

09-20-13 LETTING ITEM 037

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

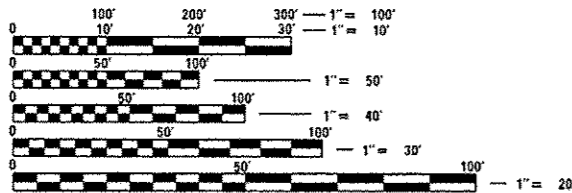
F.A.S. 338 (US 45)  
SECTION (35)C

BOX CULVERT REPAIR  
IROQUOIS COUNTY

C-93-049-13

**PROJECT LOCATION**

STRUCTURE NO. 038-2557  
STA. 1695+95  
2.53 MILES SOUTH OF IL 54 (ONARGA)

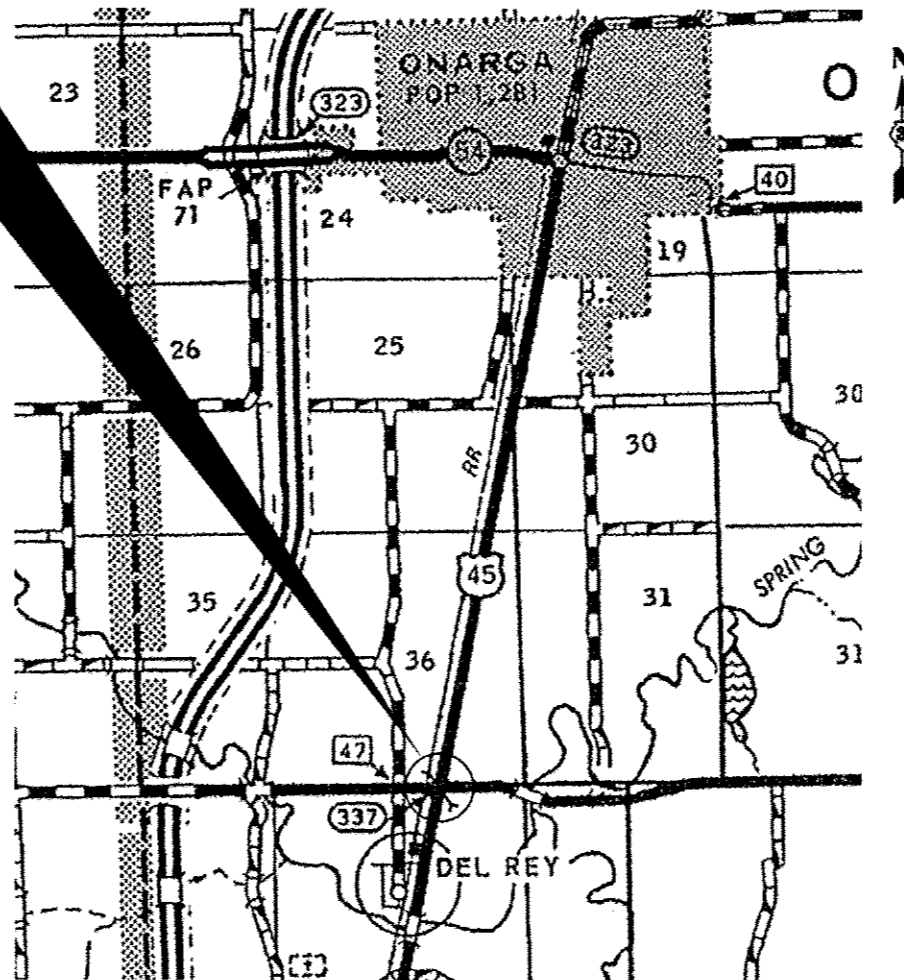


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT ENGINEER: JOE KANNEL  
UNIT CHIEF: RON WOODSHANK  
TOWNSHIP: ONARGA

CONTRACT NO. 66C79



F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338	(35)C	IROQUOIS	10	1
		ILLINOIS	CONTRACT NO. 66C79	

D-93-036-13



RURAL	
MAJOR COLLECTOR	
F.A.S. 338 (US 45)	
2011	
ADT	900
P.V.	91.11%
S.U.	6.67%
M.U.	2.22%

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED 7-10 2013  
*Paul A. Cochran*  
DEPUTY DIRECTOR OF HIGHWAYS, REGIONAL ENGINEER

Aug 16 2013  
*John D. Baranzelli PE*  
ENGINEER OF DESIGN AND ENVIRONMENT

Aug 16 2013  
*Omer Osman PE*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

Rev

**GENERAL NOTES**

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.

THE ENGINEER WILL BE THE SOLE JUDGE CONCERNING CURING TIME FOR THE VARIOUS HMA LIFTS.

FOR STABILIZATION, ALL TYPE III BARRICADES WILL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.

SEEDING WILL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET, OR IN AN UNTILLABLE CONDITION. LOCATIONS TO BE SEEDED WILL BE DETERMINED BY THE ENGINEER.

THE FINISHED EARTHWORK SHALL HAVE A VEGETATION SUSTAINING SOIL COVERING THE TOP FOUR INCHES (4") IN AREAS TO BE SEEDED. THE VEGETATION SUSTAINING SOIL REQUIRED WILL NOT BE PAID FOR SEPARATELY SEPARATELY BUT WILL BE INCLUDED IN THE COST OF "BRACED EXCAVATION".

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.

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.

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

GRANULAR MATERIALS	2.05	TONS / CU YD
HMA RESURFACING	112	LBS / SQ YD / IN

THE CONTRACTOR SHALL CONTACT JULIE AT LEAST 48 HOURS PRIOR TO EXCAVATION TO DETERMINE WHICH UTILITIES ARE IN THE AREA.

**MIXTURE TABLE FOR  
HMA BASE CSE. WIDENING**

	HMA	HMA
	TOP 2"	BOTTOM 8"
PG Grade	PG64-22	PG64-22
Design Air Voids	4.0% @ N50	4.0% @ N50
Mixture Composition	IL 9.5	IL 19.0
Friction Aggregate	Mixture C	
Density Control Method	Cores	Cores

DATE: 7-9-13

PREPARED BY: *Don Beaulieu*  
DISTRICT STUDIES & PLANS ENGINEER

EXAMINED BY: *Heidi Jung*  
DISTRICT CONSTRUCTION ENGINEER

*Wayne Phillips*  
DISTRICT MATERIALS ENGINEER

*Bruce A. Huber*  
DISTRICT OPERATIONS ENGINEER

FILE NAME: c:\pwwork\pwwork\patel\100332421\0366079-ahc-detail.dgn	USER NAME: patelj	DESIGNED: - RW	REVISED: -
		DRAWN: - RW	REVISED: -
		CHECKED: -	REVISED: -
		DATE: -	REVISED: -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES**

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

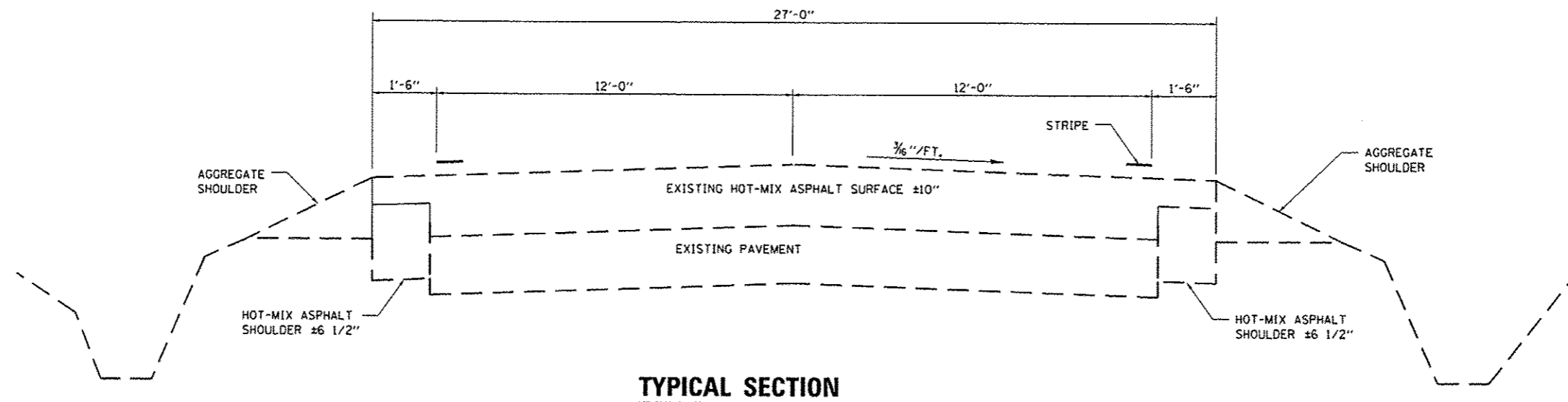
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338	(35)C	IRROUOIS	10	2
CONTRACT NO. 66C79			[ILLINOIS] FED. AID PROJECT	

CODE NO.	ITEM	UNIT	CONSTR. CODE
			CONTRACT MAINT.
			100%
			STRUCTURE
			0040
			RURAL
28000400	PERIMETER EROSION BARRIER	FOOT	100
31101810	SUBBASE GRANULAR MATERIAL, TYPE B 12"	SQ YD	44
35600716	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	SQ YD	18
44000100	PAVEMENT REMOVAL	SQ YD	18
50102400	CONCRETE REMOVAL	CU YD	31.1
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2660
54002020	EXPANSION BOLTS 3/4 INCH	EACH	18
54003000	CONCRETE BOX CULVERTS	CU YD	21.9
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70100455	TRAFFIC CONTROL AND PROTECTION, STANDARD 701206	L SUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70400100	TEMPORARY CONCRETE BARRIER	FOOT	125
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2
X2020502	BRACED EXCAVATION	CU YD	140.7
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
X0325743	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5"), SPECIAL	SQ FT	10
* Z0054400	ROCK FILL	CU YD	40

**\* SPECIALTY ITEMS**

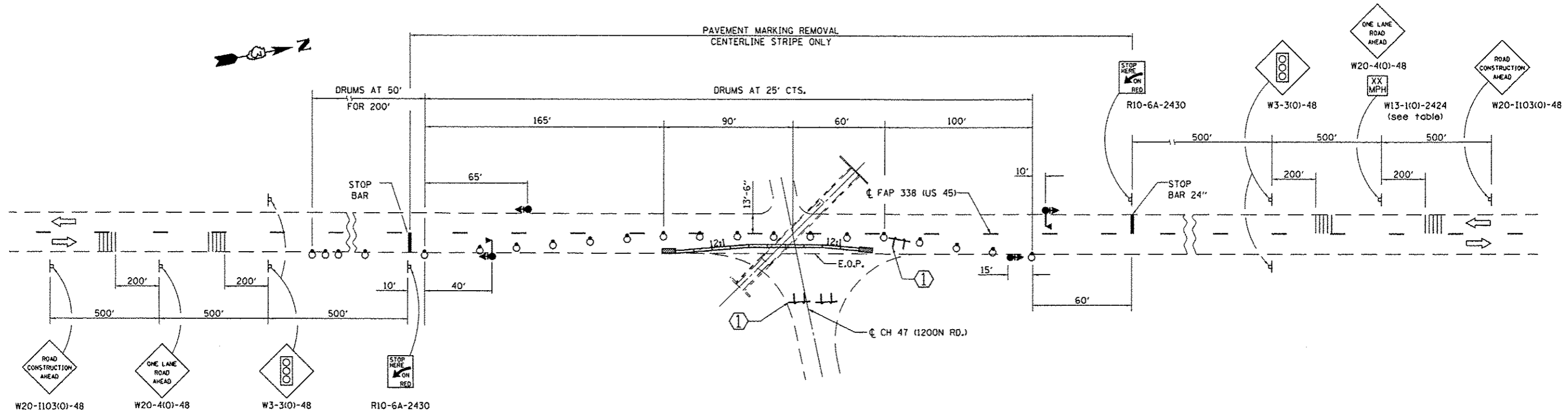
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c:\pr_work\pwidot\patelyj\0832242\0356079-shs-details.dgn	DRAWN - RW	REVISED -	REVISED -					338	(35)C	IRROUOIS	10	3
PLOT SCALE = 1/8"=1'-0"	CHECKED -	REVISED -	REVISED -		CONTRACT NO, 66C79			ILLINOIS FED. AID PROJECT				
PLOT DATE = 7/9/2013	DATE -	REVISED -	REVISED -		SCALE:	SHEET 1 OF 1 SHEETS	STA.	TO STA.				

Rev.

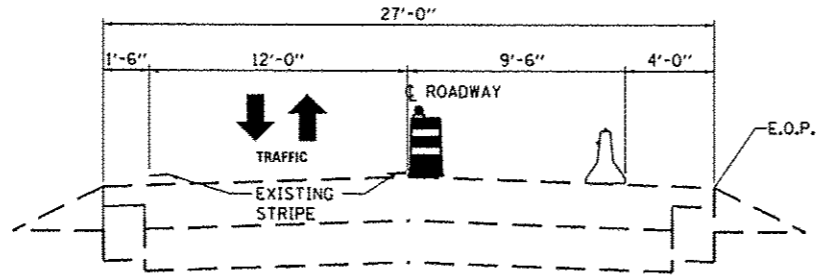


**TYPICAL SECTION**

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DATE -	REVISED -	REVISED -									



① TYPE III BARRICADE TO BE IN PLACE FOR THE DURATION OF THE CH 47 CLOSURE



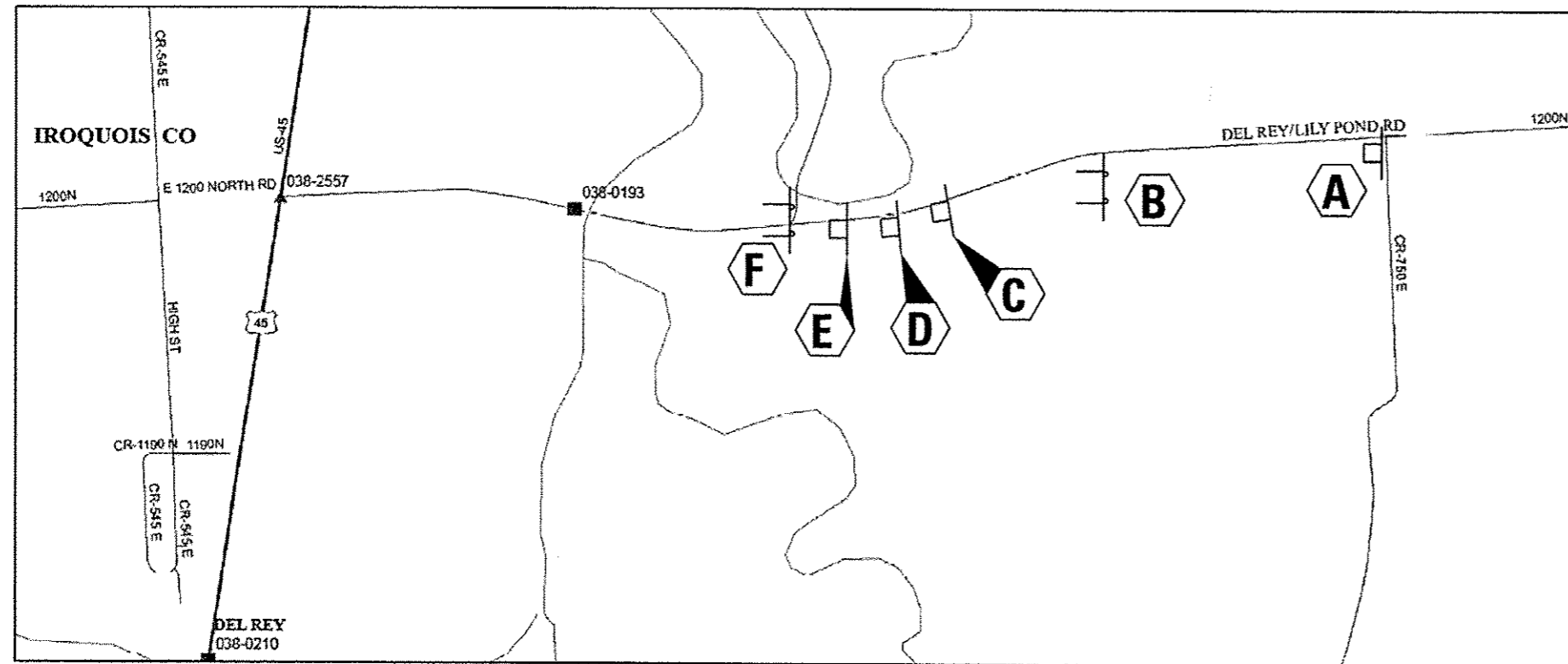
**TYPICAL SECTION**

TEMPORARY CONCRETE BARRIER	
NORMAL POSTED SPEED	TAPER RATIO
40 mph AND ABOVE	12:1
BELOW 40 mph	8:1

ADVISORY SPEED LIMIT	
NORMAL POSTED SPEED	ADVISORY SPEED
55 - 45 mph	40 mph
40 mph	35 mph
35 - 30 mph	30 mph

**LEGEND**

- WORK AREA
- SIGN
- TYPE III BARRICADE
- TRAFFIC SIGNAL WITH BACKPLATE
- DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- TEMPORARY CONCRETE BARRIER
- TEMPORARY RUMBLE STRIP (WHEN SPECIFIED)
- IMPACT ATTENUATOR



**ROAD CLOSED**  
1 1/2 MILE AHEAD  
LOCAL TRAFFIC ONLY  
R11-3A 60"x30"



BLR 17-4



SIGN	LOCATION
A	SW CORNER OF CH 47 (1200N RD.) AND CR- 750 E RD.
B	2000' WEST OF CR 750E RD.
C	1500' EAST OF CR 640
D	1000' EAST OF CR 640
E	500' EAST OF CR 640
F	WEST SIDE OF INTERSECTION OF CH 47 (1200N RD.) AND CR 640

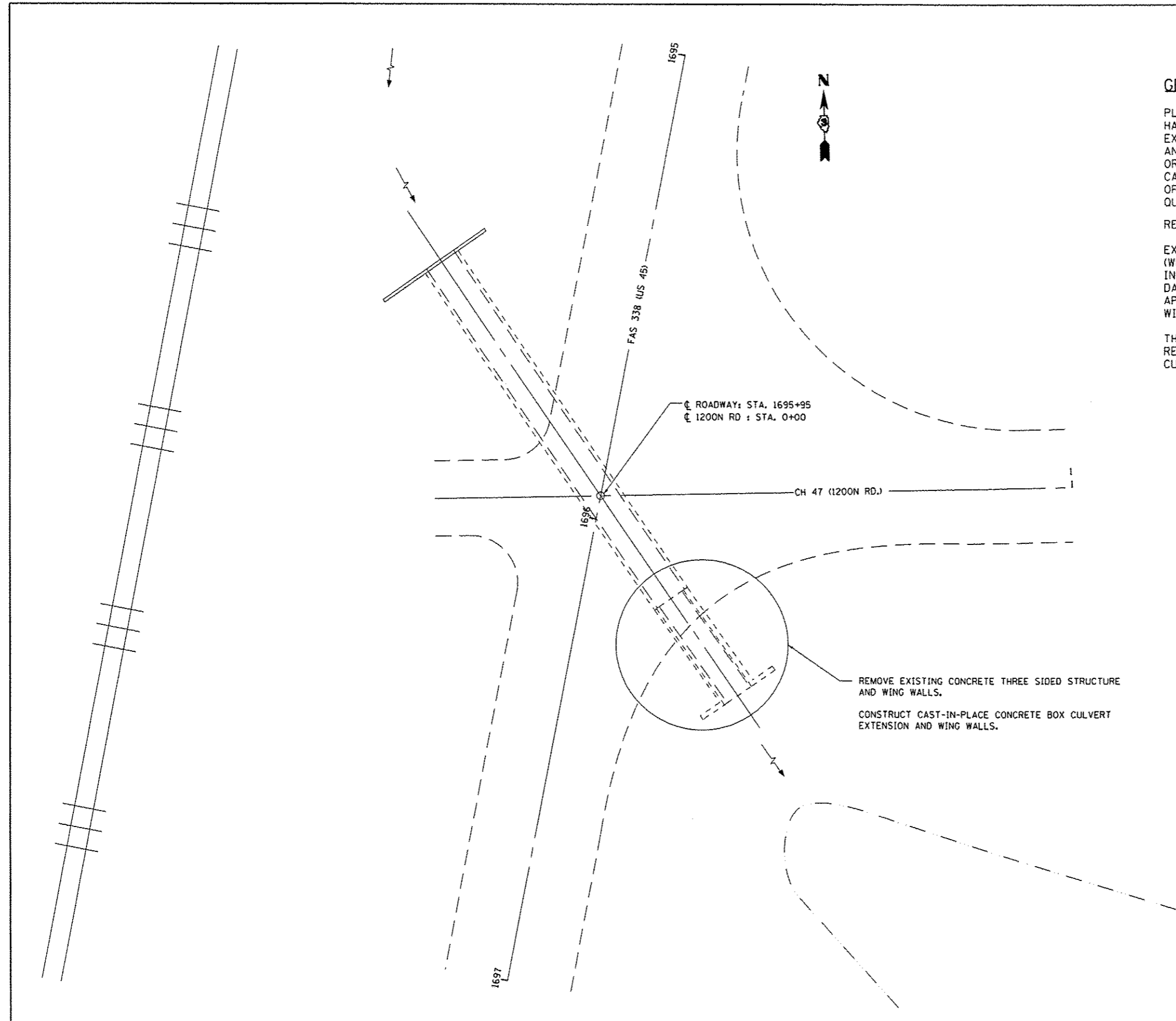
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	PLOT DATE = 7/8/2013	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION (SPECIAL)  
FOR ROAD CLOSURE

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338	(35)C	IROQUOIS	10	6
CONTRACT NO. 66C79			ILLINOIS FED. AID PROJECT	

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



**GENERAL NOTES**

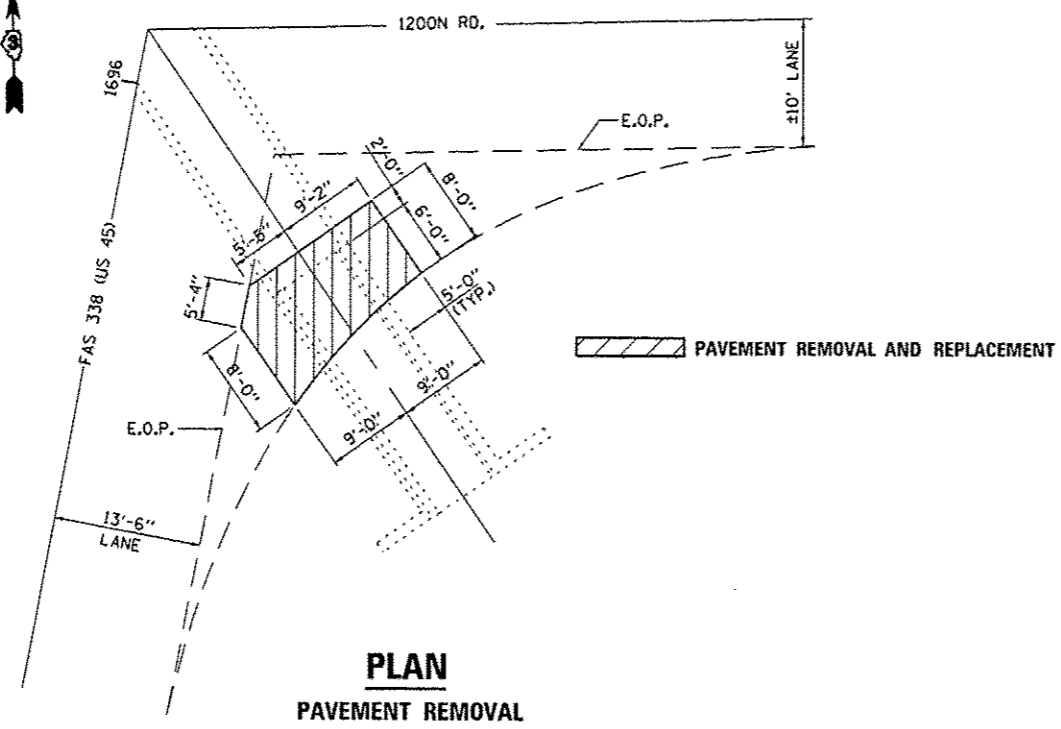
PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN IN THE FIELD. THE CONTRACTOR SHALL VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT BID PRICE FOR THE WORK.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

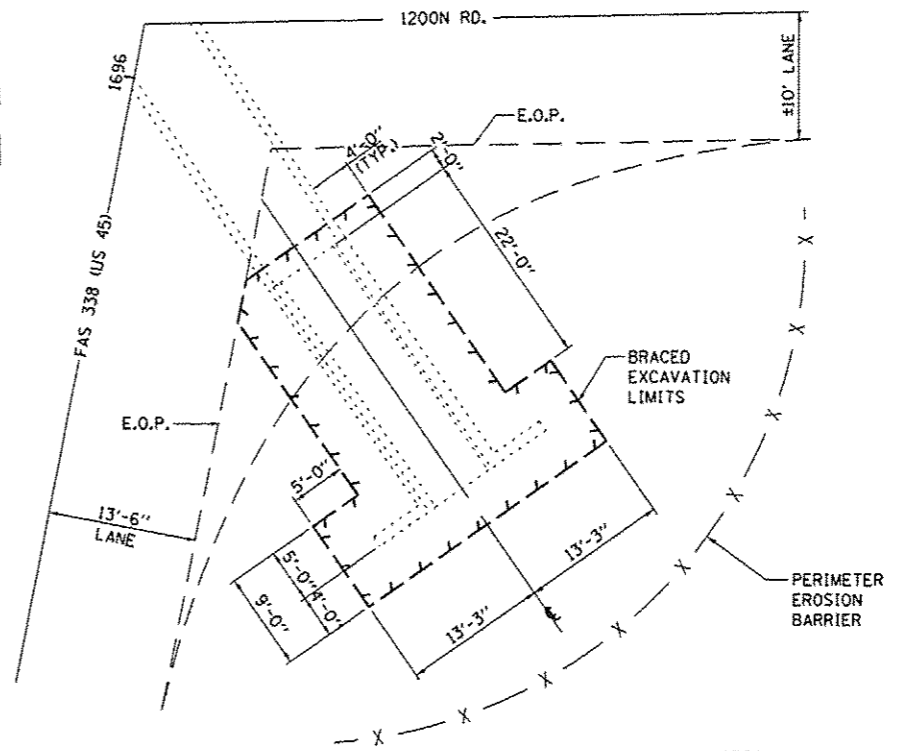
EXISTING REINFORCEMENT BARS EXTENDING INTO THE REMOVAL AREA (WHEN PRESENT) SHALL BE CLEANED, STRAIGHTENED AND INCORPORATED INTO THE NEW CONSTRUCTION. ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM, COST INCLUDED WITH CONCRETE REMOVAL.

THE CONTRACTOR SHALL USE EXTREME CARE DURING CONCRETE REMOVAL SO AS NOT TO DAMAGE THE EXISTING CONCRETE BOX CULVERT THAT IS TO REMAIN.

FILE NAME * c:\pwork\pvidet\patel\10332421\0366079-sht-details.dgn	USER NAME * pateluj	DESIGNED - RW	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL PLAN DETAILS</b>	F.A.S. RTE. 338	SECTION (35)C	COUNTY IROQUOIS	TOTAL SHEETS 10	SHEET NO. 7
	PLOT SCALE * 100.0000 "/ in.	CHECKED -	REVISED -			CONTRACT NO. 66C79				
	PLOT DATE * 7/8/2013	DATE -	REVISED -			SCALE: SHEET 1 OF 4 SHEETS STA. 1695+95	ILLINOIS FED. AID PROJECT			

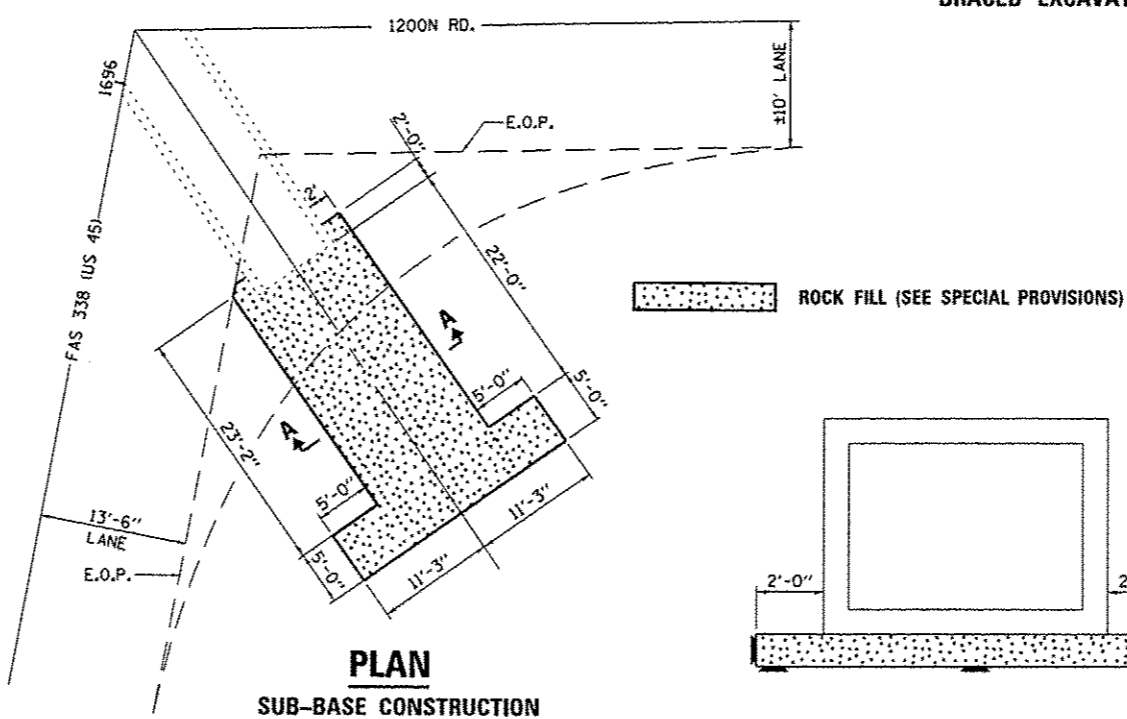


**PLAN  
PAVEMENT REMOVAL**

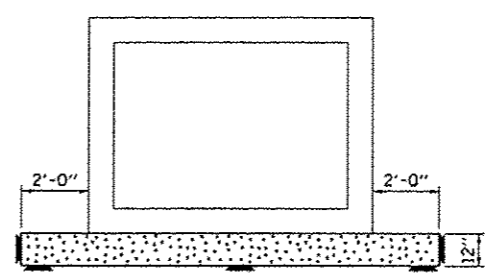


**PLAN  
BRACED EXCAVATION**

**NOTES:**  
EXCAVATED MATERIALS DEEMED SUITABLE FOR RECONSTRUCTION SHALL BE STOCKPILED AND USED FOR BACKFILLING OPERATIONS.  
  
EXCAVATED MATERIALS DEEMED UNSUITABLE FOR CONSTRUCTION SHALL BE DISPOSED OF AS SPECIFIED ELSEWHERE ON THE PLANS OR AS DIRECTED BY THE ENGINEER.



**PLAN  
SUB-BASE CONSTRUCTION**



**SECTION A-A**

**BILL OF MATERIALS**

ITEM	UNIT	TOTAL
PAVEMENT REMOVAL	SO YD	18
BRACED EXCAVATION	CU YD	146.7
PERIMETER EROSION BARRIER	FOOT	100
ROCK FILL	CU YD	40

FILE NAME :	USER NAME : patelyj	DESIGNED - RW	REVISED -
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	PLOT DATE = 7/9/2013	DATE -	REVISED -

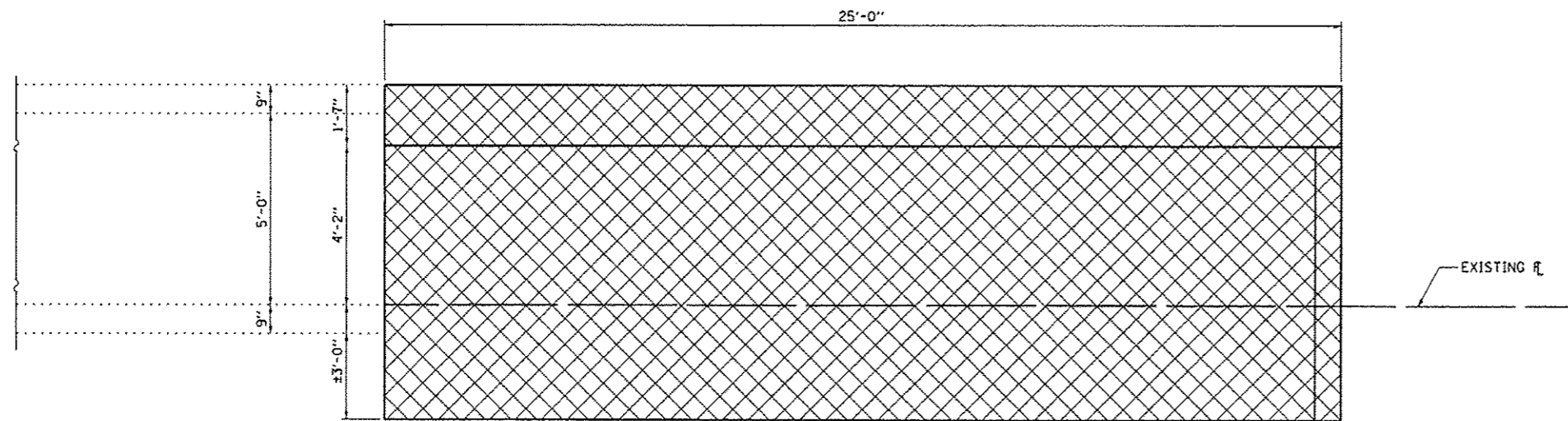
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CONSTRUCTION DETAILS**

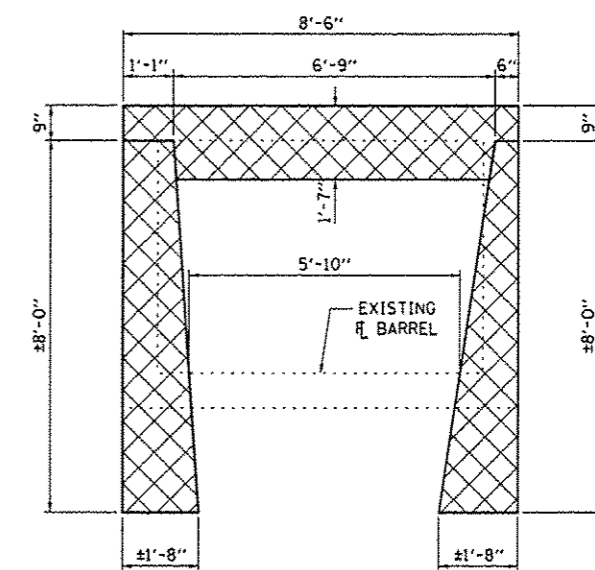
SCALE: SHEET 2 OF 4 SHEETS STA. 1695+95

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338	(35)C	IRROUOIS	10	8
			CONTRACT NO. 66C79	
ILLINOIS FED. AID PROJECT				

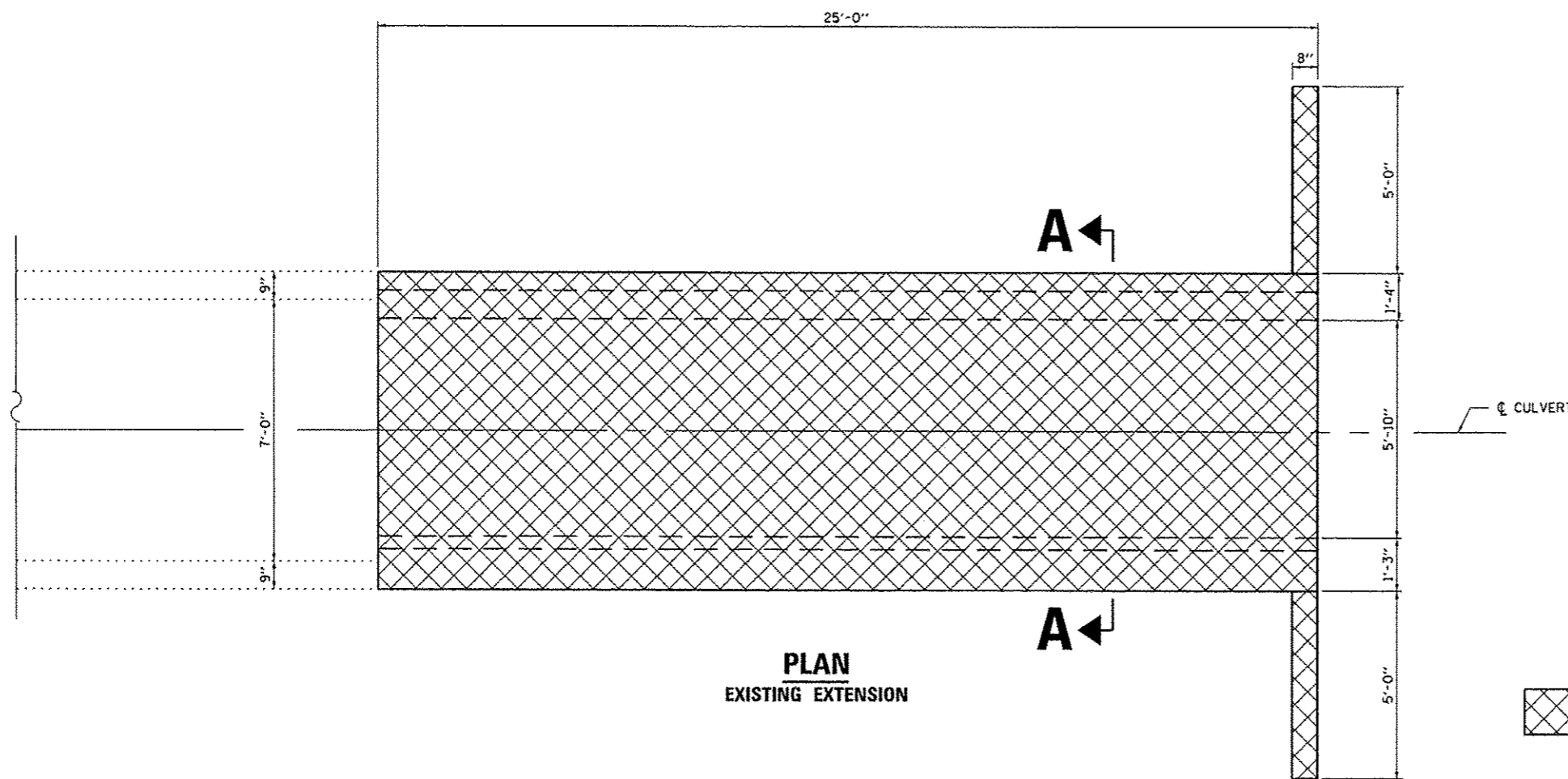




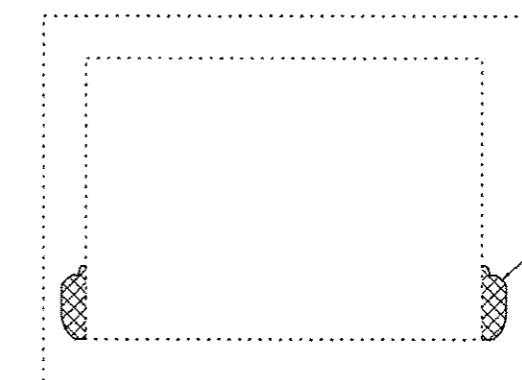
**ELEVATION**



**SECTION A-A**



**PLAN**  
EXISTING EXTENSION

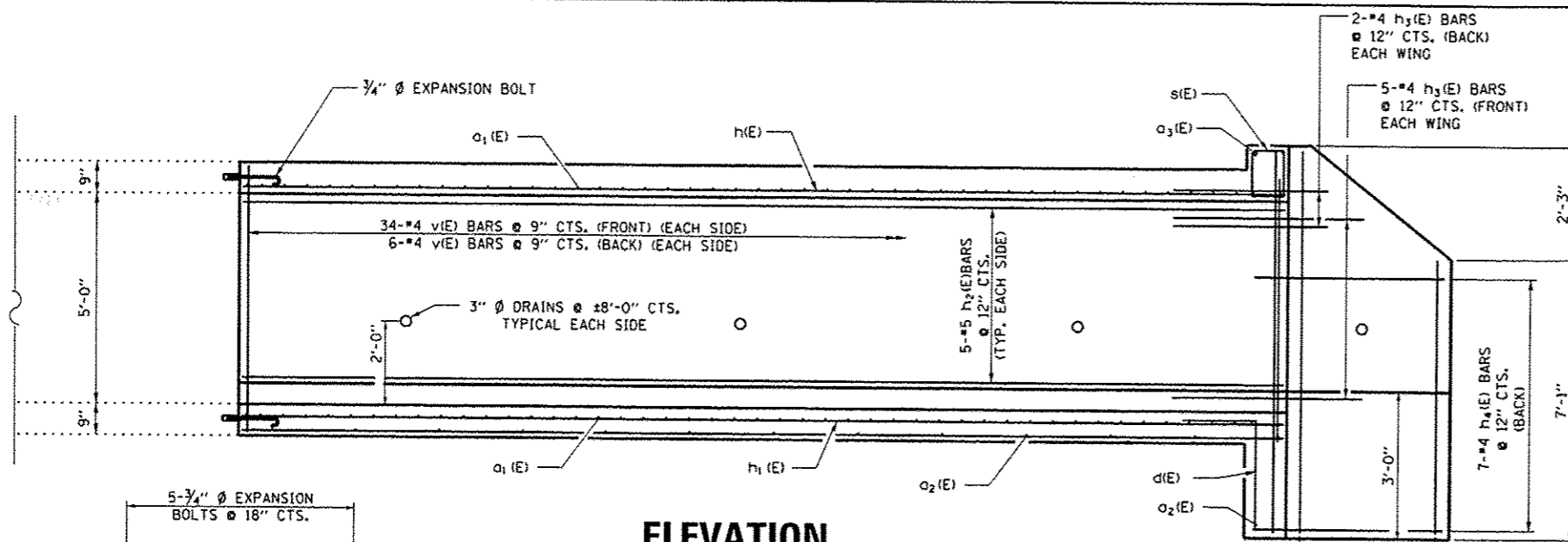


**SECTION THRU EXISTING BARREL**  
LOOKING SOUTH

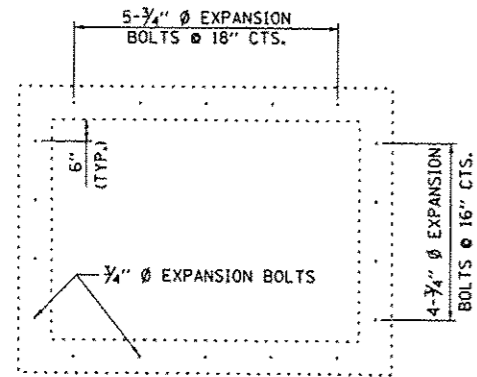
VOID IN CONCRETE (TYP.)  
VARIOUS LOCATIONS ALONG  
BOTTOM OF WALL THROUGH EXISTING  
BARREL, APPROXIMATELY 1'x1' IN SIZE.  
REPAIR METHOD SHALL BE ACCORDING  
TO THE SPECIAL PROVISION FOR  
"STRUCTURAL REPAIR OF CONCRETE  
(DEPTH EQUAL TO OR LESS THAN 5")

 **CONCRETE REMOVAL**

FILE NAME :	USER NAME : potalyj	DESIGNED - RW	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING CULVERT EXTENSIONS DETAILS</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwwork\pwwork\potalyj\033242\036679-shr-detaill.dgn	DRAWN - RW	REVISED -	338			(35)C	IRROQUOIS	10	9	
PLOT SCALE : 100.0000' / 1"	CHECKED -	REVISED -	CONTRACT NO. 66C79							
PLOT DATE : 7/8/2013	DATE -	REVISED -	[ILLINOIS] FED. AID PROJECT							
					SCALE:	SHEET 3 OF 4 SHEETS		STA. 1695+95		

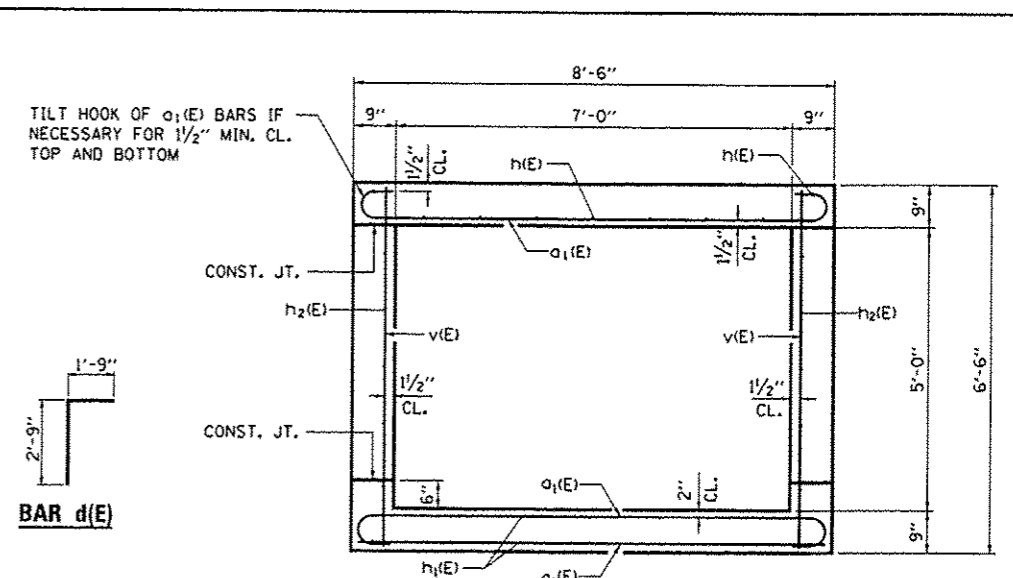


**ELEVATION**

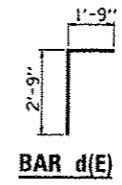


**END VIEW OF EXISTING BARREL**

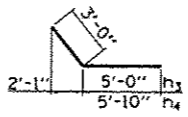
NOTE:  
EXPANSION BOLTS SHALL BE 3/4" Ø HOOKED BOLTS.  
HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO  
NEW CONCRETE.



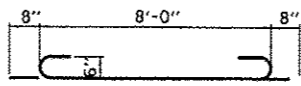
**SECTION THRU BARREL**



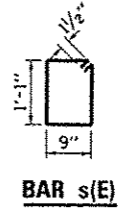
**BAR d(E)**



**BARS h<sub>3</sub>(E) & h<sub>4</sub>(E)**

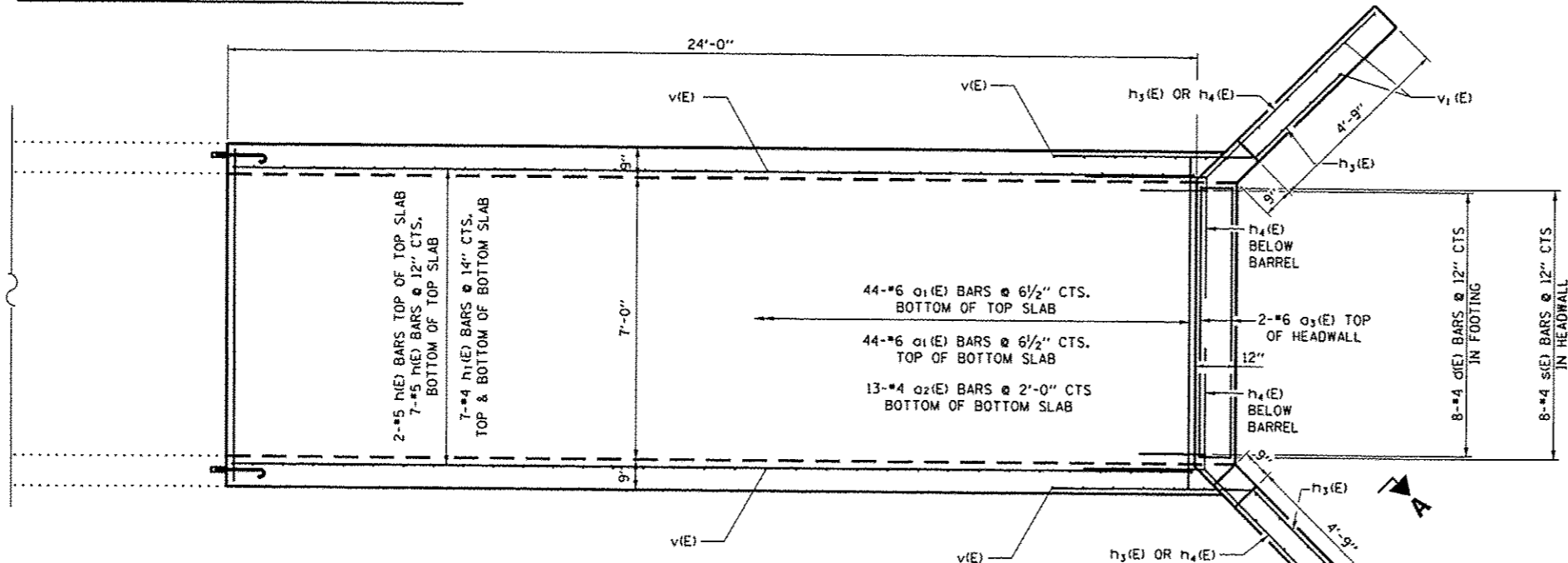


**BAR a<sub>1</sub>(E)**

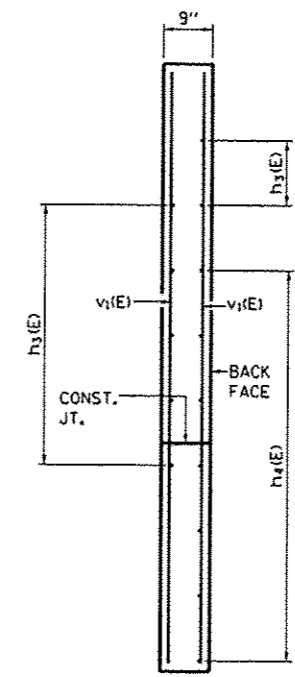


**BAR s(E)**

MINIMUM BAR LAP			
BARRELS		WINGWALLS	
SIZE	LAP	SIZE	LAP
#4	1'-4"	#4	1'-8"
#5	1'-8"	#5	2'-2"
#6	2'-0"	#6	2'-7"
#7	2'-9"	#7	3'-5"
#8	3'-8"	#8	4'-6"
#9	4'-7"	#9	5'-9"



**PLAN  
EXTENSION**



**SECTION A-A**

BILL OF MATERIALS				
BAR	NO.	SIZE	LENGTH	SHAPE
a1	88	6	9'-4"	
a2	13	4	8'-0"	
a3	2	6	7'-1"	
d	8	4	4'-6"	
h	9	5	24'-6"	
h1	14	4	24'-6"	
h2	10	5	23'-10"	
h3	14	4	8'-0"	
h4	14	4	8'-10"	
s	8	4	4'-2"	
v	80	4	6'-0"	
v1	20	4	9'-1"	
CONCRETE REMOVAL			CU YD	31.1
CONCRETE BOX CULVERT			CU YD	22
REINFORCEMENT BARS EPOXY COATED			POUNDS	2660
3/4" DIA. EXPANSION BOLTS			EACH	18
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5")			SO FT	10