



NOTES:

1. PLACE 2" WIDE X 1/2" THICK PREFORMED EXPANSION JOINT MATERIAL BETWEEN CONCRETE CAPS AT OUTER EDGES OF CAP.
2. LIFTING ANCHOR SHALL BE 8 TON X 10", MODEL P-52 BY DAYTON/RICHMOND W/RECESS. COAT ANCHOR AND FILL RECESS WITH HENRY'S 787 ELASTOMULSION (NON-HARDENING) OR APPROVED EQUIVALENT.

MAXIMUM CONCRETE CAP LENGTH "L"

OD	W							
	12"	18"	24"	30"	36"	42"	54"	60"
27"-48"	20'	20'	20'	-	15'	-	-	-
51"-57"	20'	20'	17'	15'	13'	-	-	-
60"-66"	-	18'	15'	13'	11'	-	-	-
69"-78"	-	15'	13'	11'	10'	9'	7'	-
81"-84"	-	14'	12'	10'	9'	8'	7'	-
87"-90"	-	-	11'	10'	8'	8'	6'	6'
93"	-	-	11'	9'	8'	7'	6'	6'

REVISION	DATE	BY	DESCRIPTION	CALLEGUAS MUNICIPAL WATER DISTRICT	STANDARD DRAWINGS STEEL REINFORCED CONCRETE CAP DETAIL	DWG NO 1201 SHEET 2 OF 4
7	08/05	P&B	ADDED REMOVABLE CAP FEATURE			
8	06/08	P&B	GENERAL			
9	09/07	P&B	GENERAL			
APPROVED			Susan Mulligan MANAGER OF ENGINEERING	THOUSAND OAKS	CALIFORNIA	

DIMENSION SCHEDULE : FOOTING WIDTH "W" AND REINFORCEMENT "A"

OUTSIDE PIPE DIA [INCH]	EARTH COVER OVER CAP "H" IN FT.																				OUTSIDE PIPE DIA [INCH]			
	0	0<H≤1	1<H≤2	2<H≤3	3<H≤4	4<H≤5	5<H≤6	6<H≤7	7<H≤8	8<H≤9	9<H≤10	10<H≤11	11<H≤12	12<H≤13	13<H≤14	14<H≤15	15<H≤16	16<H≤17	17<H≤18	18<H≤19		19<H≤20		
27	ZONE 10 W=42" A=#7@12"																						27	
30																								30
33																								33
36	ZONE 11 W=36" A=#7@10"																							36
39																								39
42																								42
45																								45
48																								48
51	ZONE 5 W=30" A=#8@9"																							51
54																								54
57																								57
60	ZONE 2 W=18" A=#6@10"																							60
63																								63
66																								66
69																								69
72	ZONE 3 W=24" A=#7@12"																							72
75																								75
78	ZONE 4 W=24" A=#8@12"																							78
81																								81
84	ZONE 6 W=36" A=#8@6"																							84
87																								87
90	ZONE 7 W=42" A=#8@6"																							90
93																								93

REVISION	DATE	BY	DESCRIPTION
7	04/05	P&E	ADDED REMOVABLE CAP FEATURE
8	03/26	P&E	GENERAL
9	04/07	P&E	GENERAL

APPROVED **Susan Mulligan**
MANAGER OF ENGINEERING

*Digitally signed by Susan Mulligan
DN: cn=Susan Mulligan, c=US
Date: 2007.09.21 10:18:24 -0700

**CALLEGUAS MUNICIPAL
WATER DISTRICT**

THOUSAND OAKS CALIFORNIA

STANDARD DRAWINGS	DWG NO
STEEL REINFORCED CONCRETE CAP DIMENSION SCHEDULE	1201
	SHEET 3 OF 4

NOTES:

1. CONTRACTOR TO NOTIFY CMWD TWO WEEKS PRIOR TO START OF CONSTRUCTION WORK.
2. TWO WEEKS PRIOR TO THE START OF CONSTRUCTION, SUBMIT TO CMWD THE FOLLOWING:
 - A. SHOP DRAWINGS FOR NEDPRENE, REINFORCEMENT, CONCRETE, LIFTING ANCHOR, EXPANSION JOINT MATERIAL, RECESS FILL MATERIAL, AND CEMENT SAND SLURRY.
 - B. A CERTIFICATE OF CONFORMANCE FROM THE MANUFACTURER OR MATERIAL CONVERTER FOR THE NEDPRENE MATERIAL USED.
 - C. SHORING PLAN(S) SIGNED BY A REGISTERED ENGINEER.
 - D. A LIST OF ANTICIPATED CONSTRUCTION EQUIPMENT TO BE USED FOR CONSTRUCTION.
 - E. COPIES OF ALL PERMITS AND APPROVALS NECESSARY FOR THE WORK.
 - F. CERTIFICATE FROM A REGISTERED GEOTECHNICAL ENGINEER VERIFYING MINIMUM SOIL BEARING PRESSURE, AS DESCRIBED IN NOTE 6, ALONG PIPELINE ALIGNMENT RECEIVING CONCRETE CAP.
3. NO WORK SHALL BE ALLOWED WITHIN 10 FEET OF CMWD PIPELINE WITHOUT THE PRESENCE OF A CMWD REPRESENTATIVE.
4. FOR PIPE SIZE NOT SHOWN IN DIMENSION SCHEDULE, USE NEXT HIGHER PIPE SIZE TO DETERMINE FOOTING WIDTH "W" AND REINFORCEMENT "A".
5. IF WITHIN 10 FEET OF THE END OF THE CONCRETE CAP "H" IS ONE FOOT OR LESS, INCREASE "W" BY 6" ALONG THE LAST 10' OF THE CONCRETE CAP.
6. CONCRETE CAP DESIGN UNDER THIS STANDARD ASSUMES H-20 MAXIMUM SURFACE LOADING AND A 1500 PSF ALLOWABLE SOIL BEARING PRESSURE AT 3'-0" BELOW GROUND SURFACE WITH A 20% INCREASE OF BEARING PRESSURE FOR EVERY FOOT OF ADDITIONAL DEPTH UP TO A MAXIMUM OF 4500 PSF AS PER UBC.
7. IF ALLOWABLE SOIL BEARING PRESSURE IS LESS THAN AS DESCRIBED IN NOTE 6, AS DETERMINED BY THE SOILS ENGINEER, THIS STANDARD SHALL NOT APPLY. CMWD SHALL BE CONTACTED FOR FURTHER INSTRUCTION.
8. DURING CONSTRUCTION, IF SOIL BEARING PRESSURE IS BELIEVED TO BE LESS THAN REQUIRED BY CMWD OR SOIL ENGINEER, CONCRETE CAP MAY REQUIRE MODIFICATION AND CMWD SHALL BE CONTACTED IMMEDIATELY.
9. IF ANY UTILITY OR OBSTRUCTION IS FOUND ENCRACHING ON THE CONCRETE CAP, CONTACT CMWD FOR INSTRUCTION.
10. EXTENT OF CONCRETE CAP PROTECTION MAY BE EXTENDED DEPENDING ON FOUND FIELD CONDITIONS. CMWD SHALL BE THE SOLE DETERMINER OF THE ADEQUACY OF THE CONCRETE CAP CONSTRUCTION LIMITS.
11. CONTRACTOR SHALL PAY SPECIAL ATTENTION TO ENSURE PROPER FILLING OF VOIDS WITH CEMENT SAND SLURRY UNDER THE HAUNCHES OF THE PIPE.
12. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60.
13. LAP FOR REINFORCING BARS SHALL BE 40 ϕ AND STAGGERED, UNLESS NOTED OTHERWISE.
14. IF GROUNDWATER IS ENCOUNTERED, CONTRACTOR SHALL DEWATER TRENCH TO PROVIDE A STABLE FOUNDATION FOR SLURRY AND CONCRETE CAP FOUNDATION. PLACEMENT OF CRUSHED ROCK MAY BE REQUIRED AS DIRECTED BY CMWD. THE CONTRACTOR IS RESPONSIBLE FOR APPROPRIATE DISPOSAL OF ANY DEWATERING WATER.
15. CONTRACTOR SHALL NOT EXPOSE MORE THAN THE LENGTH OF ONE PIPE JOINT CONTIGUOUSLY AT ONE TIME, UNLESS OTHERWISE APPROVED IN WRITING BY CMWD.
16. TRENCH SHALL BE THOROUGHLY WET BEFORE PLACEMENT OF SLURRY AND CONCRETE AND SHALL NOT HAVE STANDING WATER.
17. SLURRY SHALL BE ALLOWED TO SET FOR A MINIMUM OF 24 HOURS PRIOR TO EXPOSING ADJOINING SECTION OF PIPE OR PLACING OF CONCRETE.
18. FIVE CONCRETE CYLINDER SAMPLES WILL BE TAKEN BY CMWD FOR TESTING. ONE CYLINDER SHALL BE TESTED AT 3 DAYS. TWO CYLINDERS SHALL BE TESTED AT 7 DAYS TO ENSURE A CONCRETE COMPRESSIVE STRENGTH OF 3,000 PSI, ONE SHALL BE TESTED AT 28 DAYS, AND THE LAST WILL BE TESTED AS NEEDED.
19. EXCAVATION AREA MUST BE FENCED WITH CHAIN LINK OR 4--FOOT HIGH CONSTRUCTION FENCING WHEN WORK IS NOT IN PROGRESS.
20. CONCRETE CAP MAY BE BACKFILLED 3 DAYS AFTER CONCRETE PLACEMENT. EQUIPMENT PERMITTED TO WORK OVER THE CAP WILL BE DETERMINED BY RESULTS OF THE 3--DAY BREAK TEST.
21. CONCRETE SHALL BE CONSTRUCTED USING THE HIGHEST ZONE (MOST STRINGENT) UNDER MINIMUM AND MAXIMUM "H" ANTICIPATED DURING AND AFTER CONSTRUCTION.
22. CONCRETE CAP SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THIS STANDARD. OVERPOURING OR OVERSIZING OF THE CAP WILL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL FROM CMWD.

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APPROVED			Digitally signed by Susan Mulligan DN: cn=Susan Mulligan, c=US Date: 2007.09.21 10:48:09 -0700			
MANAGER OF ENGINEERING			DATE	THOUSAND OAKS	CALIFORNIA	