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JUL 12 2012

HYDROLOGY
SECTION

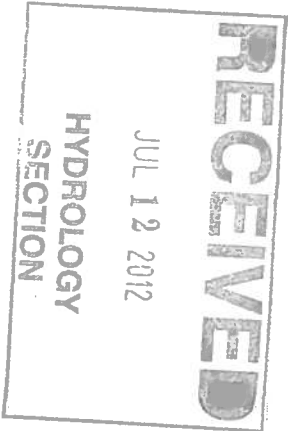
TABLE 1 BFP TRIBUTE AREA - HYDROLOGY CALCULATIONS Ultimate Development Conditions Basin Data Table													
		This table is based on the DPM Section 22.2, Zone: 2											
SUB-BASIN	Area	(SQ. FT)	Area	Land Treatment Percentages				Q(100)	(cfs)	WT E	V(100) ³⁶⁰	V(100) ¹⁴⁴⁰	(CF)
ID	(AC.)	A	B	C	D	(cfs/ac.)	Q(100)	(cfs)	(inches)	(CF)	(CF)	(CF)	(CF)
Existing	353539	8.12	0.0%	26.6%	55.9%	17.5%	3.18	25.84	1.21	35653	38231		
Proposed A	231622	5.32	0.0%	63.7%	11.8%	24.5%	2.97	15.82	1.15	22189	24554		
Proposed B	121952	2.80	0.0%	49.5%	34.8%	15.7%	2.96	8.28	1.11	11303	12100		

TABLE 2: BFP TRIBUTE AREA - SURFACE TREATMENTS

BASIN A				Total area=	231622
Surface Treatments	Area	Treatment	Total Percentage		
Concrete	5103	D	0.2450		
	28628	D			
	7871	D			
	15144	D			
Turf	31403	B	0.6374		
	8746	B			
	13471	B			
	32118	B			
	41058	B			
	20844	B			
Rock Mulch	27236	C	0.1176		

BASIN B

				Total area=	121952
Surface Treatments	Area	Treatment	Total Percentage		
Concrete	10104	D	0.1567		
	1154	D			
	6767	D			
	1085	D			
Turf	12590	B	0.4945		
	13931	B			
	29534	B			
	4254	B			
Rock Mulch	42533	C	0.3488		



Swale and Culvert Capacities

Basin A Swale 1.txt

Analyzer Report

Drainage Structure Analyzer

Channel Hydraulic Analysis

Date: Tuesday, July 10, 2012 5:15:08 PM

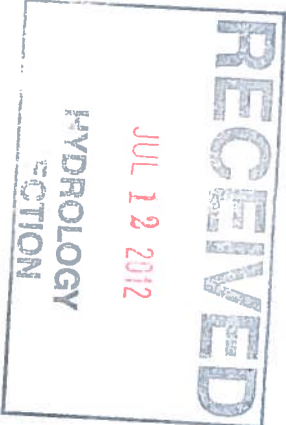
Input Data

Shape	Trapezoidal
Material	Rock Riprap 4"
Roughness	0.055000
Bottom Width	6.0000 ft
Left Slope	25.0000%
Right Slope	25.0000%
Bed Slope	1.8400%
Depth	0.7500 ft

Output Results

Flow Rate	16.6861 cfs
Depth	0.7500 ft
Velocity	2.4720 ft/s
Top Width	12.0000 ft
Critical Depth	0.5460 ft
Subcritical	

*For Swale detail, see sheet C-03.



Analyzer Report

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Drainage Structure Analyzer

Channel Hydraulic Analysis

Date: Tuesday, July 10, 2012 5:15:46 PM

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Input Data

Shape	Trapezoidal
Material	Rock Riprap 3"4"
Roughness	0.055000
Bottom width	8.0000 ft
Left Slope	25.0000%
Right Slope	25.0000%
Bed Slope	1.2800%
Depth	0.7500 ft

Output Results

Flow Rate	17.5710 cfs
Depth	0.7500 ft
Velocity	2.1298 ft/s
Top width	14.0000 ft
Critical Depth	0.4870 ft

Subcritical



Analyzer Report

Drainage Structure Analyzer

Channel Hydraulic Analysis

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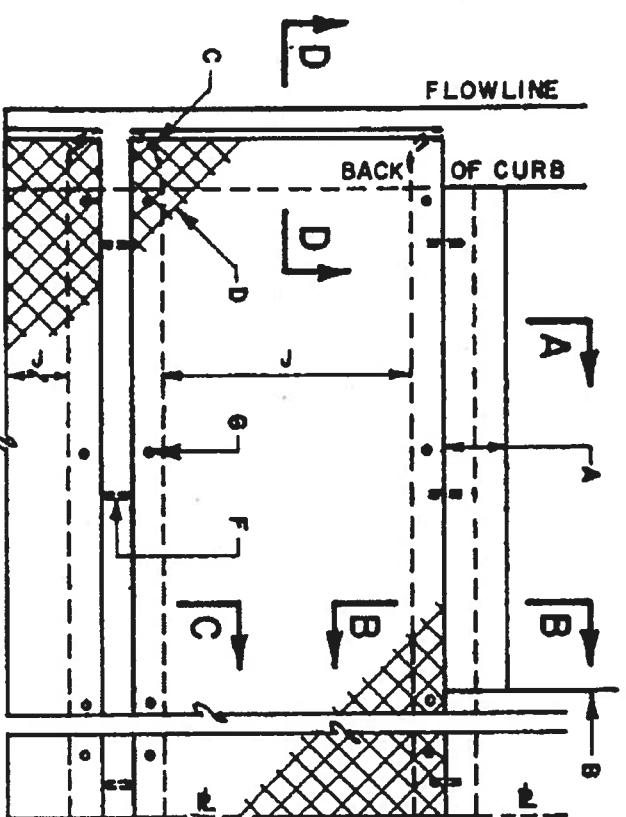
Input Data

Shape	Trapezoidal
Material	Rock Riprap
Roughness	0.055000
Bottom width	4.0000 ft
Left Slope	25.0000%
Right Slope	25.0000%
Bed Slope	0.9300%
Depth	0.7500 ft

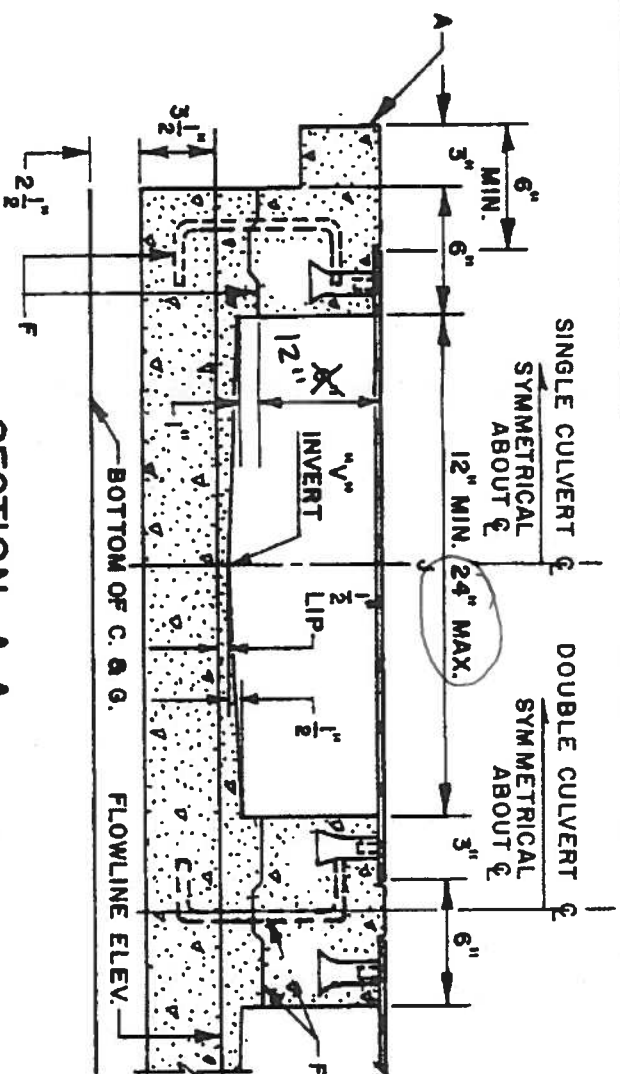
Output Results

Flow Rate	8.7941 cfs
Depth	0.7500 ft
Velocity	1.6751 ft/s
Top width	10.0000 ft
Critical Depth	0.4530 ft
Subcritical	

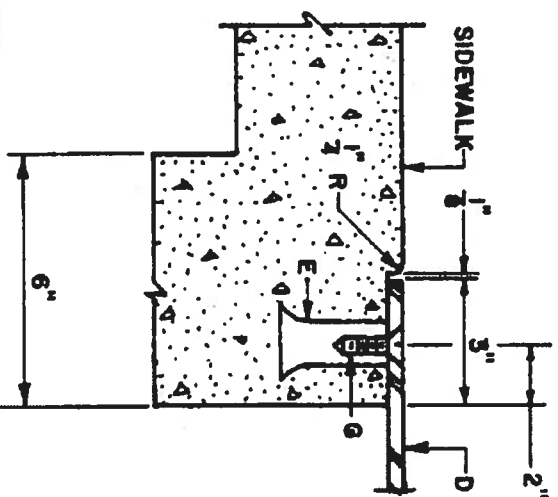




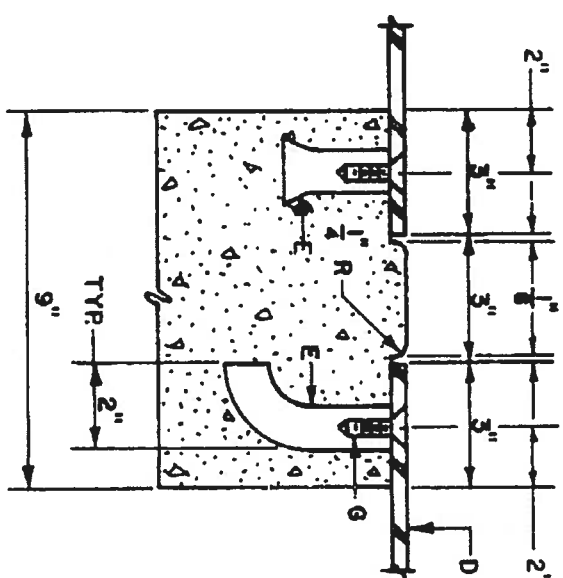
PLAN
SINGLE AND OR MULTIPLE CULVERT



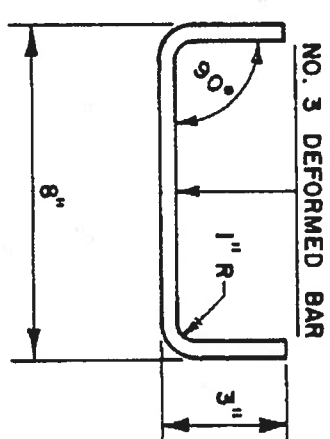
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

DOWEL DETAIL

GENERAL NOTES:

1. PLACING OF DRAIN THRU EXIST. SIDEWALK AND CURB & GUTTER REQUIRES THAT ENTIRE SIDEWALK AND C & G STONES BE REMOVED AND REPLACED AS DETAILED HEREIN. BOTTOM SLAB OF CULVERT SHALL BE POURED MONOLITHICALLY WITH NEW GUTTER.
2. THE INVERT SHALL BE TROWELED TO PRODUCE A HARD POLISHED SURFACE OF MAX DENSITY AND SMOOTHNESS. INVERT SHALL BE V-SHAPED TO WITHIN 3" OF OUTLET, THEN WARPED TO PARALLEL FLOWLINE AT OUTLET, UNLESS OTHERWISE SHOWN.
3. ALL EXPOSED CONC. SURFACE SHALL MATCH GRADE, COLOR, FINISH AND SCORING OF ADJACENT CURB AND SIDEWALK.
4. SIDEWALK REPLACED DURING CONSTRUCTION SHALL BE POURED MONOLITHICALLY WITH CULVERT WALLS.
5. IF ROD ANCHORS ARE USED, DRILL & TAP FOR F.H. MACHINE SCREW. ATTACH ANCHORS TO PLATE AND SECURE PLATE IN PLACE PRIOR TO POURING OF WALLS.
6. LENGTH OF EACH PLATE SHALL BE SUCH THAT THE WEIGHT WILL NOT EXCEED 300 LBS. AND SHALL BE STRESS RELIEVED AFTER FABRICATION. CLEAN SURFACE OF PLATE AND FRAMING MEMBERS AND PAINT W/ ONE SHOP COAT RED OXIDE AND TWO FINISH COATS ALUMINUM PAINT (AASHTO M 69).
7. THE CITY WILL NOT ASSUME RESPONSIBILITY FOR MAINTENANCE OF ANY SIDEWALK CULVERT INSTALLED BY OR FOR PRIVATE PROPERTY OWNERS.

CONSTRUCTION NOTES:

- A. MATCH NEAREST CONTROL JOINT, INSTALL 1/2" EXPANSION JOINT.
- B. EDGE OF SIDEWALK OR SETBACK (VARIABLE).
- C. 3" RADIUS (TYPICAL).
- D. 3/8" CHECKERED STEEL PLATE (PAINT PER NOTE 7, ABOVE).
- E. FOR SECURING PLATE USE 1"x 5" S.S. ROD ANCHOR, "RED HEAD MULTI-SET II SRM-38 ANCHOR" OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AT MAX. 24" O.C.. A MINIMUM OF 2 PER SIDE AND ONE WITHIN 6" OF EACH END.
- F. CONSTRUCTION JOINT IS OPTIONAL. IF USED, SPACE DOWELS AT 18" O.C. MAX., 1 1/2" MINIMUM FROM FACE OF CONCRETE.
- G. 3/8" - 16 x 1 1/4" COUNTERSUNK, F.H., STAINLESS STEEL, MACHINE SCREW.
- H. SLOPE 1/4" PER FT. MIN.
- J. DRAIN WIDTH PER PLAN (12" MIN., 24" MAX.).

CITY OF ALBUQUERQUE

DRAINAGE

SIDEWALK CULVERT
WITH STEEL PLATE TOP

DWG. 2236

AUG. 1986

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