

03-08-13 LETTING ITEM 126

FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
**PROPOSED
 HIGHWAY PLANS**
 F.A.P. 305: WILLOW ROAD
 EAST OF SHERMER ROAD
 SECTION: 1920.01-B-R

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	1
FED. ROAD DIST. NO. 1	ILLINOIS	CONTRACT NO. 60W04		

D-91-155-13

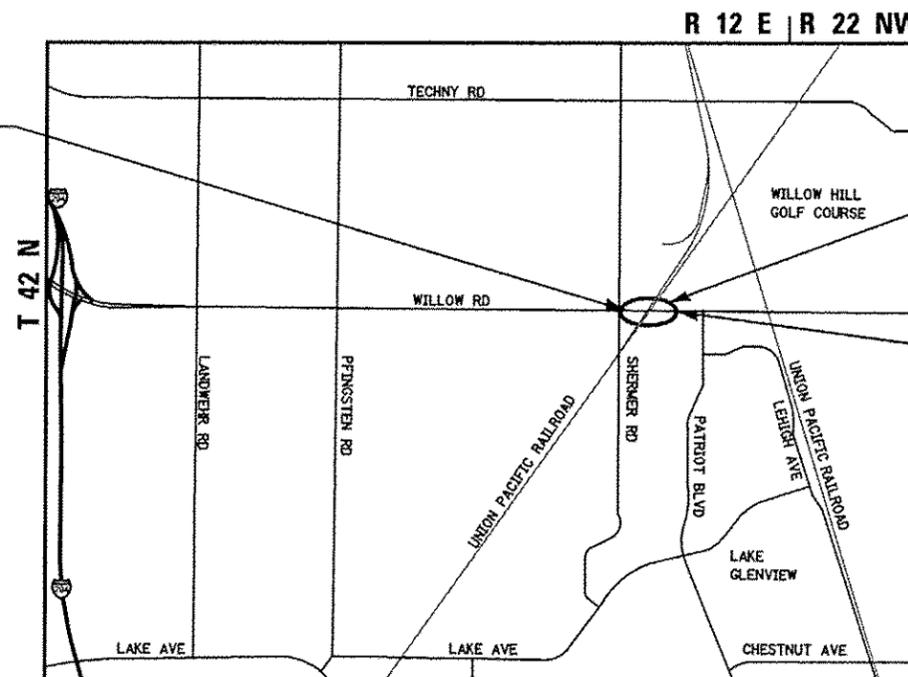


LOCATION OF SECTION INDICATED THUS: - [black rectangle] -

IMPROVEMENT LOCATED WITHIN THE CITY OF NORTHBROOK

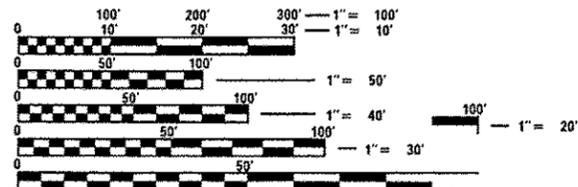
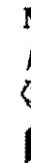
TRAFFIC DATA
 WILLOW ROAD
 2009 ADT=37,700
 SPEED LIMIT=40 MPH

BEGIN PROJECT: WILLOW ROAD 76+00



BOX CULVERT 1: STA. 76 + 44.64
 BOX CULVERT 2: STA. 78 + 69.39

END PROJECT: WILLOW ROAD 79+00



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

LOCATION MAP NOT TO SCALE

NORTHFIELD TOWNSHIP
 GROSS LENGTH OF PROJECT = 300 FT = 0.058 MILE
 NET LENGTH OF PROJECT = 200 FT = 0.039 MILE



Signed Moussa A. Issa
 Dr. Moussa A. Issa, S.E. Il. Lic. No. 081-005738
 Expires 11-30-2014

Date December 18, 2012
 For Structural Drawings



Signed Thomas V. Ngo
 Thomas V. Ngo, P.E. Il. Lic. No. 062-058379
 Expires 11-30-2013

Date 12-18-2012
 For Roadway Drawings

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED December 19, 2012
John Falomeno
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Feb 1, 2013
John D. Baumgardner
 ENGINEER OF DESIGN AND ENVIRONMENT

Feb 1, 2013
Omer Osman
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

200 22ND Street, Suite 216, Lombard, IL 60148
 630.705.0110 voice, 630.839.2566 fax
 www.mps-il.com

MILLENNIA PROFESSIONAL SERVICES

PROJECT MANAGER: ROBERT BORO (847) 705-4178
 PROJECT ENGINEER: MICHELLE AQUINO (847) 705-4241

CONTRACT NO. 60W04

PRINTED BY THE AUTHORITY
 OF THE STATE OF ILLINOIS

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LIST OF ILLINOIS DOT HIGHWAY STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 420701-02 PAVEMENT FABRIC
- 442101-07 PATCHING, CLASS B
- 515001-03 NAME PLATE FOR BRIDGES
- 602001-02 CATCH BASIN, TYPE A
- 604086-02 TYPE 23 FRAME AND GRATE
- 606001-04 CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
- 630001-10 STEEL PLATE BEAM GUARDRAIL
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701421-05 LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS >= 45 MPH TO 55 MPH
- 701427-01 LANE CLOSURE, MULTILANE, FOR SPEEDS < 40 MPH INTERMITTENT OR MOVING OPER., FOR SPEEDS < 45 MPH
- 701501-08 URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
- 701601-08 URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NON TRAVERSABLE MEDIUM
- 701701-08 URBAN LANE CLOSURE, MULTILANE INTERSECTION
- 701801-05 LANE CLOSURE MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
- 701901-02 TRAFFIC CONTROL DEVICES
- 704001-07 TEMPORARY CONCRETE BARRIER
- 720001-01 SIGN PANEL MOUNTING DETAILS
- 720006-03 SIGN PANEL ERECTION DETAILS
- 780001-03 TYPICAL PAVEMENT MARKINGS
- 781001-03 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
- 880001-01 SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION

GENERAL NOTES

1. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT 800-892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE, AND GAS FACILITIES. 48 HOUR NOTIFICATION IS REQUIRED.
2. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE UTILITY COMPANIES, AND THE CITY OF NORTHBROOK.
3. THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
4. ALL DAMAGE TO EXISTING PAVEMENT MARKING OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE THE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. NO ADDITIONAL COST TO THE DEPARTMENT.
5. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCES, ALL EXISTING PAVEMENT MARKING LINES AND RAISED REFLECTIVE PAVEMENT MARKERS IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL STRIPING SHALL BE AS DIRECTED BY THE ENGINEER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.
7. THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
8. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.
9. DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
10. DOUBLE LANE MARKERS ARE TO BE USED AS SHOWN ON THE DISTRICT ONE DETAIL "TYPICAL APPLICATIONS - RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)" SHOWN ON THE PLANS.
11. FRAMES AND GRATES ADJUSTMENT OF PRIVATE UTILITIES WITHIN THE LIMITS OF THE IMPROVEMENTS SHALL BE DONE BY THEIR RESPECTIVE OWNERS AND ARE NOT PART OF THIS CONTRACT.
12. THE CONTRACTOR SHALL PLACE PROPOSED PAVEMENT MARKINGS IN ACCORDANCE WITH DISTRICT 1 TYPICAL PAVEMENT MARKINGS DETAIL (TC-13).
13. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL LOGS, SHRUBS, BUSHES, SAPLINGS, UNDERBRUSH OR DEBRIS ACCORDING TO SECTION 201 OF THE STANDARD SPECIFICATIONS AT LOCATIONS REQUIRING ACCESS TO THE SUBSTRUCTURE. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT THE COST SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
14. ANY ABANDONED UTILITY OR SEWER ENCOUNTERED DURING CONSTRUCTION SHALL BE PLUGGED AS DIRECTED BY THE ENGINEER AND ABANDONED IN PLACE. THIS WORK SHALL BE INCIDENTAL TO THE COST OF THE CONTRACT.
15. DURING CONSTRUCTION OPERATIONS, IF ANY LOOSE MATERIAL IS DEPOSITED IN THE FLOW LINE OF DRAINAGE STRUCTURES SUCH THAT THE NATURAL FLOW OF WATER IS OBSTRUCTED, THE MATERIAL SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL UTILITY STRUCTURES SHALL BE FREE OF DUST AND DEBRIS. THE WORK SPECIFIED ABOVE WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCIDENTAL IN THE COST OF THE CONTRACT.
16. IF CONFLICTS OCCUR AND RELOCATION OF THE NEW FACILITIES IS NOT FEASIBLE, THE CONTRACTOR SHALL WORK WITH THE ENGINEER TO MAKE ARRANGEMENTS WITH THE UTILITY COMPANIES TO HAVE THE AFFECTED UTILITIES PROTECTED OR RELOCATED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED AS A RESULT OF ANY ADDITIONAL COSTS.

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 DESIGNED BY: TVN
 CHECKED BY: TVN
 DATE: 12/26/2012



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CHECKED	TVN	REVISED	
DATE	12/26/2012	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WILLOW ROAD
 SCALE: N/A SHEET NO. OF SHEETS STA. TO STA.

INDEX OF SHEETS, LIST OF IDOT
HIGHWAY STANDARD, GENERAL NOTES,
AND COMMITMENTS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	2
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60W04	

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URBAN
1007 STATE

SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE	
CODE NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	ROADWAY	STRUCTURE
				0004	016-1292 0040
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	922	273	649
20700220	POROUS GRANULAR EMBANKMENT	CU YD	761	224	537
21101615	TOPSOIL FURNISH AND PLACE, 4"	SO YD	348	348	
25200110	SODDING, SALT TOLERANT	SO YD	348	348	
28000305	TEMPORARY DITCH CHECKS	FOOT	32	32	
28000400	PERIMETER EROSION BARRIER	FOOT	450	450	
28000510	INLET FILTERS	EACH	12	12	
28001100	TEMPORARY EROSION CONTROL BLANKET	SO YD	428	428	
28100107	STONE RIPRAP, CLASS A4	SO YD	70.1	70.1	
28200200	FILTER FABRIC	SO YD	70.1	70.1	
31100500	SUBBASE GRANULAR MATERIAL, TYPE A 6"	SO YD	413.7	413.7	
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.2	0.2	
40600300	AGGREGATE (PRIME COAT)	TON	0.2	0.2	
40600635	LEVELING BINDER MACHINE METHOD, N70	TON	17.4	17.4	
40603595	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90	TON	40.5	40.5	
42001200	PAVEMENT FABRIC	SO YD	413.7	413.7	
42300400	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8 INCH	SO YD	136.1	136.1	
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SO FT	748	748	
44000100	PAVEMENT REMOVAL	SO YD	1493.7	1493.7	
44000200	DRIVEWAY PAVEMENT REMOVAL	SO YD	136.1	136.1	
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	2339	2339	
44000600	SIDEWALK REMOVAL	SO FT	748	748	
44003100	MEDIAN REMOVAL	SO FT	10483	10483	
44200976	CLASS B PATCHES, TYPE IV, 10 INCH	SO YD	413.7	413.7	
44201297	DOWEL BARS 1"	EACH	186	186	
44213200	SAW CUTS	FOOT	166	166	
44213204	TIE BARS 3/4"	EACH	186	186	
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1		1
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1	1	

URBAN
1007 STATE

SUMMARY OF QUANTITIES				CONSTRUCTION TYPE CODE	
CODE NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	ROADWAY	STRUCTURE
				0004	016-1292 0040
50300300	PROTECTIVE COAT	SO FT	11179.8	11179.8	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	33,500	9810	23,690
50800515	BAR SPLICERS	EACH	70	30	40
51500100	NAME PLATES	EACH	1		1
54003000	CONCRETE BOX CULVERTS	CU YD	138.5	40.4	98.1
550A0050	STORM SEWERS, CLASS A, TYPE 1 12"	FOOT	25	25	
60201330	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 23 FRAME AND GRATE	EACH	1	1	
60500060	REMOVING INLETS	EACH	1	1	
60618300	CONCRETE MEDIAN SURFACE, 4 INCH	SO FT	8637.9	8637.9	
60619200	CONCRETE MEDIAN, TYPE SB-6.06	SO FT	891	891	
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	665.5	665.5	
60604400	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18	FOOT	836	836	
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	307.9	307.9	
60623800	CONCRETE BARRIER MEDIAN	SO FT	353.1	353.1	
63301210	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	162.5	162.5	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6	
67100100	MOBILIZATION	L SUM	1	1	
70300520	PAVEMENT MARKING TAPE, TYPE III, 4"	FOOT	22122	22122	
70300540	PAVEMENT MARKING TAPE, TYPE III 6"	FOOT	576	576	
70300560	PAVEMENT MARKING TAPE, TYPE III 12"	FOOT	157	157	
70300570	PAVEMENT MARKING TAPE, TYPE III 24"	FOOT	103	103	
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SO FT	6959	6959	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	400	400	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	400	400	
78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SO FT	73	73	
78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	4080	4080	
78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	431	431	
78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	99.4	99.4	
78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	84	84	

2A
• SPECIALTY ITEM

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CHECKED	TVN	REVISED	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WILLOW ROAD
 SUMMARY OF QUANTITIES
 SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	3
CONTRACT NO. 60W04			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	

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URBAN
100% STATE

SUMMARY OF QUANTITIES

CONSTRUCTION
TYPE CODE

CODE NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE	
				ROADWAY	STRUCTURE
				0004	0040
78008210	POLYUREA PAVEMENT MARKING - LINE 4"	FOOT	1698	1698	
78008230	POLYUREA PAVEMENT MARKING TYPE I - LINE 6"	FOOT	58	58	
78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	265	265	
78300100	PAVEMENT MARKING REMOVAL	SO FT	2511.2	2511.2	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	265	265	
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	220	220	
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1	1	
87900200	DRILL EXISTING HANDHOLE	EACH	4	4	
89000200	TEMPORARY TRAFFIC SIGNAL INSTALLATION	L SUM	1	1	
89502350	REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT	FOOT	610	610	
89502376	REBUILD EXISTING HANDHOLE	EACH	2	2	
89502378	REBUILD EXISTING HANDHOLE TO HEAVY-DUTY HANDHOLE	EACH	2	2	
X0325938	TEMPORARY WIRELESS INTERCONNECT, COMPLETE	L SUM	1	1	
X5537800	STORM SEWERS TO BE CLEANED 12"	FOOT	300	300	
X6640304	CHAIN LINK FENCE TO BE REMOVED AND RE-ERECTED	FOOT	60	60	
X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1	
X8900010	TEMPORARY TRAFFIC SIGNAL INTERCONNECT	EACH	1	1	
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1	
Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	12	12	
Z0026407	TEMPORARY SHEET PILING	SO FT	857	280	577
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1	1	
70600352	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1	1	
Z0030850	TEMPORARY INFORMATION SIGNING	SO FT	78	78	
Z0062456	TEMPORARY PAVEMENT	SO YD	1493.7	1493.7	
Z0073410	TEMPORARY SUPPORT SYSTEM, LOCATION 1	EACH	1		1
Z0073420	TEMPORARY SUPPORT SYSTEM, LOCATION 2	EACH	1	1	
Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1	1	
* 66900200	NON-SPECIAL WASTE DISPOSAL	CY YD	925	925	
* 66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1	1	
* 66900530	SOIL DISPOSAL ANALYSIS	EACH	2	1	1
* 66900665	TCL SOIL ANALYSIS	EACH	4	2	2

* SPECIALTY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

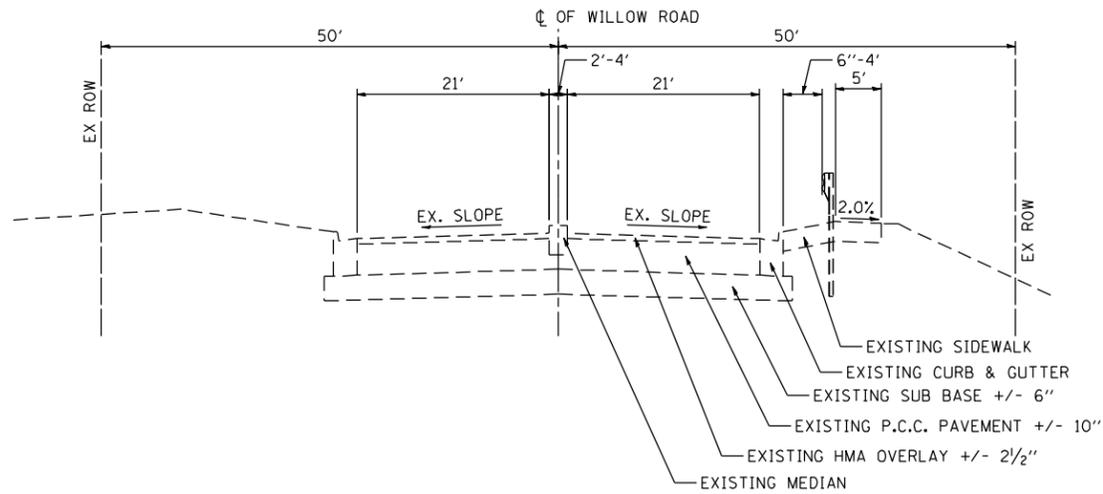
WILLOW ROAD

SUMMARY OF QUANTITIES

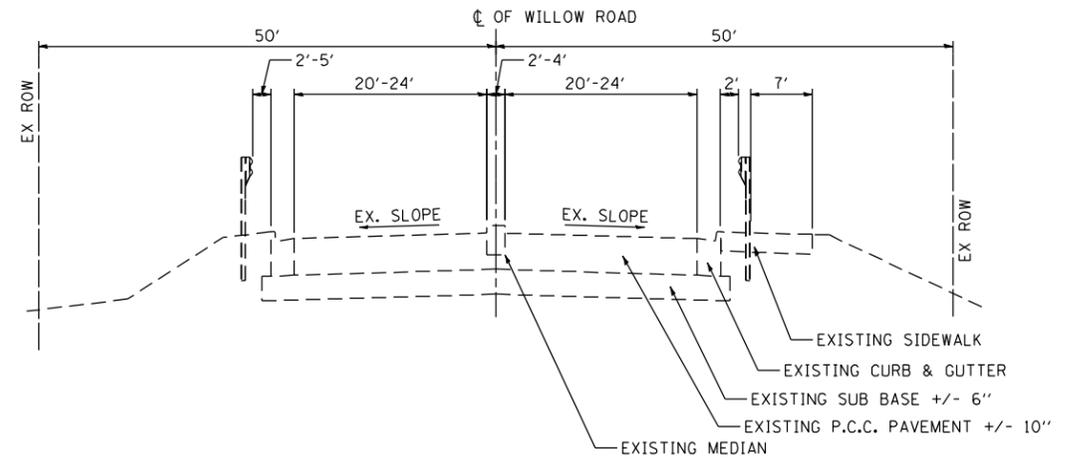
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	4
CONTRACT NO. 60W04				
SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.

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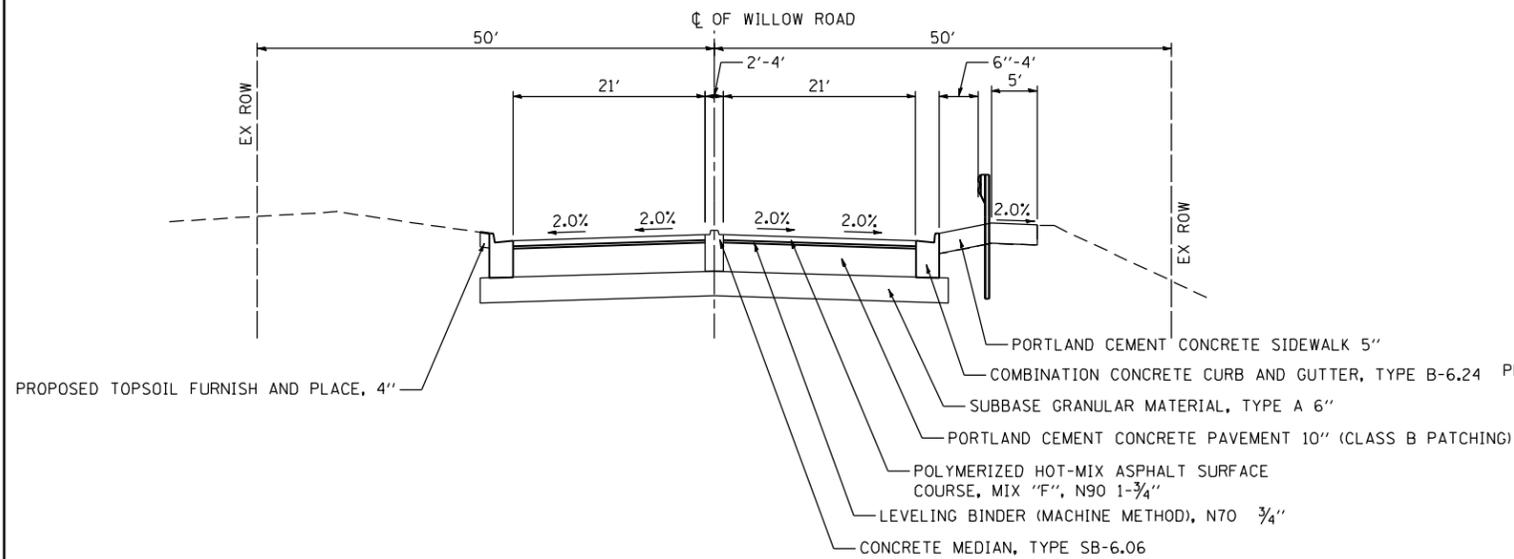
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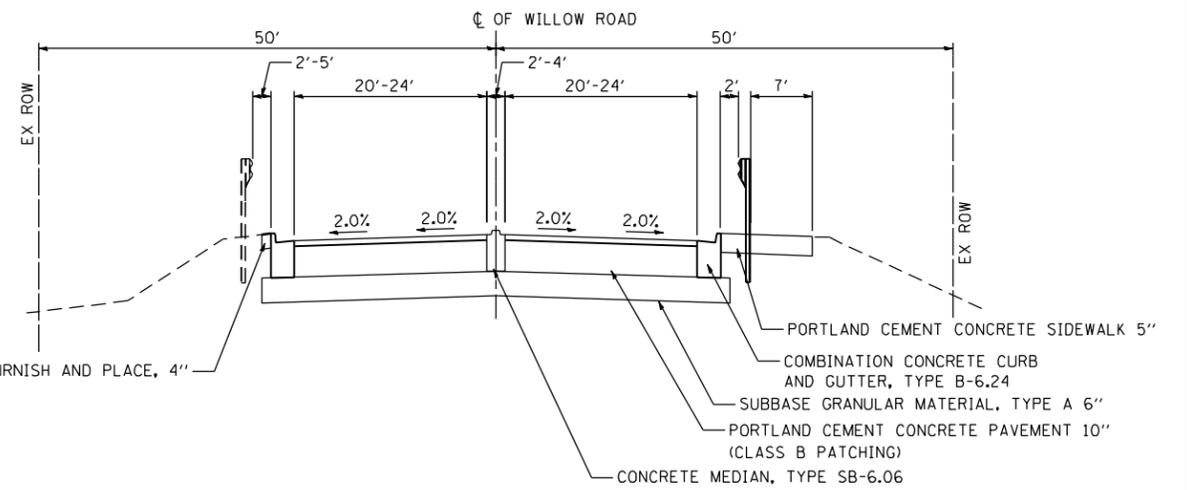
EXISTING TYPICAL SECTION WILLOW ROAD
STA 75+00 TO STA 77+00



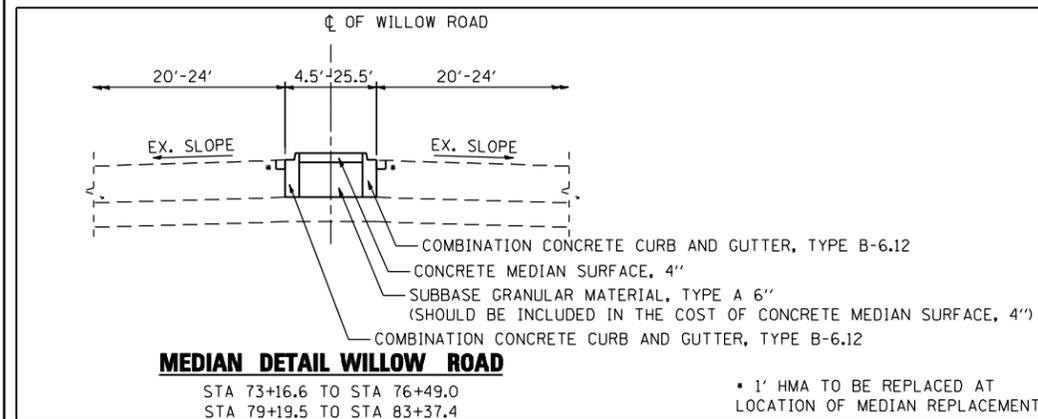
EXISTING TYPICAL SECTION WILLOW ROAD
STA 78+00 TO STA 80+00



PROPOSED TYPICAL SECTION WILLOW ROAD
STA 75+00 TO STA 77+00



PROPOSED TYPICAL SECTION WILLOW ROAD
STA 78+00 TO STA 80+00



MEDIAN DETAIL WILLOW ROAD

STA 73+16.6 TO STA 76+49.0
STA 79+19.5 TO STA 83+37.4

* 1' HMA TO BE REPLACED AT
LOCATION OF MEDIAN REPLACEMENT

HMA MIXTURES REQUIREMENT	
MIXTURE USES	AIR VOIDS @ Ndes
PAVEMENT WIDENING/RESURFACING	
POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90 (IL-9.5 mm)	4% @ 90 GYR.
LEVELING BINDER (MACHINE METHOD), N70 (IL 9.5mm)	4% @ 90 GYR.
TEMPORARY PAVEMENT	
TEMP PAVEMENT (HMA BINDER IL-19 mm); 9"	4% @ 50 GYR.
HMA SURFACE COURSE, MIX D, N50 (IL 9.5mm); 2"	4% @ 50 GYR.

MIXTURE NOTES:

1. THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURE QUANTITIES IS 112 LBS/SQ YD/IN.
2. THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 76-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS. FOR "PERCENT OF RAP" SEE DISTRICT ONE SPECIAL PROVISIONS.

FILE NAME : P:\2011\ME11007_Ver_Var_Phil\CADD\W08_Willow_Rd\Shets\04-D16\04-sht-typic1.dgn
 PLOT SCALE : 28.0000 7/16 IN.
 USER NAME : Millennium Professional Services



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CHECKED - TVN	REVISED -
DATE - 12/23/2012	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

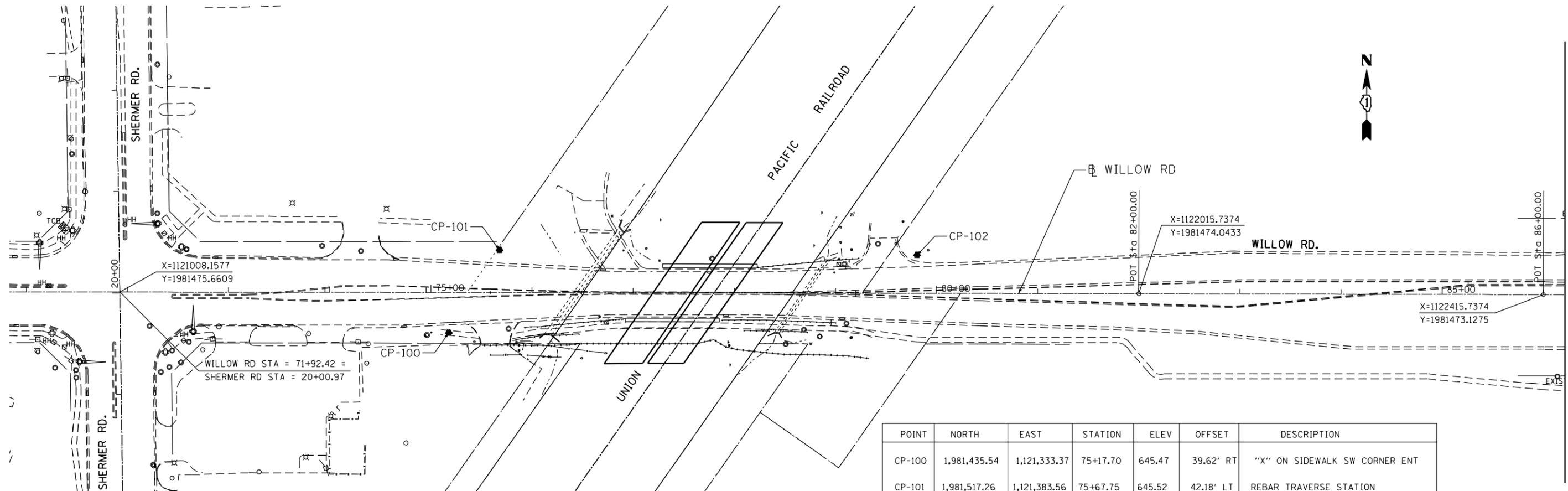
WILLOW ROAD

**EXISTING & PROPOSED
TYPICAL SECTIONS**

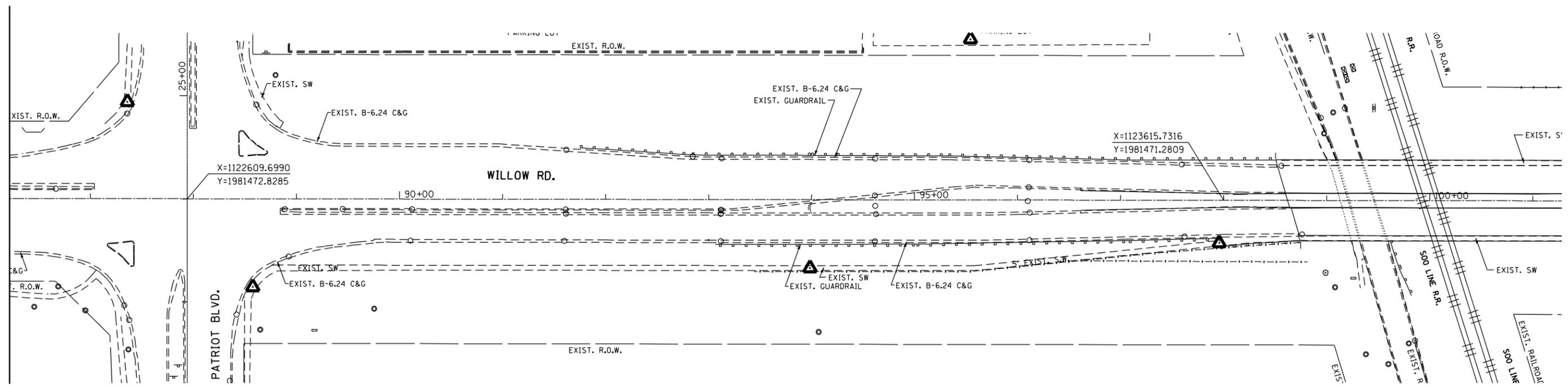
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	5
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 60W04	

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POINT	NORTH	EAST	STATION	ELEV	OFFSET	DESCRIPTION
CP-100	1,981,435.54	1,121,333.37	75+17.70	645.47	39.62' RT	"X" ON SIDEWALK SW CORNER ENT
CP-101	1,981,517.26	1,121,383.56	75+67.75	645.52	42.18' LT	REBAR TRAVERSE STATION
CP-102	1,981,512.15	1,121,796.52	79+80.73	643.00	37.75' LT	REBAR TRAVERSE STATION



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 PLOT SCALE : 1/8"=1'-0"
 USER NAME : Millennium Professional Services



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WILLOW ROAD		ALIGNMENT AND BENCHMARKS	
SCALE: •	SHEET NO. OF SHEETS	STA. •	TO STA.

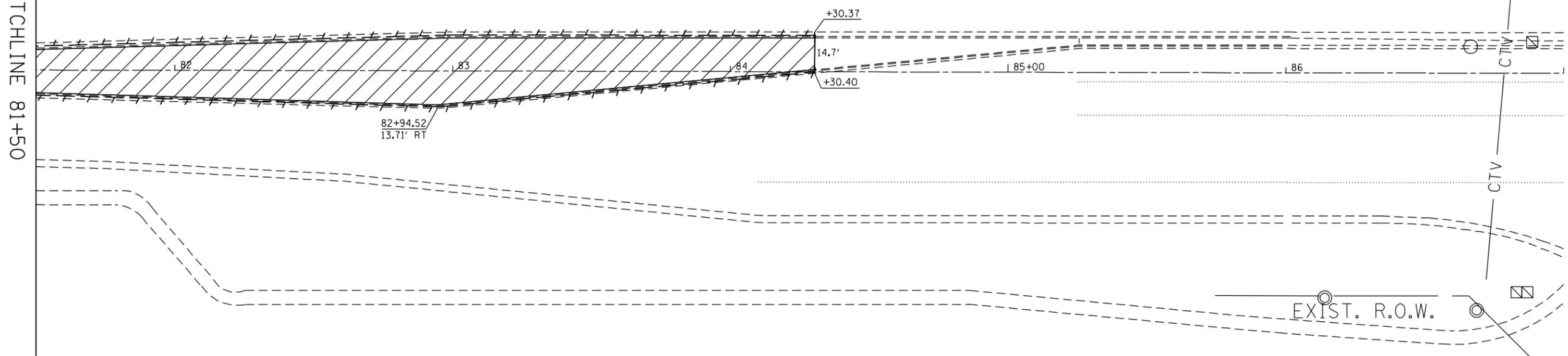
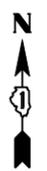
F.A.P. RTE. 305	SECTION 1920.01-B-R	COUNTY COOK	TOTAL SHEETS 60	SHEET NO. 6
CONTRACT NO. 60W04				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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MATCHLINE 81+50

WILLOW RD.

EXIST. R.O.W.



FILE NAME : P:\2011\ME11007_Ver-Var-PhI\CADD\W08_Willow_Rd\Shets\DI60W04-sh1-Rem-02.DGN
 PLOT SCALE : 48.0000' = 1" IN.
 USER NAME : Millennium Professional Services



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DEPARTMENT OF TRANSPORTATION

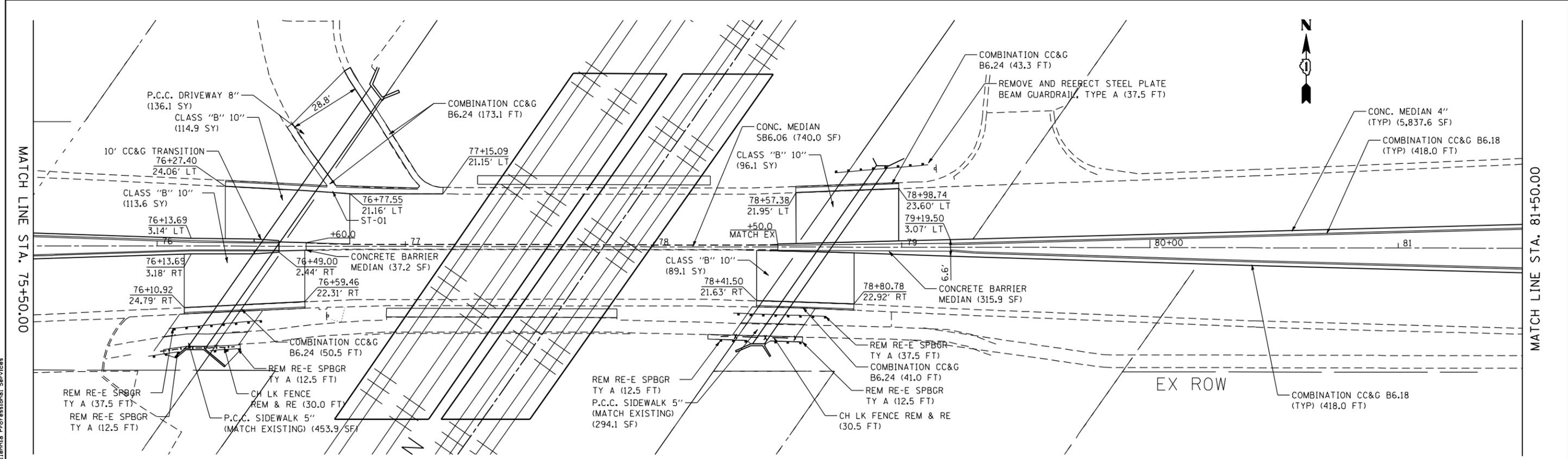
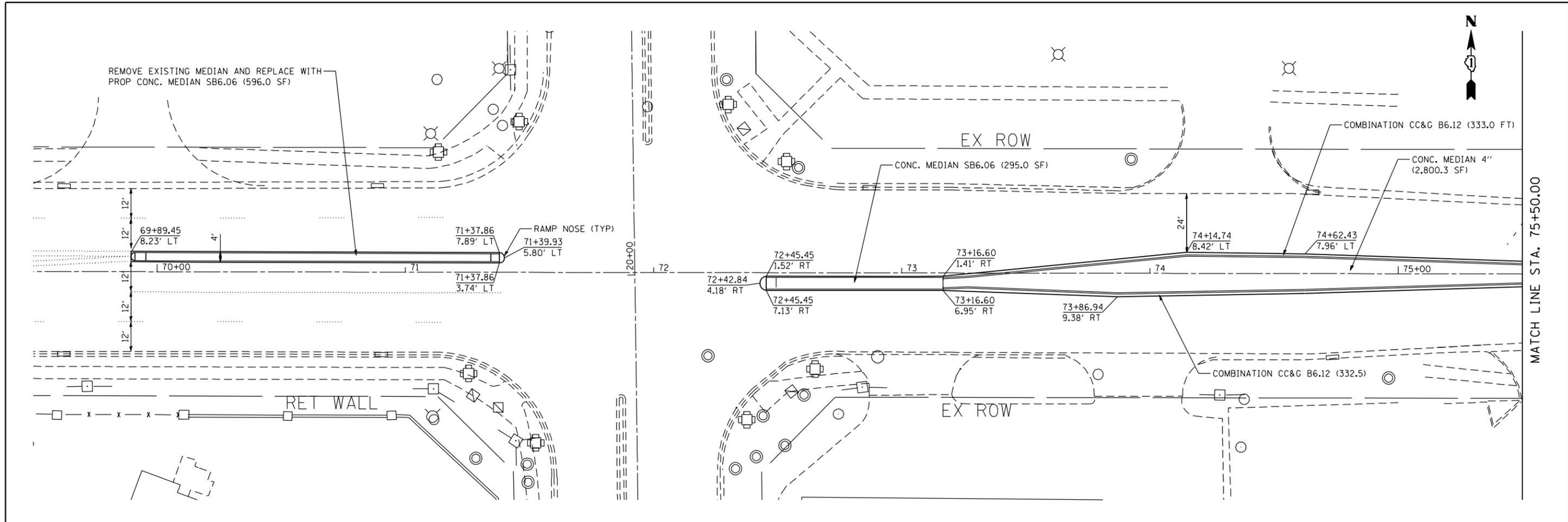
WILLOW ROAD

EXISTING PLAN AND REMOVALS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	8
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 60W04	

SCALE: SHEET NO. OF SHEETS STA. TO STA.

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 USER NAME : Millennium Professional Services


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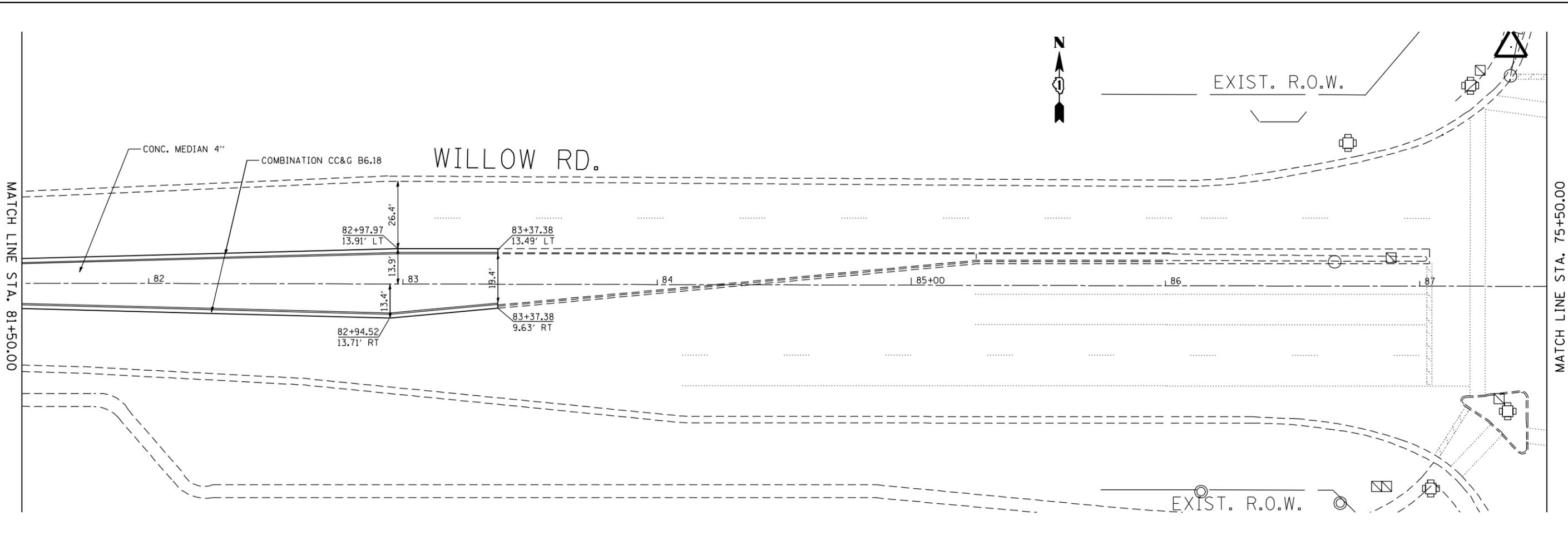
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DATE - 12/26/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WILLOW ROAD
ROADWAY PLAN
 SCALE: 1"=20' SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE. 305	SECTION 1920.01-B-R	COUNTY COOK	TOTAL SHEETS 60	SHEET NO. 9
CONTRACT NO. 60W04			FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT	

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 USER NAME : Millennium Professional Services



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CHECKED - TVN	REVISED -
DATE - 12/26/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WILLOW ROAD

ROADWAY PLAN

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	10
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT			CONTRACT NO. 60W04	

SCALE: SHEET NO. OF SHEETS STA. TO STA.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

1. THE SUGGESTED STAGES OF CONSTRUCTION AND TRAFFIC CONTROL PLANS SHALL SERVE AS A GUIDE FOR SAFE DIVERSION OF TRAFFIC DURING EXECUTION OF THIS CONTRACT. HOWEVER, THE CONTRACTOR MAY IMPROVE OR MODIFY THE TRAFFIC CONTROL PLANS TO MEET CONSTRUCTION NEEDS BUT NOT AT THE EXPENSE OF PUBLIC SAFETY OR CONVENIENCE. ANY CHANGES TO THE TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
2. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS, SPECIAL PROVISIONS, APPLICABLE STATE STANDARDS, AND AS DIRECTED BY THE ENGINEER.
3. CONTRACTOR SHALL MAINTAIN A MINIMUM OF ONE THROUGH LANE IN EACH DIRECTION THROUGH OUT THE PROJECT AREA AT ALL TIMES.
4. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN ACCESS TO ALL ENTRANCES, APPROACHES, AND TEMPORARY ROADS WITHIN THE PROJECT LIMITS. THIS WORK IS TO BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON, "AGGREGATE SURFACE COURSE, TYPE B."
5. THE TRAFFIC SIGNAL ENGINEER SHALL BE INFORMED 48 HOURS IN ADVANCE OF ANY CHANGE TO THE SUGGESTED STAGES OF CONSTRUCTION AND TRAFFIC CONTROL PLANS
6. TYPE II BARRICADES SHALL BE PROVIDED AS SHOWN IN THE PLANS AND SPACED 50 FEET CENTER TO CENTER ON TANGENT, AND 15 FEET CENTER TO CENTER ON TAPERS AND CURVES.
7. THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY DRAINAGE AND EROSION & SEDIMENT CONTROL PLAN PROTECTION DURING ALL PHASES OF CONSTRUCTION.
8. ALL EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED IN ACCORDANCE WITH ARTICLE 107.25 OF THE STANDARD SPECIFICATIONS.
9. THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN AND REMOVE ALL SIGNS AND SIGN SUPPORTS REQUIRED FOR TRAFFIC CONTROL AND PROTECTION.
10. THE CONTRACTOR SHALL PLACE A CHANGEABLE MESSAGE SIGN AT EACH END OF THE PROJECT AND/OR AS DIRECTED BY THE ENGINEER TO INFORM MOTORISTS OF UPCOMING CONSTRUCTION ACTIVITIES. THE MESSAGE SIGNS WITH THE APPROPRIATE INFORMATION SHALL BE IN PLACED TWO WEEKS BEFORE START OF CONSTRUCTION ACTIVITY. THIS WORK IS TO BE PAID FOR AT THE CONTRACT UNIT PRICE PER CALENDAR MONTH, "CHANGEABLE MESSAGE SIGN".
11. THE CONTRACTOR SHALL PLACE "DRIVEWAY ENTRANCE" SIGNS AT EVERY COMMERCIAL ENTRANCE WITHIN THE PROJECT LIMITS WHERE ENTRANCE IS OBSTRUCTED DURING CONSTRUCTION AND/OR AS DIRECTED BY THE ENGINEER. SEE TEMPORARY INFORMATION SIGNS SHEET.
12. ALL TEMPORARY INFORMATION SIGNS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LUMP SUM FOR "TRAFFIC CONTROL AND PROTECTION SPECIAL".

PRE-STAGE CONSTRUCTION

CONSTRUCTION

INSTALL TEMPORARY SIGNALS AND INTERCONNECT AT THE WILLOW ROAD AND SHERMER ROAD INTERSECTION.

REMOVE EXISTING MEDIAN ALONG WILLOW ROAD AT LOCATIONS SHOWN ON THE PLANS.

PLACE TEMPORARY PAVEMENT ALONG WILLOW ROAD AT LOCATIONS SHOWN ON THE PLANS.

MAINTENANCE OF TRAFFIC

MAINTAIN EASTBOUND AND WESTBOUND TRAFFIC ALONG OUTSIDE LANES OF WILLOW ROAD. INSIDE LANES SHALL BE CLOSED. UTILIZE THE FOLLOWING IDOT HIGHWAY TRAFFIC CONTROL STANDARDS: 701601, 701701

STAGE I CONSTRUCTION

CONSTRUCTION

REMOVE AND CONSTRUCT SOUTH HALF OF BOX CULVERTS (EASTBOUND WILLOW ROAD) PER STRUCTURAL PLANS.

PAVEMENT PATCHING TO REMOVE AND RESTORE EXISTING PAVEMENT OVER BOX CULVERTS.

REMOVE AND REPLACE EXISTING GUARDRAILS, SIDEWALKS AND HANDRAILS.

MAINTENANCE OF TRAFFIC

MAINTAIN WESTBOUND TRAFFIC ALONG OUTSIDE LANE OF WILLOW ROAD AND SHIFT EASTBOUND TRAFFIC TO THE INSIDE LANE OF WESTBOUND WILLOW ROAD PER PLANS.

STAGE II CONSTRUCTION

CONSTRUCTION

REMOVE AND CONSTRUCT NORTH HALF OF BOX CULVERTS (WESTBOUND WILLOW ROAD) PER STRUCTURAL PLANS.

PAVEMENT PATCHING TO REMOVE AND RESTORE EXISTING PAVEMENT OVER BOX CULVERTS.

REMOVE AND REPLACE EXISTING GUARDRAILS, SIDEWALKS AND HANDRAILS.

MAINTENANCE OF TRAFFIC

MAINTAIN EASTBOUND TRAFFIC ALONG OUTSIDE LANE OF WILLOW ROAD AND SHIFT WESTBOUND TRAFFIC TO THE INSIDE LANE OF EASTBOUND WILLOW ROAD PER PLANS.

STAGE III CONSTRUCTION

CONSTRUCTION

REMOVE TEMPORARY SIGNALS AT THE WILLOW ROAD AND SHERMER ROAD INTERSECTION.

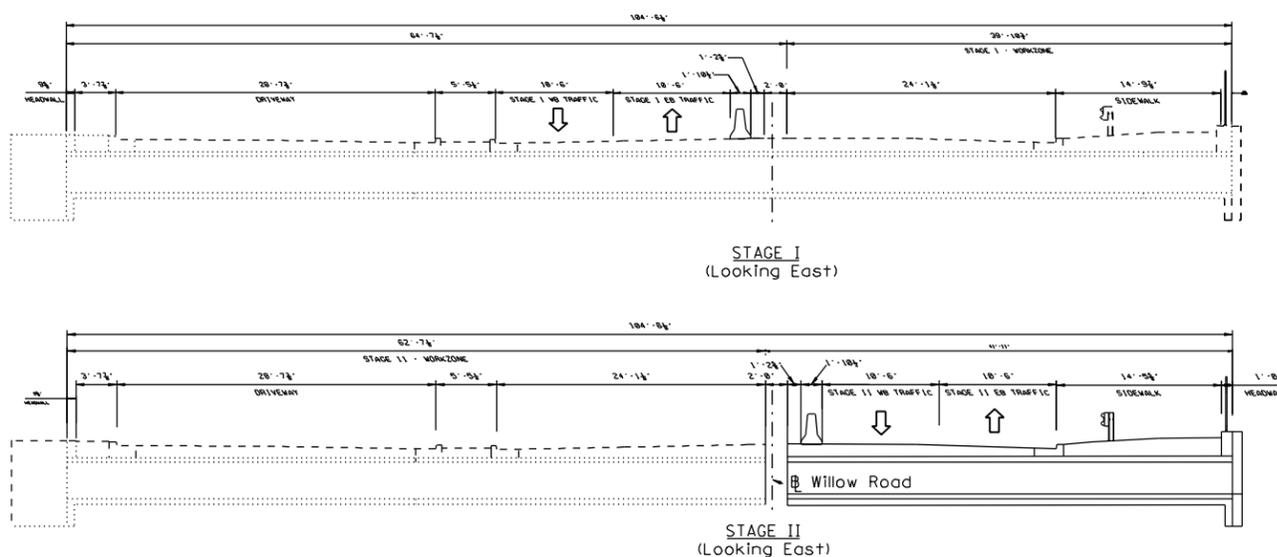
REMOVE TEMPORARY PAVEMENT ALONG WILLOW ROAD AT LOCATIONS SHOWN ON THE PLANS.

CONSTRUCT MEDIAN ALONG WILLOW ROAD AT LOCATIONS SHOWN ON THE PLANS.

PLACE FINAL PAVEMENT MARKINGS PER PLANS.

MAINTENANCE OF TRAFFIC

MAINTAIN EASTBOUND AND WESTBOUND TRAFFIC ALONG OUTSIDE LANES OF WILLOW ROAD. INSIDE LANES SHALL BE CLOSED. UTILIZE THE FOLLOWING IDOT HIGHWAY TRAFFIC CONTROL STANDARDS: 701427, 701601, 701701



FILE NAME = P:\2011\ME11007_Ver-PhII\CADD\W08_Willow_Rd\Shets\DI60W04-sh1-ST000-Notes.dgn
 PLOT SCALE = 2:0000 / IN.
 USER NAME = Millennium Professional Services



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DATE - 12/23/2012	REVISED -

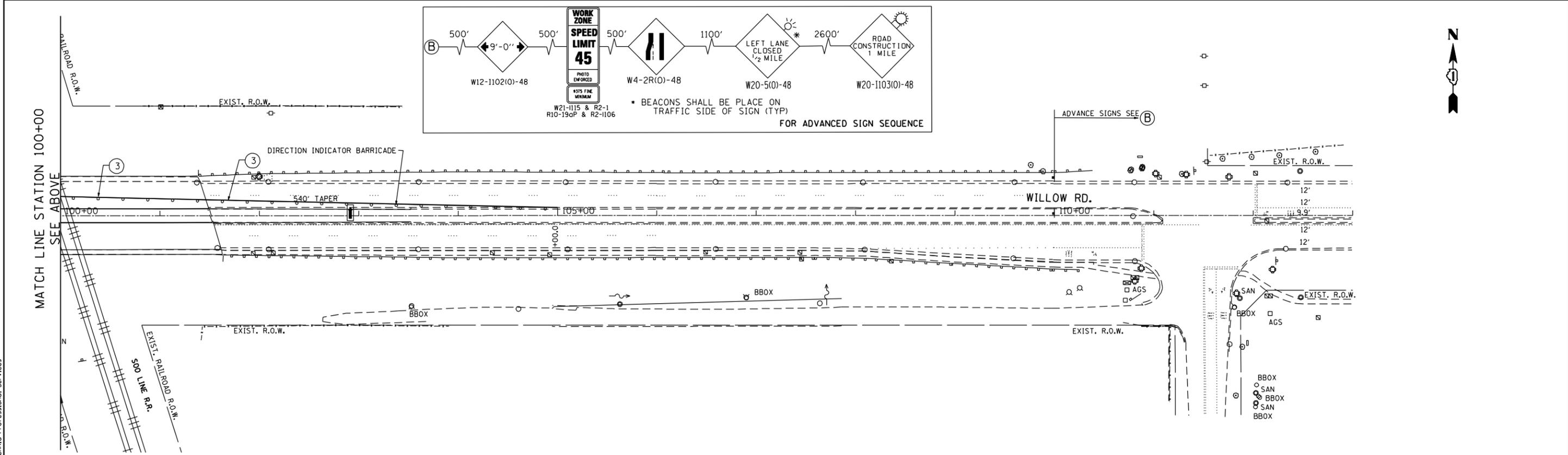
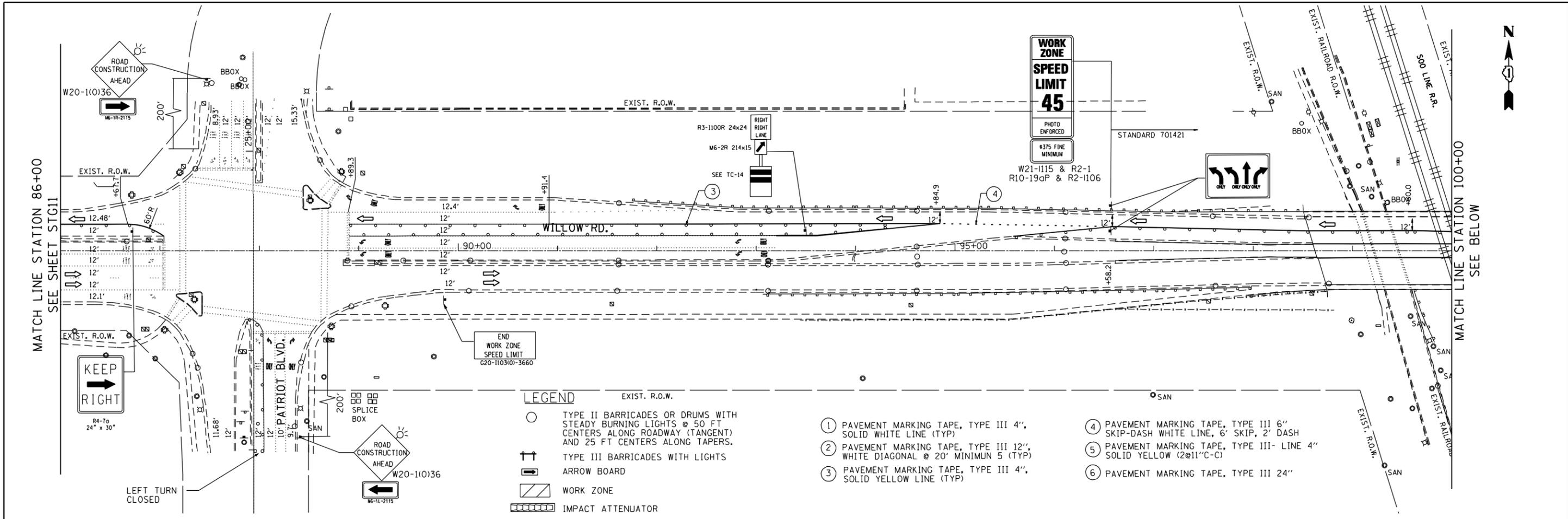
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

WILLOW ROAD

**SUGGESTED STAGES OF CONSTRUCTION
 AND TRAFFIC CONTROL
 GENERAL NOTES AND DESCRIPTION**

SCALE: N/A	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	F.A.P. RTE. 305	SECTION 1920.01-B-R	COUNTY COOK	TOTAL SHEETS 60	SHEET NO. 11
			CONTRACT NO. 60W04				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							

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 PLOT SCALE : 1/8"=50' / IN.
 USER NAME : Millennium Professional Services


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DRAWN - MJW	REVISED -
CHECKED - TVN	REVISED -
DATE - 12/26/2012	REVISED -

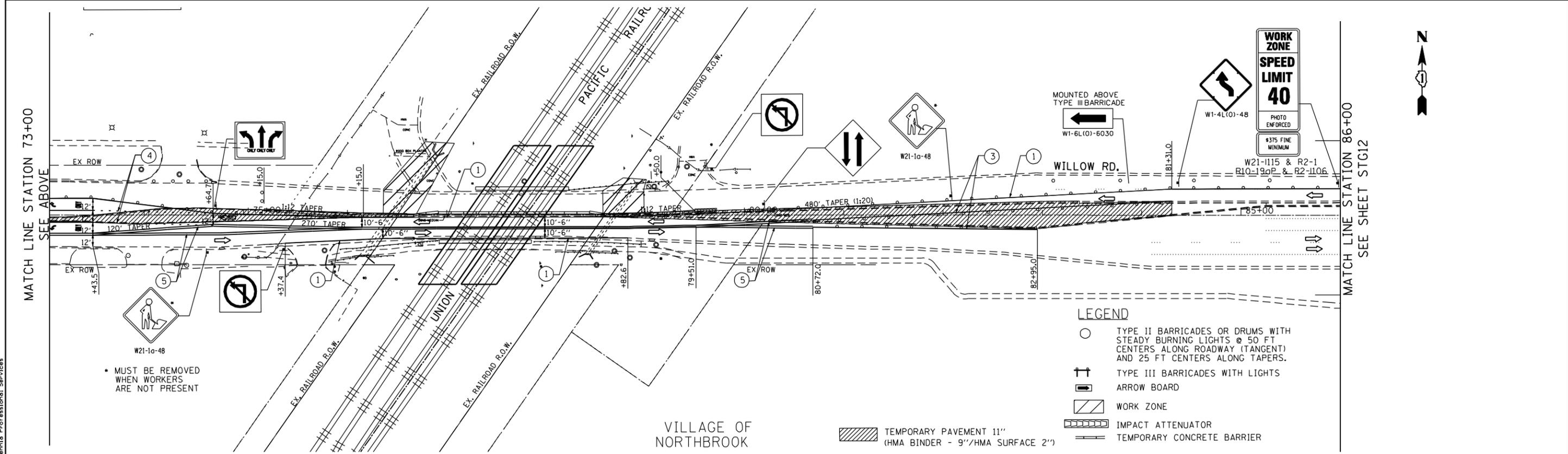
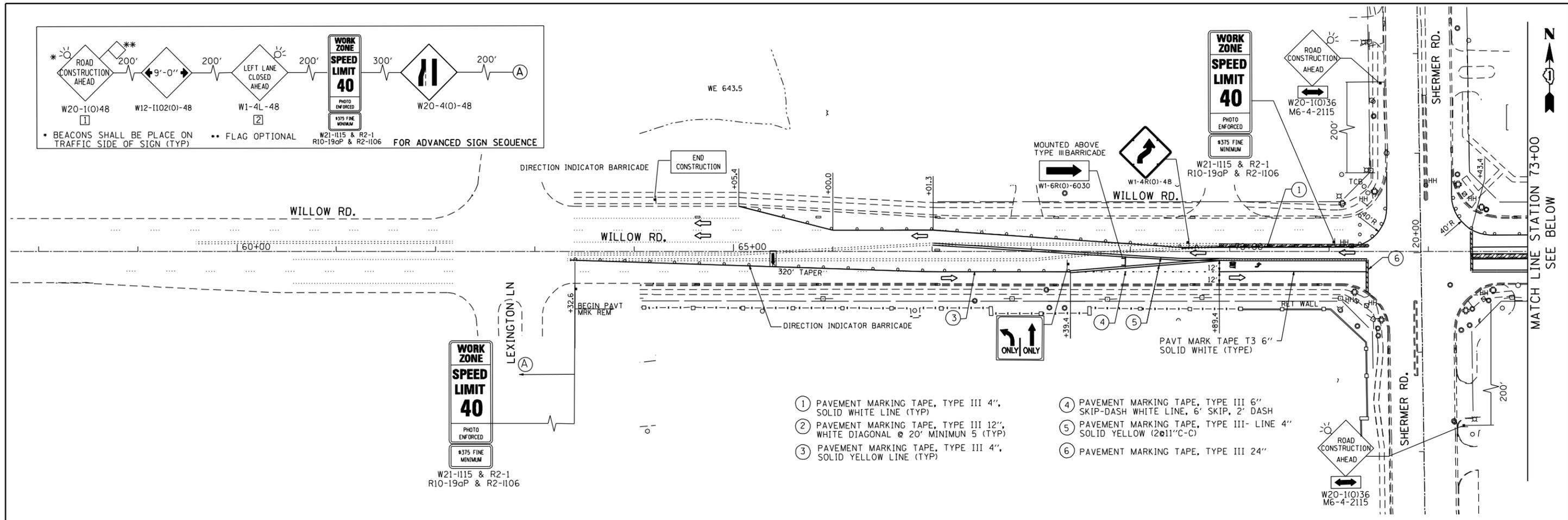
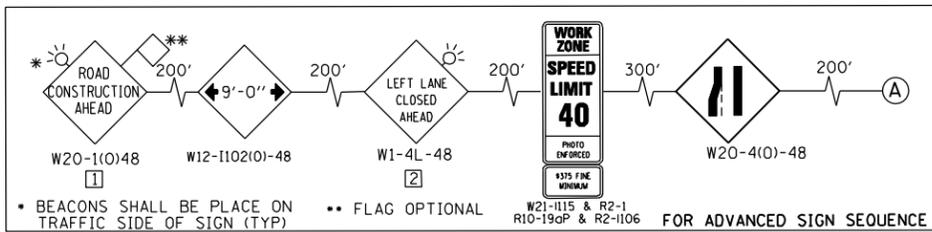
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WILLOW ROAD
SUGGESTED STAGES CONSTRUCTION & TRAFFIC CONTROL PLAN
STAGE-I

SCALE: 1"=50' SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	13
CONTRACT NO. 60W04			STG12	

FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT
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 PLOT SCALE : 1/8"=1'-0"
 USER NAME : Millennium Professional Services

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CHECKED - TVN	REVISED -
DATE - 12/23/2012	REVISED -

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DEPARTMENT OF TRANSPORTATION

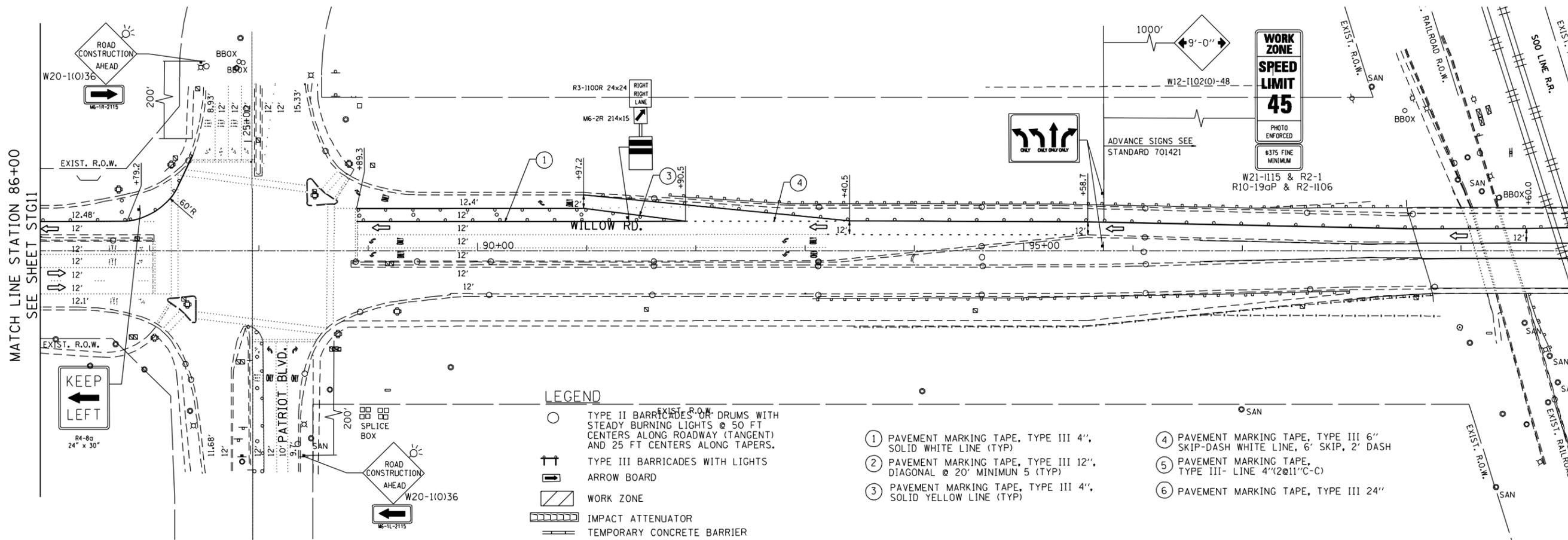
WILLOW ROAD
SUGGESTED STAGES CONSTRUCTION & TRAFFIC CONTROL PLAN
STAGE-II

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	14
CONTRACT NO. 60W04			STG21	

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MATCH LINE STATION 86+00
SEE SHEET STG11

MATCH LINE STATION 100+00
SEE BELOW

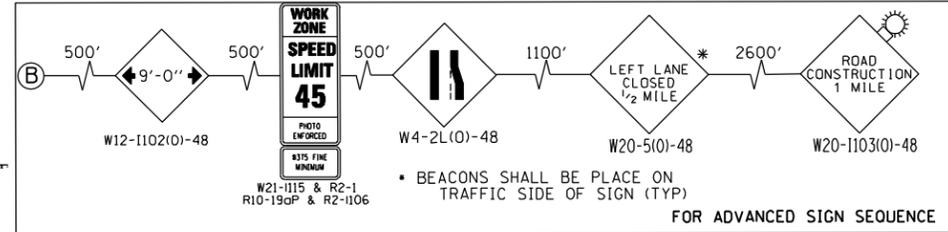
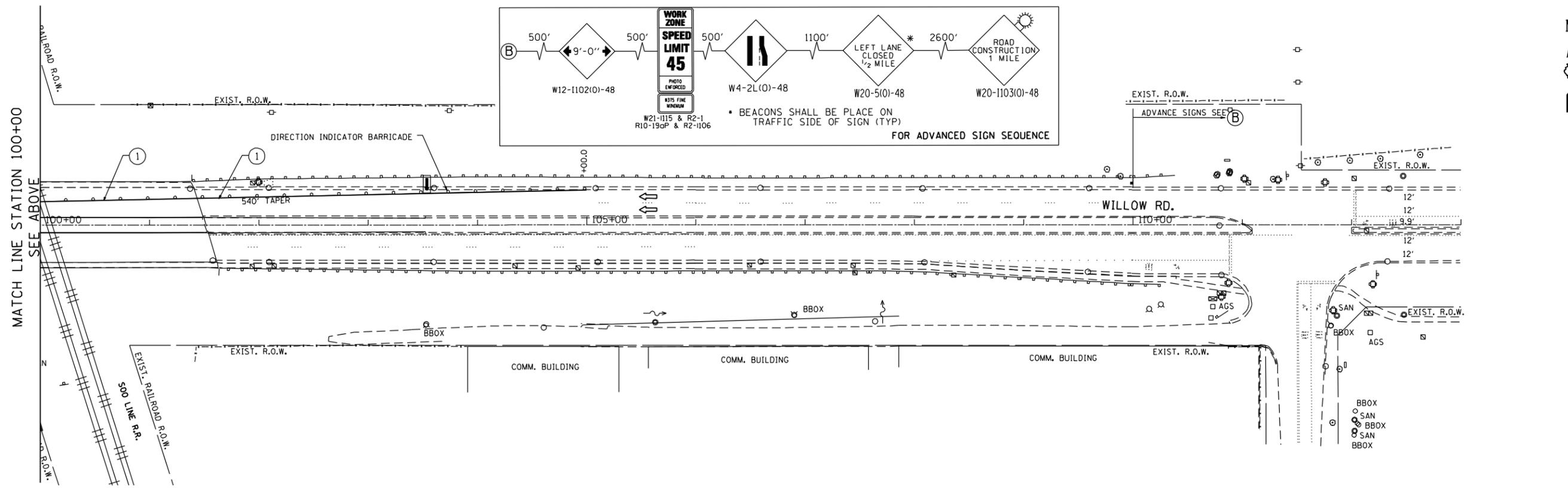


- LEGEND**
- TYPE II BARRICADES ON DRUMS WITH STEADY BURNING LIGHTS @ 50 FT CENTERS ALONG ROADWAY (TANGENT) AND 25 FT CENTERS ALONG TAPERS.
 - ↑ TYPE III BARRICADES WITH LIGHTS
 - ARROW BOARD
 - ▨ WORK ZONE
 - ▩ IMPACT ATTENUATOR
 - ▬ TEMPORARY CONCRETE BARRIER

- ① PAVEMENT MARKING TAPE, TYPE III 4", SOLID WHITE LINE (TYP)
- ② PAVEMENT MARKING TAPE, TYPE III 12", DIAGONAL @ 20' MINIMUM 5 (TYP)
- ③ PAVEMENT MARKING TAPE, TYPE III 4", SOLID YELLOW LINE (TYP)
- ④ PAVEMENT MARKING TAPE, TYPE III 6" SKIP-DASH WHITE LINE, 6" SKIP, 2" DASH
- ⑤ PAVEMENT MARKING TAPE, TYPE III- LINE 4"(2@11"C-C)
- ⑥ PAVEMENT MARKING TAPE, TYPE III 24"

MATCH LINE STATION 100+00
SEE ABOVE

MATCH LINE STATION 100+00
SEE BELOW



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 PLOT SCALE : 1/8"=50'
 USER NAME : Millennium Professional Services

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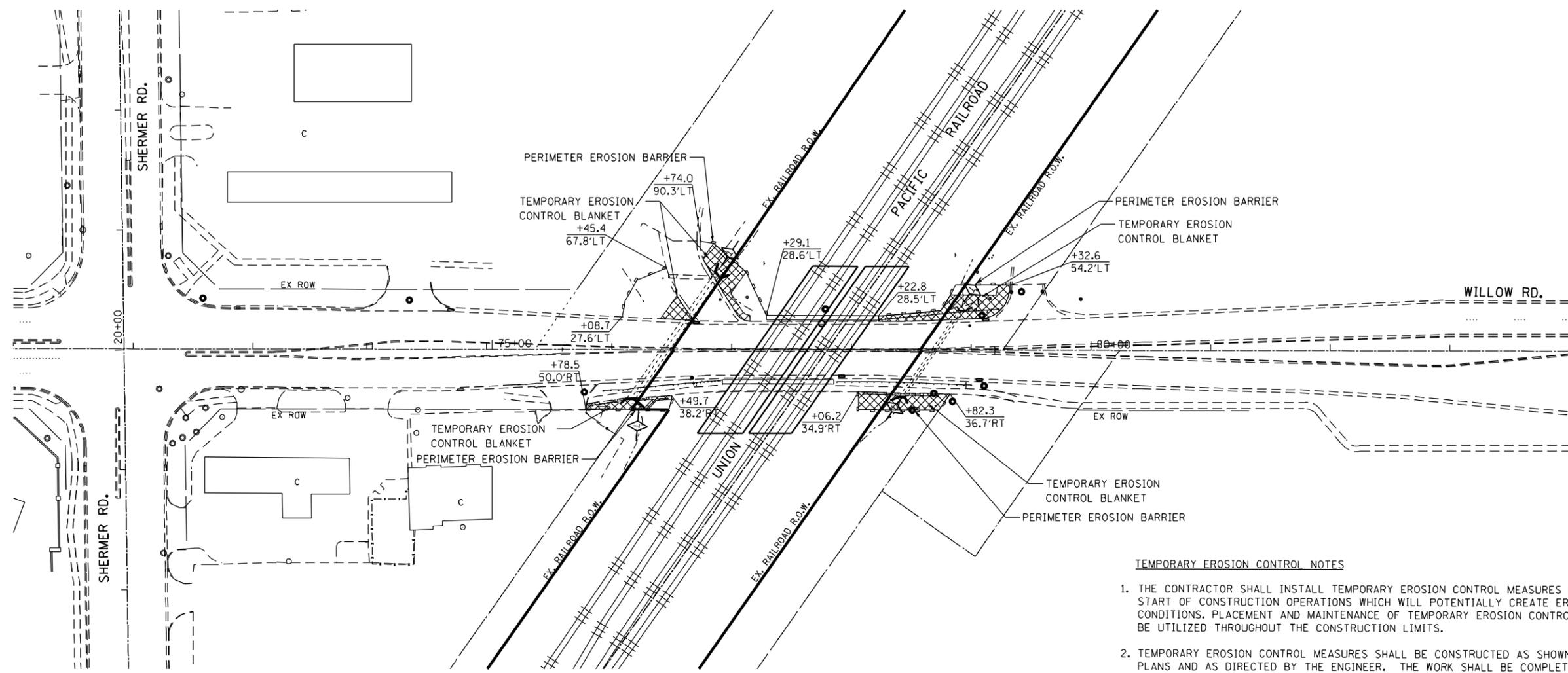
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CHECKED - TVN	REVISED -
DATE - 12/26/2012	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

WILLOW ROAD		SUGGESTED STAGES CONSTRUCTION & TRAFFIC CONTROL PLAN	
SCALE: 1"=50'		STAGE-II	
SHEET NO. OF SHEETS	STA. TO STA.		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	15
CONTRACT NO. 60W04				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

STG22



TEMPORARY EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL MEASURES PRIOR THE START OF CONSTRUCTION OPERATIONS WHICH WILL POTENTIALLY CREATE ERODIBLE CONDITIONS. PLACEMENT AND MAINTENANCE OF TEMPORARY EROSION CONTROL SYSTEMS WILL BE UTILIZED THROUGHOUT THE CONSTRUCTION LIMITS.
2. TEMPORARY EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. THE WORK SHALL BE COMPLETED IN ACCORDANCE WITH SECTION 280-TEMPORARY EROSION CONTROL OF THE STANDARD SPECIFICATIONS, CONTRACT SPECIAL PROVISIONS AND THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
3. THE CONTRACTOR SHALL PERFORM ALL WORK AS DIRECTED BY THE ENGINEER AND AS SHOWN IN HIGHWAY STANDARD 280001.
4. WEEKLY SITE INSPECTIONS AND APPROPRIATE MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES SHALL BE CONDUCTED AND DOCUMENTED AT ALL TIMES DURING CONSTRUCTION AND ESPECIALLY PRIOR TO, DURING, AND AFTER RAINFALL 0.5 INCHES OR GREATER IN A 24 HOUR PERIOD, OR EQUIVALENT SNOWFALL. THE CONTRACTOR SHALL IMMEDIATELY PLACE AND MAINTAIN TEMPORARY EROSION CONTROL SEEDING AT ALL ERODIBLE/BARE AREAS IN ACCORDANCE WITH SECTION 280 OF THE STANDARD SPECIFICATIONS.
5. THE CONTRACTOR SHALL PLACE PERIMETER EROSION BARRIER AROUND ALL EARTH STOCKPILES.
6. EROSION CONTROL MEASURES PLACED DURING STAGE 1 AND STAGE 2 SHALL REMAIN IN PLACE AND MAINTAINED UNTIL NO LONGER REQUIRED.
7. INLET FILTERS SHALL BE PLACED AT ALL INLETS WITHIN PROJECT LIMITS DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL PREPARE DEWATERING PLANS TO BE REVIEWED AND ACCEPTED BY IDOT'S RE PRIOR TO CONTRACTOR CONDUCTING ANY DEWATERING WORK. LACK OF AN ACCEPTED PLAN OR FAILURE TO COMPLY WITH IT WILL RESULT IN AN ESC DEFICIENCY DEDUCTION.
9. THE CONTRACTOR SHALL PREPARE A PLAN FOR MAINTAINING A STABILIZED FLOW LINE DURING STORM SEWER COSTRUCTION, TO BE REVIEWED AND ACCEPTED BY IDOT'S RE PRIOR TO CONTRACTOR CONDUCTING ANY STORM WORK. LACK OF AN ACCEPTED PLAN OR FAILURE TO COMPLY WITH IT WILL RESULT IN AN ESC DEFICIENCY DEDUCTION.

LEGEND

-  TEMPORARY DITCH CHECK, ROLLED EXCELSIOR SPACED 150' (TYP), UNLESS NOTED OTHERWISE ON THE PLANS (SEE STD 280001)
-  PERIMETER EROSION BARRIER (SEE STD 280001)

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 PLOT SCALE : 1/8"=50' / IN.
 USER NAME : Millennium Professional Services



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DATE -	12/21/2012	REVISED -	---

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WILLOW ROAD
EROSION CONTROL PLAN

SCALE: 1"=50' SHEET NO. ___ OF ___ SHEETS STA. _____ TO STA. _____

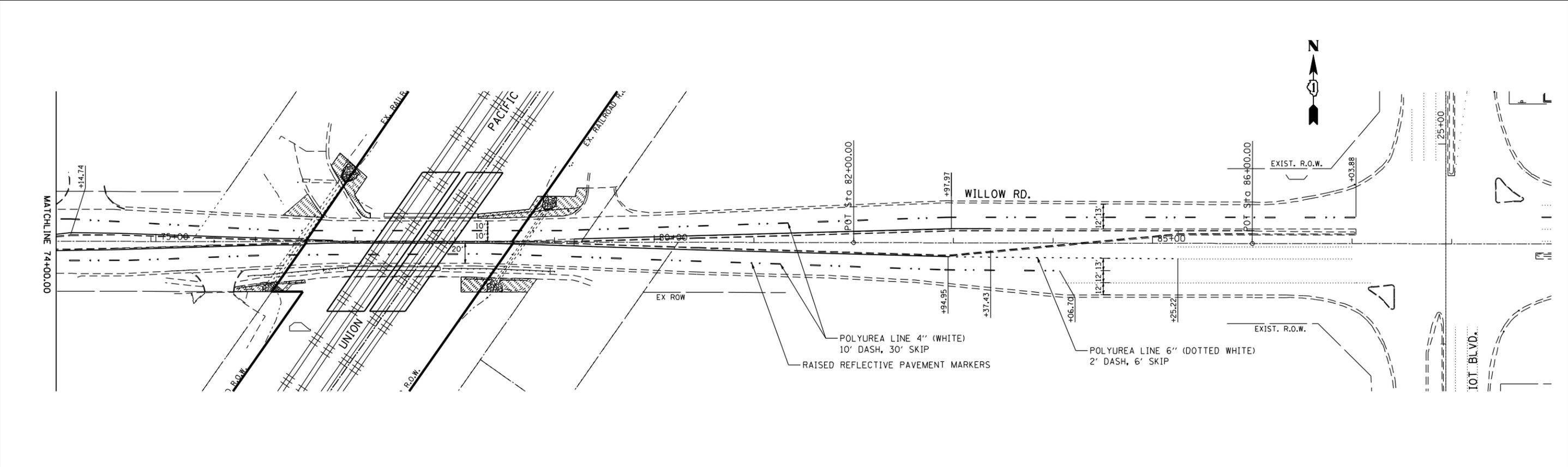
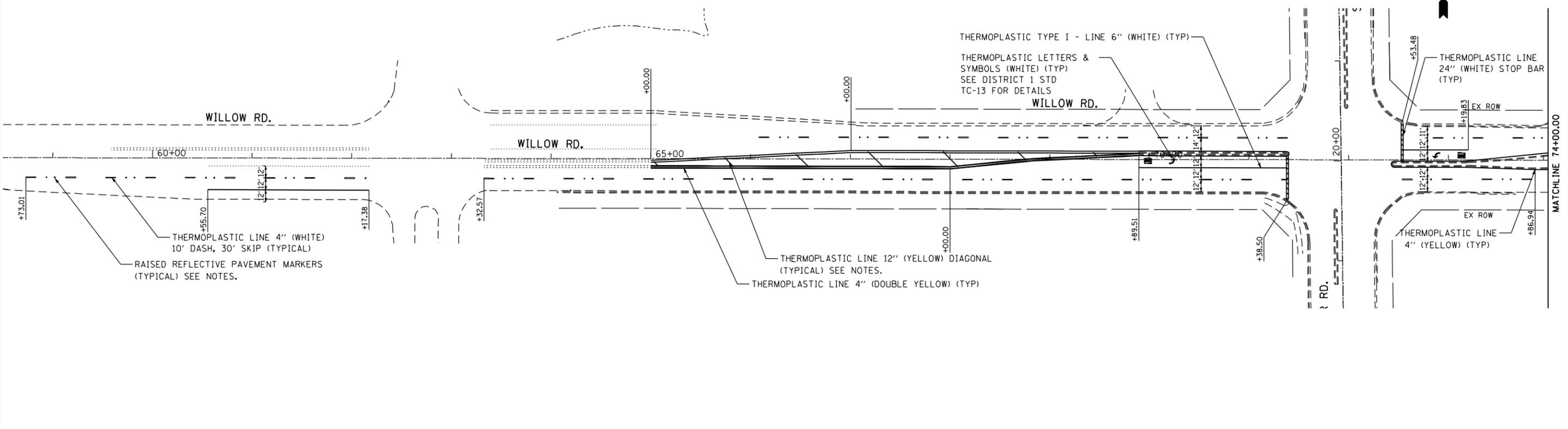
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-8	Cook	55	16
CONTRACT NO.				60W04

FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT

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LANDSCAPING LEGEND

-  SODDING, SALT TOLERANT TOPSOIL FURNISH AND PLACE, 4"
-  STONE RIPRAP, CLASS A4



FILE NAME : P:\2011\ME11007_Ver_Ver_Phi\CADD\W08_Willow_Rd\Shets\DI60W04-sh1-PMK-01.DGN
 PLOT SCALE : 1/8"=1'-0"
 USER NAME : Millennia Professional Services



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DATE - 12/26/2012	REVISED -

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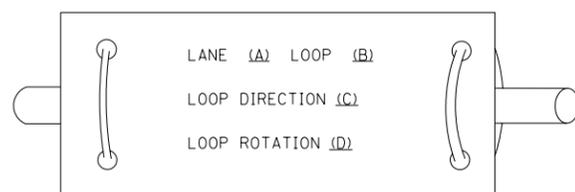
WILLOW ROAD		PROPOSED PAVEMENT MARKINGS	
SCALE: 1"=50'	SHEET NO. OF SHEETS	STA. TO STA.	

F.A.P. RTE. 305	SECTION 1920.01-B-R	COUNTY COOK	TOTAL SHEETS 60	SHEET NO. 17
CONTRACT NO. 60W04			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	

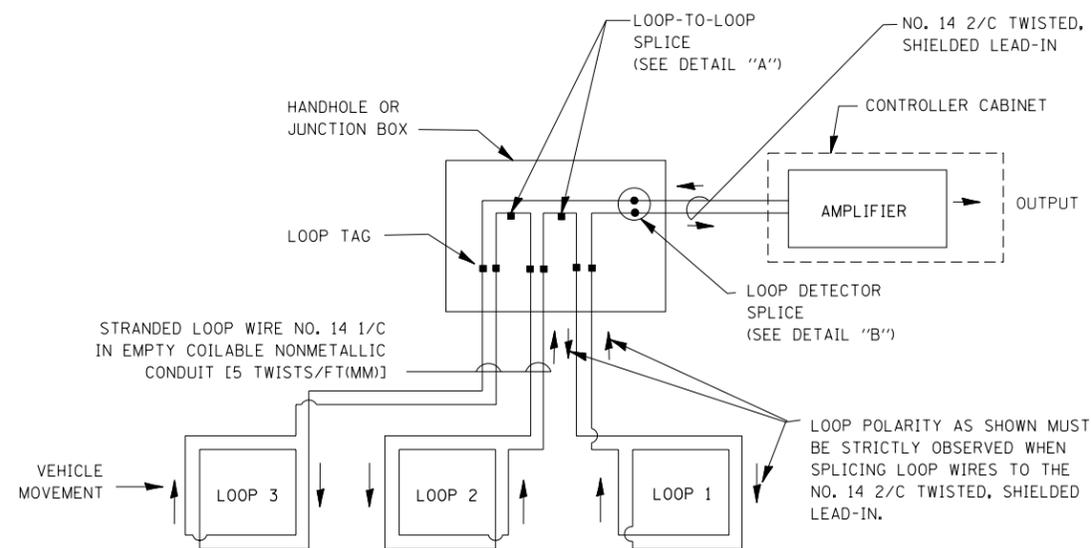
LOOP DETECTOR NOTES

- EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
- THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
- EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
- ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
- IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
- LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
- PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

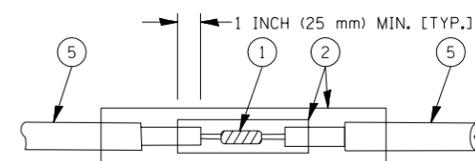


- LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

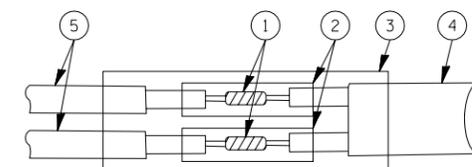


DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.

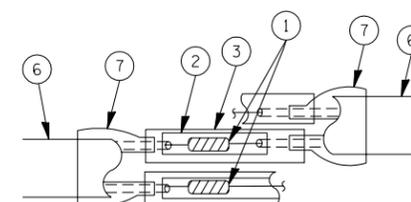


DETAIL "A"
LOOP-TO-LOOP SPLICE

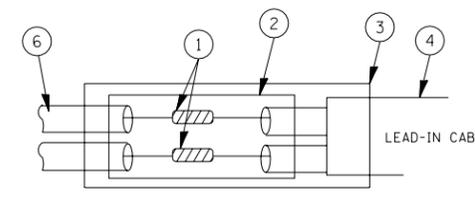


DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

- WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- NO. 14 2/C TWISTED, SHIELDED CABLE.
- LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- PRE-FORMED LOOP
- XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

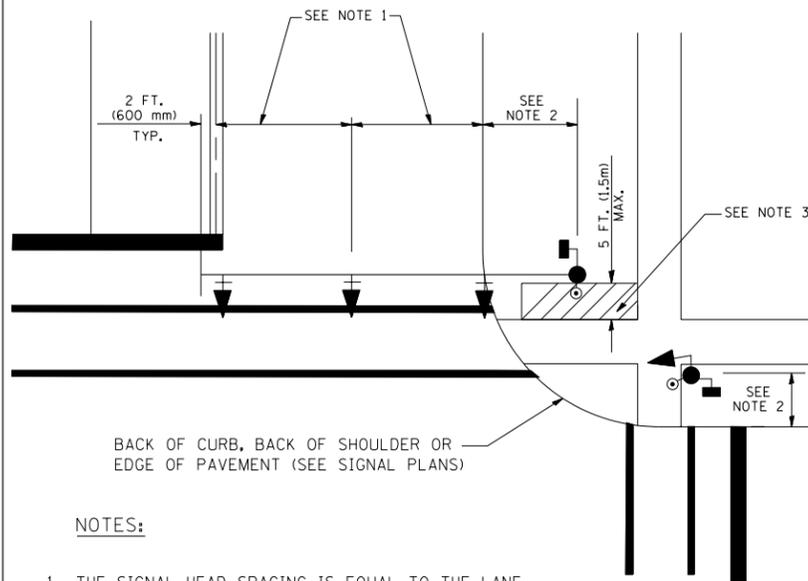
DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE SHEET NO. 1 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	18
TS-05			CONTRACT NO. 60W04	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

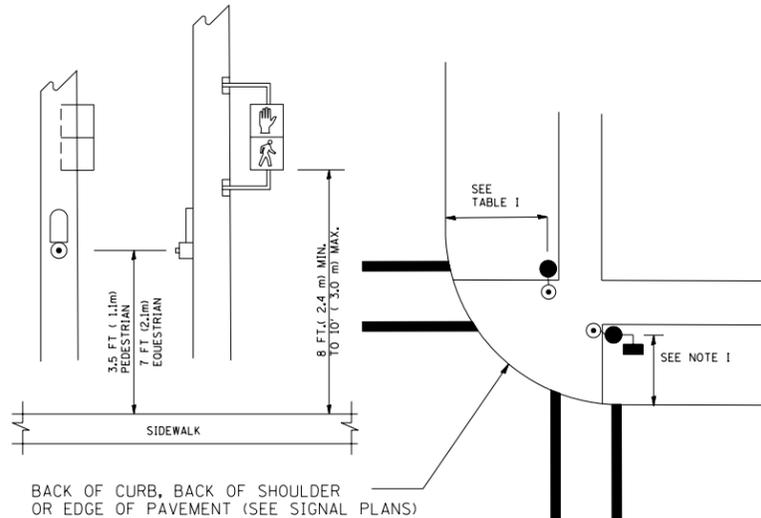
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



NOTES:

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

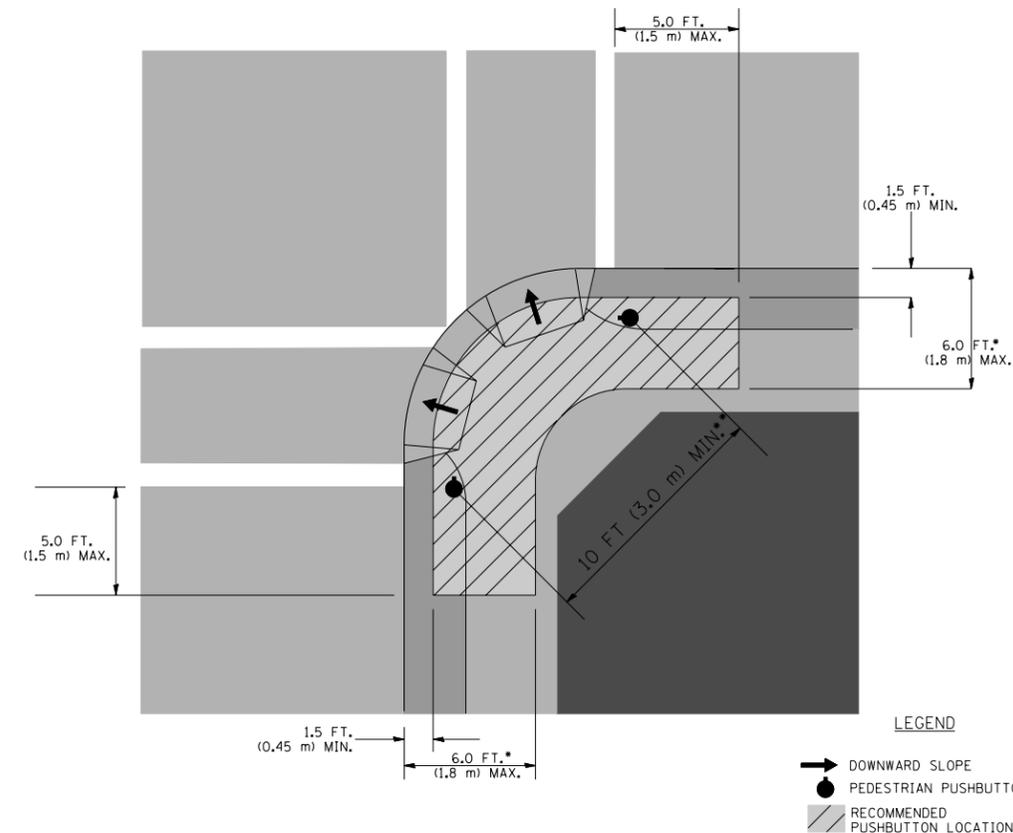
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



NOTES:

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

RECOMMENDED PUSHBUTTON LOCATIONS



- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

NOTES:

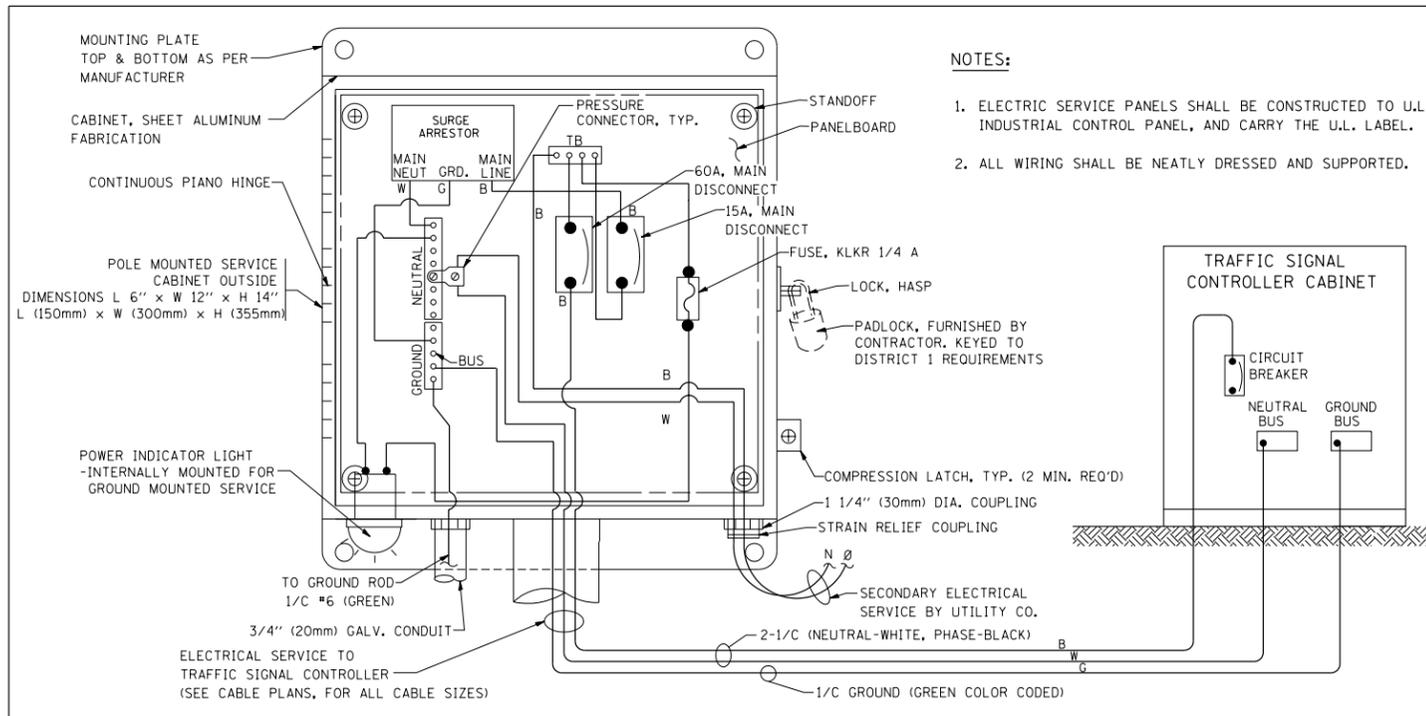
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

TRAFFIC SIGNAL EQUIPMENT OFFSET

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

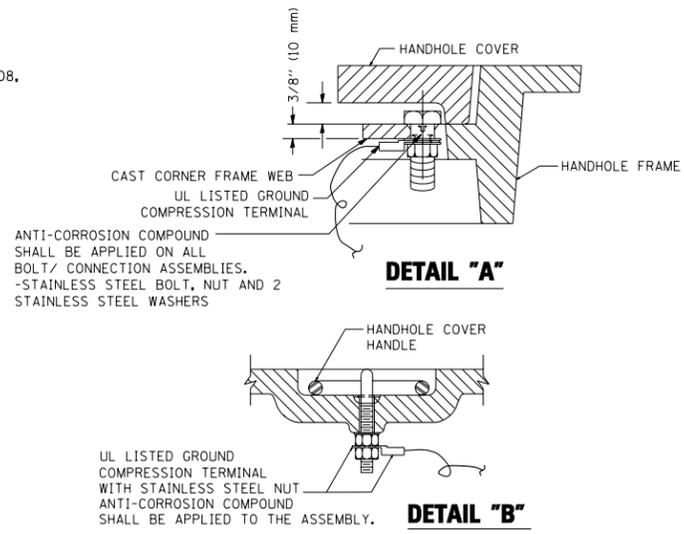
NOTES:

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.



NOTES:

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.



NOTES:

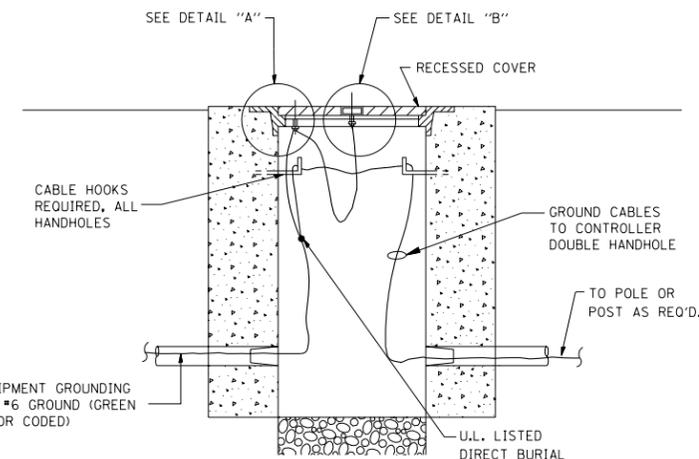
GROUNDING SYSTEM

1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)

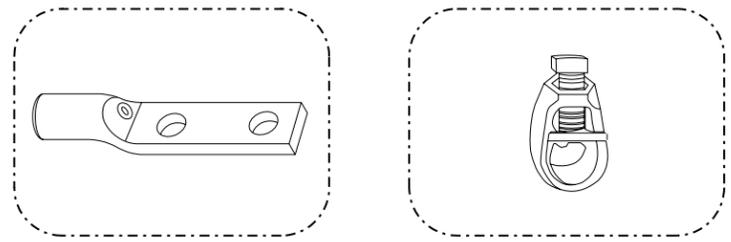
SERVICE INSTALLATION POLE MOUNT (SHOWN)

(NOT TO SCALE)



HANDHOLE COVER & FRAME - GROUNDING DETAIL

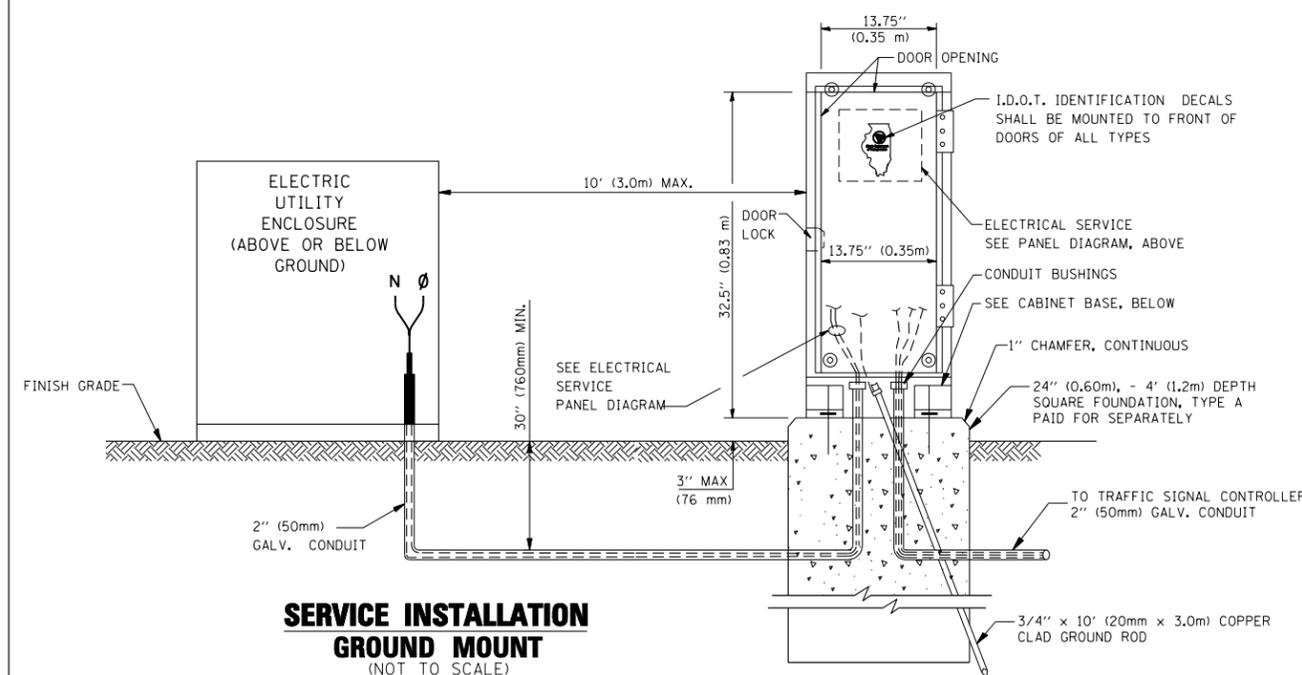
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HEAVY-DUTY COMPRESSION TERMINAL (BURNDY TYPE YGHA OR APPROVED EQUAL) 3/4" (20mm) HEAVY-DUTY GROUND ROD CLAMP (BURNDY TYPE GRC OR APPROVED EQUAL)

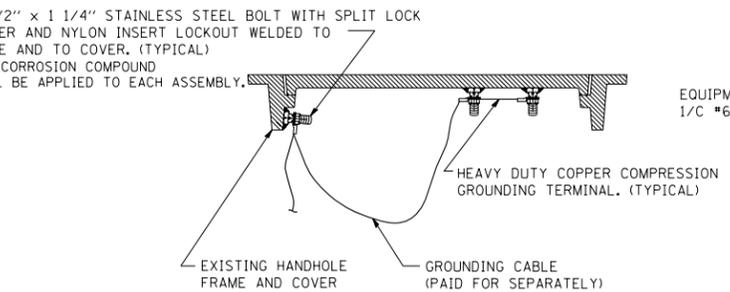
NOTES:

- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



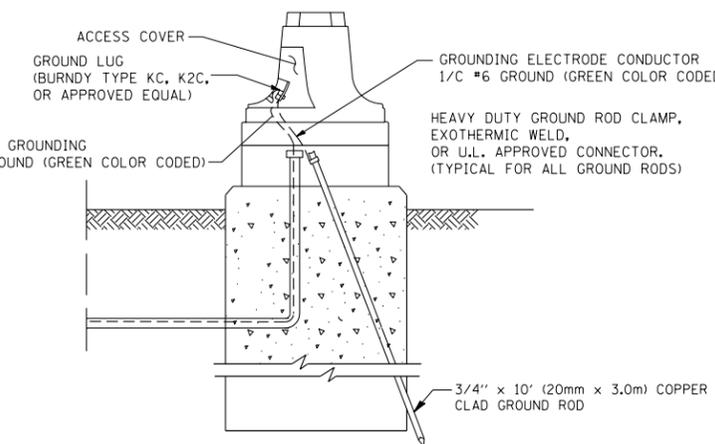
SERVICE INSTALLATION GROUND MOUNT

(NOT TO SCALE)



EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL

(NOT TO SCALE)

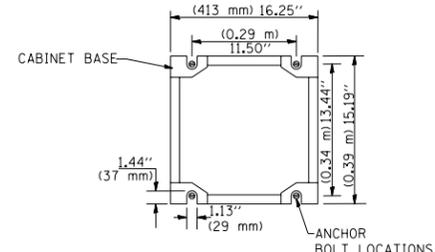


MAST ARM POLE / POST-GROUNDING DETAIL

(NOT TO SCALE)

CABINET - BASE BOLT PATTERN

(NOT TO SCALE)

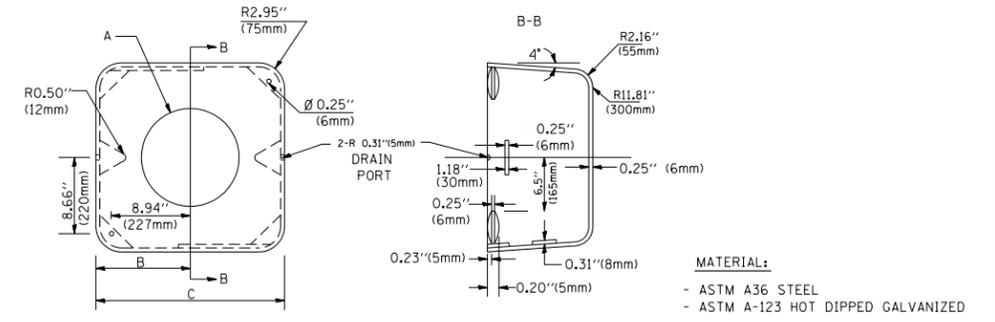
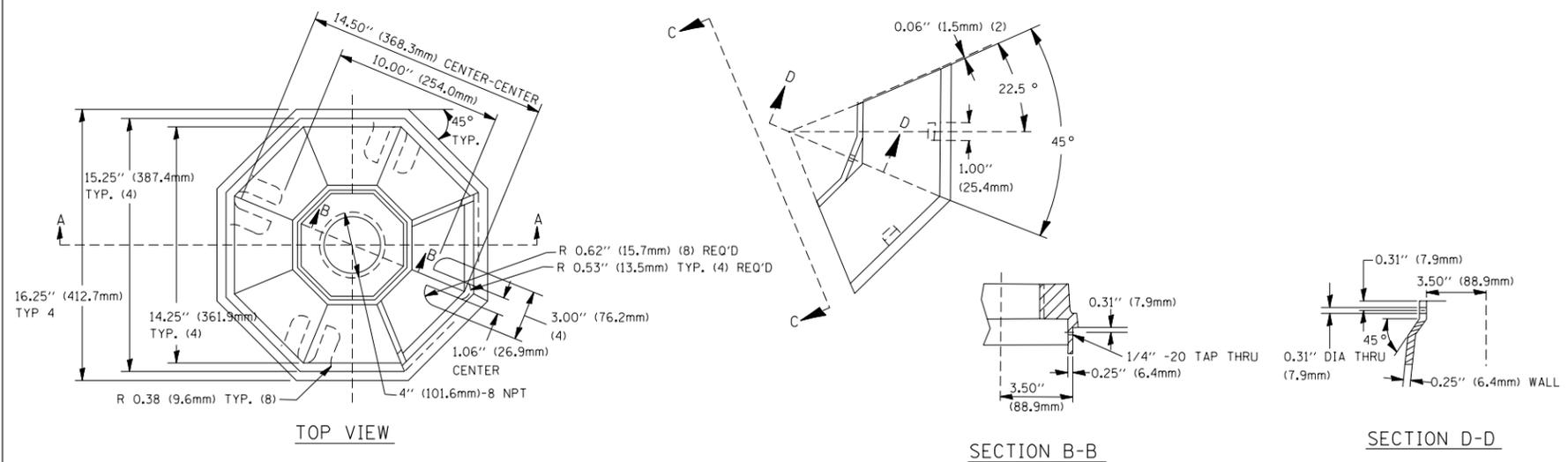


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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE			
STANDARD TRAFFIC SIGNAL DESIGN DETAILS			
SCALE: NONE	SHEET NO. 3 OF 6 SHEETS	STA. TO STA.	

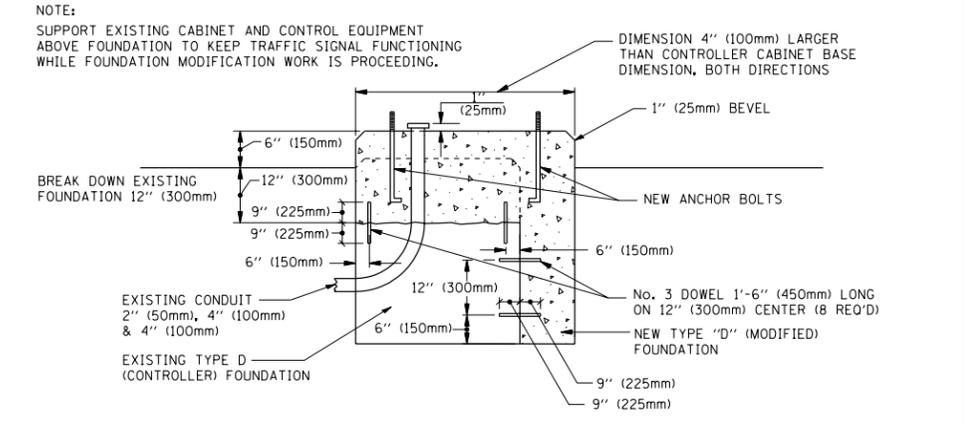
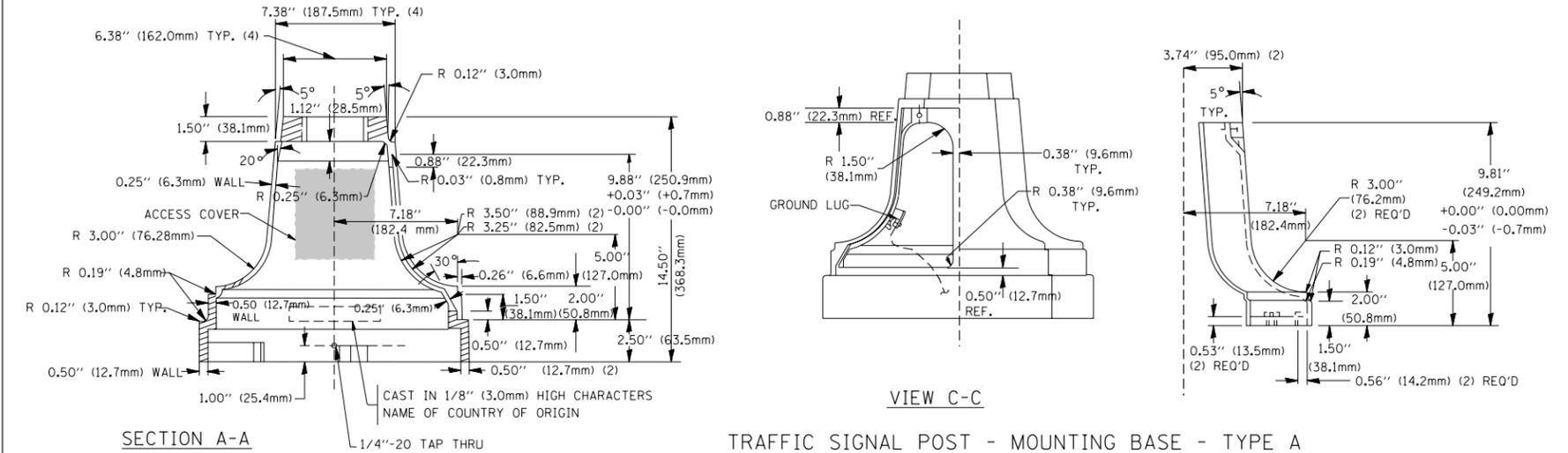
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	20
TS-05		CONTRACT NO. 60W04		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



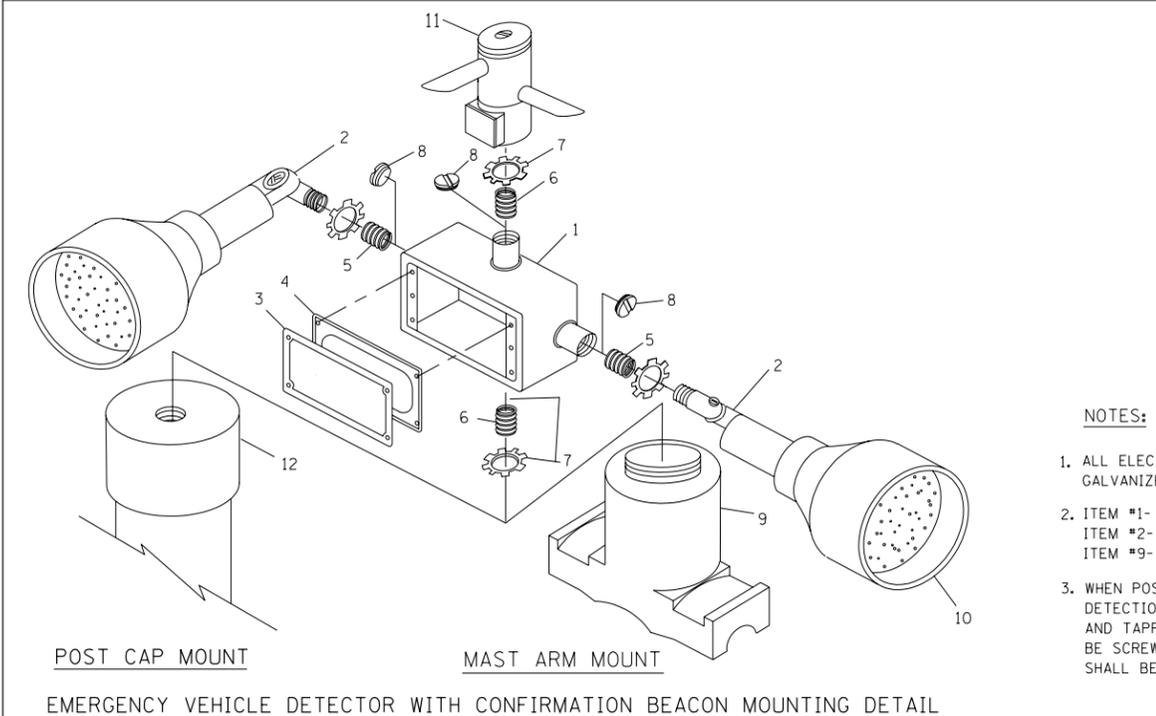
A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5\" (241mm)	19\" (483mm)	7\" (178mm) - 12\" (300mm)	53 lbs (24kg)
VARIABLES	10.75\" (273mm)	21.5\" (546mm)	7\" (178mm) - 12\" (300mm)	68 lbs (31 kg)
VARIABLES	13.0\" (330mm)	26\" (660mm)	7\" (178mm) - 12\" (300mm)	81 lbs (37 kg)
VARIABLES	18.5\" (470mm)	37\" (940mm)	7\" (178mm) - 12\" (300mm)	126 lbs (57 kg)

NOTES:

- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
- THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
- THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.



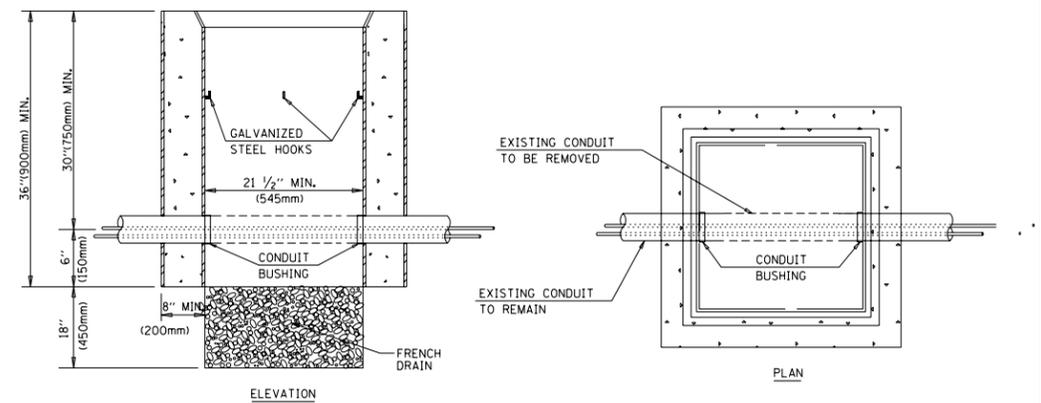
MODIFY EXISTING TYPE "D" FOUNDATION



ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\" (19 mm) CLOSE NIPPLE
7	3/4\" (19 mm) LOCKNUT
8	3/4\" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

NOTES:

- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
- ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
ITEM #2- MULBERRY CON-0-SHADE LAMP SHIELD OR EQUIVALENT
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
- WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



NOTES:

- HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
- REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.

HANDHOLE TO INTERCEPT EXISTING CONDUIT

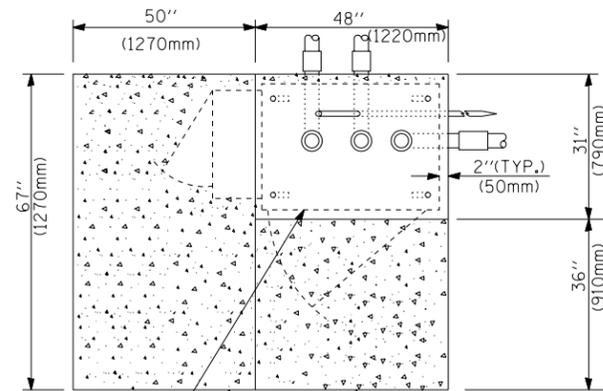
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

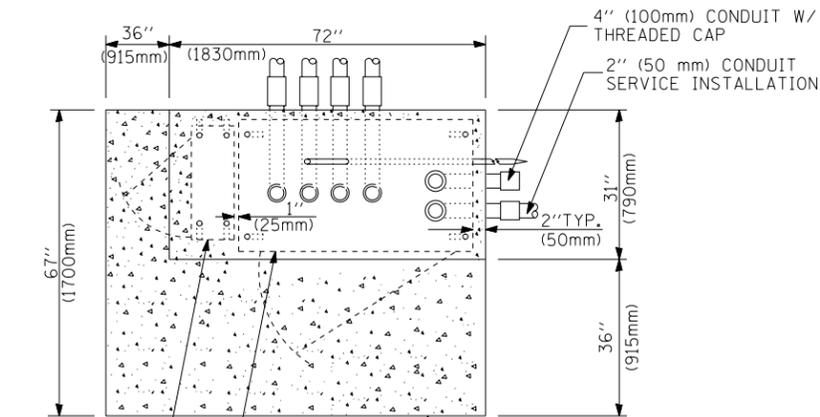
**DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET NO. 4 OF 6 SHEETS STA. TO STA.

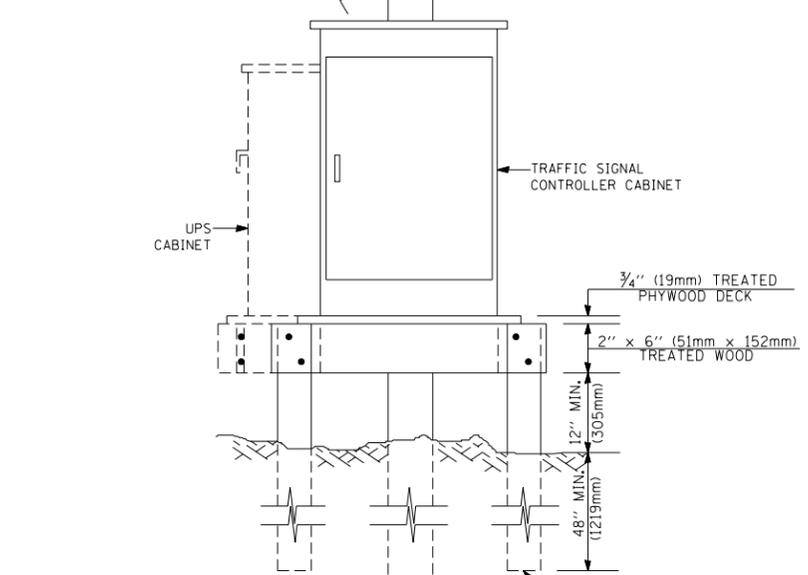
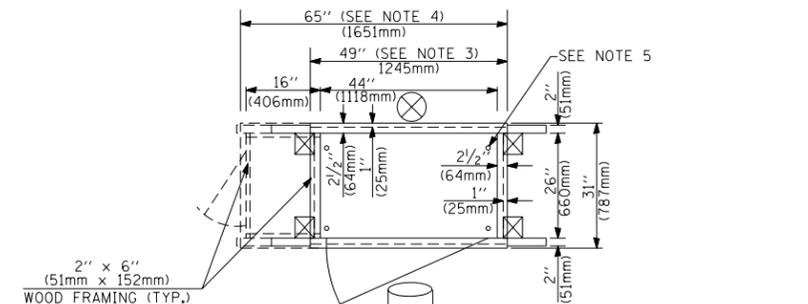
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	21
TS-05		CONTRACT NO. 60W04		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



CONTROLLER CABINET BASE
EXISTING APRON
PROPOSED APRON
TOP VIEW

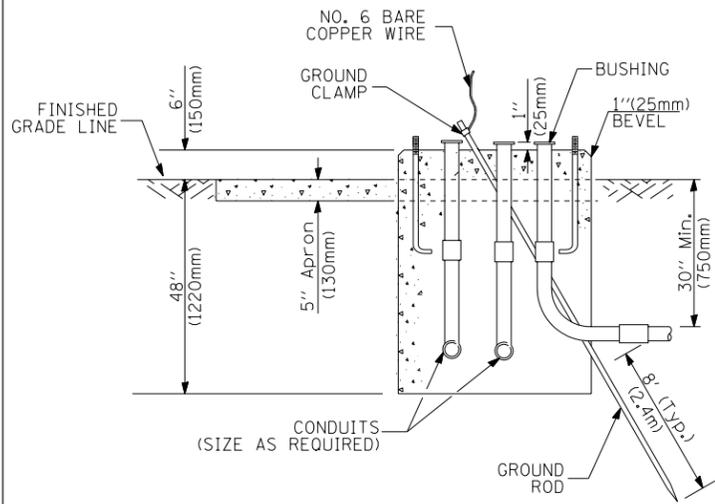


UPS CABINET BASE
CONTROLLER CABINET BASE
APRON
TOP VIEW

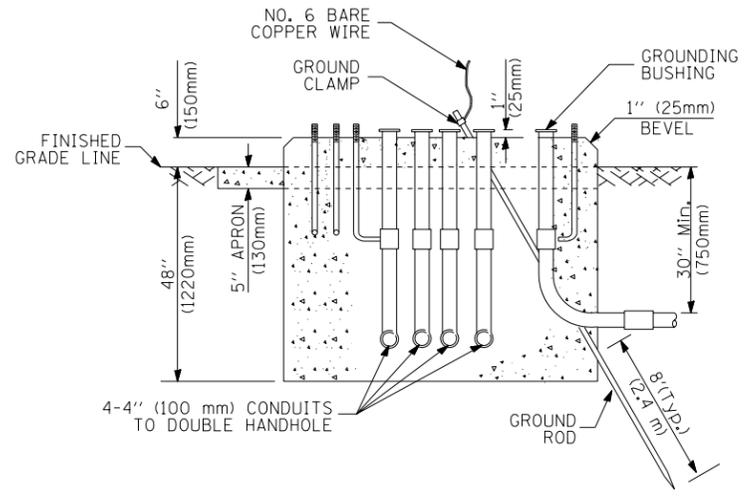


- NOTES:
- BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
 - BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
 - PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
 - PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
 - DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
 - FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

TEMPORARY SIGNAL CONTROLLER
WOOD SUPPORT PLATFORM



TYPE D
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET



TYPE C
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

CABLE SLACK

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

VERTICAL CABLE LENGTH

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

DEPTH OF FOUNDATION

Mast Arm Length	Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

- NOTES:
- These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & structures should be contacted for a revised design if other conditions are encountered.
 - Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
 - Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
 - For mast arm assemblies with dual arms refer to state standard 878001.

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

FILE NAME =	USER NAME = bauerdl	DESIGNED - DAG	REVISED -
et:\pwork\PWIDOT\BAUERDL\d0108315\ts05.dgn		DRAWN - BCK	REVISED -
	PLOT SCALE = 50.0000' / IN.	CHECKED - DAD	REVISED -
	PLOT DATE = 11/4/2009	DATE - 10-28-09	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS
SCALE: NONE SHEET NO. 5 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	22
TS-05		CONTRACT NO. 60W04		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

TRAFFIC SIGNAL LEGEND

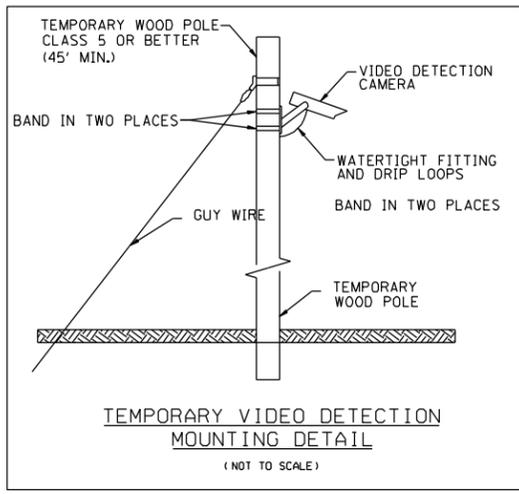
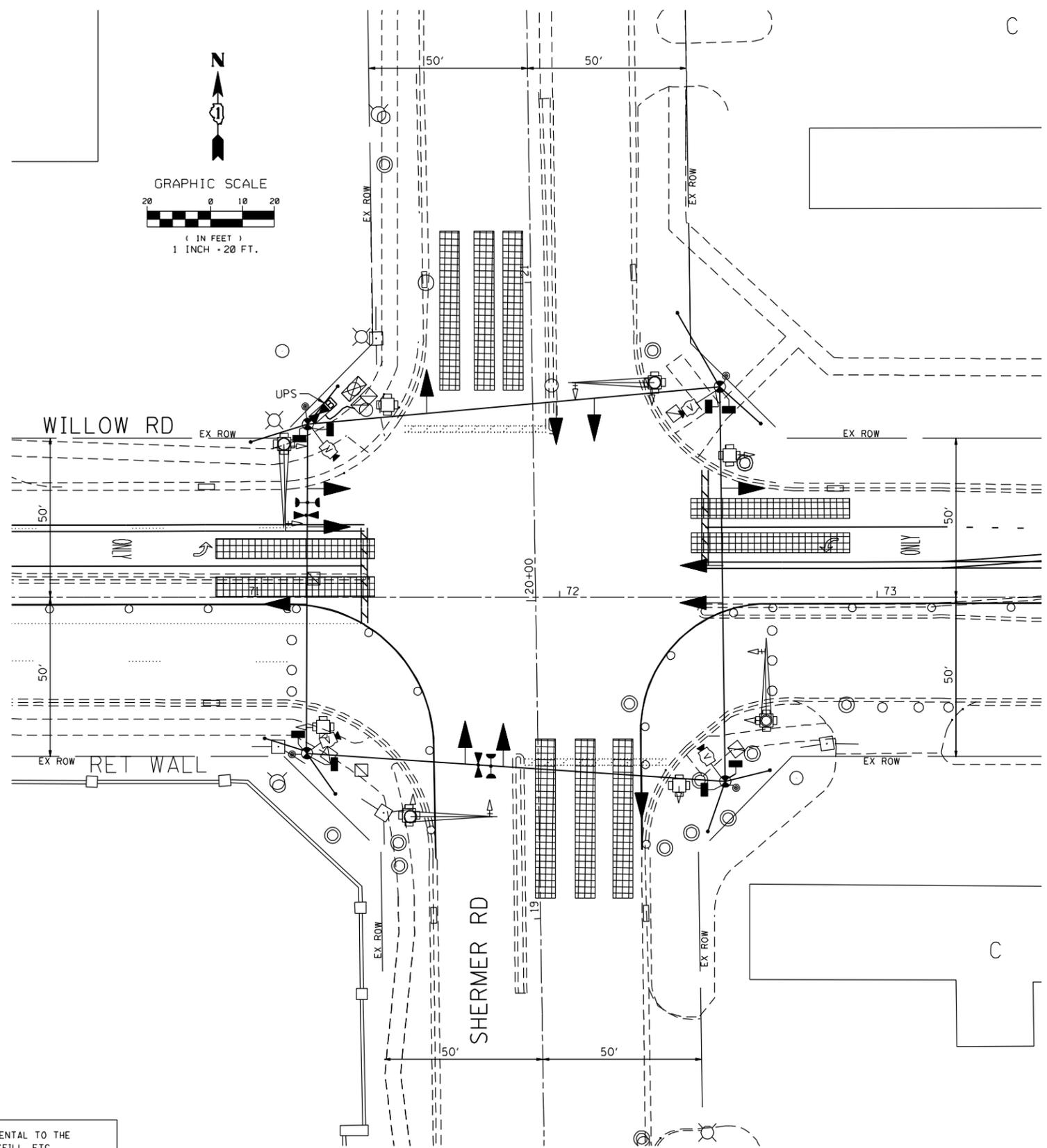
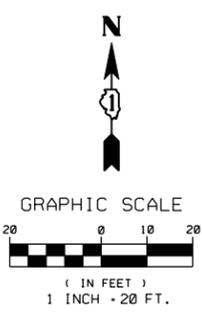
ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, MM12F 24F			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM				STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM				ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM				STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM				SIGNAL POST AND FOUNDATION TO BE REMOVED			
GUY WIRE				ABANDON ITEM				INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				EXISTING INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				EXISTING PREFORMED INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				RAILROAD SYMBOLS			
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID				RAILROAD CONTROL CABINET			
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER				RAILROAD CANTILEVER MAST ARM			
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT				FLASHING SIGNAL			
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER				CROSSING GATE			
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED				CROSSBUCK			
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)							
MICROWAVE VEHICLE SENSOR											
VIDEO DETECTION CAMERA											
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY VEHICLE PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE L.E.D. AND 12" (300 mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL USE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD LOCATION ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS, AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL AT THE TIME OF THE TURN ON. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.
7. UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEMS SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INTERSECTIONS, AND TEMPORARY TRAFFIC SIGNAL AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON THE PLANS.
8. TRAFFIC SIGNAL MANAGEMENT SYSTEMS SHALL BE MAINTAINED IN OPERATION AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. REQUIRED EQUIPMENT SHALL BE AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL PLACE THE EQUIPMENT IN OPERATION TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE TRAFFIC SIGNAL MANAGEMENT SYSTEM.
9. DETECTION AT TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED FOR ALL APPROACHES OF THE INTERSECTION UNLESS INDICATED OTHERWISE ON THE PLANS. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.
10. WHEN PAN, TILT, ZOOM CAMERAS ARE INSTALLED AT THE EXISTING INTERSECTION OR ARE CALLED FOR IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE CAMERAS TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE CAMERAS.

NOTES

1. TEMPORARY TRAFFIC SIGNALS SHALL BE TURNED ON PRIOR TO STAGE I CONSTRUCTION. TEMPORARY TRAFFIC SIGNAL HEADS MUST BE RELOCATED TO STAGE II CONSTRUCTION LOCATION PRIOR TO THE START OF STAGE II CONSTRUCTION AS SHOWN ON STAGE II PLANS.
2. EXISTING TRAFFIC SIGNAL INTERCONNECT CONDUIT BETWEEN SHERMER ROAD AND PATRIOT BLVD TO BE MAINTAINS DURING CONSTRUCTION OF THE CULVERTS BY PROVIDE SUPPORT TO EXISTING CONDUIT WITH MESSENGER WIRE BETWEEN THE CULVERT.
3. CONTRACTOR SHALL PROVIDED PATCH CABLE FOR INTERCONNECT FROM EXISTING CONTROLLER TO TEMPORARY CONTROLLER.
4. SEE STAGING PLAN FOR STAGE II AND TEMPORARY SIGNAL HEADS PLACEMENT.



RESTORATION OF THE TRAFFIC SIGNAL WORK SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SALT TOLERANT SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

FILE NAME : P:\2011\ME11007_Ver-Var-PhI\CADD\W08.Willow_Rd\Shts\DI60W04-sh1-TTS11.dgn
 PLOT SCALE : 40.0000 7 IN.
 USER NAME : Millennium Professional Services

MILLENNIA PROFESSIONAL SERVICES
 200 22ND Street, Suite 216, Lombard, IL 60148
 630.705.0110 voice, 630.839.2566 fax
 www.mps-ll.com

DESIGNED - TVN	REVISED -
DRAWN - MJW	REVISED -
CHECKED - TVN	REVISED -
DATE - 12/26/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

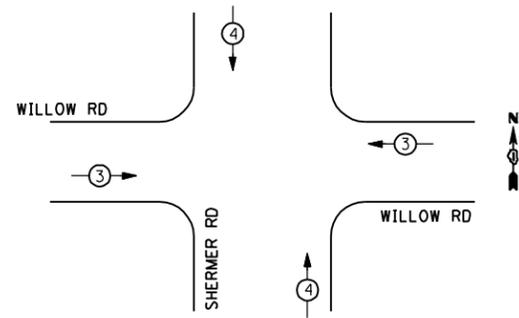
WILLOW ROAD AT SHERMER ROAD
TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN - STAGE I

SCALE: 1"=20' SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	24
CONTRACT NO. 60W04			TTS-11	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

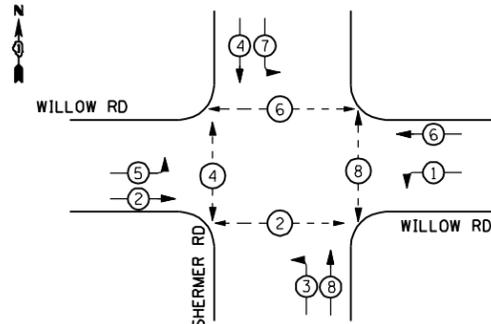
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EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	↔	↕

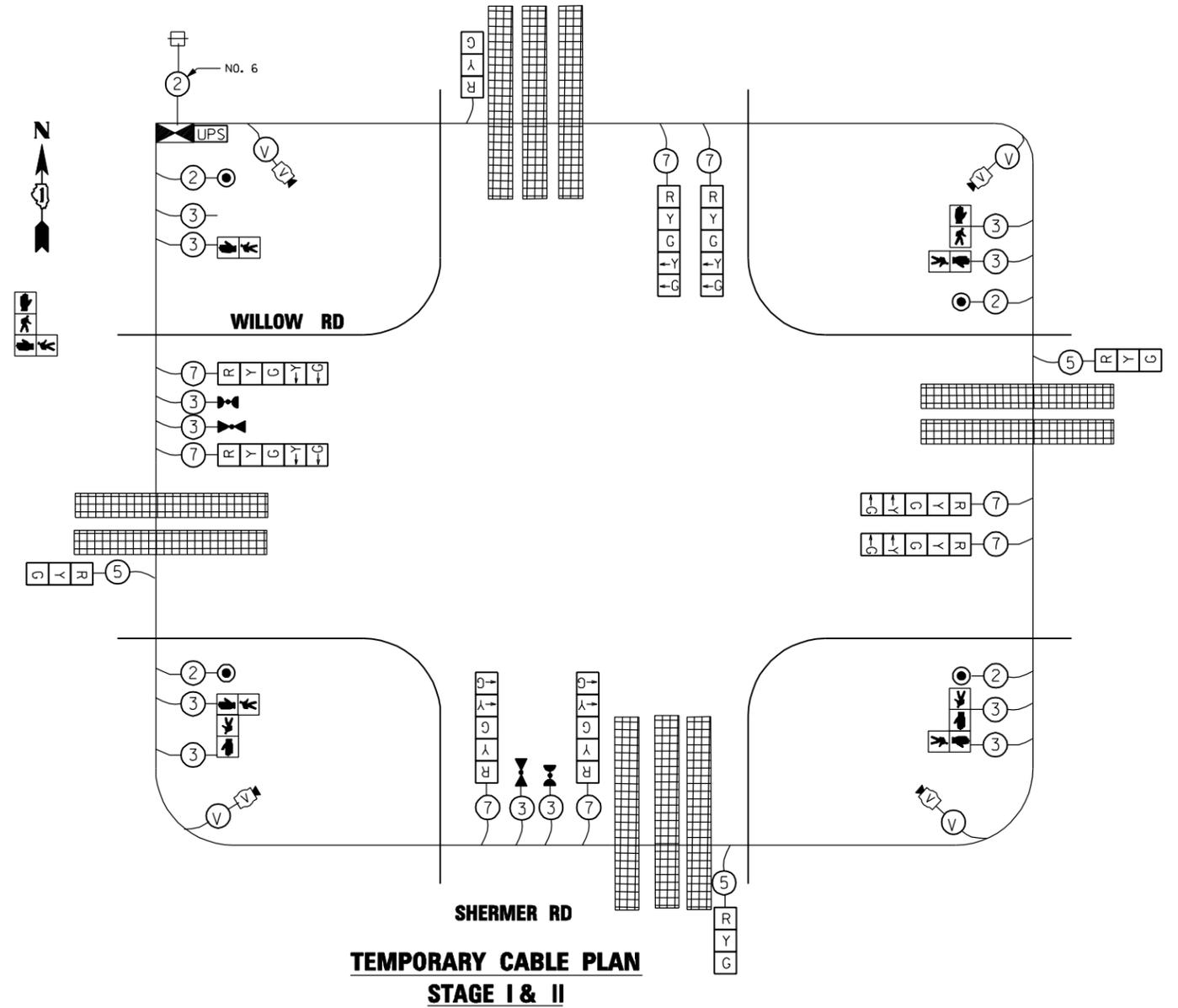
TEMPORARY CONTROLLER SEQUENCE



LEGEND

- ◻ SINGLE ENTRY PHASE
- ◻ DUAL ENTRY PHASE
- ◻ OVERLAP
- ◻ PEDESTRIAN PHASE
- NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM
STAGE I & II**



**TEMPORARY CABLE PLAN
STAGE I & II**

RESTORATION OF THE TRAFFIC SIGNAL WORK SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDER, MEDIAN, SIDEWALKS, PAVEMENT ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SALT TOLERANT SOD, AND ALL DAMAGE TO UNMOVED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

FILE NAME : P:\2011\ME11007_Ver-Var-Ph1\CADD\W08_Willow_Rd\Shets\DI60W04-sh-TTS12.dgn
 PLOT SCALE : 40.0000 7 IN.
 USER NAME : Millennium Professional Services

I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. OF LAMPS	WATTAGE		OPERATION	
		INCAND.	L.E.D.		
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75.0
(GREEN)	12	135	15	0.25	45.0
ARROW	16	135	12	0.10	19.2
PED. SIGNAL	4	90	25	1.00	100
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		84		0.05	
VIDEO SYSTEM	1	15	15	1.00	15
FLASHER				0.50	
TOTAL					456.2

ILLINOIS DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAY/DISTRICT 1
 201 CENTER CT/SCHAUMBURG, IL 60196-1096

ENERGY SUPPLY - CONTACT: _____
 PHONE: 630-691-4379
 COMPANY: COMMONWEALTH EDISON

200 22ND Street, Suite 216, Lombard, IL 60148
 630.705.0110 voice, 630.839.2566 fax
 www.mps-ll.com

MILLENNIA PROFESSIONAL SERVICES

DESIGNED - TVN	REVISED -
DRAWN - MJW	REVISED -
CHECKED - TVN	REVISED -
DATE - 12/26/2012	REVISED -

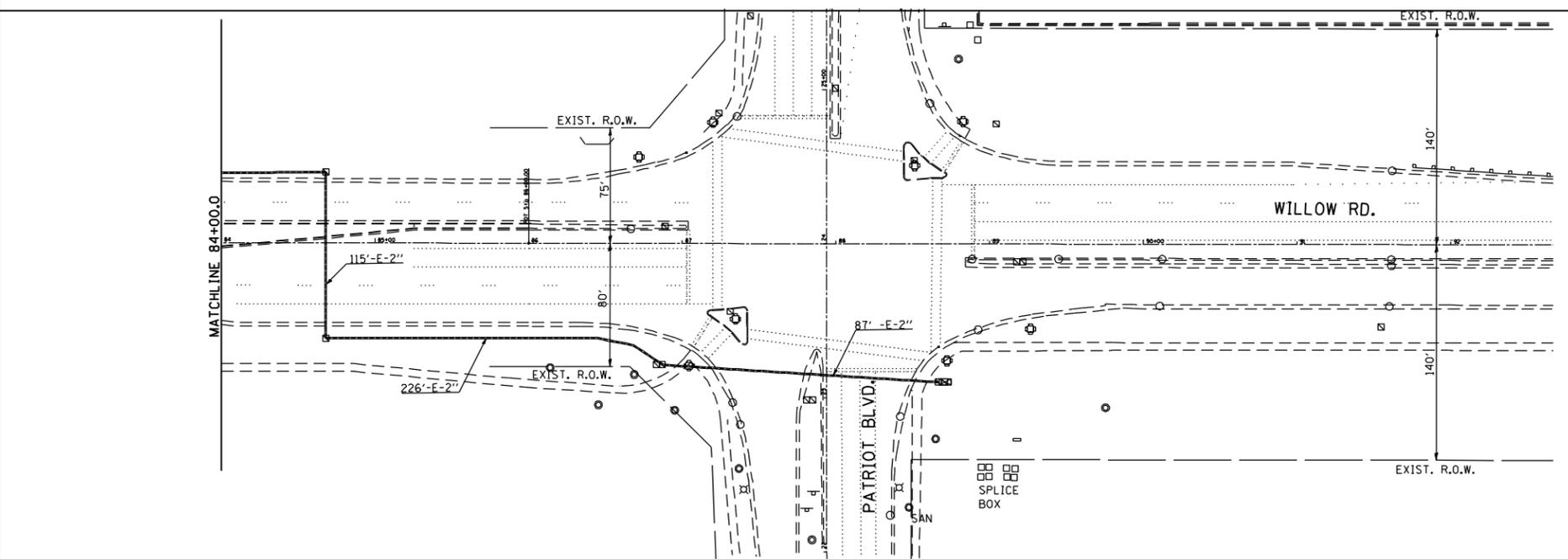
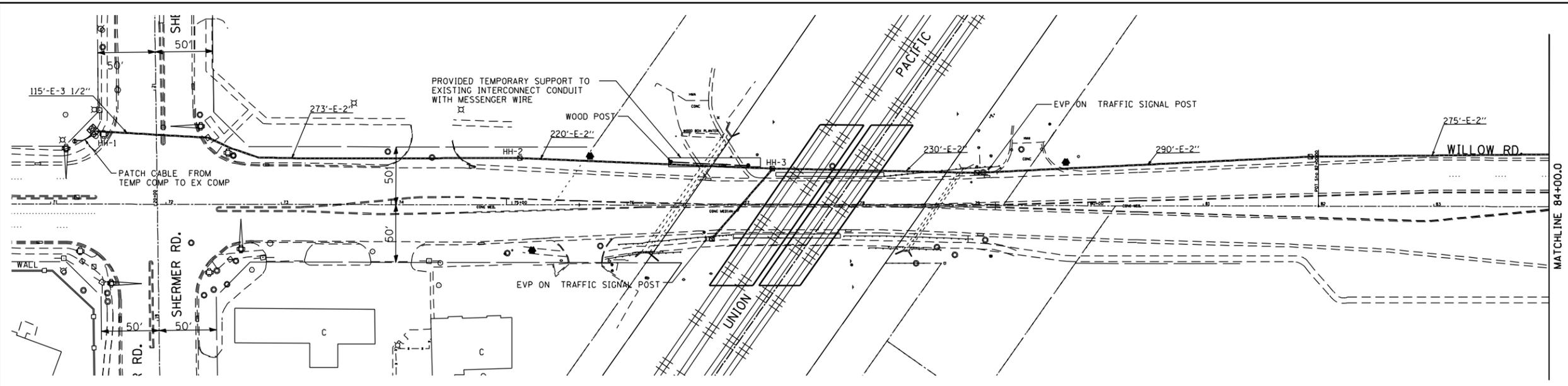
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WILLOW ROAD AT SHERMER RD
TEMPORARY TRAFFIC SIGNAL CABLE PLAN, AND
PHASE DESIGNATION DIAGRAM**

SCALE: N/A SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	25
CONTRACT NO. 60W04				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

TTS12



NOTES

1. IN EVENT OF EXISTING INTERCONNECT CONDUIT CAN NOT BE MAINTENANCE. EXISTING FIBER OPTIC CABLE AND TRACER SHALL BE PULLED OUT OF EXISTING CONDUIT, STARTING AT THE EXISTING CONTROLLER BOX AT NW CORNER OF WILLOW AND SHERMER ROAD (HH-1) TO ALL THE WAY TO THE FIRST HANDHOLE NW CORNER OF THE BRIDGE (HH-3); HERE THE CABLES CAN BE STORED AND PROTECTED FOR REINSTALLATION (FOR WIRELESS INTERCONNECT OPTION). THIS WILL BE MEASURED AND PAID FOR AS "REMOVE AND REINSTALL ELECTRIC CABLE FROM CONDUIT", AND REPLACE CONDUIT BETWEEN HH-2 AND HH-3.
2. THERE ARE ADVANCE EMERGENCY VEHICLE PREEMPTION (EVP) IN BOTH DIRECTION OF WILLOW ROAD. ONE LOCATED ON WEST AND EAST SIDE OF THE VIADUCT SHALL BE MAINTENAN THOUGHT OUT THE DURATION OF THE PROJECT.
3. ANY HARDWARE OR ACCESSORIES REQUIRED TO SUPPORT TRAFFIC SIGNAL INTERCONNECT EXISTING CONDUIT OVER THE REBUILD OF THE CULVERT WILL NOT BE PAID FOR SEPARATELY.

FILE NAME : P:\2011\ME11007_Ver-Ver-PhI\CADD\W08.Willow_Rd\Shets\DI60W04-shl-TTS13-Interconn.dgn
 PLOT SCALE : 1/8"=50' / IN.
 USER NAME : Millennia Professional Services



200 22ND Street, Suite 216, Lombard, IL 60148
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MILLENNIA PROFESSIONAL SERVICES

DESIGNED - TVN	REVISED -
DRAWN - MJW	REVISED -
CHECKED - TVN	REVISED -
DATE - 12/26/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WILLOW ROAD
EXISTING INTERCONNECT PLAN

SCALE: 1"=50' SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	26
CONTRACT NO. 60W04				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

Benchmark: Set at sta. 75+17.70, 39.62 Rt., Elev. 645.47 "x" located on existing sidewalk southwest corner of existing entrance west of the 6'x4' culvert.

Existing Structure: The existing structure (S.N. 016-1292) was built in 1942 with a length of 79'-4 1/4" and was extended at both ends in two rehabilitation projects to be 127'-8" long (sta. 76+44.12). It is a single cast-in-place reinforced concrete box culvert with 6 spans by 4' rise and 34.5° skew angle. Structure to be removed and replaced. One lane shall be maintained in each bound utilizing stage construction.

Salvage: Existing steel plate beam guardrail and chain link fence.

NOTES:

1. For General Notes, Index of Sheets and Total Bill of Material, see Sheet S1-02.
2. For Section A-A, see Sheet S1-02.
3. Precast culvert will not be allowed.
4. For westbound and eastbound profile grade lines, see Sheet S1-02.

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition, with 2012 Interims.

LOADING HL-93

Allow 50 #/sq. ft. for future wearing surface.

DESIGN STRESSES

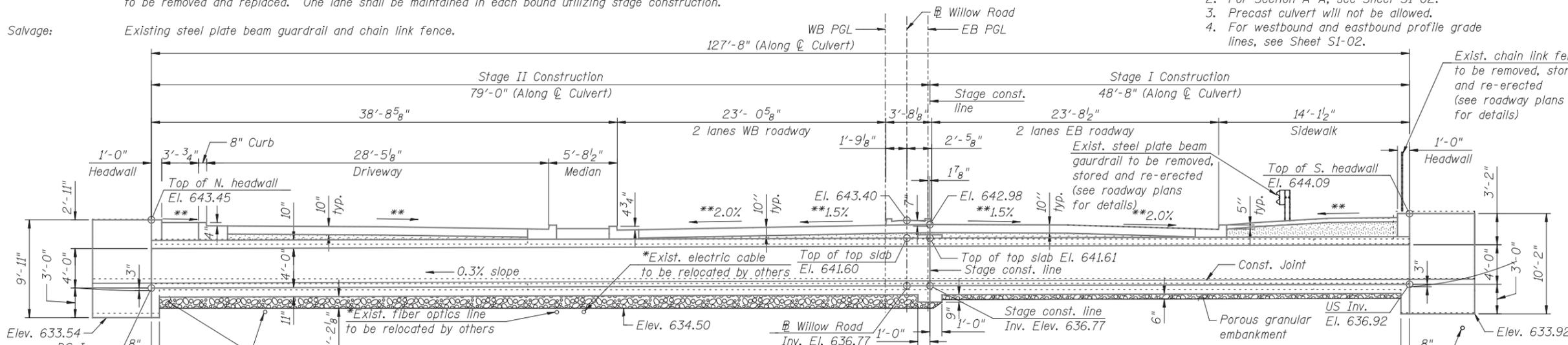
FIELD UNITS

f'c = 3,500 psi (Concrete)
f_y = 60,000 psi (Reinforcement)

STA. 76+44.64
BUILT 2013 BY
STATE OF ILLINOIS
FAP RT. 305 SEC. 1920.01-B-R
LOADING HL-93
STRUCTURE NO. 016-1392

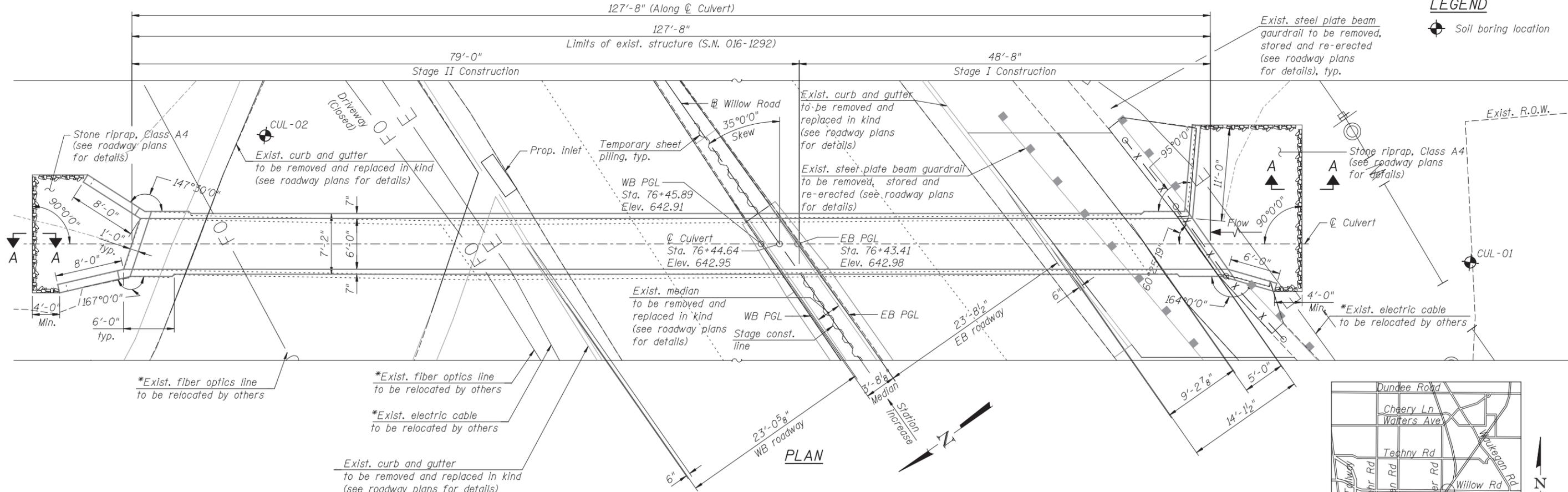
NAME PLATE

Locate Name Plate at South Headwall SW Corner of Culvert (See Std. 515001). Existing Name Plate shall be cleaned and relocated next to new Name plate. Cost included with Name Plates.



LONGITUDINAL SECTION ALONG Q̄ CULVERT

(Looking East)
(Dimensions shown are at right angles to Q̄ Roadway unless noted)



LEGEND

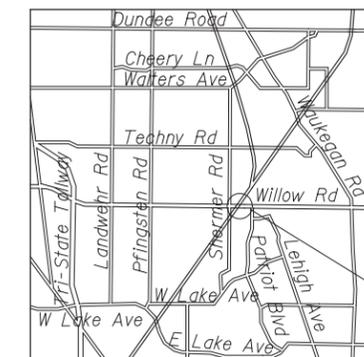
Soil boring location

* Existing utilities within the project limits are located based on the field survey. The exact elevations/locations of these utilities in the vertical direction are unknown (i.e., above or below the culverts). These utilities shall be protected or relocated by others. It shall be the Contractor's responsibility to field verify all locations and elevations of utilities prior to starting work. Any damage to the utilities caused by the Contractor in the performance of his/her work shall be repaired at no cost to the Owner.

** All slopes shall match existing conditions.



Signed Moussa A. Issa
Dr. Moussa A. Issa, S.E. Il. Lic. No. 081-005738
Expires 11-30-2014
Date 12/24/2012 For Sheets S1-01 Thru S1-10



LOCATION SKETCH

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DESIGNED - MI, LAB	REVISIONS
CHECKED - MI	REVISIONS
DRAWN - LAB, AI	REVISIONS
CHECKED - MAI, MI	REVISIONS

DATE - 12/24/2012	REVISIONS
-------------------	-----------

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION
6'x4' BOX CULVERT (S.N. 016-1392) - STA. 76 + 44.64**

SHEET NO. S1-01 OF S1-10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	27
CONTRACT NO. 60W04				

ILLINOIS FED. AID PROJECT

GENERAL NOTES

- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise.
- Reinforcement bars designated (E) shall be epoxy coated.
- Bars noted thus, 3 x 2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
- A distance of half the length of the wingwall, but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
- For "Stone Riprap, Class A4" and "Filter Fabric for use with Riprap" Bill of Material, see Roadway plans.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of the water diversion shall be subjected to the approval of the Engineer and the cost shall be included with the cost of concrete box culverts.
- The contractor shall salvage and re-erect the existing guardrail, and chain link fence.
- The removal and replacement may be required for the 6'x4' culvert barrel during the stage II construction. The limits and quantities of removal and replacement shown for the culvert barrel are based on the Boring CUL-02 data and may be modified during construction. The District Geotechnical and Field Engineers will identify limits and quantity for variable subsurface conditions encountered in the field.
- Precast culvert will not be allowed.

INDEX OF SHEETS

- S1-01 General Plan and Elevation
- S1-02 General Notes, Index of Sheets & Bill of Material
- S1-03 Stage Construction
- S1-04 Temporary Concrete Barrier
- S1-05 Plan & Elevation I
- S1-06 Plan & Elevation II
- S1-07 Sections and Details
- S1-08 Bar Splicer Assembly Details
- S1-09 Temporary Support System Plan, Sections and Details
- S1-10 Boring Logs

BILL OF MATERIAL

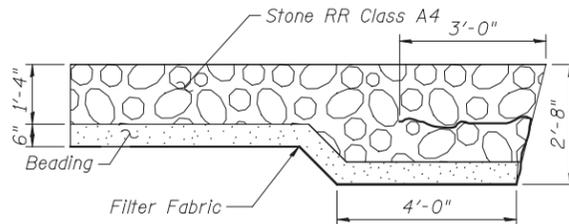
ITEM	UNIT	TOTAL
Removal of Disposal of Unsuitable Material	Cu. Yd.	649
Porous Granular Embankment	Cu. Yd.	537
Removal of Existing Structures No. 1	Each	1
Temporary Sheet Piling	Sq. Ft.	577

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Disposal of Unsuitable Material	Cu. Yd.	649
Porous Granular Embankment	Cu. Yd.	537
Removal of Existing Structures No. 1	Each	1
Reinforcement Bars, Epoxy Coated	Pound	23,690
Bar Splicers	Each	40
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	98.1
Temporary Sheet Piling	Sq. Ft.	577
Temporary Support System, Location 1	Each	1

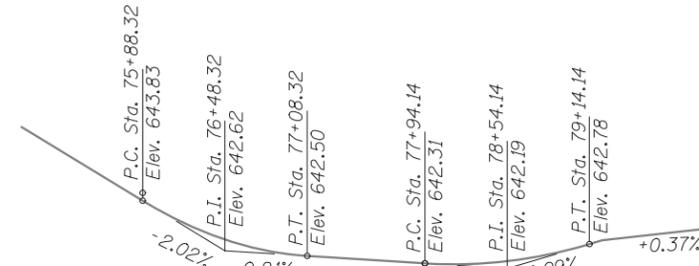
LEGEND

- Porous granular embankment
- 3/4" Scarification
- Concrete Removal

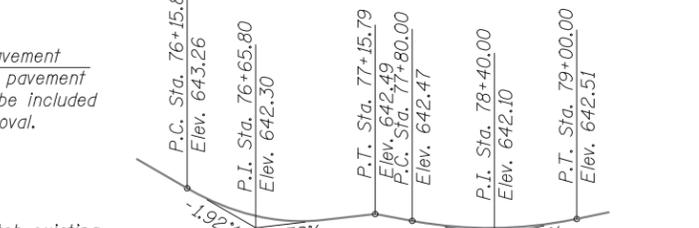


SECTION B-B

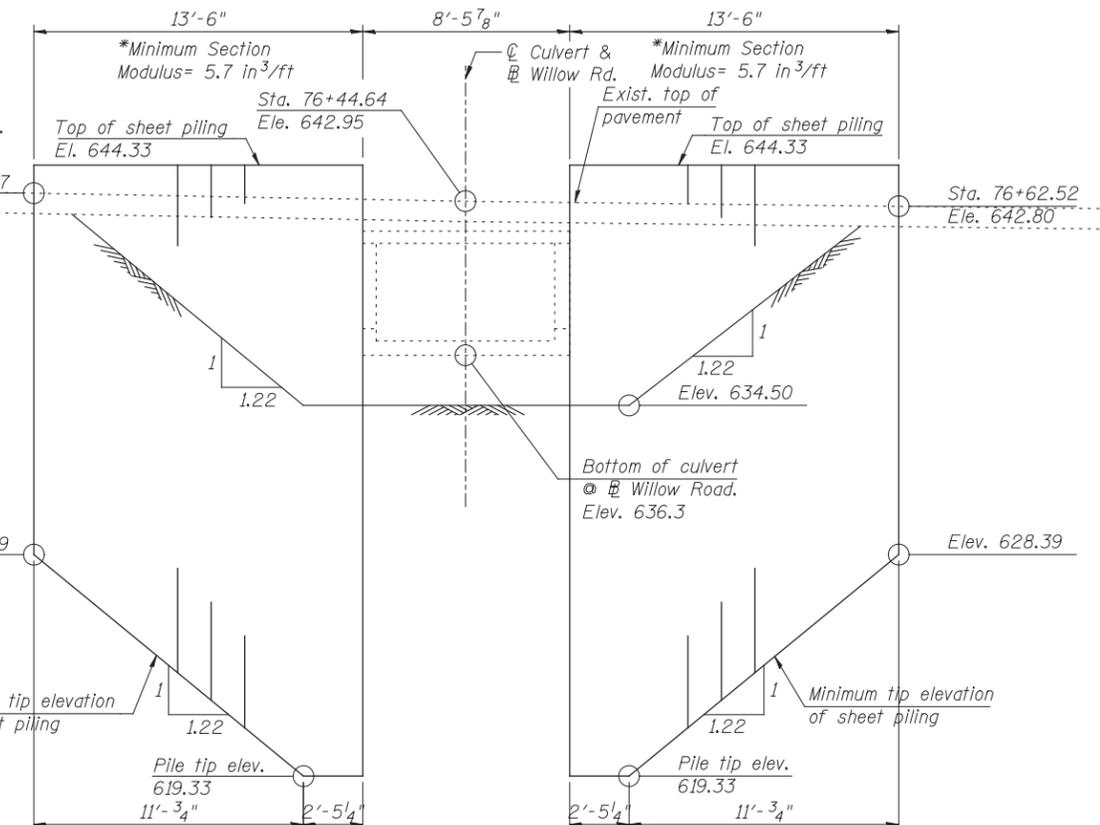
* If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans for lesser design requirements, then full design submittals with the required seals will be expected by the Department, for review and approval.



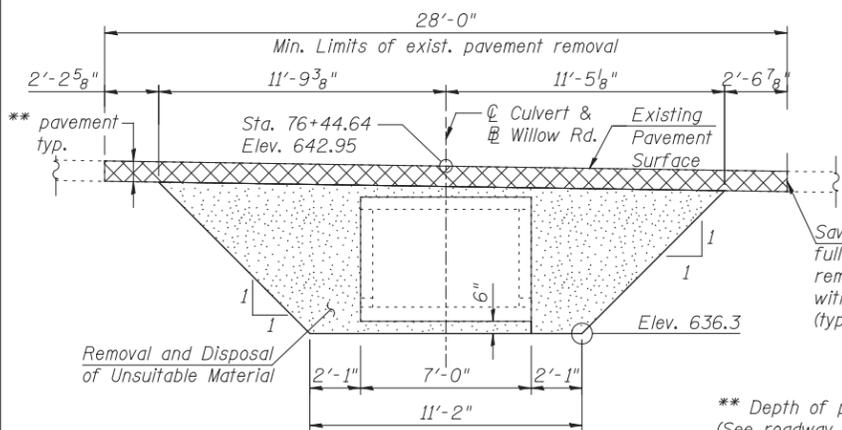
EASTBOUND PROFILE GRADE
(Willow Road)



WESTBOUND PROFILE GRADE
(Willow Road)

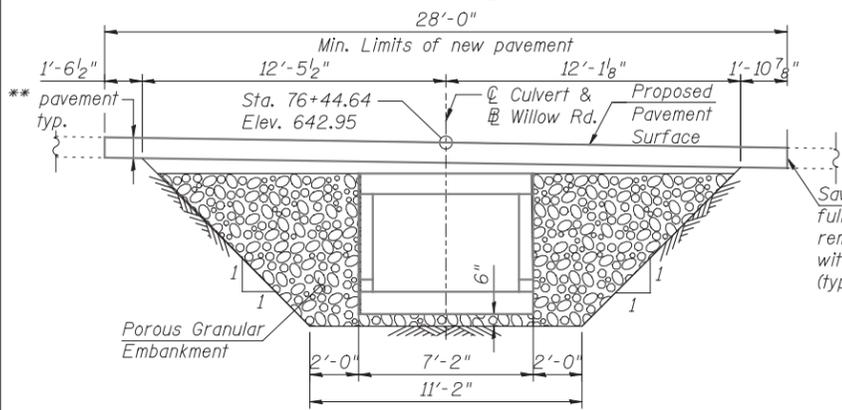


TEMPORARY SHEET PILING DESIGN



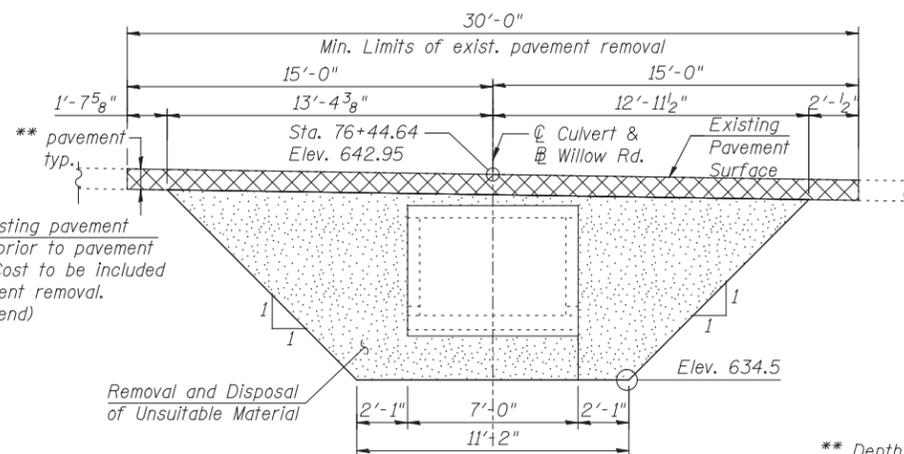
STAGE I REMOVAL CROSS SECTION

(All dimensions are perpendicular to \varnothing of culvert unless noted)



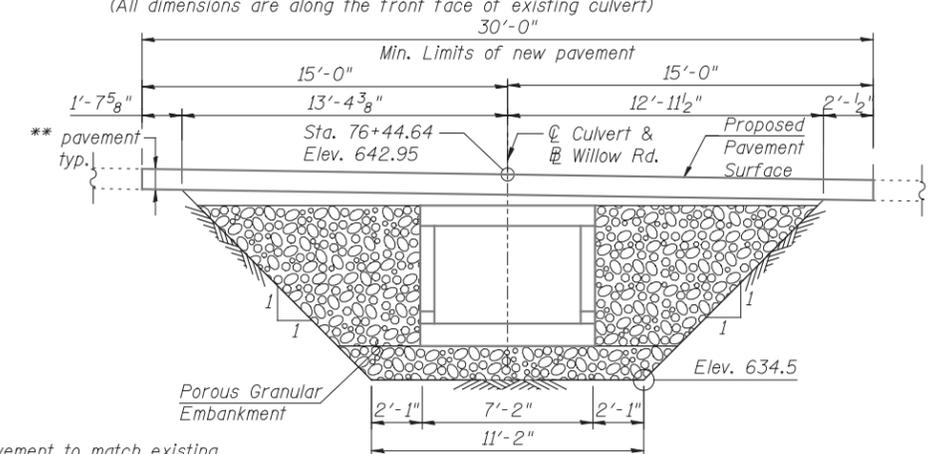
STAGE I CONST. CROSS SECTION

(All dimensions are perpendicular to \varnothing of culvert unless noted)



STAGE II REMOVAL CROSS SECTION

(All dimensions are perpendicular to \varnothing of culvert unless noted)



STAGE II CONST. CROSS SECTION

(All dimensions are perpendicular to \varnothing of culvert unless noted)

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DRAWN - LAB, WM
DATE - 12/24/2012

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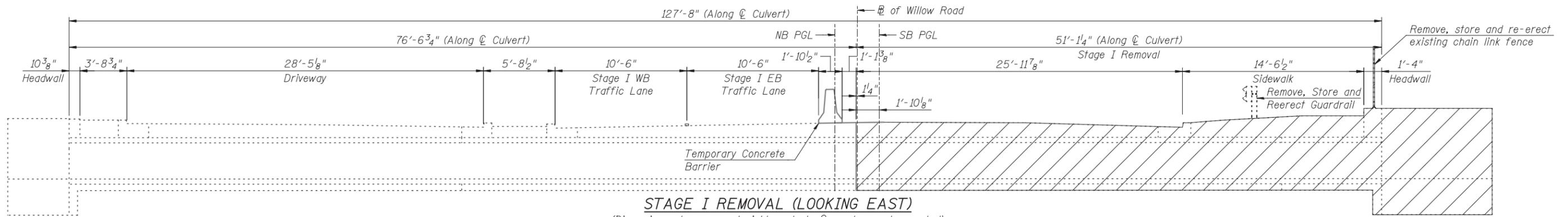
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS & BILL OF MATERIAL
6'x4' BOX CULVERT (S.N. 016-1392) - STA. 76 + 44.64

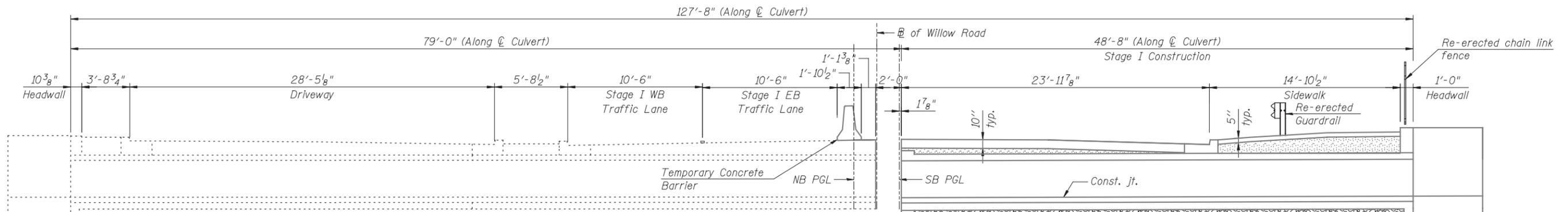
SHEET NO. S1-02 OF S1-10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	28

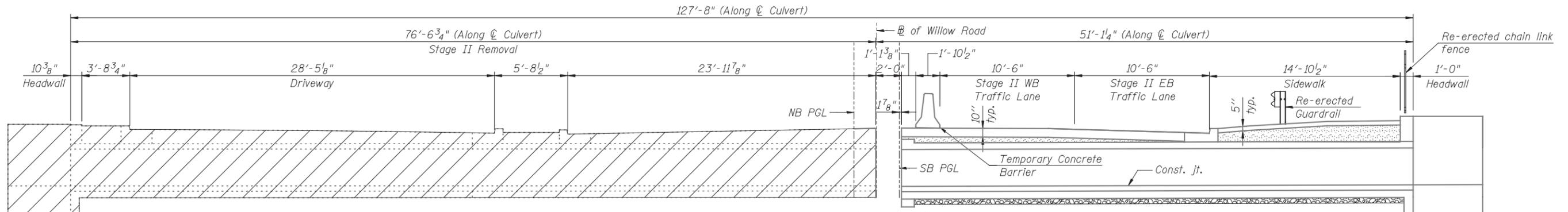
CONTRACT NO. 60W04
ILLINOIS FED. AID PROJECT



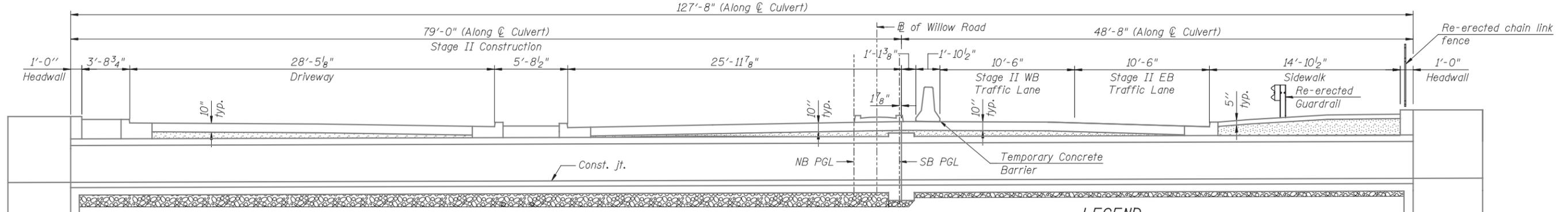
STAGE I REMOVAL (LOOKING EAST)
 (Dimensions shown are at right angle to \bar{C} roadway unless noted)



STAGE I CONSTRUCTION (LOOKING EAST)
 (Dimensions shown are at right angle to \bar{C} roadway unless noted)



STAGE II REMOVAL (LOOKING EAST)
 (Dimensions shown are at right angle to \bar{C} roadway unless noted)



STAGE II CONSTRUCTION (LOOKING EAST)
 (Dimensions shown are at right angle to \bar{C} roadway unless noted)

NOTES

1. For median removal and replacement, see roadway plans and details.
2. For details of Temporary Concrete Barrier, see Sheet S1-03.
3. For quantity of Temporary Concrete Barrier, see roadway plans.

LEGEND

- Removal of Existing Structure
- Soil fill below new slab

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 CHECKED - MAI, MI

REVISED -
 REVISED -
 REVISED -
 REVISED -

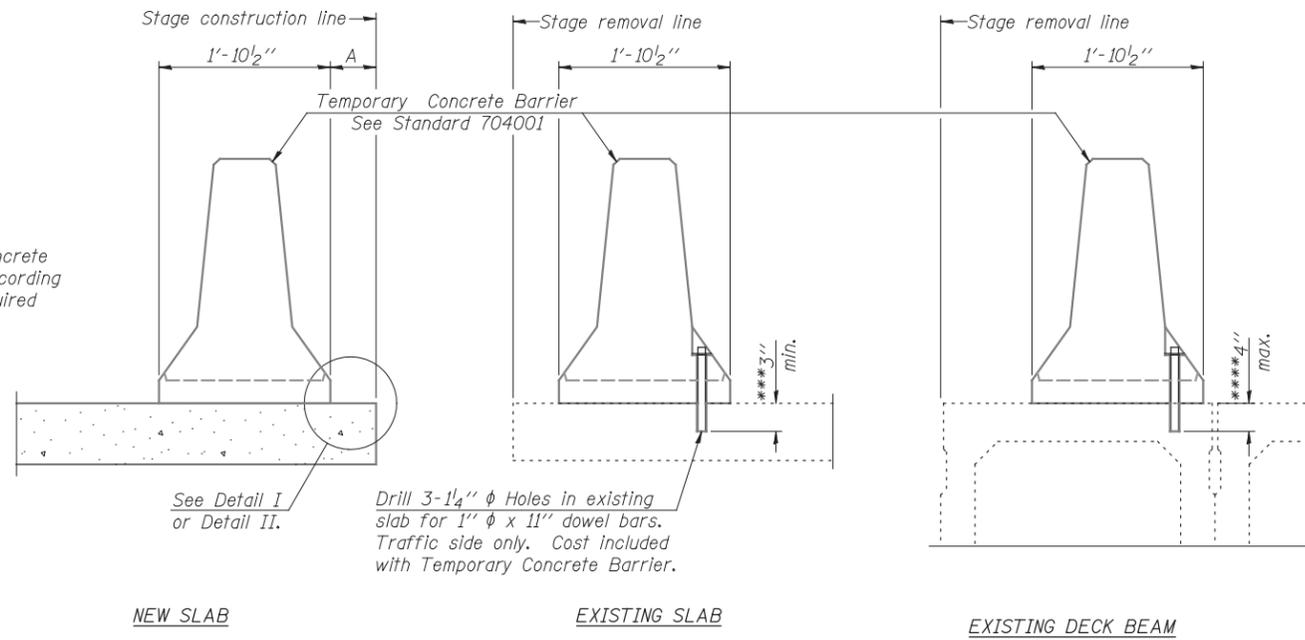
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION
 6'x4' BOX CULVERT (S.N. 016-1392) - STA. 76 + 44.64**

SHEET NO. S1-03 OF S1-10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	29
				CONTRACT NO. 60W04
ILLINOIS FED. AID PROJECT				

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".



Drill 3-1/4" ϕ Holes in existing slab for 1" ϕ x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

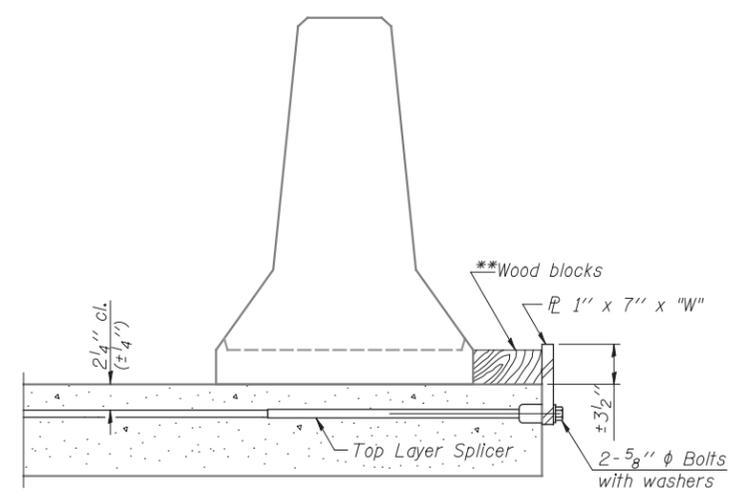
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" 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.

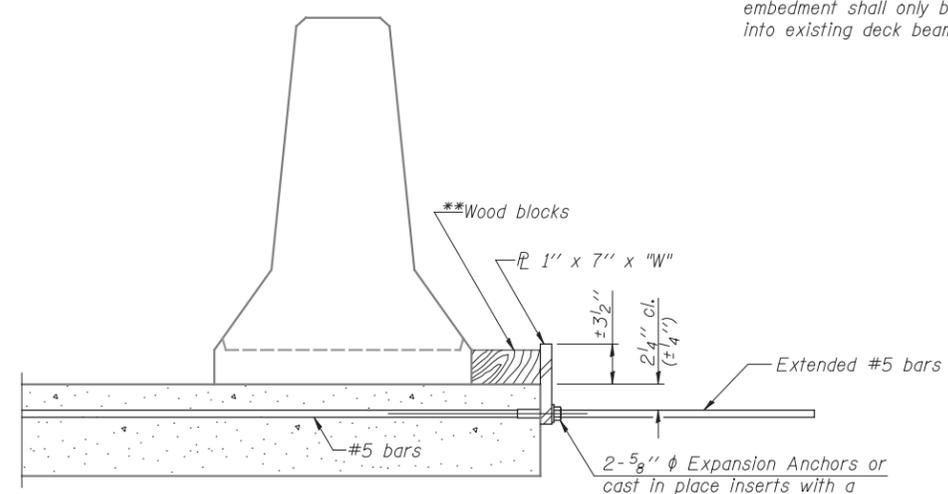
SECTIONS THRU SLAB OR DECK BEAM

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

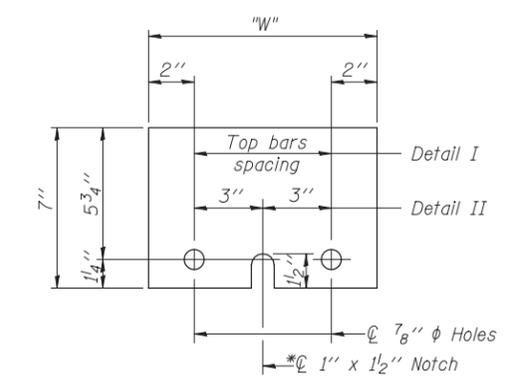
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{L} 1" x 7" x "W"

* Required only with Detail II

** 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.

"W" = Top bars spacing + 4"

R-27

7-1-10

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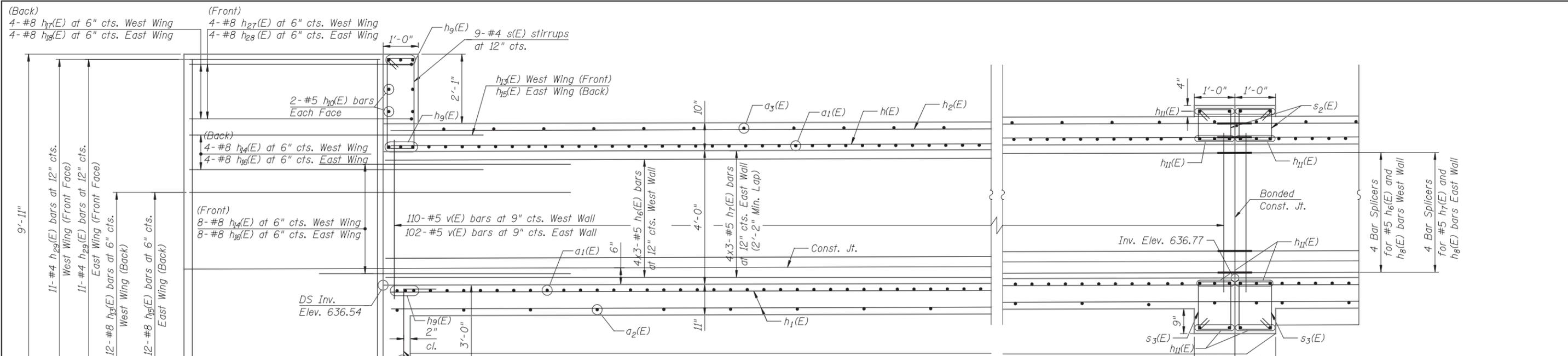
DESIGNED - LAB	REVISED -
CHECKED - MI	REVISED -
DRAWN - LAB	REVISED -
CHECKED - MAI, MI	REVISED -
DATE - 12/24/2012	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER
6'x4' BOX CULVERT (S.N. 016-1392) - STA. 76 + 44.64**

SHEET NO. S1-04 OF S1-10 SHEETS

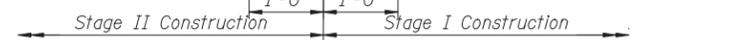
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	30
CONTRACT NO. 60W04			ILLINOIS FED. AID PROJECT	



ELEVATION

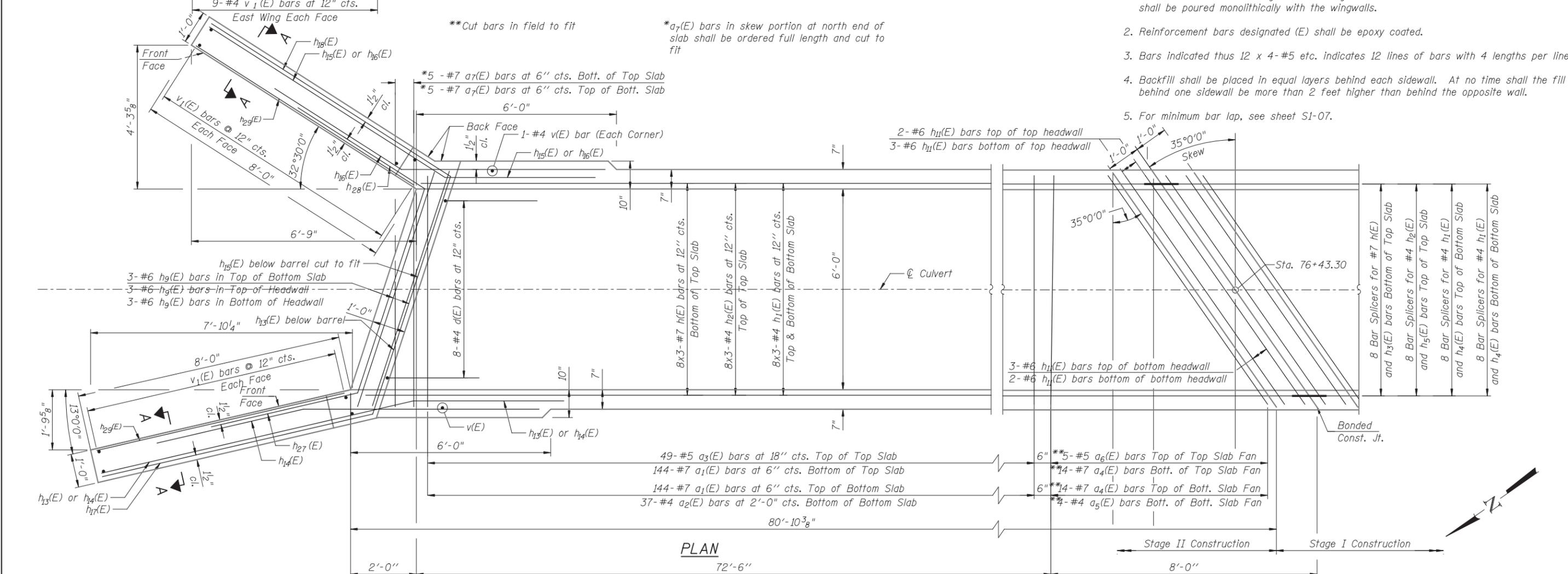
(Looking East)

(Dimensions shown are at right angle to \perp roadway unless noted)



NOTES

1. A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
4. Backfill shall be placed in equal layers behind each sidewall. At no time shall the fill behind one sidewall be more than 2 feet higher than behind the opposite wall.
5. For minimum bar lap, see sheet S1-07.



PLAN

72'-6"

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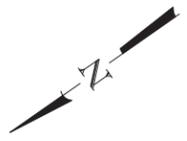
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CHECKED - MI
DRAWN - LAB, AI
DATE - 12/24/2012

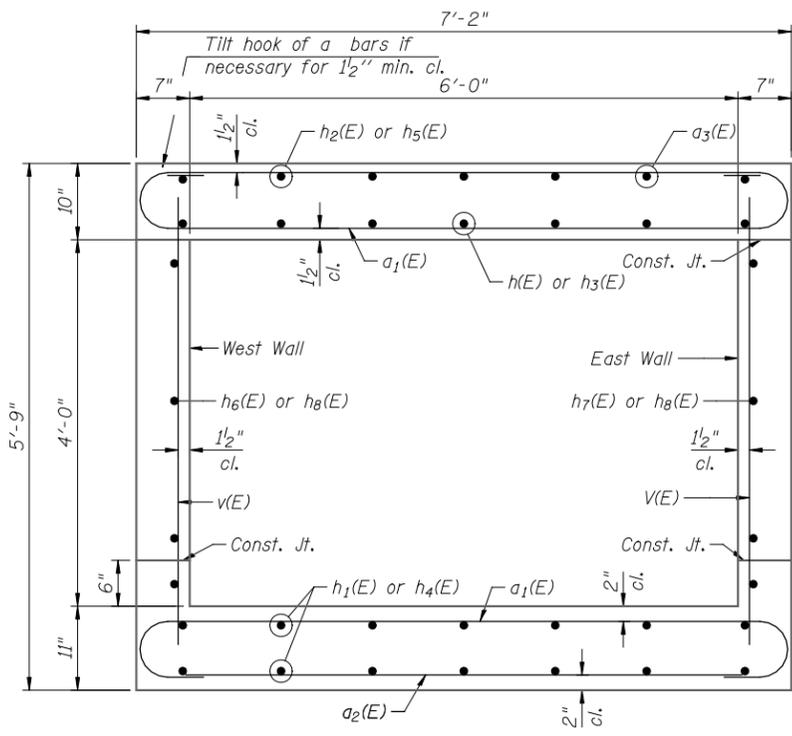
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION I
6'x4' BOX CULVERT (S.N. 016-1392) - STA. 76+44.64

SHEET NO. S1-05 OF S1-10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	31
CONTRACT NO. 60W04				
ILLINOIS FED. AID PROJECT				



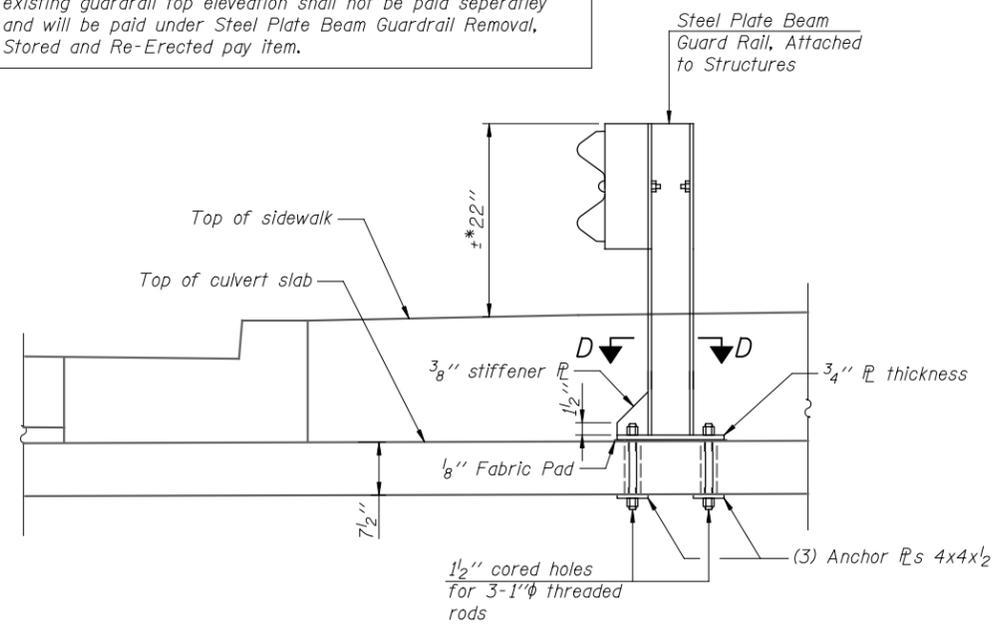


SECTION THRU BARREL

MINIMUM BAR LAPS

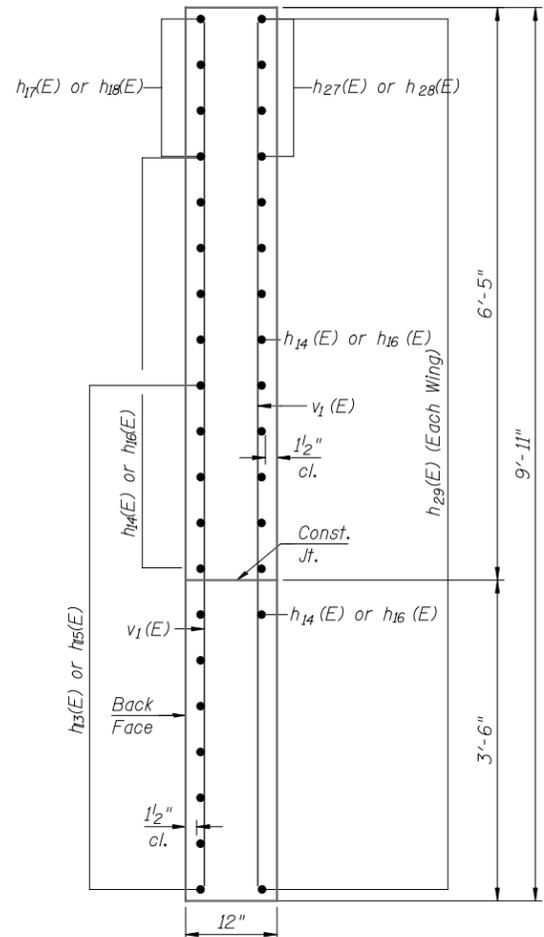
#4 Bar	1'-9"
#5 Bar	2'-2"
#6 Bar	2'-7"
#7 Bar	3'-5"
#8 Bar	4'-6"

Cost for Steel Plate Beam Guardrail Post connection to the top slab modification or replacement in kind to meet the top of existing guardrail top elevation shall not be paid separately and will be paid under Steel Plate Beam Guardrail Removal, Stored and Re-Erected pay item.

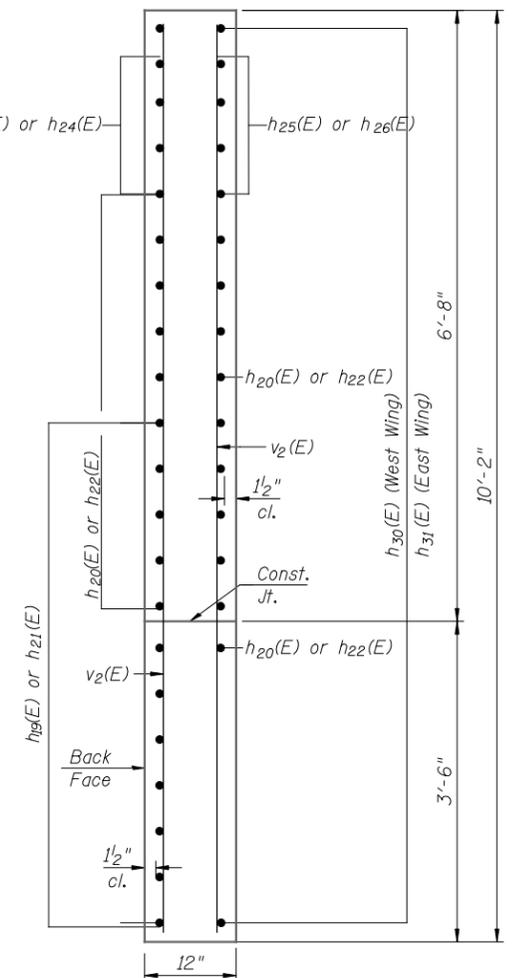


STEEL PLATE BEAM GUARD RAIL ATTACHED TO STRUCTURES

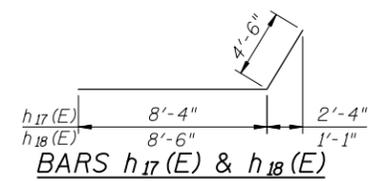
(Section shown at South end)



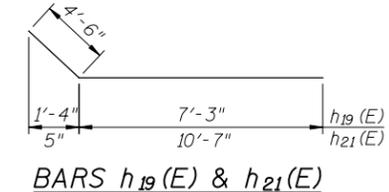
SECTION A-A



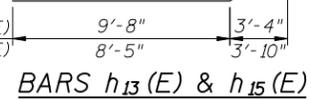
SECTION B-B



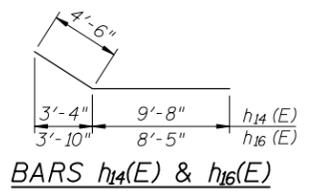
BARS h17(E) & h18(E)



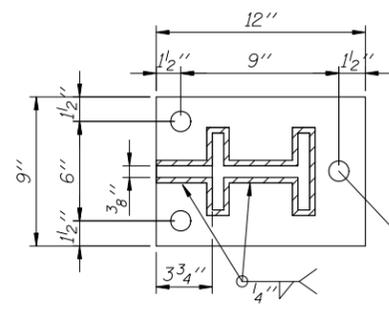
BARS h19(E) & h21(E)



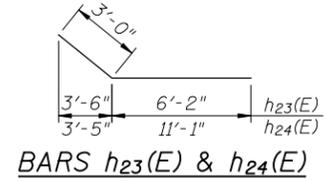
BARS h13(E) & h15(E)



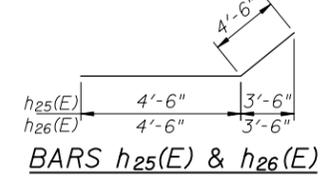
BARS h14(E) & h16(E)



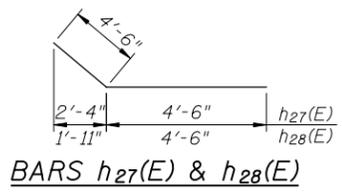
SECTION D-D



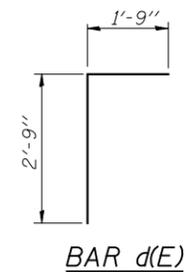
BARS h23(E) & h24(E)



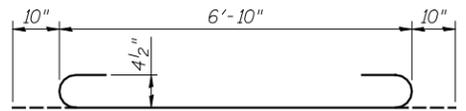
BARS h25(E) & h26(E)



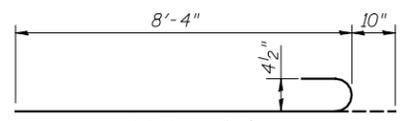
BARS h27(E) & h28(E)



BAR d(E)



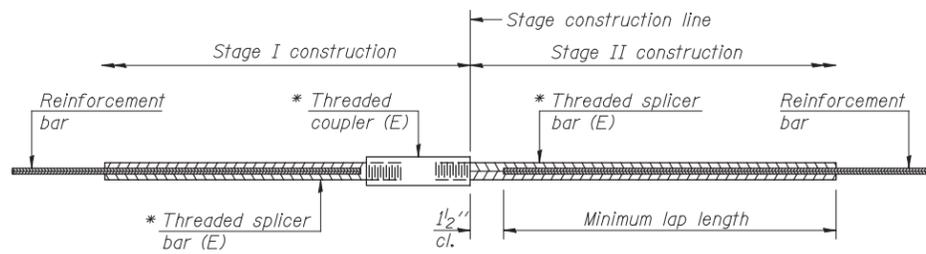
BAR a1(E)



BAR a4(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1(E)	452	#7	8'-6"	U
a2(E)	60	#4	6'-9"	—
a3(E)	77	#5	6'-9"	—
a4(E)	56	#7	9'-2"	U
a5(E)	8	#4	8'-0"	—
a6(E)	10	#5	8'-0"	—
a7(E)	28	#7	7'-4"	—
d(E)	16	#4	4'-6"	L
h(E)	24	#7	29'-6"	—
h1(E)	48	#4	28'-6"	—
h2(E)	24	#4	28'-6"	—
h3(E)	16	#7	25'-11"	—
h4(E)	32	#4	25'-1"	—
h5(E)	16	#4	25'-1"	—
h6(E)	12	#5	28'-10"	—
h7(E)	12	#5	25'-10"	—
h8(E)	16	#5	25'-3"	—
h9(E)	9	#6	7'-8"	—
h10(E)	4	#5	7'-8"	—
h11(E)	29	#6	8'-0"	—
h12(E)	6	#5	8'-0"	—
h13(E)	12	#8	14'-2"	—
h14(E)	12	#8	14'-2"	—
h15(E)	12	#8	12'-11"	—
h16(E)	12	#8	12'-11"	—
h17(E)	4	#8	12'-10"	—
h18(E)	4	#8	13'-0"	—
h19(E)	12	#8	11'-9"	—
h20(E)	12	#8	11'-9"	—
h21(E)	12	#8	15'-1"	—
h22(E)	12	#8	15'-1"	—
h23(E)	4	#8	10'-8"	—
h24(E)	4	#8	15'-7"	—
h25(E)	4	#8	9'-0"	—
h26(E)	4	#8	9'-0"	—
h27(E)	4	#8	9'-0"	—
h28(E)	4	#8	9'-0"	—
h29(E)	22	#4	8'-6"	—
h30(E)	11	#4	6'-6"	—
h31(E)	11	#4	10'-6"	—
s(E)	9	#4	7'-5"	U
s1(E)	10	#4	7'-11"	U
s2(E)	20	#4	4'-1"	U
s3(E)	20	#4	4'-11"	U
v(E)	348	#5	5'-5"	—
v1(E)	36	#4	9'-7"	—
v2(E)	38	#4	9'-10"	—
Reinforcement Bars, Epoxy Coated		Pound	23,730	
Concrete Box Culverts		Cu. Yd.	98.1	



STANDARD BAR SPLICER ASSEMBLY

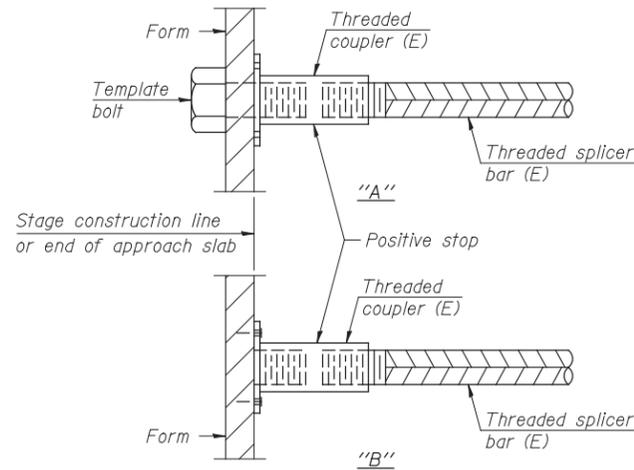
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

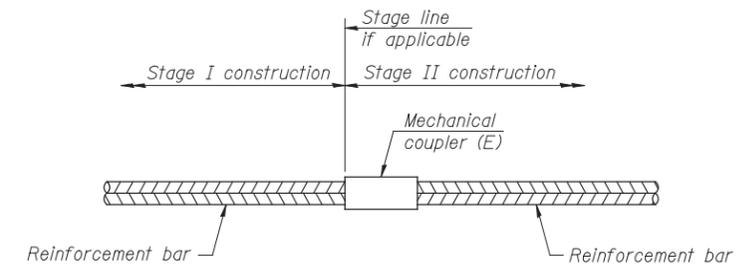
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Top of top slab	#4	8	
Bottom of top slab	#7	8	
Top of bottom slab	#7	8	
Bottom of bottom slab	#4	8	
West wall	#5	4	
East wall	#5	4	



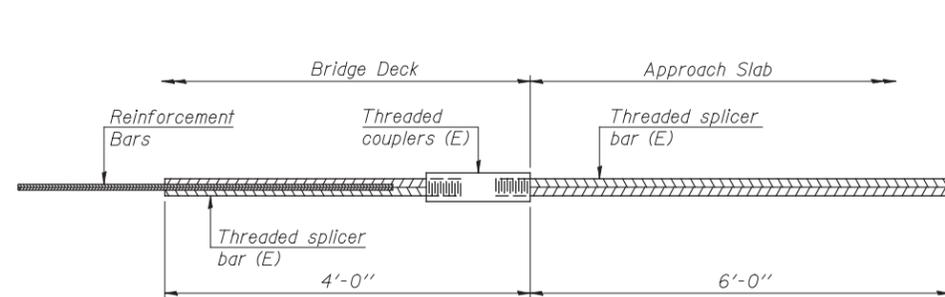
INSTALLATION AND SETTING METHODS

"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.



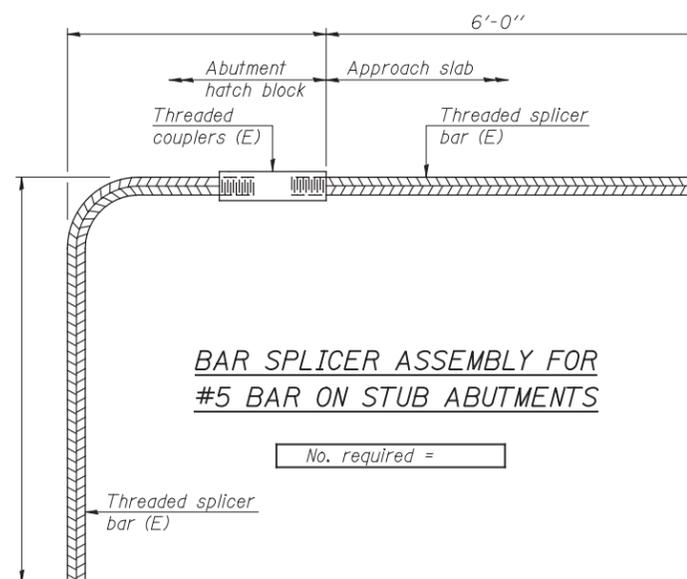
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Bar Splicers	Each	40

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-27-12

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CHECKED - MI	REVISED -
DRAWN - LAB, AI	REVISED -
CHECKED - MAI, MI	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY DETAILS
 6'x4' BOX CULVERT (S.N. 016-1392) - STA. 76 + 44.64**

SHEET NO. S1-08 OF S1-10 SHEETS

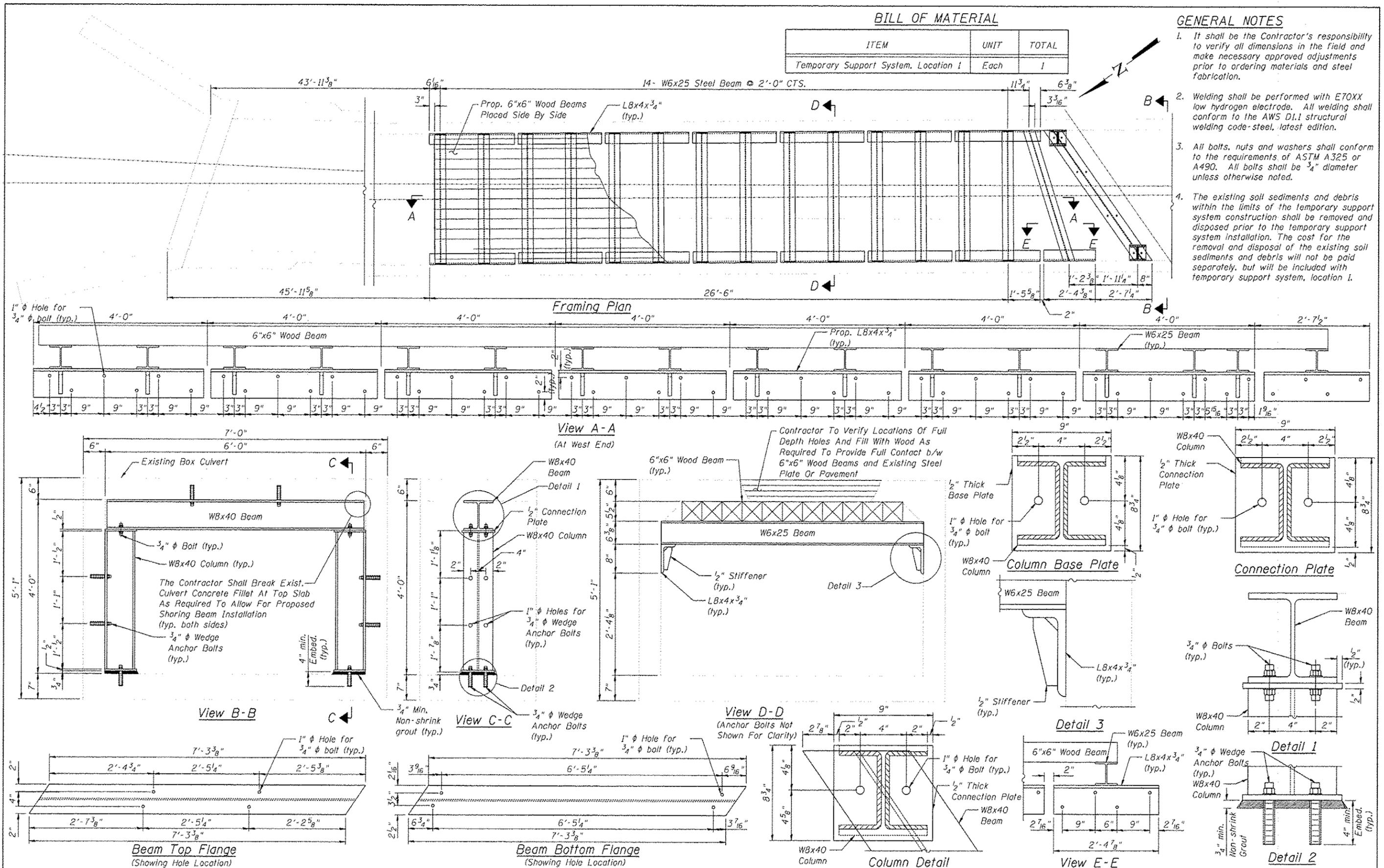
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	34
CONTRACT NO. 60W04				
ILLINOIS FED. AID PROJECT				

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Temporary Support System, Location 1	Each	1

GENERAL NOTES

1. It shall be the Contractor's responsibility to verify all dimensions in the field and make necessary approved adjustments prior to ordering materials and steel fabrication.
2. Welding shall be performed with E70XX low hydrogen electrode. All welding shall conform to the AWS D1.1 structural welding code-steel, latest edition.
3. All bolts, nuts and washers shall conform to the requirements of ASTM A325 or A490. All bolts shall be 3/4" diameter unless otherwise noted.
4. The existing soil sediments and debris within the limits of the temporary support system construction shall be removed and disposed prior to the temporary support system installation. The cost for the removal and disposal of the existing soil sediments and debris will not be paid separately, but will be included with temporary support system, location 1.



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DRAWN - JJS, AI	REVISIONS -
CHECKED - MAI, MI	REVISIONS -

DATE - 12/24/2012

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TEMPORARY SUPPORT SYSTEM PLAN, SECTIONS AND DETAILS
 6'x4' BOX CULVERT (S.N. 016-1392) - STA. 76+44.64**

F.A.P. RTE. 305	SECTION 1920.01-B-R	COUNTY COOK	TOTAL SHEETS 60	SHEET NO. 35
CONTRACT NO. 60W04			ILLINOIS FED. AID PROJECT	

SHEET NO. S1-09 OF S1-10 SHEETS



BORING LOG CUL-01

Page 1 of 1

wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

WEI Job No.: 616-02-01

Client: **Millenia Professional Services of Illinois**
Project: **Willow Road Culvert Replacement**
Location: **Cook County**

Datum: NGVD
Elevation: 644.36 ft
North: 1981409.29 ft
East: 1121411.58 ft
Station: 75+95.95
Offset: 65.74 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Cu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Cu (tsf)	Moisture Content (%)
	644.3	31-inch thick ASPHALT													
	643.9	--PAVEMENT--													
		Dark brown GRAVELLY LOAM		1	3 5 5	3.64	17								
		Very stiff, brown CLAY LOAM, trace gravel													
	641.4	--FILL--													
		Stiff, brown SILTY CLAY, trace organics		2	2 2 2	1.23	24								
			5												
				3	0 3 6	1.80	38								
	636.4														
		Stiff to hard, gray SILTY CLAY LOAM, trace gravel		4	4 6 8	5.17	19								
			10												
				5	4 6 6	1.80	20								
				6	3 4 6	1.72	19								
			15												
				7	4 5 7	2.05	18								
				8	4 5 7	2.30	18								
	624.4		20												
		Boring terminated at 20.00 ft													

GENERAL NOTES

Begin Drilling: **12-11-2012** Complete Drilling: **12-11-2012**
 Drilling Contractor: **Wang Testing Services** Drill Rig: **B-57 TMR**
 Driller: **R&F** Logger: **D. Kolpacki** Checked by: _____
 Drilling Method: **2.25-inch SSA; backfilled upon completion**

WATER LEVEL DATA

While Drilling: **DRY**
 At Completion of Drilling: **DRY**
 Time After Drilling: **NA**
 Depth to Water: **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENG INC 6160201 GPJ WANGENG GDT 12/19/12



BORING LOG CUL-02

Page 1 of 1

wangeng@wangeng.com
1145 N Main Street
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Telephone: 630 953-9928
Fax: 630 953-9938

WEI Job No.: 616-02-01

Client: **Millenia Professional Services of Illinois**
Project: **Willow Road Culvert Replacement**
Location: **Cook County**

Datum: NGVD
Elevation: 642.53 ft
North: 1981517.41 ft
East: 1121505.84 ft
Station: 76+90.04
Offset: 42.54 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Cu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Cu (tsf)	Moisture Content (%)
	641.7	10-inch, thick CONCRETE													
		--PAVEMENT--													
		20-inch thick, loose, white and brown CRUSHED STONE		1	3 4 3	NP	8								
	640.0	--BASE COURSE--													
		Soft, dark brown and gray SILTY LOAM to SILTY CLAY LOAM, trace gravel and organics		2	2 1 1	NA									
			5												
				3	1 2 3	0.33	11								
	634.5														
		Stiff to very stiff, brown and gray SILTY CLAY LOAM, trace gravel		4	5 8 10	3.64	16								
			10												
				5	3 5 5	2.13	19								
				6	3 5 8	2.21	15								
			15												
				7	4 5 7	2.21	18								
				8	4 3 5	1.56	19								
	622.5		20												
		Boring terminated at 20.00 ft													

GENERAL NOTES

Begin Drilling: **12-11-2012** Complete Drilling: **12-11-2012**
 Drilling Contractor: **Wang Testing Services** Drill Rig: **B-57 TMR**
 Driller: **R&F** Logger: **D. Kolpacki** Checked by: _____
 Drilling Method: **2.25-inch SSA; backfilled upon completion**

WATER LEVEL DATA

While Drilling: **DRY**
 At Completion of Drilling: **DRY**
 Time After Drilling: **NA**
 Depth to Water: **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENG INC 6160201 GPJ WANGENG GDT 12/19/12



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CHECKED - MI	REVISED -
DRAWN - WM	REVISED -
CHECKED - MAI, MI	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
6'x4' BOX CULVERT (S.N. 016-1392) - STA. 76 + 44.64

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	36
CONTRACT NO. 60W04			ILLINOIS FED. AID PROJECT	

SHEET NO. S1-10 OF S1-10 SHEETS

DATE - 12/24/2012

Benchmark: Set at sta. 75+17.70, 39.62 Rt., Elev. 645.47 "x" located on existing sidewalk southwest corner of existing entrance west of the 6'x4' culvert.

Exist. Structure: Originally built in 1942 with a length of 79'-9" and was extended to the south in a rehabilitation project to be approximately 88'-6" long (sta. 78+69.39). It is a single cell cast-in-place reinforced concrete box culvert with 4' span x 2'-6" rise and a 35° skew angle. Structure to be removed and replaced. One lane of traffic shall be maintained in each bound at all times utilizing stage construction.

Salvage: Existing steel plate beam guardrail and chain link fence.

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition, with 2012 Interims

LOADING HL-93

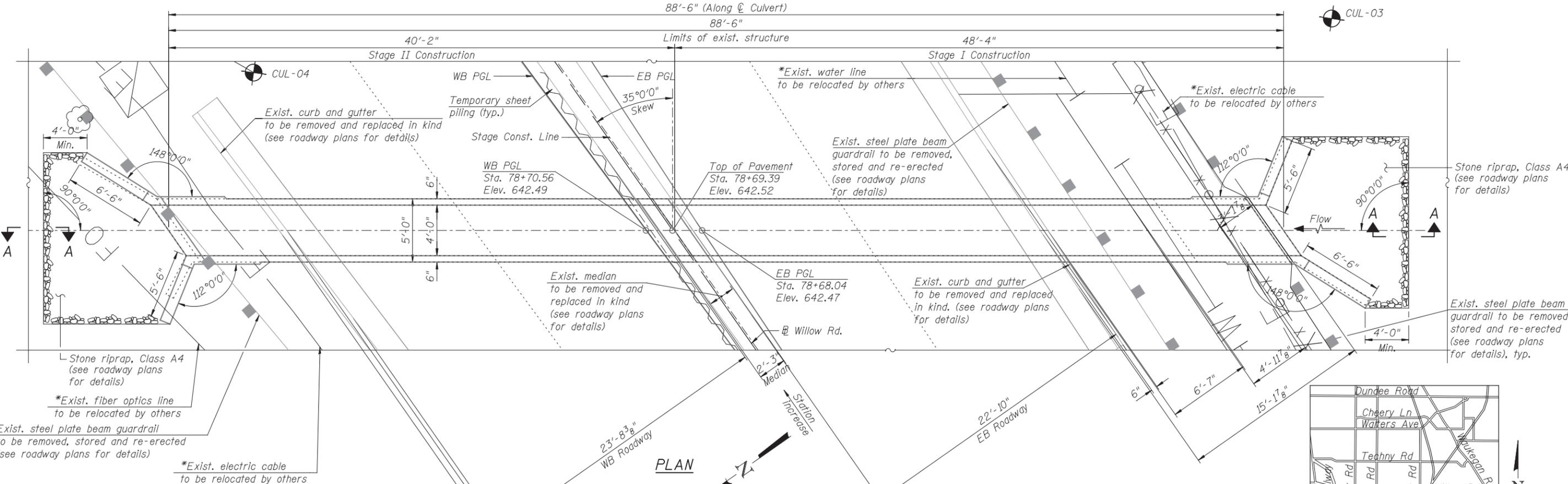
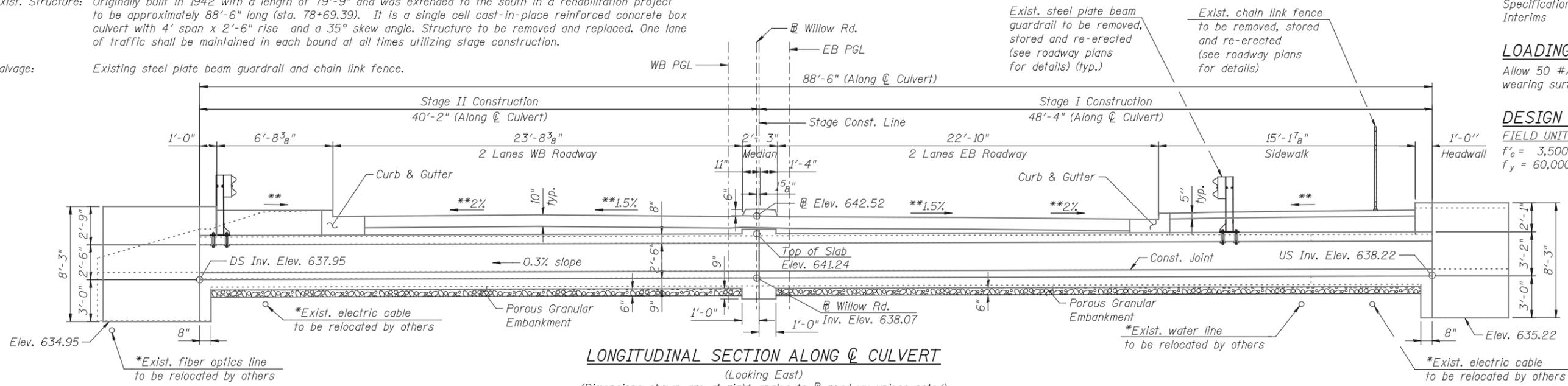
Allow 50 #/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS
 f'c = 3,500 psi (Concrete)
 fy = 60,000 psi (Reinforcement)

LEGEND

Soil boring location



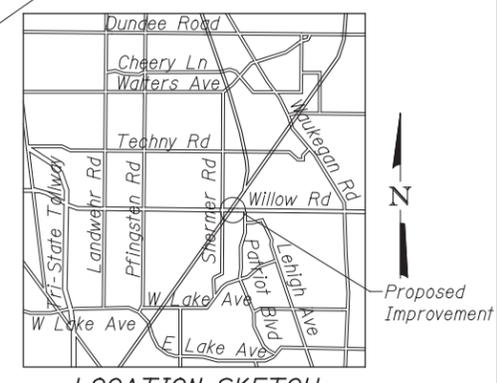
* Existing utilities within the project limits are located based on the field survey. The exact elevations/locations of these utilities in the vertical direction are unknown (i.e., above or below the culverts). These utilities shall be protected or relocated by others. It shall be the Contractor's responsibility to field verify all locations and elevations of utilities prior to starting work. Any damage to the utilities caused by the Contractor in the performance of his/her work shall be repaired at no cost to the Owner.

** All slopes shall match existing conditions

- NOTE:**
1. For General Notes, Index of Sheets and Total Bill of Material, see Sheet S2-02.
 2. For Section A-A, see Sheet S2-02.
 3. Precast culvert will not be allowed.
 4. For the westbound and eastbound profile grade lines, see Sheet S2-02.



Signed *Moussa A. Issa*
 Dr. Moussa A. Issa, S.E. Il. Lic. No. 081-005738
 Expires 11-30-2014
 Date 12/24/2012 For Sheets S2-01 Thru S2-10



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CHECKED - MI	REVISIONS
DRAWN - WM, AI	REVISIONS
CHECKED - MAI, MI	REVISIONS

DATE - 12/24/2012	REVISIONS
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
BOX CULVERT (4'-0" x 2'-6") - STA. 78 + 69.39

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	37
CONTRACT NO. 60W04				

ILLINOIS FED. AID PROJECT

GENERAL NOTES

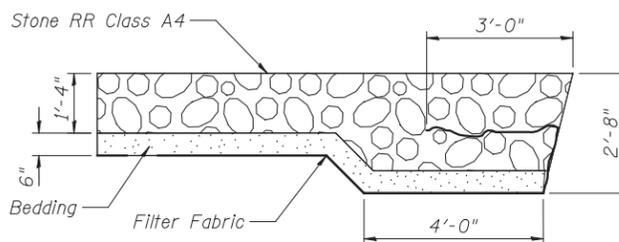
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise.
- Reinforcement bars designated (E) shall be epoxy coated.
- Bars noted thus, 3 x 2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
- A distance of half the length of the wingwall, but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
- For "Stone Riprap, Class A4" and "Filter Fabric for use with Riprap" Bill of Material, see Roadway plans.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of the water diversion shall be subjected to the approval of the Engineer and the cost shall be included with the cost of concrete box culverts.
- The contractor shall salvage and re-erect the existing guardrail, and chain link fence.
- Precast culvert will not be allowed.

INDEX OF SHEETS

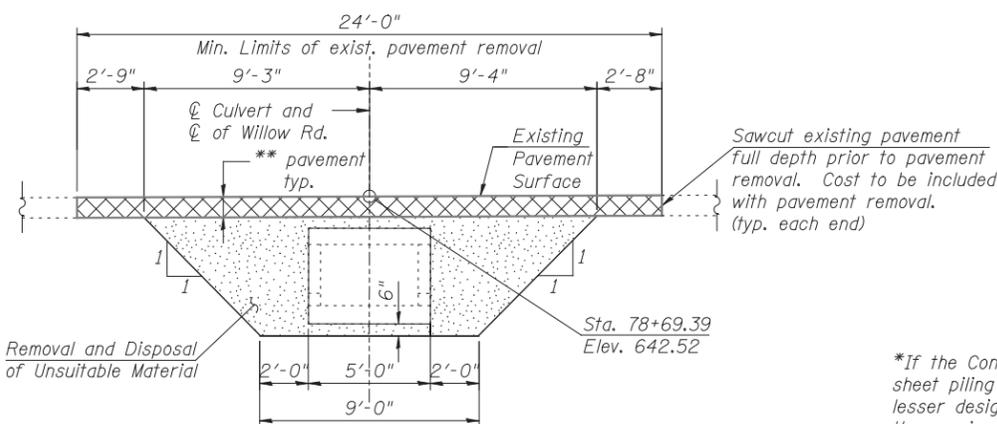
- S2-01 General Plan and Elevation
- S2-02 General Notes, Index of Sheets & Bill of Material
- S2-03 Stage Construction
- S2-04 Temporary Concrete Barrier
- S2-05 Plan & Elevation I
- S2-06 Plan & Elevation II
- S2-07 Sections and Details
- S2-08 Bar Splicer Assembly Details
- S2-09 Temporary Support System Plan, Sections and Details
- S2-10 Boring Logs

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	273
Porous Granular Embankment	Cu. Yd.	224
Removal of Existing Structures No. 2	Each	1
Reinforcement Bars, Epoxy Coated	Pound	9,810
Bar Splicers	Each	30
Concrete Box Culverts	Cu. Yd.	40.4
Temporary Sheet Piling	Sq. Ft.	280
Temporary Support System, Location 2	Each	1

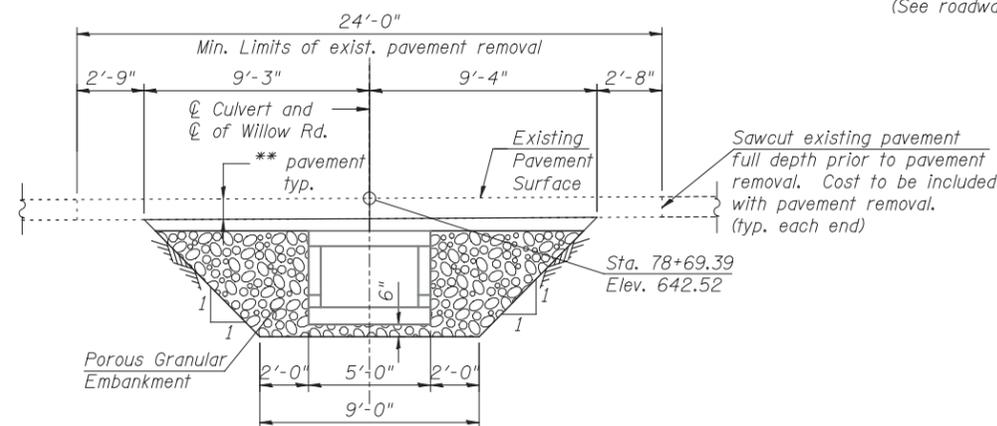


SECTION A-A



STAGE I REMOVAL CROSS SECTION

(All dimensions are perpendicular to C of culvert unless noted)

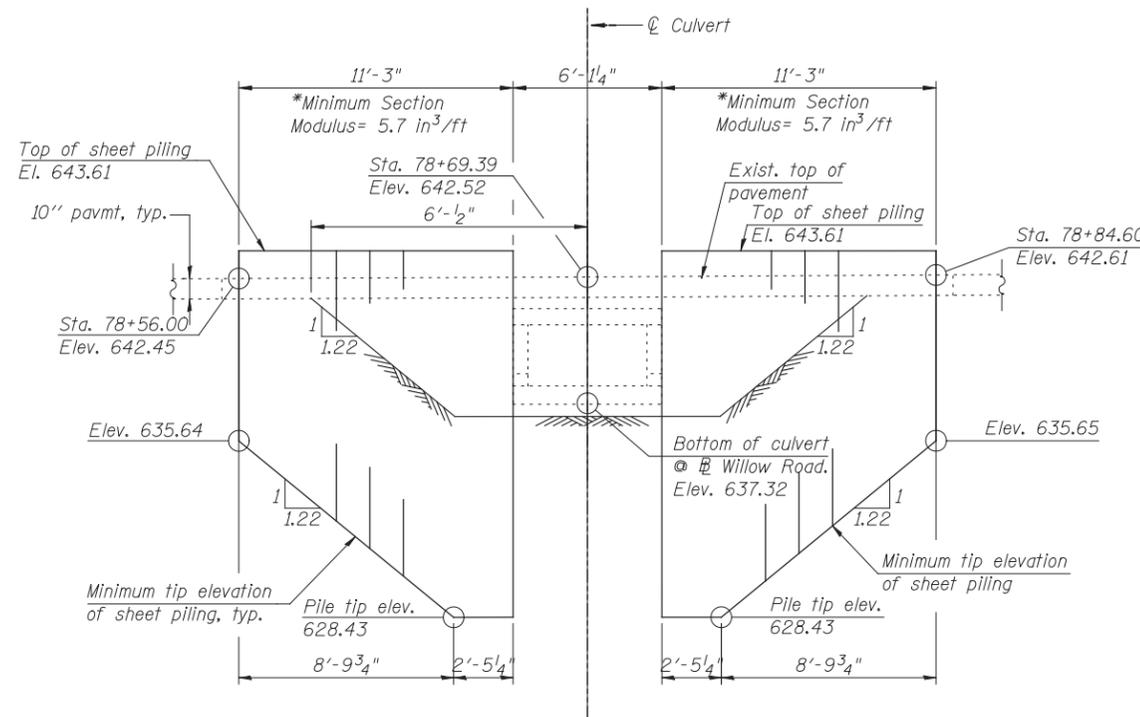


STAGE I CONST. CROSS SECTION

(All dimensions are perpendicular to C of culvert unless noted)

*If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans for lesser design requirements, then full design submittals with the required seals will be expected by the Department, for review and approval

** Depth of pavement to match existing (See roadway plans for details)

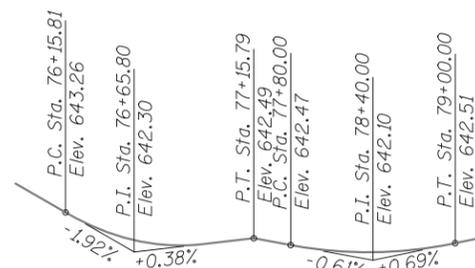


TEMPORARY SHEET PILING DESIGN

(All dimensions are along the front face of existing culvert)

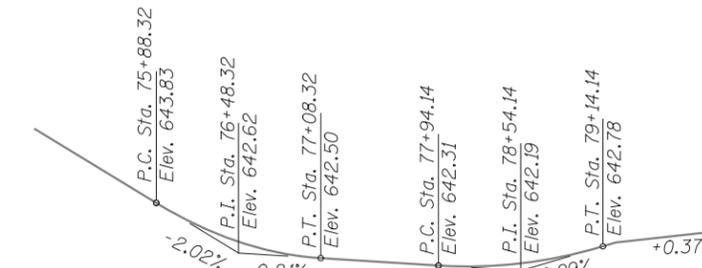
BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	273
Porous Granular Embankment	Cu. Yd.	224
Removal of Existing Structures No. 2	Each	1
Temporary Sheet Piling	Sq. Ft.	280



WESTBOUND PROFILE GRADE

(Willow Road)



EASTBOUND SOUTH PROFILE GRADE

(Willow Road)

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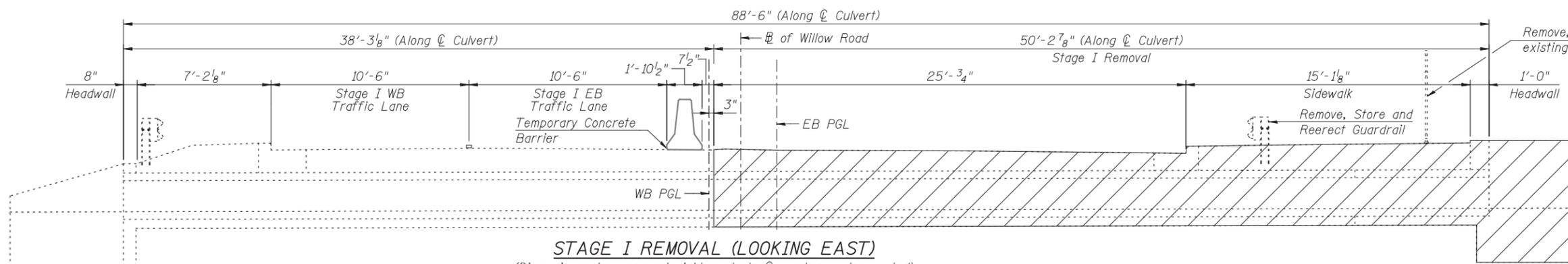
DESIGNED - MI, JJS	REVISIONS
CHECKED - MI	REVISIONS
DRAWN - LAB, WM	REVISIONS
CHECKED - MAI, MI	REVISIONS
DATE - 12/24/2012	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, INDEX OF SHEETS & BILL OF MATERIAL
BOX CULVERT (4'-0" x 2'-6") - STA. 78 + 69.39**

SHEET NO. S2-02 OF S2-10 SHEETS

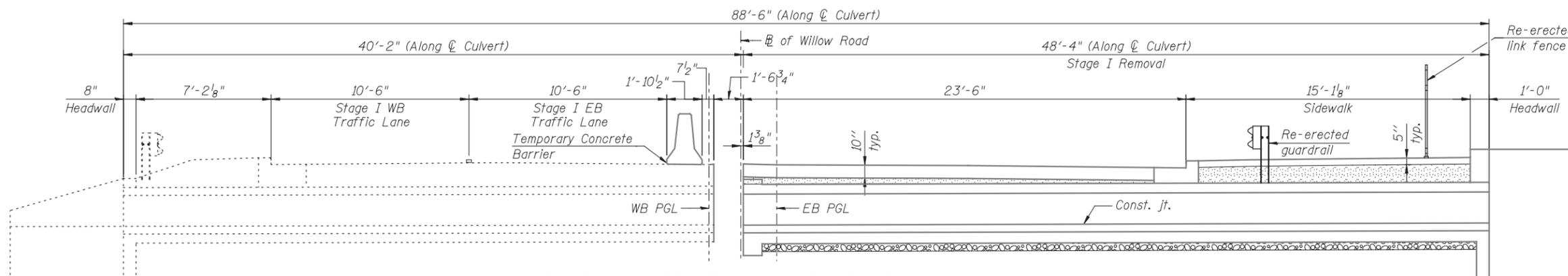
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	38
			CONTRACT NO. 60W04	
ILLINOIS FED. AID PROJECT				



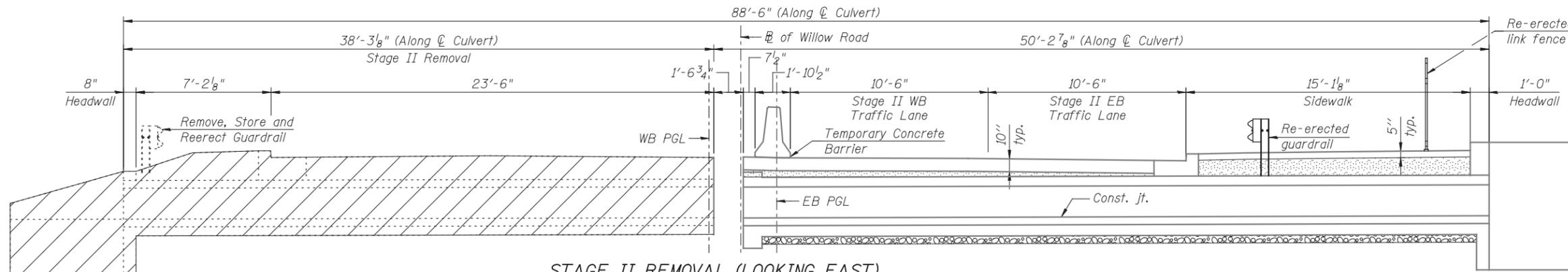
STAGE I REMOVAL (LOOKING EAST)
 (Dimensions shown are at right angle to \bar{C} roadway unless noted)

- NOTES**
1. For median removal and replacement, see roadway plans and details.
 2. For details of Temporary Concrete Barrier, see Sheet S1-03.
 3. For quantity of Temporary Concrete Barrier, see roadway plans.

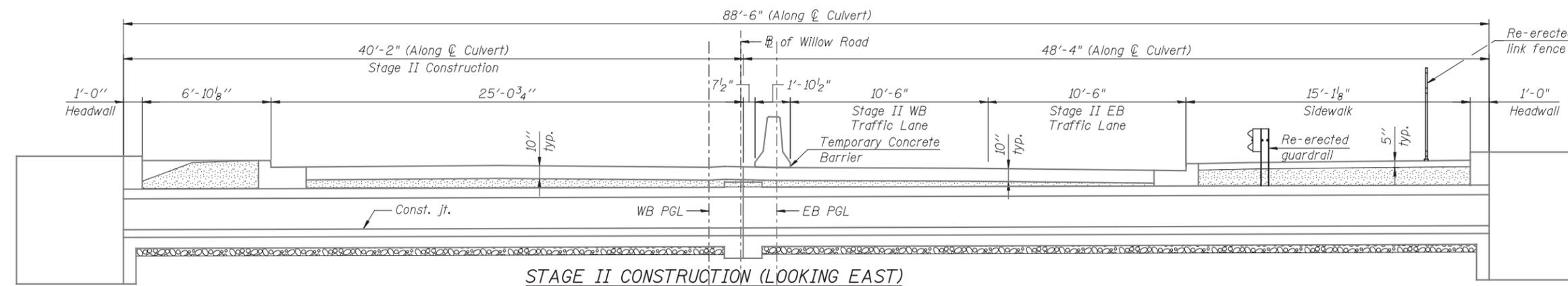
- LEGEND**
- Removal of Existing Structure
 - Soil fill below new slab



STAGE I CONSTRUCTION (LOOKING EAST)
 (Dimensions shown are at right angle to \bar{C} roadway unless noted)



STAGE II REMOVAL (LOOKING EAST)
 (Dimensions shown are at right angle to \bar{C} roadway unless noted)



STAGE II CONSTRUCTION (LOOKING EAST)
 (Dimensions shown are at right angle to \bar{C} roadway unless noted)

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CHECKED - MI	REVISED -
DRAWN - WM, LAB	REVISED -
CHECKED - MAI, MI	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

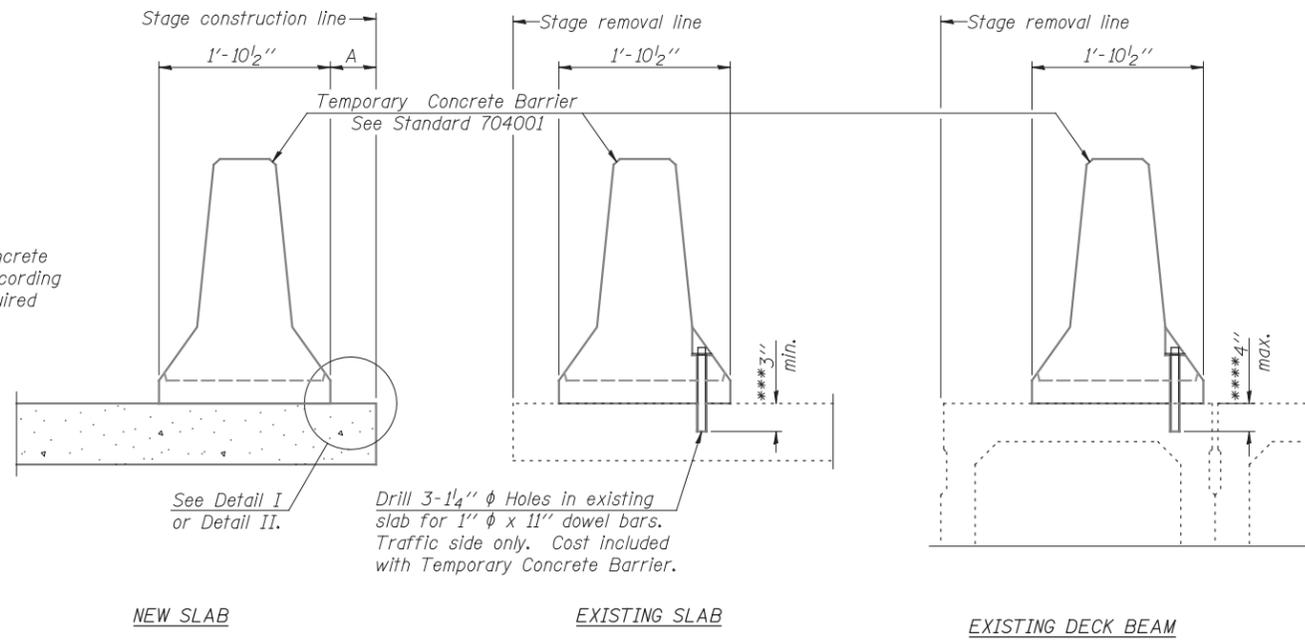
STAGE CONSTRUCTION
BOX CULVERT (4'-0" x 2'-6") - STA. 78 + 69.39

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	39
CONTRACT NO. 60W04			ILLINOIS FED. AID PROJECT	

SHEET NO. S2-03 OF S2-10 SHEETS

DATE - 12/24/2012

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".



Drill 3-1/4" ϕ Holes in existing slab for 1" ϕ x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

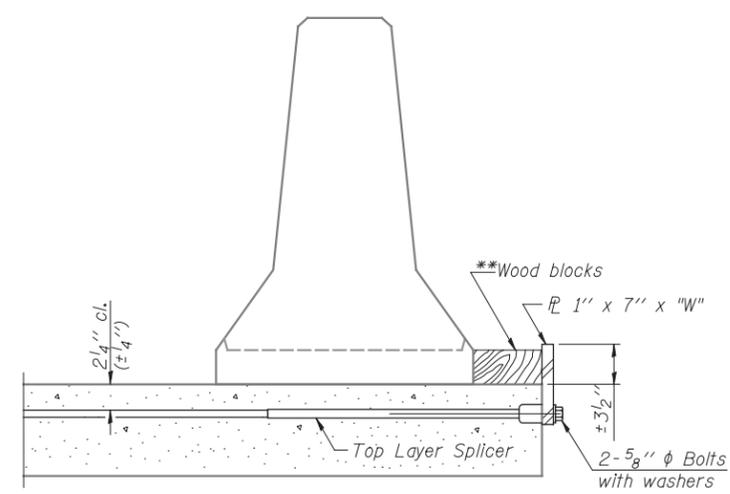
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" 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.

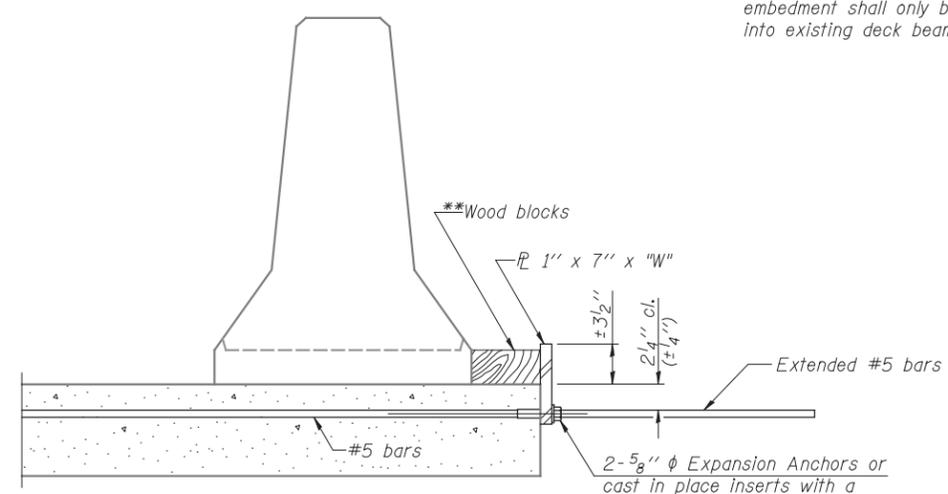
SECTIONS THRU SLAB OR DECK BEAM

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



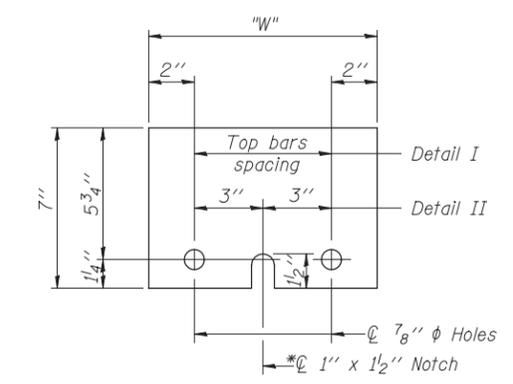
DETAIL I



DETAIL II

** 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.

"W" = Top bars spacing + 4"



STEEL RETAINER \bar{L} 1" x 7" x "W"
* Required only with Detail II

R-27

7-1-10

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DESIGNED - LAB	REVISED -
CHECKED - MI	REVISED -
DRAWN - LAB	REVISED -
CHECKED - MAI, MI	REVISED -
DATE - 12/24/2012	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

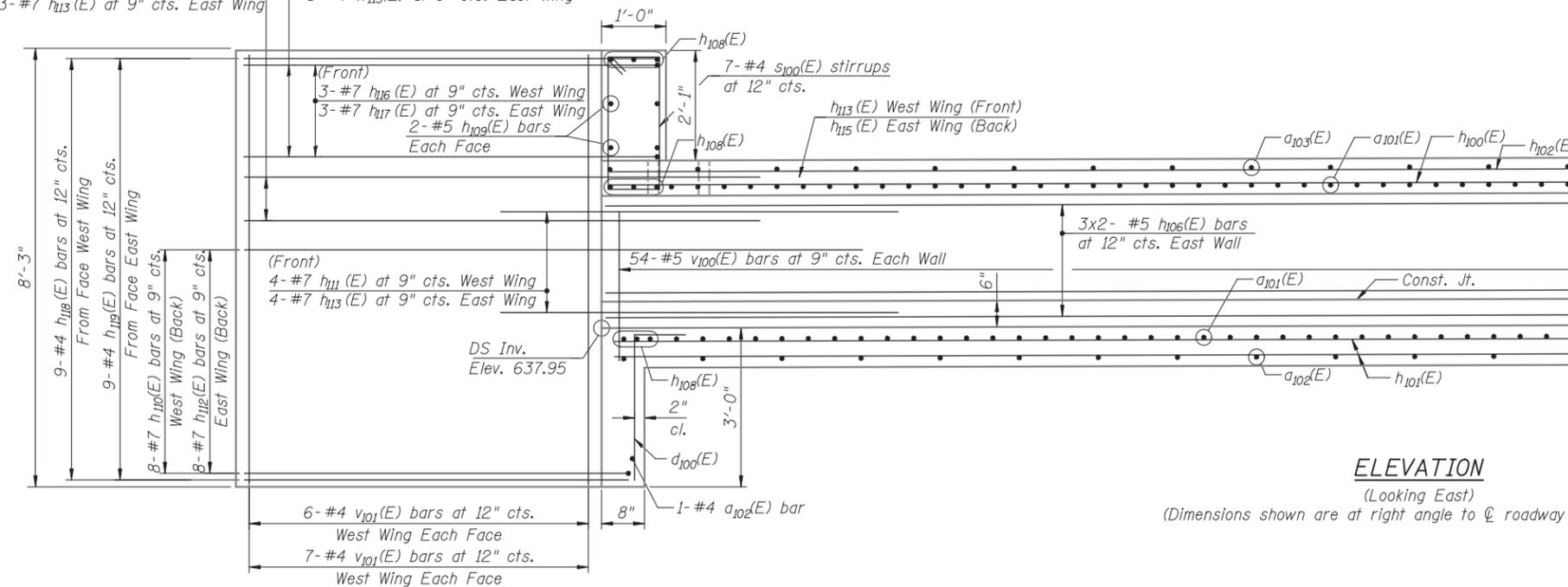
**TEMPORARY CONCRETE BARRIER
BOX CULVERT (4'-0" x 2'-6") - STA. 78 + 69.39**

SHEET NO. S2-04 OF S2-10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	40
			CONTRACT NO. 60W04	
ILLINOIS FED. AID PROJECT				

(Back)
 3-#7 h₁₁₁(E) at 9" cts. West Wing
 3-#7 h₁₁₃(E) at 9" cts. East Wing

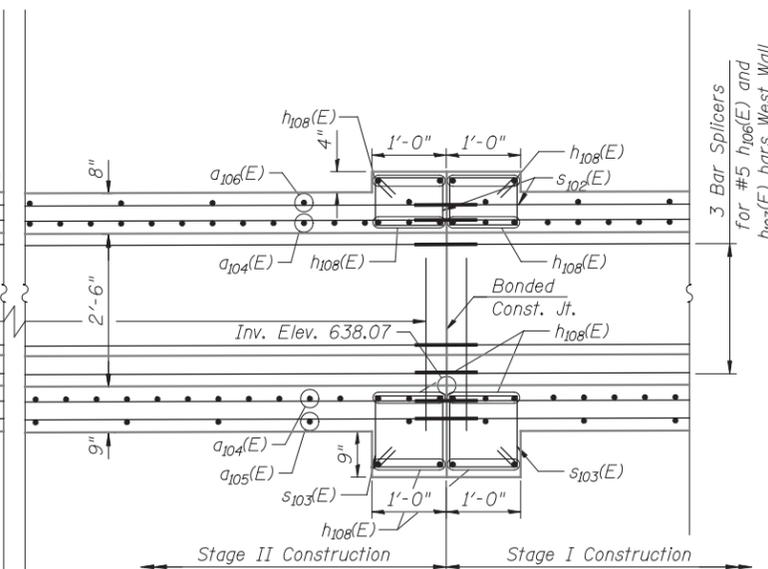
(Back)
 3-#7 h₁₁₄(E) at 9" cts. West Wing
 3-#7 h₁₁₅(E) at 9" cts. East Wing



ELEVATION

(Looking East)

(Dimensions shown are at right angle to ϕ roadway unless noted)

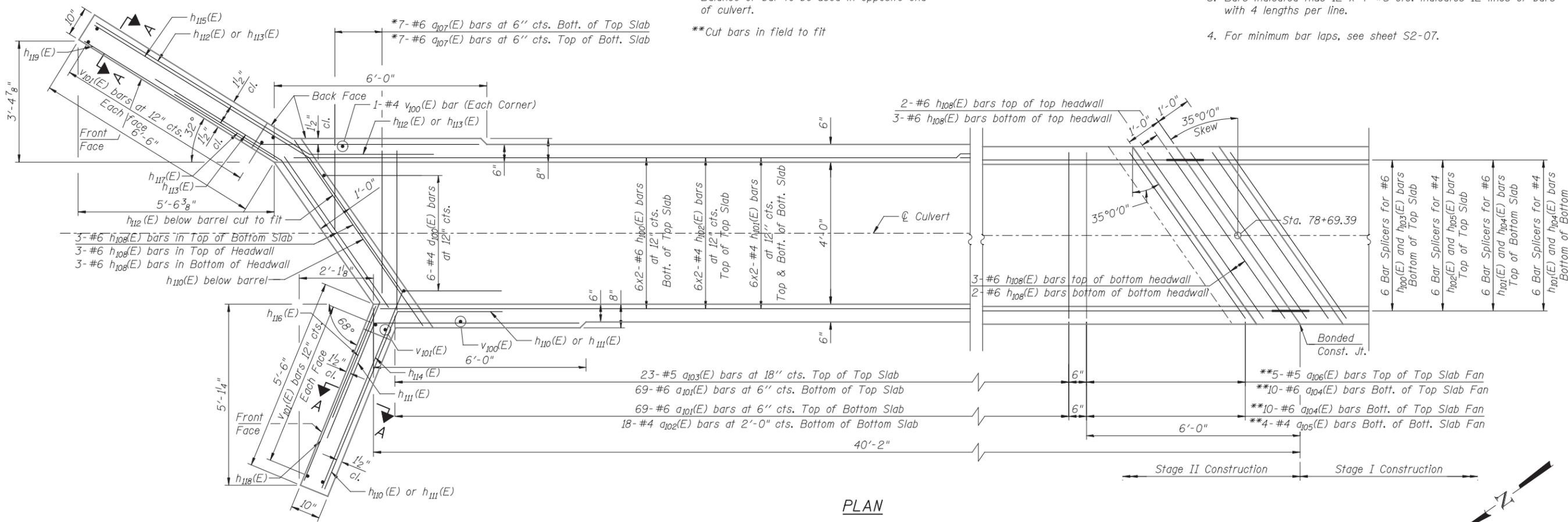


NOTES

1. A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.
4. For minimum bar laps, see sheet S2-07.

* a₁₀₇ bars in skew portion at north end of slab shall be ordered full length and cut to fit. Balance of bar to be used in opposite end of culvert.

** Cut bars in field to fit

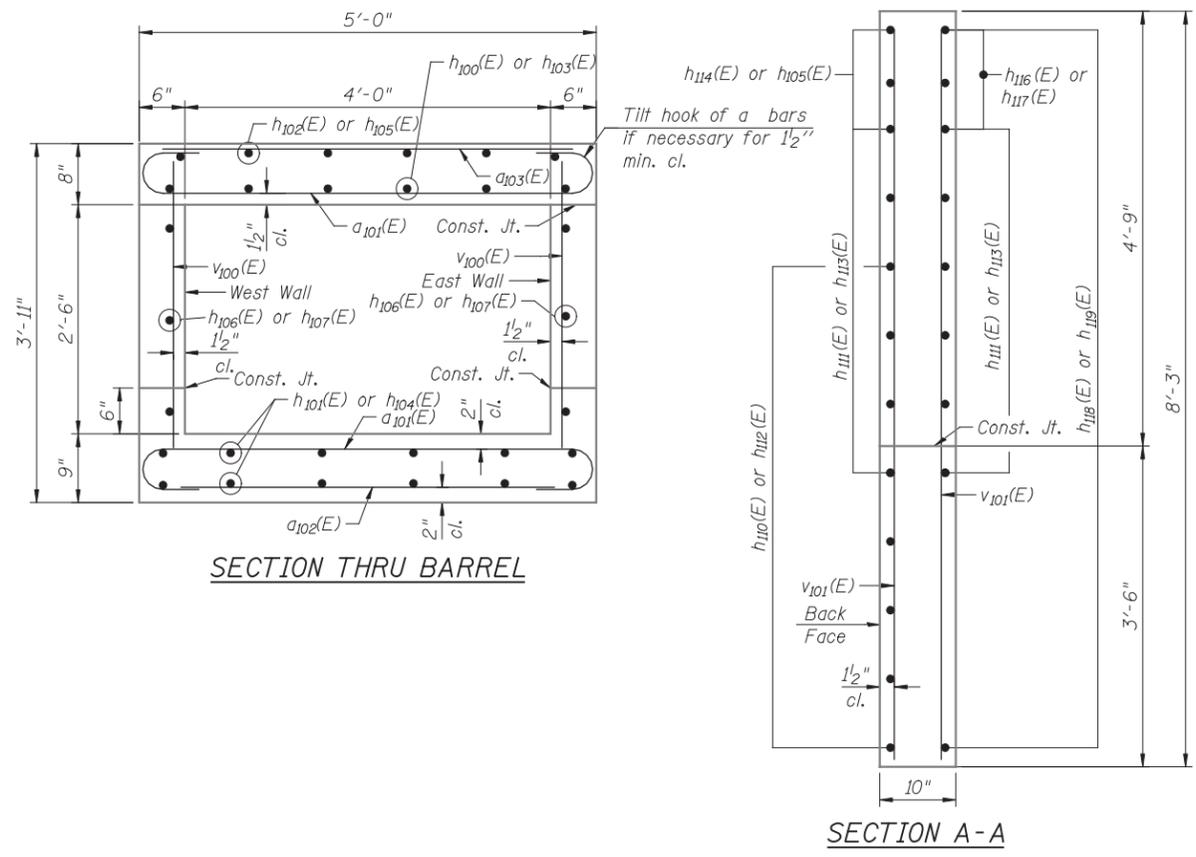


PLAN

DESIGNED - MI, LAB	REVISED -
CHECKED - MI	REVISED -
DRAWN - WM, AI	REVISED -
CHECKED - MAI, MI	REVISED -

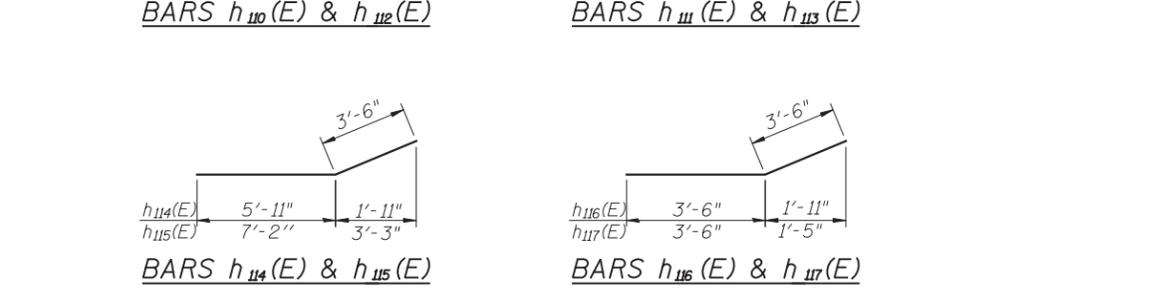
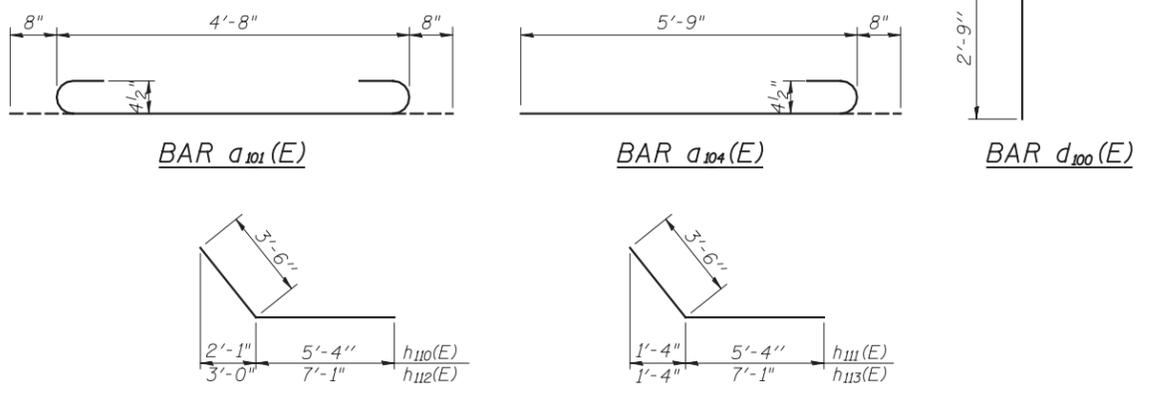
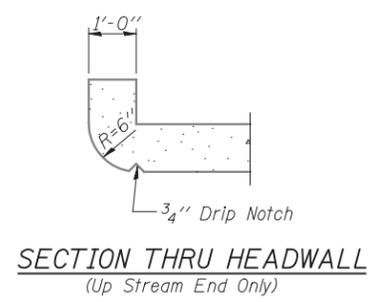
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	41
CONTRACT NO. 60W04				
ILLINOIS FED. AID PROJECT				





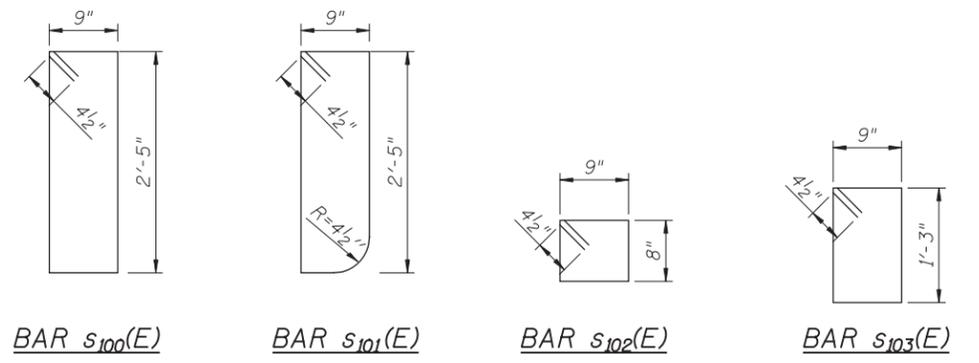
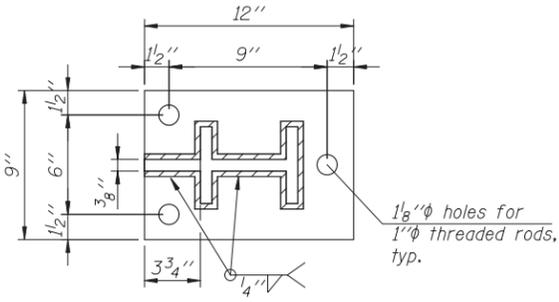
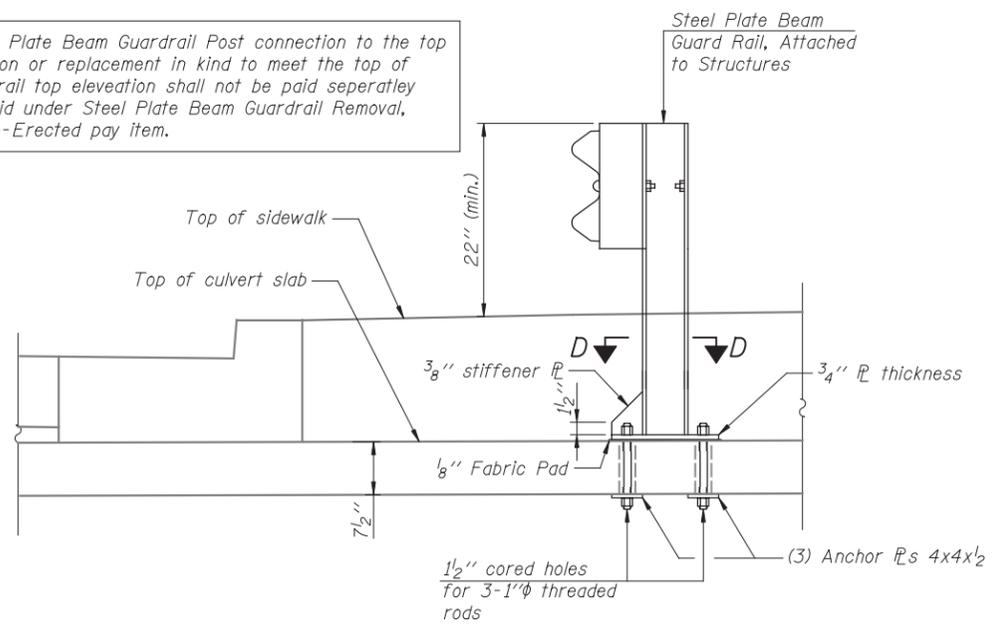
MINIMUM BAR LAPS

- #4 Bar 1'-9"
- #5 Bar 2'-2"
- #6 Bar 2'-7"
- #7 Bar 3'-5"
- #8 Bar 4'-6"



BILL OF MATERIAL				
Bar	No.	Size	Length	Shape
a101(E)	310	#6	6'-0"	U
a102(E)	42	#4	4'-8"	—
a103(E)	52	#5	4'-8"	—
a104(E)	40	#6	6'-5"	U
a105(E)	8	#4	5'-9"	—
a106(E)	10	#5	5'-9"	—
a107(E)	14	#6	5'-9"	—
d100(E)	12	#4	4'-6"	L
h100(E)	12	#6	21'-6"	—
h101(E)	24	#4	20'-11"	—
h102(E)	12	#4	20'-11"	—
h103(E)	12	#6	25'-9"	—
h104(E)	24	#4	24'-11"	—
h105(E)	12	#4	24'-11"	—
h106(E)	12	#5	21'-1"	—
h107(E)	12	#5	25'-1"	—
h108(E)	38	#6	5'-9"	—
h109(E)	8	#5	5'-9"	—
h110(E)	16	#7	8'-10"	—
h111(E)	14	#7	8'-10"	—
h112(E)	16	#7	10'-7"	—
h113(E)	14	#7	10'-7"	—
h114(E)	6	#7	9'-5"	—
h115(E)	6	#7	10'-8"	—
h116(E)	6	#7	7'-0"	—
h117(E)	6	#7	7'-0"	—
h118(E)	18	#4	6'-0"	—
h119(E)	18	#4	7'-0"	—
s100(E)	7	#4	7'-1"	U
s101(E)	7	#4	7'-1"	U
s102(E)	14	#4	3'-7"	U
s103(E)	14	#4	4'-9"	U
v100(E)	242	#5	3'-7"	—
v101(E)	52	#4	7'-11"	—
Reinforcement Bars, Epoxy Coated		Pound		9,810
Concrete Box Culverts		Cu. Yd.		40.4

Cost for Steel Plate Beam Guardrail Post connection to the top slab modification or replacement in kind to meet the top of existing guardrail top elevation shall not be paid separately and will be paid under Steel Plate Beam Guardrail Removal, Stored and Re-Erected pay item.



STEEL PLATE BEAM GUARD RAIL ATTACHED TO STRUCTURES
(Section shown at South end)

SECTION D-D

HBM
ENGINEERING GROUP, LLC
4415 WEST HARRISON ST.
SUITE 231
HILLSIDE, IL 60162
PHONE: (708) 236-0900
FAX: (708) 236-0901

DESIGNED - MI, LAB	REVISED -
CHECKED - MI	REVISED -
DRAWN - LAB, AI	REVISED -
CHECKED - MAI, MI	REVISED -

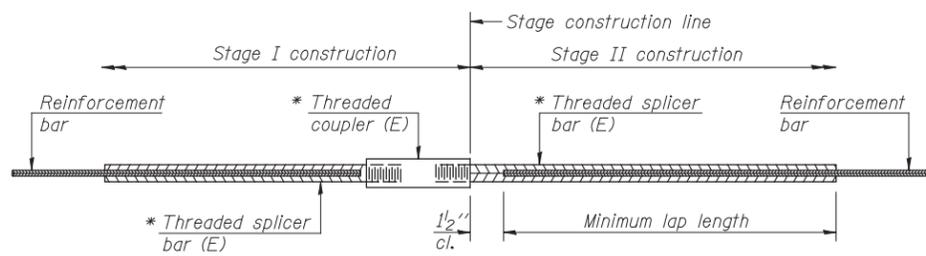
DATE - 12/24/2012

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SECTIONS AND DETAILS
BOX CULVERT (4'-0" x 2'-6") - STA. 78 + 69.39

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	43
CONTRACT NO. 60W04				
ILLINOIS FED. AID PROJECT				

SHEET NO. S2-07 OF S2-10 SHEETS



STANDARD BAR SPLICER ASSEMBLY

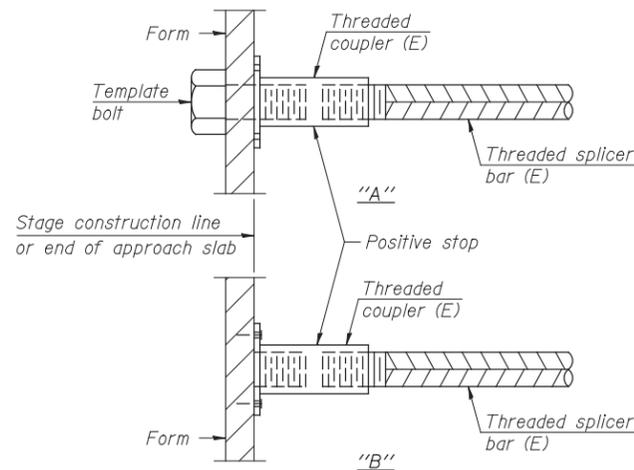
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

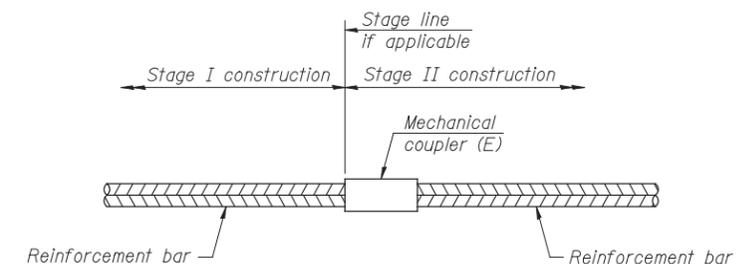
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Top of top slab	#4	6	
Bottom of top slab	#6	6	
Top of bottom slab	#6	6	
Bottom of bottom slab	#4	6	
West wall	#5	3	
East wall	#5	3	



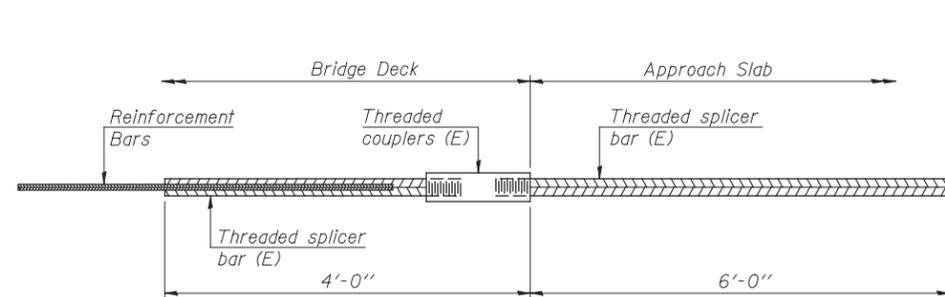
INSTALLATION AND SETTING METHODS

"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.



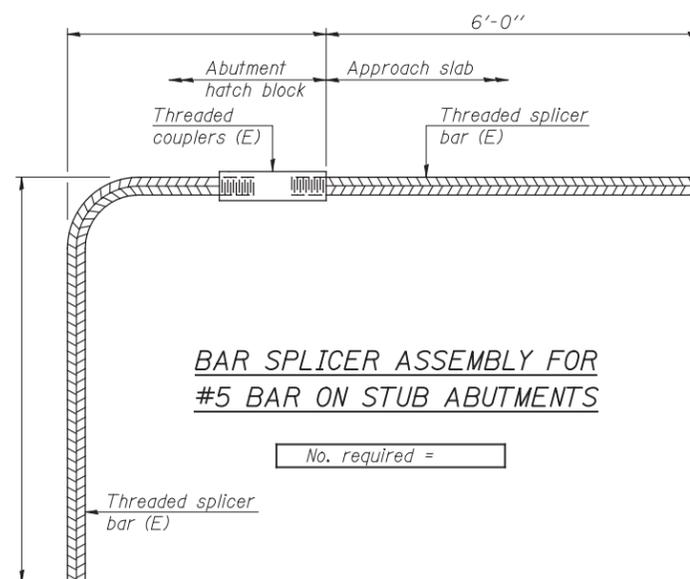
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Bar Splicers	Each	30

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-27-12

HBM
 ENGINEERING GROUP, LLC
 SUITE 231
 HILLSIDE, IL 60162
 PHONE: (708) 236-0900
 FAX: (708) 236-0901

DESIGNED - LAB	REVISED -
CHECKED - MI	REVISED -
DRAWN - LAB	REVISED -
CHECKED - MAI, MI	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY DETAILS
 BOX CULVERT (4'-0" x 2'-6") - STA. 78 + 69.39**

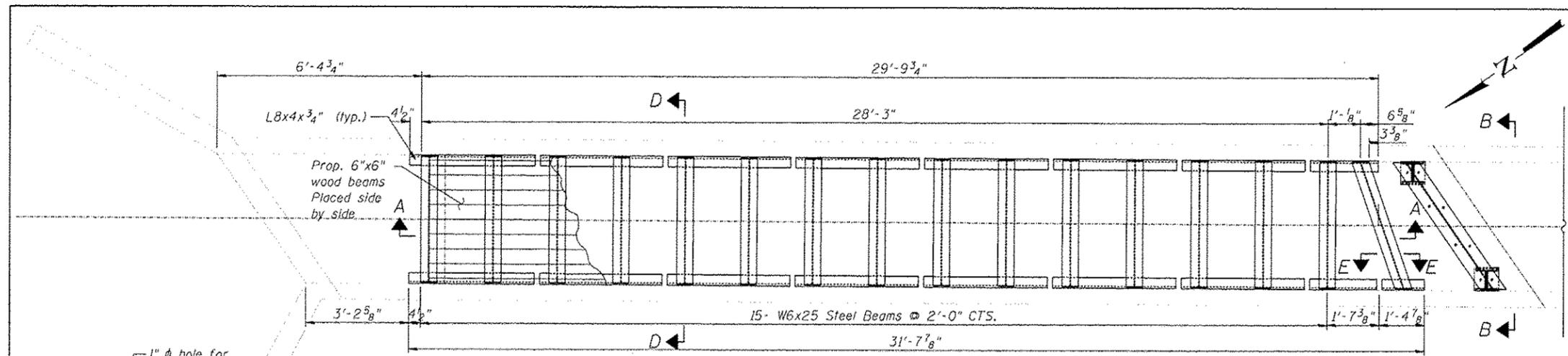
SHEET NO. S2-08 OF S2-10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	44
CONTRACT NO. 60W04				ILLINOIS FED. AID PROJECT

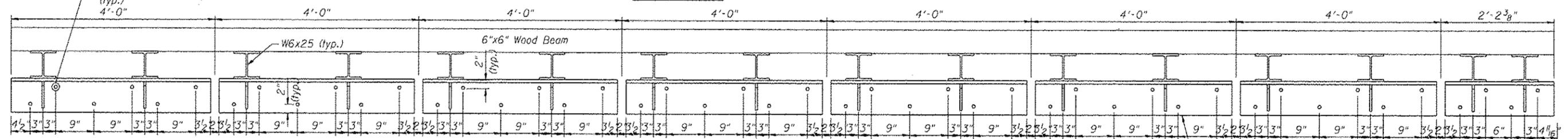
DATE - 12/24/2012

GENERAL NOTES

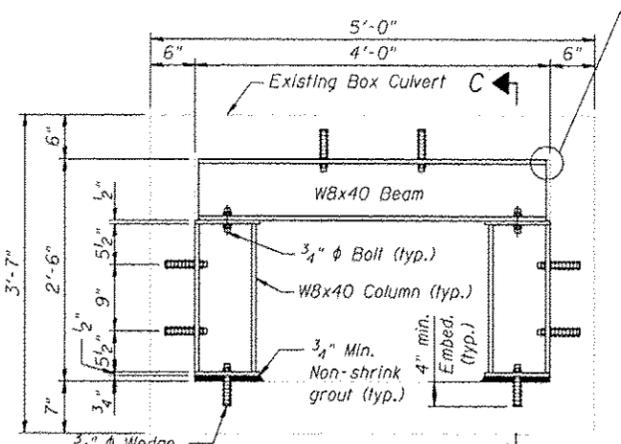
1. It shall be the Contractor's responsibility to verify all dimensions in the field and make necessary approved adjustments prior to ordering materials and steel fabrication.
2. Welding shall be performed with E70XX low hydrogen electrode. All welding shall conform to the AWS D1.1 structural welding code-steel, latest edition.
3. All bolts, nuts and washers shall conform to the requirements of ASTM A325 or A490. All bolts shall be 3/4" diameter unless otherwise noted.
4. The existing soil sediments and debris within the limits of the temporary support system construction shall be removed and disposed prior to the temporary support system installation. The cost for the removal and disposal of the existing soil sediments and debris will not be paid separately, but will be included with temporary support system, location 2.



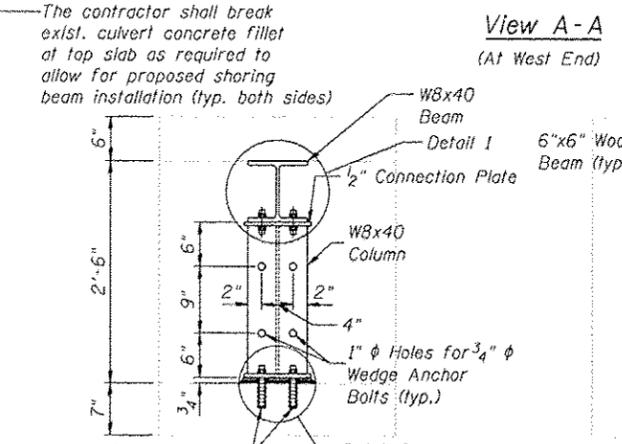
Framing Plan



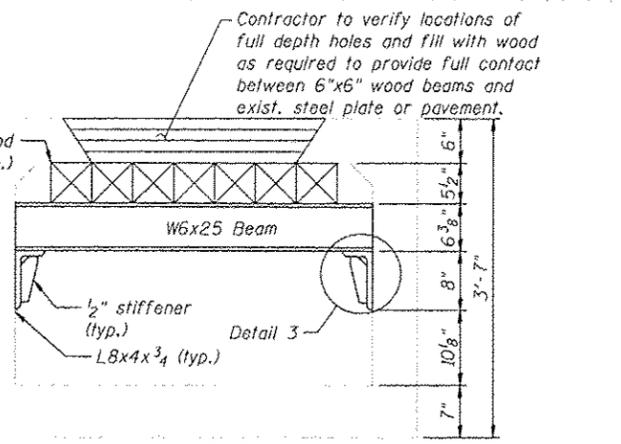
View A-A (At West End)



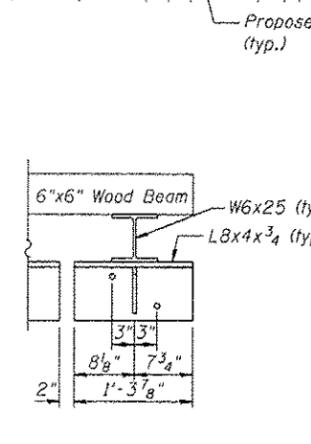
View B-B



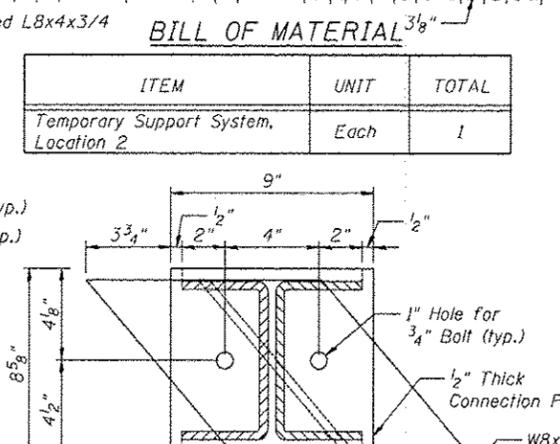
View C-C



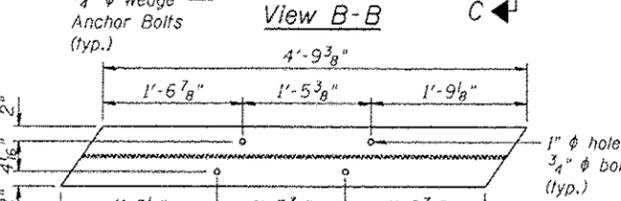
View D-D (Anchor bolts not shown for clarity)



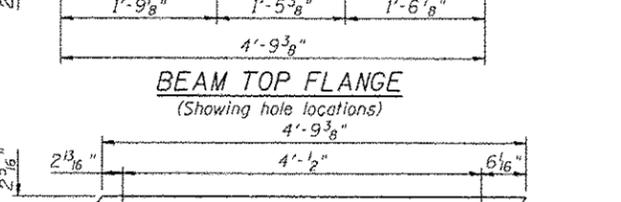
View E-E



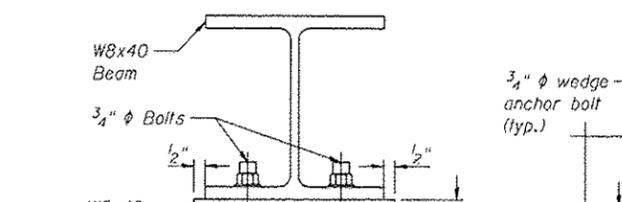
Column Detail



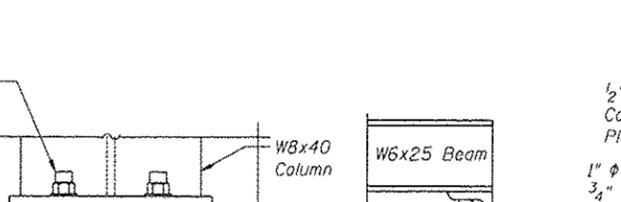
BEAM TOP FLANGE (Showing hole locations)



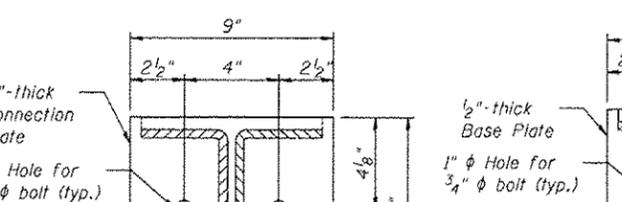
BEAM BOTTOM FLANGE (Showing hole locations)



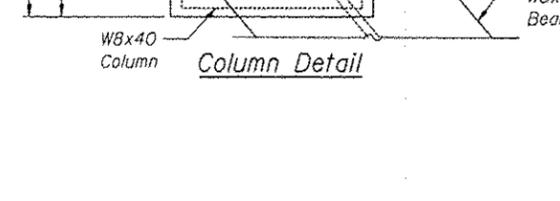
Detail 1



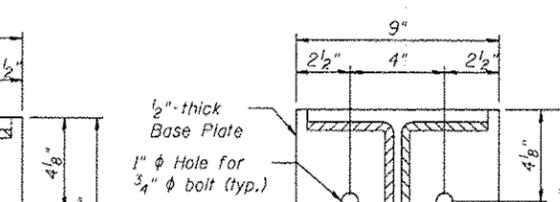
Detail 2



Detail 3



Connection Plate



Column Base Plate

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Temporary Support System, Location 2	Each	1

HBM
 ENGINEERING GROUP, LLC
 CONSULTING & DESIGN
 INSPECTION & TESTING
 RESEARCH & TESTING

4415 WEST HARRISON ST.
 SUITE 231
 HILLSIDE, IL 60182
 PHONE: (708) 236-0900
 FAX: (708) 236-0901

DESIGNED - JJS
 CHECKED - MI
 DRAWN - WM, AI
 CHECKED - MAI, MI

DATE - 12/24/2012

DESIGNED	CHECKED	DRAWN	CHECKED
JJS	MI	WM, AI	MAI, MI

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY SUPPORT SYSTEM PLAN, SECTIONS AND DETAILS
BOX CULVERT (4'-0" x 2'-6") - STA. 78+69.39

SHEET NO. S2-09 OF S2-10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	45

CONTRACT NO. 60W04
 ILLINOIS FED. AID PROJECT



BORING LOG CUL-03

wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

WEI Job No.: 616-02-01
Client **Millenia Professional Services of Illinois**
Project **Willow Road Culvert Replacement**
Location **Cook County**

Datum: NGVD
Elevation: 641.75 ft
North: 1981428.50 ft
East: 1121682.64 ft
Station: 78+66.98
Offset: 46.09 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
641.8	36-inch thick, black SILTY LOAM --TOPSOIL-- Stiff to hard, brown and gray SILTY CLAY LOAM, trace gravel	0		1	7 6 8	> 4.50 P	12								
		5		2	5 6 7	> 4.50 P	15								
		10		3	4 3 3	3.28 B	22								
		15		4	5 7 7	3.36 B	17								
		20		5	4 3 4	1.80 B	19								
		25		6	5 6 6	1.39 B	20								
		30		7	3 4 10	1.64 B	19								
		35		8	4 8 7	1.89 B	19								
621.8	Boring terminated at 20.00 ft														

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-11-2012	Complete Drilling	12-11-2012	While Drilling	☐	DRY	
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 TMR	At Completion of Drilling	▼	DRY	
Driller	R&F	Logger	D. Kolpacki	Time After Drilling	NA		
Drilling Method	2.25-inch SSA; backfilled upon completion			Depth to Water	▼	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							



BORING LOG CUL-04

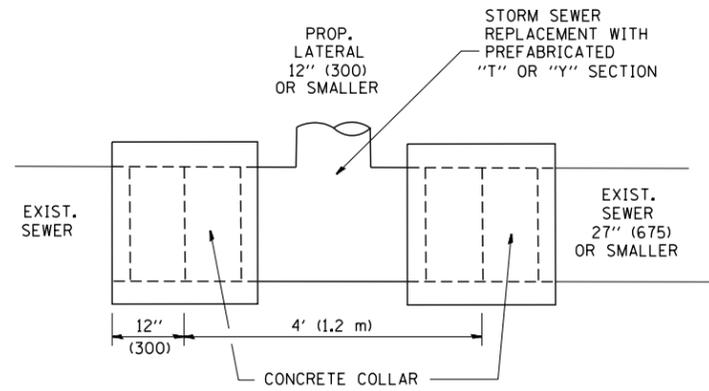
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

WEI Job No.: 616-02-01
Client **Millenia Professional Services of Illinois**
Project **Willow Road Culvert Replacement**
Location **Cook County**

Datum: NGVD
Elevation: 642.63 ft
North: 1981494.61 ft
East: 1121714.45 ft
Station: 78+98.68
Offset: 20.08 LT

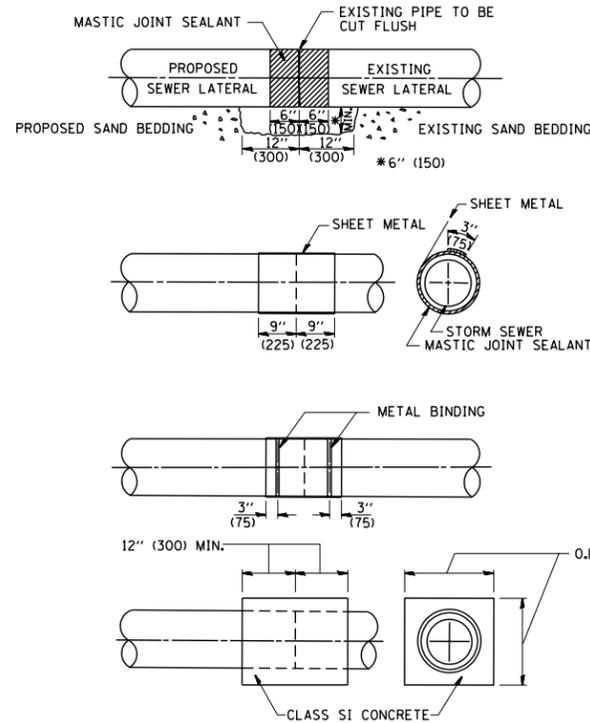
Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
641.8	10-inch thick CONCRETE --PAVEMENT--	0													
640.4	Medium dense, gray CRUSHED STONE --BASE COURSE--	0		1	11 8 9	NP	5								
	Stiff to hard, brown and gray SILTY CLAY LOAM, trace gravel	5		2	3 5 7	4.67 B	14								
		10		3	5 8 12	6.15 B	17								
		15		4	6 11 14	6.64 B	17								
		20		5	6 8 11	3.12 B	17								
		25		6	4 6 8	2.38 B									
		30		7	4 5 6	1.64 B	19								
		35		8	5 5 8	1.89 B									
622.6	Boring terminated at 20.00 ft														

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	12-13-2012	Complete Drilling	12-13-2012	While Drilling	☐	DRY	
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 TMR	At Completion of Drilling	▼	DRY	
Driller	R&F	Logger	D. Kolpacki	Time After Drilling	NA		
Drilling Method	2.25-inch SSA; backfilled upon completion			Depth to Water	▼	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							



DETAIL "A"

LATERAL CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER

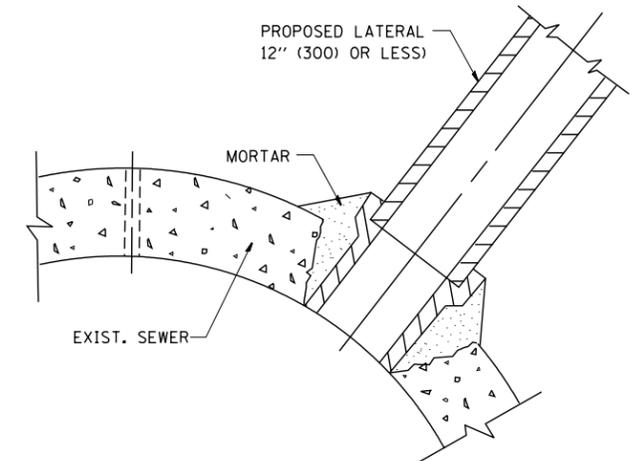


DETAIL "B"

CLASS SI CONCRETE COLLAR

CONSTRUCTION SEQUENCE

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12" x 6" (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERENCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



DETAIL "C"

PROPOSED LATERAL CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER

NOTES

MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

CONSTRUCTION METHODS

- I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.
- II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:
 - A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".
 - B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

GENERAL

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

BASIS OF PAYMENT

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS. THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\bd07.dgn	USER NAME = gaglionobt	DESIGNED - M. DE YONG	REVISED - M. DE YONG 05-08-92
		DRAWN -	REVISED - R. SHAH 09-09-94
	PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - R. SHAH 10-25-94
	PLOT DATE = 1/4/2008	DATE - 07-25-90	REVISED - R. SHAH 06-12-96

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DETAIL OF STORM SEWER
CONNECTION TO EXISTING SEWER**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	47
BD500-01 (BD-7)		CONTRACT NO. 60W04		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

VARIABLE - TO MEET EXISTING DIMENSIONS AND FIELD CONDITIONS (SEE NOTE ②)

PROP. CONC. CURB OR CURB AND GUTTER REPLACEMENT IN ACCORDANCE WITH STATE STANDARD 606001. (SEE NOTE ②)

SAW CUT FULL DEPTH - INCLUDED IN THE COST OF SIDEWALK, DRIVEWAY OR MEDIAN SURFACE REMOVAL PAY ITEM.

SEE STATE STANDARD 606001
EXISTING OR PROPOSED HMA SURFACE (IF APPLICABLE)

18" (450) MAX.

1/4" (5) **

EXISTING SIDEWALK, DRIVEWAY, MEDIAN SURFACE, SOD OR GROUND.

PROPOSED SIDEWALK, DRIVEWAY PAVEMENT, MEDIAN SURFACE OR SODDING SALT TOLERANT WITH TOP SOIL, 4" (100) SOD RESTORATION (SEE NOTE ①).

EXISTING CONCRETE PAVEMENT, CONCRETE BASE COURSE OR FLEXIBLE PAVEMENT

3" (75) MIN.

SUITABLE BACKFILL MATERIAL (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT)

PROPOSED 3/4" (20) PREFORMED EXPANSION JOINT AT CONCRETE SIDEWALKS, DRIVEWAYS, AND MEDIANS. (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.)

- * 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.
- ** IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

UNSUITABLE SUB-BASE MATERIAL TO BE REMOVED, IF DIRECTED BY THE ENGINEER, SHALL BE REPLACED WITH EITHER SUB-BASE GRANULAR MATERIAL, TYPE B OR ADDITIONAL THICKNESS OF CONCRETE.

REMOVAL AND REPLACEMENT 4" (100) OR LESS IS INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

REMOVAL AND REPLACEMENT IN EXCESS OF 4" (100) WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

NOTE: ① SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.

SODDING, SALT TOLERANT AND TOP SOIL, FURNISH AND PLACE 4" WILL BE PAID FOR SEPARATELY,

- ② FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED
- ③ CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.
- ④ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.
- ⑤ LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.
- ⑥ THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.
- ⑦ THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.
- ⑧ THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

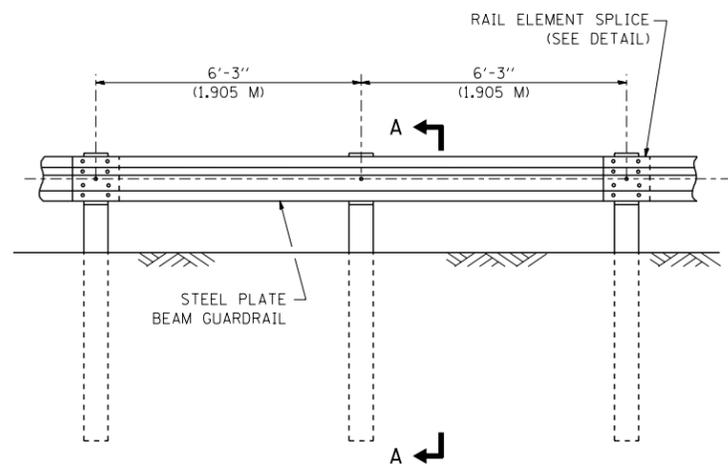
PROPOSED #6 (20) EPOXY COATED TIE BARS 24" (600) LONG AT 24" (600) CENTERS WILL NOT BE PAID FOR SEPARATELY. DELETE EPOXY COATED TIE BARS IF EXISTING TIE BARS ARE USABLE AS DETERMINED BY THE ENGINEER. (SEE NOTE ③).

BASIS OF PAYMENT:
THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT (METER) FOR "CURB REMOVAL AND REPLACEMENT" OR "COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT".

CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

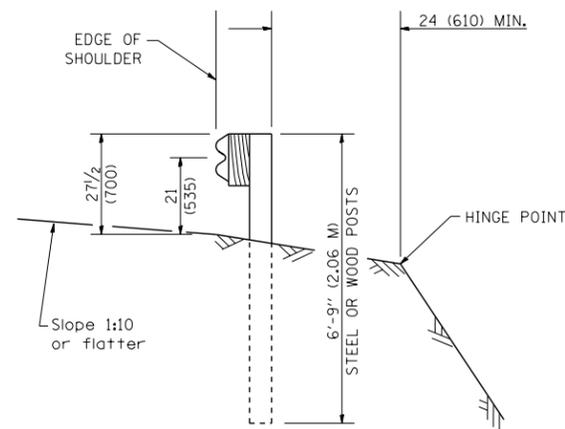
FILE NAME =	USER NAME = drivakosgn	DESIGNED - A. HOUSEH	REVISED - R. SHAH 10-03-96	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\pw\work\p1dot\drivakosgn\0108315\bd24.dgn	DRAWN -	REVISED - A. ABBAS 03-21-97	REVISED - M. GOMEZ 01-22-01					305	1920.01-B-R	COOK	60	48
PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - R. BORO 12-15-09						BD600-06 (BD-24)		CONTRACT NO. 60W04		
PLOT DATE = 12/15/2009	DATE - 03-11-94							FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



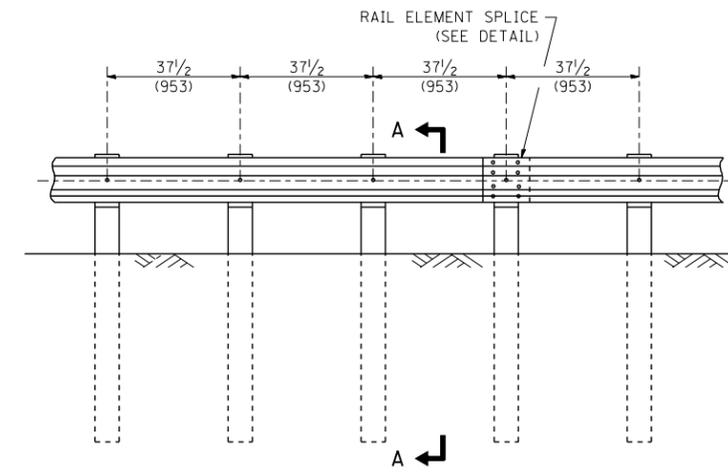
ELEVATION

TYPE A

6'-3" (1.905 M) TYPICAL POST SPACING



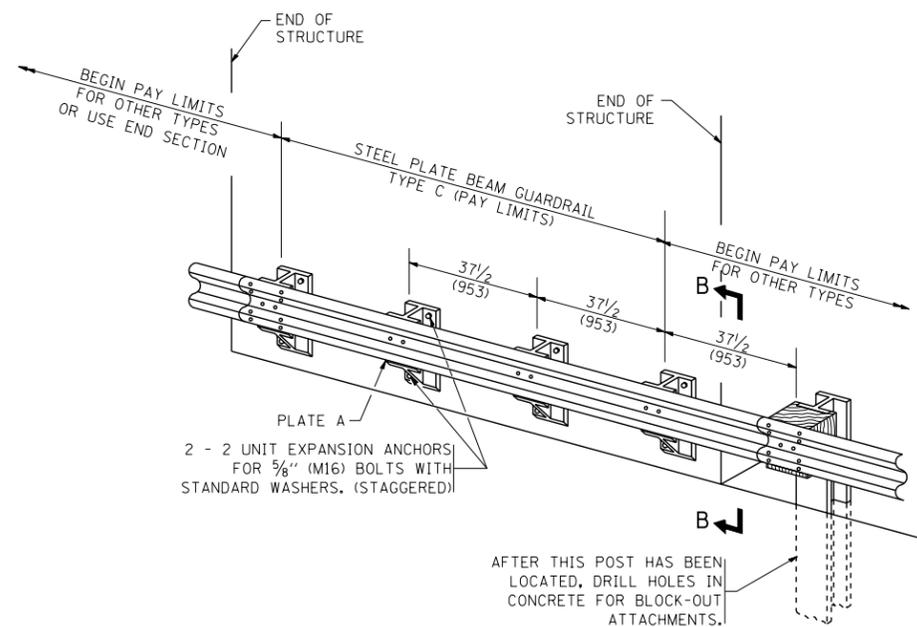
SECTION A-A



ELEVATION

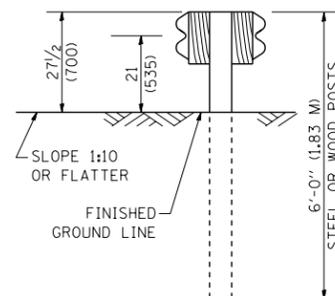
TYPE A

37 1/2 (953) CLOSED POST SPACING

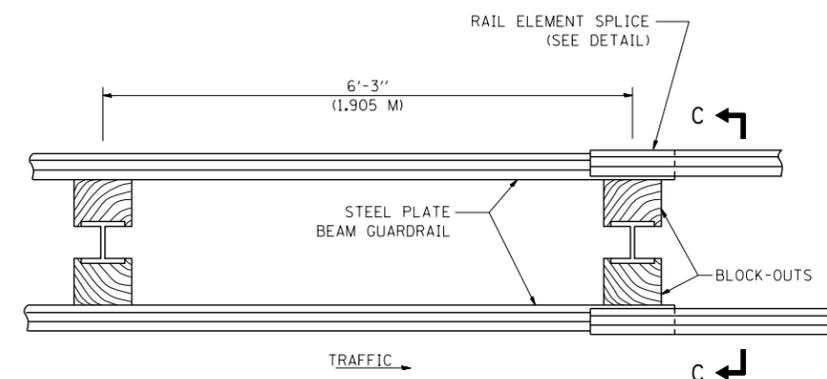


TYPE C

37 1/2 (953) BLOCK-OUT SPACING



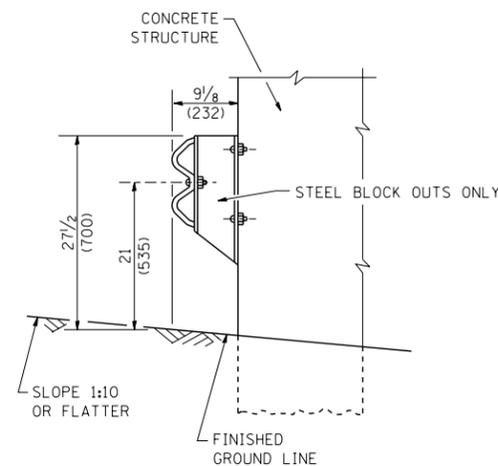
SECTION C-C



PLAN

TYPE D

DOUBLE STEEL PLATE BEAM GUARDRAIL
6'-3" (1.905 M) TYPICAL POST SPACING



SECTION B-B

GENERAL NOTES

ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

THE EXISTING STEEL POSTS MAY BE DRILLED TO MATCH THE BOLT PATTERN SHOWN HEREIN FOR THE WOOD BLOCK-OUT, OR A NEW STEEL POST SHALL BE PROVIDED.

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL SYSTEM USED PRIOR TO JANUARY 1, 2007. FOR DETAILS ON THE MIDWEST GUARDRAIL SYSTEM, SEE STANDARD 630001.

FILE NAME = W:\diststd\22x34\bm21.dgn

USER NAME = gaglionobt
PLOT SCALE = 50.0000' / IN.
PLOT DATE = 1/4/2008

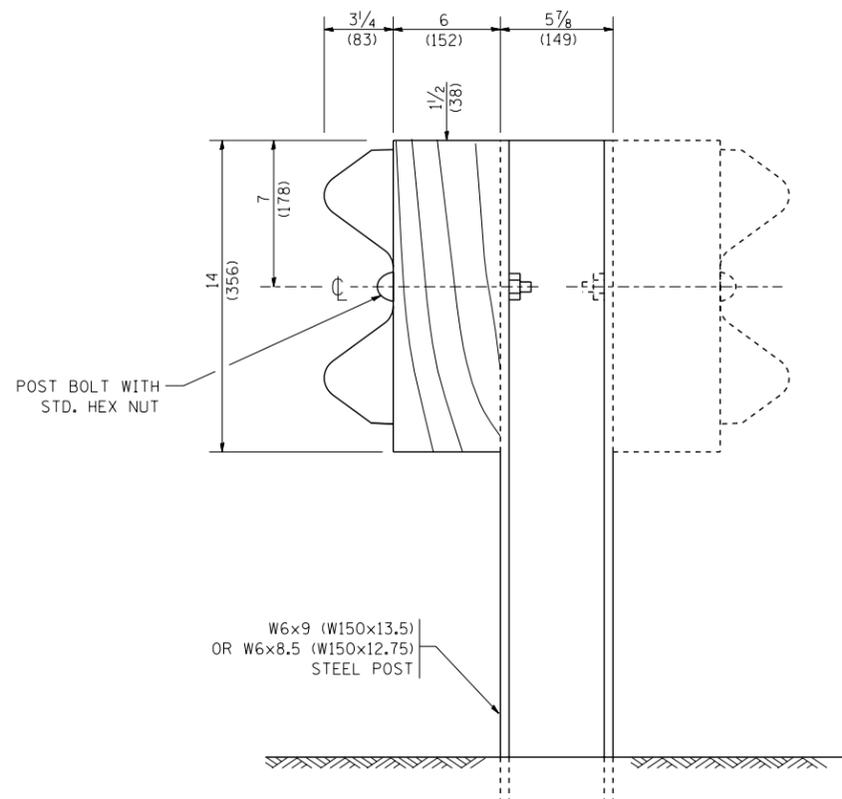
DESIGNED -
DRAWN -
CHECKED -
DATE -
REVISED - 10-31-06
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

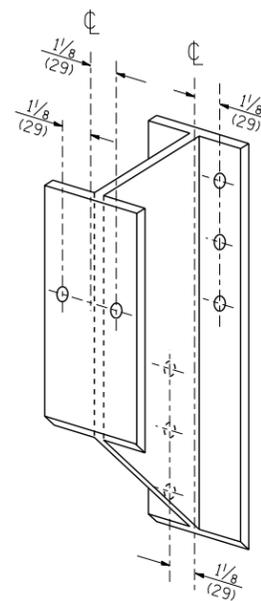
**REMOVE AND REERECT
STEEL PLATE BEAM GUARDRAIL**

SCALE: NONE SHEET NO. 1 OF 4 SHEETS STA. TO STA.

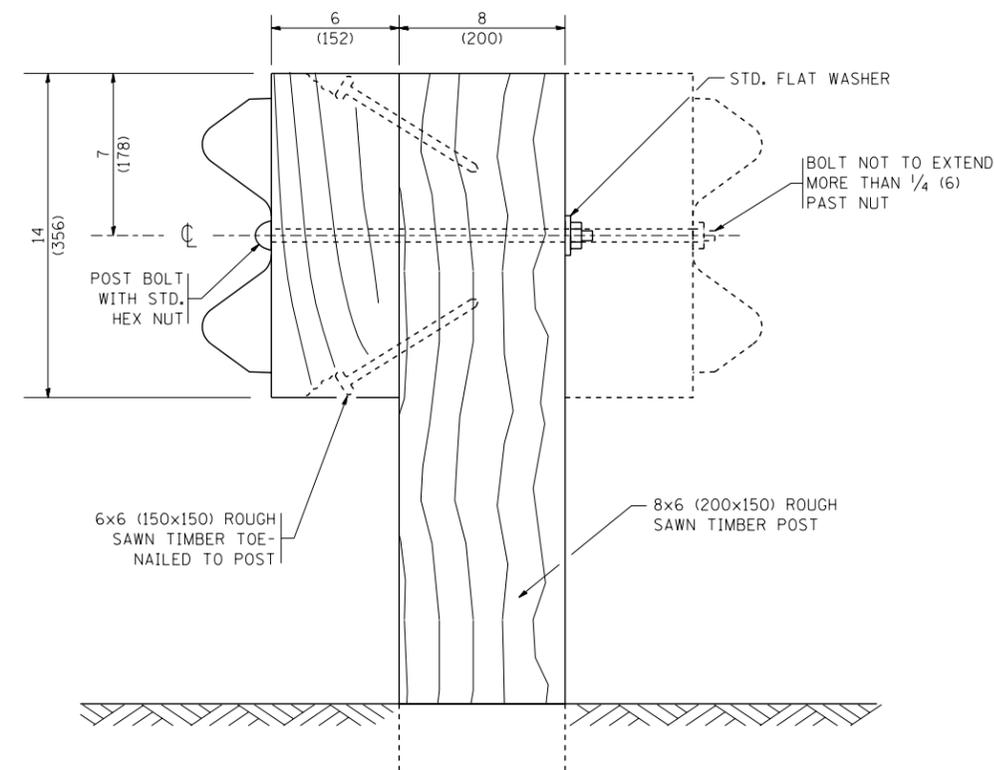
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	49
	BM-21	CONTRACT NO.	60W04	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



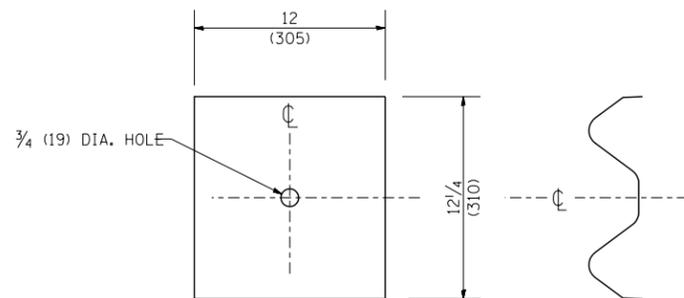
STEEL POST CONSTRUCTION



STEEL BLOCK-OUT DETAIL



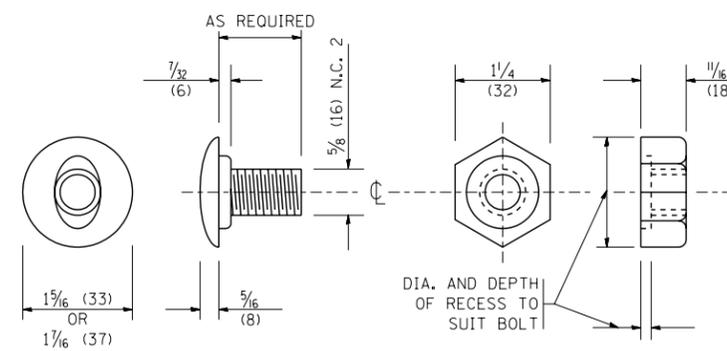
WOOD POST CONSTRUCTION



NOTE:

PLATE A SHALL BE PLACED BETWEEN RAIL ELEMENT AND BLOCK-OUT AT NON-SPLICE MOUNTING POINTS ONLY WHEN STEEL BLOCK-OUTS ARE USED.

PLATE A



POST OR SPLICE BOLT & NUT

FILE NAME = W:\diststd\22x34\bm21.dgn

USER NAME = gaglionobt
 PLOT SCALE = 50.0000' / IN.
 PLOT DATE = 1/4/2008

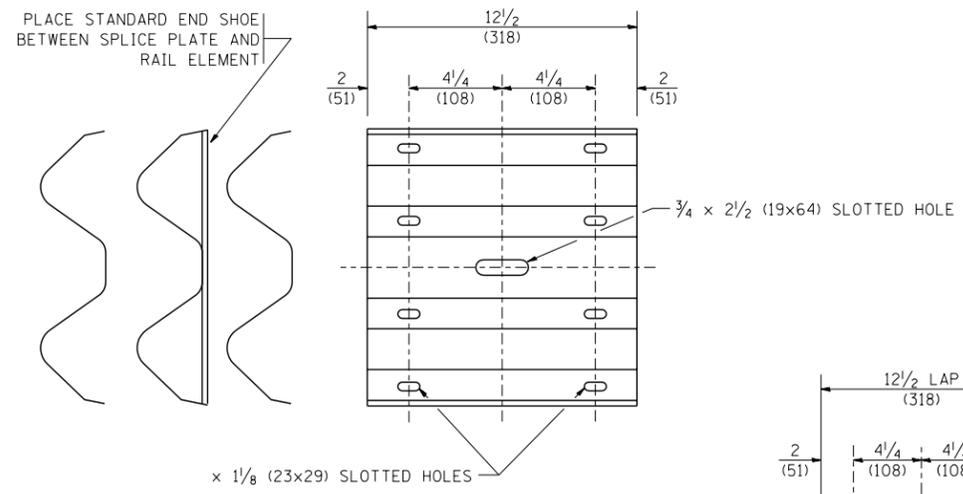
DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED - 10-31-06
 REVISED -
 REVISED -
 REVISED -

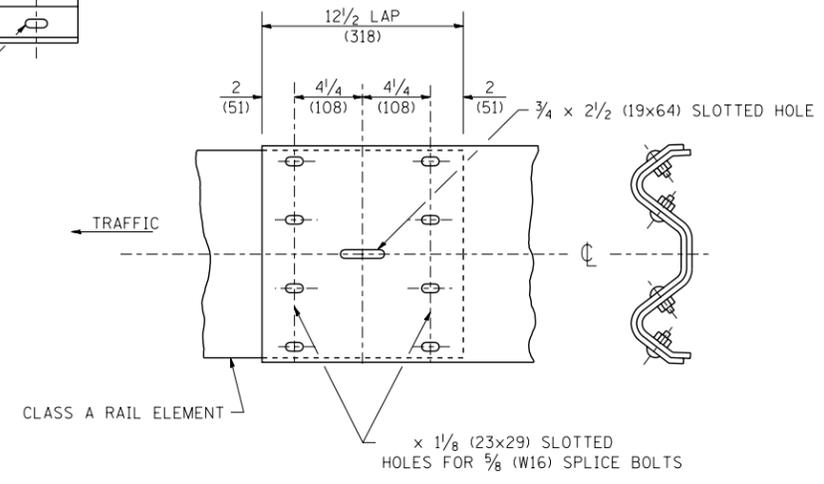
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REMOVE AND REERECT
 STEEL PLATE BEAM GUARDRAIL
 SCALE: NONE SHEET NO. 2 OF 4 SHEETS STA. TO STA.

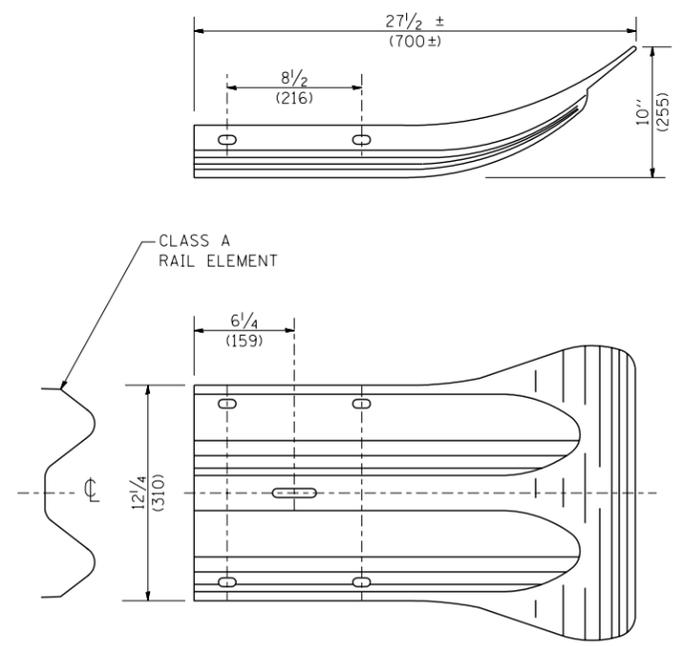
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	50
BM-21		CONTRACT NO. 60W04		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



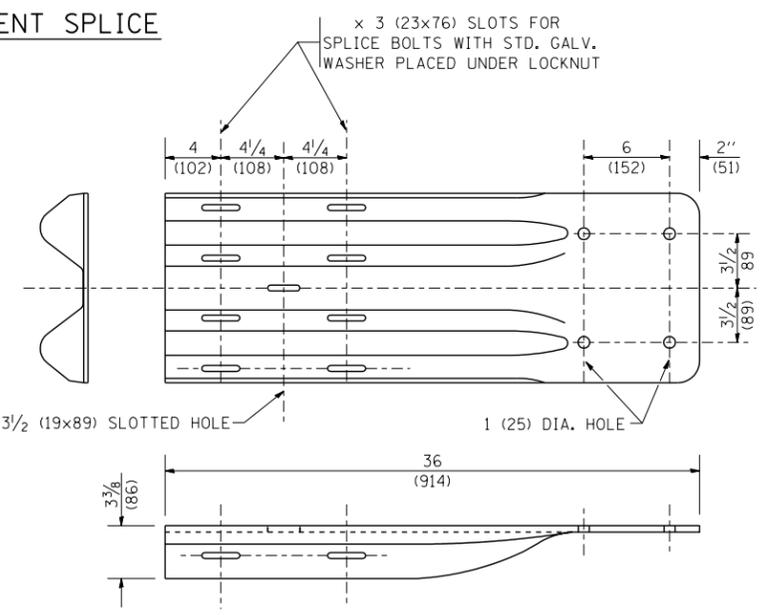
SPLICE PLATE



RAIL ELEMENT SPLICE



END SECTION



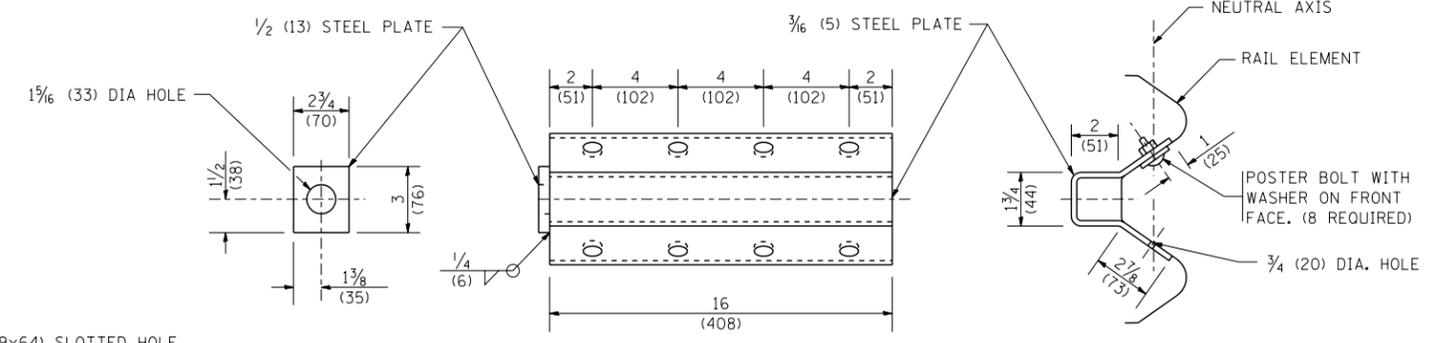
END SHOE

NOTE:

WHEN END SHOE IS ATTACHED TO A BRIDGE PARAPET WHICH HAS AN EXPANSION JOINT, THE BOLTS SHALL BE PROVIDED WITH A LOCKNUT OR DOUBLE NUT AND SHALL BE TIGHTENED ONLY TO A POINT THAT WILL ALLOW GUARDRAIL MOVEMENT.

THE STANDARD END SHOE SHALL BE ATTACHED TO THE CONCRETE WITH PRE-DRILLED OR SELF-DRILLING ANCHOR BOLTS. THE ANCHOR CONE SHALL BE SET FLUSH WITH THE SURFACE OF THE CONCRETE.

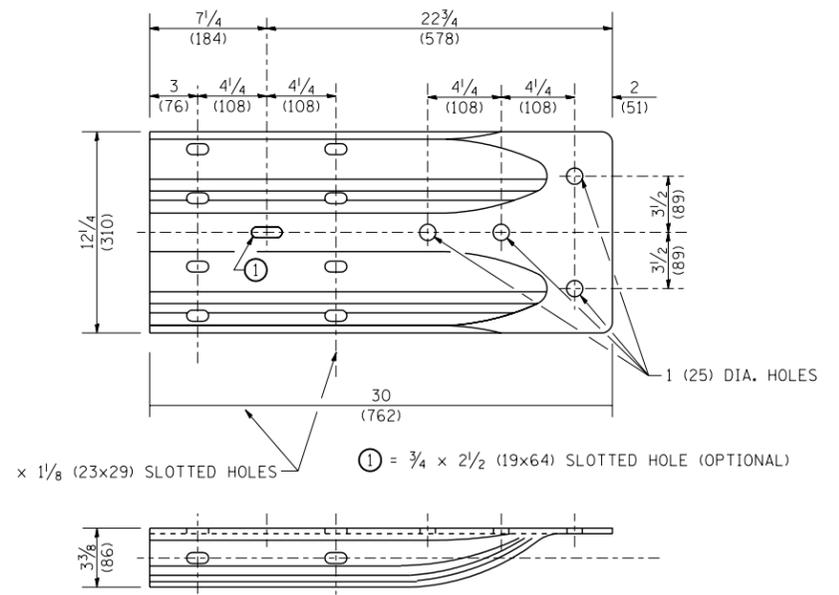
EXTERNALLY THREADED STUDS PROTRUDING FROM THE SURFACE OF THE CONCRETE WILL NOT BE PERMITTED.



NOTE:

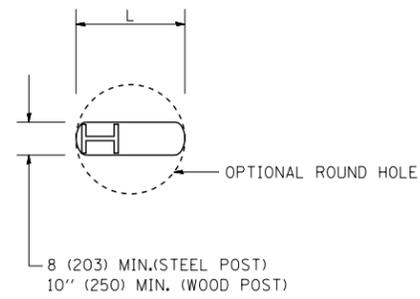
ANCHOR PLATE T SHALL BE USED TO ATTACH CABLE ASSEMBLY TO GUARDRAIL WHEN REQUIRED ON TRAFFIC BARRIER TERMINALS.

ANCHORE PLATE T DETAILS

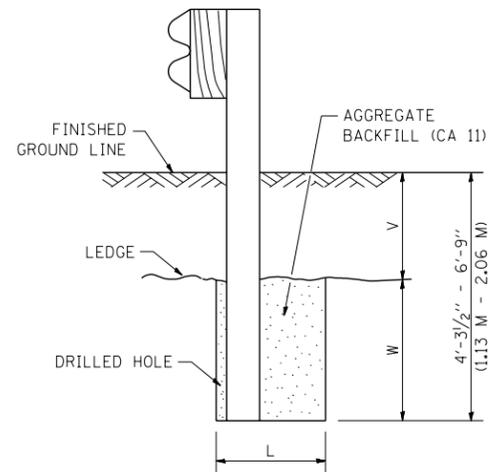


ALTERNATE END SHOE

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	PLOT SCALE = 50.0000' / IN.	DRAWN -	REVISED -		SCALE: NONE	SHEET NO. 3 OF 4 SHEETS	STA. TO STA.	BM-21		CONTRACT NO. = 60W04	
	PLOT DATE = 1/4/2008	CHECKED -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT						
		DATE -	REVISED -								



PLAN

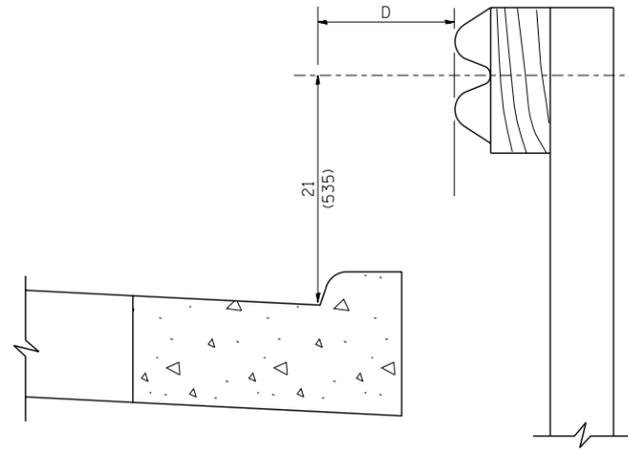


NOTE:

LEDGE LINE IS TOP OF ROCK LEDGE OR HARD SLAG FILL.

ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED



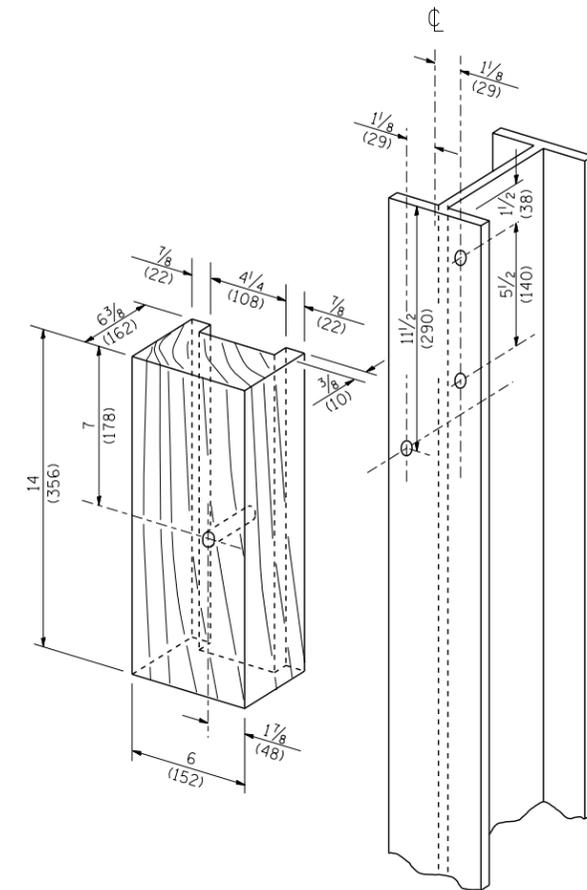
NOTE:

IF IT IS NECESSARY FOR D TO BE MORE THAN 12 (300) AND LESS THAN 10'-0" (3.0 M) TYPE M-2 (M-5) CURB AND GUTTER (STD. 606001) SHALL BE USED IN FRONT OF AND IN ADVANCE OF THE GUARDRAIL.

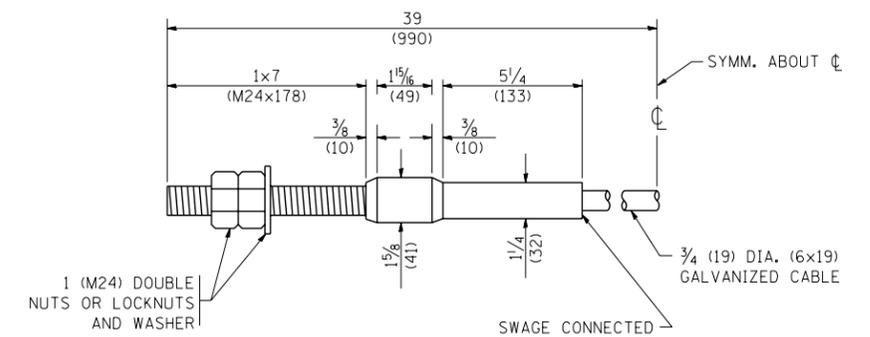
GUARDRAIL PLACED BEHIND CURB

(D = 0 DESIRABLE TO 12 (300) MAXIMUM)

V	W	L	
		STEEL POST	WOOD POST
0 - 18 (0 - 460)	24 (610)	21 (530)	23 (580)
>18 - 41.5 (> 460 - 825)	12 (305)	8 (203)	10 (250)
>41.5 - 53.5 (> 825 - 1.13 M)	12 - 0 (350 - 0)	8 (203)	10 (250)



WOOD BLOCK-OUT AND STEEL POST DETAILS



CABLE ASSEMBLY

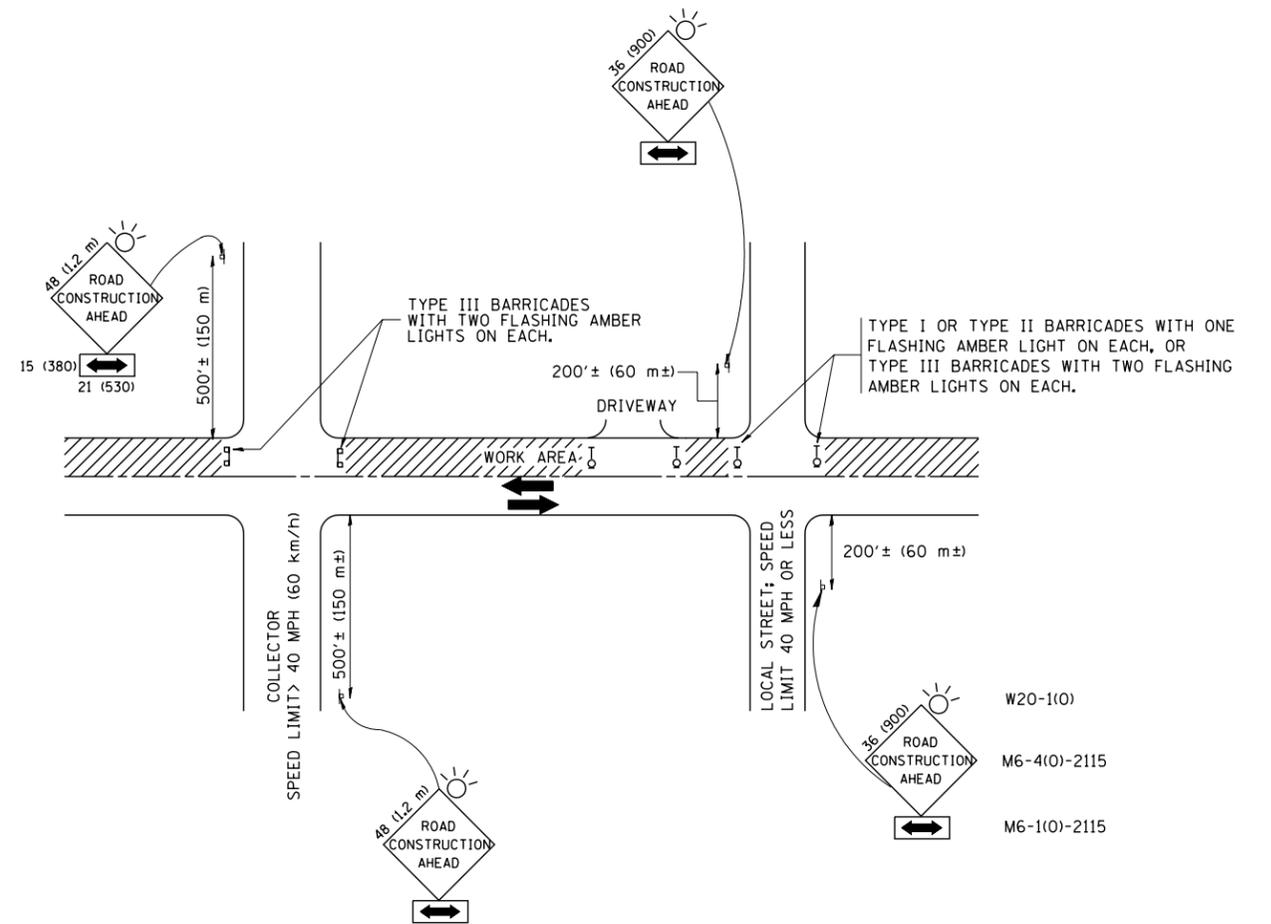
(40,000 LBS (18,100 KG) MIN. BREAKING STRENGTH)
TIGHTEN TO TAUT TENSION

FILE NAME = W:\diststd\22x34\bm21.dgn	USER NAME = gaglionobt	DESIGNED -	REVISED - 10-31-06
		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL			
SCALE: NONE	SHEET NO. 4 OF 4 SHEETS	STA.	TO STA.

F.A. RTE. 305	SECTION 1920.01-B-R	COUNTY COOK	TOTAL SHEETS 60	SHEET NO. 52
BM-21		CONTRACT NO. 60W04		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



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

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS
- 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:
 - 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.
 - 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.
 - SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - 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.
 - 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.

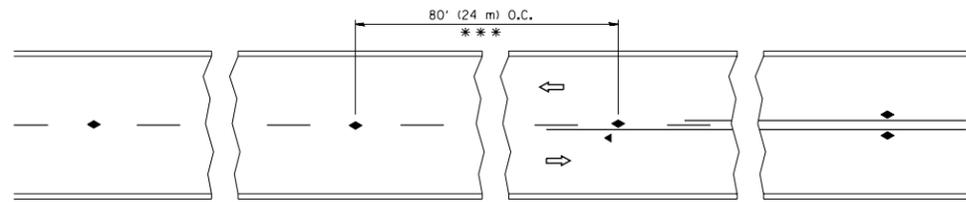
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		DRAWN -	REVISED - A. HOUSEH 03-06-96
	PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 1/4/2008	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

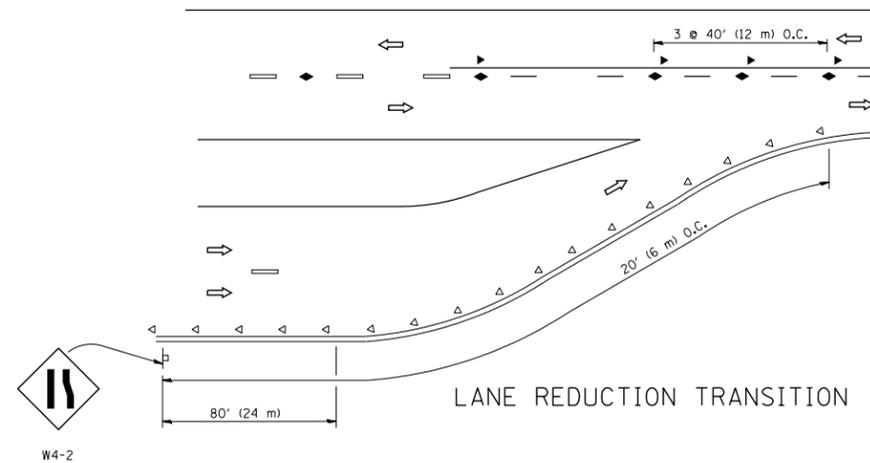
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	53
TC-10			CONTRACT NO. 60W04	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

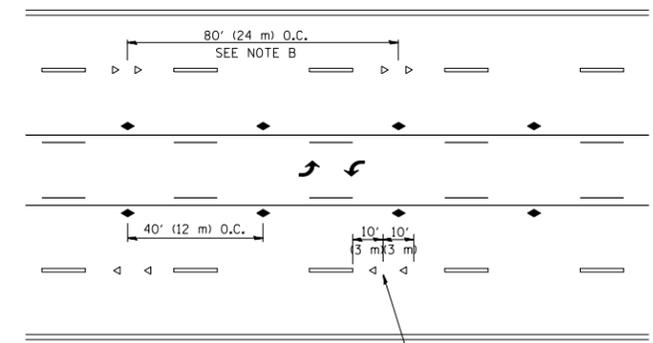


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

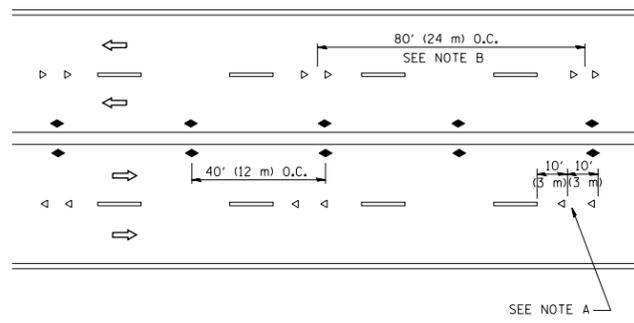
TWO-LANE/TWO-WAY



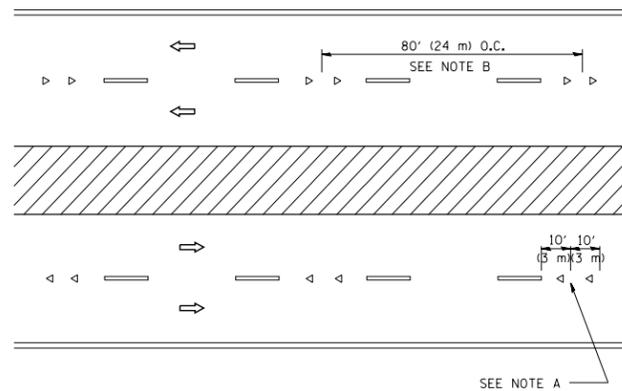
LANE REDUCTION TRANSITION



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

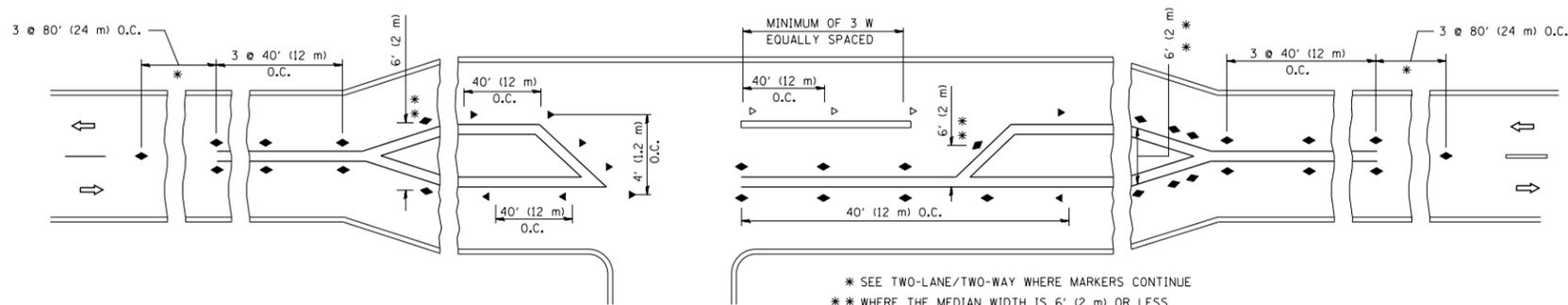
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

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 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.



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

LEFT TURN

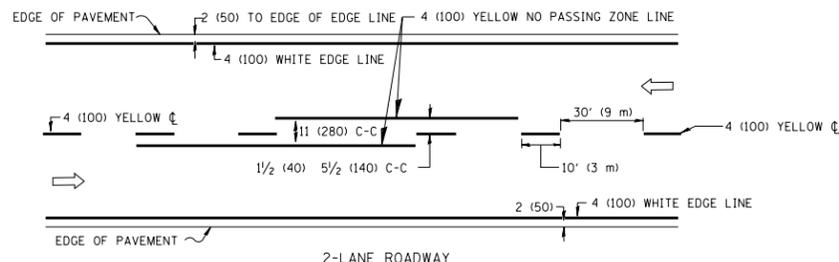
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = lryso	DESIGNED -	REVISED - T. RAMMACHER 09-19-94
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	PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - T. RAMMACHER 01-06-00
	PLOT DATE = 3/2/2011	DATE -	REVISED - C. JUCIUS 09-09-09

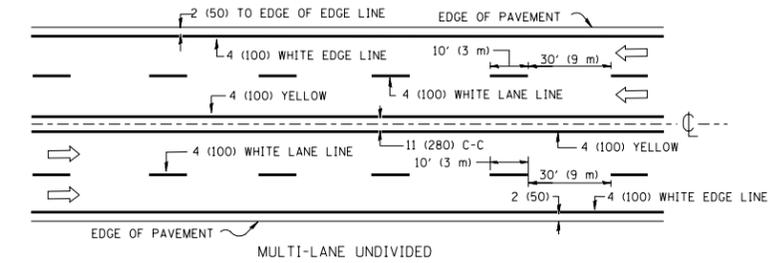
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS			
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

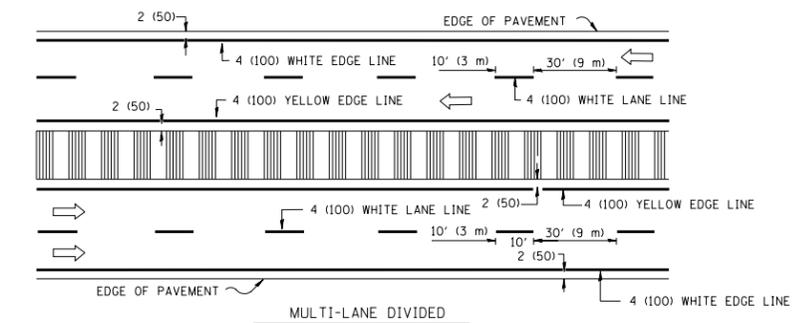
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920,01-B-R	COOK	60	54
TC-11			CONTRACT NO. 60W04	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY



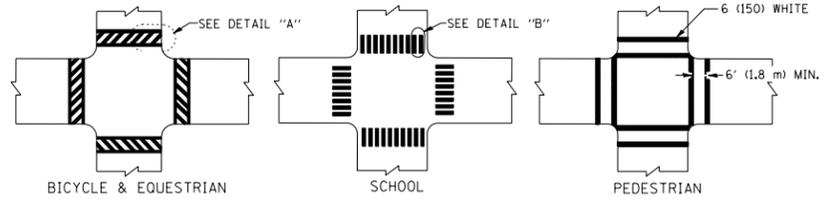
MULTI-LANE UNDIVIDED



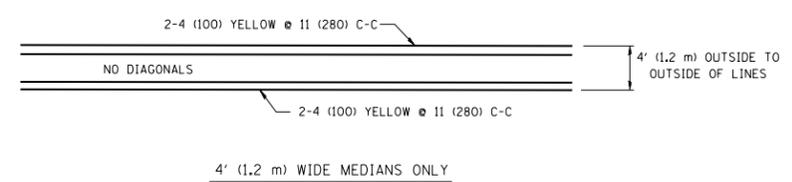
MULTI-LANE DIVIDED WITH MOUNTABLE MEDIAN

NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

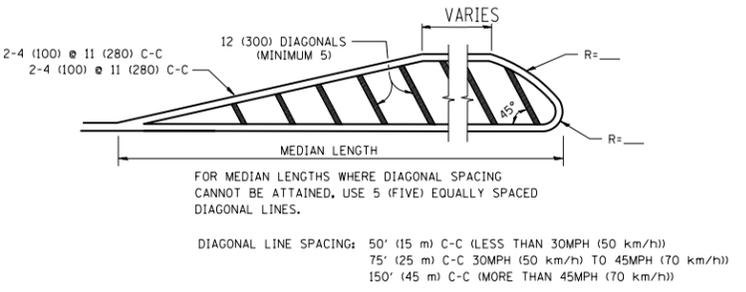
TYPICAL LANE AND EDGE LINE MARKING



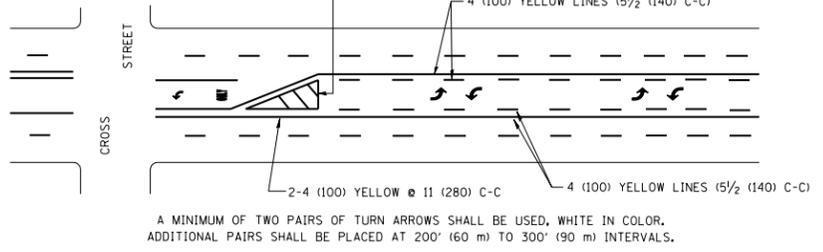
TYPICAL CROSSWALK MARKING



4' (1.2 m) WIDE MEDIANS ONLY

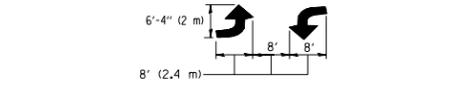


MEDIANS OVER 4' (1.2 m) WIDE



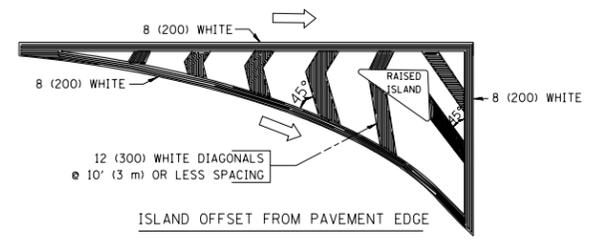
TYPICAL PAINTED MEDIAN MARKING

MEDIAN WITH TWO-WAY LEFT TURN LANE

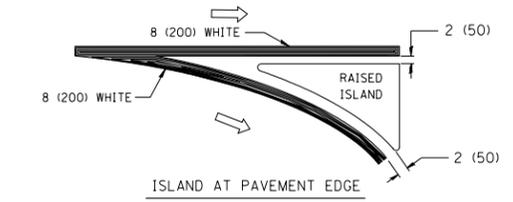


TYPICAL TURN LANE MARKING

FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
 * 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".



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

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	4 (100)	SOLID	YELLOW	5 1/2' (140) C-C FROM SKIP-DASH CENTERLINE
NO PASSING ZONE LINES: FOR BOTH DIRECTIONS	2 @ 4 (100)	SOLID	YELLOW	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; 5 1/2' (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)	2 @ 6 (150)	SOLID	WHITE	NOT LESS THAN 6' (1.8 m) APART
A. DIAGONALS (BIKE & EQUESTRIAN)	12 (300) @ 45°	SOLID	WHITE	2' (600) APART
B. LONGITUDINAL BARS (SCHOOL)	12 (300) @ 90°	SOLID	WHITE	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 @ 45°	SOLID	YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
	NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS			
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" 15' (4.5 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m ²) EACH "X"=54.0 SQ. FT. (5.0 m ²)
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 (OVER 45MPH (70 km/h))

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

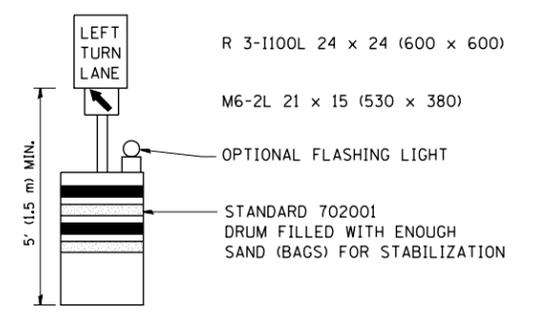
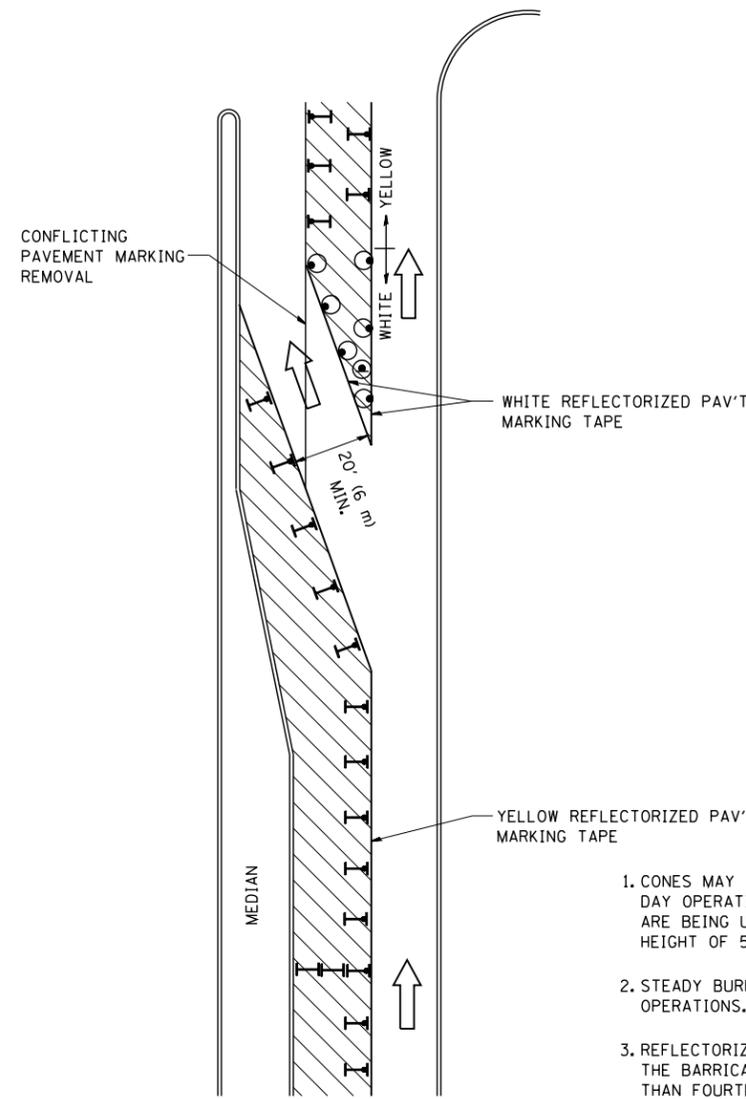
All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = drvakosgn	DESIGNED - EVERS	REVISED - T. RAMMACHER 10-27-94
ca:\pw\work\p1dot\drvakosgn\d0108315\to3.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 -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE			
TYPICAL PAVEMENT MARKINGS			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	55
TC-13		CONTRACT NO. 60W04		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



GENERAL NOTES

1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM BT 725 IS REQUIRED.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

LEGEND

-  WORK AREA
-  LANE OPEN TO TRAFFIC
-  TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
-  DRUM WITH STEADY BURN LIGHT
-  DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
-  TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

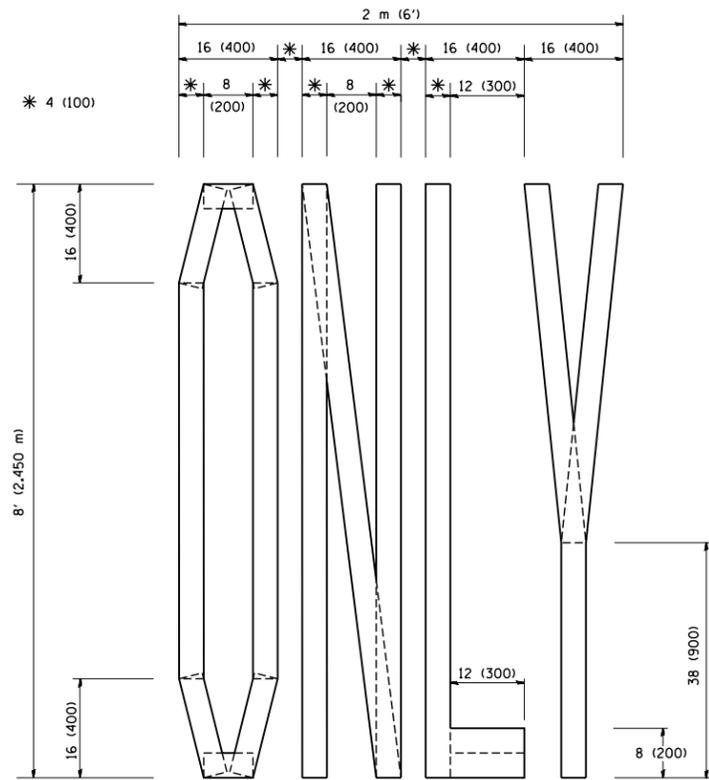
All dimensions are in inches (millimeters) unless otherwise shown.

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		DRAWN -	REVISED - A. HOUSEH 11-07-95
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED - A. HOUSEH 10-12-96
	PLOT DATE = 1/4/2008	DATE -	REVISED -T. RAMMACHER 01-06-00

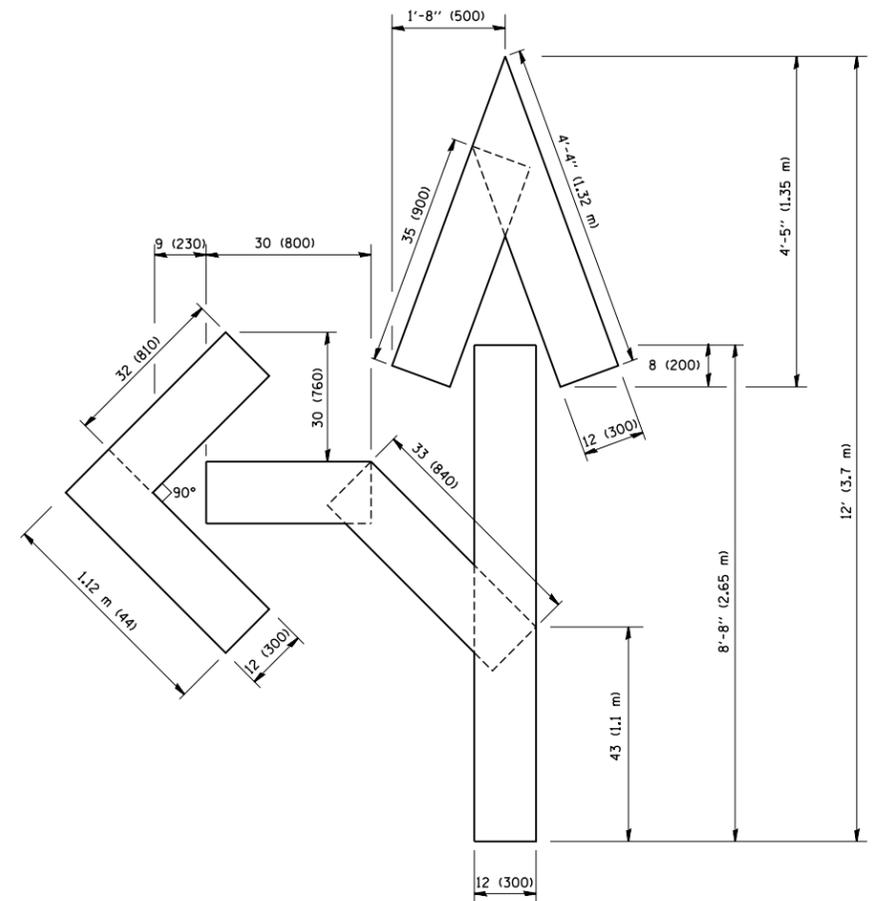
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

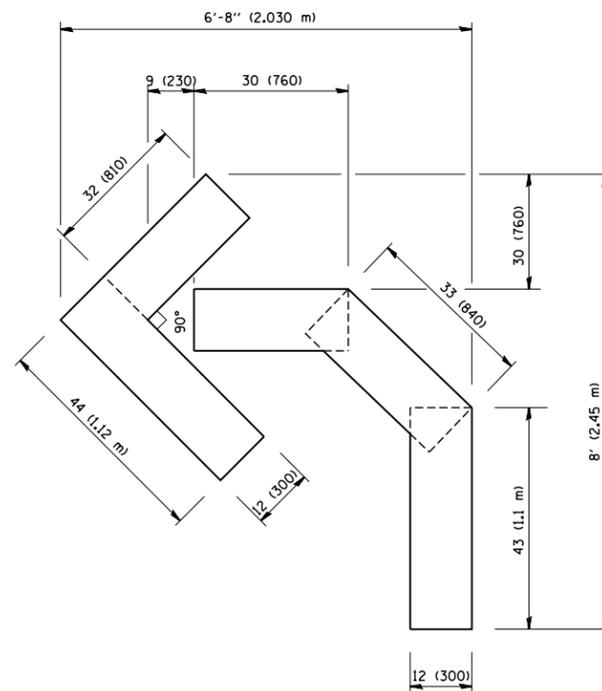
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	56
TC-14			CONTRACT NO. 60W04	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



QUANTITY
 4 (100) LINE = 64.1 ft. (19.7 m)
 21.1 sq. ft. (1.97 sq. m)



QUANTITY
 4 (100) LINE = 82.5 ft. (25.3 m)
 27.5 sq. ft. (2.53 sq. m)



QUANTITY
 4 (100) LINE = 45.5 ft. (13.9 m)
 15.2 sq. ft. (1.39 sq. m)

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

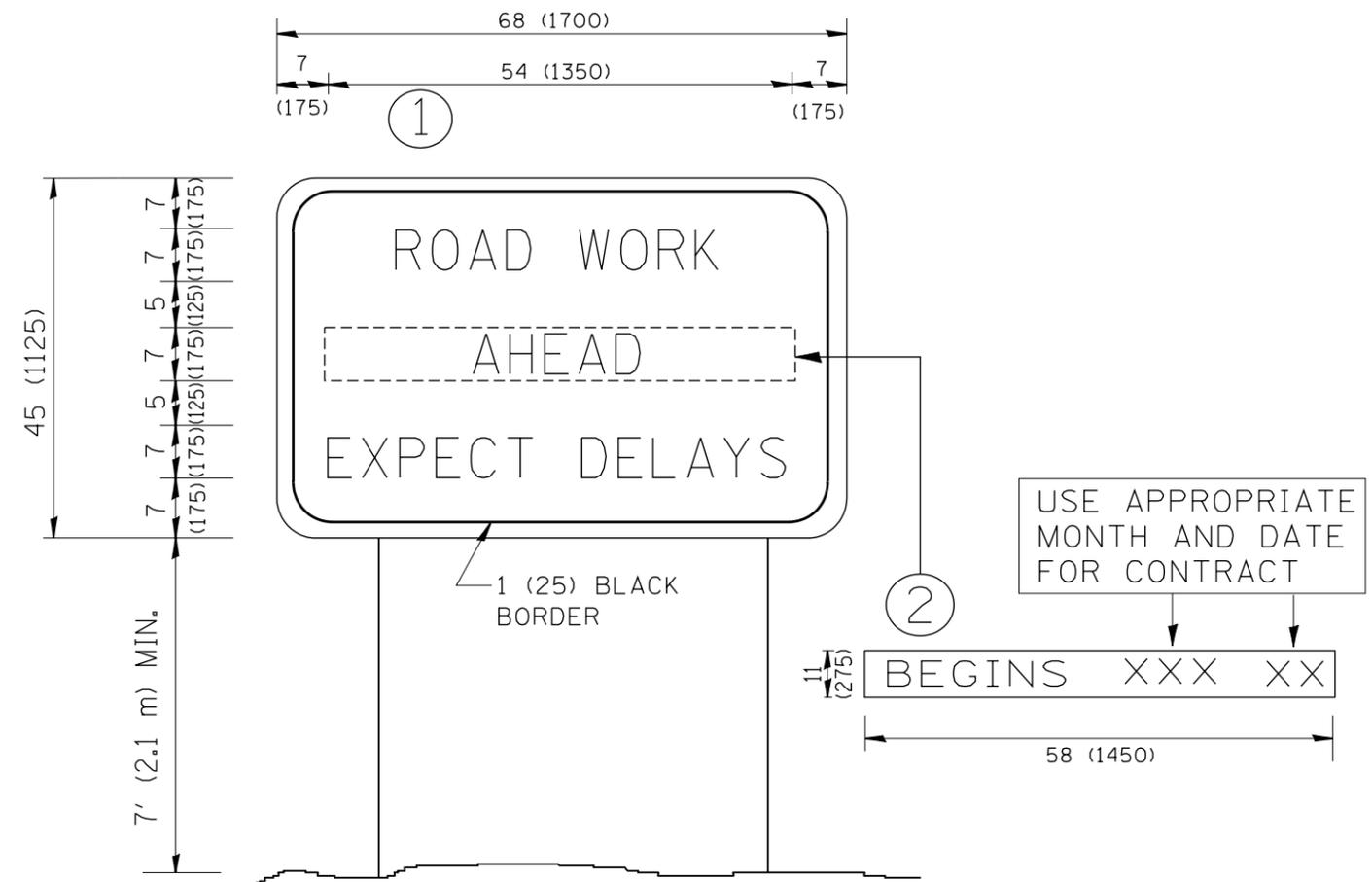
FILE NAME = W:\diststd\22x34\tc16.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED -T. RAMMACHER 06-05-96
		DRAWN -	REVISED -T. RAMMACHER 11-04-97
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -T. RAMMACHER 03-02-98
	PLOT DATE = 1/4/2008	DATE - 09-18-94	REVISED -E. GOMEZ 08-28-00

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING LETTERS AND SYMBOLS
 FOR TRAFFIC STAGING**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	57
TC-16		CONTRACT NO. 60W04		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\tc22.dgn	USER NAME = gaglionobt	DESIGNED -	REVISED - R. MIRS 09-15-97
		DRAWN -	REVISED - R. MIRS 12-11-97
	PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
	PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD
INFORMATION SIGN**

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
305	1920.01-B-R	COOK	60	58
TC-22			CONTRACT NO. 60W04	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



3.0" RADIUS, 0.5" BORDER, WHITE ON GREEN; REFLECTORIZED
 "DRIVEWAY" D; "ENTRANCE" D; STANDARD ARROW CUSTOM 12.0" x 5.0"

NOTES:

1. HALF OF THE SIGNS WILL REQUIRE A LEFT HAND FACING ARROW.
2. TWO SIGNS SHALL BE USED AT EACH COMMERCIAL ENTRANCE PLACED BACK-TO-BACK; ONE WITH A RIGHT HAND ARROW (SHOWN) SHALL BE PLACED ON THE NEAR RIGHT SIDE THE DRIVEWAY AND ONE WITH A LEFT HAND ARROW SHALL BE PLACED ON THE FAR LEFT SIDE OF THE DRIVEWAY.
3. SIGNS TO BE PAID FOR AS ITEM "TEMPORARY INFORMATION SIGNING".

