CITY OF ALBUQUERQUE

July 21, 2015

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

RE: **Skilled Nursing Facility, 1610 Renaissance Blvd NE**
Grading and Drainage Plan
Engineer's Stamp Date 7-17-2015 (File: F16-D017)

Dear Mr. Bohannan:

Based upon the information provided in your submittal received 7-16-15, the above referenced is approved for DRB action on the Site Development Plan for Building Permit. It will not be approved for Building Permit until the following comments are addressed:

1) The request for the waiver for the first flush requirement needs further discussion. One option is to discuss with COA DMD about use of the regional pond for first flush management. Also, another option is to utilize retention ponding further away from the building, but there were no details provided about whether or not the geotechnical recommendations would not allow retention ponding within a certain distance from the building. Is there a possibility that the pond furthest away from the building could be used for retention ponding?

2) Label existing spot elevations, and label existing contours on Chappell Drive and on Commerce Drive. Especially show the existing curb elevations at the access points. Take ADA access across the accessways into account.

3) Pond 3 is called out on two opposing locations on the grading and drainage plan versus the basin map. This pond appears to be too close to the building on the actual grading plan. No information for it is shown. Was it meant to keep this pond or eliminate it? Revise contours accordingly.

4) Hatching appears to show concrete bottoms for Ponds 1 and 2. Provide details as applicable.

5) For **all** proposed storm drains, show the flow, slope, and capacity computations. Also, show capacity computations for the proposed inlets.

6) There is a spot elevation of 5086.90 that looks like it is at a low spot west of Pond 1. Provide curb cut at the low spot. Provide more spot elevations to show drainage around the curb within this area.

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

7) More detail is needed for the underground detention system. Also, given that these proposed 48" pipes are shown to be flat, how will they be maintained since sediment will easily build up within these pipes? Show details of how the manholes are connected into each end of the system. It appears that there is limited access to maintain the system. Also, what types of pipes are being used?

8) A detail is needed for the connection of the 8" pipe into the existing sidewalk culvert. At the connection to the existing culvert, label the proposed discharge flow.

9) The land treatment percentages for both Basins C3 and D1 look incorrect since they appear to have a much higher percentage of impervious area than what is shown in the computations.

10) Between the discharge to the culvert and the discharge from Basin D1, demonstrate that the site does not discharge more than the allowable discharge of 0.1cfs/acre.

11) Label top of grate elevation for the inlet south of Pond 1. List invert and grate elevations for the 8-inch to 12-inch sized pipe through the center of the building.

12) In the legend, distinguish between existing and new TW and BW elevations. Provide new wall details as applicable.

13) For volume computations, demonstrate that the site discharges 90% of the design storage volume within 6 hours. Use of the 100-year 24-hour storm volumes and distributions will be required for higher times of concentration per the storm drainage ordinance.

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

RAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Skilled Nursing Facility City Drainage #: F16-D017

DRB#: EPC#: Work Order#:

Legal Description: TR 8-A Plat of Tracts 8-A and 8-B Renaissance Center

City Address: 1610 Renaissance Blvd NE Albuquerque NM 87107

Engineering Firm: Tierra West, LLC Contact: Joel Hernandez

Address: 5571 Midway Park Place NE Albuquerque, NM 87109

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

Owner: AS Realty Investors Contact: Adam Sclesinger

Address: 3710 S. Robertson Blvd Suite 201 Culver City CA 90232

Phone#: 310-936-9395 Fax#: E-mail:

Architect: Bixler Managment Contact: Mark Bixler

Address:

Phone#: 870-653-3382 Fax#: E-mail: mbixler@bixlermanagement.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: TBD Contact:

Address:

Phone#: Fax#: E-mail:

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
X 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: 07/16/2015 By: Joel Hernandez

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

July 17, 2015

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

RE: Skilled Nursing Facility 1610 Renaissance Blvd NE (File F16-D017)

Please find the following responses addressing staff comments from correspondence dated July 18, 2015 listed below:

1. Provide 100-year storm flow computations for existing and proposed conditions. Show basin boundaries. Also provide first flush computations.

Response: Computations for storm flow rates for existing and proposed conditions, as well as first flush computations are included in the attached report. Basin boundaries are identified in the drainage basin map, also included in the attached report.

2. Demonstrate that the site is discharging the allowable flow per the "Renaissance Drainage Master Plan". Label the existing sidewalk culvert on Commerce Drive, culvert size, and flow discharge onto Commerce Drive. Show existing flowline elevation at the outlet of the existing culvert.

Response: The grading and drainage plan is configured to provide detention ponds and an underground detention storage system with a combined volume capacity to accommodate the entire volume from developed flows; volume calculations are included in the attached report. By accommodating the entire developed flow volume it can be shown that the allowable discharge rate will not be exceeded.

We updated the grading and drainage plan to label the existing sidewalk culvert size and flowline elevation.

3. Label existing spot elevations around the perimeter of the site to show relationship of new grades to existing surrounding grades. Indicate that the grading of the site does not adversely impact the property to the south.

Response: We updated the grading and drainage plan to label the existing surrounding grades. The proposed grading will not adversely affect the property to the south as the historic drainage pattern will not be changed; cross-lot drainage will not be

introduced, the proposed elevations along the toe of the existing retaining wall will allow for the footing to be protected and not exposed.

4. Label pond sizes along with first flush volumes within each pond. Demonstrate that they meet requirements for proposed detention or retention of storm flow.

Response: We updated the grading and drainage plan to explicitly depict the detention volumes of detention ponds and underground storage system and included a tabulation of said volumes in the attached report. Onsite retention is not proposed due to geotechnical recommendations; a variance for this requirement is requested with this project.

5. Label all proposed storm drain sizes, top of grate elevations, and flow that the storm drain is conveying. Show which way the roof is draining.

Response: We updated the grading and drainage plan to include storm drain sizes, inverts, top of grate elevations, and direction of roofline flows. Flow rates within storm drains are labeled in the drainage basin map included in the report.

6. Call out curb cuts as applicable on the east side of the site if the parking lot is draining to Pond 1.

Response: We updated the grading and drainage plan to denote all proposed curb cut locations.

7. There is concern about the location of the inlet shown on the upstream side of a wall labeled for Pond 1 (IE=5086.00). Was it meant to place this inlet in the bottom of Pond 1 for detention purposes?

Response: We updated the grading and drainage plan to reconfigure the storm discharge pipe from the pond as a headwall with an invert matching the pond bottom. The previous configuration would have allowed for partial retention, however, geotechnical recommendations caused the redesign.

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

Sincerely,

Joel Hernandez, PE

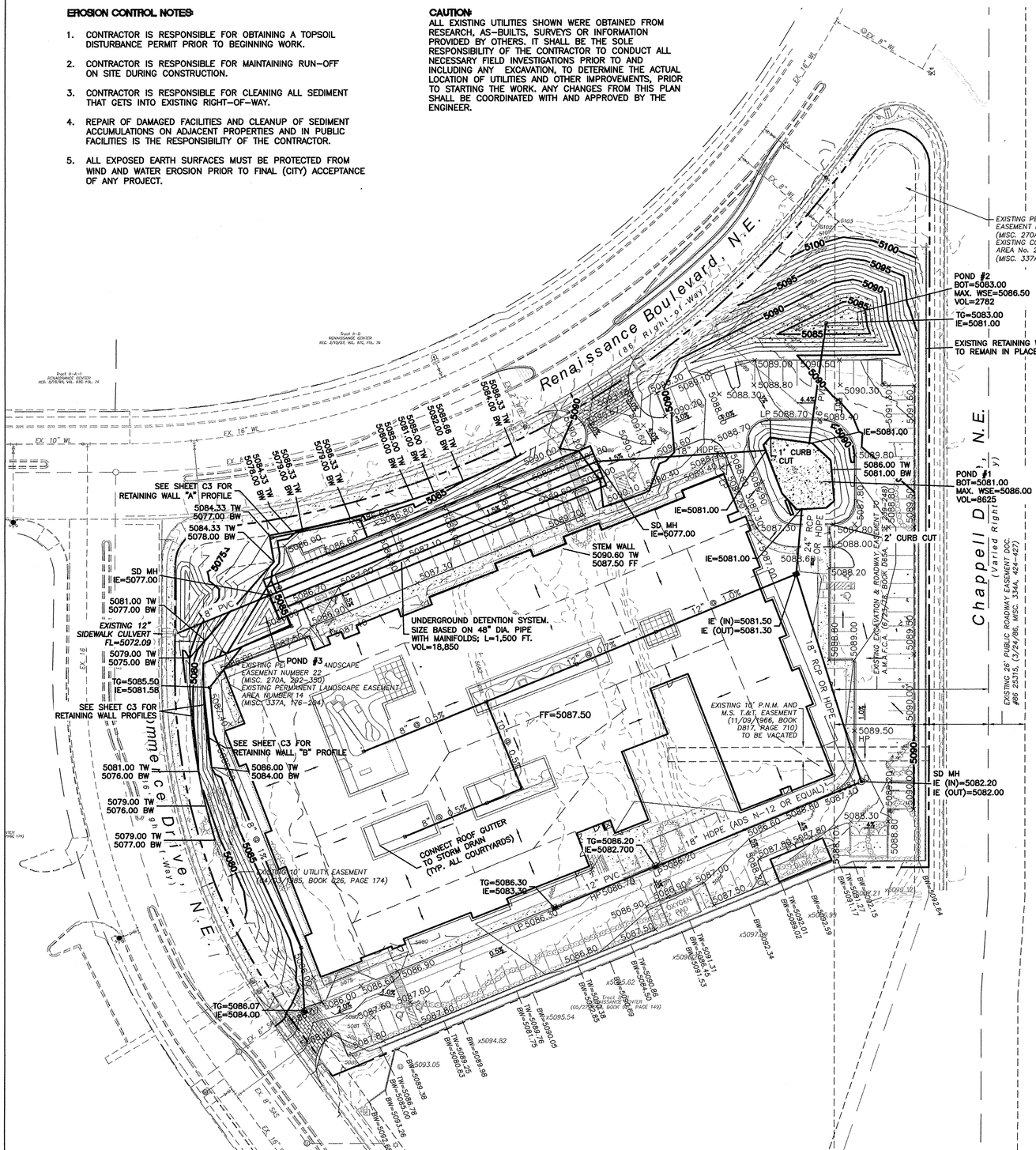
JN: 2014088
RRB/jh/jg/dc

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.

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.



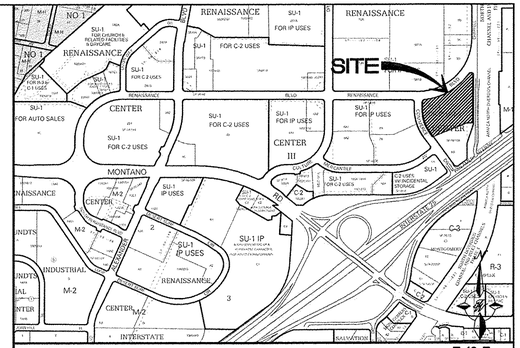
LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- SCREEN WALL
- RETAINING WALL
- 5010 CONTOUR MAJOR
- 5011 CONTOUR MINOR
- x 5048.25 SPOT ELEVATION
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- 5010 EXISTING CONTOUR MAJOR
- 5011 EXISTING CONTOUR MINOR
- x 5048.25 EXISTING SPOT ELEVATION

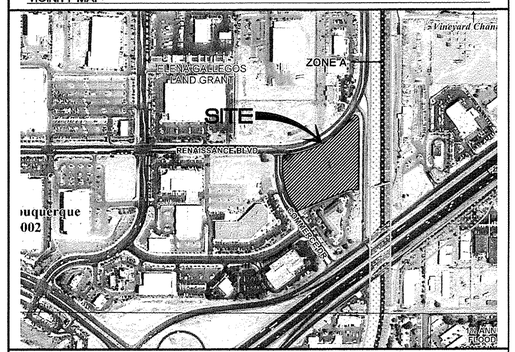
GRAPHIC SCALE

40 20 0 20 40

SCALE: 1"=40'



VICINITY MAP: F-16-Z



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 HERON, 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 CONNECTIONS. 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.

APPROVAL	NAME	DATE
INSPECTOR		

Location

The project site is Tract 8-A of the renaissance Center located on the southeast corner of Commerce Drive and Renaissance Boulevard, NE. The site is bounded by Renaissance Boulevard on the north, Commerce Drive on the west, Chappell Road on the east, and Tract 8-B to the south which is an existing hotel.

Purpose

The purpose of this drainage report is to present a drainage solution for the proposed development consisting of a single-story building for a skilled nursing facility and associated parking facility. We are requesting conceptual grading approval and Site Development Plan for Building Permit approval.

Existing Drainage Conditions

The site falls within the approved Renaissance Drainage Master Plan, and is currently undeveloped, although previously rough graded with two pads. The plan allows a controlled release runoff of 0.10 cfs per acre from each tract. The existing conditions were analyzed using the criteria set by the City of Albuquerque DPM.

Existing conditions, analyzed as a single basin with a runoff rate of 15.3 cfs., generally sheet flows from the southeast to the northwest portion of the site discharging onto Commerce Drive through a sidewalk culvert near the Renaissance Boulevard intersection. No offsite runoff enters the site.

The site is located outside any mapped 100 year floodplain, as indicated on FEMA FIRM Map 35001C0138H.

Proposed Drainage Management

Drainage from the majority of the developed site will be collected through a network of storm drain pipes and routed through above-ground detention ponds and an underground detention storage system, such as an ADS pipe and manifold system, before releasing flows onto Commerce Drive at the existing sidewalk culvert location where the site currently flows. An area at the northeast portion of the site (Basin C1) will flow into a pond (Pond #2) which has adequate capacity for full retention for its tributary area, and will be drained to Pond #1 with a small diameter pipe. Given that the allowable discharge rate is limited to only 0.10 cfs by the DMP, the detention storage volume is designed with the capacity to accommodate the entire volume from developed flows.

First flush management will be achieved by the existing regional pond in the southwest corner of the Master Plan area where discharge is controlled by a manual valve. Given the potential for collapsible soils onsite, a waiver for onsite retention of the first flush is requested with this project. A future request to offset a portion of the required detention pond volume onsite by enlarging the regional pond downstream may be submitted as an alternate prior to construction.

ROUGH GRADING APPROVAL DATE

ENGINEER'S SEAL	SKILLED NURSING FACILITY RENAISSANCE CENTER	DRAWN BY DY
	CONCEPTUAL GRADING AND DRAINAGE PLAN	DATE 7/16/15
		2014088-GRE
		SHEET # C2
RONALD R. BOHANNAN P.E. #7868	TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	JOB # 2014088

DRAINAGE REPORT
for

Skilled Nursing Facility
1610 Renaissance Boulevard

Prepared by:

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

July 16, 2015

I certify that this report was prepared under my supervision, and I am a registered professional engineer in the State of New Mexico in good standing.

Ronald R. Bohannan, PE

Location

The project site is Tract 8-A of the renaissance Center located on the southeast corner of Commerce Drive and Renaissance Boulevard, NE. The site is bounded by Renaissance Boulevard on the north, Commerce Drive on the west, Chappell Road on the east, and Tract 8-B to the south which is an existing hotel.

Purpose

The purpose of this drainage report is to present a drainage solution for the proposed development consisting of a single-story building for a skilled nursing facility and associated parking facility. We are requesting conceptual grading approval and Site Development Plan for Building Permit approval.

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Renaissance Boulevard, N.E.
(86' Right-of-Way)

Commerce Drive, N.E.
(86' Right-of-Way)

Chappell Drive, N.E.
(Varied Right-of-Way)

Tract 9-D
RENAISSANCE CENTER
REC. 3/13/91, VOL. 91, FOL. 76

POND #3
POND #2
POND #1

SD MH
8" PVC
18" HDPE
12" PVC
18" HDPE (ADS N-12 OR EQUAL)
18" RCP OR HDPE
8.98
24" RCP OR HDPE

8" @ 0.5%
8" @ 1%
12" @ 0.7%
12" @ 1.0%
10" @ 0.5%
3.94
4.42
1.61
4.56

FF=5087.50

Basin C1
0.68 ac
1.98 cfs

Basin C2
0.36 ac
1.54 cfs

Basin C3
0.19 ac
0.61 cfs

Basin C4
0.67 ac
2.92 cfs

Basin C5
0.17 ac
0.78 cfs

Basin B1
0.25 ac
1.19 cfs

Basin B2
0.14 ac
0.68 cfs

Basin B3
0.20 ac
0.93 cfs

Basin B4
0.24 ac
1.14 cfs

Basin B5
0.10 ac
0.48 cfs

Basin A1
0.36 ac
1.57 cfs

Basin A2
0.74 ac
2.99 cfs

Basin A3
0.25 ac
0.90 cfs

Basin D1
0.12 ac
0.28 cfs

Basin D2
0.46 ac
1.35 cfs

NTS

LEGEND

DRAINAGE BASIN

FLOW DIRECTION

Basin ID
Basin Area
Q_{100} (cfs)

Analysis Point
Q100

POST-DEVELOPMENT DRAINAGE BASINS

Tract 8A, RENAISSANCE CENTER

Existing and Proposed Conditions Basin Data Table

This table is based on the DPM Section 22.2, Zone: 2

BASIN	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages A	B	C	D	Q(100) (cfs/ac.)	Q(100) (CFS)	V(100) (inches)	V(100) (CF)
EXISTING CONDITIONS										
A	212000	4.87	0.0%	0.0%	99.0%	1.0%	3.16	*15.36*	*1.14*	*20138*
TOTAL		**4.87**						***15.36***	***1.14***	***20138***

Per the Renaissance Center Master Drainage Plan,
the Maximum Release from the Site is 0.10 cfs/acre.

This table is based on the DPM Section 22.2, Zone: 2

BASIN	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages A	B	C	D	Q(100) (cfs/ac.)	Q(100) (CFS)	V(100) (inches)	V(100) (CF)	1ST FLUSH
PROPOSED CONDITIONS											
A1	15,835	0.36	0.0%	16.0%	0.0%	84.0%	4.31	*1.57*	*1.91*	*2515*	*377*
A2	32,146	0.74	0.0%	27.0%	0.0%	73.0%	4.05	*2.99*	*1.76*	*4710*	*665*
A3	10,825	0.25	0.0%	45.0%	0.0%	55.0%	3.61	*0.90*	*1.52*	*1368*	*169*
B1	11,054	0.25	0.0%	0.0%	0.0%	100.0%	4.70	*1.19*	*2.12*	*1953*	*313*
B2	6,271	0.14	0.0%	0.0%	0.0%	100.0%	4.70	*0.68*	*2.12*	*1108*	*178*
B3	8,635	0.20	0.0%	0.0%	0.0%	100.0%	4.70	*0.93*	*2.12*	*1526*	*245*
B4	10,545	0.24	0.0%	0.0%	0.0%	100.0%	4.70	*1.14*	*2.12*	*1863*	*299*
B5	4,438	0.10	0.0%	0.0%	0.0%	100.0%	4.70	*0.48*	*2.12*	*784*	*126*
C1	29,590	0.68	0.0%	74.0%	0.0%	26.0%	2.91	*1.98*	*1.13*	*2782*	*218*
C2	15,594	0.36	0.0%	17.0%	0.0%	83.0%	4.29	*1.54*	*1.89*	*2459*	*367*
C3	8,180	0.19	0.0%	60.0%	0.0%	40.0%	3.25	*0.61*	*1.32*	*897*	*93*
C4	28,970	0.67	0.0%	13.0%	0.0%	87.0%	4.39	*2.92*	*1.95*	*4697*	*714*
C5	7,574	0.17	0.0%	9.8%	0.0%	90.2%	4.46	*0.78*	*1.99*	*1255*	*194*
D1	5,118	0.12	0.0%	97.0%	0.0%	3.0%	2.35	*0.28*	*0.82*	*350*	*4*
D2	20,186	0.46	0.0%	74.0%	0.0%	26.0%	2.91	*1.35*	*1.13*	*1898*	*149*
TOTAL		**4.93**						***19.31***	***1.91***	***30165***	***4109***

DETENTION VOLUME CALCS

POND 1 VOLUME CALCULATIONS

ELEVATION (ft)	AREA (sf)	VOLUME (cf)	CUMULATIVE VOLUME (cf)
5081	1725	0	0
5082	1725	1725	1725
5083	1725	1725	3450
5084	1725	1725	5175
5085	1725	1725	6900
5086	1725	1725	8625
			8625
			8625
			8625

POND 2 (BASIN C1 ONLY) VOLUME CALCULATIONS

ELEVATION (ft)	AREA (sf)	VOLUME (cf)	CUMULATIVE VOLUME (cf)
5083	216	0	0
5084	500	358	358
5085	902	701	1059
5086	1423	1162.5	2222
5087	2088	1755.5	3977
			2782

*MAX TRIB VOL = 2782 cf

TOTAL AVAILABLE ABOVE-GROUND STORAGE VOLUME=11,407 cf

UNDERGROUND PIPE STORAGE VOLUME CALCULATION

PIPE DIA= 48 PIPE L= 1,500

ELEVATION (ft)	AREA (sf)	VOLUME (cf)	CUMULATIVE VOLUME (cf)
5077	0		0
5078	2.46		3690
5079	6.28		9420
5080	10.11		15165
5081	12.57		18850
			18850

TOTLA DETENTION VOLUME= **30,257**