CITY OF ALBUQUERQUE

June 23, 2015

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

RE: **Dreamstyle Warehouse, 1525 Renaissance Center**
Grading and Drainage Plan
Engineer's Stamp Date 6-19-2015 (File: F16-D051A)

Dear Mr. Bohannan:

Based upon the information provided in your submittal received 6-15-15, the above referenced Grading and Drainage Plan cannot be approved for DRB Action on the Site Development Plan for Building Permit until the following comment is addressed:

1) The first flush from the new building site must be retained. The off-site pond ("Pond 5") that is currently proposed to handle first flush does not meet the requirements because it is discharging the first flush at a controlled rate in lieu of retaining it. In addition to options mentioned from the last letter, another option may be to locate the pond just northeast of the new building within the area where the paved parking is shown and relocate the paved parking elsewhere. Along with the proposed change, state how first flush is to be managed on the grading and drainage plan in along with labeled required volumes.

Prior to obtaining Building Permit, address the following items:

1) Provide plat for Tract 9A that may show a private easement for the proposed storm drain that routes off-site flows through site. If one is not already provided, a paper easement is required.

2) In order to control the flow to allowable discharge of 0.66 cfs to the street, revise grades at the entrance.

3) The Type "D" drop inlet upstream of Pipe 3 does not show the capacity to handle the amount of flow listed for Pipe 3. Label curb along the west edge and other parking areas if applicable, and have a general note stating that the listed elevations are at the flowline as applicable. (There is a discrepancy between the spot elevation of 5071.40 and the grate elevation of 5071.25 near the northwest corner of the new building where the 5071.25 elevation appears to provide sufficient head to capture the required flow.)

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

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

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Dreamstyle Tract 9A City Drainage #: _____

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

Legal Description: _____

City Address: _____

Engineering Firm: Tierra West, LLC Contact: Jon Niski

Address: 5571 Midway Park Place NE Albuquerque NM 87109

Phone#: 505-858-3100 Fax#: 505-858-1118 E-mail: jniski@tierrawestllc.com

Owner: Larry Chavez Contact: Larry Chavez

Address: 7401 Indian School Road NE Albuquerque, NM 87110

Phone#: 505-881-3200 Fax#: _____ E-mail: lchavez@rbass.com

Architect: Rick Bennett Contact: Rick Bennett

Address: 1104 Park Avenue SW Albuquerque, NM 87102

Phone#: 505-242-1859 Fax#: _____ E-mail: rick@rba81.com

Surveyor: Precision Surveys, Inc. Contact: Larry Medrano

Address: P.O. Box 90636 Albuquerque, NM 87199

Phone#: 505-856-5700 Fax#: _____ E-mail: larry@presurv.com

Contractor: Franklin's Earthmoving Inc. Contact: John W. Ellis

Address: P.O. Box 30275 Albuquerque, NM 87190

Phone#: 505-884-6947 Fax#: _____ E-mail: john@franklinsearthmoving.com

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
___ DRAINAGE PLAN 1st SUBMITTAL
X DRAINAGE PLAN RESUBMITTAL
___ CONCEPTUAL G & D PLAN
X 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: 6·15·2015 By: Jonathan Niski

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 followin

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

TIERRA WEST, LLC

5571 Midway Park Place NE Albuquerque, NM 87109
(505) 858-3100 Fax (505) 858-1118 1-800-245-3102
tierrawestllc.com

June 10, 2015

Ms. Jeanne Wolfenbarger, PE
Planning Department- Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: DREAMSTYLE WAREHOUSE
1525 RENAISSANCE CENTER
GRADING AND DRAINAGE PLAN (F16-D051A)

Dear Ms. Wolfenbarger:

Please find the following responses addressing your comments listed below:

1. The First Flush Pond area must retain the impervious area of the currently proposed building at a depth of 0.34" and not be intended to only allow drainage from future impervious development on Basin 7. Show drainage from new building construction to a first flush pond area instead of directly draining it into the new storm drain system. Based on the site plan layout, some options may be to provide an area within small pervious area at the southwest corner of the building while maintaining the required minimum distance away from the building, providing a roof drain to directly tie into the currently proposed first flush pond location, and utilizing the pervious area south of the proposed parking lot. Show all roof drains for new building.
   The proposed impervious area drains to a pond that has a restricted flow allowing that water to pond for a long period of time. When the water is discharged from Pond #5 it is then conveyed to the regional pond along Montano Road. The discharge from that pond is controlled by a manual valve thus effectively creating another first flush pond.

   This type of drainage system is consistent with Section 14-5-2-6(H) which states first flush systems shall be used where practicable except, "where appropriate public or private drainage facilities are available 'offsite' and will be used in a manner consistent with the goals of Section 14-5-2-1." We believe this design meets those requirements.

2. Label existing contours, particularly the major ones. Also provide new contours for the site along the 3: 1 slopes.
   The contours are now labeled and proposed contours were added to the plan.

3. Show existing and new contour elevations around the perimeter of the site to show how new grading ties into existing and does not adversely impact adjacent sites. Also include existing spot elevations along Renaissance Blvd, and label Renaissance Blvd. on the plan view.

Existing spot elevations along Renaissance Blvd. were added as were the proposed contours tying to the existing contours.

4. Reference that the 9.79 cfs of off-site flow came from the Master Drainage Plan. In addition to the 9.79 cfs entering the site from the storm drain, address how much off-site flow is coming from the sloped area to the east of the site and show this off-site basin area in the calculations. Call out existing pipe size that is conveying the 9.79 cfs. With this addition, maintain an overall site discharge of below 24.97 cfs to Pond 5.
   Basin 8 was added to capture the amount of flow from the sloped area and that flow was added to the calculations. The total discharge to Pond #5 is 24.89 cfs which is still below the allowable 24.97 cfs.

5. For the entryway into the site, call out COA Standard Dwgs. 2426 and 2420 as applicable.
   The standard drawing numbers for the entrance were added to the plan.

6. For connection of dock drain into the main storm drain, call out a tee connection and invert elevation.
   A tee connection is now called out on the plan.

7. Correct spot elevation showing "50730.0" at the comer of the building to correct elevation.
   The spot elevation was corrected.

8. If 0.66 cfs is allowed to be discharged into the street, the allowable flow should be met unless it can be shown that the street and the downstream storm drain system in Renaissance that will be capturing this flow can handle the additional 0.96 cfs.
   The total amount of discharge to the street is 1.0 cfs which is slightly higher than the 0.66 cfs proposed in the previous drainage study. Since an amount greater to this flow and volume is captured in the proposed first flush pond, the downstream capacity is actually increased and can easily handle the additional 0.34 cfs discharged to the street.

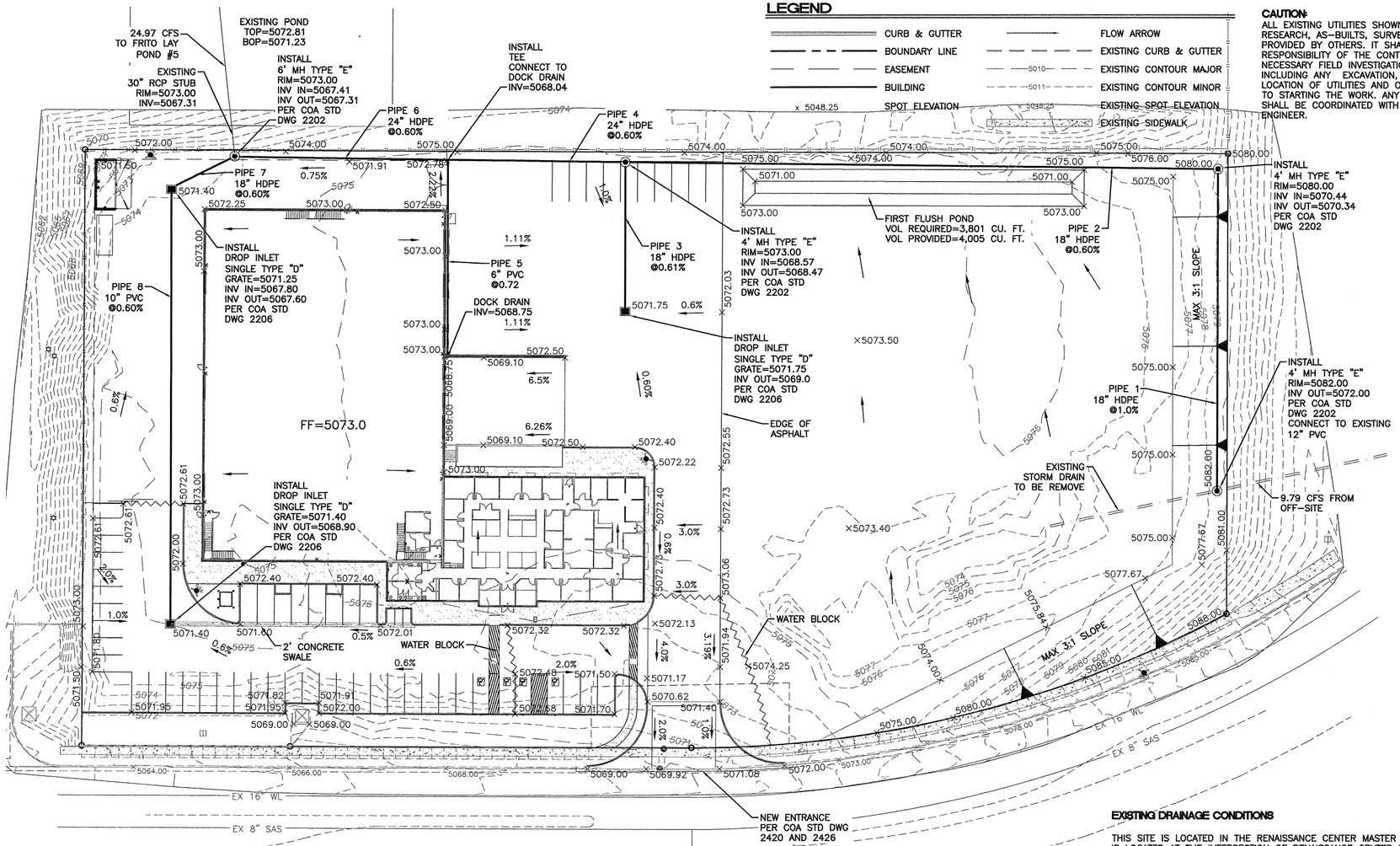
9. Show capacity calculations for on-site inlets.
   Inlet capacity calculations were added to the plan.

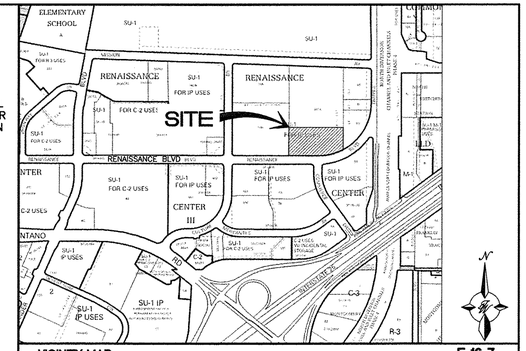
If you have any questions or need additional information regarding this matter, please do not hesitate to contact me.

Sincerely,

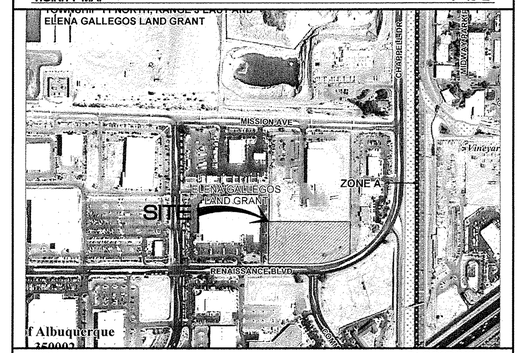
Jonathan D. Niski, PE

JN: 2014038
dc





VICINITY MAP: F-16-Z



FIRM MAP: 35001C0138H

CAUTION:
ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

NOTICE TO CONTRACTORS

1. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
2. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
4. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

Pipe Capacity

Pipe	D	Slope	Area	R	Q Provided	Q Required	Velocity
	(in)	(%)	(ft^2)		(cfs)	(cfs)	(ft/s)
1	18	0.60	1.77	0.375	10.61	9.79	5.54
2	18	0.60	1.77	0.375	10.61	9.79	5.54
3	18	0.61	1.77	0.375	10.69	10.67	6.04
4	24	0.60	3.14	0.500	22.84	20.46	6.51
5	6	0.72	0.20	0.125	0.62	0.35	1.78
6	24	0.60	3.14	0.500	22.84	20.81	6.62
7	18	0.60	1.77	0.375	10.61	4.68	2.65
8	10	0.60	0.55	0.208	2.21	1.72	3.15

Manning's Equation:
Q = 1.49/n * A * R^(2/3) * S^(1/2)

A = Area
R = D/4
S = Slope
n = 0.01 HDPE/PVC

FRIST FLUSH CALCULATIONS:

3.08 ACRES OF IMPERVIOUS AREA = 134,165 SQ. FT
134,165 SQ. FT * (0.34"/12) = 3,801 CU. FT = 0.087 AC-FT
OF VOLUME REQUIRED TO BE RETAINED ON-SITE.

PROPOSED DRAINAGE CONDITIONS

THIS SITE WILL CONTAIN SEVEN BASINS WITH FIVE OF THE BASINS DRAINING TO AN EXISTING STORM SEWER STUB THAT IS CONNECTED TO FRITO LAY POND #5. THE EXISTING STORM SEWER PIPE FROM THE OFFICE COMPLEX WILL BE INTERCEPTED WITH A NEW STORM SEWER AND ROUTED AROUND THE PERIMETER OF THE SITE AN CONNECT TO THE EXISTING STUB MENTIONED ABOVE.

BASINS 1, 2 AND 4 WILL DRAIN TO AREA INLETS THAT ARE CONNECTED TO THE STORM SEWER. BASIN 3 WILL DRAIN THE TRUCK DOCK AREA THROUGH A STORM DRAIN OPENING ON THE NORTH SIDE OF THE DOCK.

BASINS 5 AND 6 WILL DRAIN TO THE STREET GENERATING 1.00 CFS. THE ORIGINAL FRITO LAY DRAINAGE PLAN ALLOWED FOR 0.66 CFS TO BE DISCHARGED TO THE STREET. THE ADDITIONAL 0.34 CFS BEING DISCHARGED WILL BE COMPENSATED BY REMOVING THAT FLOW FROM THE OVERALL SYSTEM WITH THE REQUIREMENT OF THE FIRST FLUSH POND FOUND IN BASIN 7. THE MINIMAL FLOW GOING TO THE STREET WILL NOT IMPACT PROPERTIES DOWN STREAM SINCE ALL OF THE PROPERTIES DRAIN A SMALL AMOUNT TO THE WIDE STREET.

BASIN 7 WILL REMAINED UNDEVELOPED AT THIS TIME AND WILL DRAIN TO A FIRST FLUSH POND DESIGNED TO HOLD 4,008 CUBIC FEET OR WATER WHICH IS GREATER THAN THE 3,801 CUBIC FEET REQUIRED. THE POND WILL OVERFLOW TO THE AREA INLET LOCATED IN BASIN 1 NEAR THE TRUCK DOCK AND BE CONVEYED TO FRITO LAY DETENTION POND #5.

THIS SITE WILL DISCHARGE A TOTAL OF 24.89 CFS TO FRITO LAY POND #5 WHICH IS LESS THAN THE 24.97 ALLOWED IN THE APPROVED DRAINAGE PLAN. THAT TOTAL INCLUDES THE 10.52 CFS BEING PASSED THROUGH FROM THE ADJACENT OFFICE COMPLEX.

EXISTING DRAINAGE CONDITIONS

THIS SITE IS LOCATED IN THE RENAISSANCE CENTER MASTER PLAN AREA AND IS LOCATED AT THE INTERSECTION OF RENAISSANCE CENTER BLVD. AND COMMERCE DR. IT IS BOUNDED ON THE SOUTH BY RENAISSANCE CENTER BLVD, ON THE WEST BY FEDEX, ON THE NORTH BY FRITO LAY AND ON THE EAST BY AN OFFICE COMPLEX AND CONTAINS APPROXIMATELY 3.74 ACRES.

THE SITE CURRENTLY DRAINS TO A TEMPORARY RETENTION POND WITH SOME FLOWS GOING TO THE STREET. THIS SITE WAS INCLUDED IN THE FRITO LAY AND CHAVEZ-GRIEVES DRAINAGE REPORT (F16/D51) APPROVED ON SEPTEMBER 10, 1998 AND WILL CONTINUE TO FOLLOW THAT DRAINAGE SCHEME THAT ALLOWS ALL OF THE DRAINAGE TO FLOW TO FRITO LAY DETENTION POND #5.

THE SITE DOES ACCEPT OFF-SITE FLOWS (10.52 CFS) FROM THE OFFICE COMPLEX WHICH IS ALSO CONTAINED IN THE TEMPORARY RETENTION POND. NO OTHER OFF-SITE FLOWS ENTER THE SITE. AS SHOWN ON THE FIRM MAP THERE ARE NO FLOOD PLAINS ON THIS PROPERTY.

Capacity of a Single 'D' Storm Drop Inlet

Capacity of the grate:

L = 40' - 2(2" ends) - 7(1½" middle bars)
= 32 1/2"
= 2.7083'

W = 25" - 13(1½" middle bars)
= 18.5"
= 1.54'

Area = 2.7083' x 1.54'
= 4.18 ft²

Effective Area = 4.18- 4.18 (0.5 clogging factor)
= 2.09 ft² at the grate

Orifice Equation

Q = CA sqrt(2gH)
Q = 0.6*2.09*sqrt(2*32.2*0.67)
Q = 8.24 cfs

GRAPHIC SCALE
30 15 0 15 30
SCALE: 1"=30'

ENGINEER'S SEAL RONALD R. BOHANNAN NEW MEXICO 7868 PROFESSIONAL ENGINEER RONALD R. BOHANNAN P.E. #7868	TRACT 9A RENAISSANCE CENTER GRADING AND DRAINAGE PLAN TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	DRAWN BY BJF DATE 06/10/15 2015009-GRB SHEET # D1 JOB # 2015009

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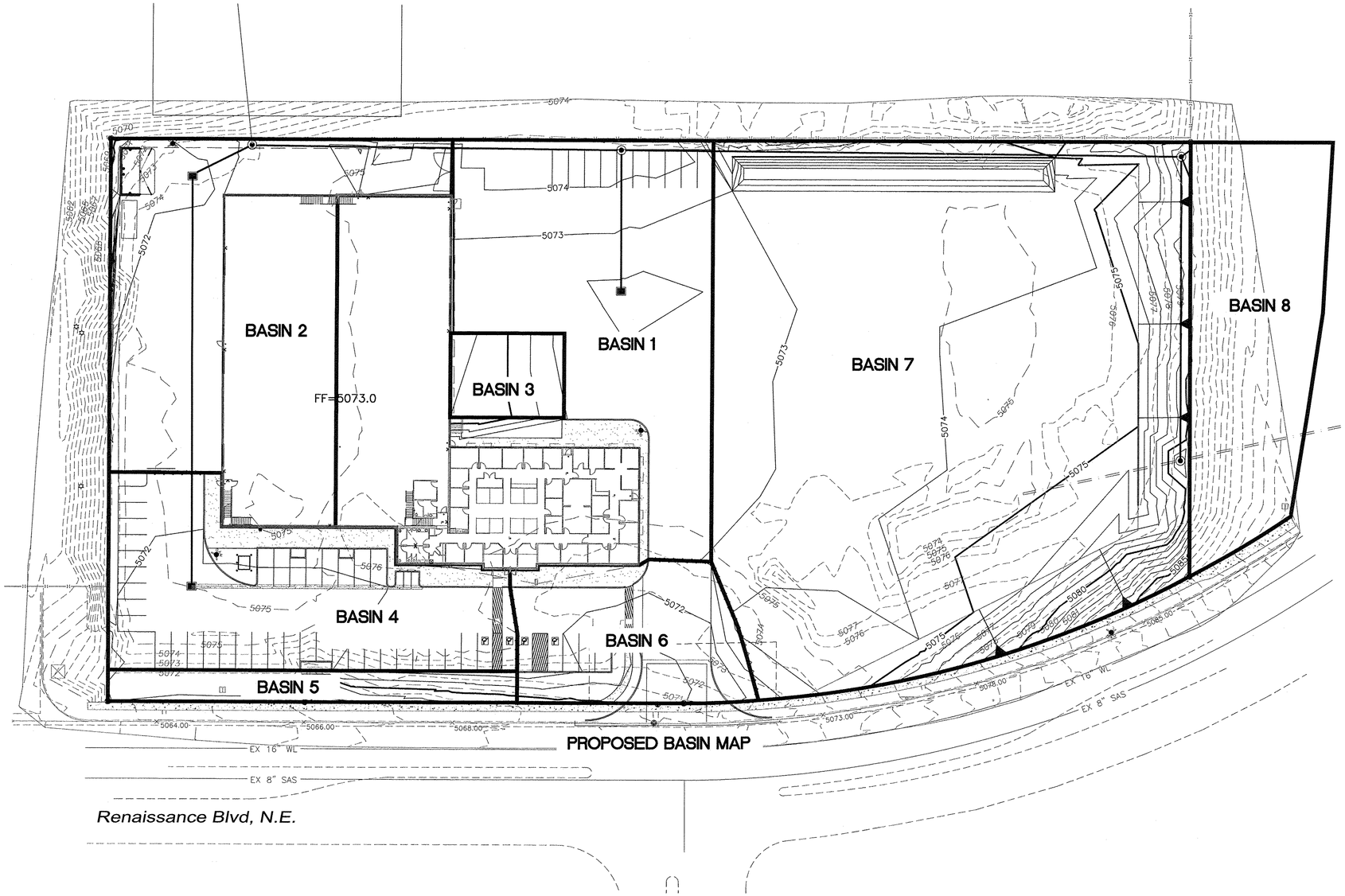

PROPOSED BASIN MAP

Weighted E Method

On-Site Basins

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 Weighted E (ac-ft)	100-Year Volume (ac-ft)	100-Year Flow cfs	10-Year Weighted E (ac-ft)	10-Year Volume (ac-ft)	10-Year Flow cfs
1	41,955	0.96	0%	0	2%	0.02	0%	0.00	98%	0.94	2.093	0.168	4.48	1.319	0.106	2.98
2	28,583	0.66	0%	0	8%	0.05	0%	0.00	92%	0.60	2.013	0.110	2.96	1.255	0.069	1.95
3	3,220	0.07	0%	0	0%	0.00	0%	0.00	100%	0.07	2.120	0.013	0.35	1.340	0.008	0.23
4	16,617	0.38	0%	0	8%	0.03	0%	0.00	92%	0.35	2.013	0.064	1.72	1.255	0.040	1.13
5	3,577	0.08	0%	0	100%	0.08	0%	0.00	0%	0.00	0.780	0.005	0.19	0.280	0.002	0.08
6	8,593	0.20	0%	0	25%	0.05	0%	0.00	75%	0.15	1.785	0.029	0.81	1.075	0.018	0.51
7	67,804	1.56	0%	0	30%	0.47	0%	0.00	70%	1.09	1.718	0.223	6.19	1.022	0.133	3.86
8	14,040	0.32	0%	0	100%	0.32	0%	0.00	0%	0.00	0.780	0.021	0.73	0.280	0.008	0.31
													16.68			

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

Excess Precipitation, E (inches)		
Zone 2	100-Year	10 - Year
E_a	0.53	0.13
E_b	0.78	0.28
E_c	1.13	0.52
E_d	2.12	1.34

Peak Discharge (cfs/acre)		
Zone 2	100-Year	10 - Year
Q_a	1.56	0.38
Q_b	2.28	0.95
Q_c	3.14	1.71
Q_d	4.70	3.14

N

GRAPHIC SCALE

30 15 0 15 30

SCALE: 1"=30'

ENGINEER'S SEAL

RONALD R. BOHANNAN NEW MEXICO 7868 PROFESSIONAL ENGINEER

RONALD R. BOHANNAN P.E. #7868

TRACT 9A
RENAISSANCE CENTER
GRADING AND DRAINAGE PLAN

TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
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(505) 858-3100
www.tierrawestllc.com

DRAWN BY: BJF

DATE: 06/10/15

2015009-GRB

SHEET # D2

JOB # 2015009