

**SD-3  
C4**

**TABLE S.11 GRADATION OF RIP RAP ROCK**

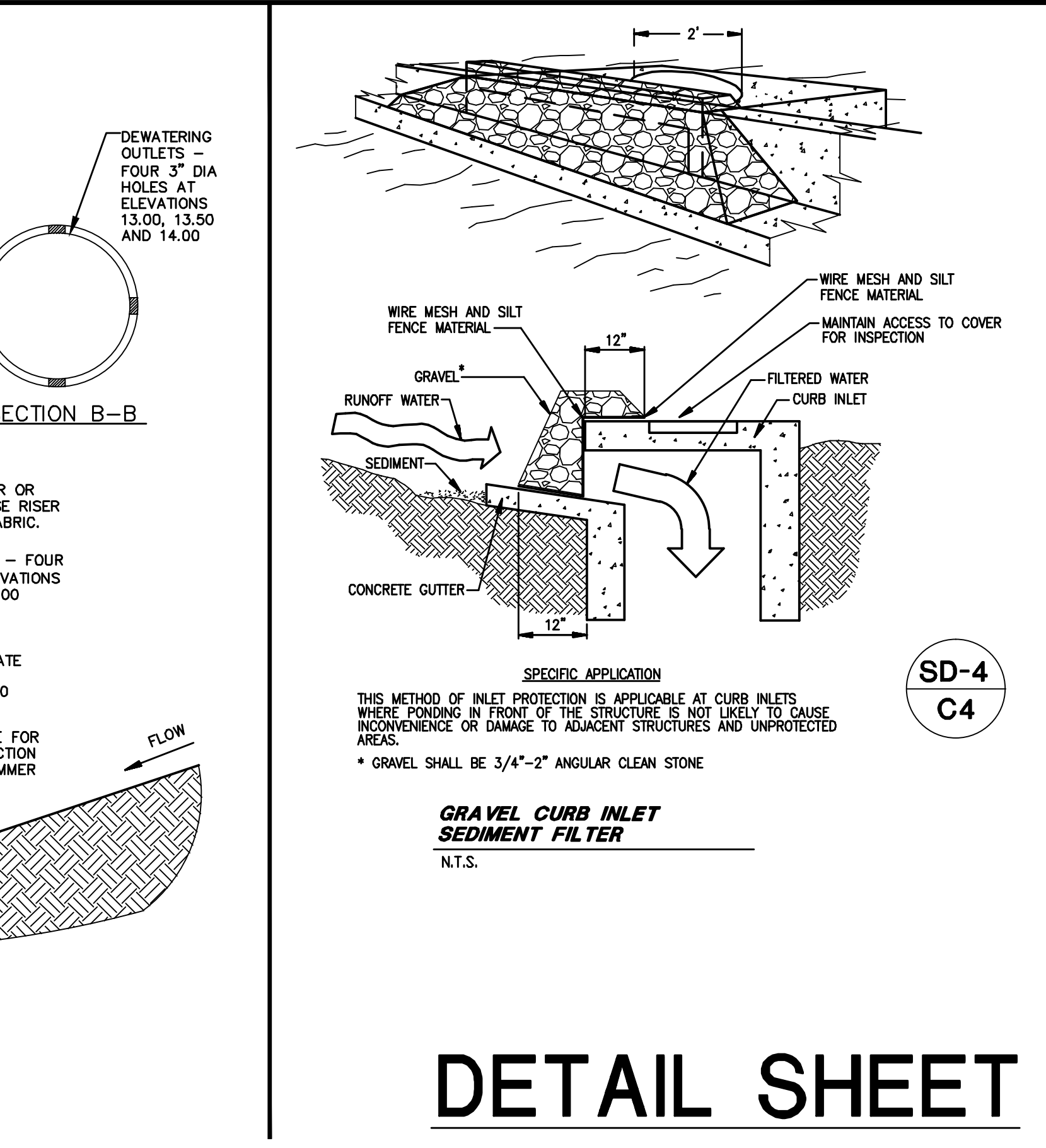
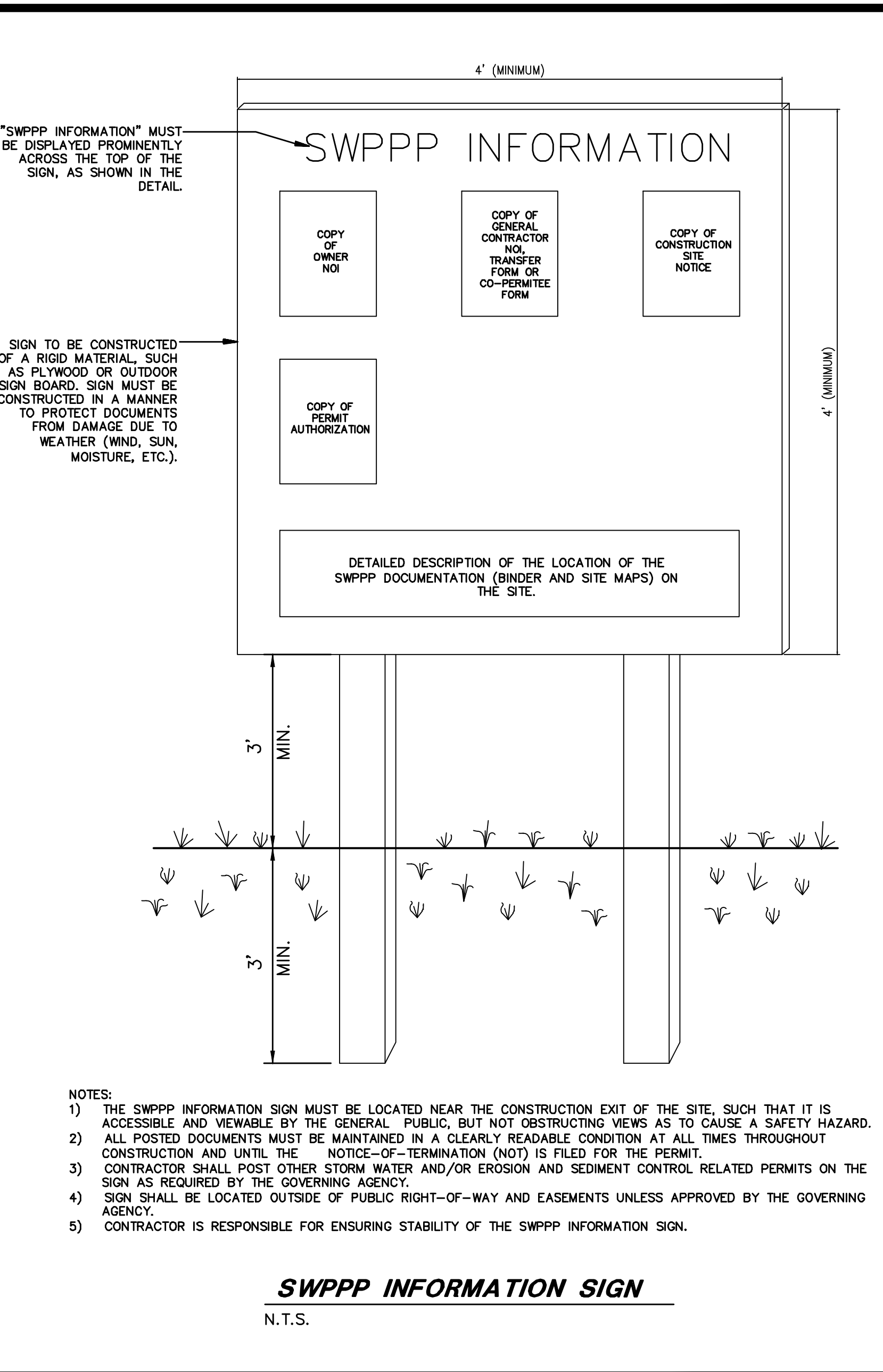
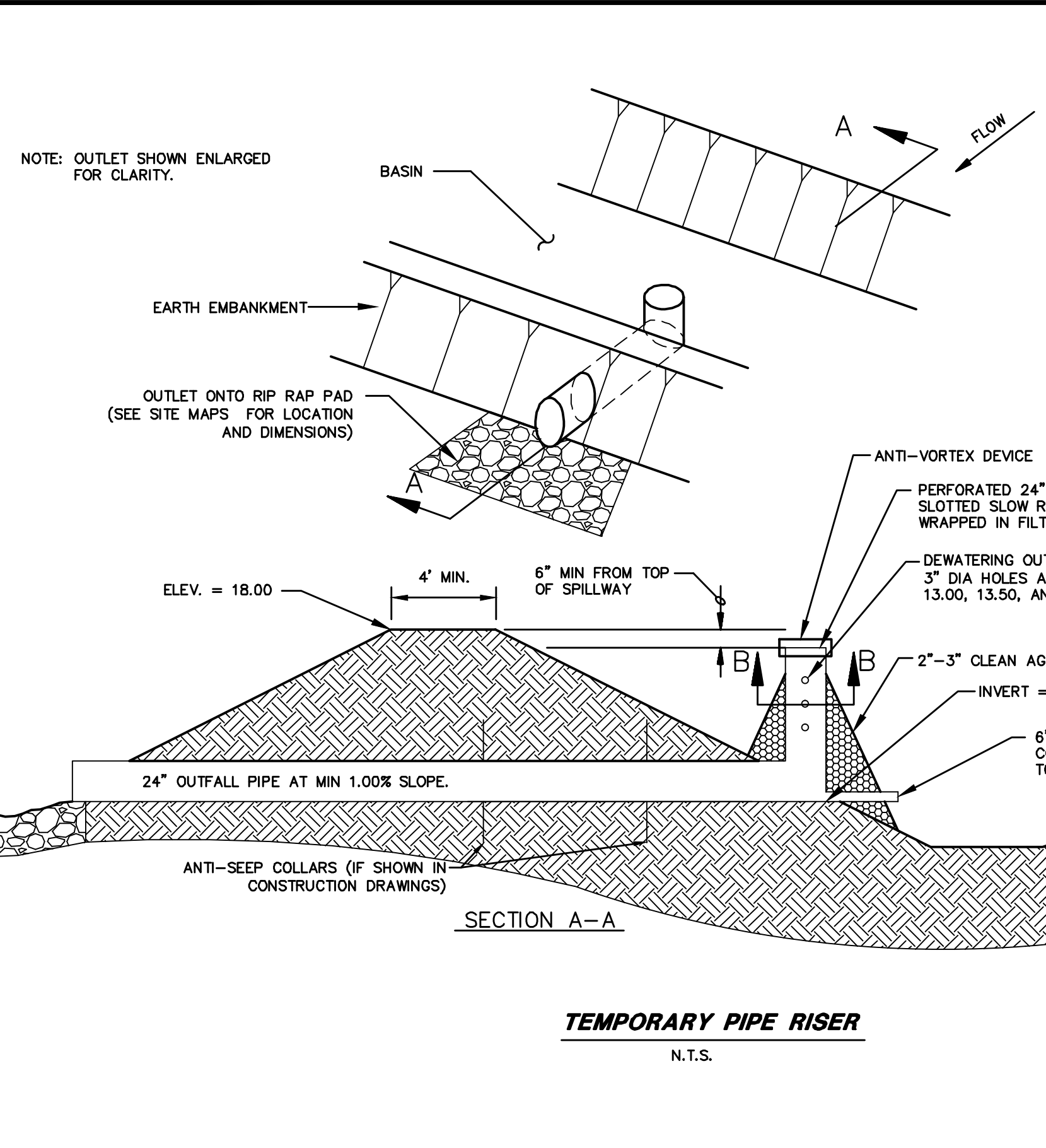
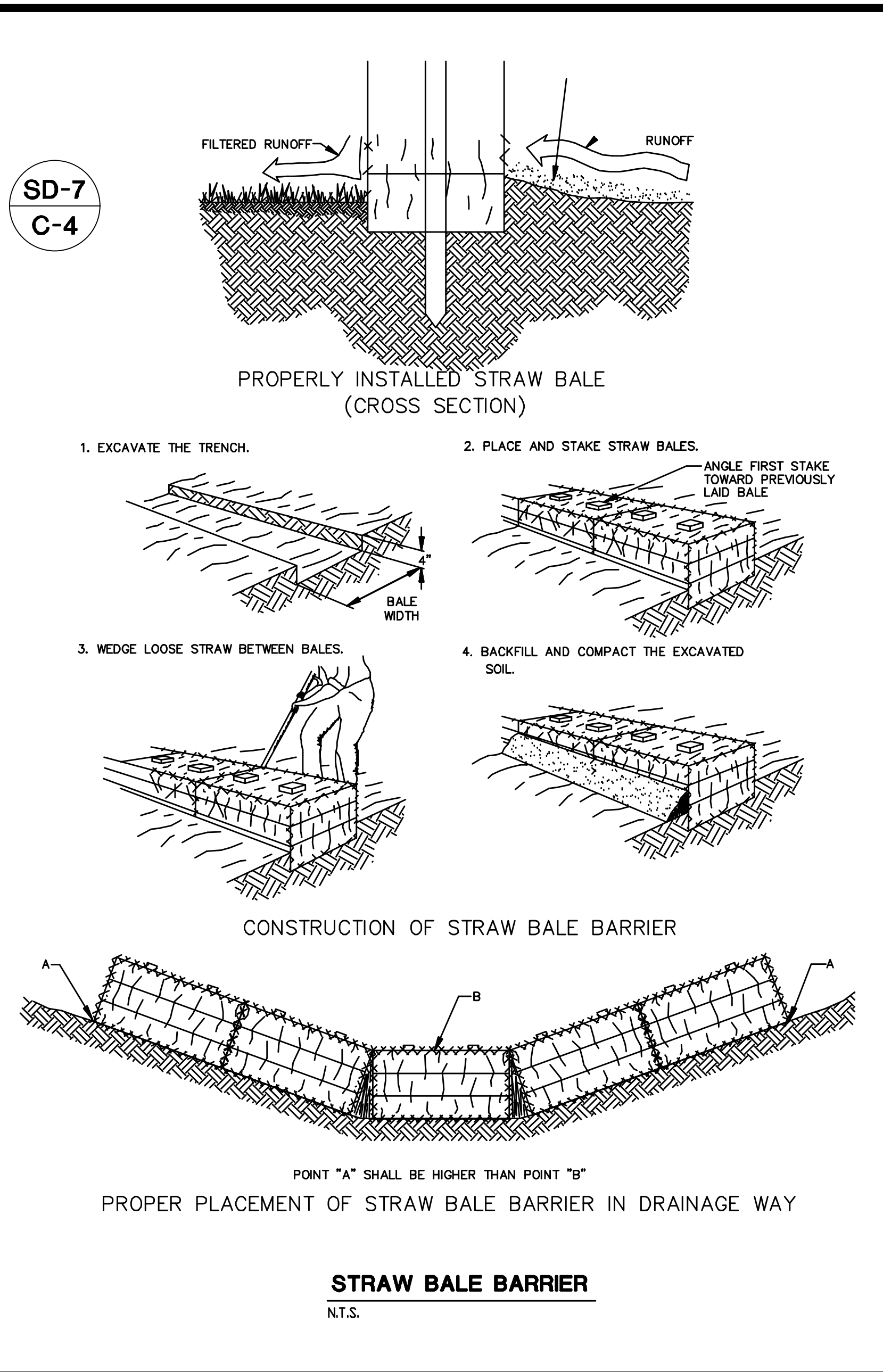
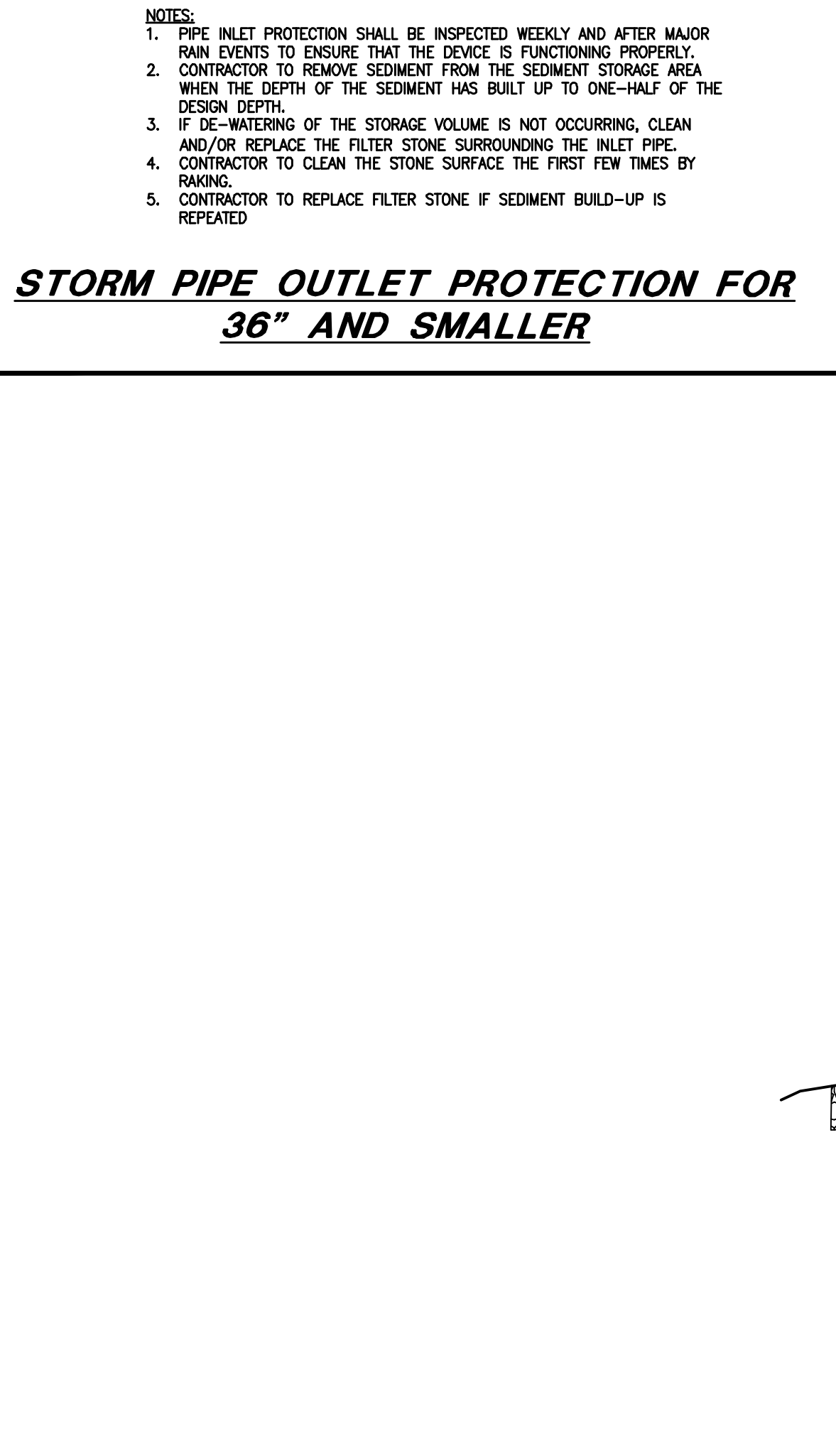
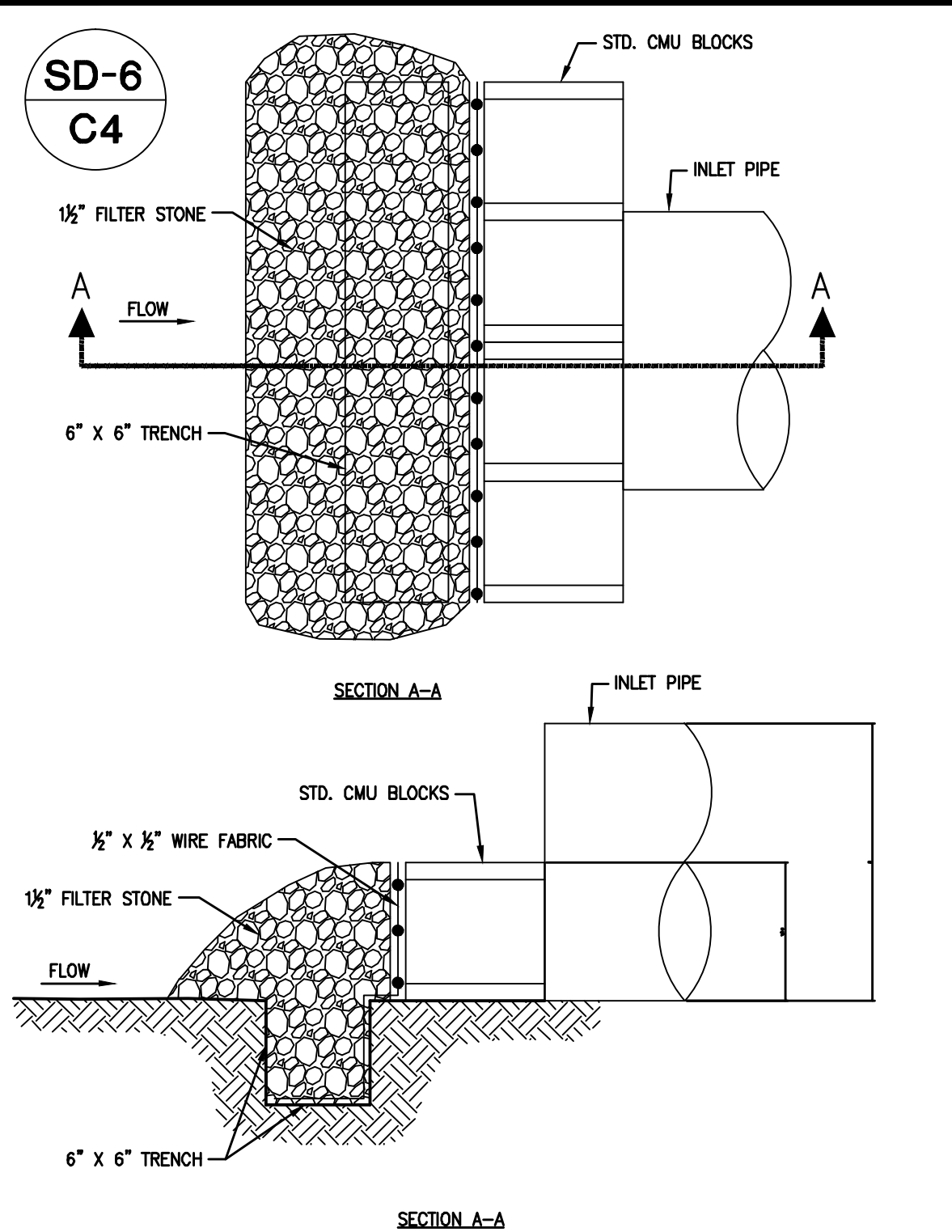
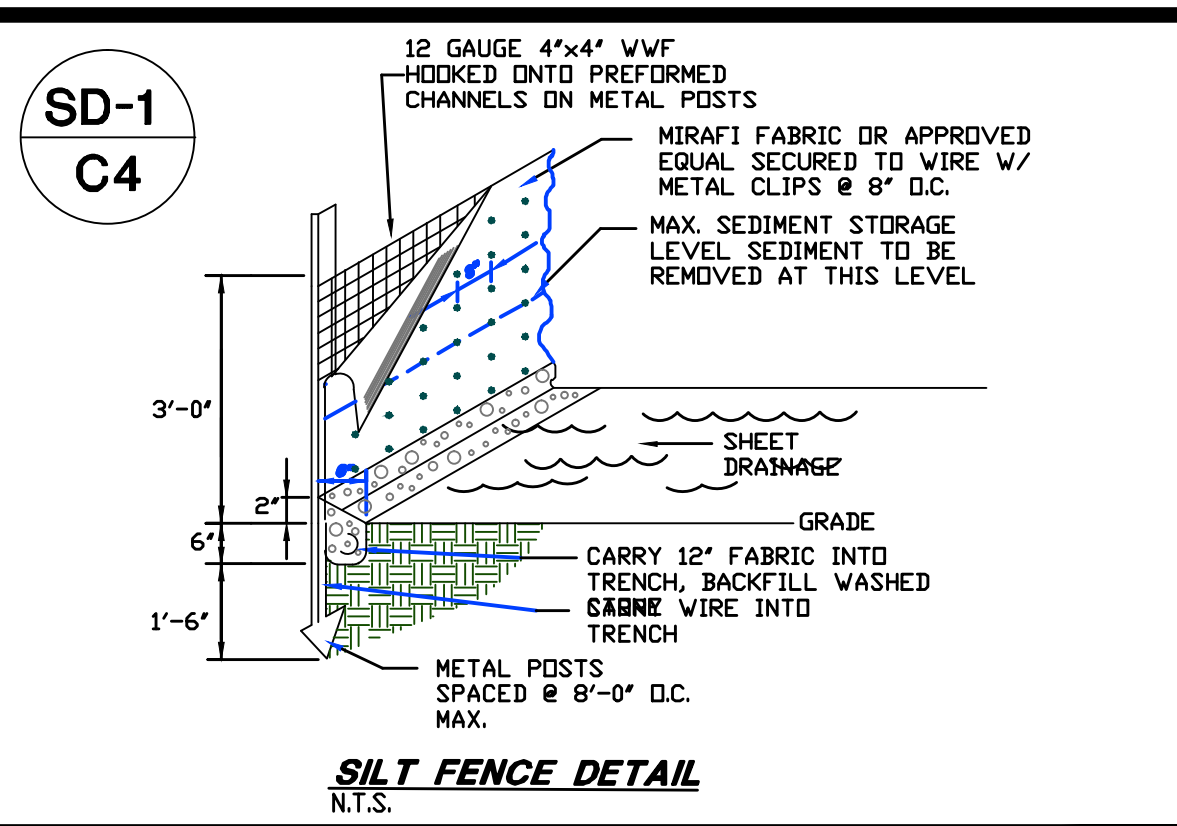
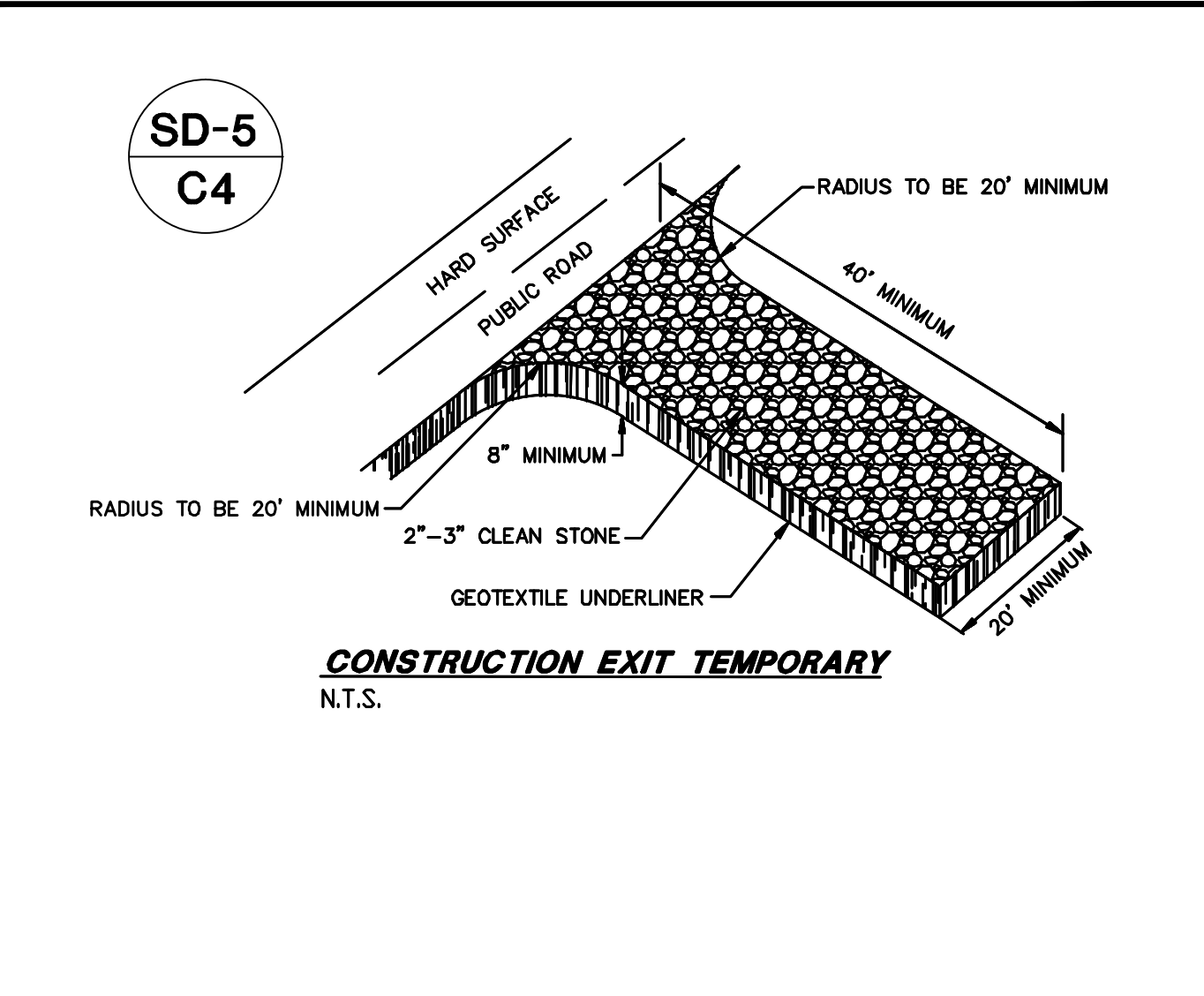
NSA NUMBER	SIZE IN INCHES					FILTER STONE MIN. NO. OF
	MAX.	AVG. (1) D 50	MIN. (2)	(MIN.) BLANKET THICKNESS		
R-1	1.50	.75	(NO. 8)	2.25"	FS-1	
R-2	3	1.50	1	4.5"	FS-1	
R-3	6	3	2	9"	FS-2	
R-4	12	6	3	18"	FS-2	
R-5	18	9	5	27"	FS-2	
R-6	24	12	7	36"	FS-3	
R-7	30	15	12	45"	FS-3	
R-8	48	24	15	72"	FS-3	

LENGTH OF APRON (Lo) OR 6 X DIA. (D)

APRON TO BE 1'-0" THICK W/ MINIMUM 50# STONES

**STORM PIPE OUTLET PROTECTION FOR 36" AND SMALLER**  
N.T.S.

- "AVERAGE SIZE" IS THAT SIZE EXCEEDED BY AT LEAST 50% OF THE TOTAL WEIGHT OF THE TONNAGE SHIPPED; I.E., 50% OF THE TONNAGE SHALL CONSIST OF PIECES LARGER THAN THE "AVERAGE" SIZE (NORMALLY HALF THE SPECIFIED NOMINAL TOP SIZE).
- PIECES SMALLER THAN THE MINIMUM SIZE SHOWN SHALL NOT EXCEED 15% OF THE TONNAGE SHIPPED.
- RIP-RAP SHALL BE GROUTED WITH A NON-SHRINKING GROUT OR UNDERLINED WITH FILTER FABRIC TO PREVENT ROCK & STONE INTEGRATION.
- RIP-RAP UTILIZED SHALL BE SIZED R-4 OR LARGER. SEE SHEET C-4.
- FOR LENGTH OF APRON (Lo), SEE SHEET C-4 (STORMWATER POLLUTION PREVENTION PLAN). OTHERWISE, USE 6 TIMES THE PIPE DIAMETER FOR LENGTH OF RIP RAP APRON.
- RIP-RAP SHALL BE ON TOP OF THE CLOTH FILTER DIRECTLY ON THE PREPARED FOUNDATION. OVERLAP THE EDGES BY AT LEAST 12 INCHES, & SPACE ANCHOR PINS EVERY 3 FEET ALONG OVERLAP. BURY THE UPSTREAM END OF THE CLOTH A MINIMUM OF 12 INCHES BELOW GROUND & WHERE NECESSARY, BURY THE LOWER END OF THE CLOTH OR OVERLAP WITH THE NEXT SECTION AS REQUIRED.



REVISION	BY

**DDG**  
DUPLANTIS DESIGN GROUP, PC  
CIVIL ENGINEERING - ARCHITECTURE  
34 LOUIS PRIMA DRIVE COVINGTON, LA 70433  
WWW.DDGPC.COM PHONE: 985-249-6860 || FAX: 985-249-6790  
THIBODIAUX | COVINGTON | HOUSTON | BATON ROUGE | HOUMA | DALLAS

THOMAS H. BUCKEL  
PROFESSIONAL ENGINEER  
STATE OF LOUISIANA  
10/28/2015  
DATE

SPRINGS @ RIVER CHASE  
COVINGTON, LA  
ST. TAMMANY PARISH  
FOR CONTINENTAL 339 FUND LLC  
COVINGTON, LA

DRAWN DJG  
CHECKED THB  
ISSUED DATE 10/28/2015  
ISSUED FOR CONSTRUCTION  
PROJECT NO. 14-697  
FILE DETAILS  
SHEET C-5.1

**DETAIL SHEET**