



April 30, 2015

Reza Afaghpour, PE
through SBS Construction and Engineering, LLC
10209 Snowflake Court NW
Albuquerque, NM 87114

**RE: Starbucks and Burger King, Tract 338-B, 1000 Rio Grande Blvd. SE
Grading and Drainage Plan
Engineer's Stamp Date 3-30-2015 (File: H13-D021)**

Dear Mr. Afaghpour:

Based upon the information provided in your submittal received 4-01-15, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

- 1) Provide a survey benchmark and existing spot elevations along the entire site perimeter. These are particularly important at the north and eastern boundaries. Also, provide existing curb elevations on Rio Grande Blvd.
- 2) A sidewalk culvert needs to be provided from Pond D to Rio Grande Blvd. Call out COA Std. Dwg. 2236 for the sidewalk culvert. In the valley, a maximum discharge rate of 2.75 cfs/acre from the site can be allowed, or ½ inches of runoff can be retained. It is preferable to discharge a rate of 2.75 cfs/acre from the site.
- 3) Indicate the floodplain boundary in the legend. Because you are constructing in the floodzone, please request a floodplain permit. An elevation certificate must be provided prior to Certificate of Occupancy. Additionally, for any fill you are bringing into the floodplain area, a compensatory volume of excavation must be provided. Please discuss how you are addressing this in the write-up.
- 4) If the pipe between Ponds D and C is meant to be an equalizer pipe, a larger size of pipe than 6" would be recommended. Explain the pipe's capacity to function as an equalizer pipe. Also, provide invert elevations at all on-site pipes.
- 5) Show the direction that the roofs drain. Indicate which ponds are retaining the first flush pond volume and note it on the plan view along with the first flush volume per pond.

6) Show the existing pipe and pipe size for the irrigation pipe under the new driveway to Aspen Avenue to demonstrate adequate pipe cover. Have a note for the irrigation ditch facilities to remain undisturbed.

7) Provide capacity calculations for the proposed sidewalk culvert and on-site curb cuts. The scale on the plans is shown as 1:10, but it appears to be 1:20. Revise as needed.

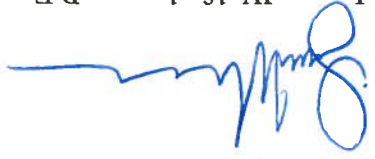
8) It is not desirable to have a curb cut close to the north boundary of the site where it is too close to the property adjacent to the north. Is much of the roof draining to the north for the northern building? Could this flow be directed to the western side of the site where it is closer to the outfall and have a larger curb cut provided? In the write-up, discuss the impact of the on-site improvements to the property to the north or lack thereof.

10) Provide more spot elevations for the swale along the north side of the site and within the drive-thru between Pond D and E. The 92.75 elevation shown within the parking lot at the corner of one of the handicapped parking spaces is in error.

11) Provide the total for the pond volumes under the pond volume calculations at the bottom of the sheet. The summation of the pond volumes provided does not equal the pond volume calculations in the write-up. Take the language about draining to inlets out of the write-up if the site is not draining to any inlets. In the narrative for the "Existing Drainage Conditions", include a statement about historical flow patterns.

If you have any questions, you can contact me at 924-3924.

Sincerely,



Jeanne Wolfenbarger, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email

NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

Location

Tract 338-B, M.R.G.C.D Map 35 contains +/- 1.3844 acre and is located at 1000 Rio Grande Boulevard. See attached portion of the Vicinity Map for exact location.

Purpose

The purpose of this drainage report is to present a grading and drainage solution to replace existing improvements with this new building.

Existing Drainage Conditions

The site was an existing service station. The portion to the east is undeveloped. Portion of the site fall with a Flood Plain Zone AH, FIRM Map No. 35001C0331H (elevation 4961). The existing grades are more than 1' above Flood Plain Elevation. No offsite runoff enters the site.

Proposed Conditions and On-Site Drainage Management Plan

The finished floor of the building are going to be 2' above the flood plain elevation. The site drain to a series of inlets and then will overflow through a curb opening at the entrance from Rio Grande Boulevard. Ponds A and B will overflow to Pond C. Pond C, D and E are connected via 6" SD pipe and will function as one big pond. The total pond volume provided is 5,996.77 CF and ponding volume required is 2,512.76 CF.

Calculations

City of Albuquerque, Development Process Manual, Section 22.2, Hydrology Section, was used for runoff calculations. See this plan for AHYMO input and Summary output files.

* ZONE 2	

* 100-YEAR, 6-HR STORM (UNDER EXISTING CONDITIONS) *	

START RAINFALL	TIME=0.0
COMPUTE NM HYD	TYPE=1 RAIN QUARTER=0.0 IN
	RAIN ONE=2.01 IN RAIN SIX=2.35 IN
	RAIN DAY=2.75 IN DT=0.03333 HR
* ON-SITE COMPUTE NM HYD	
	ID=1 HYD NO=100.0 AREA=0.002163 SQ MI
	PER A=20.00 PER B=20.00 PER C=20.00 PER D=40.00
	TP=0.1333 HR MASS RAINFALL=-1

* 10-YEAR, 6-HR STORM (UNDER EXISTING CONDITIONS) *	

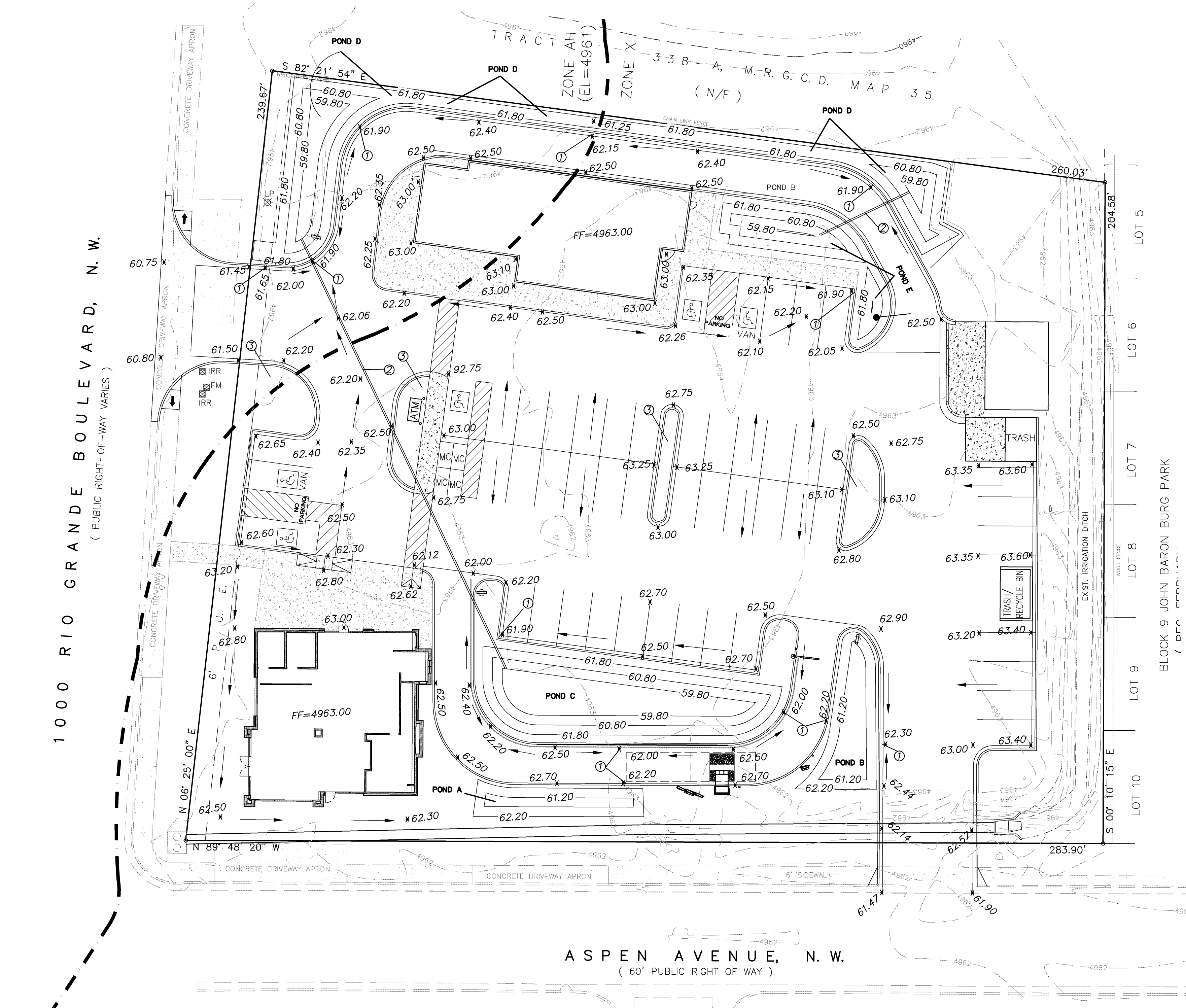
START RAINFALL	TIME=0.0
COMPUTE NM HYD	TYPE=1 RAIN QUARTER=0.0 IN
	RAIN ONE=1.34 IN RAIN SIX=1.57 IN
	RAIN DAY=1.83 IN DT=0.03333 HR
* ON-SITE COMPUTE NM HYD	
	ID=1 HYD NO=110.0 AREA=0.002163 SQ MI
	PER A=0.00 PER B=10.00 PER C=10.00 PER D=80.00
	TP=0.1333 HR MASS RAINFALL=-1

* 100-YEAR, 6-HR STORM (UNDER PROPOSED CONDITIONS) *	

START RAINFALL	TIME=0.0
COMPUTE NM HYD	TYPE=1 RAIN QUARTER=0.0 IN
	RAIN ONE=1.34 IN RAIN SIX=1.57 IN
	RAIN DAY=1.83 IN DT=0.03333 HR
* ON-SITE COMPUTE NM HYD	
	ID=1 HYD NO=110.1 AREA=0.002163 SQ MI
	PER A=0.00 PER B=10.00 PER C=10.00 PER D=80.00
	TP=0.1333 HR MASS RAINFALL=-1

FINISH	

1000 RIO GRANDE BOULEVARD, N. W.
(PUBLIC RIGHT-OF-WAY VARIES)



POND A:	TOP=62.20 (469.61 SF), BOTTOM=61.20 (134.14 SF), VOLUME=301.88 CF
POND B:	TOP=62.20 (679.72), BOTTOM=61.20 (327.91 SF), VOLUME=503.88 CF
POND C:	TOP=61.80 (436.96 SF), BOTTOM=59.80 (698.42 SF), VOLUME=2547.55 CF
POND D:	TOP=61.80 (2,041.85 SF), MIDDLE= 60.80 (789.02 SF), BOTTOM=59.80 (267.16 SF), VOLUME=1943.53 CF
POND E:	TOP=61.80 (489.53 SF), BOTTOM=59.80 (8.87 SF), VOLUME=498.50 CF

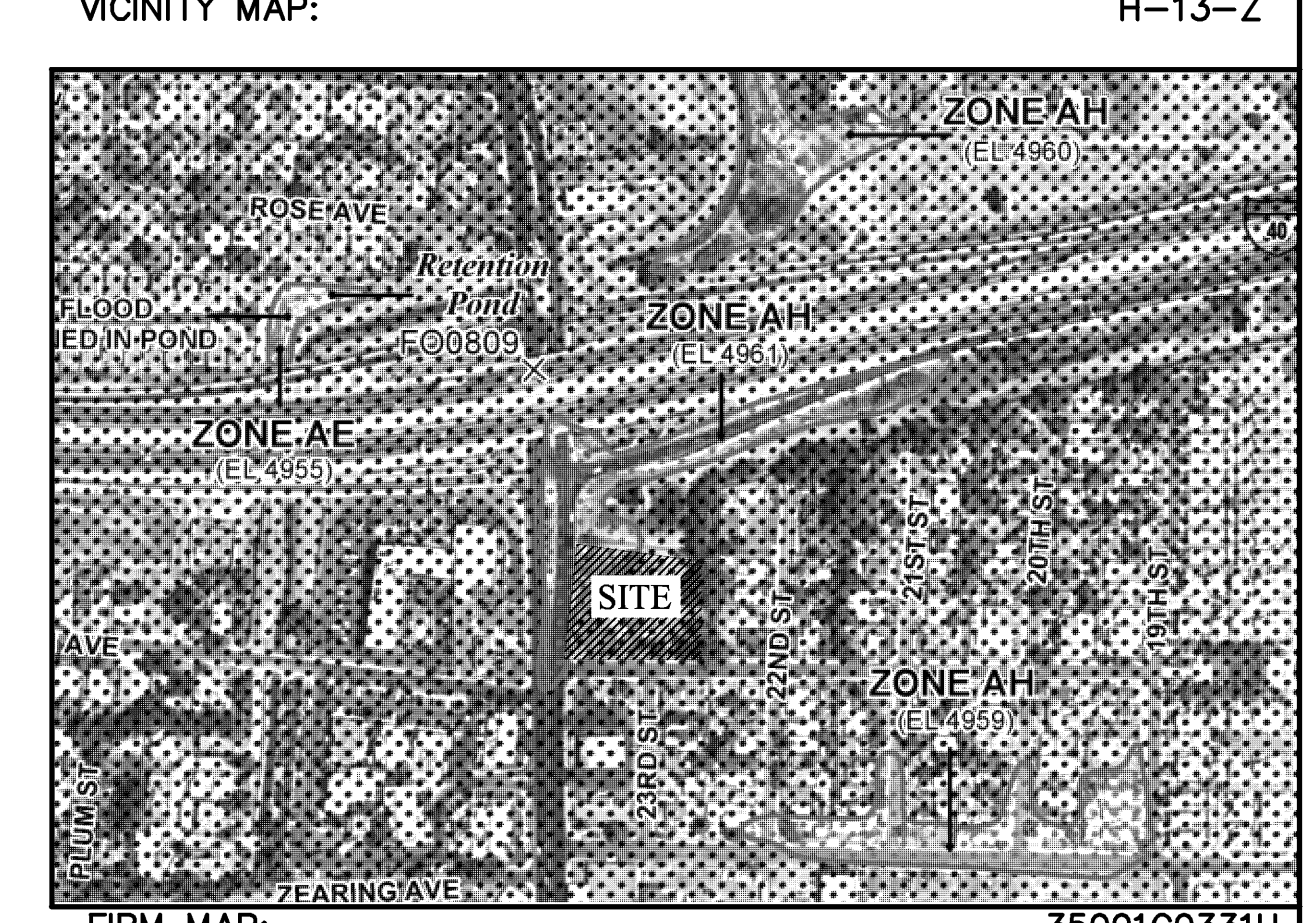
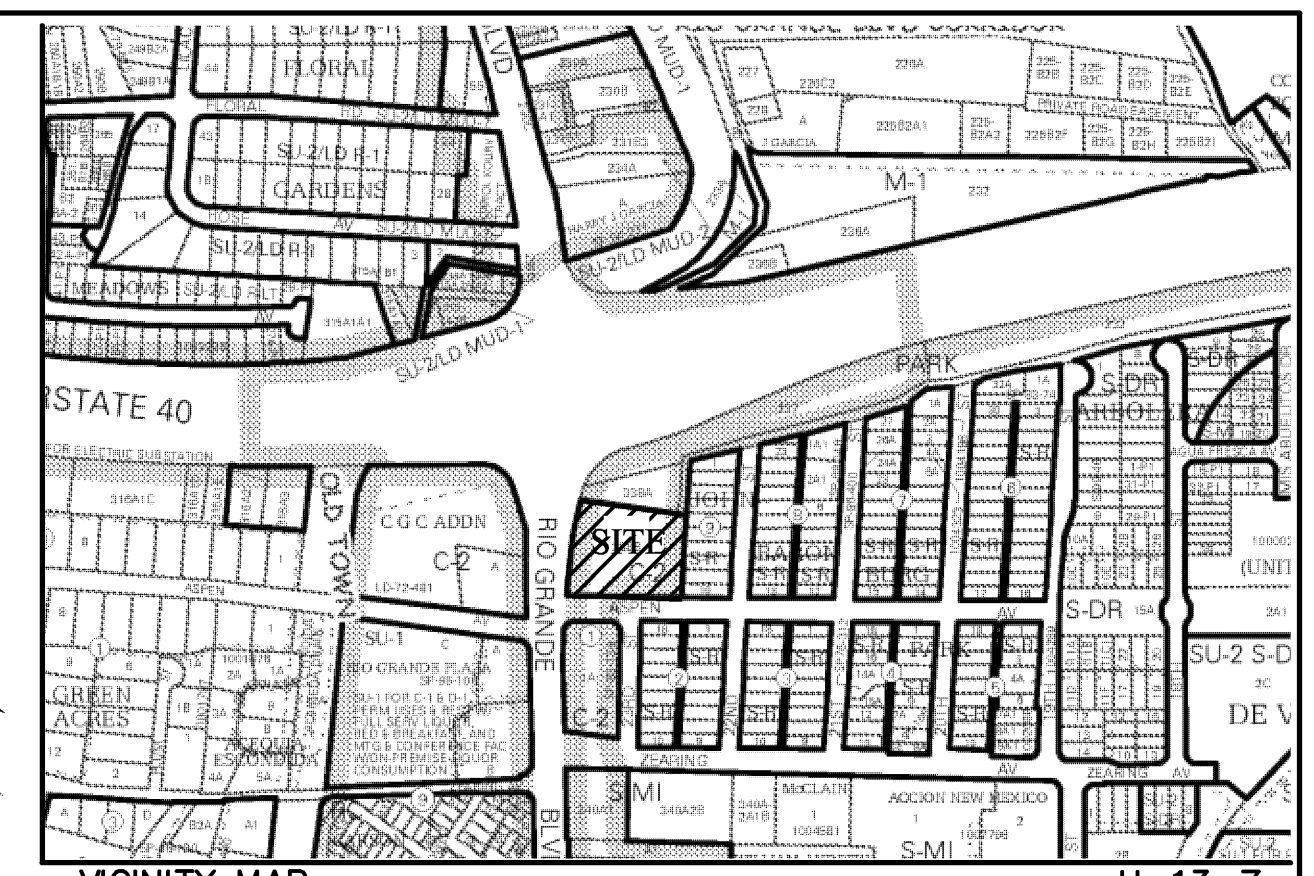
- GENERAL NOTES:**
1. CONTOUR INTERVAL IS HALF (1.00) FOOT.
 2. ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION 8-113, HAVING AN ELEVATION OF 4975.078 FEET ABOVE SEA LEVEL.
 3. UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
 4. THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.
 5. SLOPES ARE AT 3:1 MAXIMUM.

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - INPUT FILE = RIO.TXT
 - VERSION: 1997.02d RUN DATE (MON/DA/YR) = 03/26/2015
 USER NO. = AHYMO-1-9702c01000R31-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM NO.	TO NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1	NOTATION
START RAINFALL	TYPE=1										TIME= .00
COMPUTE NM HYD	100.00	-	1	.00216	4.50	.151	1.31307	1.500	3.249		RAIN6= 2.350
START RAINFALL	TYPE=1										TIME= .00
COMPUTE NM HYD	110.00	-	1	.00216	2.48	.081	.70203	1.500	1.790		RAIN6= 1.570
START RAINFALL	TYPE=1										TIME= .00
COMPUTE NM HYD	100.10	-	1	.00216	5.97	.217	1.87962	1.500	4.311		RAIN6= 2.350
START RAINFALL	TYPE=1										TIME= .00
COMPUTE NM HYD	110.10	-	1	.00216	3.80	.132	1.14633	1.500	2.748		RAIN6= 1.570
FINISH											TIME= 80.00

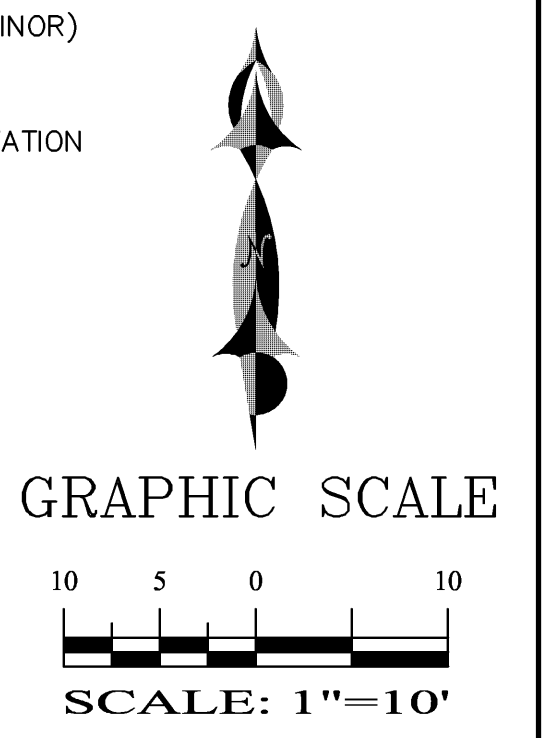
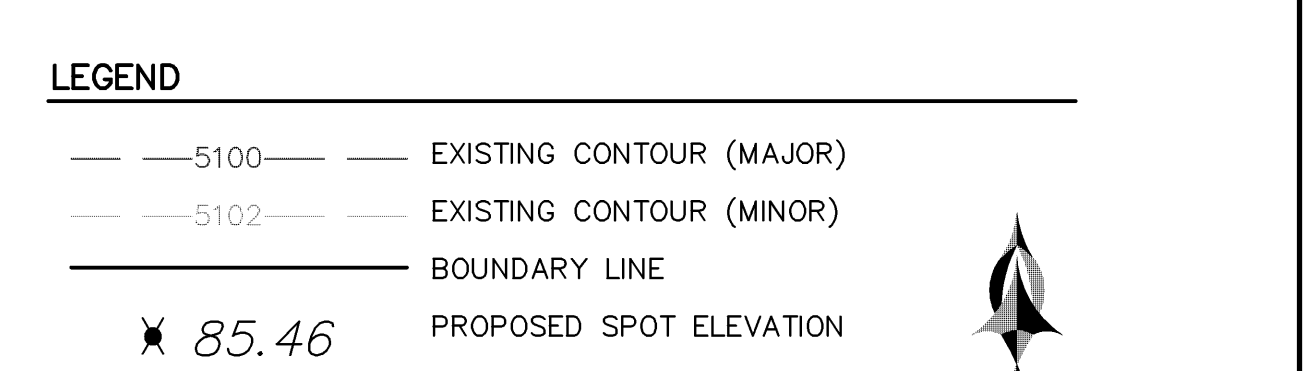
POND CALCULATION A
 BOTTOM AREA = 134.14 SF, TOP AREA = 469.61 SF, DEPTH = 1.0'
 VOLUME PROVIDED = (134.14 + 469.61)/2 X 1 = 301.88 CF

POND CALCULATION
 TOTAL POND AREA PROVIDED = POND A + B + C + D + E = 5,996.77 CF
 TOTAL PONDING VOLUME REQUIRED = VOL. PROPOSED CONDITIONS - VOL. EXISTING CONDITIONS = 0.053 - 0.023 = 0.03 AC-FT = 1,306.80 CF
 TOTAL PONDING VOLUME REQUIRED (VALLEY) = 0.5 INCHES X AREA = (0.5/12 X 60,306.32) = 2,512.76 CF
 TOTAL PONDING VOLUME REQUIRED (90TH PERCENTILE/FIRST FLUSH) = 0.34 INCHES X IMPERVIOUS AREA = (0.34/12 X 48,245.06) = 1,366.94 CF



LEGAL DESCRIPTION:
 TRACT 338-B, M.R.G.C.D MAP 35
 CONTAINING 60,306.32 S.F. (1.3844 ACRE)
 ZONING: C-2

- NOTES:**
1. PROVIDE 6" CURB OPENING
 2. 6" STORM DRAIN PIPE, CONNNECT TWO PONDS
 3. DEPRESSED LANDSCAPING AREA, MINIMUM 6" DEEP.



REZA AFAQHPOUR
 P.E. #11814

SBS CONSTRUCTION AND ENGINEERING, LLC

10209 SNOWFLAKE CT., NW
 ALBUQUERQUE, NEW MEXICO 87114
 (505)804-5013

1000 RIO GRANDE BLVD., NW GRADING AND DRAINAGE PLAN			
DRAWING:	DRAWN BY:	DATE:	SHEET #
201309-GD.DWG	SH-B	10-25-2014	2



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: _____ Building Permit #: _____ City Drainage #: _____

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: _____

City Address: _____

Engineering Firm: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Owner: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Architect: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Contractor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- DRAINAGE REPORT
- DRAINAGE PLAN 1st SUBMITTAL
- DRAINAGE PLAN RESUBMITTAL
- CONCEPTUAL G & D PLAN
- GRADING PLAN
- EROSION & SEDIMENT CONTROL PLAN (ESC)
- ENGINEER'S CERT (HYDROLOGY)
- CLOMR/LOMR
- TRAFFIC CIRCULATION LAYOUT (TCL)
- ENGINEER'S CERT (TCL)
- ENGINEER'S CERT (DRB SITE PLAN)
- ENGINEER'S CERT (ESC)
- SO-19
- OTHER (SPECIFY)

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- SIA/FINANCIAL GUARANTEE RELEASE
- PRELIMINARY PLAT APPROVAL
- S. DEV. PLAN FOR SUB'D APPROVAL
- S. DEV. FOR BLDG. PERMIT APPROVAL
- SECTOR PLAN APPROVAL
- FINAL PLAT APPROVAL
- CERTIFICATE OF OCCUPANCY (PERM)
- CERTIFICATE OF OCCUPANCY (TCL TEMP)
- FOUNDATION PERMIT APPROVAL
- BUILDING PERMIT APPROVAL
- GRADING PERMIT APPROVAL
- PAVING PERMIT APPROVAL
- WORK ORDER APPROVAL
- GRADING CERTIFICATION
- SO-19 APPROVAL
- ESC PERMIT APPROVAL
- ESC CERT. ACCEPTANCE
- OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided

DATE SUBMITTED: _____ By: _____

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to 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 subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development