# CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

August 1, 2017

Scott Steffen, PE Bohannan Huston, Inc. 7500 Jefferson St NE Albuquerque, NM 87109

RE: Sawmill Village Phase 2

**Grading Plan** 

**Stamp Date: 7/31/17** 

Hydrology File: H13D025A

Dear Mr. Steffen:

PO Box 1293 Based upon the information provided in your resubmittal received 7/31/2017, the Grading

and Drainage Plan is approved for Building Permit.

Albuquerque Please attach a copy of this approved plan in the construction sets when submitting for a

building permit. Prior to Certificate of Occupancy release, Engineer Certification per the

DPM checklist will be required.

Reneé C. Brissetto

New Mexico 87103 If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

www.cabq.gov

Sincerely,

Reneé C. Brissette, P.E. Senior Engineer, Hydrology Planning Department



# City of Albuquerque

### Planning Department

### Development & Building Services Division

### DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title:		Building Permit #:	City Drainage #:			
B#: EPC#:			Order#:			
Legal Description:						
City Address:						
Engineering Firm:		Cont	act:			
Address:						
Phone#:	Fax#:	E-ma	il:			
Owner:		Cont	act:			
Address:						
Phone#:	Fax#:	E-ma	il:			
Architect:		Cont	act:			
Address:						
Phone#:	Fax#:	E-ma	il:			
Other Contact:		Cont	act:			
Address:						
Phone#:	Fax#:	E-ma	il:			
Check all that Apply:						
DEPARTMENT:		CHECK TYPE OF APPR	OVAL/ACCEPTANCE SOUGHT:			
HYDROLOGY/ DRAINAGE TRAFFIC/ TRANSPORTATION		BUILDING PERMIT	APPROVAL			
MS4/ EROSION & SEDIMENT CO	ONTROL	CERTIFICATE OF	OCCUPANCY			
TYPE OF SUBMITTAL:		PRELIMINARY PL	AT APPROVAL			
ENGINEER/ ARCHITECT CERTIFICATION		SITE PLAN FOR SUB'D APPROVAL				
			LDG. PERMIT APPROVAL			
CONCEPTUAL G & D PLAN		FINAL PLAT APPE	ROVAL			
GRADING PLAN						
DRAINAGE MASTER PLAN		SIA/ RELEASE OF	FINANCIAL GUARANTEE			
			FINANCIAL GUARANTEE			
DRAINAGE REPORT		FOUNDATION PE	RMIT APPROVAL			
DRAINAGE REPORT CLOMR/LOMR		FOUNDATION PEI	RMIT APPROVAL			
		FOUNDATION PEI GRADING PERMIT SO-19 APPROVAL	RMIT APPROVAL APPROVAL			
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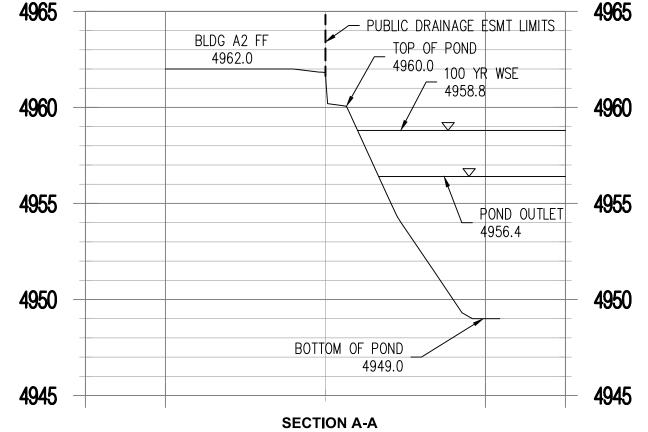
COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: \_\_\_\_

P:\20170224\CDP\Plans\General\Bldg Permit\20170224\_GP01.dwg

July 31, 2017 - 7:37am

# **GRADING NOTES**

- 1. EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.
- 2. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST.
- 3. ALL WORK RELATIVE TO FOUNDATION CONSTRUCTION, SITE PREPARATION, AND PAVEMENT INSTALLATION, AS SHOWN ON THIS PLAN, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "GEOTECHNICAL INVESTIGATION," AS PROVIDED BY THE ARCHITECT OR OWNER. ALL OTHER WORK SHALL, UNLESS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT, (FIRST PRIORITY) SPECIFICATIONS, AND/OR THE CITY OF ALBUQUERQUE (COA) STANDARD SPECIFICATIONS FOR PUBLIC WORKS (SECOND PRIORITY).
- 4. EARTH SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN
- 5. IT IS THE INTENT OF THESE PLANS THAT THIS CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE OF THE PROPERTY BOUNDARIES EXCEPT AS REQUIRED BY THIS PLAN.
- 6. THE CONTRACTOR IS TO ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHT-OF-WAY. THIS SHOULD BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS OR SILT FENCE AT THE PROPERTY LINES AND WETTING THE SOIL TO PROTECT IT FROM WIND EROSION.
- 7. A DISPOSAL SITE FOR ANY & ALL EXCESS EXCAVATION MATERIAL, AND UNSUITABLE MATERIAL AND/OR A BORROW SITE CONTAINING ACCEPTABLE FILL MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS AND APPROVED BY THE OBSERVER. ALL COSTS INCURRED IN OBTAINING A DISPOSAL OR BORROW SITE AND HAUL TO OR FROM SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.
- 8. PAVING AND ROADWAY GRADES SHALL BE +/- 0.1' FROM PLAN ELEVATIONS. PAD ELEVATION SHALL BE +/- 0.05' FROM BUILDING PLAN ELEVATION.
- 9. ALL PROPOSED CONTOURS REFLECT TOP OF PAVEMENT ELEVATIONS IN THE PARKING AREA AND MUST BE ADJUSTED FOR MEDIANS AND ISLANDS.
- 10. VERIFY ALL ELEVATIONS SHOWN ON PLAN FROM BASIS OF ELEVATION CONTROL STATION PRIOR TO BEGINNING CONSTRUCTION.



<u>LEGEND</u>

EXISTING GROUND SPOT ELEVATION

FGH=FINISH GROUND HIGH SIDE

FGL=FINISH GROUND LOW SIDE

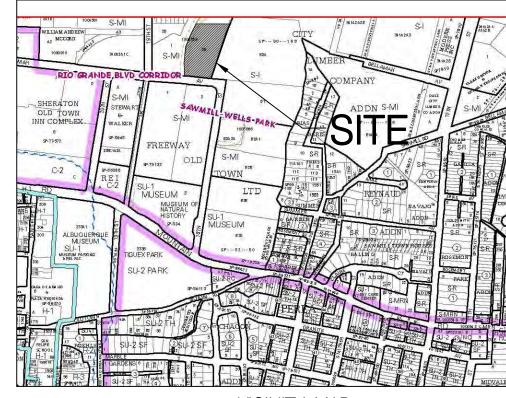
PROPOSED DIRECTION OF FLOW

PROPOSED INTER CONTOURS

PROPOSED MANHOLE

EXISTING MONUMENT

WATER BLOCK

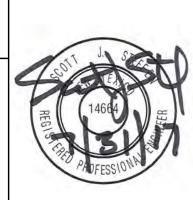


ZONE ATLAS PAGE J-13-Z

### GENERAL NOTES

- 1. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE PROJECT GEOTECHNICAL REPORT. WHERE APPLICABLE, CITY OF ALBUQUERQUE PUBLIC WORKS STANDARDS SHALL APPLY.
- 2. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA REQUIREMENTS WITH RESPECT TO STORM WATER DISCHARGE.
- 3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS INCLUDING ALL UNDERGROUND UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION OBSERVER OR ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- 4. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE FOR LOCATION OF EXISTING UTILITIES.
- 5. ALL ELECTRICAL, TELEPHONE, CABLE TV, GAS AND OTHER UTILITY LINES, CABLES, AND APPURTENANCES ENCOUNTERED DURING CONSTRUCTION THAT REQUIRE RELOCATION, SHALL BE COORDINATED WITH THAT UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCES CAUSED BY UTILITY COMPANY WORK CREWS. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE HIS ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND APPROVED BY THE CONSTRUCTION OBSERVER.
- 7. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
- 8. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.
- 9. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION (I.E., BARRICADING, TOPSOIL DISTURBANCE, EXCAVATION PERMITS, EPA STORM WATER PERMITS, ETC.).
- 10. ALL PROPERTY CORNERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL PROPERTY CORNERS MUST BE RESET BY A REGISTERED LAND SURVEYOR.
- 11. THE CONTRACTOR SHALL PREPARE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN AND OBTAIN APPROVAL OF SUCH PLAN FROM THE CITY OF ALBUQUERQUE, TRAFFIC ENGINEERING DEPARTMENT, PRIOR TO BEGINNING ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.
- 12. ALL BARRICADES AND CONSTRUCTION SIGNING SHALL CONFORM TO APPLICABLE SECTIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), US DEPARTMENT OF TRANSPORTATION, LATEST EDITION.
- 13. THE CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION BARRICADES AND SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.
- 14. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO CONFORM WITH EPA REQUIREMENTS, INCLUDING COMPLIANCE WITH NPDES PHASE 2 REQUIREMENTS.

**Bohannan** A Huston 800.877.5332 www.bhinc.com



DATE: 06/28/2017

REVISIONS

PROJECT NO: 20170224

CAD DWG FILE:

DRAWN BY: EGN

CHECKED BY: SJS COPYRIGHT:

DESIGN PLUS, LLC SHEET TITLE

GRADING PLAN

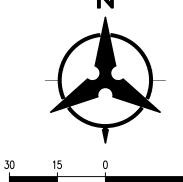
C-100

RAP BLANKET

PROPOSED SPOT ELEVATION TC=TOP OF CURB, FL=FLOW LINE KEYED NOTES TW=TOP OF WALL, BW=BOTTOM OF WALL EX=EXISTING, TG=TOP OF GRADE

- (B) HDPE STORM DRAIN, SIZE PER PLAN.
- (C) TYPE 'D' INLET PER COA STD DWG 2206
- D TYPE 'E' STORM DRAIN MANHOLE PER COA STD DWG

A DAYLIGHT PRIVATE STORM DRAIN TO POND WITH RIP



ACTUAL

FLOW

32

7.8

9.1

9.1

9.1

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				<b>VIUI</b>	111111	///

VICINITY MAP
ZONE ATLAS PAGE J-13-Z

**NLET TABLE** 

Capacity<sup>1</sup>

3.6

9.4

9.4

9.4

33.9

Capacity Based on Manning's Eq.w: N=0.013

Slope

1.00%

0.80%

0.80%

0.80%

10.40%

h∈l	had Seed	Sasin	Actua	Arrañ	Capacity <sup>i</sup>	
ŧ	inet Type*		Flowicki	Head fo	[#sts]	
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STORM DRAIN PIPE TABLE

18

18

18

### SAWMILL VILLAGE PHASE 2

Proposed Developed Conditions Basin Data Table

8asin	Area	Area	Land Treatment Percentages		tages	Q(100yr) Q(100yr)	V(100yr)	V <sub>1100y:-55r1</sub>	V <sub>1100(*-241)</sub> ,	FIRST FLUSH		
ID	(SQ.FT)	(AC.)	A	В	C	D	(cfs/ac.)	(CFS)	(inches)	(CF)	(CF)	(CF)
ONSITE	L				_	-						
A1	31243	0.72	0%	10%	CH	90%	4.5	3.2	25	5171	6168	797
A2	25757	0.59	0%	0%	C%	100%	4.7	2.8	2.1	4550	5409	739
A3	17199	0.39	0∻	5%	C%	95%	4.6	1.8	2.1	2942	3497	453
A4	4471	0.10	0%	54%	C∺	46%	3.4	5.3	1.4	522	591	59
Αō	16846	0.39	0%	0%	36%	14%	3.4	1.3	13	1787	1858	69
<b>A</b> 6	5021	0.12	0%	5%	C∺	95%	4.6	5.5	2.1	859	1018	135
TOTAL	100537	2.31	_	_			_	10.0	_	15831	18481	2252

## GRADING AND DRAINAGE NARRATIVE

INLET/SD/BASIN

N2, SD2, A2

N3. SD2

SD3

SD5

SD1

SD2

SD4

SD5

Site Location and Background Information

The purpose of this submittal is to present a grading and drainage plan for the proposed Sawmill Village Phase 2 development located at the northwest corner of Bellamah Avenue and 18th Street. The site legal description is Tract 2—D—1, Arbolera De Vida Subdivision. The proposed development will include two buildings and associated parking and plaza areas. Building A1 is a mixed use building with retail and active use spaces on the ground floor and residential apartments on the second and third floors. Building A2 is a proposed two story Charter School.

The Sawmill Unit 2 Master Drainage Plan, "Drainage Report for Arbolera de Vida Unit 2 (aka Sawmill)" by Bohannan Huston Inc., dated October 16, 2003, and amended on February 24, 2005, allows for free discharge from the proposed development to Sawmill Pond 2 (City Hydrology file: H13-D25). The Sawmill Village Drainage Plan by Bohannan Huston, Inc., dated May 13, 2008, incorporated Sawmill Village Phase 1 into the Sawmill Master Drainage Plan (City Hydrology file: H13-D25A). The Sawmill Village Drainage Plan modified Pond 2 to accept runoff from Phase 1 to be in compliance with the guidelines and recommendations set forth in the Master Drainage Plan. This grading and drainage plan is submitted in support of Hydrology approval for site development plan approval.

Methodology Section 22.2 of the City of Albuquerque Development Process Manual was used to analyze the site hydrology. The site is in rainfall zone 2 as defined by figure A-1 of the DPM section 22. The onsite storm drain was sized based on Manning's Equation. The onsite storm drain inlets were sized based on the inlets being in a sump condition.

# **Existing Conditions**

The site is currently undeveloped land that has been previously disturbed, with an existing slope across the site of less than 1% from southeast to northwest. Sawmill Pond 2 encroaches on the northern portion of the site, which is encumbered by a drainage easement for the pond. Except for flows entering the pond, there are no offsite flows entering the site that will impact the proposed development. The site is slightly higher than Bellamah Avenue to the south, Sawmill Village Phase 2 to the east, the railroad bed to the west and Pond 2 to the north.

## Proposed Conditions

The site is divided into 6 onsite drainage basins based on the proposed grading plan and roof drainage. Basins A1, A3 and A4 drain via the parking lot to a proposed private storm drain system that conveys flows to Pond 2. Basin A2 encompasses the roof for Building 2. The roof drains from Building 2 will connect directly to the storm drain system. Basin A5, which includes the sidewalk on the north side of Building 2 and that portion of Pond 2 that encroaches into the site, drains via surface flow into Pond 2.

Basin A6 encompasses the plaza area on the east side of Buildings A1 and A2, which drains to the existing Sawmill Village Phase 1 parking area to the east of the site. An existing storm drain will collect the flow from Basin A6 and convey it to Pond 2. Basins 8 and 13 of the Sawmill Village Drainage Plan allow for flows from the site to drain east into this existing storm drain, which was constructed with Phase 1.

Pond 2 is sized for a 100yr 24hr volume per the Sawmill Master Drainage Plan. Per the latest drainage certification for Sawmill Village (dated October 04, 2011), the existing volume was determined to be 6.45 acre-ft. The required pond volume for the fully developed Arbolera de Vida subdivision is 5.79 acre-ft (252,167CF), which is lower than the ponding volume provided, 6.45 acre—ft (281,084CF). Pond 2 is a retention pond to elevation 4956.4 at which it can discharge 4 cfs to the existing Bellamah storm drain.

The Pond 2 volume at an elevation 4958.8 is 6.95 acre—ft, which is 20% greater than the required pond volume for the fully developed Arbolera de Vida subdivision. In the event that the pond is full the proposed private storm drain system that discharges to the pond would surge. The lowest grate elevations in the private storm drain system are within the Sawmill Village Phase 2 parking lot. The water surface elevation would rise, inundating the Sawmill Village Phase 2 parking area, eventually spilling to Bellamah Avenue. The elevation at which water would spill into Bellamah Avenue is 4961.0, which is 0.9 feet lower than the adjacent finished floor elevation. This allows for the pond to safely discharge flows without flooding adjacent structures in the event that the 100-year, 24-hour storm event is exceeded.

This project is required to meet the first flush requirements of the City Drainage Ordinance. The first flush requirement is calculated as 0.34 inches (0.44 inches less 0.1 inch initial abstraction) times the the percentage of impervious surface within the development (land treatment D). The first flush requirement for Sawmill Village Phase 2 is approximately 2250 cubic feet. The first flush requirement will be met by existing retention volume in Pond 2, which was created by lowering the pond bottom from the Sawmill Village Phase 1 Grading Plan pond bottom elevation (4950.66). The volume available for the first flush is 21,600 cubic feet, which is greater than what is required for the project.

In accordance with FEMA community map panel #35001C0331H, the site is located within a Zone "X" flood plain. This means the site is either subject to the 500-year flood, located within an area of 1.0% chance of annual flood with average depths less than 1 foot, or is located in an area protected by levees from the 1.0% annual chance flood.

This drainage submittal has been prepared in accordance with City of Albuquerque requirements. This plan clearly demonstrates the proposed grading and drainage concepts. The implementation of these concepts would result in the safe passage of the 100 year storm event. With this submittal we request hydrology department approval of this Grading and Drainage Plan for DRB site plan for subdivision approval. A more detailed Grading Plan will be submitted in support of Building Permit approval. The proposed drainage scheme presented in this plan is not anticipated to change as a result of the more detailed grading plan.

SAWMILL VILLAGE P
BELLAMAH AVE NW AND 1
ALBUQUERQUE, NN

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DATE: 7/24/17	
REVISIONS	•

CAD DWG FILE: DRAWN BY:

CHECKED BY: COPYRIGHT:

SHEET TITLE

DRAINAGE MANAGEMENT PLAN

SHEET 1 OF 1

**Bohannan** A Huston

