

# CITY OF ALBUQUERQUE



January 23, 2008

Jeff Mulberry, PE  
Bohannon Huston, Inc  
7500 Jefferson NE  
Albuquerque, NM 87109

**Re: Mesa del Sol Elevated Water Reservoir Grading and Drainage Plan  
Engineer's Stamp dated 12-19-07, (R16/DA3004)**

Dear Mr. Mulberry,

P.O. Box 1293

Based upon the information provided in your submittal dated 12-21-07, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Albuquerque

Also, prior to Certificate of Occupancy release, Engineer Certification of the grading plan per the DPM checklist will be required.

New Mexico 87103

If you have any questions, you can contact me at 924-3986.

[www.cabq.gov](http://www.cabq.gov)

Sincerely,

Bradley L. Bingham, PE  
Principal Engineer, Planning Dept.  
Building and Development Services

C: file

# DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/11/2002)

2-16/DA3004

PROJECT TITLE: Mesa del Sol Elevated Water Reservoir ZONE MAP/DRG. FILE # R-16  
DRB #: \_\_\_\_\_ EPC#: 07EPC-00110 WORK ORDER#: \_\_\_\_\_

LEGAL DESCRIPTION: TRACT 20 OF BULK LAND PLAT FOR MESA DEL SOL INNOVATION PARK  
CITY ADDRESS: \_\_\_\_\_

ENGINEERING FIRM: Bohannon Huston, Inc. CONTACT: Jeff Mulbery  
ADDRESS: 7500 Jefferson NE - Courtyard I PHONE: (505) 823-1000  
CITY, STATE: Albuquerque, NM ZIP CODE: 87109

OWNER: Forest City Covington, N.M., LLC CONTACT: Mike Castillo  
ADDRESS: 801 University Blvd. SE, Suite 200 PHONE: 505-400-3021  
CITY, STATE: Albuquerque, NM ZIP CODE: 87106

ARCHITECT: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

SURVEYOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

## CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☒ DRAINAGE MANAGEMENT PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER (DRAINAGE DESIGN ANALYSIS REPORT)
- REVISION

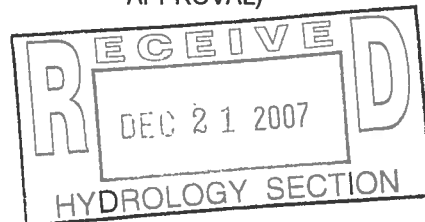
## CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR DRB APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ ROUGH GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER (CHANGE ORDER) APPROVAL
- ☒ OTHER (ADMINISTRATIVE AMENDMENT APPROVAL)

## WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED

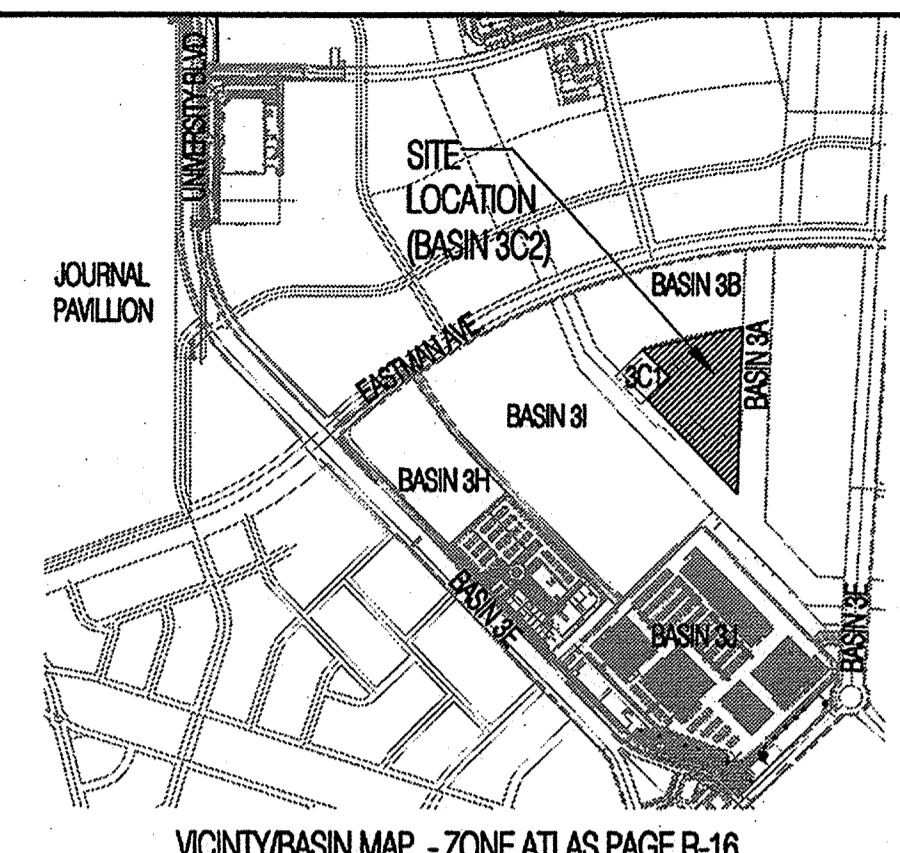
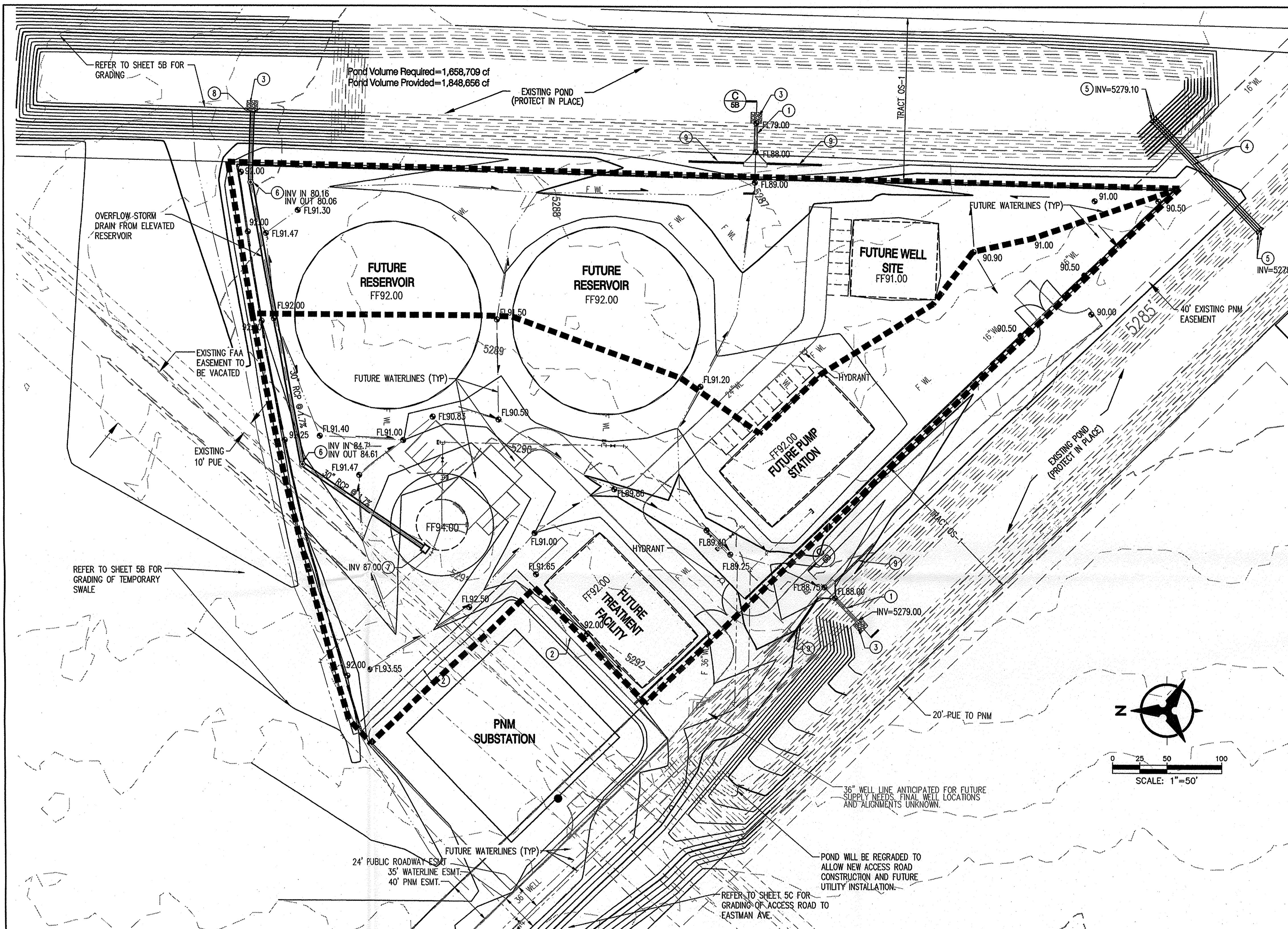
DWES 50.00  
12/21/07



DATE SUBMITTED: 12-20-07 BY: Jeff Mulbery/mb

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

- 1. Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
- 2. Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
- 3. Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.



**Introduction**  
This drainage management plan is in support of the Water Utility Site at Mesa del Sol. With this submittal we are requesting COA hydrology approval for DRB Site Plan Administrative Amendment Approval and Building Permit Approval.

**Existing Conditions**  
The elevated reservoir site (The Site) is Tract 20 of the Bulk Land Plat for Mesa del Sol Innovation Park. This 6.24 acre lot is currently undeveloped and slopes 0.5% to 1.0% from the west to east. It is located in between the two Regional Retention Ponds ("Ponds") constructed with the Albuquerque Studios Site (COA Hydro File #R16/D002A).

**Proposed Site Grading**  
The slope of the site under proposed conditions will be between 0.5% to 1.0%. A portion of the site will drain to the eastern pond (Basin 1) while the remainder of the site will drain to the southwestern pond (Basin 2). This site will not be paved but seeded resulting in land treatments to be 50% D, 25% C and 25% B (See Table 1 for basin calculations).

**Basin 1 and Basin 2**  
Basin 1 and Basin 2 will drain to their respective ponds via concrete rundowns. The rundowns will have a 20' wide opening and neck down to a 4' wide channel heading down the 3:1 side slopes of the pond. Per the weir equation provided from the DPM chapter 22.3, the allowable flow of the 20' wide opening at 6" of depth is approximately 19cfs. In addition the 4' wide 6" tall rundown headed down the 3:1 slope has an allowable discharge of 32.17cfs. This far exceeds the required Q for each basin.

**The ponds have previously been constructed to account for developed flows from this site with the Albuquerque Studios submittal. Currently there are only a few basins contributing to the existing Ponds. Under current conditions for these basins (including the developed flows from The Site), the maximum water surface elevation (MWSEL) is approximately 5284.60.**

**(Note: the ponds were sized to accept the 100 year, 10 day storm generated by the fully developed drainage area in accordance with the methodology outlined in the DPM section 22.2. Developed land treatments for Mesa del Sol sites are assumed to be 90% treatment D and 10% treatment B. Currently the top of the ponds extend to 5288.00).**

**A portion of the existing western pond constructed with the Albuquerque Studios site will be filled in order to allow room for an access road and future utilities to serve both the Elevated Reservoir site and the Mesa del Sol development. The pond to the east will be extended to the north to account for this volume. (Total pond volume provided after pond adjustments = 42.4 acre-ft, Total volume required for current contributing basins to the existing ponds = 18.9 acre-ft).**

**Floodplain**  
In accordance with FEMA Community Map Panel #35001C055E, 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 design. The implementation of this design would result in the safe passage and retention of the 100 yr, 10 day storm event. We have previously received hydrology approval for DRB site plan approval and rough grading and foundation permit approval. With this submittal we are requesting COA Hydrology Department approval for DRB Administrative Amendment approval and building permit approval.

**GENERAL NOTES**

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR IS TO REFER TO EARTHWORK SPECIFICATION AS NOTED IN THE SOILS REPORT BY GEO-TEST, INC. DATED 1/07 (JOB NO. 1-61202).
3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES & REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
5. BOULDERS GREATER THAN 3 FEET IN DIAMETER EXCAVATED DURING GRADING ACTIVITIES SHALL BE STOCKPILED AND DISPOSED OF AT THE DISCRETION OF THE OWNER.
6. ALL WALLS SHOWN ARE TO BE PLACED ALONG PROPERTY LINE.

P:\070204\cdp\general\DRB070204GP02.dwg  
Wed, 19-Dec-2007 - 5:35:pm, Plotted by: MBALASKOVITS

TABLE 1 ELEVATED RESERVOIR - DEVELOPED HYDRAULIC CALCULATIONS									
Basin Data Table									
This table is based on the DPM Section 22.2, Zone 2									
SUB-BASIN ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100) (cfs/ac.)	Q(100) (cfs)	WTE (inches)
			A	B	C	D			
Basin 1	110391	2.53	0.0%	25.0%	25.0%	50.0%	4.29	10.87	1.98
Basin 2	162941	3.74	0.0%	25.0%	25.0%	50.0%	3.71	13.86	1.54
Total	273331.68	6.27						38861.29	57083.40

**KEYED NOTES**

1. INSTALL CONCRETE WEIR AND RUNDOWN PER DETAIL A & B, SHEET 5B. TRANSITION FROM WEIR SECTION TO RUNDOWN SECTION OVER 10'.
2. INSTALL TURN BLOCKS FOR DRAINAGE EVERY 20 FT, O.C.
3. INSTALL 10"x10" RIP RAP BLANKET, 12" THICK.
4. FUTURE 2'-36" RCP STORM DRAIN PIPES (TO BE CONSTRUCTED AT A LATER DATE).
5. INSTALL 36" RCP END SECTION.
6. INSTALL TYPE E MANHOLE PER COA STANDARD DRAWING 2101.
7. TIE TO EXISTING SUB.
8. INSTALL 30" RCP END SECTION.
9. PROVIDE 1' HIGH BERM, 2FT WIDE TOP, WITH 3:1 SIDE SLOPES. EXTEND 50' BEYOND CONCRETE RUNDOWN.

LEGEND	
91.62	PROPOSED SPOT ELEVATIONS
92.46	EXISTING SPOT ELEVATIONS
5470	EXISTING CONTOUR W/ INDEX ELEVATION
—>	FLOW ARROW
—W—	PROPOSED TANK WATER LINE
---	DRAINAGE BASIN BOUNDARIES
---	PROPOSED WALL
---	PROPOSED SLOPE

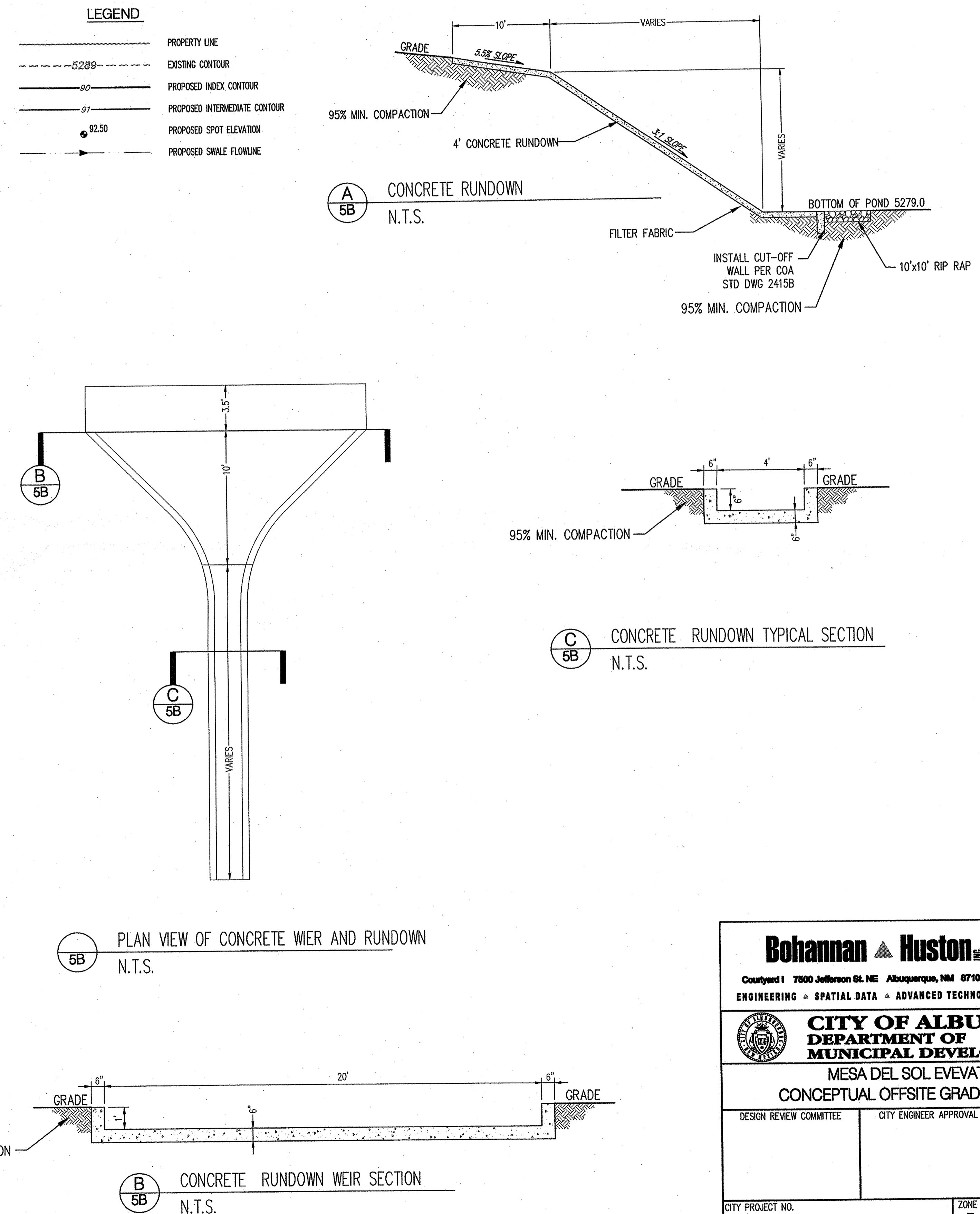
**Bohannon & Huston**  
Courtney I. 7500 Jefferson St. NE Albuquerque, NM 87109-4335  
ENGINEERING & SPATIAL DATA & ADVANCED TECHNOLOGIES

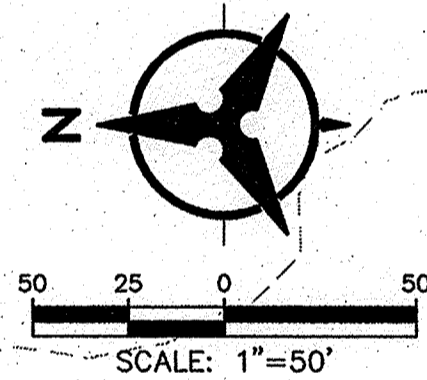
**CITY OF ALBUQUERQUE**  
DEPARTMENT OF MUNICIPAL DEVELOPMENT

MESA DEL SOL  
ELEVATED WATER RESERVOIR  
SITE GRADING, DRAINAGE, AND UTILITY PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	MO./DAY/YR.	MO./DAY/YR.
LAST DESIGN UPDATE			
CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
	R-16-Z	5A	5

AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REMARKS	
CONTRACTOR	DATE	ACS 3-1/4" ALUMINUM CAP	REVISED TO A	NO.	DATE	NO.	DATE	NO.	DATE
INSPECTOR'S	DATE	TUBE SET IN A CONCRETE BASE IN THE							
ACCEPTANCE BY	DATE	GROUND STAMPED "5-Q-14, 1987"							
VERIFICATION BY	DATE	FROM THE RIO BRAVO BLVD. AND BROADWAY							
DRAWINGS	DATE	INTERSECTION GO SOUTH 0.9 MILES AND							
PROCESSED BY	DATE	PROCEED 123' WEST OF THE CENTERLINE.							
MICRO-FILM INFORMATION	DATE	STATE PLANE COORDINATES (CENTRAL ZONE,							
RECORDED BY	DATE	NAD83/NAVD83) N=1460471.432,							
NO.	DATE	E=1521388.180 (GROUND) ELEV=4981.17							

[illegible]

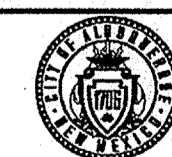


### LEGEND

- 
- PROPERTY LINE
- EXISTING CONTOUR  
-52.89
- PROPOSED INDEX CONTOUR  
90
- PROPOSED INTERMEDIATE CONTOUR  
91
- PROPOSED SPOT ELEVATION  
S 92.50
- PROPOSED SWALE FLOWLINE

# Bohannon Huston INC.

**Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335**  
**ENGINEERING • SPATIAL DATA • ADVANCED TECHNOLOGIES**



**CITY OF ALBUQUERQUE**  
**DEPARTMENT OF**  
**MUNICIPAL DEVELOPMENT**

MESA DEL SOL ELEVATED RESERVOIR  
CONCEPTUAL OFFSITE GRADING & DRAINAGE PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.
CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF	
R-16-Z		5C	5	