CITY OF ALBUQUERQUE

October 25, 2010

Ronald Ray Bohannan, P.E.
Tierra West, LLC.
5571 Midway Park Place N.E.
Albuquerque, NM 87109

Re: Riverside Church of Christ Ph I, 3100 La Orilla Rd NW,
Permanent Certificate of Occupancy - Approved
Engineer's Stamp dated: 11-21-08 (E-12/D012)
Certification dated: 10-21-10

Dear Mr. Bohannan,

Thank you for providing an Engineer Certification for the Grading/Drainage Plan received on 10-21-10, for the above referenced plan. This information will be placed in the project file.

This submittal has been classified as a grading and paving certification due to current as constructed conditions; however, when the buildings are to be constructed a Certificate of Occupancy will be required.

If you have any questions, I can be contacted at 924-3982.

Sincerely,

Timothy E. Sims
Plan Checker, Planning Dept.-Hydrology
Development and Building Services

C: file
Bradley L. Bingham, P.E.

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Riverside Church of Christ
DRB: 1007367 EPC #:
ZONE MAP/DRG. FILE #: ~~E-15-Z~~ E-12/D018
WORK ORDER #:

LEGAL DESCRIPTION: A-1-B, Lands of Joel P. Taylor
CITY ADDRESS: 3100 La Orilla Road NW, Albuquerque, NM 87120

ENGINEERING FIRM:	Tierra West, LLC	CONTACT:	Jason Casuga, P.E.
ADDRESS:	5571 Midway Park Place NE	PHONE:	(505) 858-3100
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87113
OWNER:	Riverside Church of Christ	CONTACT:	Will McKenzie
ADDRESS:	3100 La Orilla Road NW	PHONE:	505-898-2627
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87120
ARCHITECT:	N/A	CONTACT:	N/A
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Precision Surveys	CONTACT:	Larry Medrano
ADDRESS:	P.O. Box 90636	PHONE:	505-856-5700
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87199
CONTRACTOR:	Dura-Bilt Products, Inc.	CONTACT:	Brad Little
ADDRESS:	4808 Jefferson NE	PHONE:	505-883-9100
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87109

CHECK TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
___ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
___ DRAINAGE PLAN RESUBMITTAL
___ CONCEPTUAL GRADING & DRAINAGE PLAN
___ GRADING PLAN
___ EROSION CONTROL PLAN
X ENGINEER'S CERTIFICATION (HYDROLOGY)
___ CLOMR/LOMR
___ TRAFFIC CIRCULATION LAYOUT (TCL)
___ ENGINEERS CERTIFICATION (TCL)
___ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
___ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

___ SIA / FINANACIAL GUARANTEE RELEASE
___ PRELIMINARY PLAT APPROVAL
___ S. DEV. PLAN FOR SUB'D. APPROVAL
___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
___ SECTOR PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ FOUNDATION PERMIT APPROVAL
___ BUILDING PERMIT APPROVAL
✓ CERTIFICATE OF OCCUPANCY (PERM.)
___ CERTIFICATE OF OCCUPANCY (TEMP.)
___ GRADING PERMIT APPROVAL
✓ PAVING PERMIT APPROVAL
___ WORK ORDER APPROVAL
___ SO-19

WAS A PRE-DESIGN CONFERENCE ATTENDED:

___ YES
___ NO
___ COPY PROVIDED

RECEIVED
OCT 21 2010
HYDROLOGY SECTION

DATE SUBMITTED: 10/21/2010 BY: Jason Casuga, P.E.

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 sumbittal may be required based on the following:

1. **Conceptual Grading and Drainage Plans**: 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.

CITY OF ALBUQUERQUE

March 13, 2009

Ron Bohannan, PE
Tierra West LLC
5571 Midway Park NE
Albuquerque, NM 87109

Re: Letter dated 3-5-09 re: Riverside Church of Christ expansion (E12-D18)

Dear Mr. Bohannan,

This letter is in response to the above referenced letter requesting that the requirements imposed on your client to mitigate the problems with pond on the Sagebrush Church property to others. After careful consideration, I agree with your request and this mitigation will no longer be a requirement of your Certificate of Occupancy for the above project.

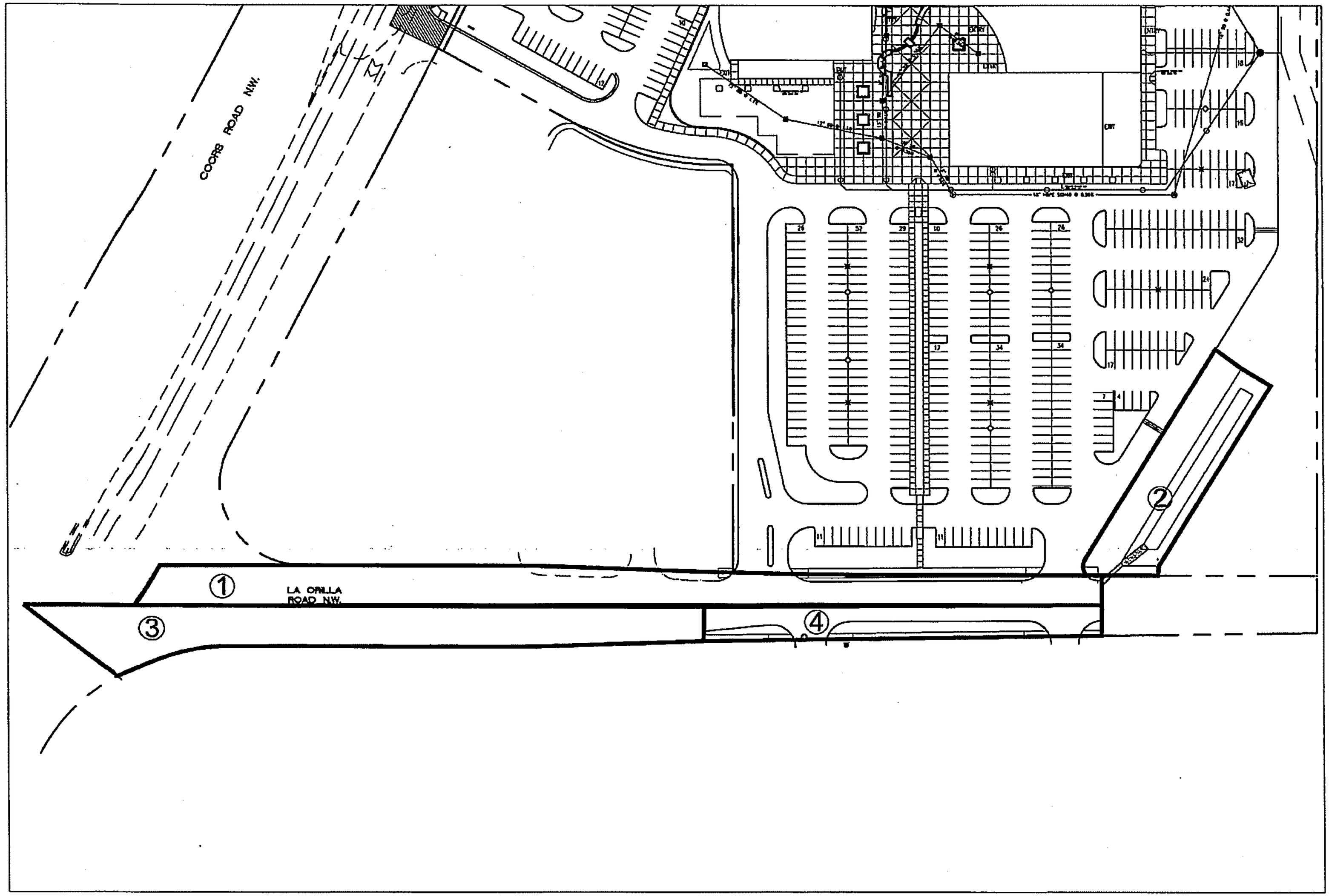
If you have any questions, you can contact me at 924-3986.

Sincerely,

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

C: file

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov



LA ORILLA BASIN MAP

Weighted E Method

Rentention Pond

Basin	Area (sf)	Area (acres)	Treatment A %	Treatment A (acres)	Treatment B %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)	100-Year, 6-Hr Weighted E	100-Year, 6-Hr Volume (ac-ft)	100-Year, 6-Hr Flow cfs	10-Year, 6-Hr Weighted E	10-Year, 6-Hr Volume (ac-ft)	10-Year, 6-Hr Flow cfs	100-Year, 10-Day Weighted E	100-Year, 10-Day Volume (ac-ft)	100-Year, 10-Day Flow cfs
1	38,180	0.88	0%	0		0.00	0%	0	100%	0.88	1.970	0.144	3.83	1.240	0.091	2.53	1.970	0.251	3.83
2	17,624	0.40	0%	0	100%	0.40	0%	0	0%	0.00	0.670	0.023	0.82	0.220	0.007	0.31	0.670	0.023	0.82
3	29,680	0.68	0%	0	100%	0.68	0%	0	0%	0.00	0.670	0.038	1.38	0.220	0.012	0.52	0.670	0.038	1.38
4	14,219	0.33	0%	0	100%	0.33	0%	0	0%	0.00	0.670	0.018	0.66	0.220	0.006	0.25	0.670	0.018	0.66
Total	55,804											0.223	6.70		0.116	3.61		0.330	6.70

Equations for Weighted E Method:

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

Volume (10-day) = V_{360} + Ad * (P_{10days} - P_{360})/ 12 in/ft

Excess Precipitation, E (inches)			
Zone 1	100-Year	10 - Year	2 - Year
E_a	0.44	0.08	0.00
E_b	0.67	0.22	0.01
E_c	0.99	0.44	0.12
E_d	1.97	1.24	0.72

Peak Discharge (cfs/acre)			
Zone 1	100-Year	10 - Year	2 - Year
Q_a	1.29	0.24	0
Q_b	2.03	0.76	0.03
Q_c	2.87	1.49	0.47
Q_d	4.37	2.89	1.69

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 22, 2004

Mike Walla, PE
Walla Engineering, Ltd
6100 Indian School NE, Ste 210
Albuquerque, NM 87110

Re: Riverside Church Addition Grading and Drainage Plan
Engineer's Stamp dated 4-16-04, (E12/D18)

Dear Mr. Walla,

Based upon the information provided in your submittal dated 4-16-04, 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. The road construction must be by the City Work Order process. An agreement and covenant for maintenance of the pond and spillway, as well as a public easement, will be required prior to Building Permit or Work Order approval.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. Refer to the attachment that is provided with this letter for details. If you have any questions please feel free to call the Municipal Development Department, Hydrology section at 768-3654 (Charles Caruso) or 768-3645 (Bryan Wolfe).

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

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

Sincerely,

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

C: Chuck Caruso, DMD
file

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 17, 2002

Mike J. Walla, PE
Walla Engineering, LTD
6100 Indian School Rd. NE
Albuquerque, NM 87110

RE: Riverside Church Addition Grading and Drainage Plan (E-12/D18)
Engineer's Stamp Dated April 25, 2002

Dear Mr. Walla:

I have reviewed the above referenced grading and drainage plan received November 25, 2002 and forward the following comments:

- Please provide proposed street grades for La Orilla Road.
- Please follow master plans (E-12/D6 La Orilla & Coors Development and E-12/D14 Riverside Plaza) to determine allowable discharge from site.
- Written concurrence from MRGCD will be required to discharge to the Lower Corrales Riverside Drain Extension.

If you have any questions please call me at 924-3982

Sincerely,

Carlos A. Montoya, PE
City Floodplain Administrator

C: file

DRAINAGE REPORT

for

Riverside Church of Christ
Located Southeast of Coors and La Orilla
Albuquerque, New Mexico

Prepared by

Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, New Mexico 87109

Prepared for

Dura Bilt Products, Inc
4808 Jefferson NE
Albuquerque, NM 87109

November 2008

RONALD RAY BOHANNAN NEW MEXICO 7868 REGISTERED PROFESSIONAL ENGINEER

11/21/08

Ronald R. Bohannan P.E. No. 7868

Location

The site is located east of Coors Blvd on La Orilla. The site contains approximately 4.48 acre and is currently the site of an existing church building (see attached Zone Atlas Map E-12). Two new additions to the existing church building are planned along with an associated parking lot and landscaping. The purpose of this report is to provide the drainage analysis and management plan for the new additions to the church.

Existing Drainage Conditions

The site is currently partially developed with an existing church building and two residences for the church caretaker. There is some existing asphalt, but most of the parking lot is currently graded dirt. A large detention pond prevents offsite flows from entering the site from the adjacent properties west of the site. La Orilla is developed with curb and gutter that prevents offsite flows from the street from entering the site from the north. The Lower Corrales Riverside Drain is located to the east and the natural terrain keeps flows off the site.

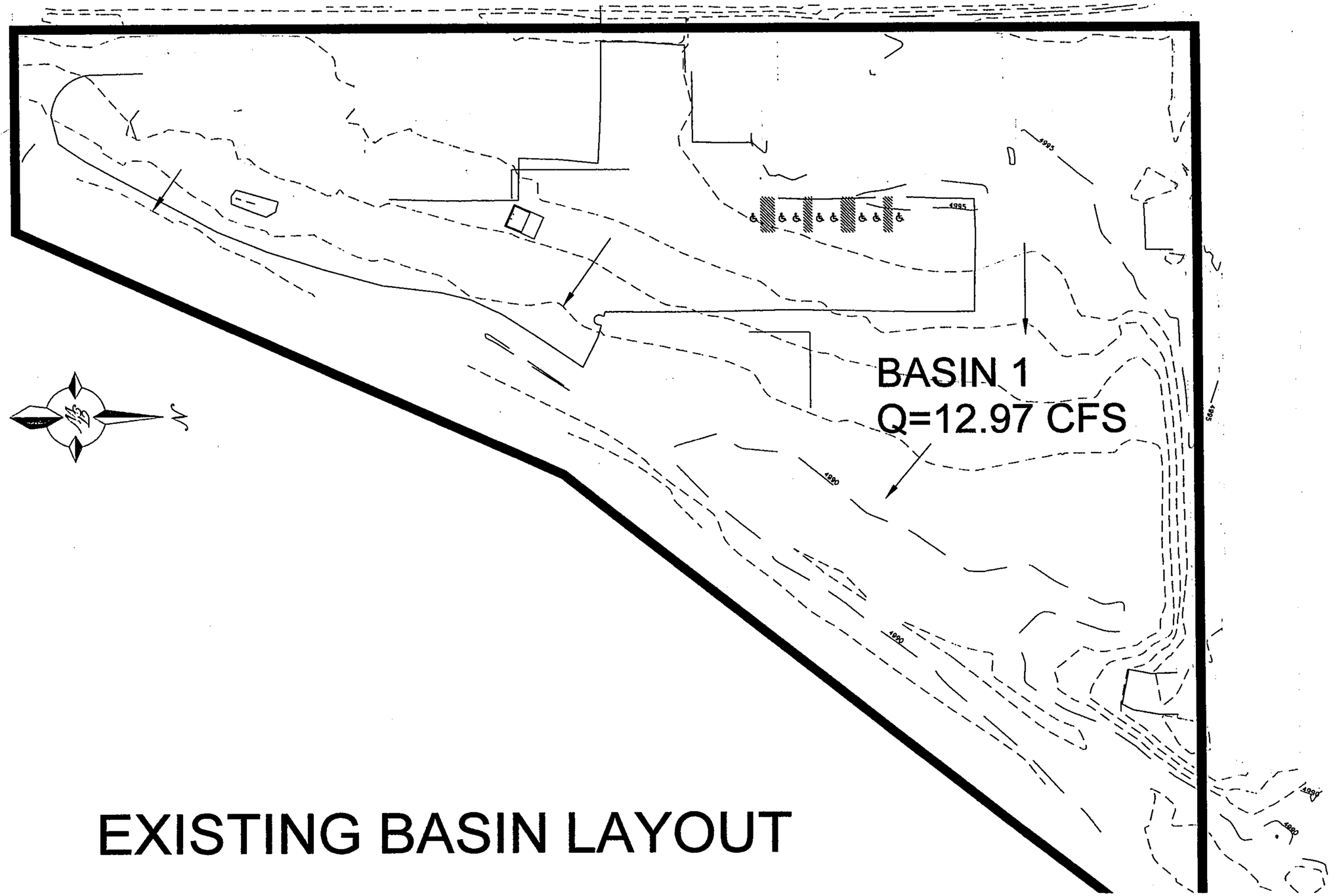
There is one existing basin with a historic flow rate of 12.97 on the site that drains east towards the Corrales Riverside Drain. There is a large natural ponding area located to the east that prevents these flows from entering the drain.

FIRM Map

The site is located on FIRM Map 35001C0116G as shown on the attached excerpt. There are no mapped floodplains on the site, although the site is adjacent to a 500-year floodplain of the Rio Grande River.

On-Site Drainage Management Plan

The site is divided into nine developed basins with a total discharge of 12.52 cfs. Basin 1 consists of the existing buildings and driveway that are not being revised. This area will



EXISTING BASIN LAYOUT

be minimally graded at this time and will continue the historic drainage pattern of draining east towards the Lower Corrales Riverside Drain. A small diversion ditch will convey the flows from Basin 1 to Pond 1. The Corrales Riverside Drain is higher than the church property and the flows do not enter it. Basins 2 through 6, 8 and 9 consist of the portion of the site that will be graded and rebuilt. These basins drain east to two new retention ponds that are designed for the 100-year, 10-day storm. Pond 1 accepts flows from Basins 1, 2, 6 and 8 and is designed to hold 0.38 ac-ft, which is greater than the 0.33 ac-ft of volume required. Pond 2 accepts flows from Basins 3, 4, 5 and 9 and is designed to provide 0.30 ac-ft of volume which is greater than the 0.26 ac-ft required. The property line for the site is in the middle of the Corrales Drain. Basin 7 consists of the canal and has a historic discharge of 0.35 cfs. This basin stays within the Drain and does not affect site.

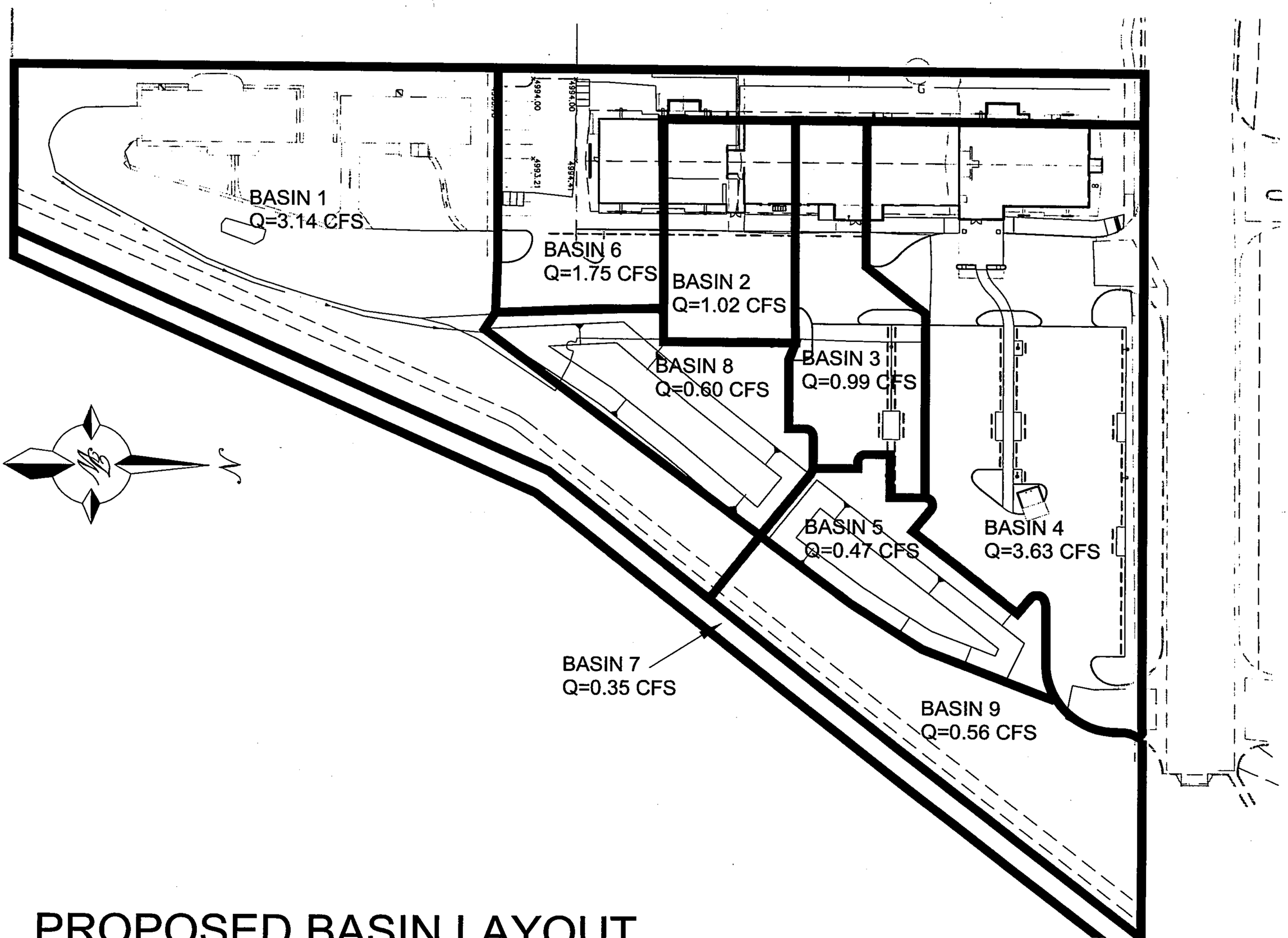
In the event of an emergency or a storm greater than 100-year, the ponds will overflow towards the Lower Corrales Riverside Drain.

Calculations

The Weighted E method from the "City of Albuquerque Development Process Manual Volume 11 – Design Criteria, 1997 Revision" was used to calculate the runoff and volume for the site.

Summary

The site generates a total developed discharge of 12.52 cfs. Basin 1 will continue to drain east towards the Lower Corrales Riverside Drain and the flows will be captured in a diversion ditch and conveyed to the new ponds. All basins except Basin 7 will drain east to new retention ponds that are designed to contain the 100-year, 10-day storm. Basin 7 consists of the portion of the Drain that lies within the Church property and will not affect the site in any way.



PROPOSED BASIN LAYOUT

iod

			100-Year, 6-Hr			10-Year, 6-Hr			100-Year, 10-Day		
	Treatment D		Weighted E	Volume	Flow	Weighted E	Volume	Flow	Weighted E	Volume	Flow
es)	%	(acres)		(ac-ft)	cfs		(ac-ft)	cfs		(ac-ft)	cfs
2.19	27%	1.21	1.123	0.419	12.97	0.570	0.213	7.02	1.123	0.567	12.97

			100-Year, 6-Hr			10-Year, 6-Hr			100-Year, 10-Day		
	Treatment D		Weighted E	Volume	Flow	Weighted E	Volume	Flow	Weighted E	Volume	Flow
es)	%	(acres)		(ac-ft)	cfs		(ac-ft)	cfs		(ac-ft)	cfs
0.35	26%	0.32	0.992	0.102	3.14	0.482	0.050	1.58	0.992	0.142	3.14
0.00	100%	0.23	1.970	0.038	1.02	1.240	0.024	0.68	1.970	0.067	1.02
0.14	44%	0.12	1.405	0.033	0.99	0.781	0.018	0.59	1.405	0.048	0.99
0.48	46%	0.48	1.415	0.123	3.63	0.790	0.069	2.16	1.415	0.181	3.63
0.00	0%	0.00	0.670	0.013	0.47	0.220	0.004	0.18	0.670	0.013	0.47
0.00	60%	0.31	1.450	0.062	1.75	0.832	0.035	1.04	1.450	0.099	1.75
0.00	0%	0.00	0.440	0.010	0.35	0.080	0.002	0.06	0.440	0.010	0.35
0.00	0%	0.00	0.670	0.017	0.60	0.220	0.005	0.23	0.670	0.017	0.60
0.00	0%	0.00	0.440	0.016	0.56	0.080	0.003	0.10	0.440	0.016	0.56
0.97		1.47		0.414	12.52		0.211	6.62		0.593	12.52

cipitation, E (inches)		
Year	10 - Year	2 - Year
44	0.08	0.00
67	0.22	0.01
99	0.44	0.12
97	1.24	0.72

Peak Discharge (cfs/acre)			
Zone 1	100-Year	10 - Year	2 - Year
Q_a	1.29	0.24	0
Q_b	2.03	0.76	0.03
Q_c	2.87	1.49	0.47
Q_d	4.37	2.89	1.69

POND SUMMARY

	Pond 1 (Basins 1, 2, 6, 8)	Pond 2 (Basins 3, 4, 5, 9)
Area of Pond Top (SF)	7,999.73	6,437.93
Area of Pond Bottom (SF)	3,098.49	2,332.16
Depth of Pond (FT)	3.00	3.00
Volume (CF)	16,647.33	13,155.14
Volume (AC-FT)	0.38	0.30
Volume Required (CF)	14,157.00	11,238.48
Volume Required (AC-FT)	0.33	0.26
Volume Provided (CF)	16,647.33	13,155.14
Volume Provided (AC-FT)	**0.38**	**0.30**

Pond 1 Volume = 0.142+0.067+0.099+0.017 = 0.325
Pond 2 Volume = 0.048+0.181+0.013+0.016 = 0.258

<u>VOLUME OF POND</u>

$V=(At + Ab)/2 * D$

At = Area of Top
Ab= Area of Bottom
D = Depth

Emergency Overflow

Weir Equation:

$$Q = CLH^{3/2}$$

Q= Flow
C = 2.95
L= Length of weir
H = Height of Weir

Pond 1 Outlet

$$\frac{6.51}{2.95 * 0.5^{3/2}} = L$$

Q = 6.51 cfs
H=0.50 feet
L=6.24 feet
Use 6.50 feet

Pond 2 Outlet

$$\frac{5.65}{2.95 * 0.5^{3/2}} = L$$

Q = 5.65 cfs
H=0.50 feet
L=5.42 feet
Use 5.50 feet

CITY OF ALBUQUERQUE

Planning Department
Transportation Development Services Section

October 21, 2010

Lloyd W. Goldrick, Registered Architect
Dura Bilt Products, Inc.
4808 Jefferson NE
Albuquerque, NM 87109

Re: Certification Submittal for a Permanent Building Certificate of Occupancy (C.O.) for Riverside Church of Christ PHASE I, [E-12 / D018
3100 La Orilla Rd NW
Engineer's Stamp Dated 10/20/10

Dear Mr. Goldrick:

Based upon the information provided in your submittal received 10-20-10, Transportation Development has no objection to the issuance of a Permanent Certificate of Occupancy. This letter serves as a "green tag" from Transportation Development for a Permanent Certificate of Occupancy to be issued by the Building and Safety Division.

If you have any questions, please contact me at (505)924-3630.

Sincerely,

Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
CO Clerk

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Dura Bilt Products, Inc.
4808 Jefferson NE
Albuquerque, NM 87109
Phone: (505) 883-9100
Fax: (505) 883-9198
www.durabiltproducts.com

DURA BILT
Products, Inc.

20 October 2010

Wilfred A. Gallegos, PE
Development and Building Services
PO Box 1293
Albuquerque, New Mexico 87103

RE: Administrative Amendment Certification, 3100 La Orilla RD NW (PHASE I)
VOP 10/20/10
4:00pm)

Mr. Gallegos:

This letter is to indicate that I have reviewed the Administrative Amendment File # 10-10077 dated 7/16/2010 of the Site Development Plan DRB Project # 1007367, observed the completed work and find it in Substantial Compliance with the aforementioned plan, according to my knowledge, information and belief. I have affixed my seal to the Certification Adminstrative Amendment, and dated it 10/20/2010.

Attached are a Drainage and Transportation Information Sheet for the project, and the Certification Administrative Amendment stamped, signed and dated 10/20/2010.

Thank you for your attention to this matter.

Sincerely,

Lloyd W. Goldrick, AIA
Project Architect

10-20-10

RECEIVED
OCT 20 2010
HYDROLOGY SECTION

DBPI #08-106

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

E12/D018

PROJECT TITLE: Riverside Church of Christ (PHASE I) ZONE ATLAS/DRNG. FILE #:E12 _____
DRB #: 1007367 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Tract A1B
CITY ADDRESS: 3100 La Orilla RD NW 871

ENGINEERING FIRM:	Tierra West	CONTACT:	Ron Bohannon
ADDRESS:	5571 Midway Park PL NE	PHONE:	(505) 858-3100
CITY, STATE:	ALBUQUERQUE, NM	ZIP CODE:	87109-5826
OWNER:	Riverside Church of Christ	CONTACT:	Will MacKenzie
ADDRESS:	3100 La Orilla RD NW	PHONE:	898-2627
CITY, STATE:	ALBUQUERQUE, NM	ZIP CODE:	87120-2504
ARCHITECT:	Lloyd W Goldrick, RA, AIA, CSI, CDT, Leed AP	CONTACT:	Lloyd W Goldrick
ADDRESS:	4808 JEFFERSON NE	PHONE:	883-9100
CITY, STATE:	ALBUQUERQUE, NM	ZIP CODE:	87109-2103
SURVEYOR:	REX VOGLER	CONTACT:	REX VOGLER
ADDRESS:		PHONE:	(505) 767.8891
CITY, STATE:	ALBUQUERQUE, NM	ZIP CODE:	87
CONTRACTOR:	DURA BILT PRODUCTS INC.	CONTACT:	JEFF FOSS
ADDRESS:	4808 JEFFERSON NE	PHONE:	883-9100
CITY, STATE:	ALBUQUERQUE, NM	ZIP CODE:	87109-2103

TYPE OF SUBMITTAL:
- ___ DRAINAGE REPORT
- ___ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ___ DRAINAGE PLAN RESUBMITTAL
- ___ CONCEPTUAL GRADING & DRAINAGE PLAN
- ___ GRADING PLAN
- ___ EROSION CONTROL PLAN
- ___ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ___ CLOMR/LOMR
- X TRAFFIC CIRCULATION LAYOUT (TCL)
- ___ ENGINEER'S CERTIFICATION (TCL)
- ___ ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
- ___ OTHER

CHECK TYPE OF APPROVAL SOUGHT:
- ___ SIA/FINANCIAL GUARANTEE RELEASE
- ___ PRELIMINARY PLAT APPROVAL
- ___ S. DEV. PLAN FOR SUB'D APPROVAL
- ___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ___ SECTOR PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- ___ BUILDING PERMIT APPROVAL
- X CERTIFICATE OF OCCUPANCY (PERM.)
- ___ CERTIFICATE OF OCCUPANCY (TEMP.)
- ___ GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- ___ OTHER (SPECIFY)

PLEASE NOTE: BUILDING AND SITE IS EXISTING.

RECEIVED
OCT 20 2010
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ___ YES
- ___ NO
- ___ COPY PROVIDED

DATE SUBMITTED: October 20, 2010 BY: Lloyd W Goldrick

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 upon the following:

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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.