

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS CULVERT REPLACEMENT

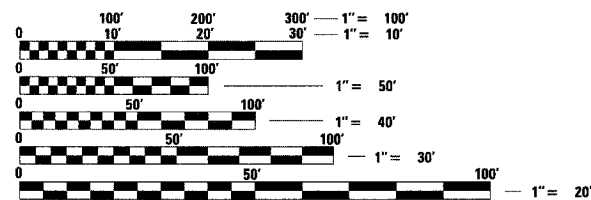
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	S-T-1	KANE	17	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 60E50	

D-91-076-08

FOR INDEX OF SHEETS, SEE SHEET NO. 2

DESIGN DESIGNATION
MINOR ARTERIAL (URBAN)
ADT 16000 (2005)
SPEED LIMIT 50 MPH

THE PROPOSED WORK TO BE PERFORMED CONSISTS OF REMOVING A PORTION OF AN EXISTING REINFORCED CONCRETE SLAB UTILIZING FULL HEIGHT REINFORCED CONCRETE CLOSED ABUTMENTS AT STATION 34+42, AND REPLACING THE EXISTING STRUCTURE WITH A NEW 10'x6' SINGLE-BARREL PRECAST CONCRETE BOX CULVERT UTILIZING PHASED DEMOLITION AND REMOVAL OF THE EXISTING STRUCTURE. THE EXISTING STRUCTURE NUMBER IS SN 045-2036, AND THE PROPOSED STRUCTURE NUMBER IS SN 045-0330.



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

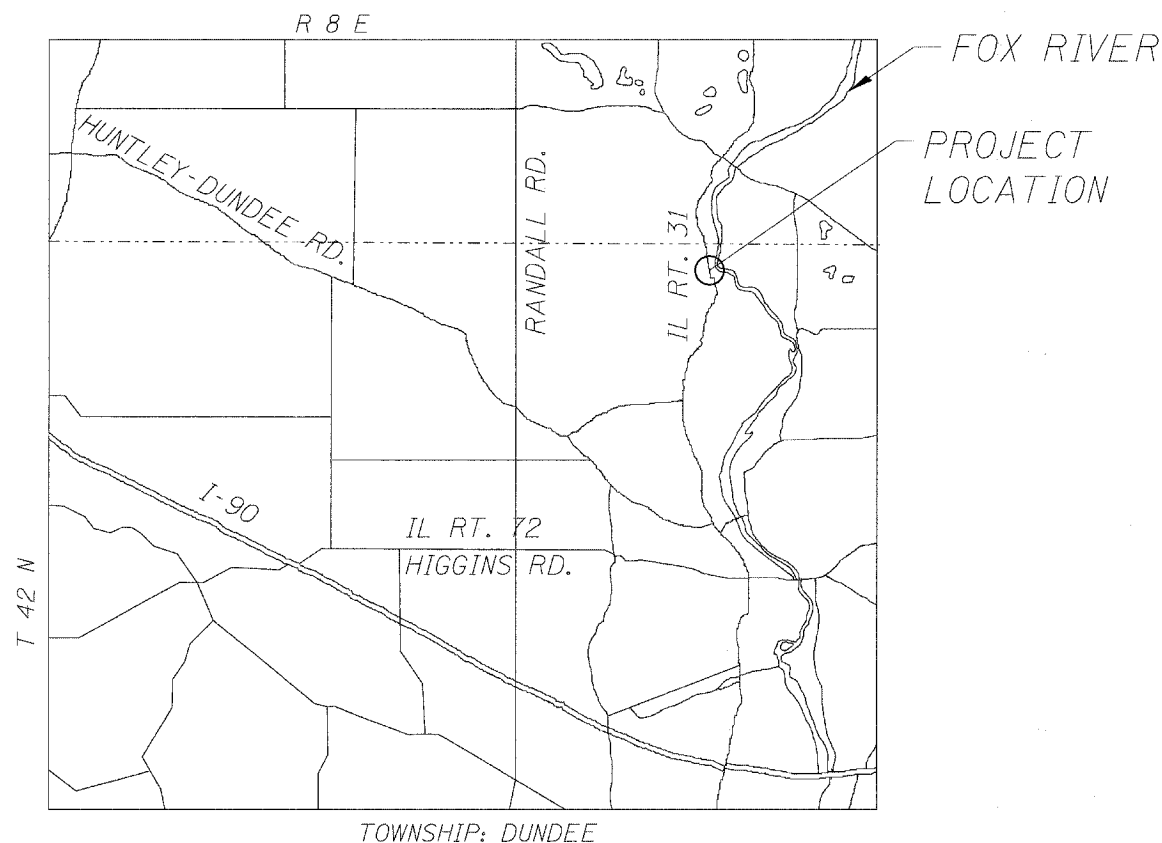
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: REJENDRA C. SHAH (847) 705-4555
PROJECT MANAGER: CATHERINE KIBBLE (847) 705-4269

CONTRACT NO. 60E50

FAU 3887 / ILL ROUTE 31
OVER CREEK (1.1 MI. SOUTH OF ILL 62)
SECTION S-T-1

KANE COUNTY
C-91-415-08



LOCATION SKETCH

NET AND GROSS LENGTH OF PROJECT = 38' = 0.01 MI



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED MAY 23 20 08

Diane M. O'Keefe DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
June 27, 20 08

Eric E. Harnett ENGINEER OF DESIGN AND ENVIRONMENT
June 27, 20 08

Christine M. Reed DIRECTOR OF HIGHWAYS, CHIEF ENGINEER
June 27, 20 08

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OF THE STATE OF ILLINOIS

LOCO, INC.
CONSULTING ENGINEERS
1979 N. MILL ST., SUITE 210
NAPERVILLE, ILLINOIS 60563 Ph: 630/1 577-9100

STATE OF ILLINOIS
REGISTERED PROFESSIONAL ENGINEER
081-005150

STATE OF ILLINOIS
REGISTERED PROFESSIONAL ENGINEER
082-047827

WJS
Expires 11/30/08 Expires 11/30/09

STATE STANDARDS

SHEET NO. TITLE

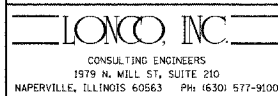
1	TITLE SHEET
2	GENERAL NOTES, INDEX OF SHEETS
3	SUMMARY OF QUANTITIES
4	TYPICAL SECTIONS
5	TRAFFIC CONTROL CONSTRUCTION STAGING PLAN
6	DETOUR PLAN
7	PLAN AND PROFILE
8	PAVEMENT MARKING PLAN
9	EROSION CONTROL PLAN
10-15	STRUCTURAL SHEETS FOR STRUCTURE NO. 045-2036
16	GUARDRAIL PLACEMENT PLAN / TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)
17	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT) (TC-11) HIGHWAY STANDARDS

SHEET NO. TITLE

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-01	AREAS OF REINFORCEMENT REBARS
280001-04	TEMPORARY EROSION CONTROL SYSTEMS
442201-03	CLASS C AND CLASS D PATCHES
515001-02	NAME PLATE FOR BRIDGE
630001-07	STEEL PLATE BEAM GUARDRAIL
630101-07	GUARDRAIL MOUNTED ON EXISTING CULVERTS
630201-05	PCC/BITUMINOUS STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-04	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
701201-02	LANE CLOSURE, 2L, 2W DAY ONLY FOR SPEEDS >.45 MPH
701301-02	LANE CLOSURE 2L, 2W SHORT TIME OPERATIONS
701901	TRAFFIC CONTROL DEVICES
704001-04	TEMPORARY CONCRETE BARRIER
720001	SIGN PANEL MOUNTING DETAILS
720006-01	SIGN PANEL ERECTION DETAILS
720011	METAL POSTS FOR SIGNS, MARKERS AND DELINEATORS
729001	APPLICATION OF TYPES A & B METAL POSTS (FOR SIGN & MARKERS)
780001-01	TYPICAL PAVEMENT MARKINGS

GENERAL NOTES

1. ALL ELEVATIONS ARE BASED ON UNITED STATES COAST AND GEODETIC SURVEY DATUM.
2. DIMENSIONS ARE IN ENGLISH UNITS UNLESS OTHERWISE NOTED.
3. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE, AND GAS FACILITIES (48 HOURS NOTIFICATION IS REQUIRED).
4. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.
6. ANY REFERENCE TO STANDARDS IN THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE DEPARTMENT LISTED IN THE PLANS WITH THE LATEST NUMBERS.
7. DURING CONSTRUCTION OPERATIONS, LOOSE MATERIAL DEPOSITS THAT OBSTRUCT THE FLOW OF WATER IN DRAINING THE AREA SHALL BE REMOVED BEFORE THE END OF EACH WORK DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES (NEW AND EXISTING) SHALL BE FREE FROM ALL DIRT AND DEBRIS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
8. THE REMOVAL OF GUARDRAIL TERMINAL SECTIONS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LINEAL FOOT OF STEEL PLATE BEAM GUARDRAIL REMOVAL.
9. WHEN ARTIFICIAL LIGHTING IS UTILIZED IN NIGHT OPERATIONS, THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING PROPERTIES.
10. THE CONTRACTOR SHALL NOTIFY THE AREA TRAFFIC FIELD ENGINEER, DON CHIARUGI AT (847) 741-9857 AT LEAST 72 HOURS PRIOR TO FINAL PAVEMENT MARKING INSTALLATION.
11. THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF ANY TEMPORARY TRAFFIC CONTROL DEVICES.
12. ALL UNBLASTED TYPE I AND TYPE II BARRICADES SHALL HAVE TWO (2) SANDBAGS ON THE BOTTOM RAIL.
13. ALL WORK IS TO BE COMPLETED WITHIN FIVE WEEKENDS. NO WORK WILL BE ALLOWED DURING SPECIAL EVENTS HELD FOR EAST AND WEST DUNDEE, AND FOR THE THE VILLAGE OF ALGONQUIN. THE COMPLETION DATE FOR THIS CONTRACT IS NOVEMBER 17, 2008.



USER NAME = #USER*	DESIGNED - MJY	REVISED -
PLOT SCALE = #SCALE*	DRAWN - ZDA	REVISED -
PLOT DATE = #DATE*	CHECKED - MJY	REVISED -
	DATE - 05/27/2008	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

GENERAL NOTES, INDEX OF SHEETS IL ROUTE 31		
SCALE: NONE	SHEET NO. 2 OF 17 SHEETS	STA. 37+24 TO STA. 37+60

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	S-T-1	KANE	17	2
D-91-076-08			CONTRACT NO. 60E50	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QTY.	100% STATE URBAN	
				1000	1007
				ROADWAY	BX CULV
20200100	EARTH EXCAVATION	CU YD	42	42	
20300100	CHANNEL EXCAVATION	CU YD	28		28
20700220	POROUS GRANULAR EMBANKMENT	CU YD	65	65	
21101815	COMPOST FURNISH AND PLACE, 4"	SQ YD	18	18	
25000310	SEEDING, CLASS 4	ACRE	.01	.01	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	.2	.2	
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	.2	.2	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	.2	.2	
25100630	EROSION CONTROL BLANKET	SQ YD	18	18	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	.4	.4	
28000300	TEMPORARY DITCH CHECKS	EACH	2	2	
28000400	PERIMETER EROSION BARRIER	FOOT	28	28	
28100107	STONE RIPRAP, CLASS A4	SQ YD	26.6		26.6
28200200	FILTER FABRIC	SQ YD	95		95
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.4	0.4	
44201771	CLASS D PATCHES, TYPE IV, 10 INCH	SQ YD	188	188	
50102400	CONCRETE REMOVAL	CU YD	11		11
50200100	STRUCTURE EXCAVATION	CU YD	23.2		23.2
50300225	CONCRETE STRUCTURES	CU YD	22.2		22.2
50300300	PROTECTIVE COAT	SQ YD	113		113
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	1310		1310
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2070		2070
51500100	NAME PLATES	EACH	1		1
54011006	PRECAST CONCRETE BOX CULVERT 10'x6'	FOOT	32		32
* 63000005	STEEL PLATED BEAM GUARD RAIL, TYPE B	FOOT	576	576	
* 63000025	STEEL PLATE BEAM GUARDRAIL, ATTACHED TO STRUCTURES	FOOT	28	28	
* 63200307	STEEL PLATE BEAM GUARDRAIL REMOVAL, ATTACHED TO STRUCTURE	FOOT	28	28	
63200310	GUARDRAIL REMOVAL	FOOT	576	576	
67100100	MOBILIZATION	L SUM	1	1	
70101800	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1	
70102550	TRAFFIC CONTROL AND PROTECTION FOR TEMPORARY DETOUR	EACH	1	1	
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	5	5	
70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	100	100	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	100	100	
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	260	260	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	6	6	
* 78200200	BIDIRECTIONAL PRISMATIC BARRIER REFLECTOR	EACH	4	4	
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	6	6	
* 78200500	BARRIER WALL MARKERS	EACH	10	10	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	6	6	
X0321099	GEOTEXTILE RETAINING WALL	SQ YD	51		51
X0322256	TEMPORARY INFORMATIONAL SIGNING	SQ FT	50	50	
X0322641	TEMPORARY CLEAR WATER DIVERSION	L SUM	1		1
X0325350	CONCRETE DECK REMOVAL	SQ FT	520		520
X0325737	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	5	5	
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	90	90	
XX007025	COARSE AGGREGATE BACKFILL (SPECIAL)	CU YD	208	208	
XZ137300	TEMPORARY SHORING	L SUM	1		1
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1	

* SPECIALTY ITEMS

LOWCO, INC.
CONSULTING ENGINEERS
1979 N. MILL ST., SUITE 210
NAPERVILLE, ILLINOIS 60563 PH: 630/517-9100

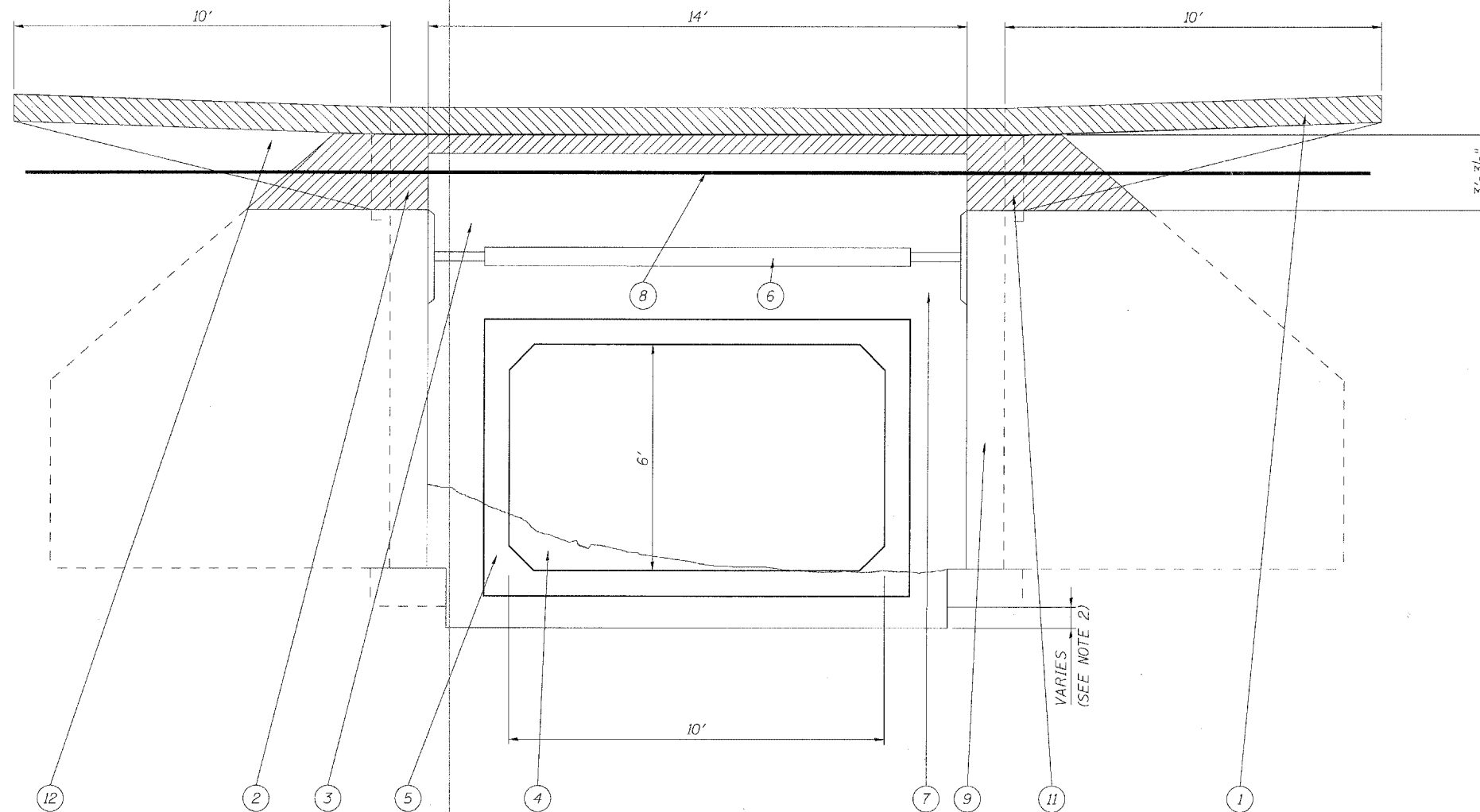
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	DATE - 05/27/2008	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES
IL ROUTE 31**

SCALE: NONE SHEET NO. 3 OF 17 SHEETS STA. 37+24 TO STA. 37+60

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	S-T-1	KANE	17	3
D-91-076-08		CONTRACT NO. 60E50		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



**CULVERT SECTION
LOOKING WEST**

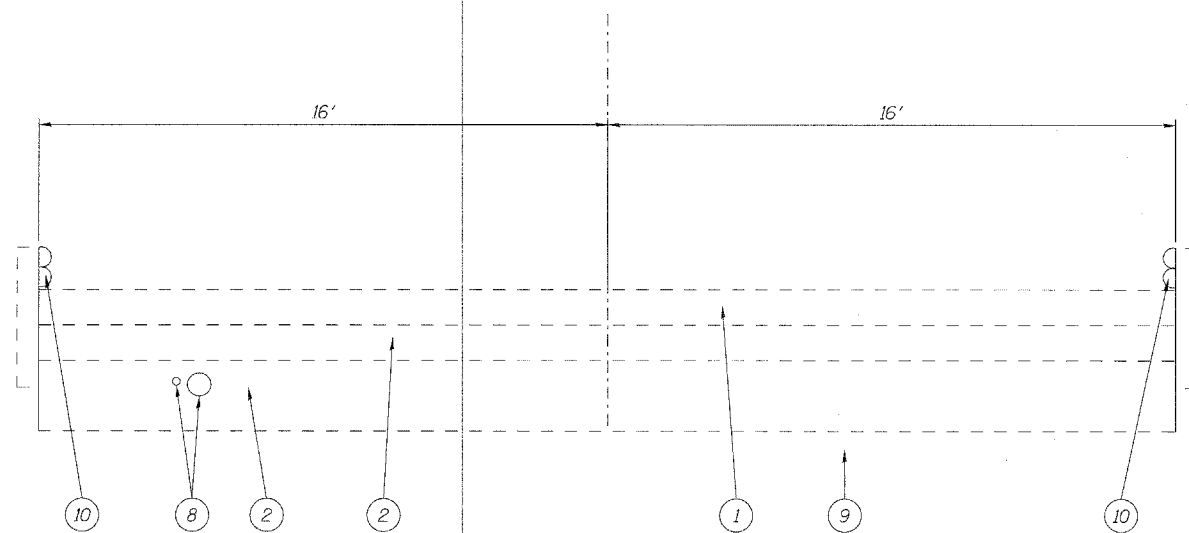
LEGEND

- ① PAVEMENT REMOVAL
- ② CONCRETE REMOVAL
- ③ CONCRETE WINGWALL REPLACEMENT
- ④ CHANNEL EXCAVATION
- ⑤ PRECAST CONCRETE BOX CULVERT 10'x6'
- ⑥ EXISTING STRUCTURE SHORING
- ⑦ COURSE AGGREGATE BACKFILL (SPECIAL)
- ⑧ EXISTING UTILITY-6" GAS LINE / AND OR 2" COMCAST LINE TO BE PROTECTED
- ⑨ EXISTING STRUCTURE
- ⑩ EXISTING STEEL PLATE BEAM GUARD RAIL REMOVAL
- ⑪ STRUCTURE EXCAVATION, W/ THE REPLACEMENT OF POROUS GRANULAR EMBANKMENT
- ⑫ EARTH EXCAVATION, W/ THE REPLACEMENT OF POROUS GRANULAR EMBANKMENT
- ⑬ STEEL PLATE BEAM GUARD RAIL, ATTACHED TO STRUCTURES
- ⑭ CLASS D PATCHES, TYPE IV, 10"
- ⑮ BITUMINOUS MATERIALS (PRIME COAT)

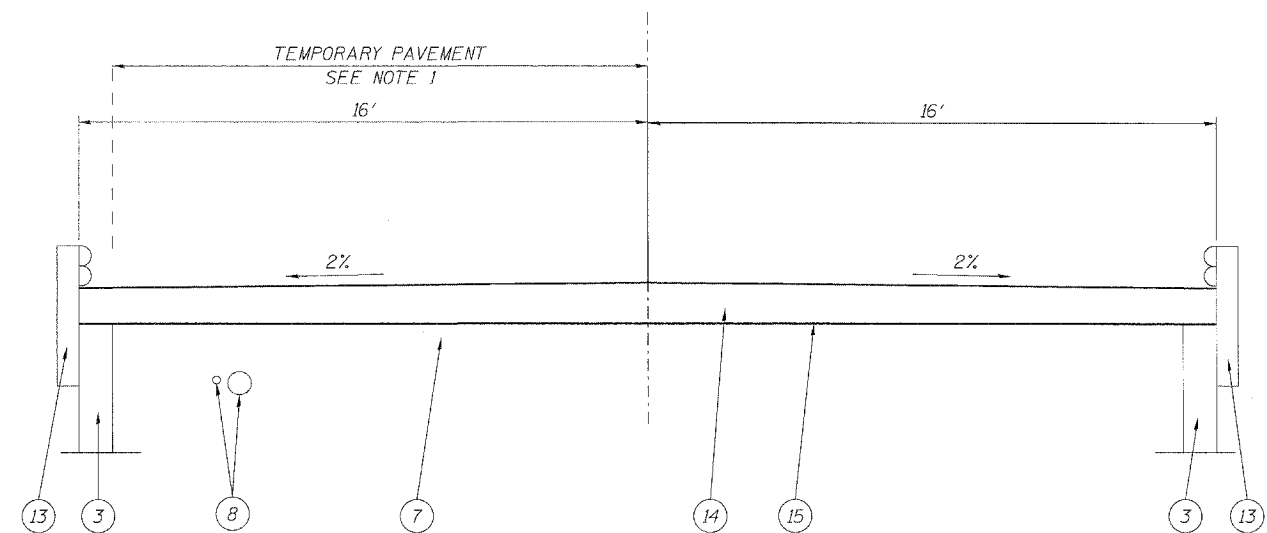
NOTE:

1. THE INSTALLATION OF PRECAST CONCRETE BOX CULVERT WILL BE COMPLETED IN STAGES. CLASS D PATCHES, TYPE IV, 10' TEMPORARY PATCHES WILL BE PLACED AS NECESSARY TO OPEN THE ROAD TO TRAFFIC, OR AS DIRECTED BY THE ENGINEER.
2. EXCAVATION LIMIT VARIES. IF EXCAVATION IS BELOW THE TOP OF THE EXISTING STRUCTURE FOOTING PROVIDE TEMPORARY SHORING SIMILAR TO ⑥.

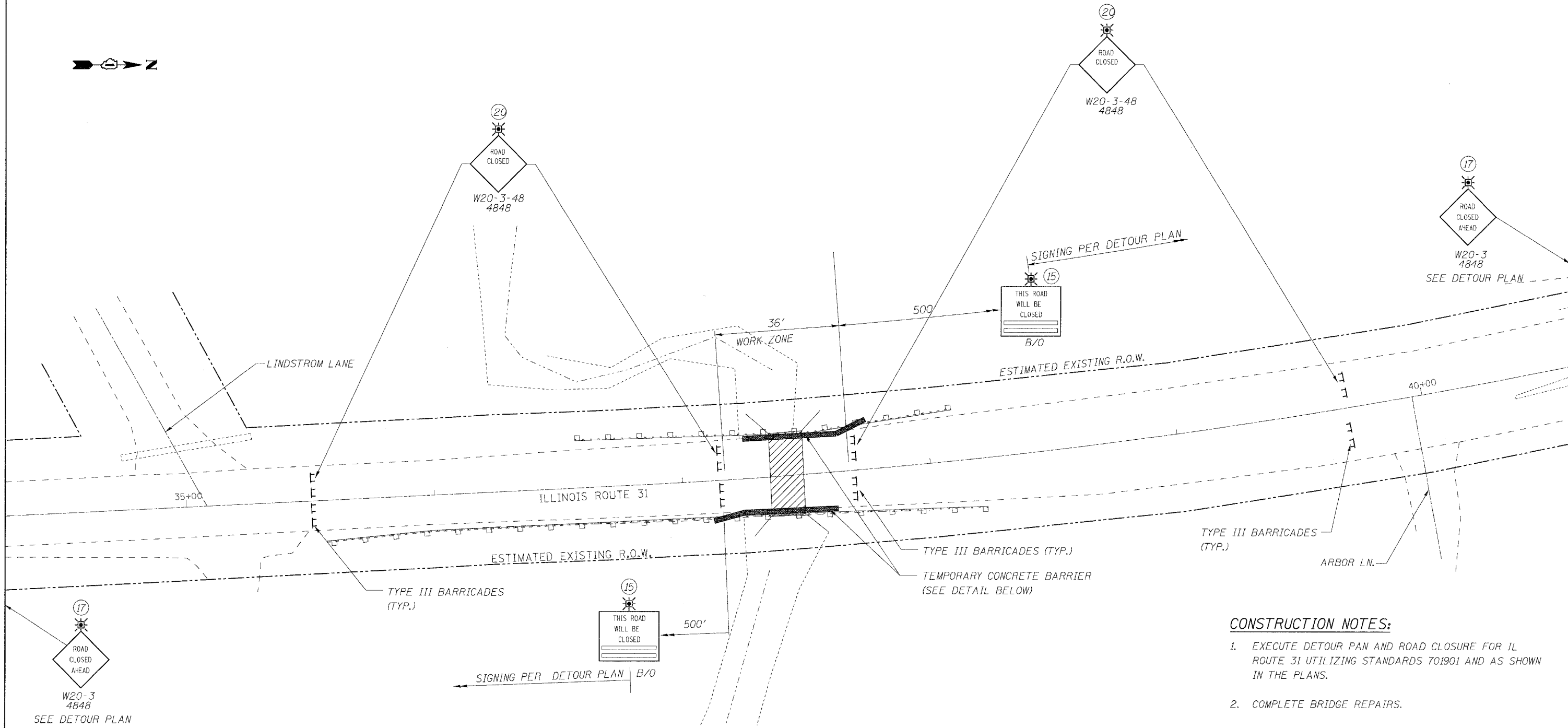
APPLICATION	MIXTURE TYPE	AC TYPE	AIR VOIDS	RAP %
IL RT 31 THRU-LANES	CLASS D PATCHES (HMA BINDER IL-19 MM)	PG 64-22/58-22	4% @ 70 GYR.	15/25



EXISTING ROADWAY SECTION

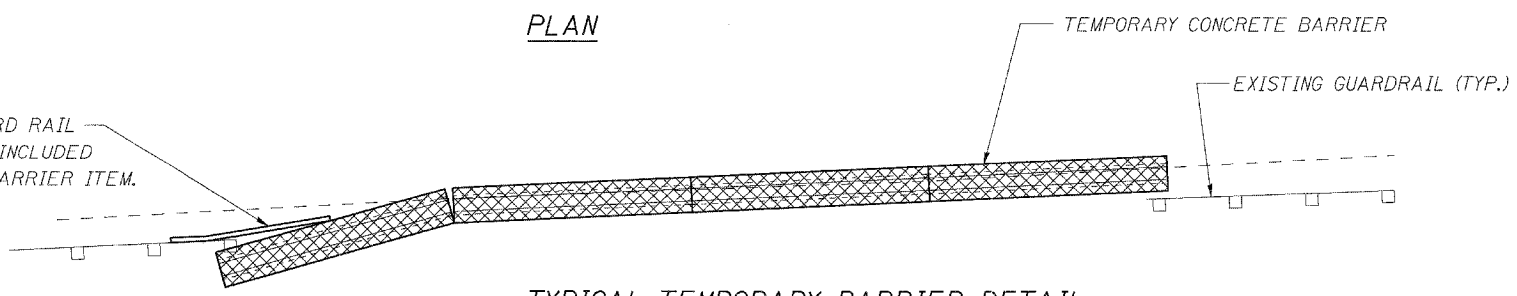


PROPOSED ROADWAY SECTION



PLAN

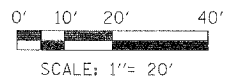
TEMPORARY GUARD RAIL SHOE. COST IS INCLUDED IN TEMPORARY BARRIER ITEM.



TYPICAL TEMPORARY BARRIER DETAIL

CONSTRUCTION NOTES:

1. EXECUTE DETOUR PLAN AND ROAD CLOSURE FOR IL ROUTE 31 UTILIZING STANDARDS 701901 AND AS SHOWN IN THE PLANS.
2. COMPLETE BRIDGE REPAIRS.
3. REMOVE TRAFFIC CONTROL.
4. DETOUR FOR IL ROUTE 31 WILL BE IMPLEMENTED FOR 5 WEEKENDS OF WORK, APPROXIMATELY 3 DAYS PER WEEKEND. THE DETOUR WILL BE IN EFFECT DURING THE PERIOD FROM SEPTEMBER 15 THROUGH NOVEMBER 17 COMPLETION DATE.
5. DATES OF CLOSURE WILL BE MODIFIED WEEKLY FOR SUCCESSIVE CLOSURES FOR THE NO. 15 SIGN. (SEE DETOUR PLAN FOR MORE INFO.)



LONGO, INC.
CONSULTING ENGINEERS
1979 N. WILL ST., SUITE 210
NAPERVILLE, ILLINOIS 60563 PH: (630) 577-9100

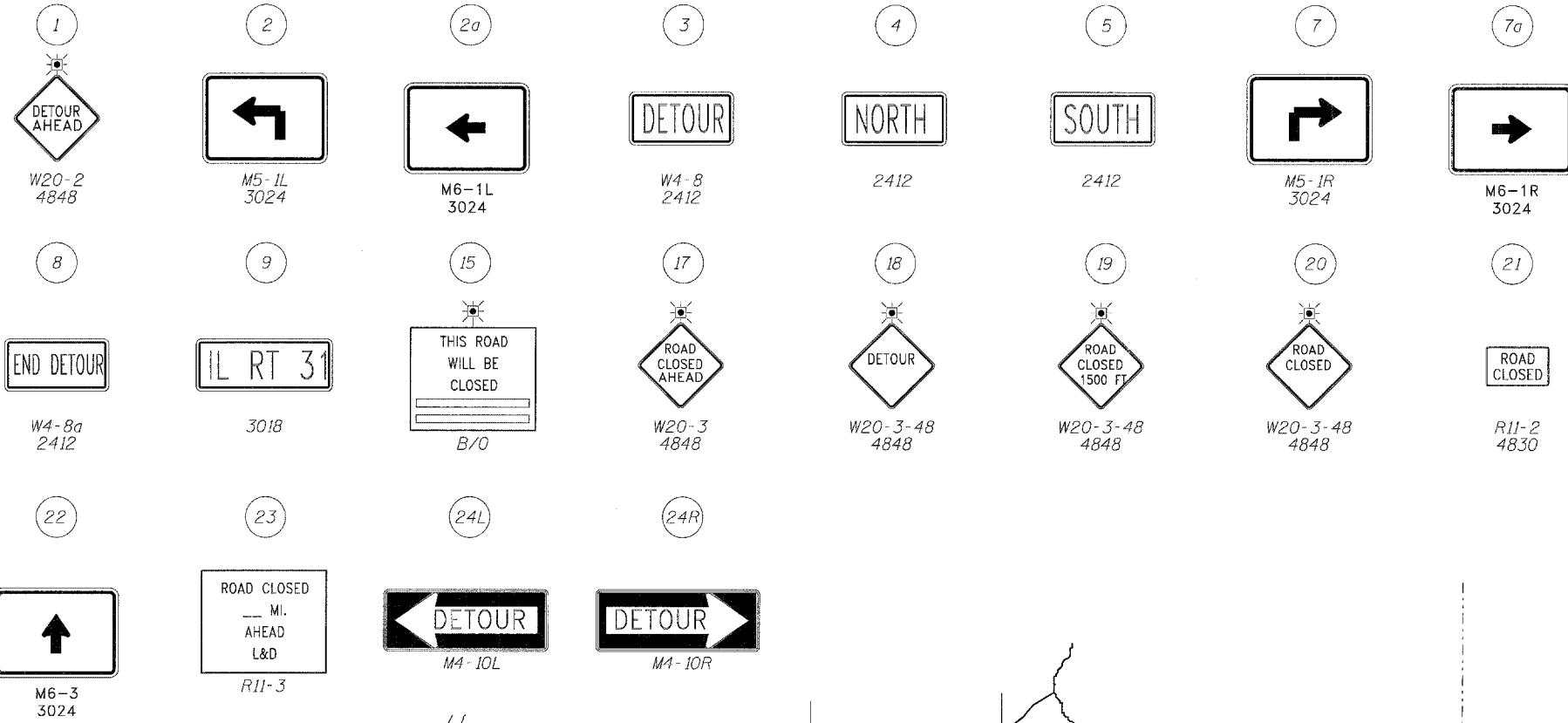
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PLOT DATE = #DATE#	CHECKED -	REVISED -
	DATE - 06/27/2008	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

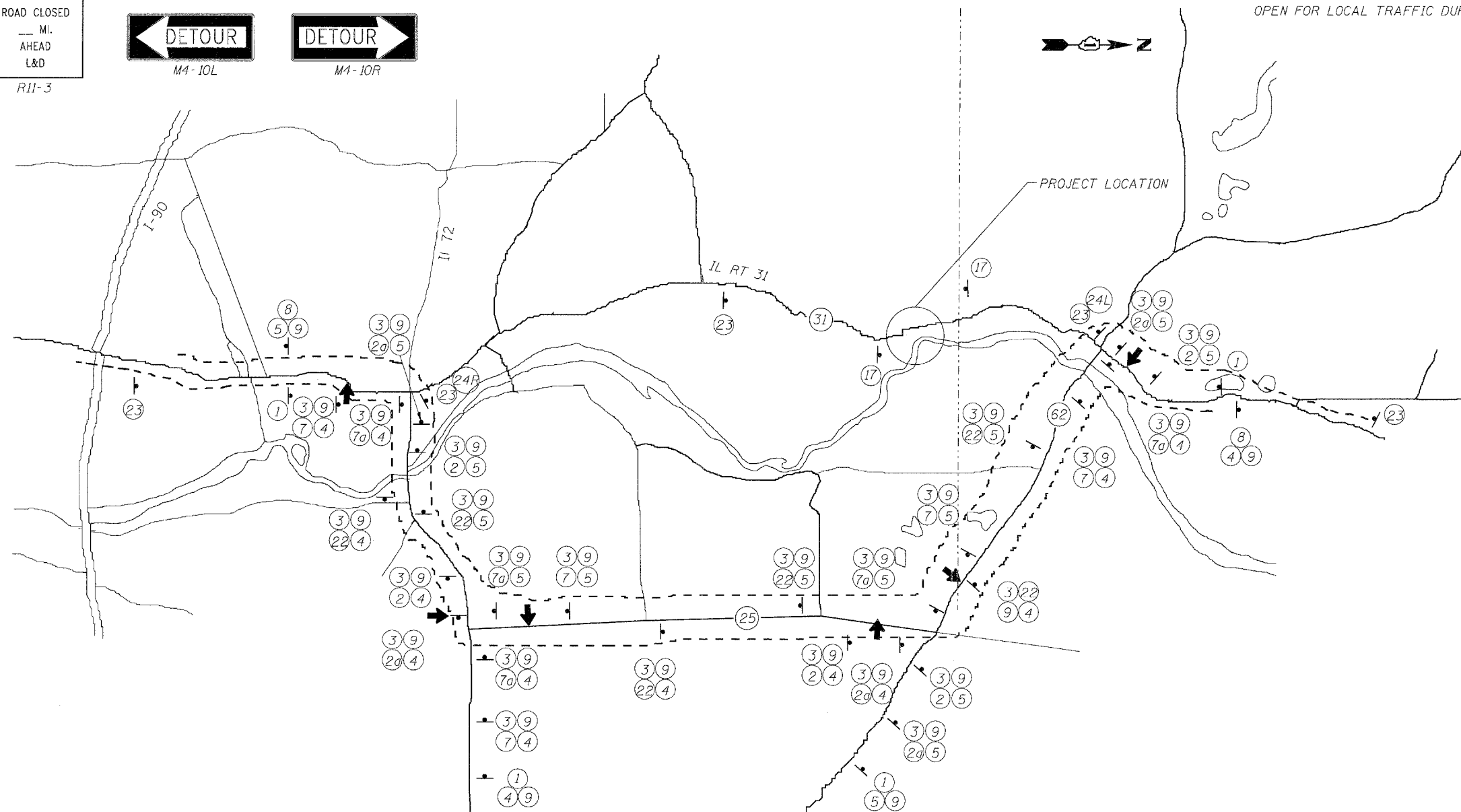
**TRAFFIC CONTROL CONSTRUCTION STAGING PLAN
IL ROUTE 31**

SCALE: _____ SHEET NO. 5 OF 17 SHEETS STA. 37+24 TO STA. 37+60

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	S-T-1	KANE	17	5
D-91-076-08		CONTRACT NO. 60E50		
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				



1. IDOT, KANE COUNTY HIGHWAY DEPARTMENT AND THE VILLAGE OF ALGONQUIN SHALL BE NOTIFIED 72 HOURS PRIOR TO PUTTING THE DETOUR IN EFFECT AND IMMEDIATELY AFTER THE DETOUR HAS BEEN REMOVED.
2. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE ALL TEMPORARY SIGN SUPPORTS. THE CONTRACTOR SHALL PATCH HOLES (IF ANY) AND RESTORE THE GROUND TO ITS ORIGINAL CONDITION AND ELEVATION.
3. ALL SIGNS, SUPPORTS AND POSITIONING SHALL BE IN ACCORDANCE WITH THE ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
4. ALL EXISTING SIGNS THAT CONFLICT WITH THE DETOUR SHALL BE COVERED.
5. EACH TYPE III BARRICADE SHALL BE EQUIPED WITH TWO FLASHING AMBER LIGHTS.
6. THE CONTRACTOR SHALL ERECT SIGN NO. 15 AT LEAST 48 HOURS IN ADVANCE OF THE CLOSURE.
7. ALL ENTRANCES AND SIDE STREETS ON THE CLOSED IL ROUTE 31 MUST BE OPEN FOR LOCAL TRAFFIC DURING THE ENTIRE CONSTRUCTION PERIOD.

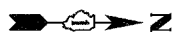


LEGEND

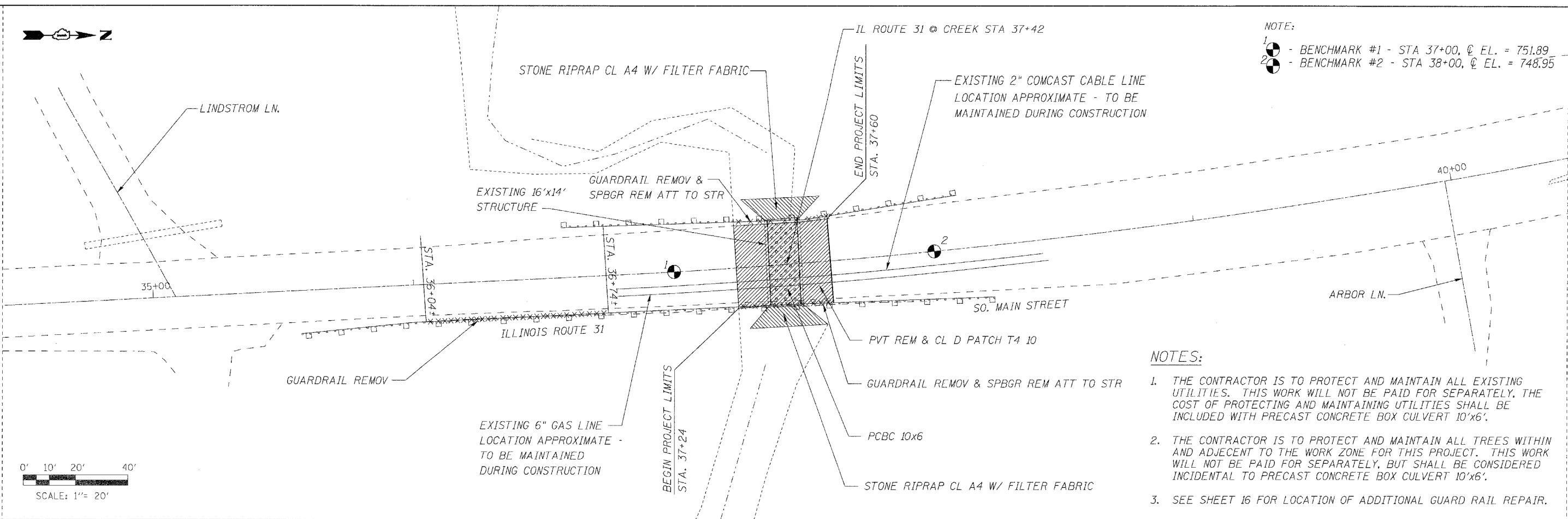
- DETOUR ROUTE
- DETOUR GUIDE SIGN ASSEMBLY
- ← CHANGABLE MESSAGE SIGN

DATE: _____ BY: _____
 SURVEYED: _____
 ALIGNMENT CHECKED: _____
 RT. OF WAY CHECKED: _____
 PLAN: _____
 NOTE BOOK NO.: _____
 PAID FILE NAME: _____

DATE: _____ BY: _____
 SURVEYED: _____
 GRADES CHECKED: _____
 B.M. NOTED: _____
 PROFILE: _____
 NOTE BOOK NO.: _____
 STRUCTURE NOTATIONS: _____



NOTE:
 1 - BENCHMARK #1 - STA 37+00, @ EL. = 751.89
 2 - BENCHMARK #2 - STA 38+00, @ EL. = 748.95



NOTES:
 1. THE CONTRACTOR IS TO PROTECT AND MAINTAIN ALL EXISTING UTILITIES. THIS WORK WILL NOT BE PAID FOR SEPARATELY. THE COST OF PROTECTING AND MAINTAINING UTILITIES SHALL BE INCLUDED WITH PRECAST CONCRETE BOX CULVERT 10'x6'.
 2. THE CONTRACTOR IS TO PROTECT AND MAINTAIN ALL TREES WITHIN AND ADJECENT TO THE WORK ZONE FOR THIS PROJECT. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO PRECAST CONCRETE BOX CULVERT 10'x6'.
 3. SEE SHEET 16 FOR LOCATION OF ADDITIONAL GUARD RAIL REPAIR.



 CONSULTING ENGINEERS 1979 N. MILL ST., SUITE 210 NAPERVILLE, ILLINOIS 60563 PH: (630) 577-9100	USER NAME =	DESIGNED - MJY	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND PROFILE IL ROUTE 31		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	DRAWN - ST		REVISD -	3887	S-T-1	KANE	17	7	
	PLOT DATE =	CHECKED - MJY		REVISD -	SCALE: VARIES		D-91-076-08		CONTRACT NO. 60E50	
		DATE - 06/27/2008		REVISD -	SHEET NO. 7 OF 17 SHEETS		ILLINOIS FED. AID PROJECT			



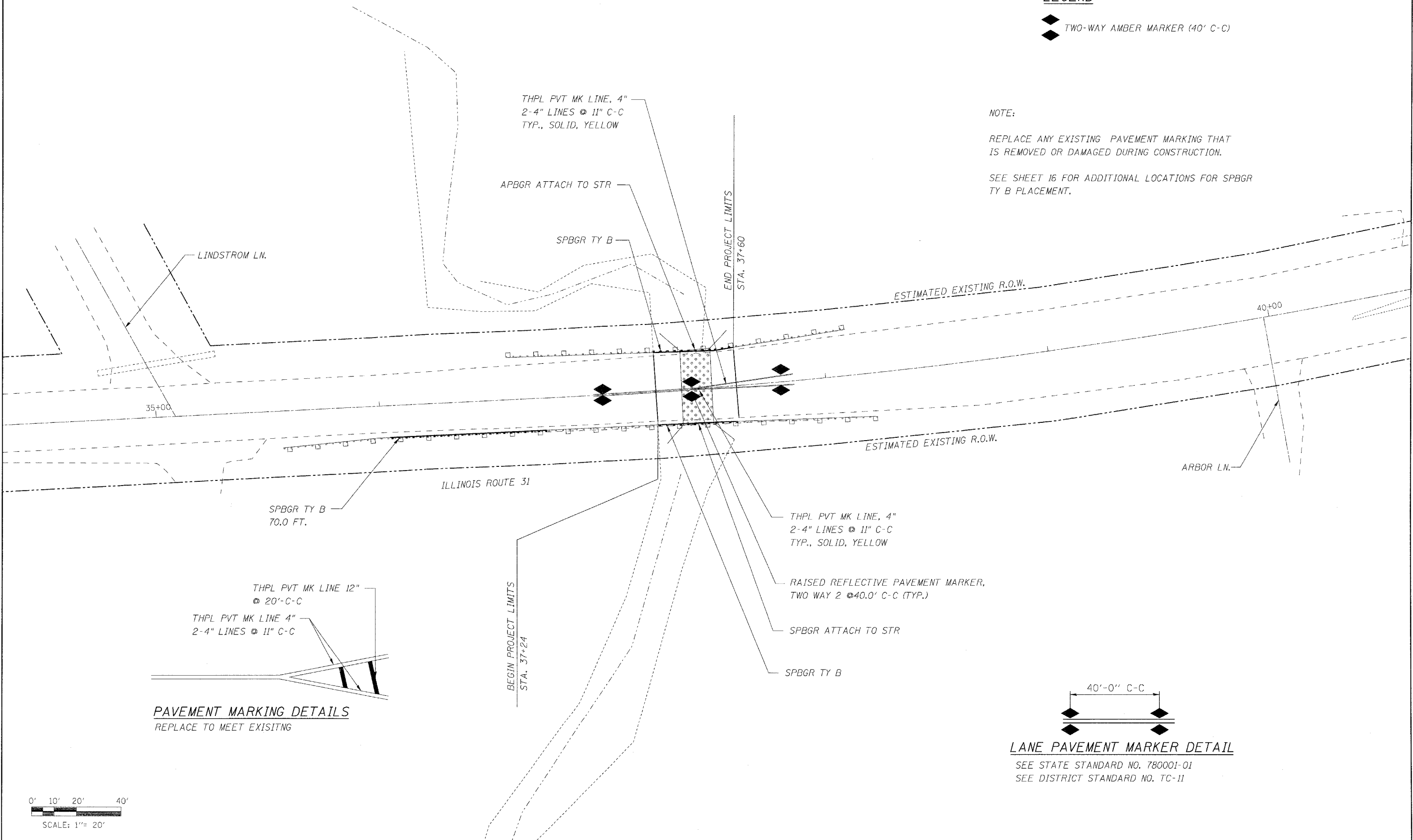
LEGEND

◆ TWO-WAY AMBER MARKER (40' C-C)

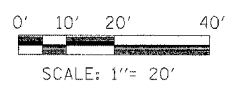
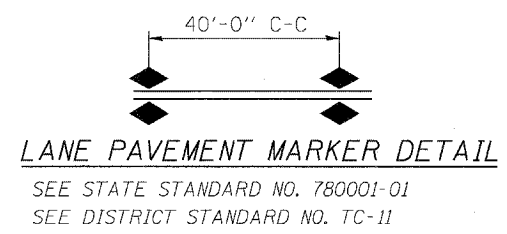
NOTE:

REPLACE ANY EXISTING PAVEMENT MARKING THAT IS REMOVED OR DAMAGED DURING CONSTRUCTION.

SEE SHEET 16 FOR ADDITIONAL LOCATIONS FOR SPBGR TY B PLACEMENT.



PAVEMENT MARKING DETAILS
REPLACE TO MEET EXISITNG



LONCO, INC.
CONSULTING ENGINEERS
1979 N. MILL ST., SUITE 210
NAPERVILLE, ILLINOIS 60563 PH: (630) 577-9100

USER NAME = #USERS#	DESIGNED - MJY	REVISED -
PLOT SCALE = #SCALE#	DRAWN - ST	REVISED -
PLOT DATE = #DATE#	CHECKED - MJY	REVISED -
	DATE - 06/27/2008	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
IL ROUTE 31
SCALE: 1" = 20' SHEET NO. 8 OF 17 SHEETS STA. 37+24 TO STA. 37+60

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	S-T-1	KANE	17	8
D-91-076-08		CONTRACT NO. 60E50		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

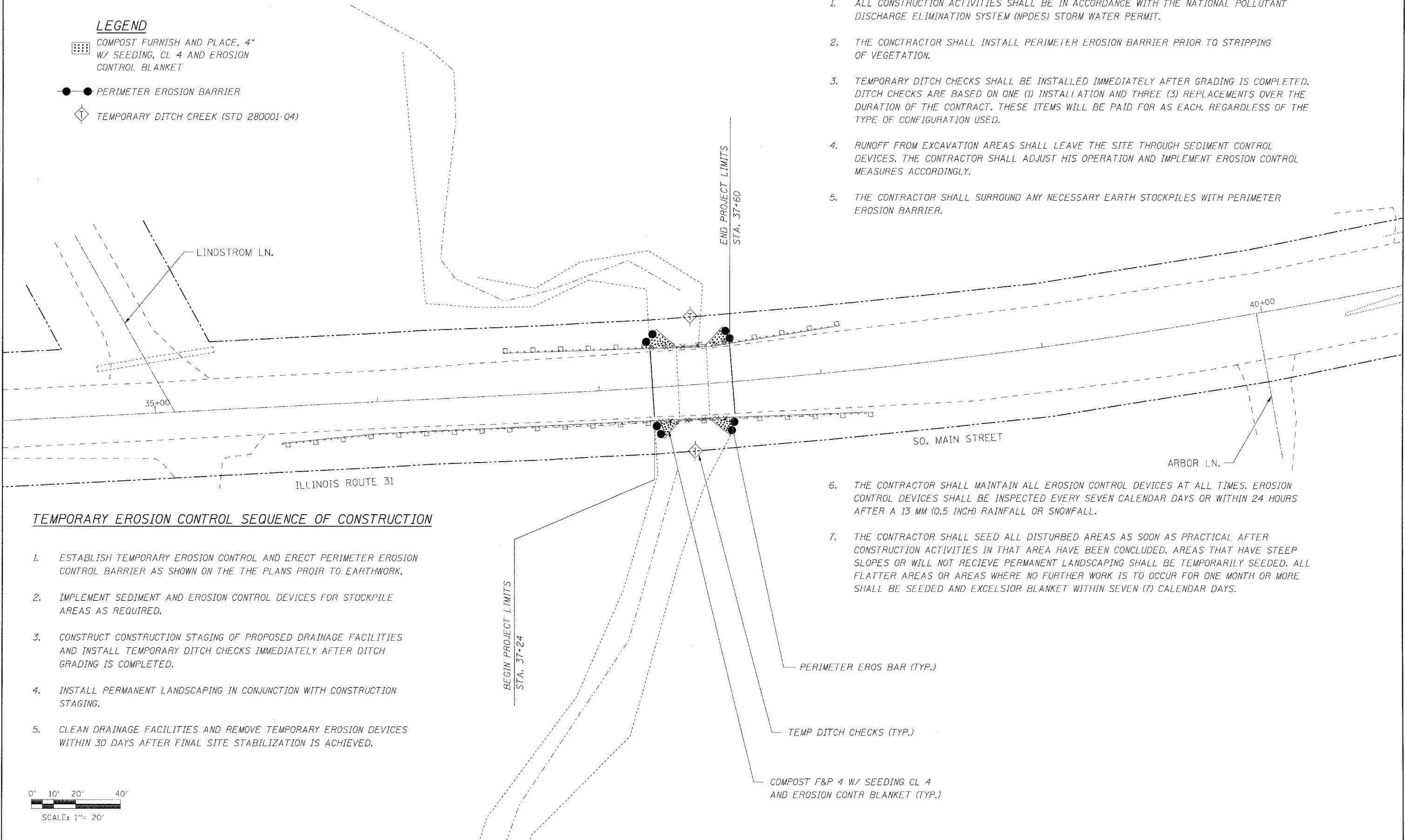


LEGEND

- COMPOST FURNISH AND PLACE, 4" W/ SEEDING, CL 4 AND EROSION CONTROL BLANKET
- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CREEK (STD 280001-04)

TEMPORARY EROSION CONTROL NOTES

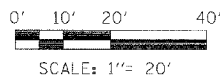
1. ALL CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER PERMIT.
2. THE CONTRACTOR SHALL INSTALL PERIMETER EROSION BARRIER PRIOR TO STRIPPING OF VEGETATION.
3. TEMPORARY DITCH CHECKS SHALL BE INSTALLED IMMEDIATELY AFTER GRADING IS COMPLETED. DITCH CHECKS ARE BASED ON ONE (1) INSTALLATION AND THREE (3) REPLACEMENTS OVER THE DURATION OF THE CONTRACT. THESE ITEMS WILL BE PAID FOR AS EACH, REGARDLESS OF THE TYPE OF CONFIGURATION USED.
4. RUNOFF FROM EXCAVATION AREAS SHALL LEAVE THE SITE THROUGH SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL ADJUST HIS OPERATION AND IMPLEMENT EROSION CONTROL MEASURES ACCORDINGLY.
5. THE CONTRACTOR SHALL SURROUND ANY NECESSARY EARTH STOCKPILES WITH PERIMETER EROSION BARRIER.



TEMPORARY EROSION CONTROL SEQUENCE OF CONSTRUCTION

1. ESTABLISH TEMPORARY EROSION CONTROL AND ERECT PERIMETER EROSION CONTROL BARRIER AS SHOWN ON THE THE PLANS PROIR TO EARTHWORK.
2. IMPLEMENT SEDIMENT AND EROSION CONTROL DEVICES FOR STOCKPILE AREAS AS REQUIRED.
3. CONSTRUCT CONSTRUCTION STAGING OF PROPOSED DRAINAGE FACILITIES AND INSTALL TEMPORARY DITCH CHECKS IMMEDIATELY AFTER DITCH GRADING IS COMPLETED.
4. INSTALL PERMANENT LANDSCAPING IN CONJUNCTION WITH CONSTRUCTION STAGING.
5. CLEAN DRAINAGE FACILITIES AND REMOVE TEMPORARY EROSION DEVICES WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED.

6. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AT ALL TIMES. EROSION CONTROL DEVICES SHALL BE INSPECTED EVERY SEVEN CALENDAR DAYS OR WITHIN 24 HOURS AFTER A 13 MM (0.5 INCH) RAINFALL OR SNOWFALL.
7. THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS AS SOON AS PRACTICAL AFTER CONSTRUCTION ACTIVITIES IN THAT AREA HAVE BEEN CONCLUDED. AREAS THAT HAVE STEEP SLOPES OR WILL NOT RECIEVE PERMANENT LANDSCAPING SHALL BE TEMPORARILY SEEDED. ALL FLATTER AREAS OR AREAS WHERE NO FURTHER WORK IS TO OCCUR FOR ONE MONTH OR MORE SHALL BE SEEDED AND EXCELSIOR BLANKET WITHIN SEVEN (7) CALENDAR DAYS.



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USER NAME = #USER#	DESIGNED - MJY	REVISIONS
PLOT SCALE = #SCALE#	DRAWN - ST	REVISIONS
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	DATE - 06/27/2008	REVISIONS

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EROSION CONTROL PLAN
IL ROUTE 31**

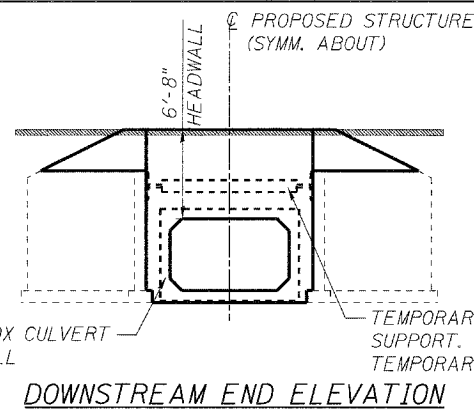
SCALE: 1" = 20' SHEET NO. 9 OF 17 SHEETS STA. 37+24 TO STA. 37+60

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	S-T-1	KANE	17	9
D-91-076-08		CONTRACT NO. 60E50		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

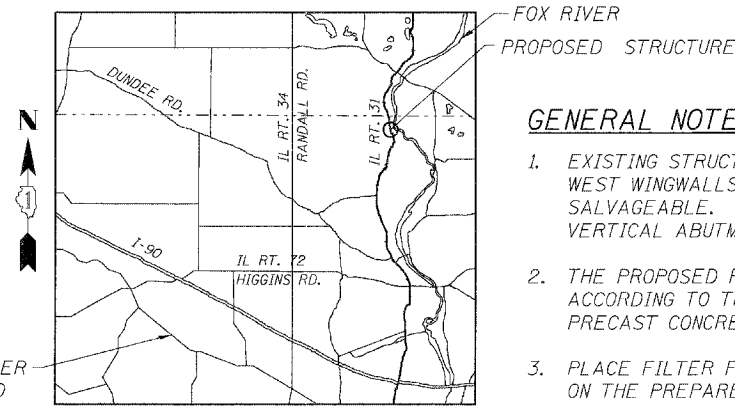
INDEX OF STRUCTURAL SHEETS

SHT. NO.	DESCRIPTION
10	GENERAL PLAN, ELEVATION AND INDEX
11	REMOVAL PLAN AND SECTION
12	STRUCTURE DETAILS AND REINFORCING
13	STRUCTURE DETAILS AND REINFORCING
14	BAR SPLICER ASSEMBLY DETAILS
15	TEMPORARY CONCRETE BARRIER DETAILS



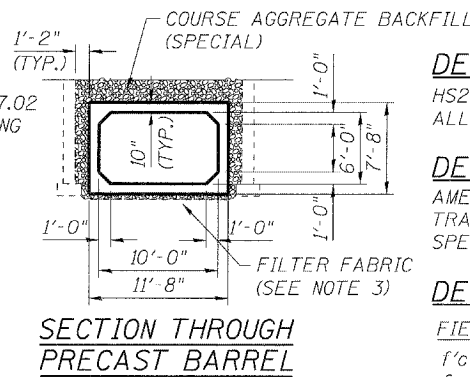
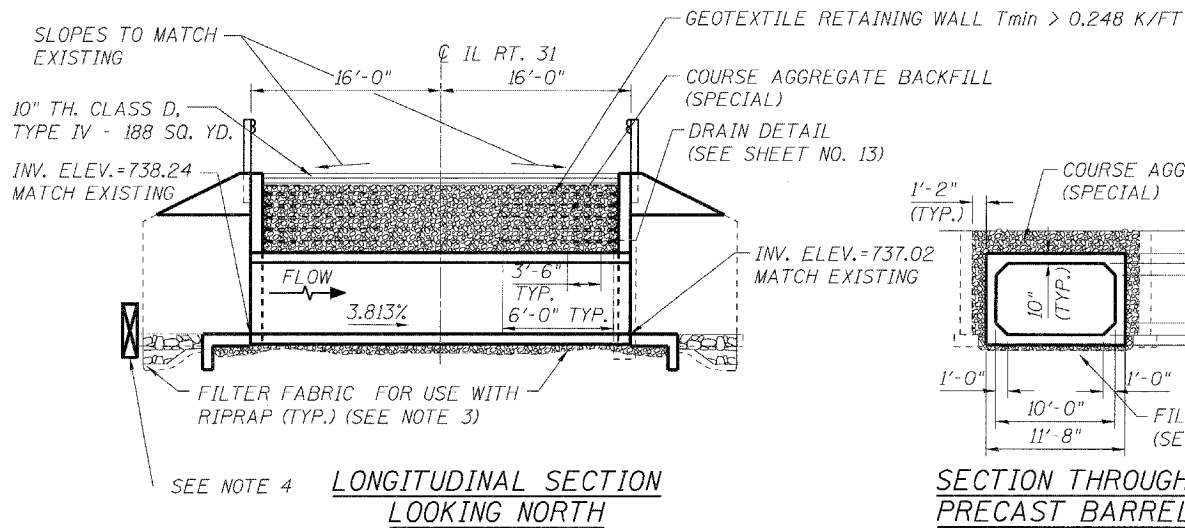
STATION 37+42 (PROJECT)
BUILT 200 BY
STATE OF ILLINOIS
F.A.P. ROUTE 3887 SEC. S-T-1
LOADING HS20
STR. NO. 045-0330

NAME PLATE
See Std. 515001



GENERAL NOTES

- EXISTING STRUCTURE: 045-2036 BUILT CIRCA 1920'S AND REPAIRED WEST EDGE OF SLAB AND WEST WINGWALLS IN 2005. TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION. SALVAGEABLE. THE WING WALLS SHALL BE SALVAGED AND PORTIONS OF THE EXISTING VERTICAL ABUTMENT/WALLS SHALL REMAIN. THE NEW STRUCTURE NUMBER IS 045-0330.
- THE PROPOSED PRECAST CONCRETE BOX CULVERT SHALL BE DESIGNED BY THE CONTRACTOR ACCORDING TO THE REQUIREMENTS OF AASHTO M259 (ASTM C789). COST IS INCLUDED IN PRECAST CONCRETE BOX CULVERT 10'x6' ITEM.
- PLACE FILTER FABRIC CONFORMING TO SECTION 282 OF THE IDOT STANDARD SPECIFICATIONS ON THE PREPARED EXCAVATION BELOW POROUS GRANULAR MATERIAL AND UP THE SIDE OF EXISTING WALLS TO REMAIN A DISTANCE OF 3'-0". COST IS INCLUDED IN FILTER FABRIC ITEM.
- PLACE A TEMPORARY STREAM DIVERSION AT THE UPSTREAM END OF THE BOX CULVERT/WINGWALLS AND TEMPORARILY PUMP OR OTHERWISE CONVEY THE STREAM FLOW THROUGH THE WORK ZONE. THE DESIGN AND CONSTRUCTION OF THE TEMPORARY DIVERSION SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND THE COST INCLUDED IN TEMPORARY CLEAR WATER DIVERSION ITEM. THE TEMPORARY STREAM DIVERSION PLAN TO BE USED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK.
- ALL CONSTRUCTION JOINTS SHALL BE BONDED.
- THE INFORMATION SHOWN IN THESE PLANS CONCERNING THE TYPE AND LOCATION OF UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE EXISTENCE OF TYPE, SIZE AND LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES AS MAY BE NECESSARY TO AVOID CONFLICT WITH CONSTRUCTION OPERATIONS AND/OR DAMAGE TO THE UTILITY.
- PRIOR TO REMOVAL OF THE TOP OF THE EXISTING REINFORCED CONCRETE SLAB, THE CONTRACTOR SHALL ADEQUATELY BRACE AND SUPPORT THE TOP OF THE EXISTING VERTICAL WALLS TO REMAIN, AS WELL AS THOSE PORTIONS OF THE EXISTING SLAB THAT REMAINS. THE DESIGN OF ALL SHORING, BRACING AND SUPPORT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BEGINNING OF WORK. ALL WORK ASSOCIATED WITH THE DESIGN AND CONSTRUCTION OF THE SHORING, BRACING AND SUPPORT OF THE EXISTING STRUCTURE SHALL BE INCLUDED IN THE COST OF TEMPORARY SHORING ITEM.
- THE CONTRACTOR IS TO PROTECT AND MAINTAIN ALL EXISTING UTILITIES. THIS WORK WILL NOT BE PAID FOR SEPERATELY. THE COST OF PROTECTING AND MAINTAINING UTILITIES SHALL BE CONSIDERED INCIDENTAL TO PRECAST CONCRETE BOX CULVERT 10'x6'.
- THE CONTRACTOR IS TO PROTECT AND MAINTAIN ALL TREES WITHIN AND ADJECENT TO THE WORK ZONE FOR THIS PROJECT. THIS WORK WILL NOT BE PAID FOR SEPERATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO PRECAST CONCRETE BOX CULVERT 10'x6'.
- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 706 GR 60 (IL MODIFIED). SEE SPECIAL PROVISIONS.
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.



DESIGN LOADING

HS20-44 AND ALTERNATE MILITARY LOADING AND ALLOWANCE FOR 50 P.S.F. FUTURE WEARING SURFACE

DESIGN SPECIFICATIONS

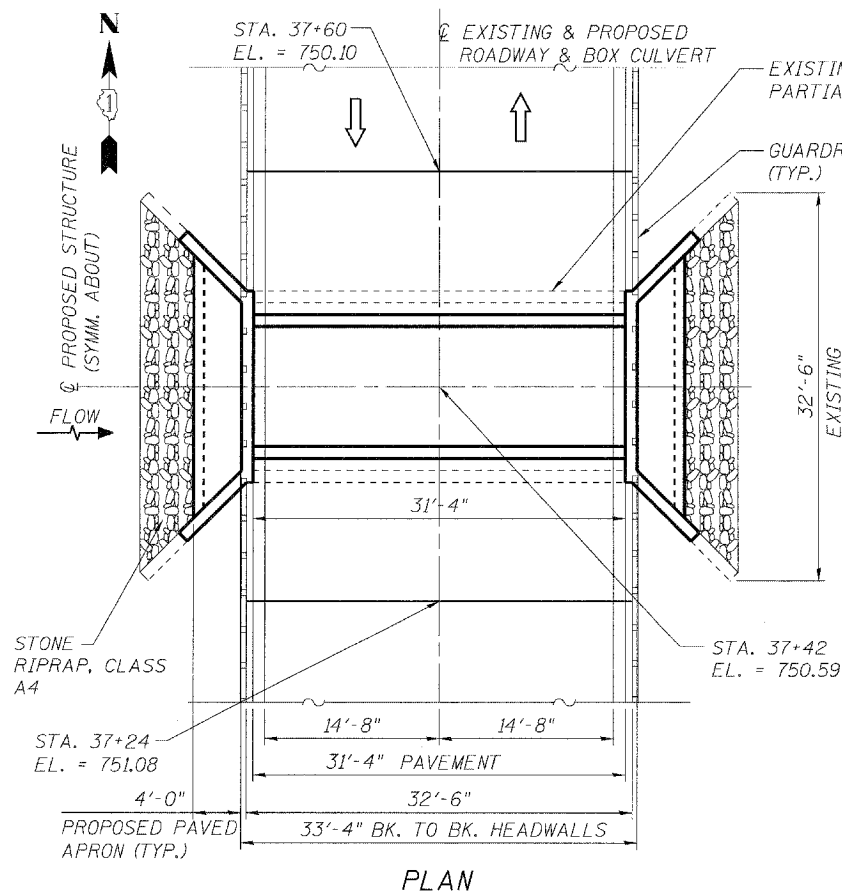
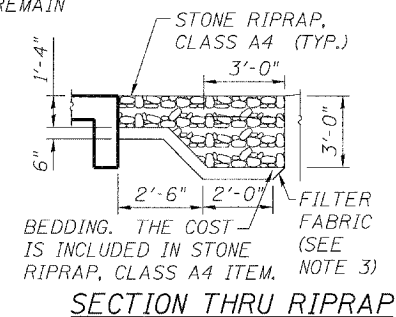
AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 2002

DESIGN STRESSES

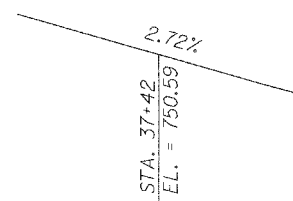
FIELD UNITS	PRECAST UNITS
$f'_c = 3,500$ psi	$f'_c = 5,000$ psi
$f_y = 60,000$ psi (REINFORCEMENT)	$f_y = 65,000$ psi (WWF)
	$f_y = 60,000$ psi (REINFORCEMENT)

SEISMIC DATA

Seismic Performance Zone (SPZ) = A
Horizontal Bedrock Acceleration Coefficient (A) = 0.4g
Site Coefficient (S) = 1.0



PROFILE GRADE (ALONG @ ROADWAY)



WATERWAY INFORMATION

DRAINAGE AREA = 110 AC		LOW GRADE ELEV. = 751.33 EXISTING AND PROPOSED		AT STATION 37+35		MAX. RECORDED H.W.E. =			
FLOOD	FREQUENCY (YR.)	DISCHARGE (CFS)	WATERWAY OPENING (FT.)		NATURAL H.W.E. (FT.)	CREATED HEAD (FT.)		HEADWATER ELEVATION (FT.)	
			EXISTING	PROPOSED		EXISTING	PROPOSED	EXISTING	PROPOSED
DESIGN	10	79.00	22.88	14.30	739.67	0.00	0.37	739.65	740.04
BASE	50	126.00	29.44	18.40	740.08	0.01	0.62	740.09	740.70
OVERTOPPING	100	145.50	31.68	19.80	740.22	0.05	0.72	740.27	740.94
MAX. CALC.	500	192.00	36.48	22.80	740.52	0.16	1.00	740.68	741.52

SIZE OF EXISTING BRIDGE OPENING: 16'x14'
 SIZE OF PROPOSED BOX: 10'x6"
 UPSTREAM INVERT: 738.24 (EXISTING, PROPOSED)
 DOWNSTREAM INVERT: 737.02 (EXISTING, PROPOSED)
 FREEBOARD: 11.24 FT. (EXISTING)-- 10.63 FT. (PROPOSED)
 NOTE: NATURAL H.W.E ESTIMATED BASED ON CULVERT TAILWATER RATING CURVE AND EXTRAPOLATED TO UPSTREAM FACE OF CULVERT.

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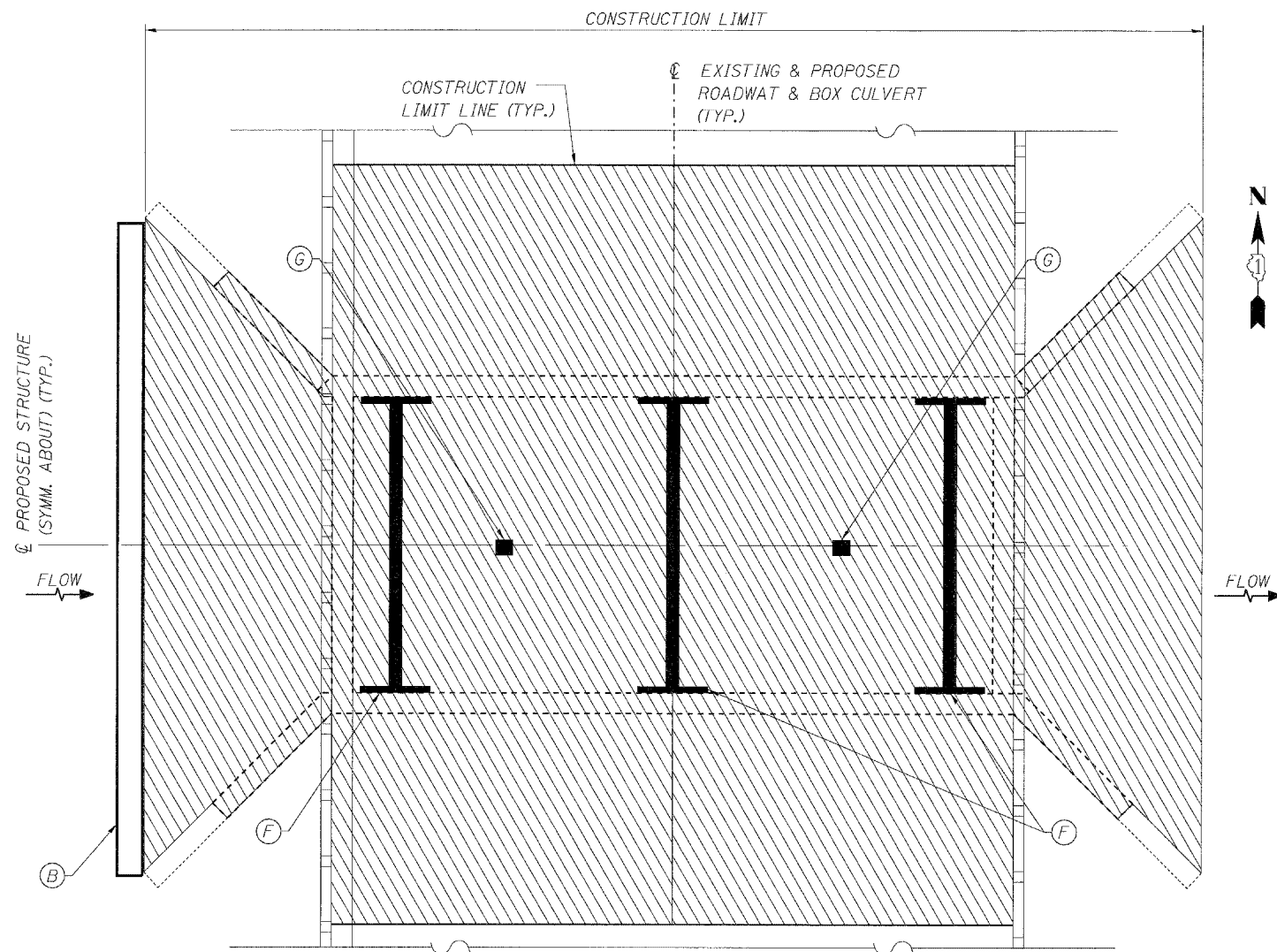
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	DATE - 06/27/2008	REVISIONS

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

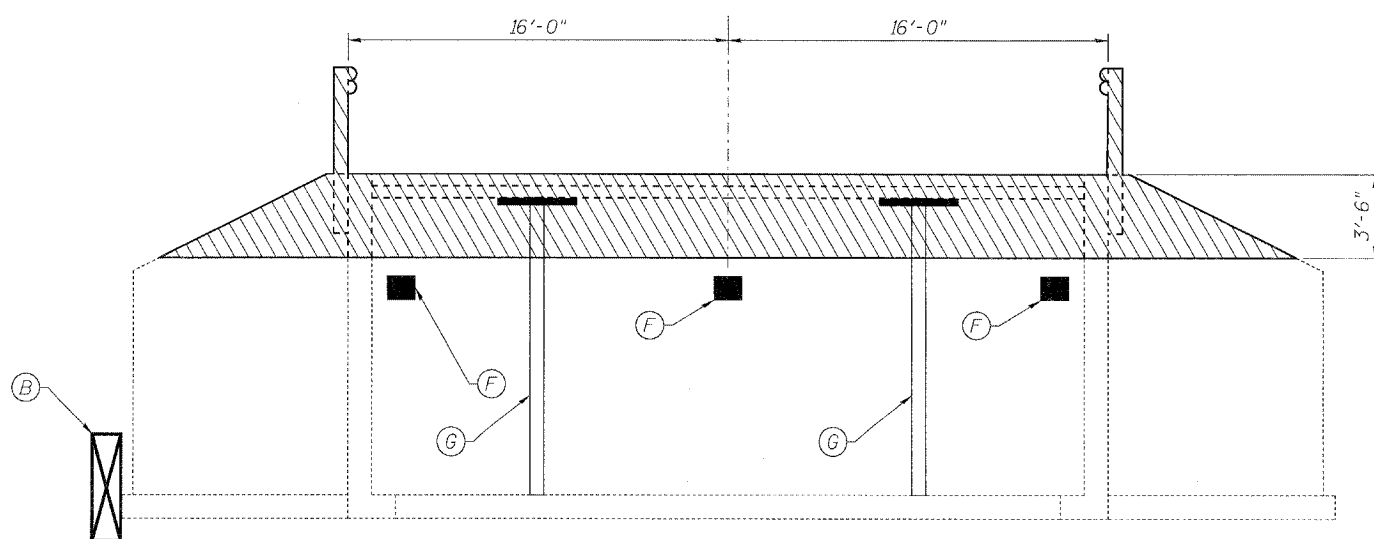
**GENERAL PLAN, ELEVATION AND INDEX
IL ROUTE 31**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	S-T-1	KANE	17	10
D-91-076-08		CONTRACT NO. 60E50		
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

SCALE: 1/8" = 1'-0" SHEET NO. 10 OF 17 SHEETS STA. 37+24 TO STA. 37+60



PLAN - REMOVAL



CROSS SECTION - REMOVAL LOOKING NORTH

GENERAL CONSTRUCTION NOTES

- A. THE CONTRACTOR SHALL SUBMIT A PLAN AND SCHEDULE OF CONSTRUCTION ACTIVITIES TO THE ENGINEER FOR APPROVAL BEFORE STARTING ANY WORK FOR THIS PROJECT.
- B. FLOW OF THE CREEK UNDER IL RT.31 IS TO BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION BY INSTALLING A TEMPORARY STREAM DIVERSION.
- C. FOR TRAFFIC CONTROL DURING CONSTRUCTION, INCLUDING ITEMS NOT SHOWN HERE SEE ROADWAY DRAWINGS.
- D. REFER TO ROADWAY DRAWINGS, CROSS SECTIONS AND STRUCTURE DRAWINGS FOR ADDITIONAL INFORMATION.
- E. ALL CONSTRUCTION SHALL BE PERFORMED ON WEEKENDS AS FURTHER DESCRIBED IN THE SPECIFICATIONS.
- F. INSTALL TEMPORARY WALL SUPPORTS.
- G. INSTALL TEMPORARY SLAB SUPPORTS IF REQUIRED BY THE CONTRACTOR'S PLAN AND SCHEDULE OF CONSTRUCTION ACTIVITIES.

SEQUENCE OF CONSTRUCTION

WEEKEND NUMBER ONE

CLOSE ROAD TO ALL TRAFFIC (FRIDAY EVENING.)
 MAINTAIN DETOUR AROUND WORK AREA.
 INSTALL THE TEMPORARY STREAM DIVERSION.
 INSTALL THE TEMPORARY WALL/ABUTMENT SUPPORT (TO BE UTILIZED IN SUBSEQUENT WEEKENDS), WITHOUT REMOVING PORTIONS OF THE EXISTING STRUCTURE, PREPARE THE STREAM SUBGRADE FOR THE FOLLOWING WEEKENDS WORK.
 OPEN ROAD TO TRAFFIC (SUNDAY EVENING / MONDAY MORNING.)
 MAINTAIN TEMPORARY STREAM DIVERSION.

WEEKEND NUMBER TWO

CLOSE ROAD TO ALL TRAFFIC (FRIDAY EVENING.)
 MAINTAIN DETOUR AROUND WORK AREA.
 REMOVE THE EXISTING BRIDGE DECK (WITHOUT PARTIAL WINGWALL REMOVAL.)
 INSTALL BOX CULVERT.
 BACKFILL AND INSTALL GEOTEXTILE WALL SYSTEM, REMOVE TEMPORARY WALL/ABUTMENT SUPPORT.
 INSTALL TEMPORARY ROADWAY AND TEMPORARY SAFETY FEATURES.
 OPEN ROAD TO TRAFFIC (SUNDAY EVENING / MONDAY MORNING.)
 MAINTAIN TEMPORARY STREAM DIVERSION.

WEEKEND NUMBER THREE

CLOSE ROAD TO ALL TRAFFIC (FRIDAY EVENING.)
 MAINTAIN DETOUR AROUND WORK AREA.
 REMOVE PORTIONS OF TEMPORARY ROADWAY REQUIRED TO COMPLETE THE WORK.
 REMOVE PORTIONS OF WINGWALL AND ABUTMENT (EAST SIDE) REQUIRED TO COMPLETE THE HEADWALL CONSTRUCTION.
 COMPLETE HEADWALL CONSTRUCTION (EAST SIDE.)
 COMPLETE APRON PAVING IN STREAM (EAST SIDE.)
 RESTORE TEMPORARY ROADWAY AND SAFETY FEATURES.
 OPEN ROAD TO TRAFFIC (SUNDAY EVENING / MONDAY MORNING.)
 MAINTAIN TEMPORARY STREAM DIVERSION.

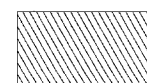
WEEKEND NUMBER FOUR

CLOSE ROAD TO ALL TRAFFIC (FRIDAY EVENING.)
 MAINTAIN DETOUR AROUND WORK AREA.
 REMOVE PORTIONS OF TEMPORARY ROADWAY REQUIRED TO COMPLETE THE WORK.
 REMOVE PORTIONS OF WINGWALL AND ABUTMENT (WEST SIDE) REQUIRED TO COMPLETE THE HEADWALL CONSTRUCTION.
 COMPLETE HEADWALL CONSTRUCTION (WEST SIDE.)
 COMPLETE APRON PAVING IN STREAM (WEST SIDE.)
 RESTORE TEMPORARY ROADWAY AND SAFETY FEATURES.
 OPEN ROAD TO TRAFFIC (SUNDAY EVENING / MONDAY MORNING.)
 MAINTAIN TEMPORARY STREAM DIVERSION.

WEEKEND NUMBER FIVE

CLOSE ROAD TO ALL TRAFFIC (FRIDAY EVENING.)
 MAINTAIN DETOUR AROUND WORK AREA.
 REMOVE TEMPORARY ROADWAY.
 INSTALL PERMANENT ROADWAY.
 INSTALL PERMANENT GAUDDRAIL.
 INSTALL RIPRAP.
 COMPLETE ALL OTHER WORK.
 REMOVE TEMPORARY STREAM DIVERSION .
 OPEN ROAD TO TRAFFIC (SUNDAY EVENING / MONDAY MORNING.)

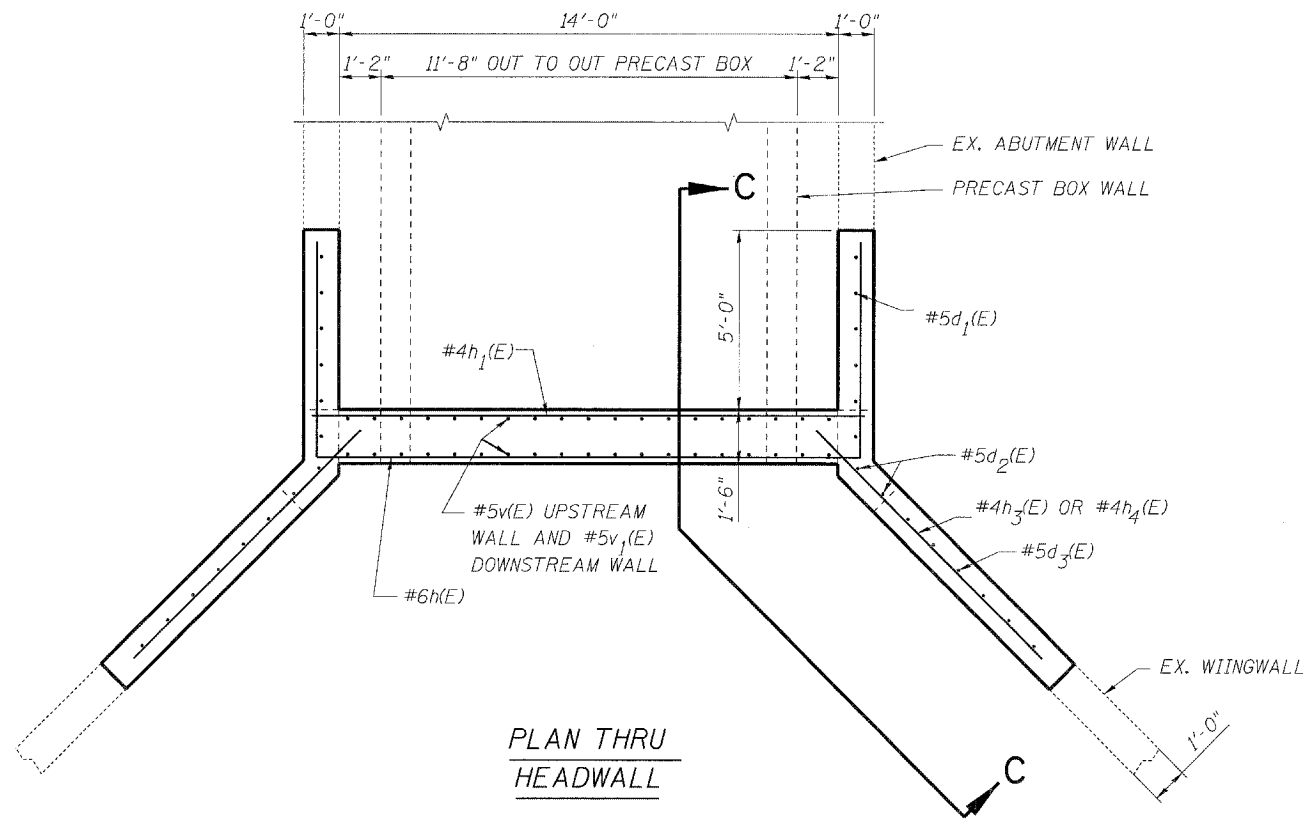
LEGEND



- LIMITS OF REMOVAL OF EXISTING STRUCTURES (ROADWAY, CULVERT, HEADWALL & WINGWALLS. COST FOR REMOVAL IS INCLUDED IN EARTH EXCAVATION ITEM, CHANNEL EXCAVATION ITEM, CONCRETE REMOVAL ITEM, STRUCTURE EXCAVATION ITEM, STEEL PLATE BEAM GUARDRAIL REMOVAL, ATTACH TO STRUCTURE ITEM AND GUARD RAIL REMOVAL ITEM.

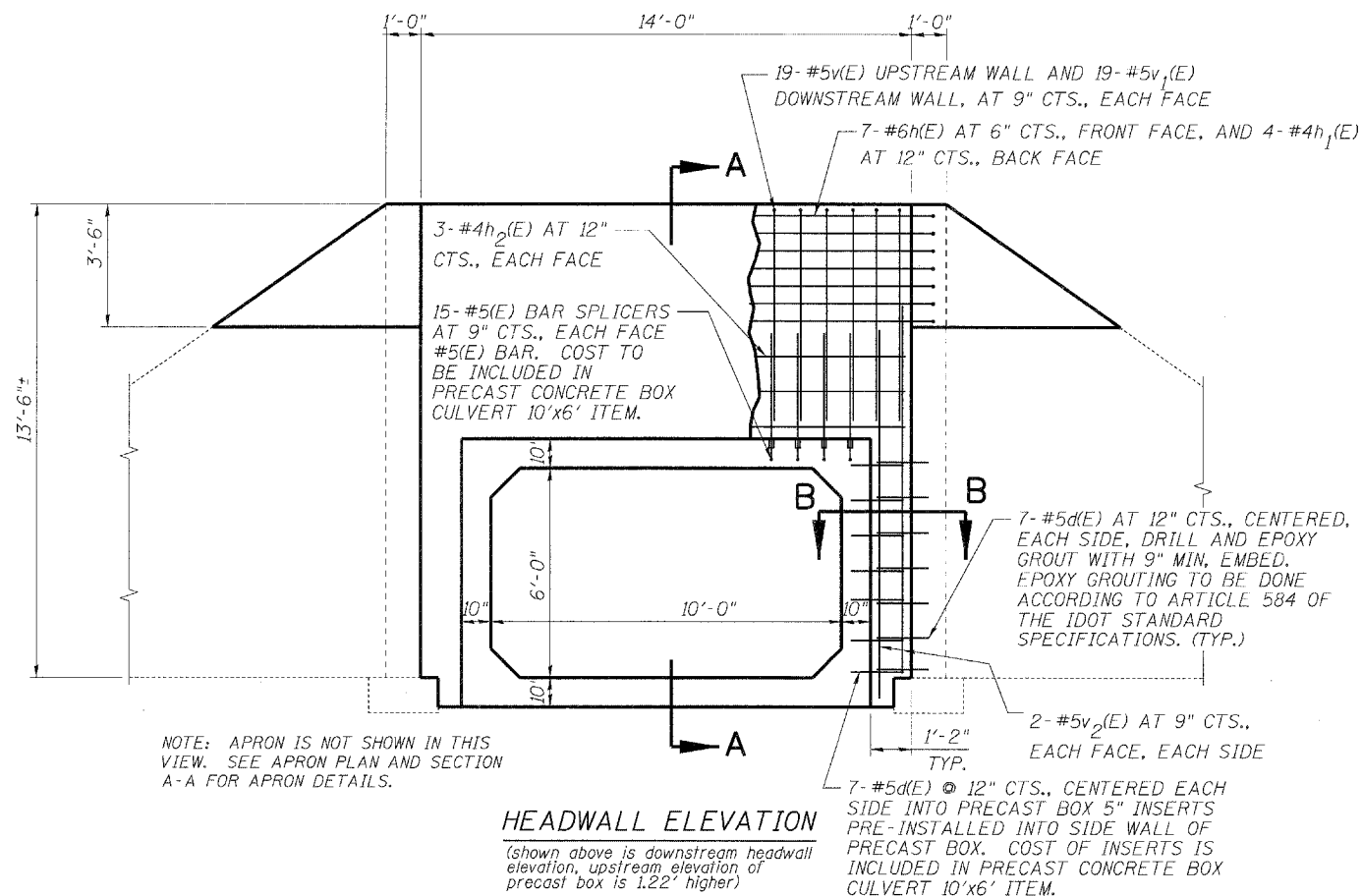
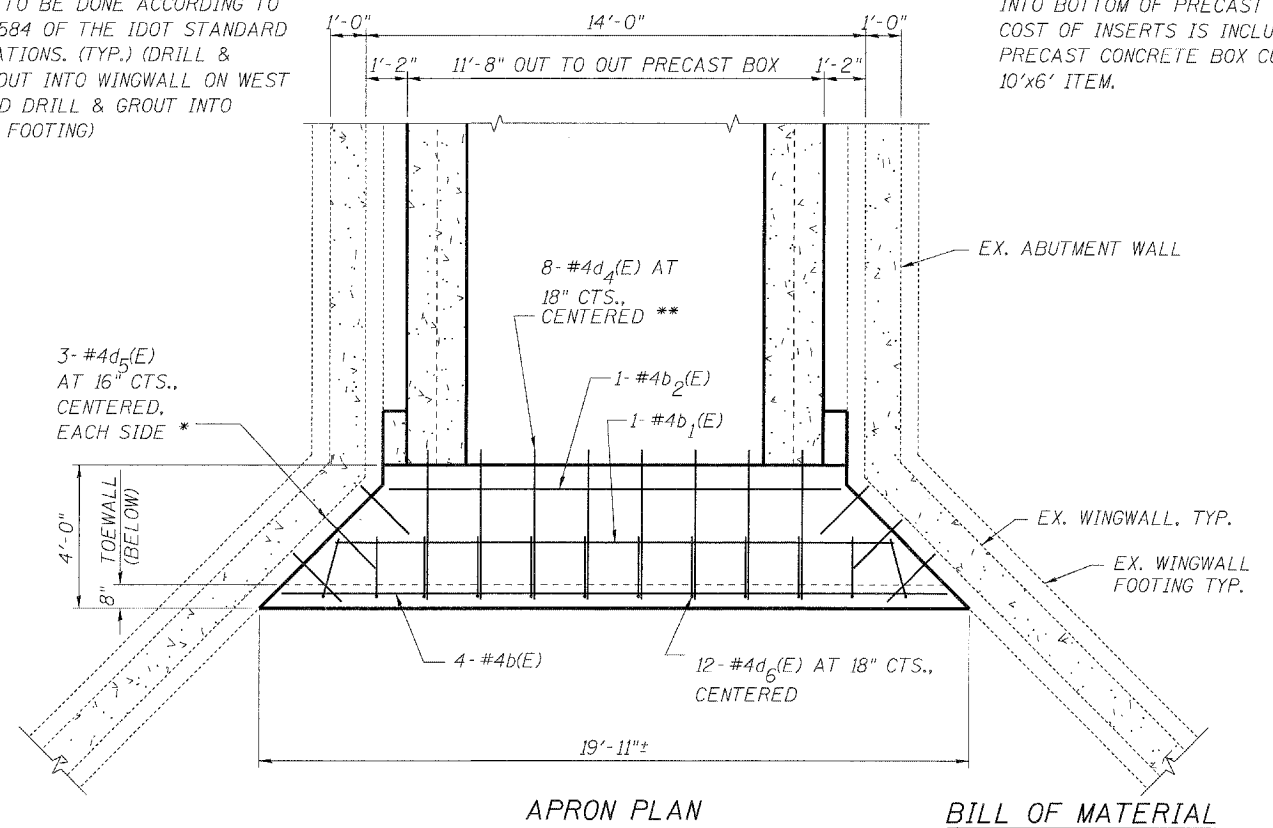
② - DENOTES CONSTRUCTION GENERAL NOTE NUMBER.

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PLLOT SCALE = #SCALE#	DRAWN - ST	REVISED -		SCALE: 1/4"=1'-0"	SHEET NO. 11 OF 17 SHEETS	STA. 37+24 TO STA. 37+60	D-91-076-08		CONTRACT NO. 60E50		
PLLOT DATE = #DATE#	CHECKED - WHE	REVISED -		FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT							
	DATE - 06/27/2008	REVISED -									



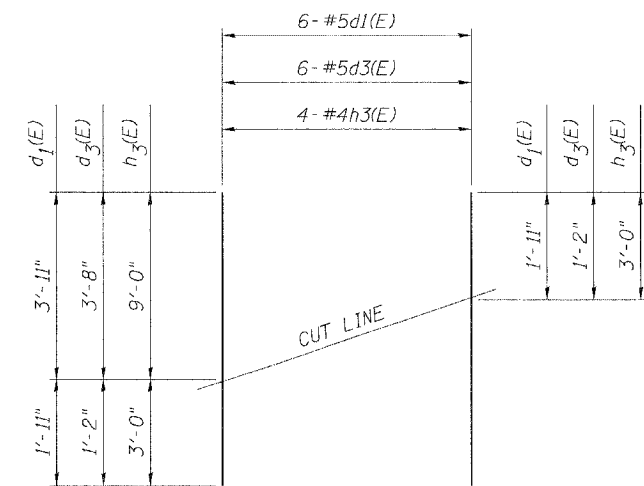
* - DRILL AND EPOXY GROUT #4d5(E) WITH 9" MIN. EMBED. DRILLING AND EPOXY GROUTING TO BE DONE ACCORDING TO ARTICLE 584 OF THE IDOT STANDARD SPECIFICATIONS. (TYP.) (DRILL & EPOXY GROUT INTO WINGWALL ON WEST APRON AND DRILL & GROUT INTO WINGWALL FOOTING)

** - INSERT #4d4(E) INTO PRECAST BOX 9" INSERTS PRE-INSTALLED INTO BOTTOM OF PRECAST BOX. COST OF INSERTS IS INCLUDED IN PRECAST CONCRETE BOX CULVERT 10'x6' ITEM.



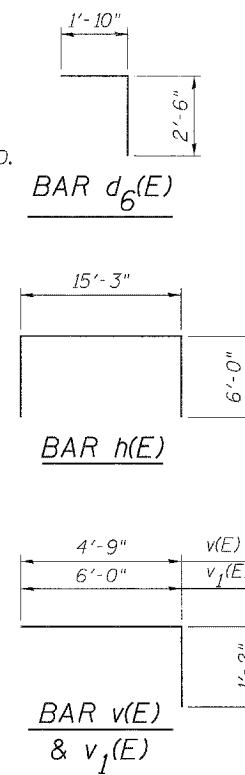
NOTES

1. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS BEFORE ORDERING MATERIALS.
2. ALL EDGES SHALL HAVE STANDARD 3/4" CHAMFERS EXCEPT AS NOTED.
3. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

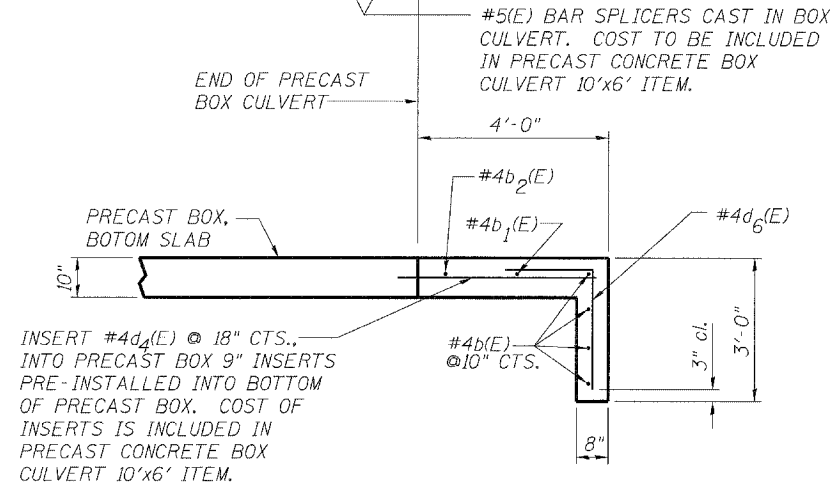
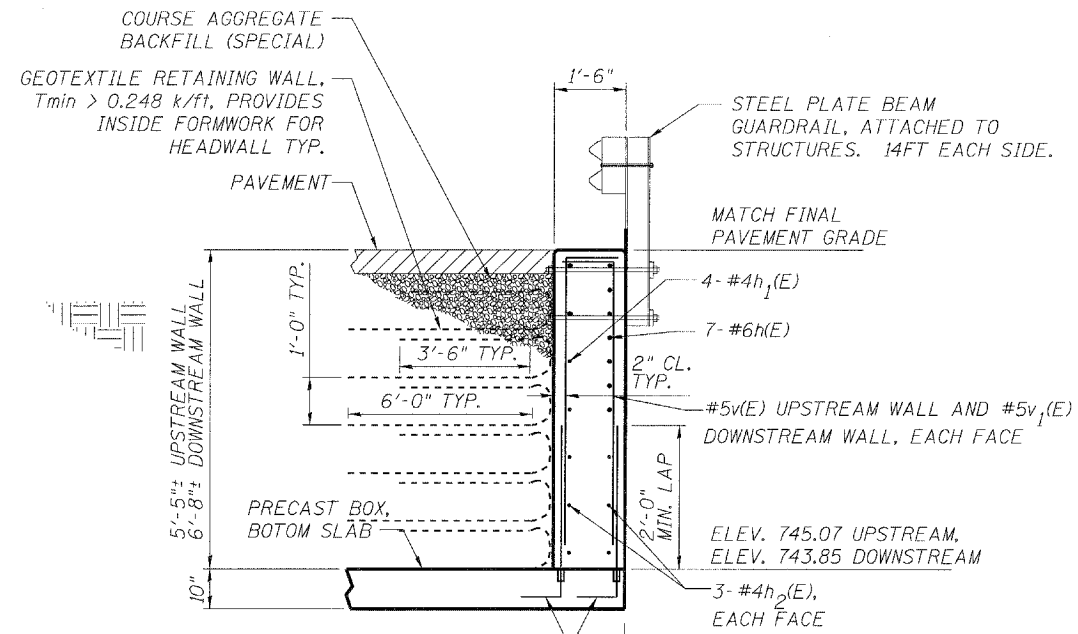


FIELD CUTTING DIAGRAM

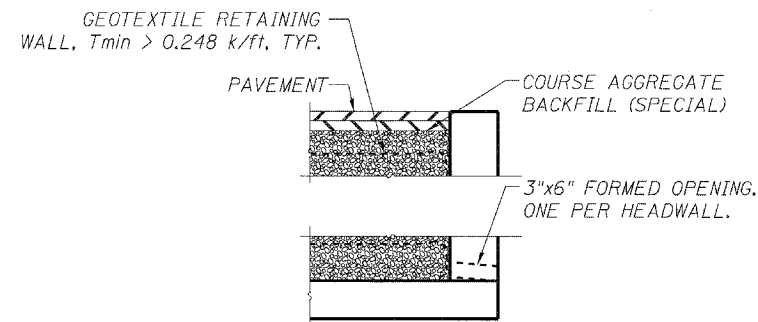
Order d1(E), d3(E) and h3(E) full length. Cut as shown and use remainder of bars in opposite location.



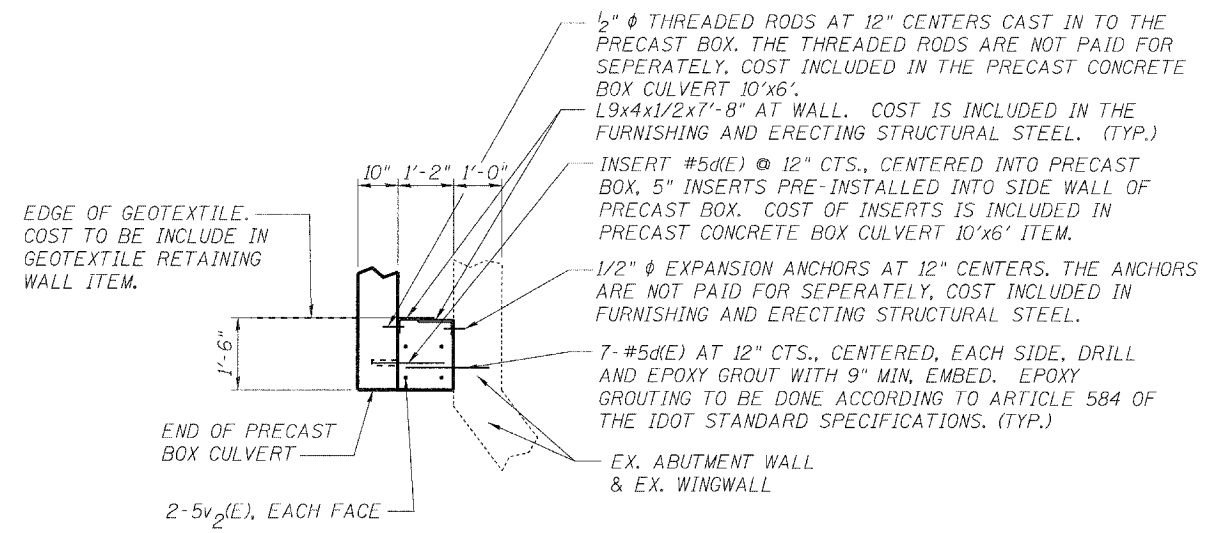
Bar	No.	Size	Length	Shape
b(E)	8	#4	18'-8"	—
b1(E)	2	#4	15'-8"	—
b2(E)	2	#4	12'-8"	—
d(E)	56	#5	1'-6"	—
d1(E)	12	#5	5'-10"	—
d2(E)	8	#5	4'-1"	—
d3(E)	12	#5	4'-10"	—
d4(E)	16	#4	4'-6"	—
d5(E)	12	#4	2'-4"	—
d6(E)	24	#4	4'-4"	└
h(E)	14	#6	27'-3"	┌
h1(E)	8	#4	15'-6"	—
h2(E)	12	#4	13'-8"	—
h3(E)	8	#4	12'-0"	—
h4(E)	4	#4	7'-3"	—
v(E)	38	#5	5'-11"	┌
v1(E)	38	#5	7'-2"	┌
v2(E)	16	#5	10'-6"	—
Item		Unit	Quantity	
CONCRETE STRUCTURES		CU YD	22.2	
REINFORCEMENT BARS, EPOXY COATED		POUND	2070	
STRUCTURE EXCAVATION		CU YD	23.2	
FURNISHING AND ERECTING STRUCTURAL STEEL		POUND	1310	



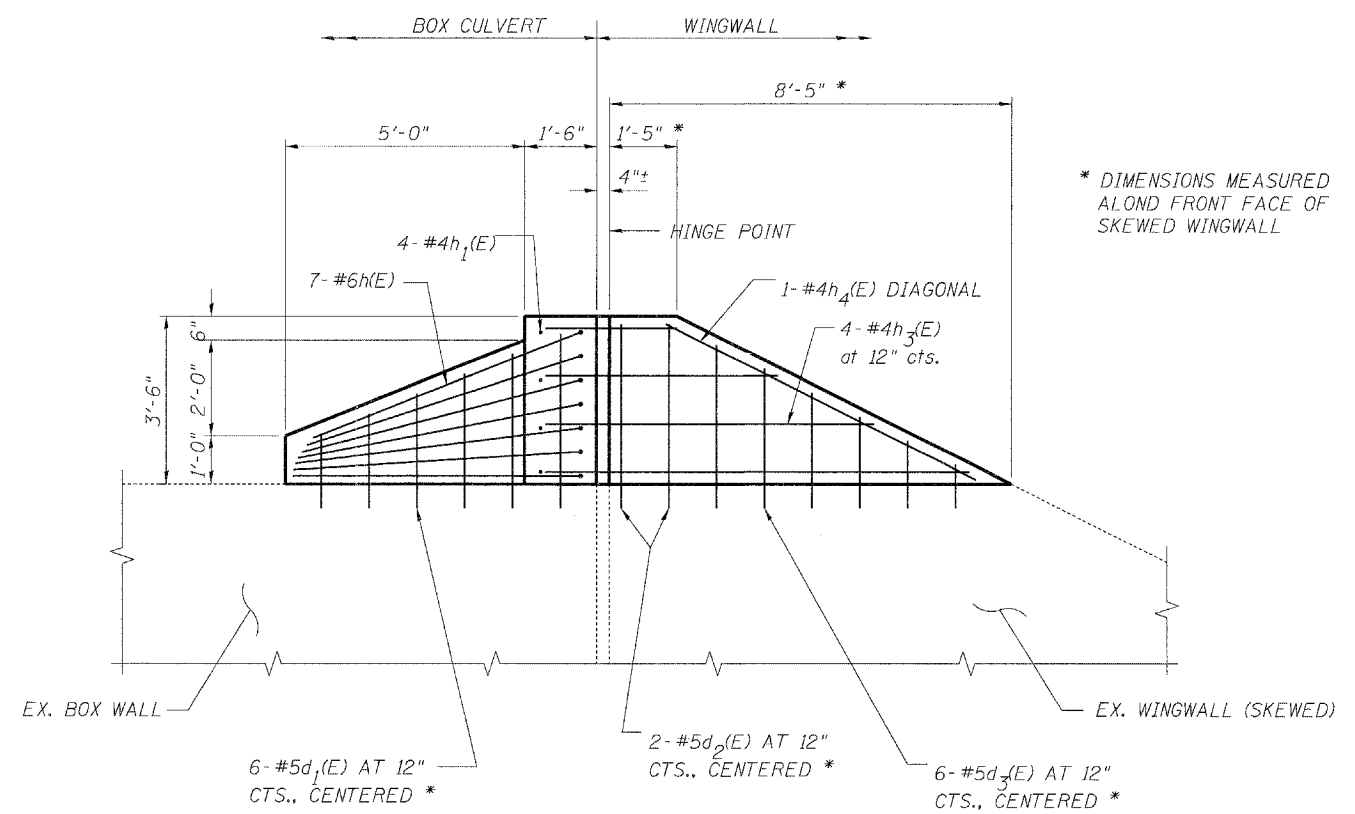
SECTION A-A



DRAIN DETAIL

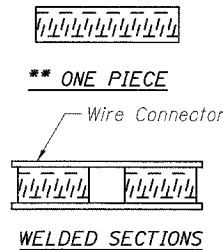
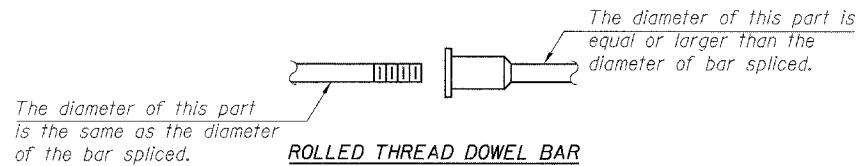


SECTION B-B



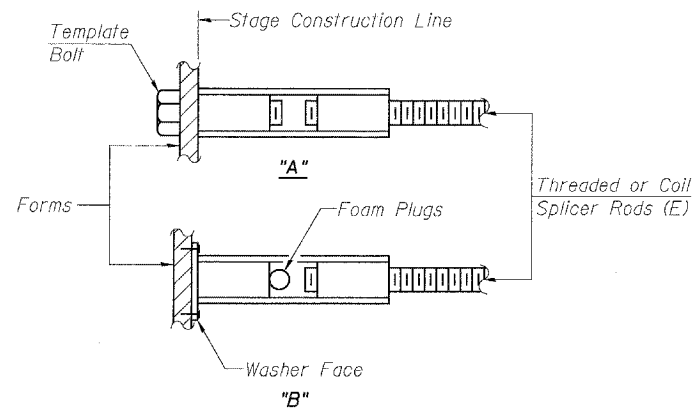
VIEW C-C

* DRILL AND EPOXY GROUT #5d1(E), #5d2(E) AND #5d3(E) WITH 9" MIN. EMBED.



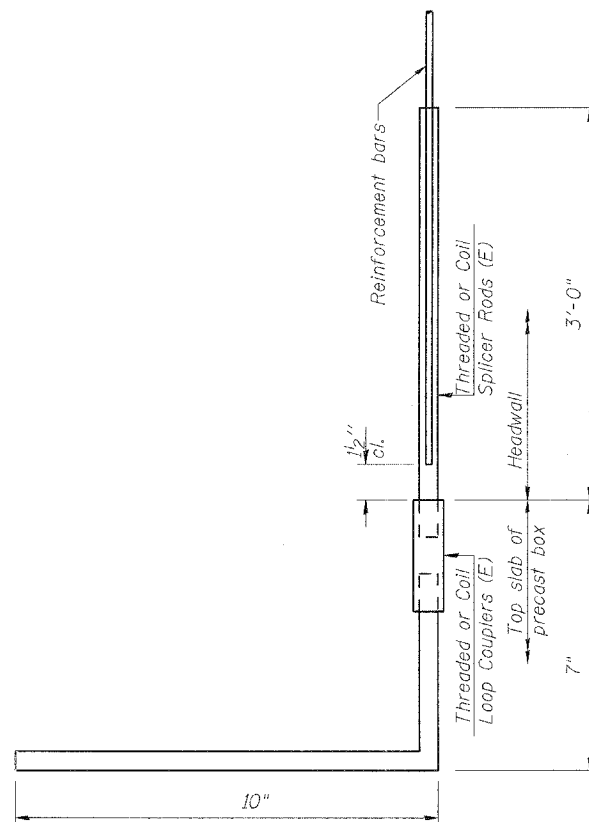
BAR SPLICER ASSEMBLY ALTERNATIVES

**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



FOR HEADWALL

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 12.3 kips - tension	
No. Required = 30	

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

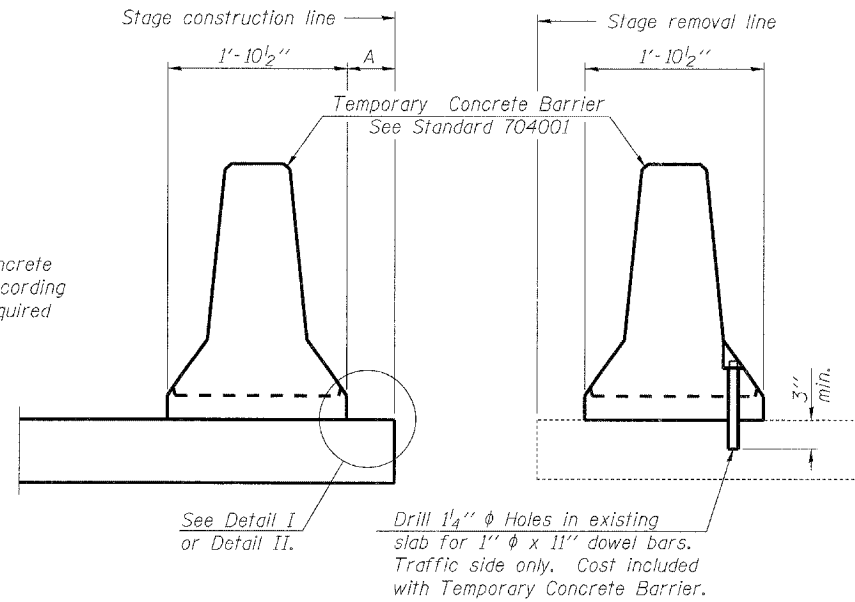
COST TO BE INCLUDED IN PRECAST CONCRETE BOX CULVERT 10'x6' ITEM.

- ① Minimum Capacity = $1.25 \times f_y \times A_t$
(Tension in kips)
- ② Minimum *Pull-out Strength = $0.66 \times f_y \times A_t$
(Tension in kips)

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8

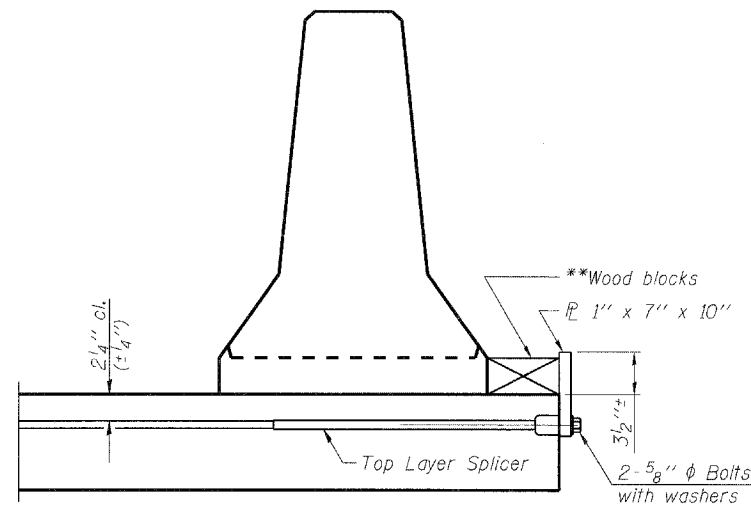
When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



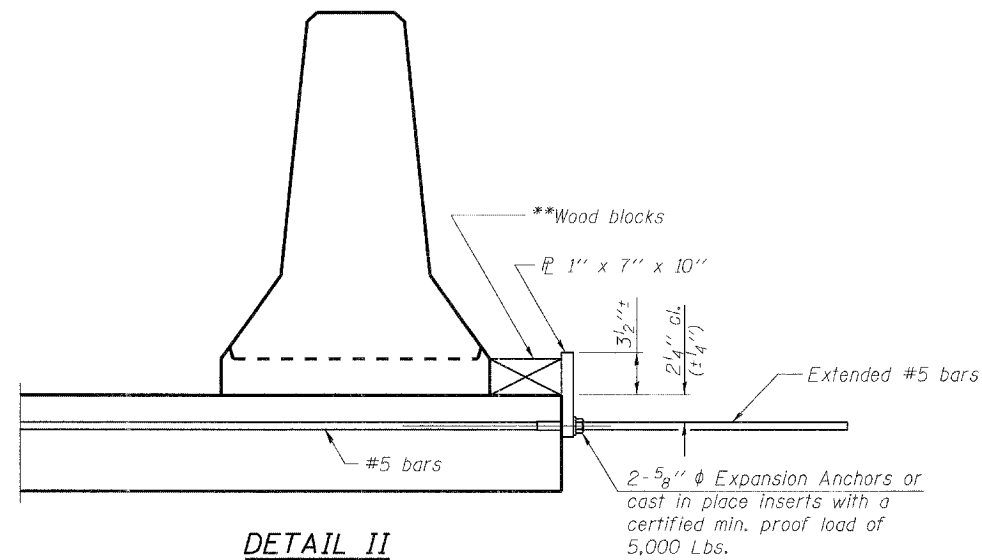
NEW SLAB

EXISTING SLAB

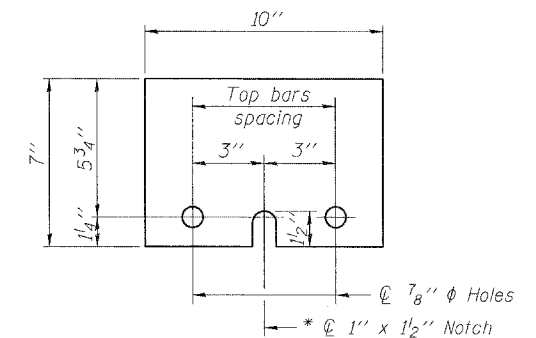
SECTIONS THRU SLAB



DETAIL I



DETAIL II



STEEL RETAINER \bar{P} 1" x 7" x 10"

* Required only with Detail II

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{P} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

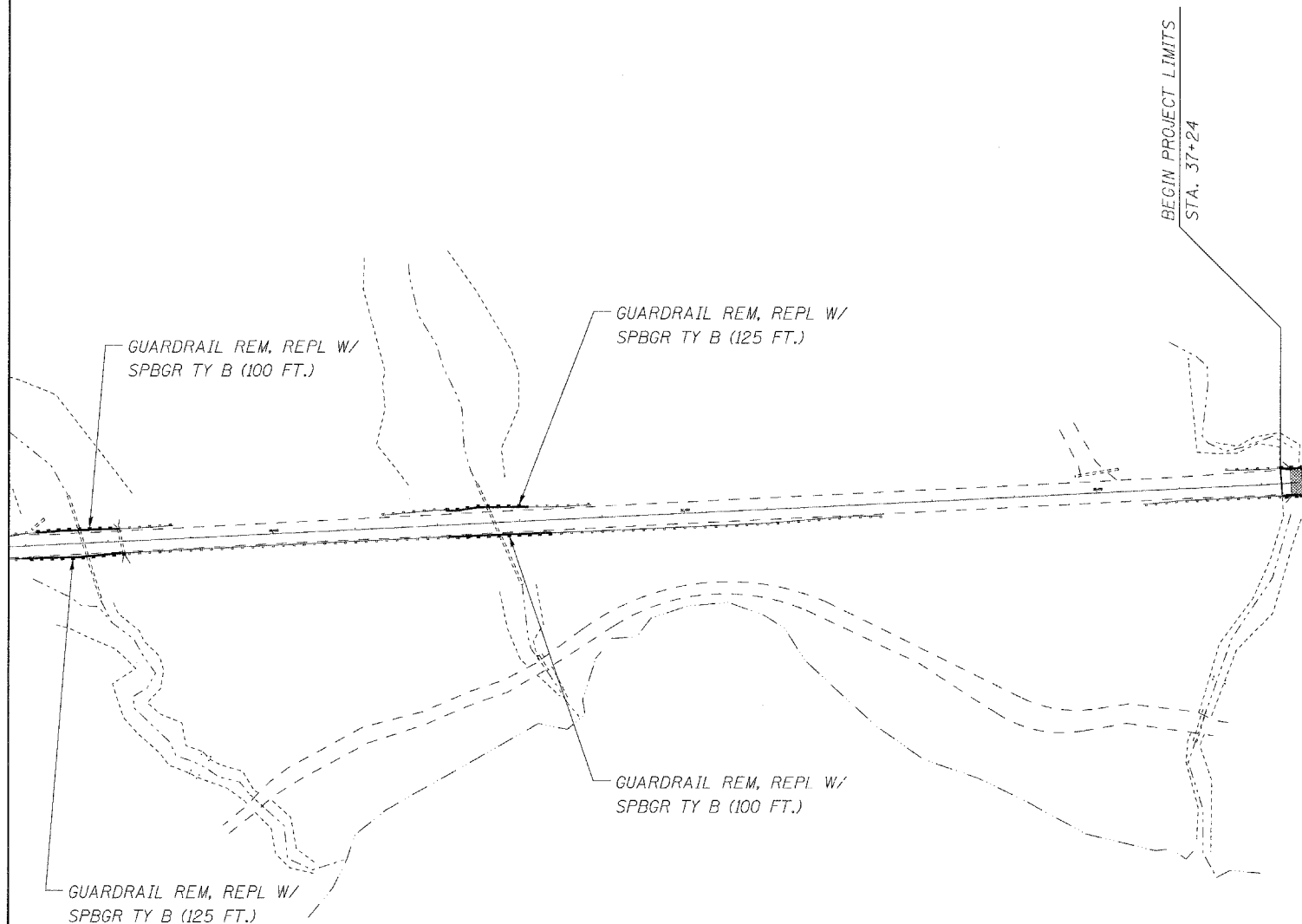
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{P} to the concrete slab with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

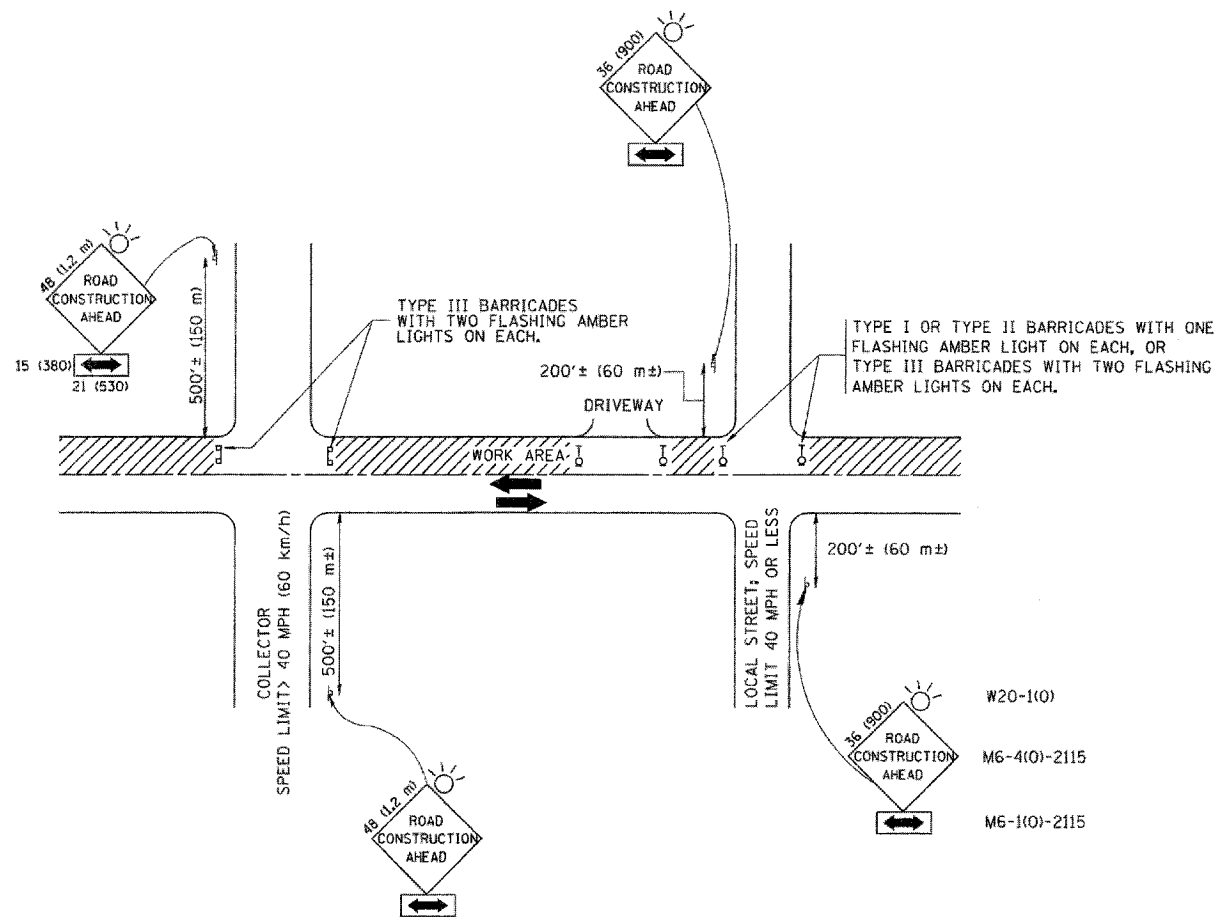
** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.



NOTE
 LOCATIONS SHOWN ARE APPROXIMATE. THIS WORK IS TO BE COMPLETED AT THE DIRECTION OF THE ENGINEER. THIS WORK MAY BE COMPLETED UNDER TEMPORARY LANE CLOSURES, PER STATE STANDARDS 701201 OR 701301 AS APPROVED AND DIRECTED BY THE ENGINEER, ON THE WEEKENDS WHEN DETOURS ARE IN PLACE.



0' 50' 100' 200'
 SCALE: 1" = 100'



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS:
 1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
 2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1,2 m x 1,2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
 3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
- B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
- D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in millimeters (inches) unless otherwise shown.

TC-10

LOVCO, INC.
 CONSULTING ENGINEERS
 1979 N. MILL ST., SUITE 210
 NAPERVILLE, ILLINOIS 60563 PH: (630) 577-9100

USER NAME = #USER#	DESIGNED - MJY	REVISED -
PLOT SCALE = #SCALE#	DRAWN - ST	REVISED -
PLOT DATE = #DATE#	CHECKED - MJY	REVISED -
	DATE - 06/27/2008	REVISED -

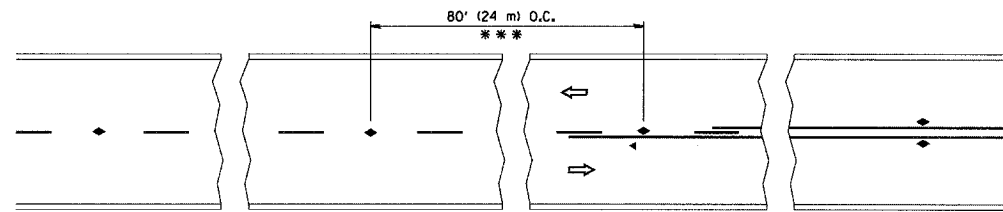
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL PLACEMENT PLAN
 IL ROUTE 31**

**TRAFFIC CONTROL AND
 PROTECTION FOR SIDE ROADS,
 INTERSECTIONS AND DRIVEWAYS**

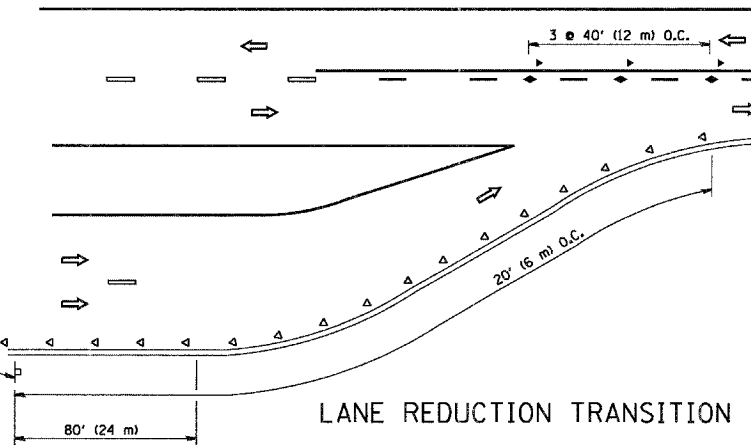
SCALE: 1" = 100' SHEET NO. 16 OF 17 SHEETS STA. 37+24 TO STA. 37+60

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	S-T-1	KANE	17	16
D-91-076-08		CONTRACT NO. 60E50		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

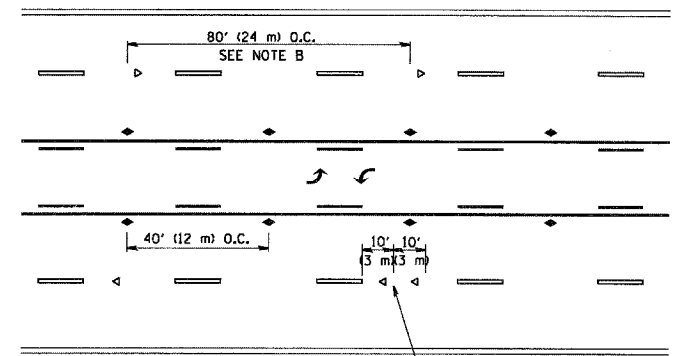


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

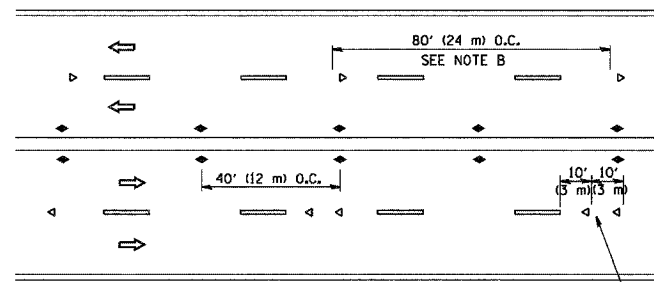
TWO-LANE/TWO-WAY



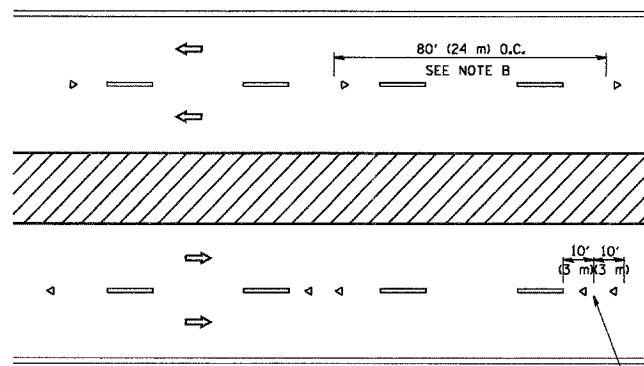
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

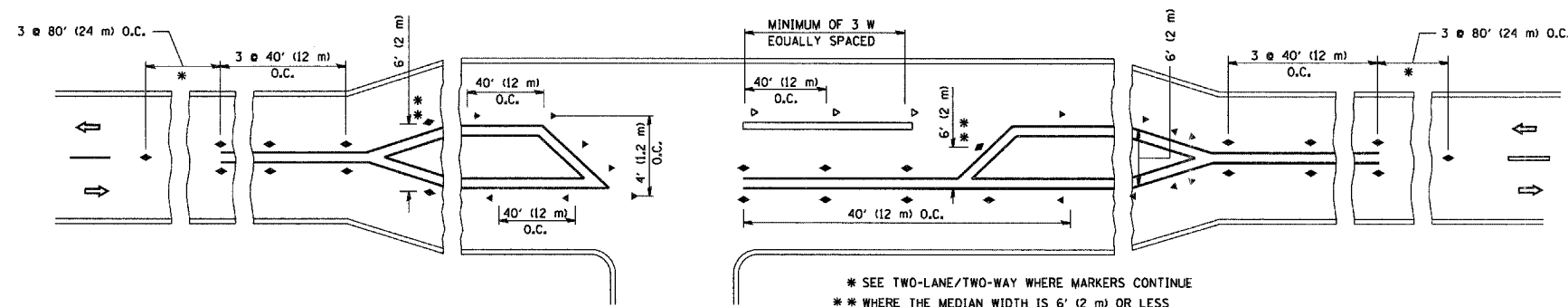
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◀ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H. (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



LEFT TURN

* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
 ** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME = W:\dstatd\22\34\td11.dgn

USER NAME = gg11enobt
 PLOT SCALE = 50.000' / IN.
 PLOT DATE = 1/4/2008

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED - T. RAMMACHER 09-19-94
 REVISED - T. RAMMACHER 03-12-99
 REVISED - T. RAMMACHER 01-06-00
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS
 RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3887	S-T-1	KANE	17	17
TC-11			CONTRACT NO. 60E50	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				