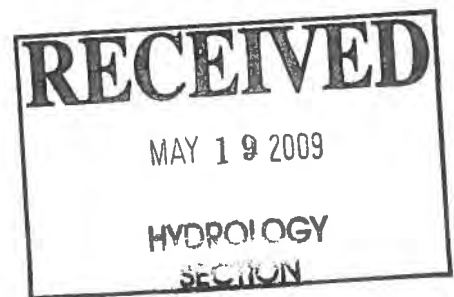DRAINAGE REPORT

For

HB Contractors
Lot 30, Block 4, Tract A, Unit B
North Albuquerque Acres
Albuquerque, New Mexico

Prepared by

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Appendix

Map Pocket
Site Grading and Drainage Plan

PURPOSE

The purpose of this report is to provide the Drainage Management Plan for an approximately 11,000 square foot office building located on the north side of Beverly Hills east of San Mateo. This plan was prepared in accordance with the City of Albuquerque design regulations, utilizing the City of Albuquerque's Development Process Manual drainage guidelines. This report will demonstrate that the grading do not adversely affect the surrounding properties, nor the upstream or downstream facilities.

INTRODUCTION

The subject of this report, as shown on the Exhibit A, is a .88-acre parcel of land located on the north side of Beverly Hills between San Mateo and the I-25 frontage road. The legal description of this site is Lot 30, Block 4, North Albuquerque Acres, Tract A, Unit B.   As shown on FIRM map 35001C0129E, the entire property is located within Flood Zone X. This site is located within the Study area of several Drainage plans; Citicorp site (1996), San Mateo Business Park(1999) and the Beverly Hills Ave and Venice Ave. Office/ Warehouse (2000). The most recent plan provided the complete ultimate design of the Storm drainage system located across this sites frontage. The development of this site must conform to the ultimate design and is allowed free discharge assuming 10%B, 10%C, 80%D land treatments.

EXISTING CONDITIONS

The site is was at one time a landfill, the land fill was remediated and the site is in current use as a graveled storage yard. The site has been graded in the past. The site slopes from east to west. As shown in appendix A, offsite flows in the amount of 1.11 cfs impact the property.

These flows enter the property at the southeast corner and are conveyed directly to Beverly Hills. This site generates 2.4 cfs onsite during a 100-year, 6-hour storm event. The site discharges to the adjacent property to the west. The flow leaving this site enters Beverly hills downstream from this site. These flows are captured by inlets and conveyed to the San Mateo storm drainage system.

PROPOSED CONDITIONS

The proposed improvements consist of a approximately 11,000 square foot office/warehouse building and its associated parking. The site will be graded such that the existing upland flow is will continue to be accepted and conveyed to Beverly Hills. The onsite grading allows the flow to discharge out the driveway to Beverly hills. As shown in appendix B, this site is located within basin 201 of the future drainage map from the Beverly Hills/Venice project. This project will construct the single A inlet shown on the Beverly Hills ultimate design. A copy of this ultimate design plan set has been included in appendix C. As shown in appendix A, this site will generate 3.80 cfs during a 100-year, 6-hour event. This is .01 cfs less than the allowable as designated in the design report for the Beverly Hills Storm drainage system.

SUMMARY AND RECOMMENDATIONS

This project is located within an industrial area of Northeast Albuquerque. The surrounding developments have constructed the storm drain and conveyance system for this area. The design of this site conforms to the ultimate drainage assumption. The adjacent drainage system improvement shown as future in previous submittals will be constructed with this project.

The proposed site development does not adversely affect the upstream or downstream facilities. The site was designed in conformance to City of Albuquerque Drainage design policy

Weighted E Method

Existing Basins

Basin	Area (sf)	Area (acres)	Treatment A %	(acres)	Treatment B %	(acres)	Treatment C %	(acres)	Treatment D %	(acres)	Weighted E (ac-ft)	100-Year Volume (ac-ft)	100-Year Flow cfs
ONSITE	38610.00	0.886	0%	0	50%	0.443	50%	0.44318	0%	0.000	0.955	0.071	2.40
UPLAND	30938.00	0.710	100%	0.7102388	0%	0.000	0%	0	0%	0.000	0.530	0.031	1.11
Total	69548.00	1.597		0.710		0.443		0.443		0.000		0.102	3.510

Proposed Developed Basins

Basin	Area (sf)	Area (acres)	Treatment A %	(acres)	Treatment B %	(acres)	Treatment C %	(acres)	Treatment D %	(acres)	Weighted E (ac-ft)	100-Year, 6-hr. Volume (ac-ft)	100-Year, 6-hr. Flow cfs	10-day Volume (ac-ft)
PROPOSED	38610.00	0.886	0%	0	10%	0.089	10%	0.08864	80%	0.709	1.887	0.139	3.81	0.234
ALLOWED	38610.00	0.886	0%	0	12%	0.106	8%	0.07091	80%	0.709	1.880	0.139	3.80	0.233
Total	77220.00	1.773		0		0.195		0.15955		1.418		0.278	7.61	0.47

Equations:

Weighted E = $Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad$ / (Total Area)

Volume = Weighted D * Total Area

Flow = $Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad$

Where for 100-year, 6-hour storm

$Ea = 0.53$ $Qa = 1.56$
$Eb = 0.78$ $Qb = 2.28$
$Ec = 1.13$ $Qc = 3.14$
$Ed = 2.12$ $Qd = 4.7$

Channel Capacity

	Top Width (ft)	Bottom Width (ft)	Depth (ft)	Area (ft^2)	WP (ft)	R	Slope (%)	Q Provided (cfs)	Q Required (cfs)	Velocity (ft/s)
existing channel	4	0	1	2.00	4.47	0.4472136	1	5.81	1.10	0.55

Manning's Equation:

$$Q = 1.49/n * A * R^{(2/3)} * S^{(1/2)}$$

$A =$ Area
$R =$ D/4
$S =$ Slope
$n =$ 0.03