

- 1 COVER SHEET
- 2 HIGHWAY STANDARDS, GENERAL NOTES AND COMMITMENTS
- 3-6 SUMMARY OF QUANTITIES
- 7-8 TYPICAL SECTIONS
- 9-10 SCHEDULE OF QUANTITIES
- 11 ALIGNMENT, TIES AND BENCHMARKS
- 12 PLAN AND PROFILE
- 13-14 TRAFFIC CONTROL PLAN
- 15 EROSION AND SEDIMENT CONTROL PLAN
- 16 DRAINAGE PLAN AND PROFILE
- 17-24 STRUCTURAL PLANS
- 25-26 DETAILS
- 27-29 CROSS SECTIONS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

FAP ROUTE 332 (IL 1)
SECTION (1-XB)C
PROJECT ACNHPP-0332(126)
STRUCTURE REPLACEMENT
IROQUOIS COUNTY

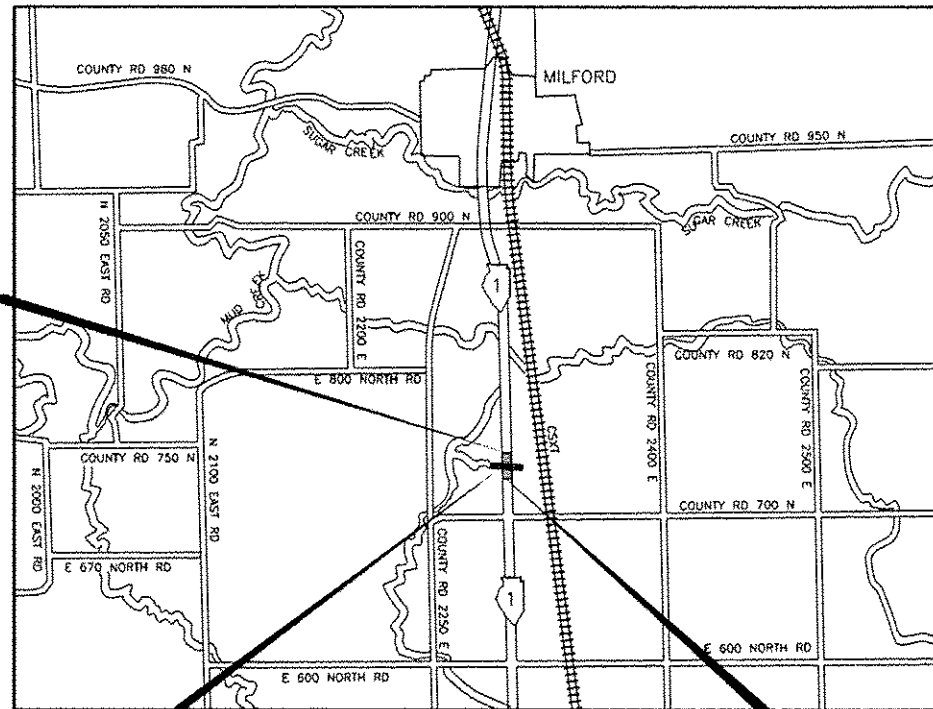
C - 93 - 091 - 16

FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(1-XB)C	IROQUOIS	29	1
FED. ROAD DIST. NO. 3		ILLINOIS	CONTRACT NO. 66E39	

D - 93 - 046 - 16

P - 93 - 015 - 15



BEGIN IMPROVEMENT
STA. 120 + 81.00

EX. S.N. 038-2523
PROP. S.N. 038-2564
STA 122 + 71.80
DOUBLE 6' X 3' PRE-CAST
CONCRETE BOX CULVERT

END IMPROVEMENT
STA. 124 + 62.00

LOCATION MAP
NOT TO SCALE

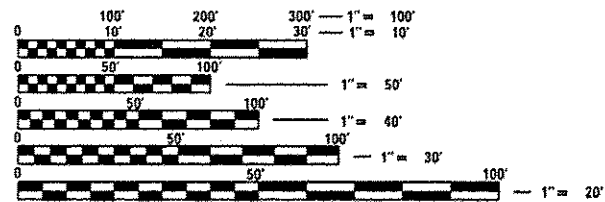
GROSS LENGTH = 381.0 FT. = 0.072 MILE
NET LENGTH = 381.0 FT. = 0.072 MILE



Grazyna Czyszczo
DATE
LICENSE EXPIRES ON 11/30/2017
Roadway Plans



Syed S. Kazi
DATE
LICENSE EXPIRES ON 11/30/2018
SHEETS 17-24



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

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

PROJECT ENGINEER: JOSEPH E. KANNEL, P.E.
UNIT CHIEF: MICHELE S. LINDEMANN, P.E.
TOWNSHIP: MILFORD (T25N,R12W,SEC.26,27)
DISTRICT 3 NO. (815) 434-6131
CONTRACT NO. 66E39

FUNCTION CLASSIFICATION

OTHER PRINCIPAL ARTERIAL (NHS)
2017 ADT = 2295
P.V. = 76.2% S.U. = 12.7% M.U. = 11.1%

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED *Dec 8 2016*
Karin Marchewka
REGIONAL ENGINEER

Jan 27 2017
Manson M. Addison
ENGINEER OF DESIGN AND ENVIRONMENT

Jan 27 2017
Michelle Allen
DIRECTOR OF PROGRAM DEVELOPMENT

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OF THE STATE OF ILLINOIS**



DELTA ENGINEERING GROUP, LLC
CONSULTING ENGINEERS, CONSTRUCTION MANAGERS, SURVEYORS
111 W JACKSON BLVD, SUITE 910
CHICAGO, IL 60604
T 312.377.7700, F 312.427.6145

HIGHWAY STANDARDS:

- 000001-06 STANDARDS SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 482001-02 HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
- 482011-03 HMA SHOULDER STRIPS / SHLDS. WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
- 701001-02 OFF-ROAD OPERATION, 2L, 2W, MORE THAN 15' AWAY
- 701006-05 OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701201-04 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701306-03 LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS >= 45 MPH
- 701311-03 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
- 701321-16 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701326-04 LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS >= 45 MPH
- 701901-06 TRAFFIC CONTROL DEVICES
- 704001-08 TEMPORARY CONCRETE BARRIER
- 720011-01 METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
- 780001-05 TYPICAL PAVEMENT MARKINGS
- 781001-04 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

10. THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

GRANULAR MATERIALS	2.05	TONS/CU YD
HMA RESURFACING	112	LBS/SO YD/IN
MIX FOR CRACKS, JTS & FLGWYS	0.0003	TONS/SO YD
LEVEL BINDER (HAND METHOD)	0.0005	TONS/SO YD
SUPPLEMENTAL WATERING	3	GAL/SO YD/ APPLICATION
CALCIUM CHLORIDE	2	LB/SO YD/ APPLICATION
AGGREGATE DITCH CHECKS	5	TONS AGGREGATE

11. MEMBERS OF J.U.L.I.E. KNOWN TO BE WITHIN THE LIMITS OF THE IMPROVEMENT ARE:
- FRONTIER

HMA MIXTURE REQUIREMENTS

PAY ITEM	HMA BASE COURSE	HMA LEVEL BINDER	HMA SURFACE	HMA SHOULDERS (TOP 2")	HMA SHOULDERS (BOTTOM 6")
PG GRADE	PG64-22	PG64-22	PG64-22	PG64-22	PG64-22
DESIGN AIR VOIDS	4.0% @ N50	4.0% @ N50	4.0% @ N50	4.0% @ N50	4.0% @ N50
MIXTURE COMPOSITION	IL 19.0	IL 9.5	IL 9.5	IL 9.5	IL 19.0
FRICTION AGGREGATE	-	-	MIXTURE C	-	-
DENSITY TEST METHOD	CORES	SATISFACTION OF ENGINEER	CORES	CORES	CORES
MIXTURE WEIGHT	112#/ SO YD/IN	112#/ SO YD/IN	112#/ SO YD/IN	112#/ SO YD/IN	112#/ SO YD/IN
QUALITY MANAGEMENT PROG	QC/OA	QC/OA	QC/OA	QC/OA	QC/OA
SUBLOT SIZE	N/A	N/A	N/A	N/A	N/A
LOCATION(S)	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT	ENTIRE PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE
AS BUILT INFORMATION

SUPERVISING CONSTRUCTION FIELD ENGINEER

RESIDENT ENGINEER / TECHNICIAN

START & END DATES
OF CONSTRUCTION: _____

INSPECTORS: _____

GENERAL NOTES:

1. THE THICKNESS OF HMA SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HMA IS PLACED.
2. EXCEPT AS NOTED ON THE PLANS, PAVEMENT GRADES SHOWN ARE AT THE TOP OF PAVEMENT SURFACES.
3. THE ENGINEER WILL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.
4. FOR STABILIZATION, ALL TYPE III BARRICADES WILL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.
5. SEEDING WILL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. LOCATIONS TO BE SEEDD WILL BE DETERMINED BY THE ENGINEER.
6. THE FINISHED EARTHWORK SHALL HAVE A VEGETATION SUSTAINING SOIL COVERING THE TOP FOUR INCHES IN AREAS TO BE SEEDD OR SODDED. THE VEGETATION SUSTAINING SOIL REQUIRED WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
7. ALL ELEVATIONS REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.
8. ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
9. ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS OR THE COPY INCLUDED IN THESE PLANS.

COMMITMENTS:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT THREE

REVIEWED BY: Tom Benik
DISTRICT STUDIES & PLANS ENGINEER

DATE: 12-8-16

EXAMINED BY: [Signature]
DISTRICT CONSTRUCTION ENGINEER

[Signature]
DISTRICT OPERATIONS ENGINEER

[Signature]
DISTRICT MATERIALS ENGINEER

DATE	BY	REVISION

DATE	BY	REVISION



USER NAME = carcoranm	DESIGNED - GC	REVISED -
DRAWN - RM	CHECKED - GC	REVISED -
DATE - 12/02/2016		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HIGHWAY STANDARDS,
GENERAL NOTES AND COMMITMENTS

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE. 332	SECTION 01-XBIC	COUNTY IROUOIS	TOTAL SHEETS 29	SHEET NO. 2
CONTRACT NO. 66E39			ILLINOIS FED. AID PROJECT	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				80% FED 20% STATE BOX CULVERT 0004 S.N. 038-2564
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	279	279
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	547	547
40600400	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	0.3	0.3
40600525	LEVELING BINDER (HAND METHOD), N50	TON	0.5	0.5
40600990	TEMPORARY RAMP	SQ YD	31	31
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	97	97
44000100	PAVEMENT REMOVAL	SQ YD	122	122
44000155	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"	SQ YD	1030	1030
44004250	PAVED SHOULDER REMOVAL	SQ YD	180	180
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	260	260
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	428	428
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1
50200100	STRUCTURE EXCAVATION	CU YD	164	164
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	142	142

14

* SPECIALTY ITEMS

PLAN	DATE
BY	
REVISIONS	
NO.	

PROFILE	DATE
BY	
REVISIONS	
NO.	



USER NAME = rmmuod	DESIGNED - GC	REVISIONS -
FLUT SCALE = 2,000' / 1"	DRAWN - RM	REVISIONS -
FLUT DATE = 12/1/2016	CHECKED - GC	REVISIONS -
	DATE - 12/02/2016	REVISIONS -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES	
SCALE: NONE	SHEET 2 OF 4 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	Q-XBIC	IRROQUOIS	29	4
CONTRACT NO. 66E39				
ILLINOIS FED. AID PROJECT				


DATE	
BY	
SURVEYED	
ALIGNED	
CHECKED	
BY	
DATE	
PLAN	
NOTE BOOK	
NO.	

DATE	
BY	
SURVEYED	
ALIGNED	
CHECKED	
BY	
DATE	
PROFILE	
NOTE BOOK	
NO.	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				BOX CULVERT
54001001	BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	4	80% FED 20% STATE 0004 S. N. 038-2564
54010603	PRECAST CONCRETE BOX CULVERTS 6' X 3'	FOOT	108	
54260311	TRAVERSABLE PIPE GRATE	FOOT	110	
63500310	REMOVE AND REINSTALL DELINEATORS	EACH	2	
67100100	MOBILIZATION	LSUM	1	
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LSUM	1	
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	LSUM	1	
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	2	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	
70300100	SHORT TERM PAVEMENT MARKING	FOOT	136	
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	23	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1364	

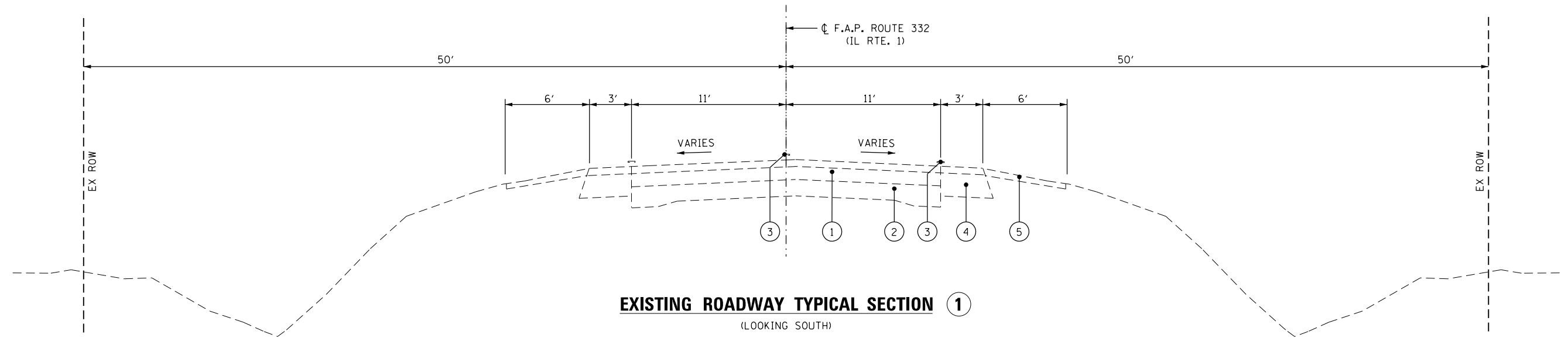
13

* SPECIALTY ITEMS

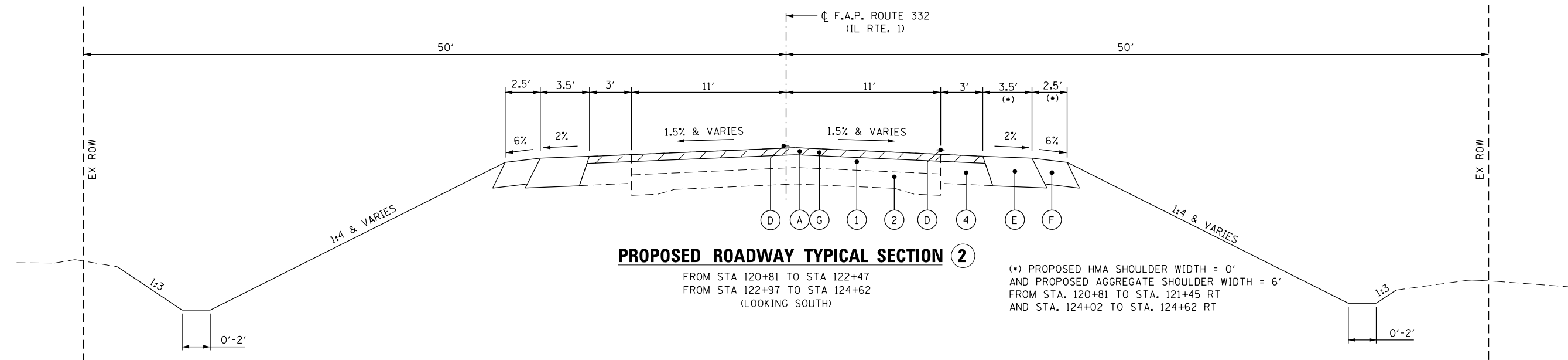
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PLAN	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NOTE BOOK NO.	
	BY	

PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NOTE BOOK NO.	
	BY	



EXISTING ROADWAY TYPICAL SECTION ①
(LOOKING SOUTH)



PROPOSED ROADWAY TYPICAL SECTION ②
FROM STA 120+81 TO STA 122+47
FROM STA 122+97 TO STA 124+62
(LOOKING SOUTH)

(*) PROPOSED HMA SHOULDER WIDTH = 0'
AND PROPOSED AGGREGATE SHOULDER WIDTH = 6'
FROM STA. 120+81 TO STA. 121+45 RT
AND STA. 124+02 TO STA. 124+62 RT

LEGEND:

EXISTING

- ① EXISTING HOT-MIX ASPHALT PAVEMENT, 8 1/2"
- ② EXISTING PCC PAVEMENT, 9"-7"-9"
- ③ EXISTING PAVEMENT MARKING
- ④ EXISTING HOT-MIX ASPHALT SHOULDER, 6"
- ⑤ EXISTING AGGREGATE SHOULDER, TYPE B, 3" MIN

PROPOSED

- Ⓐ PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX C, N50, 1 1/2"
- Ⓑ PROPOSED HOT-MIX ASPHALT BASE COURSE 8 3/4"
- Ⓒ PROPOSED SUBBASE GRANULAR MATERIAL, TYPE A, 4"
- Ⓓ PAINT PAVEMENT MARKING
- Ⓔ PROPOSED HOT-MIX ASPHALT SHOULDER, 8"
- Ⓕ PROPOSED AGGREGATE SHOULDER, TYPE B, 6"
- Ⓖ HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"



USER NAME = rmemucod	DESIGNED - GC	REVISED -
	DRAWN - RM	REVISED -
PLOT SCALE = 8.0000' / in.	CHECKED - GC	REVISED -
PLOT DATE = 12/1/2016	DATE - 12/02/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTIONS

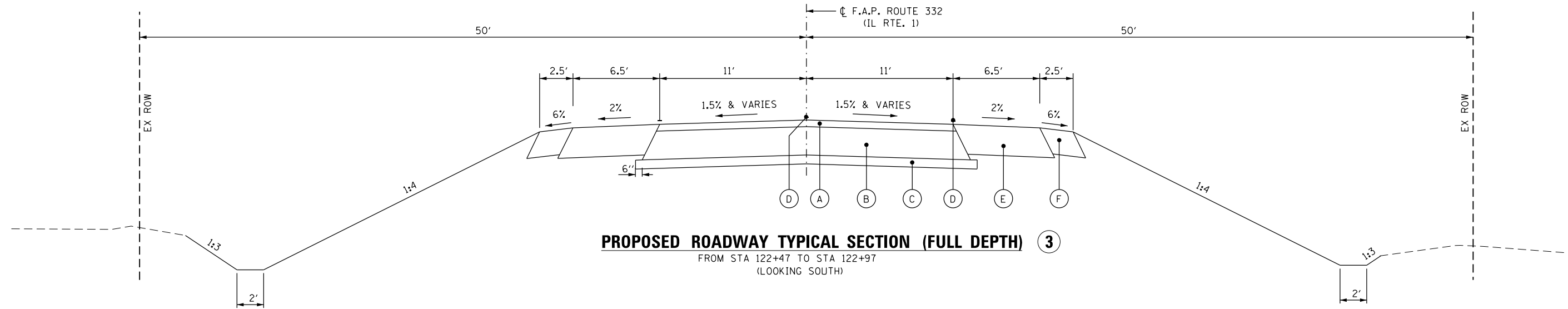
SCALE: NONE SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.P. RTE. 332	SECTION (I-XB/C)	COUNTY IROQUOIS	TOTAL SHEETS 29	SHEET NO. 7
CONTRACT NO. 66E39				ILLINOIS FED. AID PROJECT

12/14/16 AM

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	ALIGNMENT CHECKED		
	STRUCTURE NOT AT THIS OFFICE		
	NO. _____		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	ALIGNMENT CHECKED		
	STRUCTURE NOT AT THIS OFFICE		
	NO. _____		



PROPOSED ROADWAY TYPICAL SECTION (FULL DEPTH) ③
 FROM STA 122+47 TO STA 122+97
 (LOOKING SOUTH)

LEGEND:

EXISTING

- ① EXISTING HOT-MIX ASPHALT PAVEMENT, 8 1/2"
- ② EXISTING PCC PAVEMENT, 9"-7"-9"
- ③ EXISTING PAVEMENT MARKING
- ④ EXISTING HOT-MIX ASPHALT SHOULDER, 6"
- ⑤ EXISTING AGGREGATE SHOULDER, TYPE B, 3" MIN

PROPOSED

- Ⓐ PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX C, N50, 1 1/2"
- Ⓑ PROPOSED HOT-MIX ASPHALT BASE COURSE 8 3/4"
- Ⓒ PROPOSED SUBBASE GRANULAR MATERIAL, TYPE A, 4"
- Ⓓ PAINT PAVEMENT MARKING
- Ⓔ PROPOSED HOT-MIX ASPHALT SHOULDER, 8"
- Ⓕ PROPOSED AGGREGATE SHOULDER, TYPE B, 6"
- Ⓖ HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"

10:42:20 AM



DELTA ENGINEERING GROUP, LLC

USER NAME = rmemucod	DESIGNED - GC	REVISED -
	DRAWN - RM	REVISED -
PLOT SCALE = 8.0000' / in.	CHECKED - GC	REVISED -
PLOT DATE = 12/1/2016	DATE - 12/02/2016	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SCALE: NONE SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.P. RTE. 332	SECTION (I-XB/C)	COUNTY IROQUOIS	TOTAL SHEETS 29	SHEET NO. 8
CONTRACT NO. 66E39				
ILLINOIS FED. AID PROJECT				

EARTHWORK SCHEDULE

LOCATION			EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (25%)	EMBANKMENT	EARTHWORK BALANCE WASTE (+) SHORTAGE (-)
STATION	TO	STATION	(CU YD)	(CU YD)	(CU YD)	(CU YD)
120+81	TO	122+47	80	60	35	25
122+47	TO	122+97	BOX CULVERT			
122+97	TO	124+62	88	66	54	12
TOTAL			168	126	89	37

SEEDING AND EROSION CONTROL SCHEDULE

LOCATION			SIDE	SEEDING, CLASS 2A	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	EROSION CONTROL BLANKET	TEMPORARY EROSION CONTROL SEEDING	TEMPORARY DITCH CHECKS	PERIMETER EROSION CONTROL BARRIER
STATION	TO	STATION	LT/RT	(ACRE)	(POUND)	(POUND)	(POUND)	(SQ YD)	(POUND)	(FOOT)	(FOOT)
120+81	TO	122+72	RT	0.09	8	8	8	440	9	20	118
121+45	TO	122+72	LT	0.10	9	9	9	476	10	20	200
122+72	TO	124+62	RT	0.10	9	9	9	501	10	20	137
122+72	TO	124+02	LT	0.10	9	9	9	481	10	20	270
TOTAL				0.4	35	35	35	1899	39	80	725

PAVEMENT SCHEDULE

LOCATION			SUB-BASE GRANULAR MATERIAL, TYPE A 4"	HOT-MIX ASPHALT BASE COURSE, 8 3/4"	HMA SURFACE COURSE, MIX C, N50	BITUMINOUS MATERIALS (PRIME COAT)	BITUMINOUS MATERIALS (TACK COAT)	MIXTURES FOR CRACKS, JOINTS AND FLANGEWAYS	LEVELING BINDER (HAND METHOD), N50	TEMPORARY RAMP
STATION	TO	STATION	(SQ YD)	(SQ YD)	(TON)	(POUND)	(POUND)	(TON)	(TON)	(SQ YD)
120+81	TO	122+47			43.4		232.4	0.15	0.26	15.6
122+47	TO	122+97	137.2	126.9	10.3	279.3	83.8			
122+97	TO	124+62			43.1		231.0	0.15	0.26	15.6
TOTAL			137	127	97	279	547	0.3	0.5	31

PAVEMENT REMOVAL SCHEDULE

LOCATION			PAVEMENT REMOVAL	HMA SURFACE REMOVAL 1 1/2"
STATION	TO	STATION	(SQ YD)	(SQ YD)
120+81	TO	122+47		516.4
122+47	TO	122+97	122.2	
122+97	TO	124+62		513.3
TOTAL			122	1030

PLAN	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	
	GRADES CHECKED	
	ALIGNMENT CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	FILE NAME	

PROFILE	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	
	GRADES CHECKED	
	ALIGNMENT CHECKED	
	STRUCTURE NOTATIONS CHECKED	

BENCHMARK #1

CUT SQUARE IN SOUTHEAST CORNER OF EAST HEADWALL,
STA 122+80.78, 27.03' LT, ELEV. = 664.984

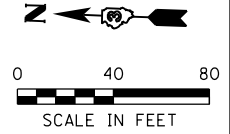
CP 1510

8d SPIKE IN SHOULDER NEAR INTERSECTION SIGN, STA. 121+78.78 ELEV. = 665.402

BENCHMARK #3

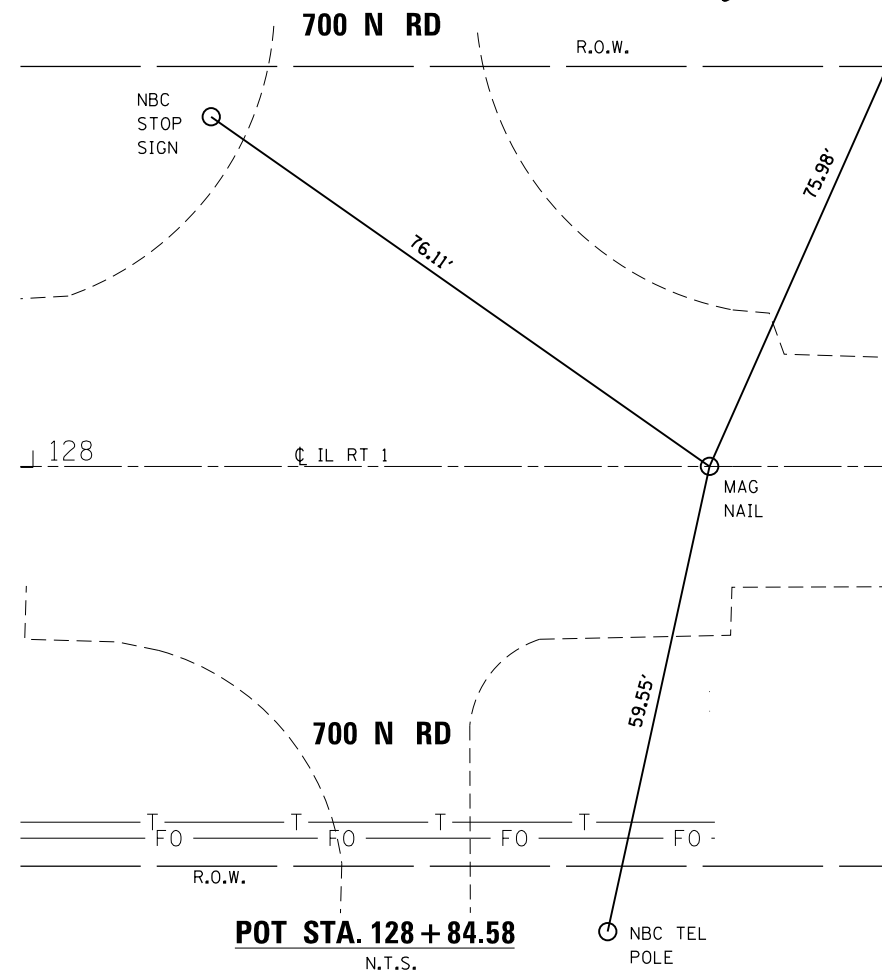
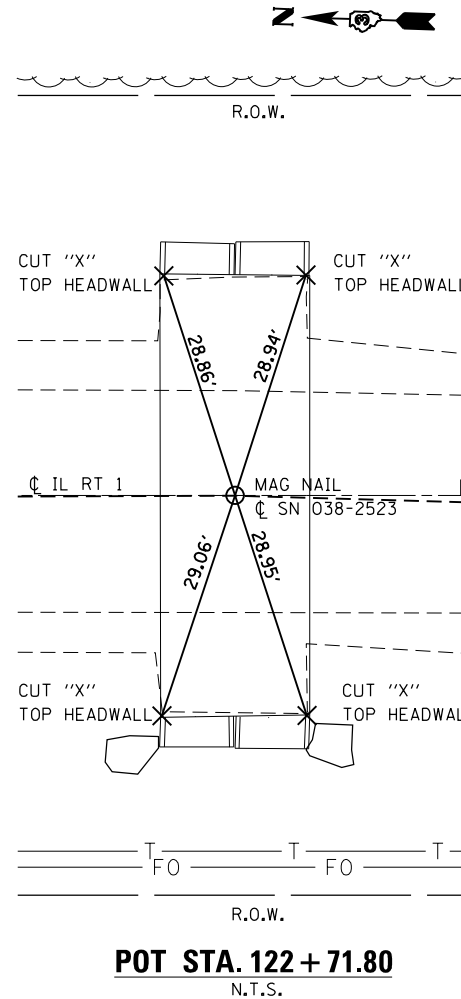
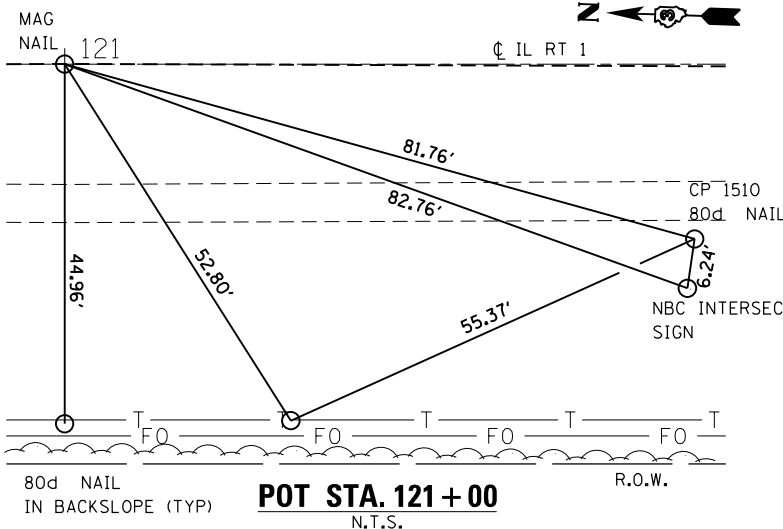
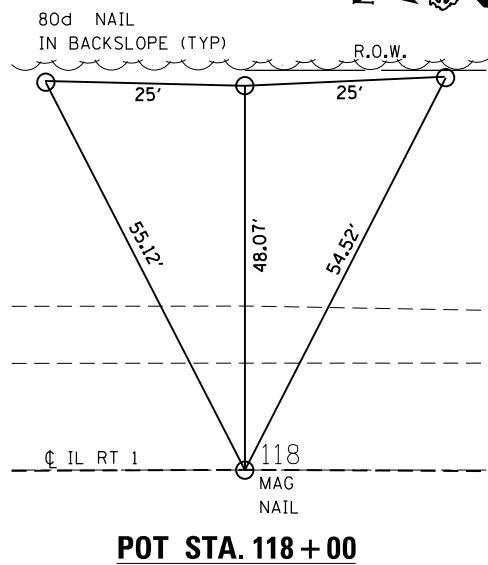
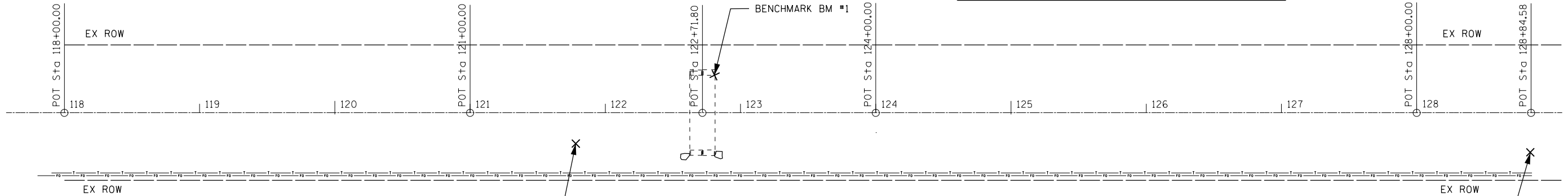
CUT SQUARE TOP RCCP END SECTION SW QUADRANT RT 1 AND 700 N RD
STA. 128+84.56, 28.17' RT, ELEV 666.912

POT STATION	NORTHING	EASTING
STA 118+00.00	1430283.5983	1161661.5436
STA 121+00.00	1429983.7085	1161669.6733
STA 122+71.80	1429811.9716	1161674.3289
STA 124+00.00	1429683.8187	1161677.8029
STA 128+00.00	1429283.9656	1161688.6425
STA 128+84.58	1429199.4171	1161690.9346



PLAN	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	BY
	CHECKED	
	ALIGNED	
	FIELD FILE NAME	

PROFILE	SURVEYED	DATE
NOTE BOOK NO.	GRADES CHECKED	BY
	STRUCTURE NOTATIONS CHECKED	



USER NAME = rmanucod	DESIGNED - GC	REVISED -
PLOT SCALE = 80.0000' / in.	DRAWN - RM	REVISED -
PLOT DATE = 12/1/2016	CHECKED - GC	REVISED -
	DATE - 12/02/2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALIGNMENT, TIES AND BENCHMARKS	
SCALE: 1"=40'	SHEET 1 OF 1 SHEETS
STA.	TO STA.

F.A.P. RTE. 332	SECTION (I-XBIC)	COUNTY IROQUOIS	TOTAL SHEETS 29	SHEET NO. 11
CONTRACT NO. 66E39				
ILLINOIS FED. AID PROJECT				

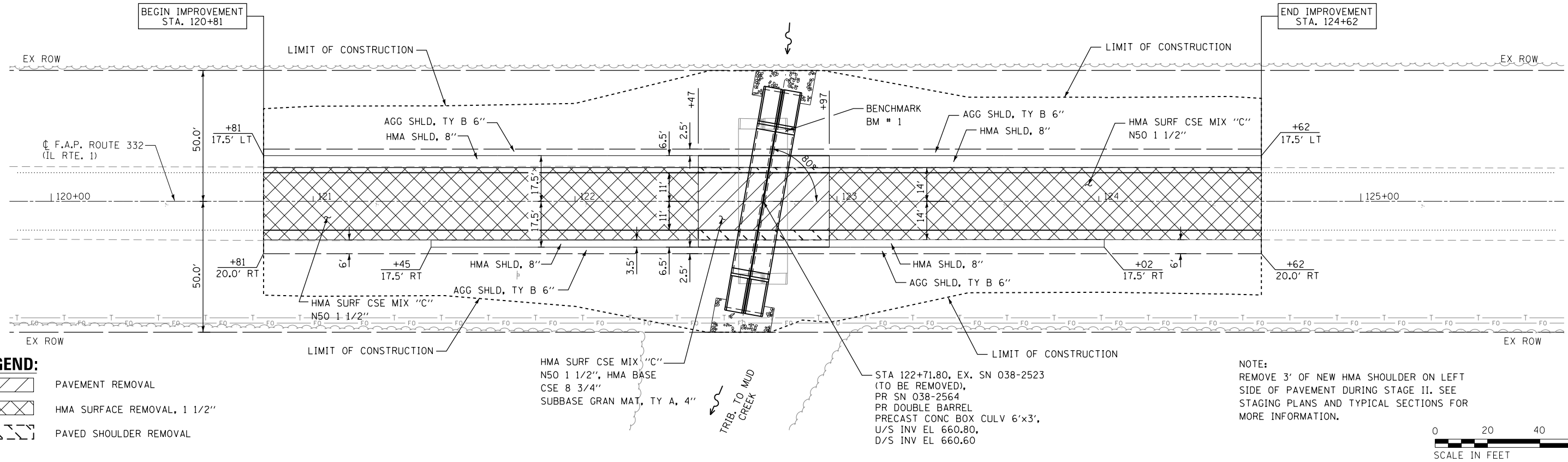
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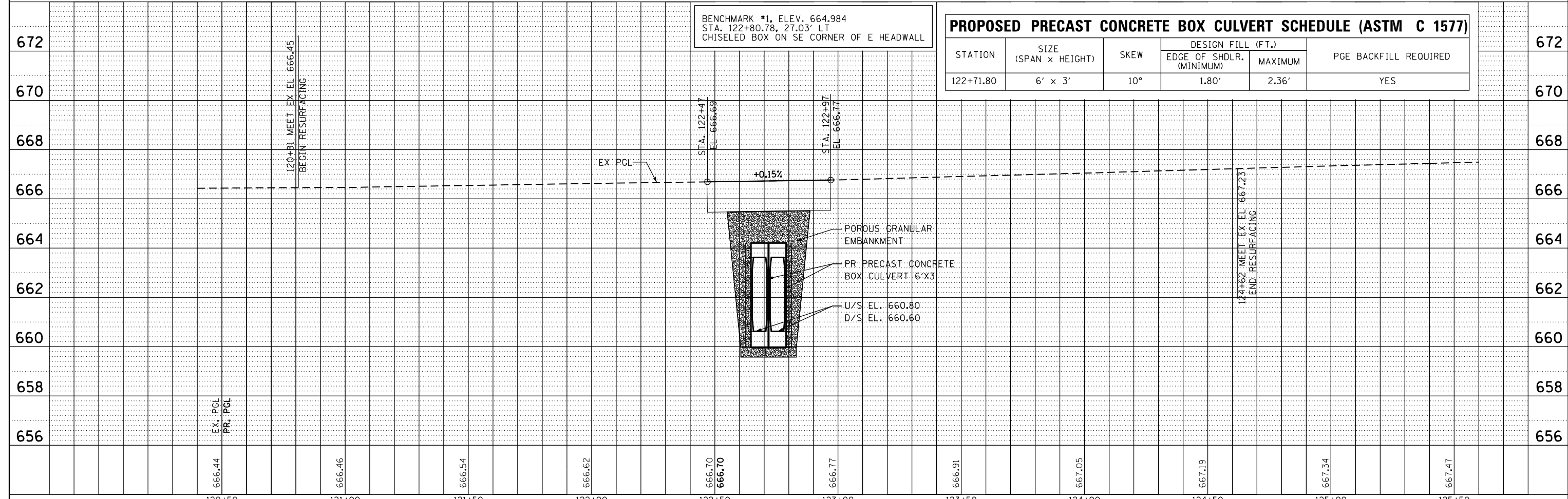
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NOTE BOOK NO.	
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LEGEND:
 PAVEMENT REMOVAL
 HMA SURFACE REMOVAL, 1 1/2"
 PAVED SHOULDER REMOVAL

NOTE:
 REMOVE 3' OF NEW HMA SHOULDER ON LEFT SIDE OF PAVEMENT DURING STAGE II. SEE STAGING PLANS AND TYPICAL SECTIONS FOR MORE INFORMATION.

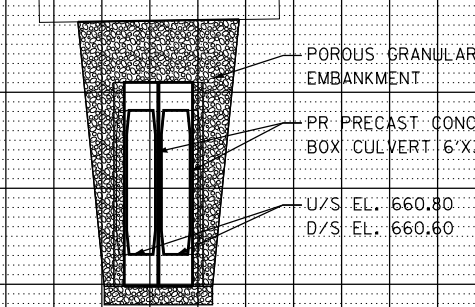


PROPOSED PRECAST CONCRETE BOX CULVERT SCHEDULE (ASTM C 1577)					
STATION	SIZE (SPAN x HEIGHT)	SKEW	DESIGN FILL (FT.)		PGE BACKFILL REQUIRED
			EDGE OF SHDLR. (MINIMUM)	MAXIMUM	
122+71.80	6' x 3'	10°	1.80'	2.36'	YES

BENCHMARK #1, ELEV. 664.984
 STA. 122+80.78, 27.03' LT
 CHISELED BOX ON SE CORNER OF E HEADWALL

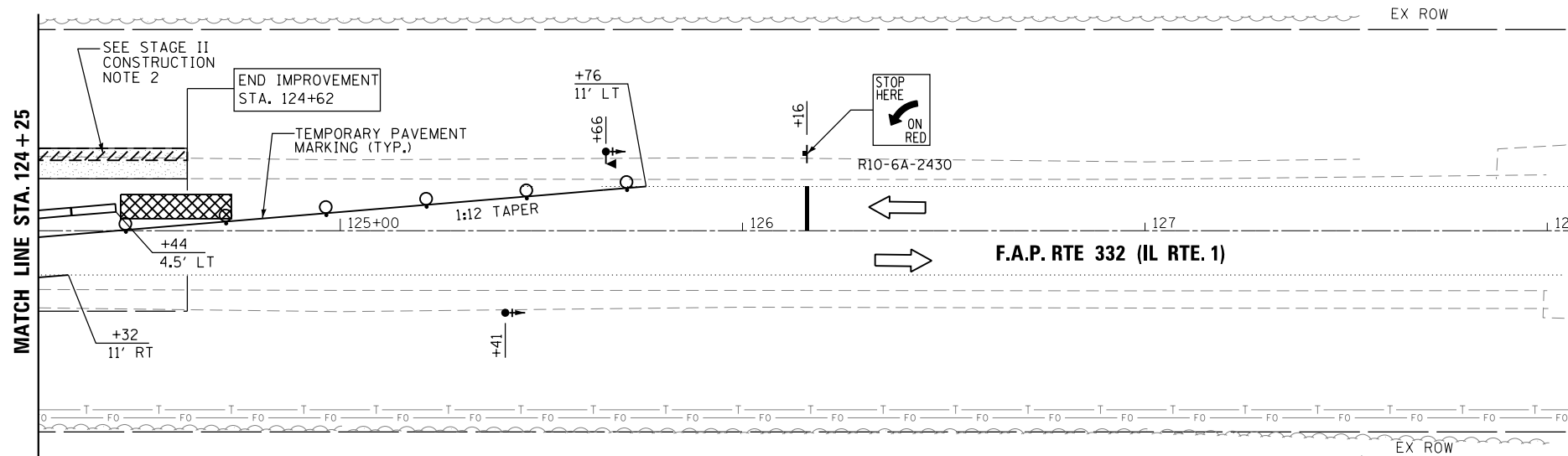
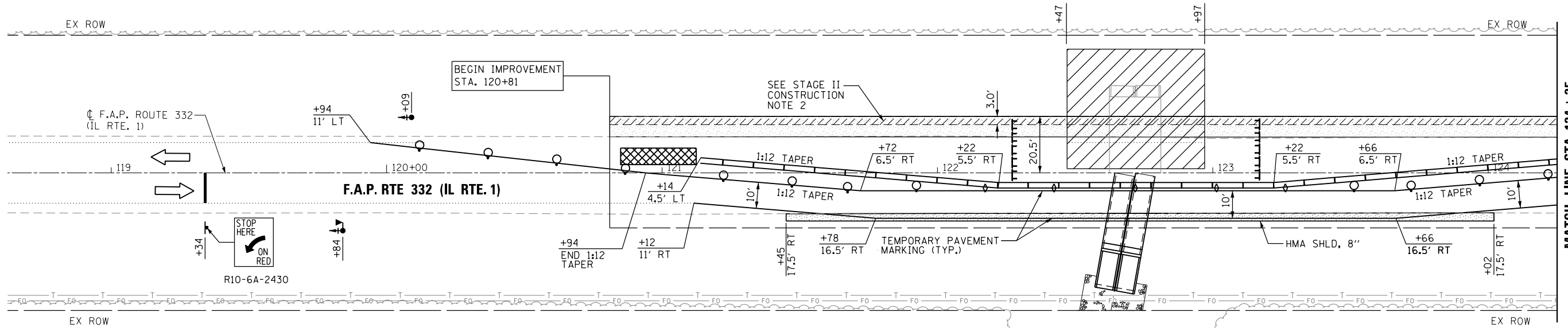
STA. 122+47
 EL. 666.69

STA. 122+97
 EL. 666.77



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PROFILE	SURVEYED	DATE
	PLOTTED	BY
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LEGEND:

- HOT-MIX ASPHALT SHOULDERS, 8"
- DRUM WITH STEADY BURN LIGHT
- TRAFFIC SIGNALS WITH BACKPLATE
- MICROWAVE DETECTORS
- SIGN
- TYPE III BARRICADE WITH FLASHING LIGHTS
- CRYSTAL BIDIRECTIONAL BARRIER WALL / GUARDRAIL MARKER
- DOUBLE VERTICAL PANEL (SEE DETAIL)
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY (FULLY REDIRECTIVE, NARROW, TEST LEVEL 3)
- WORK AREA
- DIRECTION OF TRAFFIC
- HMA SHOULDER REMOVAL

NOTES:

- SEE STANDARD 701321 FOR DETAILS.
- SEE STRUCTURAL SHEETS FOR STAGES OF CONSTRUCTION.
- OFFSETS FOR TEMPORARY CONCRETE BARRIER ARE TO THE TRAFFIC SIDE OF THE WALL.

STAGE II TRAFFIC

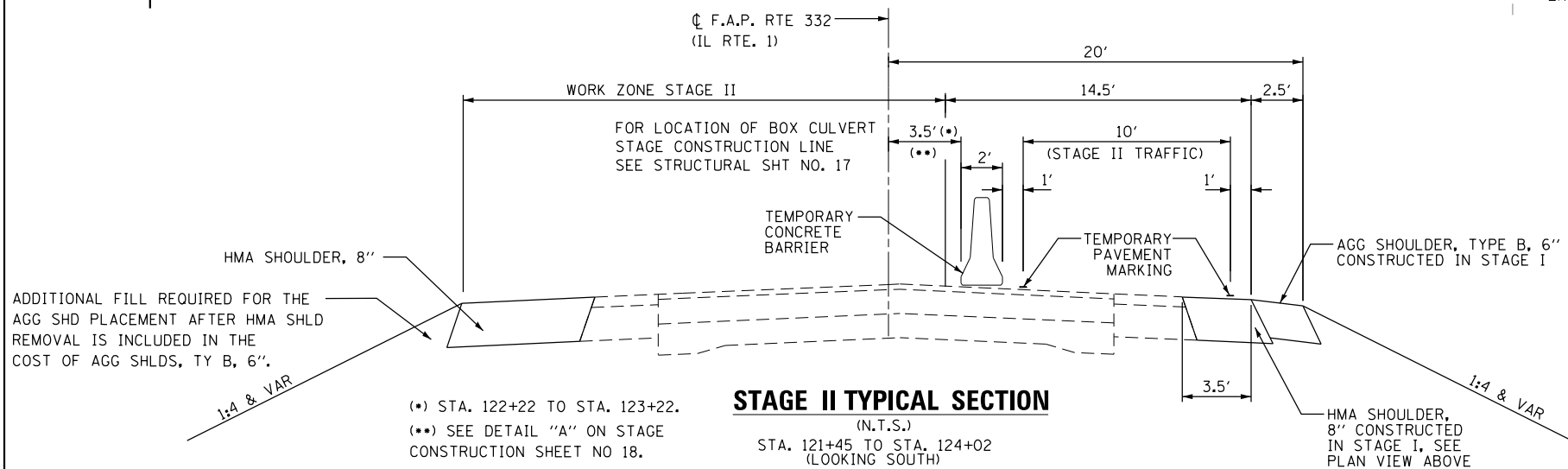
- RELOCATE TEMPORARY CONCRETE BARRIER FROM STA. 121+14 TO STA. 124+44.
- SHIFT IL ROUTE 1 TRAFFIC TO NEW PAVEMENT CONSTRUCTED IN STAGE I USING HIGHWAY STD 701321.

STAGE II CONSTRUCTION

- REMOVE EAST SIDE PORTION OF EXISTING DOUBLE BOX CULVERT AND CONSTRUCT DOUBLE BOX CULVERT AND PAVEMENT FROM STA. 122+47 TO STA. 122+97.
- REMOVE PORTION OF HMA SHOULDER, 8", CONSTRUCT AGGREGATE SHOULDER, TYPE B, 6" ALONG IL ROUTE 1 NORTHBOUND.

STAGE III CONSTRUCTION

- PLACE HMA SURFACE COURSE, MAINTAINING TRAFFIC USING HIGHWAY STD 701201.



ADDITIONAL FILL REQUIRED FOR THE AGG SHD PLACEMENT AFTER HMA SHLD REMOVAL IS INCLUDED IN THE COST OF AGG SHLDS, TY B, 6".

(*) STA. 122+22 TO STA. 123+22.
 (**) SEE DETAIL "A" ON STAGE CONSTRUCTION SHEET NO 18.

STAGE II TYPICAL SECTION
 (N.T.S.)
 STA. 121+45 TO STA. 124+02
 (LOOKING SOUTH)



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	DRAWN - RM	REVISD -
PLOT SCALE = 40.0000' / in.	CHECKED - GC	REVISD -
PLOT DATE = 12/1/2016	DATE = 12/02/2016	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE II TRAFFIC CONTROL PLAN

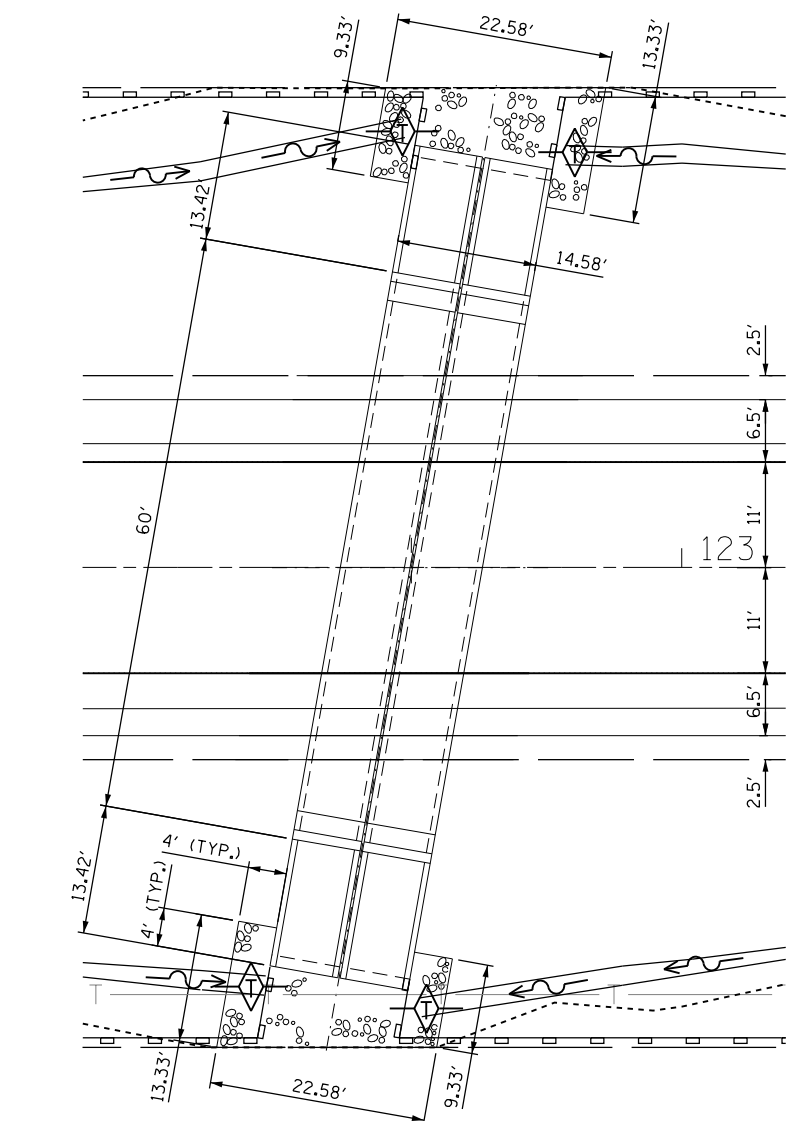
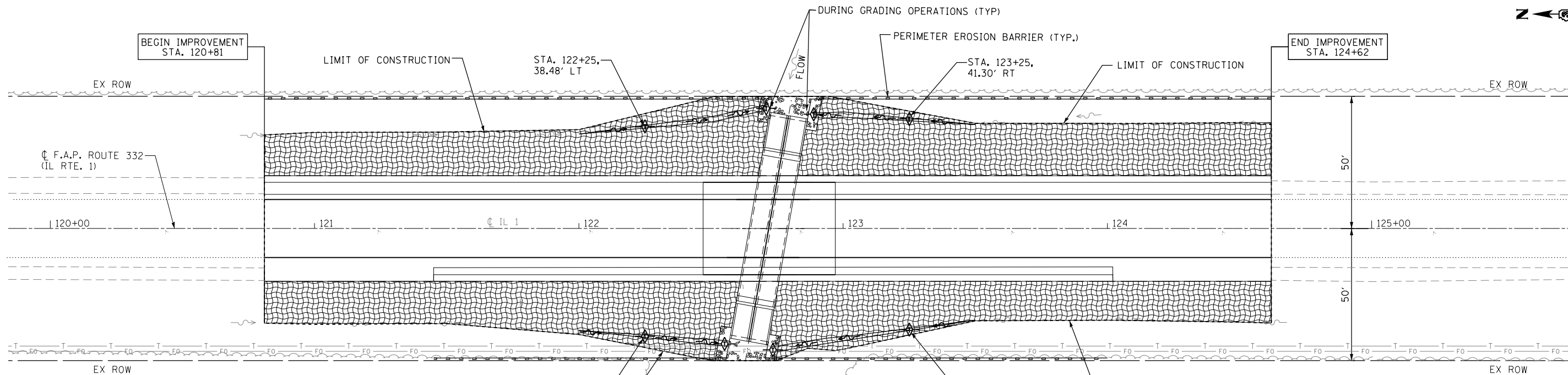
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(I)-XB/C	IROQUOIS	29	14
				CONTRACT NO. 66E39
ILLINOIS FED. AID PROJECT				

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	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NO. 1	



RIPRAP LAYOUT PLAN
N.T.S.

LEGEND:

- EXISTING DITCH
- PROPOSED DITCH
- TEMPORARY DITCH CHECK
- STONE RIPRAP, CLASS A4 OVER FILTER FABRIC
- EROSION CONTROL BLANKET AND PERMANENT SEEDING CLASS 2A (TEMPORARY EROSION CONTROL SEEDING AS NEEDED)
- PERIMETER EROSION BARRIER



DELTA ENGINEERING GROUP, LLC

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PLOT DATE = 12/1/2016	CHECKED - GC	REVISED -
	DATE - 12/02/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=20' SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE. 332	SECTION (1-XB/C)	COUNTY IROQUOIS	TOTAL SHEETS 29	SHEET NO. 15
CONTRACT NO. 66E39				
ILLINOIS FED. AID PROJECT				

BENCHMARK #1:

Chiseled Box in Southeast corner of east headwall, Sta. 122+80.78, 27.03' Lt., Elev. 664.98.

DESIGN FILL HEIGHT

Design Earth Cover = 2.37 Ft.

LEGEND

Soil Boring Location

EXISTING STRUCTURE:

The Existing Structure, SN 038-2523 was constructed in 1937 as a double 8'x3' concrete box culvert, 40' long. In 1996, Precast extensions were added to the Structure. SN 038-2523 is proposed to be removed and replaced with a double 6'x3' Box Culvert skewed 10 degrees left ahead with end sections and Traversable Grates.

STAGING:

Traffic shall be maintained at all times utilizing Stage Construction.

SALVAGE:

No Salvage

LOADING HL-93

Allow 50 #/sq. ft. for Future Wearing Surface.

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition (ASTM C1577)

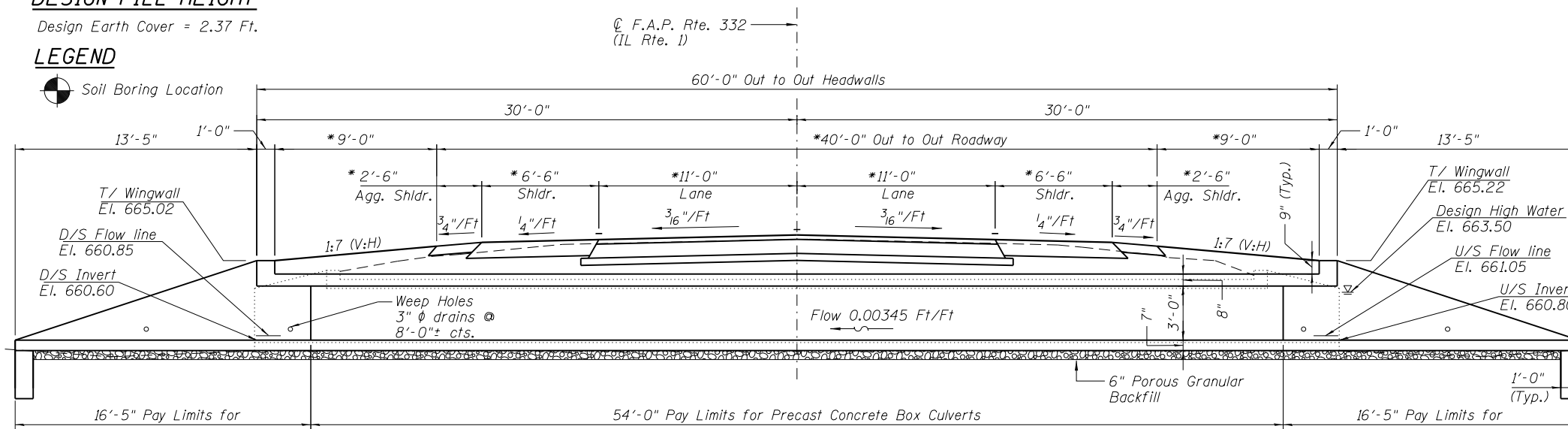
DESIGN STRESSES

PRECAST UNITS

f'c = 5,000 psi
fy = 65,000 psi (Welded Wire Fabric)
fy = 60,000 psi (Reinforcement)

INDEX OF SHEETS

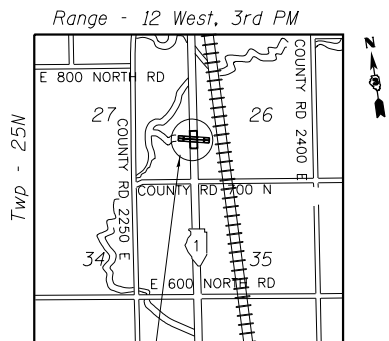
Sht No.	Description
S1	General Plan and Elevation
S2	Stage Construction
S3	Miscellaneous Details
S4	Multiple Cell Precast Box Culvert End Section & Details (Sheet 1 of 2)
S5	Multiple Cell Precast Box Culvert End Section & Details (Sheet 2 of 2)
S6	Traversable Pipe Grates
S7	Existing Culvert Detail
S8	Soil Boring Logs



LONGITUDINAL SECTION

(Looking North)

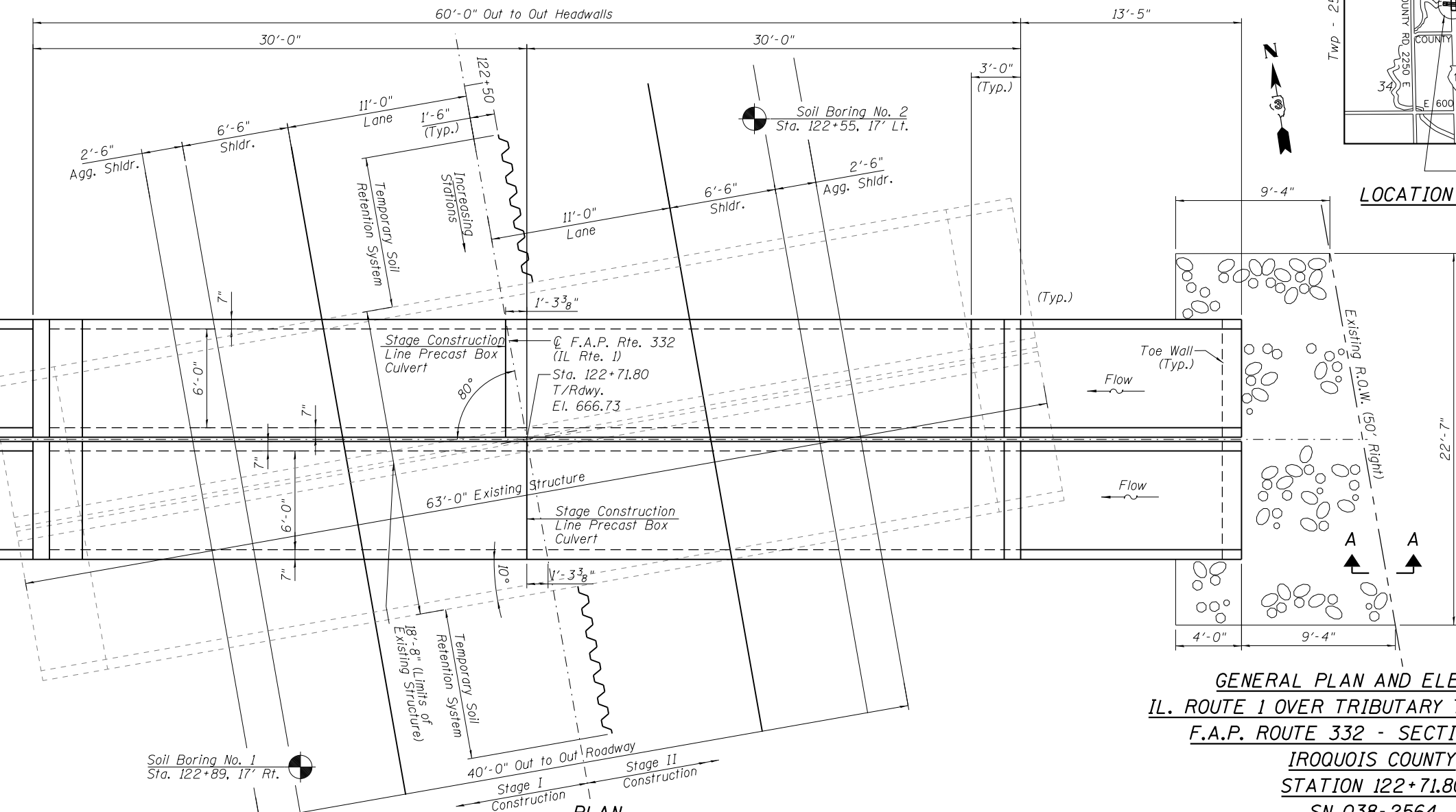
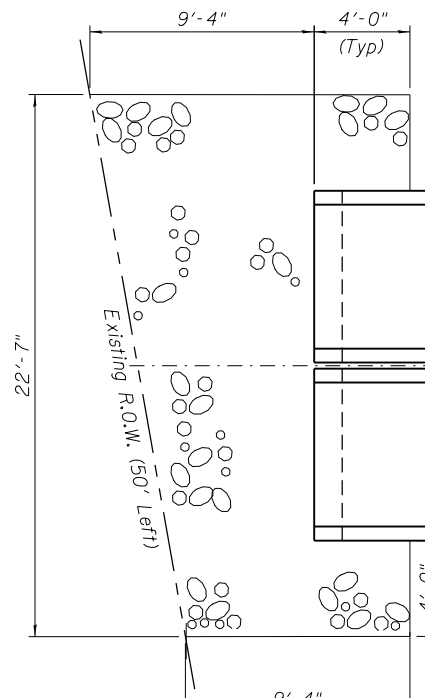
* At 90° Angle to C F.A.P. Rte 332 (IL Rte. 1)



LOCATION SKETCH

DATE	BY	DESCRIPTION

DATE	BY	DESCRIPTION



PLAN

HIGHWAY CLASSIFICATION:

F.A.P. Route 332 (IL RTE 1)
ADT: 2295 (2017) 2745 (2037)
DHW: 214 (2015)
Functional Class: Other Principal Arterial (NHS)
Design Speed: 55 mph

**GENERAL PLAN AND ELEVATION
IL. ROUTE 1 OVER TRIBUTARY TO MUD CREEK
F.A.P. ROUTE 332 - SECTION (1-XBIC)**

**IROQUOIS COUNTY
STATION 122+71.80
SN 038-2564**



USER NAME = rmanucod	DESIGNED - NS	REVISED -
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PLOT SCALE = 8.0000' / in.	CHECKED - SK	REVISED -
PLOT DATE = 12/1/2016	DATE = 12/02/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION
SN 038-2523**

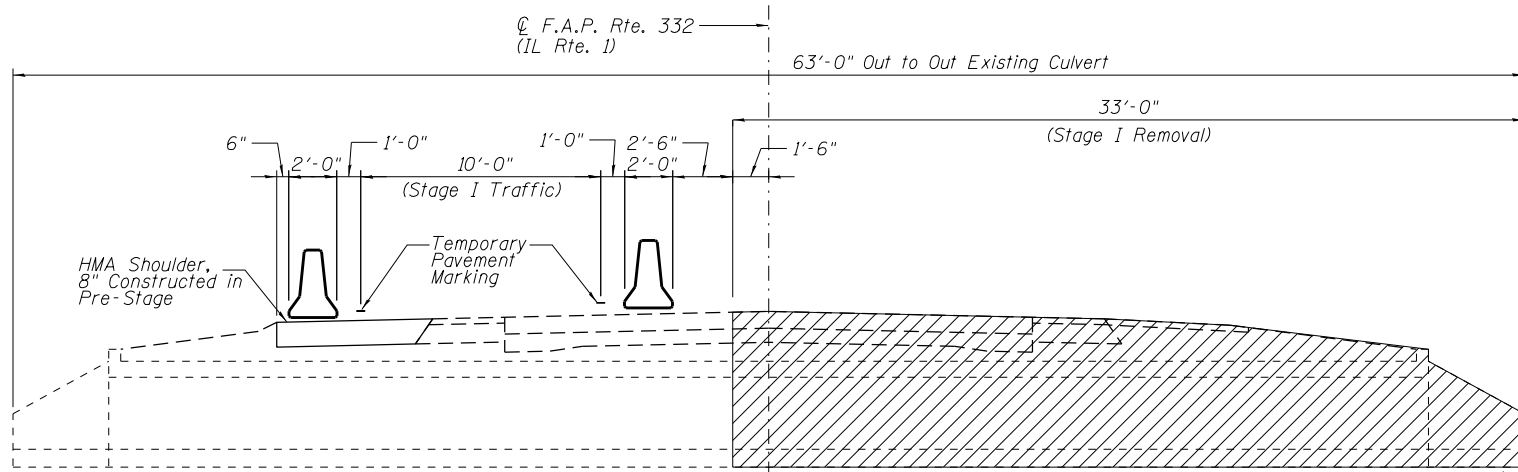
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(1-XBIC)	IROQUOIS	29	17
CONTRACT NO. 66E39				
ILLINOIS FED. AID PROJECT				

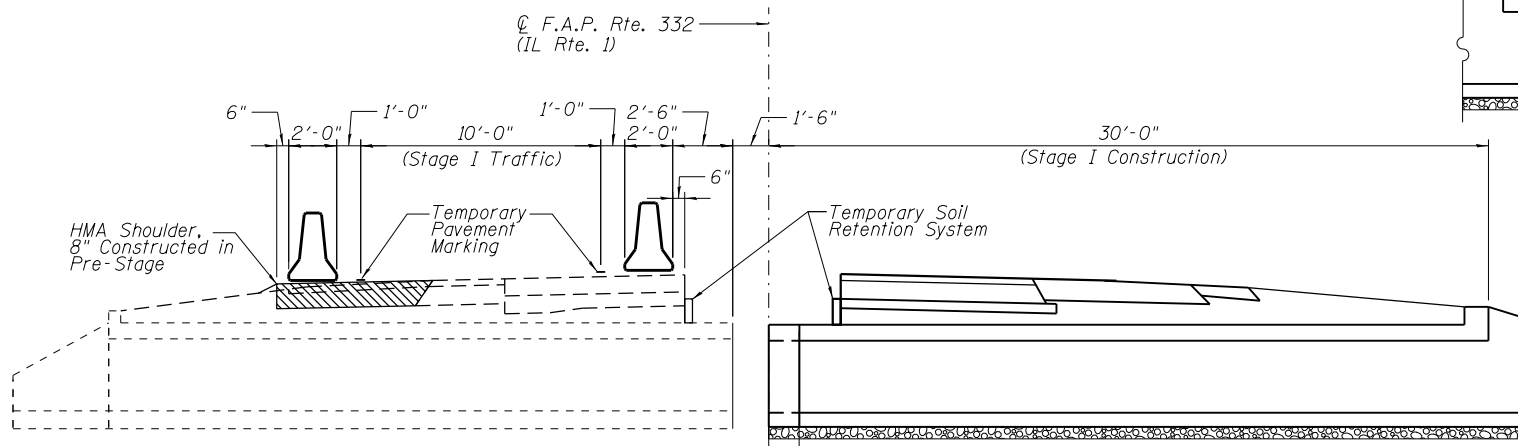
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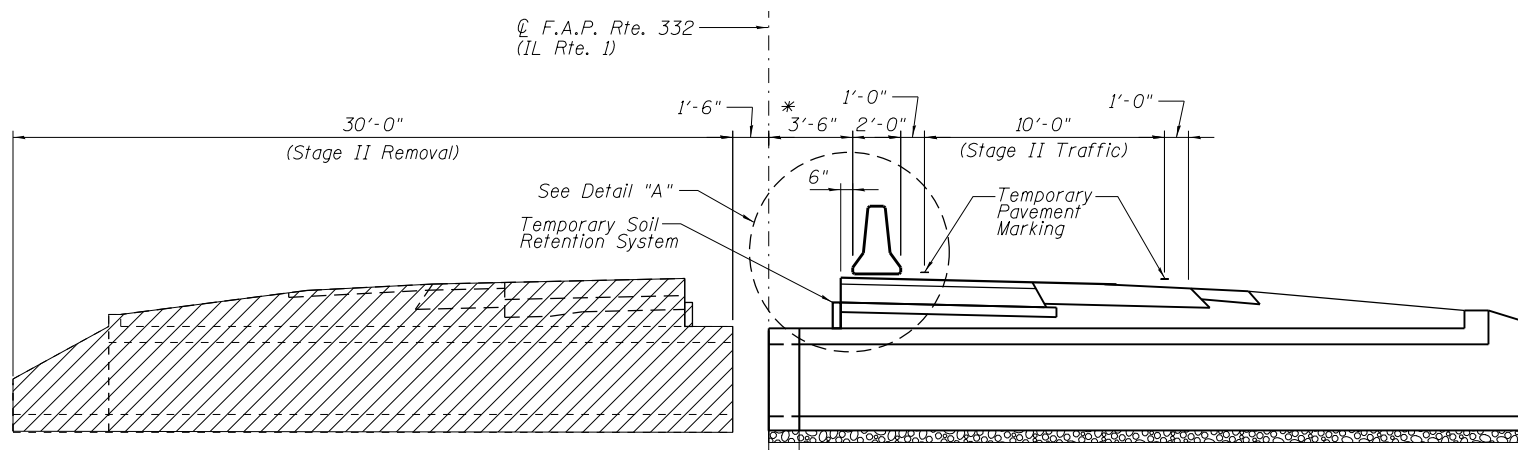
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STAGE I REMOVAL
(Looking South)

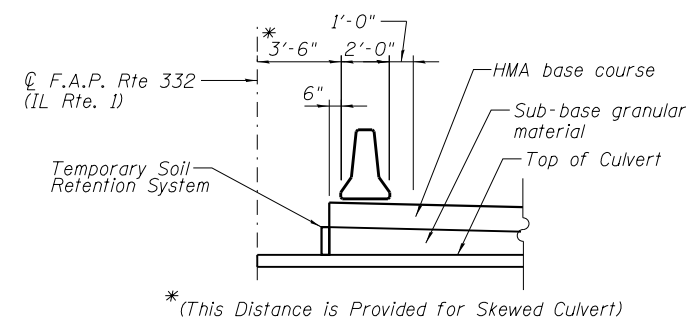


STAGE I CONSTRUCTION
(Looking South)

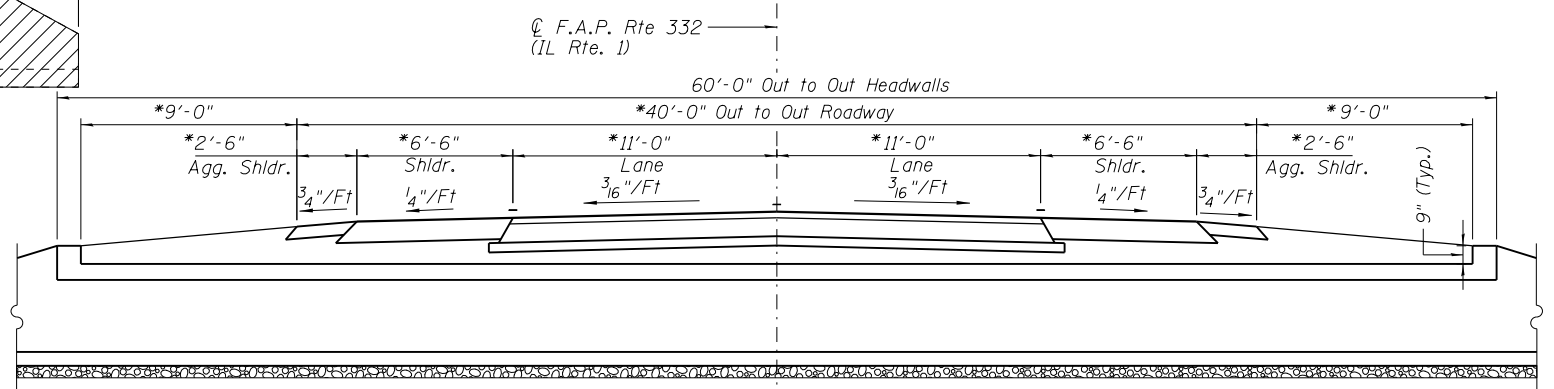


STAGE II REMOVAL
(Looking South)

*(This Distance is Provided for Skewed Culvert)



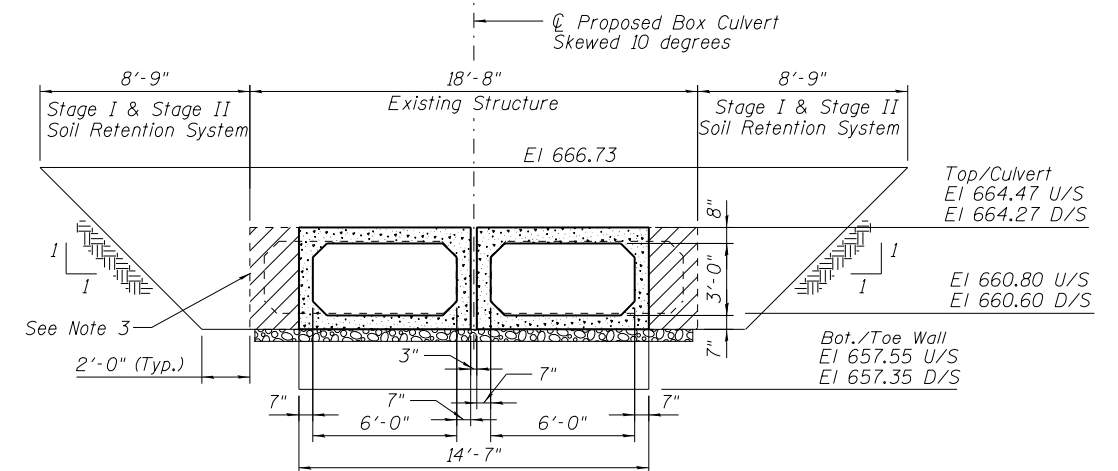
DETAIL "A"



STAGE II CONSTRUCTION
(Looking South)

NOTE:

3" nominal space shall be left between adjacent precast sections. After the precast cells are in place and backfill has been placed to mid height of the precast concrete box section on each side, the space between the cells shall be filled with Class S1 Concrete. Cost included with pay item for "Precast Concrete Box Culvert 6'x3'".



TEMPORARY SOIL RETENTION SYSTEM

GENERAL NOTES:

1. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
2. If a cantilevered sheet piling design does not appear feasible and additional members or other retention system may be necessary. The Contractor shall submit a temporary soil retention systems design including plan details and calculations for review and acceptance by the Engineer.
3. Additional soil retention required after the existing culvert is removed, quantity included in the Temporary Soil Retention System pay item.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION



USER NAME = rmanucod	DESIGNED - NS	REVISED -
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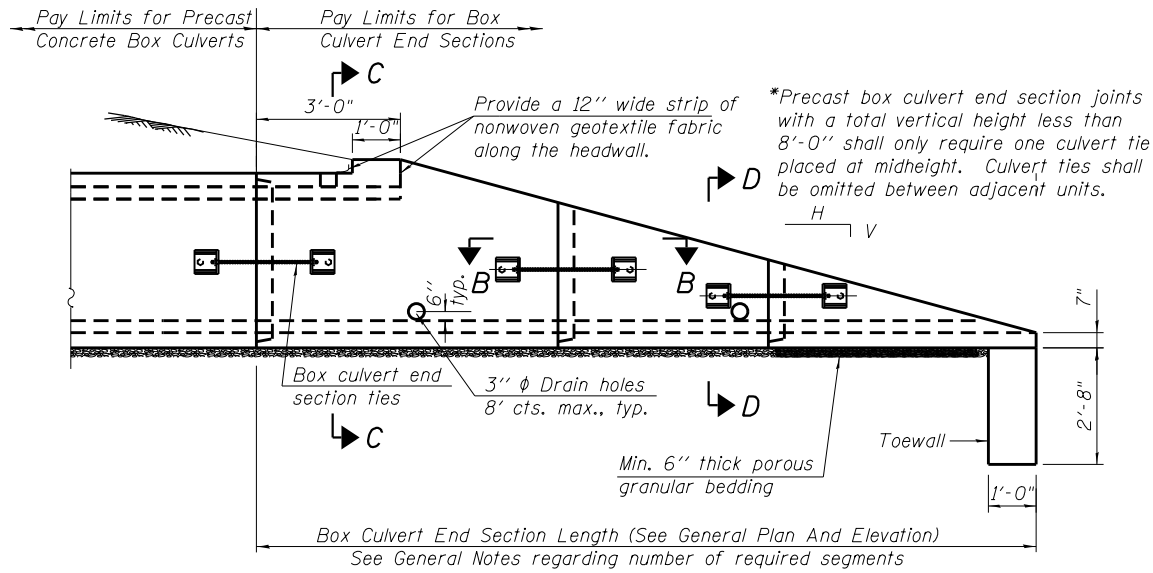
SCALE: 1/4"=1'-0"	SHEET S2 OF S8 SHEETS	STA.	TO STA.
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F.A.P. RTE. 332	SECTION (I)-XBIC	COUNTY IROQUOIS	TOTAL SHEETS 29	SHEET NO. 18
CONTRACT NO. 66E39				
ILLINOIS FED. AID PROJECT				

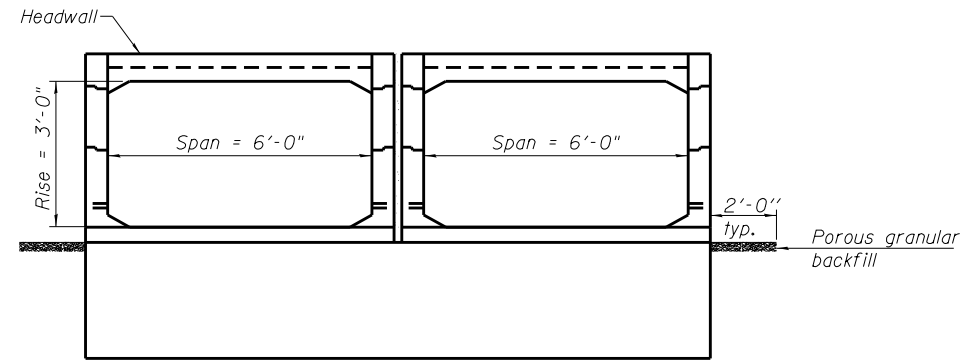
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SIDE ELEVATION



END VIEW

GENERAL NOTES

The box culvert end section shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. The end section will be paid for at the contract unit price per each for Box Culvert End Sections of the culvert number specified.

Typical box section dimensions, materials, and reinforcement details for the box culvert end section shall be according to the requirements of ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

Number of segments shown in Side Elevation is for example only. Length and number of precast box sections required to construct the box culvert end section shall be determined by the Contractor.

See roadway plans for embankment slope (V:H). 1" φ anchor rods for the culvert ties shall conform to the requirements of ASTM F 1554, Grade 105. Structural steel for tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable.

2 1/4" x 2 1/4" x 5/16" plate washers shall be provided under each nut required for the anchor rods. All anchor rods in a culvert tie assembly shall be snug tightened by a few impacts of an impact wrench or the full force of a worker using an ordinary spud wrench. Holes in the walls for

the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

Alternate culvert ties similar in strength and stiffness to the plan details may be provided by the Contractor. Alternate culvert ties shall be subject to approval of the Engineer.

All costs associated with furnishing and installing or constructing the geotextile fabric, toewall, and culvert ties will not be measured for payment but shall be included in the contract unit price for Box Culvert End Sections of the culvert number specified.

Reinforcement bars designated (E) shall be epoxy coated.

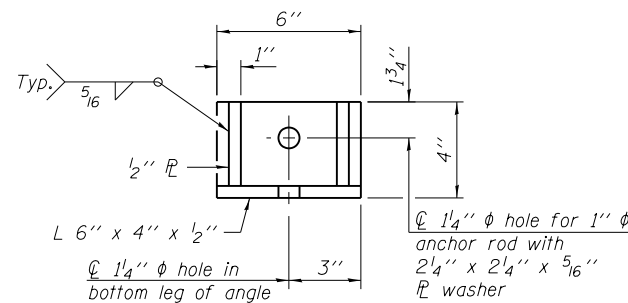
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60.

Drain holes shall conform to the requirements of Article 503.11 of the Standard Specifications unless noted otherwise.

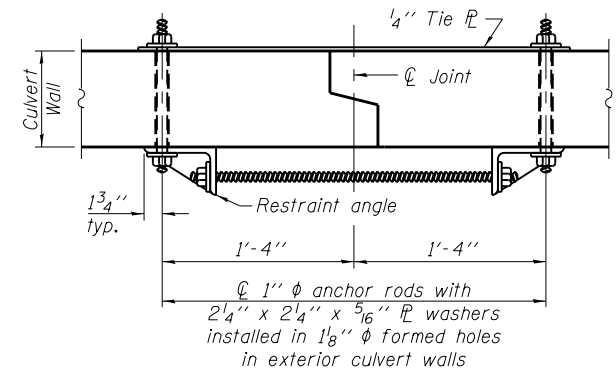
Nonwoven geotextile fabric shall conform to the requirements of Article 1080.01. The minimum weight of the fabric shall be 6 oz. / sq. yd..

For an end section with a traversable steel pipe system, see pipe detail sheet for required modifications.

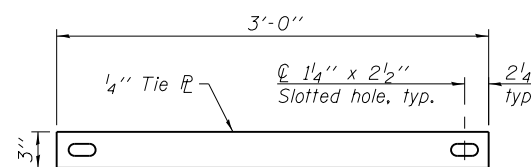
The Construction of End Sections shall start from downstream end.



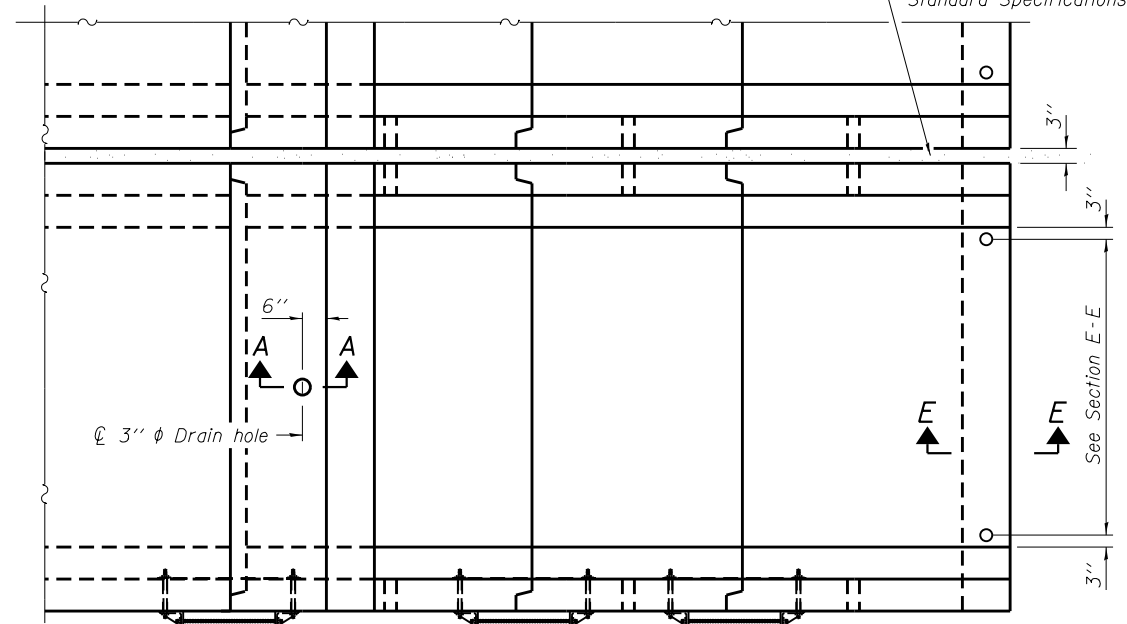
RESTRAINT ANGLE DETAIL



SECTION B-B
(Showing culvert tie details)



TIE PLATE DETAIL



PLAN VIEW

18/1426 RM



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

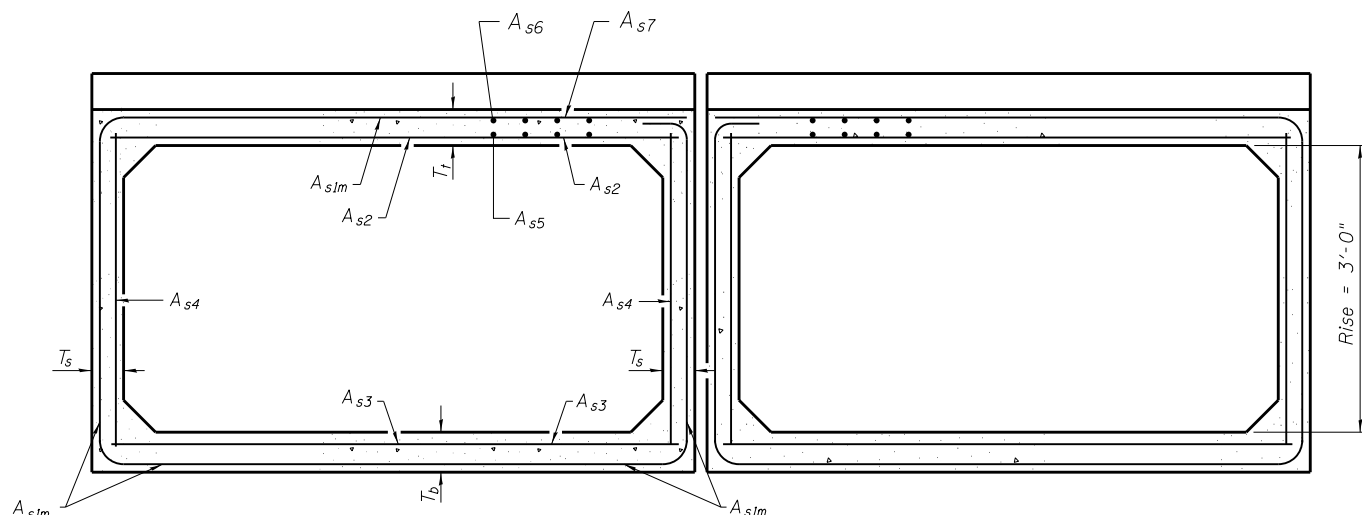
MULTIPLE CELL PRECAST BOX CULVERT
END SECTION & DETAILS (SHEET 1 of 2)

SCALE: NONE SHEET S4 OF S8 SHEETS STA. TO STA.

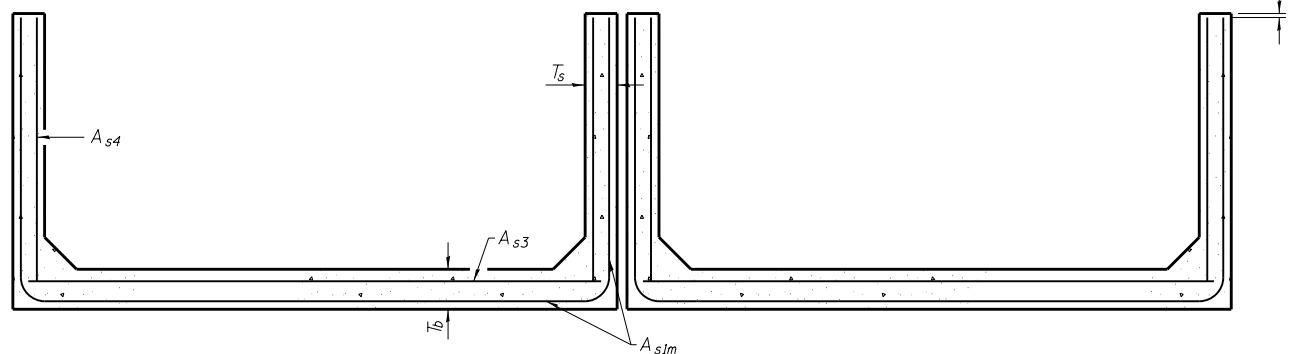
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332	(1)-XB/C	IROQUOIS	29	20
CONTRACT NO. 66E39				
ILLINOIS FED. AID PROJECT				

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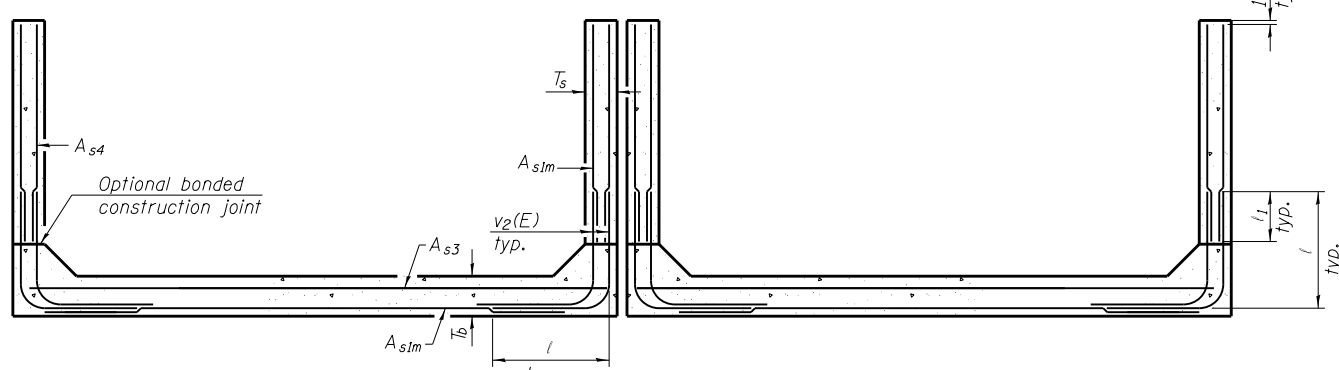
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SECTION C-C
(Design Earth Cover > 2 ft.)

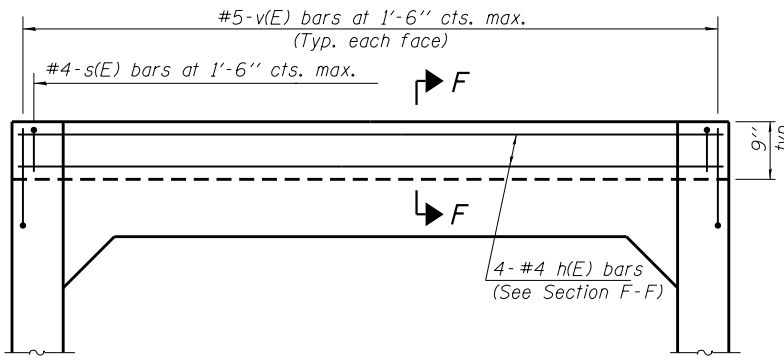


SECTION D-D

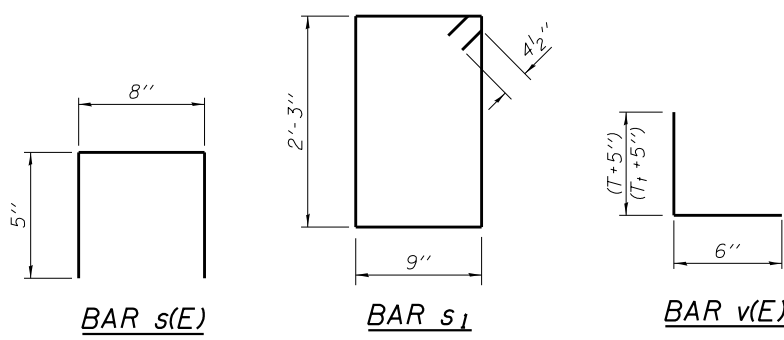


ALTERNATE SECTION D-D

Notes:
 Alternate Section D-D is provided to allow the Contractor the option of casting the bottom slab of the end section first followed by construction of the sidewalls using conventional forming methods. Shop drawings that detail slab thickness and reinforcement layout shall be submitted to the Engineer for review and approval when using Alternate Section D-D.
 The size and spacing of the v₂(E) bars shall provide a minimum reinforcement area along each face of the walls (in.²/ft.) equal to 1.10*(A_{s1m}). v₂(E) bars may consist of #3 thru #6 size reinforcement bars and the longitudinal spacing shall not exceed the lesser of the wall thickness or 8 inches.
 Bonded construction joints shall be prepared according to Article 503.09 of the Standard Specifications.

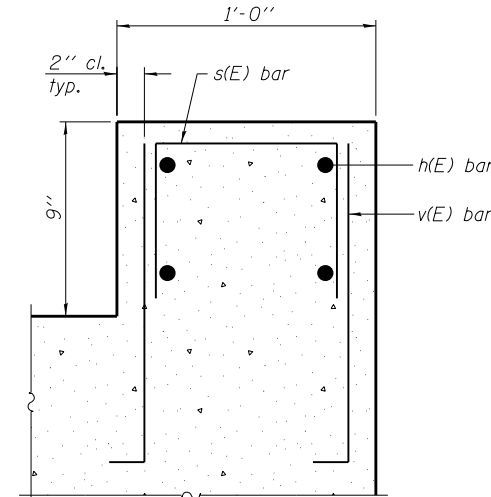


HEADWALL ELEVATION
(Showing details for headwalls cast monolithic with box sections.)
(Allow sidewall reinforcement to extend into end of headwall.)

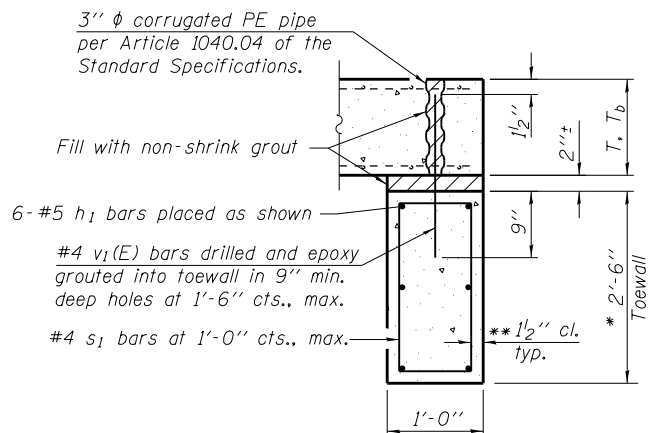


l₁ DIMENSION

- #3 bar = 2'-0"
- #4 bar = 2'-8"
- #5 bar = 3'-4"
- #6 bar = 3'-11"



SECTION F-F



SECTION E-E

TOEWALL CONSTRUCTION SEQUENCE

1. Perform excavation and construct toewall.
2. Backfill accordingly and place bedding for precast box culvert end sections.
3. Set precast box culvert end section.
4. Drill and epoxy grout reinforcement in toewall in accordance with Section 584 of the Standard Specifications.
5. Pressure grout voids using non-shrink grout conforming to Section 1024 of the Standard Specifications.

* The Contractor may furnish a precast or cast-in-place toewall. The Contractor shall be responsible for the strength and stability of the precast toewall during handling. Additional lifting points may be required depending upon the length of the toewall or the Contractor may need to modify the design of the toewall for the proposed handling method.

** If soil conditions permit, the sides of the toewall may be poured directly against the soil. The clear cover on the sides of the toewall shall be increased to 3" by increasing the thickness of the toewall.

12" x 12" block of CA5, CA7 or CA11 coarse aggregate placed over drain opening. Block of aggregate shall be completely wrapped in nonwoven geotextile fabric.

Provide a double layer of 12" x 12" nonwoven geotextile fabric centered over the drain hole. Fabric shall be sealed to the concrete with mastic.

3" φ PVC drain cast with the concrete (Adjust location to clear reinforcement).

1/2" Square foam blockout around PVC drain (to be removed with formwork)

SECTION A-A

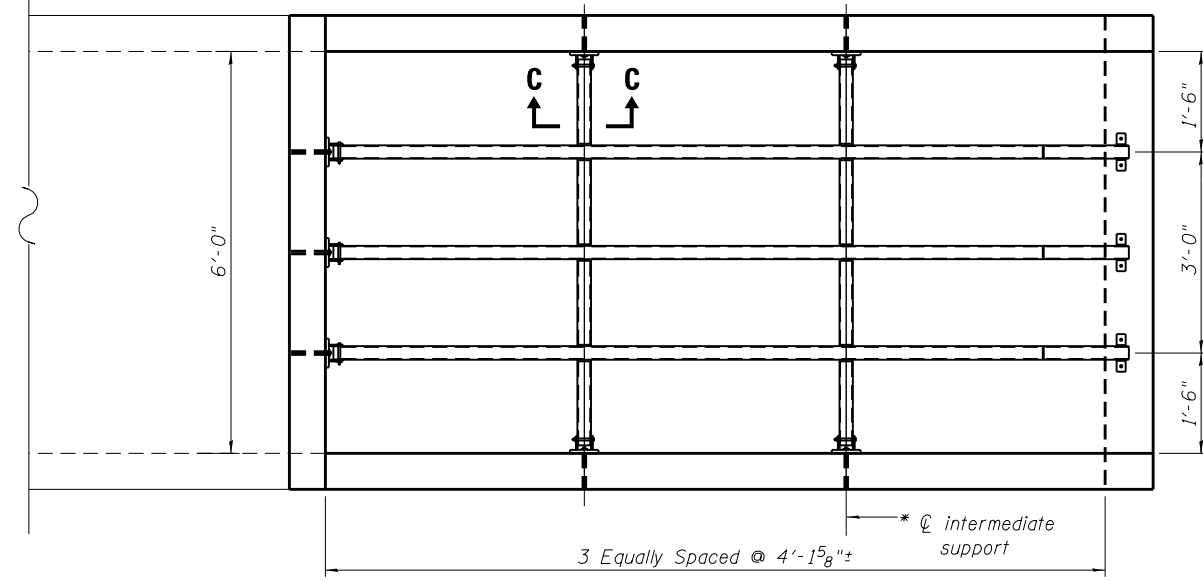
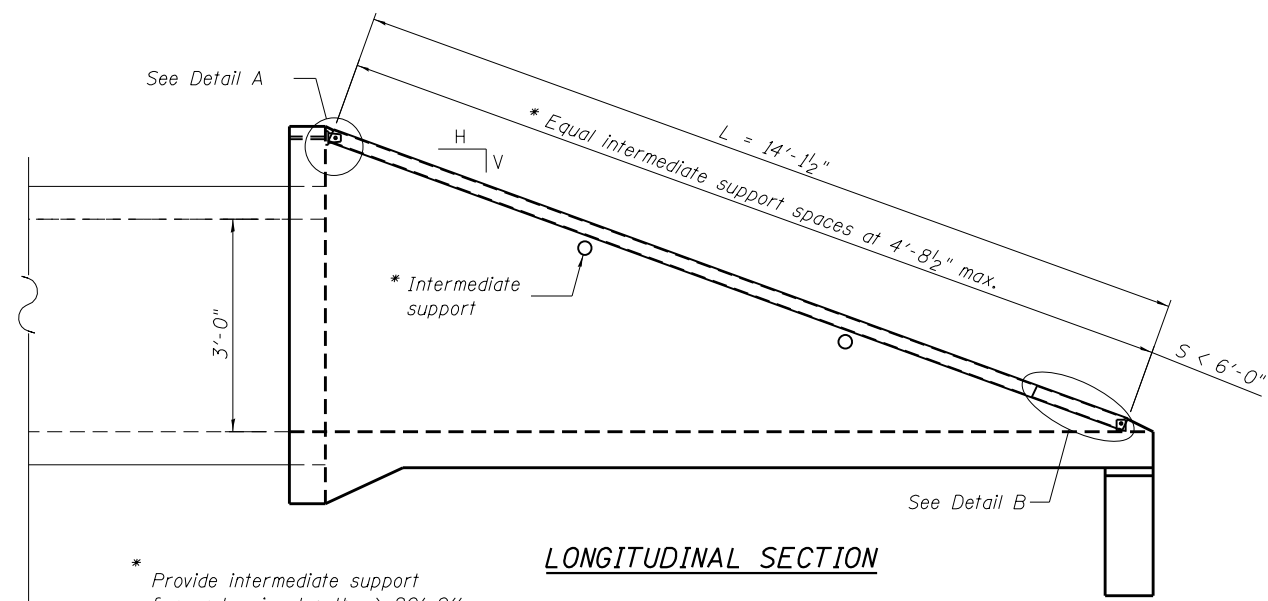
(All costs associated with furnishing and constructing the above drain details will not be measured for payment but shall be included in the contract unit price for the end section.)

Rise (ft.)	Reinforcing Steel A _{s1m} (in. ² /ft.)											
	T(in.), T _s (in.)	2	3	4	5	6	7	8	9	10	11	12
4		0.19	0.17									
5		0.26	0.21	0.18								
6			0.26	0.23	0.22							
7			0.33	0.29	0.27	0.28						
8				0.43	0.39	0.36	0.34	0.40				
9					0.43	0.40	0.37	0.36	0.48			
10						0.47	0.44	0.41	0.38	0.42	0.56	
11							0.54	0.46	0.41	0.50	0.65	
12								0.58	0.50	0.45	0.46	0.75

(A_{s1m} reinforcement based upon welded wire fabric conforming to AASHTO M 55 or M 221).

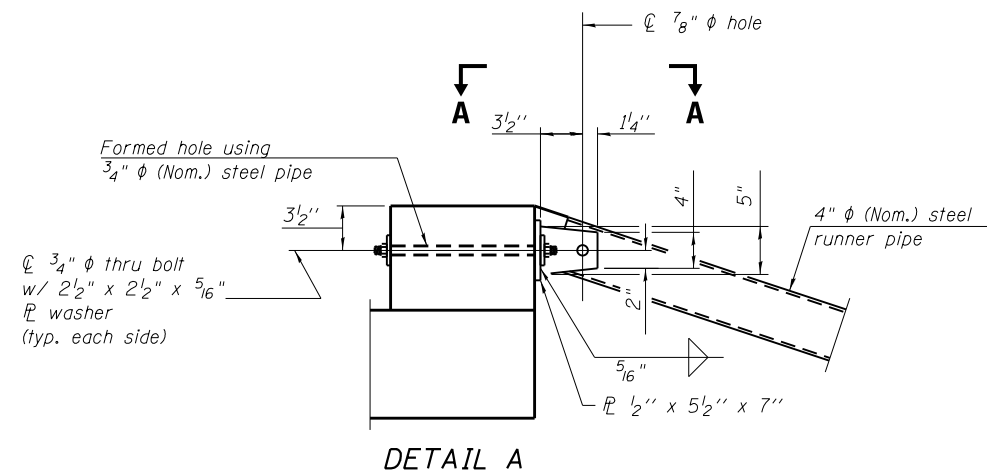
DATE	
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PLOTTED	
GRADES CHECKED	
STRUCTURE	
NOT AT THIS OFFICE	

DATE	
BY	
PROFILE	
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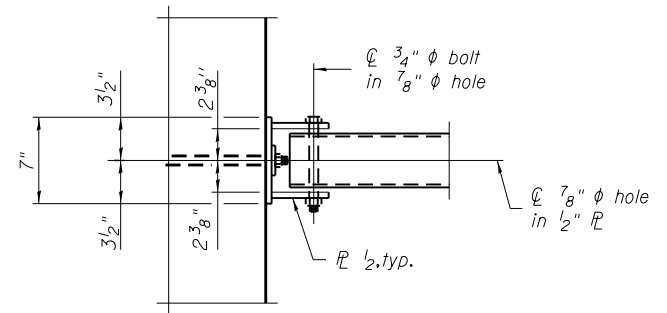


PLAN VIEW

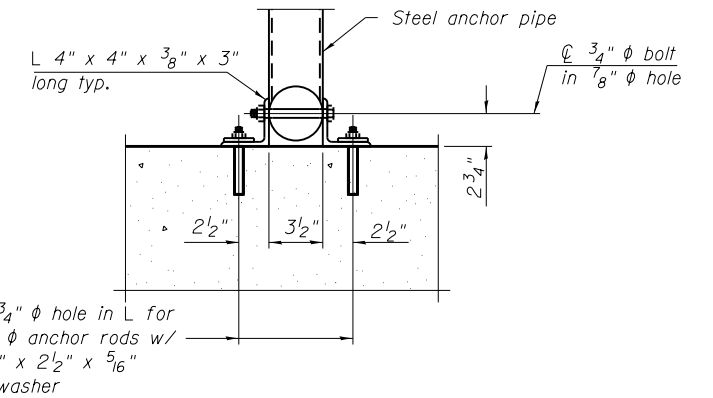
Steel pipes at 18 cts. mim.



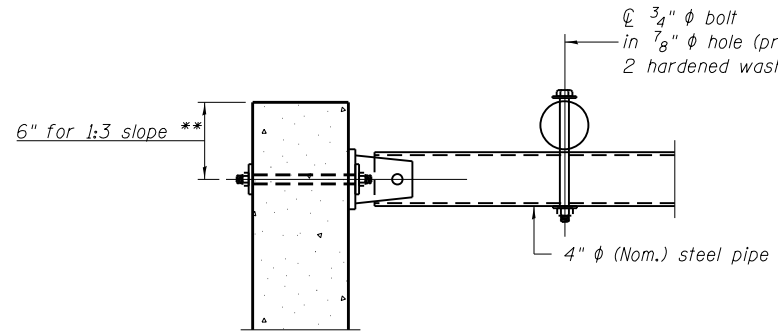
DETAIL A



VIEW A-A

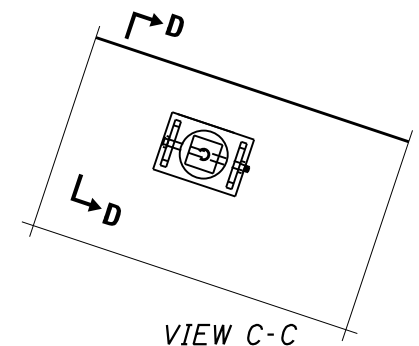


SECTION B-B



SECTION D-D

** Measured perpendicular to top of culvert wall. In addition, formed hole shall be located a minimum of 6" measured horizontally from any vertical joints necessary for construction of the culvert end section.



VIEW C-C

GENERAL NOTES

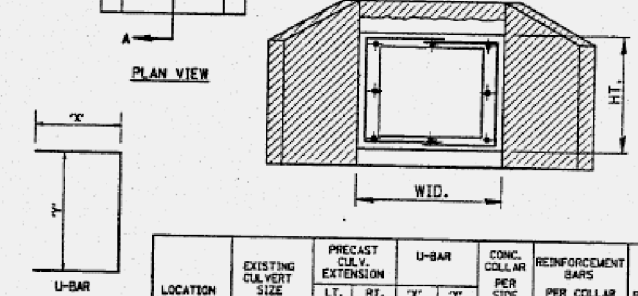
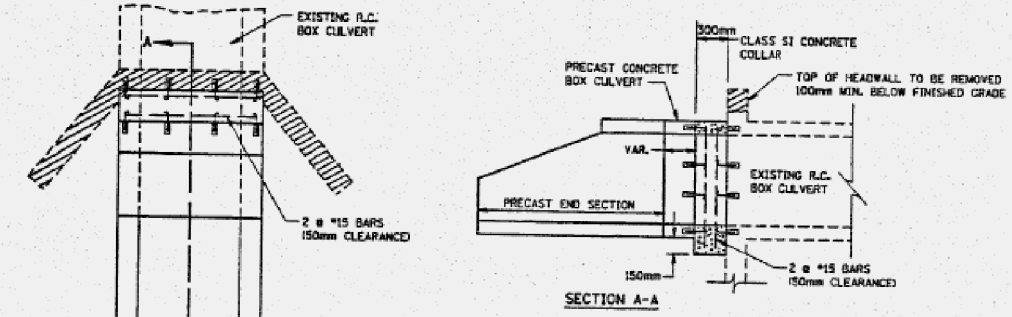
1. The minimum distance from the center of a hole to the free edge of a structural shape or plate shall be 1 1/2" unless noted otherwise.
2. All dimensions are in inches unless otherwise shown.

PLAN	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NOTE BOOK NO.	
	BY	

PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NOTE BOOK NO.	
	BY	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	*	IROQUOIS	224	82
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

* (17RHS.01B1-1,UX.4B1-0RS-2, 25B-FAGH.25F-FAGH.25X.XIRS-2)



LEGEND

CONCRETE REMOVAL LIMITS

EXPANSION BOLTS, 20mm (SEE GENERAL NOTE #2)

GENERAL NOTES

1) CLASS SI CONCRETE SHALL BE USED THROUGHOUT. THE INSIDE DIMENSIONS OF THE CLASS SI CONCRETE COLLAR SHALL BE THE SAME AS THE NEW PRECAST CONCRETE BOX CULVERT.

2) EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION SHIELDS AND 20mm HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 225mm INTO NEW CONCRETE. BOLTS SHALL BE PLACED IN EACH CORNER AND AT 450mm MAXIMUM CENTERS. MINIMUM CERTIFIED PROOF LOADING = 18.1 KN.

LOCATION	EXISTING CULVERT SIZE	PRECAST CULVERT EXTENSION		U-BAR		CONC. COLLAR PER SIDE	REINFORCEMENT BARS PER COLLAR	20mm DIA. EXPANSION BOLTS PER COLLAR
		LT.	RT.	"T"	"T''"			
0+429.400	1,200x600mm	2,800	2,700	760	853	0.200	14,902	14
8+437.500	3,000x1,200	1,200	1,300	1775	1600	0.720	32,342	24
8+244.000	1,200x600mm	2,200	2,200	760	852	0.200	14,902	14
9+837.750	1,500x600mm	2,200	2,200	925	875	0.260	17,113	16
11+452.630	2,400x900mm	2,300	2,100	1425	1200	0.880	25,434	20
12+273.250	1,200x600mm	4,000	3,800	760	853	0.200	14,902	14
17+298.500	1,200x600mm	2,200	2,200	760	853	0.200	14,902	14

* DOUBLE BOX EXTENSION REQUIRES TWO COLLARS PER SIDE

COLLAR DETAIL (PRECAST BOX CULVERT EXTENSION OF BOX CULVERT)

FOR INFORMATION ONLY
EXISTING CULVERT 038-2523 AT METRIC STA. 11+452.630

ILLINOIS DEPARTMENT OF TRANSPORTATION
DETAILS

Mar. 21, 1996
IMP067933 DETAILS.DGN



SOIL BORING LOG

ROUTE IL 1 (FAP 332) DESCRIPTION IL 1 over a stream, 12.5 miles South of US 24 LOGGED BY Larry Myers

SECTION (1-XB)C LOCATION SE 1/4, SEC. 27, TWP. 25N, RNG. 12W, 2nd PM, Latitude 40.59085, Longitude -87.69459

COUNTY Iroquois DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 038-2523 (Exist.)
Station 122+71.80

BORING NO. 01 (S.W. Quad.)
Station 122+89
Offset 17.0 ft Rt.
Ground Surface Elev. 666.15 ft

DEPTH (ft)	DIAMETER (ft)	UNIT	MOISTURE (%)
------------	---------------	------	--------------

DEPTH (ft)	DIAMETER (ft)	UNIT	MOISTURE (%)	DESCRIPTION
0				Augered Shoulder Gravel, Brown & Light Brown Silty Clay Loam Fill with Concrete Debris
663.65				
	10			Very Stiff Brown & Dark Brown Silty Clay Loam Fill with Large Concrete Debris pieces
	3	3.5	19	
	3	P		
661.15				
	2			Stiff to Very Stiff Brown & Gray Silty Clay Loam
	3	2.5	23	
	3	P		
659.15				
	3			Very Stiff Brown & Gray Silty Clay Loam Till
	2	2.6	22	
	3	B		
656.65				
	2			Hard Brown Silty Clay Loam Till
	6	9.4	18	
	10	S		
	4			
	8	8.1	17	
	13	S		
651.65				
	6			Hard Gray Silty Clay Loam Till
	12	7.2	17	
	14	S		
	5			
	10	4.8	17	
	12	S		
646.65				
				End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

ROUTE IL 1 (FAP 332) DESCRIPTION IL 1 over a stream, 12.5 miles South of US 24 LOGGED BY Larry Myers

SECTION (1-XB)C LOCATION SW 1/4, SEC. 26, TWP. 25N, RNG. 12W, 2nd PM, Latitude 40.590945, Longitude -87.694437

COUNTY Iroquois DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 038-2523 (Exist.)
Station 122+71.80

BORING NO. 02 (N.E. Quad.)
Station 122+55
Offset 17.0 ft Lt.
Ground Surface Elev. 666.12 ft

DEPTH (ft)	DIAMETER (ft)	UNIT	MOISTURE (%)
------------	---------------	------	--------------

DEPTH (ft)	DIAMETER (ft)	UNIT	MOISTURE (%)	DESCRIPTION
0				Augered Shoulder Gravel, Brown Silty Clay Loam Fill
663.62				
	3			Very Stiff Light Brown & Dark Brown Silty Clay Loam Fill
	2	2.5	22	
	3	P		
661.12				
	1			Stiff to Very Stiff Brown & Gray Silty Clay Loam Till
	3	2.0	20	
	3	P		
659.12				
	3			Hard Brown Silty Clay Loam Till
	4	4.7	20	
	4	S		
	6			
	8	7.9	18	
	10	S		
	7			
	11	6.9	17	
	10	S		
651.62				
	6			Hard Gray Silty Clay Loam Till
	8	6.7	17	
	10	S		
	10			
	10	6.9	19	
	10	S		
646.62				
				End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

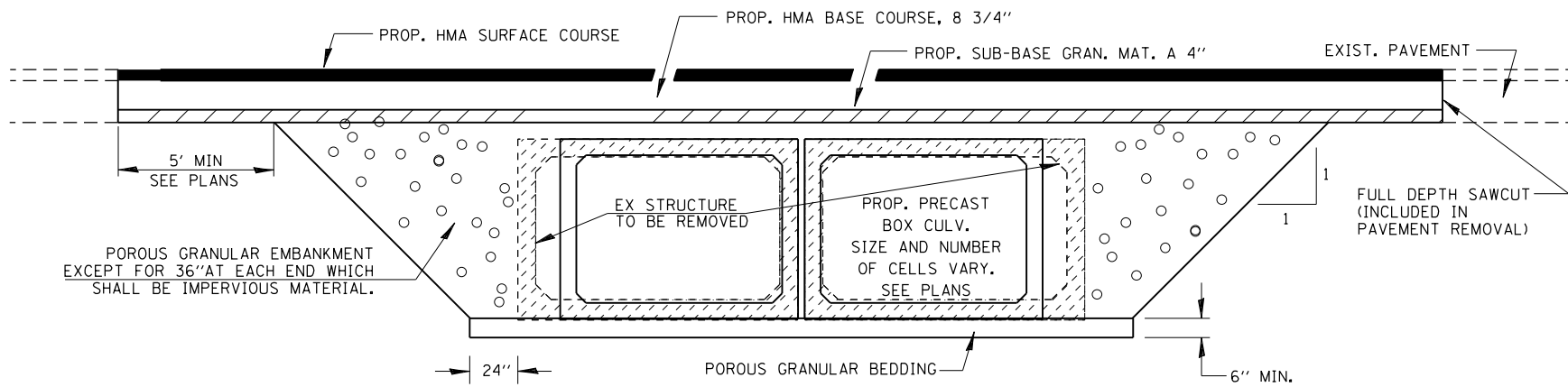
BBS, form 137 (Rev. 8-99)

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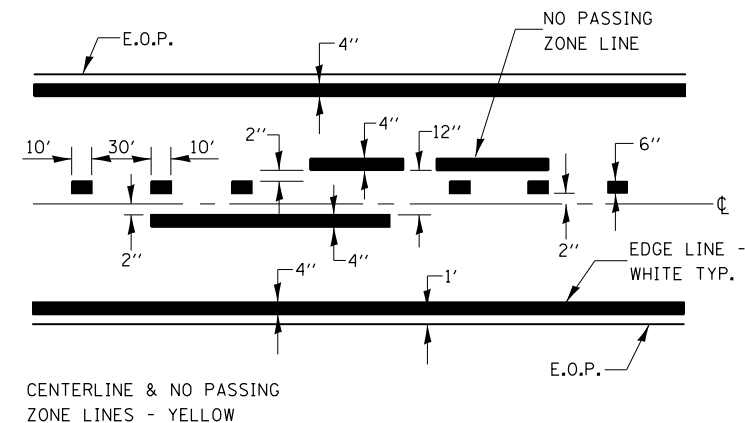
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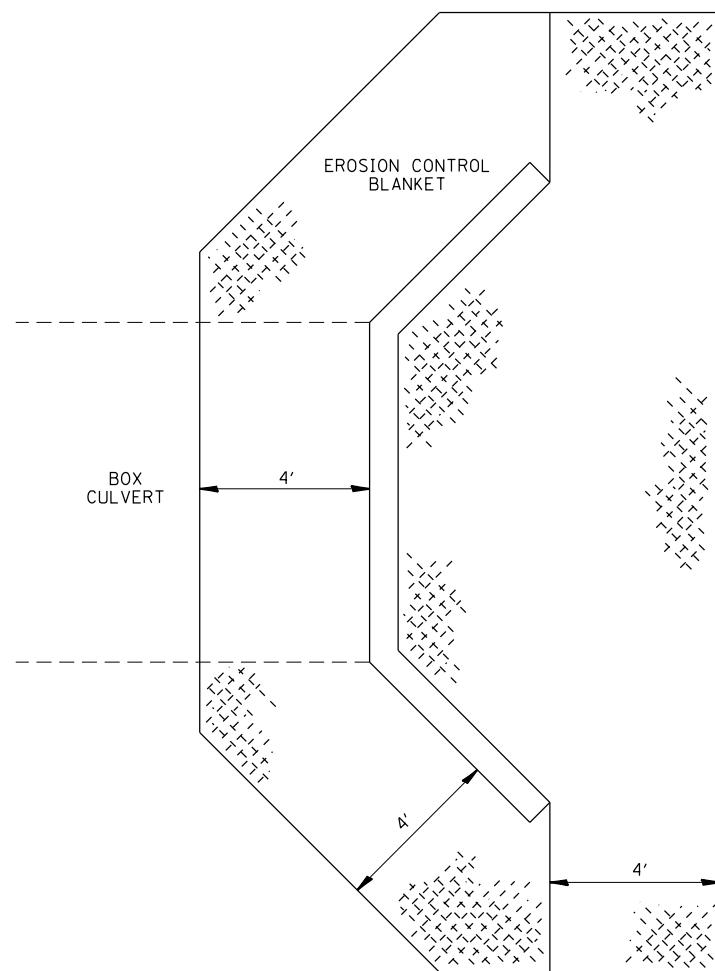
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FILE NAME	



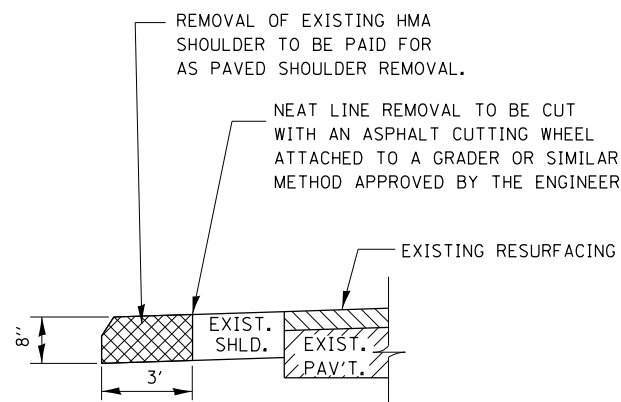
SECTION THROUGH PRECAST BOX CULVERT



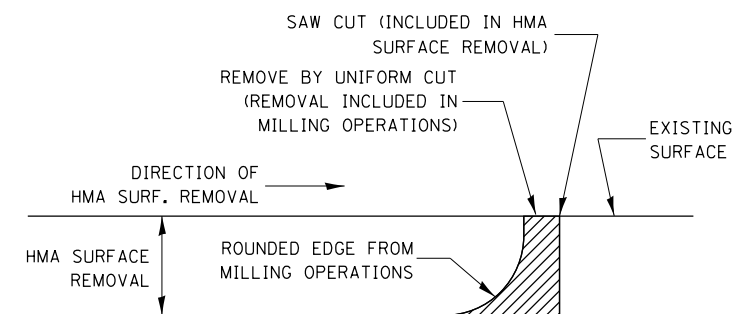
PAVEMENT MARKING



EROSION CONTROL BLANKET AT BOX CULVERT END SECTIONS



REMOVAL OF EXISTING HMA SHOULDER



NOTE:
WHEN MILLING OPERATIONS PRODUCE A ROUNDED EDGE, THEN A SAW CUT SHALL BE USED TO MANUFACTURE A PERPENDICULAR EDGE AS SHOWN IN THE DETAIL. THE ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE USE OF THIS DETAIL

HMA DETAIL

101441.dwg



USER NAME = rmanucod	DESIGNED - GC	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN - RM	REVISED -
PLOT DATE = 12/1/2016	CHECKED - GC	REVISED -
	DATE - 12/02/2016	REVISED -

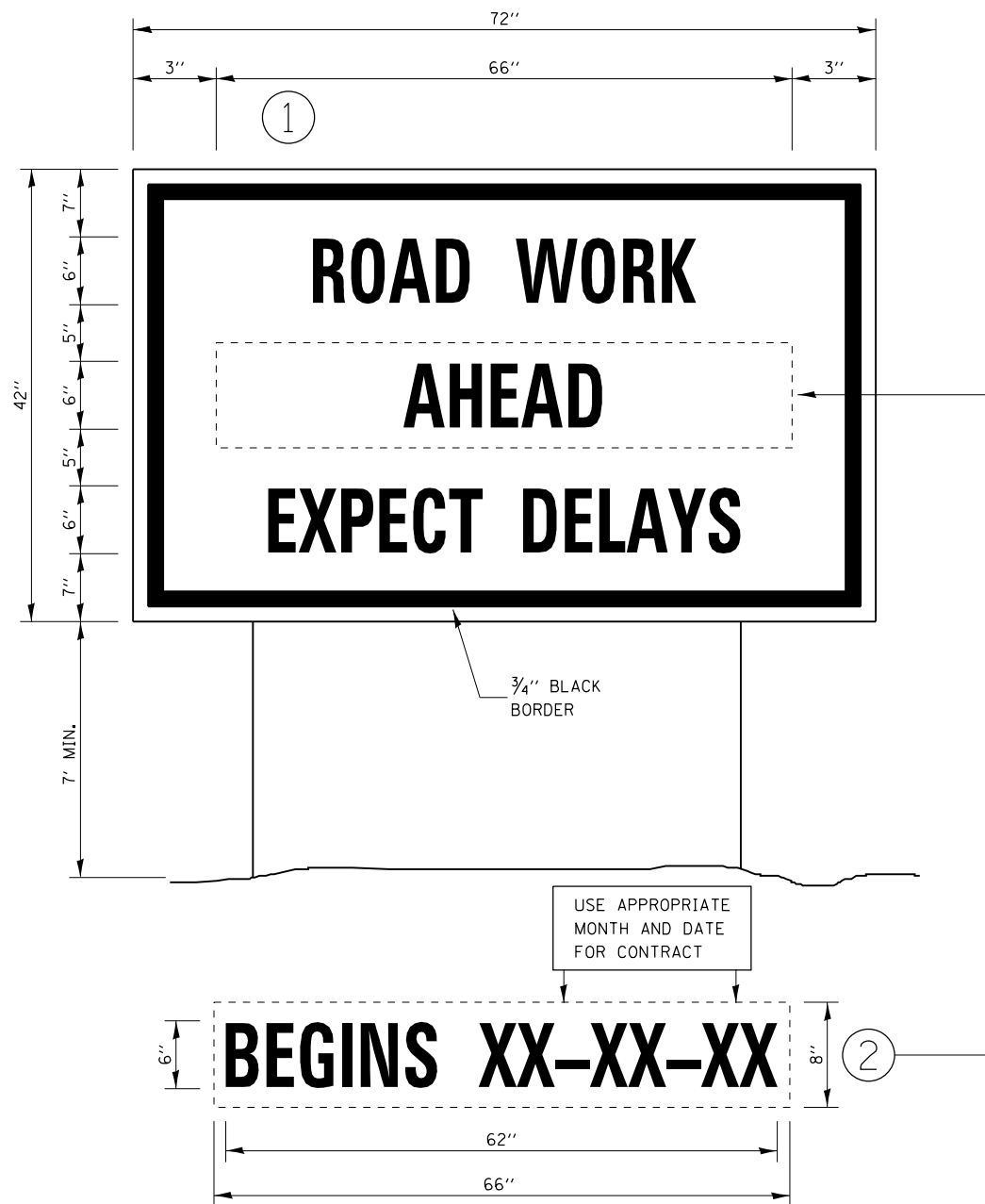
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE: NONE			
SHEET 1	OF 2 SHEETS	STA.	TO STA.

F.A.P. RTE. 332	SECTION (I-XB/C)	COUNTY IROQUOIS	TOTAL SHEETS 29	SHEET NO. 25
CONTRACT NO. 66E39				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	ALIGNMENT CHECKED		
	STRUCTURE NOTATIONS CHECKED		
	NOTE BOOK NO.		
	FIELD FILE NAME		

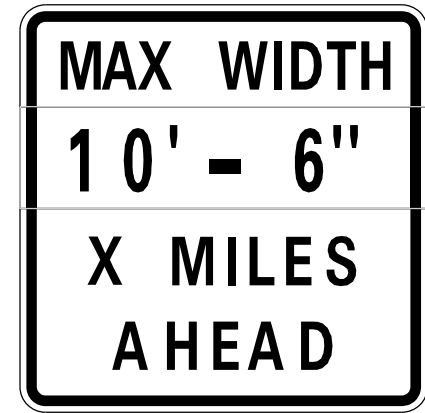
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	PLOTTED		
	GRADES CHECKED		
	ALIGNMENT CHECKED		
	STRUCTURE NOTATIONS CHECKED		
	NOTE BOOK NO.		
	FIELD FILE NAME		



TEMPORARY INFORMATION SIGNING

NOTES:

1. USE 6" D BLACK LETTERING ON FLUORESCENT ORANGE BACKGROUND.
2. ERECT SIGNS AT LOCATIONS IN ADVANCE OF THE "ROAD CONSTRUCTION AHEAD" SIGNS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② A MINIMUM OF ONE WEEK PRIOR TO THE START OF THE LANE CLOSURE.
4. REMOVE PANEL ② ON THAT DATE.
5. SEE SPECIAL PROVISION "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. WILL BE PAID FOR PER SQ FT AS "TEMPORARY INFORMATION SIGNING". EACH SIGN = 21 SQ FT AND THE DATE PANEL ② WILL NOT BE MEASURED SEPARATELY FOR PAYMENT.



W12-1103-4848

COST OF SUPPLYING, INSTALLING, MAINTAINING AND REMOVING WIDTH RESTRICTION SIGNS SHALL BE INCLUDED IN THE COST OF THE TRAFFIC CONTROL AND PROTECTION PAY ITEMS.

WIDTH RESTRICTION SIGNING DETAILS

- LOCATIONS:
- THE JUNCTION OF IL ROUTE 1 AND US ROUTE 24, "9 MILES AHEAD"
 - THE JUNCTION OF IL ROUTE 9 AND IL ROUTE 1, "13 MILES AHEAD"

101441.dwg



USER NAME = rmanuod	DESIGNED - GC	REVISED -
	DRAWN - RM	REVISED -
PLOT SCALE = 2.0000' / in.	CHECKED - GC	REVISED -
PLOT DATE = 12/1/2016	DATE - 12/02/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCALE: NONE		SHEET 2 OF 2 SHEETS		STA.	TO STA.
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F.A.P. RTE. 332	SECTION (1-XB/C)	COUNTY IROQUOIS	TOTAL SHEETS 29	SHEET NO. 26
CONTRACT NO. 66E39				ILLINOIS FED. AID PROJECT

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		

TIME
 FILE NAME = #FILE#
 DELTA ENGINEERING GROUP, LLC
 USER NAME = #USER#
 PLOT SCALE = #SCALE#
 PLOT DATE = #DATE#
 DESIGNED - DB
 DRAWN - DB
 CHECKED - CC
 DATE - 12/02/2016
 REVISED -
 REVISED -
 REVISED -
 SCALE: HORIZ. 1"=20'
 VERT. 1"=2'
 SHEET 1 OF 3 SHEETS STA. 121+00.00 TO STA. 122+47.00
 CROSS SECTIONS
 F.A.P. RT# 332 SECTION I1-XBC COUNTY IROQUOIS TOTAL SHEETS 29 SHEET NO. 27 ILLINOIS FED. AID PROJECT CONTRACT NO. 66E39

