PROJECT LOCATED IN UNINCORPORATED LAKE COUNTY

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

FAP ROUTE 535 (IL 60) OVER DITCH (0.5 MILES WEST OF WILSON ROAD) SECTION 2015-081-B **CULVERT REPAIR** LAKE COUNTY

C-91-140-16

T. 44 N. PROJECT LOCATION STRUCTURE NO. 049-0569

062-047537 REGISTERED PROFESSIONAL & ENGINEER

JAMIL BOU-SAAB LICENSED PROFESSIONAL ENGINEER ILLINOIS NO. 062-047537 EXPIRES 11-30-15

GROSS LENGTH = 38 FT. = 0.007 MILE NET LENGTH = 38 FT. = 0.007 MILE

LOCATION MAP

D-91-140-16

LAKE 16 1

SECTION

2015-081-8



DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

SUBMITTED October 2920 15 John Fallen DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

The Engineer of Design and Environment

OMEN OF HIGHWAYS, CHIEF ENGINE

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

TRAFFIC DATA

FOR INDEX OF SHEETS, SEE SHEET NO. 2

JUST EAST OF THE VILLAGE OF VOLO

POSTED SPEED: 55 MPH DESIGN SPEED: 60 MPH **FUNCTIONAL CLASSIFICATION:** OTHER PRINCIPAL ARTERIAL ADT = 9.100 (2013)

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.

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION 1-800-892-0123 OR 811

PROJECT MANAGER: ISSAM RAYYAN, P.E. (847) 705-4178 PROJECT ENGINEER: ROBERT T. BORO, P.E. (847) 705-4237

CONTRACT NO. 62B80

INDEX OF SHEETS

SHEET NO.	<u>QESCRIPTION</u>
1	COVER SHEET
2	INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES
3 - 5	SUMMARY OF OUANTITIES
6	TYPICAL SECTIONS
7	IL 60 PLAN & PAVEMENT MARKINGS
8	TRAFFIC CONTROL DETOUR PLAN
9	GENERAL PLAN AND ELEVATION
10 - 11	BOX CULVERT REPAIR DETAILS
12	EXISTING CULVERT PLANS
13	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROAD. INTERSECTION AND DRIVEWAYS (TC-10)
14	TYPICAL APPLICATIONS: RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT) (TC-11)
15	DISTRICT ONE TYPICAL PAVEMENT MARKINGS (TC-13)
16	DETOUR SIGNING FOR CLOSING STATE HIGHWAYS (TC-21)

STATE STANDARDS

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
442201-03	CLASS C AND D PATCHES
701001-02	OFF-RD OPERATIONS, 2L, 2W. MORE THAN 15' AWAY
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-04	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-04	LANE CLOSURE, ZL, ZW, DAY ONLY, FOR SPEEDS >= 45 MPH
701301-04	LANE CLOSURE, 2L, 2W. SHORT TIME OPERATIONS
701306-03	LANE CLOSURE, 2L. 2W. SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS >= 45 MPH
701311-03	LANE CLOSURE, 2L, 2W. MOVING OPERATIONS - DAY ONLY
701901-04	TRAFFIC CONTROL DEVICES
780001-05	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

GENERAL NOTES

- BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT (800) 892-0123
 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES. 48-HOUR
 NOTIFICATION IS REQUIRED.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- 3. ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE THE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 4. BEFORE STARTING ANY WORK. THE CONTRACTOR SHALL OBTAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES AND RAISED REFLECTIVE MARKERS IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.
- 6. DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
- 7. PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
- 8. THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING OF WORK.
- 9. THE RESIDENT ENGINEER SHALL CONTACT WALTER CZARNY, THE AREA TRAFFIC FIELD ENGINEER, AT (847) 438-2300 A MINIMUM OF TWO (2) WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
- 10. THE CONTRACTOR SHALL DIVERT WATER FROM THE WORK AREAS IF NECESSARY BY A METHOD APPROVED BY THE ENGINEER. THIS WORK IS INCIDENTAL TO THE CONTRACT AND WILL NOT BE PAID FOR SEPARATELY.
- 11. ALL EXCAVATED SOILS FROM THE PROJECT SITE SHALL BE RE-USED AS FILL OR TOPSOIL AT THE PROJECT SITE. NO EXCAVATED SOILS FROM THE PROJECT SITE MAY BE DISPOSED OF AT ANY OFFSITE LOCATION.
- 12. THE DEPARTMENT HAS DETERMINED THAT IN STREAM WORK IS NOT REQUIRED FOR THE WORK SPECIFIED IN THIS CONTRACT.
 THE DEPARTMENT HAS NOT OBTAINED A 404 PERMIT. IF THE CONTRACTOR CHOOSES TO USE ACTIVITIES REQUIRING AN USACE
 404 PERMIT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE THE PROPER USACE PERMITS.
- 13. SUARDRAIL INSTALLATION SHALL BE COMPLETED PRIOR TO OPENING THE ROAD TO TRAFFIC.

DRAWN - KJC SEVISED -	
URAHN AJC REVISEU -	
TERRA DRAWN - KJC REVISED -	
PLOT DATE - 10/28/2515 DATE - 10/28/15 REVISED -	

IL 60 OVER DITCH CULVERT REPAIR (0.5 MI WEST OF WILSON RD)

INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES

SCALE; NTS SHEET 1 OF 1 SHEETS STA. TO STA.

URBAN 100% STATE

-		0.40=	·		TOTAL	ROADWAY
SP	51	CODE NO.	ITEM	TINU	QUANTITY	
		20101100	TREE TRUNK PROTECTION	EACH	3	3
		20101400	NITROGEN FERTILIZER NUTRIENT	POUND	\$ P.	1
		20101500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	1	1
	-	20101600	POTASSIUM FERTILIZER NUTRIENT	· POUND	1	1
		21101625	TOPSOIL FURNISH AND PLACE. 6"	. SO YO	15	15
		25000210	SEEDING, CLASS 2A	ACRE	0.01	0.01
		25100115	MULCH, METHOD 2	ACRE	0.01	0.01
-		28000400	PERIMETER EROSION BARRIER	FOOT	65	65
		28200200	FILTER FABRIC	SQ-YD-	6	6
•		40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	5	5
		44201741	CLASS D PATCHES. TYPE II, 8 INCH	SO YD	6	6
		48101202	AGGREGATE SHOULDERS, TYPE B	CU YD	0. 5	0, 5
		50102400	CONCRETE REMOVAL	CU YD	5.0	5. 0
		50200100	STRUCTURE EXCAVATION	CU YD	51	51
+						

 	US
TERRA	
ENGINEERING LTD.	PI,

ORAWN - KJC REVISED - PLOT SCALE • NTS CHECKED - LVA REVISED -	USER NAME = KyloC	DESIGNED -	KJC	REVISED -	
PLOT SCALE • NTS CHECKED - LVA REVISED -		DRAWN -	KJC	REVISED -	
	PLOT SCALE . NTS	CHECKED -	LVA	REVISED -	
PLOT CATE = 10/28/2015 DATE - 10/28/15 REVISED -	PLOT DATE = 10/28/2015	DATE -	10/28/15	REVISED -	

IL 60 OVER DITCH CULVERT REPAIR (0.5 MI WEST OF WILSON RD)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SUMMARY OF QUANTITIES	535	2015-081-B	LAKE	16	3
	_		CONTRACT	NO, 62B	80
ALE: NTS SHEET 1 OF 3 SHEETS STA. TO STA.		ILLINOIS FED. AID PROJECT			

X SPECIALTY ITEM
• SPECIAL PROVISION ITEM

100% STATE

			p			
ŞP	SI	CODE NO.	JTEM	UNIT	TOTAL QUANTITY	ROADWAY 0040
	***************************************	**************************************				
		50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	850	850
		54002020	EXPANSION_BOLTS-3/4_INCH	EAGH	63	63
		54003000	CONCRETE BOX CULVERTS	CU YD	5. 0	5.0
		63301210	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	37.5	37.5
		·				, , , , , , , , , , , , , , , , , , ,
		67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1	1
		67100100	MOBILIZATION	L SUM	1	1
				-	d () Arriver de la companya de la co	
		70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2	2
						
	*	78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	12	12
		78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	.2	2
		85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2 .	2
amampa managama.						
•	*	K1004595	PRUNING FOR SAFETY AND EQUIPMENT CLEARANCE	L SUM	-1	1
•		X4810200	AGGREGATE SHOULDER REMOVAL	CU YD	0.5	0.5
•		X7010216	TRAFFIC CONTROL AND PROTECTION. (SPECIAL)	L SUM	1	1
*		Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1
					, wysaattaa	

X SPECIALTY ITEM
• SPECIAL PROVISION ITEM

TERRA

DESIGNED - KJC DRAWN - KJC USER HAME = KyloC REV15ED -REVISED -ENGINEERING LTD. PLOT SCALE * NTS PLOT DATE * 18/28/2015 CHECKED - LVA REVISED -DATE - 10/28/15 REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

IL 60 OVER DITCH CULVERT REPAIR (0.5 MI WEST OF WILSON RD) SUMMARY OF QUANTITIES SHEET 2 OF 3 SHEETS STA. SCALE: NTS TO STA.

F.A.P. RTÉ. 535 SECTION 2015-081-8

100% STATE

SP	SI	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	ROADWAY 0040
					,	
•		Z0058668	GRADING AND SHAPING FORESLOPES	SQ YD	10	10
•		Z0073002	TEMPORARY SOIL RETENTION SYSTEM	SO FT	110	110
-						
•		Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	4	4

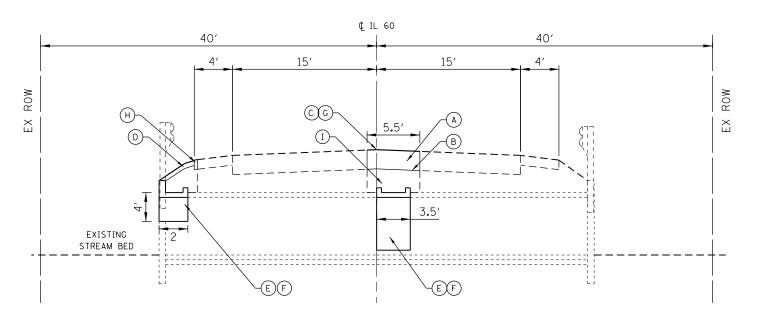
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X SPECIALTY ITEM
* SPECIAL PROVISION ITEM

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V V	ENGINEERING LTD.	PLD
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ILLINOIS ROUTE 60 OVER DITCH (O.5 MILES WEST OF WILSON ROAD) EXISTING REINFORCED BOX CULVERT



ILLINOIS ROUTE 60 OVER DITCH (O.5 MILES WEST OF WILSON ROAD) PROPOSED REINFORCED BOX CULVERT REPAIRS

- 1. THE UNIT WEIGHT USED TO CALCULATE ALL HMA MIXTURE QUANTITIES IS 112 LBS/SQYD/IN.
- 2. FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64 -22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.
- 3. FOR USE OF RECYCLED MATERIALS SEE DISTRICT ONE SPECIAL PROVISIONS.
- 4. QUALITY MANAGEMENT PROGRAM (QMP) IDENTIFIES THE PARTICULAR QUALITY CONTROL SPECIFICATION THAT APPLIES TO THE HMA MIXTURE.

HOT-MIX ASPHALT REQUIREMENTS

APPLICATION	MIXTURE TYPE	AC TYPE	AIR VOIDS @ NDES	RAP %
CLASS D PATCHES, TYPE II, 8 INCH	2" HMA SURFACE COURSE, MIX D, N70	PG 64-22	4% @ 70 GYR	15
	6" HMA BINDER IL-19 MM	PG 58-22	4% @ 70 GYR	25

TERRA ENGINEERING LTD.

USER NAME = KyleC	DESIGNED	-	KJC	REVISED	-	11/19/15
	DRAWN	-	KJC	REVISED	-	
PLOT SCALE = NTS	CHECKED	-	LVA	REVISED	-	
PLOT DATE = 11/19/2015	DATE	-	10/28/15	REVISED	-	

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

IL 60 OVER	DITCH CUL	.VER1	r re	PAIR ().5 MI	WEST OF WILSON RD)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		TVI	DIC/	L SECT	ONG	•	535	2015-081-B	LAKE	16	6
		• • • • •	107	AL SECT			CONTRACT	NO. 621	380		
SCALE: NTS	SHEET 1	OF	1	SHEETS	STA.	TO STA.		ILLINOIS FED. A	ID PROJECT		

EXISTING/REMOVAL LEGEND

- (2) EXISTING GUARDRAIL TO BE REMOVED AND REERECTED
- (3) EXISTING AGGREGATE SHOULDER TO BE REMOVED
- (4) EXISTING REINFORCED CONCRETE BOX CULVERT
- (5) CONCRETE REMOVAL

1 EXISTING PAVEMENT

- 6 STRUCTURE EXCAVATION (TO BE REPLACED)
- CLASS D PATCHES, TYPE II, 8 INCH
- (8) EXISTING SUBBASE MATERIAL TO BE REUSED & REPLACED (PAID AS STRUCTURE EXCAVATION)
- (9) TEMPORARY SOIL RETENTION SYSTEM

PROPOSED LEGEND (A) CLASS D PATCHES, TYPE II, 8 INCH BITUMINOUS MATERIALS (PRIME COAT)

G

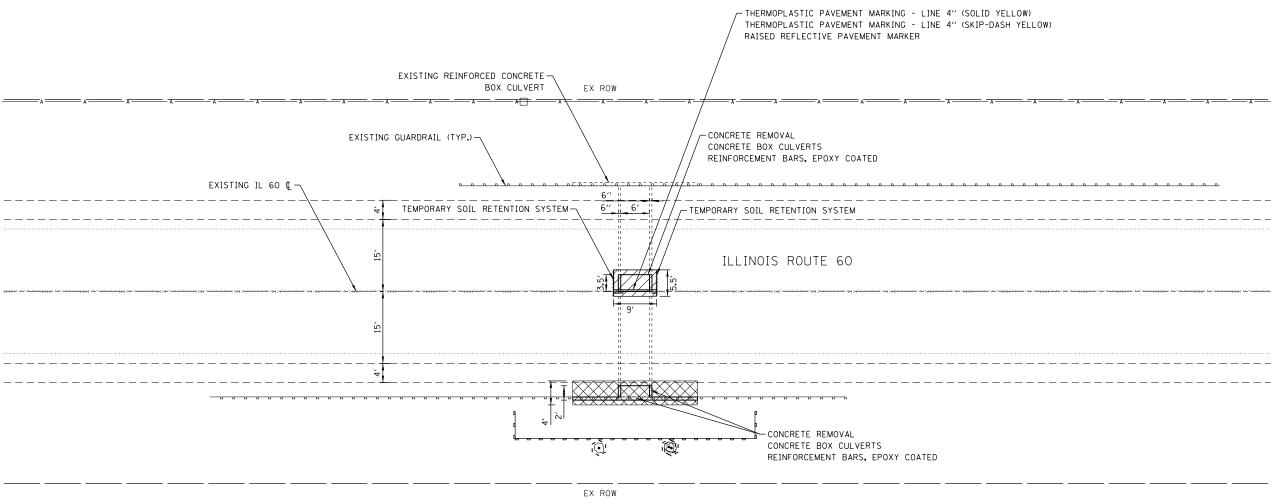
THERMOPLASTIC PAVEMENT MARKING - LINE 4"

[] EXISTING SUBBASE MATERIAL TO BE REUSED & REPLACED (INCLUDED IN PAYMENT FOR STRUCTURE EXCAVATION)

TOPSOIL FURNISH AND PLACE, 6" CONCRETE BOX CULVERTS

REINFORCEMENT BARS, EPOXY COATED

RAISED REFLECTIVE PAVEMENT MARKER AGGREGATE SHOULDERS, TYPE B



<u>LEGEND</u>



CLASS D PATCHES, TYPE II, 8 INCH BITUMINOUS MATERIALS (PRIME COAT) EXISTING SUBBASE MATERIAL ABOVE CULVERT TO BE REUSED & REPLACED



PERIMETER EROSION BARRIER



TREE PROTECTION



STRUCTURE EXCAVATION REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A 4. AGGREGATE SHOULDERS, TYPE B TOPSOIL FURNISH AND PLACE, 6" SEEDING, CLASS 2A NITROGEN FERTILIZER NUTRIENT POTASSIUM FERTILIZER NUTRIENT MULCH, METHOD 2

TEMPORARY EROSION CONTROL NOTES

- THE CONTRACTOR SHALL INSTALL PERIMETER EROSION BARRIER PRIOR TO STRIPPING OF
- RUNOFF FROM EXCAVATION AREAS SHALL LEAVE THE SITE THROUGH SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL ADJUST HIS OPERATION AND IMPLEMENT EROSION CONTROL MEASURES ACCORDINGLY.
- THE CONTRACTOR SHALL SURROUND ANY NECESSARY EARTH STOCKPILES WITH PERIMETER
- 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 1/2 INCH RAINFALL OR SNOWFALL.
- 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 RECEIVE 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 COVERED WITH AN EROSION CONTROL BLANKET WITHIN SEVEN (7) CALENDAR DAYS.

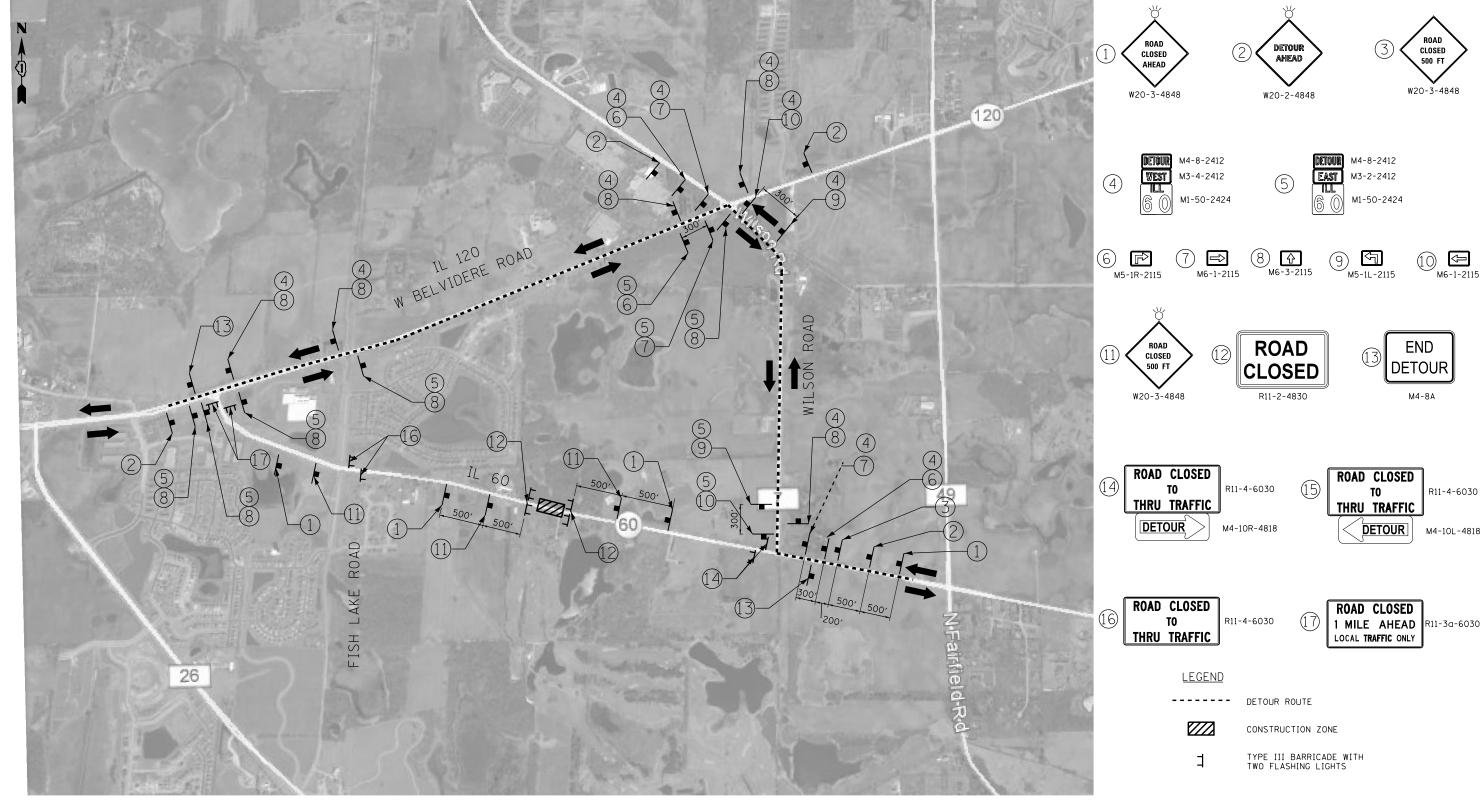


USER NAME = KyleC	DESIGNED	-	JRM	REVISED	-	11/19/15
	DRAWN	-	JRM	REVISED	-	
PLOT SCALE = 1" = 10"	CHECKED	-	LVA	REVISED	-	
PLOT DATE = 11/19/2015	DATE	-	10/28/15	REVISED	-	

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

IL 60 OVER	DITCH	CUL	/ERT	RE	PAIR (0.5 MI WES	T OF WILSON RD)		
IL 60 PLAN & PAVEMENT MARKINGS									
SCALE: 1" = 10"	SHEET	1	OF	1	SHEETS	STA.	TO STA.		

_		ILLINOIS FED. A	CONTRACT	NO. 62	880
	535	2015-081-B	LAKE	16	7
	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEE.



<u>NOTES</u>

SCALE: NTS

- PLACEMENT AND SPACING OF SIGNS AND BARRICADES SHALL BE IN ACCORDANCE WITH TC-21 (DETOUR SIGNING FOR CLOSING STATE HIGHWAYS).
- THE COST OF SUPPLYING, ERECTING AND MAINTAINING BARRICADES, WARNING LIGHTS AND ALL SIGNS, INCLUDING SIGN PANEL OVERLAYS, SHALL BE INCLUDED IN THE CONTRACT COST OF TRAFFIC CONTROL AND PROTECTION (SPECIAL).
- 3. ACCESS TO ALL PRIVATE ENTRANCES SHALL BE MAINTAINED.
- ALL SIGNALIZED INTERSECTIONS ALONG THE DETOUR ROUTE SHALL IMPLEMENT TEMPORARY TRAFFIC SIGNAL TIMING.
- THE FOLLOWING INTERSECTIONS WILL REQUIRE MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION:
 BELVIDERE RD. AND FISH LAKE RD.
 BELVIDERE RD. AND WILSON RD.

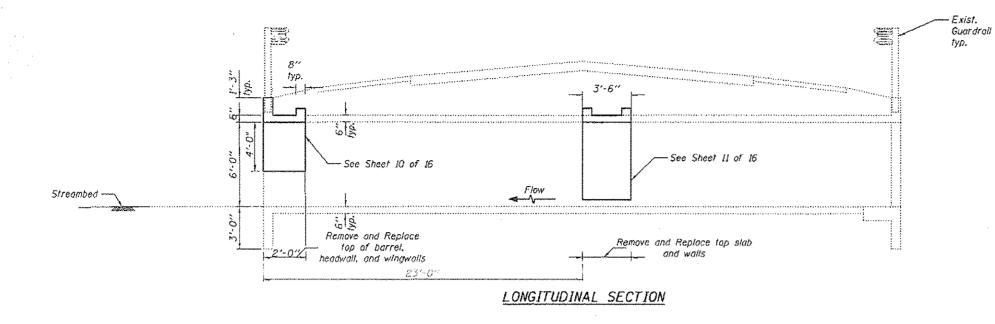


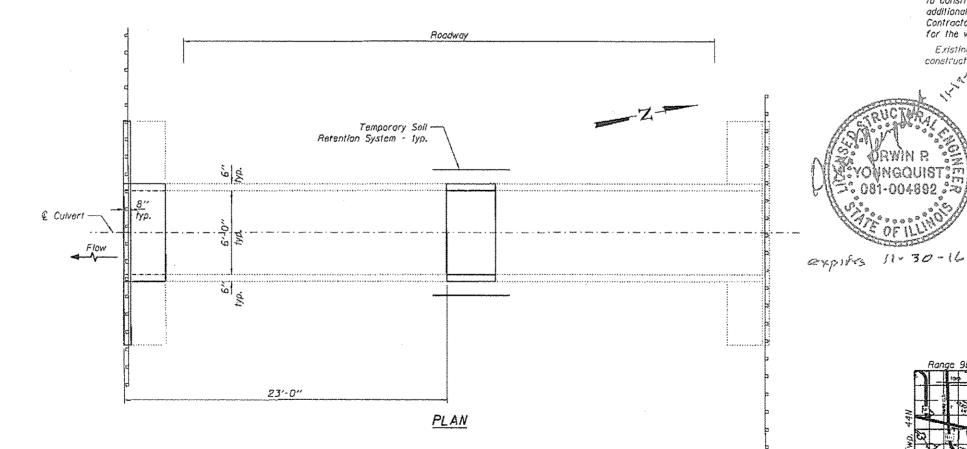
ı	USER NAME = JuanS	DESIGNED	=	JRM	REVISED -	ı
ı		DRAWN	-	JRM	REVISED -	Ì
ı	PLOT SCALE = NTS	CHECKED	-	LVA	REVISED -	Ì
	PLOT DATE = 11/10/2015	DATE	-	10/28/15	REVISED -	
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STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

IL 60 OVER	DITCH	CUL	VERT	RE	PAIR ().5 MI	WEST OF	WILSON	RD)	F.A.P. RTE.	SEC.	TION		COUNTY	TOTAL SHEETS	SHEET NO.
	TD	ΛFF	י חו	ONI	TROL DE	TOUR	DI AN		•	535	2015-	081-B		LAKE	16	8
	- 111	IALI	10 0	OIV	IIIOL DI	.10011	I LAN							CONTRACT	NO. 62	B80
CALE: NTS	SHEET	1	OF	1	SHEETS	STA.		TO STA.				ILLINOIS	FED. Al	D PROJECT		

Existing Structure: SN 049-0569 built in 1933 as S.B.I. Route 59A, Section 118 at Sta. 87+00.00. A 6' x 6' reinforced concrete box culvert. Remove and replace top 4' of barrel, headwall, and wingwall at south end and top slab and walls near center of roadway.





LOADING HS 20-44 & ALT.

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi fy = 60,000 psi (Reinforcement)

DESIGN SPECIFICATIONS

AASHTO Standard Bridge Design Specifications

GENERAL NOTES

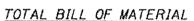
Barral shall be poured monolithically with wingwalls.

Exposed edges shall be beveled 34".

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details offecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scape of the wark, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.



Concrete Removal	Cv. Hs.	5
Temporary Soil RetentionSystem	Sq. Ft.	110
Structure Excavation	Cu. Yds.	51
Reinforcement Bars. Epoxy Coated	Pound	850
Concrete Box Culverts	Cu. Yds.	5.0
ITEM	UNIT	TOTAL

3rd P.M. LOCATION SKETCH

S.N. 049-0569

GENERAL PLAN & ELEVATION IL RTE. 60 OVER DITCH F.A.P. RTE. 535 - SEC. 2015-081B LAKE COUNTY

STATION 87+00.00 STRUCTURE NO. 049-0569

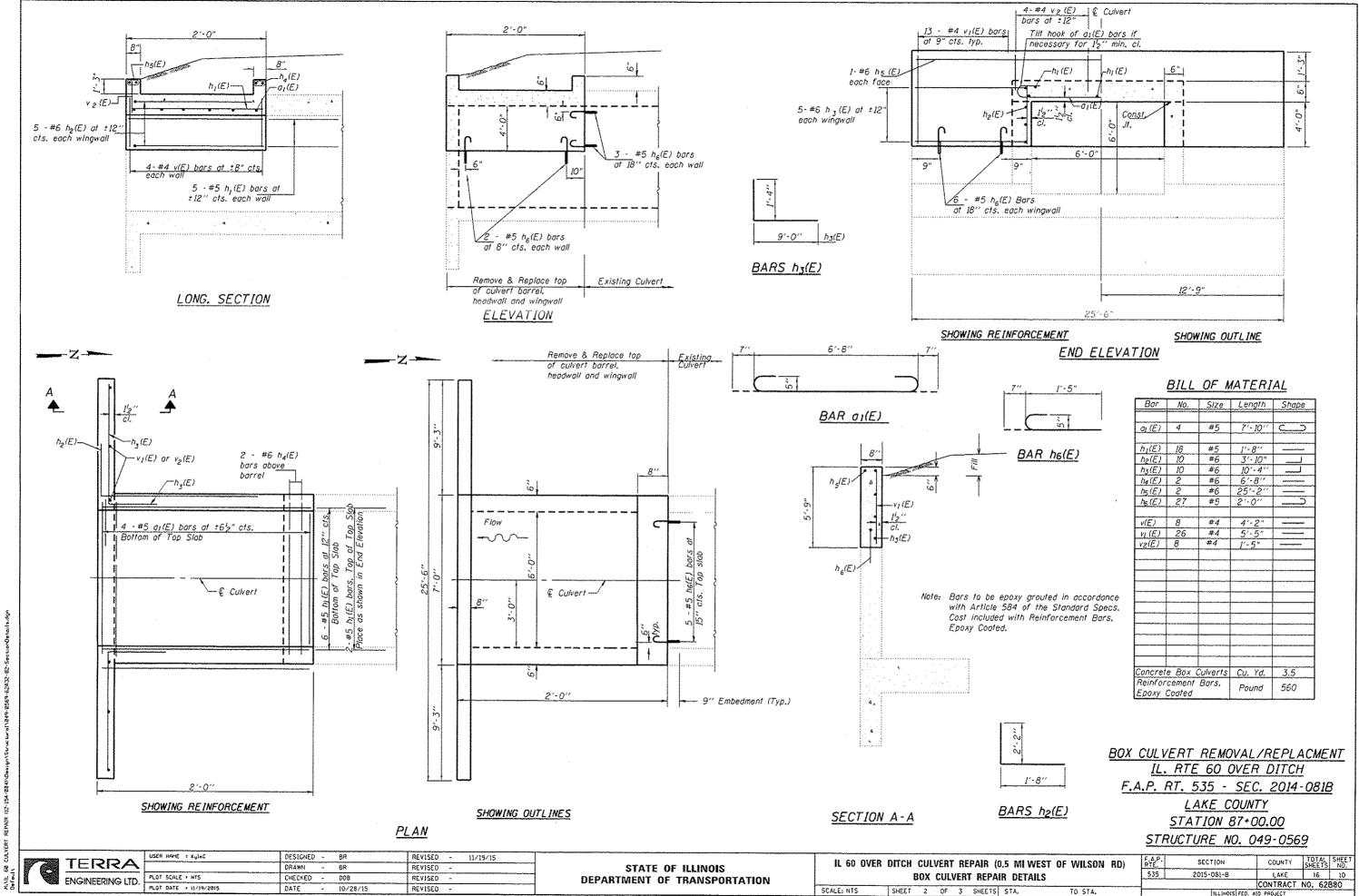


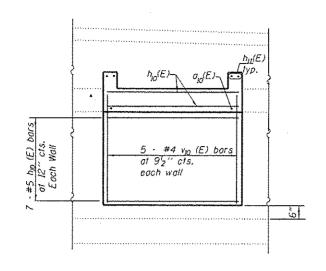
Delph - Smar Result	DESIGNED	_	88	REVISED	~	11/19/15	Г
	DRAWN	-	8R	REVISED	-		ĺ
PLOT SCALE + NTS	CHECKED	-	DDB	REVISED	-		
PLOT CATE = 11/19/2015	DATE	-	10/28/15	REVISED	~		_

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

IL 60 OVER	DITCH	CUL	VER	T REI	AIR (0.5 MI WEST	OF WILSON	AD)
	6	ENE	I AL	PLAN	AND	ELEVATION		
SCALE: NTS	SHEET	1	OF	3	SHEETS	STA.	TO STA.	

 F.A.P.	SECTION	COUNTY	TOTAL	SHEET
535	2015-08)-B	LAXE	15	9
		CONTRACT	NO. 62	380
	BLINOIS FED. A	PROJECT		



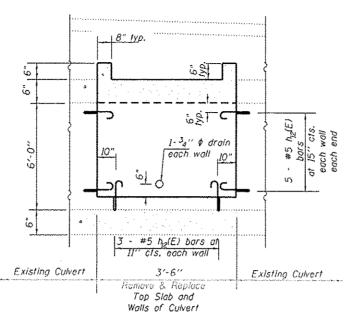


LONG. SECTION

2 - #6 h_{II} (E) bars above

barret

7 -#5 a_{IO} (E) bars at ±6¹z cts. Bottom of Top Slab



ELEVATION

Flow

9

3'-6"

Remove & Replace Top Slab and Walls of Culvert

SHOWING OUTLINES

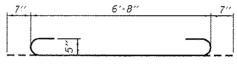
-ho(E) <ho(E) Tilt hook of $a_0(E)$ bars if necessary for $1_2^{l_2}$ " min. cl. Const. h_{IO}(E) $h_{12}(E)$ € Culvert SHOWING REINFORCEMENT

SECTION THRU BARREL

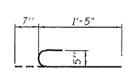
SHOWING OUTLINES



Existing Culvert



BAR 010 (E)



BAR $h_R(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
110 (E)	7	#5	7′-10″	
10 (E)		#5	3'-2"	
111 (E)		#6	6'-8"	
12 (E)	36	#5	2'-0"	
10 (E)	10	#4	5'-8''	
	е Вох (- Cu. Yd.	1,5
	cement	Bars,	Pound	290
poxy	Coated		1 00110	200
			•	

Note: Bars to be epoxy grouted in accordance with Article 584 of the Standard Specs. Cost included with Reinforcement Bars. Epoxy Coated.

> BOX CULVERT REMOVAL/REPLACMENT IL. RTE 60 OVER DITCH F.A.P. RT. 535 - SEC. 2014-081B LAKE COUNTY STATION 87+00.00

STRUCTURE NO. 049-0569

SHOWING REINFORCEMENT

2 - #6 h_{II} (E) bars above

barrel

Culvert ·

USER NAME 2 KyloE	DESIGNED	-	8R	REVISED	-	11/19/15	T
	DRAWN	~	BR	REVISED	-	······································	7
PLOT SCALE . NTS	CHECKED	-	008	REVISED	_		7
PLOT DATE . 11/19/2015	DATE	-	10/28/15	REVISED	-		7

2-#5 ho (E) bars. Top of Top Stab Place as shown in End Elevation

€ Culvert -

Existing Culvert

PLAN

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

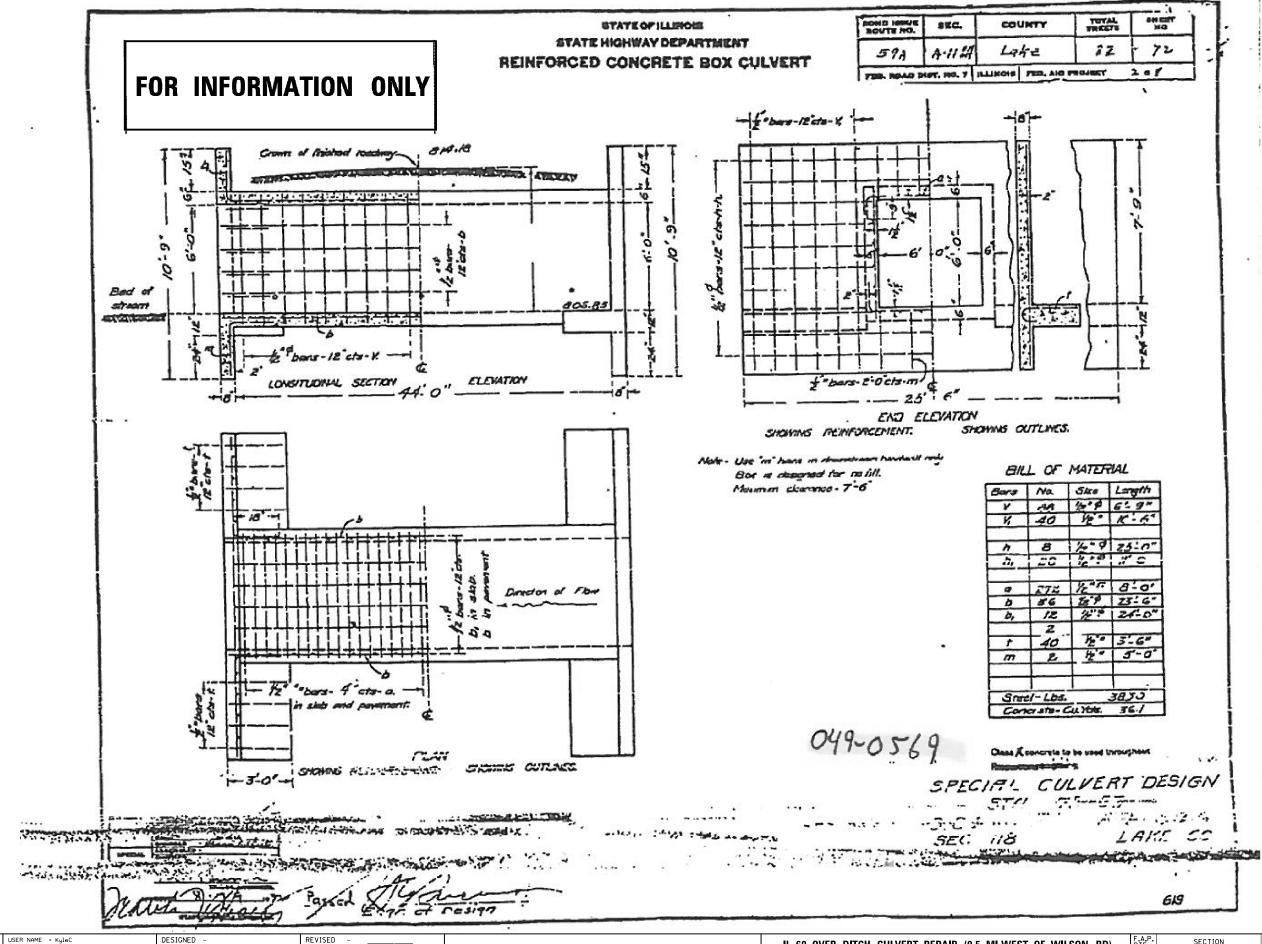
IL 60 OVER DITCH CULVERT REPAIR (0.5 MI WEST OF WILSON RD) **BOX CULVERT REPAIR DETAILS** SHEET 3 OF 3 SHEETS STA. SCALE: NTS TO STA.

F.A.P. RTE. 535 COUNTY TOTAL SHEET NO.

LAKE 16 11

CONTRACT NO. 62880 2015-081-8

TERRA ENGINEERING LTD.



TERRA ENGINEERING LTD.

 USER NAME = KyleC
 DESIGNED REVISED

 DRAWN REVISED

 PLOT SCALE = NTS
 CHECKED REVISED

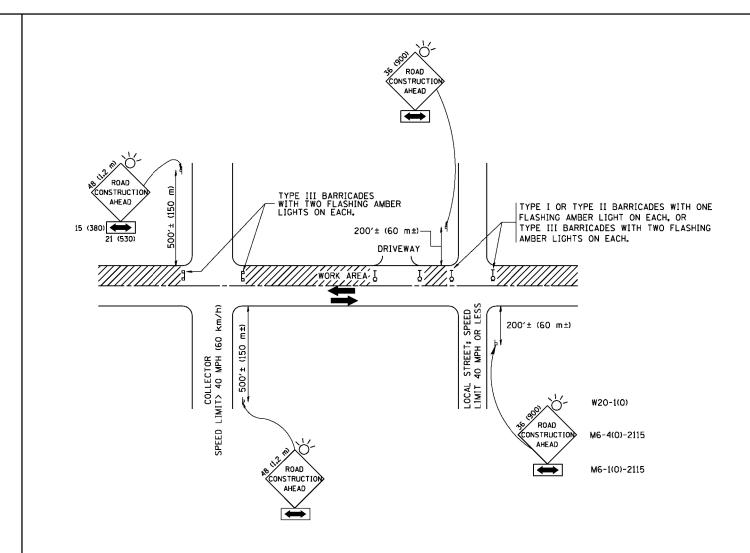
 PLOT DATE = 10/28/2015
 DATE 10/28/15
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 60 OVER DITCH CULVERT REPAIR (0.5 MI WEST OF WILSON RD)

EXISTING CULVERT PLANS

SCALE: NTS SHEET 1 OF 1 SHEETS STA. TO STA.



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:
- Q) 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:
- g) ONE ROAD CONSTRUCTION AHEAD SIGN 48 \times 48 (1.2 m \times 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.
- WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (MG-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (MG-4).

SCALE: NONE

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.

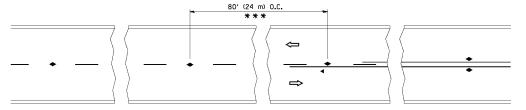
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
- D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

FILE NAME =	USER NAME = gaglianobt	DESIGNED - LHA	REVISED - J. OBERLE 10-18-95
W:\d:ststd\22x34\tc10.dgn		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50.000 '/ IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/4/2008	DATE - 06-89	REVISED -T. RAMMACHER 01-06-00

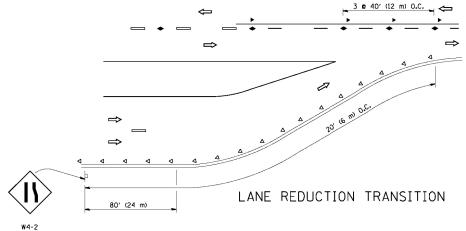
STATI	E OF	: ILLINOIS
DEPARTMENT	0F	TRANSPORTATION

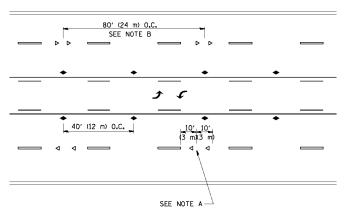
TRAFFIC CONTROL AND PROTECTION FOR	F.A.P. RTE.	SECTION	COUNTY TOTAL SHEET		
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS	535	2015-081-B	LAKE	16	13
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS		TC-10	CONTRACT	NO. 6	52B80
SHEET NO. 1 OF 1 SHEETS STA. TO STA.	FED. R	OAD DIST. NO. 1 ILLINOIS FED.	AID PROJECT		



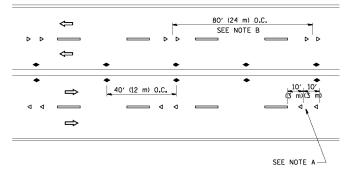
*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

TWO-LANE/TWO-WAY

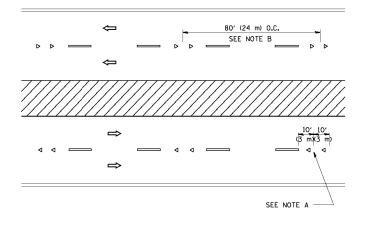




TWO-WAY LEFT TURN



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.
- MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

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.

SYMBOLS

---- YELLOW STRIPE

WHITE STRIF

- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (₩/O)
- ◆ TWO-WAY AMBER MARKER

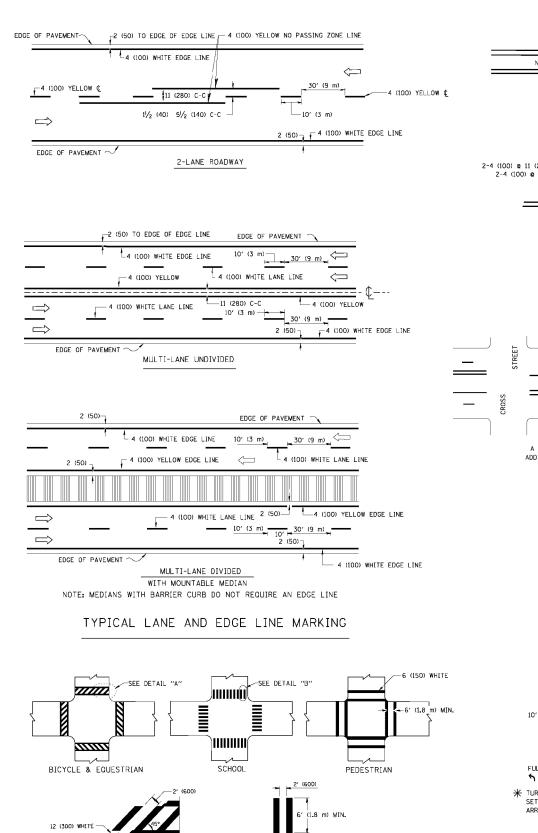
DESIGN NOTES

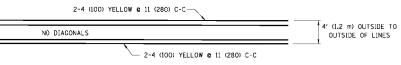
- 1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
- 2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
- 3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
- 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

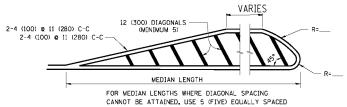
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = leysa	DESIGNED -	REVISED - T. RAMMACH	CHER 09-19-94			TYPICAL APPLICA	PAULT	RTF.	SECTION	COUNTY	SHEETS	NO.
c:\pw_work\pwidot\leysa\d0108315\tc11.dg	ח	DRAWN -	REVISED -T. RAMMACH	CHER 03-12-99	STATE OF ILLINOIS				535	2015-081-B	LAKE	16	14
	PLOT SCALE = 50.000 '/ IN.	CHECKED -	REVISED -T. RAMMACH	HER 01-06-00	DEPARTMENT OF TRANSPORTATION	RAISED	REFLECTIVE PAVEMENT MARKER	RS (SNOW-PLOW RESISTANT)		TC-11	CONTRAC	T NO. 62	2B80
	PLOT DATE = 3/2/2011	DATE -	REVISED - C. JUCIUS	09-09-09		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD		AID PROJECT	,•.	



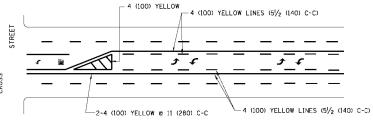


4' (1.2 m) WIDE MEDIANS ONLY

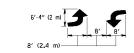


DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) T0 45MPH (70 km/h))
150' (45 m) C-C (WORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

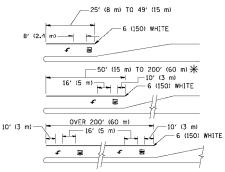


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR, ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

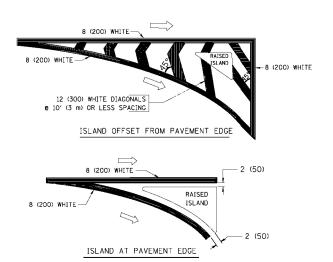


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED. \P AREA = 15.6 SQ. FT. (1.5 m²) \P AREA = 20.8 SQ. FT. (1.9 m²)

* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/ ₂ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 & 4 (100) EACH DIRECTION	SKIP-DASH AND SOLID	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 51/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE
	8' (2.4m) LEFT ARROW	IN PAIRS	WHITE	SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1,2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS	SOLID	YELLOW: TWO WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE
	0 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS		WHITE: ONE WAY TRAFFIC	SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SO. FT. (0.33 m²) EACH "X"=54.0 SO. FT. (5.0 m²)
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (0VER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

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

FILE NAME =	USER NAME = drivakosgn	DESIGNED	-	EVERS	REVISED	-T. RAMMACHER	10-27-94
c:\pw_work\pwidot\drivakosgn\d0108315\tc	13.dgn	DRAWN	-		REVISED	-C. JUCIUS	09-09-09
	PLOT SCALE = 50.000 '/ IN.	CHECKED	-		REVISED	-	
	PLOT DATE = 9/9/2009	DATE	-	03-19-90	REVISED	-	

12 (300) WHITE

DETAIL "B"

6 (150) WHITE

TYPICAL CROSSWALK MARKING

DETAIL "A"

STATE OF ILLINOIS	
DEPARTMENT OF TRANSPORTATION	

	DISTRICT ONE TYPICAL PAVEMENT MARKINGS					F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
						535	2015-081-B	LAKE	16	15
							TC-13	CONTRACT	NO. 6	52B80
	SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.						DAD DIST. NO. 1 ILLINOIS FED. A	D PROJECT		

