

NOT TO SCALE



APPROVED BY: *Ricardo Sandoval* 10-18-06
 CITY ENGINEER DATE
RICARDO SANDOVAL
 REVIEWED BY: *JL*
 DATE OF LAST REVISION: _____

CITY OF FONTANA	
MANHOLE PIPE TO PIPE MAINLINE (ID = 36" OR LARGER)	
STD. PLAN NO. 3012	SHT 1 OF 4

07/10/06

TABLE OF VALUES
FOR F

D ₂	F
36"	6 1/2"
39"	7"
42"	7 1/2"
45"	7 3/4"
48"	8"
51"	8 1/2"
54"	9"
57"	9 1/4"
60"	9 1/2"
63"	10"
66"	10 1/4"
69"	10 3/4"
72"	11"
78"	11 3/4"
84"	12 1/2"
90"	13 1/4"
96"	14"
102"	15 1/2"
108"	16"
114"	16 1/2"
120"	17"
126"	17"
132"	17 1/2"
138"	17 1/2"
144"	18"

TABLE OF VALUES FOR M (SEE NOTE 1)

SECTION	PAVED STREET		UNPAVED STREET	
	MAX.	MIN.	MAX.	MIN.
A-A		2'-10 1/2"		3'-6"
C-C	11"	8 1/2"	16"	15"



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SHT 2 OF 4

NOTES

1. WHEN DEPTH M FROM STREET GRADE TO THE TOP OF THE BOX IS LESS THAN 2'-10 1/2" FOR PAVED STREETS OR 3'-6" FOR UNPAVED STREETS, CONSTRUCT MONOLITHIC SHAFT PER SECTION C-C AND DETAIL "N". SHAFT FOR ANY DEPTH OF MANHOLE MAY BE CONSTRUCTED PER SECTION C-C. WHEN DIAMETER D₁ IS 48" OR LESS, CENTER OF SHAFT MAY BE LOCATED PER NOTE 2.
2. CENTER OF MANHOLE SHAFT SHALL BE LOCATED OVER CENTER LINE OF STORM DRAIN WHEN DIAMETER D₁ IS 48" OR LESS, IN WHICH CASE PLACE E BARS SYMMETRICALLY AROUND SHAFT AT 45° WITH CENTER LINE AND OMIT J BARS.
3. L AND P SHALL HAVE THE FOLLOWING VALUES UNLESS OTHERWISE SHOWN ON THE PROJECT DRAWINGS:
 - A. D₂ = 96" OR LESS, L=5'-6", P=5"
 - B. D₂ OVER 96", L=6'-0", P=8"

L MAY BE INCREASED OR LOCATION OF MANHOLE SHIFTED TO MEET PIPE ENDS. WHEN L GREATER THAN THAT SHOWN ABOVE IS SPECIFIED, D BARS SHALL BE CONTINUED 6" OC.
4. STATIONS OF MANHOLES SHOWN ON THIS PROJECT DRAWINGS APPLY AT CENTER LINE OF SHAFT. ELEVATIONS ARE SHOWN AT CENTER LINE OF SHAFT AND REFER TO THE PROLONGED INVERT GRADE LINES.
5. REINFORCEMENT SHALL CONFORM TO ASTM A 615, GRADE 40, AND SHALL TERMINATE 1 1/2" CLEAR OF CONCRETE SURFACES UNLESS OTHERWISE SHOWN.
6. FLOOR OF MANHOLE SHALL BE STEEL TROWELED TO SPRING LINE.
7. BODY OF MANHOLE SHALL BE POURED IN ONE CONTINUOUS OPERATION EXCEPT THAT A CONSTRUCTION JOINT WITH A LONGITUDINAL KEYWAY MAY BE PLACED AT THE SPRING LINE.
8. THICKNESS OF THE DECK SHALL VARY WHEN NECESSARY TO PROVIDE A LEVEL SEAT BUT SHALL NOT BE LESS THAN THE TABULAR VALUES FOR F SHOWN ON TABLE SHT. 2.
9. D BARS SHALL BE #4 FOR D₂ = 39" OR LESS, #5 FOR D₂ = 42" TO 84" INCLUSIVE AND #6 FOR D₂ = 90" OR OVER.
10. CENTER LINE OF INLET PIPE SHALL INTERSECT INSIDE FACE OF CONE AT SPRING LINE UNLESS OTHERWISE SHOWN.
11. STEPS SHALL CONFORM TO STANDARD PLAN 3024. UNLESS OTHERWISE SHOWN, STEPS SHALL BE UNIFORMLY SPACED 14" TO 15" OC. THE LOWEST STEP SHALL NOT BE MORE THAN 24" ABOVE THE INVERT.
12. THE FOLLOWING CRITERIA SHALL BE USED FOR THIS MANHOLE:
 - A. MAINLINE = 36" INSIDE DIAMETER OR LARGER, EXCEPT IF THE MAIN LINE RCP DOWNSTREAM OF MANHOLE IS 36" TO 42" INSIDE DIAMETER AND THE MAIN LINE RCP UPSTREAM IS 33" OR LESS STANDARD PLAN 3014 SHALL BE USED.
 - B. THE OUTSIDE DIAMETER OF THE LATERAL MUST BE LESS THAN OR EQUAL TO 1/2 THE INSIDE DIAMETER OF THE MAIN LINE. IF THE UPSTREAM AND DOWNSTREAM DIAMETERS OF THE MANHOLE ARE NOT THE SAME, THE GOVERNING INSIDE DIAMETER OF THE MAIN LINE SHALL BE CONSIDERED TO BE THAT WHERE THE EXTENDED CENTER LINE OF THE LATERAL ENTERS THE MANHOLE.
 - C. IN NO INSTANCE SHALL THE INSIDE DIAMETER OF THE LATERAL TO THE MANHOLE BE GREATER THAN 30".



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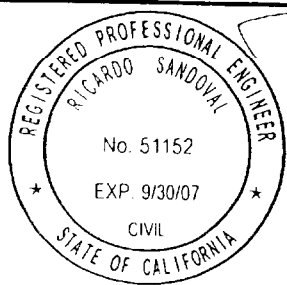
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07/10/06

13. MANHOLE FRAME AND COVER SHALL CONFORM TO STANDARD PLAN 3019 UNLESS OTHERWISE SHOWN.
14. MANHOLE SHAFT SHALL CONFORM TO STANDARD PLAN 3014 UNLESS OTHERWISE SHOWN.
15. WHERE A MANHOLE SHAFT - 36" WITHOUT REDUCER IS SPECIFIED REFER TO STANDARD PLAN 3015.
16. WHERE A PRESSURE MANHOLE SHAFT - WITH ECCENTRIC REDUCER IS SPECIFIED REFER TO STANDARD PLAN 3016.
17. WHERE A PRESSURE MANHOLE SHAFT - 36" WITHOUT REDUCER IS SPECIFIED REFER TO STANDARD PLAN 3017.
18. DIMENSIONS SHOWN ON THIS PLAN ARE NOT EXACT EQUAL VALUES.

THE FOLLOWING STANDARD PLANS ARE INCORPORATED HEREIN:

- 3014 MANHOLE SHAFT - WITH ECCENTRIC REDUCER
- 3015 MANHOLE SHAFT - 36" WITHOUT REDUCER
- 3016 PRESSURE MANHOLE SHAFT - WITH ECCENTRIC
- 3017 PRESSURE MANHOLE SHAFT 36" WITHOUT REDUCER
- 3019 24" MANHOLE FRAME AND COVER
- 3023 36" MANHOLE FRAME AND COVER
- 3024 STEEL STEP



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