



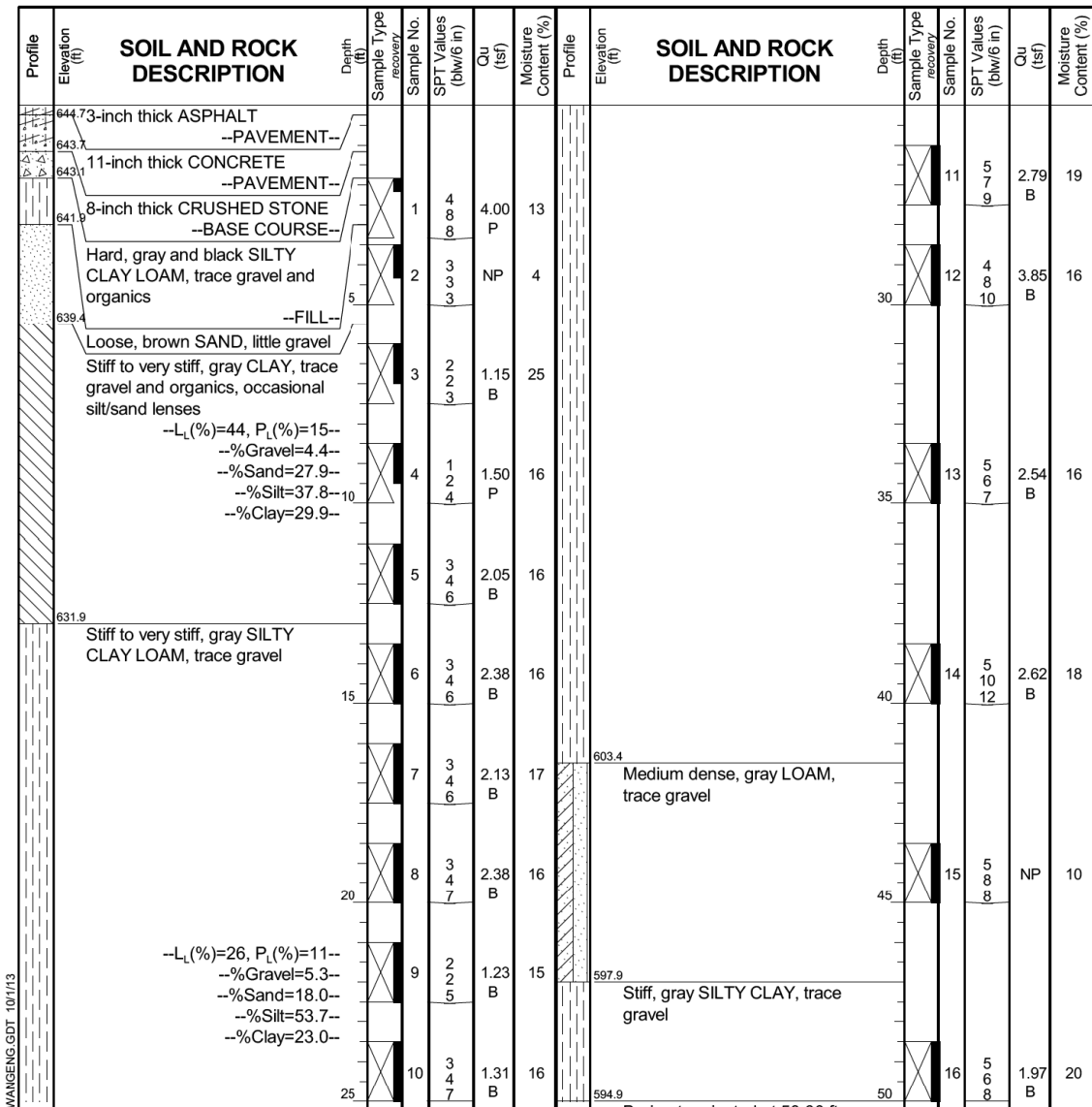
wangeng@wangeng.com  
1145 N Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9938

### BORING LOG C-3

WEI Job No.: 218-01-01

Client: **Bloom Companies, LLC**  
Project: **IL 68 over MFNB Chicago River**  
Location: **Northbrook, Cook County, IL**

Datum: NAVD 88  
Elevation: 644.90 ft  
North: 1993319.17 ft  
East: 1126588.16 ft  
Station: 22+20.3  
Offset: 21.4 RT



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	05-16-2013	Complete Drilling	05-16-2013
Drilling Contractor	WTS	Drill Rig	Mobil B-57
Driller	K & K	Logger	D. Kolpacki
Checked by	M. Seyhun	Time After Drilling	N/A hours
Drilling Method	3.25-inch IDA HSA, auto hammer, boring backfilled with bentonite chips and cuttings, and pavement patched	Depth to Water	N/A ft



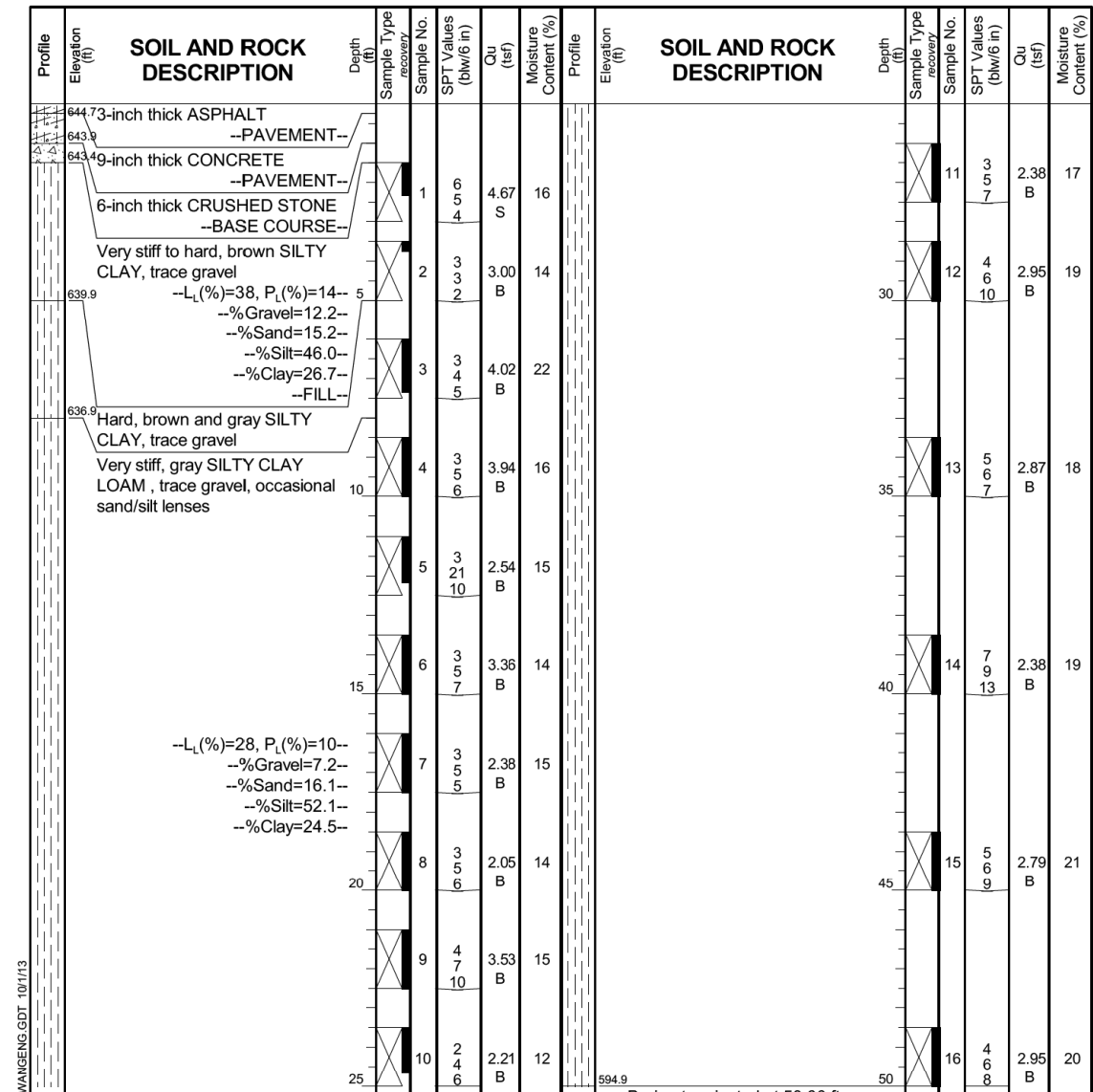
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Fax: 630 953-9938

### BORING LOG RW-01

WEI Job No.: 218-01-01

Client: **Bloom Companies, LLC**  
Project: **IL 68 over MFNB Chicago River**  
Location: **Northbrook, Cook County, IL**

Datum: NAVD 88  
Elevation: 644.90 ft  
North: 1993320.31 ft  
East: 1126442.68 ft  
Station: 20+75.0  
Offset: 21.5 RT



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	05-16-2013	Complete Drilling	05-16-2013
Drilling Contractor	WTS	Drill Rig	Mobil B-57
Driller	K & K	Logger	D. Kolpacki
Checked by	M. Seyhun	Time After Drilling	N/A hours
Drilling Method	3.25-inch IDA HSA, auto hammer, boring backfilled with bentonite chips and cuttings, and pavement patched	Depth to Water	N/A ft

MODEL NAME - Default  
FILE NAME - F:\31256 - IL 68\DRAWINGS\CADD\Sheet\0180-01-01.dwg



USER NAME = jandrews  
DESIGNED - JA  
DRAWN - JA  
CHECKED - RJO  
DATE - 8/23/2017

REVISOR -  
REVISION -  
REVISOR -  
REVISION -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS  
SCALE: N.T.S. SHEET 2 OF 5 SHEETS STA. TO STA.

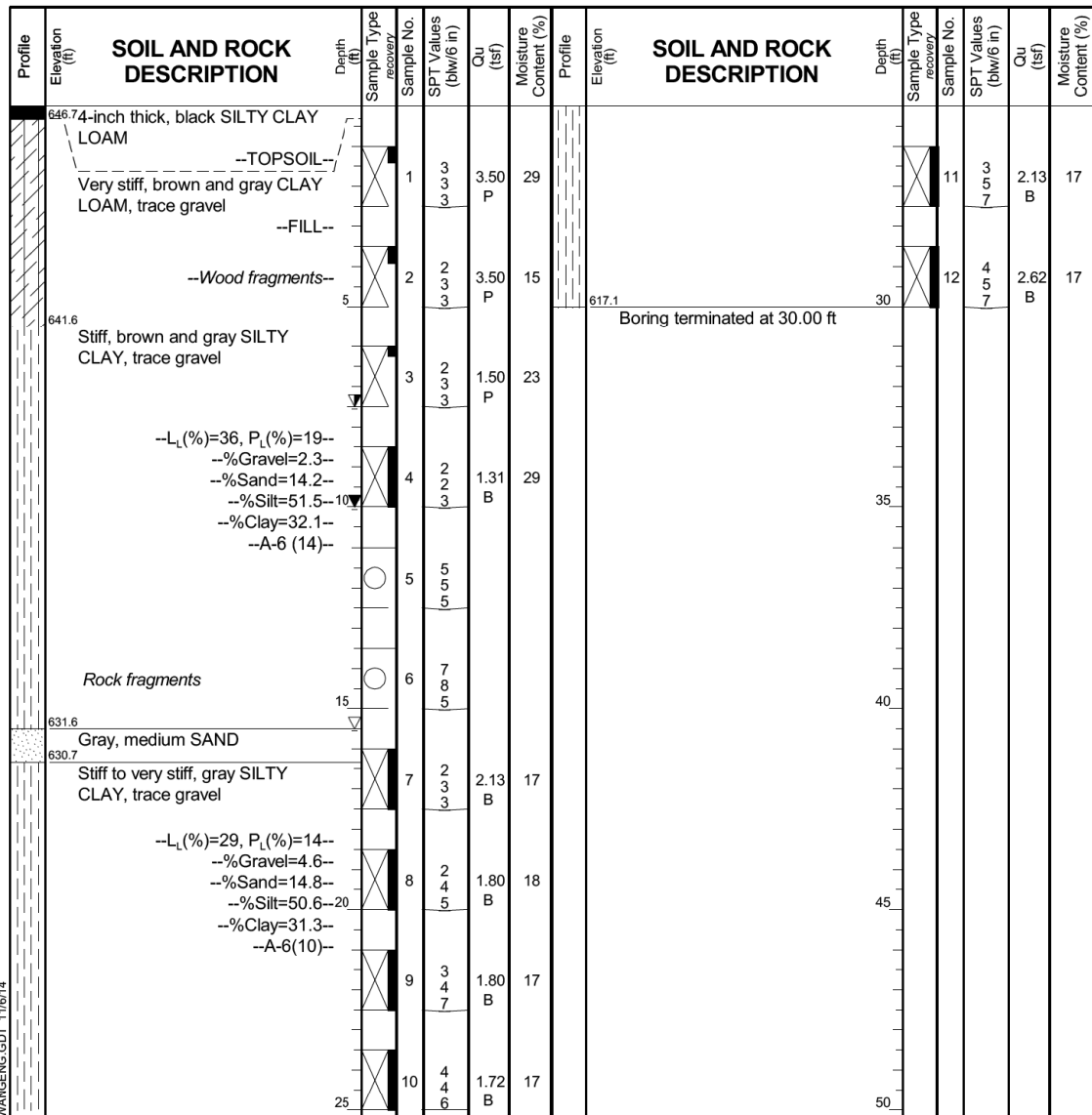
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	101
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				

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**BORING LOG SB-01**  
 WEI Job No.: 218-01-02  
 Client: **Bloom Companies, LLC**  
 Project: **MFNB Chicago River**  
 Location: **FAU 2760/Section 106-203-MFT**

Datum: NAVD  
 Elevation: 647.07 ft  
 North: 1993238.05 ft  
 East: 1126967.74 ft  
 Station: 207+13.5  
 Offset: 34.5 RT

Page 1 of 1



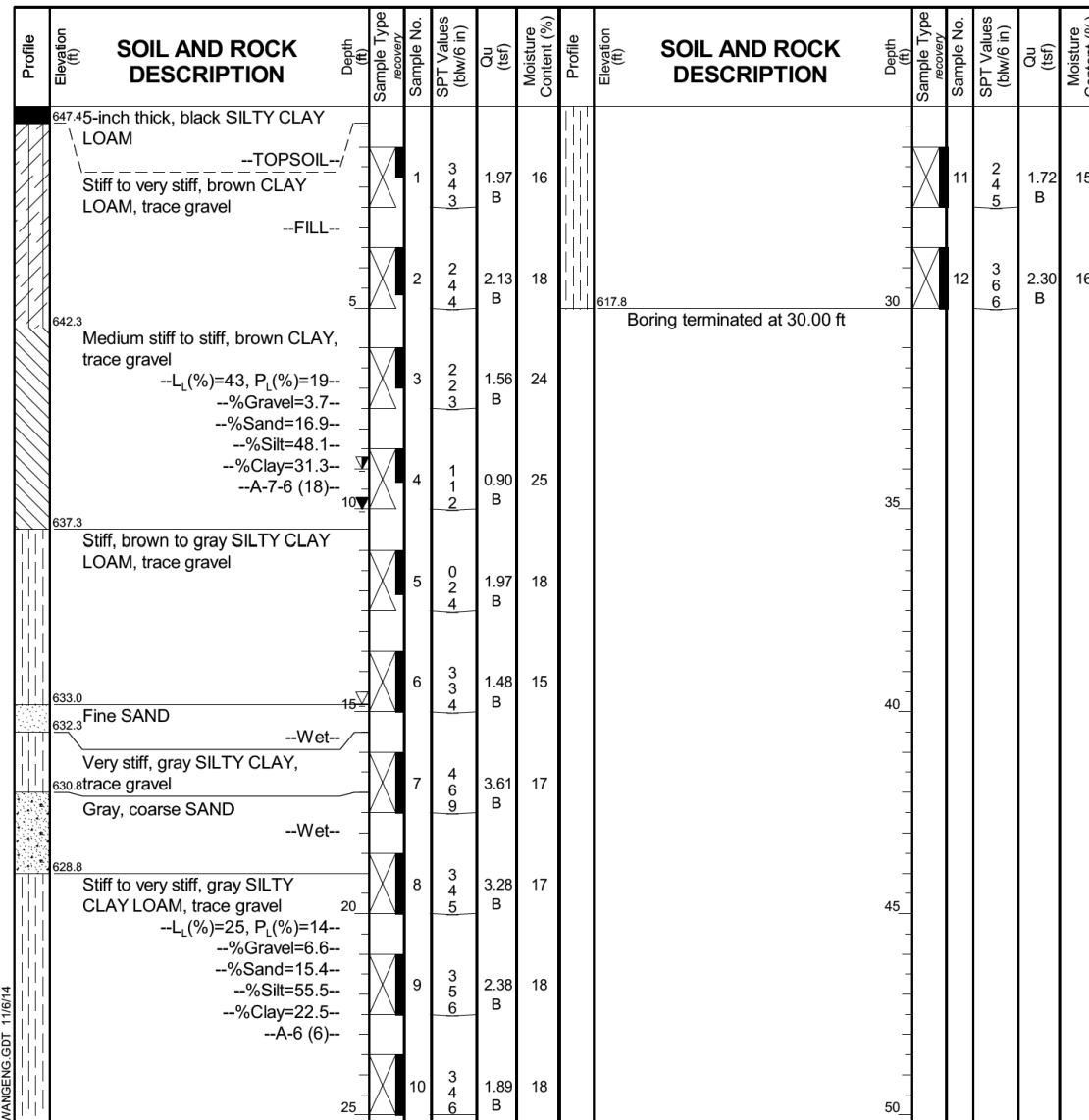
GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	10-02-2014	Complete Drilling	10-02-2014
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 CME
Driller	K&K	Logger	F. Bozga
Checked by	C. Marin	Drilling Method	3.25" HSA; Boring backfilled upon completion
While Drilling	15.50 ft	At Completion of Drilling	10.00 ft
Time After Drilling	24 hours	Depth to Water	7.50 ft

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**BORING LOG SB-02**  
 WEI Job No.: 218-01-02  
 Client: **Bloom Companies, LLC**  
 Project: **MFNB Chicago River**  
 Location: **FAU 2760/Section 106-203-MFT**

Datum: NAVD  
 Elevation: 647.81 ft  
 North: 1993218.19 ft  
 East: 1126931.05 ft  
 Station: 206+68.5  
 Offset: 28.5 RT

Page 1 of 1



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	10-02-2014	Complete Drilling	10-02-2014
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 CME
Driller	K&K	Logger	F. Bozga
Checked by	C. Marin	Drilling Method	3.25" HSA; Boring backfilled upon completion
While Drilling	14.80 ft	At Completion of Drilling	10.00 ft
Time After Drilling	24 hours	Depth to Water	9.00 ft

MODEL NAME - Default  
 FILE NAME - F:\31256 - L BOURAWINGS\CADD\Sheets\01810-01-01-01.dwg

**BLOOM COMPANIES, LLC**  
 Infrastructure Development and Design  
 600 W. Fulton Street, Suite 701 • Chicago, IL 60661  
 Phone: (312) 878-9600 Fax: (312) 878-9600

USER NAME = jandrews	DESIGNED - JA	REVISED -
PLOT SCALE = 2.0000" / 1"	CHECKED - RJJ	REVISED -
PLOT DATE = 8/23/2017	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

BORING LOGS		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE: N.T.S.	SHEET 3 OF 5 SHEETS	343	30T-1	COOK	140	102
CONTRACT NO. 60J13						
ILLINOIS FED. AID PROJECT						



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### BORING LOG R-1

WEI Job No.: 218-01-01

Client: **Bloom Companies, LLC**  
Project: **IL 68 over MFNB Chicago River**  
Location: **PTB 154/ITEM 13, Cook County, IL**

Datum: NAVD 88  
Elevation: 644.50 ft  
North: 1993608.08 ft  
East: 1126366.38 ft  
Station: 102+64.6  
Offset: 3.3 LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
644.0	6-inch thick ASPHALT --PAVEMENT--												
643.8	6-inch thick CRUSHED STONE --BASE COURSE--												
642.1	Very stiff, brown/black SILTY CLAY, trace gravel	1	3	5	2.75	18							
	Loose, brown SANDY LOAM, trace gravel	4	4	4									
	--%Gravel=0.3-- --%Sand=59.7-- --%Silt=29.0-- --%Clay=11.0--	2	2	2	NP	19							
		3	2	2									
		5	3	5									
		2	2	2	NP	15							
		7	5	7									
637.8	Stiff to very stiff, gray SILTY CLAY, trace gravel	4	4	6	3.77	16							
		7	6	7									
		9	7	9									
		10	4	6									
		8	5	8	2.13	17							
		10	8	10									
		9	8	9									
		8	8	8	1.56	18							
		8	8	8									
		12	12	12									
631.5	Boring terminated at 13.00 ft												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	05-17-2013	Complete Drilling	05-17-2013	While Drilling	▽	Dry	
Drilling Contractor	WTS	Drill Rig	Mobil B-57	At Completion of Drilling	▽	Dry	
Driller	K & K	Logger	D. Kolpacki	Time After Drilling		N/A hours	
Checked by	M. Seyhun	Drilling Method	3.25-inch IDA HSA, auto hammer, boring backfilled	Depth to Water	▽	N/A ft	
with soil cuttings and pavement patched				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			



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### BORING LOG R-2

WEI Job No.: 218-01-01

Client: **Bloom Companies, LLC**  
Project: **IL 68 over MFNB Chicago River**  
Location: **PTB 154/ITEM 13, Cook County, IL**

Datum: NAVD 88  
Elevation: 644.30 ft  
North: 1993500.41 ft  
East: 1126362.72 ft  
Station: 101+56.8  
Offset: 6.3 LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
643.8	6-inch thick ASPHALT --PAVEMENT--												
643.3	6-inch thick CRUSHED STONE --BASE COURSE--												
	Medium stiff to very stiff, brown and gray CLAY LOAM to SILTY CLAY LOAM, trace gravel	1	3	4	3.50	30							
	--L <sub>c</sub> (%)=42, P <sub>c</sub> (%)=13-- --%Gravel=1.4-- --%Sand=36.8-- --%Silt=35.7-- --%Clay=26.2--	5	4	5									
		3	3	3	1.00	21							
		3	3	3									
		5	3	5									
		2	2	2	0.50	21							
		2	2	2									
637.9	Loose to medium dense, brown and gray SANDY LOAM	2	2	2									
	--%Gravel=3.8-- --%Sand=59.0-- --%Silt=27.0-- --%Clay=10.1--	4	2	4	NP	13							
		3	3	3									
		4	3	4									
		10	3	5									
		6	5	6	NP	11							
		4	6	4									
633.7	Very stiff, gray SILTY CLAY, trace gravel	5	5	6									
		6	6	6	3.20	17							
		10	10	10									
		13	13	13									
631.3	Boring terminated at 13.00 ft												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	05-17-2013	Complete Drilling	05-17-2013	While Drilling	▽	11.00 ft	
Drilling Contractor	WTS	Drill Rig	Mobil B-57	At Completion of Drilling	▽	11.00 ft	
Driller	K & K	Logger	D. Kolpacki	Time After Drilling		N/A hours	
Checked by	M. Seyhun	Drilling Method	3.25-inch IDA HSA, auto hammer, boring backfilled	Depth to Water	▽	N/A ft	
with soil cuttings and pavement patched				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

MODEL NAME - Default  
FILE NAME - F:\31256 - L 68-DRAWINGS-CADD-Sheets-01810-sfr-bor-log

USER NAME	= jandrews	DESIGNED	= JA	REVISED	=
DRAWN	= JA	REVISED	=		
PLOT SCALE	= 2.0000" / 1"	CHECKED	= RJJ	REVISED	=
PLOT DATE	= 8/23/2017	DATE	=	REVISED	=

### STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BORING LOGS		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE: N.T.S.		343	30T-1	COOK	140	103
SHEET 4 OF 5 SHEETS STA. TO STA.		CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT						

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**BORING LOG R-3**  
 WEI Job No.: 218-01-01  
 Client: **Bloom Companies, LLC**  
 Project: **IL 68 over MFNB Chicago River**  
 Location: **PTB 154/ITEM 13, Cook County, IL**

Datum: NAVD 88  
 Elevation: 645.10 ft  
 North: 1993209.97 ft  
 East: 1126360.85 ft  
 Station: 98+66.3  
 Offset: 6.4 LT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
644.4	8-inch thick ASPHALT --PAVEMENT--												
643.8	8-inch thick CRUSHED STONE --BASE COURSE--												
	Stiff, brown and gray CLAY, trace gravel --L <sub>c</sub> (%)=54, P <sub>L</sub> (%)=16-- --%Gravel=3.4-- --%Sand=16.9-- --%Silt=45.4-- --%Clay=34.3--	1	3	1.72	34								
		2	2	1.80	25								
		3	2										
		4	2										
		5	2										
638.5	Very stiff to hard, brown to gray SILTY CLAY, trace gravel	2	2	1.39	27								
		4	2	7.30	19								
		4	4										
		9	4										
		11	4										
		10	5	4.84	15								
		8	11										
		11	15										
		15	14	2.21	16								
		15	15										
		16	16										
632.1	Boring terminated at 13.00 ft												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	05-16-2013	Complete Drilling	05-16-2013	While Drilling	▽	Dry	
Drilling Contractor	WTS	Drill Rig	Mobil B-57	At Completion of Drilling	▽	Dry	
Driller	K & K	Logger	D. Kolpacki	Checked by	M. Seyhun	Time After Drilling	N/A hours
Drilling Method	3.25-inch IDA HSA, auto hammer, boring backfilled			Depth to Water	▽	N/A ft	
with soil cuttings and pavement patched				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

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 Fax: 630 953-9938

**BORING LOG R-4**  
 WEI Job No.: 218-01-01  
 Client: **Bloom Companies, LLC**  
 Project: **IL 68 over MFNB Chicago River**  
 Location: **PTB 154/ITEM 13, Cook County, IL**

Datum: NAVD 88  
 Elevation: 648.60 ft  
 North: 1993046.19 ft  
 East: 1126374.21 ft  
 Station: 97+02.6  
 Offset: 7.9 RT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
648.0	6-inch thick ASPHALT --PAVEMENT--												
647.8	6-inch thick SANDY GRAVEL --BASE COURSE--												
	Stiff to very stiff, brown and gray SILTY CLAY LOAM, trace gravel --L <sub>c</sub> (%)=34, P <sub>L</sub> (%)=17-- --%Gravel=1.4-- --%Sand=13.3-- --%Silt=60.0-- --%Clay=25.4--	1	3	1.50	23								
		2	2	2.30	26								
		2	2										
		4	2										
		5	2										
		3	3	3.28	25								
		4	4										
		8	8										
		12	12										
641.9	Very stiff to hard, brown to gray SILTY CLAY, trace gravel	6	10	5.49	16								
		10	13										
		14	14										
		7	14	3.75	17								
		11	11										
		16	16										
		6	9	3.85	16								
		15	15										
		15	15										
635.6	Boring terminated at 13.00 ft												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	05-16-2013	Complete Drilling	05-16-2013	While Drilling	▽	Dry	
Drilling Contractor	WTS	Drill Rig	Mobil B-57	At Completion of Drilling	▽	Dry	
Driller	K & K	Logger	D. Kolpacki	Checked by	M. Seyhun	Time After Drilling	N/A hours
Drilling Method	3.25-inch IDA HSA, auto hammer, boring backfilled			Depth to Water	▽	N/A ft	
with soil cuttings and pavement patched				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

MODEL NAME - Default  
 FILE NAME - F:\31256 - 68-CRAWINGS-CADD\Sheet\01810-01-01.dgn

USER NAME = jandrews	DESIGNED - JA	REVISED -
PLOT SCALE = 2.0000" / 1"	DRAWN - JA	REVISED -
PLOT DATE = 8/23/2017	CHECKED - RJO	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BORING LOGS**

SCALE: N.T.S. SHEET 5 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	104
CONTRACT NO. 60J13			ILLINOIS FED. AID PROJECT	

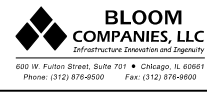
**BLOOM COMPANIES, LLC**  
 Infrastructure Development and Design  
 800 W. Fulton Street, Suite 701 • Chicago, IL 60601  
 Phone: (312) 878-8600 Fax: (312) 878-8600



FINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE

ORIGINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE

MODEL NAME - Default  
FILE NAME - F:\225 IL 68\DRAWINGS\CADD\Sheet\30T-1\30T-1.dwg



USER NAME	= jandrews
DESIGNED	- MMO
DRAWN	- BL
CHECKED	- MMO
DATE	-
PLOT SCALE	= 20.0000" / 1"
PLOT DATE	= 8/23/2017

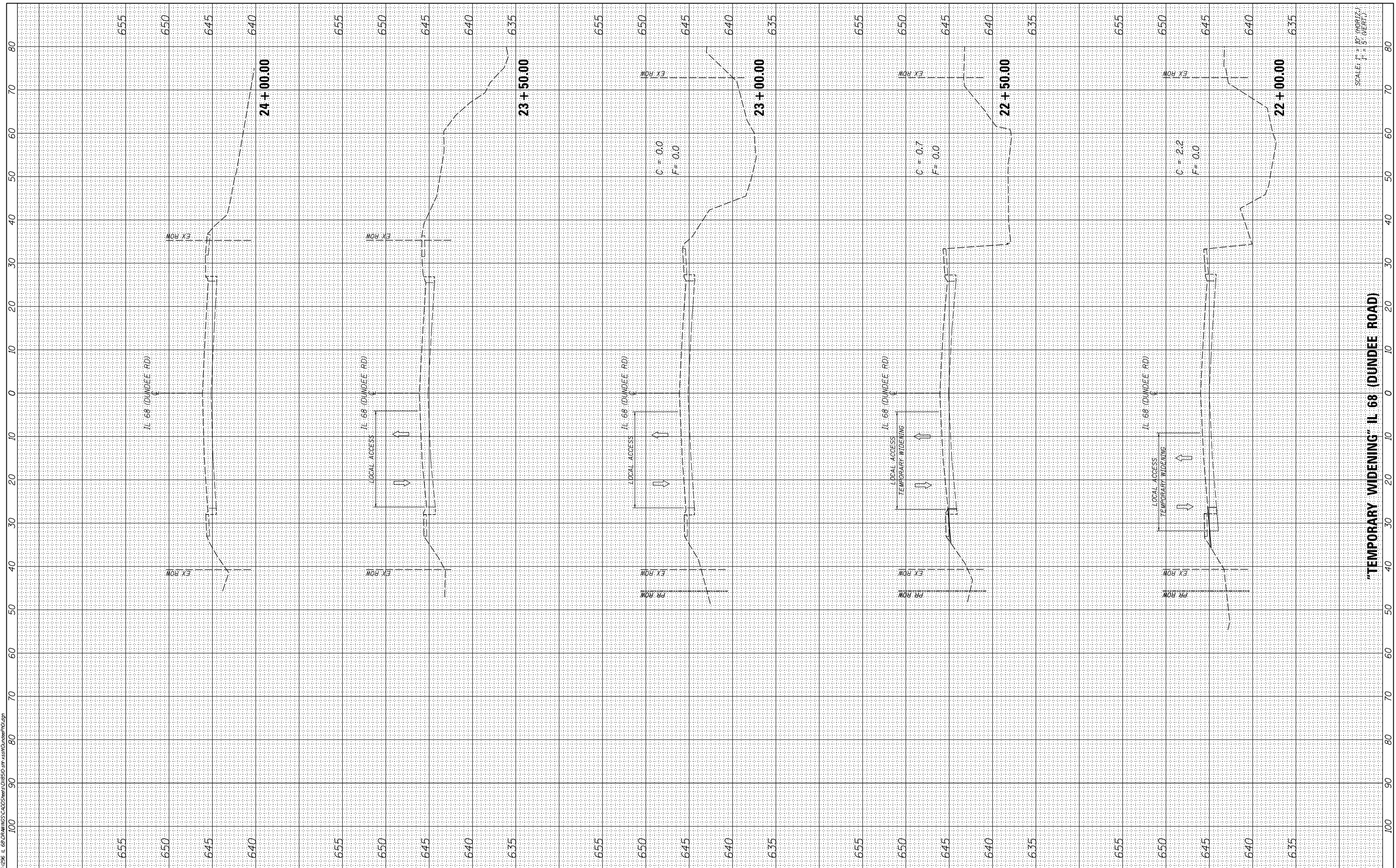
REVISIONS	
1	DESIGNED - MMO
2	DRAWN - BL
3	CHECKED - MMO
4	DATE -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL 68 PHASE I  
CROSS SECTIONS

SCALE: 1" = 10' SHEET 2 OF 2 SHEETS STA. 22+00.00 TO STA. 24+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	106
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				

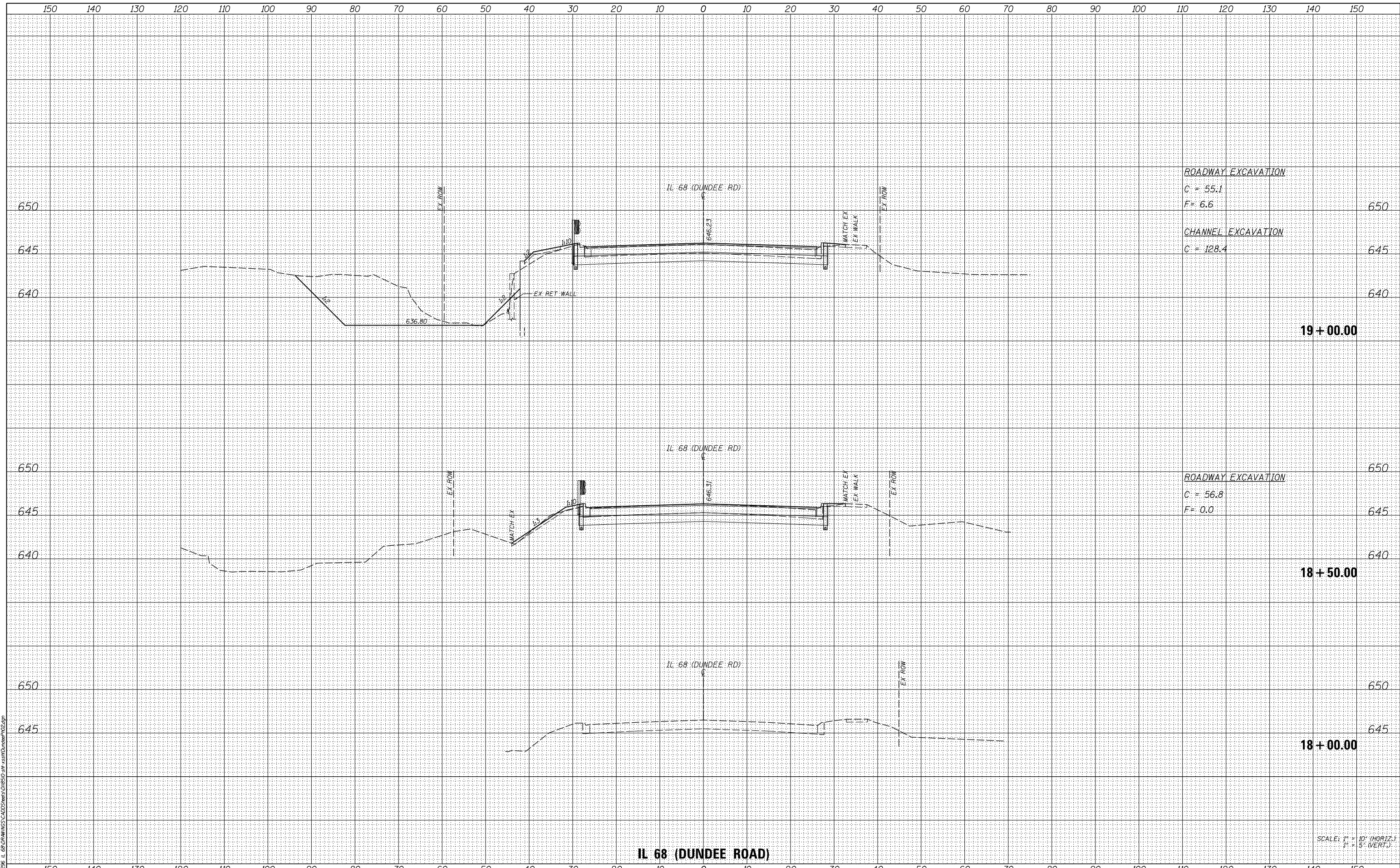


"TEMPORARY WIDENING" IL 68 (DUNDEE ROAD)

SCALE: 1" = 10' (HORIZONTAL)  
1" = 5' (VERTICAL)

DATE	
BY	
FINISHED SURVEY	
PLOTTED TEMPLATE	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	
NO.	



IL 68 (DUNDEE ROAD)

SCALE: 1" = 10' (HORIZ.)  
1" = 5' (VERT.)



USER NAME = jandrews  
DESIGNED - MMO  
DRAWN - BL  
CHECKED - MMO  
DATE - 8/23/2017

REVISIED -  
REVISIED -  
REVISIED -  
REVISIED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL 68 PHASE II  
CROSS SECTIONS

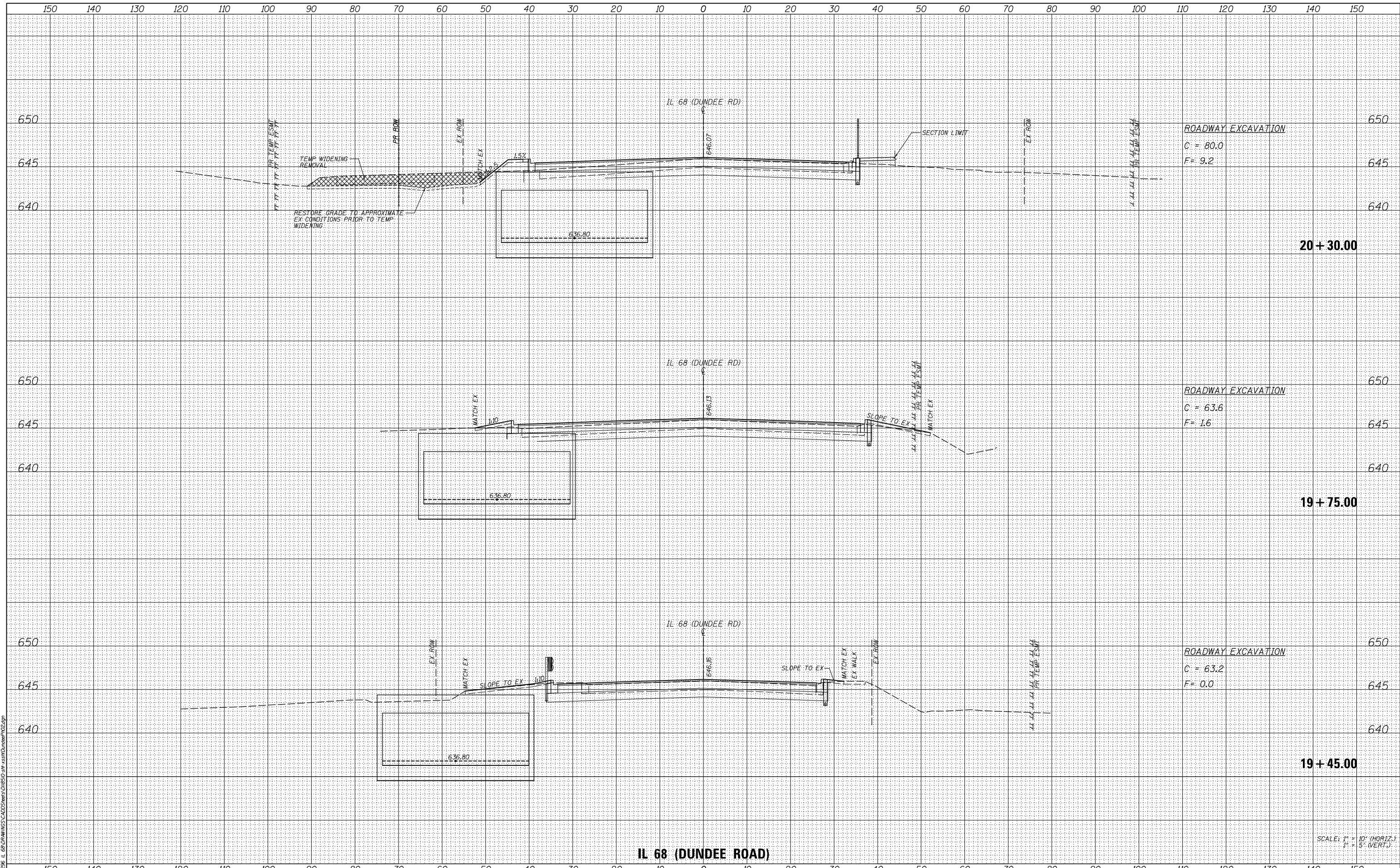
SCALE: 1" = 10' SHEET 1 OF 5 SHEETS STA. 18+00.00 TO STA. 19+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	107
CONTRACT NO. 60J13				

ILLINOIS FED. AID PROJECT

DATE	
BY	
ORIGINAL SURVEY NO.	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	
FINAL SURVEY NO.	
NOTE BOOK	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY NO.	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS CHECKED	



**BLOOM COMPANIES, LLC**  
 Infrastructure Innovation and Integrity  
 600 W. Fulton Street, Suite 701 • Chicago, IL 60661  
 Phone: (312) 876-8500 Fax: (312) 876-8800

USER NAME = jandrews	DESIGNED - MMO	REVISED -
	DRAWN - BL	REVISED -
PLOT SCALE = 20.0000' / in.	CHECKED - MMO	REVISED -
PLOT DATE = 8/23/2017	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IL 68 PHASE II  
 CROSS SECTIONS**  
 SCALE: 1" = 10'  
 SHEET 2 OF 5 SHEETS  
 STA. 19+45.00 TO STA. 20+30.00

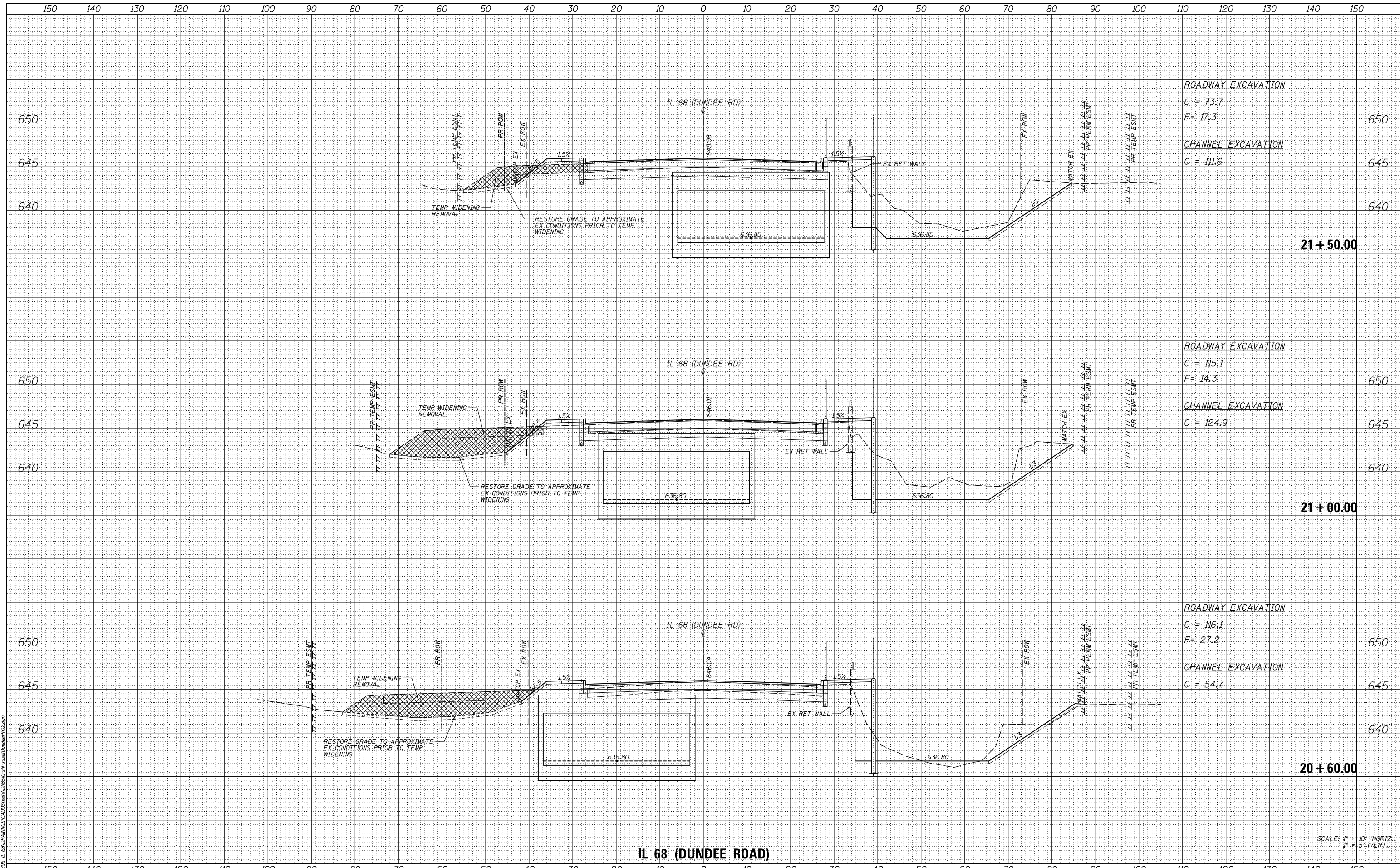
F.A.P. RTE. 343	SECTION 30T-1	COUNTY COOK	TOTAL SHEETS 140	SHEET NO. 108
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				

SCALE: 1" = 10' (HORIZ.)  
 1" = 5' (VERT.)



DATE	
BY	
FINISHED	
PLOTTED	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
AREAS CHECKED	
NO.	



IL 68 (DUNDEE ROAD)

SCALE: 1" = 10' (HORIZ.)  
1" = 5' (VERT.)



USER NAME = jandrews  
DESIGNED - MMO  
DRAWN - BL  
CHECKED - MMO  
DATE - 8/23/2017

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL 68 PHASE II  
CROSS SECTIONS

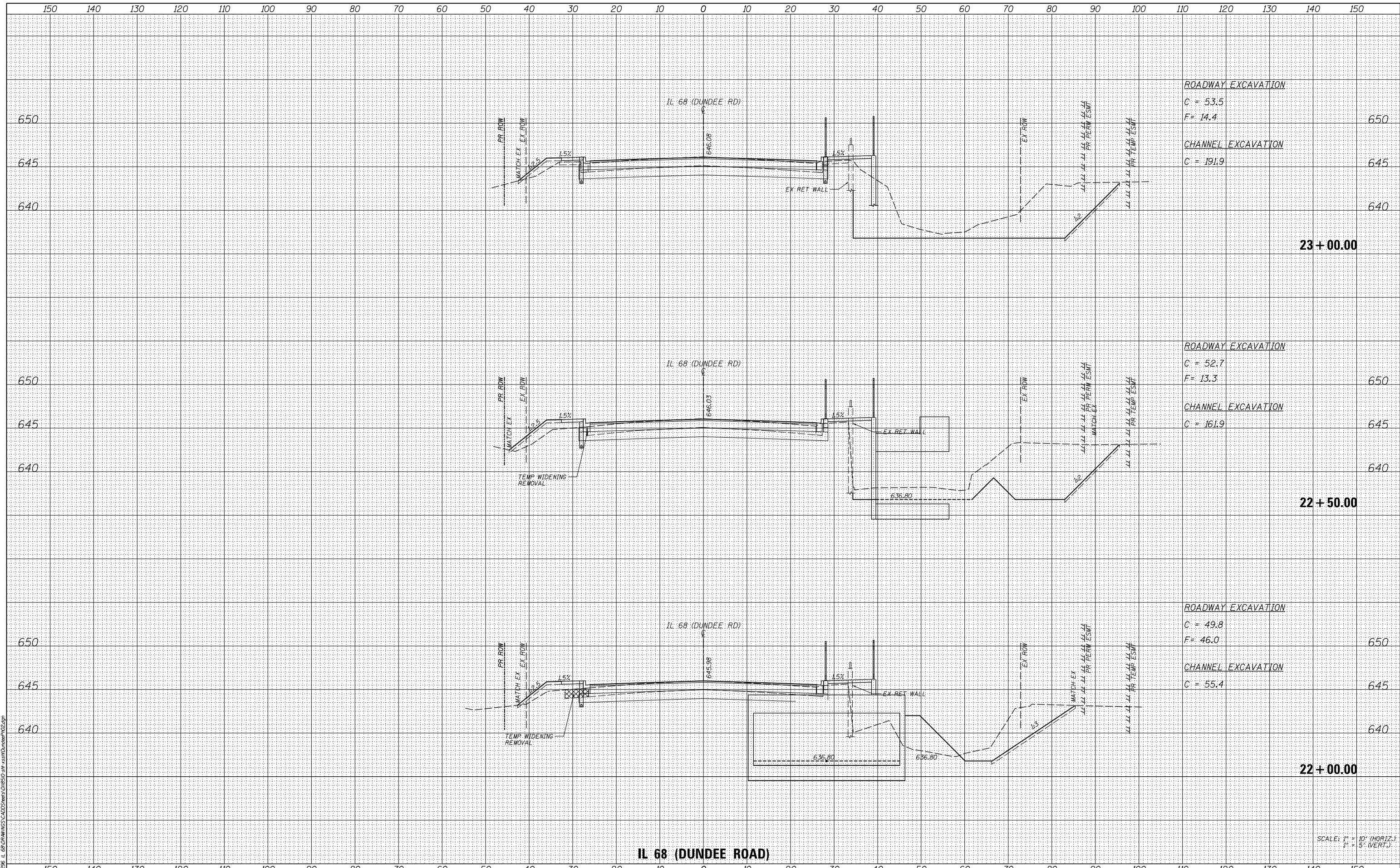
SCALE: 1" = 10' SHEET 3 OF 5 SHEETS STA. 20+60.00 TO STA. 21+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	109
CONTRACT NO. 60J13				

ILLINOIS FED. AID PROJECT

DATE	
BY	
FINISHED SURVEY	
PLOTTED TEMPLATE	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	
NO.	



**IL 68 (DUNDEE ROAD)**

SCALE: 1" = 10' (HORIZ.)  
1" = 5' (VERT.)



USER NAME = jandrews  
DESIGNED - MMO  
DRAWN - BL  
CHECKED - MMO  
DATE - 8/23/2017

REVISIED -  
REVISIED -  
REVISIED -  
REVISIED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL 68 PHASE II  
CROSS SECTIONS**

SCALE: 1" = 10' SHEET 4 OF 5 SHEETS STA. 22+00.00 TO STA. 23+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	110
CONTRACT NO. 60J13				

ILLINOIS FED. AID PROJECT



FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
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USER NAME = jandrews  
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PLOT DATE = 8/23/2017

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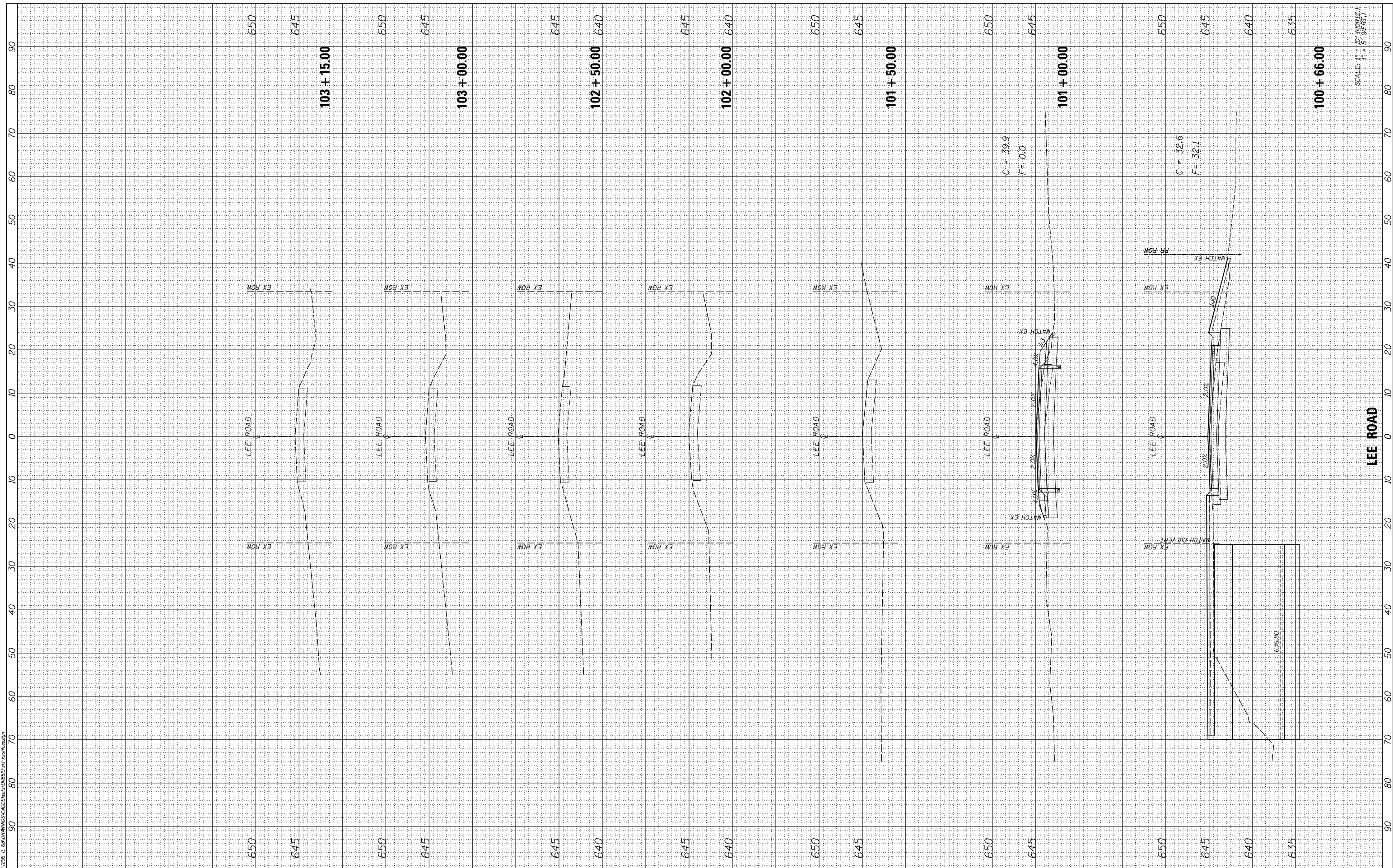
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS  
LEE ROAD

SCALE: 1"=10'H;5'V SHEET 2 OF 2 SHEETS STA. 100+66.00 TO STA. 103+15.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T - 1	COOK	140	112
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				



SCALE: 1" = 10' (HORIZONTAL)  
1" = 5' (VERTICAL)



**A. REFERENCED SPECIFICATIONS**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING, EXCEPT AS MODIFIED HEREIN OR ON THE PLANS:  
 \* STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT SS) FOR ALL IMPROVEMENTS EXCEPT SANITARY SEWER AND WATER MAIN CONSTRUCTION;  
 \* STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSWS) FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION;  
 \* VILLAGE OF \_\_\_\_\_ MUNICIPAL CODE;  
 \* THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO (MWRD) WATERSHED MANAGEMENT ORDINANCE AND TECHNICAL GUIDANCE MANUAL;  
 \* IN CASE OF CONFLICT BETWEEN THE APPLICABLE ORDINANCES NOTED, THE MORE STRINGENT SHALL TAKE PRECEDENCE AND SHALL CONTROL ALL CONSTRUCTION.

**B. NOTIFICATIONS**

- THE MWRD LOCAL SEWER SYSTEMS SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK (CALL 708-588-4055).
- THE VILLAGE OF \_\_\_\_\_ ENGINEERING DEPARTMENT AND PUBLIC MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO EACH PHASE OF WORK. CONTRACTOR SHALL DETERMINE ITEMS REQUIRING INSPECTION PRIOR TO START OF CONSTRUCTION OR EACH WORK PHASE.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION FOR THE EXACT LOCATIONS OF UTILITIES AND FOR THEIR PROTECTION DURING CONSTRUCTION. IF EXISTING UTILITIES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, IMMEDIATELY NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED. CALL J.U.L.I.E. AT 1-800-892-0123.

**C. GENERAL NOTES**

- ALL ELEVATIONS SHOWN ON PLANS REFERENCE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). CONVERSION FACTOR IS \_\_\_\_\_ FT.
- MWRD, THE MUNICIPALITY AND THE OWNER OR OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION IMPROVEMENTS.
- THE CONTRACTOR(S) SHALL INDEMNIFY THE OWNER, ENGINEER, MUNICIPALITY, MWRD, AND THEIR AGENTS, ETC., FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, OR TESTING OF THIS WORK ON THE PROJECT.
- THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY MWRD AND THE MUNICIPALITY UNLESS CHANGES ARE APPROVED BY MWRD, THE MUNICIPALITY, OR AUTHORIZED AGENT. THE CONSTRUCTION DETAILS, AS PRESENTED ON THE PLANS, MUST BE FOLLOWED. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED ON THE IMPROVEMENTS INDICATED ON THE PLANS.
- THE LOCATION OF VARIOUS UNDERGROUND UTILITIES WHICH ARE SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. VERIFY LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING THE CONSTRUCTION OPERATIONS.
- ANY EXISTING PAVEMENT, SIDEWALK, DRIVEWAY, ETC., DAMAGED DURING CONSTRUCTION OPERATIONS AND NOT CALLED FOR TO BE REMOVED SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
- MATERIAL AND COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPALITY, MWRD, AND OWNER.
- THE UNDERGROUND CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS TO NOTIFY ALL INSPECTION AGENCIES.
- ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS DISTURBED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADE PRIOR TO FINAL INSPECTION.
- RECORD DRAWINGS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER AS SOON AS UNDERGROUND IMPROVEMENTS ARE COMPLETED. FINAL PAYMENTS TO THE CONTRACTOR SHALL BE HELD UNTIL THEY ARE RECEIVED. ANY CHANGES IN LENGTH, LOCATION OR ALIGNMENT SHALL BE SHOWN IN RED. ALL WYES OR BENDS SHALL BE LOCATED FROM THE DOWNSTREAM MANHOLE. ALL VALVES, B-BOXES, TEES OR BENDS SHALL BE TIED TO A FIRE HYDRANT.

**D. SANITARY SEWER**

- THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT ANY POLLUTED WATER, SUCH AS GROUND AND SURFACE WATER, FROM ENTERING THE EXISTING SANITARY SEWERS.
- A WATER-TIGHT PLUG SHALL BE INSTALLED IN THE DOWNSTREAM SEWER PIPE AT THE POINT OF SEWER CONNECTION PRIOR TO COMMENCING ANY SEWER CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL REMOVAL IS AUTHORIZED BY THE MUNICIPALITY AND/OR MWRD AFTER THE SEWERS HAVE BEEN TESTED AND ACCEPTED.
- DISCHARGING ANY UNPOLLUTED WATER INTO THE SANITARY SEWER SYSTEM FOR THE PURPOSE OF SEWER FLUSHING OF LINES FOR THE DEFLECTION TEST SHALL BE PROHIBITED WITHOUT PRIOR APPROVAL FROM THE MUNICIPALITY OR MWRD.
- ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (LATEST EDITION).
- ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER SYSTEM.
- ALL DOWNSPOUTS AND FOOTING DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.
- ALL SANITARY SEWER PIPE MATERIALS AND JOINTS (AND STORM SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA) SHALL CONFORM TO THE FOLLOWING:

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
VITRIFIED CLAY PIPE	ASTM C-700	ASTM C-425
REINFORCED CONCRETE SEWER PIPE	ASTM C-76	ASTM C-443
CAST IRON SOIL PIPE	ASTM A-74	ASTM C-564
DUCTILE IRON PIPE	ANSI A21.51	ANSI A21.11
POLYVINYL CHLORIDE (PVC) PIPE 6-INCH TO 15-INCH DIAMETER SDR 26 18-INCH TO 27-INCH DIAMETER F/DY=46	ASTM D-3034 ASTM F-679	ASTM D-3212 ASTM D-3212
HIGH DENSITY POLYETHYLENE (HDPE)	ASTM D-3350 ASTM D-3035	ASTM D-3261,F-2620 (HEAT FUSION) ASTM D-3212,F-477 (GASKETED)
WATER MAIN QUALITY PVC 4-INCH TO 36-INCH 4-INCH TO 12-INCH 14-INCH TO 48-INCH	ASTM D-2241 AWWA C900 AWWA C905	ASTM D-2672 OR ASTM D-3139 ASTM D-3212 ASTM D-3212

- ALL SANITARY SEWER CONSTRUCTION (AND STORM SEWER CONSTRUCTION IN COMBINED SEWER AREAS), REQUIRES STONE BEDDING WITH STONE 1/4" TO 1" IN SIZE, WITH MINIMUM BEDDING THICKNESS EQUAL TO 1/4" THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN FOUR (4) INCHES NOR MORE THAN EIGHT (8) INCHES. MATERIAL SHALL BE CA-7, CA-11 OR CA-13 AND SHALL BE EXTENDED AT LEAST 12" ABOVE THE TOP OF THE PIPE WHEN USING PVC.
- "BAND SEAL" OR SIMILAR NON-SHEAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPES OF DISSIMILAR MATERIALS.
- ALL MANHOLES SHALL BE PROVIDED WITH BO.TEED, WATERTIGHT COVERS. SANITARY LIDS SHALL BE CONSTRUCTED WITH A CONCEALED PICKHOLE AND WATERTIGHT GASKET WITH THE WORD "SANITARY" CAST INTO THE LID.
- WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAN AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS SHALL BE USED:  
 a) A CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SEWER-TAP" MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUBWYE SADDLE OR HUB-TEE SADDLE.  
 b) REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH SECTION.  
 c) WITH PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING, USING "BAND SEAL" OR SIMILAR COUPLINGS TO HOLD IT FIRMLY IN PLACE.
- WHENEVER A SANITARY/COMBINED SEWER CROSSES UNDER A WATERMAIN, THE MINIMUM VERTICAL DISTANCE FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATERMAIN SHALL BE 18 INCHES. FURTHERMORE, A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN SANITARY/COMBINED SEWERS AND WATERMANS SHALL BE MAINTAINED UNLESS: THE SEWER IS LAID IN A SEPARATE TRENCH, KEEPING A MINIMUM 18" VERTICAL SEPARATION; OR THE SEWER IS LAID IN THE SAME TRENCH WITH THE WATERMAIN LOCATED AT THE OPPOSITE SIDE ON A BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION. IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED ABOVE CANNOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATERMAIN, THE SEWER SHALL BE CONSTRUCTED TO WATERMAIN STANDARDS.
- ALL EXISTING SEPTIC SYSTEMS SHALL BE ABANDONED. ABANDONED TANKS SHALL BE FILLED WITH GRANULAR MATERIAL OR REMOVED.
- ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES, AND SHALL BE CAST IN PLACE OR PRE-CAST REINFORCED CONCRETE.
- ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE PRECAST "RUBBER BOOT" THAT CONFORM TO ASTM C-923 FOR ALL PIPE CONNECTIONS. PRECAST SECTIONS SHALL CONSIST OF MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS.
- ALL ABANDONED SANITARY SEWERS SHALL BE PLUGGED AT BOTH ENDS WITH AT LEAST 2 FEET LONG NON-SHRINK CONCRETE OR MORTAR PLUG.
- EXCEPT FOR FOUNDATION/FOOTING DRAINS PROVIDED TO PROTECT BUILDINGS, OR PERFORATED PIPES ASSOCIATED WITH VOLUME CONTROL FACILITIES, DRAIN TILES/FIELD TILES/UNDERDRAINS/PERFORATED PIPES ARE NOT ALLOWED TO BE CONNECTED TO OR TRIBUTARY TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS IN COMBINED SEWER AREAS. CONSTRUCTION OF NEW FACILITIES OF THIS TYPE IS PROHIBITED; AND ALL EXISTING DRAIN TILES AND PERFORATED PIPES ENCOUNTERED WITHIN THE PROJECT AREA SHALL BE PLUGGED OR REMOVED, AND SHALL NOT BE CONNECTED TO COMBINED SEWERS, SANITARY SEWERS, OR STORM SEWERS TRIBUTARY TO COMBINED SEWERS.
- A BACKFLOW PREVENTER IS REQUIRED FOR ALL DETENTION BASINS TRIBUTARY TO COMBINED SEWERS. REQUIRED BACKFLOW PREVENTERS SHALL BE INSPECTED AND EXERCISED ANNUALLY BY THE PROPERTY OWNER TO ENSURE PROPER OPERATION, AND ANY NECESSARY MAINTENANCES SHALL BE PERFORMED TO ENSURE FUNCTIONALITY. IN THE EVENT OF A SEWER SURCHARGE INTO AN OPEN DETENTION BASIN TRIBUTARY TO COMBINED SEWERS, THE PERMITTEE SHALL ENSURE THAT CLEAN UP AND WASH OUT OF SEWAGE TAKES PLACE WITHIN 48 HOURS OF THE STORM EVENT.

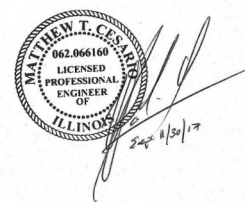
**E. EROSION AND SEDIMENT CONTROL**

- THE CONTRACTOR SHALL INSTALL THE EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL PRIOR TO HYDROLOGIC DISTURBANCE OF THE SITE.
- ALL DESIGN CRITERIA, SPECIFICATIONS, AND INSTALLATION OF EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- INSPECTIONS AND DOCUMENTATION SHALL BE PERFORMED, AT A MINIMUM:  
 a) UPON COMPLETION OF INITIAL EROSION AND SEDIMENT CONTROL MEASURES, PRIOR TO ANY SOIL DISTURBANCE.  
 b) ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT WITH GREATER THAN 0.5 INCH OF RAINFALL OR LIQUID EQUIVALENT PRECIPITATION.
- SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. IF STRIPPING, CLEARING, GRADING, OR LANDSCAPING ARE TO BE DONE IN PHASES, THE CO-PERMITTEE SHALL PLAN FOR APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES.
- A STABILIZED MAT OF CRUSHED STONE MEETING THE STANDARDS OF THE ILLINOIS URBAN MANUAL SHALL BE INSTALLED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE. SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
- CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL AND SHALL BE INSTALLED PRIOR TO ANY ON SITE CONSTRUCTION ACTIVITIES INVOLVING CONCRETE.
- TEMPORARY DIVERSIONS SHALL BE CONSTRUCTED AS NECESSARY TO DIRECT ALL RUNOFF FROM HYDROLOGICALLY DISTURBED AREAS TO AN APPROPRIATE SEDIMENT TRAP OR BASIN. VOLUME CONTROL FACILITIES SHALL NOT BE USED AS TEMPORARY SEDIMENT BASINS.
- DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN SEVEN (7) DAYS.
- ALL FLOOD PROTECTION AREAS AND VOLUME CONTROL FACILITIES SHALL, AT A MINIMUM, BE PROTECTED WITH A DOUBLE-ROW OF SILT FENCE (OR EQUIVALENT).
- VOLUME CONTROL FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL OF THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

- SOIL STOCKPILES SHALL, AT A MINIMUM, BE PROTECTED WITH PERIMETER SEDIMENT CONTROLS. SOIL STOCKPILES SHALL NOT BE PLACED IN FLOOD PROTECTION AREAS OR THEIR BUFFERS.
- EARTHEN EMBANKMENT SIDE SLOPES SHALL BE STABILIZED WITH APPROPRIATE EROSION CONTROL BLANKET.
- STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY APPROPRIATE SEDIMENT CONTROL MEASURES.
- THE CONTRACTOR SHALL EITHER REMOVE OR REPLACE ANY EXISTING DRAIN TILES AND INCORPORATE THEM INTO THE DRAINAGE PLAN FOR THE DEVELOPMENT. DRAIN TILES CANNOT BE TRIBUTARY TO A SANITARY OR COMBINED SEWER.
- IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. DEWATERING SYSTEMS SHOULD BE INSPECTED DAILY DURING OPERATIONAL PERIODS. THE SITE INSPECTOR MUST BE PRESENT AT THE COMMENCEMENT OF DEWATERING ACTIVITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCH DEWATERING AND EXCAVATION FOR THE INSTALLATION OF SANITARY SEWERS, STORM SEWERS, WATERMANS AS WELL AS THEIR SERVICES AND OTHER APPURTENANCES. ANY TRENCH DEWATERING, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING POND OR EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. ALTERNATIVES MAY INCLUDE DEWATERING INTO A SUMP PIT, FILTER BAG OR EXISTING VEGETATED UPLSLOPE AREA. SEDIMENT LADEN WATERS SHALL NOT BE DISCHARGE TO WATERWAYS, FLOOD PROTECTION AREAS OR THE COMBINED SEWER SYSTEM.
- ALL PERMANENT EROSION CONTROL PRACTICES SHALL BE INITIATED WITHIN SEVEN (7) DAYS FOLLOWING THE COMPLETION OF SOIL DISTURBING ACTIVITIES.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NEEDED ON A YEAR-ROUND BASIS DURING CONSTRUCTION AND ANY PERIODS OF CONSTRUCTION SHUTDOWN UNTIL PERMANENT STABILIZATION IS ACHIEVED.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER PERMANENT SITE STABILIZATION.
- THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, SITE INSPECTOR, OR MWRD.

PIPE MATERIAL	PIPE SPECIFICATIONS	JOINT SPECIFICATIONS
POLYPROPYLENE (PP) PIPE		
12-INCH TO 24-INCH DOUBLE WALL	ASTM F-2736	D-3212, F-477
30-INCH TO 60-INCH TRIPLE WALL	ASTM F-2764	D3212, F-477

PAY ITEM	DESCRIPTION	UNITS	QUANTITY
20800150	TRENCH BACKFILL	CU YD	571
56103000	DUCTILE IRON WATER MAIN 6"	FOOT	51
56103300	DUCTILE IRON WATER MAIN 12"	FOOT	38
	DUCTILE IRON WATER MAIN 30"	FOOT	248
56105750	BUTTERFLY VALVES 12"	EACH	1
	BUTTERFLY VALVES 30"	EACH	2
56400820	FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX	EACH	4
60248900	VALVE VAULTS, TYPE A, 5'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	3
60500370	FILLING VALVE BOXES	EACH	1
	STEEL CASING PIPE, AUGERED AND JACKED, 48"	FOOT	244
X0327367	STEEL CASING PIPE, BORED AND JACKED, 24"	FOOT	69
	STEEL CASING PIPE, BORED AND JACKED, 28"	FOOT	143
	SANITARY SEWER IN CASING PIPE, 16"	FOOT	143
X0327651	WATER MAIN IN CASING, 12"	FOOT	69
	WATER MAIN IN CASING, 30"	FOOT	244
X0487800	SANITARY SEWER REMOVAL 12"	FOOT	261
	WATER MAIN TO BE ABANDONED, 24"	FOOT	109
X5610704	WATER MAIN REMOVAL, 4"	FOOT	258
X5610710	WATER MAIN REMOVAL, 10"	FOOT	84
X5610712	WATER MAIN REMOVAL, 12"	FOOT	65
X5610724	WATER MAIN REMOVAL, 24"	FOOT	315
X5610752	WATER MAIN LINE STOP 12"	EACH	1
X5610764	WATER MAIN LINE STOP 24"	EACH	2
X6026054	SANITARY MANHOLES TO BE REMOVED	EACH	1
X6026400	MANHOLES, DROP TYPE, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1
X6026622	VALVE VAULTS TO BE REMOVED	EACH	1
X6026623	VALVE BOX	EACH	2
Z0041900	POLYETHYLENE ENCASUREMENT	FOOT	650
Z0057100	SANITARY SEWER 12"	FOOT	132
	SANITARY SEWER 16"	FOOT	17
	BYPASS PUMPING	L SUM	1



TECHNICAL GUIDANCE MANUAL

MWRD GENERAL NOTES

7/1/15

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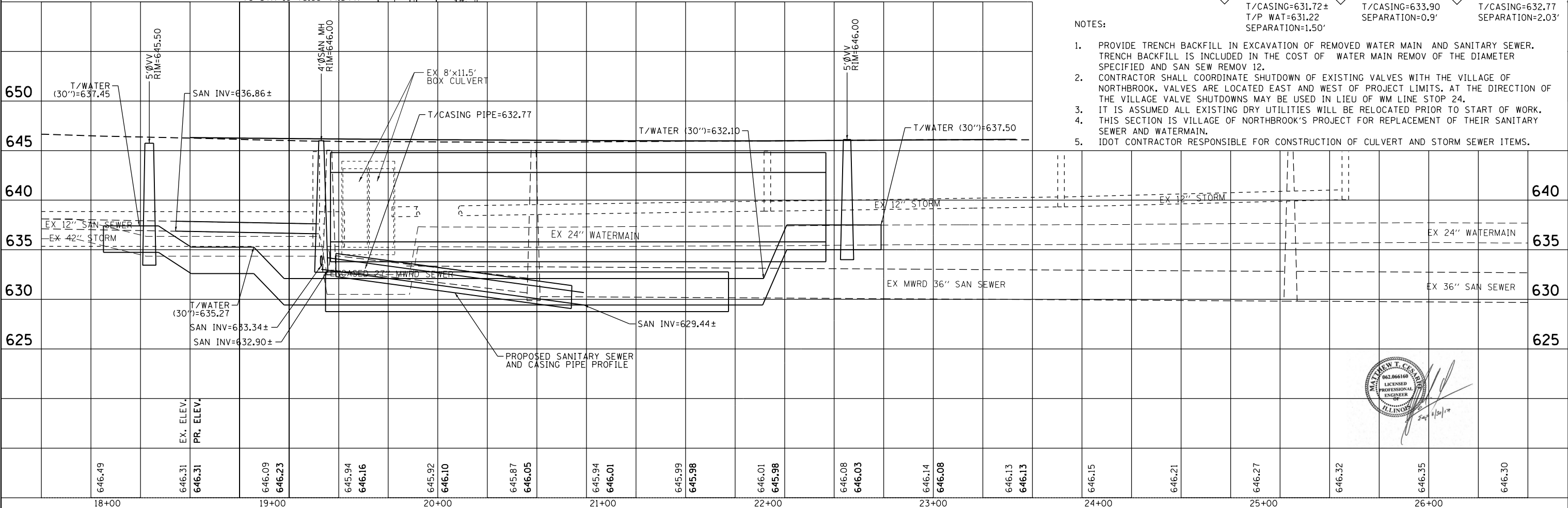
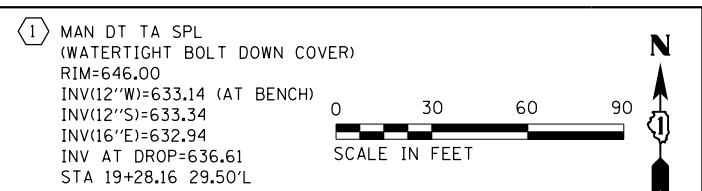
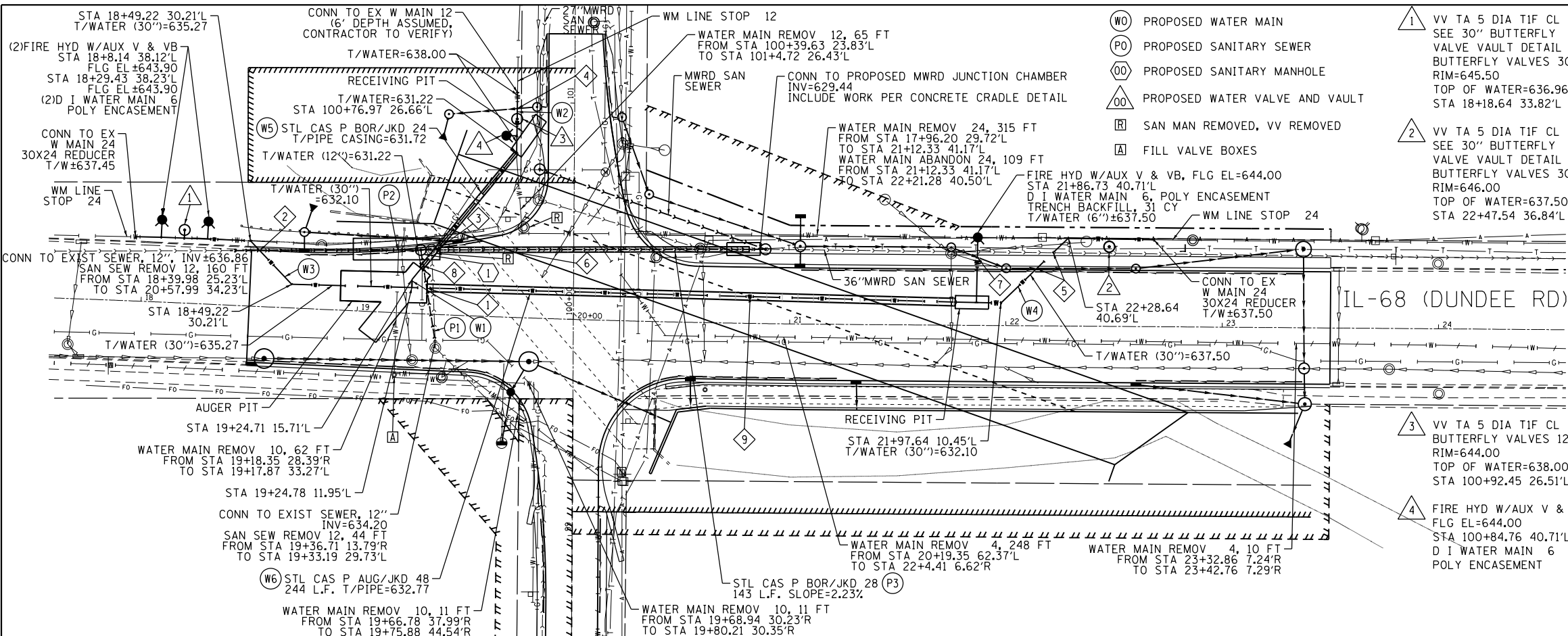
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PLOT DATE = 8/22/2017	DATE - _____	REVISED - _____

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL 68 AT MFNB CHICAGO RIVER  
NORTHBROOK WATERMAIN IMPROVEMENTS

SCALE: N.T.S. SHEET 1 OF 5 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	114
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				



DATE	
BY	
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NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
GRADES CHECKED	
STRUCTURE NOTATIONS CHECKED	
NO.	

**Bollinger, Lach & Associates, Inc.**  
ITASCA, ILLINOIS

USER NAME = KLoge	DESIGNED - MTC	REVISED -
PLOT SCALE = 60.0000' / in.	DRAWN - MTC	REVISED -
PLOT DATE = 8/22/2017	CHECKED - ERO	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**IL 68 AT MFNB CHICAGO RIVER**  
**NORTHBROOK WATERMAIN IMPROVEMENTS**  
1"=5' VERT.  
SCALE: 1"=30' HORIZ. SHEET 2 OF 5 SHEETS STA. TO STA.

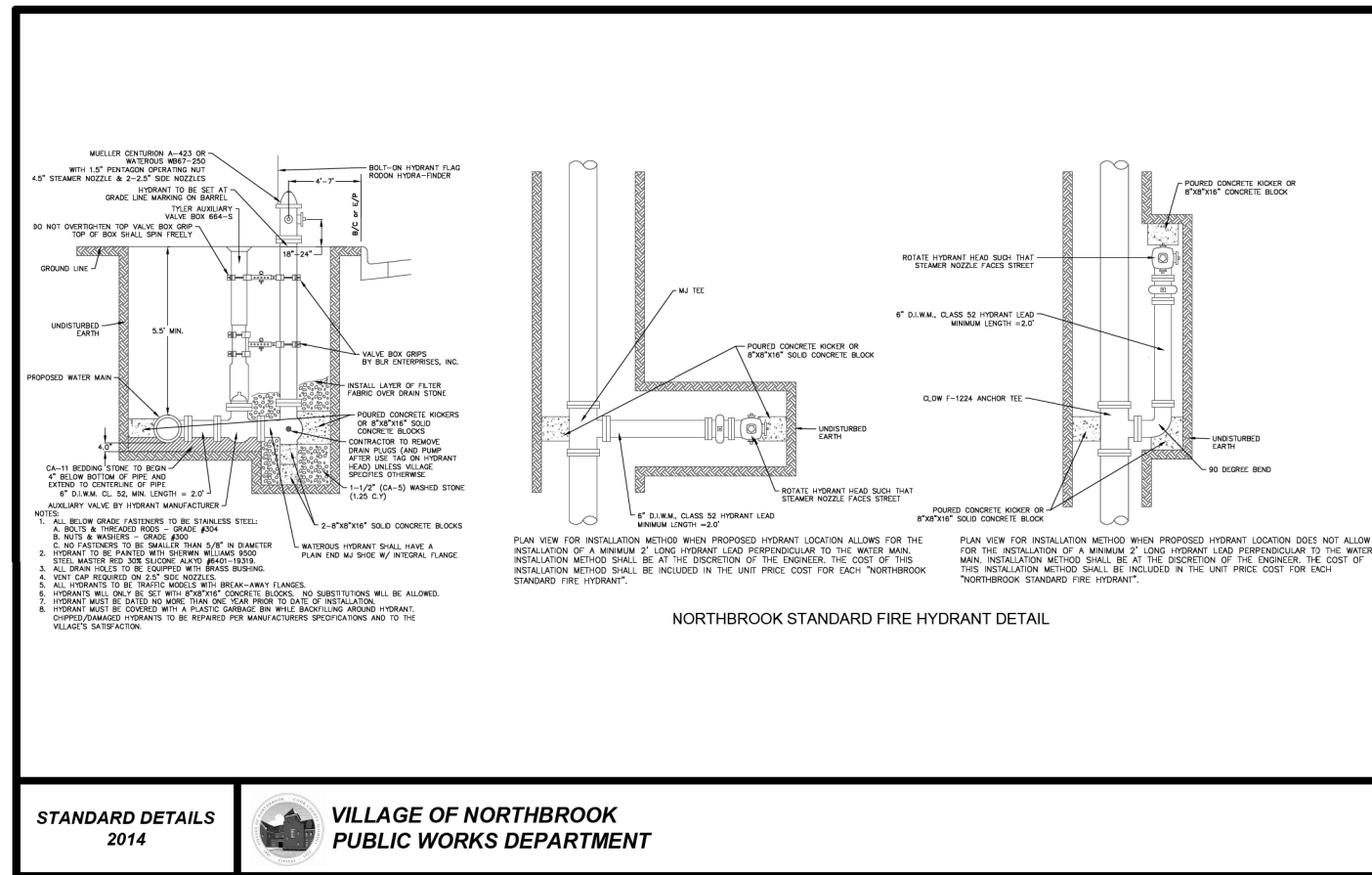
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	115
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				

**NOTES:**

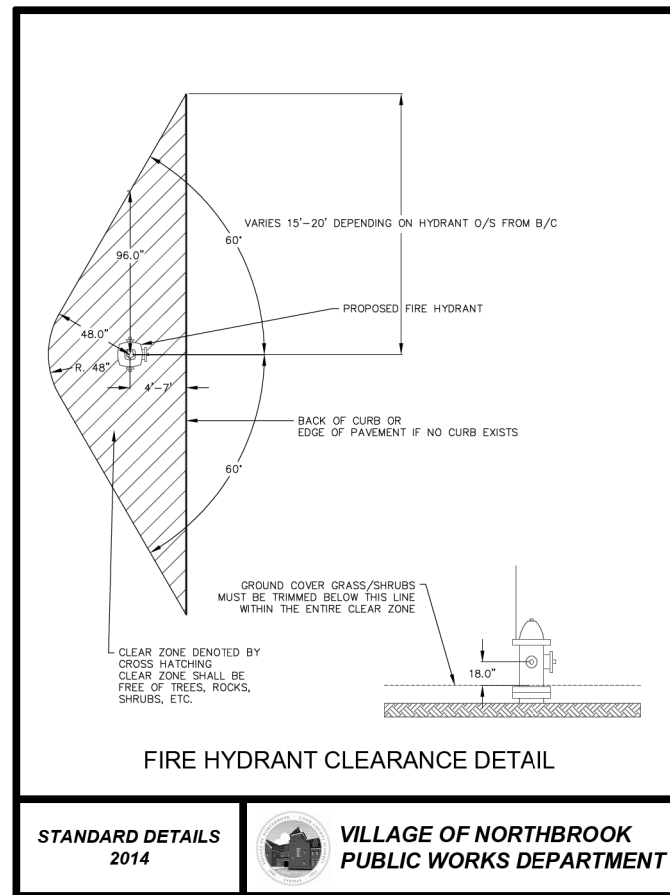
1. PROVIDE TRENCH BACKFILL IN EXCAVATION OF REMOVED WATER MAIN AND SANITARY SEWER. TRENCH BACKFILL IS INCLUDED IN THE COST OF WATER MAIN REMOV OF THE DIAMETER SPECIFIED AND SAN SEW REMOV 12.
2. CONTRACTOR SHALL COORDINATE SHUTDOWN OF EXISTING VALVES WITH THE VILLAGE OF NORTHBROOK. VALVES ARE LOCATED EAST AND WEST OF PROJECT LIMITS, AT THE DIRECTION OF THE VILLAGE VALVE SHUTDOWNS MAY BE USED IN LIEU OF WM LINE STOP 24.
3. IT IS ASSUMED ALL EXISTING DRY UTILITIES WILL BE RELOCATED PRIOR TO START OF WORK.
4. THIS SECTION IS VILLAGE OF NORTHBROOK'S PROJECT FOR REPLACEMENT OF THEIR SANITARY SEWER AND WATERMAIN.
5. IDOT CONTRACTOR RESPONSIBLE FOR CONSTRUCTION OF CULVERT AND STORM SEWER ITEMS.

**CONFLICTS:**

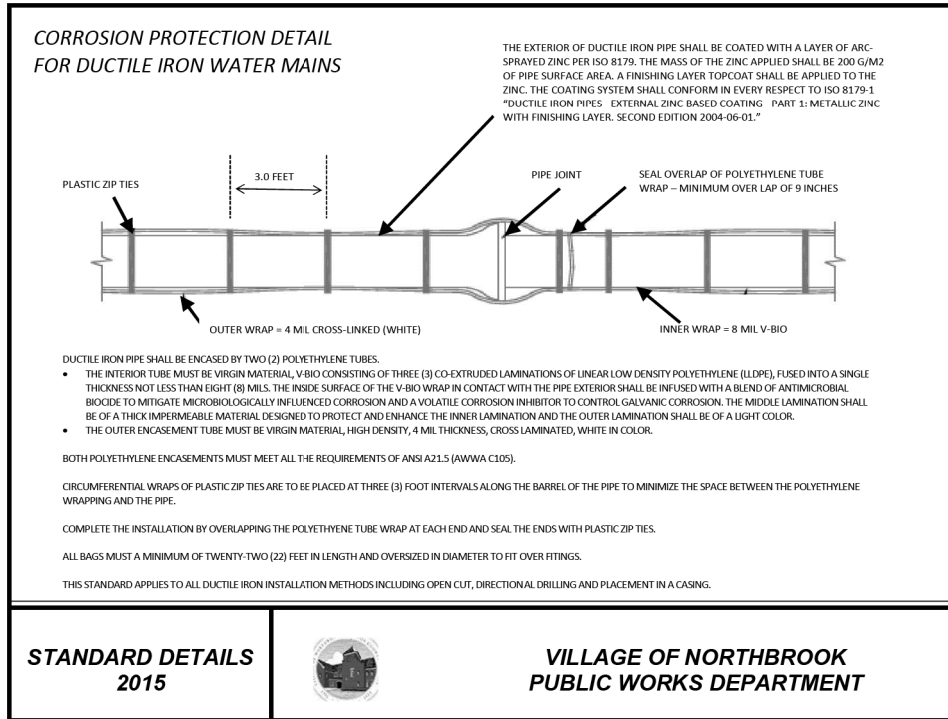
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|--|--|---|
| 1 B/WMOSAN=633.60±<br>T/WMOSAN=634.80±<br>T/CASING=632.77±<br>T/P WAT=632.10<br>SEPARATION=1.50' | 4 B/P STM=640.80±<br>T/P WAT=638.00±<br>SEPARATION=2.8'  | 7 B/P STM=640.09±<br>T/P WAT=637.50±<br>SEPARATION=2.59'  |
| 2 B/WMOSAN=636.77±<br>T/WMOSAN=637.87±<br>T/P WAT=635.27±<br>SEPARATION=1.50'                    | 5 B/P STM=640.04±<br>T/P WAT=637.50±<br>SEPARATION=2.54' | 8 B/WMOSAN=633.38<br>T/CASING=631.72<br>SEPARATION=1.66'  |
| 3 B/WMOSAN=632.72±<br>T/CASING=631.72±<br>T/P WAT=631.22<br>SEPARATION=1.50'                     | 6 B/CULVERT=634.80<br>T/CASING=633.90<br>SEPARATION=0.9' | 9 B/CULVERT=634.80<br>T/CASING=632.77<br>SEPARATION=2.03' |



STANDARD DETAILS  
2014



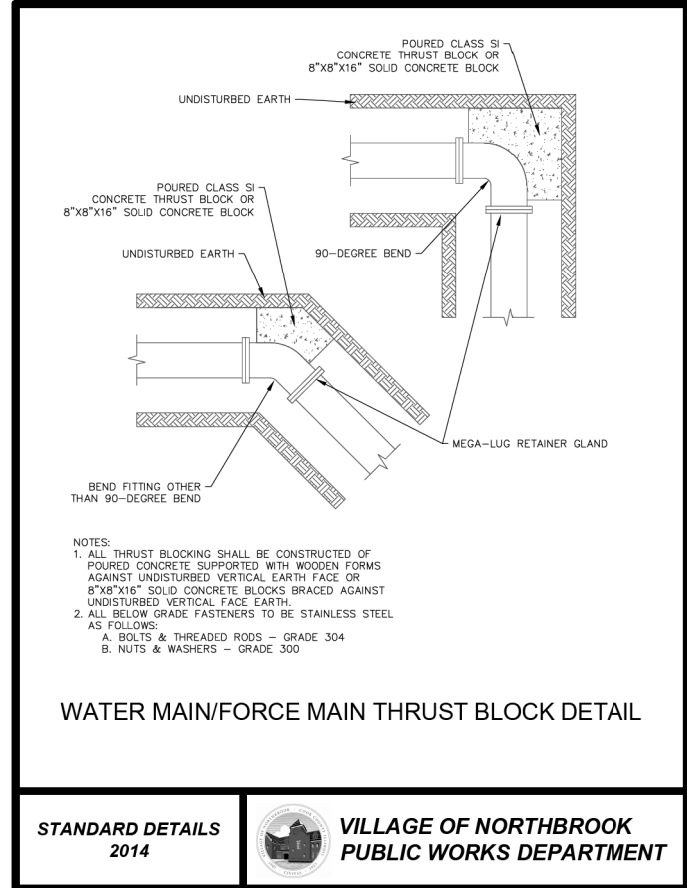
STANDARD DETAILS  
2014



STANDARD DETAILS  
2015



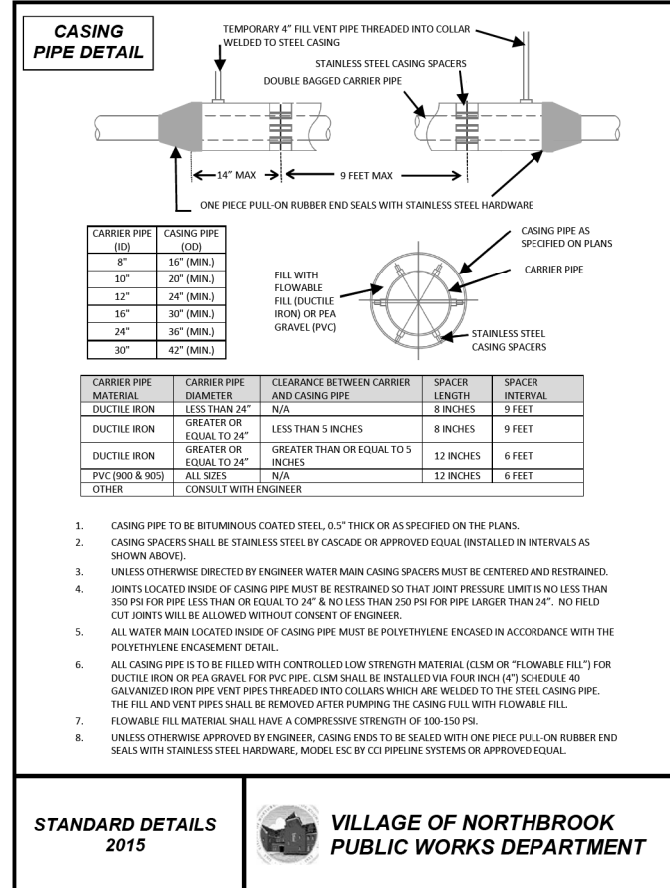
VILLAGE OF NORTHBROOK  
PUBLIC WORKS DEPARTMENT



STANDARD DETAILS  
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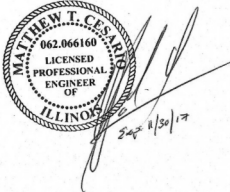
VILLAGE OF NORTHBROOK  
PUBLIC WORKS DEPARTMENT



STANDARD DETAILS  
2015



VILLAGE OF NORTHBROOK  
PUBLIC WORKS DEPARTMENT



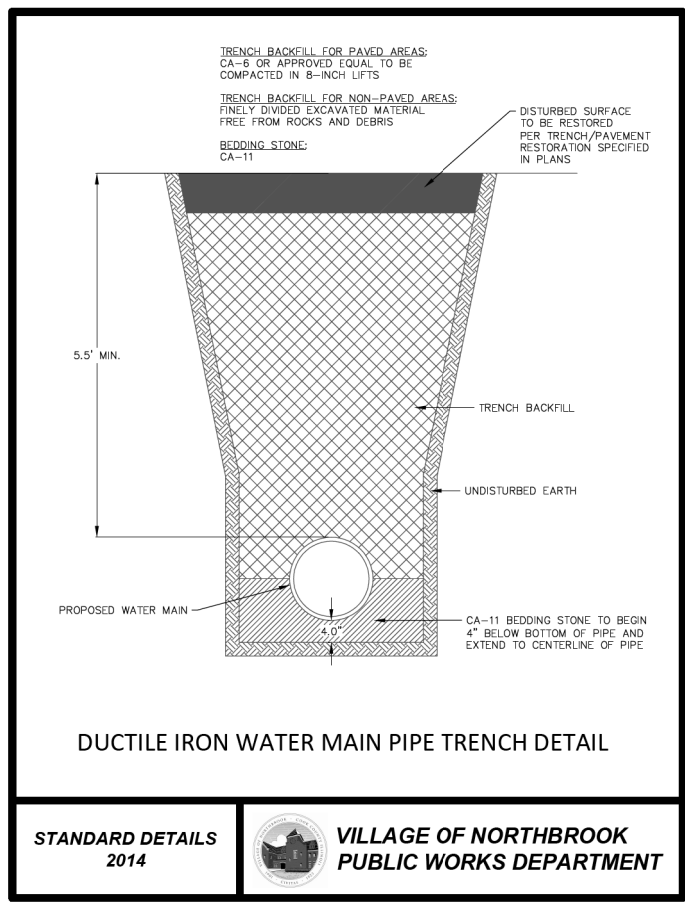
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL 68 AT MFNB CHICAGO RIVER NORTHBROOK WATERMAIN IMPROVEMENTS	
SCALE: N.T.S.	SHEET 3 OF 5 SHEETS STA. TO STA.

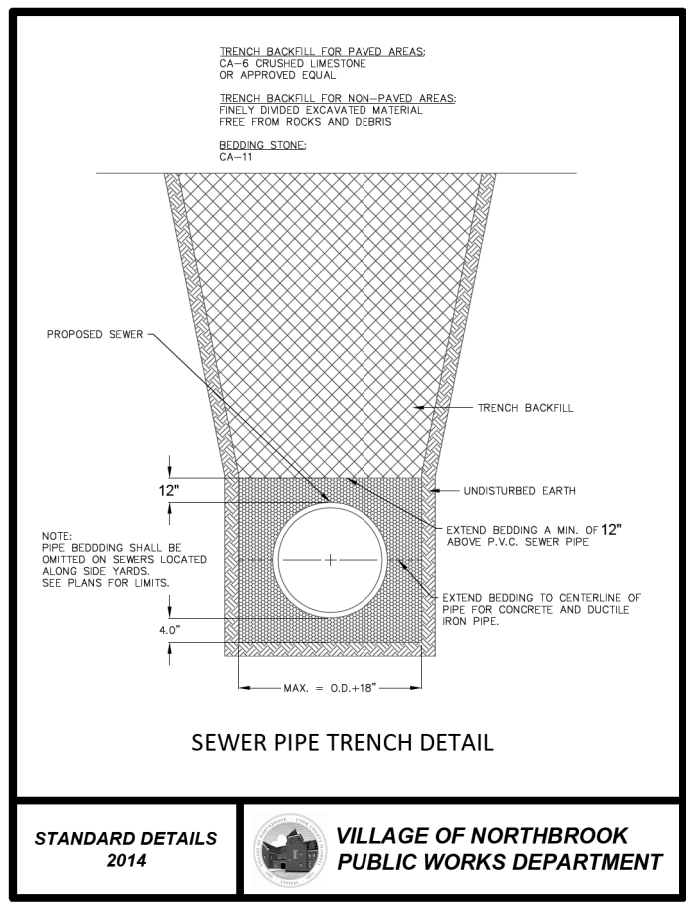
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	116
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				





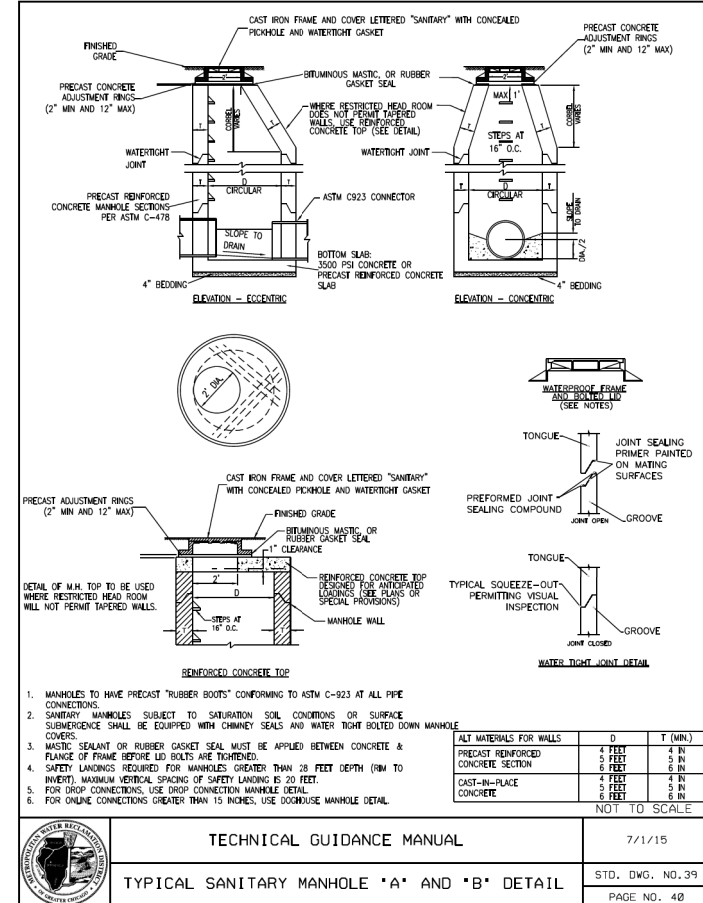
DUCTILE IRON WATER MAIN PIPE TRENCH DETAIL

STANDARD DETAILS 2014 VILLAGE OF NORTHBROOK PUBLIC WORKS DEPARTMENT

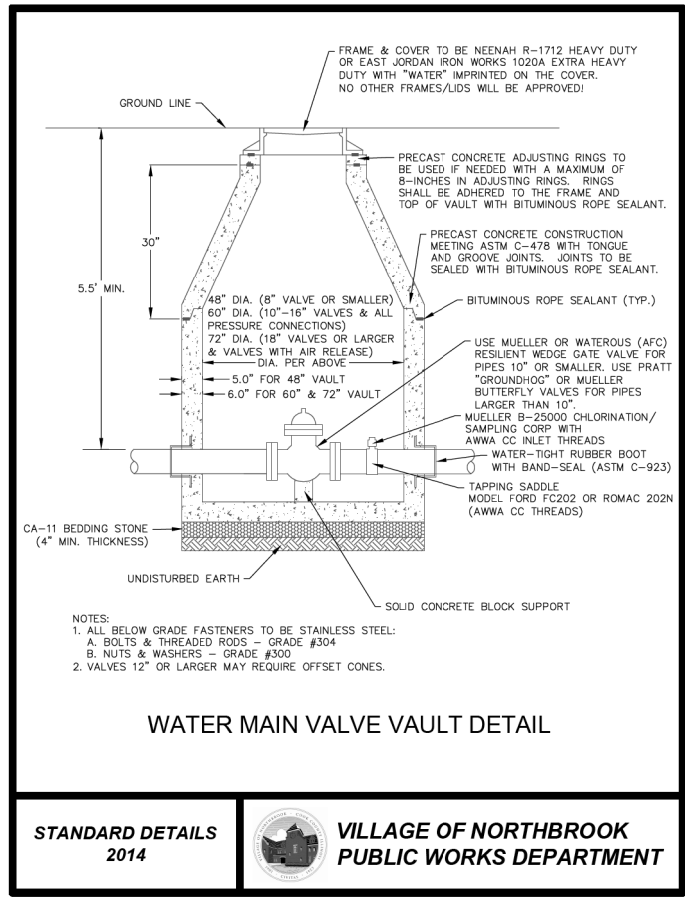
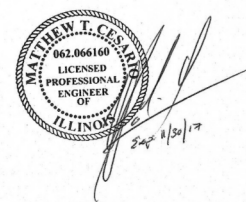


SEWER PIPE TRENCH DETAIL

STANDARD DETAILS 2014 VILLAGE OF NORTHBROOK PUBLIC WORKS DEPARTMENT

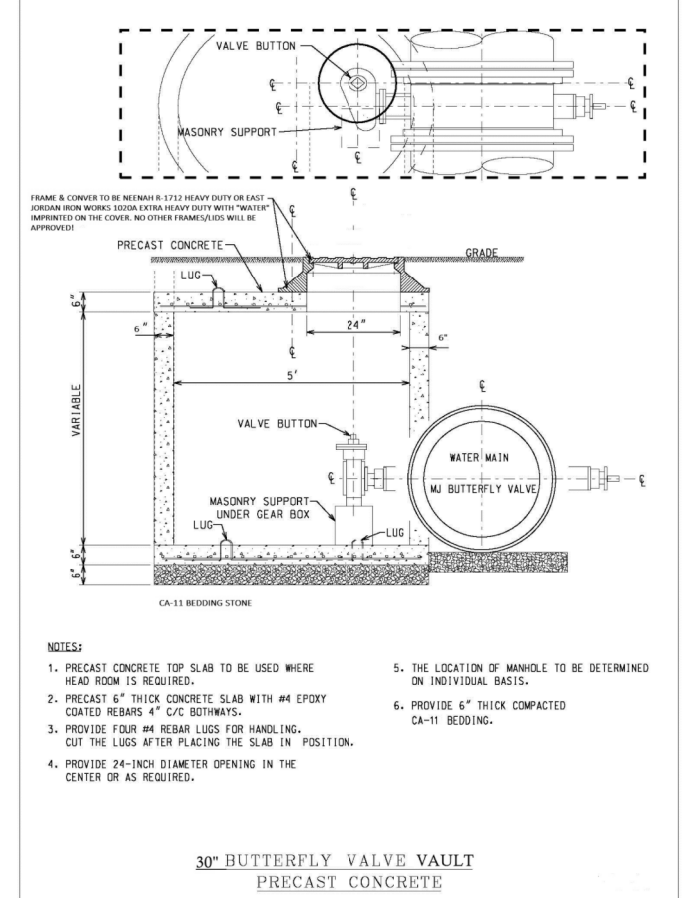


TECHNICAL GUIDANCE MANUAL 7/1/15  
 STD. DWG. NO. 39  
 PAGE NO. 40

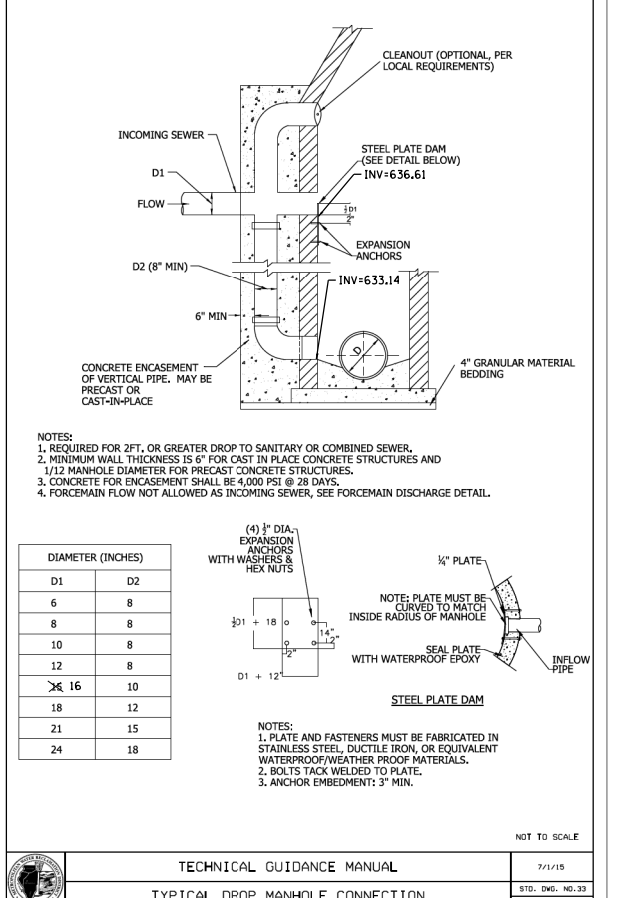


WATER MAIN VALVE VAULT DETAIL

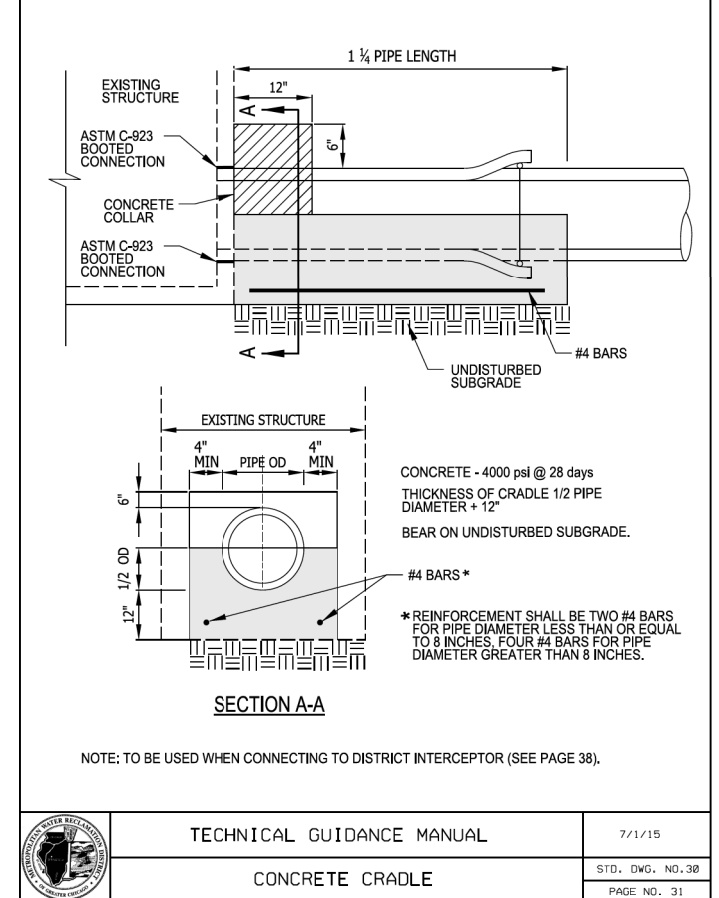
STANDARD DETAILS 2014 VILLAGE OF NORTHBROOK PUBLIC WORKS DEPARTMENT



30" BUTTERFLY VALVE VAULT PRECAST CONCRETE



TECHNICAL GUIDANCE MANUAL 7/1/15  
 STD. DWG. NO. 33  
 PAGE NO. 34



TECHNICAL GUIDANCE MANUAL 7/1/15  
 CONCRETE CRADLE  
 STD. DWG. NO. 38  
 PAGE NO. 31



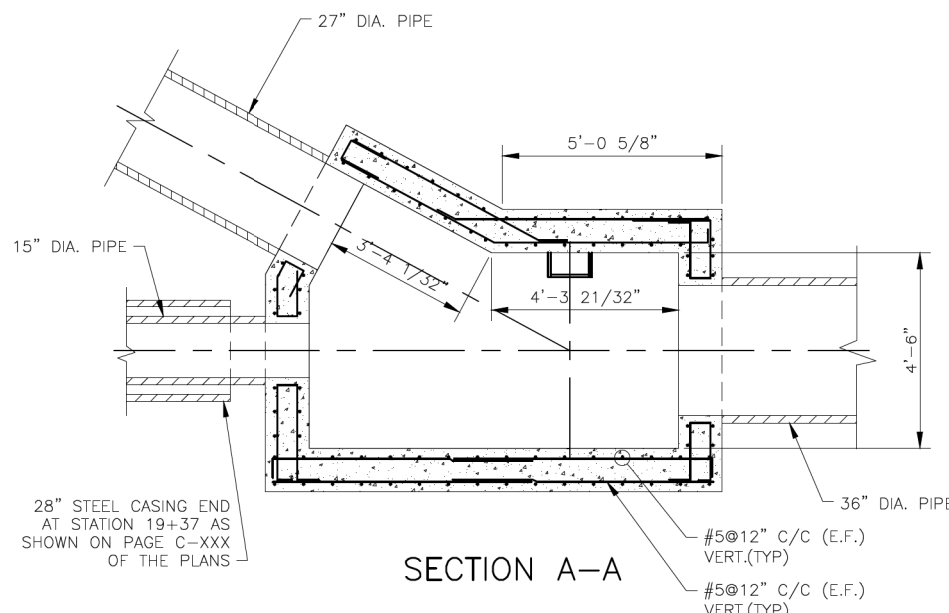
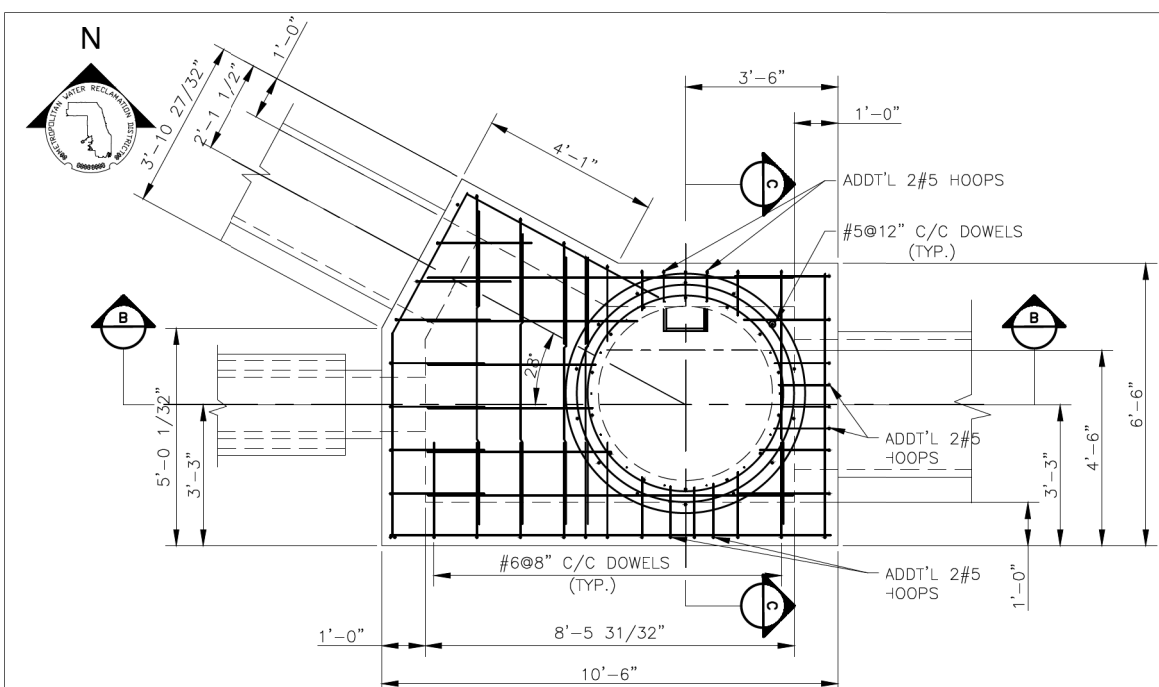
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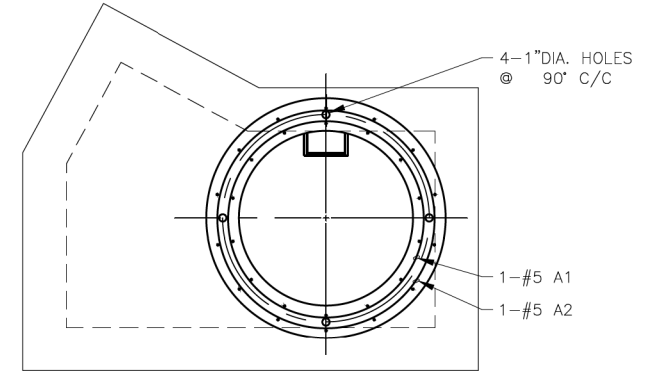
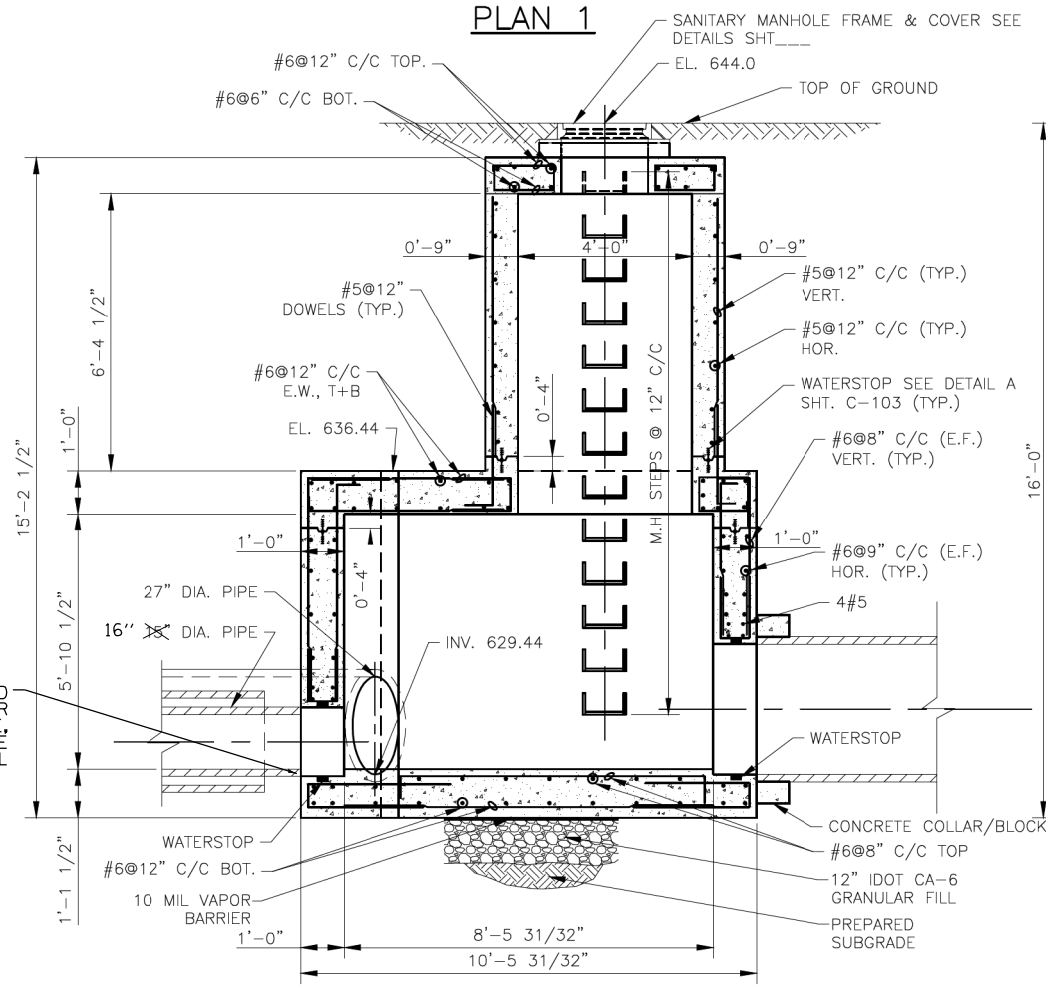
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

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 SCALE: N.T.S. SHEET 4 OF 5 SHEETS STA. TO STA.

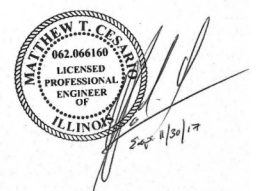
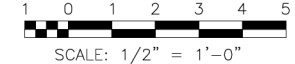
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	117
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				



- NOTES:
1. A MANHOLE SHALL BE PROVIDED ON THE LOCAL SEWER ADJACENT TO THE DISTRICT MANHOLE AND WITHIN THE ROW PARALLEL TO THE DISTRICT INTERCEPTOR. CLEAR SPACE BETWEEN MANHOLES SHALL NOT BE LESS THAN 3 FEET AND MORE THAN 10 FEET. CONNECTIONS WILL NOT BE PERMITTED AT LOCATIONS WHERE EXISTING DISTRICT MANHOLES ARE NOT PROVIDED. MANHOLE SHALL HAVE A MINIMUM DIAMETER OF 48 INCHES. DROP MANHOLES SHALL BE PROVIDED WHERE NEEDED. TWO BULKHEADED STUBS OF MINIMUM 8- INCH DIAMETER SHALL BE PROVIDED.
  2. CONNECTION SEWER SHALL BE EXTRA STRENGTH VITRIFIED CLAY PIPE OF THE SAME SIZE AS EXISTING TEE OR STUB. CONNECTION PIPE SHALL BE PROVIDED WITH CONCRETE COLLAR AT THE DISTRICT MANHOLE, AND A CONCRETE CRADLE FOR AT LEAST 3 1/2 PIPE LENGTH, AS SHOWN. STRUCTURAL GRADE CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI SHALL BE USED.
  3. WHEN MAKING A CONNECTION TO A DISTRICT MANHOLE WHERE A STUB IS NOT PROVIDED, A HOLE SHALL BE CORE-DRILLED AT THE SPRINGLINE. HOLE DIAMETER SHALL BE NO MORE THAN ONE INCH LARGER THAN THE OUTSIDE DIAMETER OF CONNECTING PIPE. NON-SHRINK GROUT SHALL BE USED TO FILL ANNULAR SPACE BETWEEN PIPE AND HOLE.
  4. FOR CONNECTIONS TO A DISTRICT DROP PIPE BELOW THE STUB, A VITRIFIED CLAY PIPE CROSS SHALL BE USED AND JOINED WITH EXISTING DROP PIPE, WITH PIPE STUBS AND COLLARS, TO FORM A WATERTIGHT JOINT. CONNECTION RUN OF CROSS SHALL BE NO MORE THAN TWO NOMINAL PIPE SIZES LARGER THAN DROP PIPE.
  5. ANY DEBRIS ENTERING MANHOLE DURING CONSTRUCTION SHALL BE REMOVED IMMEDIATELY. ANY MANHOLE STEPS THAT ARE DAMAGED SHALL BE REPLACED.
  6. ALL ELEVATIONS SHALL BE CLEARLY MARKED. "RECORD" ELEVATIONS OF DISTRICT FACILITIES MAY BE USED BUT FIELD SURVEY IS RECOMMENDED FOR CRITICAL ELEVATIONS.
  7. DURING CONSTRUCTION OF PROPOSED CONNECTION, MANHOLE SHALL BE SUPPORTED ACCORDING TO DETAILS PREPARED, SIGNED, AND SEALED BY A LICENSED STRUCTURAL ENGINEER.
  8. DOWELS SHALL BE USED TO CONNECT CONCRETE COLLAR AND CRADLE TO THE MANHOLE.
  9. THESE CONNECTION DETAILS SHALL BE USED FOR SEWERS UP TO A 15-INCH DIAMETER. CONNECTION DETAILS FOR LARGER SEWERS SHALL BE PREPARED BASED ON SITE CONDITIONS AND CONFIGURATION OF EXISTING MANHOLE/STRUCTURE.



CONNECT TO MWRD JUNCTION CHAMBER WITH CONCRETE CRADLE, SEE CONCRETE CRADLE DETAIL



MWRD	USFR NAME = SDD	DESIGNED - FW	REVISED
	PLOT SCALE = AS NOTED	CHECKED - CS	REVISED
	PLOT DATE = 8/26/16	DRAWN - SDO	REVISED
		CHECKED - 2/14/17	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

JUNCTION CHAMBER (MWRD)  
SHEET NO. X OF X SHEETS

F.A.P. RTE. 343	SECTION 30T-1	COUNTY COOK	TOTAL SHEETS 137	SHEET NO. 118
				CONTRACT NO. 60J13
ILLINOIS FED. AID PROJECT				

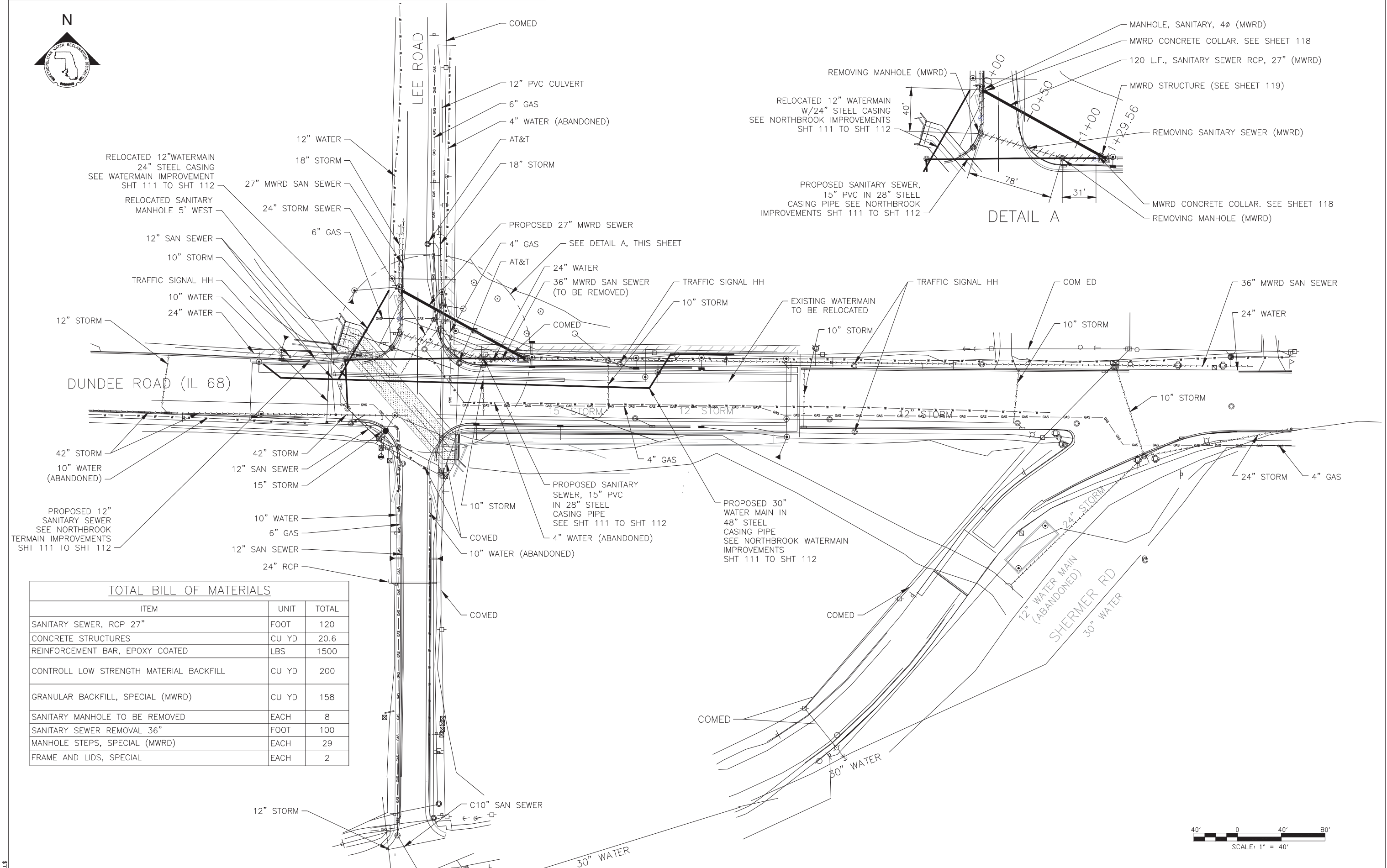


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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

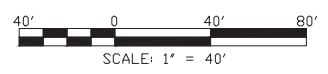
IL 68 AT MFNB CHICAGO RIVER  
NORTHBROOK WATERMAIN IMPROVEMENTS  
SCALE: N.T.S. SHEET 5 OF 5 SHEETS STA. TO STA.

F.A. RTE. 343	SECTION 30T-1	COUNTY COOK	TOTAL SHEETS 140	SHEET NO. 118
				CONTRACT NO. 60J13
ILLINOIS FED. AID PROJECT				



**TOTAL BILL OF MATERIALS**

ITEM	UNIT	TOTAL
SANITARY SEWER, RCP 27"	FOOT	120
CONCRETE STRUCTURES	CU YD	20.6
REINFORCEMENT BAR, EPOXY COATED	LBS	1500
CONTRALL LOW STRENGTH MATERIAL BACKFILL	CU YD	200
GRANULAR BACKFILL, SPECIAL (MWRD)	CU YD	158
SANITARY MANHOLE TO BE REMOVED	EACH	8
SANITARY SEWER REMOVAL 36"	FOOT	100
MANHOLE STEPS, SPECIAL (MWRD)	EACH	29
FRAME AND LIDS, SPECIAL	EACH	2



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL 68 AT MFNB CHICAGO RIVER  
MWRD SANITARY SEWRE IMPROVEMENTS

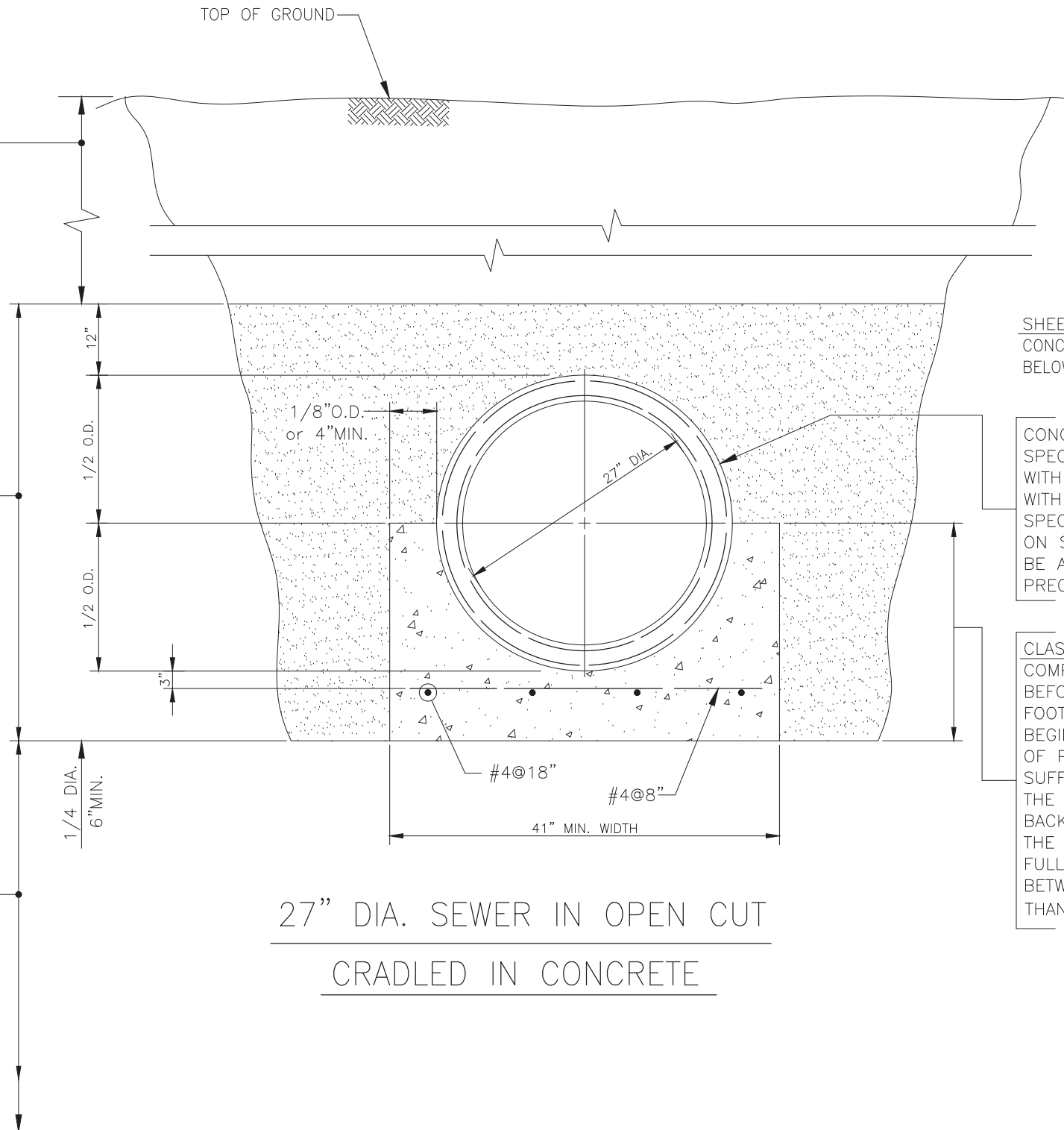
F.A.P. RTE. 343	SECTION 30T-1	COUNTY COOK	TOTAL SHEETS 140	SHEET NO. 119
CONTRACT NO. 60J13			ILLINOIS FED. AID PROJECT	

SHEET NO. 1 OF 5 SHEETS

BACKFILL: FINELY DIVIDED EXCAVATED MATERIAL FREE FROM LUMPS LARGER THAN 3-INCH, ROCKS LARGER THAN 2-INCH AND DEBRIS. BACKFILL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 9 INCHES. THE SOIL SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY OBTAINED IN ACCORDANCE WITH ASTM D-1557, MODIFIED PROCTOR METHOD.

THE GRANULAR BACKFILL MATERIAL, CONFORMING TO IDOT CA-7, SHALL BE PLACED IN 6-INCH LAYERS UP TO 12-INCH OVER THE PIPE AND SHALL BE COMPACTED TO A MINIMUM OF 85% OF MAXIMUM LAB DENSITY OBTAINED IN ACCORDANCE WITH ASTM D-1557, MODIFIED PROCTOR METHOD.

WHEN UNSUITABLE BEARING MATERIAL IS ENCOUNTERED AT A DEPTH BELOW THE CRADLE, IT SHALL BE REMOVED AND REPLACED WITH CRUSHED STONE BEDDING, IDOT GRADE CA-7, AND SHALL BE COMPACTED TO A MINIMUM OF 85% OF MAXIMUM LAB DENSITY OBTAINED IN ACCORDANCE WITH ASTM D-1557, MODIFIED PROCTOR METHOD.



SHEETING WHEN IN DIRECT CONTACT WITH THE CONCRETE CRADLE SHALL BE LEFT IN PLACE BELOW THE TOP OF THE CONCRETE.

CONCRETE PIPE SHALL CONFORM TO ASTM SPECIFICATION C76 CLASS V WALL B OR C, WITH CIRCULAR REINFORCEMENT PIPE JOINT WITH RECESSED GROOVE SHALL BE AS SPECIFIED IN ASTM C-361 AND AS SHOWN ON SHEET NO. [ ] THE GASKET SHALL BE AS SPECIFIED IN SECTION 33-0504 PRECAST CONCRETE GRAVITY PIPE.

CLASS RA CONCRETE CRADLE: THE CONCRETE COMPRESSIVE STRENGTH MUST BE 2,000 PSI BEFORE BACKFILL BEGINS OVER A LEVEL ONE FOOT ABOVE THE TOP OF PIPE. BACKFILL MAY BEGIN BELOW A LEVEL ONE FOOT ABOVE THE TOP OF PIPE AFTER THE CONCRETE HAS ACHIEVED A SUFFICIENT STRENGTH SO THAT NO DAMAGE TO THE CONCRETE WILL OCCUR WHEN PLACING THE BACKFILL. THE CONCRETE CRADLE MUST BE PLACED THE FULL WIDTH OF TRENCH, IF THE SPACE BETWEEN THE CRADLE AND TRENCH WALL IS LESS THAN 18".

27" DIA. SEWER IN OPEN CUT  
CRADLED IN CONCRETE

EMBANKMENT CONDITION – SEWER SECTION  
NO MAXIMUM TRENCH WIDTH SPECIFIED

NOTES:

THE CONCRETE CRADLE SHALL BE INSTALLED FOR THE ENTIRE LENGTH OF THE 27" DIA. MWRD SEWER TO BE INSTALLED.

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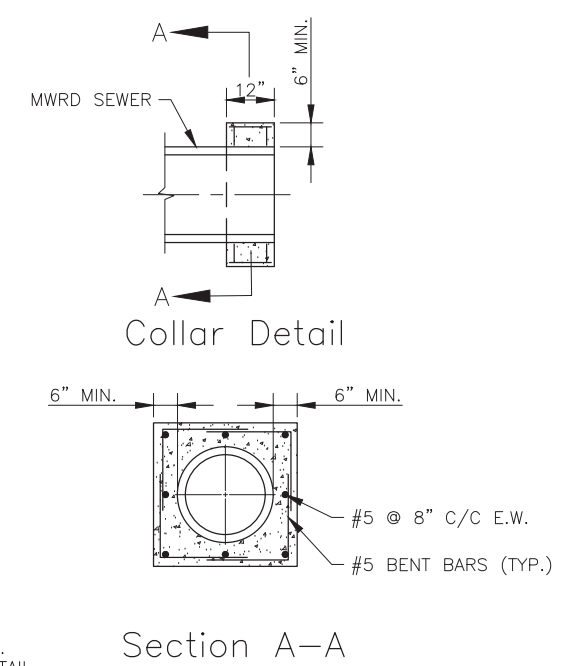
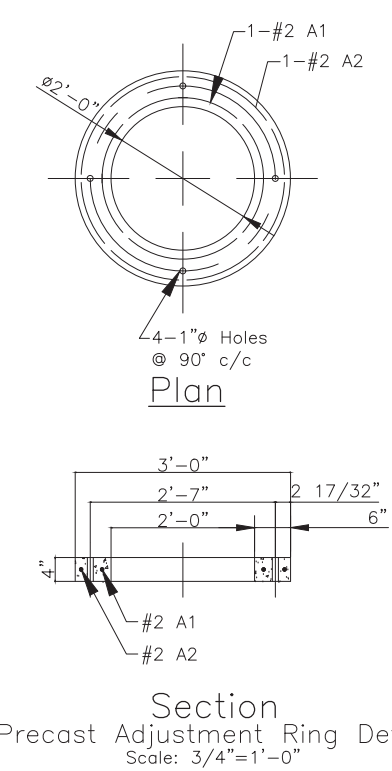
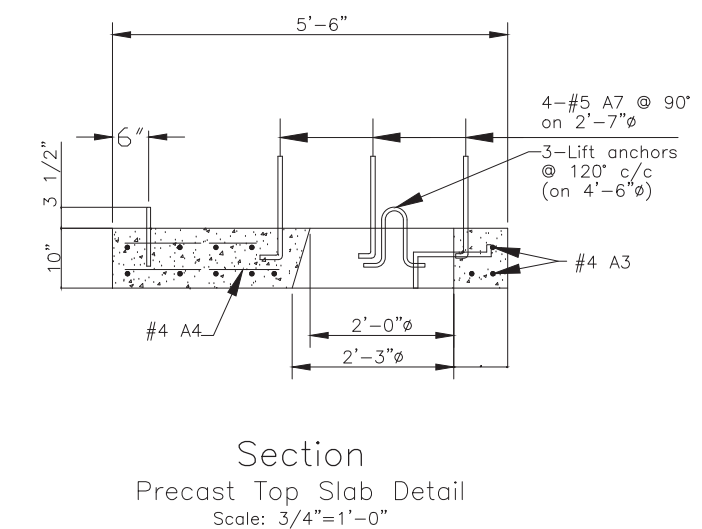
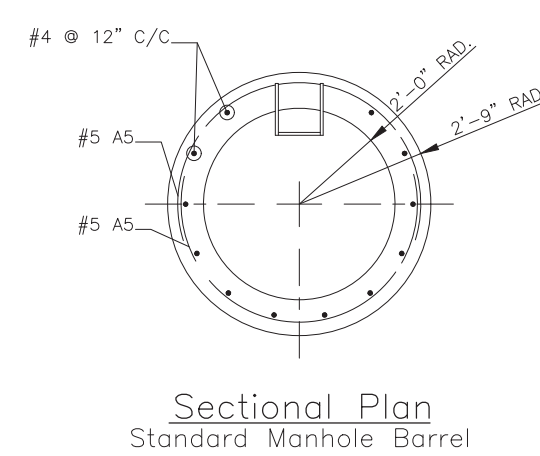
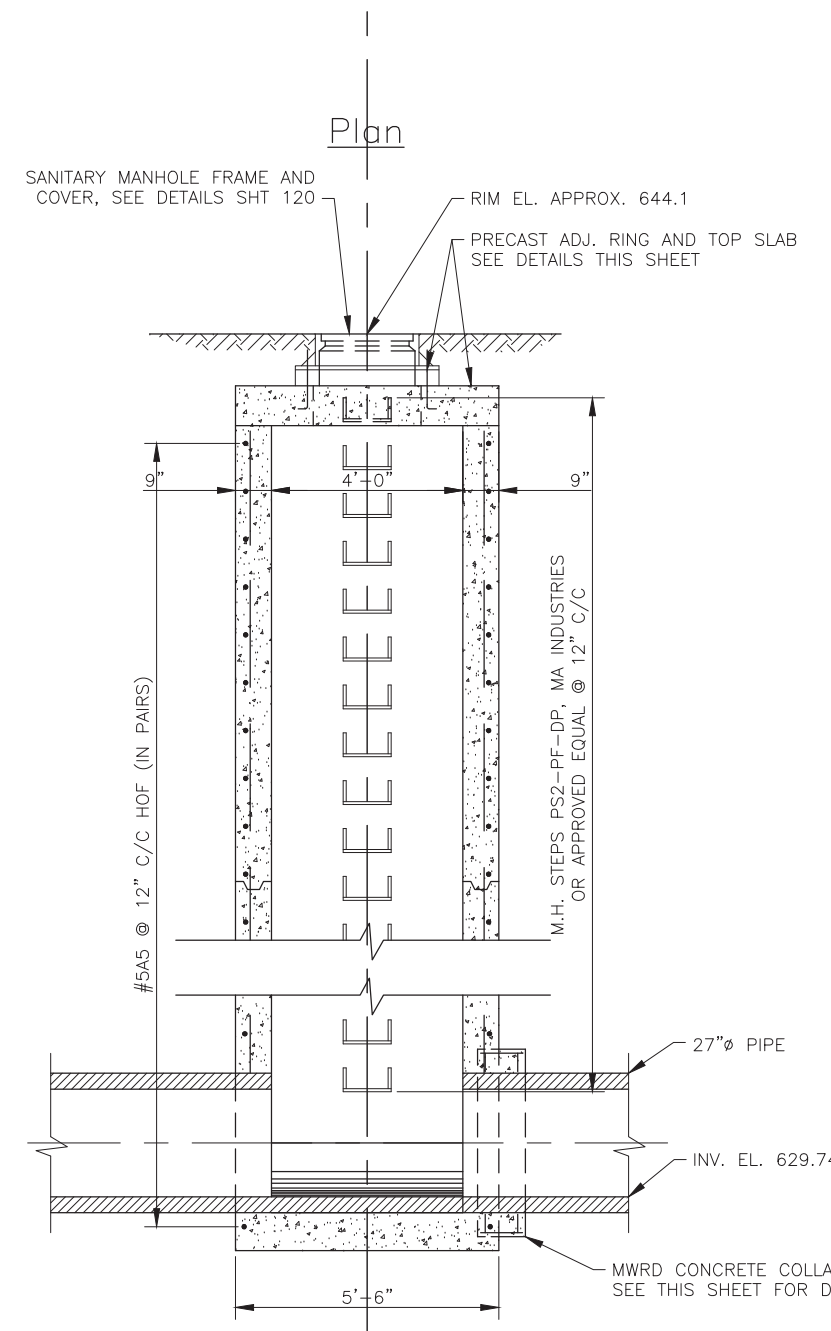
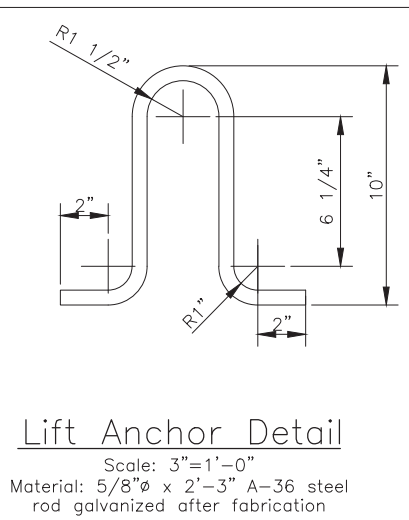
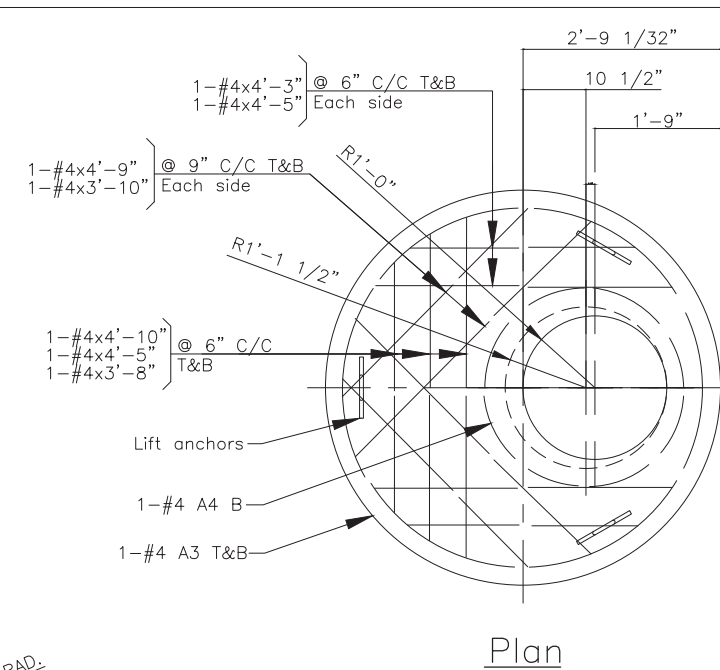
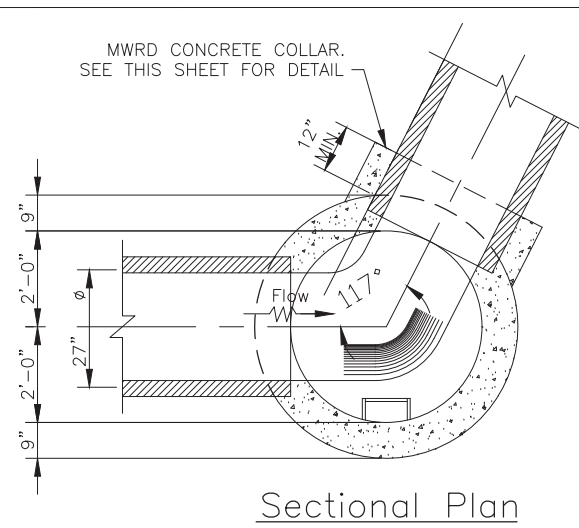
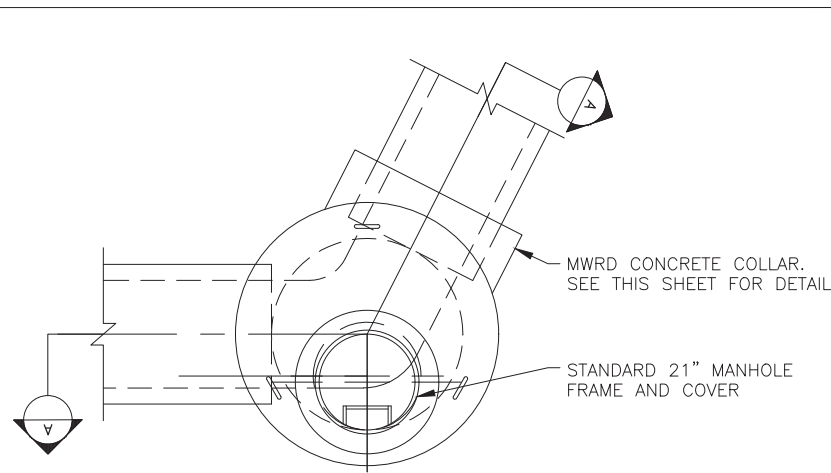
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SANITARY SEWER, RCP, 27" (MWRD)  
DETAILS

SHEET NO. 2 OF 5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	120
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				



RE-BAR BENDING DETAILS						
MARK	SIZE	LENGTH	TYPE	A	B	R
A1	#2	7'-6"	②	—	—	13 1/2"
A2	#2	9'-6"	②	—	—	17"
A3	#4	16'-8"	②	—	—	29 1/2"
A4	#4	9'-3"	②	—	—	16 1/2"
A5	#5	9'-4"	③	9'-4"	—	29 1/2"
A6	#4	5'-9"	SEE SKETCH	—	—	—
A7	#4	4'-3"	①	9"	3'-6"	—
A8	#4	5'-10"	④	4'-4"	—	18 1/2"
A9	#4	3'-9"	①	1'-9"	2'-0"	—

THE REINFORCEMENT BARS SHOWN ARE SIZED AND SPACED FOR 30" DIAMETER SEWER. EACH PROJECT MUST BE ANALYZED TO DETERMINE THE PROPER BARS TO BE USED.

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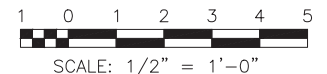
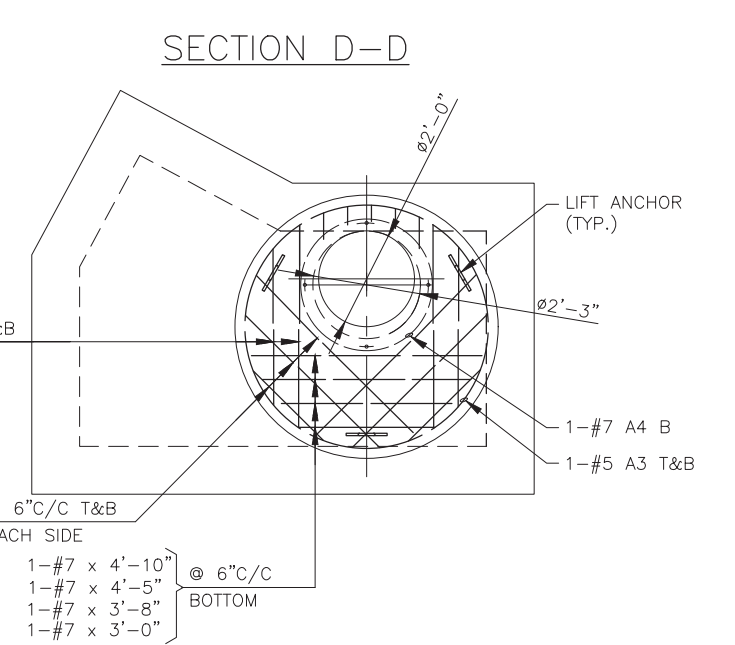
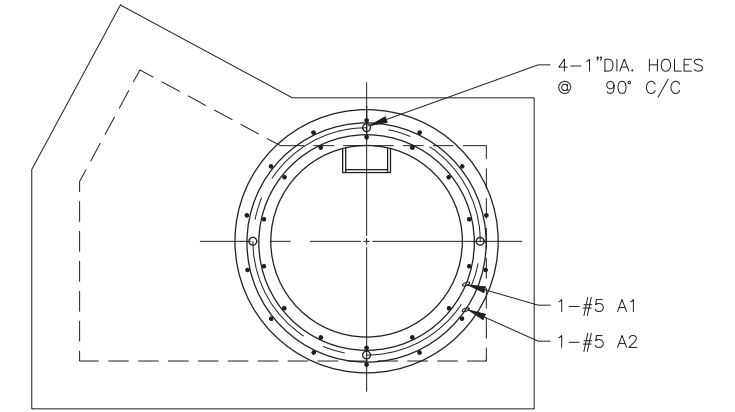
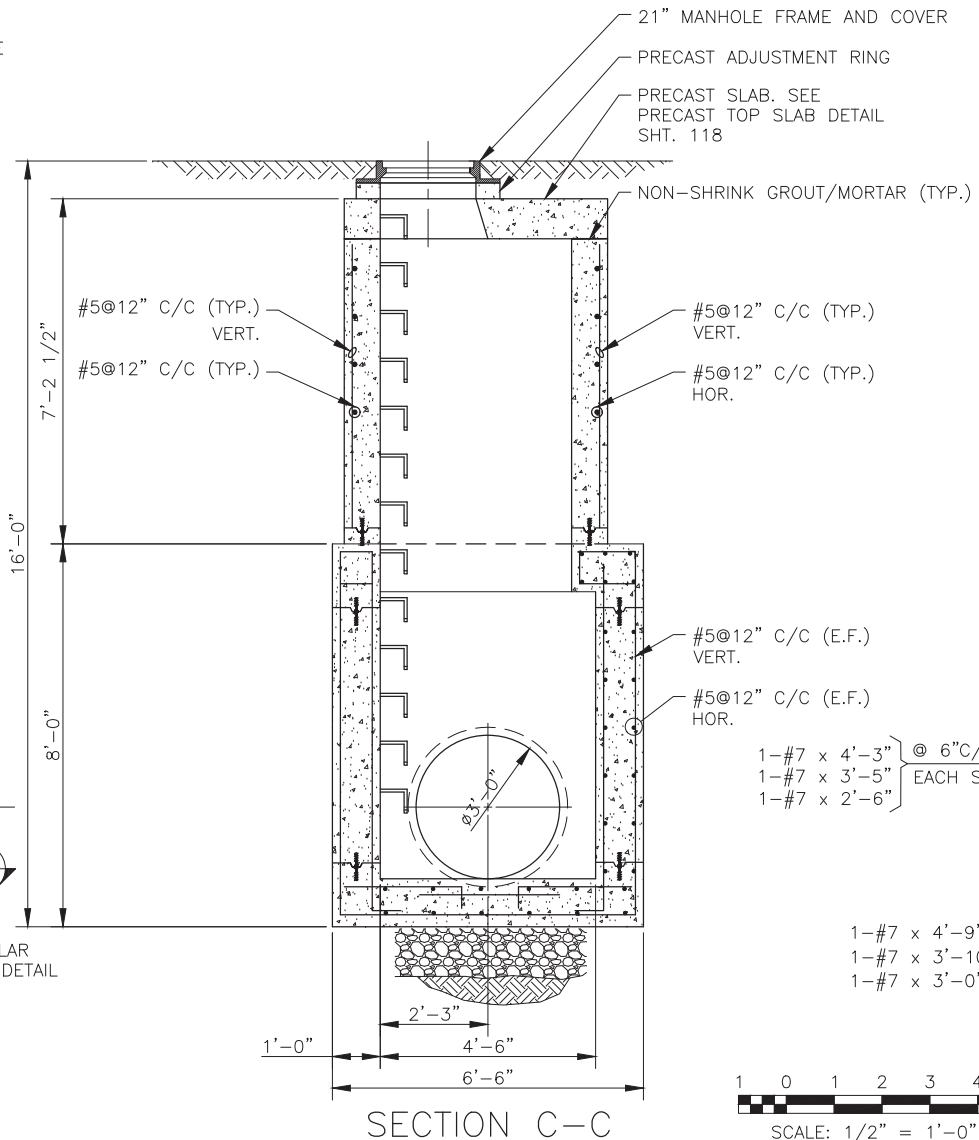
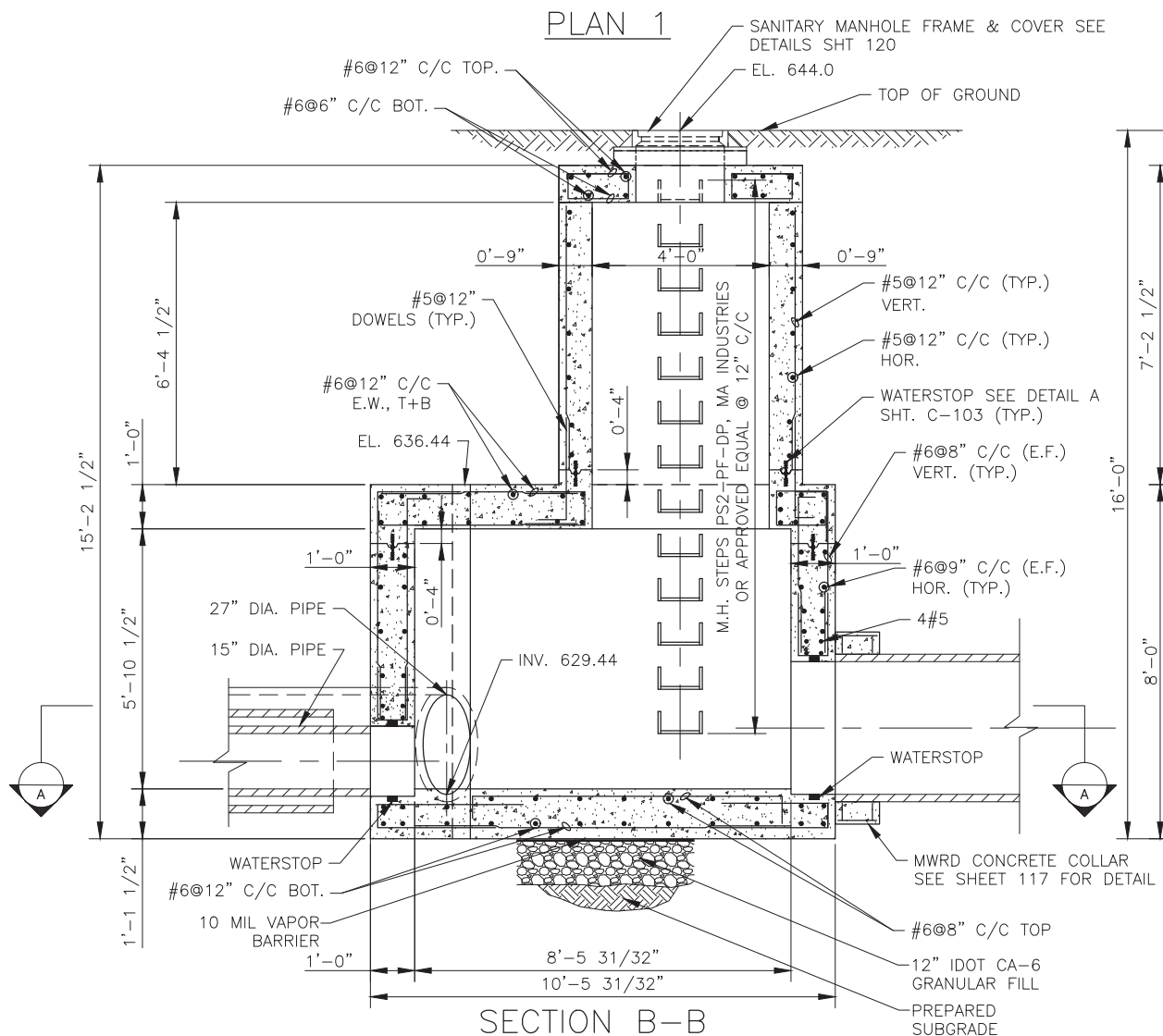
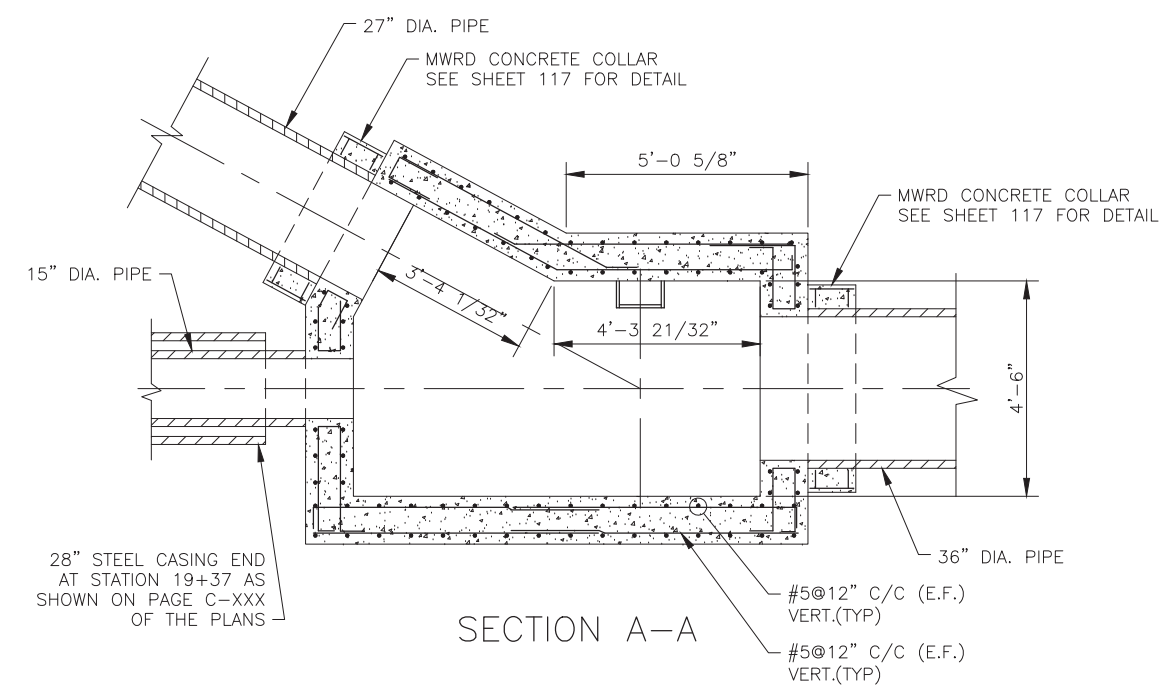
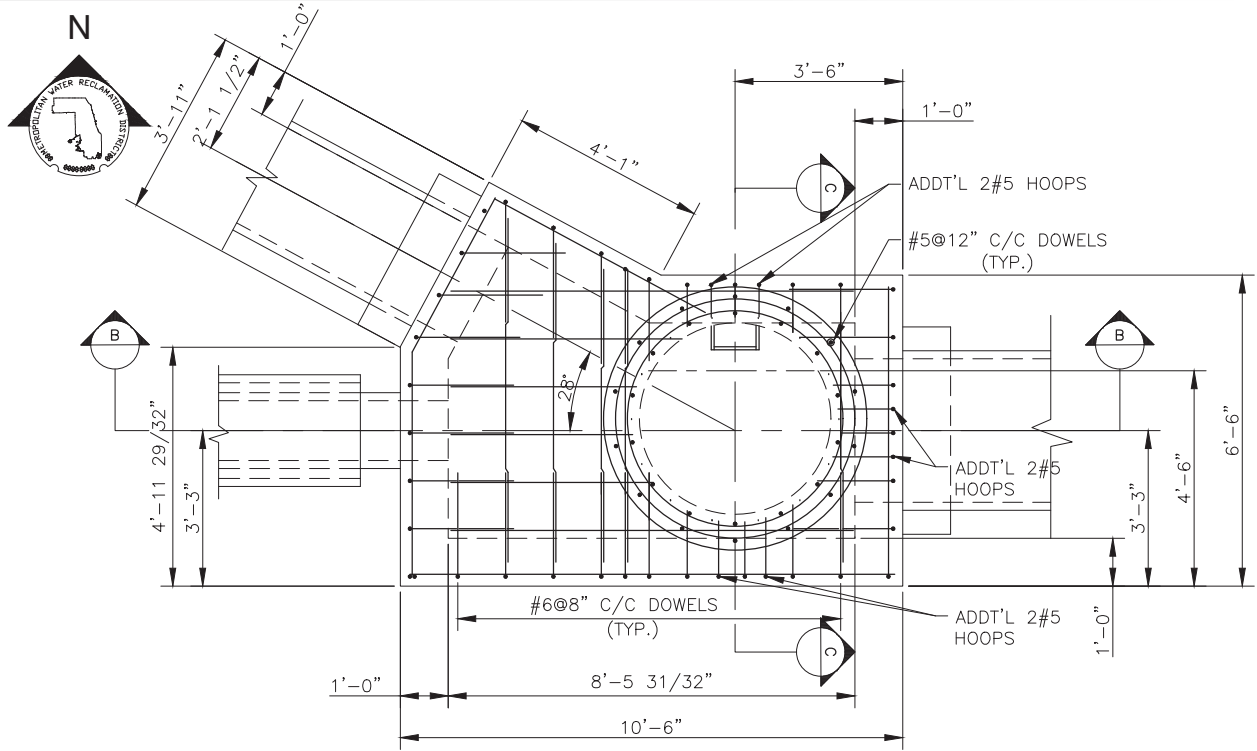
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

MANHOLE SPECIAL, SANITARY, 4' φ (MWRD)

SHEET NO. 3 OF 5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	121
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				



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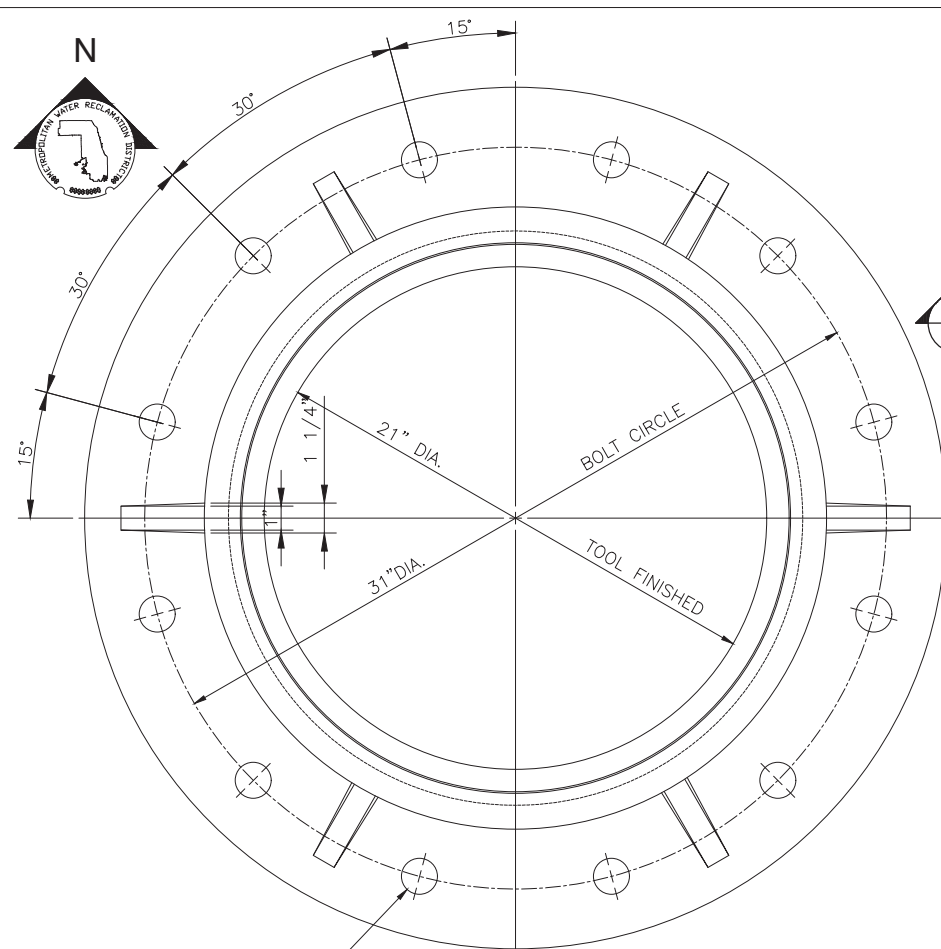
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

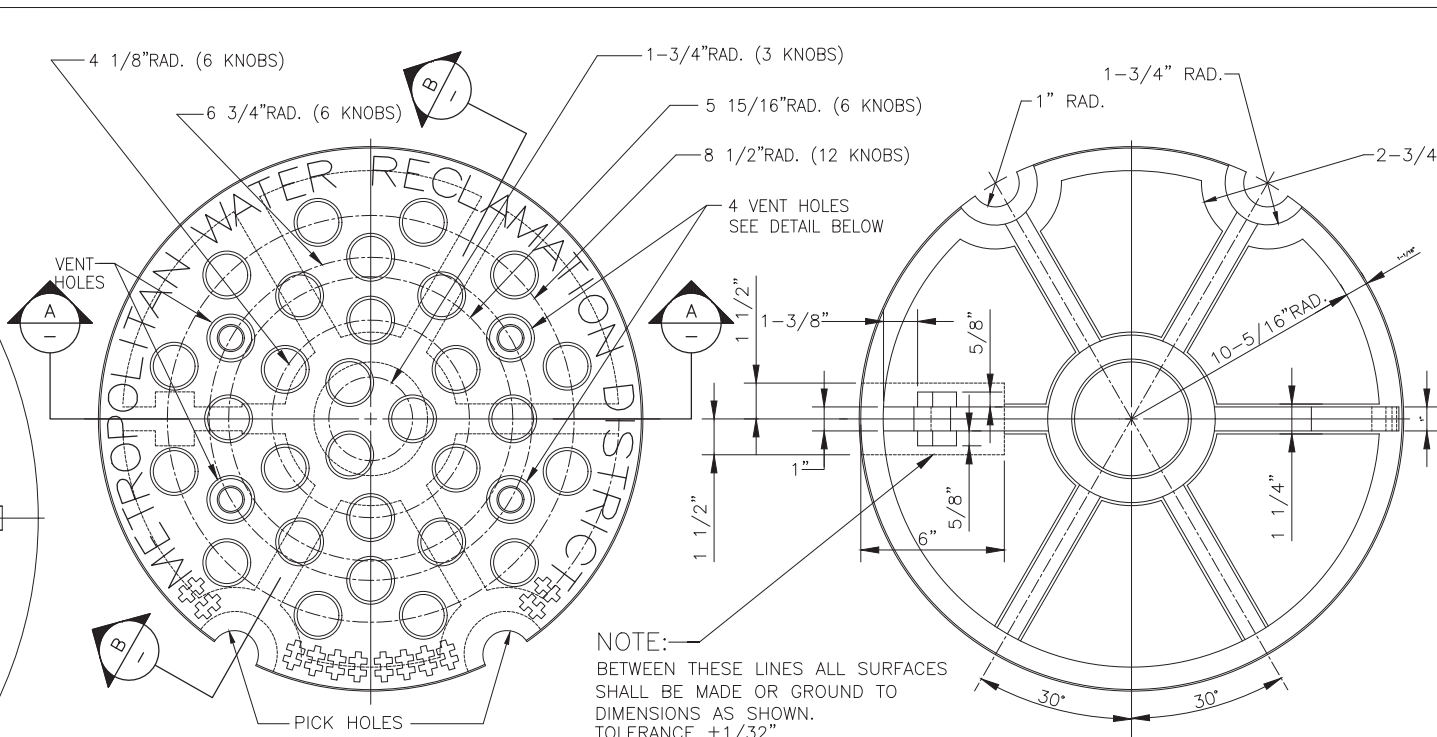
JUNCTION CHAMBER (MWRD)

SHEET NO. 4 OF 5 SHEETS

F.A.P. RTE. 343	SECTION 30T-1	COUNTY COOK	TOTAL SHEETS 140	SHEET NO. 122
				CONTRACT NO. 60J13
ILLINOIS FED. AID PROJECT				

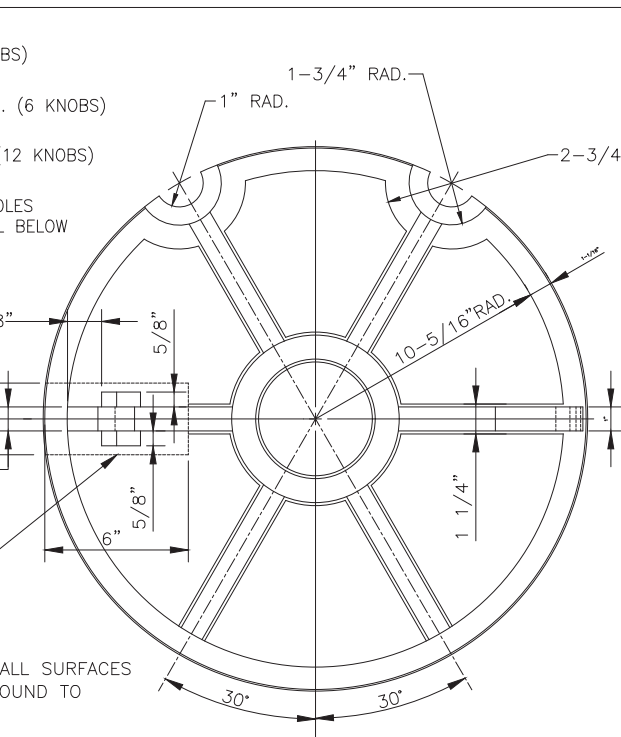


PLAN OF FRAME  
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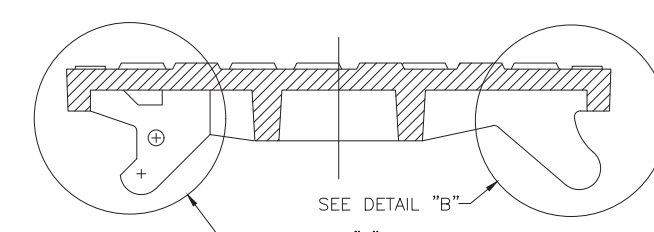


PLAN OF COVER  
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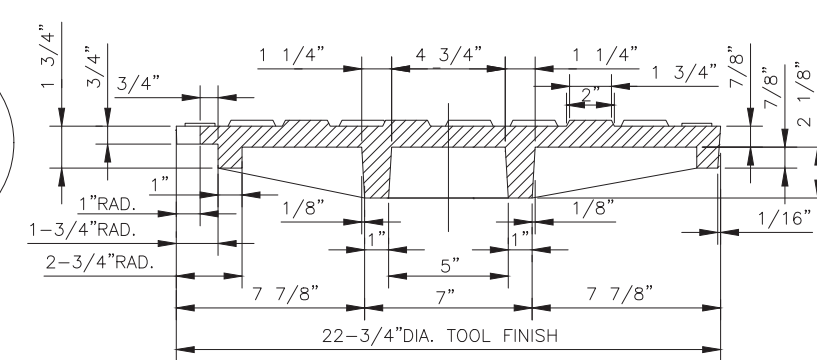
NOTE:  
BETWEEN THESE LINES ALL SURFACES SHALL BE MADE OR GROUND TO DIMENSIONS AS SHOWN.  
TOLERANCE  $\pm 1/32"$



BOTTOM PLAN OF COVER  
SCALE: 3"=1'-0"



SECTION A-A



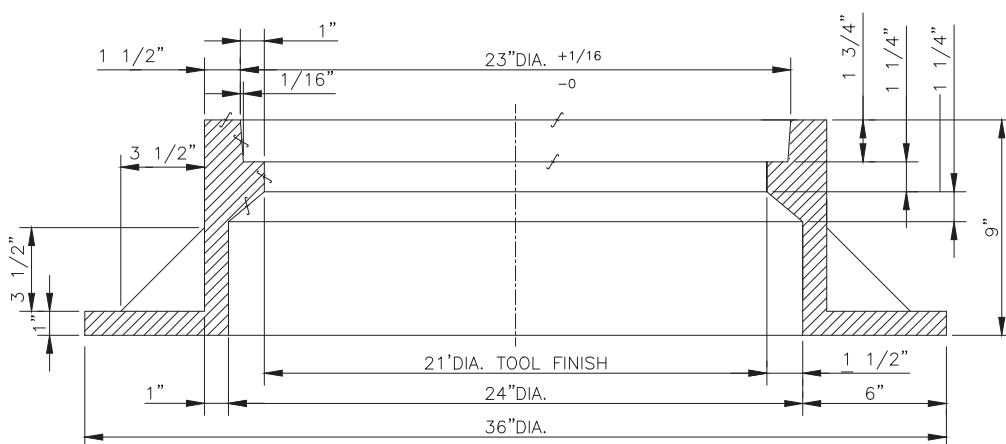
SECTION B-B

NOTE:

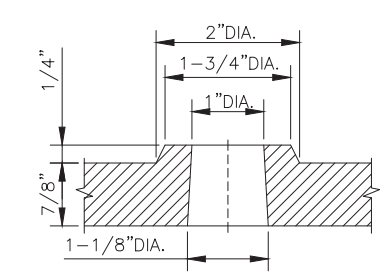
THIS IS A LOCKING TYPE FRAME AND COVER, AND THE TOLERANCES AND MACHINED SURFACES CALLED FOR MUST BE FURNISHED OR THE FRAMES AND COVERS WILL BE REJECTED. SURFACES MARKED "f" SHALL BE TOOL FINISHED TO THE DIMENSIONS SHOWN.  
MATERIAL: CAST GREY IRON, CLASS 30.

MATERIAL SPECIFICATION:

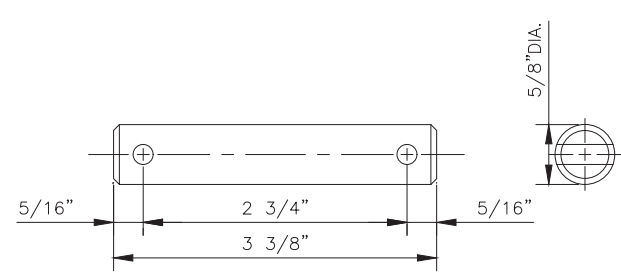
THE MATERIAL SHALL BE A CHROMIUM STEEL CASTING, CONTAINING NOT LESS THAN SIXTEEN PERCENT (16%) OF CHROMIUM, WITH THE CARBON UNDER THIRTY HUNDREDTHS PERCENT (0.30%) AND SHALL BE A FERROUS ALLOY APPROVED BY THE SEWER DESIGN SECTION OF THE ENGINEERING DEPARTMENT OF THE MWRDGC.



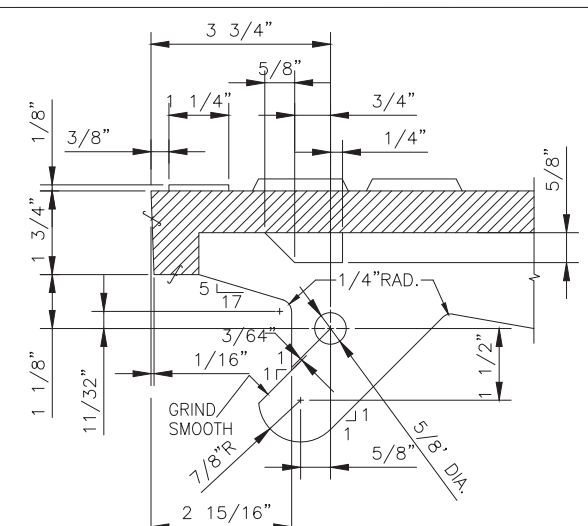
SECTION THROUGH FRAME



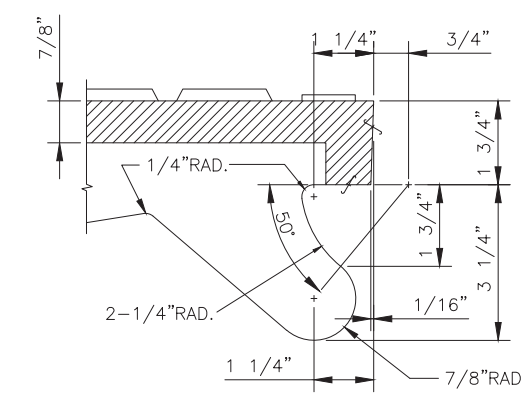
DETAIL OF VENT HOLE  
SCALE: 3/4"= 1"



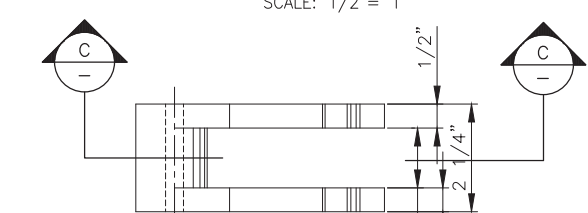
LOCKING LUG PIN  
SCALE: FULL SIZE



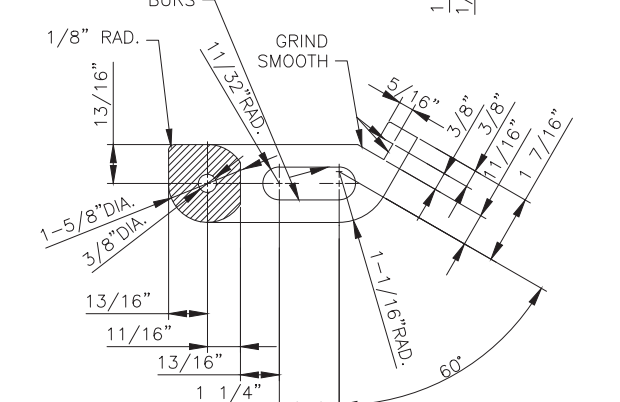
DETAIL "A"  
SCALE: 1/2"= 1"



DETAIL "B"  
SCALE: 1/2"= 1"

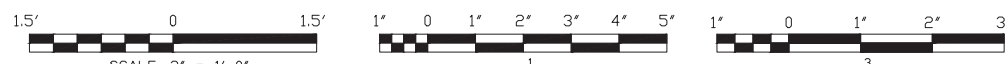


TOP VIEW



SECTION C-C

SCALE: 1/2"= 1"



USER NAME = SDO	DESIGNED — FW	REVISED FW
CHECKED — CS	REVISIONS	
PLOT SCALE = 1:40	DRAWN — SDO	REVISIONS
PLOT DATE = 8/26/16	CHECKED —	REVISIONS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

MWRD STANDARD 21" MANHOLE FRAME AND COVER

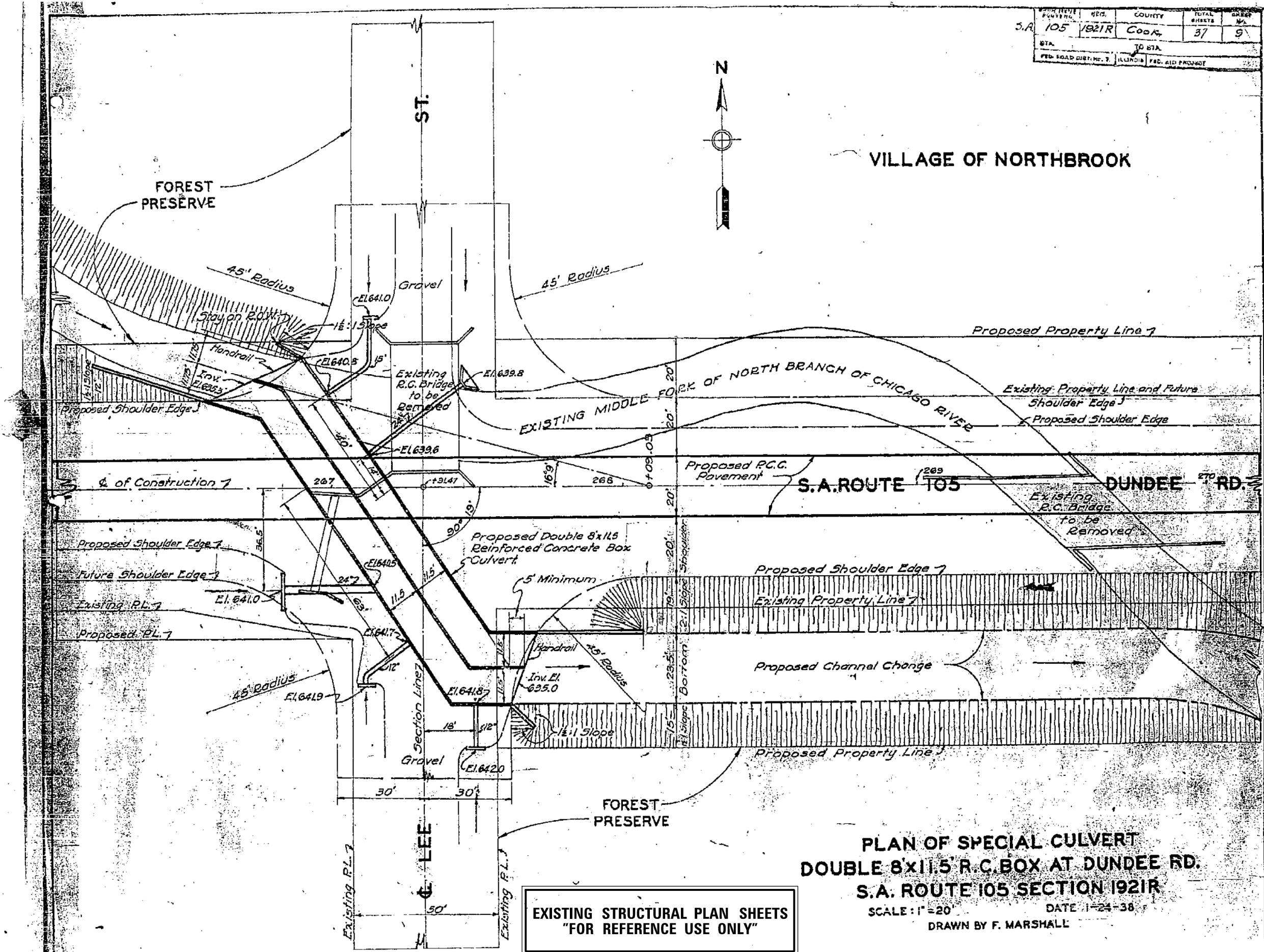
SHEET NO. 5 OF 5 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	123
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				

PROJECT NO.	REG.	COUNTY	TOTAL SHEETS	SHEET NO.
S.A. 105 1921R		COOK	37	9
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



VILLAGE OF NORTHBROOK

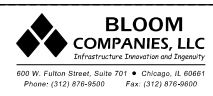


**PLAN OF SPECIAL CULVERT  
DOUBLE 8'x11.5' R.C. BOX AT DUNDEE RD.  
S.A. ROUTE 105 SECTION 1921R**

SCALE: 1"=20' DATE: 1-24-38  
DRAWN BY F. MARSHALL

EXISTING STRUCTURAL PLAN SHEETS  
"FOR REFERENCE USE ONLY"

FILE NAME = F:\3-1296\_IL\_68\DRAWINGS\CADD\Sheet\1921R-11-E-Plan.dgn



USER NAME = jandrews	DESIGNED -	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN -	REVISED -
PLOT DATE = 8/23/2017	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURAL PLAN SHEETS	
SN 016-0813	
SCALE: N.T.S.	SHEET 1 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	124
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				

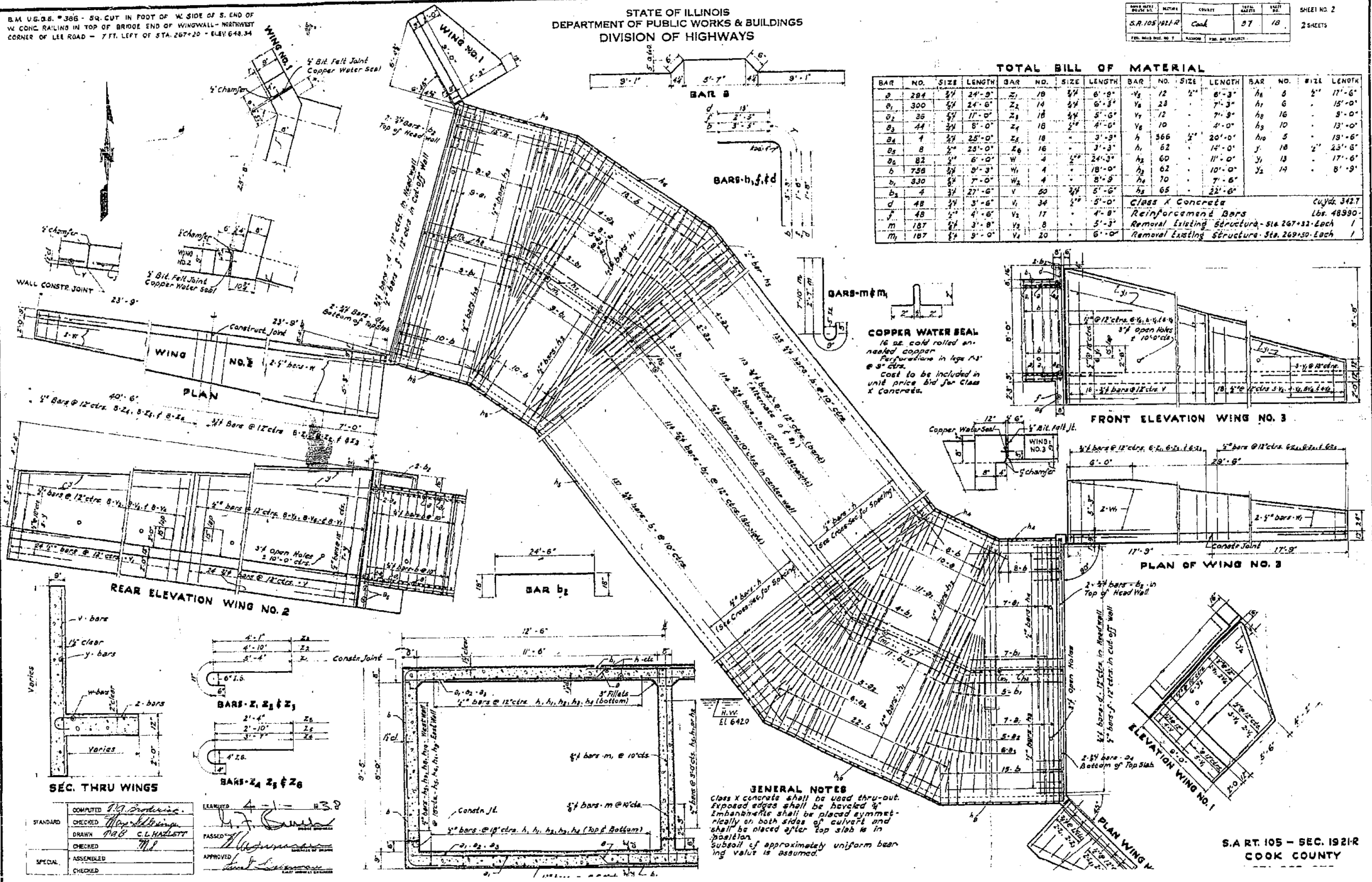




B.M. U.G.D.S. #386 - 5/4 CUT IN FOOT OF W. SIDE OF S. END OF W. CONC. RAILING IN TOP OF BRIDGE END OF WINGWALL - NORTHWEST CORNER OF LEE ROAD - 7 FT. LEFT OF STA. 267+20 - ELEV. 648.34

STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
DIVISION OF HIGHWAYS

DATE	REVISION	COUNTY	TOTAL SHEETS	SHEET NO.
5.11.10	1921-R	Cook	57	18
SHEET NO. 2		2 SHEETS		



**TOTAL BILL OF MATERIAL**

BAR NO.	NO.	SIZE	LENGTH	BAR NO.	NO.	SIZE	LENGTH	BAR NO.	NO.	SIZE	LENGTH	BAR NO.	NO.	SIZE	LENGTH
a	281	3/4"	24'-9"	z	19	3/4"	6'-9"	h	12	1/2"	8'-3"	h	5	1/2"	17'-6"
a <sub>1</sub>	300	3/4"	24'-6"	z <sub>1</sub>	14	3/4"	6'-3"	h <sub>1</sub>	23	1/2"	7'-3"	h <sub>1</sub>	6	1/2"	15'-0"
a <sub>2</sub>	35	3/4"	17'-0"	z <sub>2</sub>	18	3/4"	5'-0"	h <sub>2</sub>	12	1/2"	7'-9"	h <sub>2</sub>	16	1/2"	9'-0"
a <sub>3</sub>	44	3/4"	8'-0"	z <sub>3</sub>	18	3/4"	4'-0"	h <sub>3</sub>	10	1/2"	4'-0"	h <sub>3</sub>	10	1/2"	13'-0"
a <sub>4</sub>	1	3/4"	25'-0"	z <sub>4</sub>	18	3/4"	3'-9"	h <sub>4</sub>	566	1/2"	20'-0"	h <sub>4</sub>	5	1/2"	19'-6"
a <sub>5</sub>	8	3/4"	23'-0"	z <sub>5</sub>	16	3/4"	3'-3"	h <sub>5</sub>	62	1/2"	14'-0"	h <sub>5</sub>	18	1/2"	25'-6"
a <sub>6</sub>	82	3/4"	6'-0"	w	4	1/2"	24'-3"	h <sub>6</sub>	60	1/2"	11'-0"	h <sub>6</sub>	13	1/2"	17'-6"
b	758	3/4"	9'-3"	w <sub>1</sub>	4	1/2"	18'-0"	h <sub>7</sub>	62	1/2"	10'-0"	h <sub>7</sub>	14	1/2"	8'-9"
b <sub>1</sub>	330	3/4"	7'-0"	w <sub>2</sub>	4	1/2"	8'-9"	h <sub>8</sub>	70	1/2"	7'-6"	h <sub>8</sub>	14	1/2"	8'-9"
b <sub>2</sub>	4	3/4"	27'-6"	v	50	3/4"	5'-6"	h <sub>9</sub>	65	1/2"	22'-6"	h <sub>9</sub>	14	1/2"	8'-9"
d	48	3/4"	3'-6"	v <sub>1</sub>	34	1/2"	5'-0"								
v	48	3/4"	4'-6"	v <sub>2</sub>	17	1/2"	4'-8"								
m	187	3/4"	3'-8"	v <sub>3</sub>	8	1/2"	5'-3"								
m <sub>1</sub>	187	3/4"	9'-0"	v <sub>4</sub>	20	1/2"	6'-0"								

Class X Concrete      Cu Yds. 342.7  
Reinforcement Bars      Lbs. 48990  
Removal Existing Structure - Sta. 267+12-Each      1  
Removal Existing Structure - Sta. 269+50-Each      1

**COPPER WATER SEAL**  
16 oz. cold rolled annealed copper  
Perforations in legs 1/4" @ 3" c/c.  
Cost to be included in unit price bid for Class X concrete.

**GENERAL NOTES**  
Class X concrete shall be used thru-out.  
Exposed edges shall be beveled 1/4".  
Embankments shall be placed symmetrically on both sides of culvert and shall be placed after top slab is in position.  
Subsoil of approximately uniform bearing value is assumed.

COMPUTED	J.G. Andrews
CHECKED	M.A. Williams
DRAWN	M.B. C. HADLEY
CHECKED	M.S.
ASSEMBLED	
CHECKED	

EXAMINED: A. J. [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]

EXISTING STRUCTURAL PLAN SHEETS  
"FOR REFERENCE USE ONLY"

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURAL PLAN SHEETS  
SN 016-0813

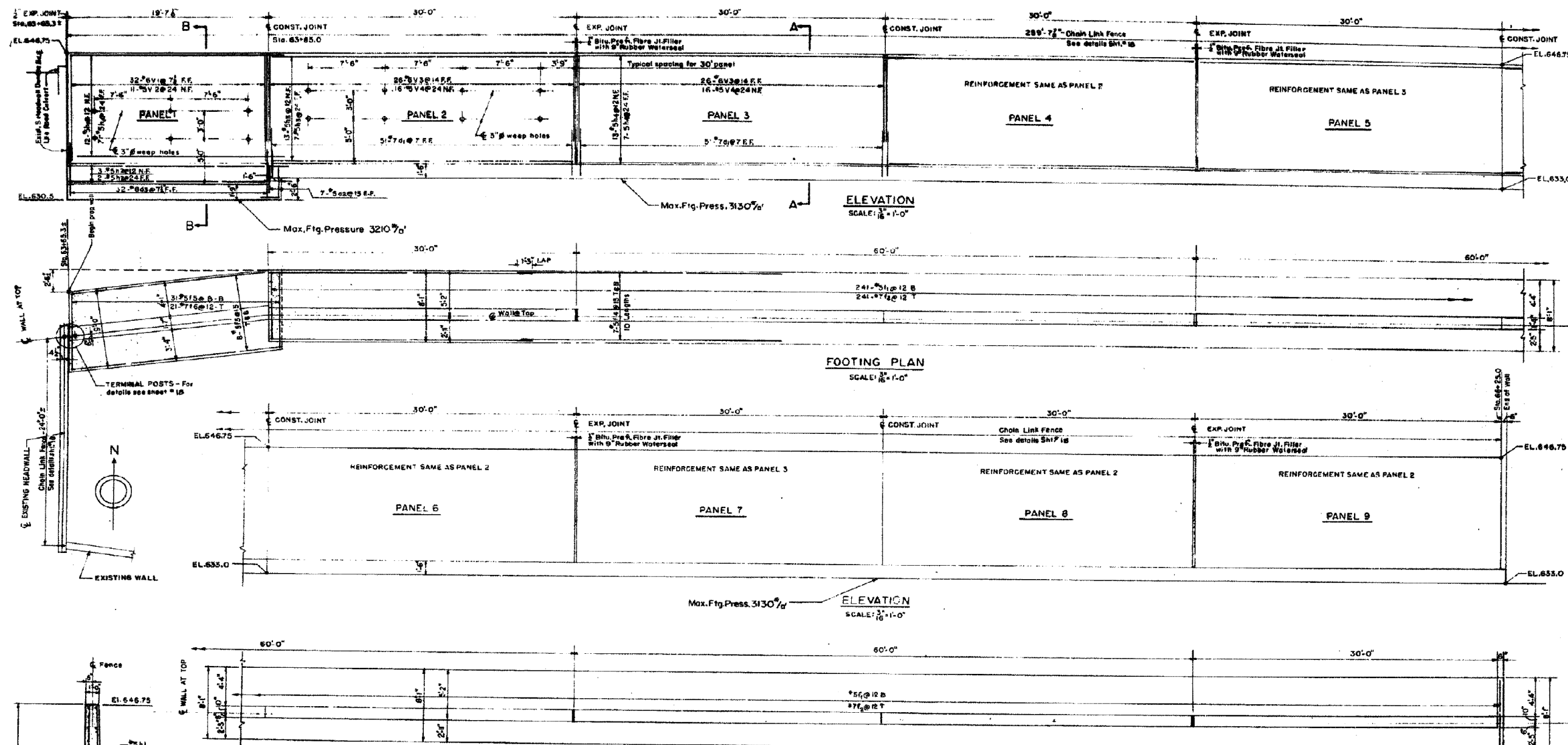
SCALE: N.T.S. SHEET 3 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	30T-1	COOK	140	126
CONTRACT NO. 60J13				

**BLOOM COMPANIES, LLC**  
Infrastructure Development and Engineering  
600 W. Fulton Street, Suite 701 • Chicago, IL 60661  
Phone: (312) 676-8800 Fax: (312) 676-8800

USER NAME	: jandrews	DESIGNED	-	REVISED	-
DRAWN	-	CHECKED	-	REVISED	-
PLOT SCALE	: 2.0000" / 1"	DATE	-	REVISED	-
PLOT DATE	: 8/23/2017				

FILE NAME = F:\3-1296\_IL\_68\DRAWINGS\CADD\Sheet\1181818-11-E-Plan.dgn



**DESIGN DATA:**  
 Earth Pressure..... 40' Fluid  
 Surcharge..... 3 Ft.  
 Reinforcing Steel..... 20,000%  
 Concrete (with Earth Pressure)..... 3000  
 Maximum Design Footing Pressure..... 3,400<sup>7</sup>/<sub>ft</sub>

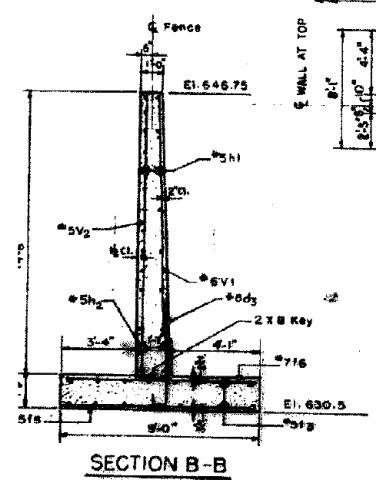
**GENERAL NOTES:**  
 Class 'X' Concrete shall be used throughout. The cost of Rubber Waterseal Copper Nails and Bituminous Pre-formed Fibre Joint Filler shall be included in the Contract price of Class 'X' Concrete.  
 The Contractor shall adequately support, brace and protect the Rubber Waterseal and Bituminous Pre-formed Fibre Joint Filler during construction, so that the Rubber Waterseal does not become torn or distorted. The Contractor's Method of supporting, bracing and protecting the Rubber Waterseal and Bituminous Pre-formed Fibre Joint Filler shall be approved by the Engineer. See Sections 207, 208, 209, Standard Specifications for Road & Bridge Construction (Aug. 1, 1968) NOTES:  
 For details of Expansion Joint and Banded Construction Joint see Sheet No. 19.....  
 See Special Provision for Sand or Gravel Embankment.  
 Existing Culvert shall be protected during construction by cribbing or sheeting as approved by the Engineer.  
 Cost of cribbing and sheeting shall be included in the Contract price for Class 'B' Excavation for Structures.  
 If excavation in connection with removal of existing wing wall (Concrete Removal) is carried below bottom of proposed footing, concrete shall be used to fill any such excavation. The cost of concrete will not be paid for separately, but will be included in the contract price for Concrete Removal.

**\*\* RETAINING WALL ONLY**  
**BILL OF MATERIAL \*\***

CLASS 'X' CONCRETE	261 CU.YDS.
REINFORCEMENT BARS	27,060 LBS.
CLASS 'A' EXCAVATION FOR STRUCTURES	108 CU.YDS.
CLASS 'A' EXCAVATION FOR STRUCTURES (MODIFIED)	261 CU.YDS.
CLASS 'B' EXCAVATION FOR STRUCTURES	149 CU.YDS.
CLASS 'B' EXCAVATION FOR STRUCTURES (MODIFIED)	330 CU.YDS.
POROUS GRANULAR EMBANKMENT	125 CU.YDS.
SAND OR GRAVEL EMBANKMENT	550 CU.YDS.
CHAIN LINK FENCE (3'-6")	285 L.M.F.T.
CONCRETE REMOVAL	10 CU.YDS.
CHANNEL EXCAVATION	120 CU.YDS.

**\*\* BAR SCHEDULE**

MARK	NO.	SIZE	LGTH	SKETCH	TYPE	A	B
d <sub>1</sub>	408	#7	6-1		1	10	3-3
d <sub>2</sub>	14	#5	5-8		2	1-9	3-8
d <sub>3</sub>	32	#8	6-7		1	1-1	5-6
f <sub>1</sub>	19	#5	21-3				
f <sub>2</sub>	5	#5	19-6				
f <sub>3</sub>	100	#5	28-6				
f <sub>4</sub>	60	#5	31-3				
e <sub>1</sub>	241	#5	7-9				
e <sub>2</sub>	241	#7	7-9				
f <sub>5</sub>	16	#5	21-0				
e <sub>3</sub>	140	#5	23-1				
e <sub>4</sub>	31	#5	8-8				
e <sub>5</sub>	21	#7	8-8				
v <sub>1</sub>	32	#6	4-2				
v <sub>2</sub>	8	#5	14-4				
v <sub>3</sub>	208	#5	8-7				
v <sub>4</sub>	28	#5	8-5				



**EXISTING STRUCTURAL PLAN SHEETS  
 "FOR REFERENCE USE ONLY"**

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**BLOOM COMPANIES, LLC**  
 Infrastructure Development and Design  
 600 W. Fulton Street, Suite 701 • Chicago, IL 60661  
 Phone: (312) 876-8800 Fax: (312) 876-8800

USER NAME = jandrews  
 PLOT SCALE = 2.0000' / in.  
 PLOT DATE = 8/23/2017

DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE -

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**EXISTING STRUCTURAL PLAN SHEETS  
 RETAINING WALL**

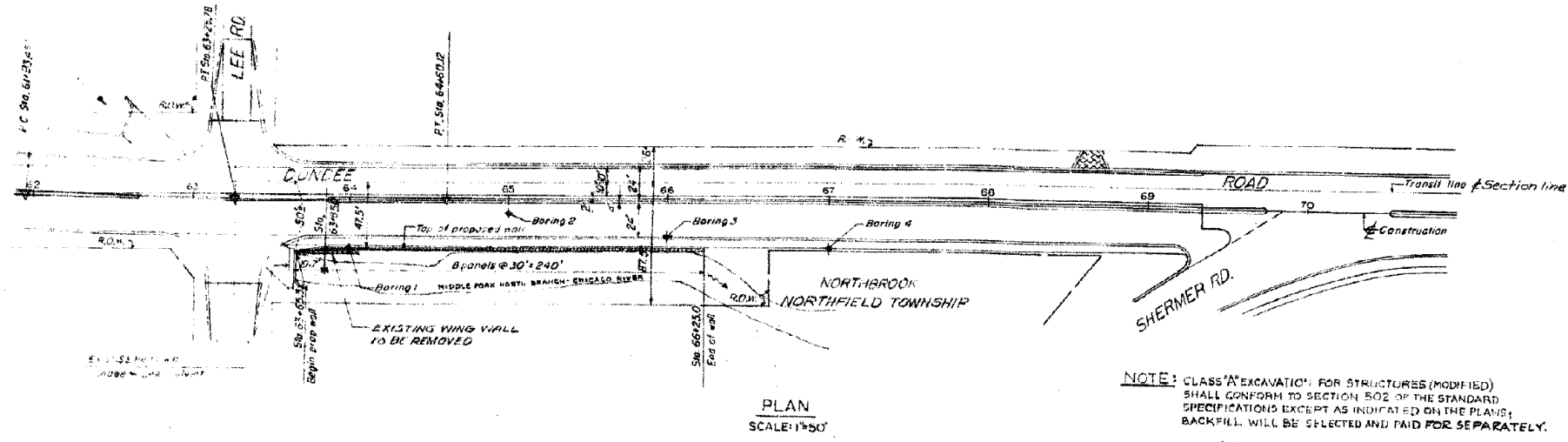
SCALE: N.T.S. SHEET 4 OF 5 SHEETS STA. TO STA.

F.A.P. R.T.E. 343 SECTION 30T-1 COUNTY COOK TOTAL SHEETS 140 SHEET NO. 127 CONTRACT NO. 60J13 ILLINOIS FED. AID PROJECT

**DEPARTMENT OF HIGHWAYS  
 COOK COUNTY, ILLINOIS**

**RETAINING WALL  
 AT CULVERT EAST OF LEE ROAD  
 DUNDEE ROAD WIDENING**

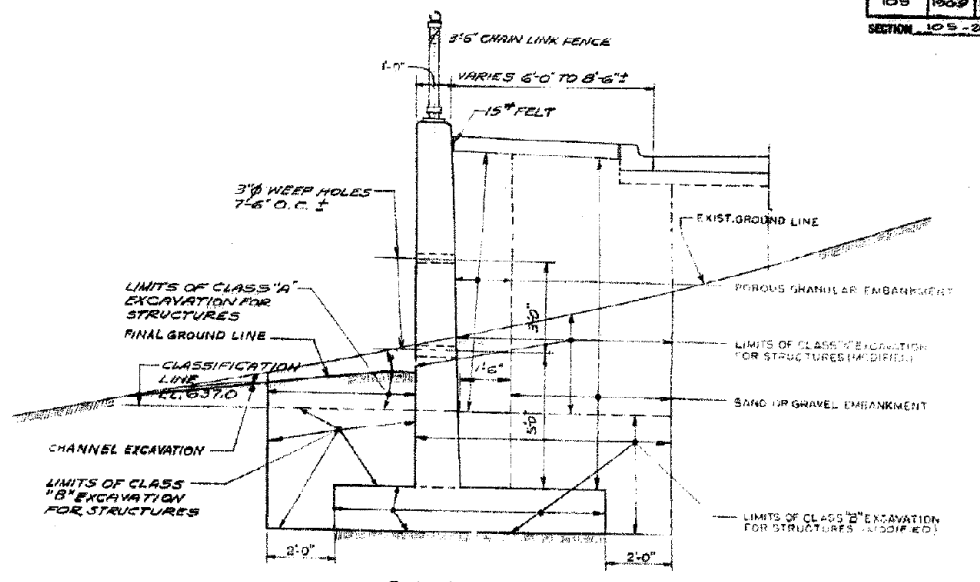
DATE: 8/23/2017 BY: JANDREWS CHECKED: JANDREWS



PLAN  
SCALE: 1"=50'

NOTE: CLASS "A" EXCAVATION FOR STRUCTURES (MODIFIED) SHALL CONFORM TO SECTION 502 OF THE STANDARD SPECIFICATIONS EXCEPT AS INDICATED ON THE PLANS; BACKFILL WILL BE SELECTED AND PAID FOR SEPARATELY.

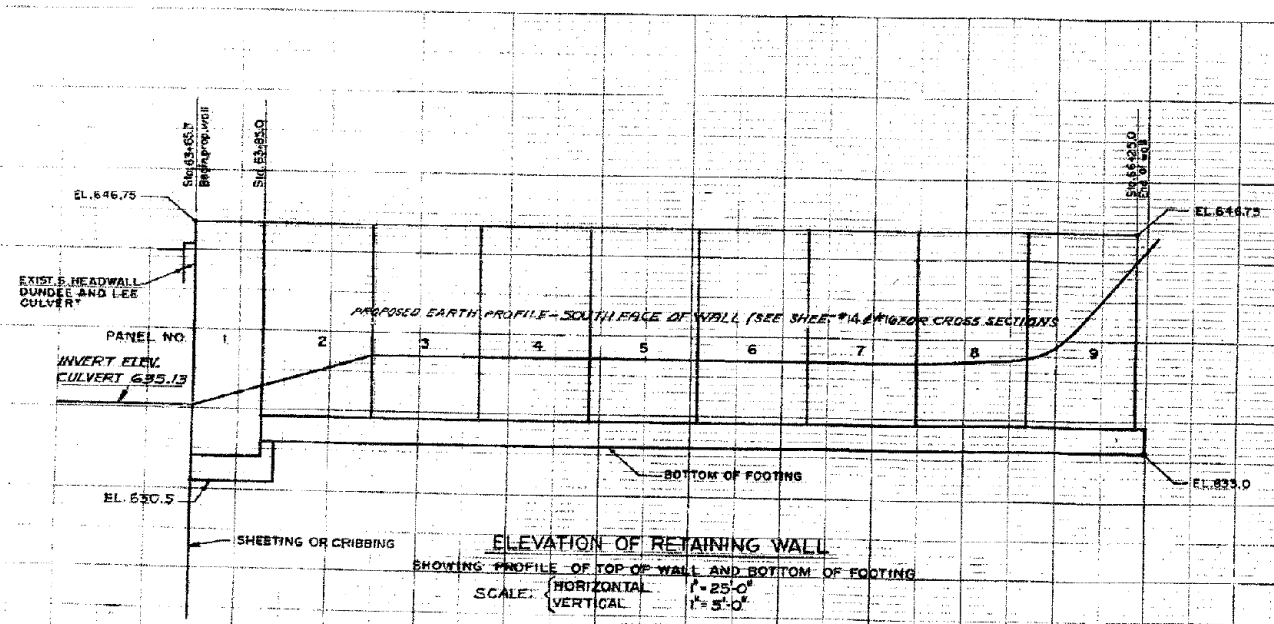
CLASS "B" EXCAVATION FOR STRUCTURES (MODIFIED) SHALL CONFORM TO SECTION 503 OF THE STANDARD SPECIFICATIONS EXCEPT AS INDICATED ON THE PLANS; BACKFILL WILL BE SELECTED AND PAID FOR SEPARATELY.



TYPICAL SECTION  
SCALE: 3/4"=1'-0"

NOTE: For Existing Topography See Sheet # 148

THE 4" F.P.C. TO BE PLACED BETWEEN THE RETAINING WALL AND 4" PC CONCRETE SIDEWALK WILL NOT BE PAID FOR. SIDEWALK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PC CONCRETE SIDEWALK.



ELEVATION OF RETAINING WALL  
SHOWING PROFILE OF TOP OF WALL AND BOTTOM OF FOOTING  
SCALE: HORIZONTAL 1"=25'-0" VERTICAL 1"=5'-0"

BOILING 1 STA. 64+00.00 ± 10' 50" OF E DUNDEE ROAD	BOILING 2 STA. 65+00.00 ± 22' 50" OF E DUNDEE ROAD	BOILING 3 STA. 66+00.00 ± 10' 20" OF E DUNDEE ROAD	BOILING 4 STA. 67+00.00 ± 10' 50" OF E DUNDEE ROAD
<p>SOIL MOISTURE</p> <p>U.C. STIPES/50 FT DEPTH IN FT.</p> <p>0.00 GR. EL. 642.35</p> <p>CLAY LOAM. DR. BR.</p> <p>CLAY, GREY STIFF</p> <p>SILTY CLAY BR. GREY, STIFF</p> <p>CLAY, GREY VERY STIFF</p>	<p>SOIL MOISTURE</p> <p>U.C. STIPES/50 FT DEPTH IN FT.</p> <p>0.00 GR. EL. 645.34</p> <p>CLAY BR. STIFF</p> <p>SILTY LOAM BR. STIFF</p> <p>CLAY LOAM. GREY MED.</p> <p>SILTY CLAY GREY STIFF</p> <p>SILTY CLAY LOAM, GREY</p> <p>GRV. COARSE SANDY GRAY SILTY CLAY WET. GREY MED. DENSE</p> <p>SILTY CLAY OR GRAY CLAY WET. GREY MED.</p> <p>SILTY CLAY GREY STIFF</p> <p>CLAY, GREY STIFF</p>	<p>SOIL MOISTURE</p> <p>U.C. STIPES/50 FT DEPTH IN FT.</p> <p>0.00 GR. EL. 641.63</p> <p>SILTY CLAY DR. BR. STIFF</p> <p>CLAY, SANDY</p> <p>CO. SANDY LOAM WET. GREY LOOSE</p> <p>CLAY, GREY STIFF</p> <p>GRAY CLAY BR. STIFF</p>	<p>SOIL MOISTURE</p> <p>U.C. STIPES/50 FT DEPTH IN FT.</p> <p>0.00 GR. EL. 641.63</p> <p>CLAY LOAM. DR. BR.</p> <p>CLAY, BROWN STIFF</p> <p>CLAY, GREY STIFF</p> <p>GRAY CLAY BR. STIFF</p>

DATE	BY	DESCRIPTION
3/21/19	J.C.H.	Excavation Note added from field notes

DEPARTMENT OF HIGHWAYS  
COOK COUNTY, ILLINOIS

RETAINING WALL  
AT CULVERT EAST OF LEE ROAD  
DUNDEE ROAD WIDENING

PROJECT: 105-2021-M.F.T.

DATE: 8/23/2017

EXISTING STRUCTURAL PLAN SHEETS  
"FOR REFERENCE USE ONLY"

FILE NAME = F:\3-1296\_IL\_68\DRAWINGS\CADD\105-2021-M.F.T.-E-Plan.dgn

**BLOOM COMPANIES, LLC**  
Infrastructure Development and Design  
600 W. Fulton Street, Suite 701 • Chicago, IL 60661  
Phone: (312) 676-8800 Fax: (312) 676-8800

USER NAME = jandrews  
DESIGNED -  
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DESIGNED -  
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CHECKED -  
DATE -

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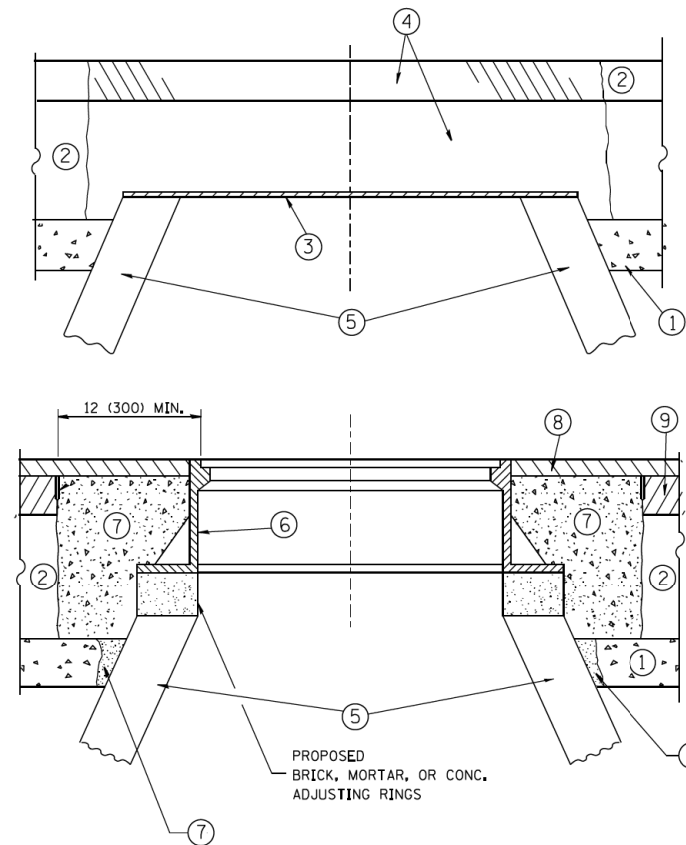
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURAL PLAN SHEETS  
RETAINING WALL

SCALE: N.T.S. SHEET 5 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	128
CONTRACT NO. 60J13				
ILLINOIS FED. AID PROJECT				





**CONSTRUCTION PROCEDURES**

**STAGE 1 (BEFORE PAVEMENT MILLING)**

- A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
- B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
- C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
- D) BACKFILL WITH CRUSHED STONE AND A MINIMUM 1/2 (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

**STAGE 2 (AFTER PAVEMENT MILLING)**

- A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-1\* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

\* UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

**LEGEND**

- ① SUB-BASE GRANULAR MATERIAL
- ② EXISTING PAVEMENT
- ③ 36 (900) DIAMETER METAL PLATE
- ④ PROPOSED CRUSHED STONE AND HMA SURFACE MIX
- ⑤ EXISTING STRUCTURE
- ⑥ FRAME AND LID (SEE NOTES)
- ⑦ CLASS PP-1\* CONCRETE
- ⑧ PROPOSED HMA SURFACE COURSE
- ⑨ PROPOSED HMA BINDER COURSE

**LOCATION OF STRUCTURES:**

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

**BASIS OF PAYMENT:**

REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."

THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.

NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

**NOTES:**

EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

**DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING**

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

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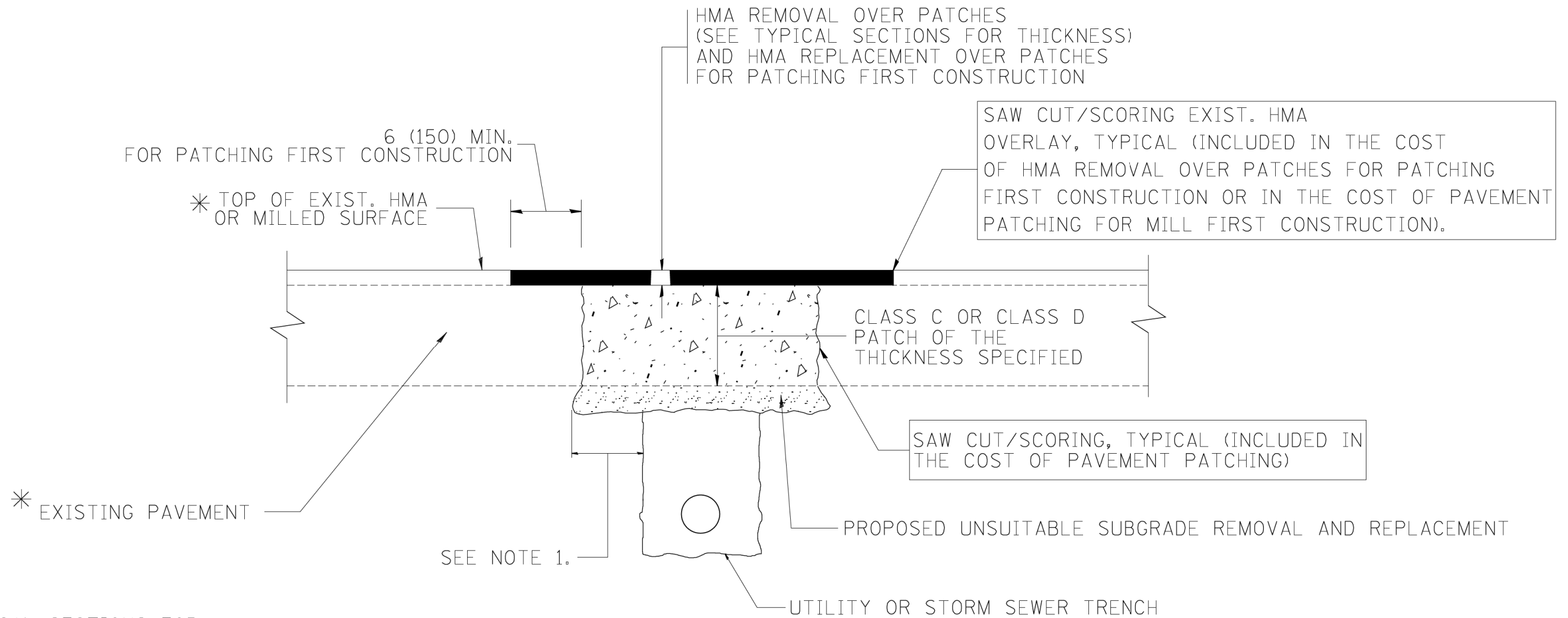
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PLOT DATE = 12/6/2011	DATE - 10-25-94		REVISED - R. BORO 12-06-11

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DETAILS FOR  
FRAMES AND LIDS ADJUSTMENT WITH MILLING**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	130
BD600-03 (BD-8)			CONTRACT NO. 60J13	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



\* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

**NOTES:**

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

SEQUENCE OF CONSTRUCTION (MILLING FIRST)

1. MILL HMA FIRST IF THERE IS AT LEAST 4 1/2 INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

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

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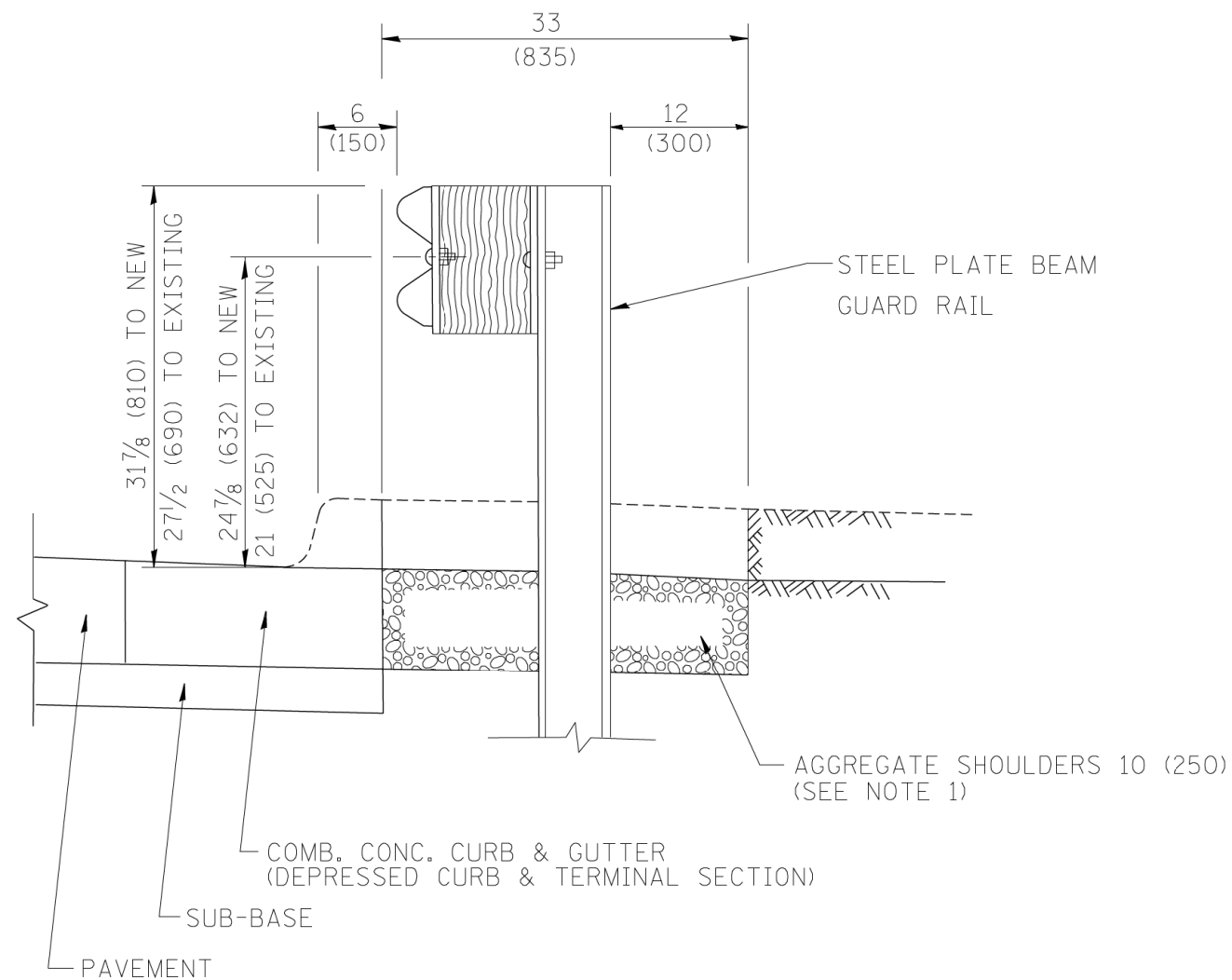
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	PLOT DATE = 10/27/2008	DATE - 10-25-94	REVISED - K. ENG 10-27-08

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT PATCHING FOR  
HMA SURFACED PAVEMENT**

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

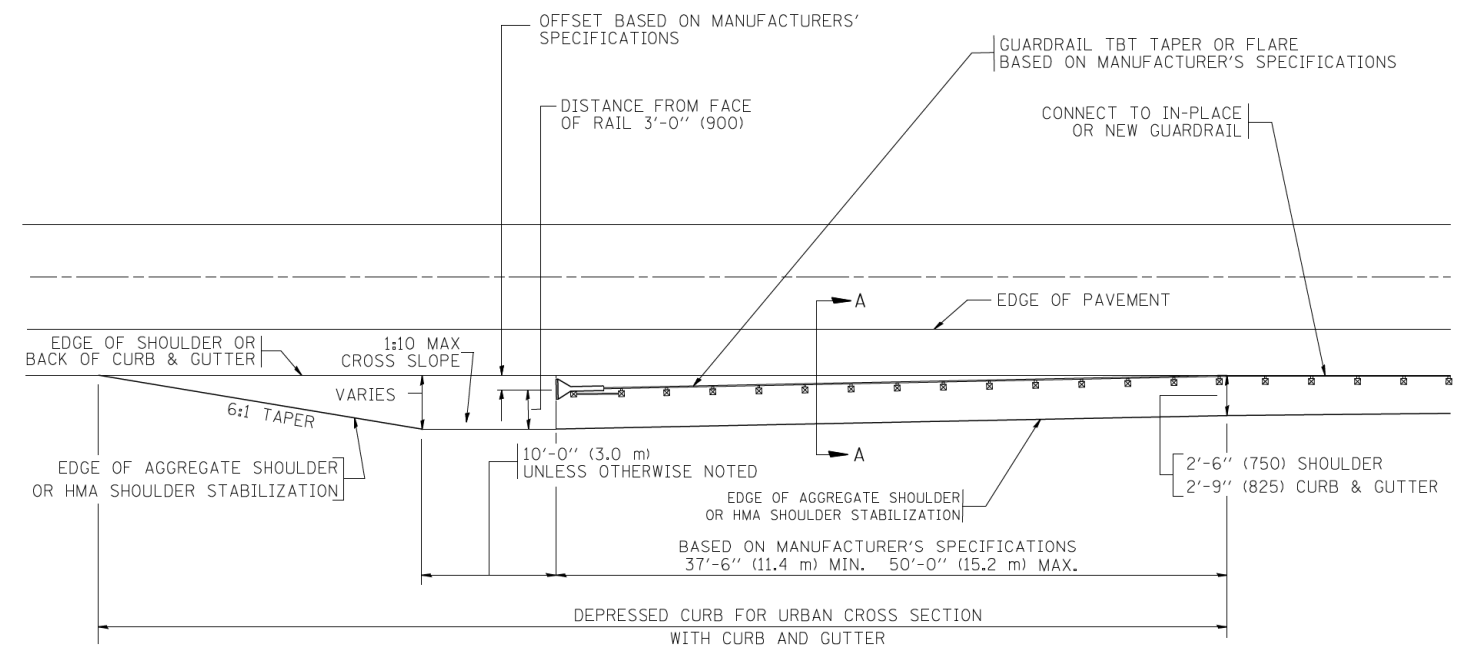
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343	30T-1	COOK	140	131
BD400-04 (BD-22)			CONTRACT NO. 60J13	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



SECTION A-A

- NOTES:
1. THE AGGREGATE SHOULDER, 10" OR HMA SHOULDER, 6" (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
  2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
  3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

DETAILS FOR STEEL PLATE BEAM  
GUARD RAIL ADJACENT TO CURB AND GUTTER  
[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]



DEPRESSED CURB AND GUTTER AND  
SHOULDER TREATMENT AT TBT TY. 1 SPL.

BASIS OF PAYMENT: HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDERS 6" (150 mm)".

STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL  
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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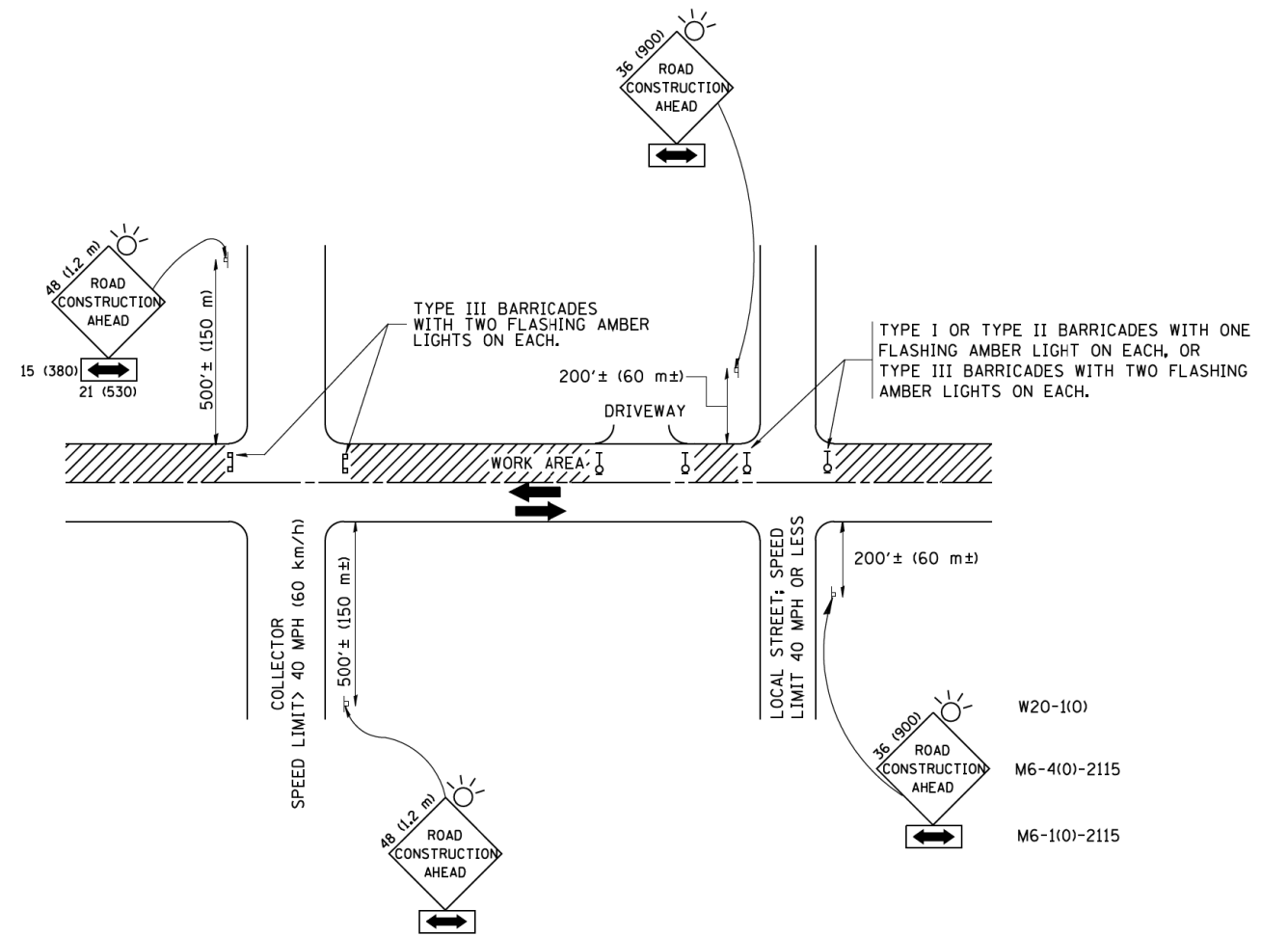
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DETAILS FOR DEPRESSED CURB & GUTTER AND  
SHOULDER TREATMENT AT TBT TY 1 SPL.

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	132
BD600-10 (BD 34)			CONTRACT NO. 60J13	
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

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

#### B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

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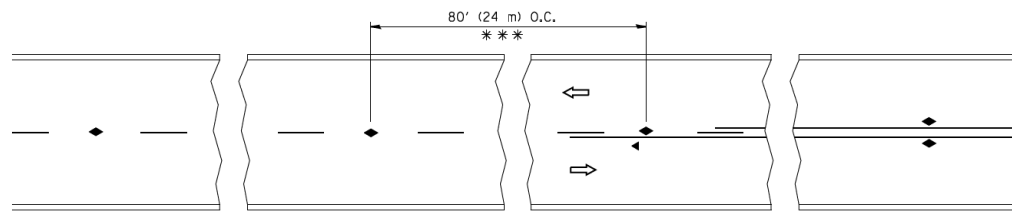
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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

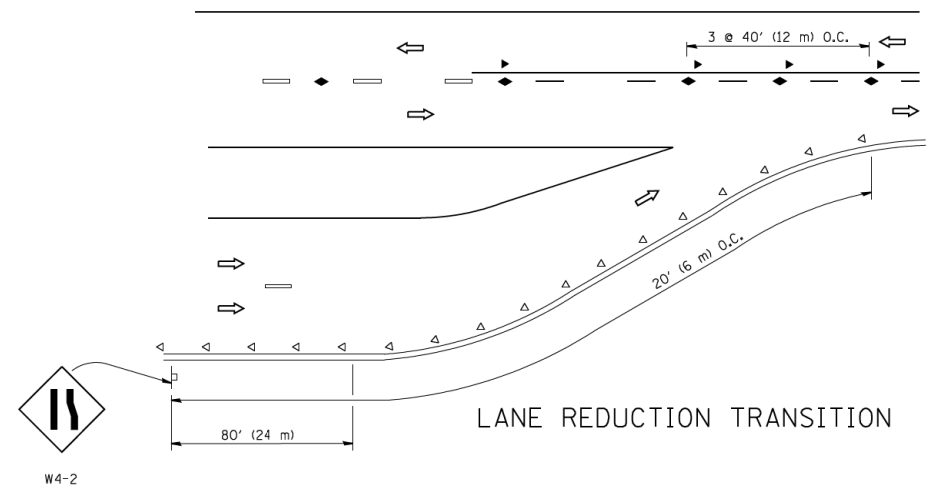
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<b>TC-10</b>			CONTRACT NO. 60J13	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

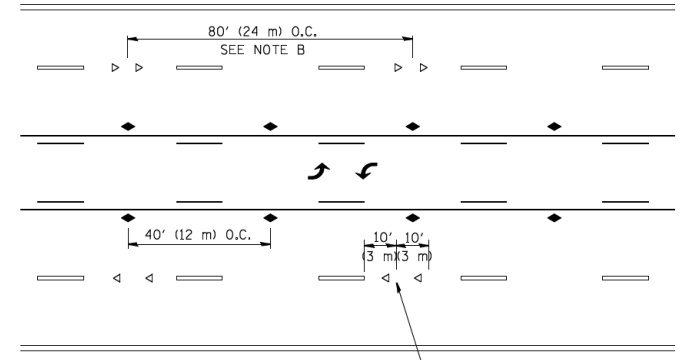


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

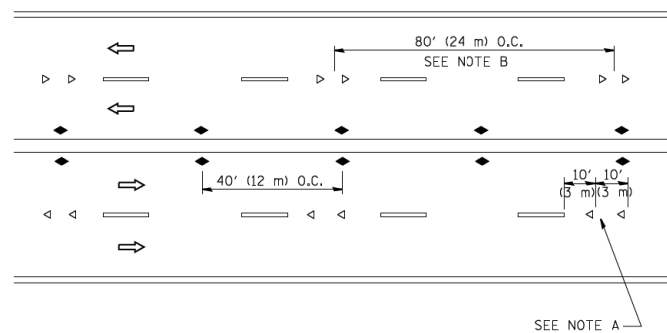
TWO-LANE/TWO-WAY



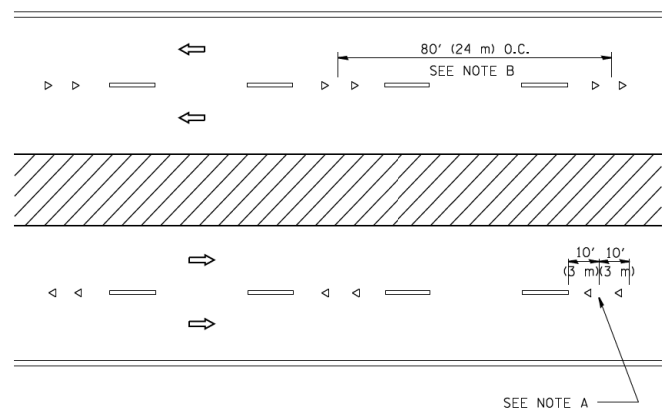
LANE REDUCTION TRANSITION



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.

LANE MARKER NOTES

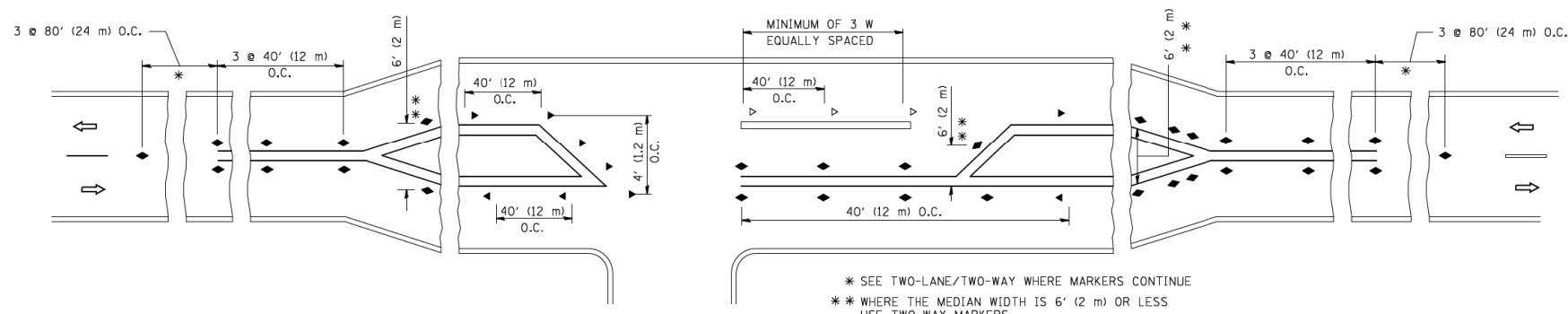
- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H. (20 km/h) LOWER THAN POSTED SPEEDS.

SYMBOLS

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

DESIGN NOTES

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



\* 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.

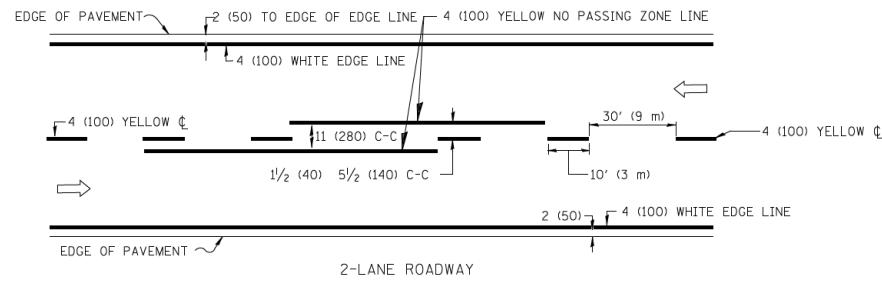
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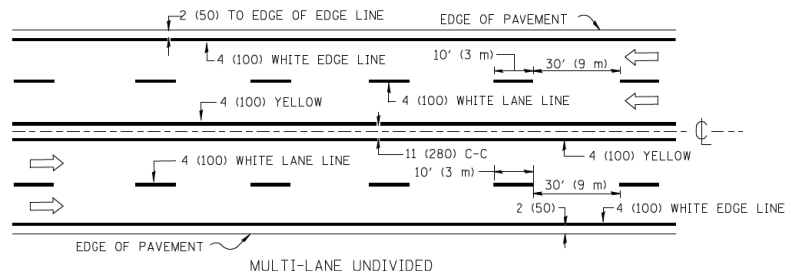
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS			
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)			
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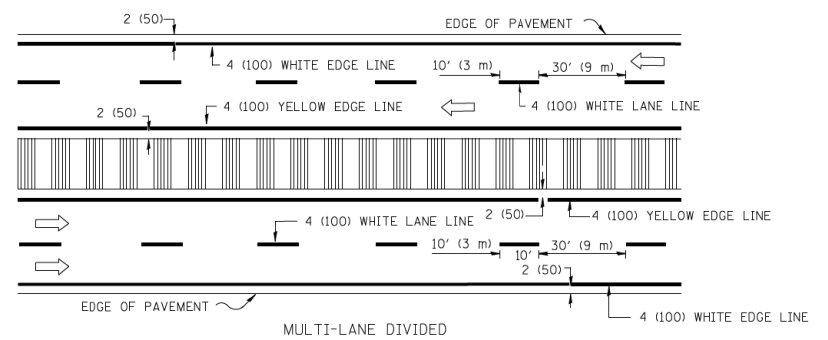
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343	30T-1	COOK	140	134
TC-11			CONTRACT NO. 60J13	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY



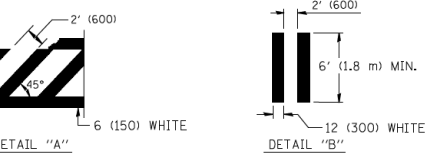
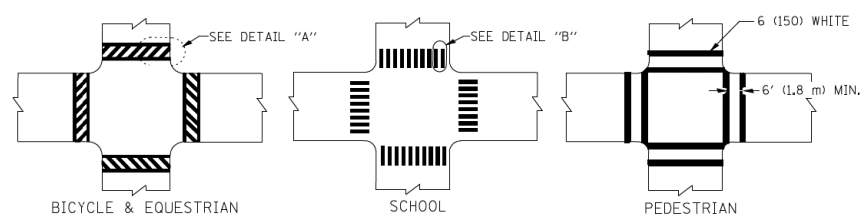
MULTI-LANE UNDIVIDED



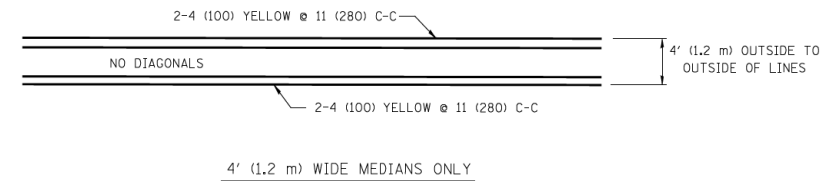
MULTI-LANE DIVIDED WITH MOUNTABLE MEDIAN

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

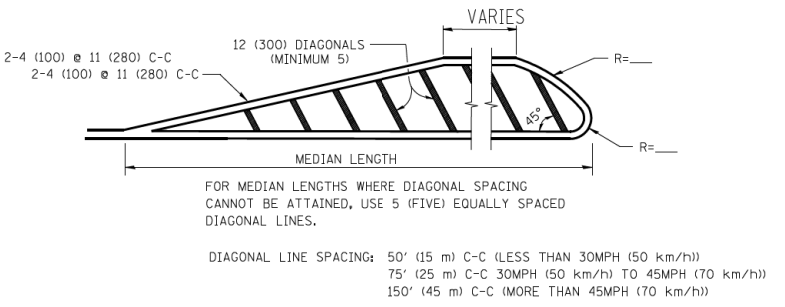
TYPICAL LANE AND EDGE LINE MARKING



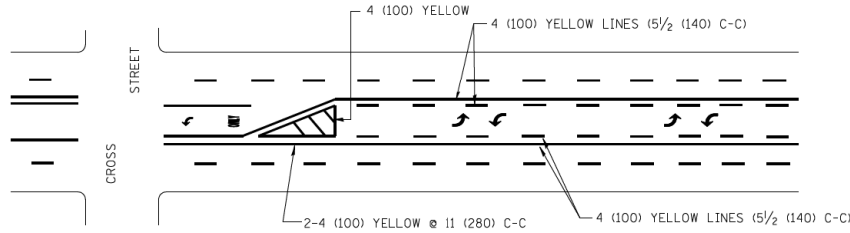
TYPICAL CROSSWALK MARKING



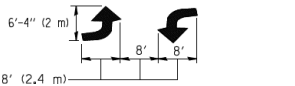
4' (1.2 m) WIDE MEDIANS ONLY



MEDIANS OVER 4' (1.2 m) WIDE

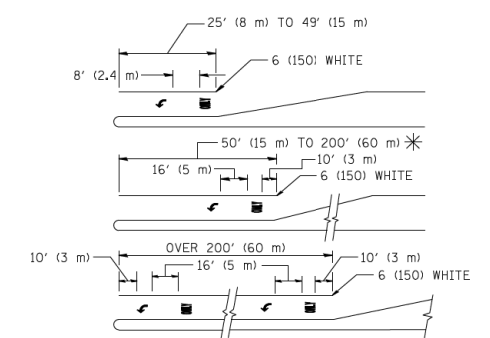


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



TYPICAL LEFT (OR RIGHT) TURN LANE

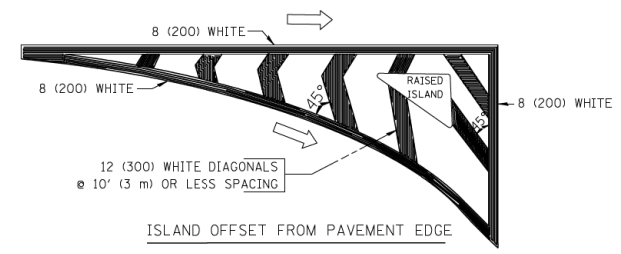
TYPICAL TURN LANE MARKING



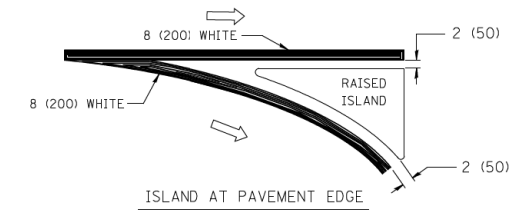
FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED. AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) ONLY AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)

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

TYPICAL TURN LANE MARKING



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	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
FOR BOTH DIRECTIONS	2 @ 4 (100)	SOLID	YELLOW	
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; 5/2 (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 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
A. DIAGONALS (BIKE & EQUESTRIAN)	12 (300) @ 45°	SOLID	WHITE	
B. LONGITUDINAL BARS (SCHOOL)	12 (300) @ 90°	SOLID	WHITE	
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.
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 (30 MPH (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 <sup>2</sup> ) EACH "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
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.

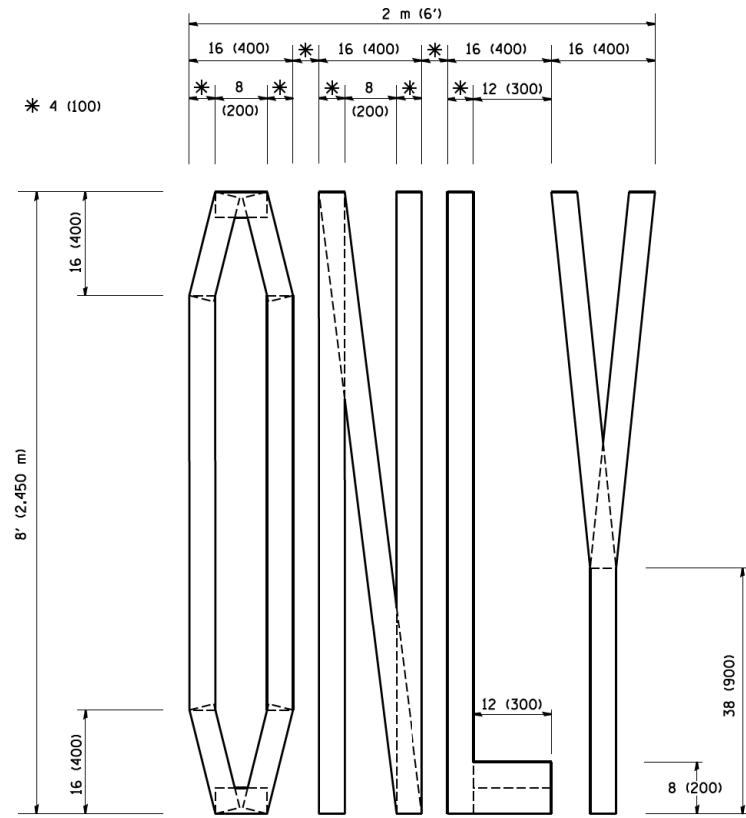
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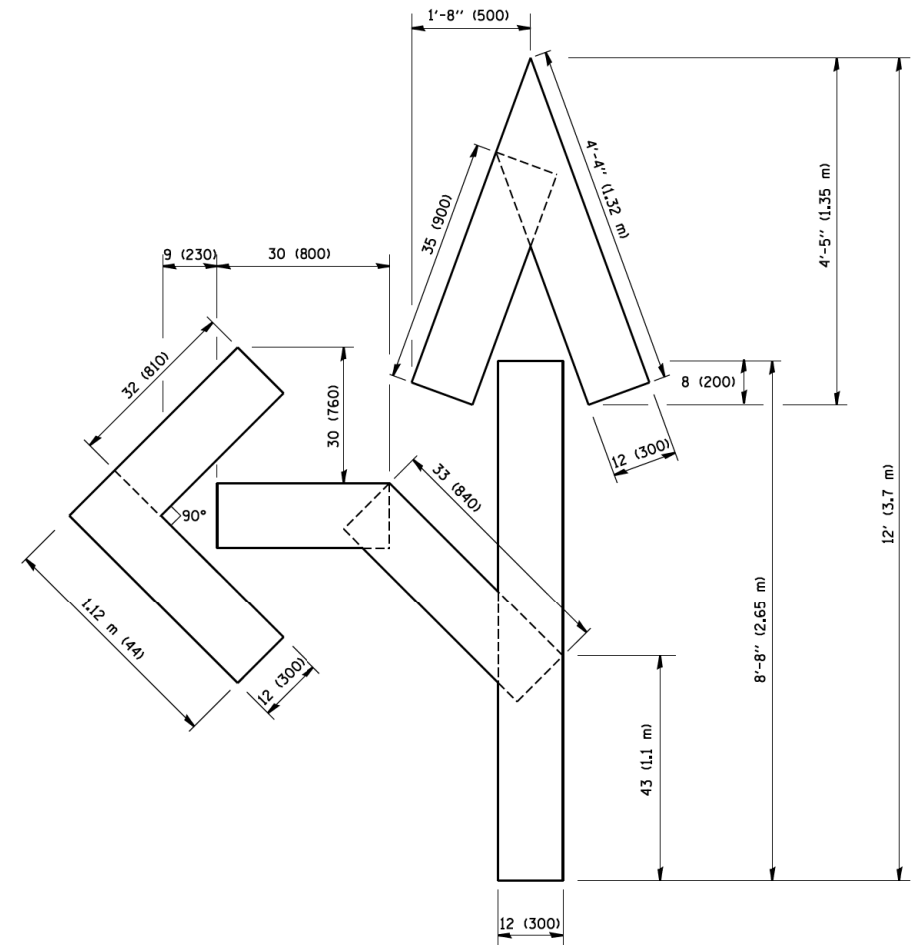
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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

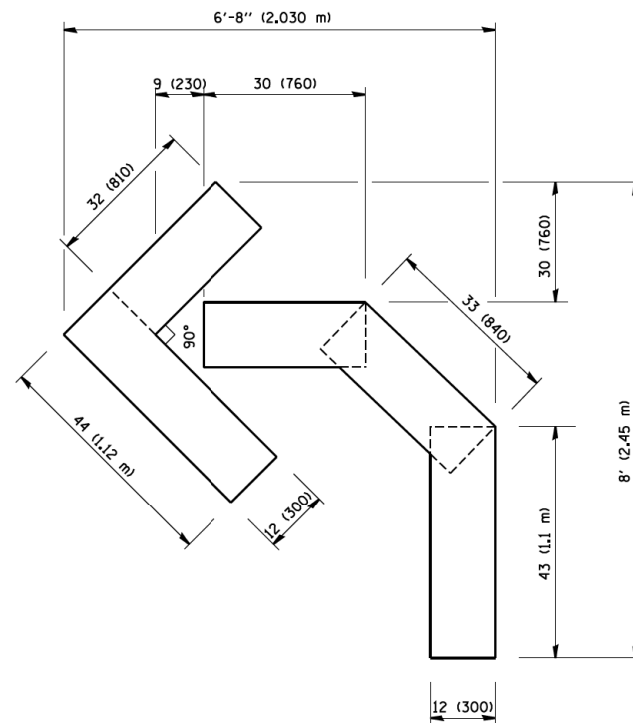
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343	30T-1	COOK	140	135
TC-13		CONTRACT NO. 60J13		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



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.

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	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.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	136
TC-16			CONTRACT NO. 60J13	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				






**ROUTE MARKERS**

 FOR U.S. ROUTES  
M1-40-2424






 FOR ILLINOIS ROUTES  
M1-50-2424

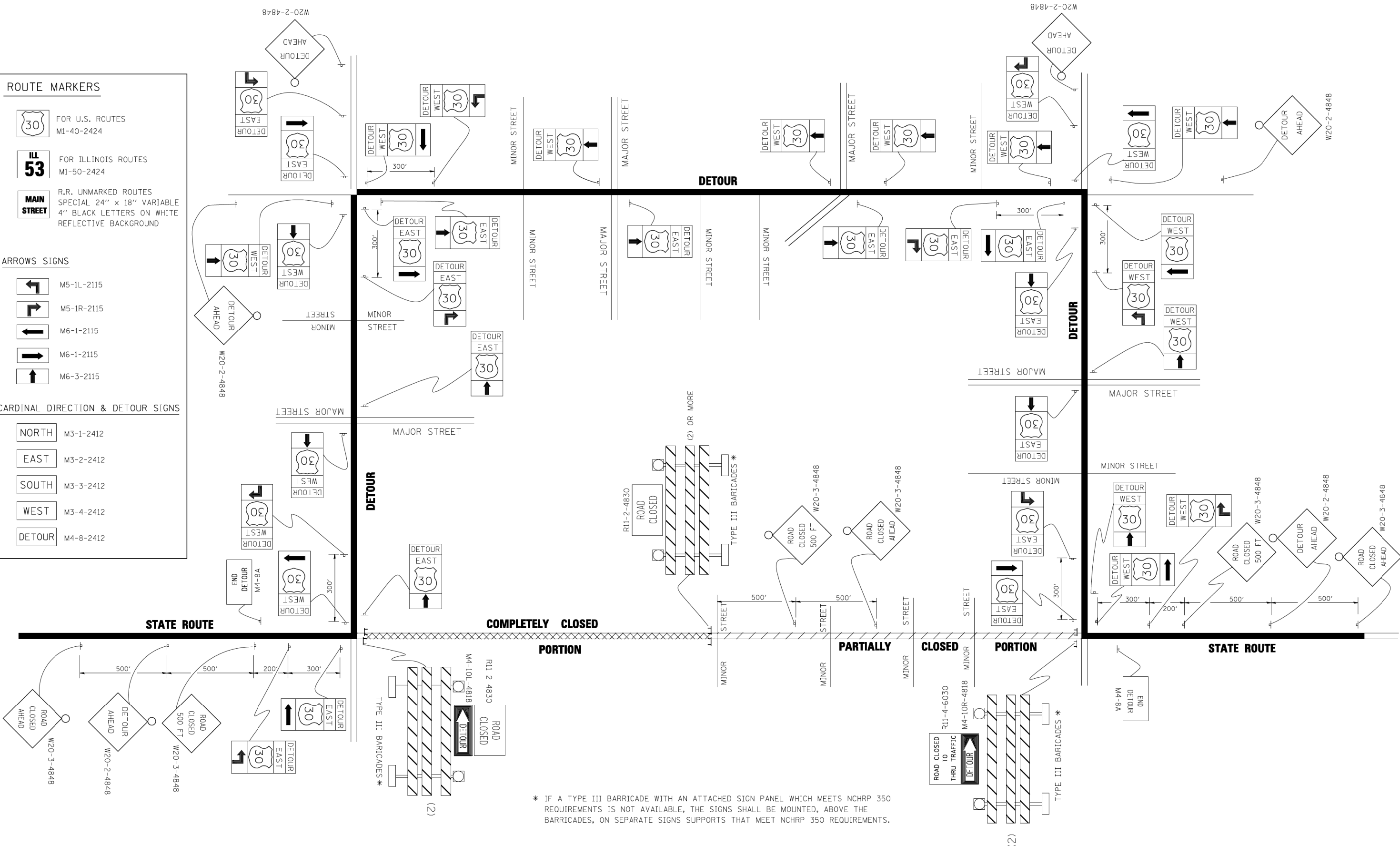
 R.R. UNMARKED ROUTES  
SPECIAL 24" x 18" VARIABLE  
4" BLACK LETTERS ON WHITE  
REFLECTIVE BACKGROUND

**ARROWS SIGNS**

-  M5-1L-2115
-  M5-1R-2115
-  M6-1-2115
-  M6-1-2115
-  M6-3-2115

**CARDINAL DIRECTION & DETOUR SIGNS**

-  NORTH M3-1-2412
-  EAST M3-2-2412
-  SOUTH M3-3-2412
-  WEST M3-4-2412
-  DETOUR M4-8-2412



\* IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 REQUIREMENTS.

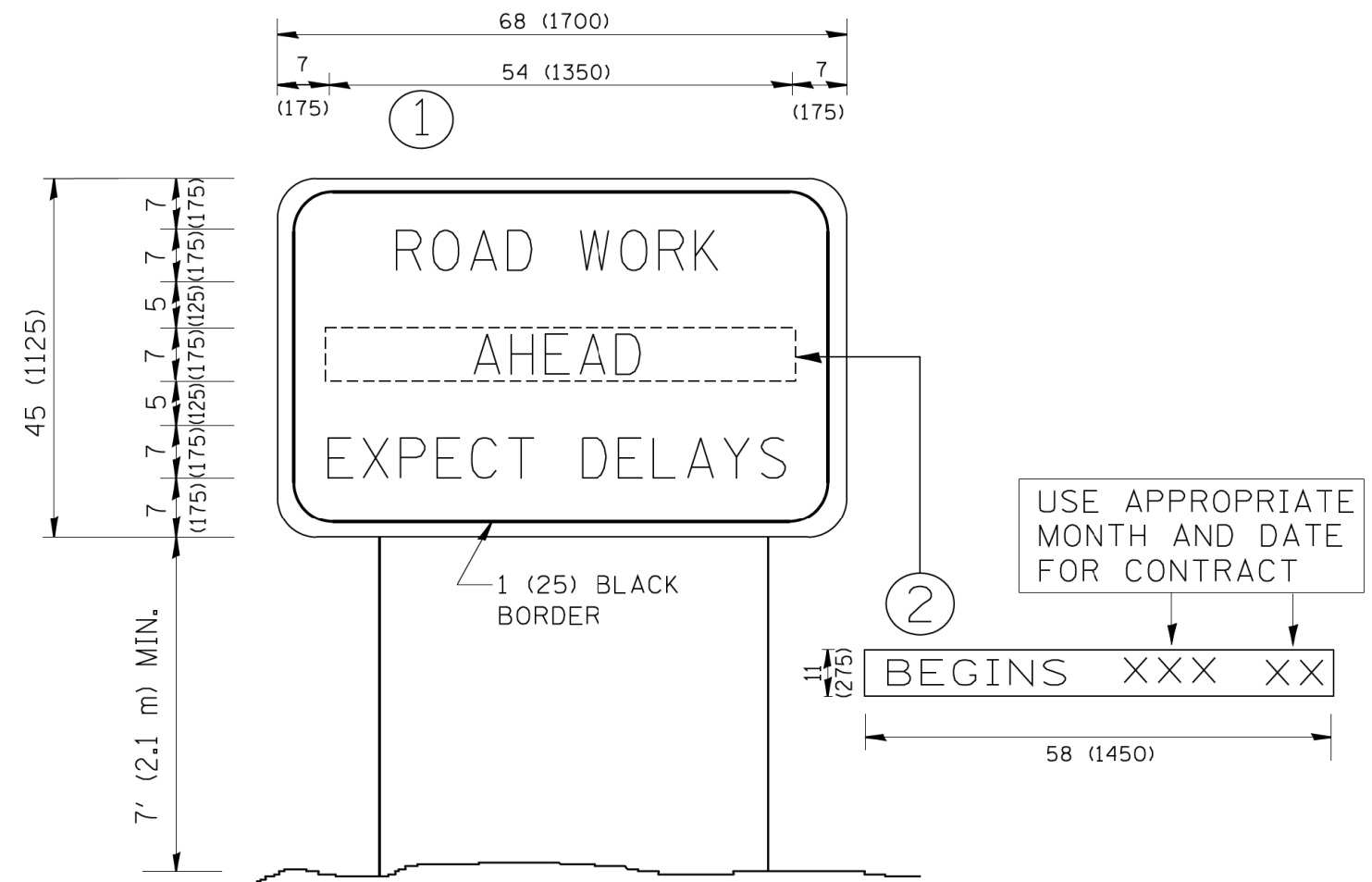
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		PLOT SCALE = 49.9999 / IN.	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>DETOUR SIGNING FOR CLOSING STATE HIGHWAYS</b>	
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS
STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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<b>TC-21</b>			CONTRACT NO. 60J13	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



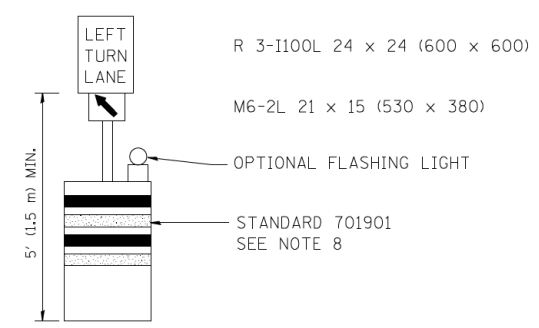
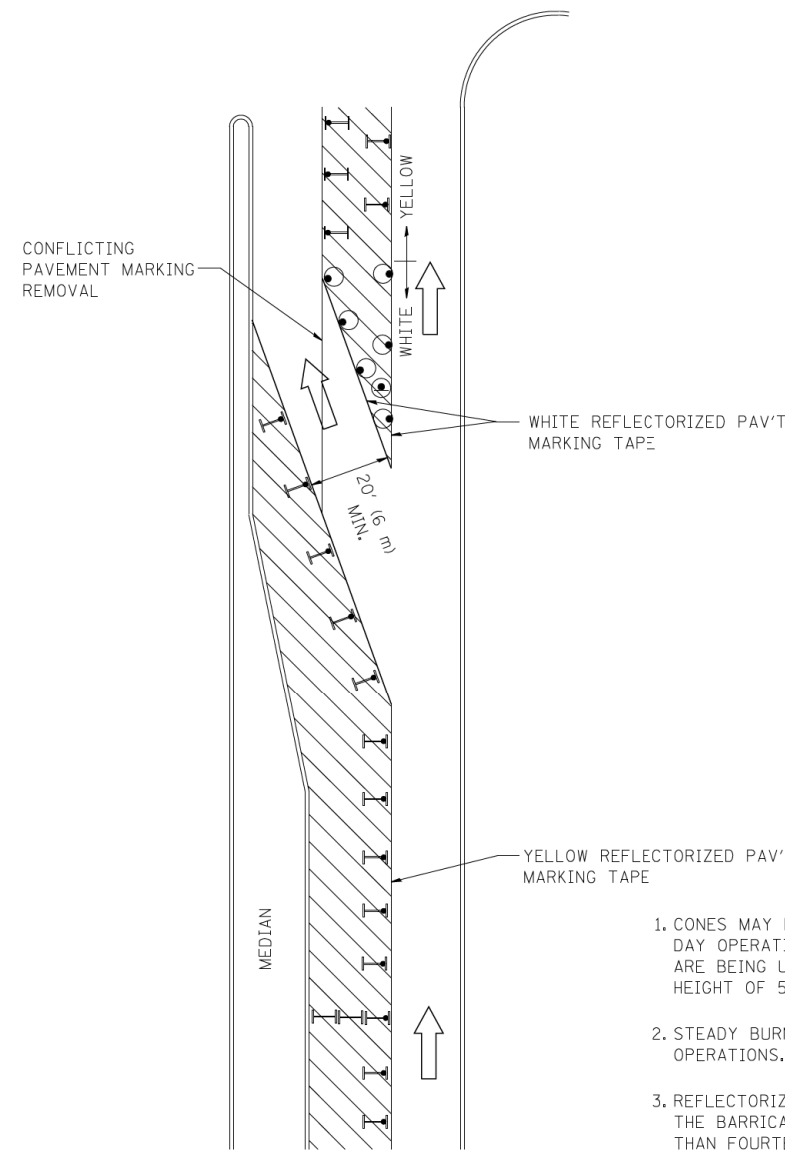
**NOTES:**

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.

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PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - T. RAMMACHER 02-02-99	SCALE: NONE		SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	<b>TC-22</b>		CONTRACT NO. 60J13		
PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT									

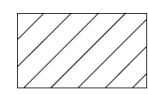







**GENERAL NOTES**

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 OPER 725 IS REQUIRED.
8. IF A DRUM OR TYPE II BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHRP 350 PREQUIREMENTS.
9. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

**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

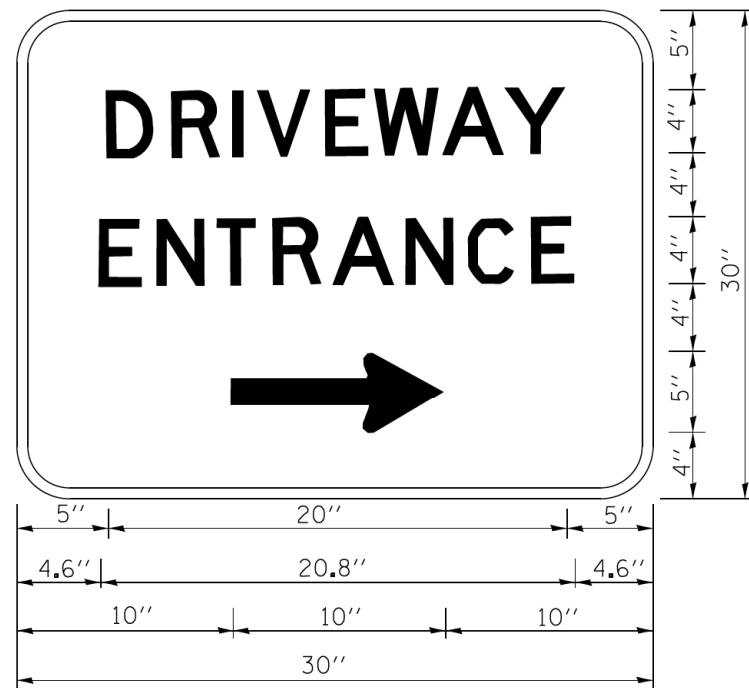
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PLOT DATE = 9/14/2009		REVISED -T, RAMMACHER 01-06-00	REVISED -

**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.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	139
<b>TC-14</b>			CONTRACT NO. 60J13	
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".

FILE NAME =	USER NAME = gegl1enob1	DESIGNED -	REVISED - C. JUCIUS 02-15-07
ca:\pwork\pwork\gagl1enob1\d0108315\to26.dgn		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**DRIVEWAY ENTRANCE SIGNING**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
343	30T-1	COOK	140	140
<b>TC-26</b>			CONTRACT NO. 60J13	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				