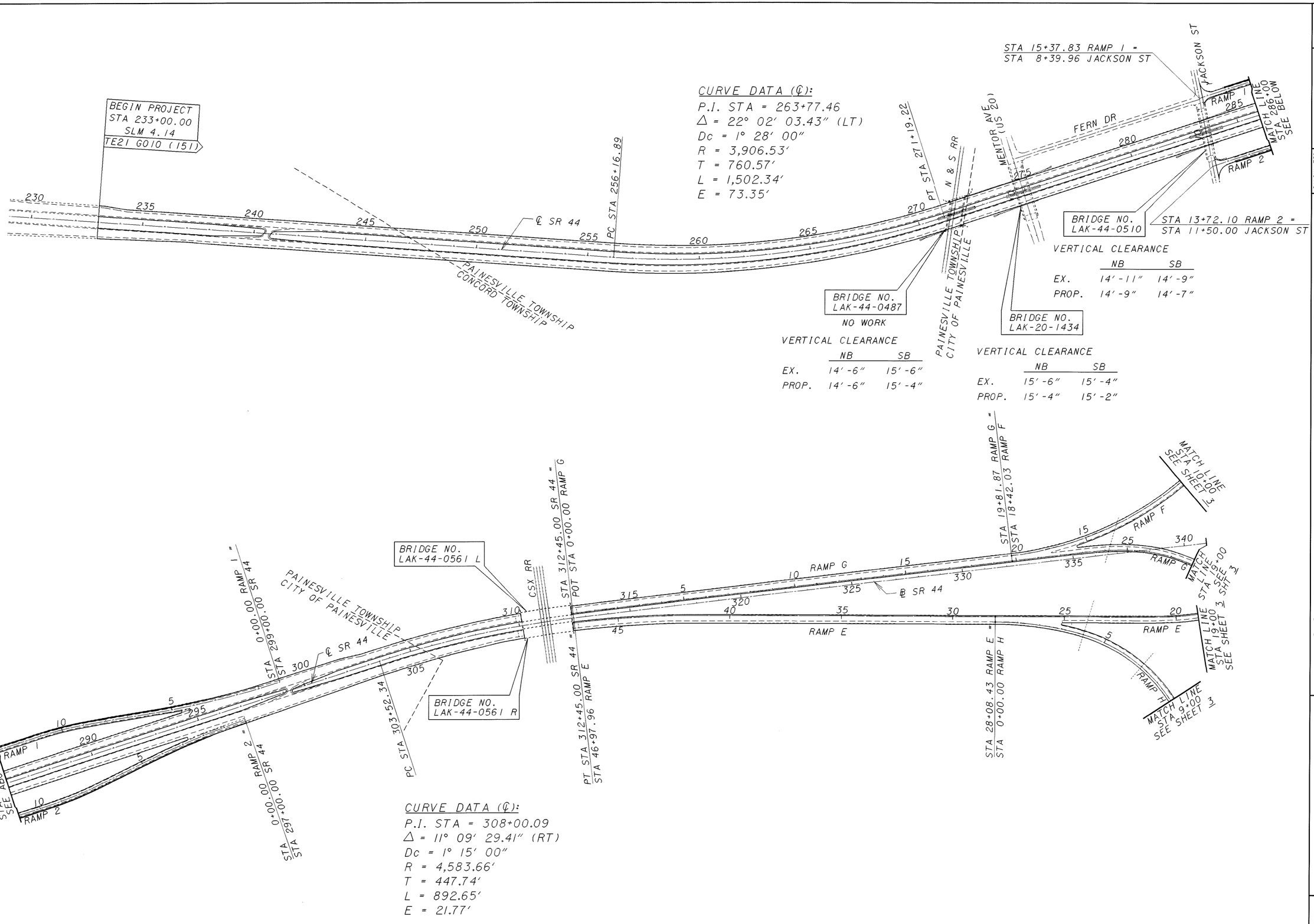
CONSTRUCTION PROJECT NO.

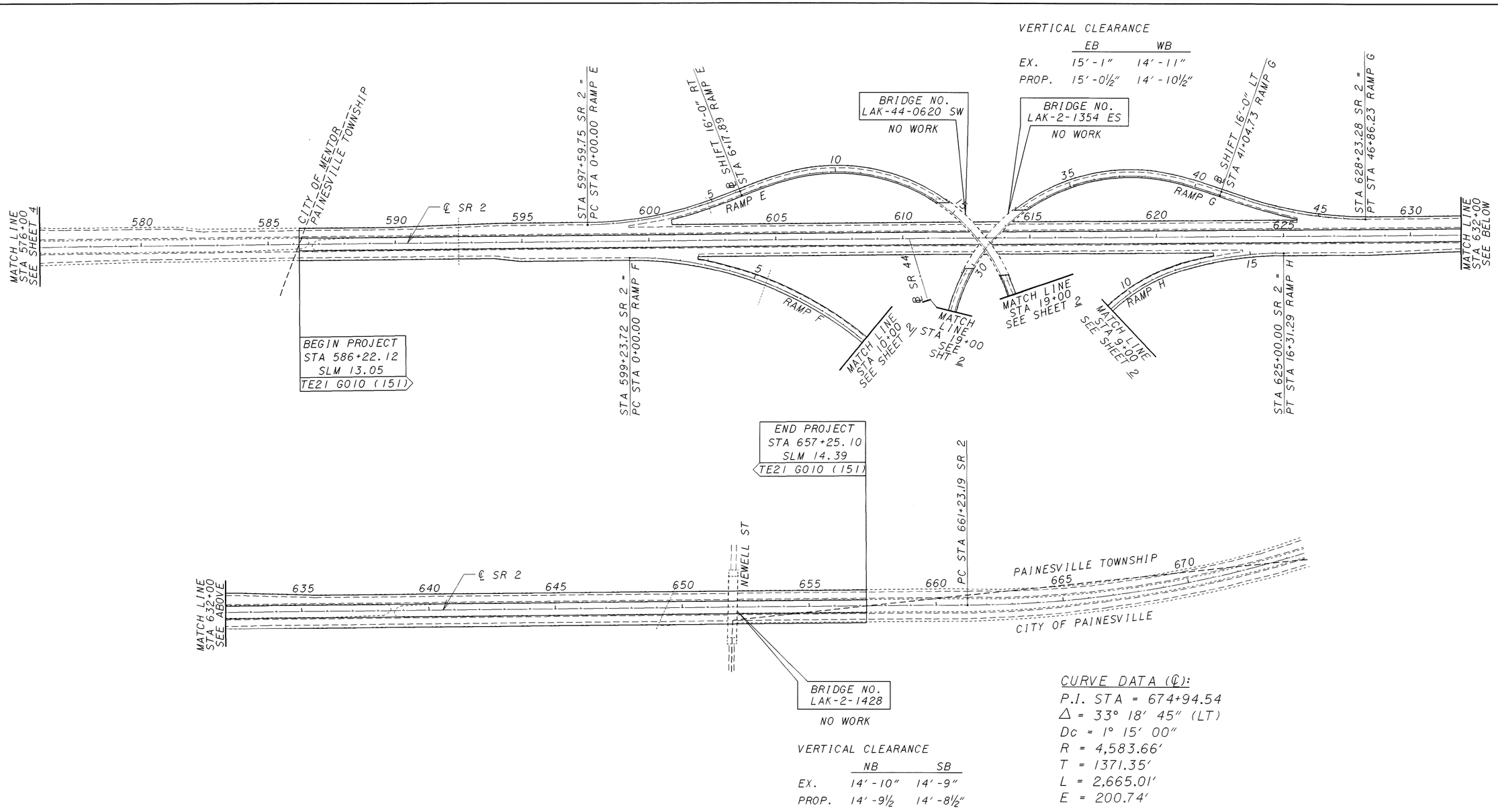
RAILROAD INVOLVMENT NONE

LAKE COUNTY
LAK-2/ 44-13.05/ 4.14

LAK - SR 2/44 - 13.05/4.14
02007 PID - 18391
Dist 12 1/9/2002

PLOTTED FROM: I:\PROJECTS\P:d18391\dgn\18391gta.dgn


BEGIN PROJECT
STA 233+00.00
SLM 4.14
TE21 GO10 (151)
CURVE DATA (℄):
P.I. STA = 263+77.46
Δ = 22° 02′ 03.43″ (LT)
Dc = 1° 28′ 00″
R = 3,906.53′
T = 760.57′
L = 1,502.34′
E = 73.35′
PC STA 256+16.89
PT STA 271+19.22
℄ SR 44
PAINESVILLE TOWNSHIP
CONCORD TOWNSHIP
PAINESVILLE TOWNSHIP
CITY OF PAINESVILLE
N & S RR
MENTOR AVE (US 20)
JACKSON ST
FERN DR
STA 15+37.83 RAMP I =
STA 8+39.96 JACKSON ST
STA 13+72.10 RAMP 2 =
STA 11+50.00 JACKSON ST
RAMP I
RAMP 2
MATCH LINE STA 286+00 SEE ABOVE
BRIDGE NO. LAK-44-0487
NO WORK
VERTICAL CLEARANCE
NB SB
EX. 14′-6″ 15′-6″
PROP. 14′-6″ 15′-4″
BRIDGE NO. LAK-20-1434
VERTICAL CLEARANCE
NB SB
EX. 15′-6″ 15′-4″
PROP. 15′-4″ 15′-2″
BRIDGE NO. LAK-44-0510
VERTICAL CLEARANCE
NB SB
EX. 14′-11″ 14′-9″
PROP. 14′-9″ 14′-7″
BRIDGE NO. LAK-44-0561 L
BRIDGE NO. LAK-44-0561 R
CSX RR
0+00.00 RAMP 1 = STA 299+00.00 SR 44
0+00.00 RAMP 2 = STA 297+00.00 SR 44
STA 312+45.00 SR 44 = POT STA 0+00.00 RAMP G
PT STA 312+45.00 SR 44 = STA 46+97.96 RAMP E
PC STA 303+52.34
STA 19+81.87 RAMP G = STA 18+42.03 RAMP F
STA 28+08.43 RAMP E = STA 0+00.00 RAMP H
RAMP E
RAMP F
RAMP G
RAMP H
MATCH LINE STA 10+00 SEE SHEET 3
MATCH LINE STA 19+00 SEE SHEET 3
MATCH LINE STA 9+00 SEE SHEET 3
CURVE DATA (℄):
P.I. STA = 308+00.09
Δ = 11° 09′ 29.41″ (RT)
Dc = 1° 15′ 00″
R = 4,583.66′
T = 447.74′
L = 892.65′
E = 21.77′
SCALE IN FEET
0 200 400
CALCULATED EMK
CHECKED LDH
SCHEMATIC PLAN SHEET - S.R. 44
STA. 229+00 TO STA. 341+00
LAKE COUNTY
LAK-2/44-13.05/4.14
2
93
PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391qba.dgn



SCALE IN FEET 0 200 400

CALCULATED EMK
CHECKED LDH

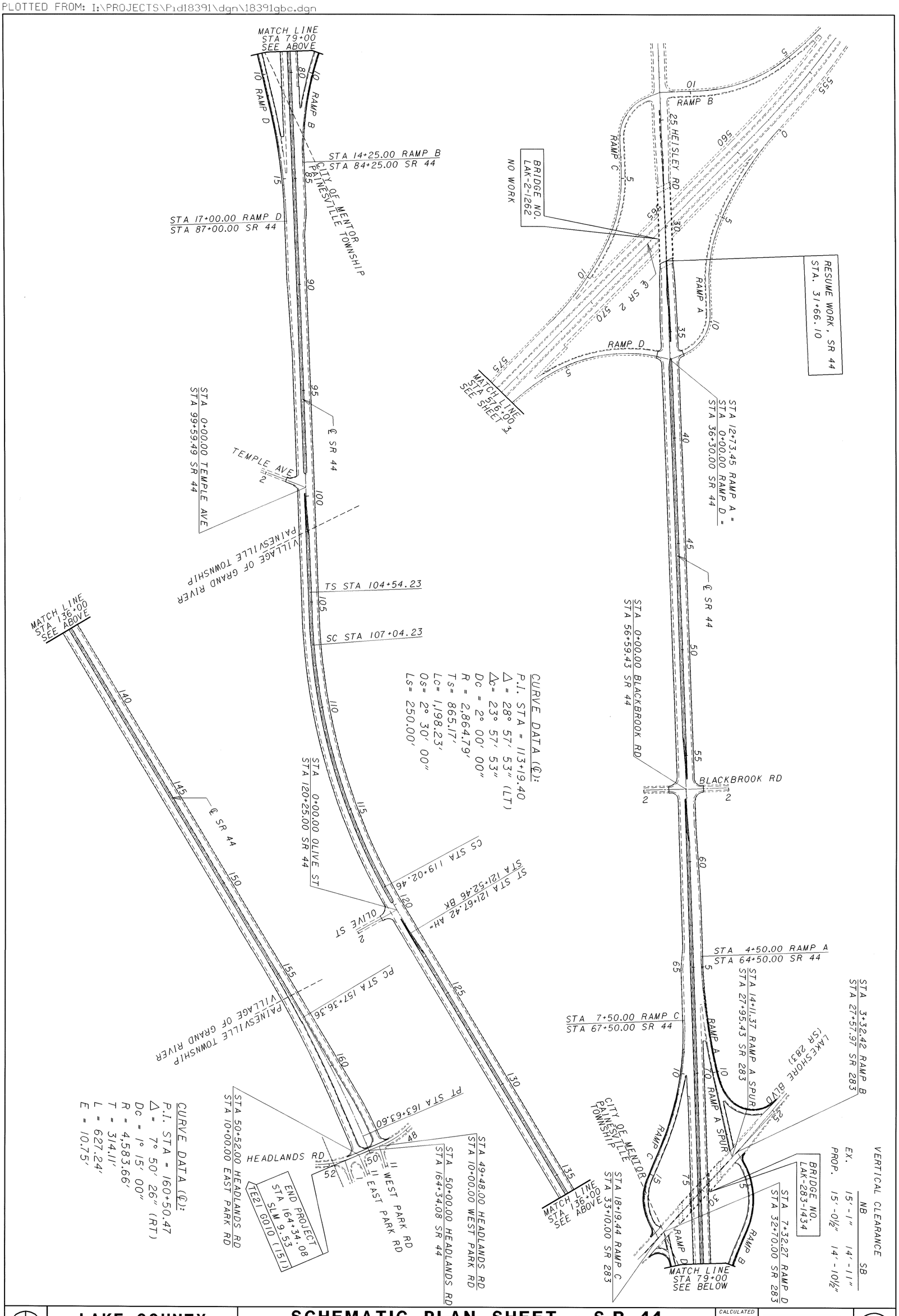
SCHEMATIC PLAN SHEET - S.R. 2
STA. 586+22.12 TO STA. 657+25.10

LAKE COUNTY
LAK-2/44-13.05/4.14

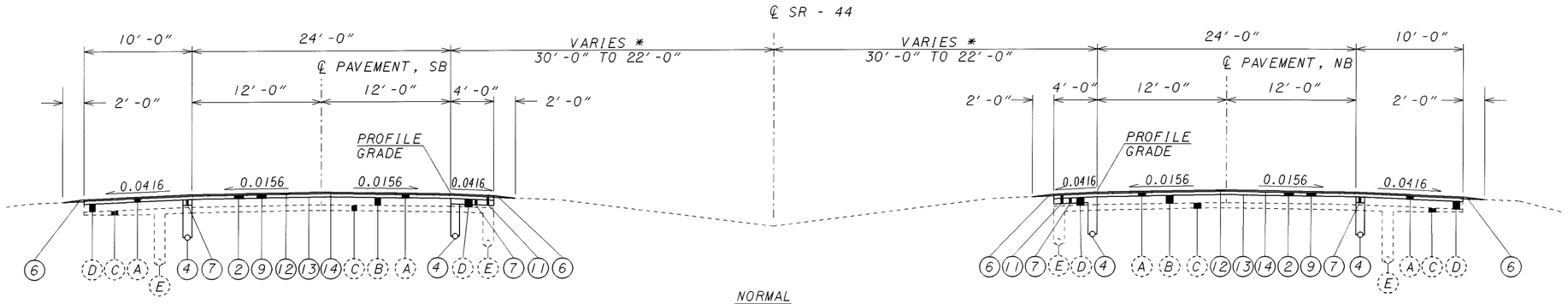
3
93

PLOTTED FROM: I:\PROJECTS\P:d18391\dgn\18391gpb.dgn

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391gbc.dgn



93 / 4	LAKE COUNTY LAK-2/44-13.05/4.14	SCHEMATIC PLAN SHEET - S.R. 44 STA. 31+66.10 TO STA. 164+34.08	CALCULATED EMK CHECKED LDH	0 200 400 SCALE IN FEET



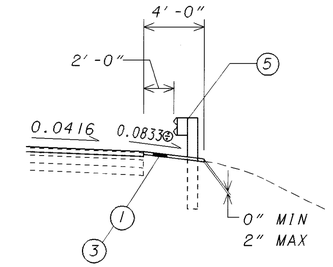
NORMAL

STA. 233+00.00 TO STA. 254+41.89 = 2,141.89 LIN. FT.
STA. 272+94.23 TO STA. 301+77.35 = 2,883.12 LIN. FT.

STA. 3+00.00 TO STA. 18+00.00 = 1,500.00 LIN. FT. RAMP G

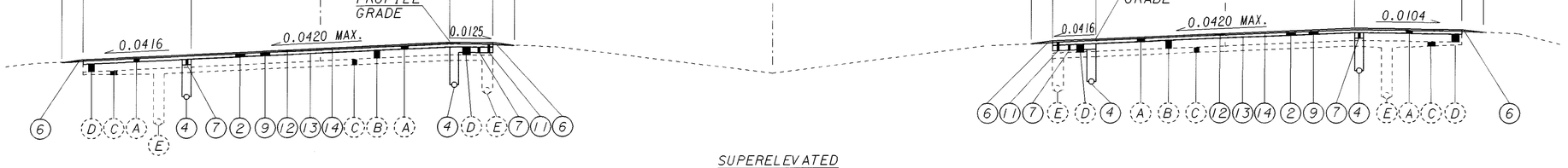
STA. 29+00.00 TO STA. 39+67.51 = 1,067.51 LIN. FT. RAMP E

* - VARIES FROM 30′-0″ TO 22′-0″
STA 255+75.80 TO STA 271+19.23



TYPICAL SHOULDER TREATMENT
GUARDRAIL AND NO CURB

(5) - THE 4′-0″ OF ASPHALT UNDER GUARDRAIL ADJACENT TO THE PROPOSED TYPE E-98 ANCHOR ASSEMBLY (50′±) SHALL HAVE NO SLOPE.



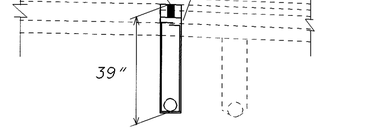
SUPERELEVATED

STA. 254+41.89 TO STA. 272+94.23 = 1,852.34 LIN. FT.
STA. 301+77.35 TO STA. 310+14.33 = 836.98 LIN. FT. ≠
(BRIDGE NO. LAK-44-0561 L&R)
STA. 312+38.33 TO STA. 312+45.00 BK = 6.67 LIN. FT. ≠

STA. 0+00.00 TO STA. 3+00.00 = 300.00 LIN. FT. RAMP G ≠

STA. 39+67.51 TO STA. 46+97.96 = 730.45 LIN. FT. RAMP E ≠

≠ APPROACH SLAB SIMILAR TO TYPICAL EXCEPT (B) IS 14″



ITEM 605 - 6″ SHALLOW PIPE UNDERDRAIN, WITH FABRIC WRAP, AS PER PLAN

PROPOSED

(1) ITEM 203 - LINEAR GRADING, METHOD A
(2) ITEM 202 - WEARING COURSE REMOVED
(3) ITEM 448 - 3″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22, (UNDER GUARDRAIL)
(4) ITEM 605 - 6″ SHALLOW PIPE UNDERDRAIN, WITH FABRIC WRAP, AS PER PLAN
(5) ITEM 606 - GUARDRAIL, TYPE 5
(6) ITEM 617 - COMPACTED AGGREGATE, TYPE A, AS PER PLAN
(7) ITEM 301 - BITUMINOUS AGGREGATE BASE, PG64-22, (6″ DEEP)
(8) ITEM 858 - 2″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
(9) ITEM 858 - 3-1/2″ ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)
(10) ITEM 304 - 6″ AGGREGATE BASE, AS PER PLAN
(11) ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
(12) ITEM 858 - 1-1/2″ ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
(13) ITEM 407 - TACK COAT
(14) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

EXISTING

(A) ASPHALT OVERLAY (3″±)
(B) 9″ REINFORCED CONCRETE BASE
(C) SUBBASE
(D) BIT. AGGREGATE BASE OR AGGREGATE BASE
(E) UNDERDRAIN
(F) 10″ REINFORCED CONCRETE BASE

CALCULATED EMK
CHECKED LDH

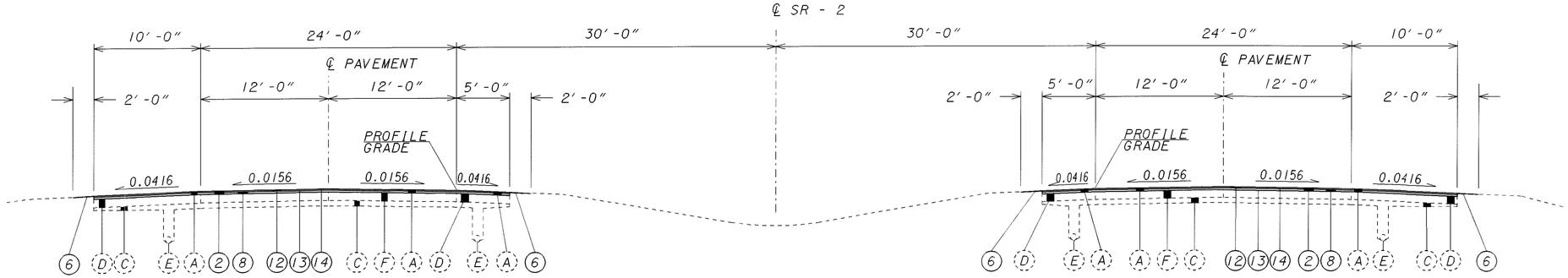
0 6 12
SCALE IN FEET

TYPICAL SECTIONS - S.R. 44

LAKE COUNTY
LAK-2/44-13.05/4.14

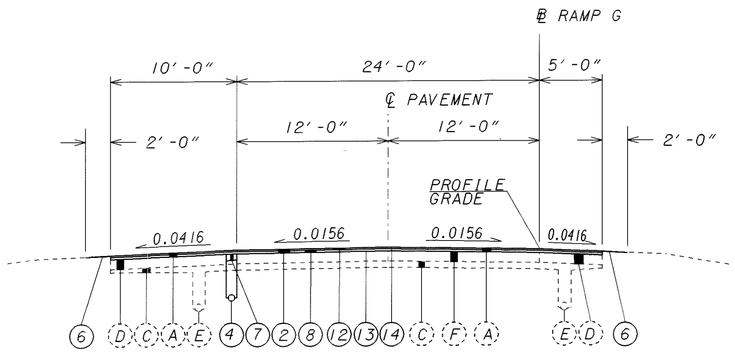
5
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gya.dgn



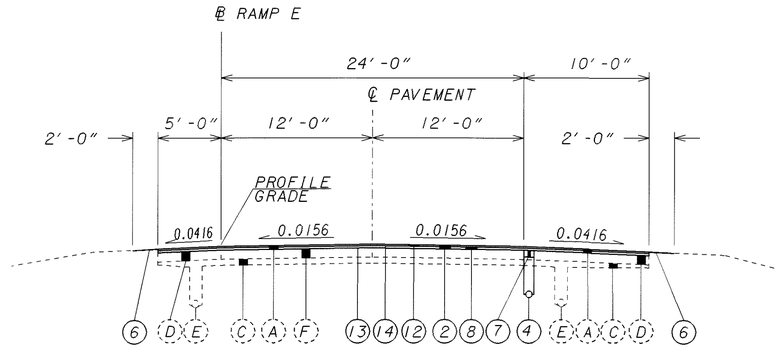
NORMAL

STA. 586+22.12 TO STA. 657+25.10 = 7,102.98 LIN. FT.



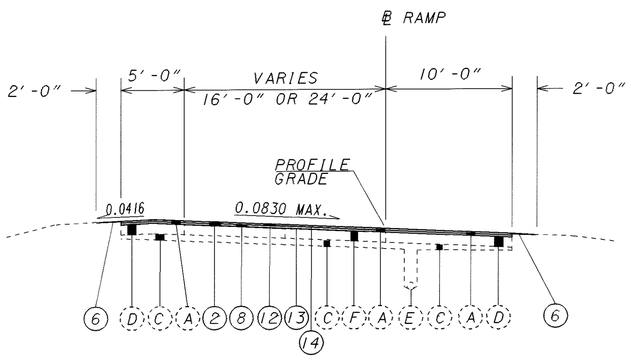
NORMAL

STA. 18+00.00 TO STA. 19+81.87 = 181.87 LIN. FT. RAMP G



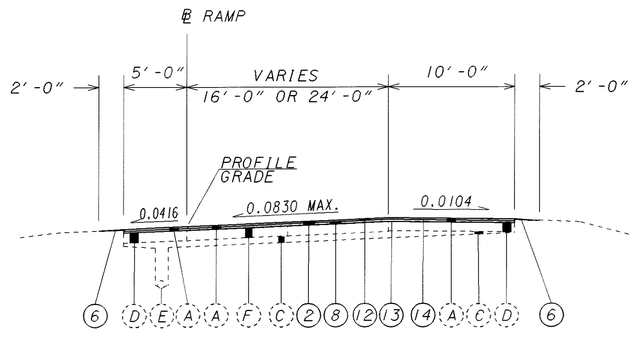
NORMAL

STA. 28+08.43 TO STA. 29+00.00 = 91.57 LIN. FT. RAMP E



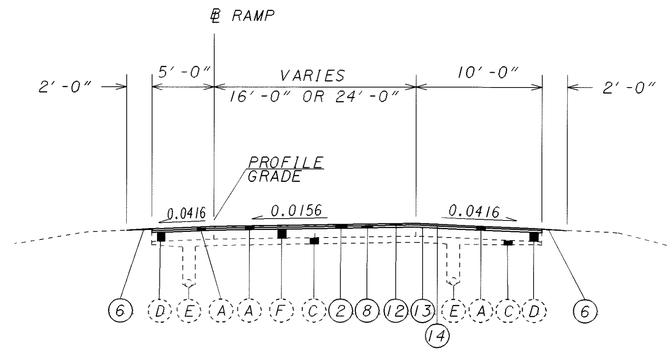
SUPERELEVATED (RIGHT)

STA. 1+50.00 TO STA. 6+17.89 = 467.89 LIN. FT. RAMP E
STA. 41+04.73 TO STA. 45+75.00 = 470.27 LIN. FT. RAMP G
STA. 1+16.69 TO STA. 16+65.33 = 1,548.64 LIN. FT. RAMP F
STA. 1+50.00 TO STA. 14+50.00 = 1,300.00 LIN. FT. RAMP H



SUPERELEVATED (LEFT)

STA. 6+17.89 TO STA. 14+24.44 = 806.55 LIN. FT. RAMP E
BRIDGE NO. LAK-44-0620 SW
STA. 18+16.20 TO STA. 21+85.06 = 368.86 LIN. FT. RAMP E
STA. 22+35.00 TO STA. 29+83.76 = 748.76 LIN. FT. RAMP G
BRIDGE NO. LAK- 2-1354 ES
STA. 33+03.27 TO STA. 41+04.73 = 801.46 LIN. FT. RAMP G



NORMAL

STA. 21+85.06 TO STA. 28+08.43 = 91.58 LIN. FT. RAMP E
STA. 19+81.87 TO STA. 22+35.00 = 253.13 LIN. FT. RAMP G

SEE SHEET 5 FOR LEGEND

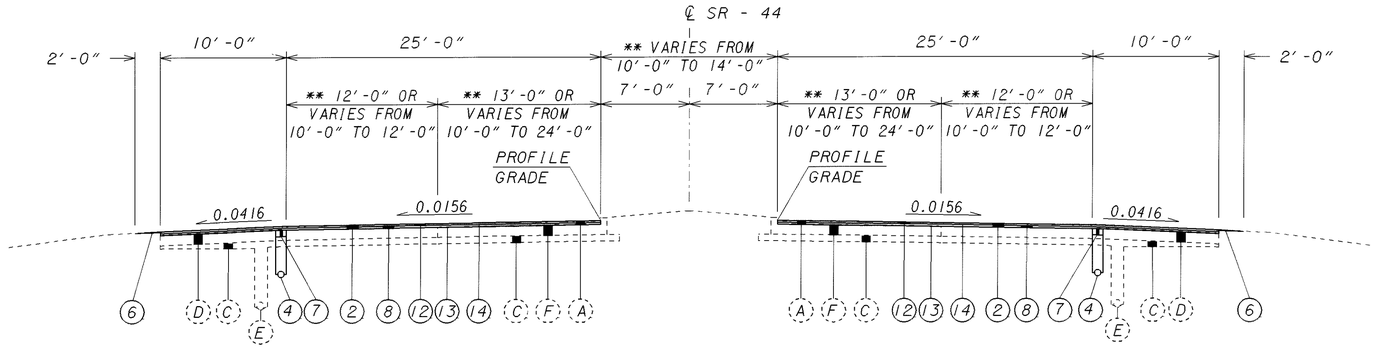
CALCULATED EMK
CHECKED LDH

SCALE IN FEET 0 6 12

TYPICAL SECTIONS - S.R. 2

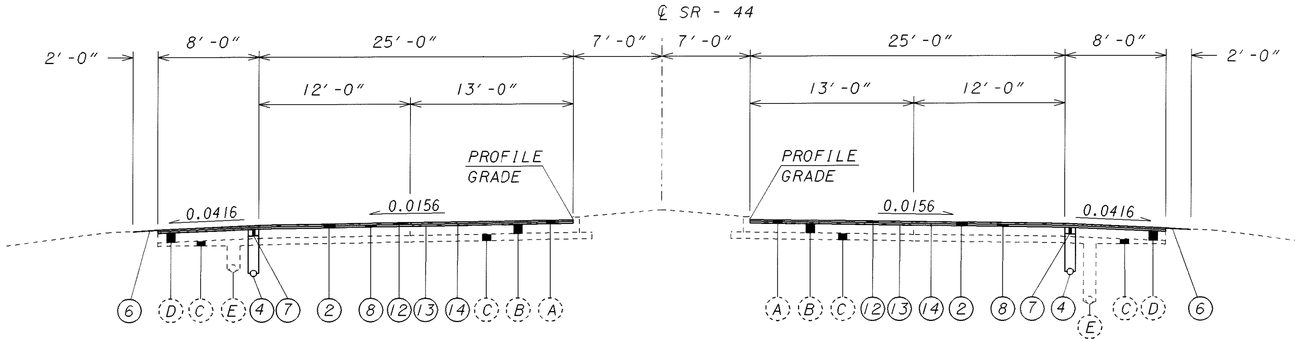
LAKE COUNTY
LAK-2/44-13.05/4.14

6
93



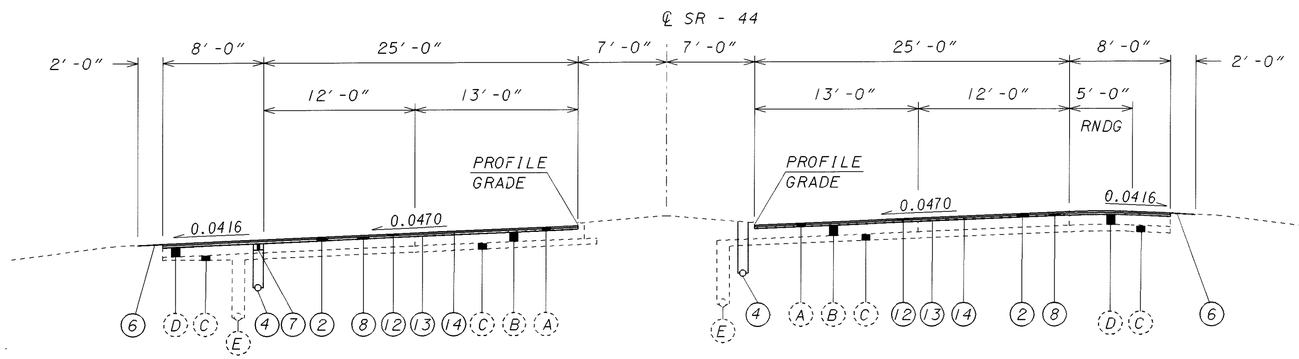
NORMAL

STA. 31+66.10 TO STA. 36+99.10 = 533.00 LIN. FT.
** - STA. 31+66.10 TO STA. 36+72.67



NORMAL

STA. 36+99.10 TO STA. 102+98.23 = 6,599.13 LIN. FT.
STA. 123+08.46 TO STA. 157+50.00 = 3,441.54 LIN. FT.



SUPERELEVATED

STA. 102+98.23 TO STA. 123+08.46 = 2,010.23 LIN. FT.

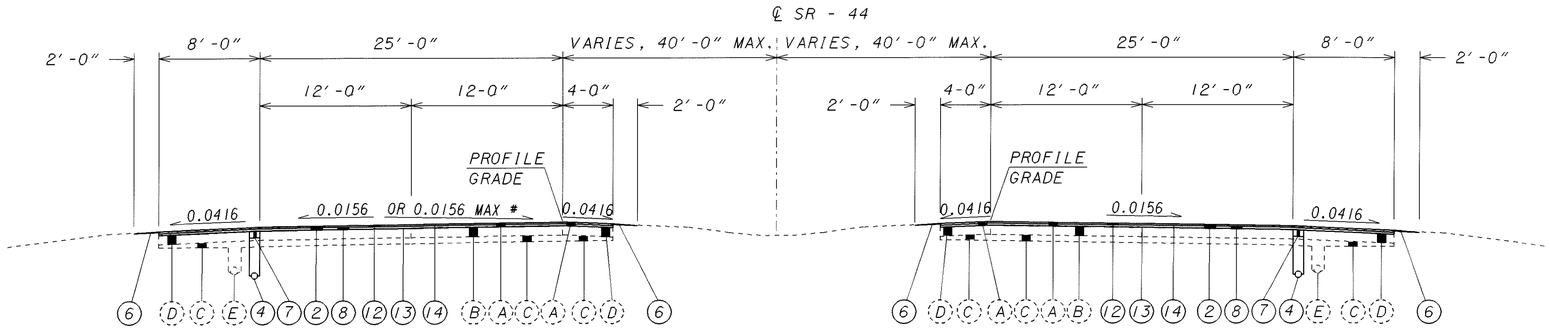
SEE SHEET 5 FOR LEGEND

CALCULATED EMK
CHECKED LDH

0 6 12
SCALE IN FEET

TYPICAL SECTIONS - S.R. 44

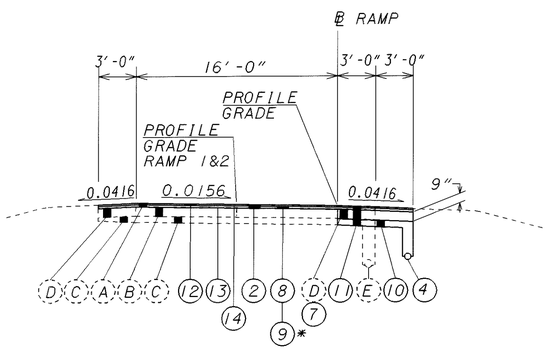
LAKE COUNTY
LAK-2/44-13.05/4.14



NORMAL

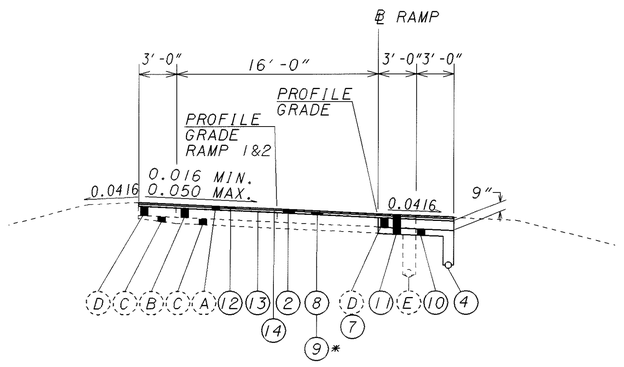
STA. 157+50.00 TO STA. 163+75.00 = 625.00 LIN. FT.

- FROM STA 159+63 TO STA 163+75



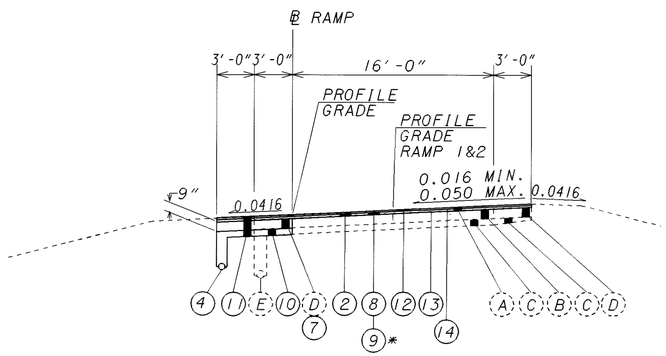
NORMAL RAMP SECTION

STA. 5+18.56 TO STA. 7+05.00 = 186.44 LIN. FT. RAMP 1*
STA. 3+75.00 TO STA. 6+00.00 = 225.00 LIN. FT. RAMP 2*
STA. 10+75.00 TO STA. 13+15.34 = 240.34 LIN. FT. RAMP 2*
STA. 11+43.90 TO STA. 13+54.44 = 210.54 LIN. FT. RAMP A SPUR
STA. 7+77.68 TO STA. 11+25.00 = 347.32 LIN. FT. RAMP D



SUPERELEVATED RAMP SECTION (RIGHT)

STA. 4+66.67 TO STA. 5+18.56 = 51.89 LIN. FT. RAMP 1*
STA. 6+00.00 TO STA. 10+75.00 = 475.00 LIN. FT. RAMP 2*
STA. 6+76.56 TO STA. 13+07.20 = 630.64 LIN. FT. RAMP A
STA. 3+94.22 TO STA. 7+50.00 = 355.78 LIN. FT. RAMP B
STA. 10+04.99 TO STA. 14+00.00 = 395.01 LIN. FT. RAMP C
STA. 11+25.00 TO STA. 14+73.44 = 348.44 LIN. FT. RAMP D



SUPERELEVATED RAMP SECTION (LEFT)

STA. 2+75.00 TO STA. 3+75.00 = 100.00 LIN. FT. RAMP 2*
STA. 7+50.00 TO STA. 11+70.01 = 420.01 LIN. FT. RAMP B
STA. 14+00.00 TO STA. 17+41.57 = 341.57 LIN. FT. RAMP C

SEE SHEET 5 FOR LEGEND
SEE SHEET 50B FOR ADDITIONAL RAMP I TYPICALS

CALCULATED EMK
CHECKED LDH

0 6 12
SCALE IN FEET

TYPICAL SECTIONS - S.R. 44

LAKE COUNTY
LAK-2/44-13.05/4.14

8
93

GENERAL

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RESURFACING OF SR 2 AND SR 44 AT THE LOCATIONS DETAILED IN THE PLANS. PARTIAL AND FULL DEPTH PAVEMENT REPAIRS, PAVEMENT MARKINGS, GUARDRAIL REPLACEMENT, MINOR BRIDGE WORK AND RAISED PAVEMENT MARKERS ARE ALSO INCLUDED.

RIGHT OF WAY

ALL WORK SHALL BE PERFORMED WITHIN THE EXISTING RIGHT OF WAY OR EASEMENTS.

EXISTING TYPICAL SECTIONS

EXISTING TYPICAL SECTIONS HAVE BEEN TAKEN FROM THE 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

OHIO DEPARTMENT TRANSPORTATION
DISTRICT 12 OFFICE
5500 TRANSPORTATION BOULEVARD
GARFIELD HEIGHTS, OHIO 44125

CONVERSION OF METRIC STANDARD DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 1997 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

EQUIPMENT AND MATERIAL STORAGE

IN ORDER TO PROVIDE FOR THE SAFETY OF THE TRAVELING PUBLIC THE CONTRACTOR'S ATTENTION IS DIRECTED TO 614.03. IN ADDITION THE FOLLOWING PROVISIONS SHALL APPLY:

1) ANY REMOVED ITEMS SHALL NOT BE STORED ON THE RIGHT OF WAY FOR MORE THAN THIRTY DAYS.

2) THE STORAGE OF EQUIPMENT, MATERIALS, AND VEHICLES WITHIN THE HIGHWAY RIGHT OF WAY WILL BE PERMITTED. THE NUMBER OF AREAS AND EXACT LOCATIONS SHALL BE APPROVED BY THE ENGINEER.

3) ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE STATE.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ITEM 806 - FIELD OFFICE, TYPE C

A TYPE C FIELD OFFICE IS REQUIRED FOR THIS PROJECT.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U. S. G. S. DATUM.

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELING PUBLIC RESULTS THERE FROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING, BY THE DIRECTOR.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL COOPERATE AND COORDINATE HIS/HER OPERATIONS WITH THE CONTRACTORS ON OTHER PROJECTS THAT MAY BE IN FORCE DURING THE LIFE OF THE CONTRACT. NO WAIVER OF ANY PROVISIONS OF 105.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS IS INTENDED.

THE CONTRACTOR IS INFORMED THAT A CONSTRUCTION PROJECT ON SR - 2 IN THE CITY OF MENTOR (LAK-2-6.12, PID 19530) ADJACENT TO THE SUBJECT PROJECT MY BE UNDER CONSTRUCTION AT THE SAME TIME. ALL MOT PROVISIONS SHALL BE COORDINATED WITH THIS PROJECT.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT. THE OHIO DEPARTMENT OF TRANSPORTATION HAS USED THE BEST AVAILABLE INFORMATION TO DETERMINE THE UTILITY COMPANIES SERVING THIS AREA, BUT CANNOT GUARANTEE THE UTILITY COMPANY LIST IS COMPLETE.

OHIO DEPARTMENT OF
TRANSPORTATION
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OHIO 44125
(216) 581-2100

AMERITECH
13630 LORAIN AVE. 4TH FLOOR
CLEVELAND, OH 44111
(216) 476-6142

CITY OF PAINESVILLE
SANITARY SEWERS
7 RICHMOND STREET
PAINESVILLE, OH 44077
(216) 352-9301

CITY OF PAINESVILLE
WATER
7 RICHMOND STREET
PAINESVILLE, OH 44077
(216) 352-9301

THE ILLUMINATING CO.
6896 MILLER RD
BRECKSVILLE, OH 44141
(440) 546-8748

CITY OF PAINESVILLE
ELECTRIC
7 RICHMOND STREET
PAINESVILLE, OH 44077
(216) 352-9301

EAST OHIO GAS CO.
1201 E. 55TH ST
CLEVELAND, OH 44103
(216) 736-6755

LAKE COUNTY DEPARTMENT
OF UTILITIES - SANITARY
ADMINISTRATION BUILDING
105 MAIN ST
PAINESVILLE, OH 44060
(216) 350-2649

LAKETRAN
555 LAKESHORE BLVD
PAINESVILLE, OH 44077
(440) 350-1000

ITEM 623 - CONSTRUCTION LAYOUT STAKES, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 623, THIS ITEM SHALL BE USED TO PROVIDE THE SURVEY OF THE ASPHALT BRIDGE TRANSITIONS AS REQUIRED BY THE NOTES ON SHEET 52.

PRIOR TO THE PLANING OF PAVEMENT BENEATH ALL OVERHEAD STRUCTURES, A LICENSED SURVEYOR SHALL MEASURE THE VERTICAL CLEARANCES AND DOCUMENT THE MEASUREMENTS ON AN APPROVED OHIO DEPARTMENT OF TRANSPORTATION FORM AVAILABLE FROM THE DISTRICT BRIDGE OFFICE. THE MEASUREMENTS SHALL BE TAKEN AT THE LOCATIONS INDICATED ON THE APPROVED ODOT FORM AND SUBMITTED TO THE PROJECT ENGINEER. AFTER THE NEW PAVING HAS BEEN COMPLETED, A REGISTERED SURVEYOR AGAIN SHALL TAKE VERTICAL CLEARANCE MEASUREMENTS AT LOCATIONS INDICATED ON THE APPROVED ODOT FORM. THESE FINAL MEASUREMENTS SHALL BE RECORDED ON THE FORM AND SUBMITTED TO THE PROJECT ENGINEER AND THE DISTRICT BRIDGE ENGINEER. THE RECORD SHALL BEAR THE STAMP OR SEAL OF THE LICENSED SURVEYOR WHO HAS TAKEN THE MEASUREMENTS AND WILL VERIFY THAT VERTICAL CLEARANCES HAVE BEEN PRESERVED.

CALCULATED EMK
CHECKED LDH

GENERAL NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

ROADWAY

ITEM 201 - CLEARING AND GRUBBING

THIS ITEM IS SPECIFICALLY INTENDED TO PROVIDE FOR THE REMOVAL OF TREES AND OTHER VEGETATION WHICH RESTRICTS SIGHT DISTANCE OR BLOCKS THE VIEW OF THE EXISTING OR PROPOSED SIGNS THROUGHOUT THIS PROJECT. THIS ITEM SHALL ALSO BE USED TO CLEAR TREES AND VEGETATION WHEN REPLACING FENCE. THIS ITEM OF WORK SHALL BE PERFORMED AT THE BEGINNING OF THE CONTRACT WORK.

NO TREE REMOVAL SHALL OCCUR BETWEEN APRIL 15 AND SEPTEMBER 15.

THE FOLLOWING QUANTITIES ARE FOR TREES SPECIFICALLY DETAILED ON THE PLAN SHEETS TO BE REMOVED:

SIZES	NO. TREES	NO. STUMPS	TOTAL
6"	60		60
12"	4		4

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 RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.1M. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

GUARDRAIL PROTECTION

NO SIGN SUPPORTS SHALL BE ERECTED BEFORE THE NECESSARY GUARDRAIL PROTECTION IS IN PLACE. SIMILARILY EXISTING GUARDRAIL WHICH PROTECTS AN OBSTRUCTION OR SLOPE WHICH IS TO BE UPGRADED TO ELIMINATE GUARDRAIL, SHALL NOT BE REMOVED UNTIL THAT WORK HAS BEEN COMPLETED. EXISTING GUARDRAIL WHICH IS SCHEDULED TO BE REPLACED WITH TYPE 5 GUARDRAIL, SHALL NOT BE REMOVED UNTIL THE NEW GUARDRAIL IS READY TO BE INSTALLED, UNDER NO CIRCUMSTANCES SHALL ANY HAZARD BE WITHOUT GUARDRAIL PROTECTION FOR MORE THAN 24 HOURS. (SEE PUBLIC SAFETY NOTE SHEET NO. 16)

TYPE 5 GUARDRAIL POST SPACING

WHEN THE OFFSET BETWEEN THE FACE OF THE GUARDRAIL AND BRIDGE PIERS, MAJOR SIGNS, SIGN SUPPORTS, OR OTHER FIXED OBSTACLES IS LESS THAN 5 FEET 6 INCHES THE GUARDRAIL SHALL BE STIFFENED BY PROVIDING 3 FEET 1.5 INCH POST SPACING FROM 12.5 FEET IN ADVANCE OF THE OBSTRUCTION TO ITS END, AS PER STANDARD DRAWING GR-2.1M COST SHALL BE INCLUDED IN THE TYPE 5A UNIT PRICE BID.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED, AS DIRECTED BY THE ENGINEER, IN PLACE OF TYPE 5 GUARDRAIL AS OUTLINED ABOVE:

ITEM 606-GUARDRAIL, TYPE 5A . . . . . 100 LIN.FT.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 203-LINEAR GRADING, AS PER PLAN A AND PAVING UNDER THE GUARDRAIL USING ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22, UNDER GUARDRAIL.

ITEM 203 - LINEAR GRADING, METHOD A SHALL CONSIST OF EXCAVATING TOPSOIL AND PLACING MATERIAL AS SPECIFIED IN THE PLANS AND IN ACCORDANCE WITH THE FOLLOWING:

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN 203.05.

THE REMOVED MATERIAL SHALL BE REPLACED WITH MATERIAL AS DETAILED ON THE TYPICAL SECTIONS OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 203 - LINEAR GRADING, METHOD A.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 448 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:
1) SET GUARDRAIL POSTS
2) PLACE ITEM 448

METHOD B:
1) PLACE ITEM 448
2) BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
3) SET GUARDRAIL POSTS
4) PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE A BITUMINOUS CONCRETE APPROVED BY THE ENGINEER. PATCHING AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22, UNDER GUARDRAIL.

ITEM 203 - LINEAR GRADING, METHOD A

THIS ITEM OF WORK SHALL CONSIST OF EXCAVATING ALONG THE OUTSIDE EDGE OF THE PAVED SHOULDER, AS DETAILED ON THE TYPICAL SECTIONS, TO PREPARE THE GROUND SURFACE FOR PAVING UNDER GUARDRAIL. THIS ITEM SHALL BE USED TO PREPARE PROPOSED GUARDRAIL AND EXISTING GUARDRAIL RUNS.

ALL COLLECTED DEBRIS SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED IN SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATION.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 203, STA., LINEAR GRADING, METHOD A AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THIS ITEM OF WORK.

ITEM 202 - RAISED PAVEMENT MARKERS REMOVED FOR STORAGE, AS PER PLAN

RAISED PAVEMENT MARKERS SHALL BE REMOVED FROM THE ROADWAY IN A MANNER THAT PREVENTS DAMAGE TO THE CASTINGS. REMOVED MARKERS SHALL BE COLLECTED, STORED IN 55 GALLON DRUMS (WITH AMOUNT CLEARLY MARKED) AND THEN DELIVERED TO THE ODOT WARRENSVILLE YARD, 25609 EMERY RD., WARRENSVILLE HTS., OHIO 44128 (SR 175 AT INTERSECTION OF I-271 AND EMERY RD.), BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER. THE PROJECT ENGINEER SHALL GIVE THE WARRENSVILLE TRAFFIC DEPARTMENT (292-5801) 48 HOUR NOTICE PRIOR TO ANY DELIVERIES. THE PROJECT ENGINEER SHALL BE RESPONSIBLE FOR FURNISHING ALL NECESSARY TRANSFER/RECEIVING DOCUMENTATION TO THE YARD. ALL COSTS ASSOCIATED WITH THE REMOVAL, STORAGE AND DELIVERY OF THESE MARKERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202 - RAISED PAVEMENT MARKERS REMOVED FOR STORAGE, AS PER PLAN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED THROUGHOUT THIS PROJECT:

ITEM 202-RAISED PAVEMENTMARKERS REMOVED FOR STORAGE, AS PER PLAN . . . . . 850 EACH

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

SEE NOTES AND DETAILS ON SHEET 55 FOR THIS ITEM.

ITEM 606 - IMPACT ATTENUATOR, TYPE I-98 (UNIDIRECTIONAL OR BIDIRECTIONAL)

SEE NOTES AND DETAILS ON SHEET 54 FOR THIS ITEM.

ITEM 202 - GUARDRAIL REMOVED

THIS ITEM SHALL INCLUDE BOTH STANDARD AND BARRIER TYPE RAILS INCLUDING ANCHOR ASSEMBLIES AND TERMINAL ASSEMBLIES.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

CALCULATED EMK
CHECKED LDH

GENERAL NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

10
93

ROADWAY

ITEM 202 - FENCE REMOVED, AS PER PLAN
ITEM 607 - FENCE, TYPE CLT
ITEM 607 - FENCE, TYPE 47

THE FOLLOWING ESTIMATED QUANTITIES SHALL BE USED TO REMOVE THE EXISTING FENCE AND SUBSEQUENTLY REPLACE IT WITH TYPE CLT FENCE IN ITS CURRENT LOCATION. THE LIMITS FOR THE REMOVAL AND REPLACEMENT FOR BOTH EASTBOUND AND WESTBOUND SR-2 ARE FROM THE WEST END OF WORK TO THE NEWELL ST BRIDGE. THE NEW FENCE SHALLBE TYPE CLT AND ABUT THE EXISTING TYPE CL FENCE ON THE SOUTHEAST AND SOUTHWEST CORNER OF THE SR-2/SR-44 INTECHANGE. THE LIMITS FOR REMOVAL AND REPLACEMENT FOR SR-44, BOTH NORTHBOUND AND SOUTHBOUND, ARE FROM STA. 84+00± TO HEADLANDS RD. THIS FENCE SHALL BE REPLACED WITH TYPE 47 FENCE.

THE EXISTING FENCE LOCATIONS ARE NOT SHOWN THE PLANS, THEREFORE THE CONTRACTOR SHALL STAKE ALL HORIZONTAL DEFLECTION POINTS OF THE EXISTING FENCE DURING REMOVAL TO USE FOR LAYING OUT THE PROPOSED FENCE. STAKING OF DEFLECTION POINTS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202 - FENCE REMOVED, AS PER PLAN. ANY TREES OR OTHER VEGETATION GROWING THROUGH OR NEAR THE PROPOSED FENCE SHALL BE REMOVED AND DISPOSED OF AS PER ITEM 201 - CLEARING AND GRUBBING.

AT THE END OF EACH WORK DAY, THE CONTRACTOR SHALL EITHER HAVE THE PROPOSED FENCE PLACED AFTER THE REMOVAL OF THE EXISTING FENCE OR PLACE TEMPORARY FENCE AT NO ADDITIONAL COST TO THE STATE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 202 - FENCE REMOVED, AS PER PLAN. . . . 27,400 LIN.FT.
ITEM 607 - FENCE, TYPE CLT. . . . . 11,300 LIN.FT.
ITEM 607 - FENCE, TYPE 47 . . . . . 16,100 LIN.FT.

ITEM 203 - LINEAR GRADING, METHOD B

THIS ITEM OF WORK SHALL CONSIST OF GRADING ALONG THE EDGE OF THE PROPOSED 4' PAVED SHOULDER REPLACEMENT ALONG SR-44. THE WIDTH OF THE LINEAR GRADING SHALL BE 10' PER DIRECTION, OR AS DIRECTED BY THE ENGINEER.

THIS ITEM SHALL ALSO BE USED TO PROVIDE GRADING TO ENSURE POSITIVE DRAINAGE TO MEDIAN CATCH BASINS DURING CONSTRUCTION.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 203, STA., LINEAR GRADING, METHOD B AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THIS ITEM OF WORK.

THE FOLLOWING ESTIMATED QUANTITIES SHALL BE USED TO RESTORE AREAS ADJACENT TO THE PROPOSED 4' SHOULDER:

ITEM 203 - LINEAR GRADING, METHOD B . . . . . 156 STA.
ITEM 870 - SEEDING AND MULCHING . . . . . 24,000 SQ YD

CABLE MEDIAN BARRIER

I. DESCRIPTION

THIS WORK SHALL CONSIST OF CONSTRUCTING CABLE MEDIAN BARRIER ANCHORAGE UNITS AND ATTACHING EXISTING CABLE MEDIAN BARRIER TO GUARDRAIL TRANSITIONS TO THEM.

THE CONSTRUCTION OF THE CABLE MEDIAN BARRIER ANCHORAGE UNITS AND ATTACHING THE EXISTING CABLE MEDIAN BARRIER TO THEM SHALL INCLUDE THE FURNISHING, ASSEMBLING AND ERECTING OF ALL COMPONENT PARTS AND MATERIALS, COMPLETE IN PLACE, AT THE LOCATIONS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

II. MATERIALS

A. STEEL POSTS, BOLTS, FITTINGS AND OTHER ACCESSORIES SHALL BE GALVANIZED. SPECIFIC MATERIALS SHALL BE AS FOLLOWS:

GALVANIZING, HARDWARE	711.02
CONCRETE, CLASS C	499 AND 511
REINFORCING STEEL	509.02
STEEL POSTS	710.15
END POST CAPS	ASTM A36
WIRE CABLE	ASTM A741-86

B. ALL POSTS SHALL BE S3x5.7 (3Ix5.7) ROLLED STEEL SECTIONS. POSTS AND PLATES SHALL CONFORM TO ASTM A36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH 711.02 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

C. ¾" ROUND STEEL WIRE CABLE SHALL CONSIST OF THREE STRANDS (7 WIRES PER STRAND) AND HAVE A MINIMUM TENSILE STRENGTH OF 25,000 POUNDS AND SHALL CONFORM TO ASTM A741-86.

D. MATERIALS INDICATED AS "MALLEABLE IRON" SHALL CONFORM TO ASTM A47 AND SHALL BE GRADE 35018 WITH THE EXCEPTION OF THE CABLE SPLICE (SEE SHEET 61) WHICH SHALL CONFORM TO ASTM A47 AND BE GRADE 32510.

E. HOOK BOLTS INSTALLED, SHALL DEVELOP AN ULTIMATE PULL OPEN STRENGTH OF FROM 500 LBS TO 1000 LBS APPLIED IN A DIRECTION NORMAL TO THE LONGITUDINAL AXIS OF THE POST.

F. ALL FITTINGS (INCLUDING SPLICES) SHALL BE DESIGNED TO USE THE WEDGE SHOWN IN DETAIL "X" (SHEET 61) AND SHALL DEVELOP THE FULL STRENGTH OF THE ¾" ROUND CABLE (25,000 LBS.). ALL FITTINGS, EXCEPT THE WEDGE SHOWN IN DETAIL "X" (SHEET 61), SHALL BE HOT DIPPED GALVANIZED AS INDICATED ABOVE.

III. CONSTRUCTION DETAILS

A. ANCHORAGE UNITS: THE CONCRETE ANCHOR SHALL BE SET INTO AN EXCAVATION AS DETAILED ON THE PLANS. THE BOTTOM OF THE ANCHOR SHALL HAVE A FULL AND EVEN BEARING ON THE SURFACE UNDER IT. CONCRETE FOR THE ANCHOR SHALL BE CLASS C CONCRETE IN ACCORDANCE WITH 499 AND 511. AFTER THE CONCRETE ANCHOR IS IN PLACE, THE EXCAVATION SHALL BE BACKFILLED IN ACCORDANCE WITH ITEM 203 AND THE DETAILS SHOWN ON THE PLANS.

AFTER THE END POSTS ARE DRIVEN TO THE SPECIFIED LINE AND GRADE, THE "CLAMPED ON" BEARING ANGLES SHALL BE ADJUSTED IN THE FIELD TO PROVIDE A FULL AND EVEN BEARING ON THE UNDERLAYING SURFACE.

CABLE MEDIAN BARRIER (CONT.)

B. SETTING POSTS: POSTS SHALL BE SET PLUMB IN HOLES, OR DRIVEN. THE MANNER OF DRIVING SHALL BE SUCH AS TO AVOID BATTERING OR DISTORTING OF POSTS. POSTS SET OR DRIVEN TO WITHIN 1 INCH OF GRADE NEED NOT BE TRIMMED. POST HOLES SHALL BE BACKFILLED WITH AN ACCEPTABLE MATERIAL PLACED IN LAYERS AND THOROUGHLY COMPACTED.

C. CABLE PLACEMENT: THE CONTRACTOR SHALL INSTALL THE CABLES ON THE POSTS AS SHOWN IN THE PLANS AND AS FOLLOWS. THE TOP CABLE SHALL BE PLACED 27 INCHES ABOVE THE FINISHED GRADE LINE AND ON THE SIDE OF THE POST THAT IS CLOSEST TO THE TRAVELED PAVEMENT. THE MIDDLE CABLE SHALL BE PLACED 24 INCHES ABOVE THE FINISHED GRADE AND ON THE OPPOSITE SIDE OF THE POST. THE BOTTOM CABLE SHALL BE PLACED 21 INCHES ABOVE THE FINISHED GRADE AND ON THE SAME SIDE OF THE POST AS THE TOP CABLE. IN NO CASE SHALL THE CABLES SWITCH SIDES DURING A CONTINUOUS RUN BETWEEN ANCHORS, EXCEPT AT THE TRANSITION POST FOR INTERMEDIATE ANCHORAGES (SEE DETAIL ON SHEET 60). IF THE CABLE MEDIAN BARRIER CROSSES THE CENTERLINE OF THE MEDIAN DURING A CONTINUOUS RUN, THE CONTRACTOR SHALL INSTALL THE TOP AND BOTTOM CABLE ON THE SIDE AS DIRECTED BY THE ENGINEER, AND THE MIDDLE CABLE ON THE OPPOSITE SIDE.

D. CABLE MEDIAN BARRIER TENSIONING: THE CONTRACTOR SHALL INSTALL AND TENSION THE CABLE MEDIAN BARRIER AS FOLLOWS. PROPERLY SEAT THE SPRING COMPENSATION DEVICE AND THEN PERMANENTLY MARK THE UNLOADED POSITION. COMPLETE THE ASSEMBLY OF THE GUIDE RAILING AND SET THE COMPENSATING DEVICES TO A SPRING COMPRESSION OF 3-1/2 INCHES. LEAVE THE SPRINGS AT THIS SETTING FOR AT LEAST 2 WEEKS THEN SET THEM TO THE PROPER SETTING ACCORDING TO THE FOLLOWING:

VALUES TO BE USED TO TIGHTEN TURNBUCKLES DEPENDING ON THE TEMPERATURE AT THE TIME OF THE ADJUSTMENT

99	89	79	69	59	49	39	29	19	9	-1	-11
TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO	TO
90	80	70	60	50	40	30	20	10	0	-10	-20

SPRING COMPRESSION FROM UNLOADED POSITION IN EACH SPRING

1.5" 1.75" 2" 2.25" 2.5" 2.75" 3" 3.25" 3.5" 3.75" 4" 4.25"

E. AT ALL LOCATIONS WHERE THE CABLE IS CONNECTED TO A CABLE SOCKET WITH A WEDGE TYPE CONNECTION, ONE WIRE OF THE WIRE ROPE SHALL BE CRIMPED OVER THE BASE OF THE WEDGE TO HOLD IT FIRMLY IN PLACE.

F. COMPENSATING DEVICES MUST HAVE A SPRING RATE OF 450±50 LBS. PER INCH AND A TOTAL AVAILABLE "THROW" OF 6 INCH MINIMUM.

IV. METHOD OF MEASUREMENT

CABLE MEDIAN BARRIER ANCHORAGE UNITS WILL BE MEASURED BY THE ACTUAL NUMBER OF UNITS INSTALLED AND THE CONNECTION OF THE EXISTING CABLE MEDIAN BARRIER TO THOSE ANCHORS IN ACCORDANCE WITH THE PLANS OR AS DIRECTED BY THE ENGINEER.

V. BASIS OF PAYMENT

CABLE MEDIAN BARRIER ANCHORAGE UNITS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH, ITEM 606 - GUARDRAIL, MISC.: CABLE MEDIAN BARRIER ANCHORAGE UNIT.

CALCULATED EMK CHECKED LDH

GENERAL NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

11
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gna.dgn

DRAINAGE AND EROSION CONTROL

ITEM SPECIAL - MISCELLANEOUS METAL

EXISTING CASTINGS MAY PROVE TO BE UNSUITABLE FOR REUSE, AS DETERMINED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE, SIZE AND STRENGTH (HEAVY OR LIGHT DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL MATERIALS SHALL MEET ITEM 604 OF THE SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATION 932 AND SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM SPECIAL - MISCELLANEOUS METAL . . . . . 10,000 LBS.

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, STORAGE AND REPLACEMENT OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE EXPENSE OF THE CONTRACTOR.

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 APPURTENANCES 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 603 CONDUIT ITEMS.

CASTINGS ADJUSTED TO GRADE

ALL CASTINGS SHALL BE ADJUSTED TO THE FINISHED ROADWAY ELEVATION BY THE CONTRACTOR. THE DEPTH OF AN ADJUST TO GRADE SHALL BE 1 FT OR LESS AND THE WORK SHALL BE AS OUTLINED IN 604.03. ANY WORK BEYOND 1 FT DEPTH SHALL BE PAID UNDER THE ITEM 604 - CATCH BASIN, MONUMENT BOX OR MANHOLE RECONSTRUCTED TO GRADE. THE TIME BETWEEN ADJUSTING THE CASTINGS AND RESURFACING SHALL BE KEPT TO AN ABSOLUTE MINIMUM. NO ADJUSTING RINGS SHALL BE PERMITTED. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 604-MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN . 1 EACH
ITEM 604-CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN. . 2 EACH
ITEM 604-MANHOLE ADJUSTED TO GRADE, AS PER PLAN. . . . 2 EACH

ITEM 604 - CATCH BASIN, MONUMENT BOX OR MANHOLE RECONSTRUCTED TO GRADE

THE CONTRACTOR AND FIELD ENGINEER SHALL FIELD CHECK ALL EXISTING CATCH BASINS, MONUMENT BOXES OR MANHOLES LOCATED WITHIN THE LIMITS OF THE THE PROJECT. ANY CATCH BASIN, MONUMENT BOX OR MANHOLE FOUND THAT EXHIBITS SUBTANTIAL DETERIORATION AND REQUIRES MORE WORK THAN IS SPECIFIED UNDER CASTINGS ADJUSTED TO GRADE, SHALL BE RECONSTRUCTED TO GRADE AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 604 - CATCH BASIN, RECONSTRUCTED TO GRADE . . . 2 EACH
ITEM 604 - MONUMENT BOX, RECONSTRUCTED TO GRADE . . . 1 EACH
ITEM 604 - MANHOLE, RECONSTRUCTED TO GRADE . . . . . 3 EACH

ITEM 604 - CATCH BASIN, BY TYPE, AS PER PLAN

PRIOR TO REMOVING THE EXISTING CATCH BASINS, THE CONTRACTOR SHALL FIELD VERIFY THE FLOW LINE ELEVATIONS BEFORE ORDERING THE PRECAST BASINS.

ALL COSTS INCLUDING EQUIPMENT, LABOR AND MATERIALS TO PLACE AND SURVEY THE CATCH BASINS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 604 - CATCH BASIN, BY TYPE, AS PER PLAN.

ITEM 203 - DITCH CLEANOUT

THIS WORK SHALL CONSIST OF RE-ESTABLISHING THE CROSS-SECTION OF AN EXISTING DITCH. SURPLUS OR UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER, SHALL BE DISPOSED OF AS PER 203.05. EMBANKMENT REQUIRED FOR ERODED CONDITIONS SHALL MEET THE REQUIREMENTS OF 203.07 EXCEPT THAT THE COMPACTION REQUIREMENTS ARE WAIVED

THE ORIGINAL DITCH CROSS SECTION AND GRADE SHALL BE RE-ESTABLISHED, AS SHOWN ON THE PREVIOUS CONSTRUCTION PLANS REFERENCED IN THE "EXISTING TYPICAL SECTIONS" NOTE ON SHT 9. THE DITCHES SHALL BE SEEDED AND MULCHED AS PER ITEM 659, INCLUDING FERTILIZER. THE LOCATIONS FOR THIS WORK SHALL BE AS DIRECTED BY THE ENGINEER.

MEASUERMENT OF THE DITCH CLEANOUT SHALL BE THE ACTUAL LINEAR FEET MEASURED ALONG THE CENTERLINE OF THE DITCH.

IN ADDITION, THIS ITEM SHALL INCLUDE THE INSTALLATION OF ITEM 670 - DITCH EROSION PROTECTION IN ALL DISTURBED DITCHES. PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN THE COST FOR THE DITCH CLEANOUT. THIS ITEM SHALL BE PLACED WITHIN 7 DAYS OF THE DITCH OPERATION. THE 7 DAY LIMIT SHALL BEGIN WHEN THE CONTRACTOR FINISHES A CONTINUOUS CLEANOUT LENGTH AND MOVES TO ANOTHER LOCATION.

ALL MATERIALS REMOVED FROM DITCHES, STREAMS, OR WETLANDS MUST BE IMMEDIATELY REMOVED TO AN UPLAND SITE AND STABILIZED (I.E. SEEDED) TO PREVENT REDISTRIBUTION INTO ANY WATERS OF THE UNITED STATES. (IMMEDIATE REMOVAL IS DEFINED BY THE CORPS AS DEPOSITING THE REMOVED MATERIALS DIRECTLY INTO A TRUCK AND REMOVING THE MATERIAL FROM THE SITE: PLACEMENT OF REMOVED MATERIALS INTO A WETLAND OR ON THE BANKS OF A STREAM EVEN TEMPORARILY IS CONSIDERED A FILL AND REQUIRES A PERMIT ACTION).

ITEM 203 - DITCH CLEANOUT (CONT.)

SEE SHEET 46 FOR DETAILS AND LOCATIONS.

PAYMENT FOR THE ABOVE WORK, INCLUDING EARTHWORK, SEEDING, MULCHING, FERTILIZER, AND ALL LABOR, EQUIPMENT AND INCIDENTALS SHALL BE MADE AT THE UNIT BID FOR ITEM 203, DITCH CLEANOUT.

THE FOLLOWING ESTIMATED QUANTITY, IN ADDITION TO THE TOTALS TABULATED ON SHEET 46, IS PROVIDED FOR USE AS DIRECTED BY THE ENGINEER TO PERFORM THE ABOVE DETAILED WORK:

ITEM 203 - DITCH CLEANOUT . . . . . 500 LIN. FT.

UNDERDRAIN SUPPLEMENT

THE EXISTING UNDERDRAIN SYSTEM IS TO BE SUPPLEMENTED THROUGHOUT THIS PROJECT WITH ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN. THE NEW UNDERDRAINS SHALL BE INSTALLED AT THE SAME LOCATIONS AS EXISTING, EXCEPT THAT THEY SHALL BE LOCATED AT THE EDGE OF THE CONCRETE PAVEMENT AS SHOWN ON THE TYPICALS.

THE FLOWLINE ELEVATIONS SHOWN IN THE PLANS ARE APPROXIMATE. THE PROPOSED UNDERDRAINS SHALL BE PLACED AT A DEPTH AS DETAILED ON SHEET 5.

NEW UNDERDRAIN AT THE EDGE OF CONCRETE PAVEMENT SHALL BE OUTLETTED IN THE SAME LOCATIONS AS THE EXISTING. THE OUTLETS SHALL BE CONSTRUCTED AT THE SAME LINE AND GRADE AS THE EXISTING OUTLET CONDUITS AND SHALL CONNECT BOTH THE OLD AND NEW UNDERDRAIN SYSTEMS INTO THE OUTLET. THE COST FOR ALL PIPE BENDS AND BRANCHES TO CONNECT THE EXISTING AND PROPOSED UNDERDRAIN SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN. THE OUTLET CONDUIT SHALL BE ITEM 603 - 6" CONDUIT, TYPE F, 707.41 NON-PERFORATED ASTM D3034, SDR35, 707.42 OR 707.33. FOR ADDITIONAL DETAILS SEE SHEET NO. 47.

THE FOLLOWING ESTIMATED QUANTITIES SHALL BE USED TO REPLACE THE ASPHALT REMOVED TO CONSTRUCT THE PROPOSED UNDERDRAINS WITH ITEM 301 - BITUMINOUS AGGREGATE BASE, PG64-22, AS DETAILED ON THE TYPICAL SECTIONS:

ITEM	DESCRIPTION	QUANTITY	UNIT
301	BITUMINOUS AGGREGATE BASE, PG64-22 . . .	1200	CU YD

ITEM 603 - CONDUIT BORED OR JACKED, 6" TYPE B

AT LOCATIONS SHOWN IN THE PLANS, THE EXISTING UNDERDRAIN IS CONNECTED TO AN EXISTING 6" CONDUIT RUNNING UNDER THE ROADWAY. THE EXISTING 6" CONDUIT IS CONSIDERED TO BE NON-FUNCTIONAL. THE FOLLOWING ESTIMATED QUANTITIES SHALL BE USED AS DIRECTED BY THE ENGINEER TO ESTABLISH FLOW EITHER BY BORING OR JACKING A PIPE UNDER THE EXISTING PAVEMENT OR BY OUTLETTING THE UNDERDRAIN AT A LOCATION OUTSIDE THE PAVEMENT:

ITEM	DESCRIPTION	QUANTITY	UNIT
603	6" CONDUIT, TYPE B	100	LIN FT
603	CONDUIT BORED OR JACKED: 6" TYPE B . . .	100	LIN FT
604	PRECAST REINFORCED CONCRETE OUTLET	3	EACH
605	6" CONDUIT, TYPE F, 707.14 NON-PERFORATED ASTM D3034, SDR35, 707.42 OR 707.33 . .	150	LIN FT

CALCULATED EMK
CHECKED LDH

GENERAL NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

12
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gna.dgn

DRAINAGE AND EROSION CONTROL

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE PLACED BY THE CONTRACTOR WITH THE ENGINEER'S CONCURRENCE FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 877-TEMPORARY SEEDING AND MULCHING . . 5500 SQ. YD.
ITEM 877-TEMPORARY PERIMETER FILTER FABRIC FENCE . . . . . 800 LIN. FT.
ITEM 877-TEMPORARY INLET PROTECTION FILTER FABRIC FENCE . . . . . 750 LIN. FT.
ITEM 877-TEMPORARY DITCH PROTECTION . . . . . 500 SQ. YD.
ITEM 870-COMMERCIAL FERTILIZER . . . . . 0.5 TON
ITEM 870-REPAIR SEEDING AND MULCHING . . . 1200 SQ. YD.
ITEM 870-WATER. . . . . 1 M. GAL.

EROSION CONTROL

ITEMS 601, 660, 668, 670, 671, 672 AND 673 ARE PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS AND TURF OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE 660, 667, 668, 671, 672 OR 673. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THESE ITEMS SHALL MEET THE REQUIREMENT OF 108.04.

PAVEMENT

ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN A
ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN B
ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN C
ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN D
ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN A
ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B
ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN C
ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN D
ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A
ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B

THIS ITEM SHALL CONSIST OF REPLACING EXISTING PAVEMENT IN ACCORDANCE WITH ITEM 255 AND THE NOTES BELOW. PAYMENT SHALL BE MADE FOR "CLASS C","CLASS MS" OR "CLASS FS" ALTHOUGH THE CONTRACTOR MAY USE EITHER, "CLASS MS", "CLASS FS", OR "CLASS C".

EXISTING CONCRETE PAVEMENT THICKNESS MAY VARY FROM THAT SHOWN ON THE TYPICAL SECTIONS BY PLUS OR MINUS TWO INCHES. NO ADJUSTMENT IN PAYMENT FOR THIS ITEM SHALL BE MADE PROVIDING THAT THE AVERAGE PAVEMENT THICKNESS IS WITHIN A HALF INCH OF THE THICKNESS SHOWN ON THE TYPICAL SECTIONS. ADDITIONAL COMPENSATION SHALL BE MADE BY CHANGE ORDER FOR THE MATERIAL COST OF CONCRETE ONLY WHEN THE AVERAGE THICKNESS EXCEEDS THE ONE HALF INCH MAXIMUM TOLERANCE ABOVE. THE VOLUME OF ADDITIONAL CONCRETE PAID FOR SHALL BE BASED UPON THE AMOUNT OF CONCRETE ABOVE THE ONE HALF INCH TOLERANCE LIMIT.

IF, AFTER REMOVAL OF THE RIGID PAVEMENT THE ENGINEER DETERMINES THAT THE SUBBASE OR SUBGRADE HAS FAILED OR IS PUMPING. HE SHALL DIRECT THE CONTRACTOR TO EXCAVATE THE UNSUITABLE MATERIAL AND REPLACE IT WITH COMPACTED 304 AGGREGATE. QUANTITIES OF ITEM 203, EXCAVATION AND ITEM 304, AGGREGATE BASE HAVE BEEN PROVIDED TO REPAIR SAID FAILED SUBBASE OR SUBGRADE AREAS.

PAVEMENT REPAIR LESS THAN OR EQUAL TO TEN (10) FEET IN LENGTH SHALL BE PAID FOR UNDER "FULL DEPTH RIGID PAVEMENT REMOVAL AND REPLACEMENT, CLASS C, MS OR FS, AS PER PLAN, A". PAVEMENT REPAIRS GREATER THAN TEN (10) FEET IN LENGTH SHALL BE PAID FOR UNDER "FULL DEPTH RIGID PAVEMENT REMOVAL AND REPLACEMENT, CLASS C, MS OR FS, AS PER PLAN, B". THE CLASS FS REPAIR QUANTITIES SHALL BE USED PRIMARILY ON THE SR-2 SECTION ALONG WITH THE RAMPS TO SR-44 (RAMPS E, F, G, H).

MEDIAN LANE PAVEMENT REPAIR IN THE SR-44 SECTION NORTH OF SR-2 SHALL INCLUDE THE CONSTRUCTION OF AN INTEGRAL CURB THAT MATCHES THE EXISTING CURB SHAPE AND HEIGHT. THESE PAVEMENT REPAIRS SHALL BE PAID FOR AS FOLLOWS: PAVEMENT REPAIR LESS THAN OR EQUAL TO TEN (10) FEET IN LENGTH SHALL BE PAID FOR UNDER "FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C OR MS, AS PER PLAN C". PAVEMENT REPAIRS GREATER THAN TEN (10) FEET IN LENGTH SHALL BE PAID FOR UNDER "FULL DEPTH RIGID PAVEMENT REMOVAL AND REPLACEMENT, CLASS C OR MS, AS PER PLAN D".

ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT (CONT)

PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
203	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
304	CU. YD.	AGGREGATE BASE, AS PER PLAN
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN A
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN B
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN C
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN D
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN A
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN C
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN D
255	SQ. YD.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A
255	SQ. FT.	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B
255	LIN. FT.	FULL DEPTH PAVEMENT SAWING

FOR ESTIMATED QUANTITIES, SEE SHEET 51.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN

THIS WORK SHALL BE PERFORMED PRIOR TO RESURFACING. THE QUANTITIES PROVIDED ARE TO REPAIR UNSOUND OR COLD-PATCH AREAS OR POP-OUTS. THICKNESS WILL VARY FROM 2" TO 3".

PARTIAL DEPTH REPAIRS SHALL ONLY BE PERFORMED ON PAVEMENTS THAT WILL RECEIVE AN ASPHALT OVERLAY.

FOR ADDITIONAL NOTES, DETAILS AND QUANTITIES, SEE SHEET 51.

LONGITUDINAL JOINTS (FLEXIBLE PAVEMENT)

LONGITUDINAL JOINTS BETWEEN A PAVEMENT LANE AND ADJOINING BERM OR SPEED CHANGE LANE, AND BETWEEN A SPEED CHANGE LANE AND THE ADJOINING BERM SHALL BE MADE THE SAME DAY. ALL LONGITUDINAL JOINTS SHALL BE HOT WITH THE EXCEPTION OF ONE COLD JOINT PER ROADWAY. LONGITUDINAL JOINT LOCATIONS SHALL BE AS APPROVED BY THE ENGINEER. EACH RAMP SHALL HAVE ONLY ONE LONGITUDINAL COLD JOINT LOCATED APPROXIMATELY HALFWAY ACROSS THE RAMP.

CALCULATED EMK
CHECKED LDH

GENERAL NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

PAVEMENT

ITEM 202 - WEARING COURSE REMOVED, AS PER PLAN

THIS ITEM SHALL BE USED TO REMOVE THE EXISTING ASPHALT OVERLAYS FULL WIDTH. THE TYPICAL REMOVAL SHALL BE TO THE TOP OF THE CONCRETE BASE. IN AREAS WHERE THERE IS FLEXIBLE PAVEMENT OR SHOULDERS, THE REMOVAL SHALL BE TO A DEPTH EQUAL TO THAT OF THE REMOVAL OVER THE CONCRETE BASE.

AREAS WHICH HAVE TRANSVERSE WEDGES (BUTT JOINTS AND STRUCTURES) ARE TO BE REMOVED IN TWO PASSES AS REQUIRED FOR MAINTAINING TRAFFIC. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THE SECOND PASS.

PRIOR TO REMOVING ANY AREA OF WEARING COURSE, THE CONTRACTOR SHALL REFERENCE ALL BADLY DISTRESSED JOINTS OR CRACKS. BADLY DISTRESSED JOINTS OR CRACKS ARE THOSE WHICH INDICATE REPEATED PATCHING AND/OR SIGNIFICANT SEPARATION. THESE JOINTS TYPICALLY INDICATE SURFACE FAILURE DUE TO SIGNIFICANT VERTICAL JOINT MOVEMENT. THE CRITERIA FOR DETERMINING THE JOINTS WHICH ARE TO BE REFERENCED SHALL BE AS APPROVED BY THE ENGINEER.

THE JOINT REFERENCING SHALL INCLUDE THE APPROPRIATE LANE NUMBER AND SHALL BE MARKED BEYOND THE SHOULDER LIMITS DIRECTLY IN LINE WITH THE FAILED JOINT.

ALL ADDITIONAL COSTS FOR THIS FIELD SURVEY AND JOINT REFERENCING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202, WEARING COURSE REMOVED, AS PER PLAN.

ITEM 617 - COMPACTED AGGREGATE, TYPE A, AS PER PLAN

THIS ITEM SHALL BE USED ALONG ALL THE SHOULDERS. MATERIAL SHALL BE LIMITED TO CRUSHED SLAG, CRUSHED LIMESTONE OR ASPHALT GRINDINGS. IF ASPHALT GRINDINGS ARE USED THE ONLY MATERIAL REQUIREMENT IS THAT 100% SHALL PASS A 1" SIEVE.

THE ACTUAL DEPTH USED WILL VARY DEPENDING UPON EXISTING CONDITIONS. FOR ESTIMATING PURPOSES, AN AVERAGE DEPTH OF 2 INCHES WILL BE USED. WATER, IF NEEDED, SHALL BE APPLIED AS PER 617 AND INCLUDED UNDER ITEM 617, COMPACTED AGGREGATE, TYPE A, AS PER PLAN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM	DESCRIPTION	QUANTITY	UNIT
617	COMPACTED AGGREGATE, TYPE A, APP	900	CU.YD.
617	WATER	9	M. GAL

ALIGNMENT AND PROFILE

THE WORK PROPOSED BY THIS PROJECT IS FOR THE RE-SURFACING OF THE EXISTING PAVEMENT. THE PROFILE OF THE PROPOSED SURFACE WILL BE THE SAME AS THAT OF THE EXISTING SR-2, SR-44 AND RAMP PAVEMENT, EXCEPT WHERE OTHERWISE SHOWN IN THE PLANS.

ITEM 304 - AGGREGATE BASE, AS PER PLAN

THE ONLY SLAG MATERIALS PERMITTED FOR THIS ITEM SHALL BE CRUSHED AIR-COOLED BLAST FURNACE SLAG, A MIXTURE OF CRUSHED AND GRANULATED SLAGS, OR OPEN HEARTH SLAG FROM APPROVED SOURCES ON FILE AT THE LABORATORY.

ALL MATERIALS OR BLENDED MATERIALS SHALL MEET THE GRADATION REQUIREMENTS OF 304.02.

ANY GRANULATED SLAG MATERIAL USED SHALL MEET THESE GRADATION REQUIREMENTS IN LIEU OF 703.08

ITEM 305 - CONCRETE BASE, AS PER PLAN

IN ADDITION TO THE REQUIRMENTS OF 305.01, LOAD TRANSFER DEVICES ARE REQUIRED AT ALL TRANSVERSE CONTRACTION, CONSTRUCTION, AND EXPANSION JOINTS.

WHERE PROPOSED 305 BASE PAVEMENT IS TIED LONGITUDINALLY TO EXISTING PAVEMENT,TRANSVERSE JOINT SPACING AS REQUIRED IN BP-2.2 SHALL BE WAIVED. TRANSVERSE JOINTS SHALL BE LOCATED IN THE PROPOSED 305 BASE PAVEMENT AT ALL EXISTING TRANSVERSE JOINTS TO REMAIN AND ALL PROPOSED TYPE Y OR TYPE T JOINTS. JOINTS SHALL BE CONSTRUCTED TO FORM A CONTINUOUS LINE IN THE SAME ALIGNMENT AS THE TRANSVERSE JOINT IN THE ADJACENT EXISTING PAVEMENT.

WHERE PROPOSED 305 BASE PAVEMENT IS NOT TIED LONGITUDINALLY TO EXISTING PAVEMENT, JOINT SPACING IN THE PROPOSED 305 BASE SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARD DRAWING.

ITEM 618 - RUMBLE STRIPS, TYPE 2 (ASPHALT)

THE FOLLOWING ESTIMATED QUANTITY SHALL BE USED TO CONSTRUCT ITEM 618, RUMBLE STRIPS, TYPE 2 (ASPHALT) AS PER STANDARD DRAWING BP-9.1:

ITEM 618 - RUMBLE STRIPS, TYPE 2 (ASPHALT) . . 20.0 MILE

SPREADING EQUIPMENT

AN AUTOMATIC SCREED CONTROL HAVING A 40 FOOT SKI ARM SHALL BE USED FOR PLACING THE INTERMEDIATE COURSE (SEE PROPOSAL NOTE). FOR FULL WIDTH PAVING, THE WIDTH LAID SHALL NOT EXCEED THE PAVER'S RATED WIDTH AS RECOMMENDED BY THE PAVER MANUFACTURER.

ITEM 889 - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS WITH WARRANTY

THE FOLLOWING ESTIMATED QUANTITY SHALL BE USED TO PLACE ITEM 889, SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS WITH WARRANTY AS PER SUPPLEMENTAL SPECIFICATION 889. THIS ITEM SHALL BE USED ON SR-2, SR-44, RAMP E, RAMP G AND ALL ENTRANCE AND EXIT RAMPS.

ITEM 889 - SAWING AND SEALING ASPHALT CONCRETE JOINTS WITH WARRANTY . . 50,000 L. F.

ITEM 252 - FULL DEPTH PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT

THIS WORK SHALL BE PERFORMED WHERE RIGID REPLACEMENT IS NOT REASONABLE AS DETERMINED BY THE ENGINEER (TYPICALLY THE RAMPS AND RAMP TERMINI AT INTERSECTING ROADWAYS).

THE FOLLOWING ESTIMATED QUANTITIES ARE INCLUDED TO PERFORM THIS WORK AS DESCRIBED ABOVE AND AS DIRECTED BY THE ENGINEER:

ITEM 252 - FULL DEPTH RIGID REMOVAL AND FLEXIBLE REPLACEMENT . . 200 SQ. YD.
ITEM 252 - FULL DEPTH PAVEMENT SAWING . . . . . 600 LIN. FT.

CONCRETE BASE REPAIR

AFTER THE REMOVAL OF THE WEARING COURSE IT IS ANTICIPATED THAT THE EXISTING CONCRETE BASE WILL SHOW NUMEROUS CRACKS. IT IS NOT THE INTENT OF THESE PLANS TO REPAIR ALL CRACKS AND JOINTS. TYPICALLY, THOSE JOINTS AND CRACKS WHICH WERE REFERENCED PRIOR TO THE WEARING COURSE REMOVAL SHALL BE CONSIDERED FOR TOTAL REPLACEMENT. THE ENGINEER SHALL DETERMINE THE REPAIR LOCATIONS AND APPROXIMATE REPAIR METHODS FOR THIS PROJECT ARE:

1) PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN
2) FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, MS, OR FS, AS PER PLAN A, B, C, OR D
3) FULL DEPTH RIGID REMOVAL AND FLEXIBLE REPLACEMENT

ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT FOR INTERMEDIATE COURSE SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.05 GALLONS PER SQUARE YARD OF TACK COAT FOR INTERMEDIATE COURSE FOR ESTIMATING PURPOSES ONLY.

ITEM 407 - TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.10 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

CALCULATED EMK
CHECKED LDH

GENERAL NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

14
93

MAINTAINING VEHICULAR TRAFFIC

GENERAL PROVISIONS

1. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE "SCHEDULE OF THRU LANES TO BE MAINTAINED" DESCRIBED ON SHEET NO. 20. THE CONTRACTOR SHALL SET UP AND OPERATE HIS EQUIPMENT IN SUCH A MANNER AS TO MINIMIZE ENCROACHMENT UPON THE TRAVELED WIDTH OF PAVEMENT.

2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, THE RESPONSIBLE LAW ENFORCEMENT AGENCY AND THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 12 PUBLIC INFORMATION OFFICER ((216) 581-2333, EXT. 244) NOT LESS THAN TWENTY-FOUR (24) HOURS PRIOR TO A SCHEDULED DISRUPTION OF TRAFFIC.

3. NIGHTTIME WORK SHALL BE PERMITTED IN ACCORDANCE WITH THESE PLANS AND NOTES. THE CONTRACTOR SHALL PROVIDE FLOOD LIGHTING OF THE WORK AREA IN ORDER TO ASSURE THE SAFEST CONDITIONS DURING NIGHTTIME WORK. A LIGHTING PLAN FOR NIGHTTIME OPERATIONS SHALL BE PRESENTED TO AND APPROVED BY THE ENGINEER.

4. THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL NEW WARNING AND INFORMATION SIGNS NECESSARY FOR MAINTAINING TRAFFIC. THE CONTRACTOR SHALL DETERMINE WHAT SIGNS ARE NEEDED AND ADVISE THE ENGINEER TWO (2) WEEKS IN ADVANCE OF HIS DETAILED PLANS.

   SEE THE OMUTCD AND STANDARD DRAWINGS FOR THE MINIMUM SIGNAGE REQUIRED.

5. TRAFFIC CONTROL DEVICES SHALL BE SET UP PRIOR TO THE START OF CONSTRUCTION, AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SPECIAL CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS THEY ARE NEEDED AND SHALL BE IMMEDIATELY REMOVED THEREAFTER. WHERE OPERATIONS ARE PERFORMED IN STAGES, THERE SHALL BE IN PLACE ONLY THOSE DEVICES THAT APPLY TO THE CONDITION PRESENT DURING STAGE IN PROGRESS. ALL SIGNS WITH MESSAGES WHICH DO NOT APPLY DURING A CERTAIN PERIOD SHALL BE COVERED OR SET ASIDE OUT OF THE VIEW OF TRAFFIC.

6. PLACEMENT OF FINAL ROADWAY PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE "SCHEDULE OF THRU LANES TO BE MAINTAINED" DESCRIBED ON SHEET NO. 20.

   THE CONTRACTOR SHALL PROVIDE TWO (2) TRAILING VEHICLES AS PER MT-99.20M FOLLOWING THE PAVEMENT MARKING EQUIPMENT. THE TWO (2) TRAILING VEHICLES SHALL TRAVEL 500 FEET APART WITH THE REMOTE VEHICLE TRAVELING ON THE SHOULDER (LEFT OR RIGHT AS APPLICABLE) WHERE USABLE SHOULDER IS AVAILABLE. THE FIRST TRAIL VEHICLE IN A TRAFFIC LANE SHALL BE EQUIPPED WITH A TRUCK MOUNTED ATTENUATOR MEETING NCHRP 350 REQUIREMENTS. THE INTERMEDIATE TRAILING VEHICLE SHALL TRAVEL IN THE CLOSED LANE 500 FEET BEHIND THE PAVEMENT MARKING EQUIPMENT. THE POLICE CRUISER SHALL TRAVEL 500 TO 1000 FEET BEHIND THE REMOTE TRAILING VEHICLE. EACH TRAILING VEHICLE SHALL HAVE A YELLOW FLASHING BEACON PLUS 48" MIN. ORANGE AND BLACK CONSTRUCTION WARNING SIGNS MOUNTED ON THE BACK FACING TRAFFIC WITH STANDARD TYPE MESSAGES ADVISING MOTORISTS OF THE WORK AHEAD, ADVISORY WARNING SPEED AND WHICH LANE IS CLOSED.

7. DURING NON-WORKING PERIODS, OPEN EXCAVATIONS SHALL BE DELINEATED WITH WARNING FLASHERS AND/OR OTHER APPROVED DEVICES AS DEEMED APPROPRIATE BY THE ENGINEER.

MAINTAINING VEHICULAR TRAFFIC (CONT.)

8. EXISTING SIGNS LOCATED WITHIN THE ROAD WORK AREAS WHICH ARE NECESSARY FOR INTERIM OR PERMANENT TRAFFIC CONTROL SHALL BE REMOVED AND REERECTED IN LOCATIONS AS APPROVED BY THE ENGINEER.

9. NO STOPPAGE OF TRAFFIC SHALL OCCUR WITHOUT LAW ENFORCEMENT PERSONNEL AT EACH LOCATION TO DIRECT TRAFFIC.

10. WHENEVER A TOTAL CLOSURE IS IMPLEMENTED, THE CONTRACTOR SHALL PROVIDE A PORTABLE CHANGEABLE MESSAGE SIGN, TYPE FROM ODOT'S PRE-APPROVED LIST. IT SHALL BE PLACED 1.5 MILES TO 2 MILES IN ADVANCE OF THE CLOSURE OR AS DIRECTED BY THE ENGINEER.

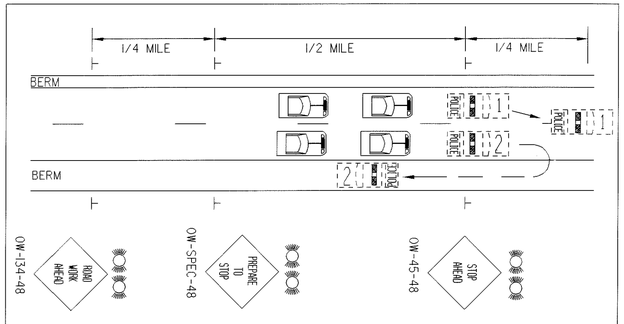
11. ANY TIME TRAFFIC MUST BE COMPLETELY STOPPED ON A FREEWAY, OR INTERSTATE IT SHALL BE DONE IN THE FOLLOWING MANNER: (THIS INCLUDES THE ERECTION OF OVER HEAD SUPPORTS.) THE COMPLETE TRAFFIC STOPPAGE ON ALL LANES OF ANY DIRECTIONAL ROADWAY SHALL BE NO MORE THAN 10 MINUTES IN ANY ONE CONSECUTIVE 30 MINUTE PERIOD.

    A MINIMUM OF TWO (2) LAW ENFORCEMENT OFFICERS (L.E.O.) WITH PATROL VEHICLES SHALL BE USED TO PACE MOTORISTS TO A STOP. THERE SHALL BE ONE L.E.O. FOR EACH LANE ON THE FREEWAY.

    AFTER TRAFFIC HAS BEEN SLOWED, ONE (1) PATROL VEHICLE SHALL TRAVEL ALONG THE ROADWAY SHOULDER 500 FEET BEHIND THE BACK UP OF STOPPED VEHICLES. WHERE STOPPAGE OCCURS IN THE VICINITY OF FREEWAY ENTRANCES, THE CONTRACTOR SHALL PLACE FLAGMEN ON THE RAMPS TO STOP TRAFFIC. PATROL VEHICLES SHALL HAVE FLASHING BEACONS.

    TO PROVIDE ADEQUATE VISIBILITY TO THE APPROACHING MOTORIST THE CONTRACTOR SHALL ERECT AND MAINTAIN "ROADWORK AHEAD", "PREPARE TO STOP", AND "STOP AHEAD" SIGNS WITH TWO FLASHING TWELVE INCH (12) TRAFFIC SIGNAL HEADS IN ACCORDANCE WITH 632.05. THESE SIGNS SHALL BE ILLUMINATED DURING NIGHT OPERATIONS AND SHALL BE 48 INCH BY 48 INCH SIGNS. PATROL VEHICLES AND SIGNS SHALL BE LOCATED IN ACCORDANCE WITH THE SKETCH BELOW.

    FLARES MAY BE SUBSTITUTED FOR THE FLASHING 12 INCH SIGNAL HEADS. THERE SHALL BE 2 FLARES AT EACH SIGN ON BOTH SIDES ON THE ROADWAY. THE FLARES SHALL BE REPLACED IF THEY BURN OUT. THE SIGNS DO NOT HAVE TO BE ILLUMINATED DURING NIGHT OPERATIONS IF FLARES ARE USED.



NOTE: DETAIL IS SHOWN FOR 2 LANES. FOR 3 OR 4 LANES 3 PATROL VEHICLES ARE REQUIRED.

MAINTAINING VEHICULAR TRAFFIC (CONT.)

STOPPING TRAFFIC SHALL BE DONE WHEN THE GREATEST NUMBER OF LANES IS PERMITTED TO BE CLOSED BY THE PLANS OR BY DISTRICT 12'S PERMITTED LANE CLOSURES REFERENCE MAP.

A PORTABLE CHANGEABLE MESSAGE SIGN, TYPE TO BE ON ODOTS PRE-APPROVED LIST, SHALL BE PLACED 1.5 MILES TO 2 MILES IN ADVANCE OF THE CLOSURE OR AS DIRECTED BY THE ENGINEER.

12. FOR ANY OPERATION NOT SPECIFICALLY MENTIONED IN THESE PLANS, THE TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

13. ALL LABOR, MATERIALS, EQUIPMENT AND ANY INCIDENTALS REQUIRED TO COMPLETE THE WORK AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

PROGRESS SCHEDULE (CRITICAL PATH METHOD)

THE PRE-CONSTRUCTION MEETING SHALL BE HELD NO LATER THAN 30 CALENDAR DAYS AFTER THE CONTRACT IS SIGNED. THE CONTRACTOR SHALL SUBMIT THEIR PROPOSED CPM SCHEDULE AT THE PRE-CONSTRUCTION MEETING FOR REVIEW BY THE CONSTRUCTION ENGINEER WITHIN 14 CALENDAR DAYS AFTER THE PRE-CONSTRUCTION MEETING.

A FINAL CPM SCHEDULE SHALL BE SUBMITTED TO THE CONSTRUCTION ENGINEER WITHIN 30 CALENDAR DAYS FROM THE DATE OF THE PRE-CONSTRUCTION MEETING BUT AT LEAST SEVEN (7) CALENDAR DAYS PRIOR TO THE DATE DESIGNATED AS THE STARTING DATE IN THE CPM SCHEDULE. THE SCHEDULE SHALL BE SIGNED AND DATED BY THE PRIME CONTRACTOR AND NAMED SUBCONTRACTORS.

PROJECT PROGRESS MEETINGS

PROGRESS MEETINGS WILL BE HELD EVERY FOUR (4) WEEKS AT THE PROJECT OFFICE, OR OTHER LOCATION DESIGNATED BY THE CONSTRUCTION ENGINEER AND ATTENDED BY O.D.O.T. AND CONTRACTOR DECISION-MAKING PERSONNEL.

THE PURPOSE OF THESE MEETINGS WILL BE TO DISCUSS CRITICAL OPERATIONS AND POTENTIAL PROBLEMS. THE CONTRACTOR WILL CONFIRM THE NUMBER AND DURATION OF WORK SHIFTS, NUMBER OF WORK CREWS, AND SPECIFIC PORTIONS OF THE WORK TO BE PERFORMED DURING THE FOLLOWING WEEKS.

THESE MEETINGS CAN ONLY BE WAIVED BY THE CONSTRUCTION ENGINEER.

SIGNAGE

ADVANCE WARNING SIGN GROUPS AS PER STANDARD DRAWINGS MT-95.30M, MT-98.12M, MT-98.13M, MT-98.14M, MT-98.15M, MT-98.16M, MT-98.17M, AND MT-98.18M SHALL BE INSTALLED, PAYMENT FOR THESE SIGNS SHALL BE UNDER ITEM 614 - MAINTAINING TRAFFIC.

CALCULATED EMK
CHECKED LDH

MAINTENANCE OF TRAFFIC NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

15
93

PUBLIC SAFETY

THE FOLLOWING PROVISIONS "A", "B",AND "C" SHALL APPLY WHEN THE LANE ADJACENT TO THE GUARDRAIL IS OPEN TO TRAFFIC:

THE PERIOD OF TIME THAT A HAZARD IS LEFT UNPROTECTED BY THE REMOVAL OF GUARDRAIL SHALL BE HELD TO AN ABSOLUTE MINIMUM AND IN NO CASE SHALL SUCH A PERIOD BE LONGER THAN ONE WORKING DAY. IF, AFTER ONE DAY, THE ENTIRE RUN OF GUARDRAIL CONSTRUCTION IS NOT COMPLETE THE FOLLOWING SHALL APPLY:

A. IN AREAS WHERE EXISTING GUARDRAIL HAS BEEN REMOVED OR THE GUARDRAIL IS IN A PARTIAL STAGE OF COMPLETION. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TYPE II BARRICADES WITH TYPE C (STEADY BURNING) WARNING LIGHTS WITHIN THE LIMITS OF THE UNPROTECTED AREA. THE BARRICADES SHALL BE PLACED AT 50' INTERVALS AND OFFSET AT LEAST TWO FEET FROM THE EDGE OF THE TRAVELED ROADWAY AND IN CLOSE PROXIMITY TO THE CONSTRUCTION. THE APPROACH END OF A PARTIALLY COMPLETED RUN OF GUARDRAIL SHALL BE FASTENED AT GROUND LEVEL TO A STEEL DRUM.

B. IF THE EXISTING GUARDRAIL IS FOR THE PROTECTION OF AN OBSTACLE (I.E. SIGN SUPPORT, BRIDGE PAREPET, ETC.) THE CONTRACTOR SHALL ERECT PORTABLE CONCRETE BARRIER IN THE DIRECTION OF TRAFFIC. THE REQUIREMENTS OF PARAGRAPH "A" SHALL APPLY TO THE REMAINING GUARDRAIL WITHIN THE RUN. TEMPORARY BARRIER SHALL BE FLARED AT A 20:1 (MINIMUM) TAPER RATE AND SHALL INCLUDE A TEMPORARY END TERMINAL AS PER RM-4.2M.

C. THE REQUIREMENTS STATED IN "A" SHALL APPLY FOR A PERIOD NOT TO EXCEED ONE WEEK. WHERE THE REBUILDING OR CONSTRUCTION OF ANY RUN OF GUARDRAIL CANNOT BE ACCOMPLISHED WITHIN ONE WEEK, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY CONCRETE BARRIER IN THE INTERIM TIME IT TAKES TO COMPLETE THE WORK (SEE DETAIL ON SHEET 19). THE APPROACH END OF THE PORTABLE CONCRETE BARRIER SHALL BE FLARED TO THE OUTER EDGE OF THE PAVED SHOULDER AND SHALL INCLUDE A TEMPORARY END TERMINAL AS PER RM-4.2M. IN ADDITION, A TYPE II BARRICADE WITH TYPE B (HIGH INTENSITY FLASHER) WARNING LIGHT SHALL BE PLACED IN FRONT OF THIS INITIAL SECTION OF TEMPORARY BARRIERS TO PROVIDE FOREWARNING TO THE APPROACHING TRAFFIC.

D. TEMPORARY CONCRETE BARRIER IS NOT REQUIRED TO SEPARATE OPPOSING TRAFFIC WHEN THE MEDIAN BARRIER IS REMOVED PROVIDED THAT BOTH MEDIAN LANES REMAIN CLOSED UNTIL THE NEW MEDIAN BARRIER IS IN PLACE. FOR HAZARDS WITHIN THESE ZONE, PARAGRAPHS A, B AND C ABOVE STILL APPLY.

WHEN THE LANE ADJACENT TO THE GUARDRAIL IS CLOSED TO TRAFFIC THE PROVISIONS OF PARAGRAPH "A" ABOVE SHALL APPLY AFTER 1 DAY. THE PROVISIONS OF PARAGRAPH "B" ABOVE SHALL APPLY AFTER 10 DAYS, AND THE PROVISIONS OF PARAGRAPH "C" ABOVE SHALL APPLY AFTER 15 DAYS.

THE TERM "GUARDRAIL" AS USED HEREIN SHALL BE UNDERSTOOD TO COVER ALL TYPES OF GUARDRAIL, EXISTING OR PROPOSED FOR THE PROJECT INCLUDING BARRIER DESIGN GUARDRAIL, BRIDGE WINGWALL PARAPETS, AND CONCRETE BARRIER.

THE COST OF COMPLYING WITH THESE SAFETY PROCEDURES SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

TRAFFIC CONTROL MATERIALS

A. SIGNS

SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES, SHALL BE AS PROVIDED IN THE "MANUAL", OR IN SIGN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. THE SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THE PROJECT.

ALL SIGNS SHALL HAVE A REFLECTORIZED BACKGROUND OF REFLECTIVE MATERIALS AS DESCRIBED IN THE "MANUAL".

B. SIGN SUPPORTS

TEMPORARY SIGN SUPPORTS SHALL BE AS SHOWN ON MT-105.10M AND MT-105.11M.

C. DRUMS

DRUMS SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ALL PERMANENT LANE CLOSURES SHALL BE DELINEATED WITH DRUMS SPACED AT 50 FEET CENTER TO CENTER. ALL COSTS FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID DRUMS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

D. LIGHTING DEVICES

FLASHERS SHALL BE 12 VOLT BATTERY OPERATED MODELS WITH 7 INCH DIAMETER YELLOW LENSES ILLUMINATED BY RAPID INTERMITTENT FLASHES OF SHORT DURATION AND SHALL BE PLACED ON ALL SIGNS AT ALL TIMES.

CONTINUOUS BURN LIGHTS SHALL BE 12 VOLT BATTERY OPERATED MODELS WITH MINIMUM 7 INCH DIAMETER YELLOW LENSES.

E. FLASHING ARROW BARRICADE

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED. THE MOTORIST SHALL BE WARNED AND DIVERTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW BARRICADE FOR EACH LANE CLOSED. THE CONTRACTOR SHALL REFER TO STANDARD DRAWING MT-35.10 AND THE PROVISION SET FORTH IN OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS FOR ALL INFORMATION REGARDING FURNISHING, MAINTAINING. AND USE OF FLASHING ARROW BARRICADES. IF THE FLASHING ARROW BARRICADE IS WITHIN 300 FT OF A RESIDENCE OR ON A SURFACE STREET, A SOLAR POWERED FLASHING ARROW BARRICADE SHALL BE USED. PAYMENT FOR THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

SUSPENSION OF WORK

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE WHEN NO LONGER NEEDED A PORTABLE CHANGEABLE MESSAGE SIGN (S). THE PCMS SHALL BE OF THE TYPE SHOWN ON THE LIST OF APPROVED PCMS MAINTAINED BY THE DIRECTOR. THE PCMS SHALL BE A CLASS I OR II TYPE UNIT.

THE PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE MOUNTED ON A TRAILER. THE LOCATION OF THE PCMS SHALL BE AS DIRECTED BY THE ENGINEER. THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS.

THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE LINK WHICH WILL ALLOW REMOTE SIGN ACTIVATION, DEACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES.

THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER THE SOFTWARE NECESSARY TO CONTROL THE PCMS REMOTELY.

THE PCMS SHALL BE EQUIPPED WITH A MYRIAD SAFETY BEAM OR AN APPROVED EQUAL AS DETERMINED BY THE ENGINEER. THE MYRIAD SAFETY BEAM SENDS OUT A SIGNAL THAT ACTIVATES RADAR DETECTORS. THE BEAM IS APPROVED BY THE F.C.C. THE MYRIAD SAFETY BEAM SHALL USE THE SAME POWER SUPPLY AS THE PCMS. THE MYRIAD SAFETY BEAM SHALL BE ABLE TO BE ACTIVATED WITH THE PCMS RUNNING OR NOT. THE MYRIAD SAFETY BEAM IS DISTRIBUTED BY THE TRIPLEX GROUP, INC., P.O. BOX 428. NEW HOPE, PA. 18938. PHONE (215) 862-5077.

NO FLIP DISK UNITS ARE ALLOWED.

AT THE DIRECTION OF THE ENGINEER THE PCMS MAY BE REMOVED FOR PERIODS OR TIMES WHEN NOT IN USE. NO PAYMENT WILL BE MADE FOR THESE TIMES (EX. WINTER MONTHS).

THERE SHALL BE FOUR CLASS I OR II CHANGEABLE MESSAGE SIGN AT 5 MONTHS EACH.

ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN,
AS PER PLAN . . . . . 20 SIGN-MONTHS

MAJOR WORK ITEMS

THE FOLLOWING MAJOR WORK ITEMS WILL REQUIRE TRAFFIC MAINTENANCE WHICH SHALL BE INCORPORATED INTO THE CONTRACTORS SEQUENCE OF OPERATIONS.

A. PLANING OF SR 2/44
B. UNDERDRAIN PLACEMENT, SR 44
C. REPAIR OF CONCRETE PAVEMENT JOINTS AND PANELS, SR 2/44
D. OVERLAY SR 2/44, SAW AND SEAL JOINTS
E. MINOR BRIDGE WORK
F. CLEAN ROADWAY DITCHES
G. PAVEMENT MARKINGS
H. INSTALLATION OF GUARDRAIL

CALCULATED EMK
CHECKED LDH

MAINTENANCE OF TRAFFIC NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

16
93

MAINTENANCE OF TRAFFIC CONTROL ZONES

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN THE SIGNS, DRUMS AND TEMPORARY PAVEMENT MARKINGS AT THE LOCATIONS DETAILED IN THE PLANS OR SPECIFIED IN THE STANDARD DRAWINGS. WHEN THE CONTRACTOR IS NOTIFIED OF DEFICIENCIES HE SHALL CORRECT THE DEFICIENCIES AS SOON AS POSSIBLE, PREFERRABLY WITHIN 12 HOURS AND NO LATER THAN 24 HOURS. IF ANY NOTED DEFICIENCIES ARE NOT CORRECTED WITHIN 24 HOURS THE ENGINEER SHALL DEDUCT ONE DAY PAY FOR ITEM 614 - MAINTAINING TRAFFIC, NOT AS A PENALTY BUT AS LIQUIDATED DAMAGES. THE CONTRACTOR SHALL BE SUBJECT TO THESE LIQUIDATED DAMAGES FOR EACH AND EVERY DAY THAT THESE PROVISIONS ARE NOT MET. ALL COSTS FOR MAINTAINING THE WORK ZONES AS DESCRIBED ABOVE SHALL BE INCLUDED UNDER ITEM 614 - MAINTAINING TRAFFIC.

ITEM 614 - TEMPORARY PAVEMENT MARKINGS (RESURFACING)

TEMPORARY MARKINGS SHALL BE PLACED AT THE LOCATIONS OF THE PERMANENT MARKINGS AS SHOWN IN THE TRAFFIC CONTROL PLANS.

THIS ITEM SHALL BE USED AFTER THE OVERLAY IS PLACED. THE ESTIMATED QUANTITIES FOR THIS WORK ARE SHOWN ON THE GENERAL SUMMARY.

PERMANENT PAVEMENT MARKINGS

AFTER PLACING THE SURFACE COURSE, THE CONTRACTOR MAY PLACE PERMANENT PAVEMENT MARKINGS AT LOCATIONS SHOWN IN THE TYPICALS AND THE TRAFFIC CONTROL SHEETS INSTEAD OF PLACING TEMPORARY PAVEMENT MARKINGS, WHICH SHALL BE NON-PERFORMED AT THESE LOCATIONS.

TEMPORARY CONCRETE BARRIER (PUBLIC SAFETY)

TEMPORARY CONCRETE BARRIER SECTIONS (10 FT LONG) AS REQUIRED BY THE PUBLIC SAFETY NOTE SHALL BE SUPPLIED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LOADING, UNLOADING AND TRANSPORTATION OF THE BARRIER.

THE BARRIER SECTIONS SHALL BE BOLTED TOGETHER WITH STEEL CONNECTIONS AS PER STANDARD CONSTRUCTION DRAWING RM-4.2M.

IT IS ANTICIPATED THAT THE SAME BARRIER WILL BE USED IN VARIOUS PHASES OF CONSTRUCTION. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY.

ALL COSTS FOR FURNISHING, INSTALLING, REINSTALLING AND SUBSEQUENT REMOVING TEMPORARY CONCRETE BARRIER AS DESCRIBED UNDER PUBLIC SAFETY WILL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 622 - PORTABLE CONCRETE BARRIER.

NIGHT VEST

ALL OF THE CONTRACTORS AND SUB-CONTRACTORS PERSONNEL WORKING DURING THE HOURS OF DARKNESS SHALL WEAR A 100% SILVER REFLECTIVE SAFETY VEST. THE SAFETY VEST SHALL BE PROVIDED BY THE CONTRACTOR. THE VEST MAY HAVE SEVERAL LIME OR ORANGE STRIPES ON IT.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF ITEM 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

- FOR TOTAL CLOSURES OF EXIT RAMPS.

- WHEN DIRECTED BY THE ENGINEER.

LAW ENFORCEMENT OFFICERS (L.E.O.'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

LAW ENFORCEMENT OFFICERS 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. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - LAW ENFORCEMENT OFFICER W/PATROL CAR . .200 HOURS

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

VEHICLES AND EQUIPMENT SHALL ALWAYS MOVE WITH, AND NOT ACROSS OR AGAINST THE FLOW OF TRAFFIC. VEHICLES AND OTHER EQUIPMENT SHALL NOT PARK OR STOP EXCEPT WITHIN DESIGNATED WORK AREAS; AND SHALL NOT ENTER AND LEAVE WORK AREAS IN A MANNER WHICH WILL BE HAZARDOUS TO, OR INTERFERE WITH THE NORMAL TRAFFIC FLOW. PERSONAL VEHICLES WILL NOT BE PERMITTED TO PARK WITHIN THE RIGHT-OF-WAY EXCEPT IN SPECIFIC AREAS DESIGNATED BY THE ENGINEER.

EQUIPMENT, VEHICLES AND MATERIALS SHALL NOT BE STORED OR PARKED WITHIN 30 FEET OF THE TRAVELED WAY UNLESS 6 FEET BEHIND PCB OR GUARDRAIL.

ALL WORK VEHICLES AND EQUIPMENT THAT ENTERS THE WORK ZONE MORE THAN ONCE A DAY MUST BE EQUIPPED WITH AT LEAST ONE FLASHING, ROTATING, OR OSCILLATING AMBER LIGHT THAT IS VISIBLE IN ALL DIRECTIONS OF TRAFFIC FOR AT LEAST ONE QUARTER OF A MILE, DAY OR NIGHT.

HOLIDAY CLOSURES

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES, EXCEPT FOR THE LONGTERM LANE CLOSURE SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	NEW YEARS	MOTHERS DAY
MEMORIAL DAY	FOURTH OF JULY	EASTER
LABOR DAY	THANKSGIVING	

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC	
SUNDAY	12:00N FRIDAY	THROUGH 12:00N MONDAY
MONDAY	12:00N FRIDAY	THROUGH 12:00N TUESDAY
TUESDAY	12:00N MONDAY	THROUGH 12:00N WEDNESDAY
WEDNESDAY	12:00N TUESDAY	THROUGH 12:00N THURSDAY
THURSDAY	12:00N WEDNESDAY	THROUGH 12:00N MONDAY
FRIDAY	12:00N THURSDAY	THROUGH 12:00N MONDAY
SATURDAY	12:00N FRIDAY	THROUGH 12:00N MONDAY

NO EXTENTIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07.

FLOODLIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME 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 OPERATIONAL 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 MAINTAINING TRAFFIC.

FLASHING ARROW PANEL

DURING ANY CONSTRUCTION PHASE WHEN FLASHING ARROW PANELS ARE SHOWN ON THE PLANS, ELECTRIC POWERED EQUIPMENT OR SOLAR POWERED EQUIPMENT APPROVED BY THE ENGINEER SHALL BE EXCLUSIVELY UTILIZED WHEN LOCATED WITHIN 300 FEET OF ANY RESIDENCE. DIESEL OR GASOLINE POWERED GENERATORS WILL NOT BE PERMITTED IN THESE AREAS.

CALCULATED EMK
CHECKED LDH

MAINTENANCE OF TRAFFIC NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

17
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391mna.dgn

CALCULATED EMK
CHECKED LDH

MAINTENANCE OF TRAFFIC NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

18
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391mna.dgn

TRAFFIC CONTROL AND SEQUENCE OF ASPHALT CONCRETE WORK

ALL ASPHALT CONCRETE OPERATIONS SHALL BE CONDUCTED IN A MANNER THAT WILL ASSURE MINIMUM DANGER AND INCONVENIENCE TO THE HIGHWAY USERS. ALL ASPHALT WORK SHALL BE PERFORMED AT THE TIMES PROVIDED IN THE "SCHEDULE OF THRU LANES TO BE MAINTAINED" NOTE ON SHEET 20. THE PROCEDURE FOR INSTALLATION OF ANY ASPHALT LAYER SHALL BE SUCH THAT NO GREATER THAN 1-1/2 INCH DISCONTINUITY IN THE ELEVATION OF THE TRAVELED SURFACE SHALL BE EXPOSED TO TRAFFIC.

THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS SUCH THAT ALL HALF-WIDTH OVERLAYS ARE NOT EXPOSED TO TRAFFIC FOR MORE THAN 24 HOURS.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS ANY PART-WIDTH RESURFACING JOINT EXCEPT AS IS NECESSARY DURING THE ACTUAL RESURFACING OPERATION. ANY PART WIDTH RESURFACING JOINTS WHICH MUST BE EXPOSED TO TRAFFIC SHALL BE RAMPED USING ITEM 614 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC AT A RATE NOT TO EXCEED 2 INCHES IN 1 FOOT (LONGITUDINAL JOINTS).

TEMPORARY TRANSVERSE RESURFACING JOINTS WHICH MUST BE EXPOSED TO TRAFFIC SHALL BE RAMPED USING ITEM 614 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC AT A RATE NOT TO EXCEED 1 INCH IN 10 FEET.

WHENEVER TRAFFIC IS SUBJECTED TO HALF-WIDTH OVERLAYS PRIOR TO COMPLETING THE ASPHALT COURSE, THE CONTRACTOR SHALL PROVIDE OW-171-48 AND OWP-171-24 SIGNS (DUAL SIGN INSTALLATION). PLACEMENT SHALL BE AS DIRECTED BY THE ENGINEER AND INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

TRAFFIC MUST BE MAINTAINED AT ALL TIMES IN BOTH DIRECTIONS IN ACCORDANCE WITH THE "SCHEDULE OF THRU LANES TO BE MAINTAINED".

WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORISTS SHALL BE WARNED AND DIVERTED BY THE CONTRACTOR THROUGH THE USE OF A FLASHING ARROW, IN ADDITION TO THOSE PROVISIONS SET FORTH IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

PRIOR TO OPENING THE ROADWAY TO NORMAL TRAFFIC DURING WINTER MONTHS, ALL ASPHALT WORK INCLUDING THE SURFACE COURSE MUST BE COMPLETED AN EQUAL FULL WIDTH DISTANCE. NO INTERMEDIATE LEVELING COURSE IS TO BE TRAVELED ON DURING WINTER MONTHS NOR SHALL ANY PART WIDTH RESURFACING REMAIN DURING THE WINTER. THE CONTRACTOR IS CAUTIONED TO SCHEDULE HIS OPERATIONS TO MEET THIS REQUIREMENT. IF THE CONTRACTOR DOES NOT MEET THIS REQUIREMENT OR HAS THIS REQUIREMENT WAIVED, THE CONTRACTOR SHALL INCREASE THE THICKNESS OF THE SURFACE COURSE BY ½" ENTIRELY AT HIS EXPENSE FOR LABOR, MATERIALS, AND EQUIPMENT.

ITEM 614 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC

THIS ITEM SHALL BE USED TO PROVIDED TEMPORARY ASPHALT RAMPS FOR TRANSVERSE DISCONTINUITIES. RAMPING SHALL BE PLACED AT THE RATE OF 1" PER 10 FT.

TEMPORARY ASPHALT RAMPS SHALL BE REMOVED AS PART OF THIS ITEM.

ITEM 614 - BITUMINOUS CONCRETE
FOR MAINTAINING TRAFFIC . . . . . 250 CU. YD.

ITEM 614 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC, AS PER PLAN

THIS ITEM SHALL BE USED TO REPAIR HOLES IN BRIDGE DECKS, ROADWAY SURFACE AND BERMS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MONITOR THE ROADWAY TO DETERMINE WHEN THE HOLES SHALL BE PATCHED. THE CONTRACTOR MUST NOTIFY THE ENGINEER FOR HIS/HER APPROVAL.

THE CONTRACTOR WILL BE RESPONSIBLE FOR DAMAGES TO MOTORIST VEHICLES IF THE HOLES ARE NOT FILLED IN A REASONABLE AMOUNT OF TIME.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE ROADWAY, BRIDGE DECKS AND BERMS (IN THE DIRECTION WORK IS BEING PERFORMED) FROM THE FIRST DAY OF WORK UNTIL CONSTRUCTION IS COMPLETE. THIS INCLUDES PERIODS WHEN WORK IS SUSPENDED.

THE CONTRACTOR HAS A MAXIMUM TIME OF 2 HOURS AFTER HE HAS BEEN INFORMED OF A POT HOLE, BY PROJECT PERSONNEL, TO TAKE CORRECTIVE ACTION. IF THE CONTRACTOR FAILS TO TAKE ACTION TO FIX THE POT HOLE WITHIN THE 2 HOUR LIMIT, THE CONTRACTOR SHALL BE CHARGED A LIQUIDATED DAMAGE OF $1000 PER OCCURENCE.

THE PROCEDURE FOR PATCHING A HOLE IS:

REMOVE ALL LOOSE AND DISINTEGRATED ASPHALT OR CONCRETE TO AN EXTENT TO EXPOSE SOUND CONCRETE OR ASPHALT. THE PERIMETER OF ALL REMOVAL AREAS SHALL BE VERTICAL.

CARE SHALL BE TAKEN ON BRIDGE DECKS NOT TO PUNCTURE THE DECK OR DAMAGE THE REINFORCING STEEL. THE CONTRACTOR SHALL TAKE WHAT EVER STEPS NECESSARY TO MAKE THE BRIDGE DECK PASSABLE.

THE SURFACE TO BE PATCHED MUST BE CLEANED AND DRIED.

THE ENTIRE SURFACE SHALL BE TACK COATED, INCLUDING THE VERTICAL FACES.

ASPHALT CONCRETE SHALL BE IN ACCORDANCE TO ITEM 404 OR 402 AS DETERMINED BY THE ENGINEER. IT SHALL BE PLACED IN 2 INCH LIFTS AND COMPACTED TO THE LEVEL OF THE WEARING SURFACE.

DURING WINTER MONTHS ONLY WHEN ASPHALT IS NOT AVAILABLE OR AT THE DIRECTION OF THE ENGINEER COLD MIX MAY BE USED. COMPACTION EQUIPMENT MUST BE APPROVED BY THE ENGINEER.

ALL TRAFFIC CONTROL NEEDED FOR THIS ITEM OF WORK SHALL BE INCLUDED IN THIS ITEM OF WORK.

ITEM 614 - BITUMINOUS CONCRETE FOR MAINTAINING
TRAFFIC, AS PER PLAN . . . . . 150 CU. YD.

SHOULDER WIDENING

THE TIME BETWEEN EXCAVATING THE EXISTING SHOULDER AND SOIL, PLACING PROPOSED UNDERDRAINS, PLACING 304 AND 301 MATERIALS SHALL BE KEPT TO A MINIMUM. THE MAXIMUM TIME ALLOWED FOR TO PLACE THE PROPOSED SHOULDER SHALL BE 10 CALENDAR DAYS, PER RAMP, FROM THE COMENCEMENT OF EXCAVATION TO THE PLACEMENT OF THE 301 MATERAIL. LIQUIDATED DAMAGES SHALL BE ASSESED IN ACCORDANCE WITH 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

RAMP CLOSURES FOR REPAIRS OR RESURFACING

THE CONTRACTOR MAY CLOSE ONE RAMP AT A TIME FOR REPAIRS OR RESURFACING. EACH RAMP MAY BE CLOSED A MAXIMUM OF 5 TIMES. THE CLOSURES SHALL BE LIMITED TO THE HOURS SHOWN IN THE "SCHEDULE OF THRU LANES TO BE MAINTAINED" TABLE. THE MOTORING PUBLIC SHALL BE GIVEN ADVANCE WARNING OF CLOSURES AT LEAST 72 HOURS IN ADVANCE THROUGH THE USE OF EITHER A GROUND MOUNTED FLAT SHEET SIGN OR A PORTABLE CHANGEABLE MESSAGE SIGN. A LEO WITH PATROL CAR (PAID FOR SEPARATELY) SHALL BE USED FOR EACH RAMP CLOSURE AND BE PRESENT FOR THE ENTIRE CLOSURE TIME.

FREEWAY ENTRANCE RAMPS SHALL BE CLOSED WITH A PCMS SUGGESTING A RECOMMENDED DETOUR.

FREEWAY EXIT RAMPS SHALL BE CLOSED WITH A PCMS ROUTING TRAFFIC TO THE NEXT EXIT AND A SECOND PCMS INDICATING A U-TURN AT THAT EXIT (UNLESS DIRECTED DIFFERENTLY BY THE ENGINEER).

FOR RAMP CLOSURES ONE OR TWO ADDITIONAL PCMS UNITS WILL BE NEEDED AS DESCRIBED ABOVE. THESE WILL BE IN ADDITION TO THE PCMS UNITS SPECIFIED IN THE PLANS AND SHALL BE PAID FOR BY THE CONTRACTOR.

COVERING OF SIGNS

WHEN THE MESSAGE OF A PERMANENT SIGN CONFLICTS WITH A LONG TERM CLOSURE DURING BRIDGE OR ROAD REPAIRS, THE SIGN SHALL BE COVERED. THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.

OVERHEAD SIGNS, COVERING OF DOWN ARROWS

OVERHEAD SIGNS ON THE FREEWAY WHICH CONTAIN DOWN ARROW LANE CONTROLS SHALL BE MODIFIED AS FOLLOWS:

DOWN ARROWS OVER CLOSED LANE:

SHORT TERM LANE CLOSURE: NO WORK

LONG TERM LANE CLOSURE: COVER ARROW WITH 3 FT HIGH BY 3 FT WIDE ORANGE PANEL

THE BLANK PANELS SHALL BE INSTALLED WITHIN FOUR (4) HOURS AFTER IMPLEMENTATION OF THE LANE CLOSURE. THEY SHALL BE REMOVED NO EARLIER THAN 24 HOURS IN ADVANCE OF THE REOPENING OF THE LANE.

THERE ARE APPROXIMATELY 2 DOWN ARROWS WHICH WILL HAVE TO BE COVERED AS PART OF THIS PROJECT. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

CONSTRUCTION TRAFFIC

ALL CONSTRUCTION TRAFFIC SHALL USE ACCEPTABLE TRUCK ROUTES TO ACCESS THE CONSTRUCTION AREA. USE OF LOCAL RESIDENTIAL STREETS IS STRICTLY PROHIBITED UNLESS ALLOWED IN WRITING BY THE LOCAL ENFORCEMENT AUTHORITY.

CALCULATED EMK CHECKED LDH

SEQUENCE OF TRAFFIC NOTES

MAINTENANCE

LAKE COUNTY
LAK-2/44-13.05/4.14

19
93

SEQUENCE OF OPERATIONS

THE CONTRACTOR SHALL FINISH ALL PROPOSED WORK THAT REQUIRES ANY LANE CLOSURES ON SECTIONS 1 & 4 PRIOR TO STARTING ANY WORK ON SECTIONS 2 & 3.

SECTION 1

THE SEQUENCE OF OPERATIONS FOR SECTION 1, SR-44, STA 233+00 TO STA 312+45, RAMP G, STA 0+00 TO STA 18+00 AND RAMP E, STA 29+00 TO STA 46+98 ARE DETAILED ON SHEETS 21-22.

ALL WORK IN SECTION 1 SHALL BE COMPLETED IN 100 DAYS (SEE THE "LIQUIDATED DAMAGES/INTERIM COMPLETION REQUIREMENTS" ON SHEET 20.

SECTION 2

THE SEQUENCE OF OPERATIONS FOR SECTION 2, SR-44, STA 47+00 TO STA 164+34 ARE DETAILED ON SHEETS 23-24.

ALL WORK IN SECTION 2 SHALL BE COMPLETED IN 90 DAYS (SEE THE "LIQUIDATED DAMAGES/INTERIM COMPLETION REQUIREMENTS" ON SHEET 20.

SECTION 3

THE SEQUENCE OF OPERATIONS FOR SECTION 3, SR-44, STA 31+66 TO STA 47+00 ARE DETAILED BELOW:

PHASE I
- PLANE ALL EXISTING ASPHALT ON PAVEMENT AND SHOULDERS

PHASE II
- PERFORM CONCRETE REPAIRS UTILIZING FS CONCRETE

PHASE III
- PLACE THE ASPHALT CONCRETE OVERLAY

NOTE: ALL WORK SHALL BE PERFORMED AT TIMES PERMITTED BY THE "SCHEDULE OF THRU LANES TO BE MAINTAINED" TABLE ON SHEET 20.

ALL WORK IN SECTION 3 SHALL BE COMPLETED IN 30 DAYS (SEE THE "LIQUIDATED DAMAGES/INTERIM COMPLETION REQUIREMENTS" ON SHEET 20.

SECTION 4

THE SEQUENCE OF OPERATIONS FOR SECTION 4, SR-2, STA 586+22 TO STA 657+25, RAMPS E, F, G AND H ARE DETAILED BELOW:

PHASE I
- PLANE ALL EXISTING ASPHALT ON PAVEMENT AND SHOULDERS

PHASE II
- PERFORM CONCRETE REPAIRS UTILIZING FS CONCRETE

PHASE III
- PLACE THE ASPHALT CONCRETE OVERLAY

NOTE: ALL WORK SHALL BE PERFORMED AT TIMES PERMITTED BY THE "SCHEDULE OF THRU LANES TO BE MAINTAINED" TABLE ON SHEET 20.

ALL WORK IN SECTION 3 SHALL BE COMPLETED IN 50 DAYS (SEE THE "LIQUIDATED DAMAGES/INTERIM COMPLETION REQUIREMENTS" ON SHEET 20.

ITEM 630 - SIGNING MISC.: ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER

WHEN ADDITIONAL SIGNING IS NEEDED TO MAINTAIN TRAFFIC, THE CONTRACTOR SHALL FURNISH THE SIGN OR SIGNS AS DIRECTED BY THE ENGINEER. THESE SIGNS SHALL BE GROUND MOUNTED AND MEET ALL THE SPECIFICATIONS OF THE PLAN, PROPOSAL AND CURRENT YEAR CMS.

PAYMENT FOR THIS ITEM SHALL INCLUDE BUT NOT BE LIMITED TO THE COST TO FURNISH AND ERECT THE SIGN, INCLUDING DRIVE POSTS OR OTHER APPROVED METHODS OF SUPPORT, MAINTAINING THE SIGN AND REMOVAL OF THE SIGN.

THE FOLLOWING QUANTITY SHALL BE CARRIED TO THE GENERAL SUMMARY:

ITEM 630 - SIGNING MISC.: ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER...400 SQ. FT.

TEMPORARY PAVEMENT MARKINGS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY, TO BE USED AS DIRECTED BY THE ENGINEER, TO PLACE TEMPORARY PAVEMENT MARKINGS AFTER THE CONTRACTOR HAS PLANED THE EXISTING ASPHALT AND AFTER THE PROPOSED OVERLAY HAS BEEN PLACED.

ITEM 614 - TEMPORARY EDGE LINE, CLASS 1, 642 PAINT . . . . . 84.48 MILE
ITEM 614 - TEMPORARY LANE LINE, CLASS 1, 642 PAINT . . . . . 23.76 MILE
ITEM 614 - TEMPORARY CHANNELIZING LINE, CLASS 1, 642 PAINT . . . . . 8,324 L. F.
ITEM 614 - TEMPORARY STOP LINE, CLASS 1, 642 PAINT . . . . . 390 L. F.
ITEM 614 - TEMPORARY LANE ARROW, CLASS 1, 642 PAINT . . . . . 14 EACH
ITEM 614 - TEMPORARY DOTTED LINE, CLASS 1, 642 PAINT . . . . . 4,000 L. F.
ITEM 642 - REMOVAL OF PAVEMENT MARKING . . . . . 48,000 L. F.

WORKSITE TRAFFIC SUPERVISOR

The contractor shall employ , subject to the approval of the engineer/supervisor, a CERTIFIED Worksite Traffic Supervisor, (WTS). The WTS shall be certified from one of the following organizations:

1. American Traffic Safety Service Association(A.T.S.S.A). PHONE NO. (540) 368-1711 Certified Traffic Control Supervisor, 2 day course.

2. Or take the following course by the The National Highway Institute, Design and Operation of Work Zone Traffic Control, 3 day course, phone no. 1-877-558-6873.

The WTS position is established for the purpose of supervising the installation of the work zone, monitoring it and correcting any deficiencies in the work zone. The WTS shall oversee all operations that affect the movement of vehicular and pedestrian traffic through the work zone.

The WTS shall be present when the contractor or subcontractor installs a traffic restriction, lane closure etc. In lieu of the WTS being present when a subcontractor has a traffic control zone in place the subcontractor may use is own personnel that is a Certified WTS. The contractor and subcontractor must present a copy of his WTS certificate to the Project Engineer. A WTS must be present for any closure or traffic restriction that takes place on the project.

The WTS may be a part of the working crew and must be in charge of setting up the work zone. After the work zone is in place the WTS may resume other duties not related to work zone traffic control. If the restrictions are short term, the WTS shall monitor the zone for compliance. Traffic control will be the WTS's main duty during implementation of the work zones. The WTS shall have the authority to have the deficiencies corrected as soon as possible. The WTS shall provide the Project Engineer a sketch of the (TCP) traffic control plan every day there is to be a short term traffic restriction, lane closure etc. This TCP shall show how the WORK ZONES are to be implemented.

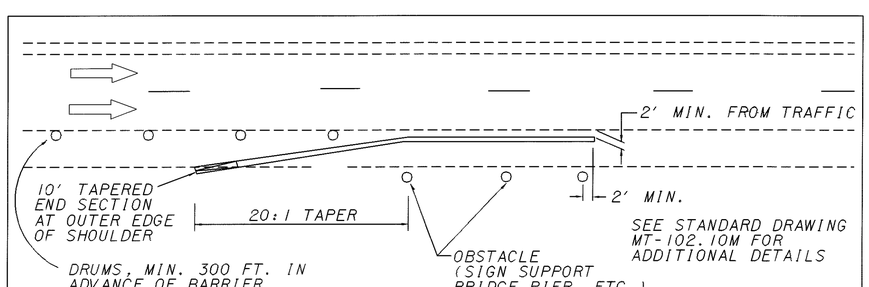
Daily, including weekends and holidays the WTS shall spend a minimum of one hour reviewing and maintaining the work zone. These hours may be adjusted by the engineer but must be performed once a day during the construction seasons. The hours may be reduced during the winter construction season if directed by the engineer. The WTS shall inspect the work zone at the beginning and end of each work day and one time per week during the hours of darkness.

A record of each day's review shall be given to the project engineer the following workday, in writing and shall include: Traffic control device condition, placement, visibility, traffic flow conditions, incidents, accidents, congestion points, adequacy of advanced warning signs beyond the project limits, interaction of work vehicles with traffic, proper storage of materials and equipment, any deficiencies and resolutions of the deficiencies etc.

A 24-hour phone number shall be made available to the project engineer/supervisor in order to contact the WTS. The WTS shall have a pager and the phone number provided to the project engineer.

Failure of the contractor to comply with any of the above, shall constitute cause for the project engineer / supervisor to deduct $500.00 per day from money due the contractor not as a penalty but as a liquidated damage.

PAYMENT FOR THE WTS SHALL BE INCLUDED UNDER THE LUMP SUM ITEM 614 - MAINTAINING TRAFFIC.



PORTABLE CONCRETE BARRIER AT HAZARDS
SEE PUBLIC SAFETY NOTE FOR REQUIRED USE

SCHEDULE OF THRU LANES TO BE MAINTAINED

N.A. = NOT APPLICABLE ⊕ - SEE "RAMP CLOSURE FOR RESURFACING" GENERAL NOTE # = LONGTERM CLOSURES

SECTION	ROAD	LANE REDUCTIONS		PERMITTED RAMP CLOSURES			HALF WIDTH RAMP PAVING
		1 LANE CLOSURE	2 LANE CLOSURE	YES/NO	SHORT TERM CLOSURE ⊕ WEEKDAYS	SHORT TERM CLOSURE ⊕ WEEKENDS	
1	SR 44 STA 233+00 TO STA 312+45 (2 LANES, NB) (2 LANES, SB)	WEEKDAY # ANYTIME WEEKDAY 9 AM - 4 PM 6 PM - 6 AM	NA				
		WEEKDAY # ANYTIME WEEKDAY ANYTIME	NA				
1	RAMP E STA 29+00 TO STA 46+97.96 (2 LANES, NB)	WEEKDAY # ANYTIME WEEKDAY 9 AM - 4 PM 6 PM - 6 AM	NA				
		WEEKDAY # ANYTIME WEEKDAY ANYTIME	NA				
1	RAMP G STA 0+00 TO STA 18+00 (2 LANES, SB)	WEEKDAY # ANYTIME WEEKDAY 9 AM - 4 PM 6 PM - 6 AM	NA				
		WEEKDAY # ANYTIME WEEKDAY ANYTIME	NA				
2	SR 44 STA 47+00 TO STA 164+34 (2 LANES, NB) (2 LANES, SB)	WEEKDAY # ANYTIME WEEKDAY 9 AM - 4 PM 6 PM - 6 AM	NA				
		WEEKDAY # ANYTIME WEEKDAY ANYTIME	NA				
3	SR 44 STA 31+66 TO STA 47+00 (2 LANES, NB) (2 LANES, SB)	WEEKDAY 9 AM - 4 PM 6 PM - 6 AM	NA				
		WEEKEND ANYTIME	NA				
4	SR 2 STA 586+22 TO STA 657+25 (2 LANES, EB)	WEEKDAY 7 PM - 7 AM 10 AM - 2 PM	NA				
		WEEKEND ANYTIME	NA				
4	SR 2 STA 586+22 TO STA 657+25 (2 LANES, WB)	WEEKDAY 6 PM - 6 AM 10 AM - 2 PM	NA				
		WEEKEND ANYTIME	NA				
4	RAMP E RAMP F RAMP G RAMP H (1 LANE) ⊕	NA	NA	YES	10:00 PM-5:30 AM		7:00 PM-6:00 AM
		NA	NA	YES		10:00 PM-5:30 AM	7:00 PM-6:00 AM
NA	ALL OTHER RAMPS (1 LANE) ⊕	NA	NA	YES	10:00 PM-5:30 AM		7:00 PM-6:00 AM
		NA	NA	YES		10:00 PM-5:30 AM	7:00 PM-6:00 AM

GENERAL

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE THRU VEHICULAR ACCESS IN BOTH DIRECTIONS AT ALL TIMES THROUGHOUT THE PROJECT AREA. THE PROJECT SHALL BE CONSTRUCTED IN PHASES IN ORDER TO MINIMIZE TRAFFIC DISRUPTION AND INCONVENIENCE TO THE GENERAL PUBLIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL EQUIPMENT, MATERIALS AND MANPOWER NEEDED TO ADEQUATELY MAINTAIN TRAFFIC AS PROVIDED FOR IN THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR IS REMINDED THAT, IN THE CONDUCT OF THIS PROJECT, HIS SEQUENCE OF OPERATIONS SHALL BE PLANNED IN SUCH A WAY AS TO MINIMIZE THE NUMBER OF LANE REDUCTIONS AND/OR LANE WIDTH REDUCTIONS REQUIRED TO MAINTAIN TRAFFIC THROUGH THE PROJECT.

PERMITTED LANE CLOSURES SHALL BE AS SHOWN ON THE "SCHEDULE OF THRU LANES TO BE MAINTAINED TABLE." THE TIME LIMITS SHOWN IN THIS TABLE SHALL BE ADHERED TO OR LIQUIDATED DAMAGES WILL BE ASSESSED.

NO EXTENSIONS OF TIME SHALL BE GRANTED FOR DELAYS IN MATERIAL DELIVERIES, UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, OR FOR LABOR STRIKES, UNLESS SUCH STRIKES ARE AREA-WIDE.

SHOULD THE CONTRACTOR FAIL TO MEET THIS REQUIREMENT THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

LIQUIDATED DAMAGES/SHORT TERM LANE CLOSURES

SHORT TERM LANE CLOSURES ARE THOSE WHICH ARE PERMITTED BY THE "SCHEDULE OF THRU LANES TO BE MAINTAINED" TABLE.

THESE TIMES SHALL NOT BE REVISED WITHOUT PRIOR APPROVAL FROM THE DISTRICT 12 WORK ZONE TRAFFIC CONTROL ENGINEER.

SHORT TERM LIQUIDATED DAMAGES SHALL ALSO BE ASSESSED WHEN A RAMP CLOSURE IS VIOLATED.

IF SHORT TERM LANE CLOSURES ARE IN PLACE OUTSIDE THE SPECIFIED TIMES, LIQUIDATED DAMAGES IN THE AMOUNT OF $ 85.00 PER MINUTE SHALL BE ACCESSED THE CONTRACTOR FOR EACH MINUTE THE LANE REMAINS CLOSED.

SHORT TERM LANE CLOSURES SHALL ONLY BE IMPLEMENTED WHEN WORK IS BEING CONTINUOUSLY PERFORMED. THE CLOSURE SHALL BE REMOVED AS SOON AS POSSIBLE AFTER WORK HAS STOPPED.

LIQUIDATED DAMAGES/INTERIM COMPLETION REQUIREMENTS

THE CONTRACTOR SHALL SCHEDULE HIS OPERATIONS AND INCREASE HIS WORK FORCE AS NECESSARY SO AS TO COMPLETE ALL WORK ITEMS REQUIRING PERMANENT LANE CLOSURES FOR THE IDENTIFIED WORK ZONES (SEE "SEQUENCE OF OPERATIONS" NOTE), WITHIN THE TIME LIMITS ALLOCATED.

NON-RUSH HOUR CLOSURES, AS PERMITTED BY THE "SCHEDULE OF THRU LANES TO BE MAINTAINED" TABLE ON THIS SHEET, ARE NOT CONSIDERED WITHIN TIME LIMITS ABOVE. (THOSE CLOSURES ARE DISCUSSED IN THE "LIQUIDATED DAMAGES/SHORT TERM LANE CLOSURES" NOTE).

THE PHASE IS COMPLETED WHEN THE CLOSED LANE IS OPENED TO TRAFFIC.

LIQUIDATED DAMAGES/INTERIM COMPLETION REQUIREMENTS (CONT.)

THE TIME LIMIT SHOWN SHALL BEGIN ON THE FIRST DAY THAT THE PERMANENT CLOSURE IS IMPLEMENTED AND SHALL CONTINUE BASED UPON CALENDAR DAYS UNTIL COMPLETION OF WORK.

LIQUIDATED DAMAGES AS DETERMINED FROM THE TABLE IN SECTION 108.07 OF THE SPECIFICATIONS SHALL BE ASSESSED FOR EACH DAY (OR PORTION THEREOF) FOR WHICH THE TIME LIMIT IS NOT MET.

CALCULATED EMK
CHECKED LDH

MAINTENANCE OF TRAFFIC NOTES

LAKE COUNTY
LAK-2/44-13.05/4.14

20
93

DOUBLE THE FINES SIGNS

THE CONTRACTOR SHALL FURNISH , INSTALL, MAINTAIN, COVER WHEN DIRECTED BY THE ENGINEER AND REMOVE R-180-48 SIGNS. THE SIGNS SHALL BE DUAL MOUNTED APPROXIMATELY 500 FT AFTER THE ROAD WORK AHEAD SIGNS. THE SIGNS SHALL BE INSTALLED ON ALL FREEWAYS LEADING INTO THE THE PROJECT. SIGNS SHALL BE POSTED ON ALL ENTRANCE RAMPS ENTERING THE PROJECT ON THE RIGHT SIDE ONLY. THE SIGNS SHALL BE DUAL MOUNTED EVERY 2 MILES. THE SIGNS MAY HAVE TO BE ADJUSTED WHEN TRAFFIC IS SWITCHED EITHER NORTHBOUND OR SOUTHBOUND. PAYMENT FOR THE ADJUSTMENT OF THE SIGNS WILL BE INCLUDED IN THE PAYMENT FOR EACH SIGN. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - DOUBLE FINES IN WORK ZONE SIGN, R-180-48 . . . 10 EACH

ITEM 614 - WORK ZONE SPEED LIMIT SIGN (EXISTING 55 & 60 MPH ZONES)

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND REMOVE WORK ZONE SPEED LIMIT SIGNS (45 OR 50 MPH) AND SUPPORTS (R-10-48) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS WITHIN THE REDUCED SPEED ZONE. 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 SIGNS IS INCIDENTAL TO THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED AND COVERED PRIOR TO STARTING WORK OR MAY BE ERECTED UNCOVERED NO MORE THAN 4 HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN 4 HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS OR SOONER AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 DAYS OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF DIVIDED HIGHWAYS, 500 FEET IN ADVANCE OF THE LANE REDUCTION TAPER. THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 250 FEET IN ADVANCE OF THE LANE REDUCTION TAPER ON UNDIVIDED HIGHWAYS. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY ½ MILE FOR 45 OR 50 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH ENTRANCE RAMP WITHIN THE ZONE. A SIGN TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. THIS SIGN SHALL BE A R-8A.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III SHEETING, FP-85. WORK ZONE SPEED LIMIT SIGN SHALL BE MOUNTED ON TWO (2) ITEM 630, GROUND MOUNTED SUPPORTS, NO. 4 POST IF PROTECTED, ELSE ITEM 630, GROUND MOUNTED SUPPORTS, NO. 3 POST.

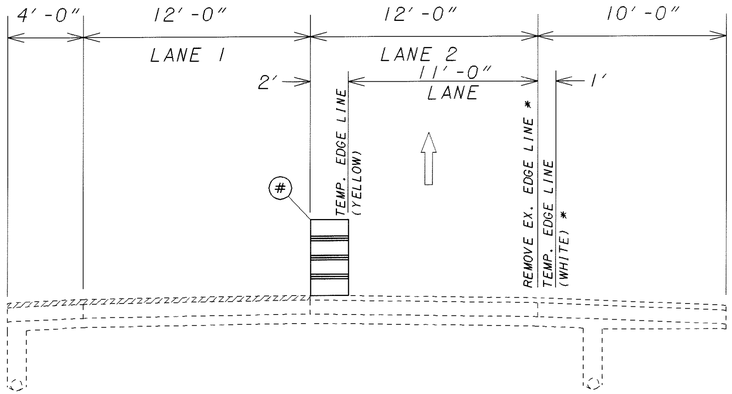
WORK ZONE SPEED LIMIT SIGN AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL 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, ERECTION, MAINTENANCE, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGNS AND SUPPORTS.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS OUTLINED ABOVE:

ITEM 614 - WORK ZONE SPEED LIMIT SIGN . . . . . 26 EACH

PHASE I (I LANE OPEN)



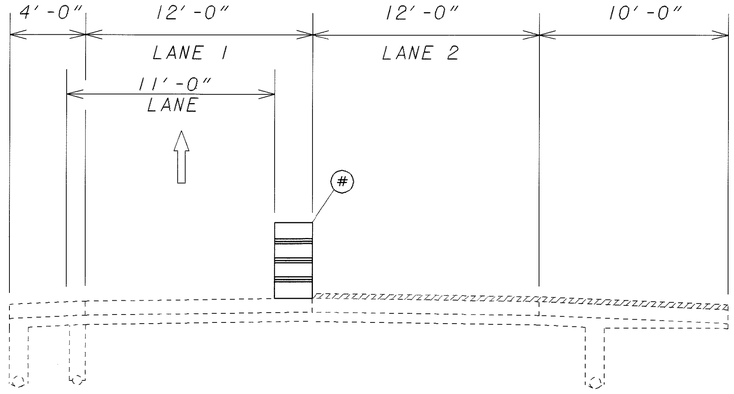
CLOSE LANE 1

LONG TERM CLOSURE

PLANE LANE 1 AND SHOULDER
PLACE TEMPORARY PAVEMENT MARKINGS

- MOVE DRUM 2' FROM TEMP EDGE LINE WHEN NOT WORKING IN LANE 1 (SEE PHASE II)
* - PERFORM WORK PRIOR TO PHASE I

PHASE III (I LANE OPEN)



CLOSE LANE 2

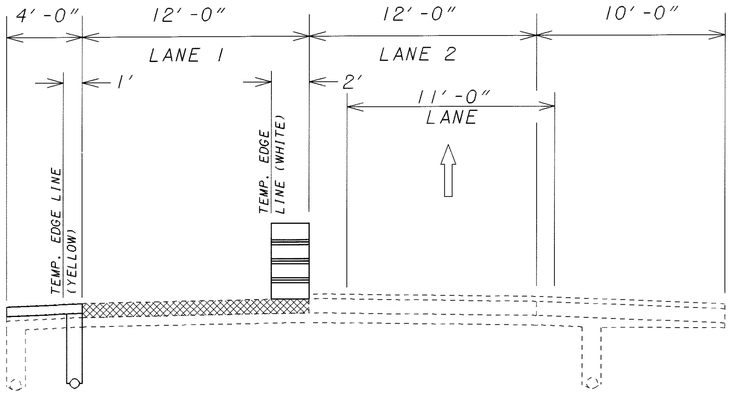
LONG TERM CLOSURE

PLANE LANE 2 AND SHOULDER

- MOVE DRUM 2' FROM TEMP EDGE LINE WHEN NOT WORKING IN LANE 2 (SEE PHASE IV)

ITEM 202 - WEARING COURSE REMOVED

PHASE II (I LANE OPEN)



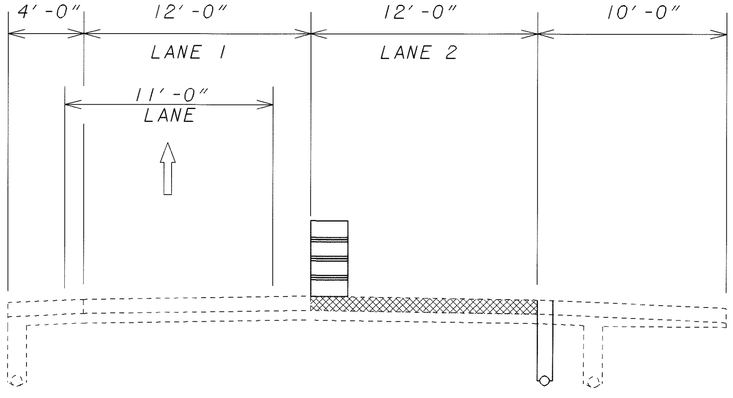
CLOSE LANE 1

LONG TERM CLOSURE

PERFORM CONCRETE REPAIRS TO LANE 1
PLACE NEW UNDERDRAIN
REPLACE LEFT SHOULDER
PLACE TEMPORARY PAVEMENT MARKINGS

SEE NOTE ON PAGE 22.

PHASE IV (I LANE OPEN)



CLOSE LANE 2

LONG TERM CLOSURE

PERFORM CONCRETE REPAIRS TO LANE 2
PLACE NEW UNDERDRAIN

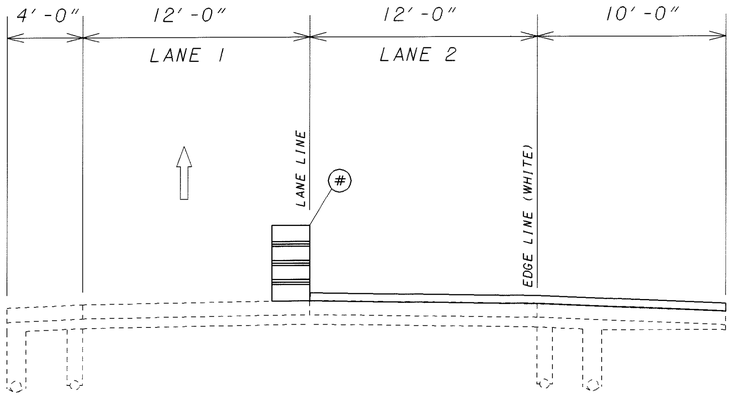
ITEM 255 - CONCRETE PAVEMENT REPAIR

CALCULATED EMK
CHECKED LDH

MAINTENANCE OF TRAFFIC DETAILS S.R. - 44 SECTION 1

LAKE COUNTY
LAK-2/44-13.05/4.14

PHASE V (1 LANE OPEN)



CLOSE LANE 2

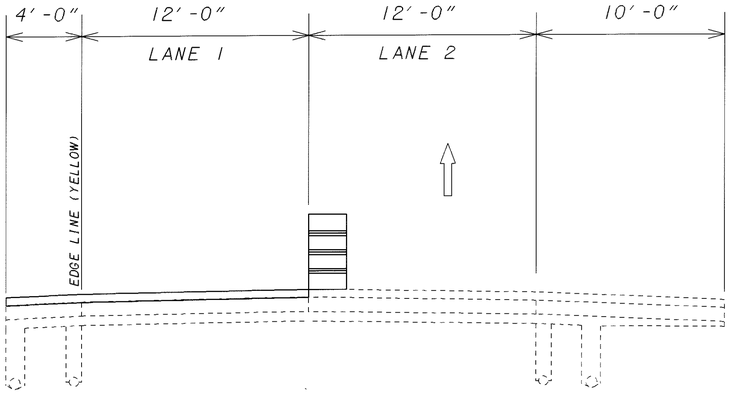
LONG TERM CLOSURE

PLACE ITEM 858 - ASPHALT CONCRETE
PLACE PAVEMENT MARKINGS

- MOVE DRUM 2' FROM TEMP EDGE LINE WHEN NOT WORKING IN LANE 1 (SEE PHASE IV)

NOTE: IT IS THE INTENT OF THIS CONTRACT TO LIMIT THE TIME THAT TRAFFIC WILL TRAVEL ON THE EXISTING CONCRETE PAVEMENT THEREFORE, THE CONTRACTOR MAY PLACE INTERMEDIATE ASPHALT COURSE(S) (ITEM 858) PRIOR TO PHASE III.

PHASE VI (1 LANE OPEN)



CLOSE LANE 1

LONG TERM CLOSURE

PLACE ITEM 858 - ASPHALT CONCRETE
PLACE PAVEMENT MARKINGS

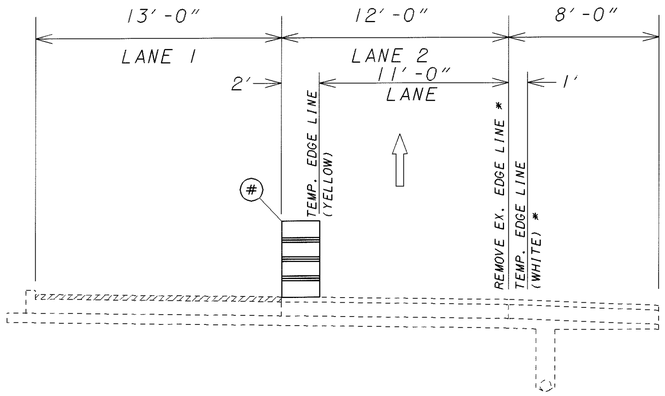
CALCULATED EMK
CHECKED LDH

MAINTENANCE OF TRAFFIC DETAILS S.R. - 44 SECTION 1

LAKE COUNTY
LAK-2/44-13.05/4.14

22
93

PHASE I (I LANE OPEN)



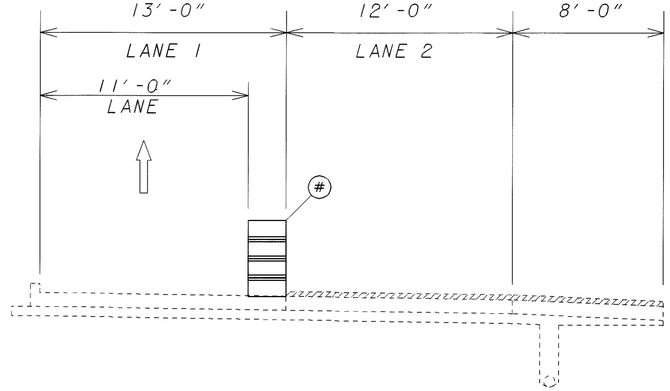
CLOSE LANE 1

LONG TERM CLOSURE

PLANE LANE 1
PLACE TEMPORARY PAVEMENT MARKINGS

- MOVE DRUM 2' FROM TEMP EDGE LINE WHEN NOT WORKING IN LANE 1 (SEE PHASE II)
* - PERFORM WORK PRIOR TO PHASE 1

PHASE III (I LANE OPEN)



CLOSE LANE 2

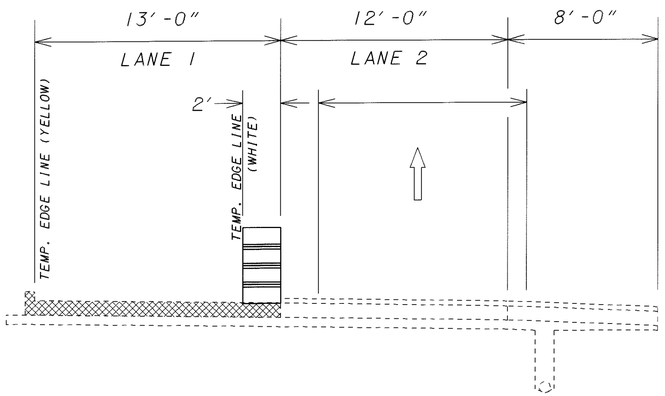
LONG TERM CLOSURE

PLANE LANE 2 AND SHOULDER

- MOVE DRUM 2' FROM TEMP EDGE LINE WHEN NOT WORKING IN LANE 2 (SEE PHASE IV)

ITEM 202 - WEARING COURSE REMOVED

PHASE II (I LANE OPEN)



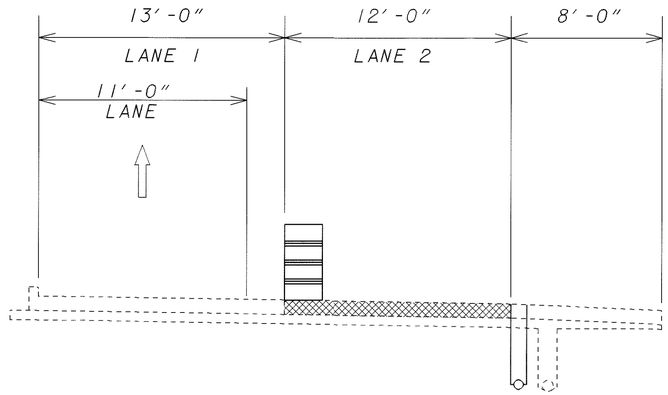
CLOSE LANE 1

LONG TERM CLOSURE

PERFORM CONCRETE REPAIRS TO LANE 1
PLACE TEMPORARY PAVEMENT MARKINGS

SEE NOTE ON PAGE 24.

PHASE IV (I LANE OPEN)



CLOSE LANE 2

LONG TERM CLOSURE

PERFORM CONCRETE REPAIRS TO LANE 2
PLACE NEW UNDERDRAIN

ITEM 255 - CONCRETE PAVEMENT REPAIR

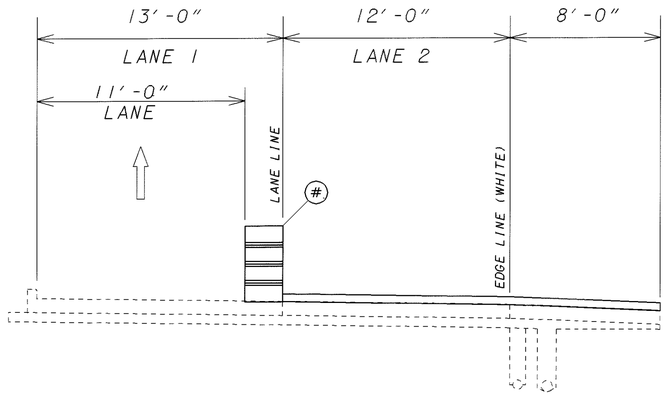
CALCULATED EMK
CHECKED LDH

MAINTENANCE OF TRAFFIC DETAILS S.R. - 44 SECTION 2

LAKE COUNTY
LAK-2/44-13.05/4.14

23
93

PHASE V (1 LANE OPEN)



CLOSE LANE 2

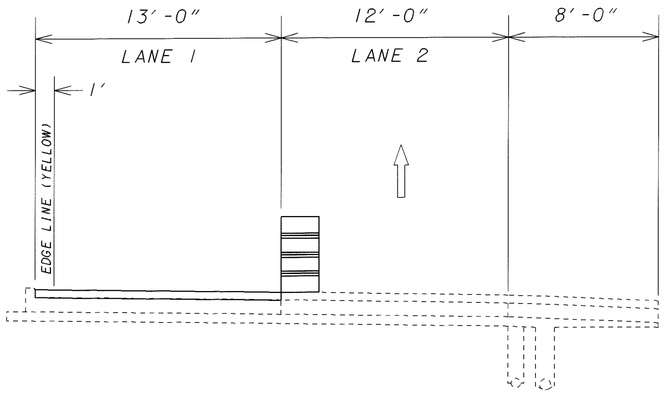
LONG TERM CLOSURE

PLACE ITEM 858 - ASPHALT CONCRETE
PLACE PAVEMENT MARKINGS

- MOVE DRUM 2' FROM TEMP EDGE LINE WHEN NOT WORKING IN LANE 1 (SEE PHASE IV)

NOTE: IT IS THE INTENT OF THIS CONTRACT TO LIMIT THE TIME THAT TRAFFIC WILL TRAVEL ON THE EXISTING CONCRETE PAVEMENT THEREFORE, THE CONTRACTOR MAY PLACE INTERMEDIATE ASPHALT COURSE(S) (ITEM 858) PRIOR TO PHASE III.

PHASE VI (1 LANE OPEN)



CLOSE LANE 1

LONG TERM CLOSURE

PLACE ITEM 858 - ASPHALT CONCRETE
PLACE PAVEMENT MARKINGS

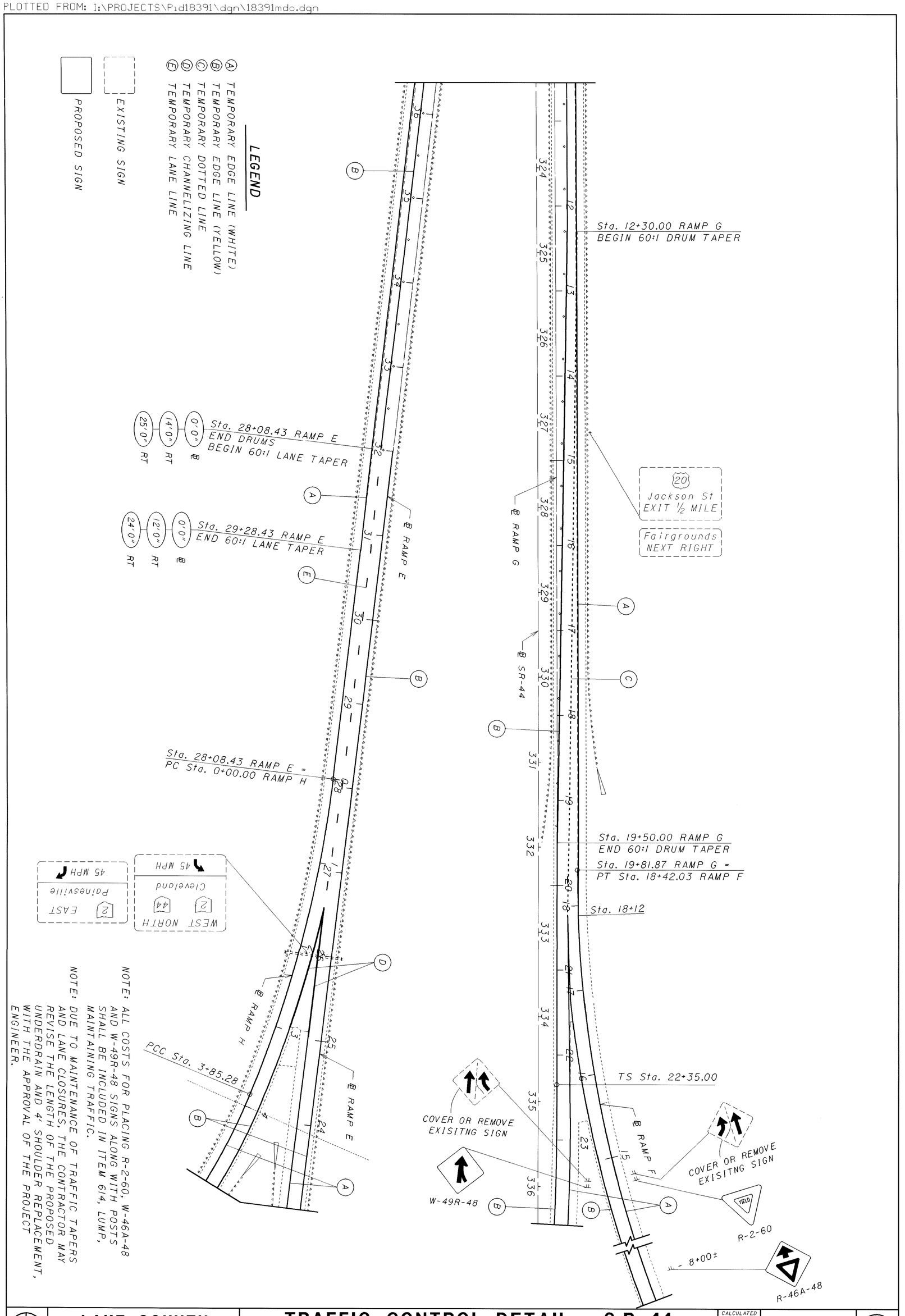
CALCULATED EMK
CHECKED LDH

MAINTENANCE OF TRAFFIC DETAILS S.R. - 44
SECTION 2

LAKE COUNTY
LAK-2/44-13.05/4.14

24
93

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391mdc.dgn



NOTE: ALL COSTS FOR PLACING R-2-60, W-46A-48 AND W-49R-48 SIGNS ALONG WITH POSTS SHALL BE INCLUDED IN ITEM 614, LUMP, MAINTAINING TRAFFIC.

NOTE: DUE TO MAINTENANCE OF TRAFFIC TAPERS AND LANE CLOSURES, THE CONTRACTOR MAY REVISE THE LENGTH OF THE PROPOSED UNDERDRAIN AND 4' SHOULDER REPLACEMENT, WITH THE APPROVAL OF THE PROJECT ENGINEER.

24A 93

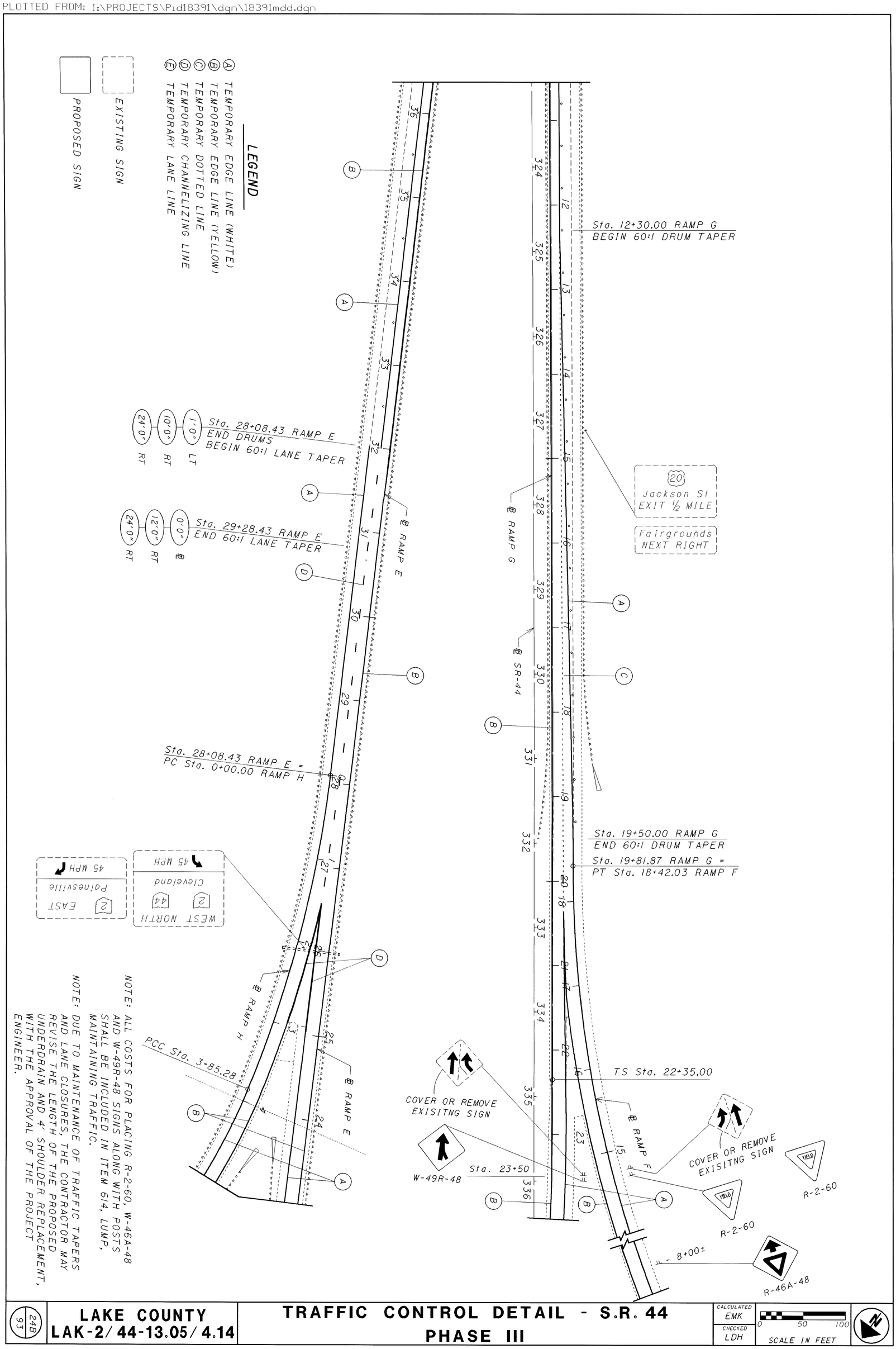
LAKE COUNTY
LAK-2/44-13.05/4.14

TRAFFIC CONTROL DETAIL - S.R. 44
PHASE I

CALCULATED EMK
CHECKED LDH

0 50 100
SCALE IN FEET

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391mdd.dgn



NOTE: ALL COSTS FOR PLACING R-2-60, W-46A-48 AND W-49R-48 SIGNS ALONG WITH POSTS SHALL BE INCLUDED IN ITEM 614, LUMP, MAINTAINING TRAFFIC.

NOTE: DUE TO MAINTENANCE OF TRAFFIC TAPERS AND LANE CLOSURES, THE CONTRACTOR MAY REVISE THE LENGTH OF THE PROPOSED UNDERDRAIN AND 4" SHOULDER REPLACEMENT, WITH THE APPROVAL OF THE PROJECT ENGINEER.

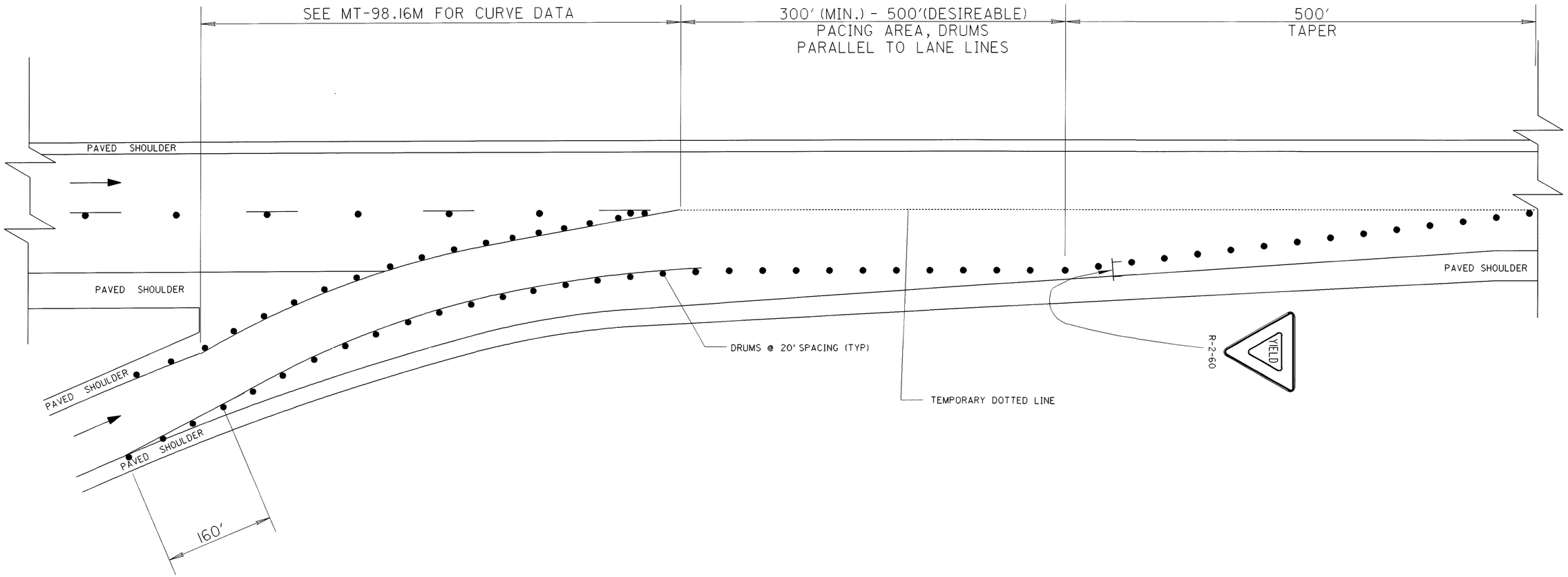
24B
93

LAKE COUNTY
LAK-2/44-13.05/4.14

TRAFFIC CONTROL DETAIL - S.R. 44
PHASE III

CALCULATED EMK
CHECKED LDH

0 50 100
SCALE IN FEET



NOTE: THIS DETAIL IS TO BE USED AT ALL TIMES EXCEPT AT TIMES WHEN PAVEMENT REPAIRS ARE BEING PERFORMED IN THE IMMEDIATE RAMP AREA. USE STANDARD DRAWING MT-98.16M WHEN WORK IN THE RAMP AREA IS BEING PERFORMED.

NOTE: FOR DETAILS NOT SHOWN, REFER TO STANDARD DRAWING MT-98.16M.

NOTE: QUANTITIES FOR TEMPORARY PAVEMENT MARKINGS HAVE BEEN CARRIED TO THE GENERAL SUMMARY. ALL OTHER COSTS TO REVISE MAINTENANCE OF TRAFFIC ITEMS FROM MT-98.16M TO DETAIL ABOVE INCLUDING LABOR, EQUIPMENT AND MATERIALS WILL BE INCLUDED IN ITEM 614 - MAINTAINING TRAFFIC.

06/22/99

CALCULATED DO

CHECKED EMK

MAINTENANCE OF TRAFFIC DETAIL -LANE CLOSURE AT EXIT RAMP (NO WORK IN RAMP AREA)

LAKE COUNTY
LAK-2/44-13.05/4.14

240
93

PLOTTED FROM: I:\PROJECTS\P:d18391\dgn\18391mde.dgn

NHS = SR-2, STA 586+22.12 TO STA 612+09.32 STP = SR-2, STA 612+09.32 TO STA 657+25.10
NHS = SR-44, STA 233+00.00 TO STA 343+55.33 NHS = SR-44, STA 31+66.10 TO STA 164+34.08

SHEET NUMBER 10	11	12		27	28	29	30	31	32	46		50C	50D		51	NHS	STP	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
																						ROADWAY	
																LUMP	LUMP	201	11000	LUMP		CLEARING AND GRUBBING	10
									488			84				572		202	23000	572	SQ YD	PAVEMENT REMOVED	
				172186	110602							1903				242507	42184	202	23501	284691	SQ YD	WEARING COURSE REMOVED, AS PER PLAN	14
									468							468		202	30600	468	SQ YD	CONCRETE MEDIAN REMOVED	
									200			681				881		202	32000	881	LIN FT	CURB REMOVED	
						20175	5012.5					37.5				22025	3200	202	38000	25225	LIN FT	GUARDRAIL REMOVED	12
850																710	140	202	54101	850	EACH	RAISED PAVEMENT MARKER REMOVED FOR STORAGE, AS PER PLAN	10
												4				4		202	58100	4	EACH	CATCH BASIN REMOVED	
												1				1		202	58500	1	EACH	CATCH BASIN ABANDONED	
	27400															18368	9032	202	75001	27400	LIN FT	FENCE REMOVED, AS PER PLAN	11
									4184			585			50	4810	9	203	12000	4819	CU YD	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
												1479				1479		203	20000	1479	CU YD	EMBANKMENT	
									4252			1711				5963		203	50000	5963	SQ YD	SUBGRADE COMPACTION	
		500								12450						9150	3800	203	55000	12950	LIN FT	DITCH CLEANOUT	
												10				10		203	60000	10	STATION	LINEAR GRADING	
										53.5						53.5		203	60001	53.5	STATION	LINEAR GRADING, AS PER PLAN	46
						234.9	78.1									273.9	39.1	203	60200	313	STATION	LINEAR GRADING, METHOD A	10
	156															156		203	60204	156	STATION	LINEAR GRADING, METHOD B	11
						2410	580									2990		517	76300	2990	LIN FT	RAILING, MISC.: TBR RAILING	
		1														1		604	39501	1	EACH	MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN	12
		1														1		604	39600	1	EACH	MONUMENT BOX RECONSTRUCTED TO GRADE	
						75	75									75	75	606	11000	150	LIN FT	GUARDRAIL, THRIE BEAM RAIL AND TRANSITION SECTION	
						21275	6050						87.5			24562.5	2850	606	13000	27412.5	LIN FT	GUARDRAIL, TYPE 5	
100						125	225									412.5	37.5	606	13050	450	LIN FT	GUARDRAIL, TYPE 5A	
						12.5	25									37.5		606	15500	37.5	LIN FT	GUARDRAIL, BARRIER DESIGN, TYPE 5	
						26	19						1			35	11	606	22010	46	EACH	ANCHOR ASSEMBLY, TYPE E-98	
						21	16						1			28	10	606	26500	38	EACH	ANCHOR ASSEMBLY, TYPE T	
						6	4						1			7	4	606	35000	11	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
						3	1						1			2	3	606	35100	5	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2	
						13	6									19		606	35120	19	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 3	
						2	2									4		606	35151	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN	59
						1										1		606	60000	1	EACH	IMPACT ATTENUATOR, TYPE 1-98 (UNIDIRECTIONAL)	
							2									2		606	60010	2	EACH	IMPACT ATTENUATOR, TYPE 1-98 (BIDIRECTIONAL)	
							4										4	606	98100	4	EACH	GUARDRAIL, MISC.: CABLE MEDIAN BARRIER ANCHORAGE UNIT	11
	16100															16100		607	15000	16100	LIN FT	FENCE, TYPE 47	
	11300															2268	9032	607	23000	11300	LIN FT	FENCE, TYPE CLT	
													188			188		608	10000	188	SQ FT	4" CONCRETE WALK	
													30			30		608	52000	30	SQ FT	CURB RAMP	
																						DRAINAGE	
		100														100		603	00900	100	LIN FT	6" CONDUIT, TYPE B	
		150						2574					20			2744		603	01500	2744	LIN FT	6" CONDUIT, TYPE F, 707.41 NON-PERFORATED, ASTM 3034 SDR 35, 707.42 OR 707.33	
													15			15		603	04400	15	LIN FT	12" CONDUIT, TYPE B	
									8							8		603	06100	8	LIN FT	15" CONDUIT, TYPE C	
									12							12		603	07600	12	LIN FT	18" CONDUIT, TYPE C	
									12							12		603	09100	12	LIN FT	21" CONDUIT, TYPE C	
									12							12		603	10600	12	LIN FT	24" CONDUIT, TYPE C	
		100						120								220		603	96600	220	LIN FT	CONDUIT, BORED OR JACKED: 6" TYPE B	
													4			4		604	00801	4	EACH	CATCH BASIN, NO. 3A, AS PER PLAN	12
									5							5		604	01601	5	EACH	CATCH BASIN, NO. 5, AS PER PLAN	12
									2							2		604	04101	2	EACH	CATCH BASIN, NO. 2-2A, AS PER PLAN	12
		2														2		604	09001	2	EACH	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	12
		2														2		604	09500	2	EACH	CATCH BASIN RECONSTRUCTED TO GRADE	
													2			2		604	31501	2	EACH	MANHOLE , NO. 3, AS PER PLAN	
		2											1			3		604	34501	3	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	12
		3														3		604	35500	3	EACH	MANHOLE RECONSTRUCTED TO GRADE	
		3						36								39		604	36600	39	EACH	PRECAST REINFORCED CONCRETE OUTLET	
		10000														10000		SPECIAL	60450000	10000	POUND	MISCELLANEOUS METAL	12
								61855					460			62315		605	11111	62315	LIN FT	6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN	
								2250								2250		605	13411	2250	LIN FT	6" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN	
													1			1		638	10800	1	EACH	VALVE BOX ADJUSTED TO GRADE	

CALCULATED EMK CHECKED LDH

GENERAL SUMMARY

LAKE COUNTY
LAK-2/44-13.05/4.14

SHEET NUMBER					NHS = SR-2, STA 586+22.12 TO STA 612+09.32 / NHS = SR-44, STA 233+00.00 TO STA 343+55.33					STP = SR-2, STA 612+09.32 TO STA 657+25.10 / NHS = SR-44, STA 31+66.10 TO STA 164+34.08							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
11	12	13	14		27	28	29	30	32	50	50C	50D	50E	51	NHS	STP						
																					EROSION CONTROL	
									4						4		601	34200	4	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
													268		268		660	30000	268	SQ YD	SODDING UNSTAKED	
									300	600					900		SPECIAL	69098200	900	SQ FT	MISC.: CONCRETE APRON REPLACEMENT FOR EXISTING NO. 5 CATCH BASIN	50
24000													2332		26332		870	10000	26332	SQ YD	SEEDING AND MULCHING	
		1200													1200		870	14000	1200	SQ YD	REPAIR SEEDING AND MULCHING	
		0.5													0.5		870	20000	0.5	TON	COMMERCIAL FERTILIZER	
		1													1		870	35000	1	M. GAL.	WATER	
		5500													5500		877	10000	5500	SQ YD	TEMPORARY SEEDING AND MULCHING	
		800													800		877	30100	800	LIN FT	TEMPORARY PERIMETER FILTER FABRIC FENCE	
		750													750		877	30300	750	LIN FT	TEMPORARY INLET PROTECTION FILTER FABRIC FENCE	
		500													500		877	55500	500	LIN FT	TEMPORARY DITCH PROTECTION	
																					PAVEMENT	
														1200	1000	200	251	01001	1200	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN	13
			200												200		252	01000	200	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT	
			600												600		252	01500	600	LIN FT	FULL DEPTH PAVEMENT SAWING	
											380				380		254	01000	380	SQ YD	PAVEMENT PLANING, BITUMINOUS, 1.25"	
														5500	5500		255	10001	5500	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN A	13
														1150	1150		255	10001	1150	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN B	13
														2060	2060		255	10001	2060	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN C	13
														350	350		255	10001	350	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN D	13
														3000	2000	1000	255	10101	3000	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A	13
														240	160	80	255	10101	240	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B	13
														1150	1150		255	10151	1150	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN A	13
														60	60		255	10151	60	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B	13
														320	320		255	10151	320	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN C	13
														60	60		255	10151	60	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN D	13
									1456					44000	39756	5700	255	20000	45456	LIN FT	FULL DEPTH PAVEMENT SAWING	
	1200								2269		17				3486		301	46000	3486	CU YD	BITUMINOUS AGGREGATE BASE, PG64-22	
									717		292			50	1050	9	304	20001	1059	CU YD	AGGREGATE BASE, AS PER PLAN	14
									860		1584				2444		305	13001	2444	SQ YD	9" CONCRETE BASE, AS PER PLAN	14
					18192	11624					410				25976	4250	407	10000	30226	GALLON	TACK COAT	
					9023	5613					192				12729	2099	407	14000	14828	GALLON	TACK COAT FOR INTERMEDIATE COURSE	
												57			57		448	46050	57	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
							928	299							1059	168	448	46060	1227	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22 (UNDER GUARDRAIL)	
												53			53		448	47020	53	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
									96						96		SPECIAL	45130000	96	LIN FT	PRESSURE RELIEF JOINT, TYPE A	
												57			57		452	10000	57	SQ YD	6" PLAIN CONCRETE PAVEMENT	
			900												750	150	617	10101	900	CU YD	COMPACTED AGGREGATE, TYPE A, AS PER PLAN	14
			9												7.5	1.5	617	25000	9	M GAL	WATER	
			20.0												16.6	3.4	618	40600	20.0	MILE	RUMBLE STRIPS, TYPE 2 (ASPHALT)	
							430	340							510	260	622	24000	770	LIN FT	CONCRETE BARRIER, TYPE D	
													468		468		830	16000	468	LIN FT	CURB, TYPE 2-B	
									200				126		326		830	26000	326	LIN FT	CURB, TYPE 6	
									200						200		830	72000	200	SQ YD	CONCRETE MEDIAN	
					7605	4872							113		10814	1776	858	10000	12590	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	
					13491	6224							264		17649	2330	858	10100	19979	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
			50000												41700	8300	889	10000	50000	LIN FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS WITH WARRANTY	14

CALCULATED EMK
CHECKED LDH

GENERAL SUMMARY

LAKE COUNTY
LAK-2/44-13.05/4.14

NHS = SR-2, STA 586+22.12 TO STA 612+09.32 STP = SR-2, STA 612+09.32 TO STA 657+25.10
NHS = SR-44, STA 233+00.00 TO STA 343+55.33 NHS = SR-44, STA 31+66.10 TO STA 164+34.08

SHEET NUMBER							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
16	17	18	19	20A	NHS	STP						
											MAINTENANCE OF TRAFFIC	
	200				170	30	614	11100	200	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
				26	21	5	614	12470	26	EACH	WORK ZONE SPEED LIMIT SIGN	
				10	8	2	614	12480	10	EACH	DOUBLE FINES IN WORK ZONE SIGN	
		250			210	40	614	13000	250	CU YD	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	
		150			125	25	614	13001	150	CU YD	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC, AS PER PLAN	18
20					16	4	614	18601	20	SIGN MONTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	16
			84.48		80.84	3.64	614	20100	84.48	MILE	TEMPORARY LANE LINE, CLASS I, 642 PAINT	
			23.76		16.80	6.96	614	22100	23.76	MILE	TEMPORARY EDGE LINE, CLASS I, 642 PAINT	
			8324		7684	640	614	23200	8324	LIN FT	TEMPORARY CHANNELIZING LINE, CLASS I, 642 PAINT	
			4000		4000		614	24200	4000	LIN FT	TEMPORARY DOTTED LINE, CLASS I, 642 PAINT	
			390		390		614	26200	390	LIN FT	TEMPORARY STOP LINE, CLASS I, 642 PAINT	
			14		14		614	30200	14	EACH	TEMPORARY LANE ARROW, CLASS I, 642 PAINT	
			400		340	60	630	97800	400	SQ FT	SIGNING, MISC.: ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER	19
			48000		48000		642	30000	48000	LIN FT	REMOVAL OF PAVEMENT MARKING	
											TRAFFIC CONTROL	
											(SEE SHEET 67)	
											STRUCTURES	
											(SEE SHEET 85D, 88 AND 90)	
					LUMP	LUMP	614	11000	LUMP		MAINTAINING TRAFFIC	
					LUMP	LUMP	623	10001	LUMP		CONSTRUCTION LAYOUT STAKES, AS PER PLAN	9
					LUMP	LUMP	624	10000	LUMP		MOBILIZATION	
					18		806	16020	18	MONTH	FIELD OFFICE, TYPE C	9

CALCULATED EMK
CHECKED LDH

GENERAL SUMMARY

LAKE COUNTY
LAK-2/44-13.05/4.14

PLOTTED FROM: P:\PROJECTS\Pid18391\dgn\18391gga.dgn

PAVEMENT PLANING AND RESURFACING QUANTITIES

STATION FROM	STATION TO	LENGTH	RESURFACING END WIDTHS (AVG.)	RESURFACING SURFACE AREA	202	858			407		REMARKS
					WEARING COURSE REMOVED, AS PER PLAN	1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	3-1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	TACK COAT	TACK COAT FOR INTERMEDIATE COURSE	
		LIN FT	LIN FT	SQ YD	SQ YD	CU YD	CU YD	CU YD	GAL	GAL	
SR-44 NORTHBOUND											
232+25.00	233+00.00	75.00	49.7	414	414	19	17		41	14	1-1/2" TO 5" OVERLAY
233+00.00	237+10.00	410.00	43.4	1977	1815	82	192		198	99	
237+10.00	270+30.00	3320.00	38	14018	12542	584	1363		1402	701	
270+30.00	270+80.00	50.00	38	211	189	9	15		21	10	5" TO 3" OVERLAY
270+80.00	272+20.00	140.00	38	591	529	25	25		59	29	3" OVERLAY
272+20.00	272+70.00	50.00	38	211	189	9	15		21	10	3" TO 5" OVERLAY
272+70.00	294+30.00	2160.00	38	9120	8160	380	887		912	456	
294+30.00	297+00.00	270.00	67	2010	1680	84	195		201	100	RAMP WIDENING
297+00.00	307+00.00	1000.00	50.6	5622	5178	234	547		562	281	
307+00.00	308+97.83	197.83	38	835	747	35	81		84	42	
308+97.83	309+85.33	87.50	38	369	331	17	17		37	13	5" TO 1-3/4" OVERLAY
309+85.33	310+14.33	29.00	14	45	45	2			5		1-3/4" OVERLAY ON SHOULDERS
BRIDGE NO. LAK-44-0561 R											
312+38.33	312+45.00 BK=	6.67	14	10	10	1			1		1-3/4" OVERLAY ON SHOULDERS
RAMP G											
0+00.00 AH	0+22.33	22.33	14	35	35	2			4		1-3/4" OVERLAY ON SHOULDERS
0+22.33	1+09.83	87.50	38	369	331	17	17		37	13	1-3/4" TO 5" OVERLAY
1+09.83	18+00.00	1690.17	38	7136	6385	297	694		714	357	
18+00.00	18+40.00	40.00	38	169	169	7	13		17	9	5" TO 3-1/2" OVERLAY
18+40.00	19+81.87	141.87	38	599	599	25		33	60	30	
19+81.87	22+70.00	288.13	52.5	1681	1681	70		93	168	84	
22+70.00	29+33.76	663.76	31	2286	2286	95		127	229	114	
29+33.76	29+83.76	50.00	31	172	172	8		4	17	4	3-1/2" TO 1-1/2" OVERLAY
BRIDGE NO. LAK-2-1354 ES											
33+03.27	33+53.27	50.00	31	172	172	8		4	17	4	1-1/2" TO 3-1/2" OVERLAY
33+53.27	44+20.54	1067.27	31	3676	3676	153		204	368	184	
RAMP F											
2+65.69	15+55.00	1289.31	31	4441	4441	185		247	444	222	
SR-44 SOUTHBOUND											
232+25.00	233+00.00	75.00	48	400	400	19	17		40	13	1-1/2" TO 5" OVERLAY
233+00.00	233+28.95	28.95	48	154	141	6	15		15	8	
233+28.95	234+28.95	100.00	43	478	433	20	46		48	24	
234+28.95	294+80.64	6051.69	38	25552	22862	1065	2484		2555	1278	
294+80.64	298+00.00	319.36	56	1987	1632	83	193		199	99	RAMP WIDENING
298+00.00	299+00.00	100.00	47.5	528	483	22	51		53	26	
299+00.00	301+81.00	281.00	48	1499	1374	62	146		150	75	
301+81.00	302+81.00	100.00	43	478	434	20	46		48	24	
302+81.00	308+97.83	616.83	38	2604	2330	109	253		260	130	
308+97.83	309+85.33	87.50	38	369	331	17	17		37	13	5" TO 1-3/4" OVERLAY
309+85.33	310+14.33	29.00	14	45	45	2			5		1-3/4" OVERLAY ON SHOULDERS
BRIDGE NO. LAK-44-0561 L											
312+38.33	312+45.00 BK=	6.67	14	10	10	1			1		1-3/4" OVERLAY ON SHOULDERS
RAMP E											
46+75.63	46+97.96 AH	22.33	14	35	35	2			4		1-3/4" OVERLAY ON SHOULDERS
45+88.13	46+75.63	87.50	38	369	331	17	17		37	13	1-3/4" TO 5" OVERLAY
29+00.00	45+88.13	1688.13	38	7128	6377	297	639		713	356	
28+60.00	29+00.00	40.00	38	169	169	7	13		17	9	3-1/2" TO 5" OVERLAY
28+08.43	28+60.00	51.57	38	218	218	9		12	22	11	
25+09.44	28+08.43	298.99	53	1761	1761	73		98	176	88	
TOTAL (LEFT SIDE)					91142	4179	8015	822	9999	4943	

ASPHALT TRANSITION (SEE ASPHALT TRANSITION DETAIL, SHEET 52.)

PAVEMENT PLANING AND RESURFACING QUANTITIES

STATION FROM	STATION TO	LENGTH	RESURFACING END WIDTHS (AVG.)	RESURFACING SURFACE AREA	202	858			407		REMARKS
					WEARING COURSE REMOVED, AS PER PLAN	1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	3-1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	TACK COAT	TACK COAT FOR INTERMEDIATE COURSE	
		LIN FT	LIN FT	SQ YD	SQ YD	CU YD	CU YD	CU YD	GAL	GAL	
RAMP E											
18+66.20	25+09.44	643.24	31	2216	2216	92		123	222	111	
18+16.20	18+66.20	50.00	31	172	172	8		4	17	4	1-1/2" TO 3-1/2" OVERLAY
BRIDGE NO. LAK-44-0620 SW											
13+74.44	14+24.44	50.00	31	172	172	8		4	17	4	3-1/2" TO 1-1/2" OVERLAY
2+70.00	13+74.44	1104.44	31	3804	3804	159		211	380	190	
RAMP H											
2+95.97	13+65.00	1069.03	31	3682	3682	153		204	368	184	
RAMP I											
4+18.56	5+18.56	100.00	26.5	294	222	12	29		29	14	RAMP WIDENING
5+18.56	7+05.00	186.44	25	518	394	22	50		52	52	RAMP WIDENING
RAMP 2											
2+69.41	12+69.09	999.68	25	2777	2110	116	270		278	139	RAMP WIDENING
12+69.09	12+83.24	14.15	22	35	35	1	3		4	2	
12+83.24	13+58.24	75.00	CADD	286	286	14	8		29	6	5" TO 1-1/2" OVERLAY
SR-2 EASTBOUND											
585+72.12	586+22.12	50.00	39	217	217	11		5	22	5	1-1/2" TO 3-1/2" OVERLAY
586+22.12	593+92.50	770.38	39	3338	3338	139		185	334	167	
593+92.50	594+92.50	100.00	45	500	500	21		28	50	25	
594+92.50	599+23.72	431.22	51	2444	2444	102		136	244	122	
599+23.72	601+92.50	268.78	63.5	1896	1896	79		105	190	95	
601+92.50	622+32.00	2039.5	39	8838	8838	368		491	884	442	
622+32.00	625+00.00	268.00	63.5	1891	1891	79		105	189	95	
625+00.00	628+38.84	338.84	51	1920	1920	80		107	192	96	
628+38.84	633+60.22	521.38	40	2317	2317	97		129	232	116	
633+60.22	657+25.10	2364.88	39	10248	10248	427		569	1025	513	
657+25.10	657+75.10	50.00	39	217	217	11		5	22	5	3-1/2" TO 1-1/2" OVERLAY
SR-2 WESTBOUND											
585+72.12	586+22.12	50.00	39	217	217	11		5	22	5	1-1/2" TO 3-1/2" OVERLAY
586+22.12	588+99.53	277.41	39	1202	1202	50		67	120	60	
588+99.53	594+20.91	521.38	45	2607	2607	109		145	261	130	
594+20.91	597+59.75	338.84	51	1920	1920	80		107	192	96	
597+59.75	600+31.00	271.25	63.5	1914	1914	80		106	191	95	
600+31.00	625+54.50	2523.50	39	10935	10935	456		608	1094	547	
625+54.50	628+23.28	268.78	63.5	1896	1896	79		105	190	95	
628+23.28	632+54.50	431.22	51	2444	2444	102		136	244	122	
632+54.50	633+54.50	100.00	45	500	500	21		28	50	25	
633+54.50	657+25.10	2370.60	39	10273	10273	428		571	1027	513	
657+25.10	657+75.10	50.00	39	217	217	11		5	22	5	3-1/2" TO 1-1/2" OVERLAY
TOTAL (THIS SIDE)					81044	3426	360	4294	8193	4080	
TOTAL (LEFT SIDE)					91142	4179	8015	822	9999	4943	
TOTAL TO GENERAL SUMMARY					172186	7605	8375	5116	18192	9023	

CALCULATED EMK
CHECKED LDH

RESURFACING QUANTITIES

LAKE COUNTY
LAK-2/44-13.05/4.14

27
93

PLOTTED FROM: I:\PROJECTS\Pidl8391\dgn\18391qqa.dgn

PAVEMENT PLANING AND RESURFACING QUANTITIES

STATION FROM	STATION TO	LENGTH	RESURFACING END WIDTHS (AVG.)	RESURFACING SURFACE AREA	202 WEARING COURSE REMOVED, AS PER PLAN	858 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	858 3-1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	858 2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	407 TACK COAT	407 TACK COAT FOR INTERMEDIATE COURSE	REMARKS
		LIN FT	LIN FT	SQ YD	SQ YD	CU YD	CU YD	CU YD	GAL	GAL	
SR-44 NORTHBOUND											
31+66.10	32+25.00	58.90	29	190	190	9		3	19	4	1-1/2" TO 3-1/2" OVERLAY
32+25.00	32+75.00	50.00	32.5	181	181	8		10	18	9	
32+75.00	32+91.32	16.32	35	63	63	3		4	6	3	
32+91.32	34+40.00	148.68	40.5	669	669	28		37	67	34	
34+40.00	35+45.00	105.00	46	537	537	22		30	54	27	
35+45.00	36+69.42	124.42	CADD	534	534	22		30	53	27	HALF INTERSECTION
36+69.42	54+11.00	1741.58	33	6386	6386	266		355	639	319	
54+11.00	54+61.00	50.00	38.5	214	183	9		12	21	10	
54+61.00	56+11.00	150.00	44	733	550	31		41	73	36	
56+11.00	57+06.00	95.00	CADD	406	406	17		23	41	21	HALF INTERSECTION
57+06.00	64+07.72	701.72	33	2573	2573	107		143	257	127	
64+07.72	65+07.72	100.00	39	433	433	18		24	43	21	
65+07.72	67+50.00	242.28	45	1211	1211	50		67	121	60	
67+50.00	68+86.00	136.00	47.5	718	718	30		40	72	36	
68+86.00	70+07.72	121.72	58	784	703	33		44	78	39	RAMP WIDENING
70+07.72	83+01.38	1293.66	33	4743	4743	198		264	474	237	
83+01.38	85+29.00	227.62	59.5	1505	1353	63		84	151	76	RAMP WIDENING
85+29.00	87+00.00	171.00	46.5	884	884	37		49	88	44	
87+00.00	89+72.50	272.50	45	1363	1363	57		76	136	68	
89+72.50	93+22.50	350.00	39	1517	1517	63		84	152	76	
93+22.50	98+87.00	564.50	33	2070	2070	86		115	207	103	
98+87.00	99+88.00	101.00	CADD	442	442	18		25	44	22	HALF INTERSECTION
99+88.00	119+78.00	1990.00	33	7297	7297	304		405	730	365	
119+78.00	120+73.00	95.00	CADD	334	334	14		19	33	16	HALF INTERSECTION
120+73.00	121+52.46 BK	79.46	33	291	291	12		16	29	14	
121+67.42 AH	157+50.00	3582.50	33	13136	13136	547		730	1314	657	
157+50.00	163+81.70	631.70	37	2597	2597	108		144	260	130	
163+81.70	164+22.08	40.38	CADD	240	240	12		3	24	4	3-1/2" TO 1-1/2" OVERLAY
SR-44 SOUTHBOUND											
31+66.10	32+25.00	58.90	33	216	216	11		4	22	5	1-1/2" TO 3-1/2" OVERLAY
32+25.00	35+45.00	320.00	35	1244	1244	52		69	124	62	
35+45.00	36+69.42	124.42	CADD	516	516	22		29	52	26	HALF INTERSECTION
36+69.42	56+11.00	1941.58	33	7119	7119	297		396	712	356	
56+11.00	57+06.00	95.00	CADD	406	406	17		23	41	20	HALF INTERSECTION
57+06.00	58+27.50	121.50	44	594	446	25		33	59	30	
58+27.50	58+56.00	28.50	44.5	141	105	6		8	14	7	
58+56.00	59+06.00	50.00	40.4	224	194	9		12	22	11	
59+06.00	61+77.50	271.50	41.3	1246	1246	52		69	125	63	
61+77.50	64+50.00	272.50	40.4	1223	1223	51		68	122	61	
64+50.00	66+21.00	171.00	46.5	884	884	37		49	88	44	
66+21.00	68+48.62	227.62	59.5	1505	1353	63		84	151	75	RAMP WIDENING
68+48.62	81+67.28	1318.66	33	4835	4835	201		269	484	242	
81+67.28	82+83.00	115.72	58	746	669	31		41	75	37	RAMP WIDENING
82+83.00	84+25.00	142.00	47.5	749	749	31		41	75	37	
84+25.00	86+67.28	242.28	45	1211	1211	50		67	121	61	
86+67.28	87+67.28	100.00	39	433	433	18		24	43	22	
87+67.28	98+87.00	1119.72	33	4106	4106	171		228	411	205	
98+87.00	99+88.00	101.00	CADD	442	442	18		25	44	22	HALF INTERSECTION
99+88.00	101+38.00	150.00	44	733	550	31		41	73	37	
TOTAL (LEFT SIDE)					79551	3365		4457	8062	4008	

ASPHALT TRANSITION (SEE ASPHALT TRANSITION DETAIL, SHEET 52.)

PAVEMENT PLANING AND RESURFACING QUANTITIES

STATION FROM	STATION TO	LENGTH	RESURFACING END WIDTHS (AVG.)	RESURFACING SURFACE AREA	202 WEARING COURSE REMOVED, AS PER PLAN	858 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)	858 3-1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	858 2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	407 TACK COAT	407 TACK COAT FOR INTERMEDIATE COURSE	REMARKS
		LIN FT	LIN FT	SQ YD	SQ YD	CU YD	CU YD	CU YD	GAL	GAL	
101+38.00	101+88.00	50.00	38.5	214	183	9		12	21	10	
101+88.00	119+78.00	1790.00	33	6563	6563	273		365	656	328	
119+78.00	120+73.00	95.00	CADD	415	415	17		23	42	21	HALF INTERSECTION
120+73.00	121+52.46 BK	79.46	44	388	291	16		22	39	20	
121+67.42 AH	122+37.96	70.54	44	345	259	14		19	35	18	
122+37.96	122+87.96	50.00	38.5	214	183	9		12	21	10	
122+87.96	157+50.00	3462.04	33	12696	12696	529		705	1270	635	
157+50.00	163+81.70	631.70	37	2597	2597	108		144	260	130	
163+81.70	164+22.08	40.38	CADD	245	245	12		3	25	4	3-1/2" TO 1-1/2" OVERLAY
RAMP A											
8+50.00	9+76.12	126.12	25	350	266	15		19	35	17	RAMP WIDENING
9+76.12	11+36.47	160.35	39	695	588	29		39	70	35	RAMP WIDENING
11+36.47	13+07.20	170.73	27	512	398	21		28	51	25	RAMP WIDENING
13+07.20	13+98.40	91.20	CADD	167	106	8		3	17	4	RAMP WIDENING & 3-1/2" TO 1-1/2" OVERLAY
RAMP A SPUR											
11+43.90	13+26.00	182.10	22	455	455	19		25	46	23	
13+26.00	13+76.00	50.00	CADD	116	116	6		3	12	3	3-1/2" TO 1-1/2" OVERLAY
RAMP B											
3+60.62	4+10.62	50.00	CADD	177	132	9		3	18	3	RAMP WIDENING & 1-1/2" TO 3-1/2" OVERLAY
4+10.62	10+70.01	659.39	25	1832	1392	76		102	183	91	RAMP WIDENING
10+70.01	11+70.01	100.00	26	289	222	12		16	29	15	RAMP WIDENING
RAMP C											
10+04.99	11+04.99	100.00	26	289	222	12		16	29	15	RAMP WIDENING
11+04.99	17+41.57	636.58	26	1839	1344	77		102	184	92	RAMP WIDENING
17+41.57	17+91.24	49.67	CADD	184	139	9		3	18	4	RAMP WIDENING & 3-1/2" TO 1-1/2" OVERLAY
RAMP D											
7+67.77	8+17.77	50.00	22	122	122	6		3	12	3	RAMP WIDENING & 1-1/2" TO 3-1/2" OVERLAY
8+17.77	8+78.97	61.20	CADD	219	187	9		12	22	11	RAMP WIDENING
8+78.97	13+02.00	423.03	25	1175	893	49		65	118	59	RAMP WIDENING
RAMP D SPUR											
7+67.77	8+17.77	50.00	CADD	185	136	9		4	19	5	RAMP WIDENING & 1-1/2" TO 3-1/2" OVERLAY
SR-44 CROSSOVERS						74		178			2" OVERLAY
SR-2 CROSSOVERS						26		62			1-1/2" OVERLAY
RAMP A SR-2/HEISLEY RD					182	9		3	18	5	3-1/2" TO 1-1/2" OVERLAY
RAMP D SR-2/HEISLEY RD					188	11		4	19	5	3-1/2" TO 1-1/2" OVERLAY
BLACKBROOK RD					348	25		9	35	9	3-1/2" TO 1-1/2" OVERLAY
TEMPLE RD					183	9		3	18	5	3-1/2" TO 1-1/2" OVERLAY
TOTAL (THIS SIDE)					31051	1507		1767	3562	1605	
TOTAL (LEFT SIDE)					79551	3365		4457	8062	4008	
TOTAL TO GENERAL SUMMARY					110602	4872		6224	11624	5613	

CALCULATED EMK
CHECKED LDH

RESURFACING QUANTITIES

LAKE COUNTY
LAK-2/44-13.05/4.14

28
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gqa.dgn

CALCULATED EMK
CHECKED LDH

FOR GUARDRAIL DETAILS SEE SHEETS (54-62)

GUARDRAIL AND RELATED QUANTITIES

SHEET NO.	REFERENCE NO.	EXISTING LOCATIONS FROM	EXISTING LOCATIONS TO	PROPOSED LOCATIONS FROM	PROPOSED LOCATIONS TO	DIRECTION	SIDE	LENGTH OF NEED (FOR FIXED OBJECTS)	202 GUARDRAIL REMOVED	606 GUARDRAIL, TYPE 5	606 GUARDRAIL, TYPE 5 BARRIER DESIGN	606 GUARDRAIL, TYPE 5A	606 THRIE BEAM RAIL AND TRANSITION SECTION	606	606 ANCHOR ASSEMBLY, TYPE E-98	606 ANCHOR ASSEMBLY, TYPE T	606 IMPACT ATTENUATOR, TYPE I-98 (BIDIRECTIONAL)	606 IMPACT ATTENUATOR, TYPE I-98 (UNIDIRECTIONAL)	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2	606 BRIDGE TERMINAL ASSEMBLY, TYPE 3	606 BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN	606	622 CONCRETE BARRIER, TYPE D	517 RAILING, MISC.: TBR RAILING	203 LINEAR GRADING, METHOD A	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, PG64-22 (UNDER GUARDRAIL)	626 BARRIER REFLECTOR, TYPE A	626 BARRIER REFLECTOR, TYPE B
								L.F.	L.F.	L.F.	L.F.	L.F.	L.F.		EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH		L.F.	L.F.	STA.	C.Y.	L.F.	L.F.
34	GR-1	269+89.00	271+01.50	268+39.00	271+01.50	NB	RT	240	112.5	212.5					1							1				2.6	10.3	4	
34,35	GR-2	270+74.00	272+80.00	268+35.00	275+35.00	NB	LT$	267	187.5	637.5					1	1										7.0	33.9	8	
34	GR-3	270+74.00	272+80.00			SB	LT		187.5																				
34,35	GR-4	272+43.00	276+43.00	272+43.00	276+58.00	SB	RT	125	400	275					1				1	1		1		90		4.2	12.6	4	1
35	GR-5	273+32.00	275+44.50	273+34.50	275+27.00	NB	RT	125	212.5	62.5					1				1					80		1.9	4.7	2	1
35	GR-6	273+87.00	275+87.00			NB	LT		200																				
34,35	GR-7	273+87.00	275+87.00	271+15.50	278+03.00	SB	LT$	300	200	625					1	1										6.9	38.8	8	
35	GR-8	281+90.00	283+90.00	281+06.00	283+66.00	NB	RT	200	200	150					1				1					60		2.6	8.0	3	
35	GR-9	282+64.00	284+39.00	380+40.00	383+90.00	NB	LT$	300	162.5	287.5					1	1										3.5	20.0	4	
35	GR-10	282+64.00	284+39.00	283+12.00	286+52.00	SB	LT$	300	162.5	287.5					1	1										3.4	19.5	4	
35	GR-11	283+10.00	285+10.00	283+35.00	285+07.50	SB	RT	116	200	62.5					1				1					60		1.7	4.7	3	
35,36	GR-12	294+77.00	310+14.50	293+27.50	310+14.50	NB	RT		1537.5	1600			37.5		1						1					16.9	63.1	18	
35,36	GR-13	295+64.00	310+14.50	295+52.00	310+14.50	SB	RT		1450	1450						1					1					14.6	54.2	16	
36	GR-14	303+75.00	305+25.00	303+02.00	310+14.50	NB	LT	186	150	637.5		25			1						1					7.1	27.0	8	
36	GR-15	308+64.50	310+14.50			NB	LT		137.5																				
36	GR-16			310+14.50	312+38.50	NB	RT																		224			2	
36	GR-17			310+14.50	312+38.50	NB	LT																		224			2	
36	GR-18			310+14.50	312+38.50	SB	LT																		224			2	
36	GR-19			310+14.50	312+38.50	SB	RT																		224			2	
36,37,39	GR-20	312+38.50	10+03.97*	312+38.50	9+16.47*	NB	RT		2900	2775		25				1									28.1	104.2	30	
36	GR-21	312+38.50	1+18.50#	312+38.50	3+31.00#	SB	LT	320	125	287.5					1						1				3.4	13.1	4	
36,37	GR-22	312+38.50	19+06.00#	312+38.50	20+06.00#	SB	RT		1912.5	1962.5					1						1				20.1	75.1	21	
36,37,39	GR-23	40+04.00	18+29.00	41+91.50	18+29.00	NB	LT		2175	2287.5		25			1						1				23.6	88.1	25	
36,37	GR-24	8+50.00	19+50.00	8+37.50	20+87.50	SB	LT		1100	1187.5					1	1									12.5	46.9	13	
37,39	GR-25	24+59.50	29+72.00	24+59.50	29+72.00	SB	LT		512.5	500						1					1				5.1	19.0	6	
37,39	GR-26	24+62.50	29+50.00	24+62.50	29+50.00	SB	RT		487.5	475						1					1				4.9	18.1	6	
37	GR-27	11+75.00	13+75.00	10+45.00	13+57.50	SB	RT	240	200	250					1	1									3.1	12.2	4	
37,39	GR-28	4+00.00	9+50.00	3+75.00	9+62.50	NB	LT$		550	575						1									5.8	32.6	7	
37,39	GR-29	18+49.50	24+24.50	18+49.50	24+80.50	NB	RT		575	587.5	12.5							1			1				6.3	23.4	7	
38,39	GR-30	8+97.00	14+34.50	7+84.50	14+34.50	NB	RT		537.5	637.5						1					1				6.5	24.1	7	
38,39	GR-31	8+23.00	13+98.00	8+85.50	13+98.00	NB	LT		575	500						1					1				5.1	19.0	6	
39	GR-32	32+78.00	39+15.50	32+78.00	40+53.00	SB	RT	240	637.5	725					1						1				7.8	29.3	8	
39	GR-33	33+12.00	37+87.00	33+12.00	40+37.00	SB	LT	320	475	675					1						1				7.3	27.4	8	
39	GR-34			13+98.00	18+29.00	NB	LT																		431			4	
39	GR-35			14+34.50	18+49.50	NB	RT																		415			4	
39	GR-36			29+50.00	32+78.00	SB	RT																		328			3	
39	GR-37			29+72.00	33+12.00	SB	LT																		340			3	
38	GR-38	585+75.00	587+25.00	585+50.00	587+25.00	EB	RT	129	150	87.5		25			1	1										1.8	7.1	3	
38	GR-39	586+75.00	588+25.00	586+75.00	588+37.50	WB	RT	115	150	75		25			1	1										1.6	6.6	3	
38	GR-40	599+45.00	600+95.00	599+65.00	601+15.00	EB	RT	85	150	50			37.5		1	1										1.5	6.1	3	
38	GR-41	599+45.00	600+95.00	598+90.00	601+02.50	EB	LT$	178	150	150					1	1										2.1	8.4	3	
39	GR-42	611+45.00	613+95.00	610+20.50	614+03.00	EB	RT	215	250	250					1	1			1	1				70		3.8	12.2	4	1
39	GR-43	612+59.50	616+72.00	611+78.00	615+85.50	WB	RT	124	412.5	275					1	1			1	1				70		4.1	13.1	4	1
39	GR-44	611+69.00	614+94.00	609+85.00	613+85.00	EB	LT$	280	325	337.5					1	1										4.0	22.8	5	
39	GR-45	611+69.00	614+94.00	612+72.00	616+72.00	WB	LT$	280	325	337.5					1	1										4.0	22.8	5	
TOTALS TO GENERAL SUMMARY									20175	21275	12.5	125	75		26	21		1	6	3	13	2		430	2410	234.9	928	286	4

* - STA 312+45.00 BK = STA 46+97.96 AH RAMP E TO STA 28+08.43 BK = STA 0+00.00 AH RAMP H

\# - STA 312+45.00 BK = STA 0+00.00 AH RAMP G

$ - GUARDRAIL OFFSET 4' FROM EDGE OF SHOULDER

GUARDRAIL QUANTITIES

LAKE COUNTY
LAK-2/44-13.05/4.14

CALCULATED EMK | CHECKED LDH

FOR GUARDRAIL DETAILS SEE SHEETS (54-62)

GUARDRAIL AND RELATED QUANTITIES

SHEET NO.	REFERENCE NO.	EXISTING LOCATIONS FROM	EXISTING LOCATIONS TO	PROPOSED LOCATIONS FROM	PROPOSED LOCATIONS TO	DIRECTION	SIDE	202 LENGTH OF NEED (FOR FIXED OBJECTS) L.F.	202 GUARDRAIL REMOVED L.F.	606 GUARDRAIL, TYPE 5 L.F.	606 GUARDRAIL, TYPE 5 BARRIER DESIGN L.F.	606 GUARDRAIL, TYPE 5A L.F.	606 THRIE BEAM RAIL AND TRANSITION SECTION L.F.	606 ANCHOR ASSEMBLY, TYPE E-98 EACH	606 ANCHOR ASSEMBLY, TYPE T EACH	606 IMPACT ATTENUATOR, TYPE I-98 (BIDIRECTIONAL) EACH	606 IMPACT ATTENUATOR, TYPE I-98 (UNIDIRECTIONAL) EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 2 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 3 EACH	606 BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN EACH	606 GUARDRAIL, MISC.: CABLE MEDIAN BARRIER ANCHORAGE UNIT EACH	622 CONCRETE BARRIER, TYPE D L.F.	517 RAILING, MISC.: TBR RAILING L.F.	203 LINEAR GRADING, METHOD A STA.	448 ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I, PG64-22 (UNDER GUARDRAIL) C.Y.	626 BARRIER REFLECTOR, TYPE A L.F.	626 BARRIER REFLECTOR, TYPE B L.F.
39	GR-46	626+45.00	627+95.00	626+43.00	628+18.00	WB	RT	127	150	87.5		25		1	1										1.8	7.1	3	
39	GR-47	626+45.00	627+95.00	626+55.00	628+80.00	WB	LT$	200	150	162.5				1	1										2.3	8.9	3	
40	GR-48	638+75.00	640+25.00	638+75.00	640+50.00	WB	RT	137	150	75			37.5	1	1										1.8	7.1	3	
40	GR-49	647+80.50	652+43.00	646+15.00	652+15.00	EB	RT		462.5	450				1				1				2		60		5.6	19.1	4	2
40	GR-50	649+45.00	653+45.00	649+52.50	654+37.50	WB	RT	114	400	325			37.5	1	1			1	1					60		4.9	16.3	5	1
40	GR-51	650+56.00	653+43.50	651+70.50	655+08.00	WB	LT$	280	287.5	275				1	1											3.4	19.3	4	
40	GR-52	650+56.00	653+43.50	648+87.00	652+24.50	EB	LT$	280	287.5	275				1	1											3.4	19.3	4	
41	GR-53			42+86.00	44+86.00	SB	RT	171		137.5				1	1											2.0	8.0	3	
42	GR-54	10+50.00	15+50.00	8+88.00	15+63.00	NB	RT		500	612.5				1	1											6.8	25.6	8	
42,43	GR-55	27+46.00	7+50.00	27+46.00	10+62.50	SB	RT		387.5	637.5				1	1											7.0	26.5	8	
42	GR-56	74+20.00	76+82.50	74+21.00	76+56.00	NB	RT	130	262.5	75				1				1						110		2.4	5.2	2	2
42	GR-57	74+50.00	77+00.00	74+70.00	77+05.00	SB	RT	130	250	75				1				1						110		2.4	5.2	2	2
42	GR-58			74+18.00	77+08.00		MED			200	25	200				2										4.9	18.1	8	
43	GR-59	90+00.00	92+37.50	88+65.00	92+27.50	NB	RT		237.5	300				1	1											3.6	14.0	7	
43	GR-60	91+34.00	92+96.50	91+35.00	94+97.50	SB	RT		162.5	300				1	1											3.6	14.0	5	
43	GR-61	100+60.00	102+60.00	99+75.00	104+37.50	SB	RT		200	400				1	1											4.6	17.7	5	
44	GR-62	110+50.00	114+12.50	109+90.00	114+52.50	NB	RT		362.5	400				1	1											4.6	17.7	5	
44	GR-63	112+00.00	115+00.00	111+75.00	116+87.50	SB	RT		300	450				1	1											5.1	19.6	6	
44	GR-64	131+50.00	133+00.00	128+62.50	133+50.00	NB	RT		150	425				1	1											4.9	18.6	5	
44	GR-65	132+37.50	134+00.00	132+50.00	135+50.00	SB	RT		162.5	237.5				1	1											3.0	11.7	4	
62	GR-66	186+11.00	188+06.00	186+11.00	188+06.00	NB	RT		50	50										2				145				2	
62	GR-67	186+36.00	186+61.00	186+36.00	188+06.00	NB	LT		25	25										1				145				2	
62	GR-68	188+34.00	188+59.00	186+89.00	188+59.00	SB	LT		25	25										1				145				2	
62	GR-69	186+89.00	188+84.00	186+89.00	188+84.00	SB	RT		50	50										2				145				2	
39	GR-70	611+00.00	611+95.00	611+00.00	611+95.00		MED															1							
39	GR-71	614+55.00	615+75.00	614+55.00	615+75.00		MED															1							
40	GR-72	649+85.00	650+80.00	649+85.00	650+80.00		MED															1							
40	GR-73	653+12.00	653+85.00	653+12.00	653+85.00		MED															1							
TOTALS TO GENERAL SUMMARY									5012.5	6050	25	225	75	19	16	2		4	1	6	2	4	340	580	78.1	299	102	7

$ - GUARDRAIL OFFSET 4' FROM EDGE OF SHOULDER
# - STA 312+45.00 BK = STA 0+00.00 AH RAMP G

GUARDRAIL QUANTITIES

LAKE COUNTY
LAK-2/44-13.05/4.14

30
93

PLOTTED FROM: I:\PROJECTS\P:d18391\dgn\18391gqs.dgn

UNDERDRAIN QUANTITIES

SHEET NUMBER	REFERENCE NUMBER	STATION FROM	STATION TO	LOCATION DIRECTION	LOCATION SIDE	603 6" CONDUIT, TYPE F NON-PERFORATED ASTM D3034,SDR 35, 707.42 OR 707.33 LIN. FT.	603 CONDUIT BORED OR JACKED: 6", TYPE B LIN. FT.	605 6" SHALLOW PIPE UNDERDRAIN, WITH FABRIC WRAP, AS PER PLAN LIN. FT.	605 6" UNCLASSIFIED PIPE UNDERDRAIN, WITH FABRIC WRAP, AS PER PLAN LIN. FT.		604 PRECAST REINFORCED CONCRETE OUTLET EACH	CONNECT TO EXISTING CATCH BASIN, MANHOLE, ETC.
33	UD-1	233+00.00	240+00.00	NB	RT	25		675	25			CB
33	UD-2	233+00.00	240+50.00	NB	LT	30		725	25			CB
33	UD-3	233+00.00	240+50.00	SB	LT	30		725	25			CB
33	UD-4	233+00.00	240+00.00	SB	RT	25		675	25			CB
33	UD-5	240+00.00	245+50.00	NB	RT	25	24	525	25			CB
33	UD-6	240+50.00	245+50.00	NB	LT	30		475	25			CB
33	UD-7	240+50.00	245+50.00	SB	LT	30		475	25			CB
33	UD-8	240+00.00	245+50.00	SB	RT	30		525	25			CB
33,34	UD-9	245+50.00	250+00.00	NB	RT	25		425	25			CB
33,34	UD-10	245+50.00	250+25.00	NB	LT	30		450	25			CB
33,34	UD-11	245+50.00	250+25.00	SB	LT	30		450	25			CB
33,34	UD-12	245+50.00	250+00.00	SB	RT	25		425	25			CB
34	UD-13	250+00.00	260+00.00	NB	RT	25		975	25			CB
34	UD-14	250+25.00	260+00.00	NB	LT	30		950	25			CB
34	UD-15	250+25.00	260+00.00	SB	LT	30		950	25			CB
34	UD-16	250+00.00	259+60.00	SB	RT	25		935	25			CB
34	UD-17	260+00.00	265+25.00	NB	RT	25	24	500	25			MH
34	UD-18	260+00.00	265+25.00	NB	LT	22		500	25			MH
34	UD-19	260+00.00	265+25.00	SB	LT	22		500	25			MH
34	UD-20	259+60.00	265+25.00	SB	RT	25	24	540	25			MH
34	UD-21	265+25.00	270+37.00	NB	RT	25		487	25			CB
34	UD-22	265+25.00	270+25.00	NB	LT	20		475	25			CB
34	UD-23	265+25.00	270+60.00	SB	LT	10		525				MH
34	UD-24	265+25.00	270+75.00	SB	RT	30		525	25			CB
34,35	UD-25	270+37.00	274+25.00	NB	RT	30		363	25			CB
34,35	UD-26	270+25.00	274+35.00	NB	LT	35		385	25			MH
34,35	UD-27	270+60.00	274+35.00	SB	LT	10		365				MH
34,35	UD-28	270+75.00	274+25.00	SB	RT	30		325	25			CB
35	UD-29	274+25.00	282+80.00	NB	RT	30		830	25			CB
35	UD-30	274+35.00	278+75.00	NB	LT	35		415	25			MH
35	UD-31	274+35.00	278+75.00	SB	LT	10		430				MH
35	UD-32	274+25.00	282+95.00	SB	RT	30		845	25			CB
35	UD-33	278+75.00	283+00.00	NB	LT	35		400	25			MH
35	UD-34	278+75.00	283+00.00	SB	LT	10		415				MH
35	UD-35	282+80.00	290+00.00	NB	RT	25	24	695	25			CB
35	UD-36	283+00.00	290+00.00	NB	LT	20		675	25			CB
35	UD-37	283+00.00	290+00.00	SB	LT	10		690				MH
35	UD-38	282+95.00	290+00.00	SB	RT	25	24	680	25			MH
35	UD-39	290+00.00	297+00.00	NB	RT	25		650	50			CB
35	UD-40	290+00.00	293+00.00	NB	LT	20		275	25			CB
35	UD-41	290+00.00	293+00.00	SB	LT	20		275	25			CB
35	UD-42	290+00.00	294+80.00	SB	RT	25		430	50			CB
35	UD-43	4+88.00	11+65.00	RAMP 1	RT	30		652	25		1	
35	UD-44	3+25.00	12+70.00	RAMP 2	RT	30		920	25		1	
35,36	UD-45	293+80.00 ±	302+00.00	NB	RT	30		795	25		1	PROP UD
35	UD-46	293+00.00	299+50.00	NB	LT	20		625	25			CB
35,36	UD-46A	299+50.00	310+14.00	NB	LT	20		1039	25			CB
35	UD-47	293+00.00	299+50.00	SB	LT	20		625	25			CB
35,36	UD-47A	299+50.00	310+14.00	SB	LT	20		1039	25			CB
35,36	UD-48	294+15.00 ±	302+00.00	SB	RT	30		760	25		1	PROP UD
36	UD-49	302+00.00	310+14.00	NB	RT	30		814			1	
36	UD-50	302+00.00	310+14.00	SB	RT	30		814			1	
TOTAL (THIS SIDE)						1309	120	31638	1175		6	

UNDERDRAIN QUANTITIES

SHEET NUMBER	REFERENCE NUMBER	STATION FROM	STATION TO	LOCATION DIRECTION	LOCATION SIDE	603 6" CONDUIT, TYPE F NON-PERFORATED ASTM D3034,SDR 35, 707.42 OR 707.33 LIN. FT.	603 CONDUIT BORED OR JACKED: 6", TYPE B LIN. FT.	605 6" SHALLOW PIPE UNDERDRAIN, WITH FABRIC WRAP, AS PER PLAN LIN. FT.	605 6" UNCLASSIFIED PIPE UNDERDRAIN, WITH FABRIC WRAP, AS PER PLAN LIN. FT.		604 PRECAST REINFORCED CONCRETE OUTLET EACH	CONNECT TO EXISTING CATCH BASIN, MANHOLE, ETC.
36	UD-51	312+39.00	312+45.00 BK	NB	RT			6				PROP UD
36		38+50.00	46+97.96 AH	NB	RT	30		823	25		1	
36	UD-52	312+39.00	312+45.00 BK	NB	LT			6				PROP UD
36		38+50.00	46+97.96 AH	NB	LT	30		823	25		1	
36,37	UD-53	30+00.00	38+50.00	NB	RT	30		825	25		1	
36,37	UD-54	30+00.00	38+50.00	NB	LT	30		825	25		1	
36	UD-55	312+39.00	312+45.00 BK	SB	LT			6				PROP UD
36		0+00.00 AH	9+00.00	SB	LT	30		875	25		1	
36	UD-56	312+39.00	312+45.00 BK	SB	RT			6				PROP UD
36		0+00.00 AH	9+00.00	SB	RT	30		875	25		1	
36,37	UD-57	9+00.00	18+00.00	SB	LT	30		875	25		1	
36,37	UD-58	9+00.00	18+00.00	SB	RT	30		875	25		1	
41	UD-59	47+00.00	49+00.00	NB	RT	30		175	25		1	
41	UD-60	47+00.00	49+00.00	SB	RT	30		175	25		1	
41,42	UD-61	49+00.00	56+00.00	NB	RT	30		675	25		1	
41,42	UD-62	49+00.00	56+00.00	SB	RT	30		675	25		1	
42	UD-63	57+50.00	12+25.00 RAMP C	NB	RT	30		1175	25			CB
42	UD-64	57+50.00	9+40.00 RAMP A	SB	RT	30		1450	25		1	
42	UD-65	12+25.00	14+25.00	RAMP C	RT			175	25			PROP UD
42	UD-66	9+40.00	13+07.00	RAMP A	RT			342	25			PROP UD
42	UD-67	71+20.00	75+50.00	NB	RT	30		405	25			CB
42	UD-68	75+50.00	77+50.00	NB	RT	30		175	25			CB
42,43	UD-69	77+50.00	84+70.00	NB	RT	30		695	25			CB
42	UD-70	66+90.00	73+65.00	SB	RT	30		650	25			CB
42	UD-70A	73+65.00	77+00.00	SB	RT	30		310	25			CB
42,43	UD-71	77+00.00	80+70.00	SB	RT	30		345	25			CB
42,43	UD-72	7+68.00	13+50.00	RAMP D	RT	20		557	25			CB
43	UD-73	13+50.00 RAMP D	87+80.00	NB	RT			405	25			PROP UD
42,43	UD-74	3+61.00	11+20.00	RAMP B	RT	20		734	25			CB
43	UD-75	11+20.00 RAMP B	87+80.00	SB	RT			635	25			PROP UD
43	UD-76	87+80.00	91+50.00	NB	RT	35		345	25		1	
43	UD-77	87+80.00	91+25.00	SB	RT	35		320	25		1	
43	UD-78	91+50.00	98+90.00	NB	RT	40		740				CB
43	UD-79	91+25.00	95+50.00	SB	RT	30		400	25		1	
43	UD-80	99+75.00	105+50.00	NB	RT	35		575				CB
43	UD-81	95+50.00	101+25.00	SB	RT	30		550	25		1	
43	UD-82	101+25.00	105+85.00	SB	RT	40		435	25		1	
43,44	UD-83	105+85.00	111+75.00	NB	LT	10		580				INLET
43,44	UD-84	105+85.00	111+75.00	SB	RT	35		565	25		1	
44	UD-85	111+75.00	119+75.00	NB	LT	10		790				INLET
44	UD-86	111+75.00	121+52.46 BK	SB	RT			977				PROP UD
		121+67.42 AH	122+06.00	SB	RT	35		14	25		1	
44	UD-87	121+68.00	125+00.00	NB	RT	35		307	25		1	
44	UD-88	122+06.00	132+50.00	SB	RT	25		1019	25		1	
44	UD-89	125+00.00	132+70.00	NB	RT	25		745	25		1	
44,45	UD-90	132+70.00	140+00.00	NB	RT	30		705	25		1	
44,45	UD-91	132+50.00	140+00.00	SB	RT	30		725	25		1	
45	UD-92	140+00.00	147+25.00	NB	RT	35		700	25		1	
45	UD-93	140+00.00	147+25.00	SB	RT	35		700	25		1	
45	UD-94	147+25.00	156+10.00	NB	RT	35		860	25		1	
45	UD-95	147+25.00	156+10.00	SB	RT	35		860	25		1	
45	UD-96	156+10.00	163+67.00	NB	RT	35		732	25		1	
TOTAL (THIS SIDE)						1265		30217	1075		30	
TOTAL (LEFT SIDE)						1309	120	31638	1175		6	
TOTAL TO GENERAL SUMMARY						2574	120	61855	2250		36	

CALCULATED EMK
CHECKED LDH

UNDERDRAIN QUANTITIES

LAKE COUNTY
LAK-2/44-13.05/4.14

SR-44 TURNING LANE ESTIMATED QUANTITIES

STATION FROM	STATION TO	LENGTH		202 PAVEMENT REMOVED	202 CURB REMOVED	202 CONCRETE MEDIAN REMOVED		203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	203 SUBGRADE COMPACTION		255 FULL DEPTH PAVEMENT SAWING	304 AGGREGATE BASE, AS PER PLAN	305 9" CONCRETE BASE, AS PER PLAN		830 CURB, TYPE 6	830 CONCRETE MEDIAN
		LIN. FT.		SQ. YD.	LIN. FT.	SQ. YD.		CU. YD.	SQ. YD.		LIN. FT.	CU. YD.	SQ. YD.		LIN. FT.	SQ. YD.
54+11.00	56+11.00	200		122	50	117		87	205		364	36	215		50	50
57+06.00	59+06.00	200		122	50	117		87	205		364	36	215		50	50
99+88.00	101+88.00	200		122	50	117		87	205		364	36	215		50	50
120+73.00	121+52.46 BK	79.46		122	50	117		87	205		364	36	215		50	50
121+67.42 AH	122+87.96	120.54														
TOTAL TO GENERAL SUMMARY				488	200	468		348	820		1456	144	860		200	200

PAVEMENT QUANTITIES

STATION FROM	STATION TO	LOCATION	SPECIAL PRESSURE RELIEF JOINT, TYPE A
			LIN. FT.
309+85.33	309+89.33	SR-44, NB	24
309+85.33	309+89.33	SR-44, SB	24
0+18.33	0+22.33	RAMP G	24
46+75.63	46+79.63	RAMP E	24
TOTAL TO GENERAL SUMMARY			96

SR-44 SHOULDER REPLACEMENT QUANTITIES

LOCATION	STATION FROM	STATION TO	LENGTH	WIDTH	AREA	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	203 SUBGRADE COMPACTION		301 BITUMINOUS AGGREGATE BASE, PG64-22	304 AGGREGATE BASE, AS PER PLAN	
			LIN. FT.	LIN. FT.	SQ. YD.	CU. YD.	SQ. YD.		CU. YD.	CU. YD.	
SR-44 NORTHBOUND	233+00.00	310+14.33	7714.33	4.0	3430	858			571		
	312+38.33	312+45.00 BK	6.67	4.0	1	1			1		
RAMP E	29+00.00	46+97.96 AH	1797.96	4.0	799	200			133		
SR-44 SOUTHBOUND	233+00.00	310+14.33	7714.33	4.0	3430	858			571		
	312+38.33	312+45.00 BK	6.67	4.0	1	1			1		
RAMP G	0+00.00 AH	18+00.00	1800.00	4.0	800	200			133		
RAMP I	1+00.00	7+05.00	605.00	6.0	403	202	403		101	67	
RAMP 2	0+00.00	12+69.09	1269.09	6.0	846	423	846		212	141	
RAMP A	6+21.00	13+07.20	686.20	6.0	457	229	457		114	76	
RAMP B	3+60.62	12+83.00	922.38	6.0	615	308	615		154	103	
RAMP C	8+86.00	17+91.24	905.24	6.0	604	302	604		151	101	
RAMP D	7+67.77	15+29.00	761.23	6.0	507	254	507		127	85	
TOTAL TO GENERAL SUMMARY						3836	3432		2269	573	

DRAINAGE QUANTITIES

REF. NO.	STATION	603 15" CONDUIT, TYPE C	603 18" CONDUIT, TYPE C	603 21" CONDUIT, TYPE C	603 24" CONDUIT, TYPE C	604 CATCH BASIN, NO. 5, AS PER PLAN	604 CATCH BASIN, NO. 2-2A, AS PER PLAN		601 ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	SPEC MISC.: CONCRETE APRON REPLACEMENT FOR EXISTING NO. 5 CATCH BASIN
		L.F.	L.F.	L.F.	L.F.	EACH	EACH		C.Y.	S.F.
D-1	9+40.00									150
D-2	73+65.00				8	1				
D-3	75+50.00	4				1				
D-4	77+00.00			8		1				
D-5	77+50.00	4		4		1				
D-6	13+50.00				4	1				
D-7	98+88.00		4				1			
D-8	99+60.00		8				1			
D-9	105+50.00								4	150
TOTALS		8	12	12	12	5	2		4	300

CALCULATED EMK
CHECKED LDH

ESTIMATED QUANTITIES

LAKE COUNTY
LAK-2/44-13.05/4.14

32
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\1839lggc.dgn

RAMP A

RAMP B

℄ SR-44

MATCH LINE STA. 232+00
SEE BELOW

PT Sta. 13+40

SC Sta. 6+65.91

CS Sta. 8+75.75

ST Sta. 10+25.75

BEGIN PROJECT
STA. 233+00.00
S.L.M. 4.14
TE21 G010 (151)

MATCH LINE STA. 232+00
SEE ABOVE

MATCH LINE STA. 246+00
SEE SHEET 34

PAINESVILLE TOWNSHIP
CONCORD TOWNSHIP

UD-1
UD-2
UD-3
UD-4
UD-5
UD-6
UD-7
UD-8
UD-9
UD-10
UD-11
UD-12

℄ 6" 717.48 +00.
℄ 6" 717.67 +00
℄ 6" 717.50 +00
℄ 6" 703.00 +00
℄ 6" 703.16 +00
℄ 6" 705.91 +00
℄ 6" 704.02 +50
℄ 6" 705.07 +50
℄ 6" 703.25 +50
℄ 6" 693.90 +35
℄ 6" 695.62 +50
℄ 6" 694.50 +50
℄ 6" 693.67 +50
℄ 6" 695.83 +50
℄ 6" 693.92 +50
℄ 6" 693.45 +50
℄ 6" 693.70 +50
℄ 6" 695.91 +35
℄ 6" 695.83 +50

ASPHALT OVERLAY TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27,28
TRAFFIC CONTROL	68
FEATHER DEATAIL	52
UNDERDRAIN QTY	31

N

0 50 100 SCALE IN FEET

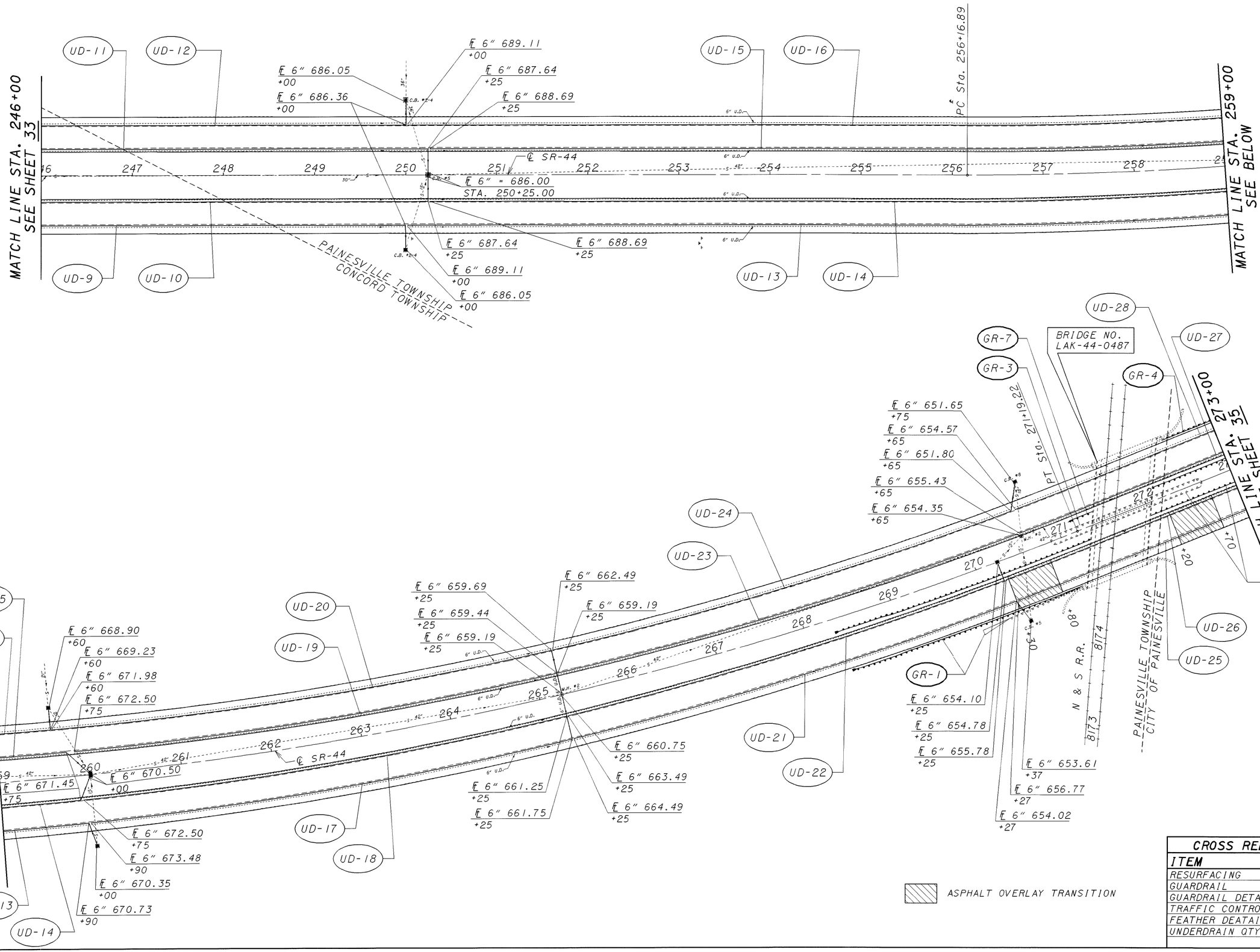
CALCULATED EMK
CHECKED LDH

PLAN SHEET
STA. 220+00 TO STA. 246+00

LAKE COUNTY
LAK-2/44-13.05/4.14

33
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gpe.dgn



CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27,28
GUARDRAIL	29,30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	69
FEATHER DEATAIL	52
UNDERDRAIN QTY	31

0 50 100 SCALE IN FEET

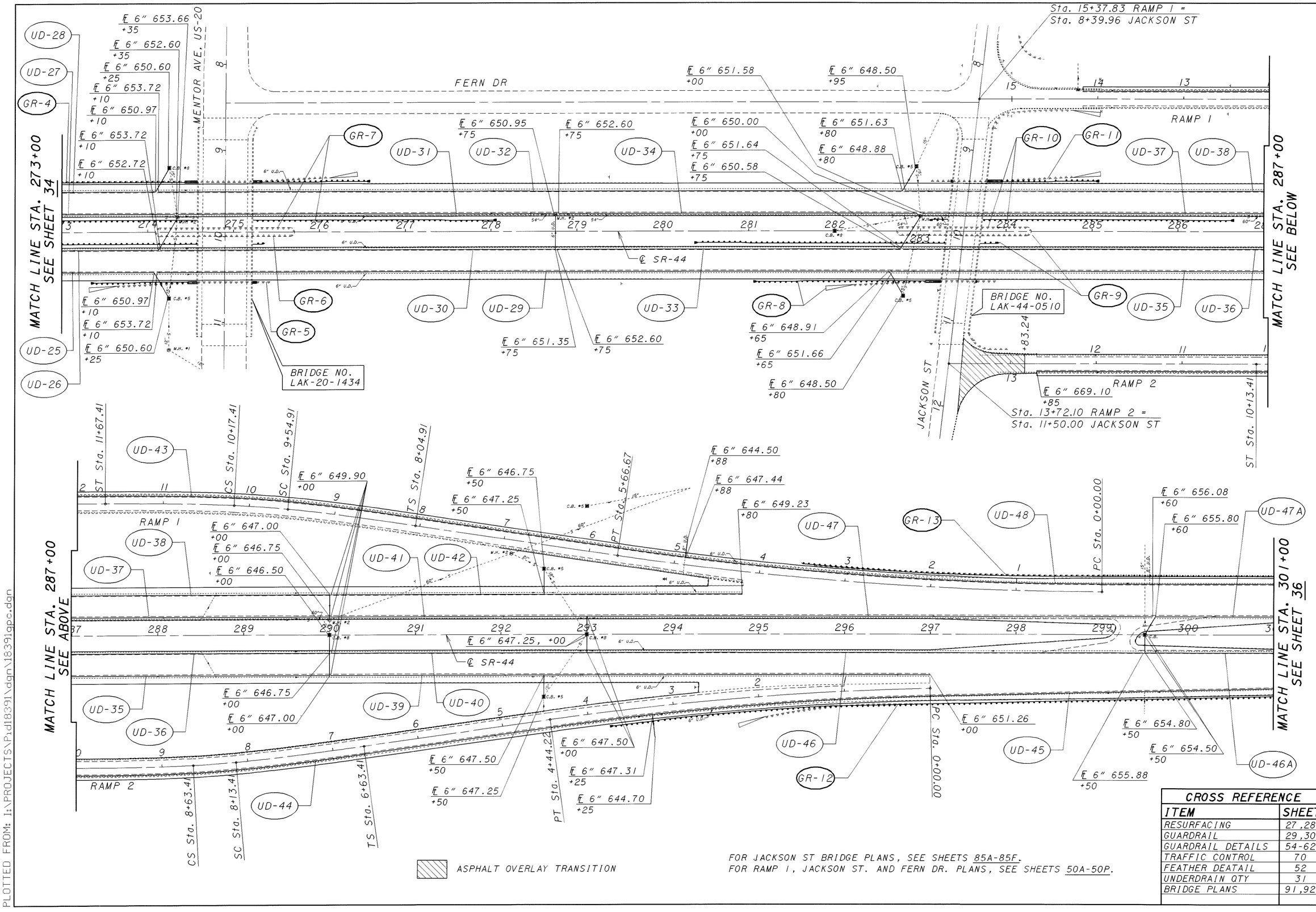
CALCULATED EMK
CHECKED LDH

PLAN SHEET - S.R. 44
STA. 246+00 TO STA. 273+00

LAKE COUNTY
LAK-2/44-13.05/4.14

34
93

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391gpb.dgn



ASPHALT OVERLAY TRANSITION

FOR JACKSON ST BRIDGE PLANS, SEE SHEETS 85A-85F.
FOR RAMP 1, JACKSON ST. AND FERN DR. PLANS, SEE SHEETS 50A-50P.

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27,28
GUARDRAIL	29,30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	70
FEATHER DEATAIL	52
UNDERDRAIN QTY	31
BRIDGE PLANS	91,92

CALCULATED EMK
CHECKED LDH

0 50 100 SCALE IN FEET

PLAN SHEET - S.R. 44
STA. 273+00 TO STA. 301+00

LAKE COUNTY
LAK-2/44-13.05/4.14

35
93

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391gpc.dgn

MATCH LINE STA. 301+00
SEE SHEET 35

UD-48 UD-45 GR-13 GR-14 GR-12 UD-47A UD-46A UD-50 UD-49 GR-15 GR-17 GR-19 GR-18 GR-16 GR-22 GR-21 GR-20 UD-56 UD-55 UD-51 UD-52

℄ 6" 659.75 +00
℄ 6" 660.75 +00
℄ 6" 660.66 +00
℄ 6" 659.66 +00
℄ 6" 671.46 +14
℄ 6" 670.62 +14
℄ 6" 670.62 +14
℄ 6" 669.78 +14
℄ 6" 670.80 +39
℄ 6" 669.96 +39
℄ 6" 669.12 +39

PC Sta. 303+52.34
CITY OF PAINESVILLE
PAINESVILLE TOWNSHIP
℄ SR-44
BRIDGE NO. LAK-44-0561 L
BRIDGE NO. LAK-44-0561 R
PRJ-2 +97.83
PRJ-1
PRJ-4 +10.83
PRJ-3 +88.13
CSX R.R.
1405
PT Sta. 312+45.00 SR 44 BK
Sta. 0+00.00 RAMP G AH
PT Sta. 312+45.00 SR 44 BK
Sta. 46+97.96 RAMP E AH
℄ RAMP G
℄ RAMP E
313

MATCH LINE STA. 314+00
SEE BELOW

MATCH LINE STA. 314+00
SEE ABOVE

UD-58 UD-57 GR-24 GR-23 UD-53 UD-54

℄ 6" 653.93 +00
℄ 6" 653.50 +00
℄ 6" 654.98 +00
℄ 6" 654.50 +50
℄ 6" 653.50 +00
℄ 6" 656.02 +50
℄ 6" 654.97 +50
℄ 6" 654.50 +50

PC Sta. 41+42.51
℄ SR-44
℄ RAMP G
℄ RAMP E

MATCH LINE STA. 327+00
SEE SHEET 37

ASPHALT OVERLAY TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27, 28
GUARDRAIL	29, 30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	71
FEATHER DEATAIL	52
UNDERDRAIN QTY	31
BRIDGE PLANS	86-89

SCALE IN FEET 0 50 100

CALCULATED EMK
CHECKED LDH

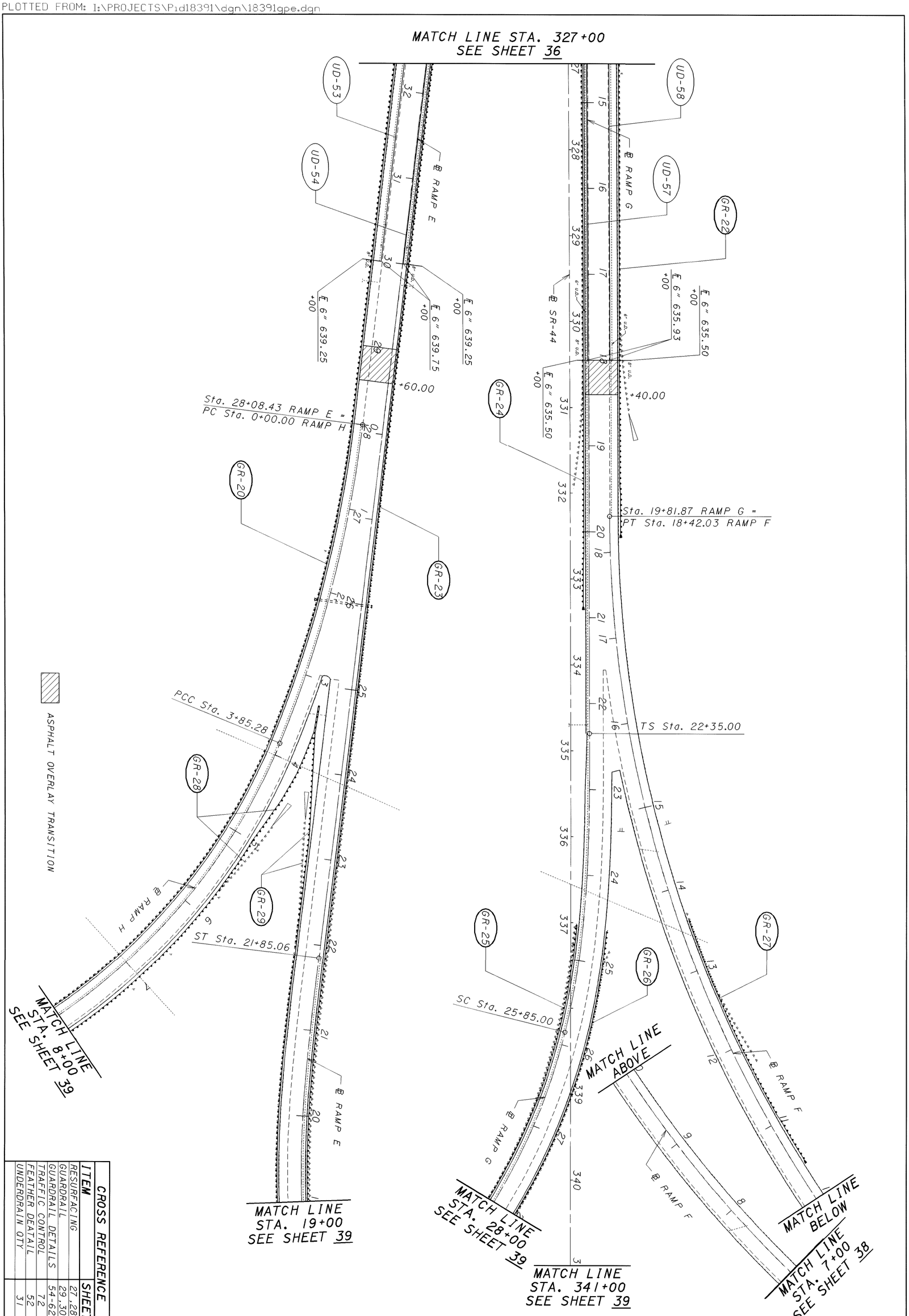
PLAN SHEET - S.R. 44
STA. 301+00 TO STA. 327+00

LAKE COUNTY
LAK-2/44-13.05/4.14

36
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gpd.dgn

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391gpe.dgn



CROSS REFERENCE ITEM	SHEET
RESURFACING	27, 28
GUARDRAIL	29, 30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	72
FEATHER DEATAIL	52
UNDERDRAIN QTY	31

93 | 37

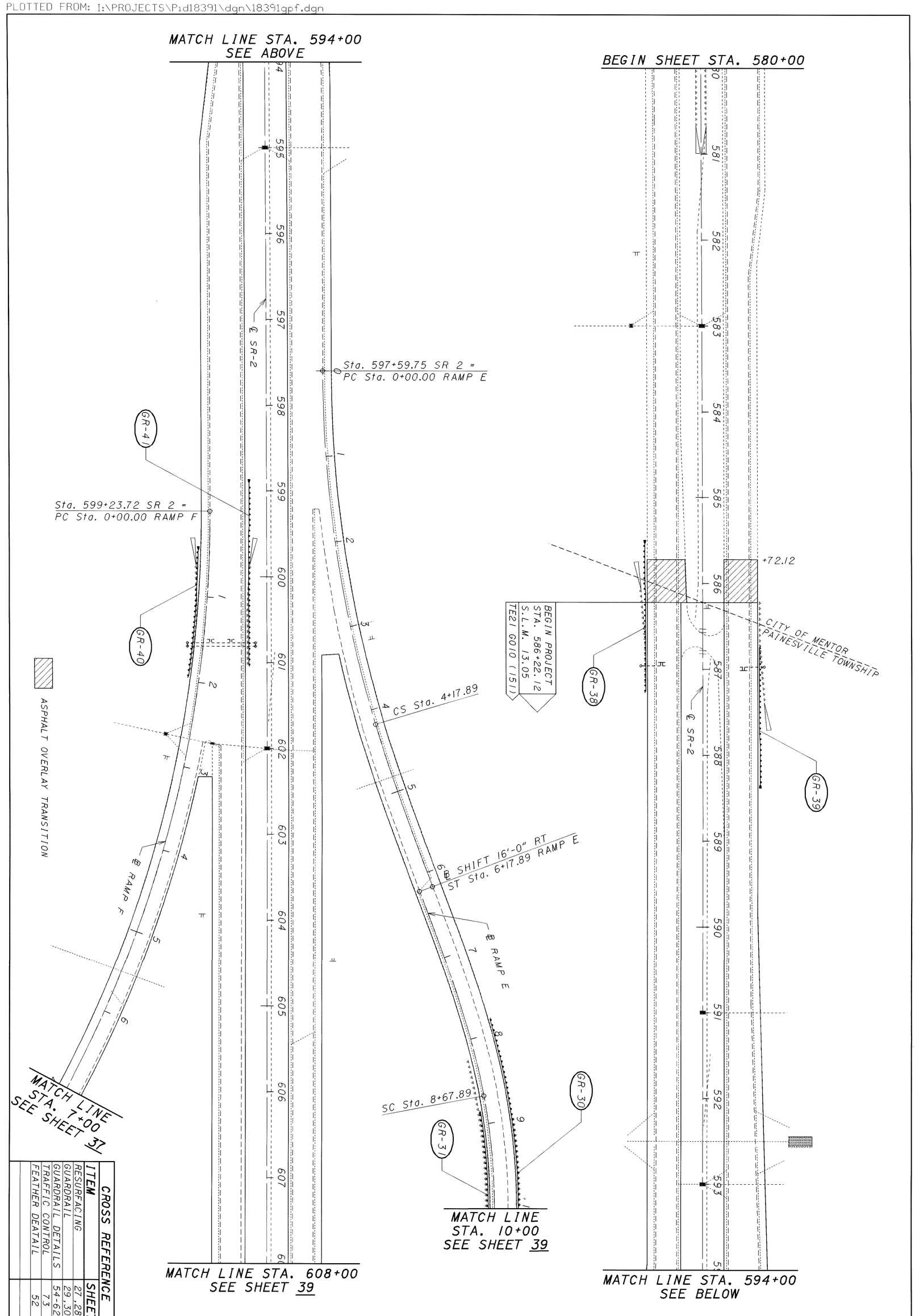
LAKE COUNTY
LAK-2/ 44-13.05/ 4.14

PLAN SHEET - S.R. 44
STA. 327+00 TO STA. 341+00

CALCULATED EMK
CHECKED LDH

0 50 100
SCALE IN FEET

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391gpf.dgn



CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27,28
GUARDRAIL	29,30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	73
FEATHER DEATAIL	52

38 / 93	LAKE COUNTY LAK-2/ 44-13.05/ 4.14	PLAN SHEET - S.R. 2 STA. 580+00 TO STA. 608+00	CALCULATED EMK CHECKED LDH 0 50 100 SCALE IN FEET

MATCH LINE STA. 10+00 SEE SHEET 38

MATCH LINE STA. 608+00 SEE SHEET 38

MATCH LINE STA. 621+00 SEE BELOW

MATCH LINE STA. 621+00 SEE ABOVE

MATCH LINE STA. 632+00 SEE SHEET 40

MATCH LINE STA. 341+00 SEE SHEET 37

MATCH LINE STA. 28+00 SEE SHEET 37

MATCH LINE STA. 19+00 SEE SHEET 37

MATCH LINE STA. 8+00 SEE SHEET 37

GR-30 GR-31 GR-32 GR-33 GR-34 GR-35 GR-36 GR-37 GR-42 GR-43 GR-44 GR-45 GR-46 GR-47 GR-70 GR-71 GR-23 GR-25 GR-26 GR-28 GR-29 GR-20

℄ RAMP E

BRIDGE NO. LAK-44-0620 SW

BRIDGE NO. LAK-2-1354 ES

℄ RAMP G

℄ SR-2

℄ SR 44

℄ SHIFT 16'-0" LT ST Sta. 41+04.73 RAMP G

SC Sta. 43+04.73

Sta. 628+23.28 SR 2 = PT Sta. 46+86.23 RAMP G

℄ RAMP H

PCC Sta 12+37.54

Sta. 625+00.00 SR 2 = Sta. 16+31.29 RAMP H

CS Sta. 18+35.06

CS Sta. 38+54.73

+74.44 +53.27 +33.76 +66.20

ASPHALT OVERLAY TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27, 28
GUARDRAIL	29, 30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	74
FEATHER DEATAIL	52

SCALE IN FEET 0 50 100

CALCULATED EMK CHECKED LDH

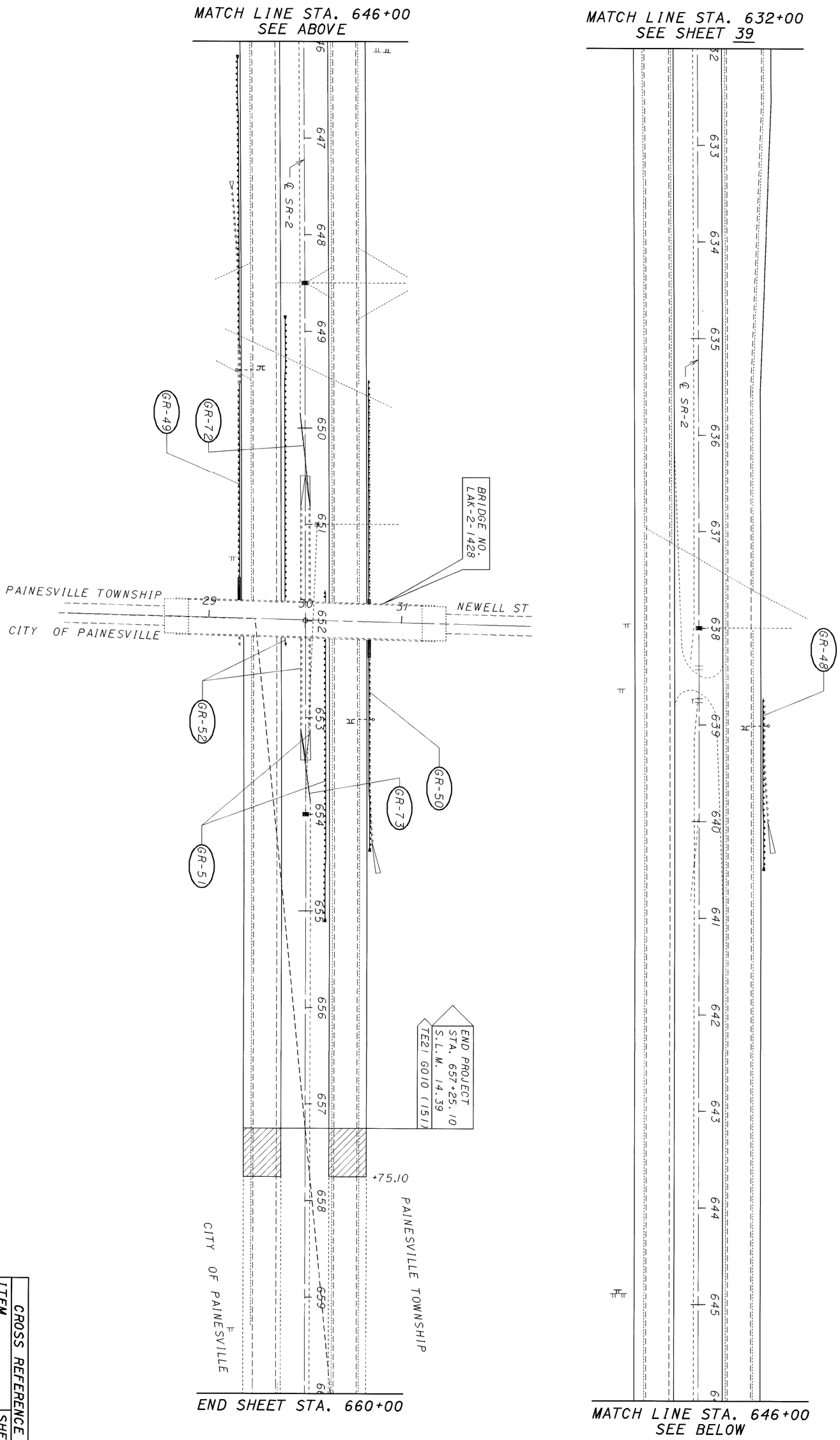
PLAN SHEET - S.R. 2
STA. 608+00 TO STA. 632+00

LAKE COUNTY
LAK-2/44-13.05/4.14

39
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gpg.dgn

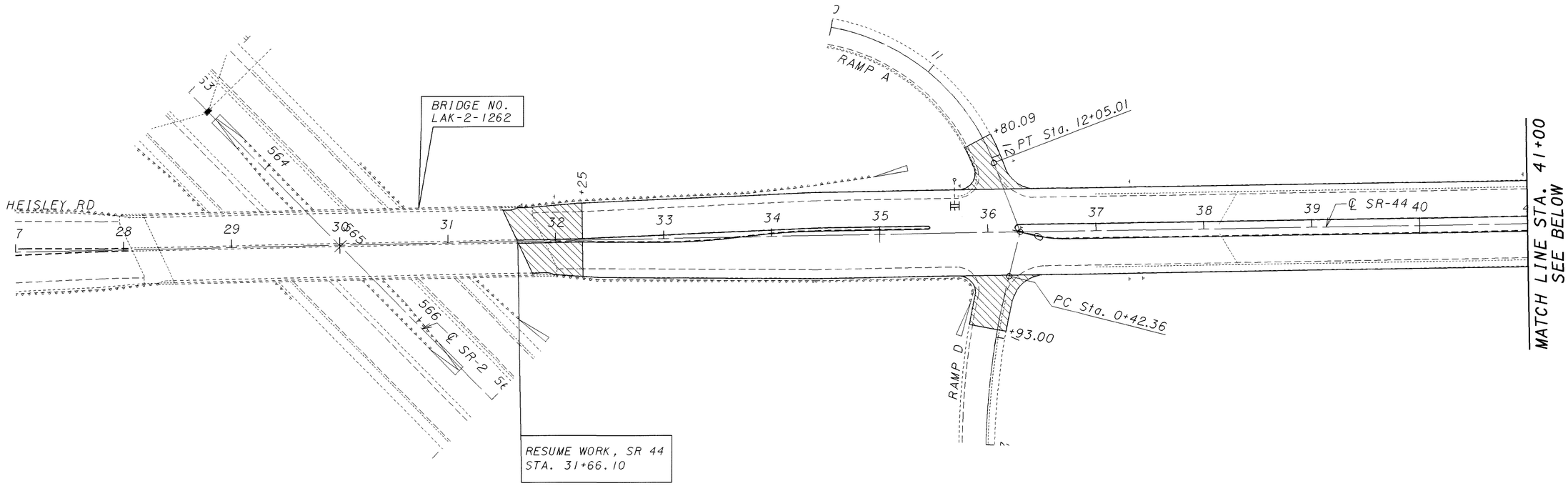
PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gph.dgn

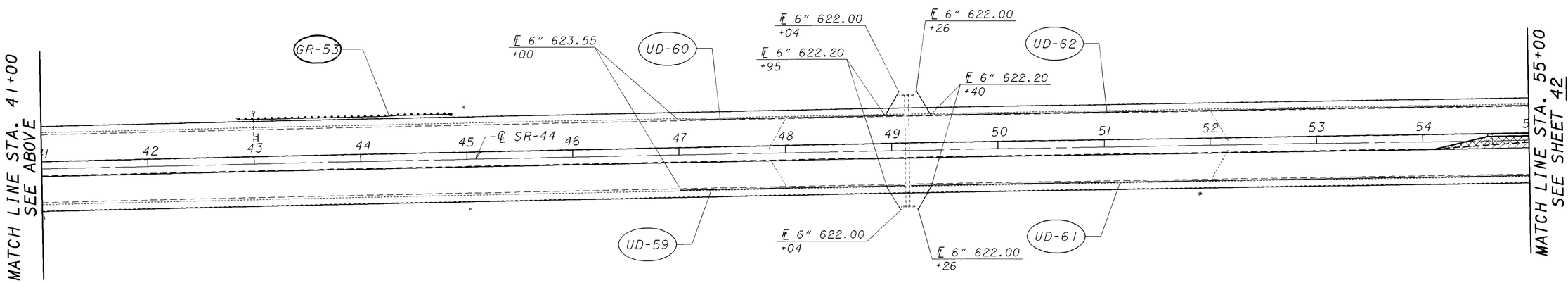


CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27,28
GUARDRAIL	29,30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	75
FEATHER DEATAIL	52

93	40	LAKE COUNTY LAK-2/44-13.05/4.14	PLAN SHEET - S.R. 2 STA. 632+00 TO STA. 660+00

CALCULATED EMK
CHECKED LDH
0 50 100
SCALE IN FEET
N





ASPHALT OVERLAY TRANSITION

PAVEMENT REMOVAL AND REPLACEMENT

LEFT TURN LANE PAVEMENT

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27,28
GUARDRAIL	29,30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	76
FEATHER DEATAIL	52
UNDERDRAIN QTY	31

N

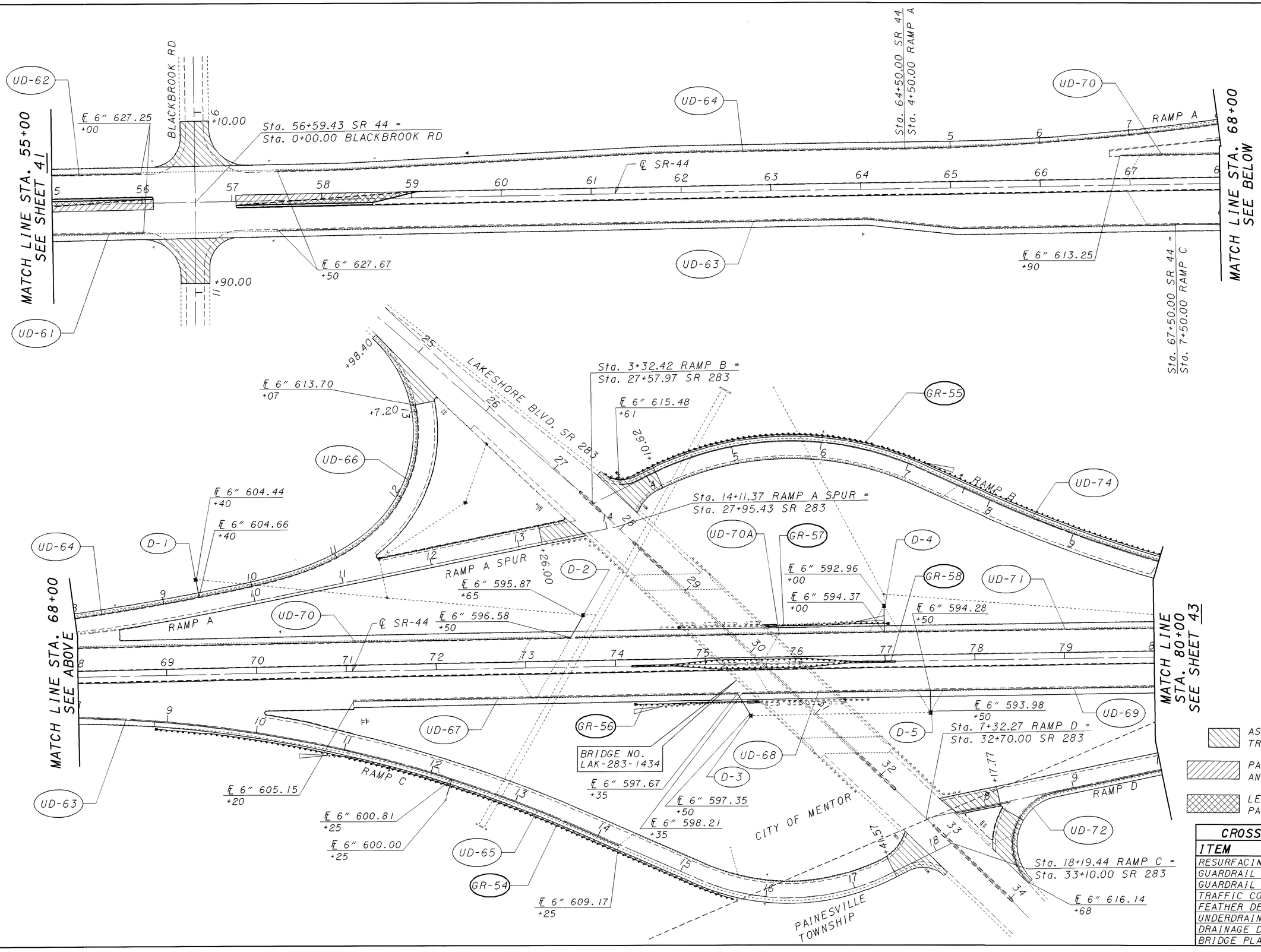
0 50 100 SCALE IN FEET

CALCULATED EMK
CHECKED LDH

PLAN SHEET - S.R. 44
STA. 36+30 TO STA. 55+00

LAKE COUNTY
LAK-2/44-13.05/4.14

41
93



CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27,28
GUARDRAIL	29,30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	69
FEATHER DEATAIL	52
UNDERDRAIN QTY	31
DRAINAGE DETAILS	49,50
BRIDGE PLANS	93

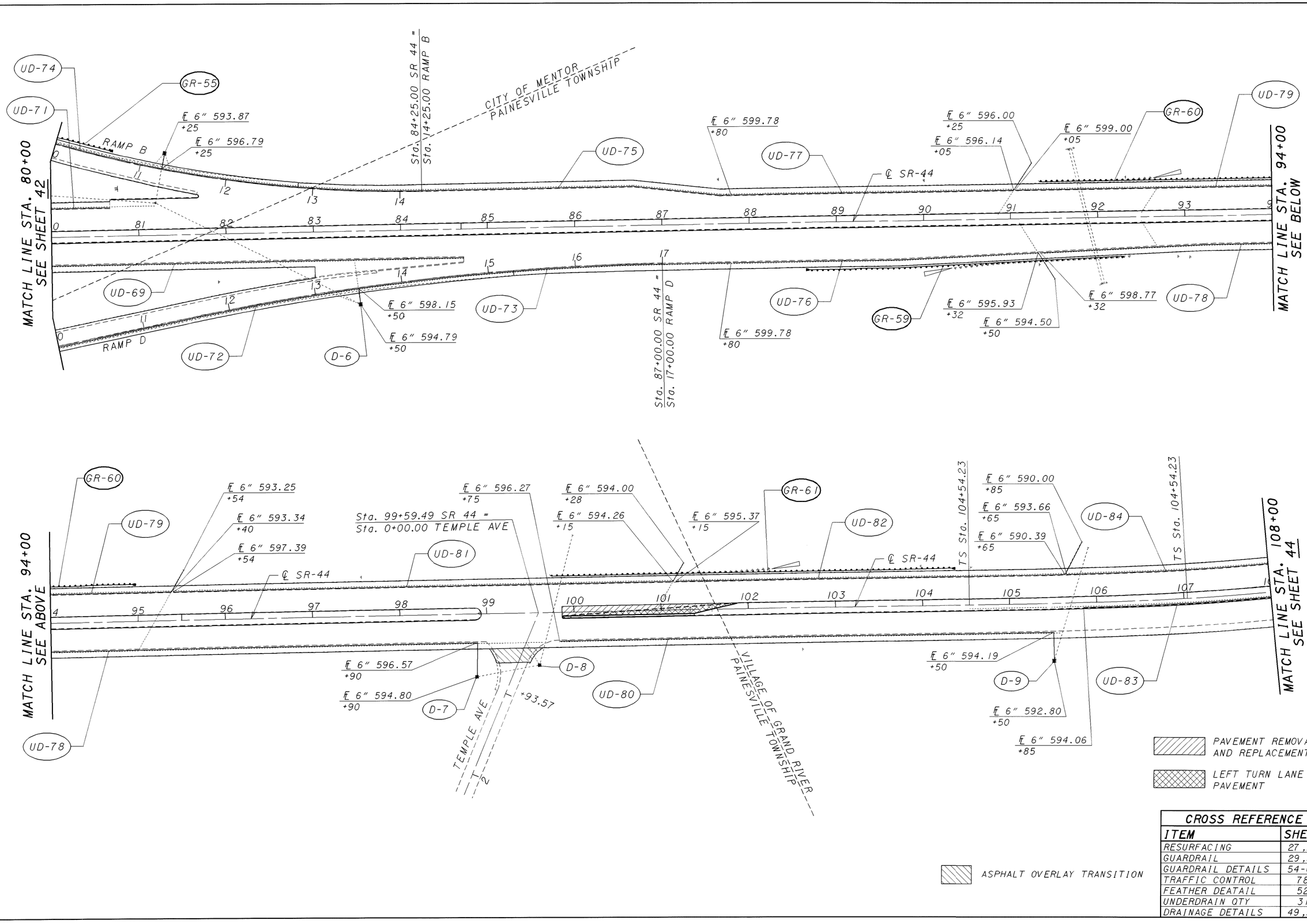
SCALE IN FEET 0 50 100

CALCULATED EMK
CHECKED LDH

PLAN SHEET - S.R. 44
STA. 55+00 TO STA. 80+00

LAKE COUNTY
LAK-2/44-13.05/4.14

42
93



▨ PAVEMENT REMOVAL AND REPLACEMENT

▨ LEFT TURN LANE PAVEMENT

▨ ASPHALT OVERLAY TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27,28
GUARDRAIL	29,30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	78
FEATHER DEATAIL	52
UNDERDRAIN QTY	31
DRAINAGE DETAILS	49,50

SCALE IN FEET
0 50 100

CALCULATED EMK
CHECKED LDH

PLAN SHEET - S.R. 44
STA. 80+00 TO STA. 108+00

LAKE COUNTY
LAK-2/44-13.05/4.14

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391gp1.dgn

MATCH LINE STA. 108+00
SEE SHEET 43

UD-84

℄ 6" 587.93
+50

℄ 6" 587.00
+68

℄ 6" 591.64
+50

UD-86

GR-63

UD-83

℄ SR-44

℄ 6" 588.99
+75

℄ 6" 591.94
+75

GR-62

UD-85

CS Sta. 119+02.46

℄ 6" 589.00
+75

Sta. 120+25.00 SR 44
Sta. 0+00.00 OLIVE ST

ST Sta. 121+52.46 BK
Sta. 121+67.42 AH

℄ 6" 587.95
+88

℄ 6" 584.11
+88

℄ 6" 588.04
+68

OLIVE ST

MATCH LINE STA. 122+00
SEE BELOW

UD-87

MATCH LINE STA. 122+00
SEE ABOVE

UD-86

℄ 6" 583.00
+06

UD-88

℄ SR-44

UD-87

℄ 6" 584.04
+85

℄ 6" 583.00
+00

℄ 6" 586.89
+85

UD-89

GR-64

℄ 6" 584.00
+50

℄ 6" 584.50
+40

UD-91

GR-65

℄ 6" 584.61
+40

℄ 6" 584.42
+65

℄ 6" 584.00
+75

℄ 6" 584.50
+65

UD-90

MATCH LINE STA. 136+00
SEE SHEET 45

PAVEMENT REMOVAL AND REPLACEMENT

LEFT TURN LANE PAVEMENT

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27,28
GUARDRAIL	29,30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	79
FEATHER DEATAIL	52
UNDERDRAIN QTY	31

N

0 50 100 SCALE IN FEET

CALCULATED EMK
CHECKED LDH

PLAN SHEET - S.R. 44
STA. 108+00 TO STA. 136+00

LAKE COUNTY
LAK-2/44-13.05/4.14

44
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gpm.dgn

MATCH LINE STA. 136+00
SEE SHEET 44

UD-91

℄ 6" 581.50 +00

℄ 6" 582.33 +00

℄ 6" 582.22 +00

℄ SR-44

136 137 138 139 140 141 142 143 144 145 146 147 148 149 150

UD-93

℄ 6" 580.00 +00

℄ 6" 580.27 +88

℄ 6" 580.16 +88

UD-95

℄ 6" 580.08 +12

℄ 6" 580.29 +12

℄ 6" 579.90 +25

UD-92

UD-94

℄ 6" 582.22 +00

℄ 6" 582.33 +00

℄ 6" 581.50 +00

UD-90

MATCH LINE STA. 150+00
SEE BELOW

MATCH LINE STA. 150+00
SEE ABOVE

UD-95

℄ SR-44

℄ 6" 577.00 +12

℄ 6" 577.42 +00

VILLAGE OF GRAND RIVER
PAINESVILLE TOWNSHIP

PC Sta. 157+36.36

150 151 152 153 154 155 156 157 158 159 160 161 162

℄ 6" 577.42 +00

℄ 6" 577.53 +10

℄ 6" 577.00 +10

UD-94

UD-96

MATCH LINE STA. 162+00
SEE ABOVE

MATCH LINE STA. 162+00
SEE ABOVE

℄ 6" 575.79 +57

PT Sta. 163+63.60 +81.70

HEADLANDS RD

48 49 50 51 52

Sta. 49+48.00 HEADLANDS RD
Sta. 10+00.00 WEST PARK RD

Sta. 164+34.08 SR 44
Sta. 50+00.00 HEADLANDS RD

WEST PARK RD

EAST PARK RD

Sta. 50+52.00 HEADLANDS RD
Sta. 10+00.00 EAST PARK RD

162 163 164

℄ SR-44

℄ 6" 574.40 +67

END PROJECT
STA. 164+34.08
S.L.M. 9.53
TE21 G010 (151)

ASPHALT OVERLAY TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING	27,28
GUARDRAIL	29,30
GUARDRAIL DETAILS	54-62
TRAFFIC CONTROL	80
FEATHER DEATAIL	52
UNDERDRAIN QTY	31

N

0 50 100 SCALE IN FEET

CALCULATED EMK
CHECKED LDH

PLAN SHEET - S.R. 44
STA. 136+00 TO STA. 164+34.08

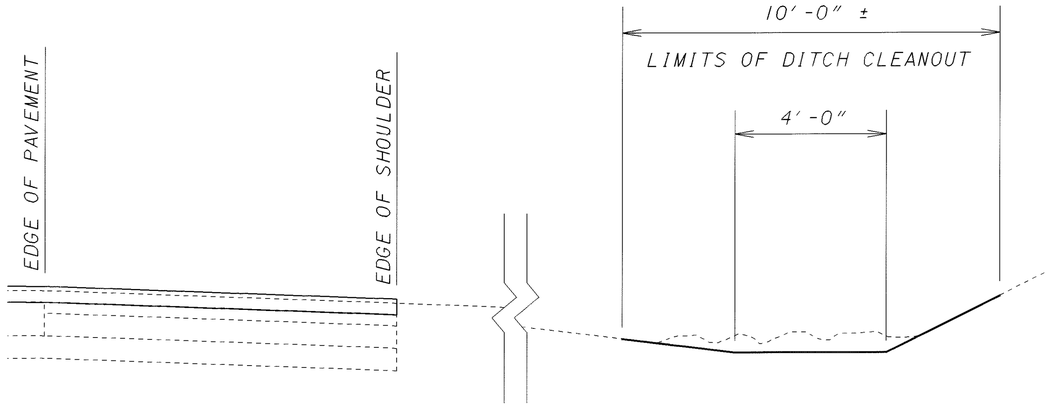
LAKE COUNTY
LAK-2/44-13.05/4.14

45
93

PLOTTED FROM: I:\PROJECTS\P:d18391\dgn\18391gpn.dgn

DITCH CLEANOUT QUANTITIES

LOCATION	STATION FROM	STATION TO	LENGTH	203 DITCH CLEANOUT
			LIN. FT.	LIN. FT.
SR-44 NORTHBOUND	246+00.00	251+00.00	500	500
SR-44 NORTHBOUND	264+50.00	270+50.00	600	600
SR-44 NORTHBOUND	272+00.00	274+50.00	250	250
SR-44 NORTHBOUND	275+25.00	283+25.00	800	800
SR-44 NORTHBOUND	290+00.00	310+00.00	2000	2000
SR-44 SOUTHBOUND	267+50.00	271+50.00	400	400
SR-44 SOUTHBOUND	272+50.00	274+50.00	200	200
SR-44 SOUTHBOUND	275+25.00	283+25.00	800	800
SR-44 SOUTHBOUND	290+00.00	310+00.00	2000	2000
SR- 2 EASTBOUND	627+00.00	633+00.00	600	600
SR- 2 EASTBOUND	648+00.00	652+00.00	400	400
SR- 2 EASTBOUND	652+00.00	662+00.00	1000	1000
SR- 2 WESTBOUND	587+00.00	591+00.00	400	400
SR- 2 WESTBOUND	594+00.00	602+00.00	800	800
SR- 2 WESTBOUND	639+00.00	652+00.00	1300	1300
SR- 2 WESTBOUND	652+00.00	662+00.00	100	100
RAMP H	13+00.00	16+00.00	300	300
TOTAL TO GENERAL SUMMARY				12450



DITCH CLEANOUT DETAIL

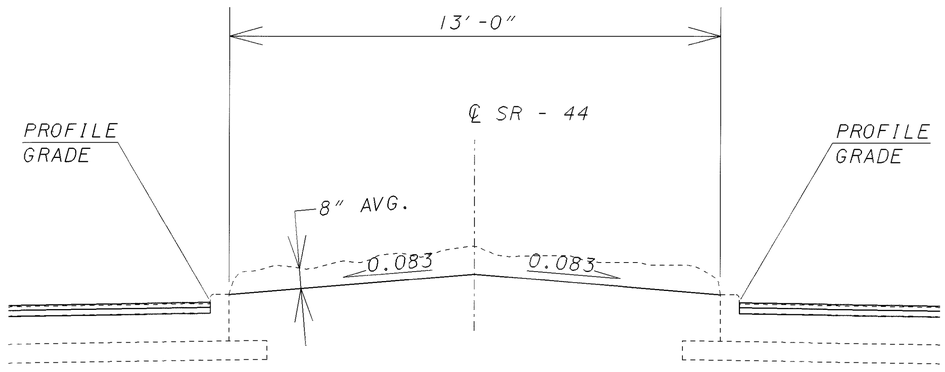
LINEAR GRADING QUANTITIES

STATION FROM	STATION TO	LENGTH	203 LINEAR GRADING, AS PER PLAN
		LIN. FT.	STATION
101+38.00	119+75.00	1837	18.4
122+37.96	157+50.00	3512.04	35.1
TOTAL TO GENERAL SUMMARY			53.5

ITEM 203 - LINEAR GRADING, AS PER PLAN

THIS ITEM OF WORK SHALL BE USED TO REMOVE THE EXCESS SOIL, TO BE DISPOSED OF AS PER 203.05, THAT HAS ACCUMULATED IN THE MEDIAN OF SR-44 FROM STA. 101+38± TO STA. 157+50± AND GRADING THE MEDIAN AS SHOWN BELOW. INCLUDED IN THIS PAY ITEM SHALL BE THE SEEDING AND MULCHING OF ALL EXPOSED AREAS.

ALL COSTS TO PERFORM THIS ITEM OF WORK AS OUTLINED ABOVE AND DETAILED BELOW SHALL BE INCLUDED IN ITEM 203, STA., LINEAR GRADING, AS PER PLAN AND SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS.

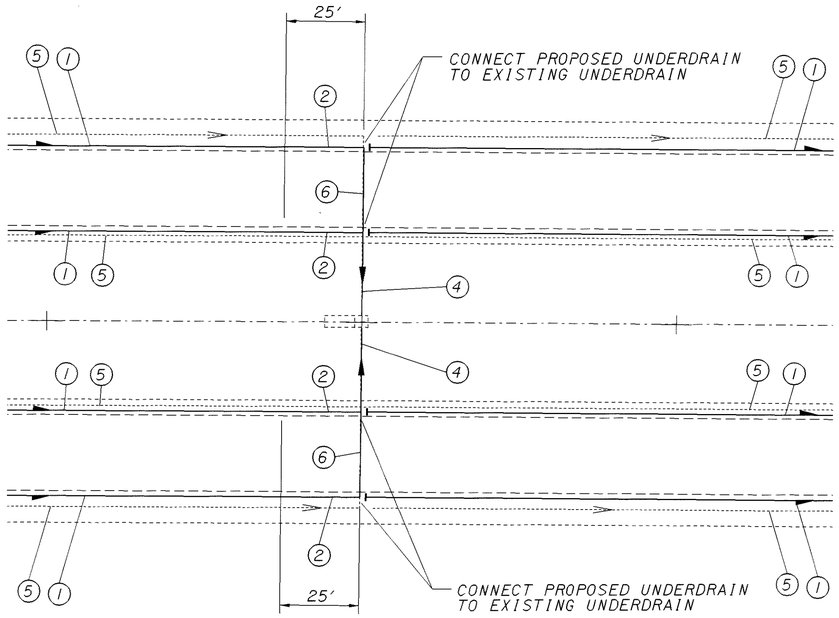


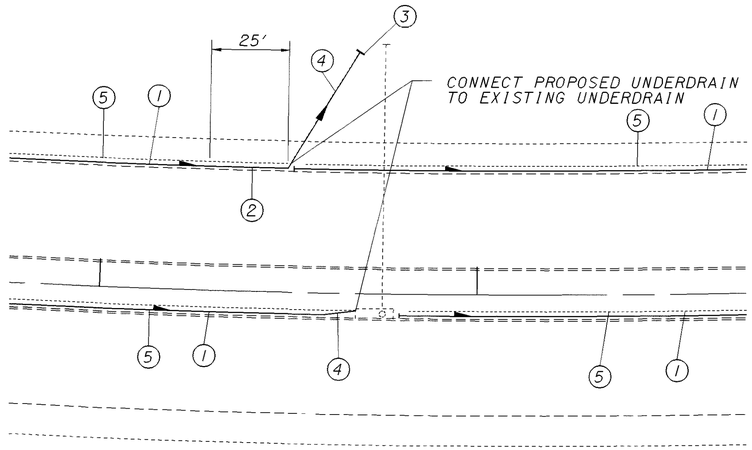
CALCULATED EMK
CHECKED LDH

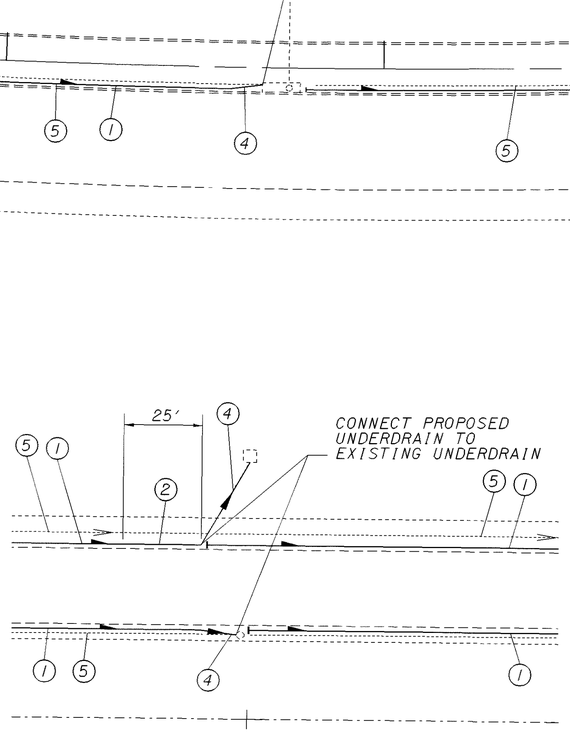
DITCH CLEANOUT DETAIL AND QUANTITIES

LAKE COUNTY
LAK-2/44-13.05/4.14

46
93







LEGEND

(1) - 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN

(2) - 6" UNCLASSIFIED PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN

(3) - PRECAST REINFORCED CONCRETE OUTLET

(4) - 6" CONDUIT, TYPE F, 707.14 NON-PERFORATED ASTM D3034, SDR35, 707.42 OR 707.33

(5) - EXISTING 6" PIPE UNDERDRAIN

(6) - CONDUIT BORED OR JACKED: 6", TYPE B

CALCULATED EMK
CHECKED LDH

UNDERDRAIN OUTLET DETAILS

LAKE COUNTY
LAK-2/44-13.05/4.14

600

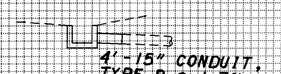
590

D-2

CATCH BASIN, NO. 5
STA 73+65, SR-44,
58' LT
GRATE EL. = 601.30
℄ 24" = 594.54
℄ 6" = 595.87

600

590

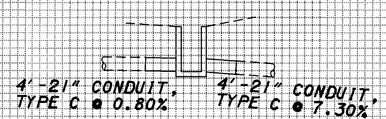


D-3

CATCH BASIN, NO. 5
STA 75+50, SR-44,
58' RT
GRATE EL. = 599.07
℄ 15" = 596.77
℄ 6" = 597.35

600

590

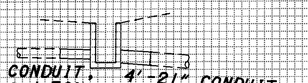


D-4

CATCH BASIN, NO. 5
STA 77+00, SR-44,
62' LT
GRATE EL. = 597.80
℄ 21" = 591.88
℄ 6" = 592.96

600

590



D-5

CATCH BASIN, NO. 5
STA 77+50, SR-44,
58' RT
GRATE EL. = 598.14
℄ 21" = 592.90
℄ 15" = 593.40
℄ 6" = 593.98

600

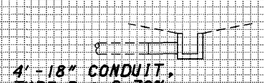
590

D-6

CATCH BASIN, NO. 5
STA 13+50, RAMP D,
19' RT
GRATE EL. = 598.84
℄ 24" = 593.46
℄ 6" = 594.79

600

590



D-7

CATCH BASIN, NO. 2-2A
STA 98+88, SR-44,
72' RT
GRATE EL. = 596.50
WINDOW EL = 596.00
℄ 18" = 593.80
℄ 6" = 594.80

600

590

D-8

CATCH BASIN, NO. 2-2A
STA 99+60, SR-44,
60' RT
GRATE EL. = 596.50
WINDOW EL = 596.00
℄ 18" = 592.10

DRAWN EMK
REVISED
CALCULATED EMK
CHECKED LDH

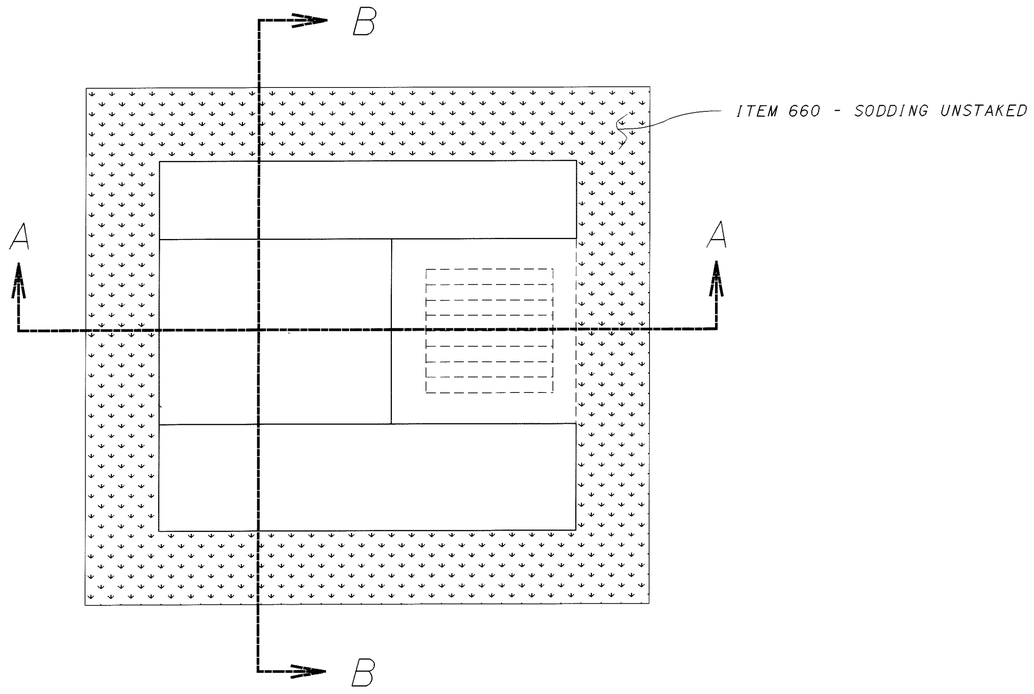
STORM SEWER PROFILE

LAKE COUNTY
LAK-2/44-13.05/4.14

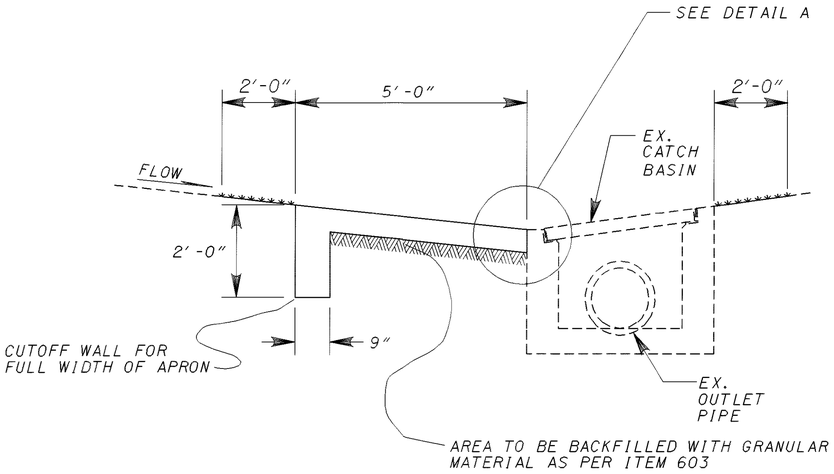
49
93

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391gxe.dgn

ITEM SPECIAL - MISC.: CONCRETE APRON REPLACEMENT FOR EXISTING NO. 5 CATCH BASIN



CATCH BASIN APRON PLAN VIEW



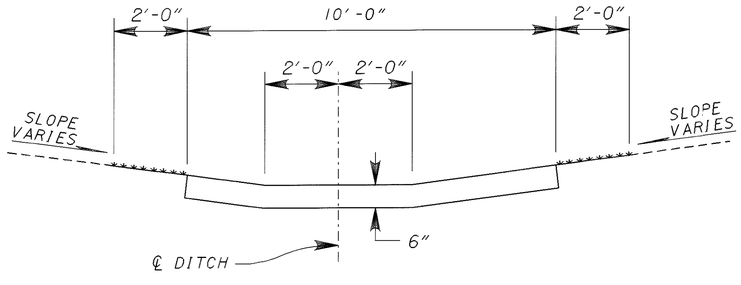
SECTION A-A

NOTE:

THE CONCRETE APRON SHALL BE DOWELED INTO THE CATCH BASIN. THE NUMBER OF BARS NEEDED ALONG THE UPSTREAM SIDE OF THE NO. 5 CATCH BASIN IS 4. FOR A NO. 5 CATCH BASIN IN A SAG, THE NUMBER FO BARS SHALL BE 8.

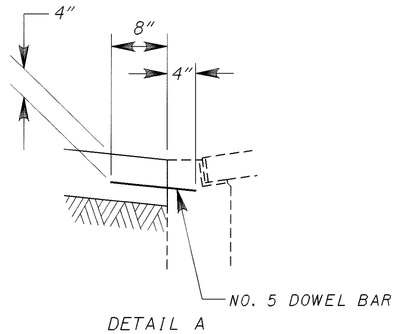
THE FURNISHING AND PLACING OF STEEL FOR THE 5/8" x 12" DOWEL BARS SHALL BE PER SECTION 509 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE DOWEL BARS SHALL BE EPOXY COATED PER 509.10. THE DOWEL BARS SHALL BE INSTALLED PER SECTION 510. THE 6" CONCRETE APRON SHALL BE REINFORCED PER SECTION 601.04(3).

SEE SHEET 32 QUANTITIES



UPSTREAM END VIEW OF CONCRETE APRON

SECTION B-B



DETAIL A

THE FOLLOWING ESTIMATED QUANTITY SHALL BE USED AS DIRECTED BY THE ENGINEER TO REPLACE APRONS THAT ARE CURRENTLY DAMAGED OR NEED TO BE REPLACED DUE TO UNDERDRAIN PLACEMENT:

ITEM SPECIAL - MISC: CONCRETE APRON REPLACEMENT
FOR EXISTING NO. 5 CATCH BASIN . . . . . 600 SQ. FT.

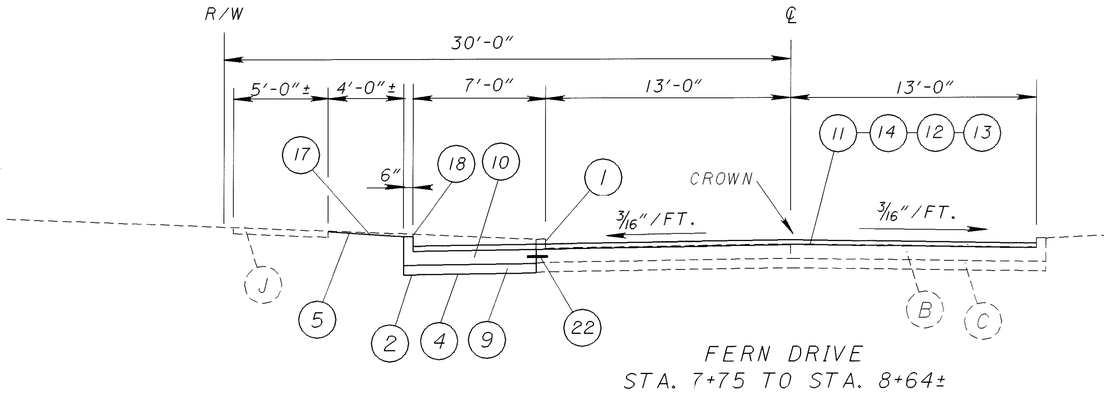
CALCULATED EMK
CHECKED ENF

MISCELLANEOUS DRAINAGE DETAIL

LAKE COUNTY
LAK-2/44-13.05/4.14

50
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gme.dgn

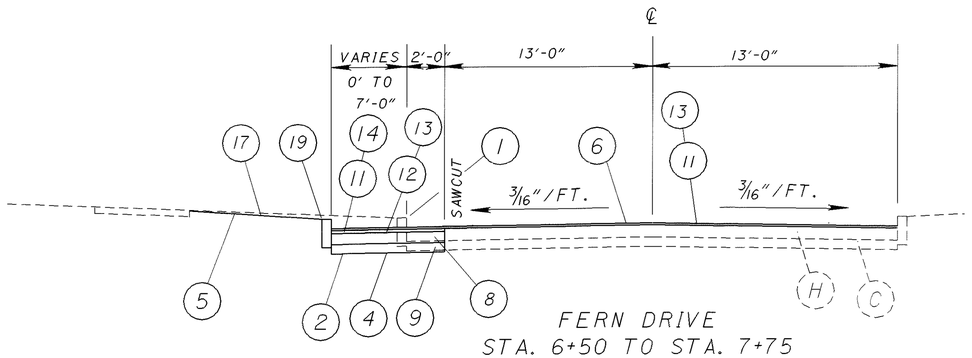


FERN DRIVE
STA. 7+75 TO STA. 8+64±

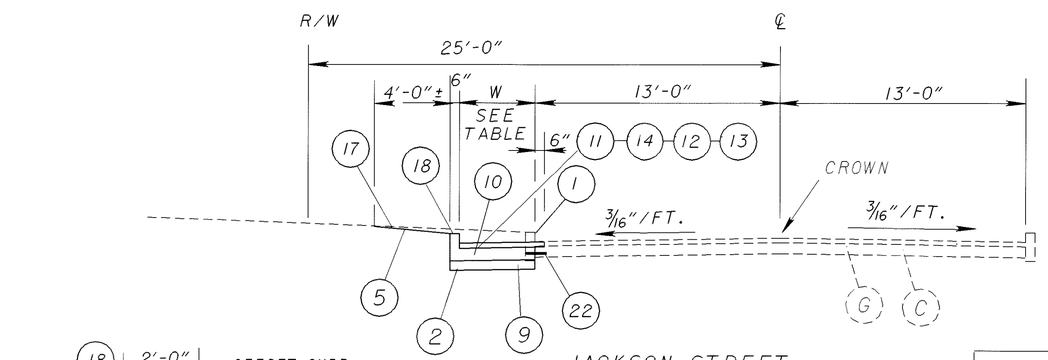
LEGEND

	ITEM	DESCRIPTION
A		EXISTING 9" CONCRETE PAVEMENT WITH 3" MIN. OVERLAY
B		EXISTING 9" CONCRETE PAVEMENT
C		EXISTING SUBBASE
D		EXISTING PIPE UNDERDRAINS
E		EXISTING AGGREGATE BASE
F		EXISTING BITUMINOUS BASE COURSE
G		EXISTING 7"± CONCRETE BASE WITH 3" MIN. OVERLAY
H		EXISTING BITUMINOUS PAVEMENT
J		EXISTING CONCRETE WALK
1	202	CURB REMOVED
2	203	EXCAVATION
3	203	EMBANKMENT
4	203	SUBGRADE COMPACTION
5	203	LINEAR GRADING
6	254	PAVEMENT PLANING, BITUMINOUS, 1.25"
7	254	PAVEMENT PLANING, BITUMINOUS, 3"±
8	301	7" BITUMINOUS AGGREGATE BASE
9	304	6" AGGREGATE BASE, AS PER PLAN
10	305	9" CONCRETE BASE, AS PER PLAN
11	407	TACK COAT
12	407	TACK COAT FOR INTERMEDIATE COURSE
13	448	1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22
14	448	1.75" MIN. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
15	605	6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN
16	659	SEEDING AND MULCHING
17	660	SODDING UNSTAKED
18	830	CURB, TYPE 2B
19	830	CURB, TYPE 6
20	858	1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)
21		STANDARD LONGITUDINAL JOINT
22		TIED LONGITUDINAL JOINT (#)
23	858	3-1/2" ASPHALT CONCRETE INTER. COURSE, 12.5 MM, TYPE A (446)

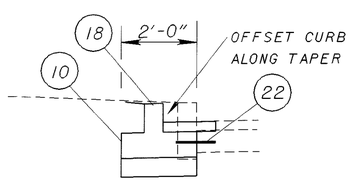
(#) - TYPE D JOINT AS PER BP-2.1 USING #5 DEFORMED BARS (709.00) AND EPOXY GROUT (705.20). THE COST OF THIS WORK SHALL BE INCLUDED UNDER ITEM 305, CONCRETE BASE, AS PER PLAN



FERN DRIVE
STA. 6+50 TO STA. 7+75



JACKSON STREET
STA. 6+40 TO STA. 7+62
STA. 8+57± TO STA. 8+73±
STA. 11+12± TO STA. 11+20±
STA. 12+11.93 TO STA. 13+50



DETAIL TO PROVIDE
2'-0" MIN. BASE WIDTH

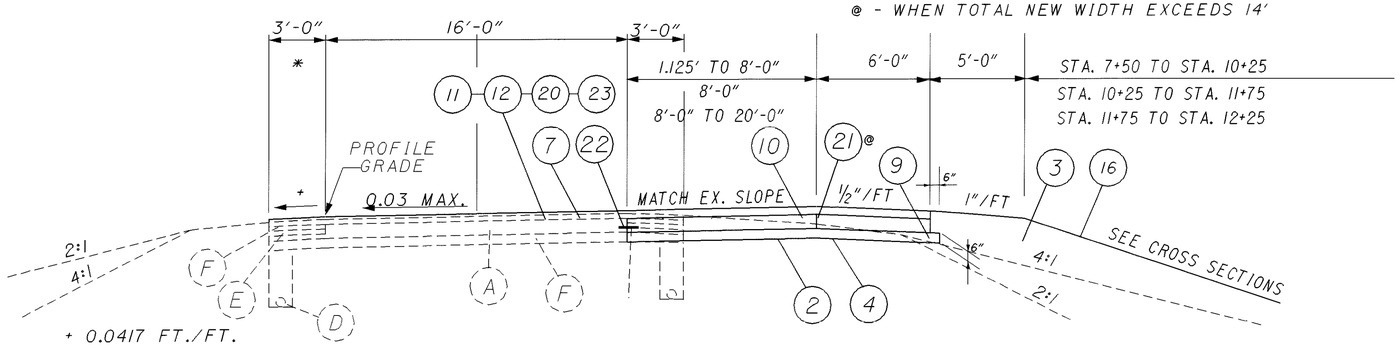
W
0'-0"* TO 3.07'
5'-0"
5'-0"
0'-0"* TO 2.57' TO 0'-0"*
* - USE 2'-0" MIN.

FERN DRIVE & JACKSON STREET TYPICAL SECTIONS

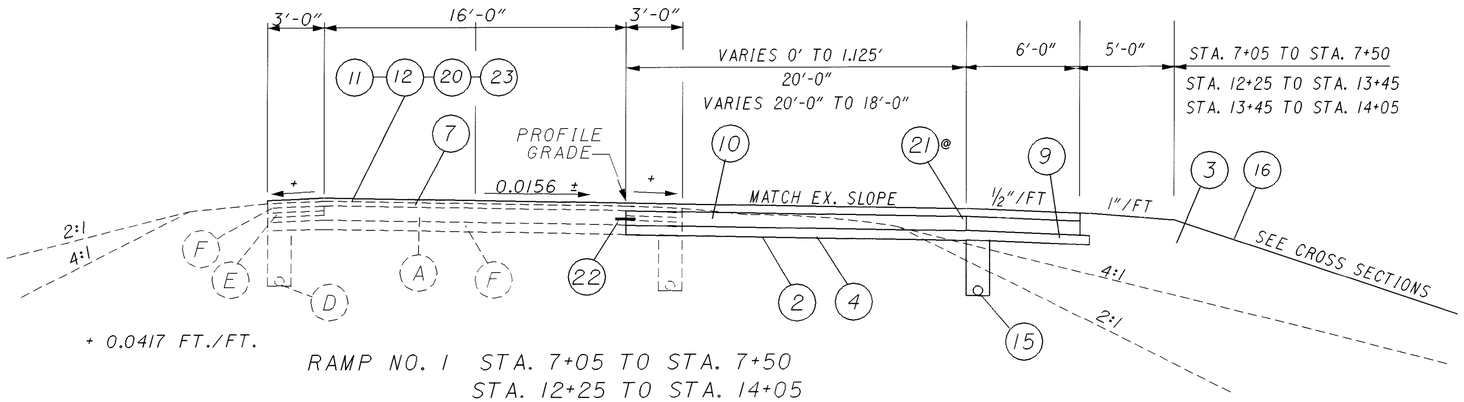
LAKE COUNTY
LAK-2/44-13.05/4.14

50A
93

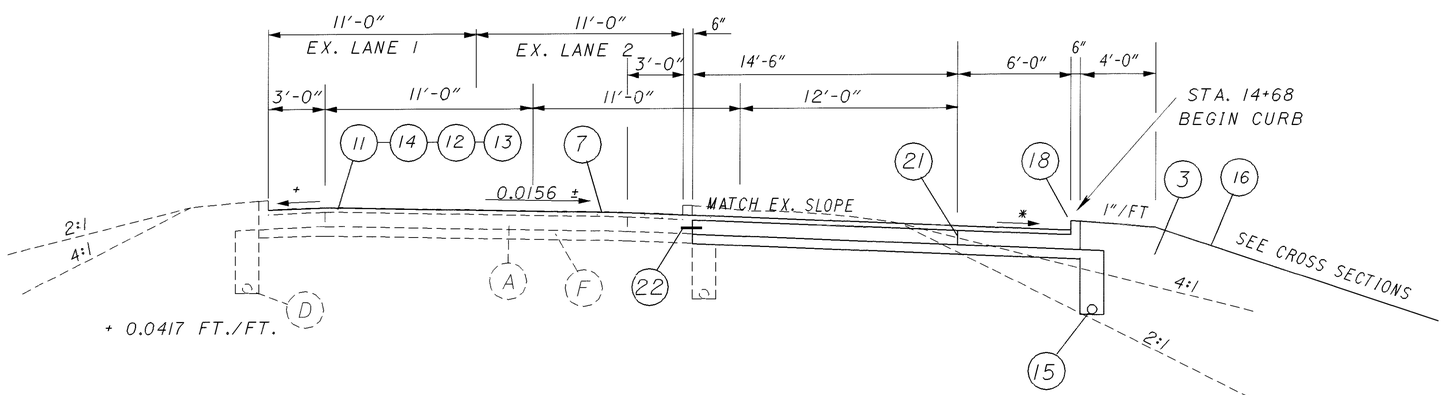
@ - WHEN TOTAL NEW WIDTH EXCEEDS 14'



RAMP NO. 1 STA. 7+50 TO STA. 12+25



RAMP NO. 1 STA. 7+05 TO STA. 7+50
STA. 12+25 TO STA. 14+05



RAMP NO. 1 STA. 14+05 TO STA. 15+20±

* - VARIES, ½"/FT TO 3/16"/FT.

RAMP No. 1 TYPICAL SECTIONS

LAKE COUNTY
LAK-2/44-13.05/4.14

50B
93

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	202 PAVEMENT REMOVED SQ. YD.	202 CATCH BASIN REMOVED EACH	202 CATCH BASIN ABANDONED EACH	202 GUARDRAIL REMOVED LIN. FT.	202 CURB REMOVED LIN. FT.	203 EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION CU. YD.	203 EMBANKMENT CU. YD.	203 SUBGRADE COMPACTION SQ. YD.	203 LINEAR GRADING STA.	254 PAVEMENT PLANING, BITUMINOUS, 1.25" SQ. YD.	202 WEARING COURSE REMOVED, AS PER PLAN SQ. YD.	301 7" BITUMINOUS AGGREGATE BASE, PG64-22 CU. YD.	304 6" AGGREGATE BASE, AS PER PLAN CU. YD.	305 9" CONCRETE BASE, AS PER PLAN SQ. YD.	407 TACK COAT @ 0.1 GAL/SQ.YD. GAL.	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.05 GAL/SQ.YD. GAL.		
		JACKSON STREET																				
		6+40.00	7+62.00						123	21			2		7		6	32	3	2		
		8+57.00±	8+73.00±						15	5			1				2	7	1	1		
		11+12.00±	11+20.00±						12	3			1				1	5	1	1		
		12+11.93	13+50.00		23				139	21			2				6	32	3	2		
		8+73.00	8+86.00±											1								
		10+99.00	11+12.00±											1								
		FERN DRIVE																				
		6+50.00	7+75.00		23				126	55		94	2	334		5	15		42	5		
		7+75.00	8+64.00±		38	3			114	48		77	2			12	12	71	24	12		
		8+17.00	8+64.00±											44								
		RAMP 1																				
		7+05.00	7+50.00									41			95		6	33	13	7		
		7+50.00	12+25.00									753			1002		117	674	168	84		
		12+25.00	14+05.00			1	1		1			545			381		88	514	90	45		
		14+05.00	14+68.00						63			144			155		25	144	31	16		
		14+68.00	15+25.00±					37.50	88			57			263		14	72	34	17		
		7+05.00	15+25.00±							432	1479											
		TOTALS CARRIED TO GENERAL SUMMARY			84	4	1	37.50	681	585	1479	1711	10	380	1903	17	292	1584	410	192		

CALCULATED | CHECKED

ESTIMATED QUANTITIES

LAKE COUNTY
LAK-2/44-13.05/4.14

50C
93

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	448 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 CU. YD.	448 1.75" MIN. ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 CU. YD.	452 6" PLAIN CONCRETE PAVEMENT SQ. YD.	603 12" CONDUIT, TYPE B LIN. FT.	603 6" CONDUIT, TYPE F LIN. FT.	604 MANHOLE, NO. 3, AS PER PLAN EACH	604 CATCH BASIN, 3A, AS PER PLAN EACH	604 MANHOLE ADJUSTED TO GRADE, AS PER PLAN EACH	604 VALVUE BOX ADJUSTED TO GRADE EACH	605 6" SHALLOW PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN LIN. FT.	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 EACH	606 BRIDGE TERMINAL ASSEMBLY TYPE 2 EACH	606 GUARDRAIL, TYPE 5 LIN. FT.	606 ANCHOR ASSEMBLY, TYPE T EACH	606 ANCHOR ASSEMBLY, TYPE E-98 EACH	608 4" CONCRETE WALK SQ. FT.	608 CURB RAMP SQ. FT.
		JACKSON STREET																			
		6+40.00	7+62.00		1	2	18														
		8+57.00±	8+73.00±		1	1															
		8+73.00±	8+86.00±		1											1	12.5				
		10+99.00±	11+12.00±		1																
		11+12.00±	11+20.00±		1	1									1		25.0				
		12+11.93	13+50.00		1	2	14														
		FERN DRIVE																			
		6+50.00	7+75.00		15	5	13						1							45	
		7+75.00	8+64.00±		9	10	12	10		2	3	1								143	30
		RAMP 1																			
		7+05.00	7+50.00											45							
		7+50.00	12+25.00						10					99							
		12+25.00	14+05.00											180							
		14+05.00	14+68.00±		11	19			10					63			28.0	1			
		14+68.00	15+25.00±		12	17		5			1			73			22.0		1		
		TOTALS CARRIED TO GENERAL SUMMARY			53	57	57	15	20	2	4	1	1	460	1	1	87.5	1	1	188	30

CALCULATED

CHECKED

ESTIMATED QUANTITIES

LAKE COUNTY
LAK-2/44-13.05/4.14

50D
93

REF NO.	SHEET NO.	STATION FROM	STATION TO	SIDE	660 SODDING UNSTAKED (SQ. YD.)	830 CURB, TYPE 2B (LIN. FT.)	830 CURB, TYPE 6 (LIN. FT.)	870 SEEDING AND MULCHING (SQ. YD.)	858 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446) (CU. YD.)	858 3-1/2" ASPHALT CONCRETE INTER. COURSE, 12.5 MM, TYPE A (446) (CU. YD.)
		JACKSON STREET								
		6+40.00	7+62.00		55	123				
		8+57.00±	8+73.00±		7	16				
		11+12.00±	11+20.00±		4	9				
		12+11.93	13+50.00		62	139				
		FERN DRIVE								
		6+50.00	7+75.00		99		126			
		7+75.00	8+64.00±		41	108				
		RAMP 1								
		7+05.00	7+50.00						5	13
		7+50.00	12+25.00						70	163
		12+25.00	14+05.00						38	88
		14+05.00	14+68.00±			73				
		7+05.00	15+25.00±					2332		
TOTALS CARRIED TO GENERAL SUMMARY					268	468	126	2332	113	264

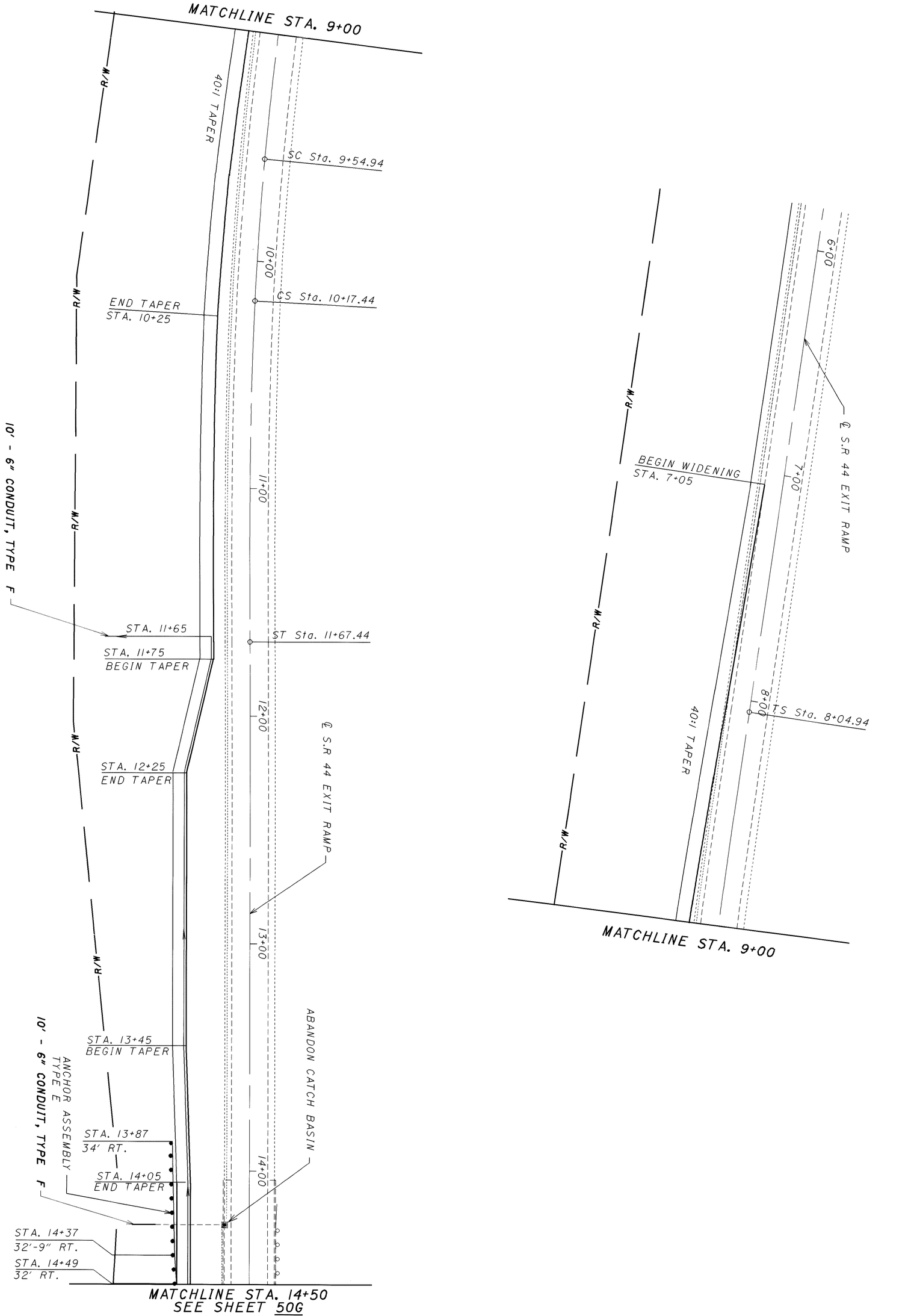
CALCULATED | CHECKED

ESTIMATED QUANTITIES

LAKE COUNTY
LAK-2/44-13.05/4.14

50E
93

I:\PROJECTS\Pid8391\B&NPLANS\213650G.DGN 14-AUG-2001 12:55PM fkonopka

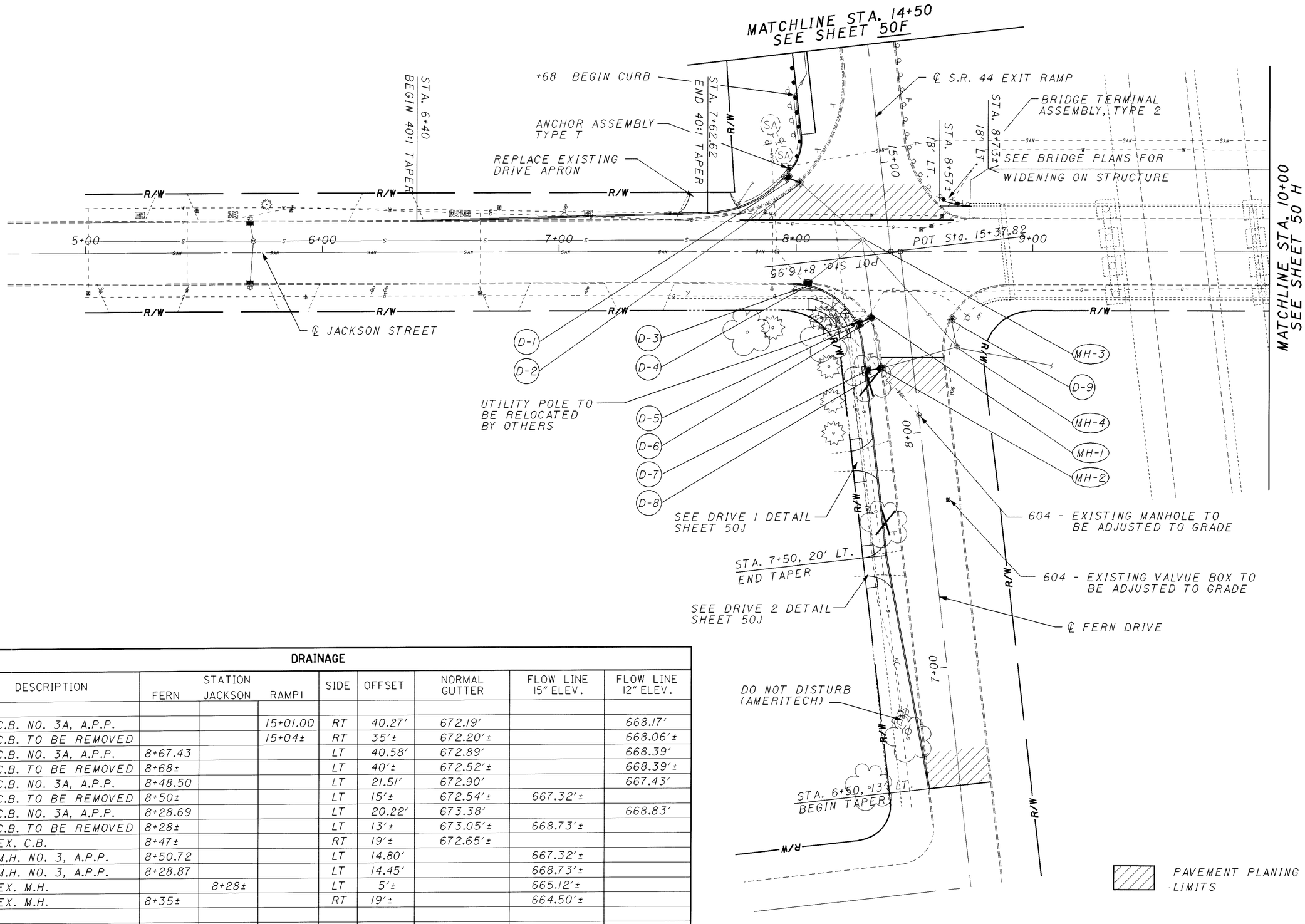


LAKE COUNTY
LAK-2/44-13.05/4.14

PLAN VIEW - RAMP No. 1

CALCULATED
CHECKED

0 40
HORIZONTAL SCALE IN FEET



DRAINAGE

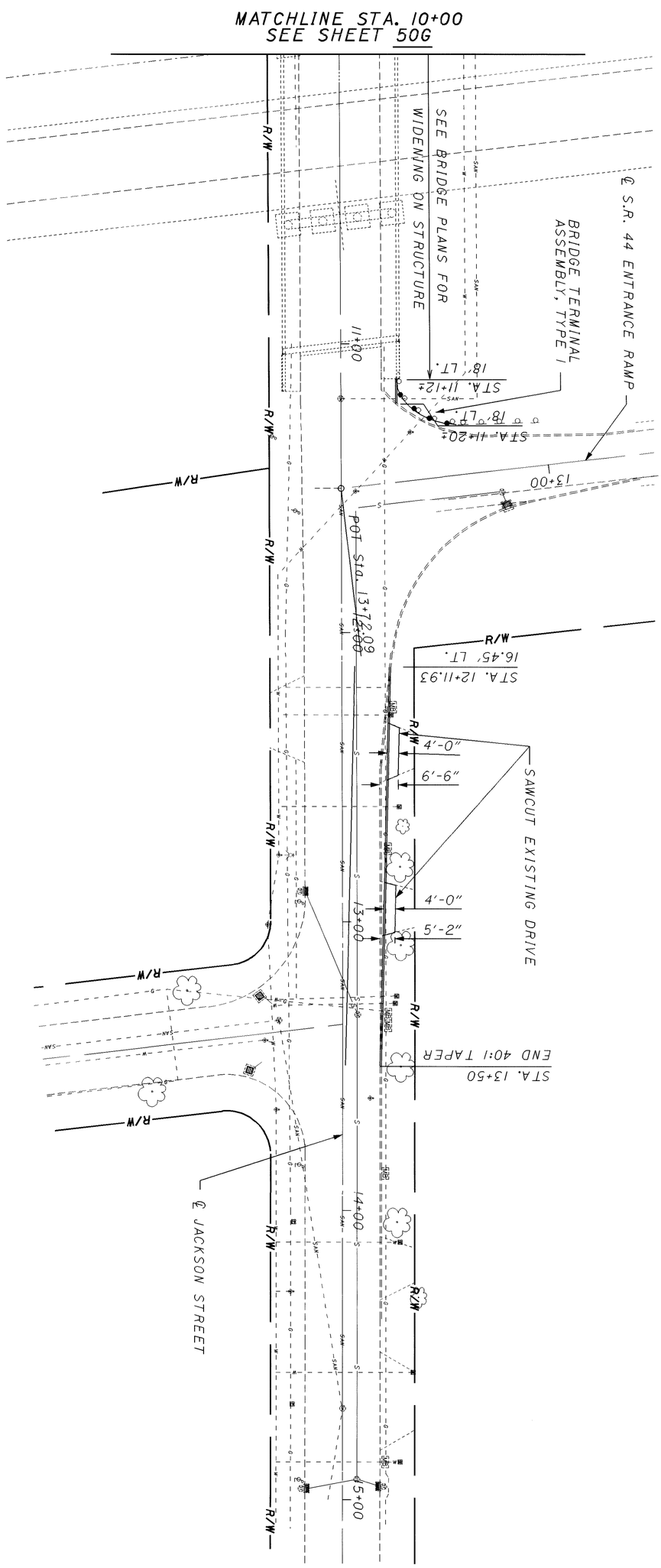
REF.-NO.	DESCRIPTION	STATION FERN	STATION JACKSON	STATION RAMP1	SIDE	OFFSET	NORMAL GUTTER	FLOW LINE 15" ELEV.	FLOW LINE 12" ELEV.
D-1	C.B. NO. 3A, A.P.P.			15+01.00	RT	40.27'	672.19'		668.17'
D-2	C.B. TO BE REMOVED			15+04±	RT	35'±	672.20'±		668.06'±
D-3	C.B. NO. 3A, A.P.P.	8+67.43			LT	40.58'	672.89'		668.39'
D-4	C.B. TO BE REMOVED	8+68±			LT	40'±	672.52'±		668.39'±
D-5	C.B. NO. 3A, A.P.P.	8+48.50			LT	21.51'	672.90'		667.43'
D-6	C.B. TO BE REMOVED	8+50±			LT	15'±	672.54'±	667.32'±	
D-7	C.B. NO. 3A, A.P.P.	8+28.69			LT	20.22'	673.38'		668.83'
D-8	C.B. TO BE REMOVED	8+28±			LT	13'±	673.05'±	668.73'±	
D-9	EX. C.B.	8+47±			RT	19'±	672.65'±		
MH-1	M.H. NO. 3, A.P.P.	8+50.72			LT	14.80'		667.32'±	
MH-2	M.H. NO. 3, A.P.P.	8+28.87			LT	14.45'		668.73'±	
MH-3	EX. M.H.		8+28±		LT	5'±		665.12'±	
MH-4	EX. M.H.	8+35±			RT	19'±		664.50'±	

HORIZONTAL SCALE IN FEET
0 40
CALCULATED
CHECKED

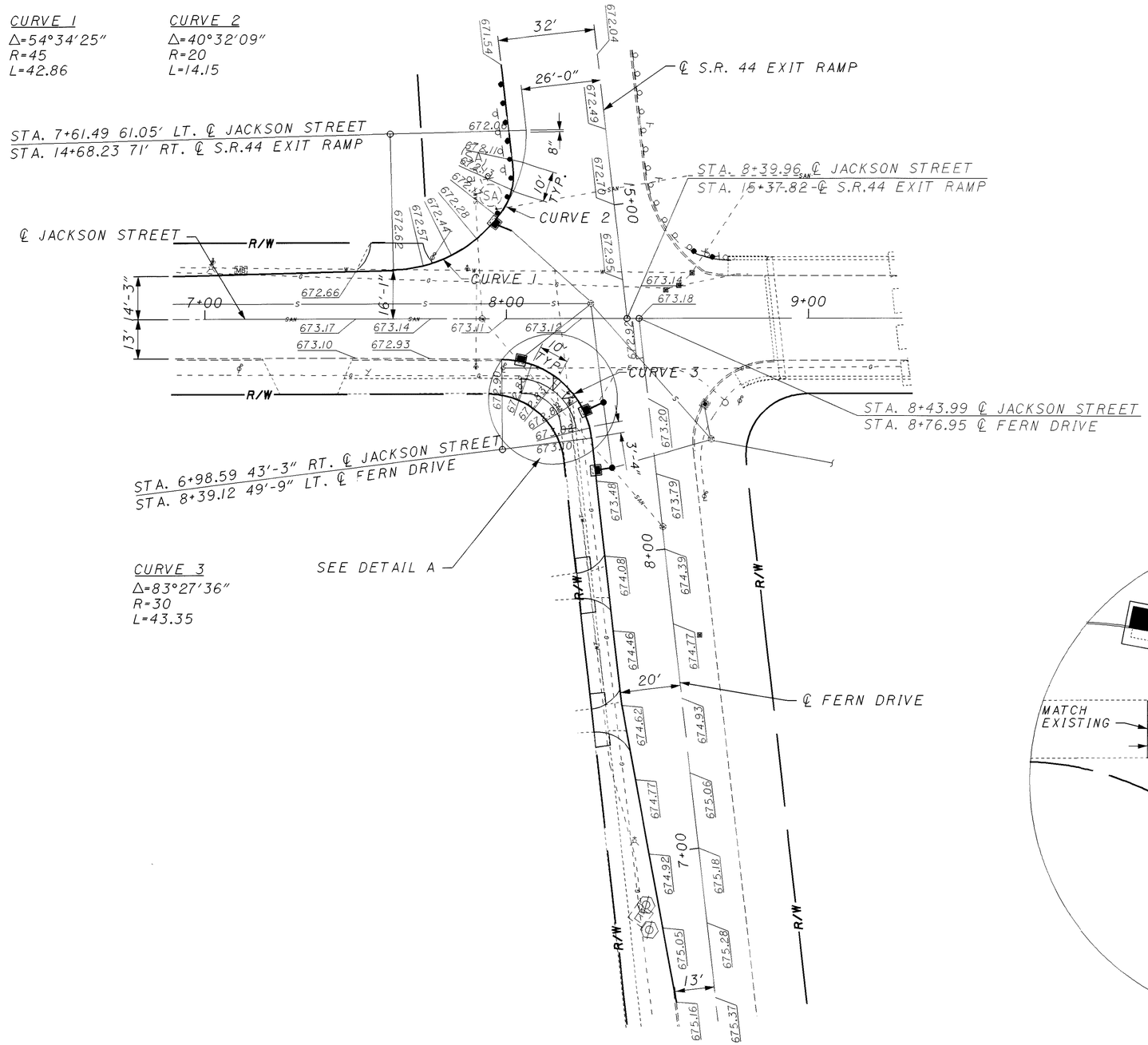
PLAN VIEW

LAKE COUNTY
LAK-2/44-13.05/4.14

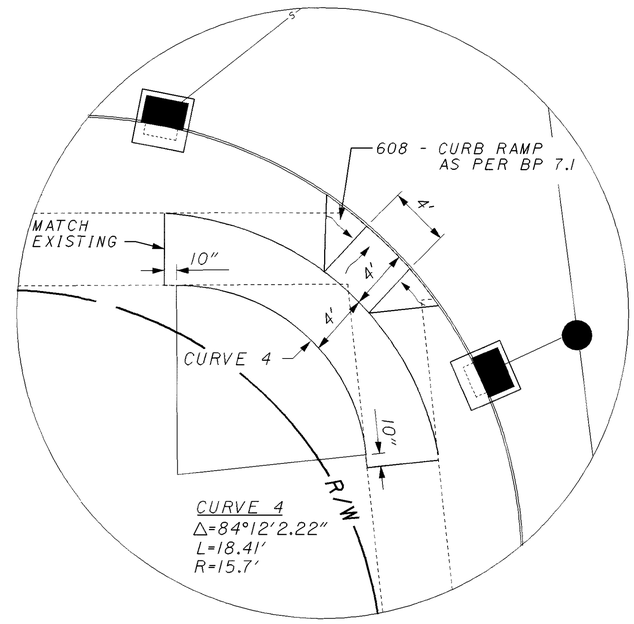
50G
93



50H 93	LAKE COUNTY LAK-2/44-13.05/4.14	PLAN VIEW	CALCULATED / CHECKED	0 40 HORIZONTAL SCALE IN FEET



CURVE 3
Δ=83°27'36"
R=30
L=43.35



DETAIL A

JACKSON STREET - FERN DRIVE - S.R.44 EXIT RAMP INTERSECTION

HORIZONTAL SCALE IN FEET
0 40

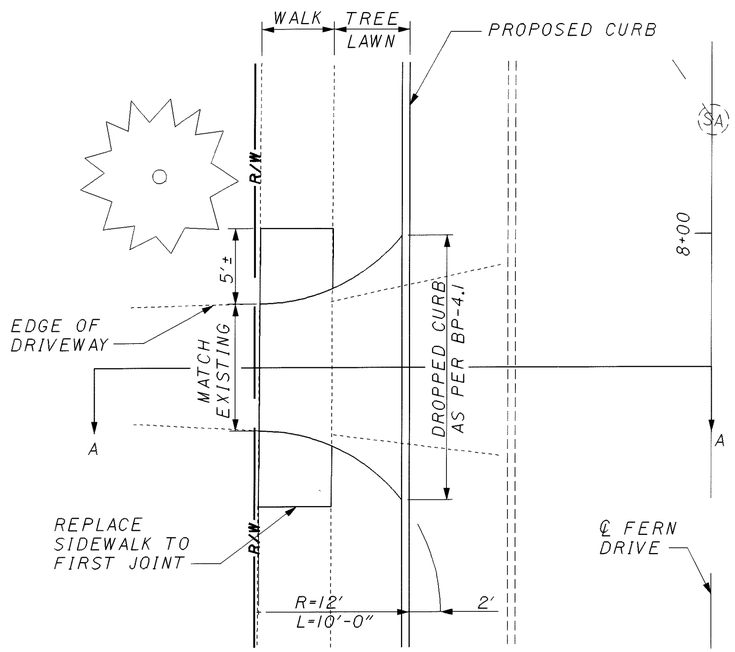
CALCULATED
CHECKED

INTERSECTION DETAIL

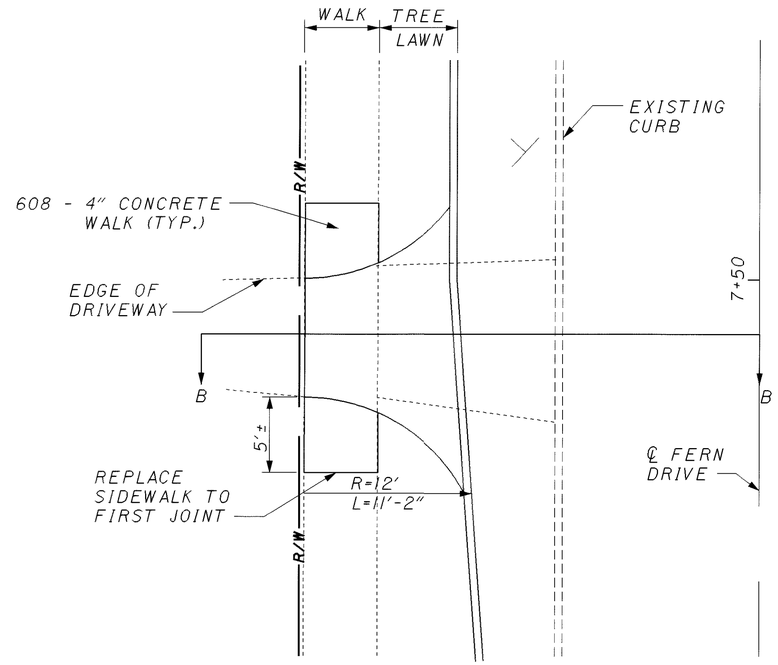
LAKE COUNTY
LAK-2/44-13.05/4.14

501
93

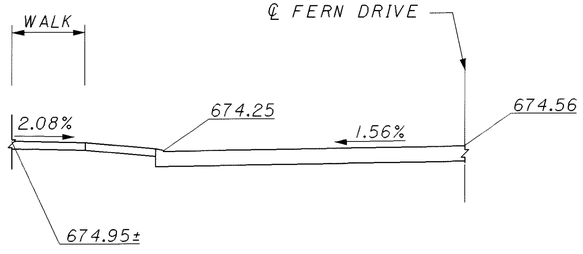
I:\PROJECTS\P1dl839\B&NPLANS\213655l.dgn 14-AUG-2001 2:57PM fkonopka



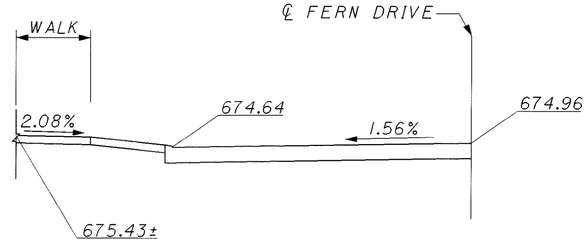
FERN DRIVE - DRIVE 1 DETAIL



FERN DRIVE - DRIVE 2 DETAIL



DETAIL A-A



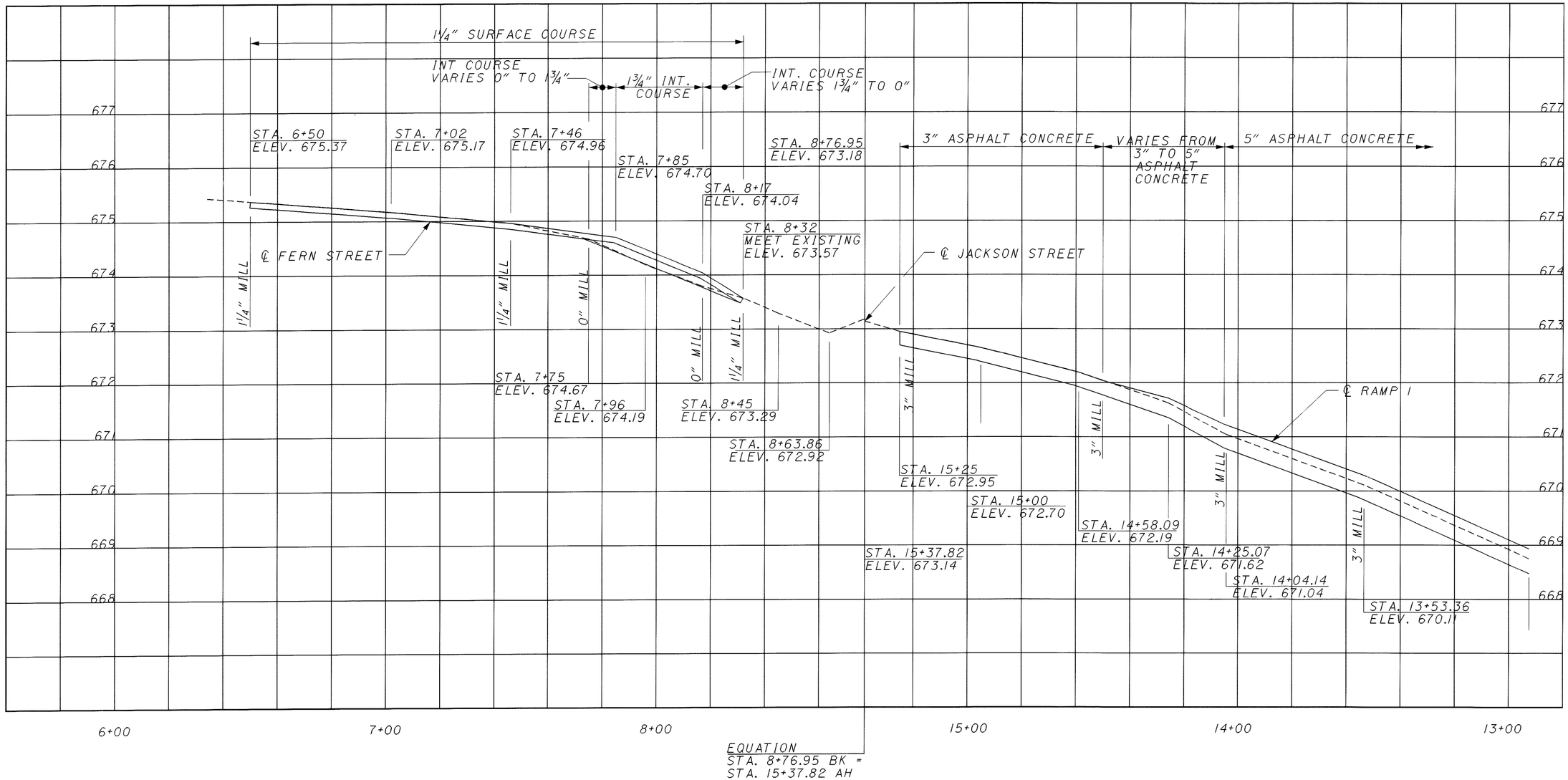
DETAIL B-B

HORIZONTAL SCALE IN FEET
0
10
CALCULATED
CHECKED

DRIVE DETAILS

LAKE COUNTY
LAK-2/44-13.05/4.14

50J
93



I:\PROJECTS\Pid1839\B&NPLANS\21365GF.DGN 14-AUG-2001 2:58PM fkonopka

CALCULATED

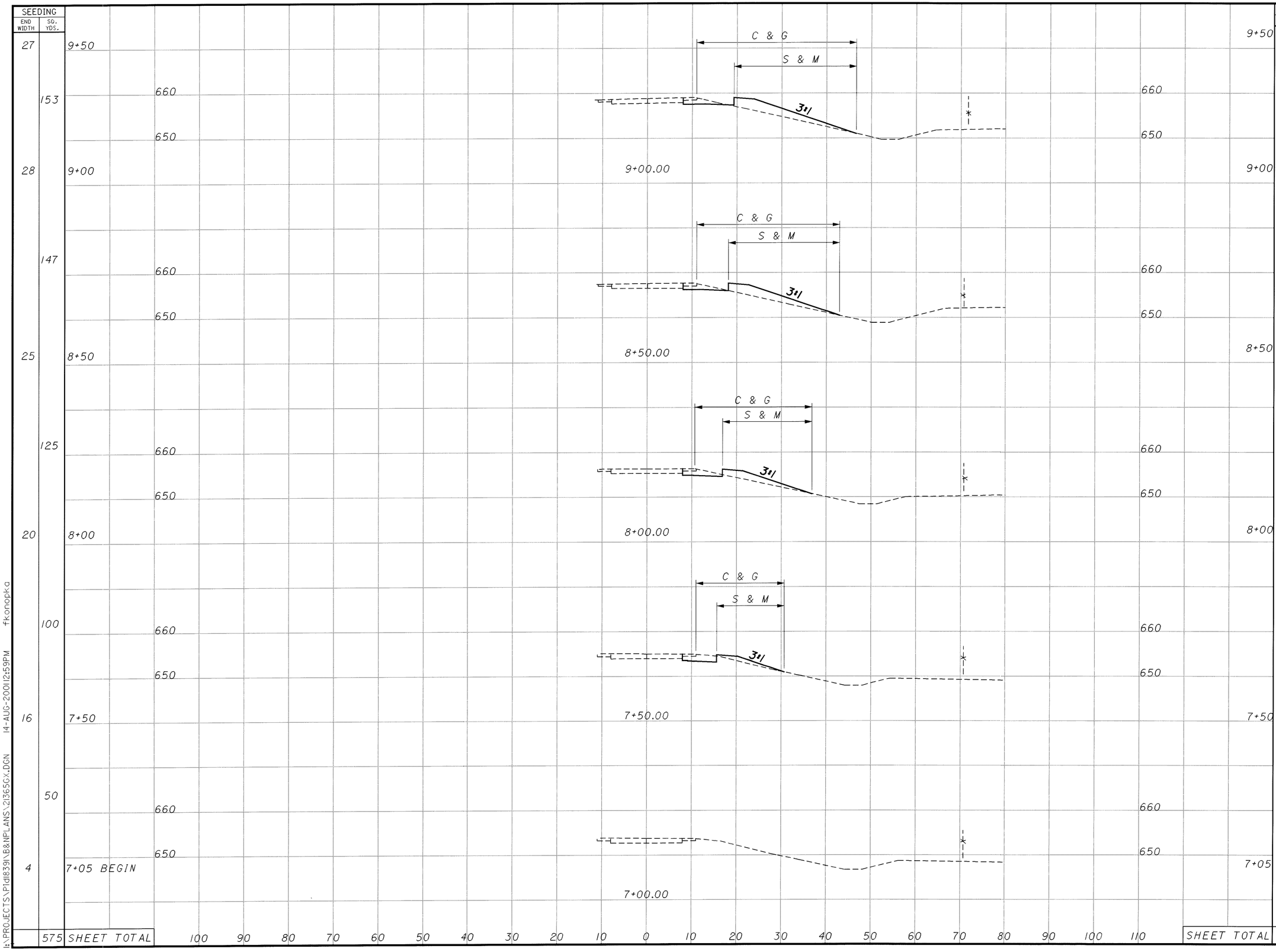
CHECKED

PROFILE
FERN DRIVE AND RAMP 1

LAKE COUNTY
LAK-2/44-13.05/4.14

50K
93

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
27		9+50	9	42		
	153				17	75
28		9+00	9	39		
	147				18	66
25		8+50	10	32		
	125				19	50
20		8+00	10	21		
	100				21	28
16		7+50	12	9		
	50				19	8
4		7+05 BEGIN	10	0		
	575	SHEET TOTAL			94	227



CALCULATED

CHECKED

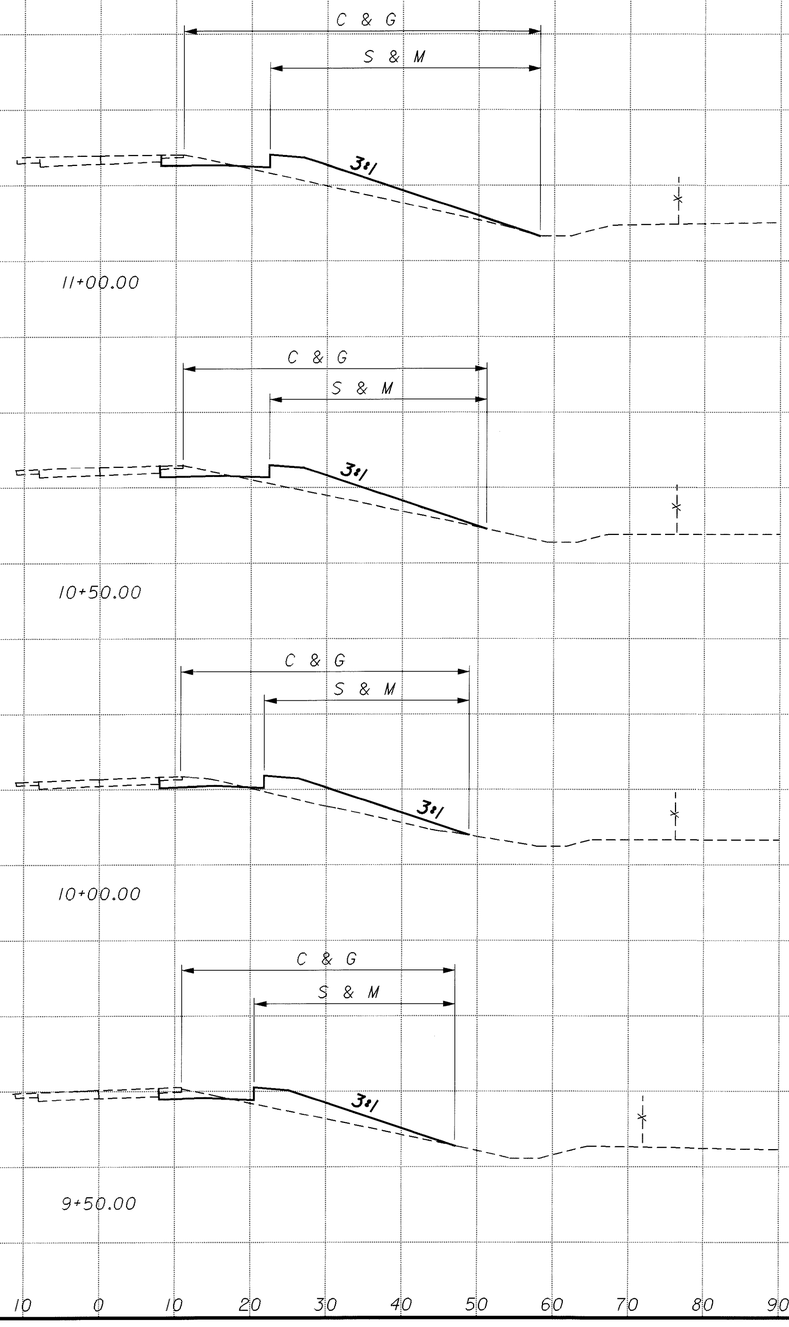
CROSS SECTIONS
STA 7+00.00 TO 9+00.00

LAKE COUNTY
LAK-2/44-13.05/4.16

50L
93

I:\PROJECTS\P1d1839\B&NPLANS\21365GX.DGN 14-AUG-2001 12:59PM fkonopka

SEEDING END WIDTH	SEEDING SQ. YDS.			END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
34		11+50		14	45		
	194		67.0 66.0			23	97
36		11+00		10	59		
	181		67.0 66.0			19	102
29		10+50		10	51		
	158		67.0 66.0			21	92
28		10+00		12	48		
	153		67.0 66.0			20	84
27		9+50		9	42		
	686	SHEET TOTAL				83	375



SHEET TOTAL

CALCULATED

CHECKED

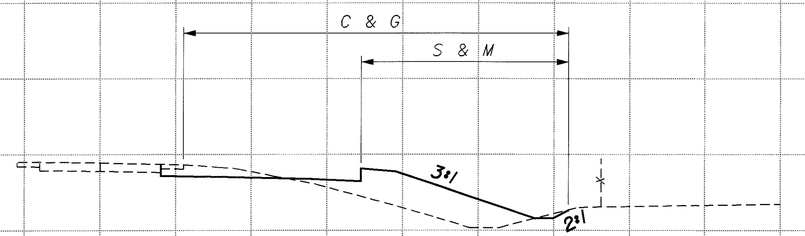
CROSS SECTIONS
STA. 9+50.00 TO 11+00.00

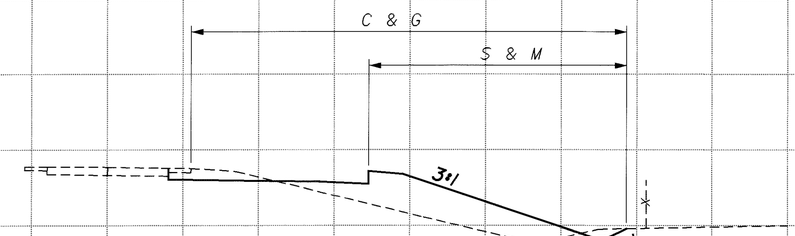
LAKE COUNTY
LAK-2/ 44-13.05/ 4.16

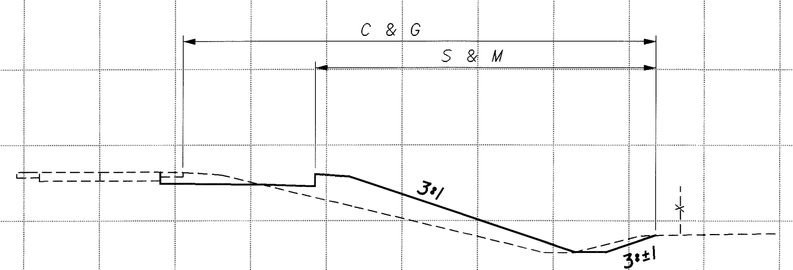
50M
93

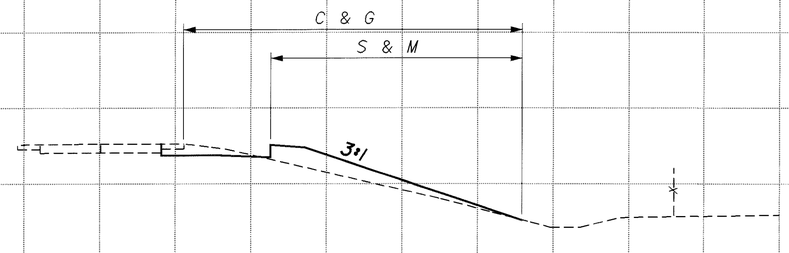
I:\PROJECTS\Pid18391\B&NPLANS\213650X.DGN 14-AUG-2001 12:59PM fkonopka

SEEDING END WIDTH	SEEDING SQ. YDS.						END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
26		13+50	680	670		13+50	17	74		
	150								33	153
28		13+00	670	660		13+00	18	91		
	175								32	198
35		12+50	670	660		12+50	16	122		
	222								29	199
45		12+00	670	660		12+00	15	92		
	219								27	127
34		11+50	670	660		11+50	14	45		
	766	SHEET TOTAL				SHEET TOTAL			121	677









CALCULATED

CHECKED

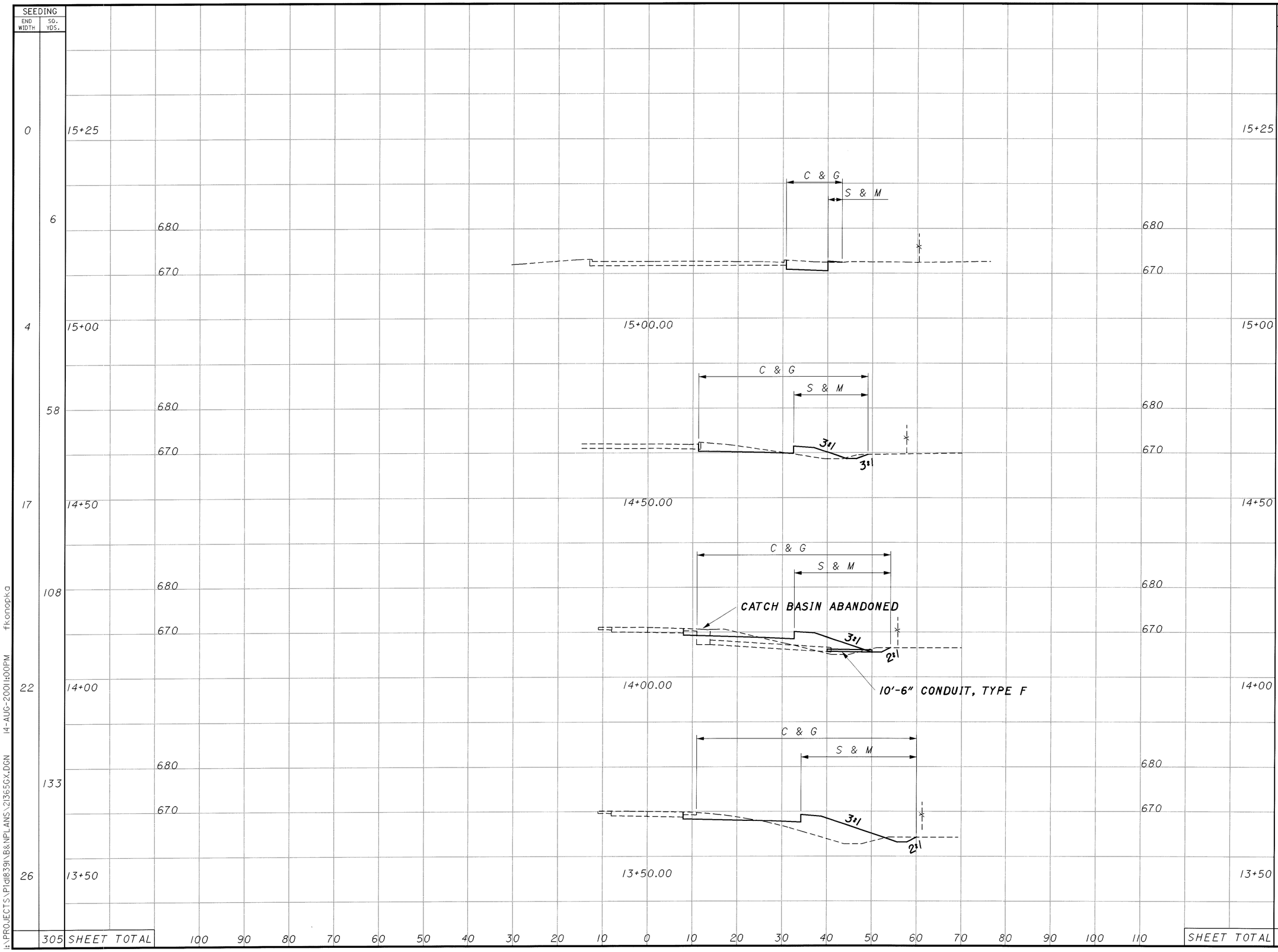
CROSS SECTIONS
STA. 11+50.00 TO 13+00.00

LAKE COUNTY
LAK-2/44-13.05/4.16

50N
93

I:\PROJECTS\P1d18391\B&NPLANS\213650X.DGN 14-AUG-2001 12:59PM tkonopka

SEEDING END WIDTH	SEEDING SQ. YDS.		END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0		15+25	0	0		
	6				9	0
4		15+00	19	1		
	58				41	18
17		14+50	25	18		
	108				46	65
22		14+00	24	52		
	133				38	117
26		13+50	17	74		
	305	SHEET TOTAL			134	200



CALCULATED

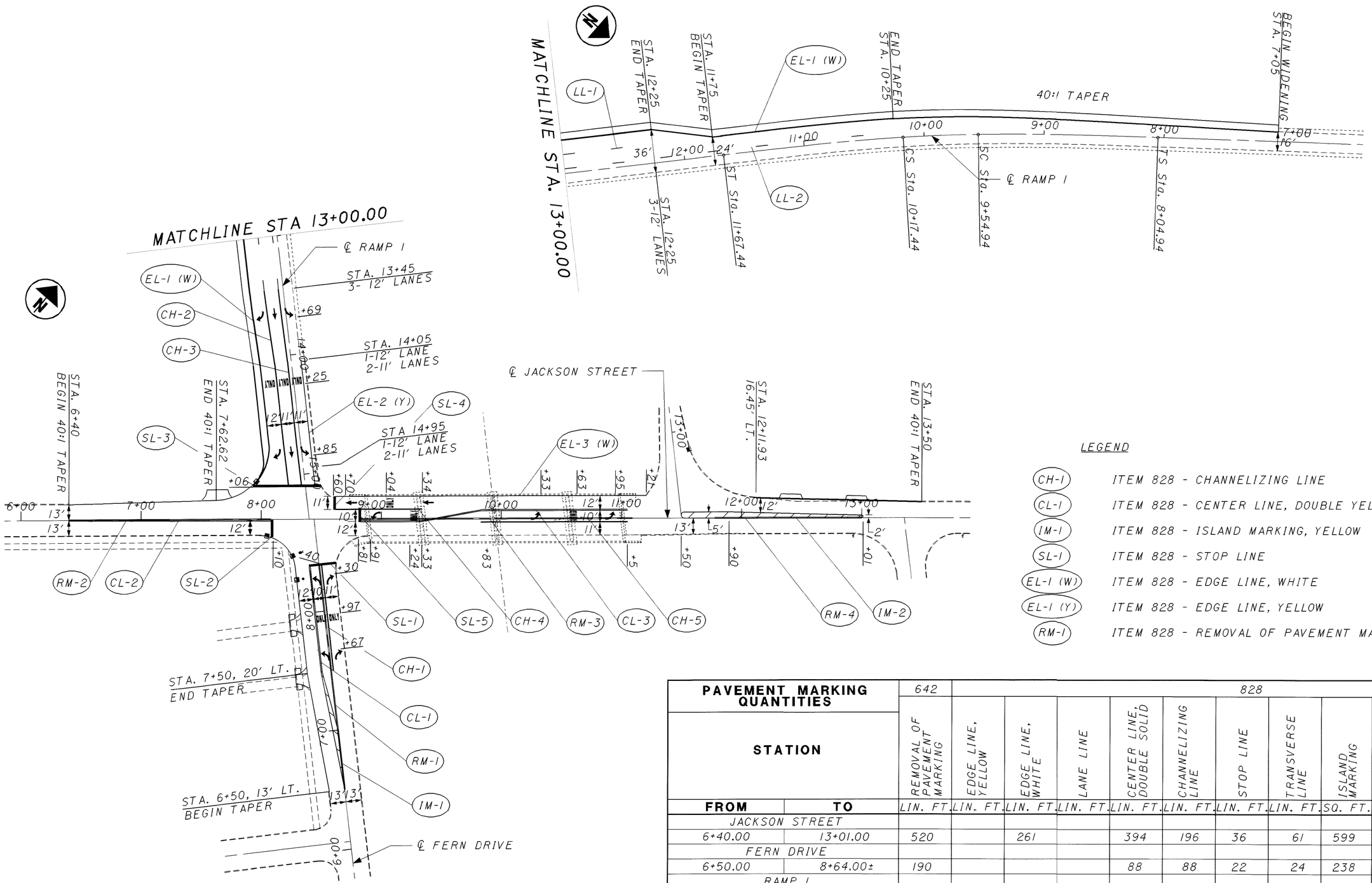
CHECKED

CROSS SECTIONS
STA. 13+50.00 TO 15+00.00

LAKE COUNTY
LAK-2/44-13.05/4.16

500
93

I:\PROJECTS\P1d8391\B&NPLANS\213656X.DGN 14-AUG-2001 1:00PM fkonopka



HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED

CHECKED

PAVEMENT MARKING PLAN

LEGEND

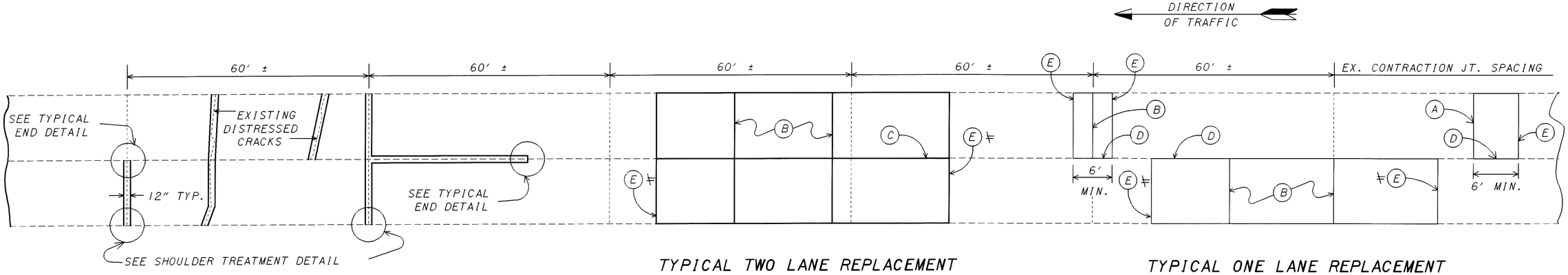
CH-1	ITEM 828 - CHANNELIZING LINE
CL-1	ITEM 828 - CENTER LINE, DOUBLE YELLOW
IM-1	ITEM 828 - ISLAND MARKING, YELLOW
SL-1	ITEM 828 - STOP LINE
EL-1 (W)	ITEM 828 - EDGE LINE, WHITE
EL-1 (Y)	ITEM 828 - EDGE LINE, YELLOW
RM-1	ITEM 828 - REMOVAL OF PAVEMENT MARKINGS

PAVEMENT MARKING QUANTITIES		642	828								
STATION		REMOVAL OF PAVEMENT MARKING	EDGE LINE, YELLOW	EDGE LINE, WHITE	LANE LINE	CENTER LINE, DOUBLE SOLID	CHANNELIZING LINE	STOP LINE	TRANSVERSE LINE	ISLAND MARKING	LANE ARROW	WORD ON PAVEMENT
FROM	TO	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	SQ. FT.	EACH	EACH
JACKSON STREET												
6+40.00	13+01.00	520		261		394	196	36	61	599	5	3
FERN DRIVE												
6+50.00	8+64.00±	190				88	88	22	24	238	4	2
RAMP 1												
7+05.00	15+25.00±		105	807	440		325	56			6	3
SUB-TOTALS		710	105	1068	440	482	609	114	85	837	15	8
TOTALS CARRIED TO GENERAL SUMMARY		710	0.02 MI.	0.20 MI.	0.08 MI.	0.09 MI.	609	114	85	837	15	8

LAKE COUNTY
LAK-2/44-13.05/4.14

50P
93

I:\PROJECTS\Pid8391\B&NPLANS\21365TP.DGN 14-AUG-2001 1:00PM fkonopka

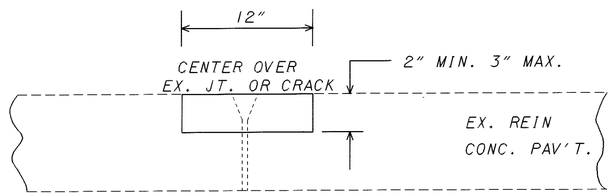


PARTIAL DEPTH JOINT OR CRACK REPAIR

TYPICAL TWO LANE REPLACEMENT

TYPICAL ONE LANE REPLACEMENT

≠ USE (A) JOINT IF EITHER ADJACENT (EXISTING OR PROPOSED) CONTRACTION JOINT IS FARTHER THAN 20 FEET.

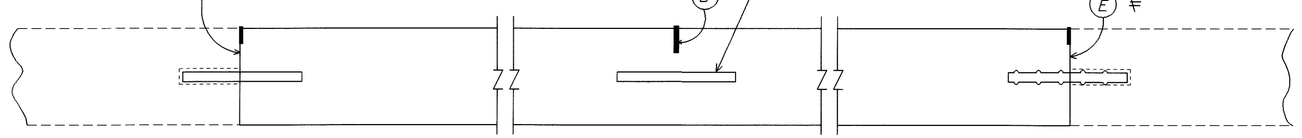


ITEM 251 - PARTIAL DEPTH PAV'T REPAIR

CRACK REPAIRS (NO JOINT WITHIN REPAIR) - (A)

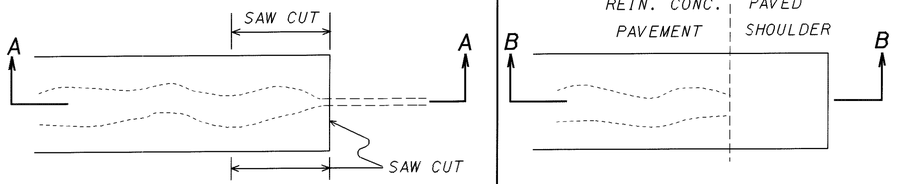
JOINT REPAIRS (LESS THAN 10 FEET) - (E)

PANEL REPAIRS (GREATER THAN 10 FEET) - (E) ≠

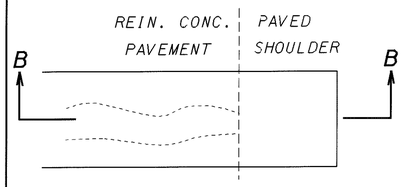


ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

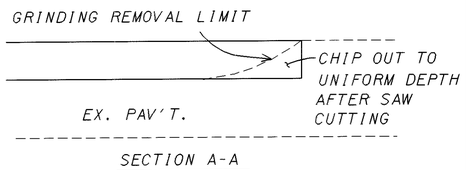
SEE GENERAL NOTES ON SHEET 13 FOR ADDITIONAL INFORMATION.



DISTRESSED JOINT-PLAN VIEW



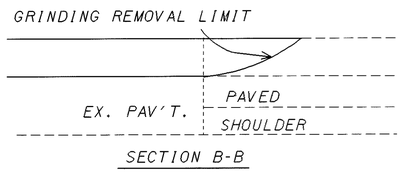
DISTRESSED JOINT-PLAN VIEW



SECTION A-A

TYPICAL END DETAIL

NO SEPARATE PAYMENT WILL BE MADE FOR THESE SAW CUTS



SECTION B-B

SHOULDER TREATMENT DETAIL

MEASURED QUANTITY SHALL NOT INCLUDE THE PAVED SHOULDER AREA

SEE GENERAL NOTES ON SHEET NO. 13 FOR ADDITIONAL INFORMATION.

ESTIMATED QUANTITY *
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN 1,200 SQ. YD.

LEGEND

(A) TYPE Y DOWELLED REPAIR JOINTS, AS PER BP-2.5

(B) SAWED CONTRACTION JOINT AS PER BP-2.2, WITH DOWELS, MAX. SPACING 20' C/C FOR ONE LANE REPLACEMENTS ALIGN JOINT WITH EXISTING CRACKS IN THE ADJACENT LANE WHENEVER POSSIBLE. (EX. CRACKS OCCUR APPROX. 15' C/C)

(C) LONGITUDINAL BUTT JOINT AS PER BP-2.1 (USING HOOK BOLTS)

(D) TYPE D JOINT AS PER BP-2.1 FOR PATCHES 10' OR GREATER IN LENGTH

(E) TYPE T TIED REPAIR JOINT, AS PER BP-2.5

ESTIMATED QUANTITIES *		
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN A	5500 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN B	1150 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN C	2060 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C, AS PER PLAN D	350 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN A	1150 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN B	60 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN C	320 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS MS, AS PER PLAN D	60 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A	3000 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B	240 SQ.YD.
ITEM 255	FULL DEPTH PAVEMENT SAWING	44,000 LIN. FT.
ITEM 203	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	50 CU. YD.
ITEM 304	AGGREGATE BASE, AS PER PLAN	50 CU. YD.

* QUANTITY ESTIMATES ARE BASED ON VISUAL INSPECTION. AN ADDITIONAL 5% WAS ADDED TO THE REPAIR AREA TO COMPENSATE FOR ANY ROADWAY DETERIORATION THAT MAY OCCUR BETWEEN THE TIME OF PLAN PREPARATION AND ACTUAL CONSTRUCTION.

VISUAL SURVEY DATE - 5/15/00

SR- 2, EXISTING 10" PORTLAND CEMENT CONCRETE SURFACE AREA - 39,000 S. Y.
SR-44, EXISTING 9" PORTLAND CEMENT CONCRETE SURFACE AREA - 129,000 S. Y.

CALCULATED EMK CHECKED LDH

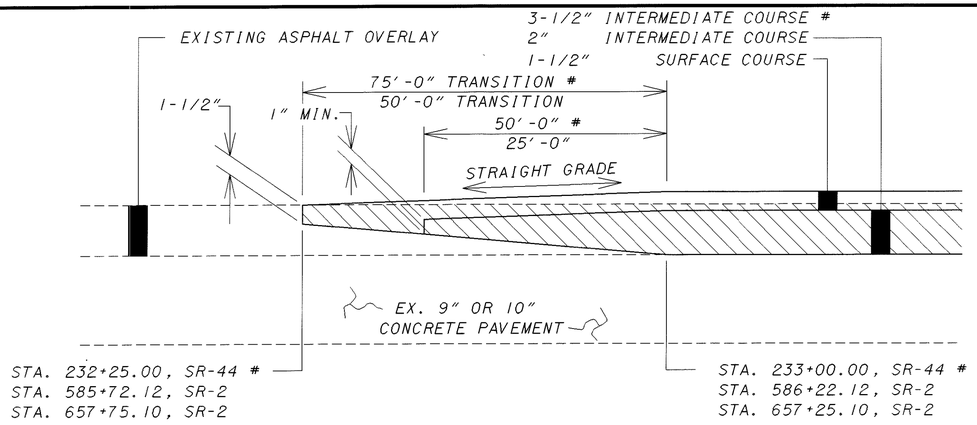
DETAILS & ESTIMATED QUANTITIES

PAVEMENT REPAIR DETAILS

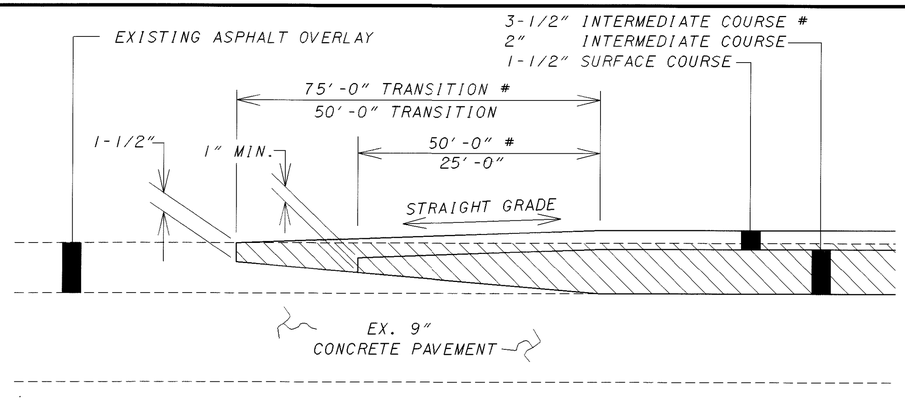
LAKE COUNTY
LAK-2/44-13.05/4.14

51
93

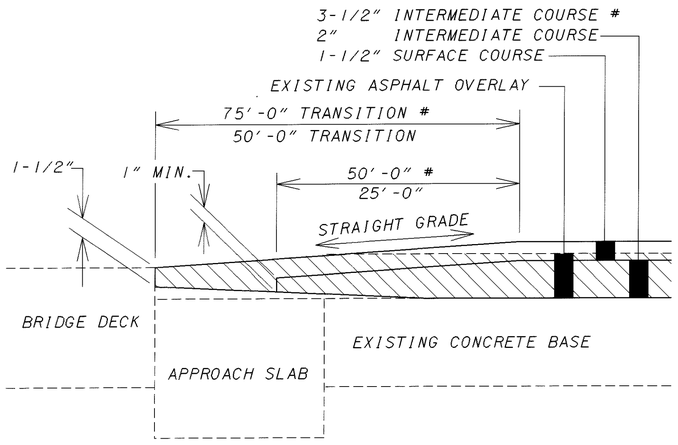
PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gmb.dgn



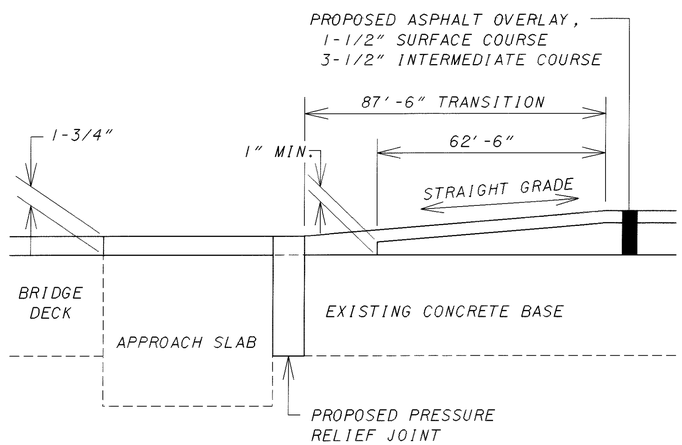
5" OR 3-1/2" OVERLAY MEETING EXISTING ASPHALT OVERLAY



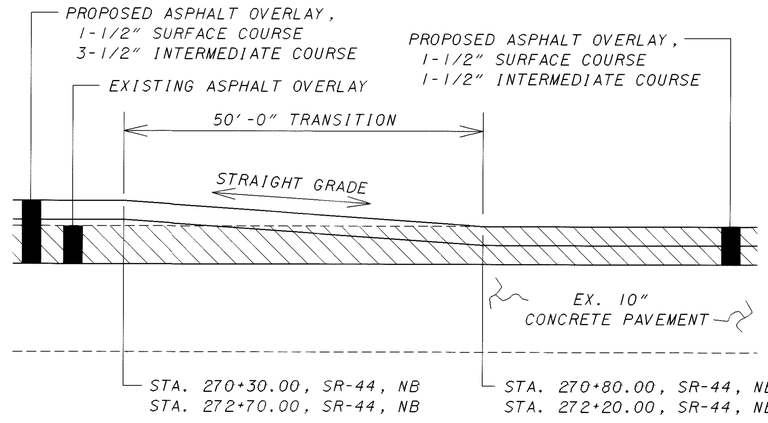
5" OR 3-1/2" OVERLAY MEETING EXISTING ASPHALT OVERLAY
AT RAMP TERMINI OR SIDESTREETS



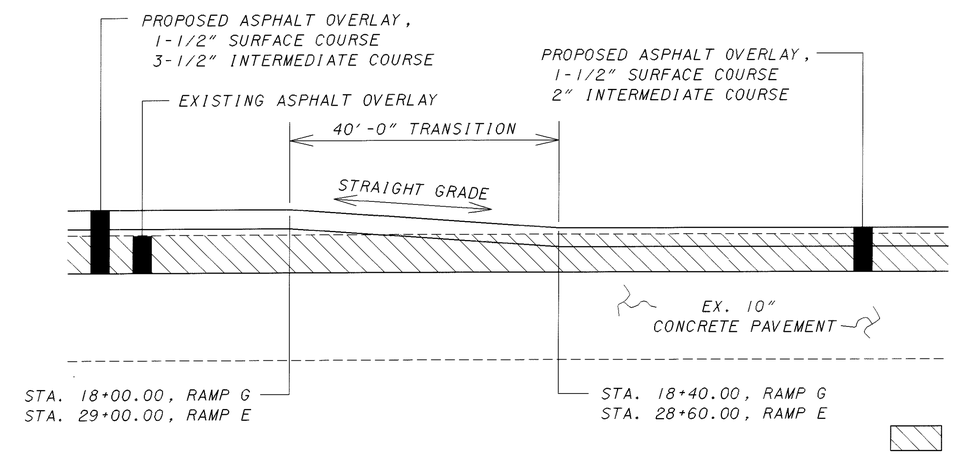
5" OR 3-1/2" OVERLAY BUTT JOINT MEETING
EXISTING BRIDGE DECK



BUTT JOINT MEETING OVERLAYED BRIDGE DECK
(BRIDGE NO. LAK-44-0561 L & R)



5" OVERLAY MEETING 3" OVERLAY UNDER BRIDGE NO. LAK-44-0487



5" OVERLAY MEETING 3-1/2" OVERLAY

254 - PAVEMENT PLANING, BITUMINOUS

* - STRAIGHT GRADE - THE ASPHALT TRANSITIONS SHALL BE CONSIDERED UNACCEPTABLE IF THE FINAL GRADE VARIES FROM THE DESIRED STRAIGHT GRADE BY GREATER THAN ⅜ INCHES ANYWHERE THROUGHOUT THE LENGTH OF THE TRANSITION. THIS TOLERANCE IS REDUCED TO ¼ INCH FOR THE FIRST 5 FEET ADJACENT TO AN EXPANSION JOINT.

PAYMENT WILL BE HELD FOR 1 C.Y. OF ASPHALT PER FOOT OF PAVING WIDTH AT EACH TRANSITION LOCATION UNTIL THE TRANSITION IS SHOWN TO BE ACCEPTABLE. THE CONTRACTOR IS TO PROVIDE THE NECESSARY SURVEY WORK TO SHOW THAT THESE STRAIGHT GRADES ARE MET ALONG EACH EDGE LINE AND LANE LINE.

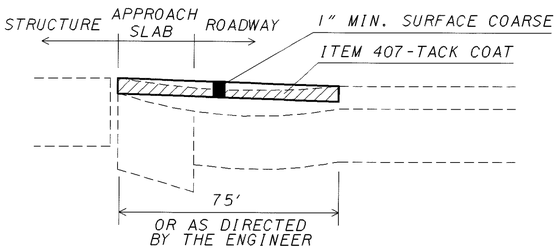
ALL UNACCEPTABLE ASPHALT TRANSITIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE. THE REPAIR METHOD SHALL BE AS FOLLOWS:

A. DETERMINE FINAL GRADE LINE BY EXTENDING A STRAIGHT LINE FROM THE TOP OF THE BRIDGE END DAM JOINT TO A POINT 75' AWAY ON THE TOP OF RESURFACING.

B. REMOVE ASPHALT CONCRETE EXACTLY 1" BELOW THE FINAL GRADE.

C. PLACE ITEM 407 - TACK COAT AND ITEM 446 - ASPHALT CONCRETE, TO DESIRED GRADE.

D. SURVEY TRANSITION TO VERIFY THAT THE REPAIR IS WITHIN THE ALLOWABLE TOLERANCE.



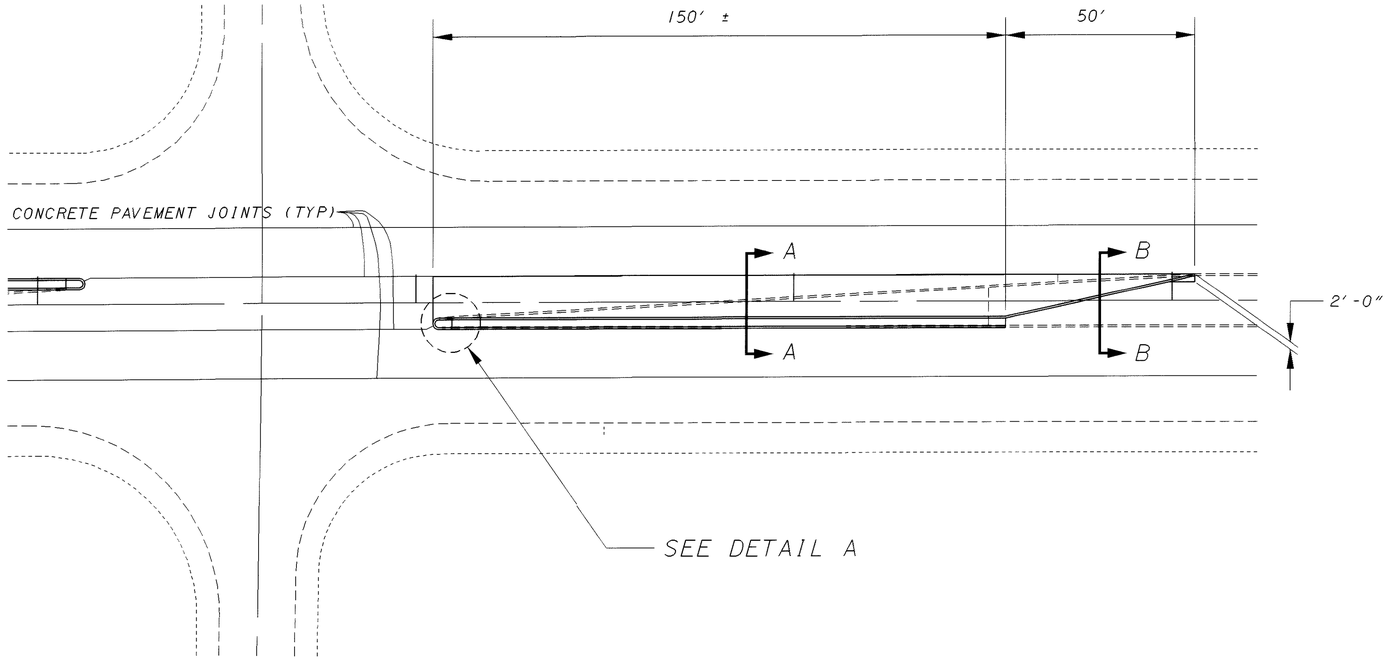
CORRECTION OF UNACCEPTABLE
ASPHALT TRANSITIONS

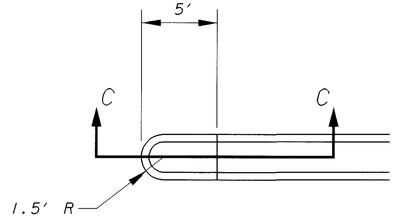
CALCULATED EMK
CHECKED LDH

PAVEMENT TRANSITION DETAILS

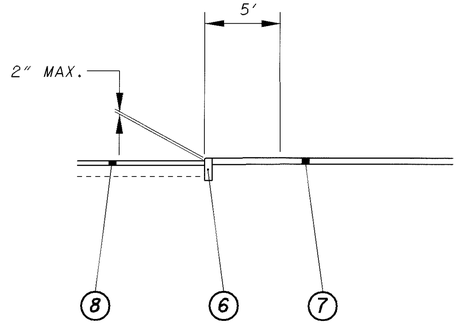
LAKE COUNTY
LAK-2/44-13.05/4.14

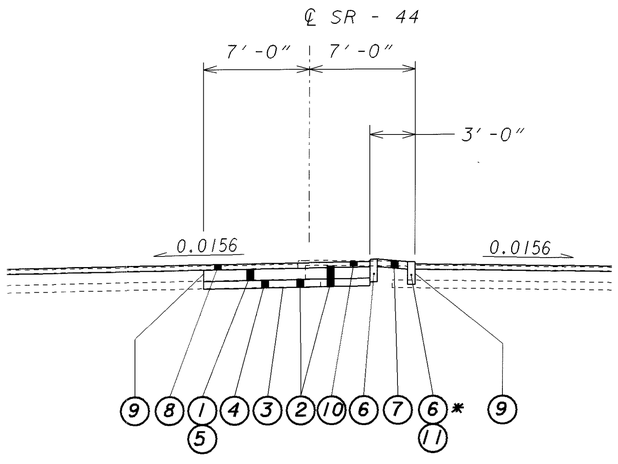
52
93



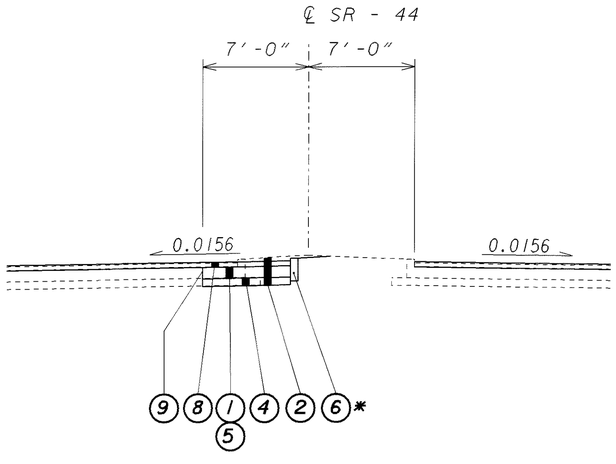


DETAIL A





SECTION A-A



SECTION B-B

* - PLACE PROPOSED CURB AT SAME HEIGHT AS EXISTING CURB TO ENSURE CONSTANT REVEAL AFTER OVERLAY (2-1/2″ ±)

1. ITEM 202 - PAVEMENT REMOVED
2. ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
3. ITEM 203 - SUBGRADE COMPACTION
4. ITEM 304 - 6″ AGGREGATE BASE, AS PER PLAN
5. ITEM 305 - 9″ CONCRETE BASE, AS PER PLAN
6. ITEM 830 - CURB, TYPE 6
7. ITEM 830 - CONCRETE MEDIAN
8. ITEM 858 - 3-1/2″ ASPHALT CONCRETE OVERLAY (SEE TYPICALS)
9. ITEM 255 - FULL DEPTH PAVEMENT SAWING
10. ITEM 202 - CONCRETE MEDIAN REMOVED
11. ITEM 202 - CURB REMOVED

FOR QUANTITIES, SEE SHEET 32.

SCALE IN FEET 0 20 40

CALCULATED EMK
CHECKED LDH

LEFT TURN LANE DETAIL

LAKE COUNTY
LAK-2/44-13.05/4.14

ITEM 606 - IMPACT ATTENUATOR, TYPE 1-98 (UNIDIRECTIONAL OR BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING IMPACT ATTENUATORS:

1) THE C-A-T MANUFACTURED BY SYRO, INC., 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330.545-4373).

THE LENGTH OF THE C-A-T SYSTEM IS CONSIDERED TO BE 31.25 FT. LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

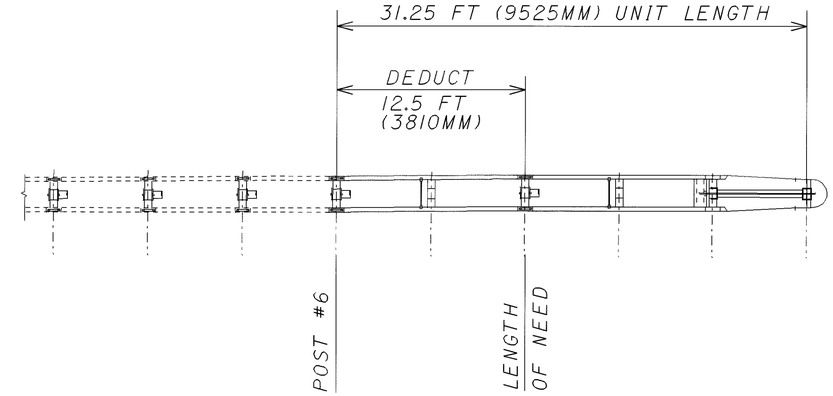
DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL
SS245M	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS. FOR USE AS A LONGITUDINAL MEDIAN BARRIER TERMINAL OR CRASH CUSHION ATTENUATOR	4-10-97	3-6-98
SS224M	C-A-T TRANSITION TO MEDIAN BARRIER GUARDRAIL PLAN, ELEVATION & SECTIONS.	4-26-96	3-6-98
SS226M	C-A-T TRANSITION TO VERTICAL WALL OR PIER PLAN, ELEVATION & SECTIONS.	4-26-96	3-6-98

2) THE BREAKMASTER MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312.467-6750).

THE LENGTH OF THE BREAKMASTER IS CONSIDERED TO BE 32'-8" LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL
92-00-01	BREAKMASTER GENERAL ASSEMBLY (UNIDIRECTIONAL SYSTEM)	3-6-97	3-6-98
92-00-81	BREAKMASTER (UNIDIRECTIONAL) WITH FOUNDATION TUBES	2-9-98	3-6-98
92-00-02	BREAKMASTER GENERAL ASSEMBLY (BIDIRECTIONAL SYSTEM)	3-10-97	3-6-98
92-00-82	BREAKMASTER (BIDIRECTIONAL) WITH FOUNDATION TUBES	2-9-98	3-6-98
9202024-0000	ANCHOR ASSEMBLY, FOUNDATION TUBE, 6½FT., BRS	6-12-97	3-6-98

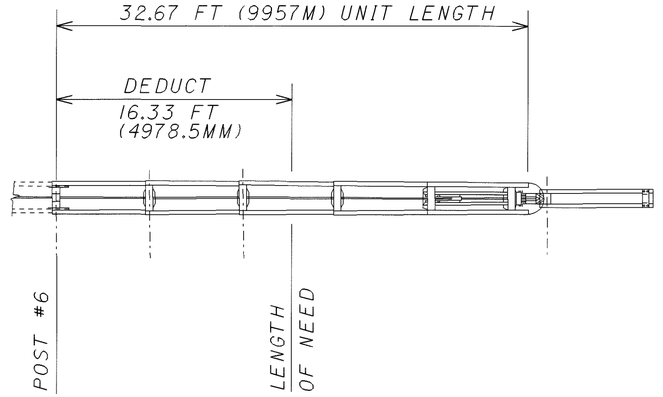
THE FACE OF THE TYPE 1-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 36" x 12" (915 mm W x 305 mm H). PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1-98 (UNIDIRECTIONAL OR BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPERATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.



POST #6 IS INCLUDED FOR PAYMENT WITH STANDARD GUARDRAIL

LENGTH OF NEED @ POST #4

C-A-T



POST #6 IS INCLUDED FOR PAYMENT WITH STANDARD GUARDRAIL

LENGTH OF NEED @ MIDPOINT

BRAKEMASTER

NCHRP REPORT 350 COMPLIANCE

CALCULATED | CHECKED

TYPE 1-98 IMPACT ATTENUATOR DETAILS

LAKE COUNTY
LAK-2/44-13.05/4.14

54
93

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE ET-2000 (1997) MANUFACTURED BY
SYRO, INC.
1170 N. STATE STREET
GIRARD, OHIO 44420
TELEPHONE: (330) 545-4373.

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 15.24 m (50 FT), INCLUSIVE OF TWO 7.62 m (25 FT) LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PREAPPROVED SHOP DRAWING:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL
SS265M	ET-2000 (1997) PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98

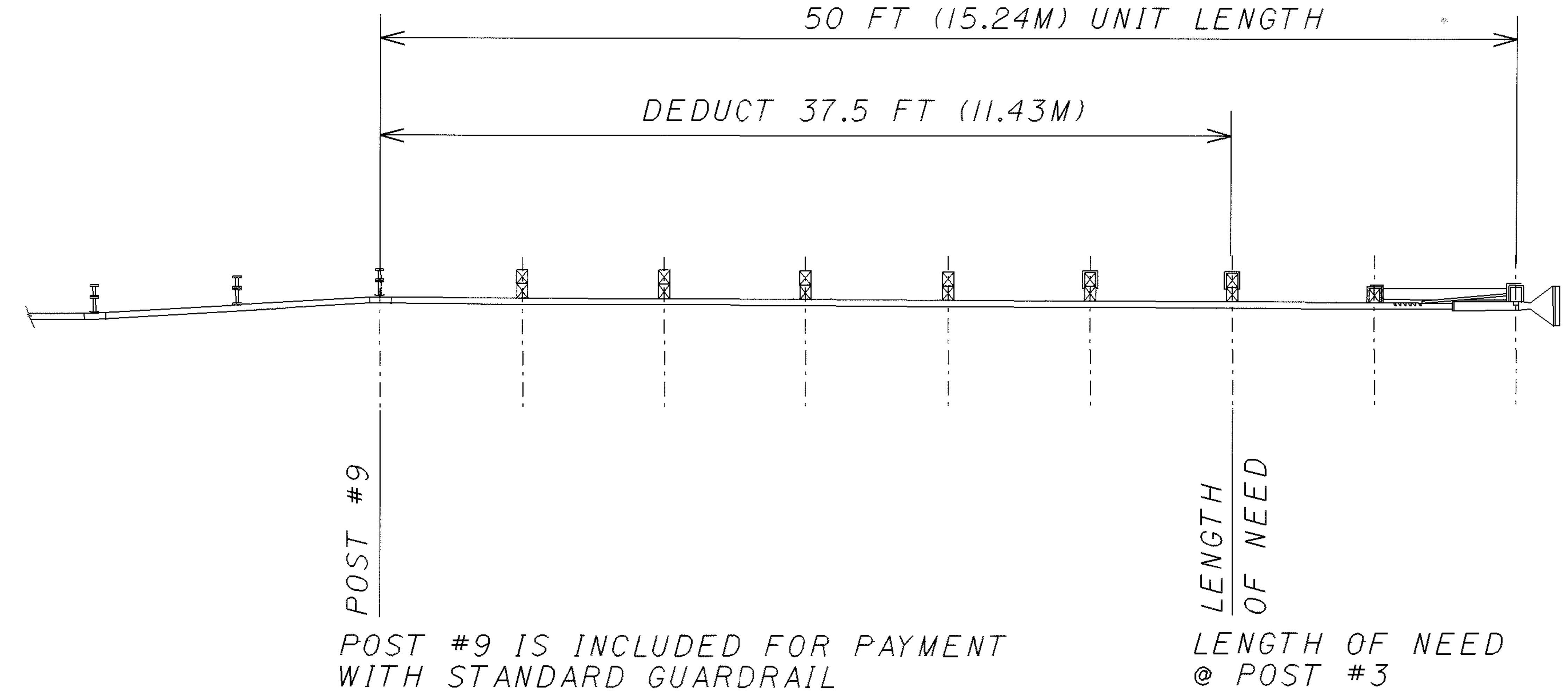
2) THE SKT-350 MANUFACTURED BY
ROAD SYSTEMS, INC.
NEW CASTLE DRIVE
FRANKFORT, IL 60423
TELEPHONE: (815) 464-5917.

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 15.24 m (50 FT), INCLUSIVE OF FOUR 3.81 m (12.5 FT) LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

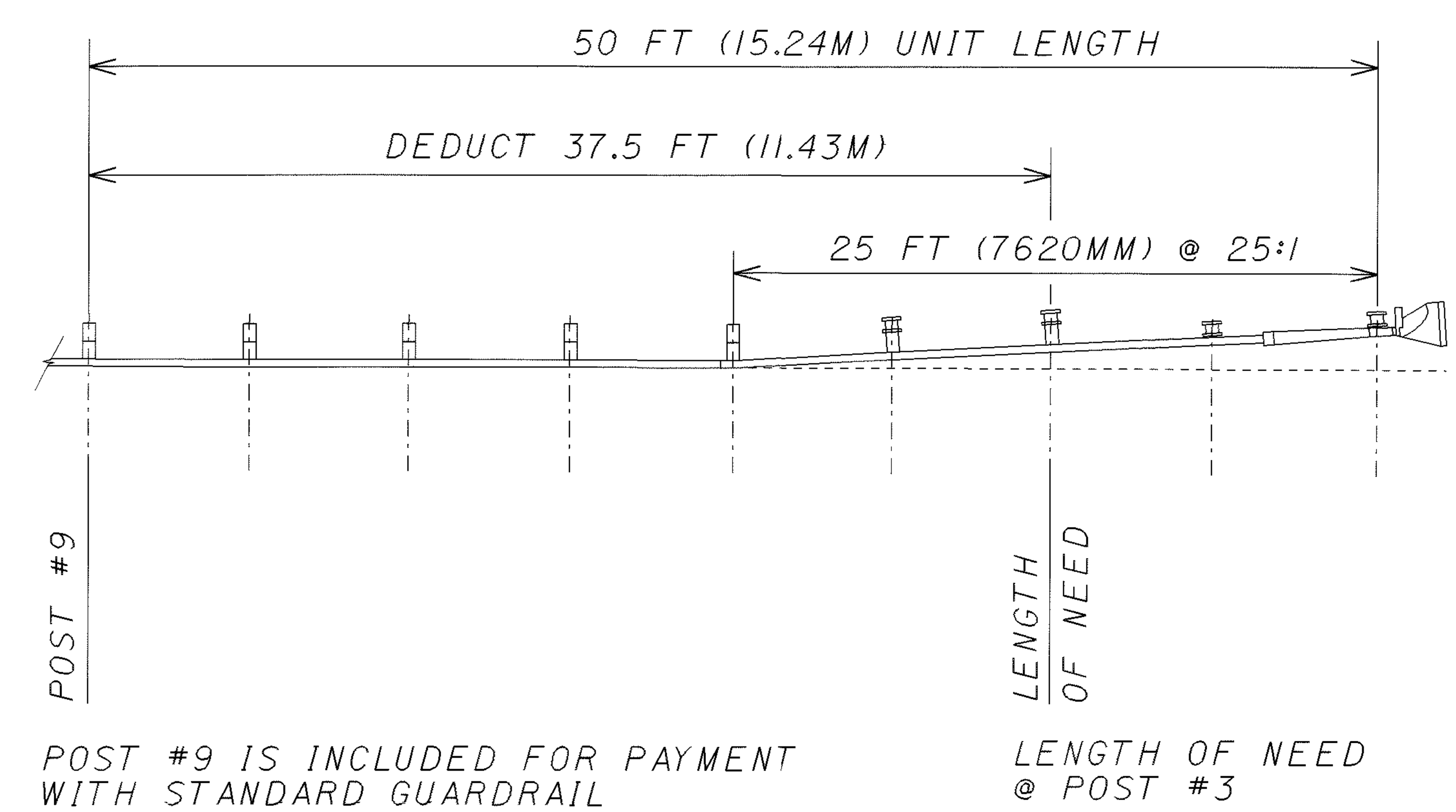
DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

A TYPE C DELINEATOR SHALL BE INSTALLED AT THE HEAD OF ALL TYPE E-98 UNITS LOCATED ON THE RIGHT SIDE OF THE THROUGH ROADWAY. A TYPE D DELINEATOR SHALL BE INSTALLED AT THE HEAD OF ALL TYPE E-98 UNITS LOCATED ON THE LEFT SIDE OF THE THROUGH ROADWAY. DELINEATORS SHALL COMPLY WITH STANDARD TRAFFIC DRAWING TC-61.10M.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM; INCLUDING ALL RELATED TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.



ET-2000



SKT-350

NCHRP REPORT 350 COMPLIANCE

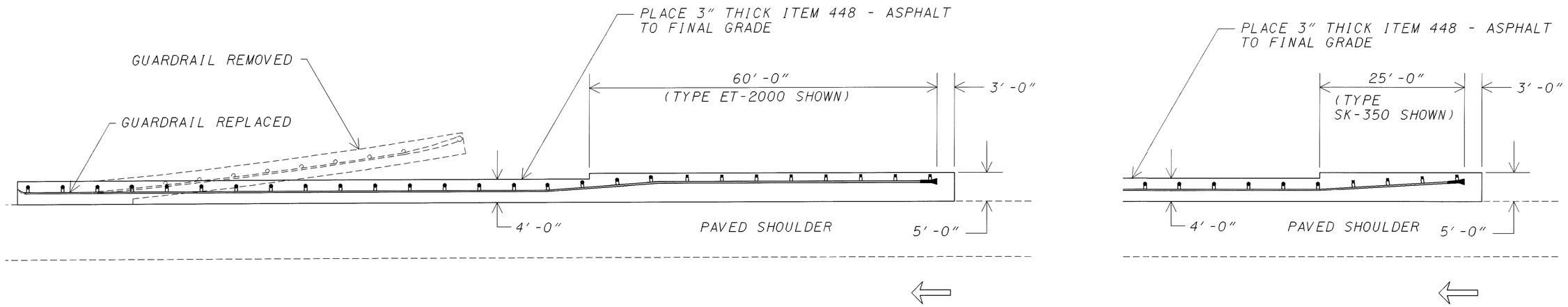
CALCULATED EMK CHECKED ENF

TYPE E-98 ANCHOR ASSEMBLY DETAILS

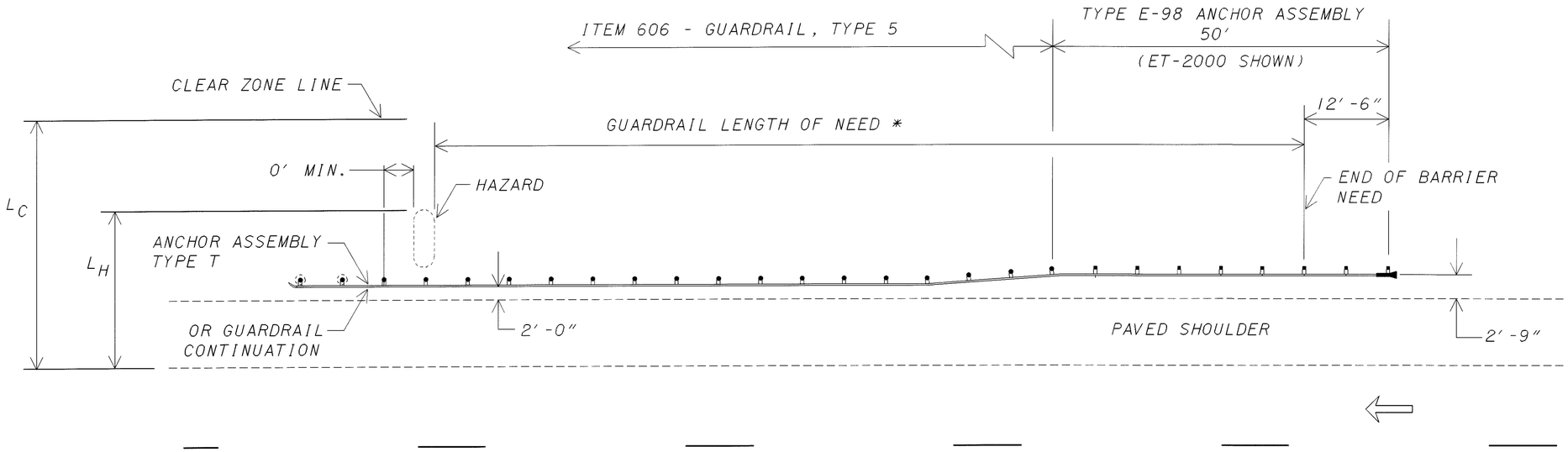
LAKE COUNTY
LAK-2/44-13.05/4.14

55
93

PLOTTED FROM: ...PROJECTS\Pid18391\dgn\18391grb.dgn



ITEM 448 FOR EROSION CONTROL WITH TYPE E-98 ANCHOR ASSEMBLY



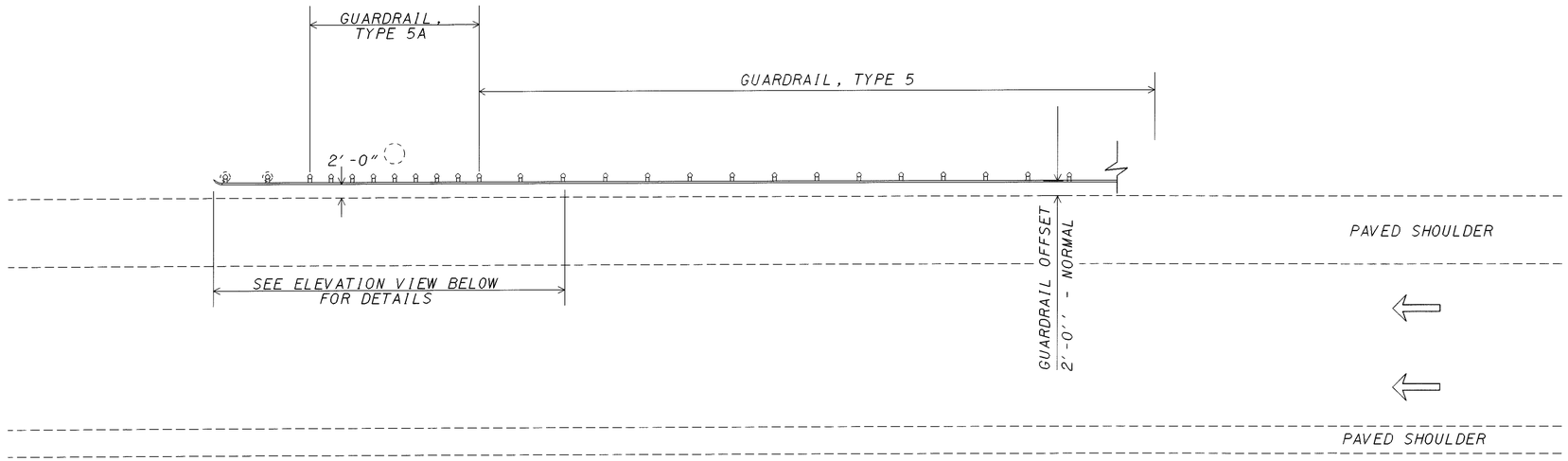
TYPICAL GUARDRAIL PROTECTION OF HAZARDS

CALCULATED EMK
CHECKED ENF

GUARDRAIL

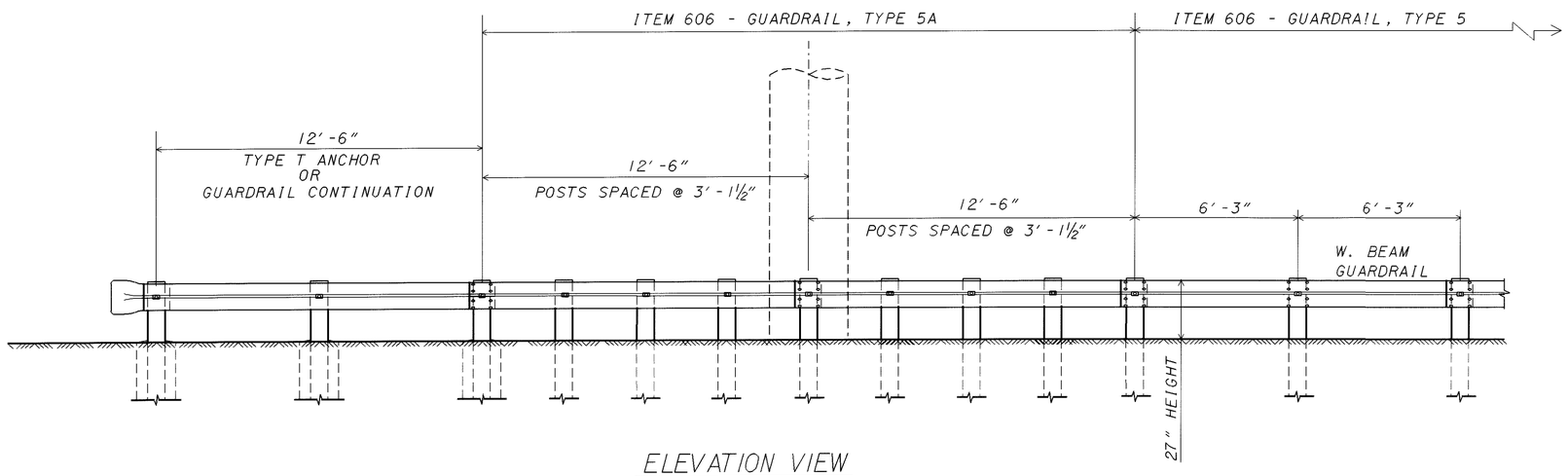
LAKE COUNTY
LAK-2/44-13.05/4.14

56
93



TYPE 5A GUARDRAIL PROTECTION FOR OVERHEAD SIGN SUPPORTS

REQUIRED WHEN FACE OF HAZARD IS BETWEEN 5'-6" AND 3'-6" OF FACE OF GUARDRAIL



ELEVATION VIEW

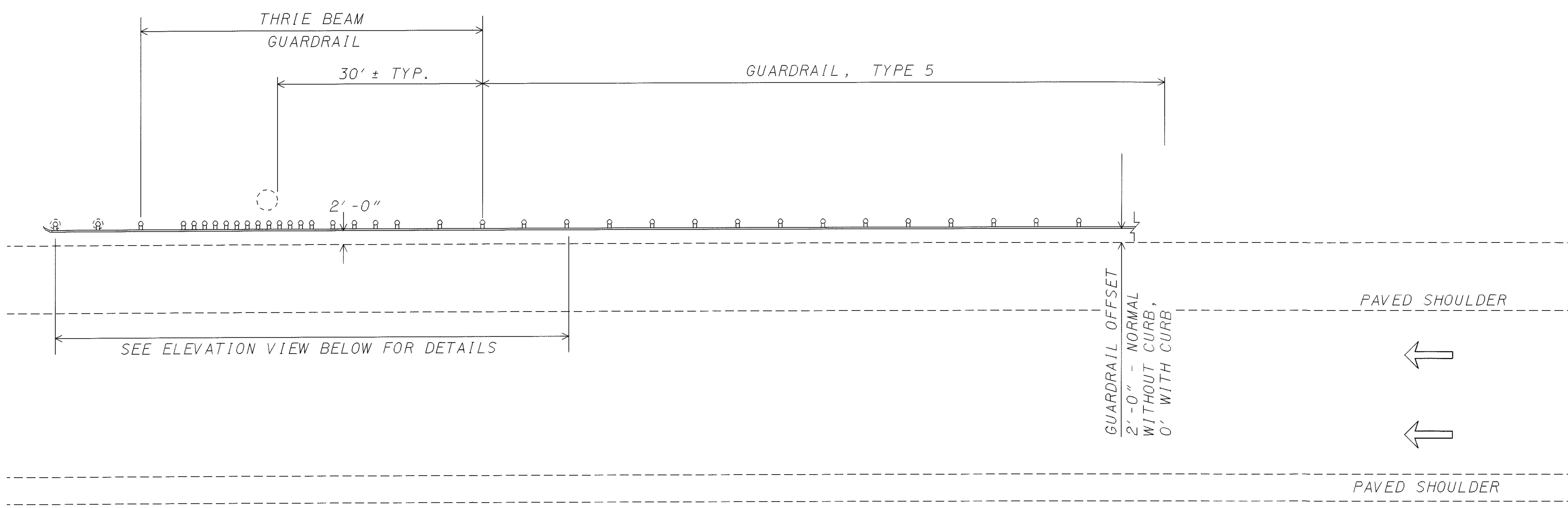
DRAWN EMK
REVISED XXX
CALCULATED EMK
CHECKED LDH

GUARDRAIL DETAILS
TYPE 5A PROTECTION AT
OVERHEAD SIGN SUPPORTS

LAKE COUNTY
LAK-2/44-13.05/4.14

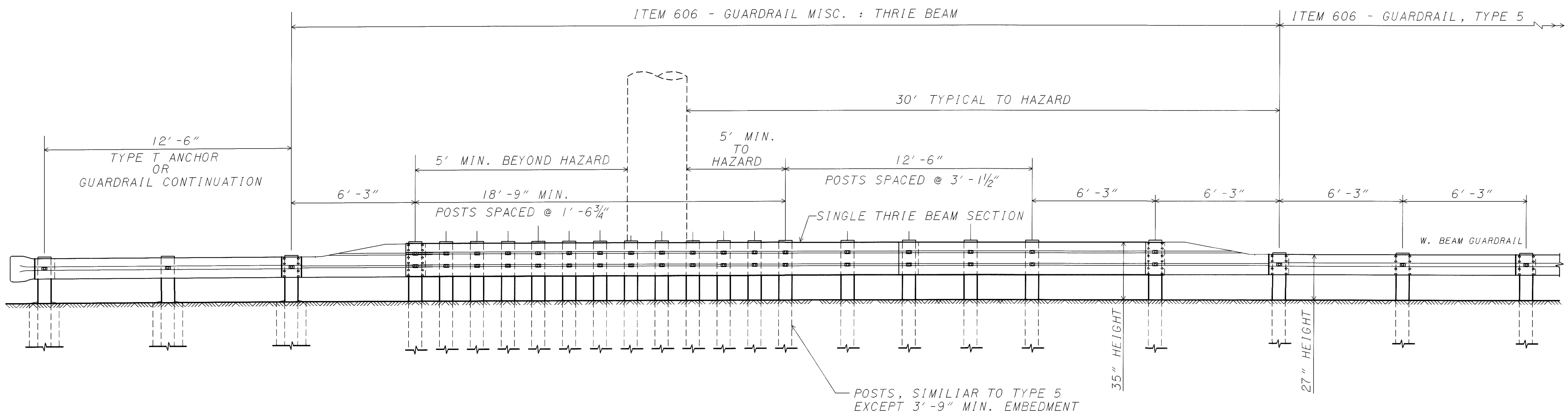
57
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391grd.dgn



THRIE BEAM GUARDRAIL PROTECTION FOR OVERHEAD SIGN SUPPORTS OR PIERS

REQUIRED WHEN FACE OF HAZARD IS BETWEEN 3'-6" AND 2'-9" OF NORMAL GUARDRAIL OFFSET

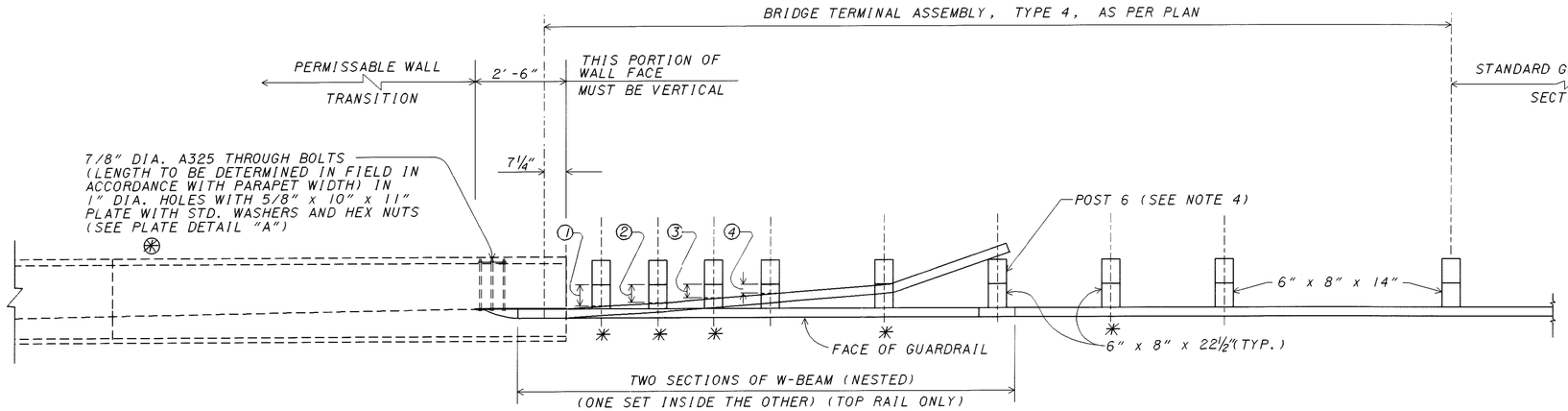


ELEVATION VIEW

THRIE BEAM GUARDRAIL PROTECTION FOR OVERHEAD SIGN SUPPORTS OR PIERS

LAKE COUNTY
LAK-2/44-13.05/4.14

CALCULATED EMK
CHECKED LDH



PLAN

⊛–FOR ATTACHMENT TO ABUTMENT WALLS, THIS ITEM REQUIRES THE USE OF POLYESTER RESIN ANCHORS WITH FEMALE THREADED INSERTS (10" LONG) TO ACCEPT 7/8" DIAMETER BOLTS. (PLATE DETAIL NOT REQUIRED)

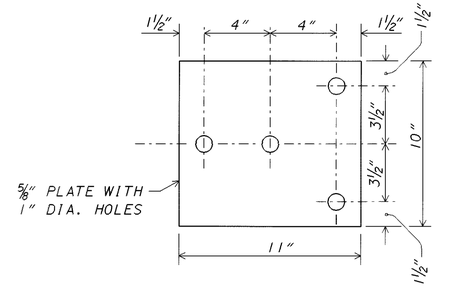
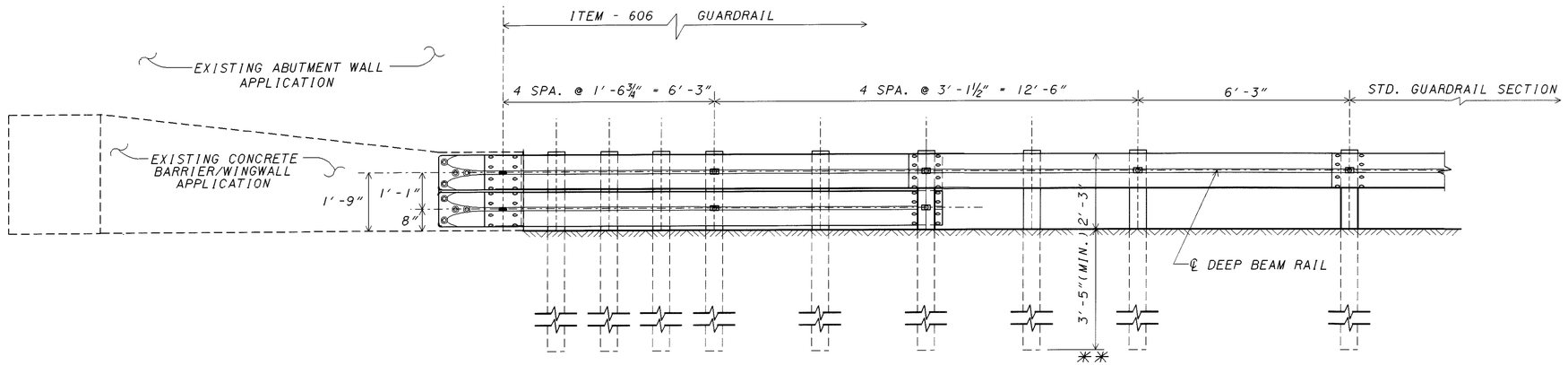


PLATE DETAIL "A"

✳ GUARDRAIL NOT ATTACHED TO POSTS. BLOCKOUT FASTENED TO POST WITH STD. POST BOLT.



ELEVATION

✳✳SEE STD. CONSTRUCTION DRAWING GR-1.2 FOR ADDITIONAL POST EMBEDMENT DETAILS.

GENERAL NOTES

1. THIS GUARDRAIL TRANSITION IS APPROPRIATE FOR CONNECTION TO A VERTICAL CONCRETE SHAPE AND AND SHOULD NOT BE CONNECTED DIRECTLY TO A CONCRETE SAFETY SHAPE. CONCRETE SAFETY SHAPE BARRIERS SHOULD BE TRANSITIONED TO A VERTICAL SHAPE AT THE GUARDRAIL CONNECTION.
2. THE RUBRAIL MAY BE SHOP BENT IN THE LAST 3 FEET TO FACILITATE INSTALLATION.
3. BOTTOM WOOD BLOCKS, LOCATED ON POSTS 1,2,3, AND 4 ARE CENTER DRILLED AND SECURED WITH 5/8" CARRIAGE BOLTS.
4. POSTS 1,2,3,4, AND 6 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKS AND/OR LOWER BEAM.
5. SEE STANDARD CONSTRUCTION DRAWINGS GR-1.2M AND GR-3.4M FOR ADDITIONAL DETAILS.

BLOCKOUT CHART BOTTOM BEAM WOOD BLOCKS 1'-2" X 6"	
POST	THICKNESS
①	7"
②	6"
③	4.5"
④	3"

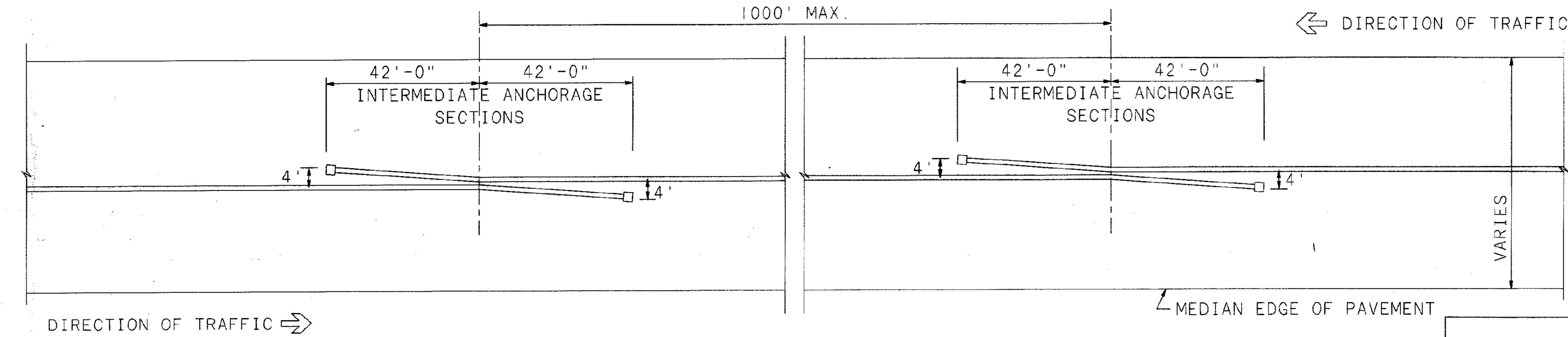
THIS DETAIL MODIFIES A BRIDGE TERMINAL ASSEMBLY, TYPE 4 FOR CONNECTION TO A VERTICAL WALL.
ALL DIMENSIONS AND DETAILS SHOWN ARE IN AGREEMENT WITH THE APPROVED CRASHWORTHY GUARDRAIL TRANSITION FOUND IN "FHWA TECHNICAL ADVISORY T 5040.26" AND THE "ROADSIDE DESIGN GUIDE"

CALCULATED | CHECKED

BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN

LAKE COUNTY
LAK-2/44-13.05/4.14

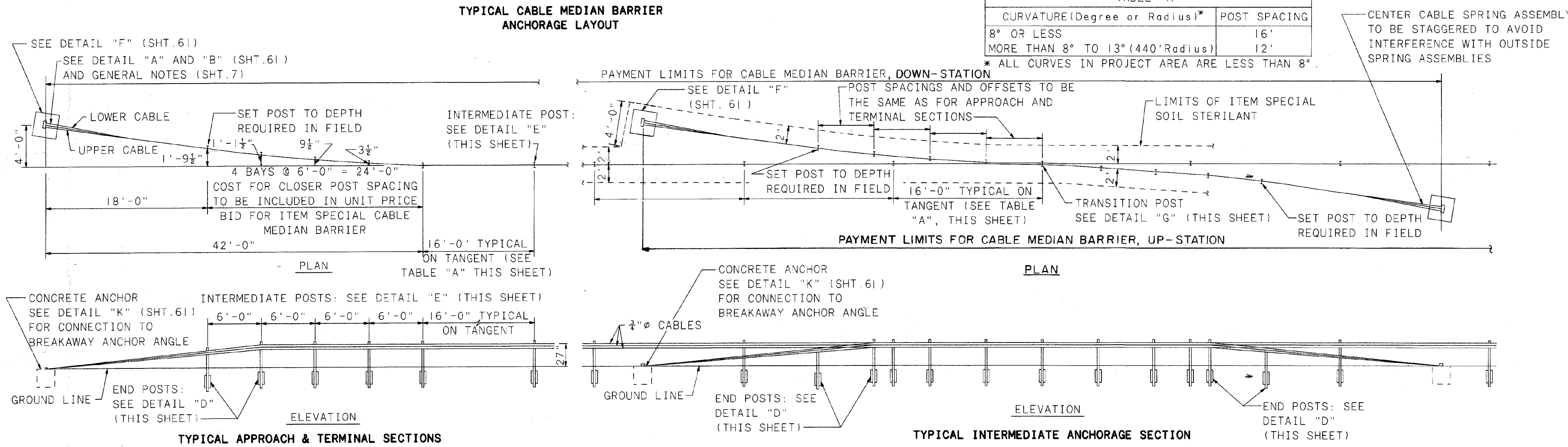
59
93



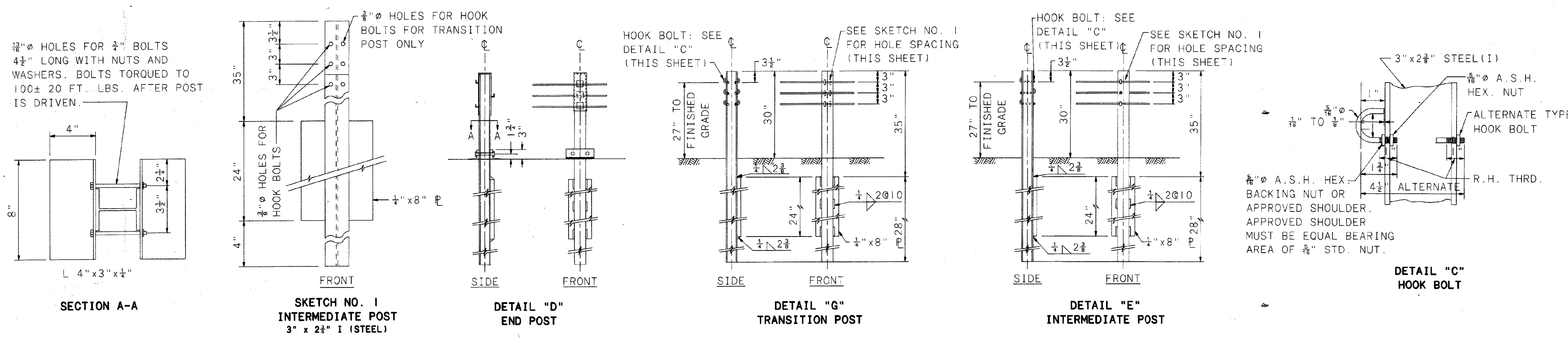
TYPICAL CABLE MEDIAN BARRIER ANCHORAGE LAYOUT

TABLE "A"	
CURVATURE(Degree or Radius)*	POST SPACING
8° OR LESS	16'
MORE THAN 8° TO 13°(440'Radius)	12'

* ALL CURVES IN PROJECT AREA ARE LESS THAN 8°.



SEE DETAIL "F" (SHT.61)
SEE DETAIL "A" AND "B" (SHT.61) AND GENERAL NOTES (SHT.7)
LOWER CABLE
UPPER CABLE
SET POST TO DEPTH REQUIRED IN FIELD
1'-1½"
9½"
3½"
1'-9½"
4'-0"
4 BAYS @ 6'-0" = 24'-0"
COST FOR CLOSER POST SPACING TO BE INCLUDED IN UNIT PRICE BID FOR ITEM SPECIAL CABLE MEDIAN BARRIER
18'-0"
42'-0"
INTERMEDIATE POST: SEE DETAIL "E" (THIS SHEET)
16'-0" TYPICAL ON TANGENT (SEE TABLE "A" THIS SHEET)
PLAN
PAYMENT LIMITS FOR CABLE MEDIAN BARRIER, DOWN-STATION
SEE DETAIL "F" (SHT. 61)
POST SPACINGS AND OFFSETS TO BE THE SAME AS FOR APPROACH AND TERMINAL SECTIONS
LIMITS OF ITEM SPECIAL SOIL STERILANT
CENTER CABLE SPRING ASSEMBLY TO BE STAGGERED TO AVOID INTERFERENCE WITH OUTSIDE SPRING ASSEMBLIES
4'-0"
2'
12'
SET POST TO DEPTH REQUIRED IN FIELD
16'-0" TYPICAL ON TANGENT (SEE TABLE "A", THIS SHEET)
TRANSITION POST SEE DETAIL "G" (THIS SHEET)
SET POST TO DEPTH REQUIRED IN FIELD
PAYMENT LIMITS FOR CABLE MEDIAN BARRIER, UP-STATION
PLAN
CONCRETE ANCHOR SEE DETAIL "K" (SHT.61) FOR CONNECTION TO BREAKAWAY ANCHOR ANGLE
INTERMEDIATE POSTS: SEE DETAIL "E" (THIS SHEET)
6'-0"
6'-0"
6'-0"
6'-0"
16'-0" TYPICAL ON TANGENT
27"
GROUND LINE
END POSTS: SEE DETAIL "D" (THIS SHEET)
ELEVATION
TYPICAL APPROACH & TERMINAL SECTIONS
CONCRETE ANCHOR SEE DETAIL "K" (SHT.61) FOR CONNECTION TO BREAKAWAY ANCHOR ANGLE
¾"ø CABLES
GROUND LINE
END POSTS: SEE DETAIL "D" (THIS SHEET)
ELEVATION
END POSTS: SEE DETAIL "D" (THIS SHEET)
TYPICAL INTERMEDIATE ANCHORAGE SECTION

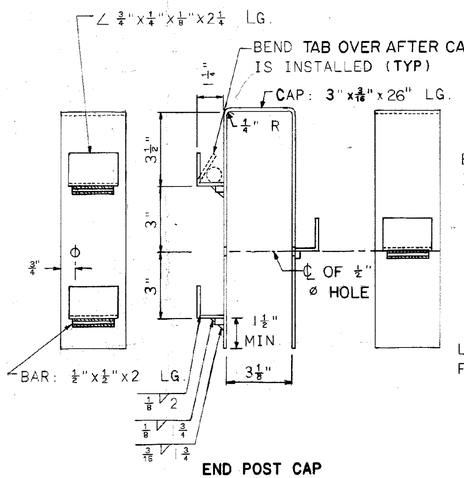


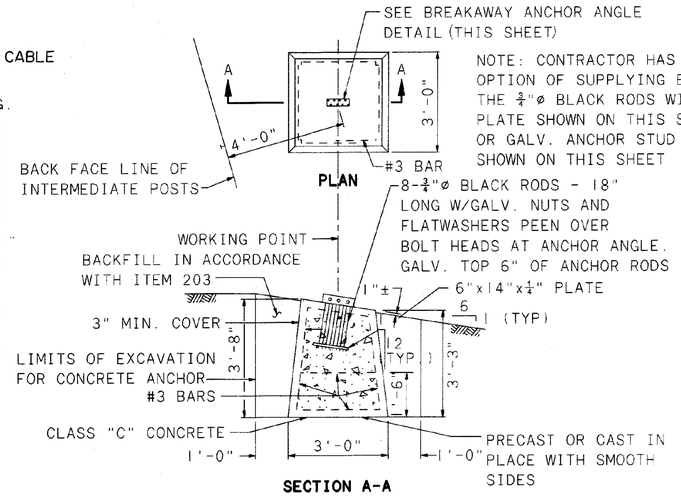
13/16"ø HOLES FOR ¾" BOLTS 4½" LONG WITH NUTS AND WASHERS. BOLTS TORQUED TO 100± 20 FT. LBS. AFTER POST IS DRIVEN.
4"
8"
2¼"
3½"
L 4"x3"x¼"
SECTION A-A
⅜"ø HOLES FOR HOOK BOLTS FOR TRANSITION POST ONLY
35"
3½"
3"
3"
24"
4"
⅜"ø HOLES FOR HOOK BOLTS
¼"x8" ℙ
FRONT
SKETCH NO. 1 INTERMEDIATE POST 3" x 2⅜" I (STEEL)
℄
A
A
1¾"
3"
SIDE
FRONT
DETAIL "D" END POST
HOOK BOLT: SEE DETAIL "C" (THIS SHEET)
SEE SKETCH NO. 1 FOR HOLE SPACING (THIS SHEET)
3½"
27" TO FINISHED GRADE
30"
35"
3"
3"
3"
2⅜
2@10
24"
28"
¼"x8"
SIDE
FRONT
DETAIL "G" TRANSITION POST
HOOK BOLT: SEE DETAIL "C" (THIS SHEET)
SEE SKETCH NO. 1 FOR HOLE SPACING (THIS SHEET)
3½"
27" TO FINISHED GRADE
30"
35"
2⅜
2@10
24"
28"
¼"x8"
SIDE
FRONT
DETAIL "E" INTERMEDIATE POST
3"x2⅜" STEEL(I)
5/16"ø A.S.H. HEX. NUT
1"
1/16" TO ⅛"
ALTERNATE TYPE HOOK BOLT
1½"
4½"
ALTERNATE
R.H. THRD.
5/16"ø A.S.H. HEX. BACKING NUT OR APPROVED SHOULDER. APPROVED SHOULDER MUST BE EQUAL BEARING AREA OF ⅝" STD. NUT.
DETAIL "C" HOOK BOLT

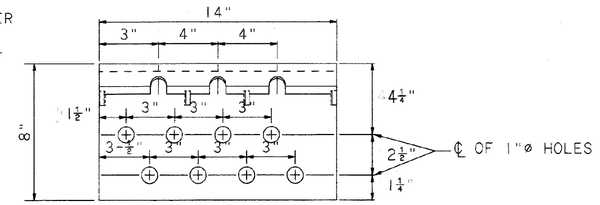
CABLE MEDIAN BARRIER DETAIL

LAKE COUNTY
LAK-2/44-13.05/4.14

CALCULATED
CHECKED







END POST CAP

NOTE: CONTRACTOR HAS THE OPTION OF SUPPLYING EITHER THE 3/4"ø BLACK RODS WITH PLATE SHOWN ON THIS SHEET OR GALV. ANCHOR STUD AS SHOWN ON THIS SHEET

SECTION A-A
CONCRETE ANCHOR
DETAIL "F"

BREAKAWAY ANCHOR ANGLE

DETAIL "K"
CABLE END ASSEMBLY ROD CONNECTION TO BREAKAWAY ANCHOR ANGLE

SECTION B-B

DETAIL "A"
STEEL TURNBUCKLE CABLE END ASSEMBLY

GALVANIZED ANCHOR STUD
3/4"ø x 1'-6" VERTLEG

CABLE SPLICE ASSEMBLY DETAIL

DETAIL "B"
SPRING CABLE END ASSEMBLY WITH TURNBUCKLE
(COMPENSATING DEVICE)

CABLE SPLICE

NOTE: USE WITH WEDGE AS SHOWN IN DETAIL "X" (THIS SHEET) MATERIAL MALLEABLE IRON A.S.T.M. A-47 GR. 32510

DETAIL "X"
TYPICAL WEDGE FOR ALL SPLICES & CABLE FITTINGS

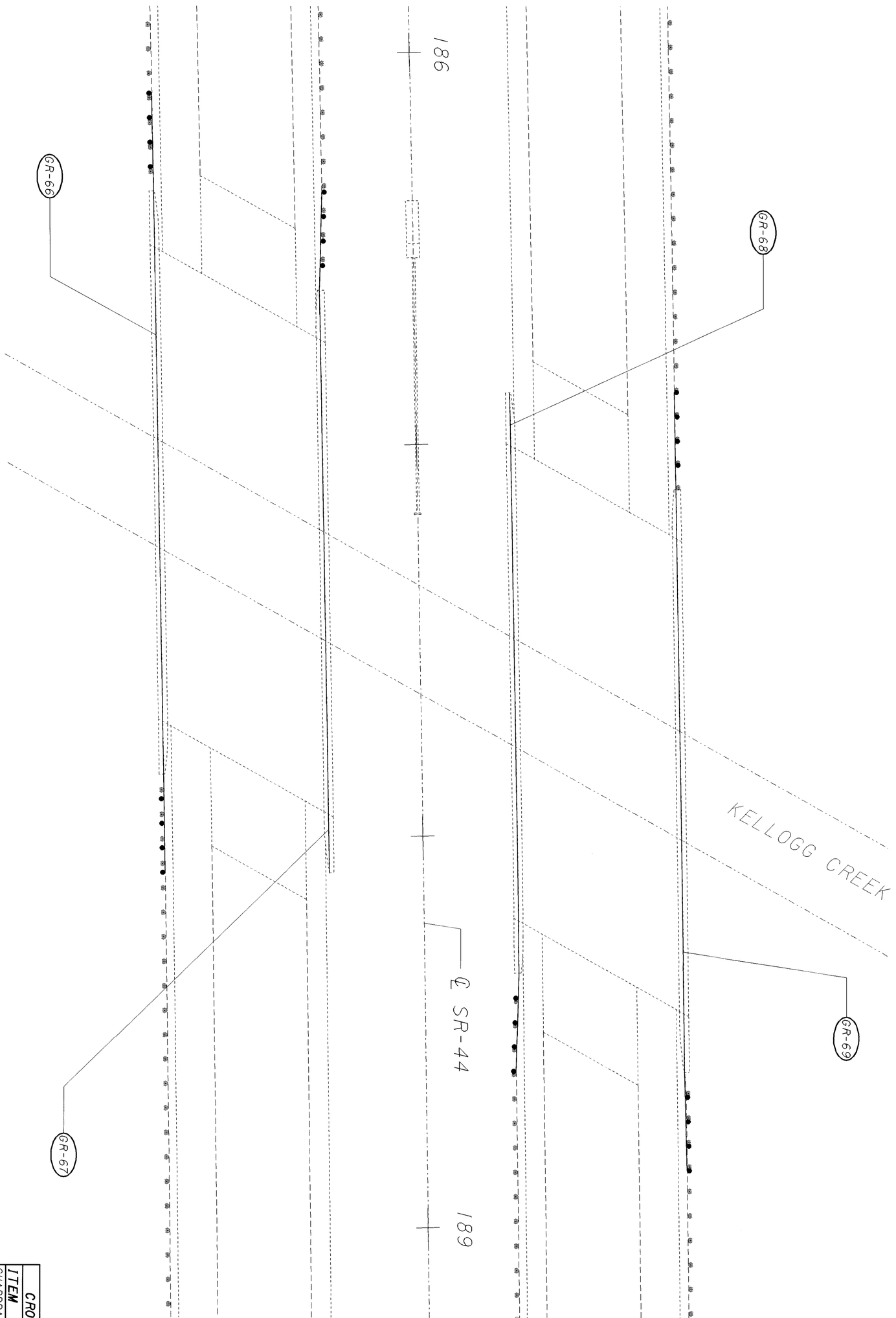
CALCULATED
CHECKED

CABLE MEDIAN BARRIER DETAIL

LAKE COUNTY
LAK-2/44-13.05/4.14

PLOTTED FROM: PROJECTS\pid18391\dgn\18391grh.dgn

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391gpp.dgn



CROSS REFERENCE	
ITEM	SHEET
GUARDRAIL	30

62
93

LAKE COUNTY
LAK-2/44-13.05/4.14

GUARDRAIL DETAIL AT KELLOGG CREEK BRIDGE

CALCULATED EMK
CHECKED LDH

0 25 50
SCALE IN FEET

N

TRAFFIC CONTROL

LOOP DETECTORS

AN ESTIMATED QUANTITY OF ITEM 632-DETECTOR LOOP, AS PER PLAN HAS BEEN PROVIDED AS A CONTINGENCY WHEN WIRE IS CUT, BROKEN, OR DESTROYED DUE TO PAVEMENT REPAIR OR BUTT JOINT OPERATIONS.

NEW LOOP DETECTORS SHALL BE PLACED AT THE SAME LOCATIONS AND SAME SIZE AS THE EXISTING. THE LOOP DETECTOR WIRE SHALL BE REPLACED TO THE PULL BOX OR POLE, WHICHEVER IS APPLICABLE, UNDER ITEM 632 AND TC-82.10. THE NEW CABLE SPLICE KITS SHALL BE INCLUDED IN THIS PAY ITEM.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 632-DETECTOR LOOP, AS PER PLAN.....5 EACH

REF. #	LOCATION	SHT. #	SIZE	# OF TURNS
L-1	BLACKBROOK RD	77	6'x15'	2
L-2	BLACKBROOK RD	77	4'x20'	2
L-3	BLACKBROOK RD	77	4'x10'	2
L-4	RAMP C	77	4'x20'	2
L-5	RAMP C	77	4'x20'	2

RAISED PAVEMENT MARKERS

MATERIALS SUPPLIED BY THE DEPARTMENT

FOR THIS PROJECT, THE RPM CASTINGS SUPPLIED BY O.D.O.T. WILL COME WITH REFLECTORS ATTACHED.

ALL MATERIALS ARE TO BE CONTRACTOR FURNISHED, EXCEPT THAT THE DEPARTMENT SHALL SUPPLY RPM MATERIALS IN THE QUANTITIES SHOWN HEREIN TO THE CONTRACTOR. PAY ITEMS FOR THE DEPARTMENT SUPPLIED MATERIALS SHALL BE INDICATED AS "INSTALLATION ONLY". THE TYPE OF DEPARTMENT SUPPLIED MATERIAL SHALL BE RAISED PAVEMENT MARKER CASTINGS.

THE CONTRACTOR SHALL PICK UP THE DEPARTMENT SUPPLIED RPM MATERIALS AT THE OPI WAREHOUSE IN COLUMBUS, OHIO.

THE CONTRACTOR SHALL PICK UP DEPARTMENT SUPPLIED RPM MATERIALS AT THE SPECIFIED LOCATION(S) FOR TRANSPORT TO THE WORK SITE OR TO THE CONTRACTOR'S STORAGE FACILITY. THE RECYCLED RAISED PAVEMENT MARKER (RPM) AUTHORIZATION FORM IS TO BE SIGNED BY THE DISTRICT CONSTRUCTION ENGINEER PRIOR TO PICK UP OF THE RPMS. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND / OR THE PARTIES LISTED ON THE AUTHORIZATION FORM IN WRITING AT LEAST FIVE (5) CALENDAR DAYS PRIOR TO PICK UP OF THE DEPARTMENT SUPPLIED MATERIALS. THE CONTRACTOR SHALL STORE THE RPMS WITHOUT DAMAGE OR CONTAMINATION WITH FOREIGN MATTER. A DEDUCTION IN THE AMOUNT OF THE ACTUAL COST TO THE DEPARTMENT SHALL BE MADE FOR MATERIALS DAMAGED BY THE CONTRACTOR OR FOR CASTINGS RECEIVED BY THE CONTRACTOR WHICH WERE NOT INSTALLED AND WERE NOT RETURNED TO THE DEPARTMENT.

RETURN OF NON-PERFORMED RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT

RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT, THAT ARE NON-PERFORMED SHALL BE CAREFULLY REPACKED OR PACKED IN THE BOXES IN THE SAME STYLE AND QUANTITY AS ORIGINALLY RECEIVED FROM THE DEPARTMENT. CASTING STYLES SHALL NOT BE MIXED WITHIN ANY ONE CONTAINER. THE CONTRACTOR SHALL CLEARLY MARK ON THE OUTSIDE OF EACH CONTAINER THE STYLE OF CASTING. BOXES SHALL BE PLACED ON SKIDS OR PALLETS IN THE SAME STYLE (LOW PROFILE OR CONVENTIONAL, REFLECTORISED OR NON REFLECTORISED) AND NO MORE THAN 420 RPMS (OR 21 BOXES) ON ONE SKID.

ONLY USE THE BOXES SUPPLIED BY THE RAISED PAVEMENT MARKER RECYCLER. BOXES MUST BE MARKED WITH THE RECYCLER'S PART OR CATALOG NUMBER AND THE PROJECT NUMBER. THE RECYCLER'S CATALOG OR PART NUMBERS MAY BE OBTAINED FROM THE OFFICE OF TRAFFIC ENGINEERING IN COLUMBUS, OHIO OR FROM THE RECYCLER. BOXES NOT MARKED WITH THE PROPER RECYCLER'S CATALOG OR PART NUMBERS, AND THE DEPARTMENT'S PROJECT NUMBER WILL NOT BE ACCEPTED AT THE RECYCLER'S WAREHOUSE. NON PERFORMED MATERIALS WILL BE RETURNED TO THE LOCATION AS SPECIFIED BY THE DISTRICT CONSTRUCTION ENGINEER WITHIN 30 DAYS OF THE COMPLETION OF THE PROJECT.

THE ABOVE WORK INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL NEEDED TO PERFORM THE WORK, SHALL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE PAY ITEM.

IF THE DEPARTMENT HAS TO REPACKAGE THE RPMS CORRECTLY, THE CONTRACTOR WILL BE ASSESSED THE ACTUAL COST FOR REPACKAGING THE MATERIALS BY THE DEPARTMENT'S FORCES.

LOADING OF MATERIALS SUPPLIED BY THE DEPARTMENT AT THE RECYCLER'S WAREHOUSE

TRUCKS SHALL HAVE A LOADING HEIGHT OF 48 INCHES AND BE ABLE TO BACK UP FLUSH TO THE LOADING DOCK.

TRUCKS SHALL NOT HAVE ANY OBSTRUCTIONS OR PROTRUSIONS THAT PREVENT THE LOADING BY A STANDARD FORKLIFT OR LIFT TRUCK.

SEMI TRUCKS OR 20 FOOT COMMERCIAL TRUCKS ARE THE MOST APPROPRIATE TRUCKS FOR LOADS IN EXCESS OF 4 PALLETS (ONE PALLET = 21 BOXES = 2100 LBS).

STAKE BODY TRUCKS ARE APPROPRIATE TO LOAD LESS THAN 4 PALLETS, PROVIDED THE TRUCK IS RATED FOR THE LOAD AND THE LOAD CAN BE SAFELY SECURED FOR TRANSPORT BY CHAINING OR STRAPPING DOWN AS NEEDED.

PICKUP TRUCKS ARE APPROPRIATE FOR LOADS OF APPROXIMATELY ONE PALLET, PROVIDED THE PICKUP TRUCK IS RATED FOR THE LOAD AND THE LOAD CAN BE SAFELY SECURED FOR TRANSPORT.

DUMP TRUCKS, TILT BED TRUCKS, AND NON COMMERCIAL MOVING VANS WILL NOT BE LOADED BY THE RECYCLERS WAREHOUSE.

THE WAREHOUSE SUPERVISOR WILL REFUSE TO LOAD ANY TRUCK THAT IS UNSAFE TO LOAD OR UNSUITABLE FOR THE LOAD BEING PLACED ON THE TRUCK.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY. THE CONTRACTOR SHALL INSTALL RECYCLED RAISED PAVEMENT MARKERS WITH PRISMATIC REFLECTORS:

ITEM 621-RAISED PAVEMENT MARKER, INSTALLATION ONLY.....683 EACH

RETROREFLECTOR REPLACEMENT

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER TO REPLACE THE RETROREFLECTORS IN THE RPM CASTINGS THAT ARE ON THE BRIDGE DECKS WITHIN THE PROJECT LIMITS.

THIS ITEM SHALL INCLUDE THE COST OF REMOVING THE RETROREFLECTOR AND REPLACING IT WITH A CONTRACTOR SUPPLIED REFLECTOR OF THE REQUIRED COLOR.

ITEM 621-PRISMATIC RETROREFLECTOR, AS PER PLAN.....12 EACH

RAISED PAVEMENT MARKERS ON STRUCTURES

RAISED PAVEMENT MARKER CASTINGS SHALL NOT BE REMOVED AND REPLACED ON STRUCTURES.

ENTRANCE AND EXIT MARKINGS

THE ENTRANCE AND EXIT PAVEMENT MARKINGS SHALL BE LOCATED AND INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-72.20. PLAN DETAILS SHOWING GORE LOCATIONS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM AS MANY MEASUREMENTS AS NEEDED TO DETERMINE THE CORRECT LOCATION OF THE MARKINGS.

AUXILIARY MARKINGS

THE AUXILIARY PAVEMENT MARKINGS SHALL BE LOCATED AND INSTALLED AS PER STANDARD CONSTRUCTION DRAWING TC-71.10M.

RAISED PAVEMENT MARKER SPACING

THE RAISED PAVEMENT MARKER SPACING SHALL BE 120 FEET (36 m) AS PER STANDARD DRAWING TC-65.10M.

ITEM 620 - DELINEATOR

TYPE C AND TYPE D DELINEATORS SHALL BE INSTALLED AS PER THE STANDARD DRAWING TC-61.10M. THE DELINEATORS SHALL BE PLACED ALONG SR-2 AND SR-44 FROM STA. 133+00 (JUST NORTH OF IR-90) TO SR-2, EXCEPT FOR THE RAISED MEDIAN PORTION OF SR-44 NORTH OF SR-2.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 620 - DELINEATOR, TYPE C, POST MOUNTED . . . . 218 EACH
ITEM 620 - DELINEATOR, TYPE D, POST MOUNTED . . . . 150 EACH

CALCULATED FLK
CHECKED ENF

CONTROL GENERAL NOTES

TRAFFIC CONTROL

LAKE COUNTY
LAK-2/44-13.05/4.14

63
93

* - IN PLACE OF LANE LINE

LOCATION AND STATION		828											621		
		EDGE LINES		LANE LINES	CHANNELIZING LINES		STOP LINES	CROSSWALK LINES	TRANSVERSE LINES (WHITE)		LANE ARROWS	WORD ON PAVEMENT 96"		RAISED PAVEMENT MARKER, INSTALLATION ONLY		
		WHITE	YELLOW		GORE	*								W	W/R	Y/R
FROM	TO	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.		EACH	EACH		EACH	EACH	EACH
SR-44 NORTHBOUND																
232+25.00	297+00.00	6475	6475	6475										54		
297+00.00	299+15.00	430	215	215	215									2	5	
299+15.00	301+75.00	260	260	520										4		
301+75.00	312+45.00	1070	1070	1070										9		
RAMP E																
1+60.00	25+05.00	2345	2345													
25+05.00	26+55.00	150	150		300				185						8	
26+55.00	32+60.00	605	605			605								5		
32+60.00	46+97.96	1438	1438	1438										12		
RAMP H																
2+95.00	14+70.00	1175	1175													
SR-44 SOUTHBOUND																
232+25.00	294+80.00	6255	6255	6255										52		
294+80.00	297+25.00	245	245	245	490				260					2	12	
297+25.00	299+35.00	210	210	420										4		
299+35.00	312+45.00	1310	1310	1310										11		
RAMP G																
0+0.00	21+34.00	2134	2134	2134										18		
21+34.00	22+35.00	202	101		101										3	
22+35.00	44+20.00	2185	2185													
RAMP F																
2+65.00	15+95.00	1330	1330													
RAMP 2																
0+0.00	12+70.00	1270	1270													16
RAMP I																
4+20.00	7+05.00	285	285													4
7+05.00	15+10.00														8	9
SR-2 EASTBOUND																
585+72.00	597+40.00	1168	1168	1168										10		
597+40.00	600+30.00	290	290	580										4		
600+30.00	601+95.00	165	165	165	330				190					1	8	
601+95.00	623+40.00	2145	2145	2145										18		
623+40.00	624+25.00	170	85	85	85									1	2	
624+25.00	626+30.00	205	205	410										4		
626+30.00	657+75.00	3145	3145	3145										26		
SR-2 WESTBOUND																
585+72.00	596+20.00	1048	1048	1048										9		
596+20.00	598+35.00	215	215	430										4		
598+35.00	599+20.00	170	85	85	85									1	2	
599+20.00	625+55.00	2635	2635	2635										22		
SHEET TOTAL		40730	40244	31978	1606	605			635					273	48	29
		= 15.34 MILE		= 6.06 MILE	2211									**	350	

** QUANTITY CARRIED TO SHEET 66

CALCULATED EMK
CHECKED LDH

PAVEMENT MARKING/RAISED PAVEMENT MARKER SUB-SUMMARY

LAKE COUNTY
LAK-2/44-13.05/4.14

64
93

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tsa.dgn

* - IN PLACE OF LANE LINE

LOCATION AND STATION		828												621		
		EDGE LINES		LANE LINES	CHANNELIZING LINES		STOP LINES	CROSSWALK LINES	TRANSVERSE LINES (WHITE)		LANE ARROWS	WORD ON PAVEMENT 96"		RAISED PAVEMENT MARKER, INSTALLATION ONLY		
		WHITE	YELLOW		GORE	*								W	W/R	Y/R
FROM	TO	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.		EACH	EACH		EACH	EACH	EACH
SR-2 WESTBOUND																
625+55.00	627+15.00	160	160	160	320				185					1	8	
627+15.00	629+95.00	280	280	560										6		
629+95.00	657+75.00	2780	2780	2780										23		
SR-44 NORTHBOUND																
31+66.00	67+00.00	3534	3534	3534										30		
67+00.00	68+82.00	182	182	364										4		
68+82.00	70+08.00	126	126	126	252				93					1	7	
70+08.00	83+73.00	1365	1365	1365										12		
83+73.00	85+93.00	440	220	220	220									1	3	
85+93.00	87+94.00	201	201	402										4		
87+94.00	121+52.46 BK	3358	3358	3358										28		
121+67.42 AH	164+22.00	4255	4255	4255			40							36		
34+40.00	35+45.00					105	35				2	1				
54+81.00	56+11.00					130	35				2	1				
163+85.00							25									
SR-44 SOUTHBOUND																
31+66.00	63+43.00	3177	3177	3177										27		
63+43.00	65+57.00	214	214	428										4		
65+57.00	67+84.00	454	227	227	227									2	6	
67+84.00	81+68.00	1384	1384	1384										12		
81+68.00	83+17.00	149	149	149	298				98					1	8	
83+17.00	84+74.00	157	157	314										4		
84+74.00	121+52.46 BK	3678	3678	3678										31		
121+67.42 AH	164+22.00	4255	4255	4255										36		
36+40.00							25									
57+06.00	58+36.00					105	35				2	1				
99+88.00	101+18.00					130	11				2	1				
120+73.00	121+52.46 BK					130	11				2	1				
121+67.42 AH	122+17.96															
RAMP A, SR-2		23	23													
RAMP D, SR-2		29	29			29	25									
BLACKBROOK RD.		50					28									
RAMP A, SR-44																
7+85.00	13+70.00	870	800													10
RAMP B, SR-44																
4+40.00	11+70.00	730	730				35									10
RAMP C, SR-44																
10+10.00	17+80.00	770	770				35									9
RAMP D, SR-44																
7+55.00	14+75.00	850	780					100								9
SHEET TOTAL		33471	32834	30736	1317	629	340	100	376		10	5		263	32	38
		= 12.56 MILE		=5.82 MILE	1946									** 333		

** QUANTITY CARRIED TO SHEET 66

CALCULATED EMK
CHECKED LDH

PAVEMENT MARKING/RAISED PAVEMENT MARKER SUB-SUMMARY

LAKE COUNTY
LAK-2/44-13.05/4.14

65
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391tsa.dgn

Material Furnished by the Department Installation Only

Description	One-Way White		One-Way Yellow		Two-Way White		Two-Way Yellow		Two-Way White-Red		Two-Way Yellow-Red	
	Cols.	Dist.	Cols.	Dist.	Cols.	Dist.	Cols.	Dist.	Cols.	Dist.	Cols.	Dist.
Raised Pavement Marker, Installation Only	536								80			67
Total By Color	536								80			67

	Total	Number of Conventional High Profile	Number of Tapered Low Profile	District Stored	Columbus Stored
Raised Pavement Marker, Installation Only	683		683		683
Raised Pavement Marker Casting, Installation Only					
Prismatic Retro-Reflectors					
Raised Pavement Marker Misc.: Replacement of Raised Pavement Marker					

CALCULATED FLK
CHECKED EMK

MATERIALS SUPPLIED BY THE DEPARTMENT

LAKE COUNTY
LAK-2/44-13.05/4.14

66
93

PLOT SUBMITTED: 14-AUG-2001 13:05
18391TDA.DGN
PLOTTED BY: fkonopka
PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tda.dgn

SHEET NUMBER

NHS = SR-2, STA 586+22.12 TO STA 612+09.32 STP = SR-2, STA 612+09.32 TO STA 657+25.10
NHS = SR-44, STA 233+00.00 TO STA 343+55.33 NHS = SR-44, STA 31+66.10 TO STA 164+34.08

29	30	50P	63	64	65	82	NHS	STP	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
			218				196	22	620	10300	218	EACH	DELINEATOR, TYPE C, POST MOUNTED	
			150				128	22	620	15300	150	EACH	DELINEATOR, TYPE D, POST MOUNTED	
			683				592	91	621	00200	683	EACH	RAISED PAVEMENT MARKER, INSTALLATION ONLY	63
			12				12		621	00301	12	EACH	PRISMATIC RETROREFLECTOR, AS PER PLAN	63
					1		1		625	00500	1	EACH	CONNECTOR KIT, TYPE II	
					1		1		625	00600	1	EACH	CONNECTOR KIT, TYPE III	
					1		1		625	18200	1	EACH	BRACKET ARM, 15'	
					100		100		625	23400	100	LIN.FT.	NO. 10 AWG POLE AND BRACKET CABLE	
					1		1		625	26250	1	EACH	LUMINAIRE, CONVENTIONAL, 200 W, HPS, TYPE II, 480 V	
					1		1		625	32000	1	EACH	GROUND ROD	
286	102						370	18	626	00100	388	EACH	BARRIER REFLECTOR, TYPE A	
4	7						9	2	626	00200	11	EACH	BARRIER REFLECTOR, TYPE B	
					611		520	91	630	03100	611	LIN.FT.	GROUND MOUNTED SUPPORT, NO. 3 POST	
					131		131		630	06400	131	LIN.FT.	GROUND MOUNTED SUPPORT, S4X7.7 BEAM	
					183		144.5	38.5	630	06500	183	LIN.FT.	GROUND MOUNTED SUPPORT, W6X9 BEAM	
					60.5		60.5		630	08000	60.5	LIN.FT.	GROUND MOUNTED SUPPORT, W12X30 BEAM	
					15		15		630	08004	15	LIN.FT.	ONE WAY SUPPORT, NO. 3 POST	
					18		16	2	630	09000	18	EACH	BREAKAWAY BEAM CONNECTION	
					1		1		630	25500	1	EACH	COMBINATION OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 5, 20' ARMS	
					83.5		65.5	18	630	80102	83.5	SQ. FT.	SIGN, FLAT SHEET, TYPE G	
					498		498		630	80204	498	SQ. FT.	SIGN EXTRUSHEET, TYPE G	
					20		18	2	630	84500	20	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
					1		1		630	84510	1	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
					12		10	2	630	84900	12	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
					51		45	6	630	85100	51	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
					67		56	11	630	86002	67	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
					2		2		630	86102	2	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	
					1		1		630	89702	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	
					1		1		631	84000	1	EACH	SIGN SERVICE	
					1		1		631	84300	1	EACH	SIGN WIRED	
					1		1		631	85100	1	EACH	DISCONNECT SWITCH WITH ENCLOSURE, TYPE X	
					2		2		631	87154	2	EACH	BALLAST TYPE CMRI-175-120, INTEGRAL	
					2		2		631	89200	2	EACH	MERCURY VAPOR LUMINAIRE, TYPE TC-31.21 WITH 175 WATT LAMP	
			5				5		632	26501	5	EACH	DETECTOR LOOP, AS PER PLAN	63
		710					710		642	30000	710	LIN.FT.	REMOVAL OF PAVEMENT MARKING	
		0.22		15.34	12.56		24.64	3.48	828	10000	28.12	MILE	EDGE LINE	
		0.08		6.06	5.82		10.14	1.82	828	10100	11.96	MILE	LANE LINE	
		0.09					0.09		828	10200	0.09	MILE	CENTER LINE	
		609		2211	1946		4446	320	828	10300	4766	LIN.FT.	CHANNELIZING LINE	
		114			340		454		828	10400	454	LIN.FT.	STOP LINE	
					100		100		828	10500	100	LIN.FT.	CROSSWALK LINE	
		85		635	376		911	185	828	10600	1096	LIN.FT.	TRANSVERSE LINE	
		837					837		828	10800	837	SQ.FT.	ISLAND MARKING	
		15			10		25		828	20300	25	EACH	LANE ARROW	
		8			5		13		828	20400	13	EACH	WORD "ONLY" ON PAVEMENT, 72"	

CALCULATED EMK
CHECKED LDH

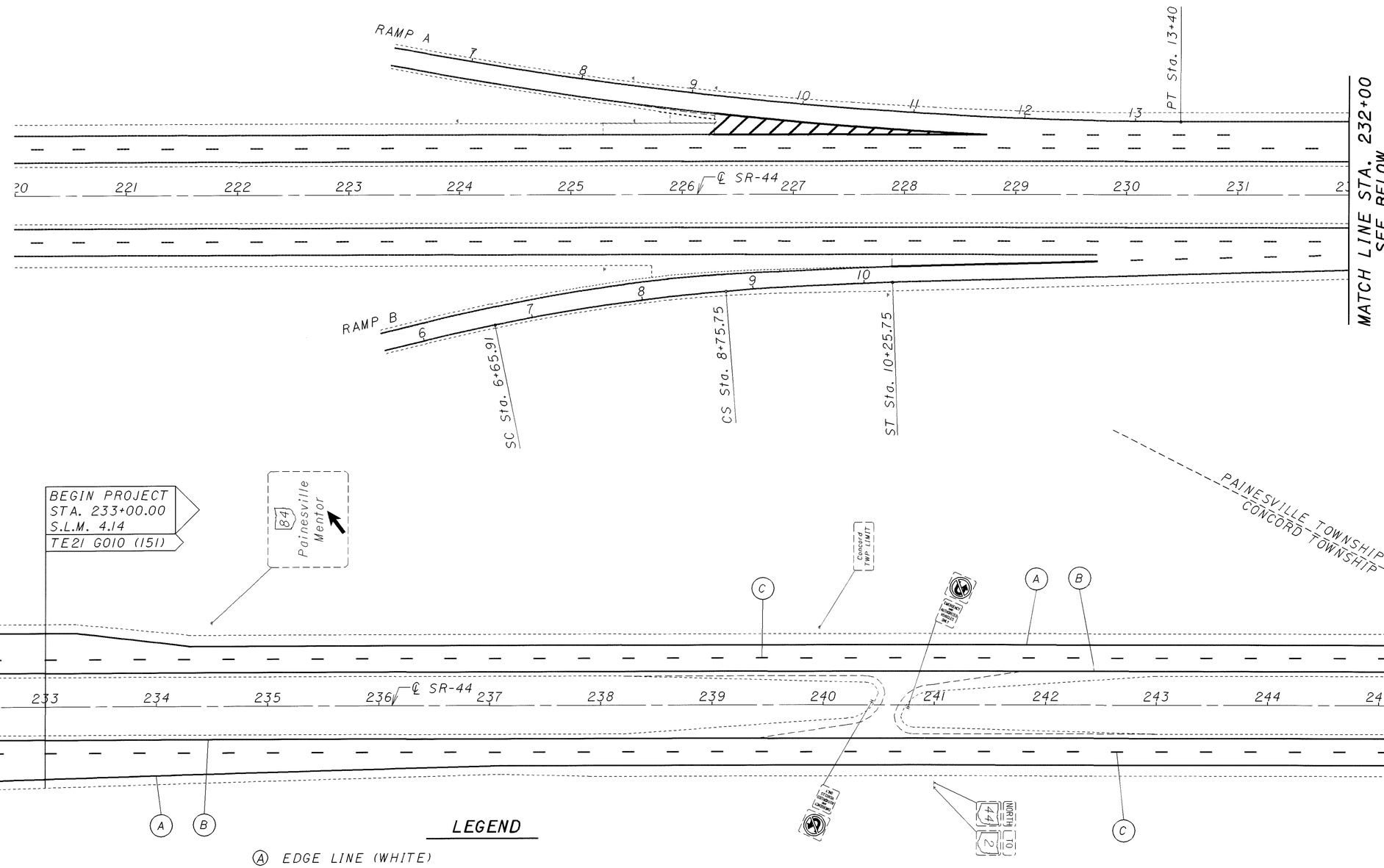
CONTROL GENERAL SUMMARY

TRAFFIC CO

LAKE COUNTY
LAK-2/44-13.05/4.14

67
93

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tqb.dgn



LEGEND

- (A) EDGE LINE (WHITE)
- (B) EDGE LINE (YELLOW)
- (C) LANE LINE
- (D) CHANNELIZING LINE
- (E) STOP LINE
- (F) CROSSWALK LINE
- (G) TRANSVERSE LINE (WHITE), 12' c/c
- (H) LANE ARROW
- (I) WORD "ONLY" ON PAVEMENT
- (J) CROSSWALK LINE

EXISTING SIGN (NO WORK)

EXISTING SIGN REMOVED

EXISTING SIGN REMOVE AND RE-ERECT

PROPOSED SIGN WITH EXISTING LEGEND

PROPOSED SIGN

CROSS REFERENCE	
ITEM	SHEET
PLAN SHEET	33
PAVEMENT MARKING	
SUB-SUMMARY	64,65

0 50 100 SCALE IN FEET

CALCULATED EMK
CHECKED LDH

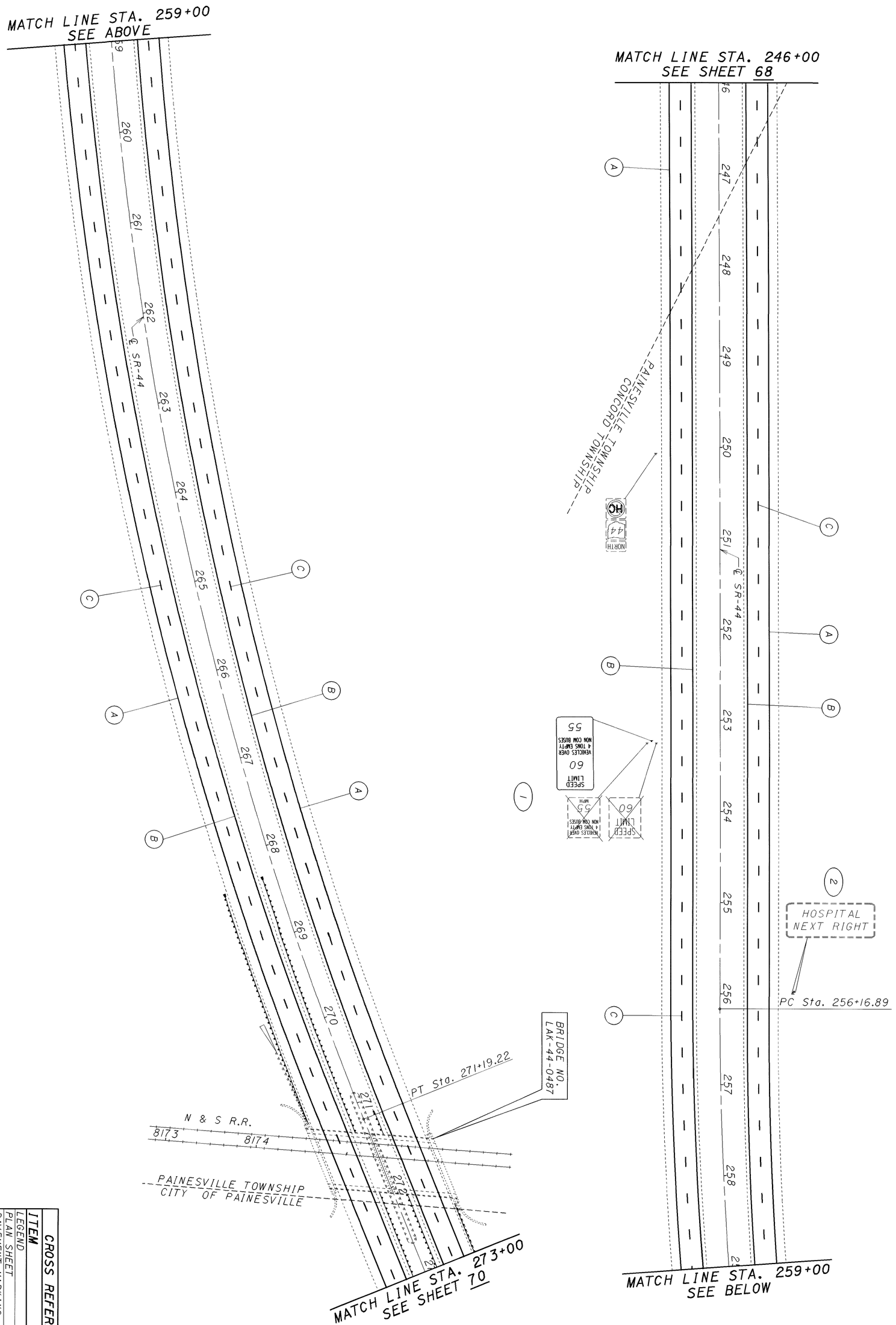
TRAFFIC CONTROL PLAN SHEET - S.R. 44
STA. 220+00 TO STA. 246+00

LAKE COUNTY
LAK-2/44-13.05/4.14

68
93

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tpa.dgn

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391tpb.dgn



CROSS REFERENCE ITEM	SHEET
LEGEND	68
PLAN SHEET	34
PAVEMENT MARKING	
SUB-SUMMARY	64,65

69
93

LAKE COUNTY
LAK-2/44-13.05/4.14

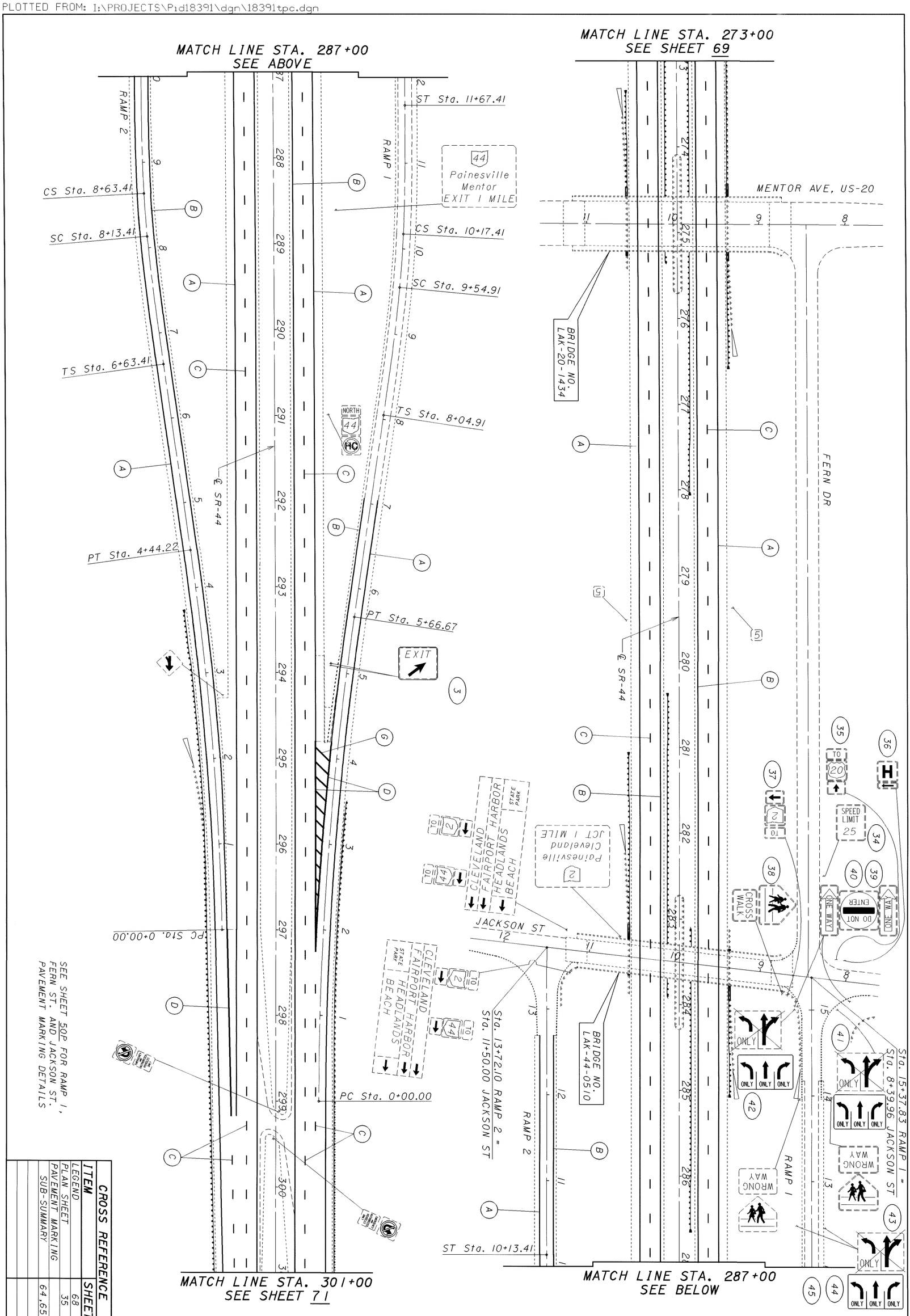
TRAFFIC CONTROL PLAN SHEET - S.R. 44
STA. 246+00 TO STA. 273+00

CALCULATED EMK
CHECKED LDH

0 50 100
SCALE IN FEET

N

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391tpc.dgn

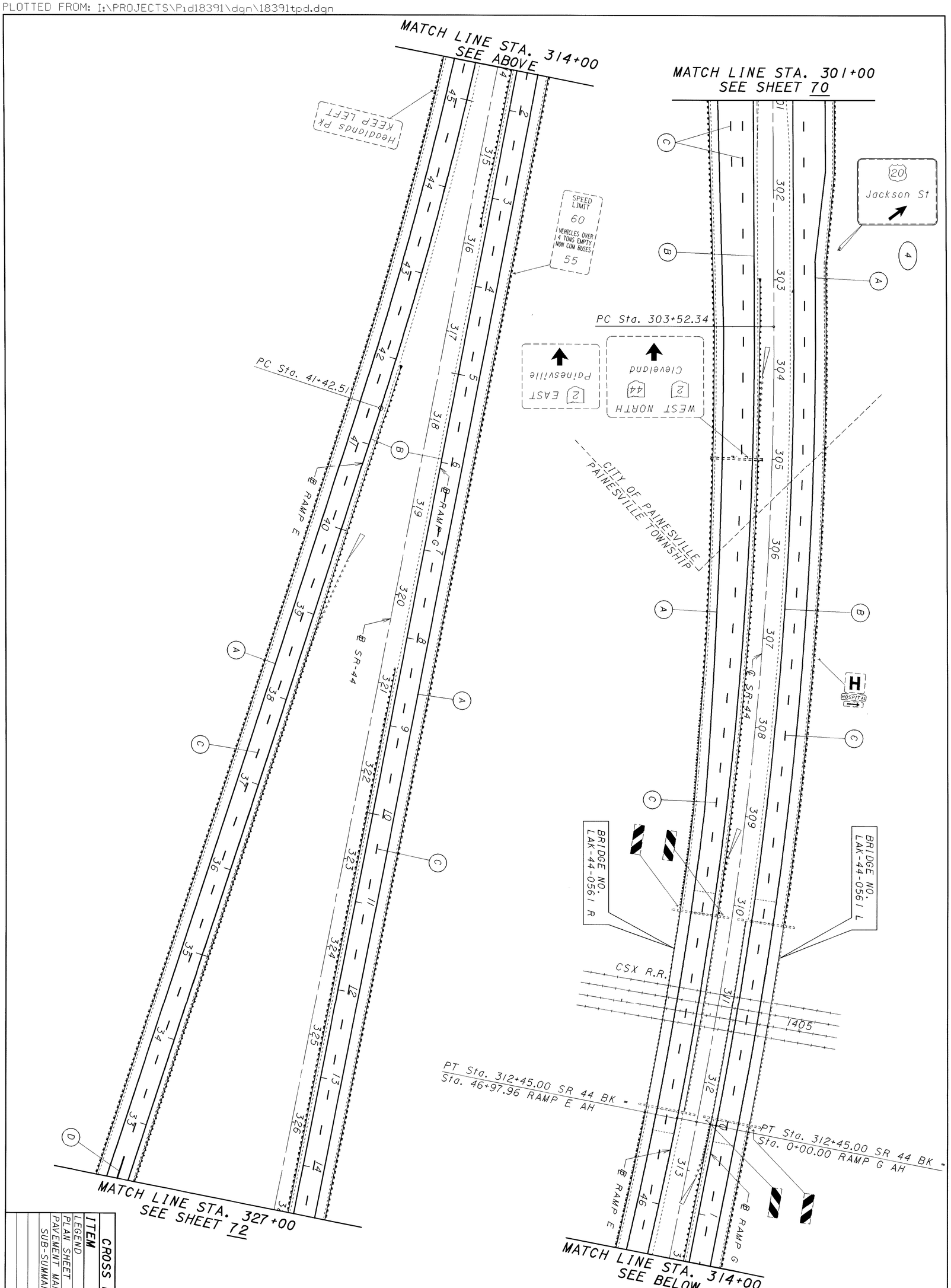


SEE SHEET 50P FOR RAMP 1, FERN ST. AND JACKSON ST. PAVEMENT MARKING DETAILS

CROSS REFERENCE ITEM	SHEET
LEGEND	68
PLAN SHEET	35
PAVEMENT MARKING	64,65
SUB-SUMMARY	

70 / 93	LAKE COUNTY LAK-2/44-13.05/4.14	TRAFFIC CONTROL PLAN SHEET - S.R. 44 STA. 273+00 TO STA. 301+00	CALCULATED EMK CHECKED LDH 0 50 100 SCALE IN FEET

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391tpd.dgn



CROSS REFERENCE	
ITEM	SHEET
LEGEND	68
PLAN SHEET	36
PAVEMENT MARKING	
SUB-SUMMARY	64,65

71
93

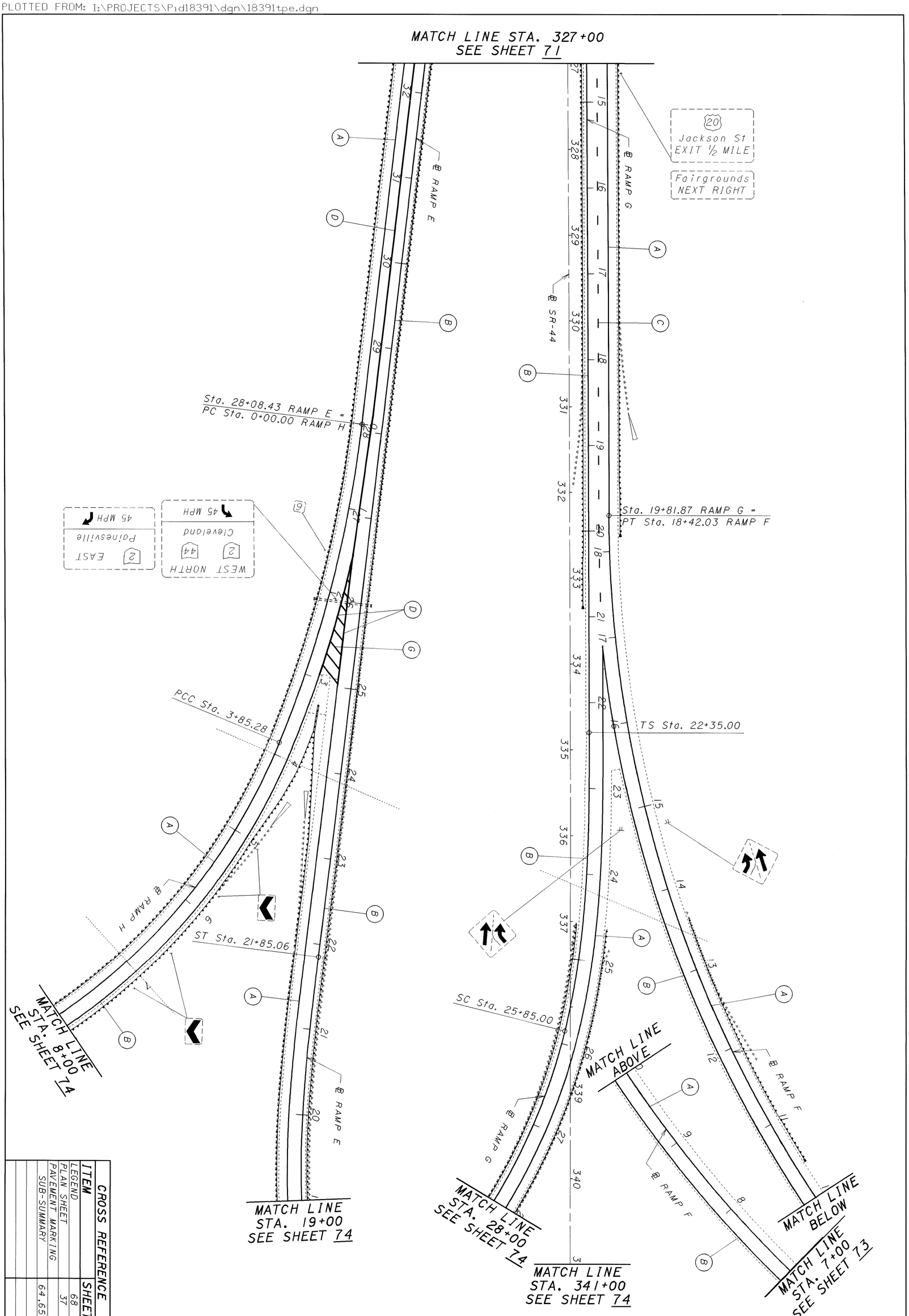
LAKE COUNTY
LAK-2/44-13.05/4.14

TRAFFIC CONTROL PLAN SHEET - S.R. 44
STA. 301+00 TO STA. 327+00

CALCULATED EMK
CHECKED LDH

0 50 100
SCALE IN FEET

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391tpe.dgn



ITEM	SHEET
LEGEND	68
PLAN SHEET	37
PAVEMENT MARKING	
SUB-SUMMARY	64,65

CROSS REFERENCE

72
93

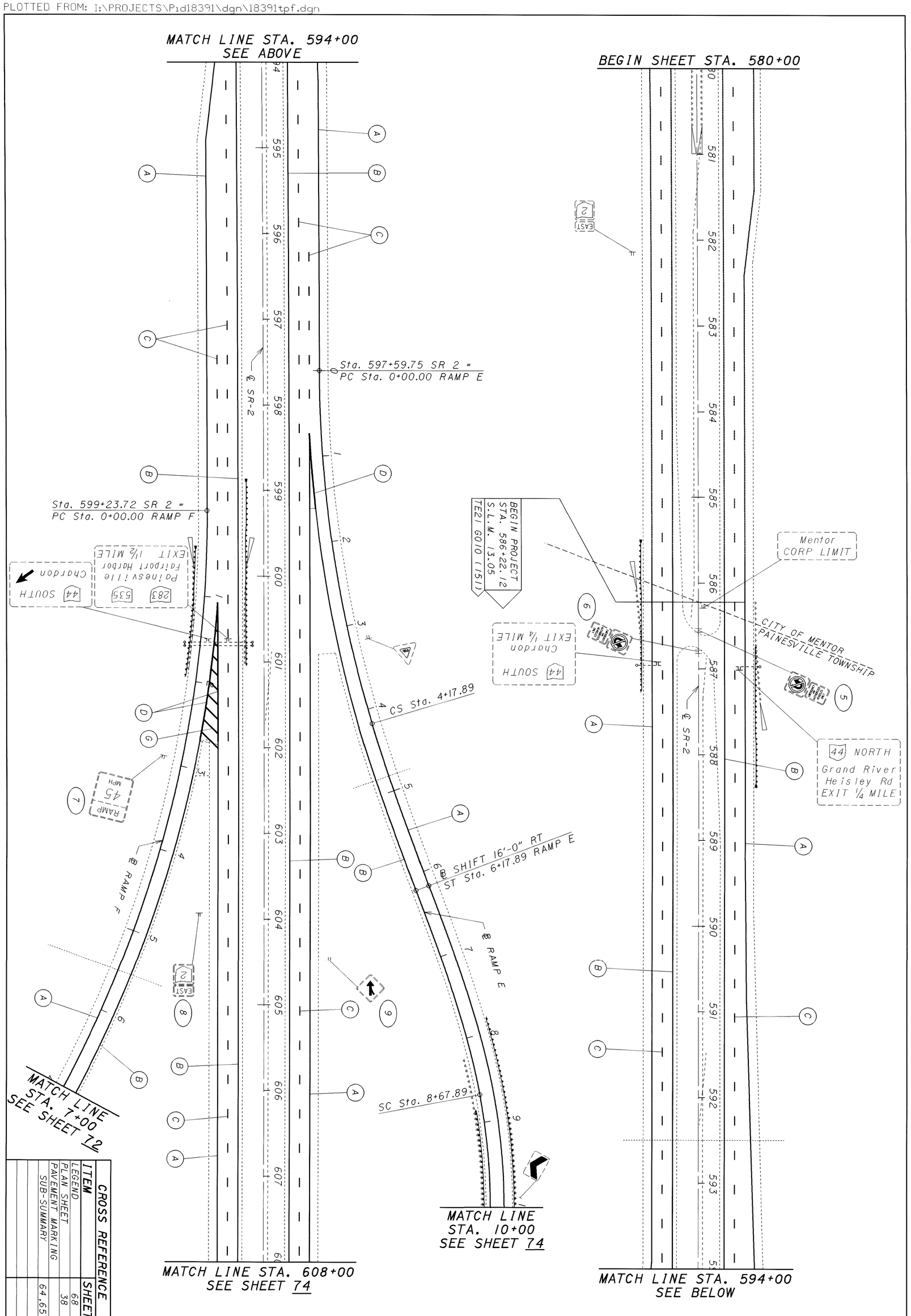
LAKE COUNTY
LAK-2/44-13.05/4.14

TRAFFIC CONTROL PLAN SHEET - S.R. 44
STA. 327+00 TO STA. 341+00

CALCULATED EMK
CHECKED LDH

0 50 100
SCALE IN FEET

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391tpf.dgn



CROSS REFERENCE ITEM	SHEET
LEGEND	68
PLAN SHEET	38
PAVEMENT MARKING	
SUB-SUMMARY	64,65

73
93

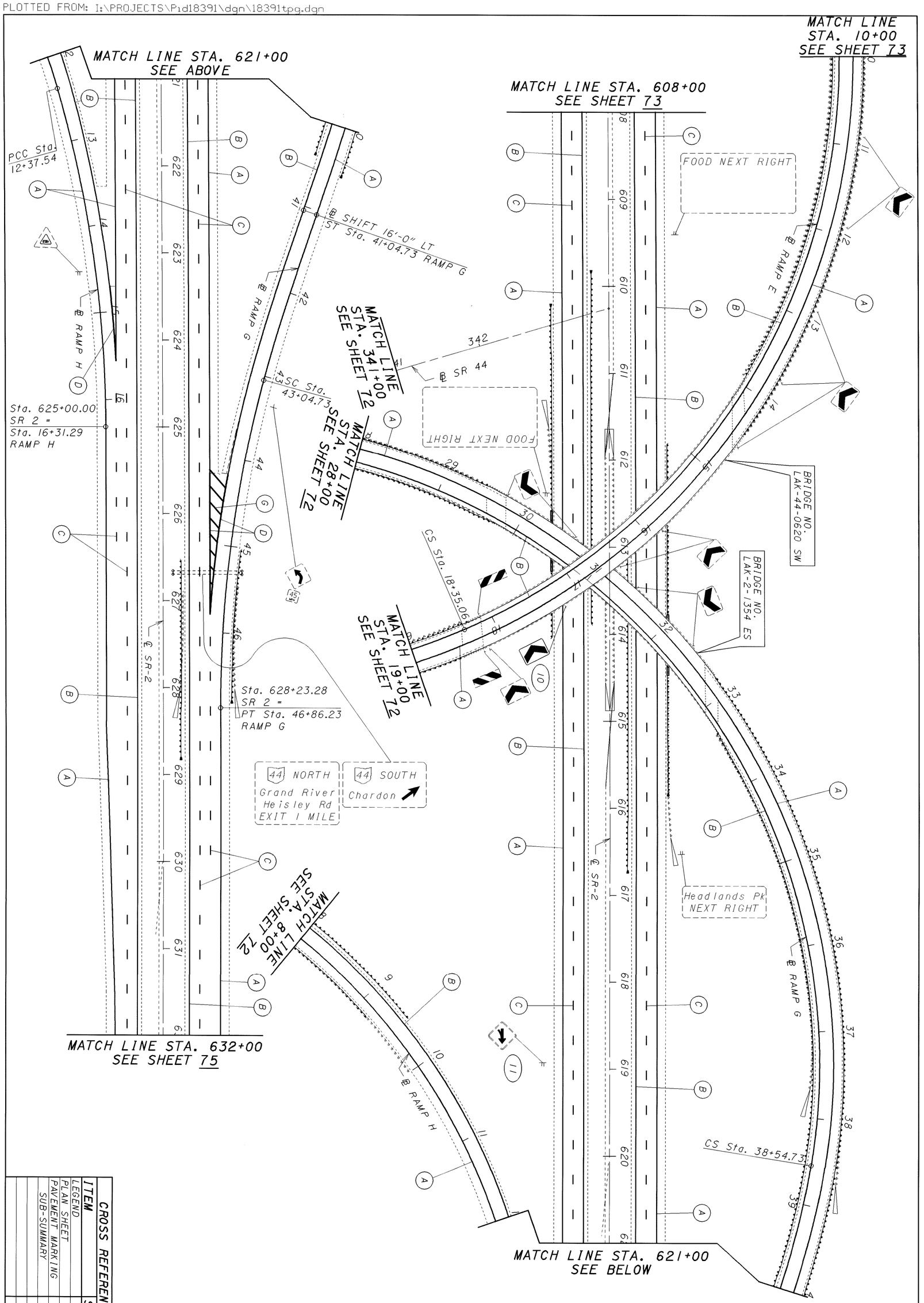
LAKE COUNTY
LAK-2/44-13.05/4.14

TRAFFIC CONTROL PLAN SHEET - S.R. 2
STA. 580+00 TO STA. 608+00

CALCULATED EMK
CHECKED LDH

0 50 100
SCALE IN FEET

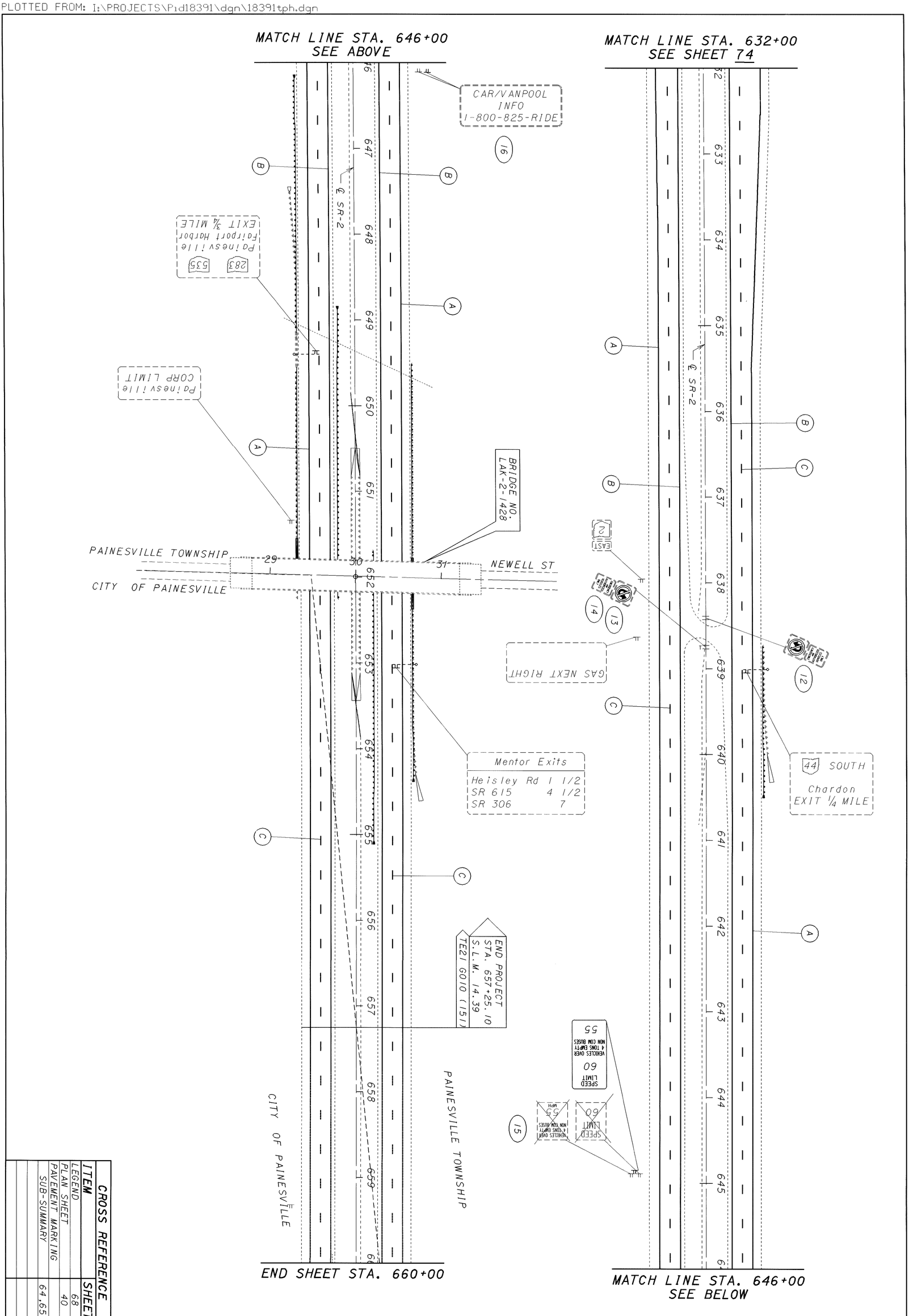
PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391tpg.dgn



CROSS REFERENCE	
ITEM	SHEET
LEGEND	68
PLAN SHEET	39
PAVEMENT MARKING	
SUB-SUMMARY	64.65

74 / 93	LAKE COUNTY LAK-2/44-13.05/4.14	TRAFFIC CONTROL PLAN SHEET - S.R. 2 STA. 608+00 TO STA. 632+00	CALCULATED EMK CHECKED LDH	0 50 100 SCALE IN FEET	N

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tph.dgn



CROSS REFERENCE	
ITEM	SHEET
LEGEND	68
PLAN SHEET	40
PAVEMENT MARKING	
SUB-SUMMARY	64,65

75
93

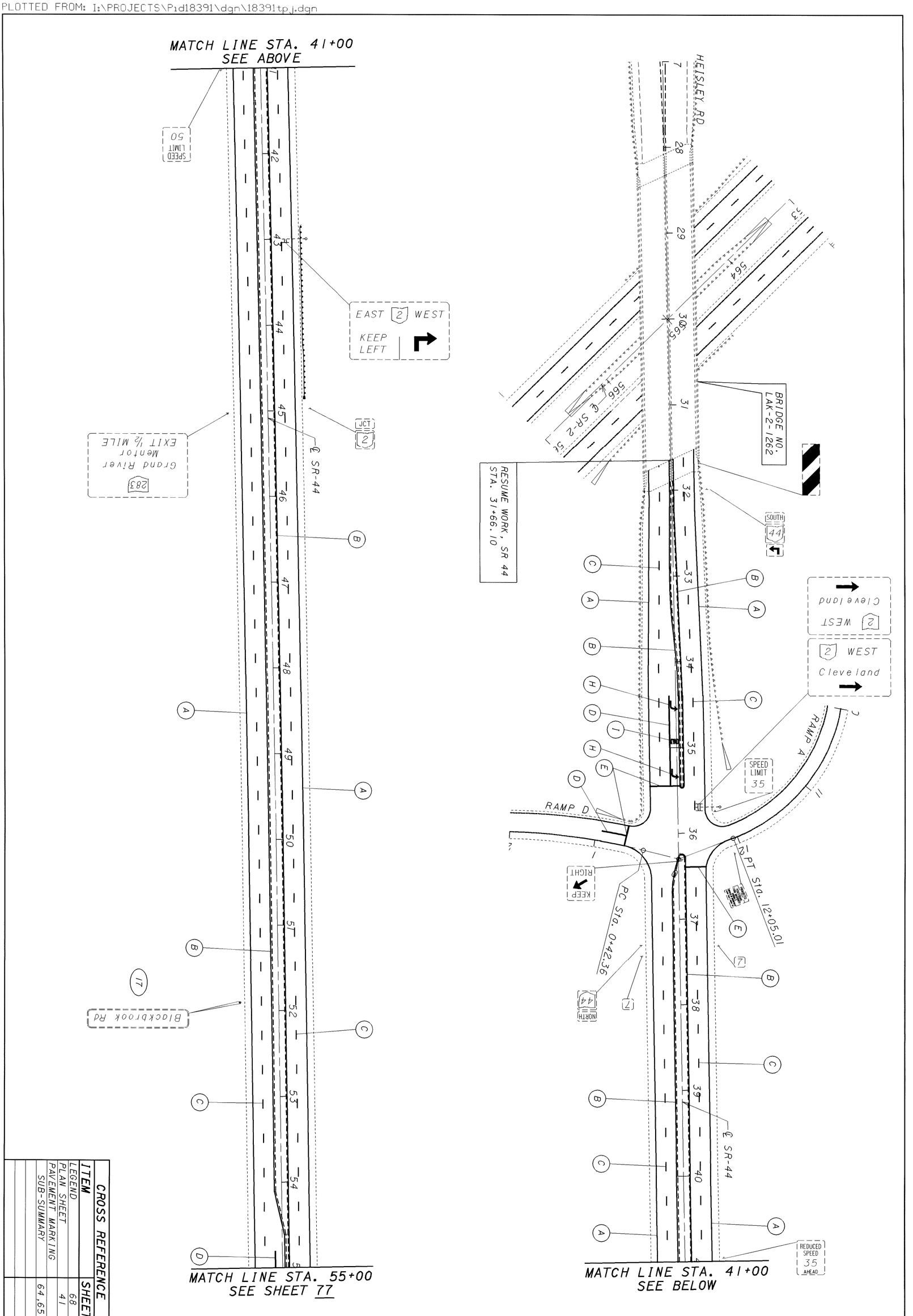
LAKE COUNTY
LAK-2/44-13.05/4.14

TRAFFIC CONTROL PLAN SHEET - S.R. 2
STA. 632+00 TO STA. 660+00

CALCULATED EMK
CHECKED LDH

0 50 100
SCALE IN FEET

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tpj.dgn

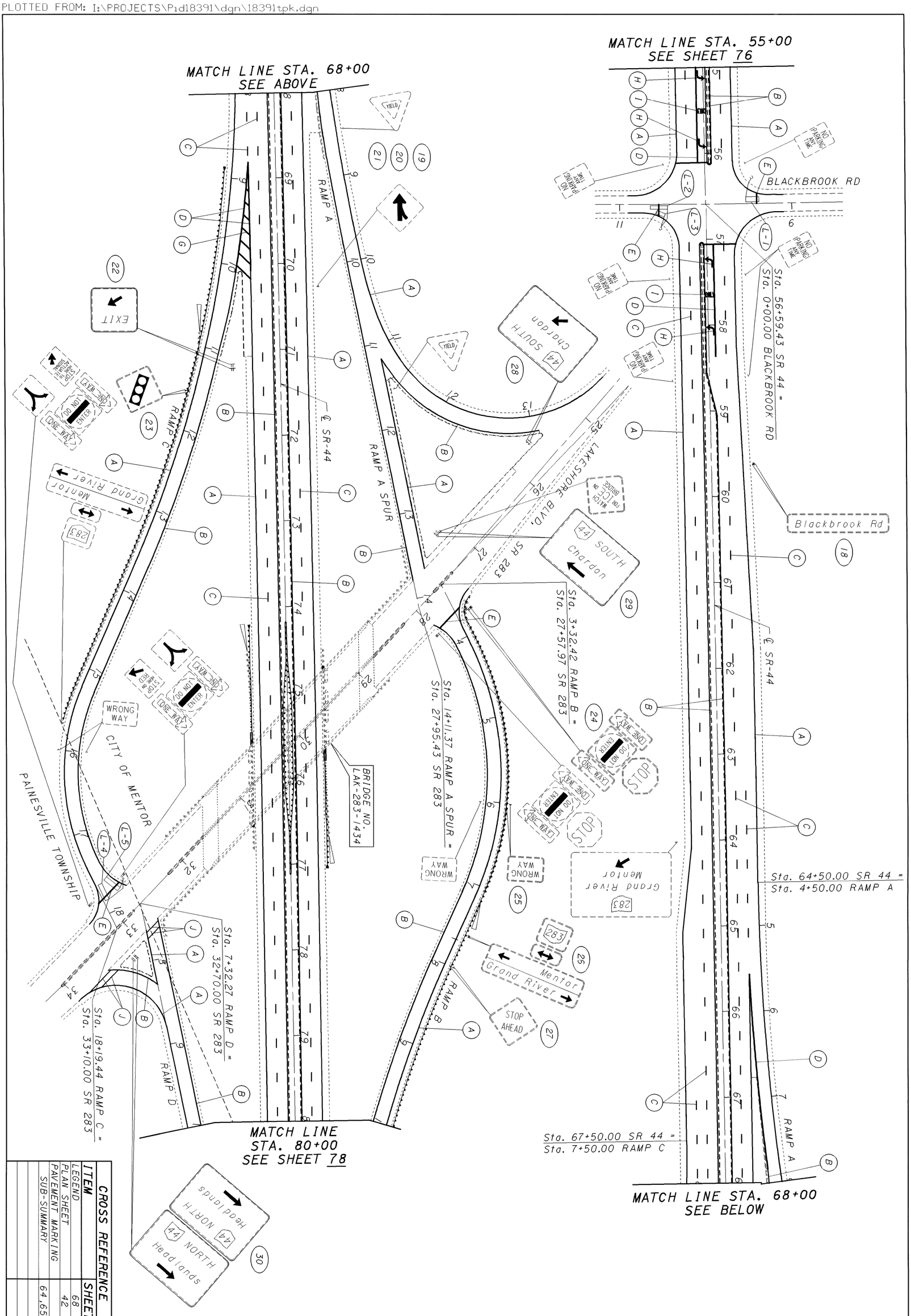


ITEM	SHEET
LEGEND	68
PLAN SHEET	41
PAVEMENT MARKING	
SUB-SUMMARY	64.65

CROSS REFERENCE

76 / 93	LAKE COUNTY LAK-2/44-13.05/4.14	TRAFFIC CONTROL PLAN SHEET - S.R. 44 STA. 36+30 TO STA. 55+00	CALCULATED EMK CHECKED LDH 0 50 100 SCALE IN FEET

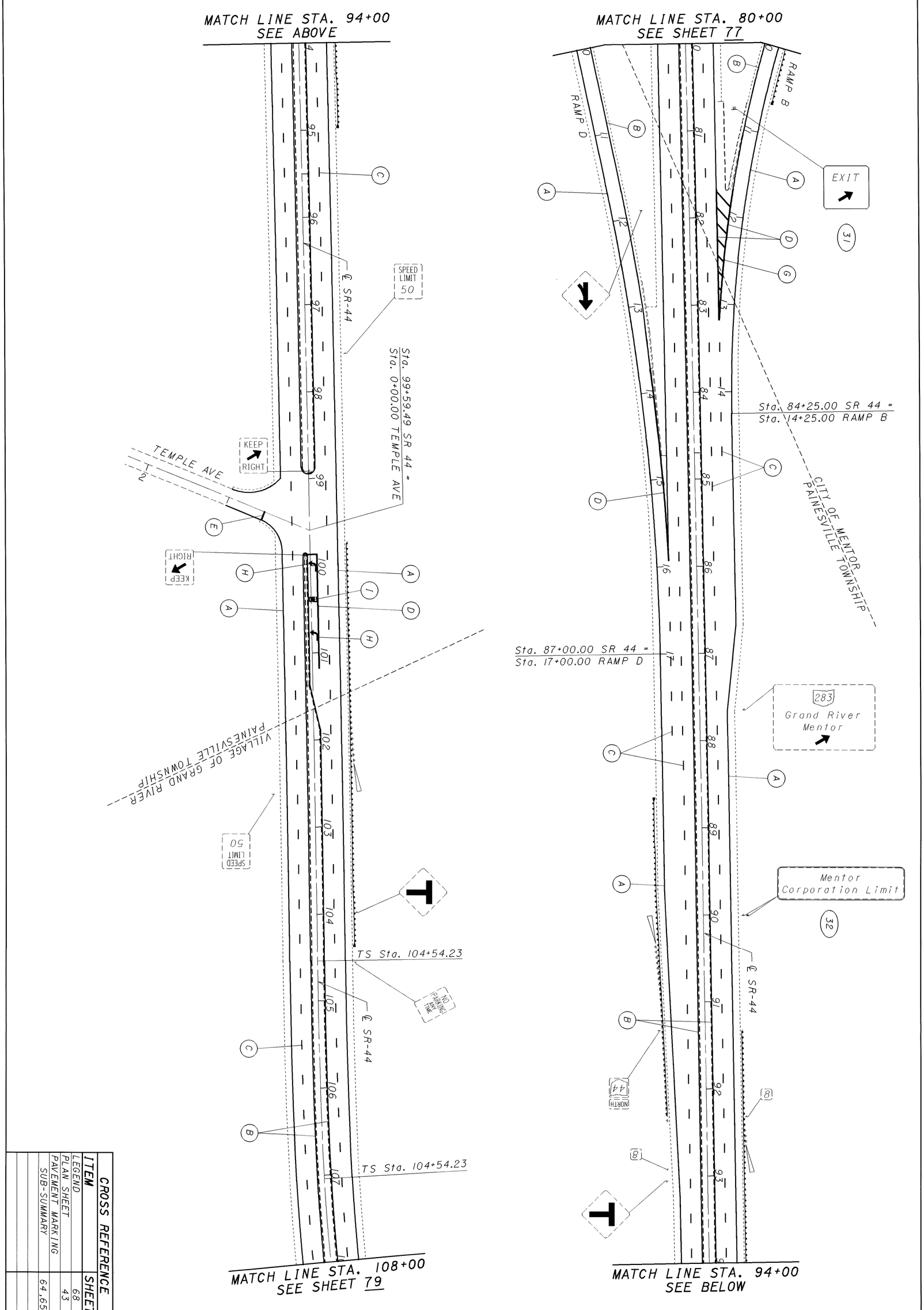
PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tpk.dgn



CROSS REFERENCE	
ITEM	SHEET
LEGEND	68
PLAN SHEET	42
PAVEMENT MARKING	
SUB-SUMMARY	64,65

77/93	LAKE COUNTY LAK-2/44-13.05/4.14	TRAFFIC CONTROL PLAN SHEET - S.R. 44 STA. 55+00 TO STA. 80+00	CALCULATED EMK CHECKED LDH 0 50 100 SCALE IN FEET

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391tp1.dgn



CROSS REFERENCE ITEM	SHEET
LEGEND	68
PLAN SHEET	43
PAVEMENT MARKING	
SUB-SUMMARY	64,65

78
93

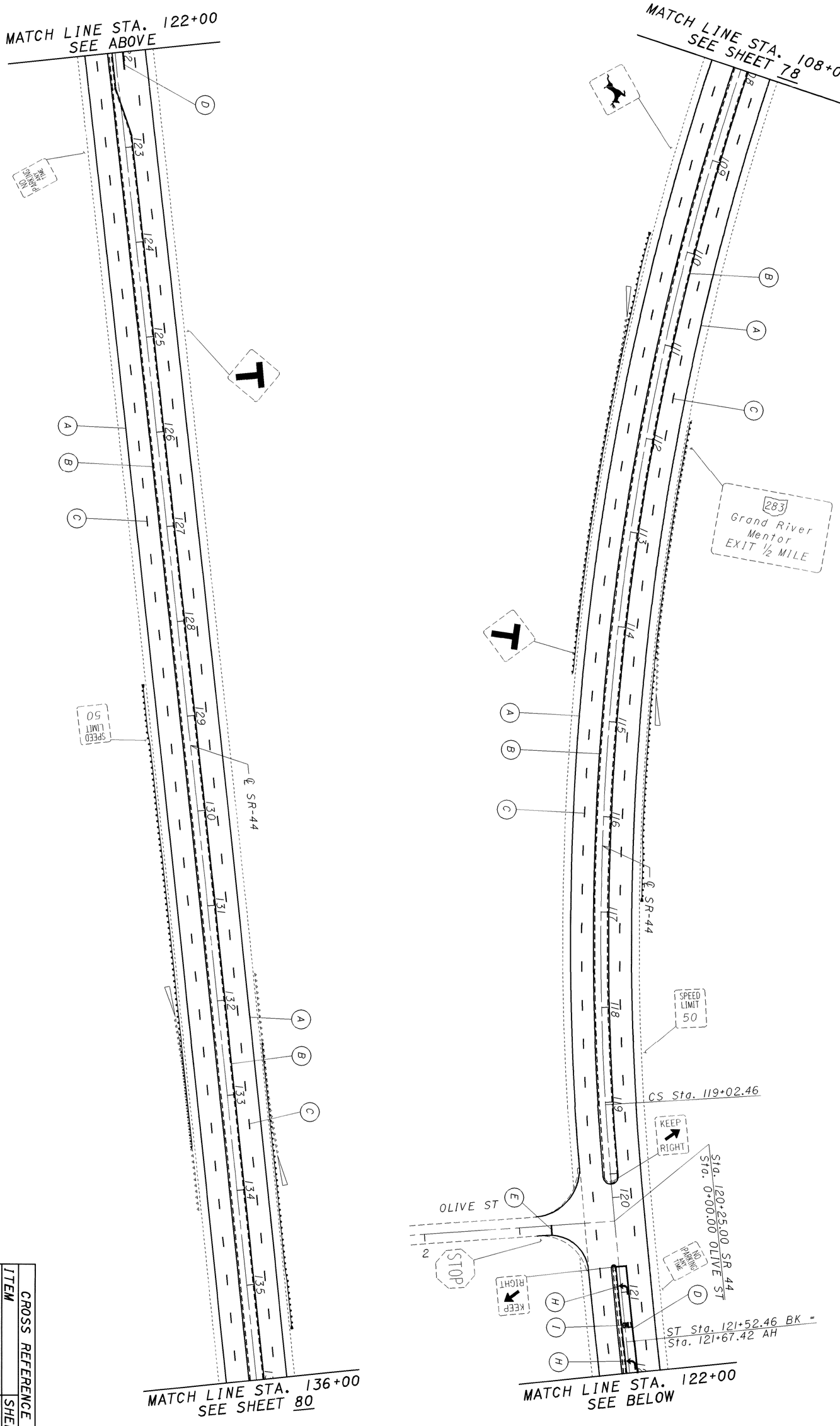
LAKE COUNTY
LAK-2/44-13.05/4.14

TRAFFIC CONTROL PLAN SHEET - S.R. 44
STA. 80+00 TO STA. 108+00

CALCULATED EMK
CHECKED LDH

0 50 100
SCALE IN FEET

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\18391tpm.dgn



CROSS REFERENCE	
ITEM	SHEET
LEGEND	68
PLAN SHEET	44
PAVEMENT MARKING	
SUB-SUMMARY	64,65

79
93

LAKE COUNTY
LAK-2/44-13.05/4.14

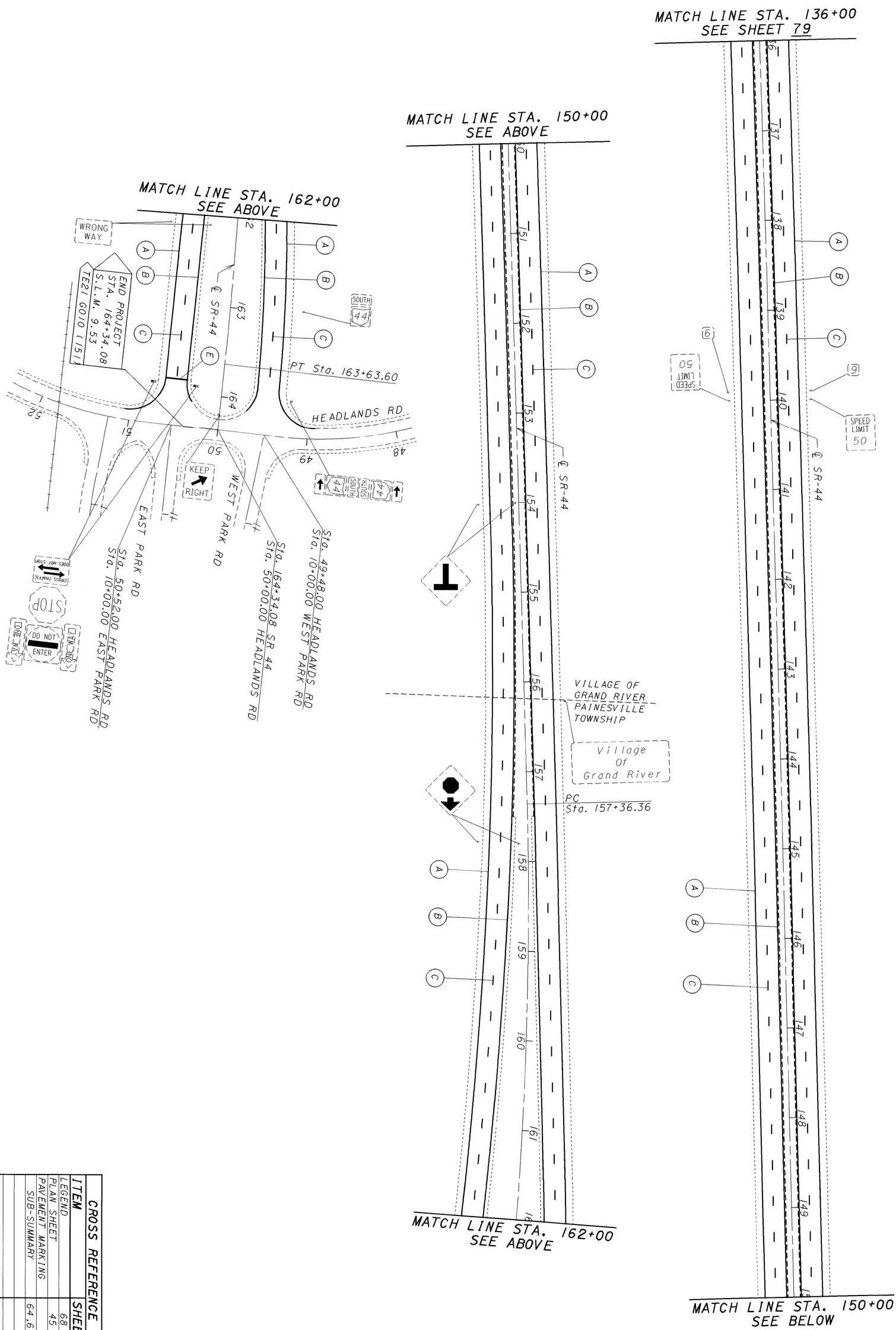
TRAFFIC CONTROL PLAN SHEET - S.R. 44
STA. 108+00 TO STA. 136+00

CALCULATED EMK
CHECKED LDH

0 50 100
SCALE IN FEET

N

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tpn.dgn

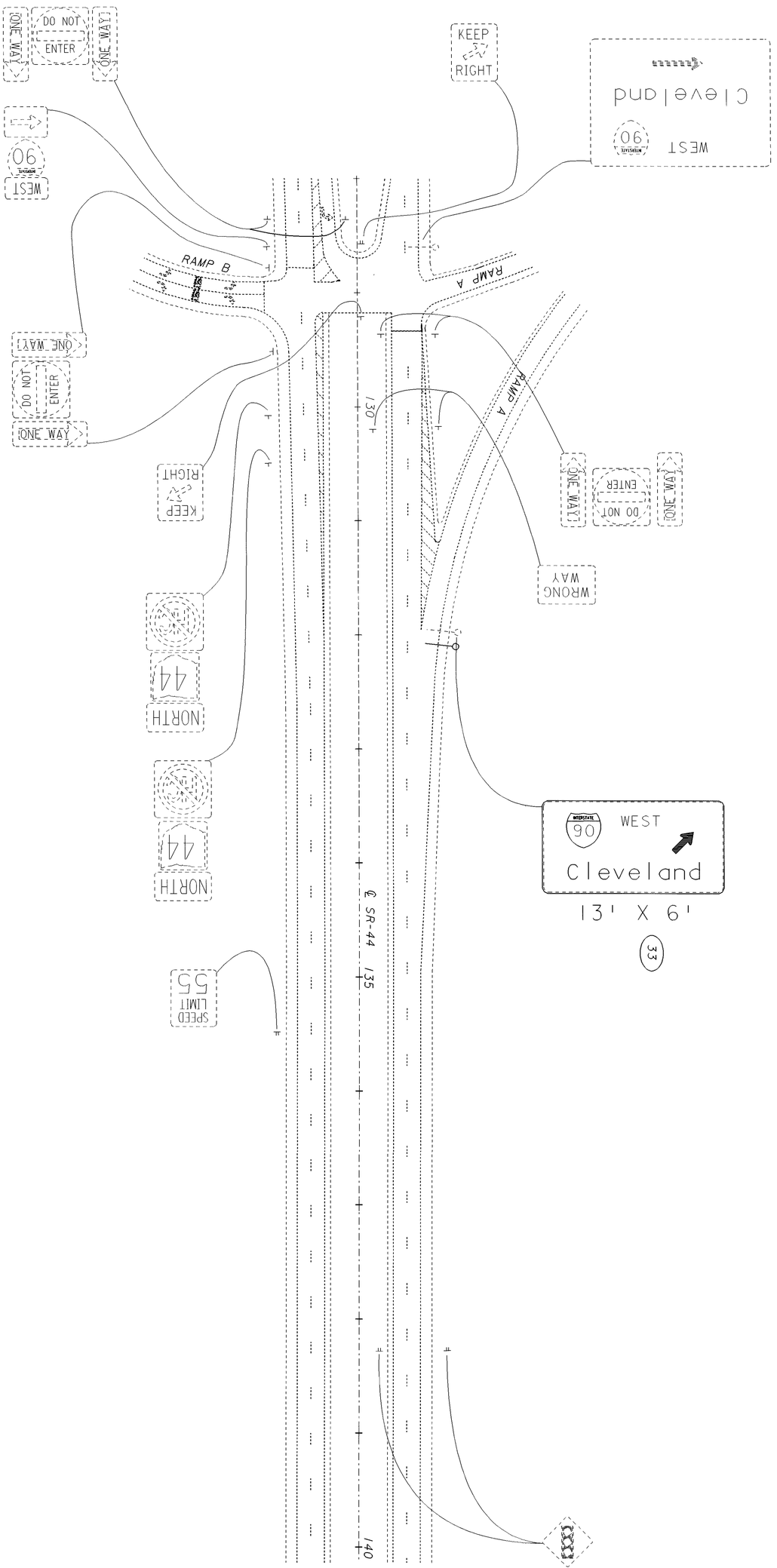


ITEM	SHEET
LEGEND	68
PLAN SHEET	45
PAVEMENT MARKING	
SUB-SUMMARY	64,65

CROSS REFERENCE

80 / 93	
LAKE COUNTY	LAK-2/44-13.05/4.14
TRAFFIC CONTROL PLAN SHEET - S.R. 44	STA. 136+00 TO STA. 164+34.08
CALCULATED	EMK
CHECKED	LDH
0 50 100	SCALE IN FEET
N	

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tpp.dgn



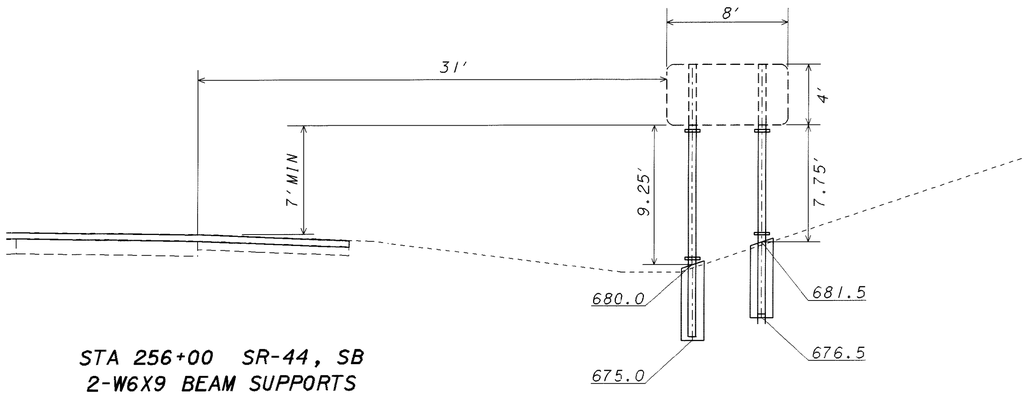
33 / 81	**LAKE COUNTY** **LAK-2/44-13.05/4.14**	**TRAFFIC CONTROL - S.R. 44** **STA. 128+00 TO STA. 154+00**	CALCULATED EMK CHECKED LDH	0 50 100 SCALE IN FEET

SHEET NO.	REFERENCE NO.	ELEVATION VIEW SHEET NO.	LOCATION				CODE	SIZE	630															631					625						
			ROUTE	DIRECTION	STATION	SIDE			GROUND MOUNTED SUPPORT, S4X7.7 BEAM	GROUND MOUNTED SUPPORT, W6X9 BEAM	GROUND MOUNTED SUPPORT, W12X30 BEAM	GROUND MOUNTED SUPPORT NO.3 POST	ONE WAY SUPPORT NO.3 POST	BREAKAWAY BEAM CONNECTION	SIGN, FLAT SHEET, TYPE G	SIGN, EXTRUSHEET, TYPE G	GROUND MOUNTED BEAM SUPPORT FOUNDATION	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	COMBINATION OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 5	DISCONNECT SWITCH WITH ENCLOSUE, TYPE X	SIGN WIRED	SIGN SERVICE	BALLAST, TYPE CMRI-175-120, INTEGRAL	MERCURY VAPOR LUMINAIRE, TYPE TC-32.21, WITH 175 WATT LAMP	CONNECTOR KIT, TYPE II	CONNECTOR KIT, TYPE III	BRACKET ARM, 15'	NO. 10 AWG POLE AND BRACKET CABLE	LUMINAIRE, CONVENTIONAL, 200 W, HPS, TYPE II, 480 V	GROUND ROD
									LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	SQ FT	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LN FT	EACH	EACH
69	1		SR-44	NB	253+25	RT	R-9B-36	36"X72"				18.0-18.5			18			2			4													
69	2	83	SR-44	SB	256+00	RT				16.5-18.0				2			2		1	2													
70	3	83	SR-44	SB	293+90	RT	GF	72"X60"	17.0-17.0					2		30	2	1		2													
71	4	83	SR-44	SB	302+50	RT	GE	15'X9.5'			28.0-32.5					142.5	2	1			2												
73	5		SR-2		586+50	℄						13.5							2	1													
73	6		SR-2		586+75	℄						13.5							2	1													
73	7		SR-2	EB	602+10	RT						14.5-15.0							1	2													
73	8		SR-2	EB	602+90	RT						14.5-15.0							2	2													
73	9		SR-2	WB	604+50	RT						13.5-14.0							1	2													
74	10		RAMP E	WB	17+15	RT	W-33-30	30"X36"							7.5																		
74	11		SR-2	EB	618+90	RT						13.5-14.0							1	2													
75	12		SR-2		638+40	℄						13.5							2	1													
75	13		SR-2		638+75	℄						13.5							2	1													
75	14		SR-2		638+75	℄														1													
75	15		SR-2	EB	644+90	RT	R-9B-36	36"X72"				18.0-18.5			18			2		4													
75	16	83	SR-2	WB	646+10	RT				19.0-19.5				2			2		1	2													
76	17		SR-44	NB	51+90	RT						15.0-16.0							1	2													
77	18		SR-44	SB	59+60	RT						15.0-16.0							1	2													
77	19		SR-44	SB	68+90	RT														1													
77	20		SR-44	SB	69+00	RT														1													
77	21		SR-44	SB	69+10	RT														1													
77	22	84	SR-44	NB	71+20	RT	GF	72"X60"	17.0-17.0					2		30	2	1		2													
77	23		RAMP C	NB	11+50	RT						15.0-16.0							1	1													
77	24		RAMP B	SB	3+75	RT						14.0	15.0						4	2													
77	25		RAMP B	SB	6+00	RT						13.0							1	1													
77	26		RAMP B	SB	7+75	RT													3	2													
77	27		RAMP B	SB	8+00	RT						13.0							1	1													
77	28	84	SR-283	EB	25+75	RT	GE	7'X5.5'		18.5-18.5				2		38.5	2	1		3													
77	29	84	SR-283	EB	27+25	RT	GE	7'X5.5'		18.5-18.5		14.0		2		38.5	2	1	1	3													
77	30	84	SR-283	WB	33+20	RT	GE	7'X5.5'		18.0-18.0				2		77	2	2		4													
78	31	85	SR-44	SB	80+80	RT	GF	72"X60"	17.0-17.0					2		30	2																
78	32	85	SR-44	SB	90+00	RT	GN	108"X36"	13.5-15.5					2		27	2	1		2													
81	33	85	SR-44	SB	132+10	RT	GE	13'X6.5'								84.5					1	1	1	1	1	1	2	2	1	1	1	100	1	1
70	34		FERN ST	SB	7+59	RT						13.5							1	1													
70	35		FERN ST		8+34	RT						14.5							3	1													
70	36		FERN ST		8+50	RT						13.5							2	1													
70	37		JACKSON ST		8+66	LT						14.5							3	1													
70	38		JACKSON ST	WB	8+72	LT						14.0							2	1													
70	39		RAMP I	SB	15+10	RT						14.5							3	1													
70	40		RAMP I	SB	15+10	LT						14.5							3	1													
70	41		RAMP I	SB	15+00	RT	R-31M-48					13.5-14.0			10				1	1													
70	42		RAMP I	SB	15+00	LT	R-31M-48					13.5-14.0			10				1	1													
70	43		RAMP I	SB	14+00	RT						14.0							2	1													
70	44		RAMP I	SB	13+45	RT	R-31M-48					13.5-14.0			10				1	1													
70	45		RAMP I	SB	13+45	LT	R-31M-48					13.5-14.0			10				1	1													
SUB-TOTALS									131.0	183.0	60.5	611.0	15	18	83.5	498	20	12	51	67	2	1	1	1	1	1	1	2	2	1	1	1	100	1	1

SIGN SUB-SUMMARY

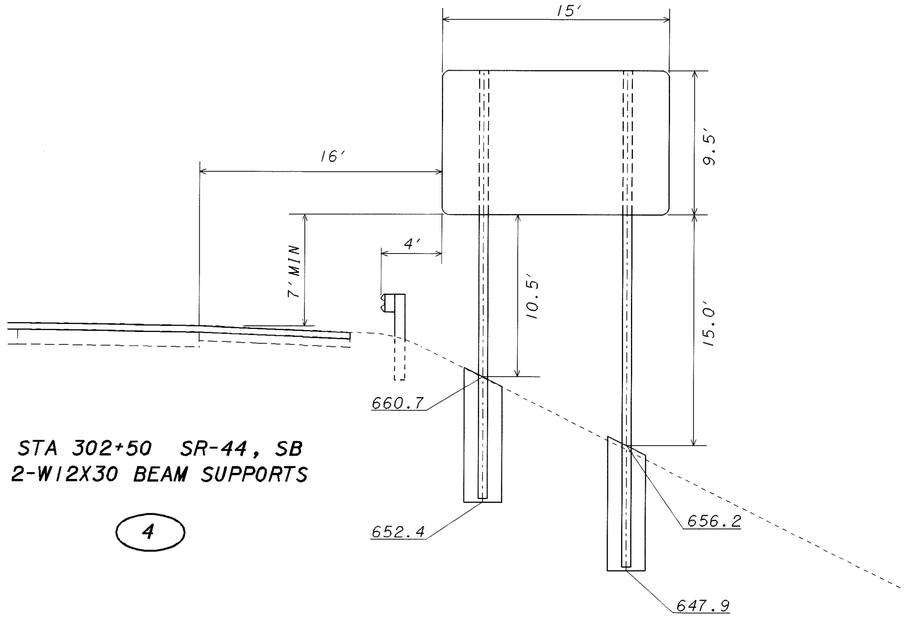
CALCULATED EMK
CHECKED LDH

LAKE COUNTY
LAK-2/44-13.05/4.14



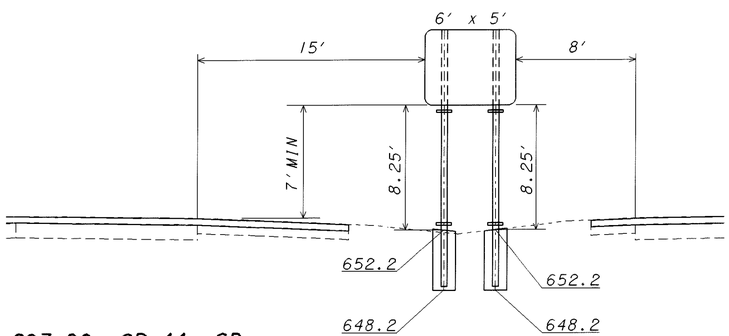
STA 256+00 SR-44, SB
2-W6X9 BEAM SUPPORTS
WITH BREAKAWAY CONNECTIONS

2



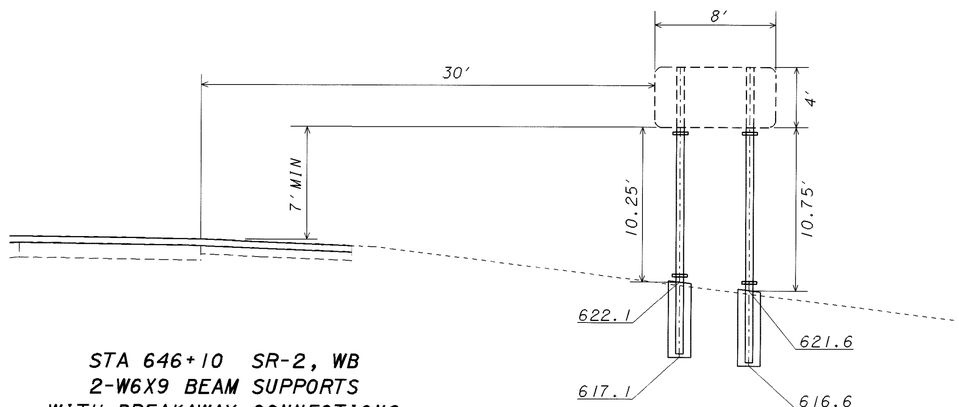
STA 302+50 SR-44, SB
2-W12X30 BEAM SUPPORTS

4



STA 293+90 SR-44, SB
2-S4X7.7 BEAM SUPPORTS
WITH BREAKAWAY CONNECTIONS

3



STA 646+10 SR-2, WB
2-W6X9 BEAM SUPPORTS
WITH BREAKAWAY CONNECTIONS

16

CALCULATED EMK
CHECKED LDH

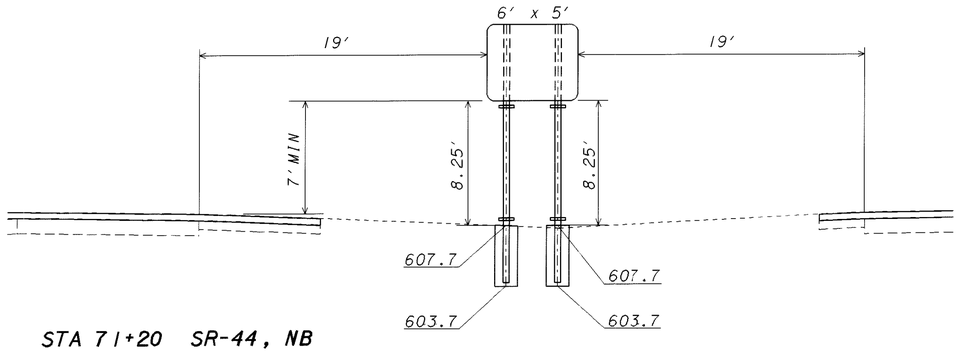
0 5 10
SCALE IN FEET

SIGN ELEVATION VIEWS

LAKE COUNTY
LAK-2/44-13.05/4.14

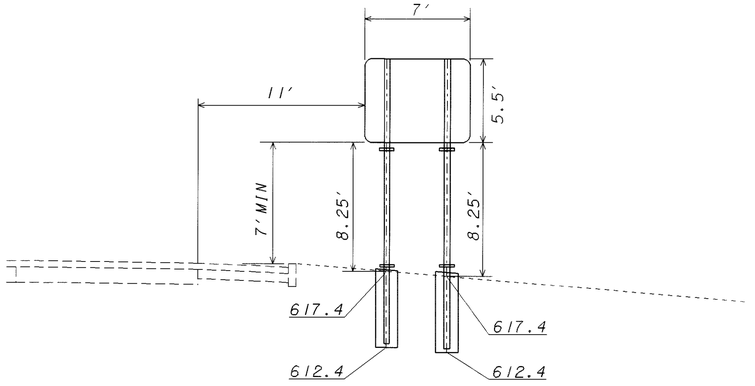
83
93

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tea.dgn



STA 71+20 SR-44, NB
2-S4X7.7 BEAM SUPPORTS
WITH BREAKAWAY CONNECTIONS

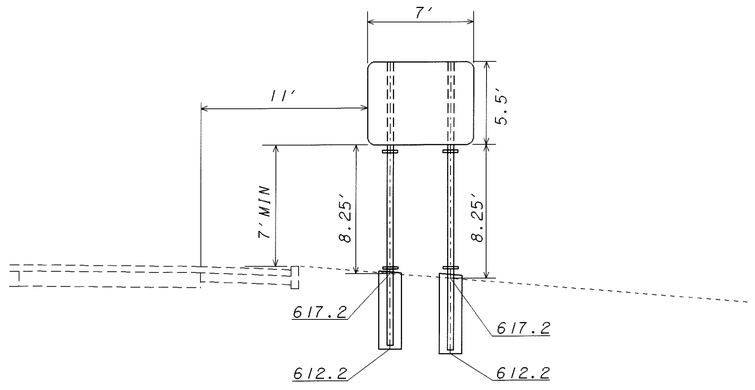
22



STA 27+25 SR-283, EB
2-W6X9 BEAM SUPPORTS
WITH BREAKAWAY CONNECTIONS

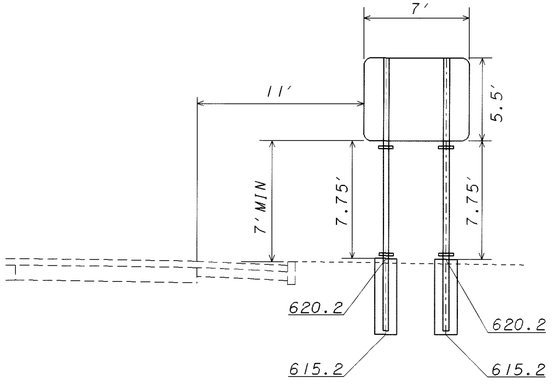
29

NOTE: ELEVATION VIEW FACING
UPSTATION OF SR-283
VIEWING BACK OF SIGN



STA 25+75 SR-283, EB
2-W6X9 BEAM SUPPORTS
WITH BREAKAWAY CONNECTIONS

28



STA 33+20 SR-283, WB
2-W6X9 BEAM SUPPORTS
WITH BREAKAWAY CONNECTIONS

30

NOTE: ELEVATION VIEW FACING
DOWNSTATION OF SR-283
SAME SIZE SIGN WITH SAME
LEGEND ATTACHED TO
OPPOSITE SIDE OF SUPPORT

CALCULATED EMK
CHECKED LDH

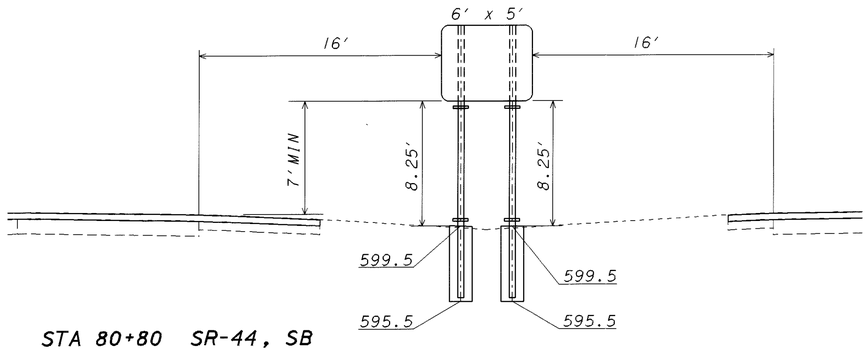
0 5 10
SCALE IN FEET

ELEVATION VIEWS

SIGN ELE

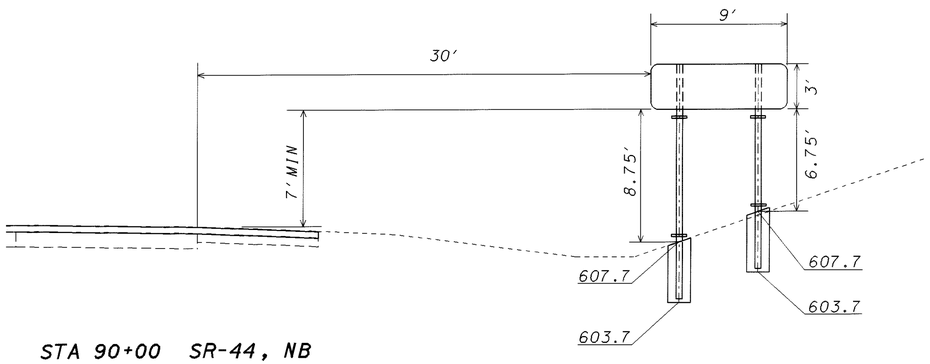
LAKE COUNTY
LAK-2/44-13.05/4.14

84
93



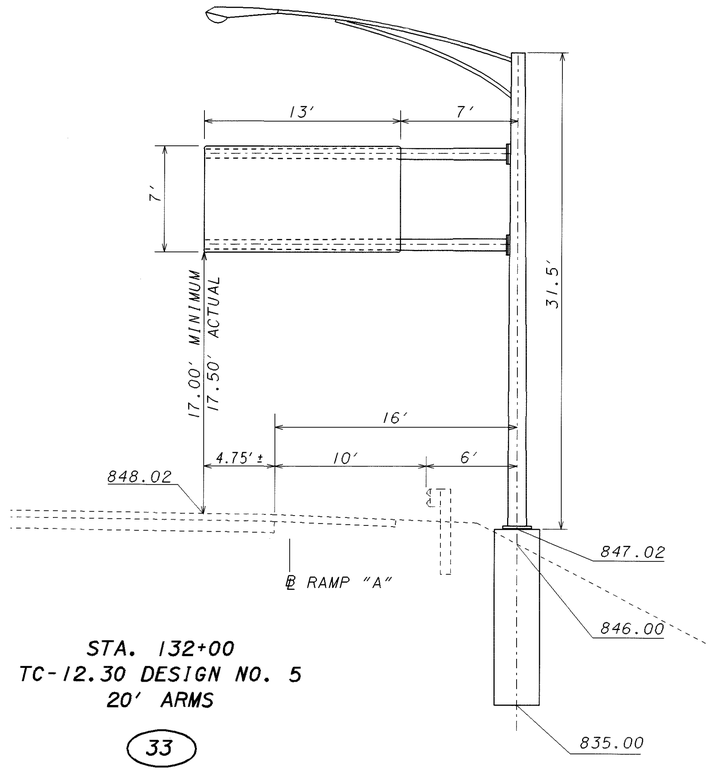
STA 80+80 SR-44, SB
2-S4X7.7 BEAM SUPPORTS
WITH BREAKAWAY CONNECTIONS

31



STA 90+00 SR-44, NB
2-S4X7.7 BEAM SUPPORTS
WITH BREAKAWAY CONNECTIONS

32



STA. 132+00
TC-12.30 DESIGN NO. 5
20' ARMS

33

CALCULATED EMK
CHECKED LDH

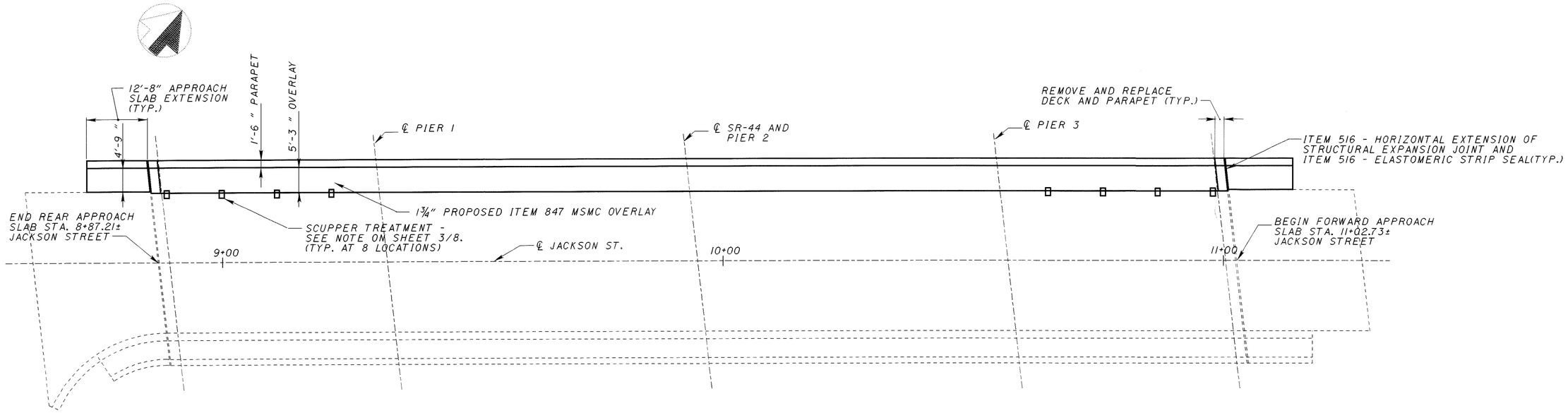
0 5 10
SCALE IN FEET

SIGN ELEVATION VIEWS

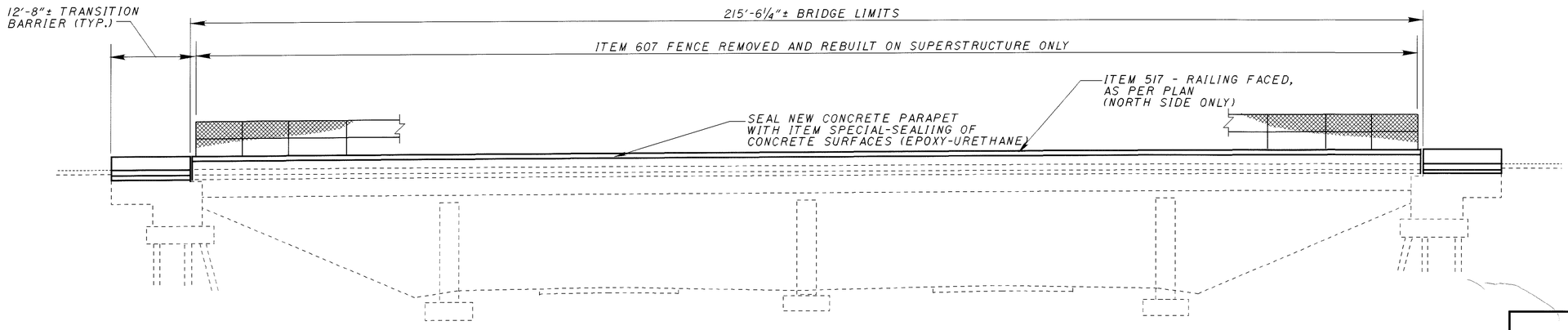
LAKE COUNTY
LAK-2/44-13.05/4.14

85
93

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\18391tea.dgn



PLAN



NORTH ELEVATION

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 43'-6"±,62'±,62'±,43'-6"± C/C BEARINGS

ROADWAY: 33'-0" T/T OF BARRIER SPLASH GUARD AND PARAPET

SKEW: 6°32'30" RIGHT FORWARD

LOADING: CF-400 (57)

DATE BUILT: 1963

APPROACH SLABS: AS-1-54 MODIFIED (25' LONG)

SFN: 4302702

WEARING SURFACE: 1¾" SUPERPLASTICIZED DENSE CONCRETE

ALIGNMENT: TANGENT

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
SCT	SCT	DWL	2-28-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ENF		4302702	

PLAN AND ELEVATION
BRIDGE NO. LAK-44-0510
JACKSON STREET OVER STATE ROUTE 44

LAKE COUNTY
LAK-2/44-13.05/4.14

1 / 8

85A
93

$FILE$ $DATE$ I:\PROJECTS\Pid839\B&NPLANS\839ISPA.DGN 14-AUG-2001 13:13PM fkonopka

PROPOSAL NOTES:

SEALING OF CONCRETE SURFACES.

STANDARD DRAWINGS:

REFERENCE SHALL BE MADE TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-81	REVISED	09-15-94
EXJ-4-87	DATED	02-14-97
PCB-91	REVISED	07-06-99
SBR-1-99	DATED	01-12-99
VPF-1-90M	DATED	03-20-95

AND SUPPLEMENTAL SPECIFICATIONS:

842	DATED	01-06-99
844	DATED	01-06-99
847	DATED	06-30-98
899	DATED	10-21-98

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997 TO 1999 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

CONCRETE
HIGH PERFORMANCE CONCRETE (HPC) SS 844 - COMPRESSIVE STRENGTH 4,500 PSI (SUPERSTRUCTURE).

HIGH PERFORMANCE CONCRETE (HPC) SS 844 - COMPRESSIVE STRENGTH 4,000 PSI (SUBSTRUCTURE).

REINFORCING STEEL - ASTM A615, A616 OR A617 GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI.

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL.
2½" CONCRETE COVER.
SEALING OF CONCRETE SURFACES.

MAINTENANCE OF TRAFFIC:

TWO WAY OF TRAFFIC SHALL BE MAINTAINED ON JACKSON STREET AND SR 44 AT ALL TIMES.

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/OR 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, 105.02 AND 863.07.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

EXISTING STRUCTURE PLANS:

THE ORIGINAL DESIGN AND UPGRADING PLANS MAY BE EXAMINED BY PROSPECTIVE BIDDERS AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE DRAWINGS.

CONVERSION OF METRIC STANDARD BRIDGE DRAWINGS:

SOME OF THE STANDARD BRIDGE DRAWINGS REFERENCED IN THIS PLAN ARE METRIC. ANY CONVERSION OF DIMENSIONS REQUIRED TO CONSTRUCT THE ITEMS SHOWN ON THE STANDARDS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONVERSIONS SHALL BE MADE USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 1997 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E 380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

COLORS:

THE TOP COAT COLOR FOR ITEM SPECIAL - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SHALL BE FEDERAL COLOR NUMBER 595B-36492, GRAY.

PROPOSED WORK:

1. PROTECT AND MAINTAIN ALL TRAFFIC DURING ALL PHASES OF CONSTRUCTION.

2. REMOVE THE EXISTING PARAPET, SIDEWALK, FENCE, SPLASH BARRIER, AND BULB ANGLE AT NORTH SIDE ONLY.

3. MODIFY THE EXISTING ABUTMENTS AS SHOWN IN THE PLANS TO ACCOMODATE THE PROPOSED APPROACH SLAB EXTENSION.

4. SCARIFY DECK AS SHOWN IN THE PLANS TO ACCOMODATE THE PROPOSED OVERLAY.

5. CONSTRUCT NEW SINGLE SLOPE BARRIER AT NORTH ONLY.

6. CONSTRUCT PROPOSED OVERLAY.

7. REINSTALL 8-FOOT TALL VANDAL PROTECTION FENCE.

8. SEAL NEW CONCRETE SURFACES.

CONSTRUCTION SEQUENCE:

1. REMOVE EXISTING PARAPET AND SIDEWALK TO THE STAGE 1 REMOVAL LIMITS SHOWN IN THE PLANS. REMOVE DECK ENDS AND BACKWALL AND INSTALL STRUCTURAL STEEL EXPANSION JOINT EXTENSIONS.

2. CONSTRUCT DECK ENDS AND NEW 42" SINGLE SLOPE BARRIER.

3. INSTALL PORTABLE CONCRETE BARRIER PER MAINTENANCE OF TRAFFIC PLANS.

4. REMOVE REMAINING SIDEWALK, SPLASH BARRIER AND PARTIAL WINGWALL AS SHOWN IN THE PLANS.

5. SCARIFY AND REMOVE DECK CONCRETE AS SHOWN IN THE PLANS AND REMOVE EXISTING BULB ANGLE GUTTER.

6. CONSTRUCT PROPOSED OVERLAY.

7. CONSTRUCT PROPOSED APPROACH SLAB EXTENSION AND TRANSITION BARRIER.

OTHER WORK:

WORK NOT LISTED IN THE SEQUENCE MAY BE PERFORMED ACCORDING TO THE CONTRACTOR'S TIMING IN ACCORDANCE WITH CONTRACT PROVISIONS.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

DESCRIPTION:
THIS WORK SHALL CONSIST OF THE REMOVAL OF CONCRETE DECKS INCLUDING SIDEWALKS, PARAPETS, RAILINGS, DECK JOINTS AND OTHER APPURTENANCES FROM SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSS FRAMES, ETC.). THIS WORK SHALL ALSO INCLUDE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES FOR REMOVAL THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. CARE SHALL BE TAKEN DURING REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. IN THIS RESPECT, THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED.

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

PROTECTION OF STEEL SUPPORT SYSTEMS:
BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK SHALL BE DRAWN ON THE SURFACE OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 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. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

REMOVAL METHODS:
THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

DECK REMOVALS:
CARE SHALL BE TAKEN DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. FOR REMOVALS OVER BRIDGE MEMBERS (PRESTRESSED BOX BEAM, PRESTRESSED I-BEAM, STEEL BEAM, STEEL GIRDER, ETC), A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER. REMOVAL METHODS OVER BRIDGE MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS.

DUE TO THE POSSIBLE PRESENCE OF WELDED ATTACHMENTS TO EXISTING STRUCTURAL STEEL (FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.), CARE SHALL BE TAKEN DURING DECK REMOVAL TO AVOID DAMAGING STRINGERS WHICH ARE TO REMAIN. STRINGERS DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED BY A OHIO REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE DIRECTOR.

EXTRANEOUS MEMBERS:
EXISTING EXTRANEOUS MEMBERS (I.E., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED BY WELDED CONNECTION TO THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, SHALL BE LEFT 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. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED 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 ALL PACK AND LOOSE RUST SHALL BE REMOVED. EXISTING CONCRETE SURFACES WHICH NEW CONCRETE WILL BE PLACED AGAINST SHALL BE WET, BUT WITHOUT FREE WATER, AT THE TIME OF CONCRETE PLACEMENT.

SUBSTRUCTURE CONCRETE REMOVAL:
SUBSTRUCTURE CONCRETE REMOVAL SHALL BE 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, HAMMERS NOT EXCEEDING 90 POUNDS, MAY BE USED UPON THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

LOADING LIMITATIONS:
NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS, OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

PAYMENT:
THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

ITEM 514, FIELD PAINTING MISC.: JOINT ARMOR

THIS ITEM SHALL CONSIST OF PREPARING AND COATING THE FOLLOWING AREAS OF EXISTING STEEL:

1. AREAS OF STRUCTURAL EXPANSION JOINT EXTENSIONS ACCESSIBLE TO PAINTING OPERATIONS.
2. AREAS OF EXISTING STRUCTURAL EXPANSION JOINT WHERE PAINT IS REMOVED IN ORDER TO WELD THE PROPOSED ANGLES OF THE EXPANSION JOINT EXTENSION.

SURFACE PREPARATION SHALL CONSIST OF ABRASIVE BLASTING THE AREA TO BE COATED TO AN SA 2½ NEAR-WHITE CONDITION. BLASTING ABRASIVES CONTAINING MORE THAN 1 % FREE SILICA SHALL NOT BE ALLOWED. THESE AREAS SHALL BE COATED THE SAME DAY THAT THEY ARE BLASTED.

THE PREPARED AREAS SHALL BE COATED WITH ONE OF A HIGH SOLIDS EPOXY AT LEAST 5 MILS THICK. THE HIGH SOLIDS EPOXY SHALL BE APPLIED BY BRUSH. THE COLOR OF THE HIGH SOLIDS EPOXY SHALL CLOSELY MATCH THE COLOR OF THE EXISTING COATING.

THE HIGH SOLIDS EPOXY SHALL BE ONE OF THE FOLLOWING PRODUCTS:

1. AMERON AMERLOCK 400
2. VALSPAR HIGH SOLIDS EPOXY 76 SERIES
3. TNEMEC CHEMBUILD SERIES 135
4. SHERWIN WILLIAMS - EPOXY-MASTIC COATING

COST FOR FURNISHING ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THESQUAR FOOT BID PRICE FOR THIS ITEM:

ITEM	UNIT	DESCRIPTION
514	SQ. FT.	FIELD PAINTING MISC.: JOINT ARMOR

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
MKB	MKB	DWL	2-28-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT		4302702	

STRUCTURE NOTES 1 OF 11
BRIDGE NO. LAK-44-0510
JACKSON STREET OVER STATE ROUTE 44

LAKE COUNTY
LAK-2/44-13.05/4.14

2 / 8

85B
93

C:\PROJECTS\D18\30\NB&NPLANS\1830ISNA.DGN 14 AUG 20(

$FILE$
$DATE$

ITEM 517 - RAILING FACED, AS PER PLAN

DESCRIPTION:
THIS ITEM OF WORK SHALL CONSIST OF FACING SIDEWALK STYLE PARAPETS, USING CAST IN PLACE CONCRETE, TO OBTAIN THE SINGLE SLOPE BARRIER SHAPE AS SHOWN IN THE PLANS. REMOVAL: THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXISTING FENCE, CURB PLATES, EXISTING CONCRETE WALK AND ANY SOUND CONCRETE NECESSARY TO OBTAIN A MINIMUM 4 INCH THICKNESS OF NEW CONCRETE. ALL LOOSE OR UNSOUND CONCRETE SHALL ALSO BE REMOVED.

SLIP FORMING SHALL NOT BE PERMITTED.

DOWEL HOLES AND REINFORCING STEEL:
DOWEL HOLES SHALL BE AS PER ITEM 510 USING EPOXY GROUT AS PER 705.20. SE501 BARS SHALL BE 4" FROM DEFLECTION JOINTS. SE502 BARS SHALL BE 6" FROM DEFLECTION JOINTS.
EXISTING REINFORCING STEEL BARS IN THE AREA OF THE DOWEL HOLE SHALL BE LOCATED WITH THE AID OF A REINFORCING STEEL BAR LOCATOR
PRIOR TO DRILLING THE HOLES. IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF THE EXISTING BAR. ALL REINFORCING STEEL, DOWEL HOLES AND GROUTING SHALL BE INCLUDED WITH ITEM 517 FOR PAYMENT.

SURFACE PREPARATION:
THE PARAPET SURFACE IN CONTACT WITH THE REFACING SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING, WITH ENVIRONMENTAL CONTROLS, FOLLOWED BY AN AIR BLAST. USE OF HAND TOOLS MAY BE NECESSARY TO REMOVE SCALE FROM ANY EXPOSED REINFORCING STEEL. THE SURFACE SHALL BE MADE FREE FROM SPALLS, LATENCE, AND ALL TRACES OF FOREIGN MATERIAL. DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING AS NECESSARY TO ENSURE REMOVAL OF CONTAMINANTS THAT ARE DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND.

1½" DEEP AND ¼" WIDE DEFLECTION JOINTS AT ALL EXISTING DEFLECTION JOINT LOCATIONS AS WELL AS MIDWAY BETWEEN SHICH JOINTS SHALL BE SAWED IN THE NEW CONCRETE. THE JOINTS SHALL BE SAWED AS SOON AS POSSIBLE AFTER PLACEMENT, BEFORE ANY SHRINKAGE CRACKS DEVELOP. ALL JOINTS SHALL BE SAWED WITHIN 24 HOURS. THE USE OF AN EDGE GUIDE, FENCE OR JIG IS REQUIRED TO ENSURE THAT THE JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE PERIMETER OF THE DEFLECTION JOINT SHALL BE SEALED A MINIMUM 1½" DEEP USING A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION TT-S-00227E.

CURING SHALL BE AS PER 511.14 METHOD(b). IF THE CONTRACTOR USES CHEMASTERS EPOXY-URETHANE SYSTEM FOR "SEALING OF CONCRETE SURFACES" HE MAY USE THE EPOXY PORTION OF THAT SYSTEM (CHEMASTERS "SAFE-CURE & SEAL EPX") AS THE CURING COMPOUND TO MEET THE REQUIREMENTS OF 511.14(b). IF USED, REMOVAL OF THE CURING COMPOUND SHALL NOT BE REQUIRED PRIOR TO APPLYING THE URETHANE TOP COAT.

MINIMUM CONCRETE COVER SHALL BE 2" .

MATERIALS:
REINFORCING STEEL - 709.00, GRADE 60

CONCRETE:
CONCRETE SHALL BE AS PER SUPPLEMENTAL SPECIFICATION 844, AS PER PLAN,
THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF ALL CONCRETE PARAPETS SHALL BE 6 INCHES.

CONCRETE TABLE:
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

MIX 4, AS PER PLAN (GGBF SLAG + MICROSILICA)

	GRAVEL	LIMESTONE	SLAG
FINE AGGREGATE (LB)	1245	1245	1246
#8 COARSE AGGREGATE (LB)	360	360	315
#57 COARSE AGGREGATE (LB)	1315	1335	1155
TOTAL (LB)	2920	2940	2716
CEMENT CONTENT (LB)	400	400	400
GGBF SLAG (LB)	170	170	170
MICROSILICA (LB)	30	30	30
WATER TO CEMENTITIOUS RATIO MAX.	0.42	0.42	0.42
AIR CONTENT, +/-2%	7%	7%	7%

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLID 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

METHOD OF MEASUREMENT:
THE QUANTITY SHALL BE THE ACTUAL LENGTH OF RAILING FACED AS MEASURED FROM EXPANSION JOINT TO EXPANSION JOINT. THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THIS WORK. ALL COSTS OF REMOVAL, DOWEL HOLES, REINFORCING STEEL, CONCRETE AND SHRINKAGE CONTROL JOINTS, COMPLETE AND IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
517	FEET	RAILING FACED, AS PER PLAN

ITEM 844 HIGH PERFORMANCE CONCRETE, MISC; DECK AND APPROACH SLAB EXTENSION, AS PER PLAN

THE PROVISIONS OF 844 SHALL APPLY EXCEPT AS NOTED BELOW.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF ALL CONCRETE PARAPETS SHALL BE 6 INCHES. THE MAXIMUM SLUMP ALLOWED DURING PLACEMENT IS 8 INCHES.

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE STATE.

FENCE POST ANCHORS:
ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

DRILLING AND GROUTING HOLES:
DOWEL HOLES SHALL BE PER CMS 510. USE NON-SHRINK EPOXY GROUT PER 705.20. PAYMENT SHALL BE INCLUDED WITH THE APPROPRIATE ITEM 844.

MIX OPTIONS:
ALL CONCRETE SHALL BE MIX 4, AS PER PLAN. THE FOLLOWING PROPORTIONS WILL BE USED AS A STARTING MIX DESIGN.

CONCRETE TABLE:
QUANTITIES PER CUBIC YARD
AGGREGATES (SSD)

MIX 4, AS PER PLAN (GGBF SLAG + MICROSILICA)

	GRAVEL	LIMESTONE	SLAG
FINE AGGREGATE (LB)	1245	1245	1246
#8 COARSE AGGREGATE (LB)	360	360	315
#57 COARSE AGGREGATE (LB)	1315	1335	1155
TOTAL (LB)	2920	2940	2716
CEMENT CONTENT (LB)	400	400	400
GGBF SLAG (LB)	170	170	170
MICROSILICA (LB)	30	30	30
WATER TO CEMENTITIOUS RATIO MAX.	0.42	0.42	0.42
AIR CONTENT, +/-2%	7%	7%	7%

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLID 2.20, AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

DECK TEXTURING:
THE DECK SURFACE SHALL BE RAKED TO PROVIDE A ROUGH MACRO BOND SURFACE FOR THE MSMC OVERLAY.

BASIS OF PAYMENT:
PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNITS	DESCRIPTION
844E49500	CUBIC YARD	HIGH PERFORMANCE CONCRETE MISC; DECK AND APPROACH SLAB EXTENSION, AS PER PLAN

REPLACEMENT OF EXISTING REINFORCING STEEL

ANY EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE MADE UNUSABLE BY CONCRETE REMOVAL OR OTHER CONTRACTOR OPERATIONS SHALL BE REPLACED WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT THE CONTRACTOR'S COST PER CMS 509.

ITEM 842 - CONCRETE MISC.; REPLACEMENT OF EXISTING REINFORCING STEEL

ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW EPOXY COATED REINFORCING STEEL PER CMS 509.

THE NUMBER OF POUNDS OF REINFORCING STEEL PAID FOR SHALL BE THE ACTUAL POUNDS OF REPLACEMENT REINFORCING STEEL FURNISHED AND INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER TO REPLACE CORROSION DAMAGED REINFORCING STEEL.

PAYMENT FOR ALL THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID PER POUND FOR ITEM 842 - CONCRETE, MISC.: REPLACEMENT OF EXISTING REINFORCING STEEL.

ITEM 842 - CONCRETE MISC.: DRILLING AND GROUTING DOWEL HOLES

THIS CONTINGENCY QUANTITY SHALL INCLUDE THE DRILLING OF HOLES PER CMS 510 INTO CONCRETE OR MASONRY AND THE FURNISHING AND PLACEMENT OF GROUT INTO HOLES AS DIRECTED BY THE ENGINEER. NONSHRINKING EPOXY GROUT SHALL BE USED PER CMS 705.20.

PAYMENT FOR ALL THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 842 - CONCRETE MISC.: DRILLING AND GROUTING DOWEL HOLES.

SCUPPER DEPRESSIONS

THE EXISTING SCUPPERS MUST REMAIN IN SERVICE IN ORDER TO DRAIN THE BRIDGE. THE DEPRESSIONS IN THE CONCRETE OVERLAY SURROUNDING THE SCUPPERS ON THE NORTH SIDE OF THE BRIDGE MUST BE ELIMINATED PRIOR TO OPENING THE WIDENING TO TRAFFIC. CONCRETE WITHIN THE DEPRESSION SHALL BE REMOVED DOWN TO THE TOP OF THE SCUPPER AND REPLACED UP TO THE NORMAL WEARING SURFACE TOP WITH MICROSILICA MODIFIED CONCRETE, AS DIRECTED BY THE ENGINEER. ONLY THE FULL SURFACE AREA OF THE SCUPPER SHALL REMAIN UNFILLED. PAYMENT FOR FILLING SCUPPER DEPRESSIONS SHALL BE INCLUDED IN ITEM 847 - MICROSILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS).

ITEM 847 - MICROSILICA MODIFIED CONCRETE OVERLAY (1¾") THICKNESS)

PROPER HAND FINISHING EQUIPMENT MAY BE USED TO PLACE THE OVERLAY AS DIRECTED BY THE ENGINEER. THE CONTRACTOR MUST DEMONSTRATE TO THE SATISFACTION OF THE ENGINEER PRIOR TO PLACEMENT THAT THE HAND METHODS WILL ACHIEVE SATISFACTORY CONSOLIDATION AND SCREEDING OF THE OVERLAY.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	DRAWN	REVIEWED	DATE
MKB	MKB	DWL	02-28-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT		4302702	

STRUCTURE NOTES II OF II
BRIDGE NO. LAK-44-0510
JACKSON STREET OVER STATE ROUTE 44

LAKE COUNTY
LAK-2/44-13.05/4.14

3 / 8

85C
93

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	NHS	STP	TOTAL	UNIT	DESCRIPTION	AS PER PLAN REFERENCE SHEET NO.
202	11201	LUMP		LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	2 / 8
SPECIAL	512E67510	182		182	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) *	
514	27700	50		50	SQ. FT.	FIELD PAINTING, MISC.: JOINT ARMOR	
516	01300	13		13	LIN. FT.	ELASTOMERIC STRIP SEAL WITHOUT STEEL EXTRUSIONS	
516	11900	13		13	LIN. FT.	HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT	
517	76201	216		216	LIN. FT.	RAILING FACED, AS PER PLAN	3 / 8
607	35000	216		216	LIN. FT.	FENCE REMOVED AND REBUILT	
842	81300	10		10	EACH	CONCRETE, MISC.: DRILLING AND GROUTING DOWEL HOLES**	
842	81400	50		50	POUNDS	CONCRETE, MISC.: REPLACEMENT OF EXISTING REINFORCING STEEL**	
844	49500	12		12	CU. YD.	HIGH PERFORMANCE CONCRETE MISC.: DECK AND APPROACH SLAB EXTENSION, AS PER PLAN	3 / 8
847	10000	138		138	SQ. YD.	MICROSILICA MODIFIED CONCRETE OVERLAY (1¾" THICKNESS)	
847	20000	2		2	CU. YD.	MICROSILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) **	

* SEE PROPOSAL NOTE

** CONTINGENCY QUANTITY TO BE USED AS DIRECTED BY THE ENGINEER

$FILE$
$DATE$ I:\PROJECTS\Pid1839\B&NPLANS\1839ISSA.DGN 09-NOV-2001 1:28PM fkonopka

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

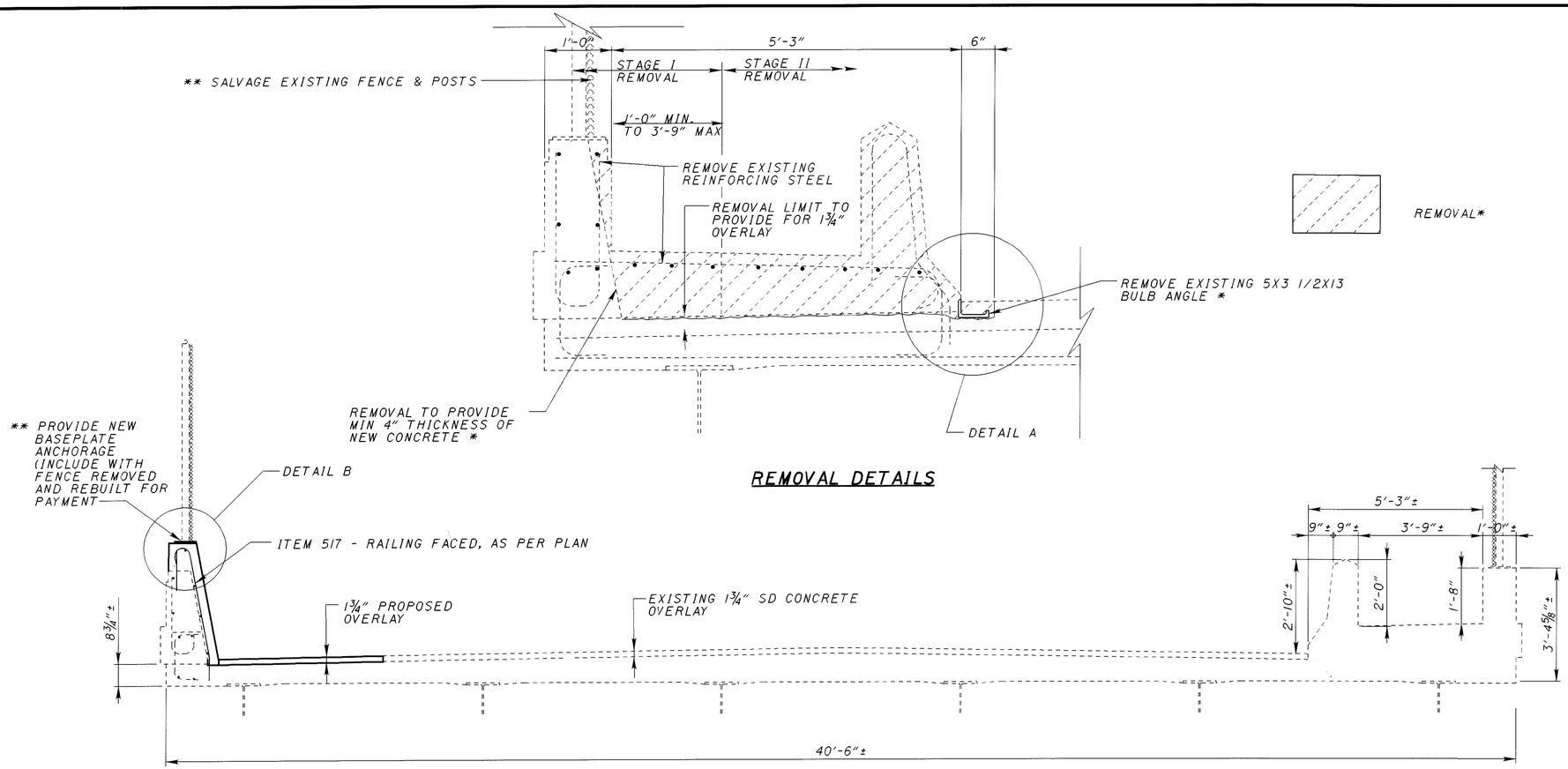
DESIGNED	DRAWN	REVIEWED	DATE
MKB	MKB	DWL	2-28-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SCT		4302702	

ESTIMATED QUANTITIES
BRIDGE NO. LAK-44-0510
JACKSON STREET OVER STATE ROUTE 44

LAKE COUNTY
LAK-2/44-13.05/4.14

4 / 8

85D
93



REMOVAL DETAILS

PROPOSED TRANSVERSE SECTION

FACING EAST

NOTES:

EXACT EXISTING REBAR LOCATIONS NOT KNOWN

ALL REINFORCING STEEL SHALL BE SPACED AS SHOWN. VERTICAL STEEL SHALL MISS SHRINKAGE CONTROL JOINTS BY 3" MIN.

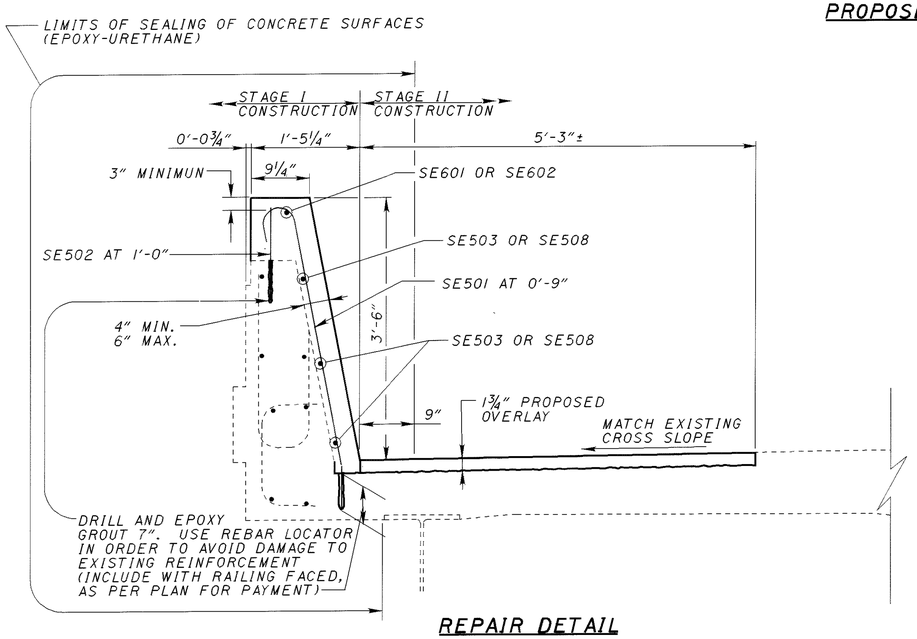
ALL LONGITUDINAL STEEL SHALL BE CONTINUOUS WITH MINIMUM LAP SPLICES 2'-0"

CONCRETE COVER SHALL BE 2" TYPICAL

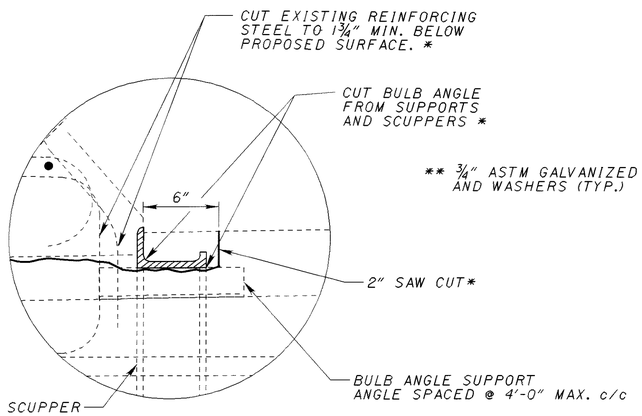
REINFORCING STEEL = ASTM A615, A616, OR A617, GRADE 60. Fy = 60 KSI. Fs = 24 KSI

FOR ADDITIONAL NOTES AND INFORMATION, SEE SBR-1-98 AND THE STRUCTURE NOTES.

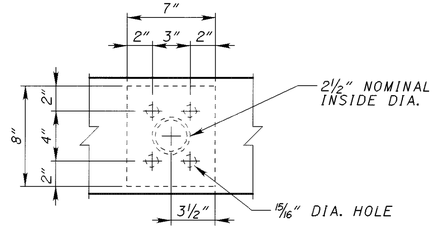
* INCLUDE WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN



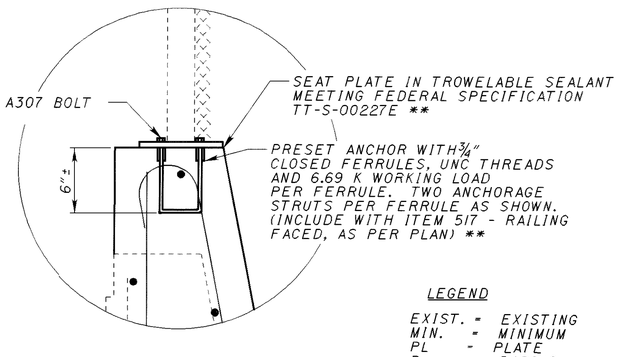
REPAIR DETAIL



DETAIL A



PLAN VIEW EXISTING BASE PLATE



DETAIL B

LEGEND

EXIST.	=	EXISTING
MIN.	=	MINIMUM
PL	=	PLATE
R.	=	RADIUS
SS	=	STAINLESS STEEL
TYP.	=	TYPICAL
c/c	=	CENTER TO CENTER

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

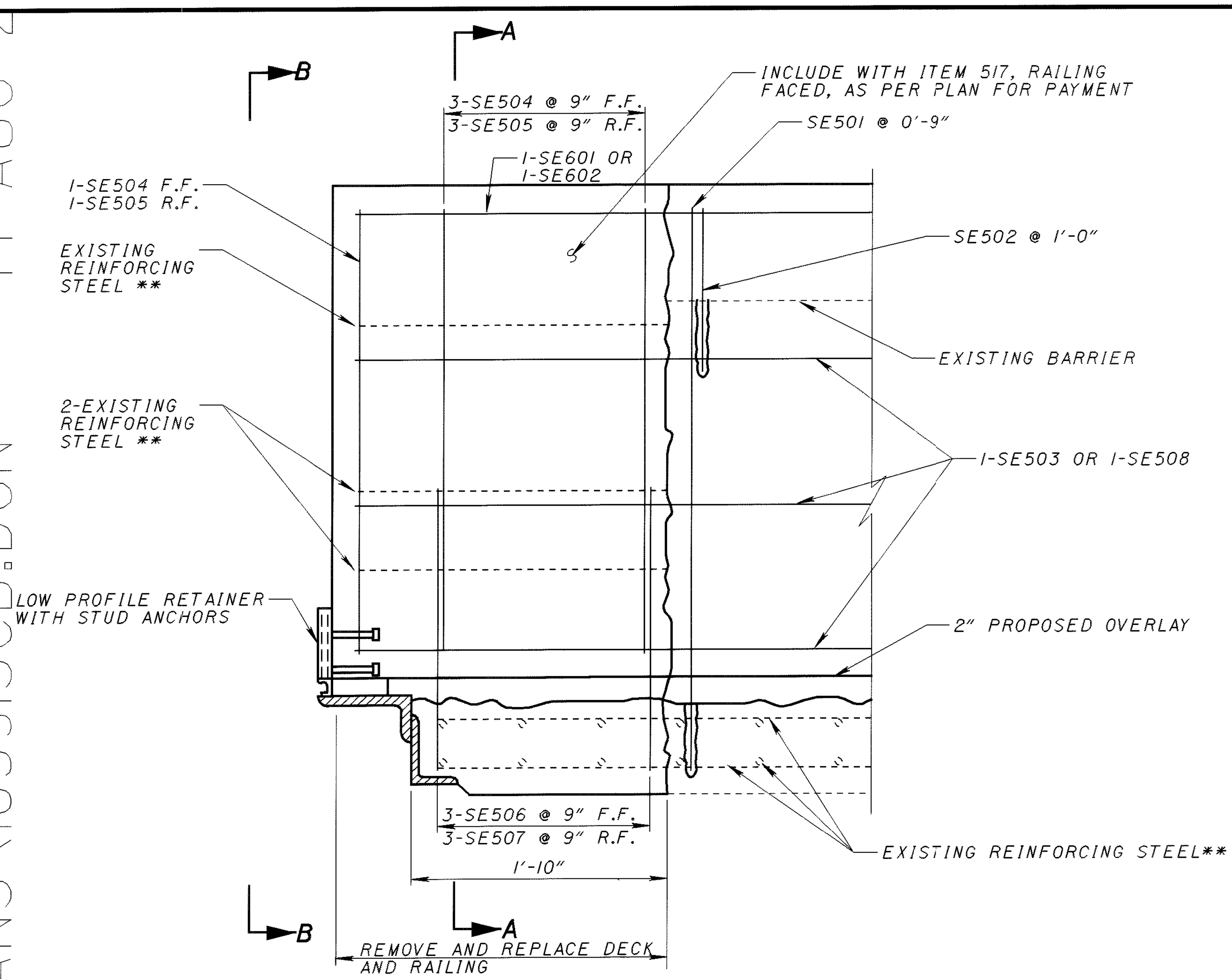
DESIGNED	DRAWN	REVIEWED	DATE
SCT	SCT	DWL	2-28-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ENF		4302702	

STRUCTURE DETAILS
BRIDGE NO. LAK-44-0510
JACKSON STREET OVER STATE ROUTE 44

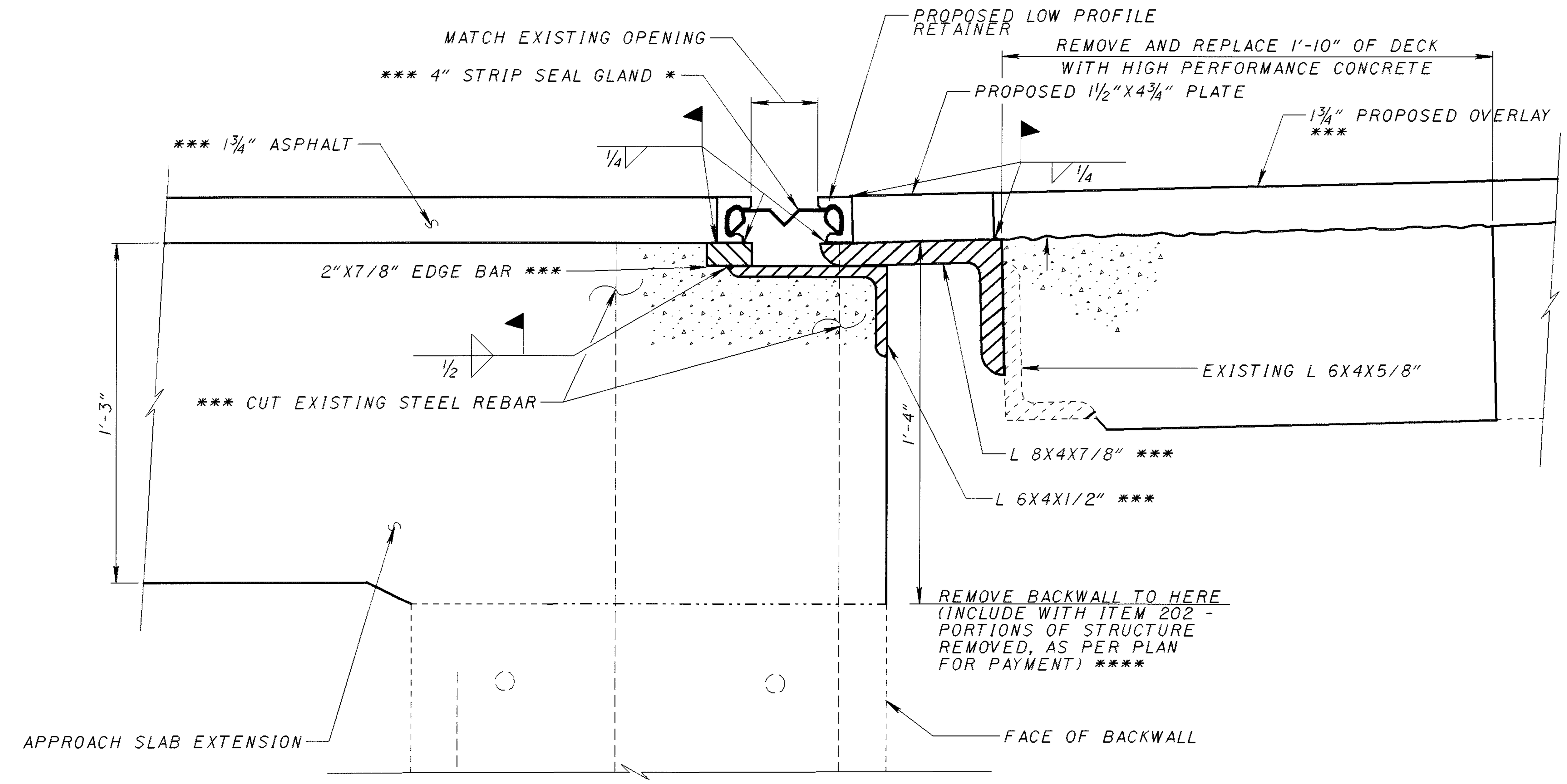
LAKE COUNTY
LAK-2/44-13.05/4.14

5 / 8

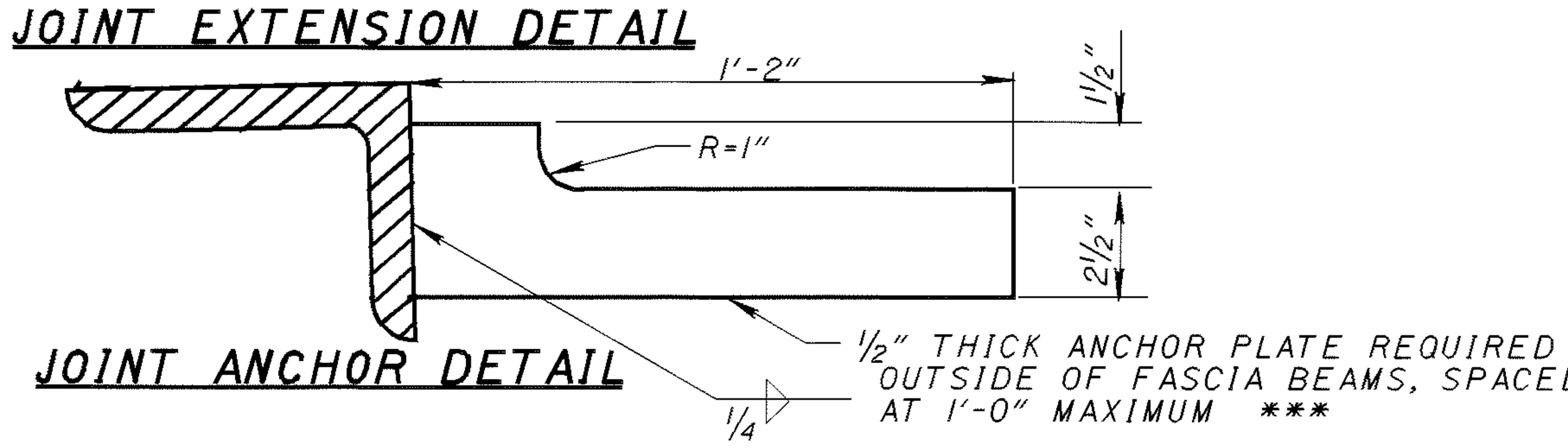
85E
93



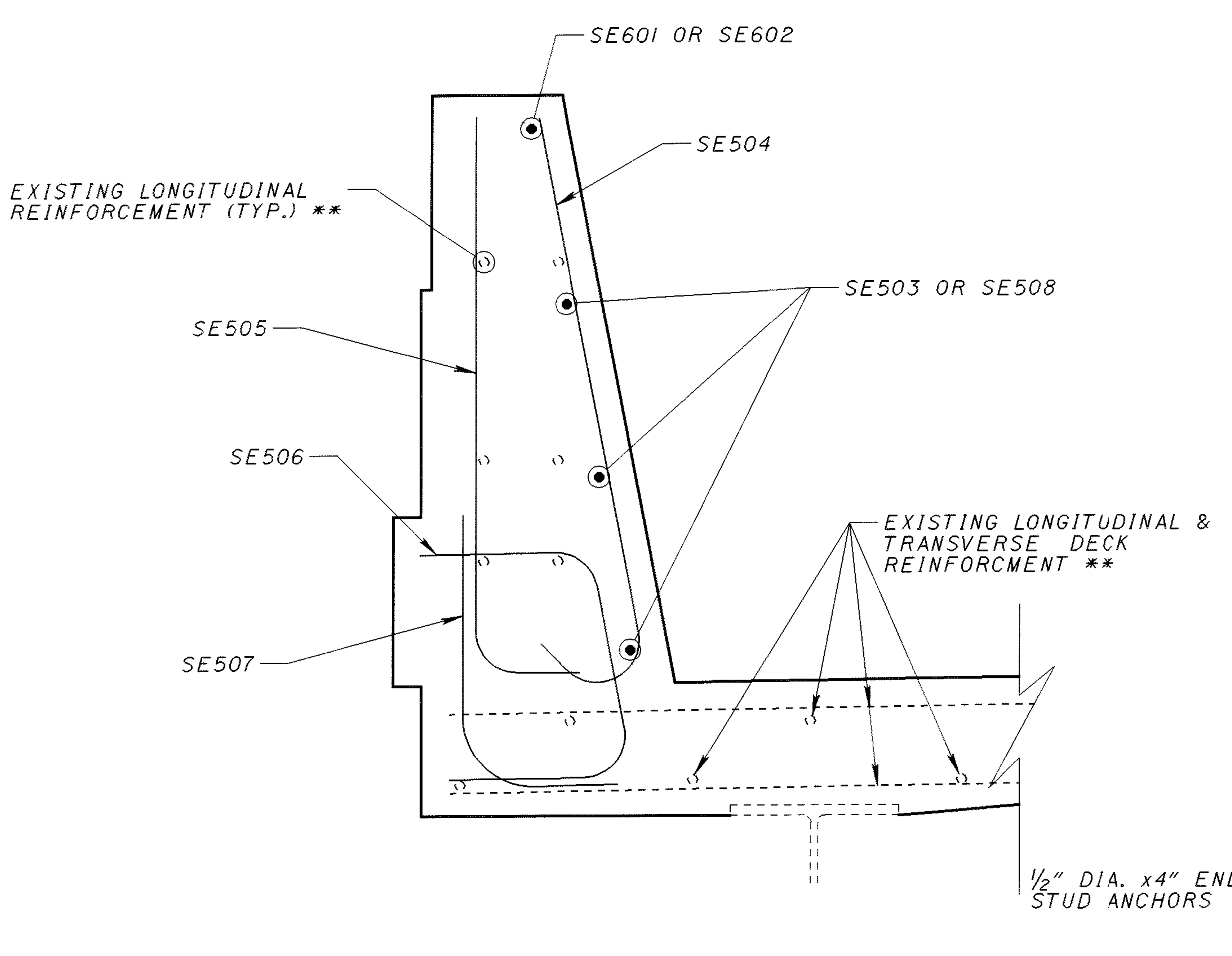
BARRIER ELEVATION AT JOINT



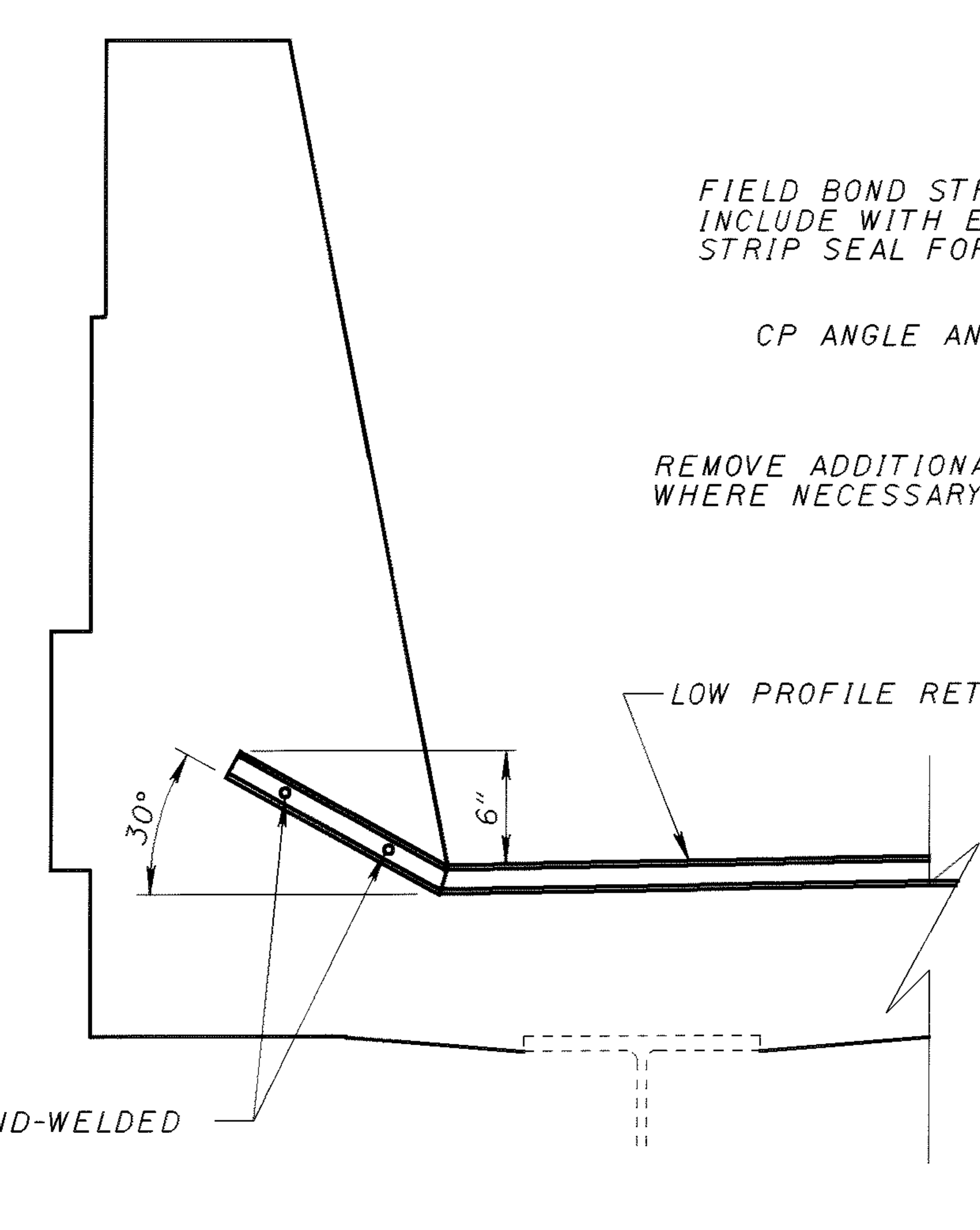
JOINT EXTENSION DETAIL



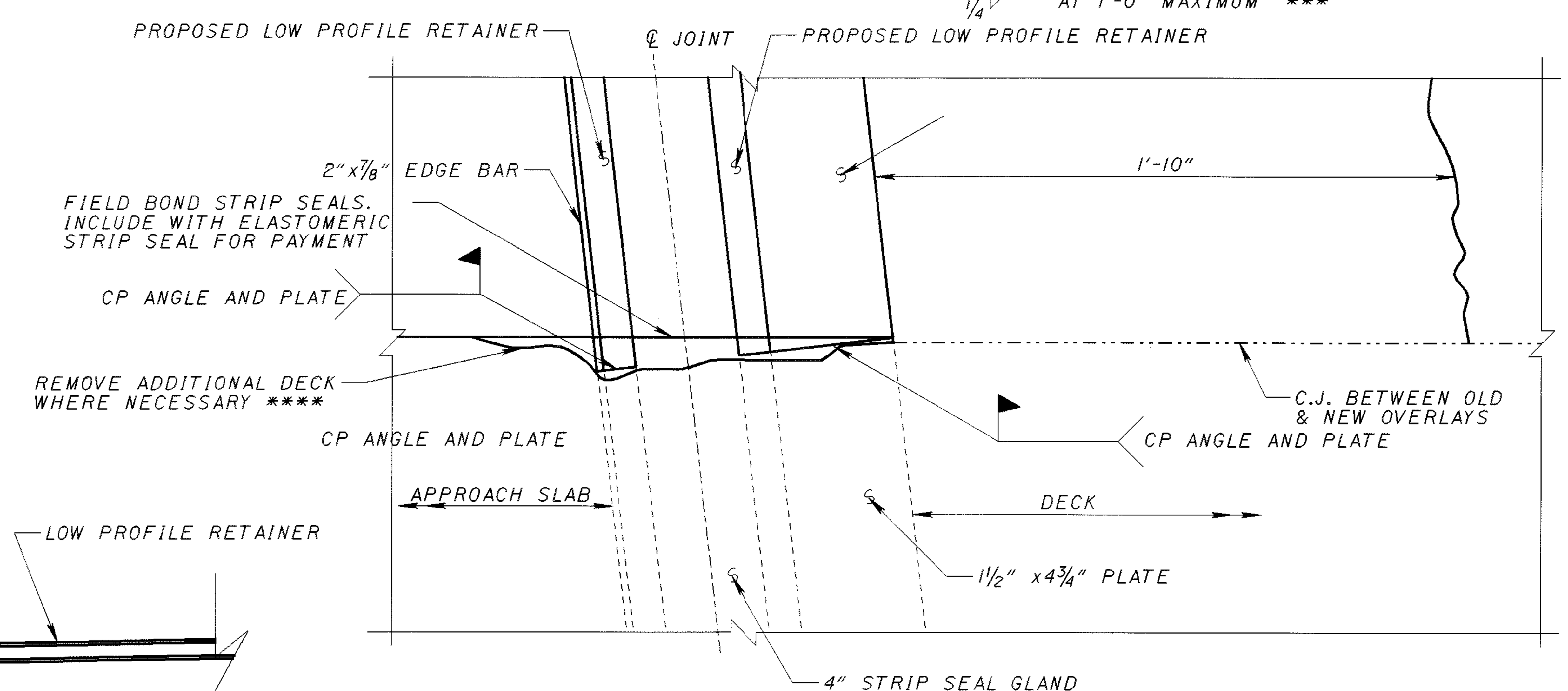
JOINT ANCHOR DETAIL



SECTION A-A



VIEW B-B



PLAN

NOTES:

* REFER TO STD. DWGS. EXJ-4-87 FOR ADDITIONAL EXPANSION JOINT DETAILS. THE CONTRACTOR SHALL VERIFY THE EXISTING STRIP SEAL MANUFACTURER AND PROVIDE THE SAME.

** EXISTING DECK LONGITUDINAL AND TRANSVERSE REINFORCING STEEL IS TO BE PROTECTED AND REUSED. IF DAMAGED, NEW REINFORCING STEEL OF THE SAME SIZE SHALL BE DOWELED WITH THE APPROPRIATE DEVELOPMENT LENGTH.

*** PROPOSED

LEGEND:

F.F. = FRONT FACE
R.F. = REAR FACE
CP = COMPLETE PENETRATION BUTT WELD

DESIGN AGENCY: BURGESS & NIPLE, 100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED	CHECKED	DRAWN	REVISED	REVIEWED	DATE	STRUCTURE FILE NUMBER
MKB	SCT	MKB		DWL	2-28-01	4302702

JOINT DETAILS

BRIDGE NO. LAK-44-0510
JACKSON STREET OVER STATE ROUTE 44

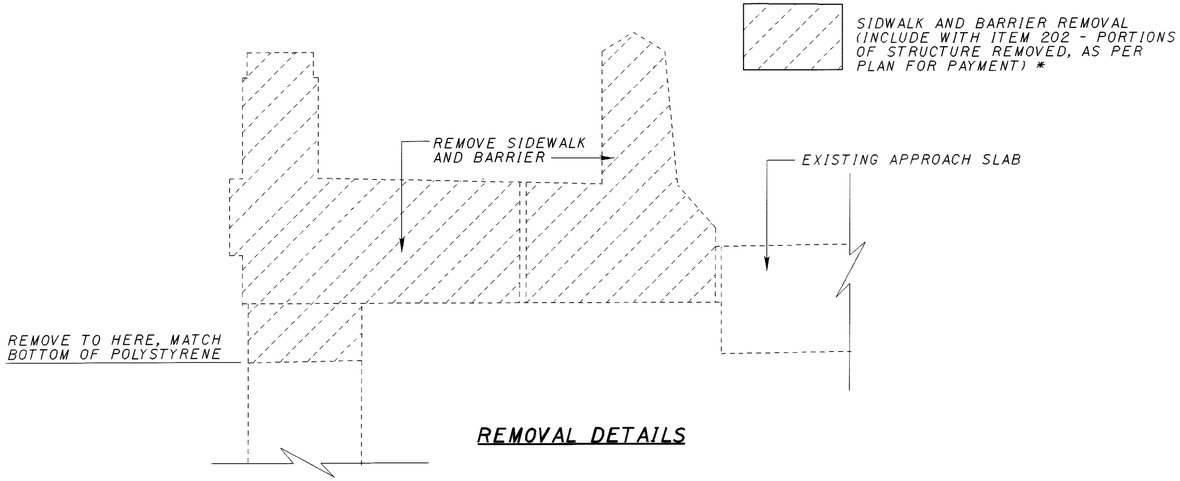
LAKE COUNTY
LAK-2/44-13.05/4.14

6/8

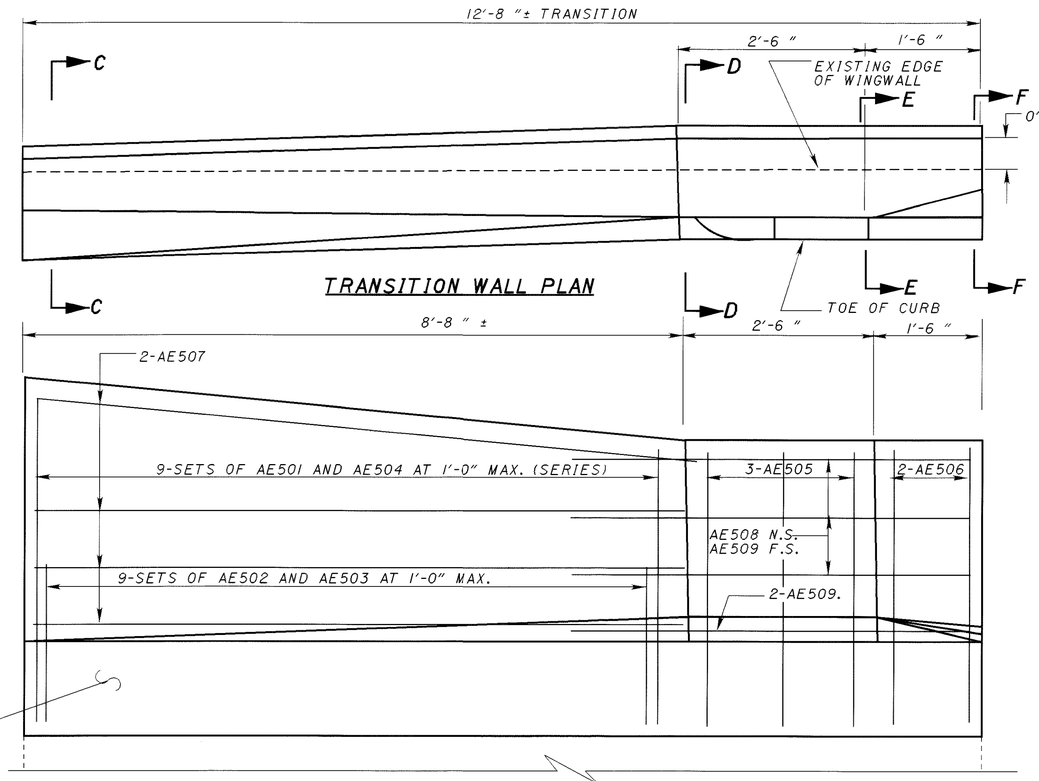
85F/93

I:\PROJECTS\P:\d1839IN B&N\PLANS\1839ISCB.DGN 14-AUG-2C

$FILE$
$DATE$



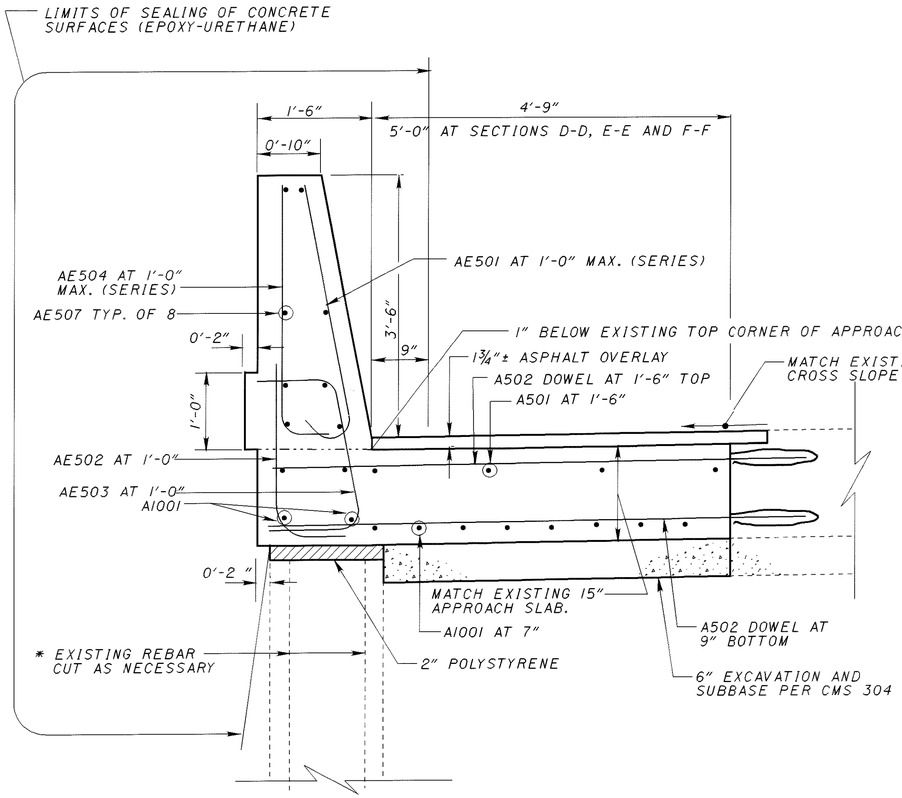
REMOVAL DETAILS



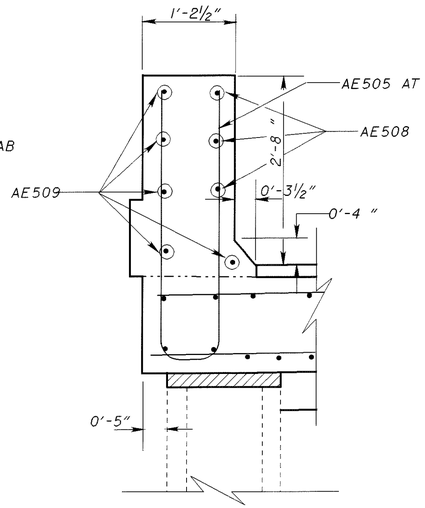
TRANSITION WALL PLAN

TRANSITION WALL ELEVATION

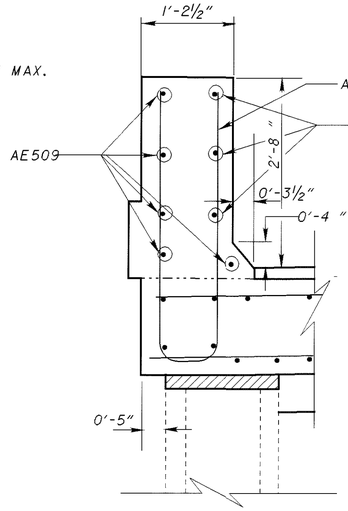
NE CORNER SHOWN NW SIMILAR



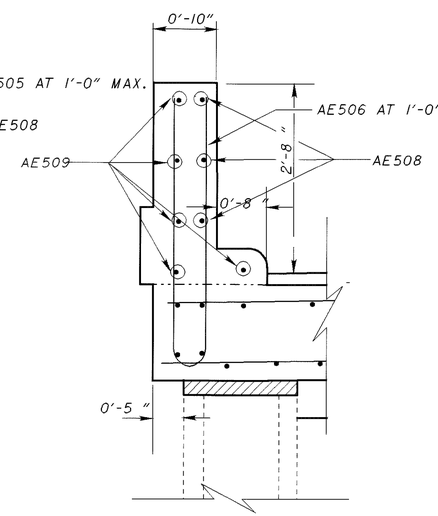
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

NOTES:

ALL CONCRETE FOR THE APPROACH SLABS AND TRANSITION WALL SHALL BE HIGH PERFORMANCE CONCRETE. EXCAVATION, SUBBASE, APPROACH SLAB EXTENSION TRANSITION WALL, DOWEL HOLES AND EPOXY GROUT SHALL BE PAID FOR UNDER ITEM 844 - HPC, MISC: DECK AND APPROACH SLAB EXTENSIONS.

PLACE THE HOOKED END OF A1001 TOWARD THE BRIDGE.

LEGEND

EXIST.	=	EXISTING
MIN.	=	MINIMUM
MAX.	=	MAXIMUM
N.S.	=	NEAR SIDE
F.S.	=	FAR SIDE
TYP.	=	TYPICAL

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

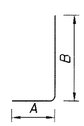
DESIGNED	DRAWN	REVIEWED	DATE
SCT	SCT	DWL	2-28-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ENF		4302702	

APPROACH SLAB DETAILS
BRIDGE NO. LAK-44-0510
JACKSON STREET OVER STATE ROUTE 44

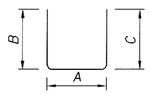
LAKE COUNTY
LAK-2/44-13.05/4.14

REINFORCEMENT SCHEDULE

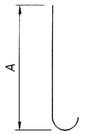
MARK	NUMBER	LENGTH	WEIGHT (LBS)	TYPE	DIMENSIONS A	B	C	D	E	R	INC.
RAILING											
SE501	282	4′-5″	1299.0	19A	3′-3″	7″					
SE502	282	1′-2″	343.1	STR.							
SE503	21	30′-0″	657.1	STR.							
SE504	8	3′-10″	32.0	19	3′-3″						
SE505	8	4′-1″	34.1	1	1′-0″	3′-2″					
SE506	6	3′-4″	20.8	34	1′-4½″	1′-1″	1′-1″	0′-3¼″			
SE507	6	2′-5½″	15.4	1	1′-0″	1′-7″					
SE508	3	29′-0″	90.7	STR.							
SE601	7	30′-0″	315.4	STR.							
SE602	1	28′-4″	42.6	STR.							
		SUB TOTAL	2850.2								
TRANSITION BARRIER											
AE501	2	3′-1″			2′-5″						
	S.O.	TO	65.7	19	TO						0′-1¼″
	9	3′-11″			3′3″						
AE502	18	3′-1″	57.9	1	1′-0″	2′-2″					
AE503	18	3′-11″	73.5	34	1′-11″	1′-1″	1′-1″	0′-3¼″			
AE504	2	3′-3″			1′-0″	2′-4″					
	S.O.	TO	68.8	1	TO	TO					0′-1¼″
	9	4′-1″			1′-0″	3′-2″					
AE505	6	7′-3″	45.4	18	0′-10″	3′-4″	3′-4″				
AE506	4	6′-10″	28.5	18	0′-5¼″	3′-4″	3′-4″				
AE507	16	8′-4″	139.0	STR.							
AE508	6	6′-9″	42.2	35	2′-6″	1′-4″	2′-11″				
AE509	10	6′-9″	70.4	STR.							
		SUB TOTAL	591.4								
APPROACH SLAB											
A501	12	12′-5″	155.4	STR.							
A502	54	6′-6″	366.1	STR.							
A1001	20	13′-10″	1190.5	19	12′-5″						
		SUB TOTAL	1712.0								
		TOTAL	5153.7								



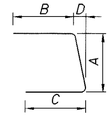
TYPE 1



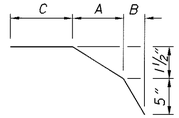
TYPE 18



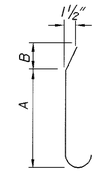
TYPE 19



TYPE 34



TYPE 35



TYPE 19A

NOTES:

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE ARE USED, AND THER FIRST TWO DIGITS WHERE FOUR ARE USED INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A #6 BAR. BAR DIMENSIONS SHOWN ARE OUT TO OUT UNLESS OTHERWISE INDICATED.

STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.

R INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.

INC INDICATES THE LENGTH INCREMENT FOR SERIES BARS.

ALL REINFORCING STEEL TO BE EPOXY COATED.

DESIGN AGENCY
BURGESS & NIPLE
100 WEST ERIE STREET PAINESVILLE, OHIO 44077

DESIGNED MKB | DRAWN MKB | REVIEWED YSS | DATE 3-1-01 | STRUCTURE FILE NUMBER 4302702 | CHECKED SCT | REVISED

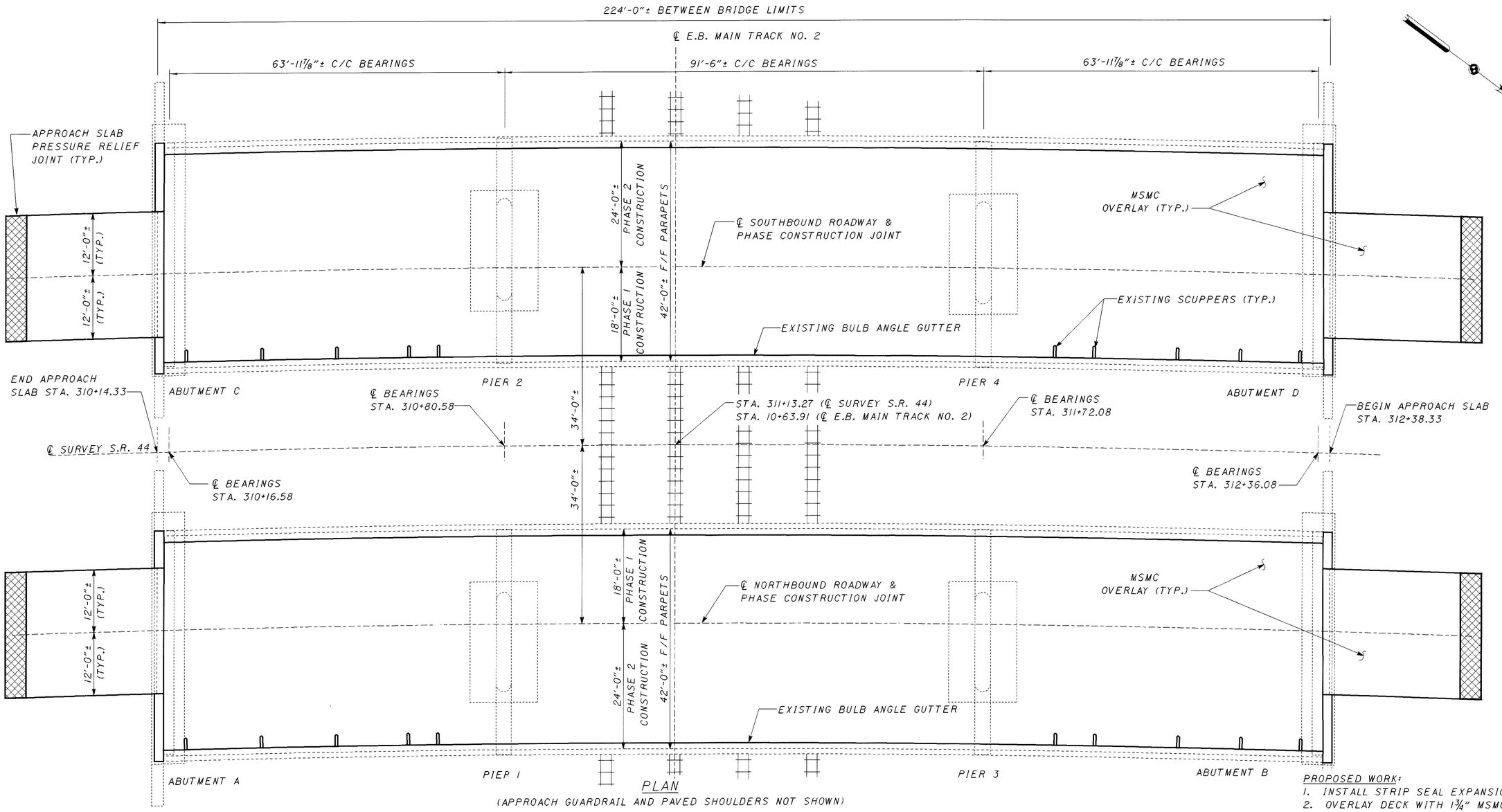
REINFORCEMENT SCHEDULE
BRIDGE NO. LAK-44-0510
JACKSON STREET OVER STATE ROUTE 44

LAKE COUNTY
LAK-2/44-13.05/4.14

8 / 8

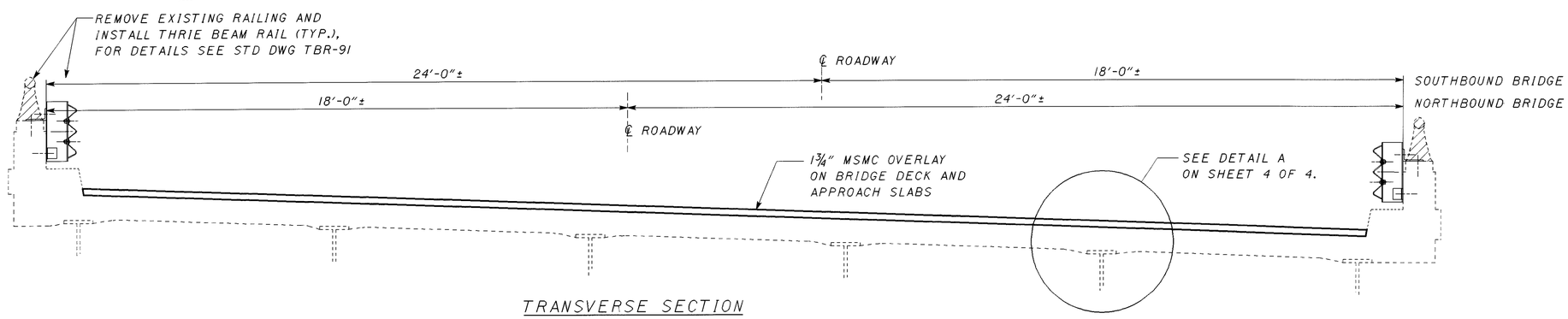
85H
93

$FILE$
$DATE$
I:\PROJECTS\Pid1839\B&NPLANS\1839ICA.DGN 14-AUG-2001 18:PM fk0



PLAN

(APPROACH GUARDRAIL AND PAVED SHOULDERS NOT SHOWN)



TRANSVERSE SECTION

PROPOSED WORK:

1. INSTALL STRIP SEAL EXPANSION JOINTS.
2. OVERLAY DECK WITH 1¾" MSMC.
3. INSTALL THRIE BEAM BRIDGE RAIL.
4. CONSTRUCT PRESSURE RELIEF JOINTS.

EXISTING STRUCTURE DATA	
TYPE:	CONTINUOUS STEEL BEAMS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS:	64'-91.5'-64' C/C BEARINGS
ROADWAY:	42'-0" F/F CONCRETE PARAPETS
LOAD FREQUENCY:	CF = 2000 (57)
SKEW:	NONE
WEARING SURFACE:	1" MONOLITHIC CONCRETE
APPROACH SLABS:	AS-1-54 (25' LONG)
ALIGNMENT:	1°-15' CURVE, RIGHT
SUPERELEVATION:	0.035%
YEAR BUILT:	1963

DESIGN AGENCY
DISTRICT TWELVE
PRODUCTION DEPARTMENT

DESIGNED EMK | DRAWN JDL/MJL | CHECKED MJL/BDS | REVIEWED MJM | DATE 02-23-01 | REVISED | STRUCTURE FILE NUMBER 4302737L/4302761R

SITE PLAN

BRIDGE NO. LAK-44-0561 L/R
S.R. 44 OVER CSXT

LAK-2-13.05/
LAK-44-4.14

1 / 4

86
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\0561PLAN.dgn

STRUCTURE GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS:

EXJ-4-87 DATED 02-14-97 TBR-91 DATED 04-24-92

AND TO SUPPLEMENTAL SPECIFICATIONS:

SS 848 DATED 06/30/98

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. THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGE ARE AVAILABLE UPON REQUEST AT THE DISTRICT 12 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, GARFIELD HEIGHTS, OHIO.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED ON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

ITEM SPECIAL - STRUCTURE, MISC.: SEALING CONCRETE WEARING SURFACE CONSTRUCTION JOINTS WITH HMWM

A. DESCRIPTION
THIS ITEM SHALL CONSIST OF THE LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE APPLICATION OF SEALER TO NEW CONCRETE WEARING SURFACE CONSTRUCTION JOINTS IN ACCORDANCE WITH THESE SPECIFICATIONS, IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURER'S RECOMMENDATIONS AND AS DIRECTED BY THE ENGINEER.

THIS WORK ITEM SHALL NOT BE PERFORMED DURING THE PERIOD BEGINNING NOVEMBER 1ST AND ENDING MARCH 31ST.

B. MATERIALS
THE MATERIAL USED FOR TREATING THE CONSTRUCTION JOINTS SHALL BE A LOW VISCOSITY, NON-FUMING, HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) RESIN CONFORMING TO THE FOLLOWING:

1. VISCOSITY SHALL BE LESS THAN 25 CPS (BROOKFIELD VISCOMETER, MODEL RVT WITH UL ADAPTER OR MODEL LVF, #1 SPINDLE AND UL ADAPTER @ 77°F ASTM D 1824).

2. DENSITY SHALL BE GREATER THAN 8.4 lbs/gal. @ 77°F (ASTM D 2849).

3. FLASH POINT SHALL BE GREATER THAN 200°F (PENSKY-MARTENS CC) (ASTM D 93).

4. VAPOR PRESSURE SHALL BE LESS THAN 1.0 mm Hg @ 77°F (ASTM D 323).

5. TG (DSL) SHALL BE GREATER THAN 135°F (ASTM D 3418).

6. SHELF LIFE SHALL BE 1 YEAR MINIMUM AT MANUFACTURER'S RECOMMENDED ENVIRONMENTAL CONSIDERATIONS.

7. GEL TIME SHALL BE GREATER THAN 40 MINUTES - 100 G MASS (ASTM D 2471) (THIN FILM).

8. PERCENT SOLIDS SHALL BE GREATER THAN 90% BY WEIGHT.

9. BOND STRENGTH SHALL BE GREATER THAN 1500 PSI (ASTM 882).

THE RESIN MAY BE OBTAINED FROM ONE OF THE FOLLOWING SUPPLIERS:

3M COMPANY
3M CENTER
ST. PAUL, MN 55144-1000
PHONE: 1-612-733-7119

SIKA CORPORATION
201 POLITO AVENUE
LYNDHURST, NJ 07071
PHONE: 1-201-933-8800

ADHESIVE ENGINEERING COMPANY
CONCRESIVE 2075
1411 INDUSTRIAL ROAD
SAN CARLOS, CA 94070
PHONE: 1-415-592-7900

TRANSPO INDUSTRIES, INC.
20 JONES STREET
NEW ROCHELLE, NY 10801
PHONE: 1-914-636-1000

A COMPATIBLE PROMOTER/INITIATOR SYSTEM CAPABLE OF PROVIDING THE SAME PHYSICAL QUALITIES OF THE HARDENED RESIN AS IF PROMOTED /INITIATED WITH 2% COBALT NAPHTHANATE (6%) AND 2% CUMENE HYDROPEROXIDE SHALL ALSO BE PROVIDED. MATERIALS SHALL BE STORED AT 65°F TO 80°F. THE SYSTEM SHALL PROVIDE A RESIN SET TIME OF NOT LESS THAN 40 MINUTES TO NOT MORE THAN 1-1/2 HOURS AT THE TIME AND TEMPERATURE OF APPLICATION. THE GEL TIME SHALL BE ADJUSTED TO COMPENSATE FOR THE CHANGE IN TEMPERATURE THROUGHOUT THE DAY. THE TEMPERATURE OF THE SURFACES TO BE TREATED MAY RANGE FROM 50°F TO 120°F. THE CONTRACTOR SHALL ARRANGE TO HAVE A TECHNICAL REPRESENTATIVE ON SITE TO PROVIDE MIXING PROPORTIONS, EQUIPMENT SUITABILITY, AND SAFETY ADVICE TO THE CONTRACTOR AND ENGINEER. ANY CONFLICT BETWEEN THESE PROVISIONS AND REPRESENTATIVES'S ADVICE SHALL BE RESOLVED AT THE JOB SITE. THE TECHNICAL REPRESENTATIVE SHALL REMAIN AT THE JOB SITE UNTIL SUCH TIME AS HE AND THE ENGINEER AGREE THAT THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF THE APPLICATION OF THE SEALER.

THE PROMOTER AND INITIATOR, IF SUPPLIED SEPARATE FROM THE RESIN, SHALL NOT CONTACT EACH OTHER DIRECTLY. CONTAINERS OF PROMOTERS OR INITIATORS SHALL NOT BE STORED TOGETHER IN A MANNER THAT WILL ALLOW LEAKAGE OR SPILLAGE FROM ONE TO CONTACT THE CONTAINERS OR MATERIAL OF EACH OTHER.

BEFORE USING THE MATERIAL THE CONTRACTOR SHALL SUBMIT TO ODOT'S BUREAU OF TESTING COPIES OF THE MANUFACTURER'S CERTIFIED TEST DATA SHOWING THAT THE MATERIAL COMPLIES WITH THE QUALITATIVE AND QUANTITATIVE REQUIREMENTS OF THE SPECIFICATION. THE TEST DATA SHALL BE DEVELOPED BY AN INDEPENDENT APPROVED TESTING LABORATORY, AND SHALL INCLUDE THE BRAND NAME OF THE MATERIAL, NAME OF THE MANUFACTURER, NUMBER OF THE LOT TESTED AND DATE OF MANUFACTURE. WHEN THE MATERIAL AND BEEN APPROVED BY THE DIRECTOR, FURTHER TESTING BY THE MANUFACTURER WILL NOT BE REQUIRED UNLESS THE FORMULATION OF THE MANUFACTURING PROCESS HAS BEEN CHANGED, IN WHICH CASE NEW CERTIFIED TEST RESULTS WILL BE REQUIRED. THE MANUFACTURER SHALL CERTIFY THAT THE FORMULATION IS THE SAME AS THAT FOR WHICH DATA HAS BEEN SUBMITTED. THE STATE RESERVES THE RIGHT TO SAMPLE AND TEST DELIVERED LOTS FOR COMPLIANCE.

C. APPLICATION
APPLICATION OF THE CONSTRUCTION JOINT SEALER MATERIAL SHALL BE IN STRICT ACCORDANCE WITH THE SUPPLIER'S CURRENT PUBLISHED INSTRUCTIONS AND/OR SPECIFIC INSTRUCTION OF THE MANUFACTURER'S TECHNICAL REPRESENTATIVE AND AS FOLLOWS. THE CONSTRUCTION JOINT AREA TO BE TREATED SHALL REMAIN DRY FOR A MINIMUM OF 8 HOURS AND ABOVE 50°F PRIOR TO APPLICATION. CONSTRUCTION JOINTS SHALL BE DIRECTLY SEALED WITH HMWM RESIN APPLIED WITH PLASTIC SQUEEZE BOTTLES, CAULKING, OR OTHER EQUIPMENT CAPABLE OF DELIVERING A NARROW RESIN STREAM AND APPROVED BY THE ENGINEER. ADDITIONAL APPLICATION OF MATERIAL TO THE CONSTRUCTION JOINT AREA CAN BE ANTICIPATED IF THE INITIAL APPLICATION DISSIPATES FULLY INTO THE CONSTRUCTION JOINT. IN THESE AREAS, A SECOND COAT WILL BE REQUIRED AFTER THE FIRST COAT HAS STARTED TO CURE.

THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO PREVENT ANY RESIN FROM FLOWING INTO LANES OPEN TO TRAFFIC.

CLEANING AND FLUSHING OF EQUIPMENT, TOOLS, ETC. SHALL BE DONE WITH AN APPROPRIATE SOLVENT, AS APPROVED BY THE ENGINEER, IN SUCH A MANNER TO MINIMIZE PERSONAL AND ENVIRONMENTAL HAZARDS. WORKERS SHOULD BE ADVISED THE RESIN WILL SOFTEN GUM RUBBER SOLES, AND A FACE-MASK SHOULD BE USED TO PROTECT FROM ACCIDENTAL SPLASHES. CLOTHING AND LEATHER SATURATED WITH RESIN WILL HARDEN AND BECOME USELESS.

A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER OR SUPPLIER MUST BE PRESENT ON SITE PRIOR TO STARTING APPLICATION.

E. RESTRICTIONS
TRAFFIC AND EQUIPMENT SHALL NOT BE PERMITTED ON THE SEALED CONSTRUCTION JOINTS UNTIL THE HMWM IS TACK FREE AND A MINIMUM OF 6 HOURS HAVE ELAPSED SINCE APPLICATION. THE RESIN SHALL BE PROTECTED FROM MOISTURE FOR NOT LESS THAN 4 HOURS AFTER PLACEMENT. BARRELS ARE NOT CONSIDERED EQUIPMENT.

F. METHOD OF MEASUREMENT
SEALING CONCRETE CONSTRUCTION JOINTS WITH HMWM RESIN SHALL BE MEASURED AS THE ACTUAL LENGTH IN LINEAR FEET OF CONSTRUCTION JOINT SEALED.

G. BASIS OF PAYMENT
ACCEPTED QUANTITIES OF SEALING NEW CONCRETE WEARING SURFACE CONSTRUCTION JOINTS WITH HMWM RESIN SHALL BE PAID FOR AT THE UNIT PRICE BID PER LINEAR FOOT WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, APPLICATION OF THE RESIN, PROVIDING MANUFACTURER'S TECHNICAL REPRESENTATIVE, PROTECTION OF WATERWAYS AND TRAFFIC BELOW BRIDGE, CLEAN UP AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

PAYMENT SHALL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL	LIN FT	STRUCTURE, MISC.: SEALING CONCRETE WEARING SURFACE CONSTRUCTION JOINTS WITH HMWM RESIN

DESIGN AGENCY
DISTRICT TWELVE
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
MJL	MJL	MJM	02-23-01

CHECKED	REVISED	STRUCTURE FILE NUMBER
BDS		4302731/4302761R

STRUCTURE GENERAL NOTES - 1
BRIDGE NO. LAK-44-0561 L/R
S.R. 44 OVER CSXT

LAK-2-13.05/
LAK-44-4.14

STRUCTURE GENERAL NOTES

ITEM 848 - MICRO-SILICA MODIFIED CONCRETE OVERLAY USING HYDRO-DEMOLITION (1¾"), AS PER PLAN

ITEM 848 - SURFACE PREPARATION USING HYDRO-DEMOLITION, AS PER PLAN

ITEM 848 - MICRO-SILICA MODIFIED CONCRETE OVERLAY USING (VARIABLE THICKNESS) MATERIAL ONLY, AS PER PLAN

ITEM 848 - FULL DEPTH REPAIR, AS PER PLAN

ITEM 848- EXISTING CONCRETE OVERLAY REMOVED (1/4" LATEX SCRUB), AS PER PLAN

THESE ITEMS SHALL BE PERFORMED AS PER SUPPLEMENTAL SPECIFICATION 848 "BRIDGE DECK REPAIR AND OVERLAY WITH CONCRETE USING HYDRO-DEMOLITION" WITH THE FOLLOWING REVISIONS.

(SEE 848.18) THE REMOVAL OPERATIONS SHALL NOT BEGIN IF SUSTAINED RAINS (5 HOURS OR MORE WITH BREAKS BETWEEN SHOWERS LESS THAN 1½ HOURS) ARE PREDICTED WITHIN 48 HOURS OF COMMENCEMENT.

(SEE 848.21) THE FINAL SOUNDING MAY TAKE PLACE WITHIN 24 HOURS OF A RAIN, AND THE DECK DOES NOT HAVE TO BE COMPLETELY DRY. THE HAND CHIPPING ITEM, IF INCLUDED IN THE PLANS, IS FOR THE PURPOSE OF CHIPPING AREAS WHERE THE HYDRO-DEMOLITION MACHINE DOES NOT HAVE ACCESS. IF THE DESIRED DEPTH IS ACHIEVED BY HYDRO-DEMOLITION, NO FURTHER REMOVAL IS NECESSARY.

(SEE 848.23) FULL DEPTH REPAIR IS REQUIRED IF LESS THAN ONE HALF OF THE ORIGINAL DECK CONCRETE THICKNESS IS SOUND. CONCRETE DECK AND ABUTMENT REPAIR ADJACENT TO THE EXPANSION JOINTS SHALL BE INCLUDED WITH THE FULL DEPTH REPAIR ITEM.

(SEE 848.29) THE WET CURE TIME IS REDUCED FROM 72 HOURS TO 24 HOURS OR UNTIL A BEAM BREAK OF 600 PSI IS ACHIEVED, WHICHEVER IS GREATER. AFTER THE 24 HOUR WET CURE, THE FINISHED OVERLAY SURFACE SHALL BE CURED BY SPRAYING A UNIFORM APPLICATION OF CURING MATERIAL 705.07, TYPE I OR ID, AS PER CMS 511.14 METHOD (B) MEMBRANE CURING. IF THE CURING COMPOUND CAN NOT BE PLACED WITHIN THE SAME SHORT TERM CLOSURE PERIOD AS THE OVERLAY, THE CONTRACTOR MAY ALLOW TRAFFIC ONTO THE OVERLAY, AND SHALL, AT THE NEXT AVAILABLE SHORT TERM CLOSURE PERIOD, APPLY THE MEMBRANE CURING COMPOUND.

(SEE 848.29) TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER THE COMPLETION OF THE 24 HOUR WET CURE, AND AFTER TWO TEST BEAMS HAVE ATTAINED AN AVERAGE MODULUS OF RUPTURE OF 600 PSI.

(SEE 848.30) THE OVERLAY SURFACE EVAPORATION RATE REQUIREMENTS ARE IN EFFECT FROM 9:30 AM TO 11:00 PM. THEY ARE NOT IN EFFECT FROM 11:00 PM TO 9:30 AM.

(SEE 848.30) OVERLAYS MAY BE PLACED AFTER OCTOBER 15, BUT NO OVERLAY SHALL BE PLACED AFTER NOVEMBER 13.

(SEE 848.31) FOR EACH PHASE, THE CONTRACTOR SHALL PROVIDE ENOUGH MATERIAL FOR TWO BEAM BREAKS EACH AT 12 HOURS, 24 HOURS, 36 HOURS, AND 48 HOURS. THE DEPARTMENT WILL PERFORM THE BEAM BREAK TESTS AND THE DOCUMENT THE TIME OF THE POUR, THE TIME OF THE BEAM BREAK TESTS, AND THE MODULUS OF RUPTURE FOR EACH BEAM UNTIL THE MODULUS OF RUPTURE OF TWO TESTS IS NOT LESS THAN 650 PSI. (TRAFFIC IS ALLOWED ON THE OVERLAY AT 600 PSI).

ALL OTHER REQUIREMENTS OF SS 848 REMAIN IN EFFECT.

ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN

THIS ITEM SHALL CONSIST OF ALL LABOR MATERIAL, FABRICATION, AND EQUIPMENT NECESSARY FOR THE STRUCTURAL EXPANSION JOINT AS DETAILED IN THE PLANS AND IN ACCORDANCE WITH EXJ-4-87. THIS INCLUDES THE LOW PROFILE STEEL RETAINERS, ELASTOMERIC STRIP SEALS, STEEL PLATES OR BARS AND POURED POLYURETHANE JOINT SEALER. THE EXPANSION JOINT RETAINER SHALL HAVE A HEIGHT OF 1½". SPLICES IN THE STRUCTURAL STEEL EXPANSION JOINT SHALL BE FIELD WELDED. THE STRIP SEAL OR NEOPRENE GLAND SHALL BE CONTINUOUS ACROSS THE BRIDGE DECK. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID PER LINEAR FOOT OF JOINT FOR ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN.

ESTIMATED QUANTITIES

ITEM	ITEM EXTENSION	SB BRIDGE	NB BRIDGE	NHS	STP	TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHEET NO.
516	11801	80	80	160		160	LIN FT	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT,	3 OF 4
								AS PER PLAN	
SPECIAL	53001300	274	274	548		548	LIN FT	STRUCTURE MISC.: SEALING OF CONCRETE WEARING SURFACE	2 OF 4
								CONSTRUCTION JOINTS WITH HMWM	
848	10001	1125	1125	2250		2250	SQ YD	MICRO-SILICA MODIFIED CONCRETE OVERLAY USING	3 OF 4
								HYDRODEMOLITION (1¾"), AS PER PLAN	
848	20001	1125	1125	2250		2250	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN	3 OF 4
848	30001	55	55	110		110	CU YD	MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE	3 OF 4
								THICKNESS), MATERIAL ONLY, AS PER PLAN	
848	50000	5	5	10		10	SQ YD	HAND CHIPPING *	
848	50100	LUMP	LUMP	LUMP		LUMP		TEST SLAB	
848	50201	10	10	20		20	CU YD	FULL-DEPTH REPAIR, AS PER PLAN *	3 OF 4
848	50321	985	985	1970		1970	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (1/4" LATEX SCRUB),	3 OF 4
								AS PER PLAN	

* ALL OR A PORTION OF THIS QUANTITY IS SUBJECT TO NON-PERFORMANCE WITHOUT PENALTY TO THE STATE OF OHIO.

DESIGN AGENCY
DISTRICT TWELVE
PRODUCTION DEPARTMENT

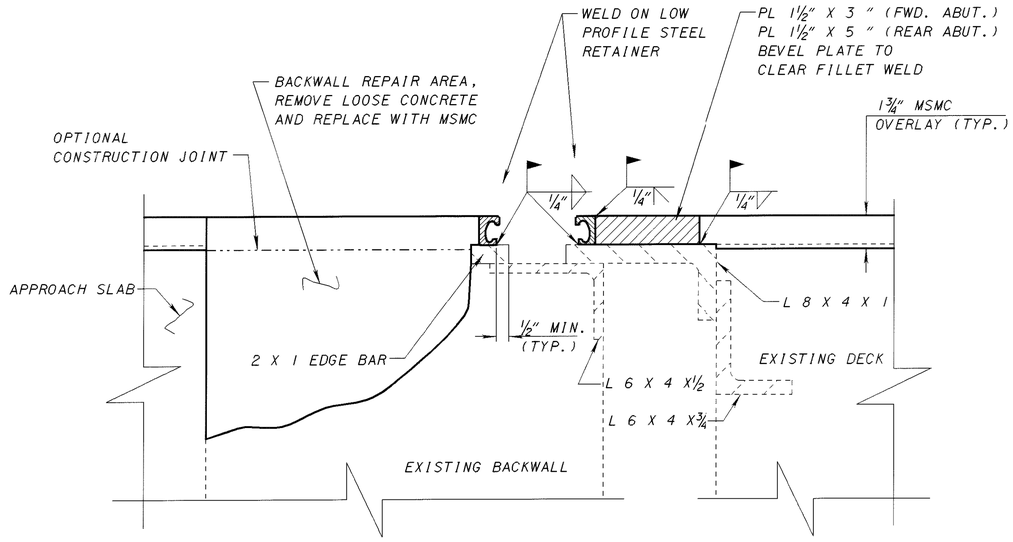
DESIGNED	DRAWN	REVIEWED	DATE
MJL	MJL	MJM	02-23-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDS		4302737L/4302761R	

STRUCTURE GENERAL NOTES - 2
BRIDGE NO. LAK-44-056 / L/R
S.R. 44 OVER CSXT

LAK-2-13.05/
LAK-44-4.14

3 / 4

88
93



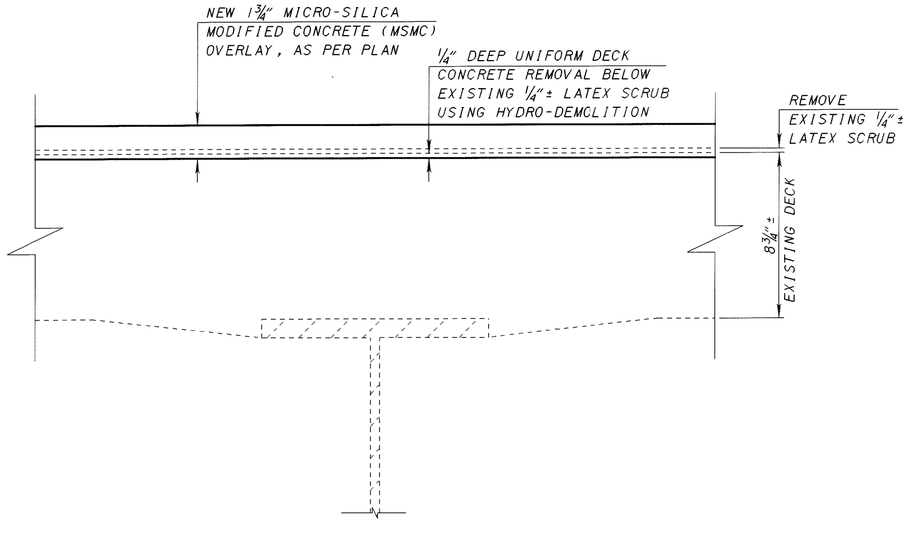
EXPANSION JOINT SECTION

NEOPRENE STRIP SEAL GLAND NOT SHOWN. STRIP SEALS AND RETAINERS SHALL END AT THE CURB PLATES. POURED POLYURETHANE JOINT SEAL SHALL BE APPLIED ON TOP OF THE STRIP SEAL BETWEEN THE RETAINERS AT BOTH ENDS OF THE EXPANSION JOINT FROM THE CURB PLATES TO A DISTANCE OF ONE (1) FOOT FROM THE CURB PLATES.

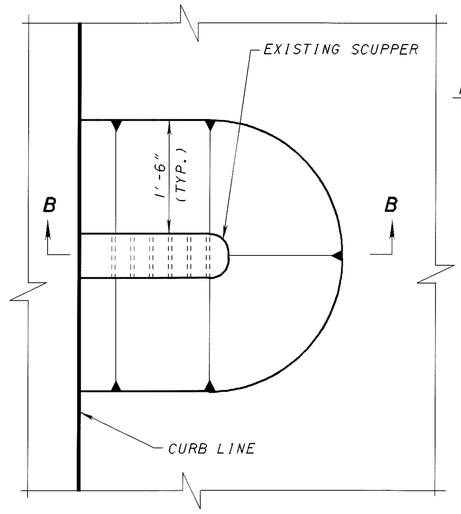
EXPANSION JOINT OPENINGS
DIMENSIONS AT 60°F

LOCATION	EXISTING OPENING BETWEEN SLIDING PLATES *	PROPOSED OPENING BETWEEN LOW PROFILE RETAINERS	NEOPRENE GLAND SIZE
FORWARD ABUT.	0"±	2½"	5" STRIP SEAL GLAND
REAR ABUT.	1½"±	2½"	5" STRIP SEAL GLAND

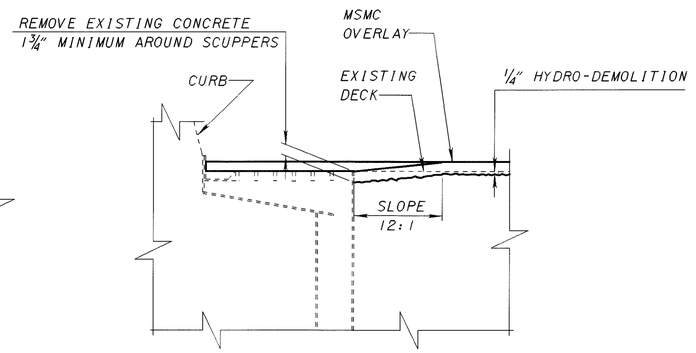
* CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION AND ADJUST PROPOSED OPENING ACCORDINGLY AS DIRECTED BY THE ENGINEER.



DETAIL A



PLAN VIEW



SECTION B-B

TYPICAL OVERLAY DETAILS AT SCUPPERS

NOTES:

1. PAYMENT FOR THE EXPANSION JOINT RETROFIT SHALL BE PAID FOR UNDER ITEM 516 - VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN.
2. ABBREVIATIONS

   TYP. - TYPICAL
   ABUT. - ABUTMENT
   FWD. - FORWARD

DESIGN AGENCY
DISTRICT TWELVE
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
MJL	MJL	MJM	02-23-01
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BDS		4302737L/4302761R	

SUPERSTRUCTURE DETAILS
BRIDGE NO. LAK-44-0561 L/R
S.R. 44 OVER CSXT

LAK-2-13.05/
LAK-44-4.14

4 / 4

89
93

I:\PROJECTS\Pid1839\dgn\0561sd01.dgn 14-AUG-2001 1:19PM tfkonopka

STRUCTURE GENERAL NOTES

ITEM 601, SLOPE PROTECTION MISC., GROUT FILLED FABRIC MATS

EMBANKMENT SLOPE PROTECTION EXTENDING FROM THE FACE OF THE ABUTMENT DOWN TO THE TOE OF SLOPE SHALL BE AS SPECIFIED IN ITEM 601.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATION EXCEPT AS MODIFIED HEREIN. THE FOLLOWING SHALL BE CONSIDERED AS SUPPLEMENTAL TO THE PROVISIONS SET FORTH THEREIN.

MATERIAL: THE MATERIAL USED FOR EMBANKMENT SLOPE PROTECTION SHALL CONSIST OF SPECIALLY-WOVEN MULTIPLE PANELS OF DOUBLE LAYER, OPEN SELVAGE NYLON FABRIC, JOINED IN A MAT CONFIGURATION WITH 8" FILTER POINT SPACING SIMILAR TO "FABRIFORM 8" OR APPROVED ALTERNATE. THIS MAT SHALL BE FILLED WITH A GROUT CONSISTING OF A MIXTURE OF PORTLAND CEMENT, FINE AGGREGATE AND WATER SO PROPORTIONED AND MIXED AS TO PROVIDE A PUMPABLE SLURRY. POZZOLAN AND GROUT FLUIDIFIER MAY BE USED AT THE OPTION OF THE CONTRACTOR. THE MIX SHALL EXHIBIT A COMPRESSIVE STRENGTH OF 2,000 P.S.I. AT TWENTY-EIGHT EIGHT DAYS WHEN MADE AND TESTED IN ACCORDANCE WITH ASTM C-31 AND C-39.

GRADING AND SLOPE PREPARATION: THIS WORK SHALL INCLUDE THE GRADING OF THE SLOPE IN PREPARATION FOR THE PLACEMENT OF THE GROUT FILLED FABRIC MATS. THIS WORK SHALL ALSO INCLUDE THE REMOVAL OF THE PAVED GUTTERS.

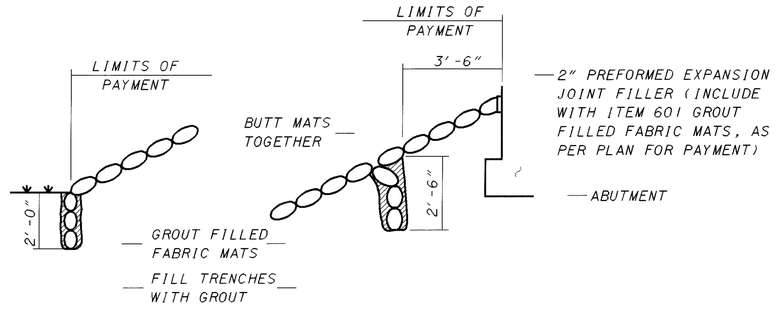
INSTALLATION: THE GROUT FILLED FABRIC MATS SHALL BE INSTALLED ON THE PREPARED SLOPE IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. THE SIDES AND BOTTOM OF THE GROUT FILLED FABRIC MATS SHALL TERMINATE IN ANCHOR TRENCHES. THE TOP OF THE GROUT FILLED FABRIC MATS SHALL TERMINATE AT THE ABUTMENTS AGAINST 2" PREFORMED EXPANSION JOINT FILLER. (SEE DETAIL ON THIS SHEET)

MEASUREMENT FOR PAYMENT: GROUT FILLED FABRIC MATS, AS PER PLAN WILL BE MEASURED BY THE SQUARE YARD OF FINISHED SURFACE COMPLETE IN PLACE.

BASIS OF PAYMENT: PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR:

ITEM	UNITS	DESCRIPTION
601E21100	SQUARE YARD	SLOPE PROTECTION MISC.: GROUT-FILLED FABRIC MATS

THIS PRICE SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM AS SPECIFIED.



GROUT FILLED FABRIC MATS DETAIL

ESTIMATED QUANTITIES

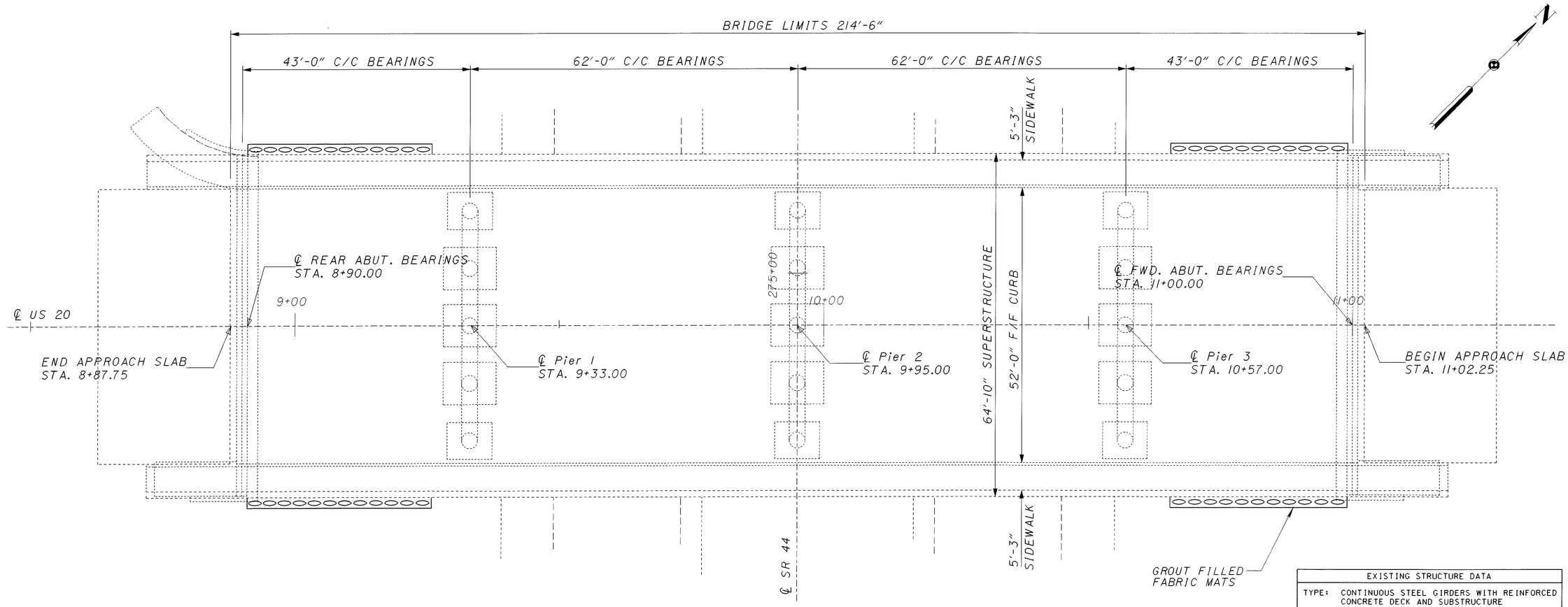
ITEM	ITEM EXTENSION	BRIDGE NO. LAK-20-1434		BRIDGE NO. LAK-44-0510		BRIDGE NO. LAK-20-0795		NHS	STP	TOTAL	UNIT	DESCRIPTION
		LT	RT	LT	RT	LT	RT					
601	21100	298	287	210	210	448	448	1901		1901	SQ YD	SLOPE PROTECTION MISC.: GROUT FILLED FABRIC MATS

DESIGN AGENCY
DISTRICT TWELVE
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
MJL	MJL		
CHECKED	REVISED		STRUCTURE FILE NUMBER
EMK			

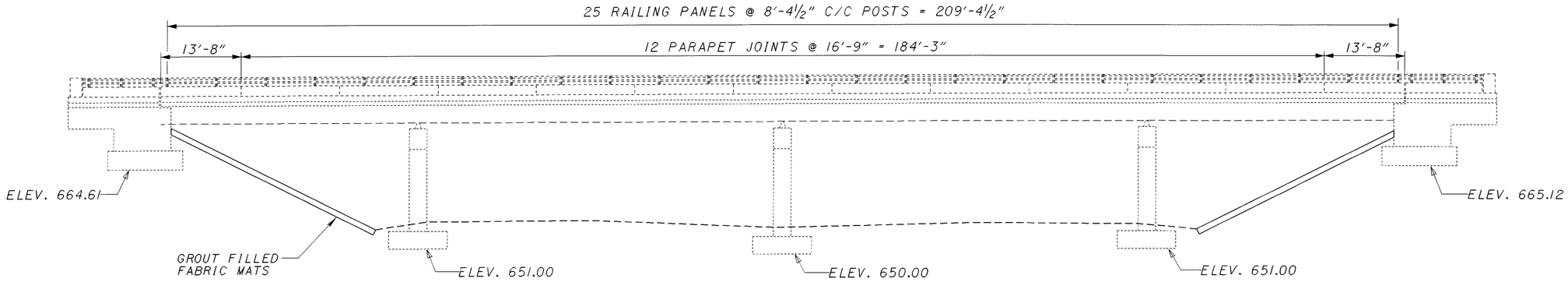
STRUCTURE GENERAL NOTES & ESTIMATED QUANTITY
BRIDGE NO. LAK-20-1434 L/R & BRIDGE NO. LAK-20-0795 L/R
S.R. 44 UNDER U.S. ROUTE 20 & S.R. 283

LAK-2-13.05/
LAK-44-4.14



PLAN

EXISTING STRUCTURE DATA
TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 43'-62'-62'-43' C/C BEARINGS
ROADWAY: 52'-0" F/F CURBS WITH 5'3" SIDEWALKS
LOAD FREQUENCY: CF = 400 (57)
SKEW: NONE
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 MODIFIED (25' LONG)
ALIGNMENT: TANGENT
YEAR BUILT: 1963



ELEVATION

SEE SHEET 90 FOR QUANTITY

DESIGN AGENCY: ODOT - DISTRICT 12

REVIEWED | DATE | STRUCTURE FILE NUMBER

DRAWN: JDL | REVISED

DESIGNED: EMK | CHECKED

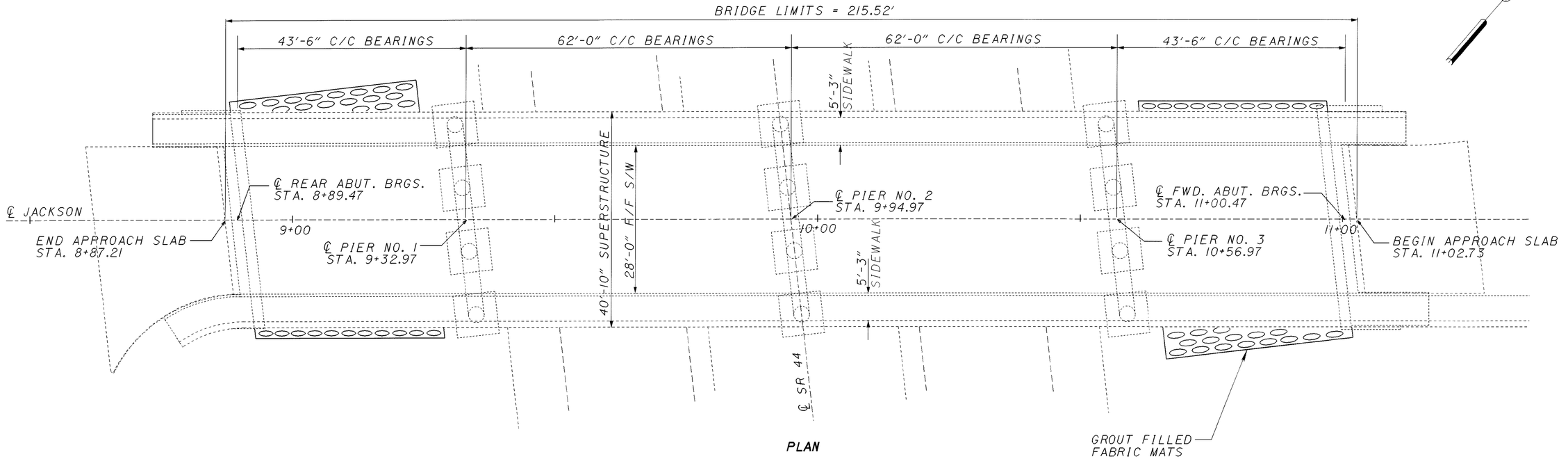
SITE PLAN
BRIDGE NO. LAK-20-1434
STATE ROUTE 44 UNDER U.S. ROUTE 20

LAKE COUNTY
LAK-2/44-13.05/4.14

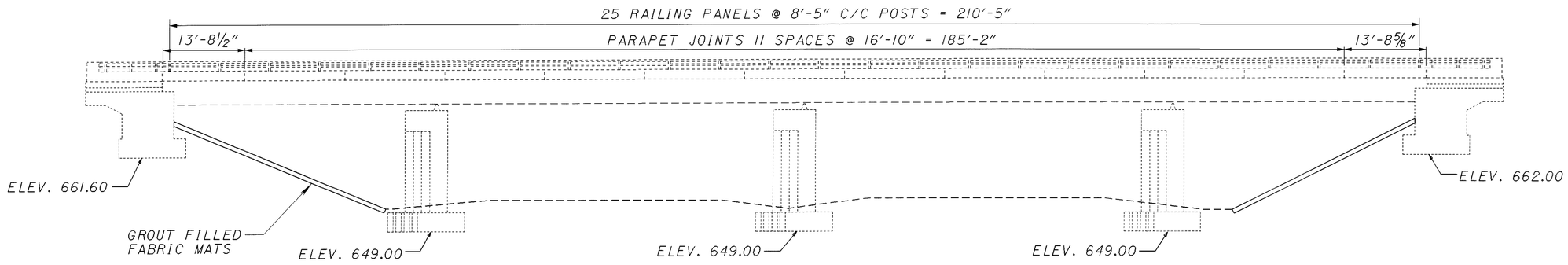
1 / 1

91
93

PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\1434PLAN.dgn



PLAN



ELEVATION

SEE SHEETS 85A-85F FOR ADDITIONAL BRIDGE WORK.

SEE SHEET 90 FOR SLOPE PROTECTION QUANTITY

EXISTING STRUCTURE DATA
TYPE: CONTINUOUS STEEL GIRDERS WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 43.5'-62'-62'-43.5' C/C BEARINGS
ROADWAY: 28'-0" F/F 5'-3" SIDEWALKS
LOAD FREQUENCY: CF = 400 (57)
SKEW: 6°-32.5' R.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25' LONG) SPECIAL
ALIGNMENT: TANGENT
YEAR BUILT: 1963

DESIGN AGENCY: ODOT - DISTRICT 12

DESIGNED EMK | DRAWN JDL | CHECKED | REVIEWED | DATE | REVISED | STRUCTURE FILE NUMBER

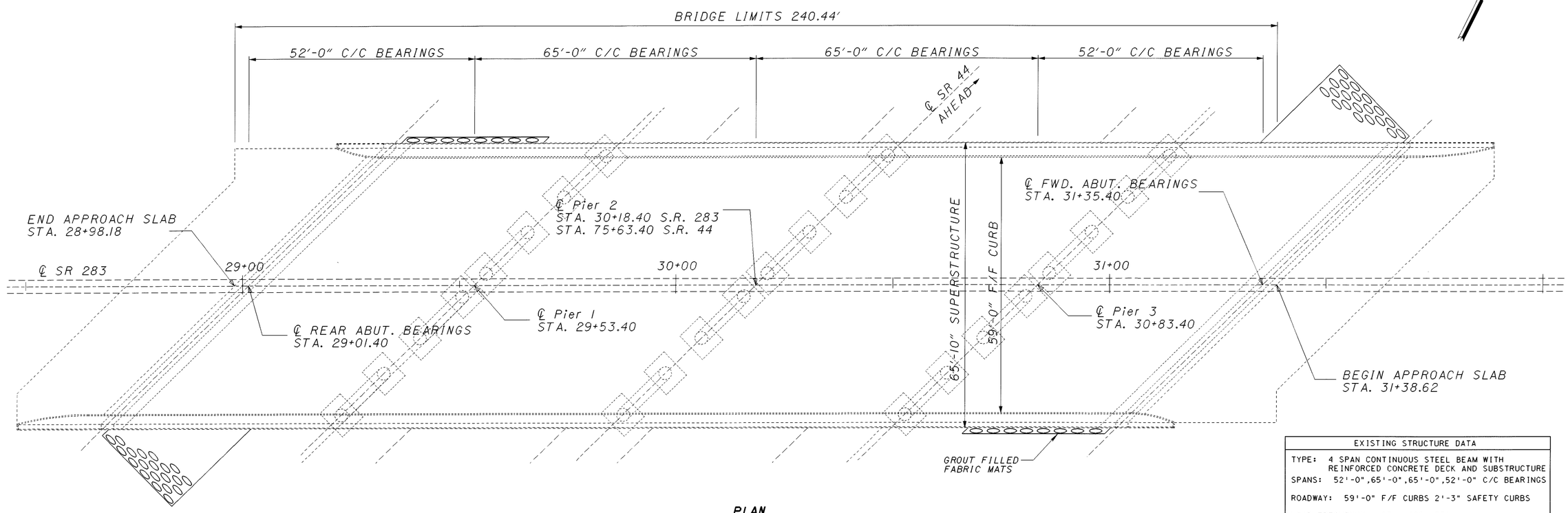
SITE PLAN
BRIDGE NO. LAK-44-0510
STATE ROUTE 44 UNDER JACKSON ST.

LAKE COUNTY
LAK-2/44-13.05/4.14

1 / 1

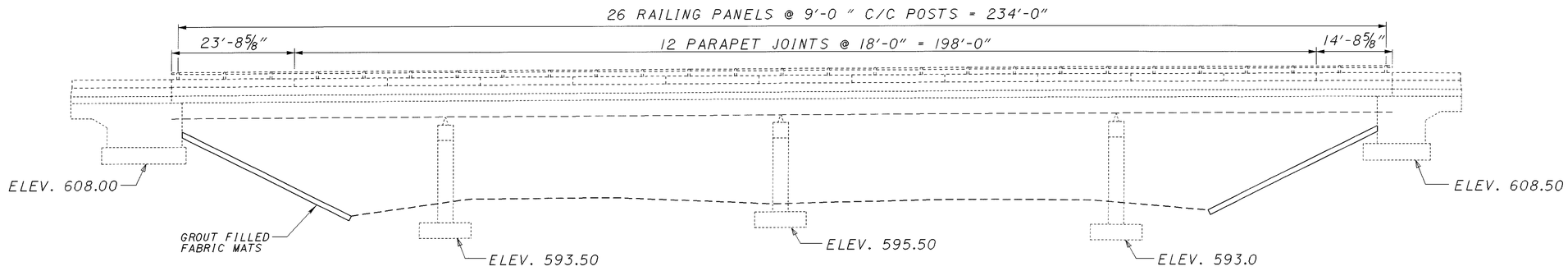
92
93

PLOTTED FROM: I:\PROJECTS\P1d18391\dgn\0510PLAN.dgn



PLAN

EXISTING STRUCTURE DATA
TYPE: 4 SPAN CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPANS: 52'-0",65'-0",65'-0",52'-0" C/C BEARINGS
ROADWAY: 59'-0" F/F CURBS 2'-3" SAFETY CURBS
LOAD FREQUENCY: CF = 400 (57)
SKEW: 45°37'30" L.F.
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0" LONG (SPECIAL)
ALIGNMENT: S.R. 44 AND S.R. 283 TANGENT
YEAR BUILT: 1962



ELEVATION

SEE SHEET 90 FOR QUANTITY

NOT TO SCALE

DESIGN AGENCY: ODOT - DISTRICT 12

REVIEWED | DATE | STRUCTURE FILE NUMBER

DRAWN: JDL | REVISED

DESIGNED: EMK | CHECKED

SITE PLAN

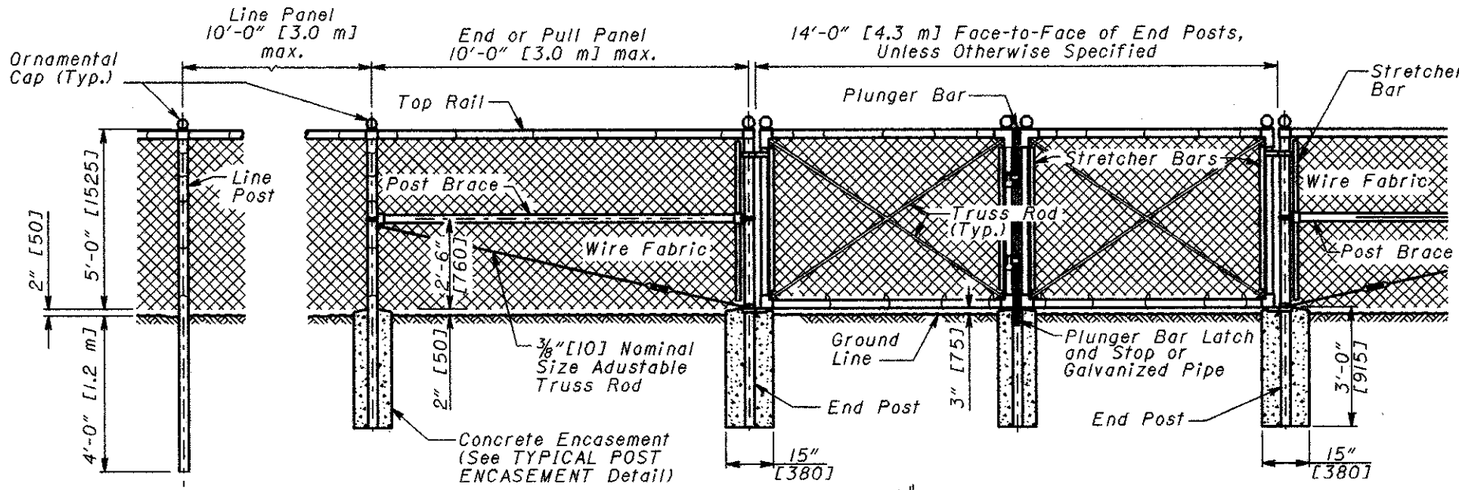
BRIDGE NO. LAK-44-0795
STATE ROUTE 44 UNDER STATE ROUTE 283

LAKE COUNTY
LAK-2/44-13.05/4.14

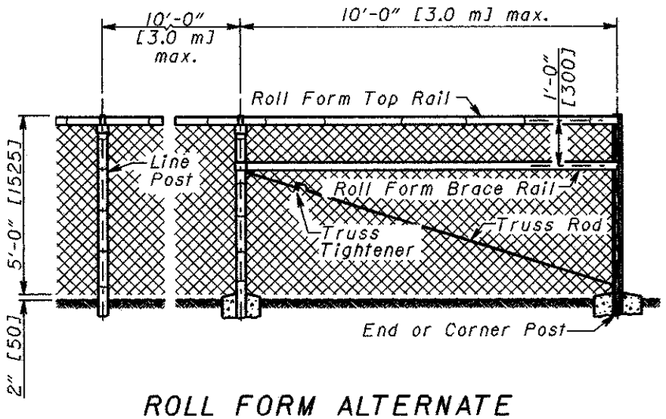
- / -

93
93

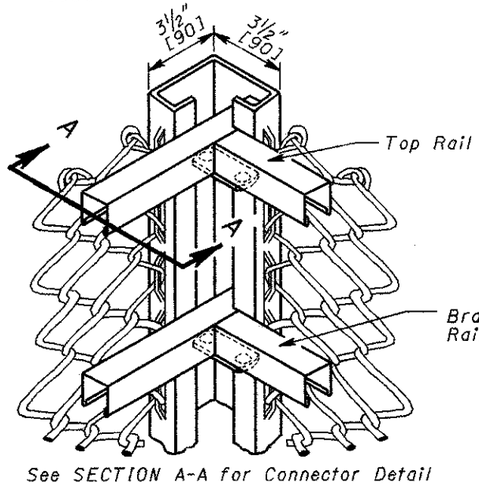
PLOTTED FROM: I:\PROJECTS\Pid18391\dgn\1434PLAN.dgn



TYPE CL FENCE

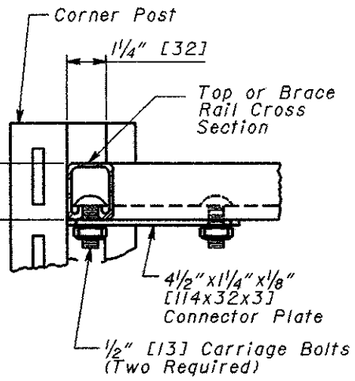


ROLL FORM ALTERNATE

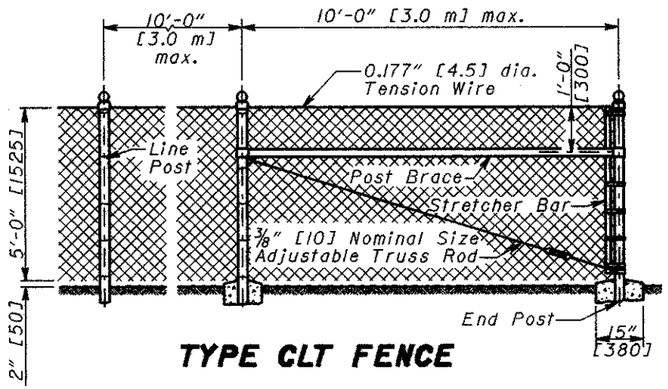


See SECTION A-A for Connector Detail

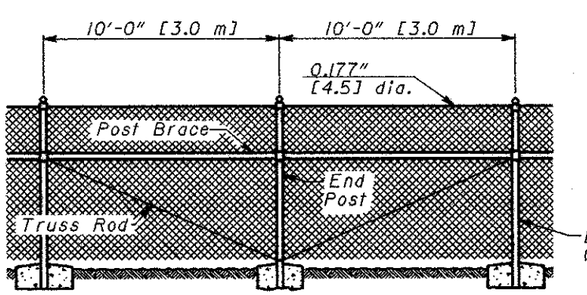
ROLL FORM ALTERNATE CORNER POST
Fabric Outside



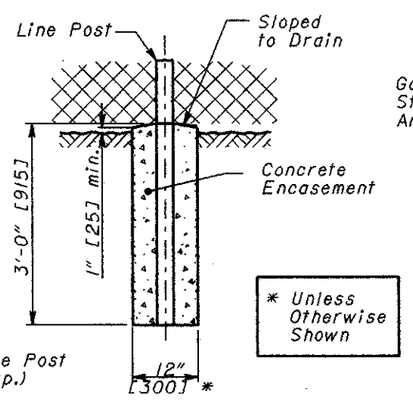
SECTION A-A



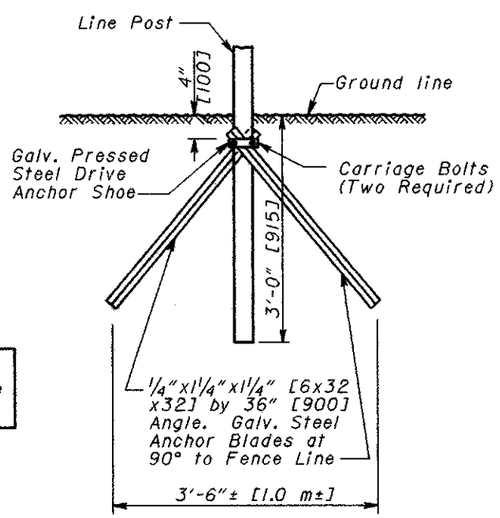
TYPE CLT FENCE



INTERMEDIATE ANCHOR POST ASSEMBLY
For Type CLT Fence



TYPICAL POST ENCASEMENT



DRIVE ANCHOR DETAIL
For Line Post Alternate

NOTES

STREAM CROSSINGS: *Where chain link fence is to be constructed continuously across streams, and stream crossing closures are required by the plans, the closure shall be constructed in accordance with the details shown on* ***SCD F-3.4,*** *modified as necessary to conform to chain link fence dimensions and details.*

TENSION WIRE: *Wire shall be used instead of the top rail when specified on the plans as Item 607 - Fence, Type CLT. The wire shall be stretched taut and fastened to or passed through the top fitting. The fence shall be fastened to the tension wire with fabric ties consisting of hog rings every 24" [600] or less.*

GATES: *Each gate shall be equipped with an approved padlock with a double locking bolt, a five-pin tumbler, a laminated steel case, and a brass cylinder, and shall be rust-proof. Where companion gates are installed on opposite sides of the highway, tumblers shall be identically set in each lock so that the same key will open each lock. Two keys shall be furnished with each padlock. The cost of the padlock and keys shall be included in the cost of the gate.*

POST ENCASEMENT: *Line posts shall normally be driven to an embedment depth of 48" [1.2 m]. Where soil or other conditions do not permit driving to this depth, post holes shall be dug or bored and the posts encased in concrete. Posts located in unconsolidated fills or other loose soils, in dips or other depressions in the ground surface, or installed with fabric exceeding 60" [1525] in height shall also be encased in concrete.*

Steel drive anchors may be used as an alternate to concrete encasement of line posts. All end, corner and pull panel posts shall be encased in concrete. See DRIVE ANCHOR DETAIL.

FRAMEWORK AND FABRIC: *Materials may be any type permitted by CMS 710.03.*

FENCE GROUNDING: *When needed for overhead electrical lines, grounding is to be in accordance with the* ***Office of Traffic Engineering's SCD HL-50.11.***

THIS DRAWING REPLACES F-1.1M DATED 4-8-97.

OHIO DEPARTMENT OF TRANSPORTATION
Paul F. Imhoff 7-28-00
ROADWAY DESIGN ENGINEER — DATE

REVISIONS

STDS. ENGR. M. Evans
DRAWN D. Focke

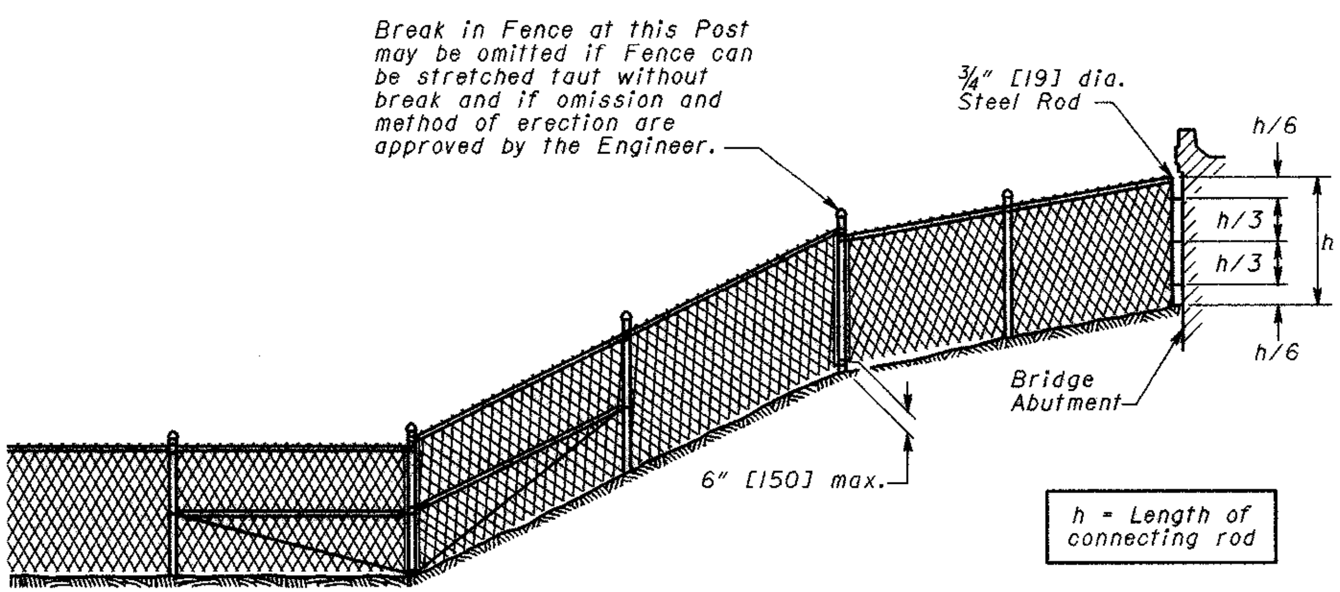
All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.

ROADWAY ENGINEERING SERVICES

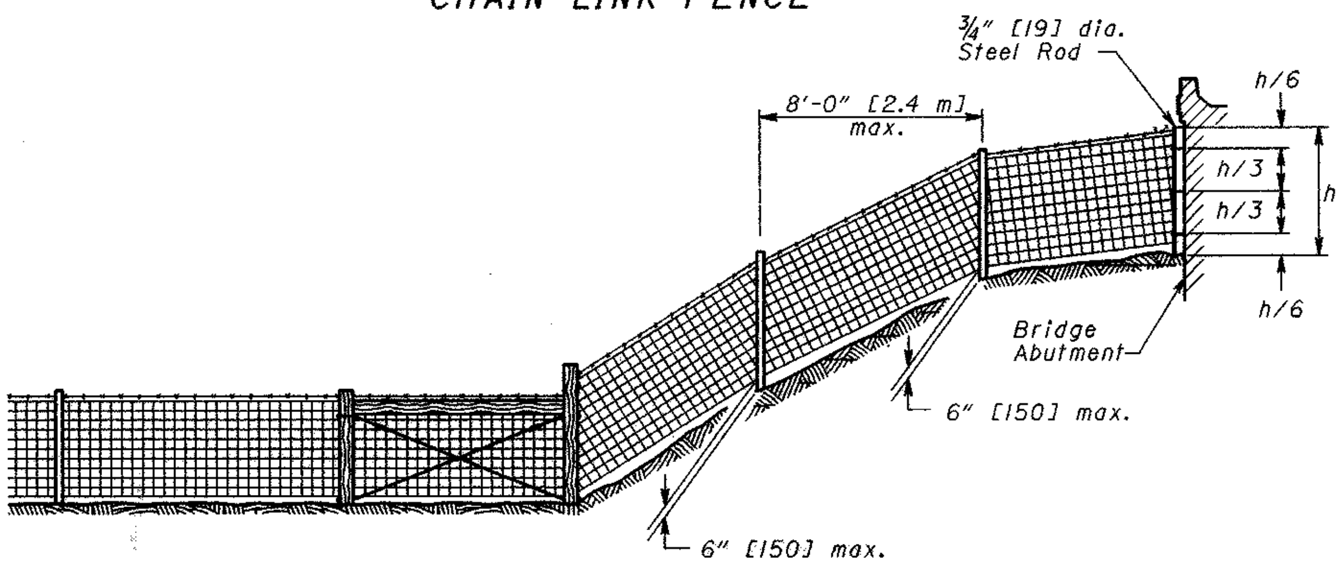
STANDARD ROADWAY CONSTRUCTION DRAWING
CHAIN LINK FENCE

NUMBER F-1.1

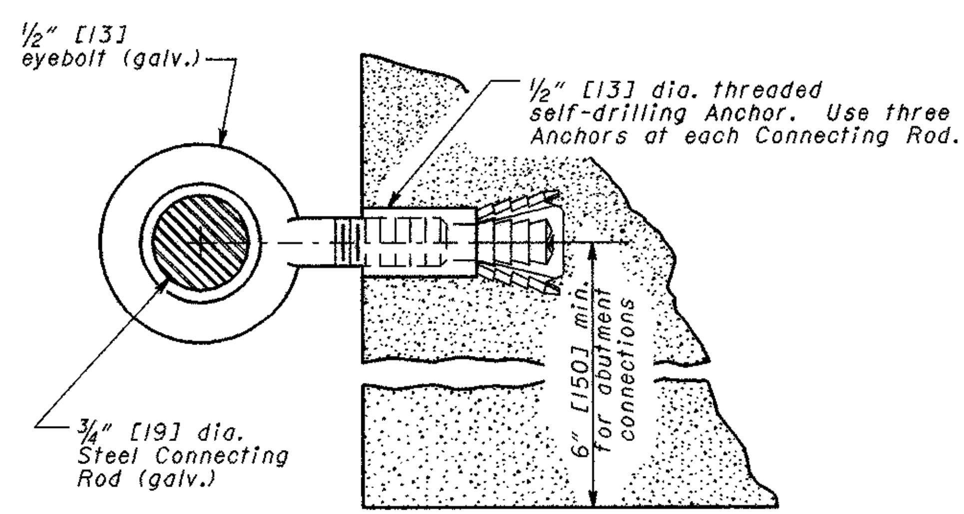
1 / 1



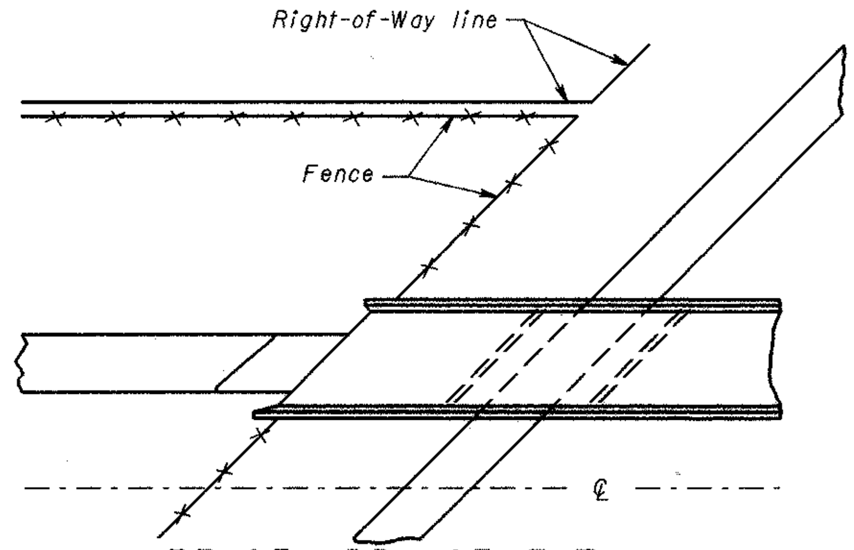
CHAIN LINK FENCE



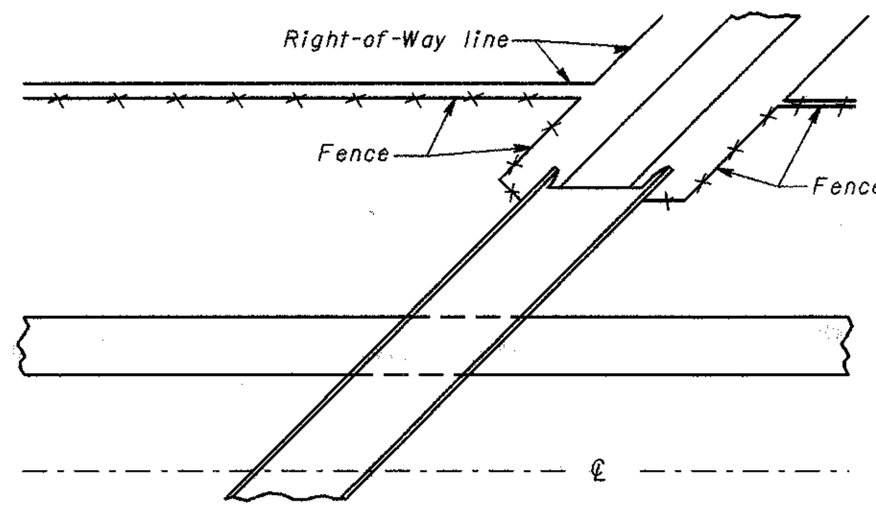
WOVEN WIRE FENCE



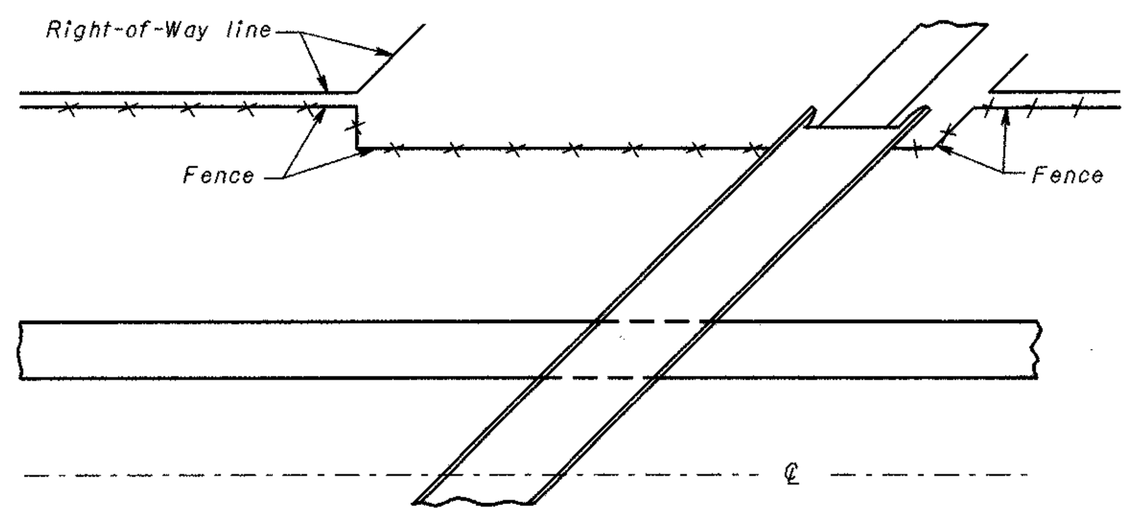
ABUTMENT CONNECTION



FENCE ARRANGEMENT
AT FREEWAY OVERPASS



FENCE ARRANGEMENT
CROSS ROAD ON ORIGINAL PROFILE



FENCE ARRANGEMENT
CROSS ROAD ON HIGH FILL

NOTES

GENERAL: Details shown hereon shall be used with **SCD F-1.1** and **SCD F-2.1.**

ABUTMENT CONNECTION: The cost of furnishing and installing connecting rods, eyebolts, and anchors shall be included in the unit price bid per Linear Foot [Meter] of fence. Where needed to clear deck projections or other irregularities, the shaft length of the eyebolt may vary.

ANCHORS: Self-drilling anchors shall conform to CMS 712.01. Threaded steel inserts may be cast-in-place when the structure is constructed instead of using using self-drilling anchors.

EYEBOLTS: The steel shall be in accordance with ASTM A 489, except that the bend test is waived. The eyebolt shall be galvanized in accordance with ASTM A 153.

CLEARANCE: On embankments approaching bridges, the clearance of the lower fence wires may vary from 0 to 6" [150].

THIS DRAWING REPLACES F-3.1M DATED 4-21-95.

OHIO DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN ENGINEER — DATE -28-00

REVISIONS

STDS. ENGR. M. Evans
DRAWN D. Focke

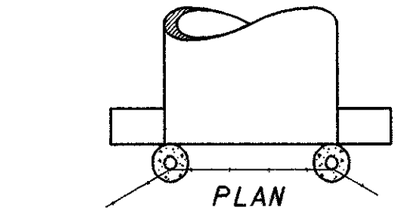
All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.

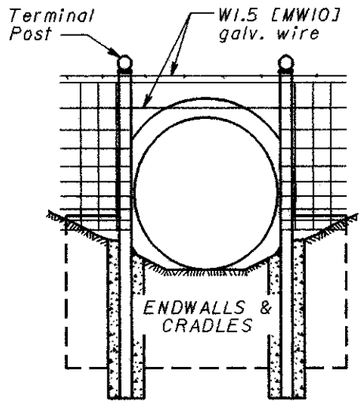
ROADWAY ENGINEERING SERVICES

STANDARD ROADWAY CONSTRUCTION DRAWING
FENCE DETAILS AT BRIDGES

NUMBER F-3.1

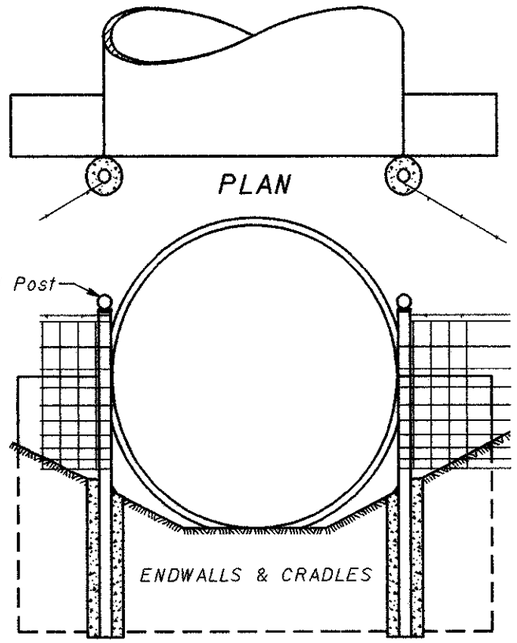
1/1





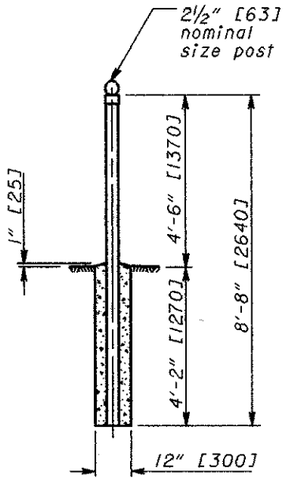
48", 54" & 60" [1200, 1350, and 1500] diameters

TYPE A



66" [1650] diameter and larger

TYPE B



TERMINAL POST

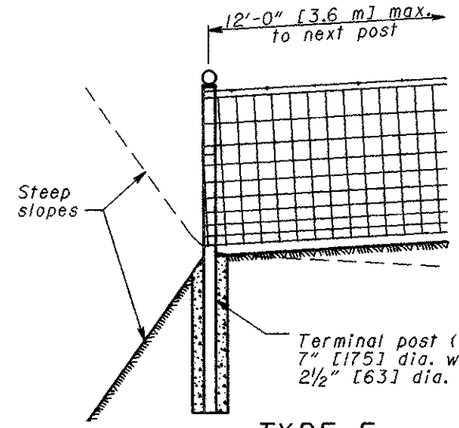
NOTES

FENCE TYPE: Fence terminals shown on this drawing apply to Type 47 fence as detailed, however, the same designs may be used in the construction of all types of fence if modified for differences in basic design such as anchor assembly, height of fence, length of panel, or any other variance that would affect the terminal design.

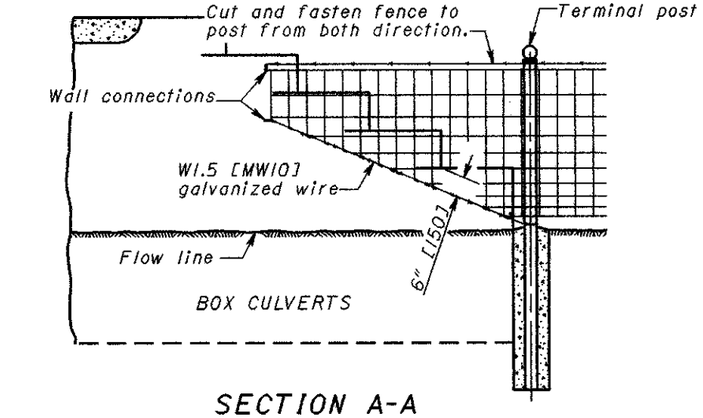
Cost of furnishing and installing connecting rods, eyebolts and anchors for wall connections shall be included in the unit price bid per meter of fence.

ANCHORS: Self-drilling anchors shall conform to CMS 712.01. Threaded steel inserts may be cast-in-place when the structure is constructed, instead of using self-drilling anchors.

EYEBOLT: The steel shall be in accordance with ASTM A 489, except that the bend test is waived. The eyebolt shall be galvanized in accordance with ASTM A 153.



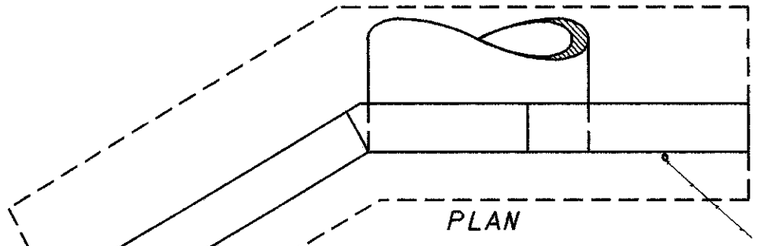
TYPE E

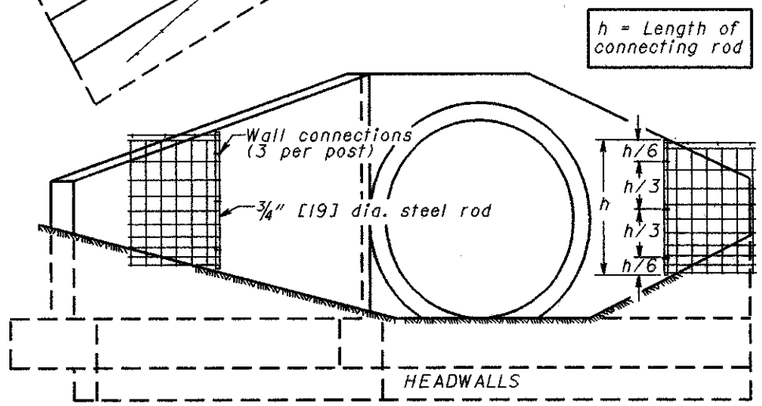


PLAN

SECTION A-A

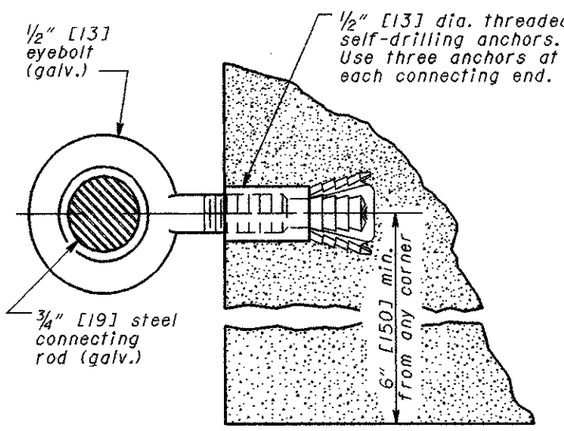
TYPE C





ELEVATION

TYPE D



WALL CONNECTION

THIS DRAWING REPLACES F-3.3M DATED 4-21-95.

OHIO DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN ENGINEER
DATE 7-28-00

REVISIONS

STDS. ENGR. M. Evans
DRAWN D. Focke

All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.

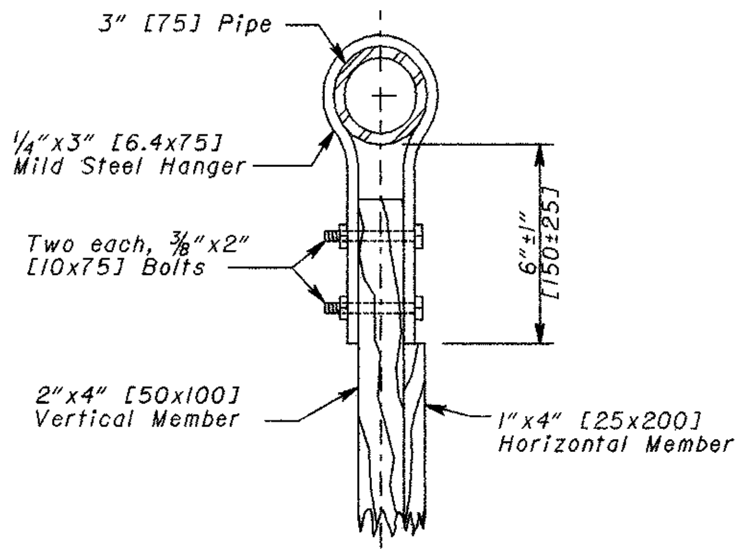
ROADWAY ENGINEERING SERVICES

STANDARD ROADWAY CONSTRUCTION DRAWING

FENCE TERMINALS

NUMBER F-3.3

1 / 1



HANGER DETAIL

See CROSSING TYPE 4 Detail, Sheet 1 of 2.

NOTES

FENCE DETAILS: Details shown on this drawing apply to standard Type 47 Fence as detailed; however, the same designs may be used in the construction of all types of Fence if modified for differences in basic design, such as anchor assembly, height of fence, length of panel, or other variances that would affect the design.

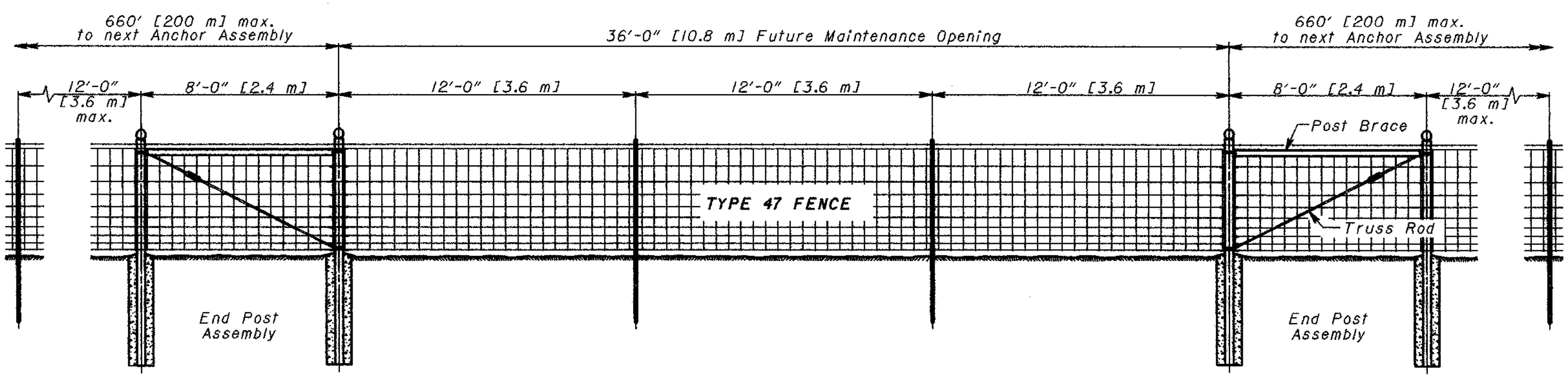
CROSSINGS: Types 1, 2, or 3, shall be provided at earth side ditches and streams served by culverts smaller than 48" [1200] in rise. A Type 4 crossing shall be provided where fence crosses a paved channel that is over 18" [0.5 m] deep. (For Crossing Types, see Sheet 1 of 2.)

TYPE 2 CROSSING: This Type (Sheet 1 of 2) is shown crossing a live stream, but it may also be used for intermittent flow channels. For a live stream crossing, the barbed wire may be deleted or its spacing varied, when directed by the Engineer, to prevent or reduce the collection of debris.

ROCK CHANNEL PROTECTION: Rock shall consist of 18" [0.5 m] of Item 601 - Rock Channel Protection, Type B, with Filter, unless otherwise shown on the plans or determined by the Engineer. It shall be placed 6' [1.8 m] wide (2' [0.6 m] outside the fence and 4' [1.2 m] inside the fence), and shall be paid for as **Item 601 - Rock Channel Protection, Type ____, w/Filter.**

CONCRETE ENCASEMENT: When no rock channel protection is required, the 2'-6" [760] depth of concrete encasement shall be measured from the bottom of the channel.

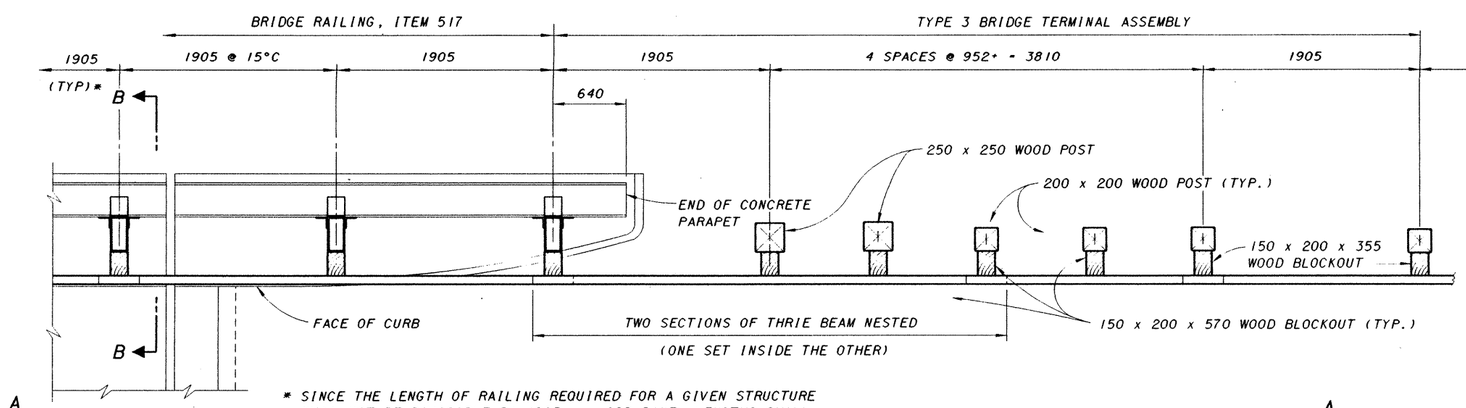
MAINTENANCE OPENING: Barbed wire and fence fabric in the opening shall be separate from the approach wire fabric, and shall be installed after the wire and fabric have been stretched and fastened on both approaches.



FUTURE MAINTENANCE OPENING

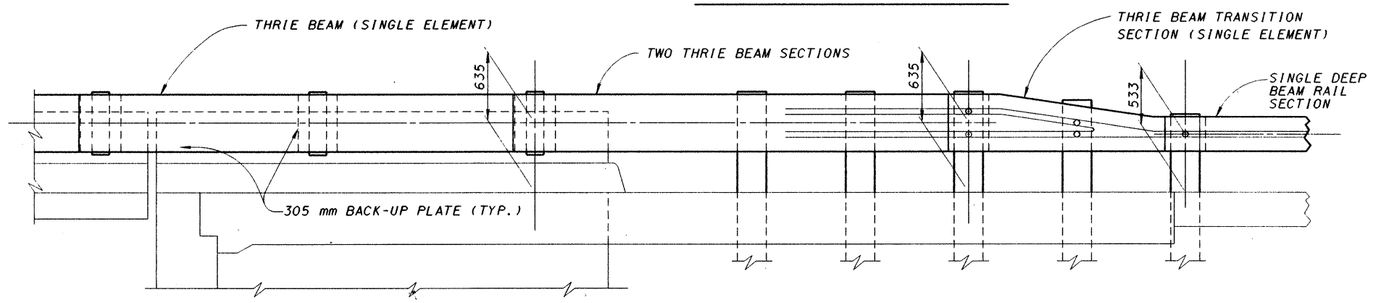
THIS DRAWING REPLACES F-3.4M DATED 4-8-97.

OHIO DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN ENGINEER | 7-28-00 DATE
REVISIONS
STDS. ENGR. M. Evans
DRAWN D. Focke
All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.
ROADWAY ENGINEERING SERVICES
STANDARD ROADWAY CONSTRUCTION DRAWING
FENCE DETAILS
NUMBER **F-3.4**

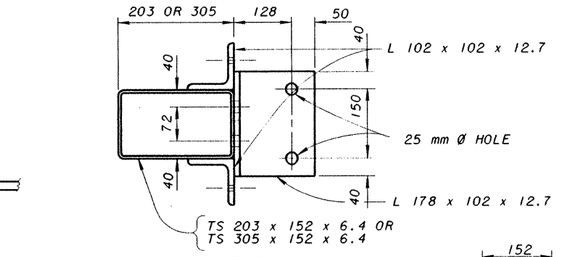


* SINCE THE LENGTH OF RAILING REQUIRED FOR A GIVEN STRUCTURE WILL NOT BE DIVISIBLE BY 1905 mm, ODD PANEL LENGTHS SHALL BE PROVIDED NEAR THE CENTER OF BRIDGE. THE PANEL LENGTHS MAY VARY FROM THE TYPICAL BY PLUS 300 mm OR MINUS 600 mm MAXIMUM.

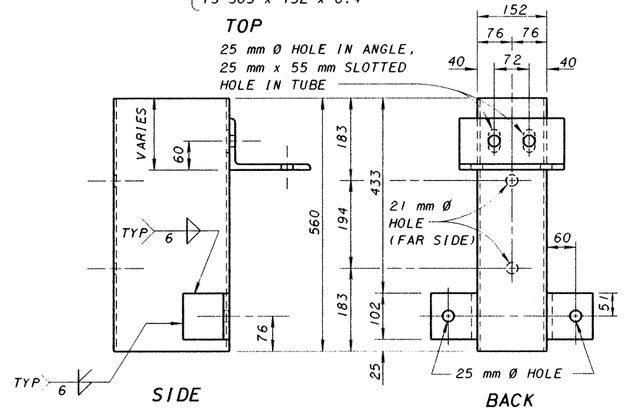
PART PLAN AT ABUTMENT



SECTION A-A

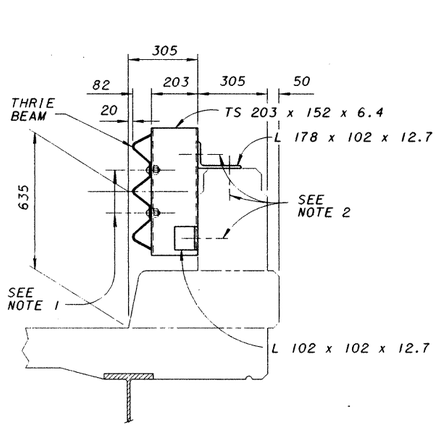


TOP

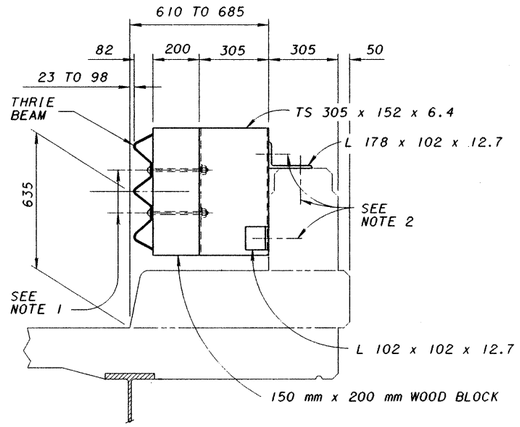


SIDE BACK

GUARDRAIL SUPPORT BRACKET ASSEMBLY



(305 mm SAFETY CURB)



(610 mm AND 685 mm SAFETY CURB)

SECTION B-B

GENERAL NOTES

DESIGN SPECIFICATIONS: "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY AASHTO, 1992, INCLUDING THE 1993 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

THRIE BEAM BRIDGE RAILING SHALL BE IN ACCORDANCE WITH ITEM 517 EXCEPT THAT ALL REFERENCE TO DEEP BEAM RAIL SHALL BE TAKEN TO INCLUDE THRIE BEAM RAIL, ADDITIONALLY, PROVISIONS OF 710.06 SHALL APPLY EXCEPT THAT THE THRIE BEAM RAIL ELEMENT SHALL CONFORM TO AASHTO M 180, TYPE II, CLASS B.

STRUCTURAL STEEL ANGLES SHALL CONFORM TO ASTM A36M.

STRUCTURAL TUBING SHALL CONFORM TO THE PROVISIONS OF 707.10 EXCEPT THAT THE "DROP WEIGHT TEAR TEST" AS PER ASTM E 436 NEED NOT BE PERFORMED.

GALVANIZING: ALL GUARDRAIL SUPPORT BRACKET ASSEMBLIES, HARDWARE AND ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH 711.02.

THRIE BEAM EXPANSION: ALL BOLTS IN THE OFF STRUCTURE END OF THE APPROACH PANEL THRIE BEAM RAIL SECTION THAT SPANS THE ABUTMENT SHALL BE TIGHTENED AS SPECIFIED FOR EXPANSION JOINTS IN 606.05. IF ADDITIONAL EXPANSION JOINTS ARE REQUIRED IN THE THRIE BEAM RAILING, THEIR LOCATION SHALL BE NOTED ON THE CONTRACT PLANS.

REMOVAL OF EXISTING ALUMINUM RAILING AND POSTS SHALL BE IN ACCORDANCE WITH ITEM 202.03. PAYMENT FOR REMOVAL SHALL BE INCLUDED WITH ITEM 517, RAILING.

NOTE 1: 16 mm DIA. BUTTON HEAD BOLT (ASTM A307) WITH PLATE WASHER UNDER HEAD AND STANDARD WASHER UNDER THE NUT.

NOTE 2: 20 mm DIA. HIGH STRENGTH THREADED ANCHORS, BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325M. ANCHORS SHALL BE EMBEDDED A MINIMUM OF 180 mm INTO THE EXISTING CONCRETE PARAPET AND ANCHORED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATIONS 852.

DESIGN AGENCY
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
Richard L. Engel 12-15-94
ENGINEER OF BRIDGES DATE

REVISIONS	DESIGNED	CHECKED	REVIEWED
	SAM	JS	LAW
	DRAWN SAM		

STANDARD
BRIDGE RETROFIT RAILING
THRIE BEAM BRIDGE RAILING FOR BRIDGES WITH SAFETY CURBS

TBR-91M

1 / 1