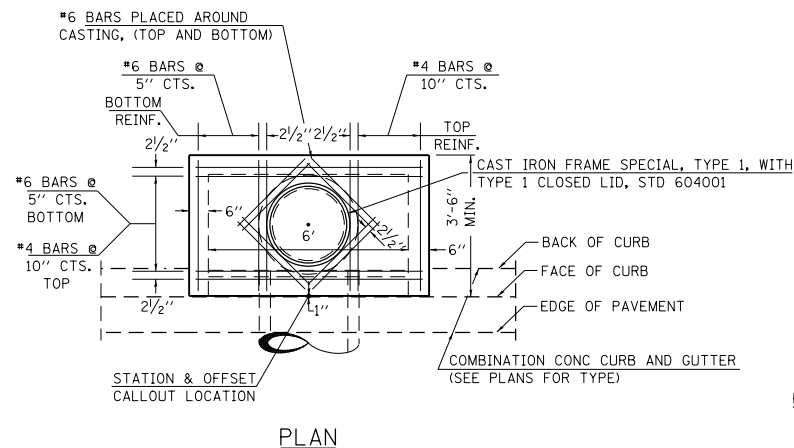
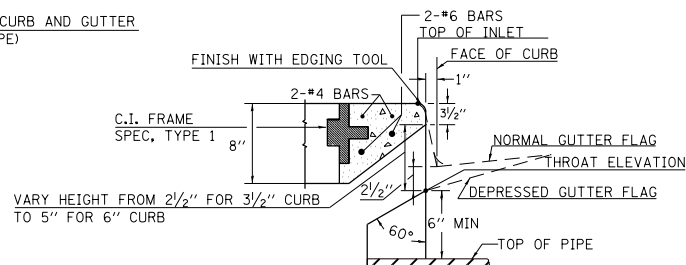


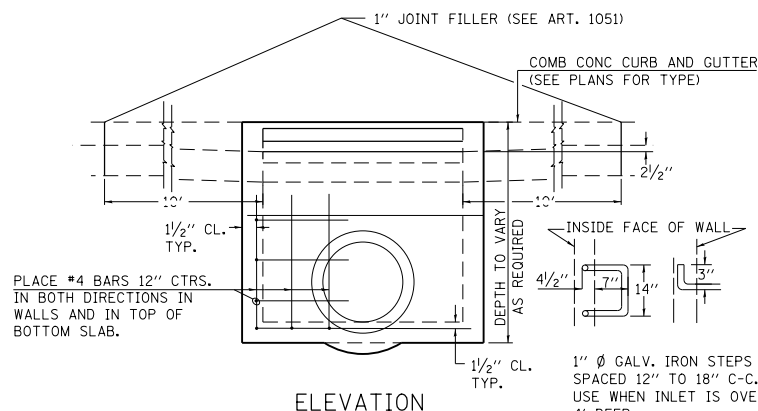
### DETAILS OF INLETS, SPECIAL



PLAN

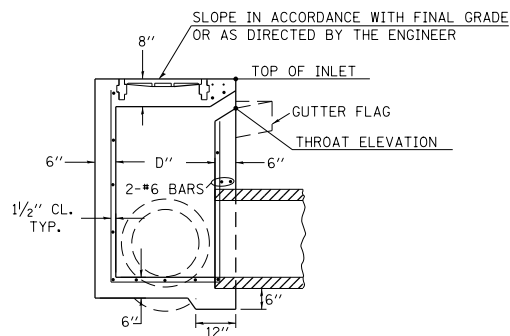


SECTION AT WEIR



ELEVATION

DESIGN	PIPE DIA	"D"
A	18" & LESS	2'-6"
B	21" & 24"	3'-0"
C	27" & 30"	3'-7"
D	33" & 36"	4'-2"
E	42"	4'-9"
F	48"	5'-0"
G	54"	6'-1"



SECTION

#### NOTES:

PROVIDE 1/2" CLEARANCE TYP. ALL REINFORCEMENT UNLESS OTHERWISE SPECIFIED.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT. SET FACE OF INLET 1" BEHIND FACE OF CURB. DEPRESS GUTTER FLOWLINE AT INLET 2 1/2" BELOW NORMAL GUTTER FLOWLINE. CONSTRUCT TRANSITION IN FLOWLINE IN 10 FEET EACH SIDE OF INLET. PIPES TO BE CONNECTED TO INLET AS SHOWN ON STORM SEWER LAYOUT.

INLETS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR **INLETS, SPECIAL** WHICH PRICE SHALL INCLUDE THE CAST IRON FRAME, SPECIAL, TYPE 1 WITH TYPE 1 CLOSED LID, THE REINFORCEMENT BARS, METAL STEPS AND JOINT FILLER.

\*\*THE GALVANIZED IRON STEPS AS DETAILED HEREON ARE TYPICAL. STEPS OF OTHER DESIGN AND MATERIAL THAT WILL CONFORM TO THE MINIMUM REQUIREMENTS OF THE STEPS SHOWN. MAY BE USED WHEN APPROVED BY THE ENGINEER.

IF THE INLET IS NOT CAST IN PLACE THEN THE INLET SHALL BE PRODUCED ACCORDING TO THE DEPARTMENT'S CURRENT POLICY MEMORANDUM, "QUALITY CONTROL/QUALITY ASSURANCE PROGRAM FOR PRECAST CONCRETE PRODUCTS".

### ENERGY DISSIPATOR

#### EARTH EXCAVATION FOR ENERGY DISSIPATOR

THIS WORK INVOLVES THE EXCAVATION OF EARTH AS SHOWN IN THE SKETCH TO THE LENGTH, WIDTH, AND DEPTH AS SPECIFIED. THE EARTH EXCAVATION WILL BE UTILIZED IN THE ROADWAY EMBANKMENT OR WASTED AS DIRECTED BY THE ENGINEER. THE EXCAVATION SHALL BE PERFORMED AT THE SAME TIME AS THE CULVERT OR DITCH IS CONSTRUCTED TO SERVE AS A TEMPORARY SEDIMENT TRAP.

EARTHWORK WILL BE CONSIDERED INCLUDED IN THE COST OF THE RIPRAP, CLASS A4.

ENERGY DISSIPATOR IS TO BE CONSTRUCTED AT THE LOCATION INDICATED ON THE EROSION AND SEDIMENT CONTROL DETAILS.

#### RIPRAP FOR ENERGY DISSIPATOR

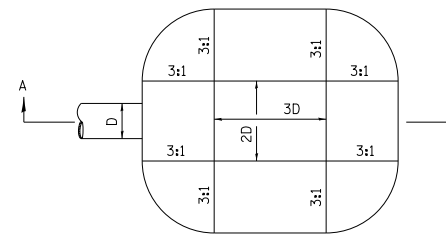
RIPRAP FOR ENERGY DISSIPATOR SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 281 OF THE STANDARD SPECIFICATIONS EXCEPT AS REVISED HEREIN.

THE LENGTH, WIDTH, AND DEPTH FOR RIPRAP PLACEMENT SHALL BE AS SPECIFIED IN THESE DETAILS UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE RIPRAP FOR THE ENERGY DISSIPATOR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR **STONE DUMPED RIPRAP**.

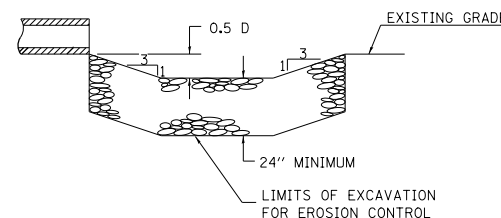
THE STONE DUMPED RIPRAP SHALL CONFORM TO THE QUALITY AND GRADATION REQUIREMENTS OF STONE RIPRAP, CLASS A4.

BEDDING MATERIAL AS SPECIFIED IN SECTION 281 OF THE STANDARD SPECIFICATIONS WILL NOT BE REQUIRED.



D= INSIDE DIAMETER OF PIPE CULVERT OR CLEAR HEIGHT OF BOX CULVERT

PLAN



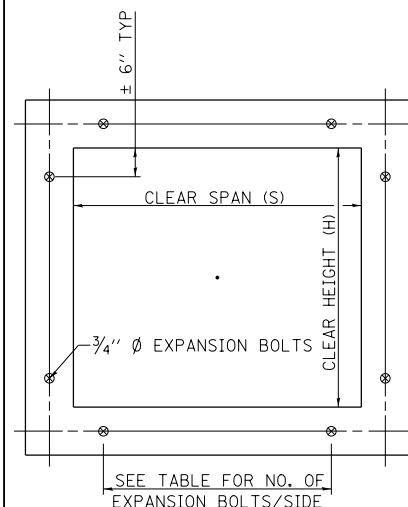
SECTION A-A

#### REVISIONS

REDRAWN	2-15-89
REVISED	11-3-93
REVISED	8-15-94
REVISED	12-14-01

STD 9-6

### EXPANSION BOLTS REQUIRED FOR CULVERT EXTENSIONS



CROSS SECTION THRU BARREL

FOR ANCHOR BOLT REQUIREMENTS, SEE ARTICLE 1006.09 OF THE STANDARD SPECIFICATIONS.

EXPANSION BOLTS SHALL CONSIST OF SELF DRILLING EXPANSION SHIELDS AND 3/4" Ø HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO NEW CONCRETE.

MINIMUM CERTIFIED PROOF LOAD=7500 LBS.

BOLTS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR **EXPANSION BOLTS, 3/4 INCH**.

H OR S	NO. EXPANSION BOLTS REQ'D/SIDE			
	EXTENSION ≤ 15'		EXTENSION > 15'	
	NO.	SPACING	NO.	SPACING
2.0	*	*	*	*
2.5	2	18"	2	18"
3.0	2	24"	2	24"
4.0	3	18"	3	18"
5.0	4	16"	3	24"
6.0	5	15"	4	20"
7.0	5	18"	4	24"
8.0	6	17"	5	21"
9.0	6	19"	5	24"
10.0	7	18"	6	21"
11.0	8	17"	6	24"
12.0	8	19"	7	22"

\* NOTE: USE MINIMUM OF 1 EXPANSION BOLT AT EACH CORNER.

#### EXAMPLE:

6' X 4' BOX CULVERT TO BE EXTENDED 18' AT ONE END ONLY.

#### FROM TABLE FIND:

6' SIDE REQUIRES (4)-3/4" Ø EXPANSION BOLTS AT 20" CENTERS

4' SIDE REQUIRES (3)-3/4" Ø EXPANSION BOLTS AT 18" CENTERS

TOTAL NO. REQUIRED (4+3)2 = (14)-3/4" Ø EXPAN. BOLTS

#### REVISIONS

REDRAWN	2-15-89
REVISED	8-15-94
REVISED	1-19-99
REVISED	5-6-04

STD. 9-1

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT DETAILS  
9-1, 9-6, 9-9

SCALE: SHEET NO. 1 OF 7 SHEETS STA. TO STA.

#### REVISIONS

REDRAWN	2-15-89
REVISED	8-15-94
REVISED	12-14-01
REVISED	3-26-08

STD. 9-9

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1-41R-2, N-4, TS-4	WILLIAMSON	381	262
DRAWING NO. DD-01			CONTRACT NO. 78258	
ILLINOIS FED. AID PROJECT				

FILE NAME = D978258-sht-details-dd-01.dgn  
**CH2MHILL**

USER NAME = mfox	DESIGNED - KN	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN - AS	REVISED -
PLOT DATE = 1/31/2013	CHECKED -	REVISED -
	DATE -	REVISED -