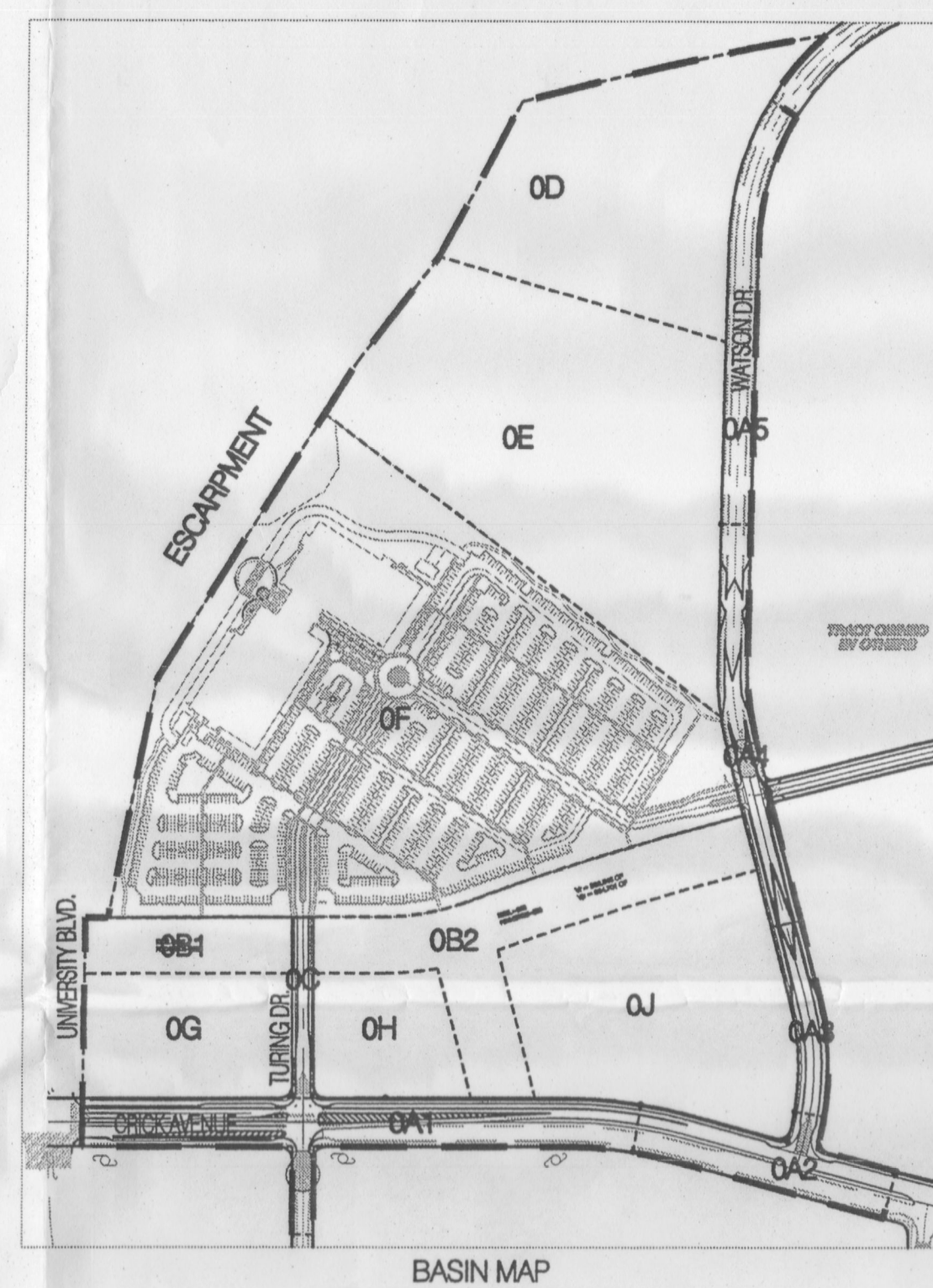
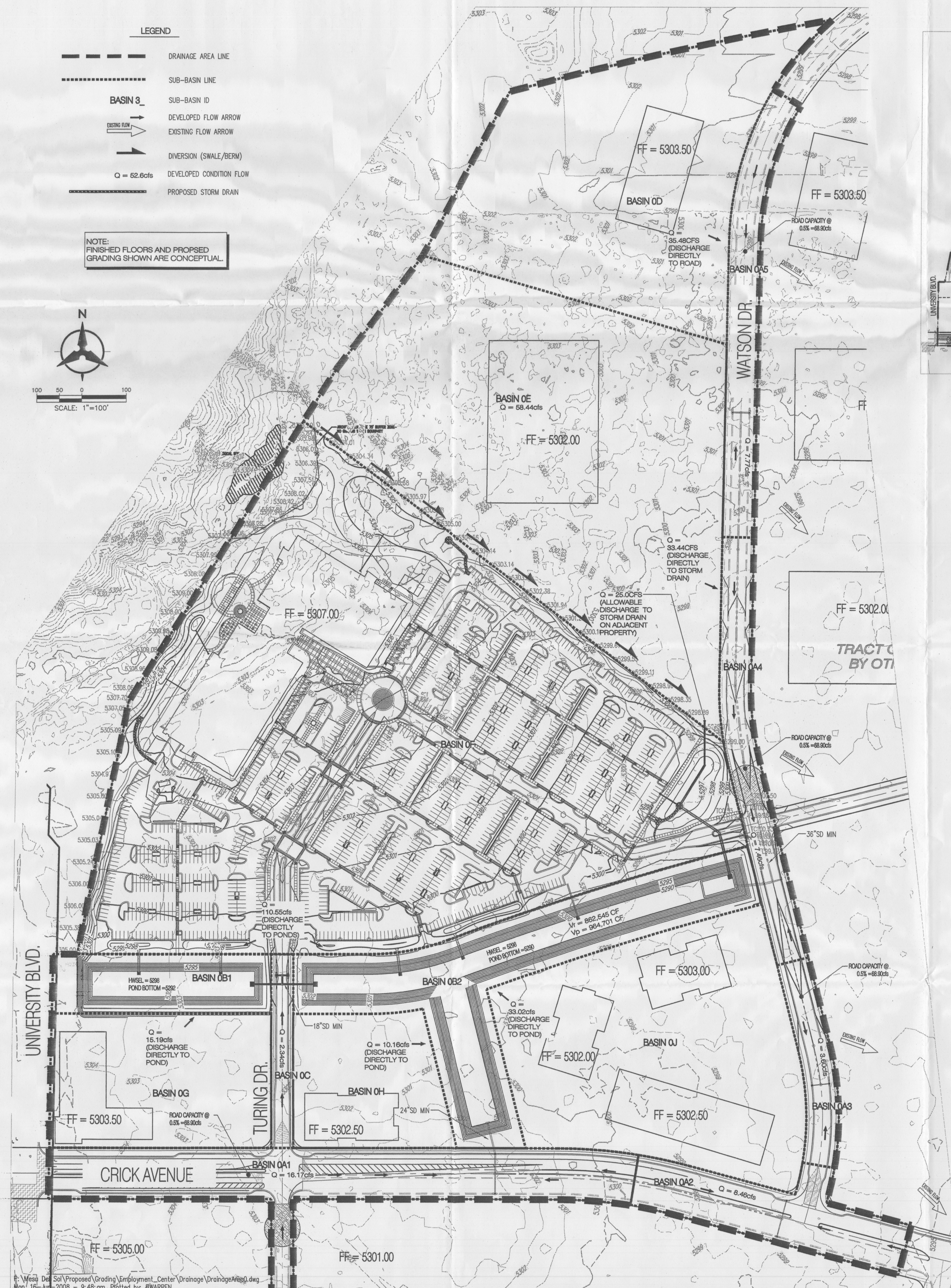
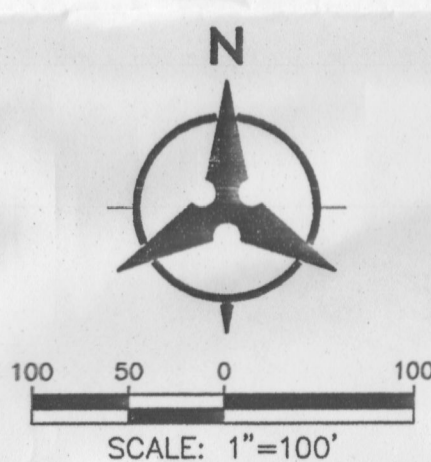


NOTE:
FINISHED FLOORS AND PROPOSED
GRADING SHOWN ARE CONCEPTUAL.



DRAINAGE MANAGEMENT PLAN

Introduction/Purpose

This submittal describes the drainage scheme for Drainage Area Zero (DA0) within the Mesa del Sol Innovation Park. This drainage management plan will serve as guidelines for ultimate pond sizing and drainage calculations for the block. Specifically this DMP is submitted in support of COA hydrology approval for Project Pinnacle rough grading permit approval. In addition this plan will also provide a framework diagram for future submittals including but not limited to sites and work order approvals.

Existing Conditions

The drainage area at the north end of the Innovation Park (referred to here after as DA0) within Mesa del Sol is currently undeveloped and slopes 0.5% to 1.0% from the northwest to southeast. The final outfall for this current drainage is a series of plays that extend down the middle of the proposed Innovation Park to the south of DA0. The block being analyzed will be bound by University Blvd. to the west, Crick Avenue to the south, Watson Drive to the east and an existing escarpment to the north and northwest.

Offsite Drainage

Currently, no offsite drainage enters the drainage area due to an existing escarpment to the north and northwest of the site. All flow generated to the east and south of DA0 will continue along the historic path to a series of aforementioned plays to the south. All drainage generated onsite will be retained under the 100yr 10day storm event and not effect surrounding areas.

Proposed Site Grading

The slope of the DA0 basin under proposed conditions is similar to existing conditions. The DA0 will have two centrally located, permanent, retention ponds within open space/drainage tracts. Together these ponds are designed to retain the 100 year, 10 day storm generated by the site.

Drainage generated by the roads within the DA0 basin will be conveyed to the regional retention pond via surface flow and storm drainage. Each site will be analyzed on a site by site basis. The drainage for sites furthest from the pond will be conveyed to the pond by either direct storm drain or surface flow within the streets. The flow generated by each sub-basin is shown within the table labeled MESA DEL SOL - DEVELOPED HYDRAULIC CALCULATIONS. In addition the capacity of each road based on Manning's equation is shown on the overall drainage map.

The regional retention ponds will be subject to future site planning considerations which will incorporate water quality facilities, along with aesthetically pleasing features such as a trail system, pedestrian amenities, and sedimentation basin facilities. In addition, infiltration basins will be installed in the retention ponds to manage nuisance flows and provide a positive discharge of ponded water over time; however, the infiltration does not reduce the 100 year, 10 day stored ponding volume requirements.

The ponds are sized in accordance with the methodology outlined in the DPM section 22.2. Developed land treatments for the majority of this drainage area were assumed to be 90% treatment D and 10% treatment B (See MESA DEL SOL - DEVELOPED HYDRAULIC CALCULATIONS for basin calculations and land treatments). For DA0, the volume of retention required (V_r) is 892,394 CF and the volume of retention provided (V_p) is 964,701 CF.

Floodplain

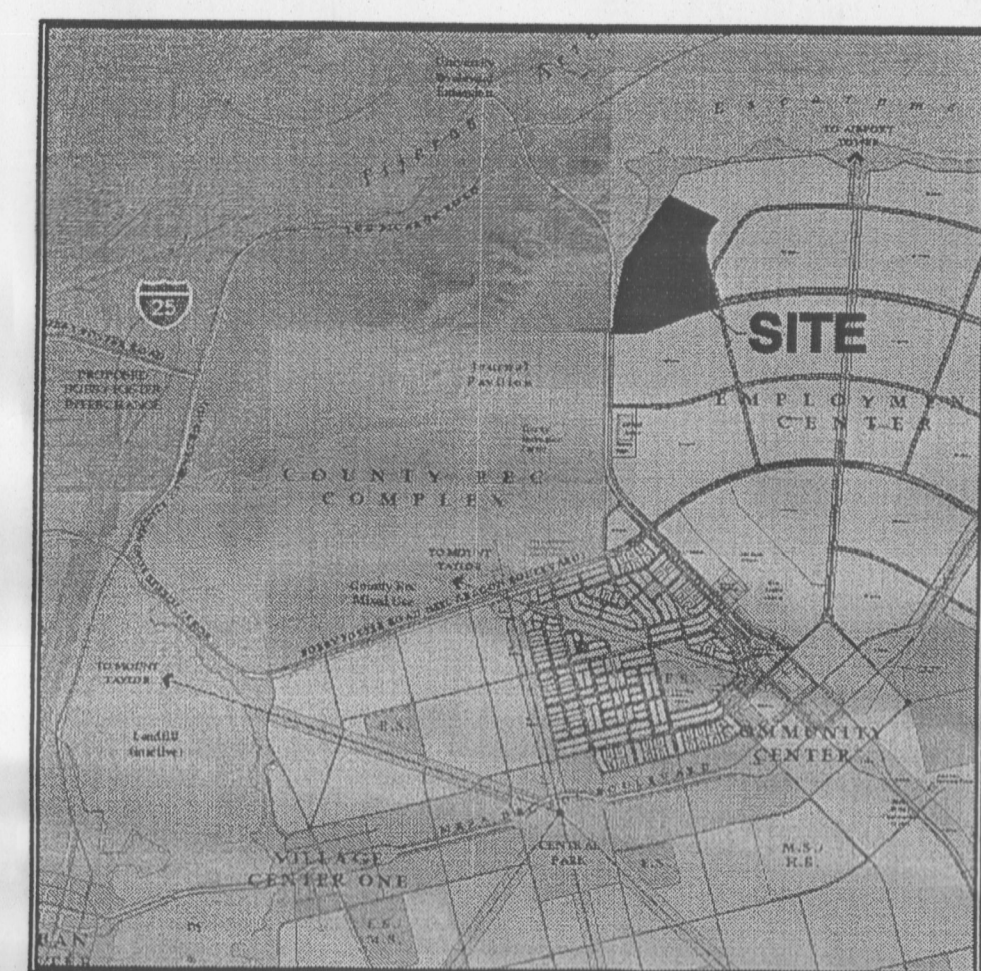
In accordance with FEMA Community Map Panel #35001C0555 E, the site is not located within a floodplain.

Conclusion

This drainage submittal has been prepared in accordance with City of Albuquerque requirements. This plan demonstrates the proposed grading and drainage concepts. The implementation of these concepts would result in the safe retention of the 100 yr, 10 day storm event. Individual sites will be subject to separate hydrology approval in conjunction with the guidelines set forth in this drainage management plan. This drainage management plan is submitted in support of future development within the block, including building sites and roads.

MESA DEL SOL - DEVELOPED HYDRAULIC CALCULATIONS
Ultimate Development Conditions Basin Data Table

This table is based on the DPM Section 22.2, Zone: 2												
BASIN	Area	Area	Land Treatment Percentages				Q(100)	Q(100)	WT E	V(100) ₃₆₀	V(100) _{Today}	
ID	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(cfs)	(inches)	(CF)	(CF)	
DRAINAGE AREA 0												
	Basin 0A (Surrounding Roads)	328943	7.55									
	Basin 0A1	149860	3.44	0.0%	0.0%	0.0%	100.0%	4.70	16.17	2.12	26475	46457
	Basin 0A2	76556	1.76	0.0%	0.0%	0.0%	100.0%	4.70	8.26	2.12	13525	23732
	Basin 0A3	33373	0.77	0.0%	0.0%	0.0%	100.0%	4.70	3.60	2.12	5896	10346
	Basin 0A4	69153	1.59	0.0%	0.0%	0.0%	100.0%	4.70	7.46	2.12	12217	21437
	Basin 0A5	71975	1.65	0.0%	0.0%	0.0%	100.0%	4.70	7.77	2.12	12716	22312
	Total								35.49			
	Basin 0B (Open Space/Regional Retention Ponds)	259061	5.95									
	Basin 0B1	65282	1.50	0.0%	50.0%	50.0%	0.0%	2.71	4.06	0.96	5195	5195
	Basin 0B2	193779	4.45	0.0%	50.0%	50.0%	0.0%	2.71	12.06	0.96	15422	15422
Total								16.12				
Basin 0C (Interior Road)	21651	0.50	0.0%	0.0%	0.0%	100.0%	4.70	2.34	2.12	3825	6712	
Basin 0D	346719	7.96	0.0%	10.0%	0.0%	90.0%	4.46	35.48	1.99	57382	98988	
Basin 0E	570983	13.11	0.0%	10.0%	0.0%	90.0%	4.46	58.44	1.99	94498	163016	
Basin 0F (Project Pinnacle)*	1080186	24.80	0.0%	10.0%	0.0%	90.0%	4.46	110.55	1.99	178771	308393	
Basin 0G	148461	3.41	0.0%	10.0%	0.0%	90.0%	4.46	15.19	1.99	24570	42386	
Basin 0H	99266	2.28	0.0%	10.0%	0.0%	90.0%	4.46	10.16	1.99	16429	28340	
Basin 0J	322664	7.41	0.0%	10.0%	0.0%	90.0%	4.46	33.02	1.99	53401	92121	
Total	3177934.25	72.96						316.79		507605	862545	
* See Site Specific Drainage Management Plan for Exact Discharge Points												



LOCATION MAP
ZONE ATLAS INDEX MAP R-16

Mesa del Sol

Bohannon & Huston

Courtyard 1 7500 Jefferson St. NE Albuquerque, NM 87109-4335
ENGINEERING & SPATIAL DATA ADVANCED TECHNOLOGIES

ENGINEER



PROJECT

REVISIONS



DRAWN BY

REVIEWED BY

DATE

PROJECT NO.

DRAWING NAME

DRAINAGE AREA
ZERO DRAINAGE
MANAGEMENT
PLAN

SHEET NO.

COO1

OF

