

**California High-Speed Rail Authority**



**RFP No.: HSR 14-32**

**Request for Proposals for Design-Build  
Services for Construction Package 4**

**Reference Material, Part A.2  
Standard Drawings**



## DRAINAGE

DRAWING TYPE	DRAWING NO.	DRAWING TITLE
SD	SD-CD-900	TRACK DRAIN/UNDERDRAIN, CLEANOUT AND RISER DETAILS
SD	SD-CD-901	DITCH DETAILS
SD	SD-CD-902	STORM DRAIN HOLES
SD	SD-CD-903	RETAINING WALL DRAINAGE DETAILS

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1/24/2014 3:48:14 PM Cheung

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
**R. MINCIO**

DRAWN BY  
**V. HUANTE**

CHECKED BY  
**H. NGUYEN**

IN CHARGE  
**J. CHIRCO**

DATE  
**01/24/2014**

**PARSONS  
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**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
SIERRA SUBDIVISION**

STANDARD DRAWINGS  
CONTRACT PACKAGE 2-3  
SHEET INDEX

CONTRACT NO.

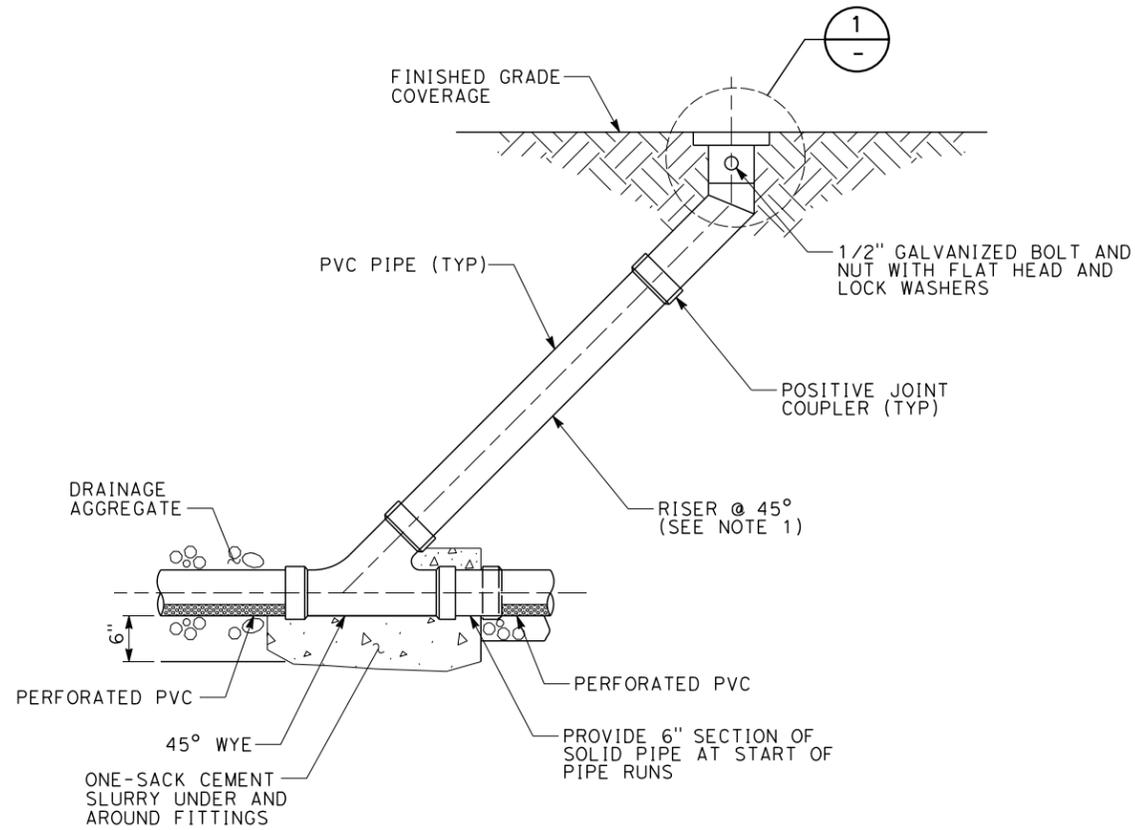
DRAWING NO.  
INDEX-2 CP2-3

SCALE  
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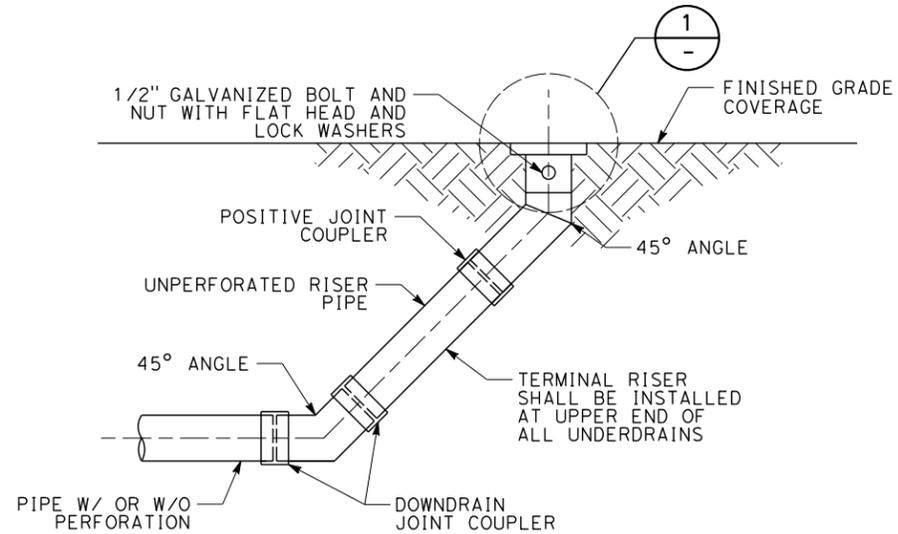
SHEET NO.

RFP No. HSR 14-32 – INITIAL RELEASE - 05/27/2015

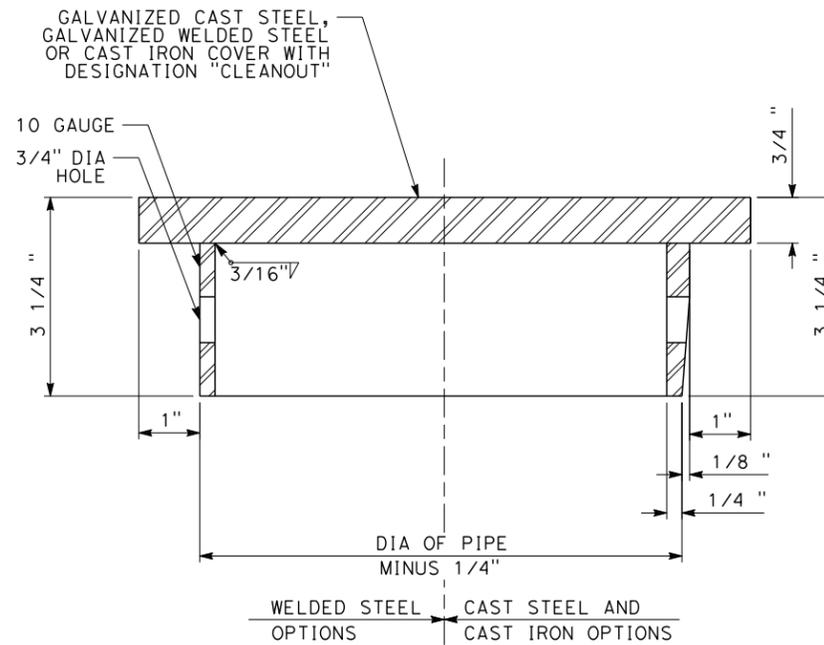
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**INTERMEDIATE RISER/CLEANOUT**  
SCALE: 1"=1'-0"



**TERMINAL RISER DETAIL**  
SCALE: 1"=1'-0"



**DETAIL**  
SCALE: 8"=1'-0"

**NOTES:**

1. RISER MAY BE ANGLED AT 90 DEGREES DUE TO SPACE CONSIDERATIONS.

REV	DATE	BY	CHK	APP	DESCRIPTION

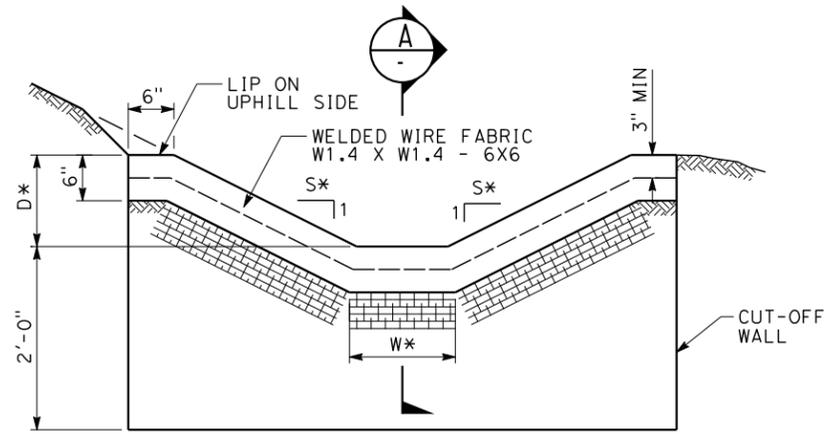
DESIGNED BY  
K. SISTLA  
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J. CHIRCO  
DATE  
01/24/2014



**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
DRAINAGE STANDARD**  
  
TRACK DRAIN/UNDERDRAIN  
CLEANOUT AND RISER DETAILS

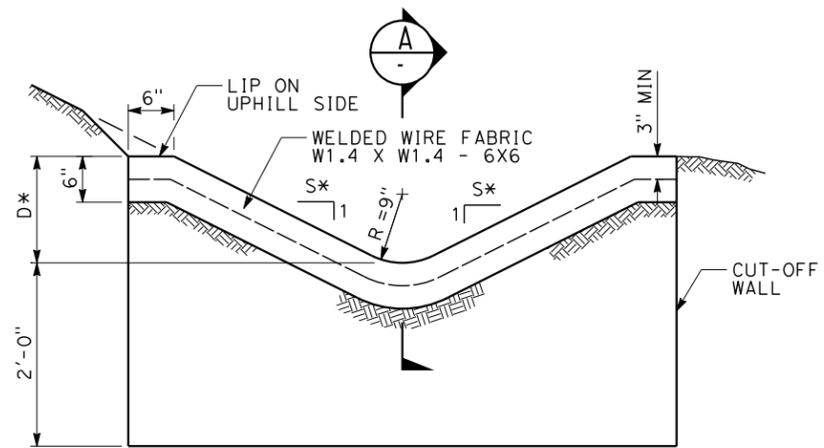
CONTRACT NO.  
DRAWING NO.  
SD-CD-900  
SCALE  
AS SHOWN  
SHEET NO.

RFP No. HSR 14-32 - INITIAL RELEASE - 05/27/2015



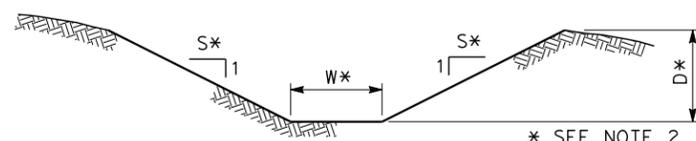
TYPE A (TRAPEZOID) DITCH

\* SEE NOTE 2



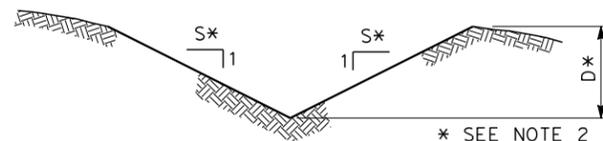
TYPE B ("V") DITCH

\* SEE NOTE 2



TYPE C (TRAPEZOID) DITCH

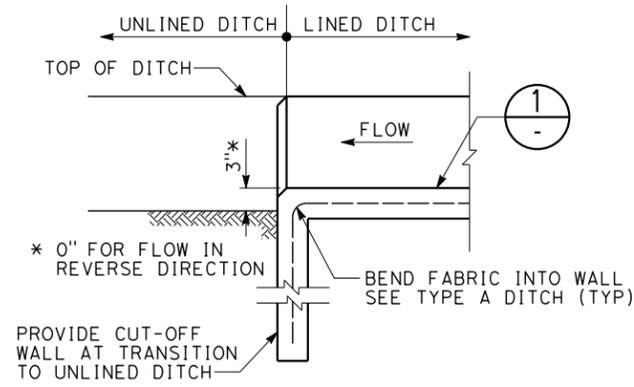
\* SEE NOTE 2



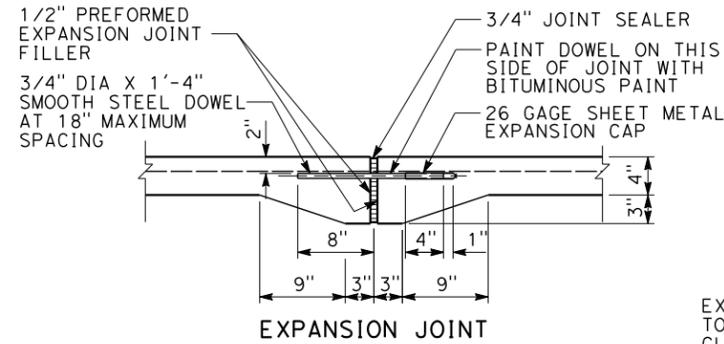
TYPE D ("V") DITCH

\* SEE NOTE 2

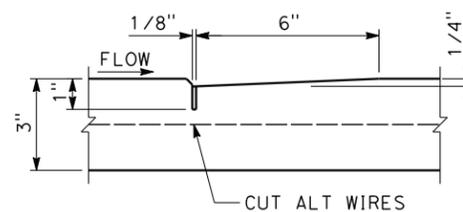
**DITCH DETAILS**  
NO SCALE



**SECTION**



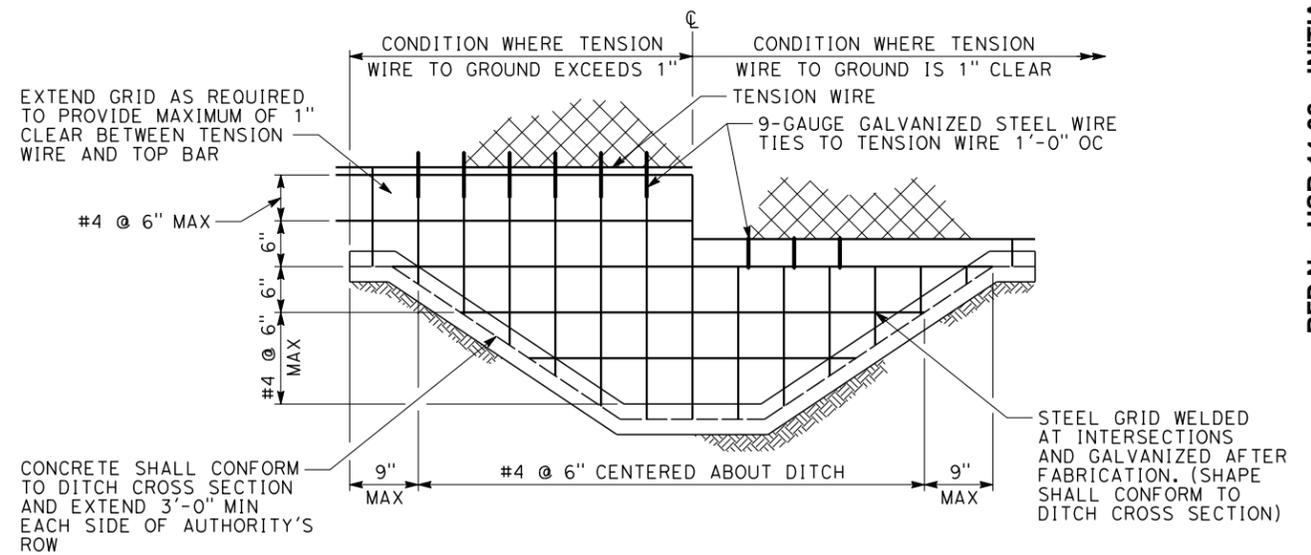
EXPANSION JOINT



CONTRACTION JOINT

**JOINT DETAILS**

NO SCALE  
(SEE NOTE 3)



**OPEN CHANNEL CLOSURE DETAIL**

NO SCALE  
(SEE NOTE 4)

**NOTES:**

1. DITCH LINING SHALL BE CONCRETE OR SHOTCRETE.
2. DITCH SHALL CONFORM TO THE FOLLOWING MINIMUM DIMENSIONS:  
D = DEPTH OF DITCH, 1 FOOT MINIMUM  
S = SLOPE OF DITCH, SIDES, 2:1 MAX FOR CONCRETE LINED CHANNEL, 3:1 MAX FOR GRASS LINED CHANNEL  
W = WIDTH OF BOTTOM OF DITCH, 4 FEET MINIMUM
3. TYPE A AND B DITCHES SHALL HAVE A CONTRACTION JOINT EVERY 10 FEET, AND AN EXPANSION JOINT EVERY 100 FEET.
4. OPEN CHANNEL CLOSURE SHALL BE REQUIRED AT EACH LOCATION WHERE AN OPEN CHANNEL PASSES UNDER AUTHORITY'S RIGHT-OF-WAY.

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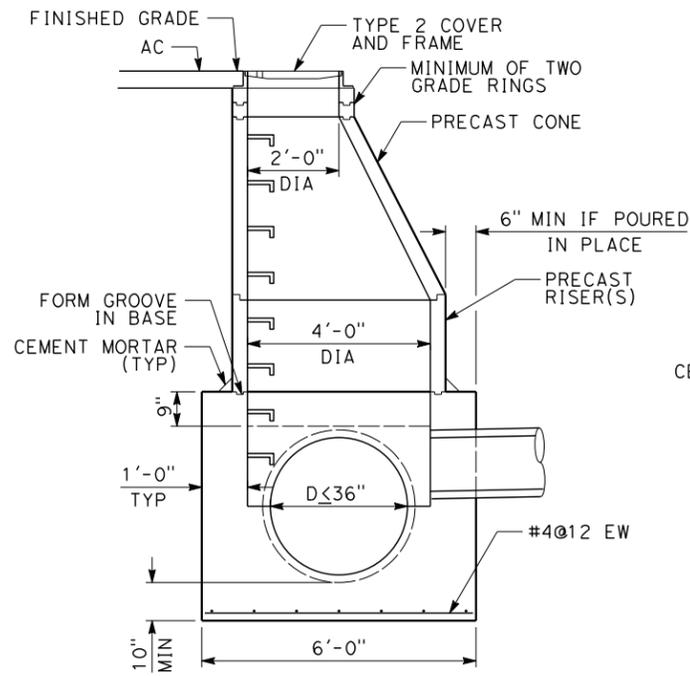
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**DRAINAGE STANDARD**

DITCH DETAILS

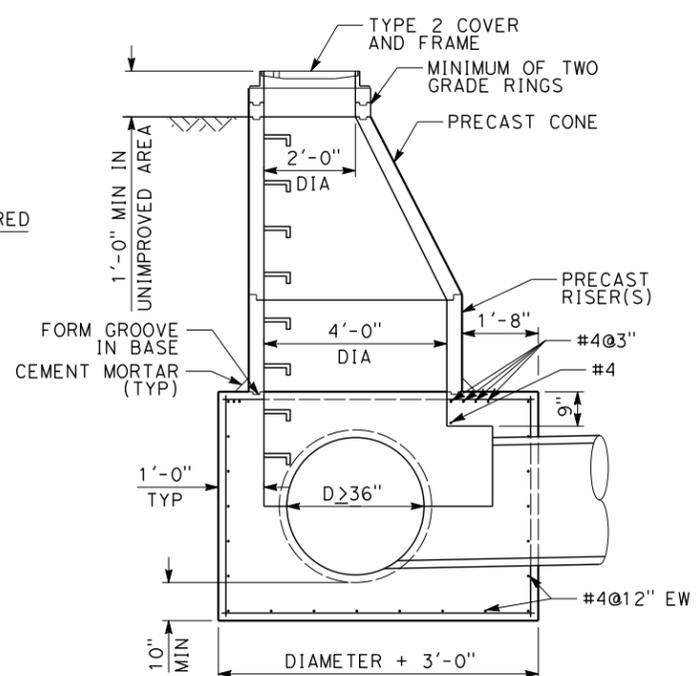
CONTRACT NO.
DRAWING NO. SD-CD-901
SCALE NO SCALE
SHEET NO.

RFP No. HSR 14-32 - INITIAL RELEASE - 05/27/2015

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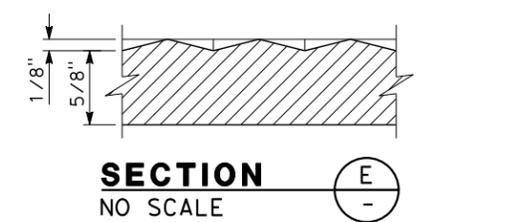
**SECTION A**  
NO SCALE



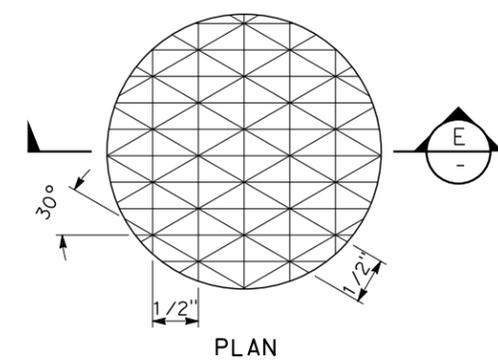
**SECTION B**  
NO SCALE

NOTE:  
FOR STEP DETAILS, SEE NOTES  
MANHOLE FOR  
PIPE DIAMETER 36" OR LESS

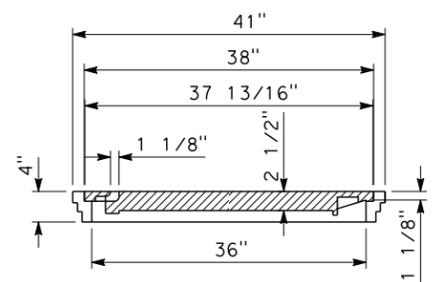
MANHOLE FOR  
PIPE DIAMETER MORE THAN 36"



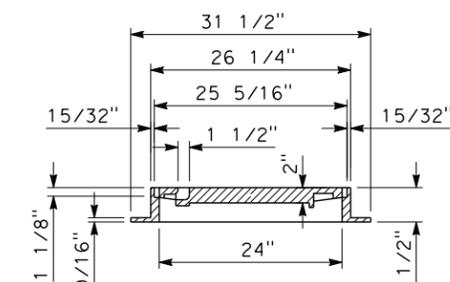
**SECTION E**  
NO SCALE



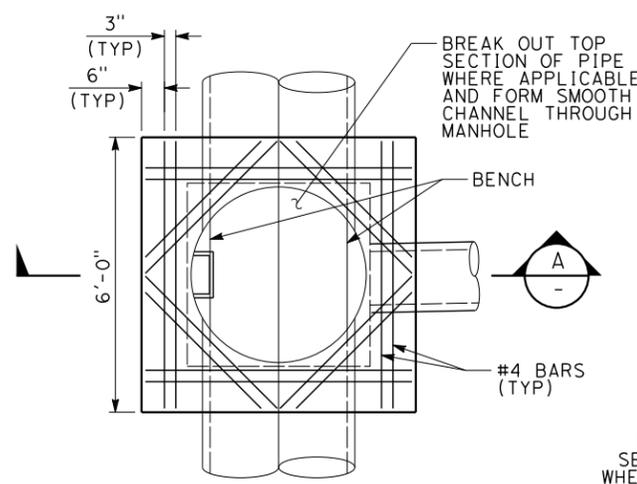
**DETAIL 6**  
NO SCALE



**SECTION C**  
NO SCALE

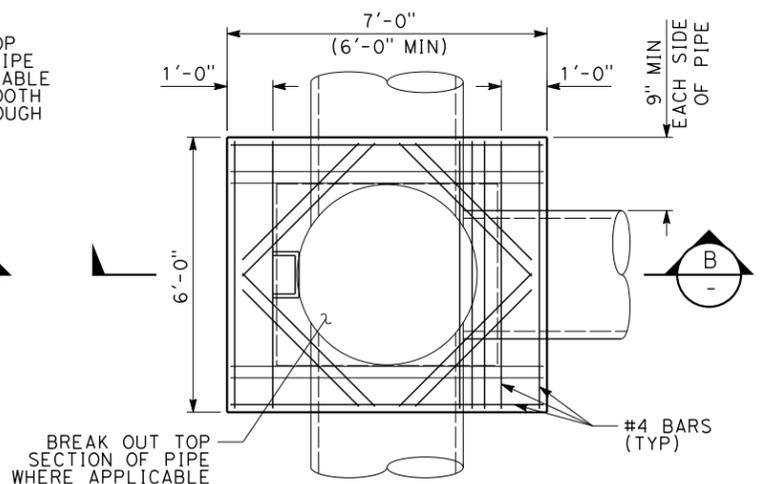


**SECTION D**  
NO SCALE



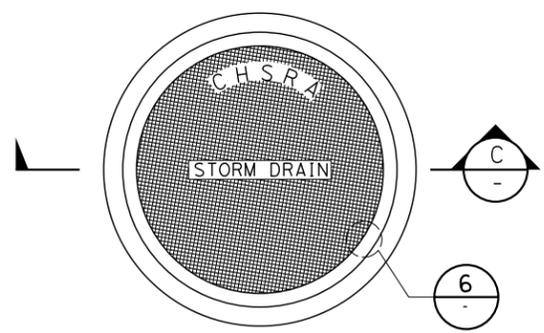
PLAN

**DETAIL 1**  
NO SCALE



PLAN

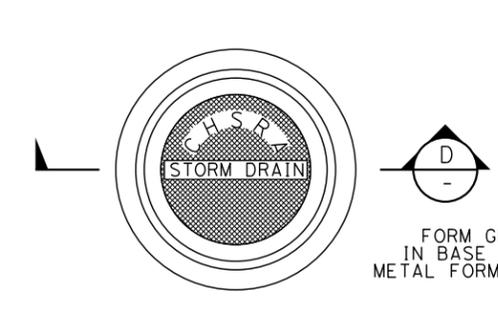
**DETAIL 2**  
NO SCALE



PLAN

TYPE 1 COVER AND FRAME  
(WEIGHT=700#)

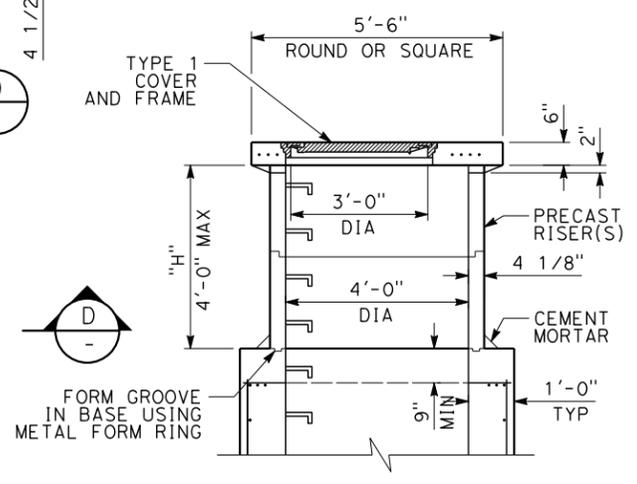
**DETAIL 3**  
NO SCALE



PLAN

TYPE 2 COVER AND FRAME  
(WEIGHT=320#)

**DETAIL 4**  
NO SCALE



ALTERNATE CHIMNEY  
AND GRADE SLAB

(REQUIRED WHERE "H" IS LESS THAN 4'-0")

**DETAIL 5**  
NO SCALE

- NOTES:**
1. GROUT ALL JOINTS.
  2. ALL PORTLAND CEMENT CONCRETE SHALL BE CLASS 4000.
  3. PLACE STEPS ON DOWNSTREAM SIDE OF MANHOLE IF POSSIBLE.
  4. REFER TO CALTRANS STANDARD PLAN FOR STEP DETAILS (D74C).

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY  
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DATE  
01/24/2014



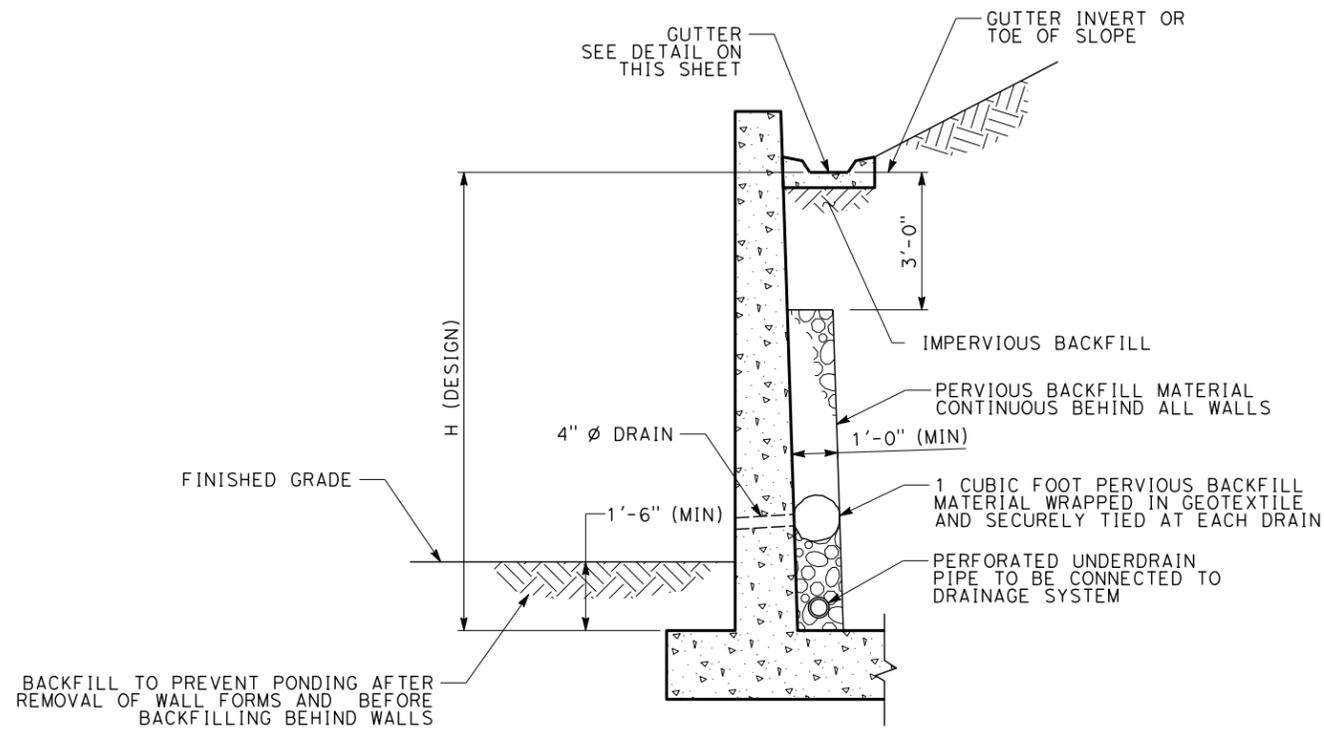
**CALIFORNIA HIGH-SPEED TRAIN PROJECT**  
**DRAINAGE STANDARD**  
STORM DRAIN MANHOLES

CONTRACT NO.  
DRAWING NO.  
SD-CD-902  
SCALE  
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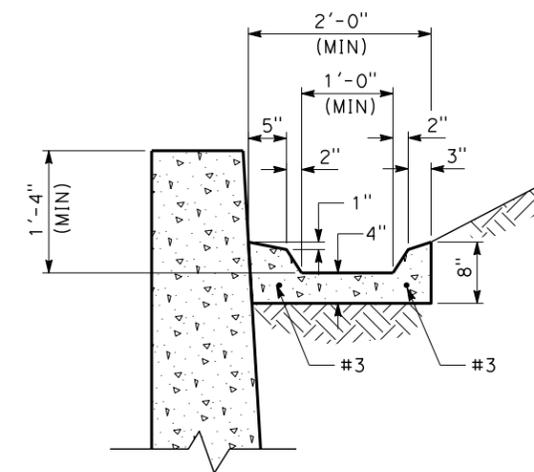
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**NOTES:**

1. RETAINING WALL STRUCTURE IS SCHEMATIC AND DOES NOT REPRESENT DESIGN.



**RETAINING WALL DRAINAGE**



**TYPICAL GUTTER DETAIL**

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Cheung

REV	DATE	BY	CHK	APP	DESCRIPTION

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01/24/2014

**PARSONS  
BRINCKERHOFF**



**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
DRAINAGE STANDARD**

RETAINING WALL DRAINAGE DETAILS

CONTRACT NO.  
DRAWING NO.  
SD-CD-903  
SCALE  
NO SCALE  
SHEET NO.

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