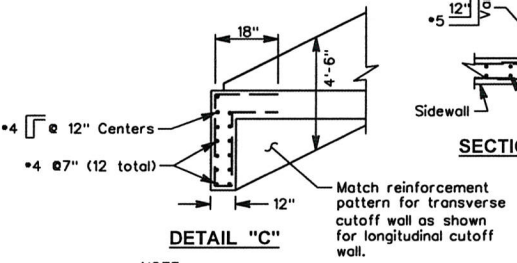
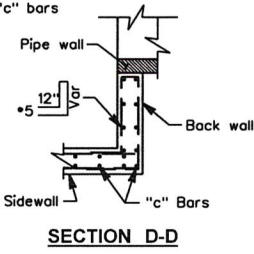
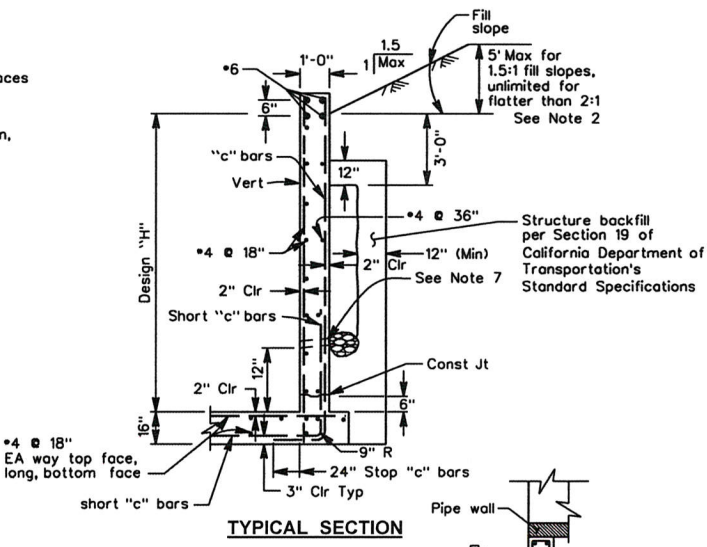
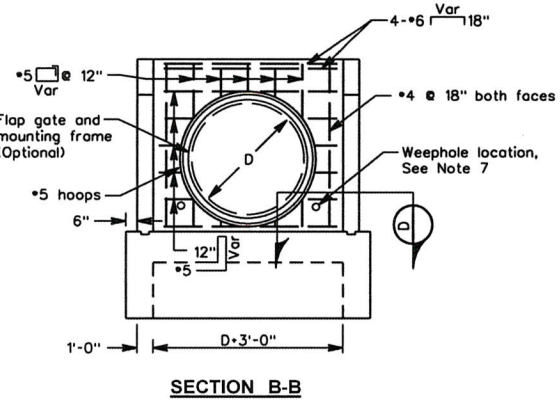
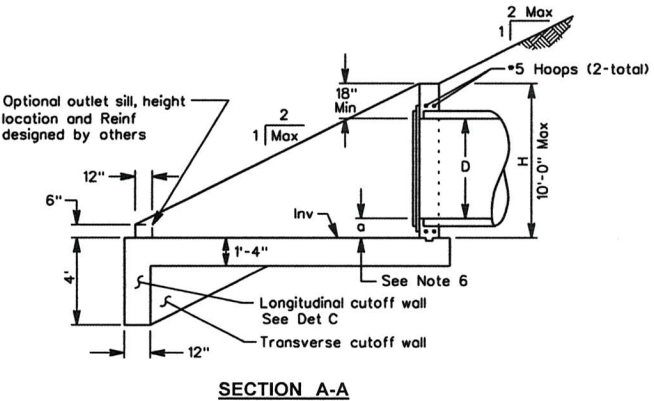
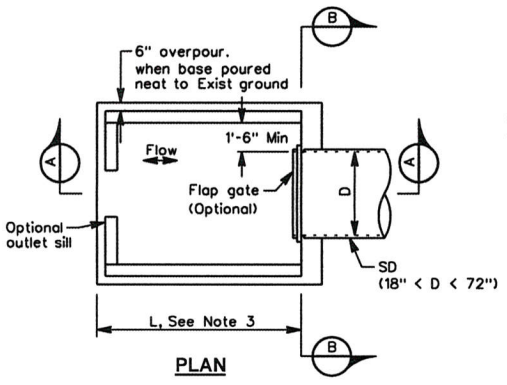


 PUBLIC WORKS DIRECTOR
March 11, 2014
 PLANS APPROVAL DATE



GENERAL NOTES

USE:

This headwall can be used in a variety of locations: channel outlet, basin outlet/inlet, and side channel outfall. This standard plan does not address the various facets unique to its planned use, e.g. these items shall be included in the specific project construction plans approved by the Public Works Department.

Items to address include, but are not limited to:

- Safety pipe railing details for basin inlets and outlets or chain link railing details for channel outlets and outfalls. The railings placed above the pipe shall be gated to allow maintenance access unless otherwise directed by the Public Works Department.
- Flap gate details, if required.
- Trash rack details, if required by the Public Works Department.
- Adjacent rock slope protection (RSP) layout, type and dimensions.
- Pipe flowline orientation: dimensions "H" and "L"; invert slope; and top of wall elevation.
- Finish grades behind walls. (A level area above the headwall may be required by the Public Works Department to service trash racks or flap gates.)
- Optional outlet sill design.

PLAN NOTES

1. Unit Stresses: f_s -24,000 psi, f_c -3600 psi.
2. Walls designed for 2' liveload surcharge, 1.5:1 sloping surcharge not to exceed 5' in elevation plus 2' liveload surcharge, or unlimited 2:1 surcharge.
3. Dimensions "H" and "L" are shown on the project or construction plans.
4. Wall height may be exceeded by 6" before going to next greater "H".
5. "D" maximum = 72", "D" minimum = 18"
6. a = 12" minimum for basin or creek *inlet* structures unless otherwise approved by the Public Works Department. For basin *outlet* structures, pipe flowline shall be depressed to match structure invert elevation.
7. See California Department of Transportation's Standard Plan BO-3 for weephole and pervious backfill details. Weephole centered either side of pipe, back wall only.

REINFORCED CONCRETE WALLS

"H" (ft)	4'	5'	6'	7'	8'	9'	10'
"c" Bars	#5@16"	#5@16"	#5@12"	#5@12"	#5@8"	#5@7"	#6@8"

NOTE
Slab reinforcement not shown for clarity.

NO.	DATE	REVISION DESCRIPTION	BY

COUNTY OF CONTRA COSTA
 PUBLIC WORKS DEPARTMENT
 MARTINEZ, CALIFORNIA
 STANDARD PLAN

**TYPE "M" HEADWALL
 STRUCTURE DETAILS**

SCALE: NO SCALE DATE: 3/14
 DRAWN BY: P. WARDEN PLAN NO. **CD52**
 CHECKED BY: M. HOLLINGSWORTH

STD. PLAN CD52