CITY OF ALBUQUERQUE

February 1, 2018

Mike Balaskovits, PE
Bohannan Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

RE: **Broadstone Highlands East Block**
Grading and Drainage Plan
Engineer's Stamp Date: 1/24/18
Hydrology File: K15D034C

Dear Mr. Balaskovits:

Based on the information provided in the submittal received on 1/25/18 the above-referenced Grading and Drainage Plan cannot be approved for Site Plan for Building Permit until the following are corrected:

1. Include an off-site subbasin map, including topographic data.
2. Clarify roof drainage and show on plans.
3. Label all Public vs. Private drainage improvements and ensure all improvements in the public ROW are on the infrastructure list.
4. Clarify how the connections to existing storm drain will be made (keyed note 9). If there is no existing manhole to connect to, a new manhole will need to be built and included on the infrastructure list.
5. The new public storm drain easement (recorded) needs to be included on the infrastructure list. Provide a trenching prism at deepest point to evaluate the required width. The width will need to be at least 20' per DPM Ch.22, Section 6, Part C.

If you have any questions, please contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana M. Peterson
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

Bohannan Huston

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facsimile: 505.798.7988
toll free: 800.877.5332

CLIENT/COURIER TRANSMITTAL

To: James D. Hughes
City of Albuquerque
600 2nd St. NW
Albuquerque, NM 87102

Phone: (505) 924-3880
Job No.: 20160155

Requested by: Michael Balaskovits

Date: January 25, 2018

Time Due:
- ☐ **This A.M.**
- ☒ **This P.M.**
- ☐ **Rush** _____
- ☐ **By Tomorrow**

Job Name: Broadstone Highlands East Block

DELIVERY VIA

☒ **Courier** ☐ **Federal Express**
☐ **Mail** ☐ **UPS**
☐ **Other**

PICK UP

Item: _____

ITEM NO.	QUANTITY	DESCRIPTION
1	1	Drainage Info Sheet
2	1	Conceptual Grading & Drainage Plan

COMMENTS / INSTRUCTIONS

James,

Please find attached the Conceptual Grading & Drainage plan for Broadstone Highlands East Block. We are requesting Hydrology approval in support of Site Plan for Building Permit Approval.
Let me if you have any questions.

Thanks,
Mike

REC'D BY:_____ **DATE:**_____ **TIME:**_____

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Broadstone Highlands East Block Building Permit #: _____ City Drainage #: _____

DRB#: 1011115 EPC#: 16EPC-40083 Work Order#: _____

Legal Description: TRACT 6 THE HIGHLANDS

City Address: N/A

Engineering Firm: BOHANNAN HUSTON, INC. Contact: MIKE BALASKOVITS

Address: 7500 JEFFERSON ST NE ALBUQUERQUE, NM 87109

Phone#: 505-823-1000 Fax#: 505-798-7988 E-mail: MBALASKOVITS@BHINC.COM

Owner: TITAN DEVELOPMENT CENTER LAND, LLC Contact: JOSH ROGERS

Address: 6300 RIVERSIDE PLAZA LANE NW #200

Phone#: 505-998-0163 Fax#: _____ E-mail: JROGERS@TITAN-DEVELOPMENT.COM

Architect: _____ Contact: _____

Address: _____

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

Other Contact: _____ Contact: _____

Address: _____

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

Check all that Apply:

DEPARTMENT:

X HYDROLOGY/ DRAINAGE

_____ TRAFFIC/ TRANSPORTATION

_____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

_____ ENGINEER/ ARCHITECT CERTIFICATION

X CONCEPTUAL G & D PLAN

_____ GRADING PLAN

_____ DRAINAGE MASTER PLAN

_____ DRAINAGE REPORT

_____ CLOMR/LOMR

_____ TRAFFIC CIRCULATION LAYOUT (TCL)

_____ TRAFFIC IMPACT STUDY (TIS)

_____ EROSION & SEDIMENT CONTROL PLAN (ESC)

_____ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

_____ BUILDING PERMIT APPROVAL

_____ CERTIFICATE OF OCCUPANCY

_____ PRELIMINARY PLAT APPROVAL

_____ SITE PLAN FOR SUB'D APPROVAL

X SITE PLAN FOR BLDG. PERMIT APPROVAL

_____ FINAL PLAT APPROVAL

_____ SIA/ RELEASE OF FINANCIAL GUARANTEE

_____ FOUNDATION PERMIT APPROVAL

_____ GRADING PERMIT APPROVAL

_____ SO-19 APPROVAL

_____ PAVING PERMIT APPROVAL

_____ GRADING/ PAD CERTIFICATION

_____ WORK ORDER APPROVAL

_____ CLOMR/LOMR

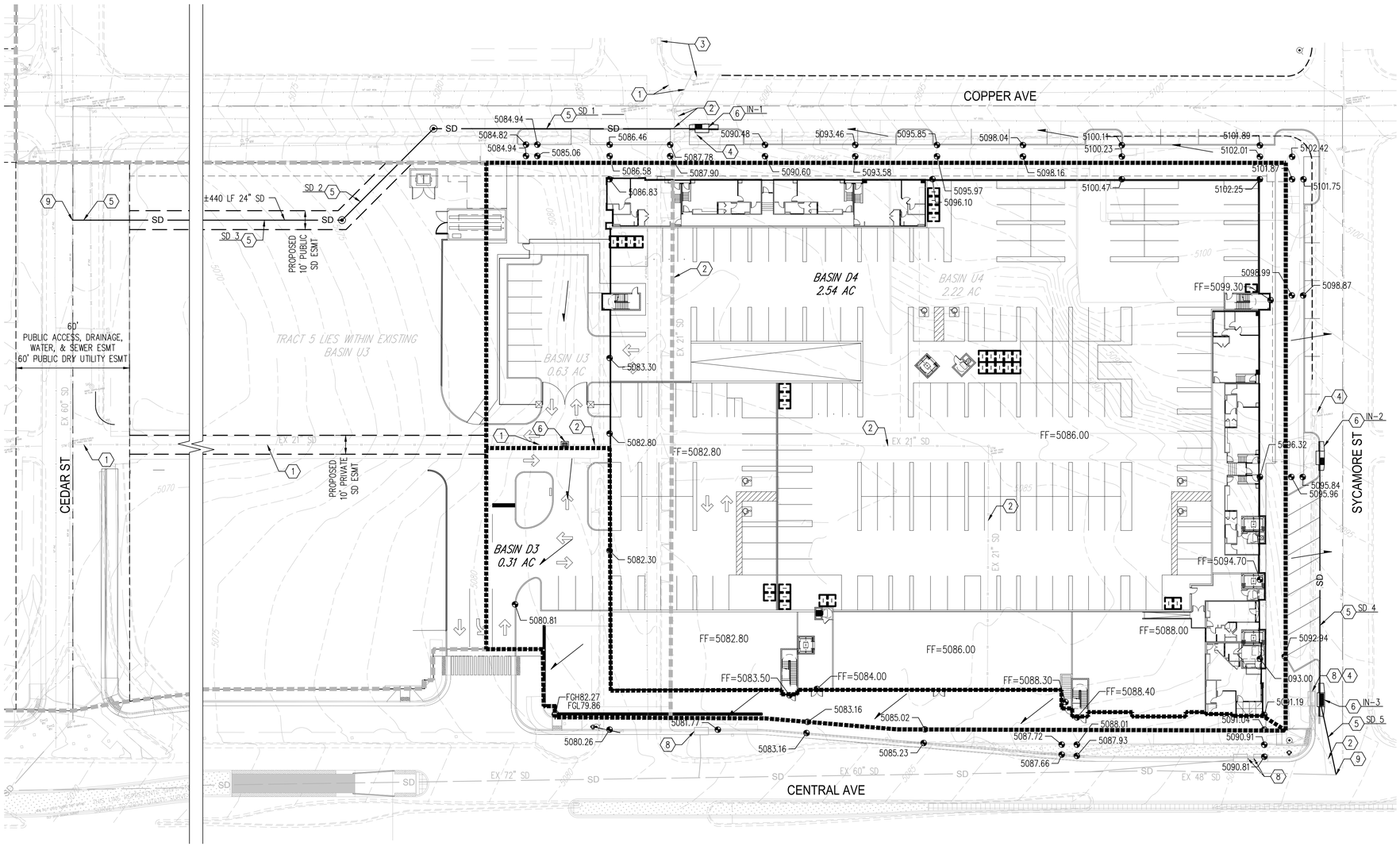
_____ PRE-DESIGN MEETING

_____ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: _____ Yes X No

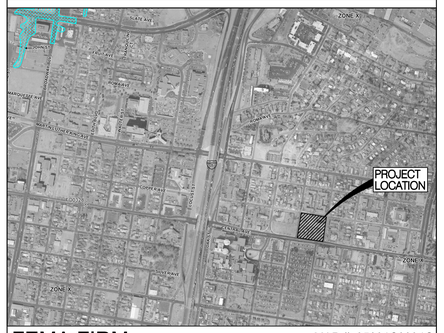
DATE SUBMITTED: 01/25/2018 By: Mike Balaskovits

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___



VICINITY MAP

ZONE MAP K-15-Z



FEMA FIRM — MAP #: 35001C0334G

DRAINAGE NARRATIVE

THIS SITE IS LOCATED AT THE NORTHWEST CORNER OF SYCAMORE ST NE AND CENTRAL AVE NE. IT HAS PREVIOUSLY BEEN DEVELOPED AND SLOPES FROM NORTHEAST TO SOUTHWEST. FINISHED FLOOR ELEVATIONS HAVE BEEN SET TO GENERALLY ADHERE TO EXISTING ELEVATIONS AND PROMOTE POSITIVE DRAINAGE AWAY FROM BUILDINGS. THE SITE IS NOT LOCATED IN A DESIGNATED FEMA FLOOD ZONE (FEMA FIRM #35001C0334G).

AN EXISTING 21" SD PIPE WHICH RUNS NORTH/SOUTH FROM COPPER ALONG THE OLD SPRUCE ST ALIGNMENT, ACCEPTS FLOW FROM 3 EXISTING INLETS LOCATED AT THE INTERSECTION OF COPPER AVE & SPRUCE ST. THIS EXISTING SD WILL BE IN CONFLICT WITH THE NEW BUILDING AND WILL HAVE TO BE REMOVED AND RELOCATED. THE ULTIMATE OUTFALL IS THE EXISTING 60" SD IN CEDAR. A NEW 24" SD WILL BE CONSTRUCTED ALONG THE COPPER R/W AND A NEW PUBLIC EASEMENT WILL BE GRANTED. THIS IMPROVEMENT WILL BE DONE AS A PART OF THIS PROJECT.

IN ADDITION TO THE SD REALIGNMENT, THE BYPASS FLOWS WHICH WERE BEING CONVEYED ALONG SPRUCE ST WILL BE CAPTURED BY AN ADDITIONAL INLET LOCATED ON COPPER AVE.

THE SITE LIES WITHIN TWO EXISTING BASINS, U3 & U4. BASIN U3 IS A PART OF A LARGER BASIN THAT SURFACE DRAINS TO AN INLET IN COPPER AVE AND IS DISCHARGED INTO AN EXISTING 21" SD THAT HEADS WEST UNDERNEATH I-25. BASIN U4 DISCHARGES INTO THE EXISTING 21" STORM DRAIN ONSITE THAT ULTIMATELY DISCHARGES INTO THE 60" SD WITHIN CEDAR AVE. THE PROPOSED BASINS, D3 & D4, STILL CONTRIBUTE TO THOSE TWO OUTFALL POINTS WITH REDUCING FLOW FROM CONTRIBUTING TO THE 21" SD IN COPPER.

THE SITE WILL REMAIN DEVELOPED, ALLOWING 100% OF THE PROPOSED FLOW TO REMAIN GENERALLY UNCHANGED FROM THE HISTORICALLY DEVELOPED FLOW. THE DRAINAGE FROM THE BUILDING WILL BE HARD PIPED INTO A PROPOSED STORM DRAIN WHICH ULTIMATELY CONNECTS TO AN EXISTING 21" SD WEST OF THE SITE AND DISCHARGES INTO A 60" SD IN CEDAR ST. ROOF DRAINS WILL ALSO BE HARD PIPED INTO THE INLETS AT CENTRAL AVE.

THE SURFACE DRAINAGE FROM THE NORTH PARKING WILL ENTER AN INLET WHICH ALSO CONNECTS TO THE EXISTING 21" SD WEST OF THE SITE. THE SOUTHERN ENTRANCE WILL CONTINUE TO SURFACE DRAIN HISTORICALLY INTO CENTRAL AVE. LANDSCAPED AREAS THROUGHOUT THE SITE WILL BE DEPRESSED WHERE APPLICABLE TO CAPTURE DRAINAGE IN AN ATTEMPT TO MEET THE FIRST FLUSH REQUIREMENTS, HOWEVER, ULTIMATELY THE CLIENT HAS DECIDED TO PAY CASH-IN-LIEU FOR THE FIRST FLUSH REQUIREMENTS.

GRADING KEYNOTES

1. EXISTING STORM DRAIN TO REMAIN.
2. EXISTING STORM DRAIN TO BE REMOVED.
3. EXISTING STORM DRAIN INLET TO REMAIN.
4. EXISTING STORM DRAIN INLET TO BE REMOVED.
5. PROPOSED NEW STORM DRAIN.
6. PROPOSED NEW STORM DRAIN INLET.
7. STORM DRAIN BY ART PROJECT.
8. STORM DRAIN INLETS BY ART PROJECT.
9. CONNECT TO EXISTING STORM DRAIN.

GRADING LEGEND

- PROPERTY LINE
- PROJECT LIMITS OF GRADING
- 5025 — EXISTING INDEX CONTOUR
- 5024 — EXISTING INTERMEDIATE CONTOUR
- 5025.25 — EXISTING GROUND SPOT ELEVATION
- 5025 — PROPOSED INDEX CONTOUR
- 5024 — PROPOSED INTERMEDIATE CONTOUR
- 26.75 — PROPOSED FINISHED GRADE SPOT ELEVATION TC=TOP OF CURB, FL=FLOW LINE, TS=TOP OF SIDEWALK TG=TOP OF GRATE, FGH=FINISH GROUND HIGH, FGL=FINISH GROUND LOW
- PROPOSED CURB & GUTTER
- S=2.0% — DIRECTION OF FLOW
- WATER BLOCK/GRADE BREAK
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLETS
- PROPOSED RETAINING WALL
- EASEMENT
- EXISTING BASIN BOUNDARY
- PROPOSED BASIN BOUNDARY

Highlands East Block Development

Existing Developed Conditions Basin Data Table

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

Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages A	B	C	D	Q(100yr) (cfs/ac.)	Q(100yr) (CFS)	V(100yr) (inches)	$V_{(100yr-6hr)}$ (CF)	$V_{(100yr-24hr)}$ (CF)
CURRENT ONSITE BASINS											
U3	27585	0.63	0.0%	0.0%	40.0%	60.0%	4.08	*2.58*	*1.72*	*3963*	*4515*
U4	96664	2.22	0.0%	0.0%	40.0%	60.0%	4.08	*9.05*	*1.72*	*13887*	*15821*
TOTAL	**124249**	**2.85**	-	-	-	-	-	***11.63***	-	***17850***	***20335***

Highlands East Block Development

Proposed Developed Conditions Basin Data Table

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

Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages A	B	C	D	Q(100yr) (cfs/ac.)	Q(100yr) (CFS)	V(100yr) (inches)	$V_{(100yr-6hr)}$ (CF)	$V_{(100yr-24hr)}$ (CF)	$V_{(100yr-10day)}$ (CF)	FIRST FLUSH (CF)
PROPOSED ONSITE BASINS													
D3	13390	0.31	0.0%	0.0%	10.0%	90.0%	4.54	*1.40*	*2.02*	*2255*	*2657*	*3862*	*341*
D4	110859	2.54	0.0%	0.0%	10.0%	90.0%	4.54	*11.56*	*2.02*	*18671*	*21996*	*31974*	*2827*
TOTAL	**124249**	**2.85**	-	-	-	-	-	***12.96***	-	***20926***	***24653***	***35835***	***3168***

INLET TABLE

Inlet #	Inlet Type	Basin	Actual Flow (cfs)	Capacity[1] (cfs)	Bypass Flow (cfs)
IN-1	COA SINGLE A	OS1-COPPER	0.77	1.60	0.00
IN-2	COA SINGLE A	OS1-SYCAMORE	0.67	1.60	0.00
IN-3	COA DOUBLE C	OS2-SYCAMORE	0.51	1.70	0.00

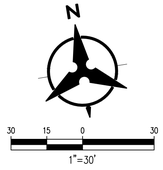
NOTE: The inlet calculations were based on the DPM PLATE 22.3 D-5 *GRATING CAPACITIES FOR TYPE "A", "C" and "D"* & PLATE 22.3 D-6 *GRATING CAPACITIES FOR TYPE DOUBLE "C" & "D"*

[1]The capacity is calculated based on the depth for the Q_{100} based on the assumed contributing basin area.

STORM DRAIN PIPE TABLE

PIPE #	INLET/SD/BASIN	Size in.	Slope	Capacity* cfs	ACTUAL FLOW cfs
SD1	IN-1	24	6.00%	55.41	0.77
SD2	IN-1	24	6.20%	56.33	0.77
SD3	IN-1	24	6.60%	58.12	0.77
SD4	IN-2	18	3.00%	18.19	0.67
SD5	IN-2, IN-3	18	3.00%	18.19	1.18

*Capacity Based on Manning's Eq w/ N=0.013



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BROADSTONE EAST-BLOCK

NEC EAST CENTRAL AVE AND SPRUCE ST NE
ALBUQUERQUE, NEW MEXICO

Office of Rich Barber Architecture, LLC — ORB — WorldHQ@ORBArch.com

MICHAEL PHILLIP BARBER — NEW MEXICO — 18187 — 12-31-18 — LICENSED PROFESSIONAL ENGINEER

TITAN DEVELOPMENT
ALLIANCE RESIDENTIAL COMPANY

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS
1
2
3
4
5
6

DATE: JANUARY 23, 2018 ORB # 16-213

C1.00

CONCEPTUAL GRADING & DRAINAGE PLAN

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