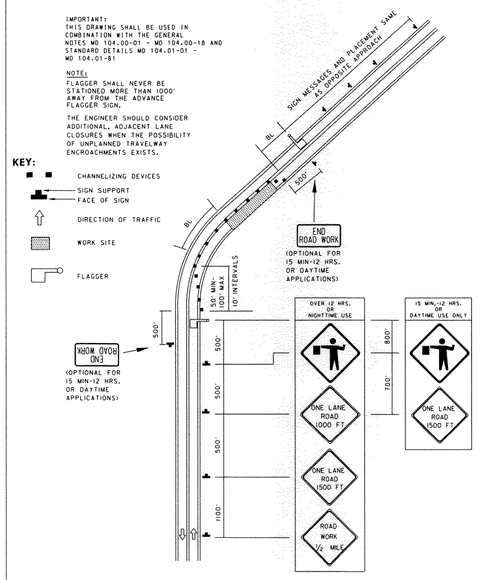
TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

IMPORTANT:
THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES MD 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-81

NOTE:
FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN.

THE ENGINEER SHOULD CONSIDER ADDITIONAL, ADJACENT LANE CLOSURES WHEN THE POSSIBILITY OF UNPLANNED TRAVELWAY ENCROACHMENTS EXISTS.

KEY:
- CHANNELIZING DEVICES
- SIGN SUPPORT / FACE OF SIGN
- DIRECTION OF TRAFFIC
- WORK SITE
- FLAGGER



SPECIFICATION	CATEGORY CODE ITEMS
104	

APPROVED _____ DIRECTOR - OFFICE OF TRAFFIC AND SAFETY

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 8-20-03	APPROVAL 9-23-03
	REVISED 8-11-10	REVISED 7-29-10
	REVISED	REVISED
	REVISED	REVISED

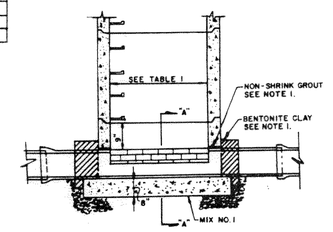
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

FLAGGING OPERATION/2-LANE, 2-WAY EQL/LESS THAN 40 MPH

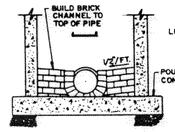
STANDARD NO. MD 104.02-10

THE ABOVE REFERENCED MAINTENANCE OF TRAFFIC DETAIL SHALL BE USED TO CONTROL TRAFFIC AT YAWL ROAD IN ORDER TO COMPLETE PROPOSED IMPROVEMENTS.

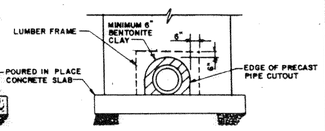
TABLE I	
PIPE SIZE	REQUIRED M.H. DIA.
8"-24"	4'-0"
27"-36"	5'-0"
42"-72"	6'-0"



ELEVATION



SECTION "A-A"

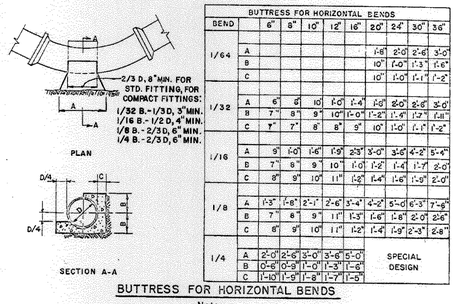


SIDE VIEW

NOTES:
1. SPACE BETWEEN PIPE AND MANHOLE WALLS TO BE FILLED WITH NON-SHRINK GROUT AND COVERED WITH MINIMUM 6" BENTONITE CLAY. LUMBER FRAME TO BE PROVIDED TO ENSURE 6" BENTONITE OVERLAP ONTO PRECAST MANHOLE UNIT, AND REMAIN IN PLACE. SEE "FLEXIBLE PIPE TO M.H. CONNECTION" FOR BEATONITE DETAILS.
2. OUTSIDE EDGE OF MANHOLE TO BE NOT LESS THAN 2'-0" FROM ANY EXISTING PIPE JOINT.
3. PRECAST REINFORCED CONCRETE MANHOLE SHALL BE FURNISHED IN ACCORDANCE WITH A.S.T.M. DESIGNATION C478.
4. WHERE COVER OVER EXISTING PIPE IS 6'-9" OR LESS USE SHALLOW MANHOLE.

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS	APPROVED: Bruce Wile DATE: 4/22/85	STANDARD SANITARY SEWER DETAILS NEW MANHOLE OVER EXISTING PIPE	REVISED 5/8/86 10 / 95	S-25

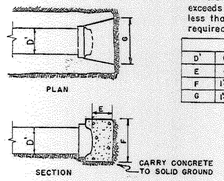
Published: 01/01 Revised:



BUTTRESS FOR HORIZONTAL BENDS										
BEND		6"	8"	10"	12"	16"	20"	24"	30"	36"
1/64	A							1'-8"	2'-0"	2'-6"	3'-0"
	B							10"	1'-0"	1'-3"	1'-6"
	C							10"	1'-0"	1'-1"	1'-2"
1/32	A	6"	8"	10"	1'-0"	1'-4"	1'-8"	2'-0"	2'-6"	3'-0"
	B	7"	8"	9"	10"	1'-0"	1'-2"	1'-4"	1'-7"	1'-11"
	C	7"	7"	8"	8"	9"	10"	1'-0"	1'-1"	1'-2"
1/16	A	9"	1'-0"	1'-6"	1'-9"	2'-3"	3'-0"	3'-6"	4'-2"	5'-4"
	B	7"	8"	9"	10"	1'-0"	1'-2"	1'-4"	1'-7"	2'-0"
	C	8"	9"	10"	11"	1'-2"	1'-4"	1'-6"	1'-9"	2'-0"
1/8	A	1'-3"	1'-8"	2'-1"	2'-6"	3'-4"	4'-2"	5'-0"	6'-3"	7'-8"
	B	7"	8"	9"	11"	1'-3"	1'-6"	1'-8"	2'-0"	2'-6"
	C	8"	9"	10"	11"	1'-2"	1'-4"	1'-9"	2'-3"	2'-8"
1/4	A	2'-0"	2'-6"	3'-0"	3'-6"	5'-0"	SPECIAL DESIGN			
	B	0'-6"	0'-9"	1'-0"	1'-3"	1'-8"				
	C	1'-10"	1'-9"	1'-8"	1'-7"	1'-5"				

BUTTRESS FOR HORIZONTAL BENDS

Notes
1.) All concrete shall be Mix No. 1.
2.) Buttress dimensions shown are minimum. Dimensions are based upon soil bearing pressure of 3000 p.s.f. and static water pressure of 150 p.s.i. Where pressure exceeds 150 psi or where soil bearing pressure is less than 3000 p.s.f. special buttress design is required.



BUTTRESS FOR CAPS									
D'	6"	8"	10"	12"	16"	20"	24"	30"	36"
E	6"	8"	8"	10"	1'-0"	1'-4"	1'-8"	2'-0"	2'-0"
F	1'-0"	1'-4"	1'-8"	2'-0"	2'-8"	3'-3"	4'-0"	4'-9"	5'-6"
G	1'-5"	1'-11"	2'-5"	2'-10"	3'-9"	4'-9"	5'-8"	7'-6"	8'-10"

BUTTRESS FOR CAPS AND PLUGS

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS	APPROVED: CHIEF ENGINEER / DESIGN ENGINEER DATE: 6/5/84	STANDARD WATER DETAILS BUTTRESSES FOR CAPS AND HORIZONTAL BENDS	REVISED 5/6/88 10 / 95	W-3

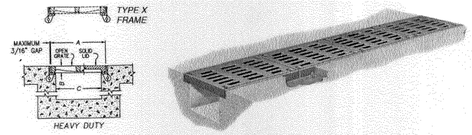
Published: 01/01 Revised:

NEENAH FOUNDRY

R-4990 and R-4999 Series

Heavy Duty Trench

Materials: All frames and grates/lids are furnished standard in Gray Iron, Class 35-B for heavy-duty use. For extra heavy-duty use or superior durability requirements, see our Airport and Port Grating Series and our R-4993 & R-4994 Series.

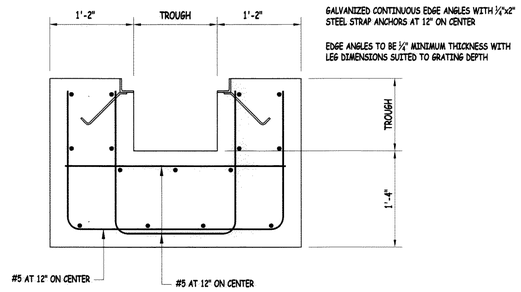


General schematic shown may not apply to all designs. Bar and rib depths, plate thicknesses, and seating widths vary on different sizes and styles. If your project has design restrictions, contact your sales representative or product engineering.

Illustrating Type C bolted trench. Bolted trench sections are furnished in 24" standard lengths. When bolted trench is furnished, they are shipped assembled – AT NO TIME should the units be disassembled during installation. When removing covers, do not mix or rotate 180 degrees as bolt holes may lose alignment and improper bearing may occur.

Un-bolted Catalog No.	Bolted Catalog No.	A	B	C	Type A	Type C	Type D	Type E	Type P	Type Q
R-4990-AX	R-4999-AX	8	1-1/2	6	x	x	x	x	x	
R-4990-BX	R-4999-BX	10	1-1/2	8	x	x	x	x	x	
R-4990-CX	R-4999-CX	12	1-1/2	10	x	x	x	x	x	x
R-4990-DX	R-4999-DX	14	1-1/2	12	x	x	x	x	x	x
R-4990-EX	R-4999-EX	17	1-1/2	15	x	x	x	x	x	
R-4990-FX	R-4999-FX	20	1-1/2	18	x	x	x	x	x	
R-4990-GX	R-4999-GX	23	1-1/2	21	x	x	x			
R-4990-HX	R-4999-HX	26	1-1/2	24	x	x	x	x		x
R-4990-JX	R-4999-JX	30	2	27	x	x	x			
R-4990-KX	R-4999-KX	33	2	30	x	x	x	x		
R-4990-LX	R-4999-LX	36	2	33	x	x	x			
R-4990-MX	R-4999-MX	39	2	36	x	x	x			
R-4990-NX	R-4999-NX	45	2	42	x	x	x			

x – indicates availability



TRENCH CASTING DETAIL

N.T.S.

THESE PLANS ARE BASED UPON PLANS TITLED 'ARIS ALLEN BOULEVARD, LLC MIXED RESIDENTIAL' CREATED BY BOWMAN CONSULTING, PORTIONS OF WHICH ARE USED HEREIN.

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NO.	DATE	REVISION	BY

McLaren ENGINEERING GROUP applied ingenuity
McLaren Technical Services, Inc.
601 East Pratt Street, Suite 302 Baltimore, Maryland 21202
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PROJECT
ARIS T. ALLEN BOULEVARD
RESIDENTIAL PLANNED DEVELOPMENT
PART 1 - LOTS 26 - 31, 47 & 48
6TH ELECTION DISTRICT
CITY OF ANNAPOLIS, MARYLAND
TAX MAP/GRID: 51E/8

STATE OF MARYLAND — PIERO VAN MELLITS No. 21875 — REGISTERED PROFESSIONAL ENGINEER
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
License No.: 21875 Expiration Date: 2/12/16

SHEET TITLE
GRADING PERMIT NO. GRD 14 - 0006
SITE DETAILS

PROJECT NO.	130003.01
SCALE	AS SHOWN
DATE	5/30/2014
DRAWN BY	JDS/CLW
CHECKED BY	PVM/TJC
DRAWING NO.	C16.30

42 OF 66 SHTS

FILE NAME: P:\Proj\32\130003.01 Aris T. Allen Property\10_Dwgs\CADD\Working\C16.30 SITE DETAILS.dwg PLOT TIME: Mon, 02 Jun 2014 - 1:18pm LAST SAVE: Fri, 30 May 2014 - 3:09pm BY: JSlaley