

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

August 1, 2017

Scott Steffen, PE
Bohannon 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.

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

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 #:** _____

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

Legal Description: _____

City Address: _____

Engineering Firm: _____ **Contact:** _____

Address: _____

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

Owner: _____ **Contact:** _____

Address: _____

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

Architect: _____ **Contact:** _____

Address: _____

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

Other Contact: _____ **Contact:** _____

Address: _____

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

Check all that Apply:

DEPARTMENT:

- ☐ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ ARCHITECT CERTIFICATION
- ☐ 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) _____

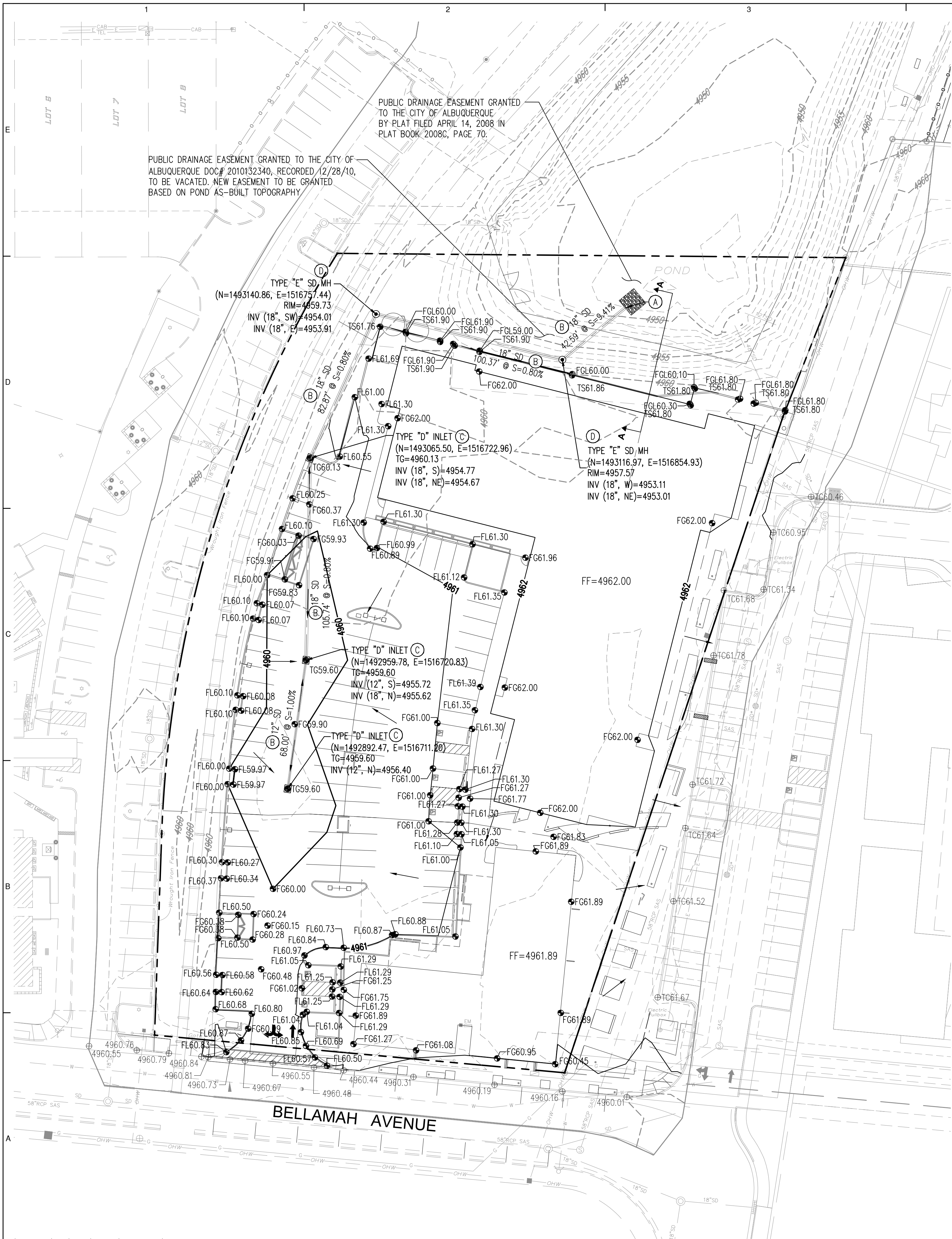
CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY
- ☐ PRELIMINARY PLAT APPROVAL
☐ SITE PLAN FOR SUB'D APPROVAL
☐ 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 ☐ No

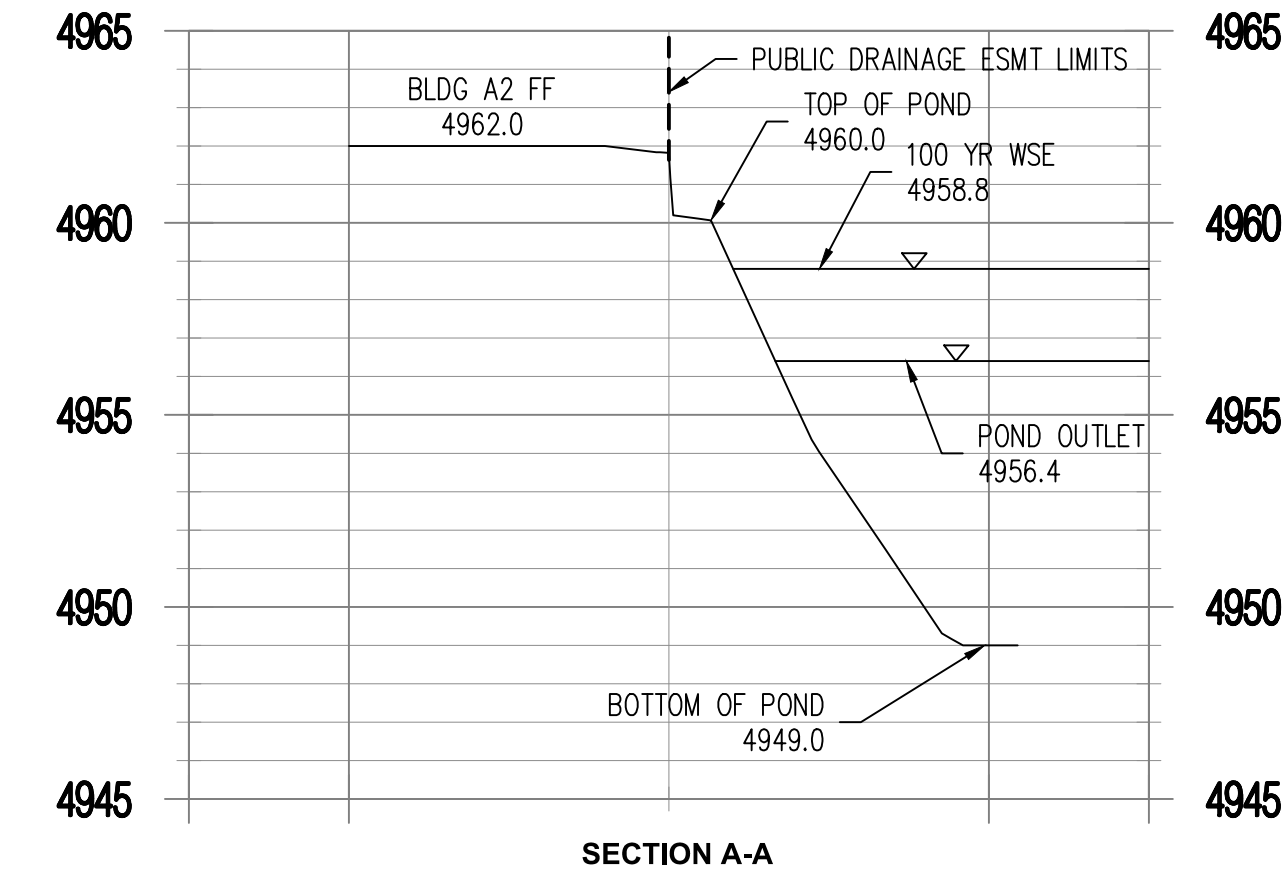
DATE SUBMITTED: _____ **By:** _____

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____



GRADING NOTES

- EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.
- THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST.
- 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).
- EARTH SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.
- 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.
- 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.
- 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.
- PAVING AND ROADWAY GRADES SHALL BE +/- 0.1' FROM PLAN ELEVATIONS. PAD ELEVATION SHALL BE +/- 0.05' FROM BUILDING PLAN ELEVATION.
- ALL PROPOSED CONTOURS REFLECT TOP OF PAVEMENT ELEVATIONS IN THE PARKING AREA AND MUST BE ADJUSTED FOR MEDIANS AND ISLANDS.
- VERIFY ALL ELEVATIONS SHOWN ON PLAN FROM BASIS OF ELEVATION CONTROL STATION PRIOR TO BEGINNING CONSTRUCTION.

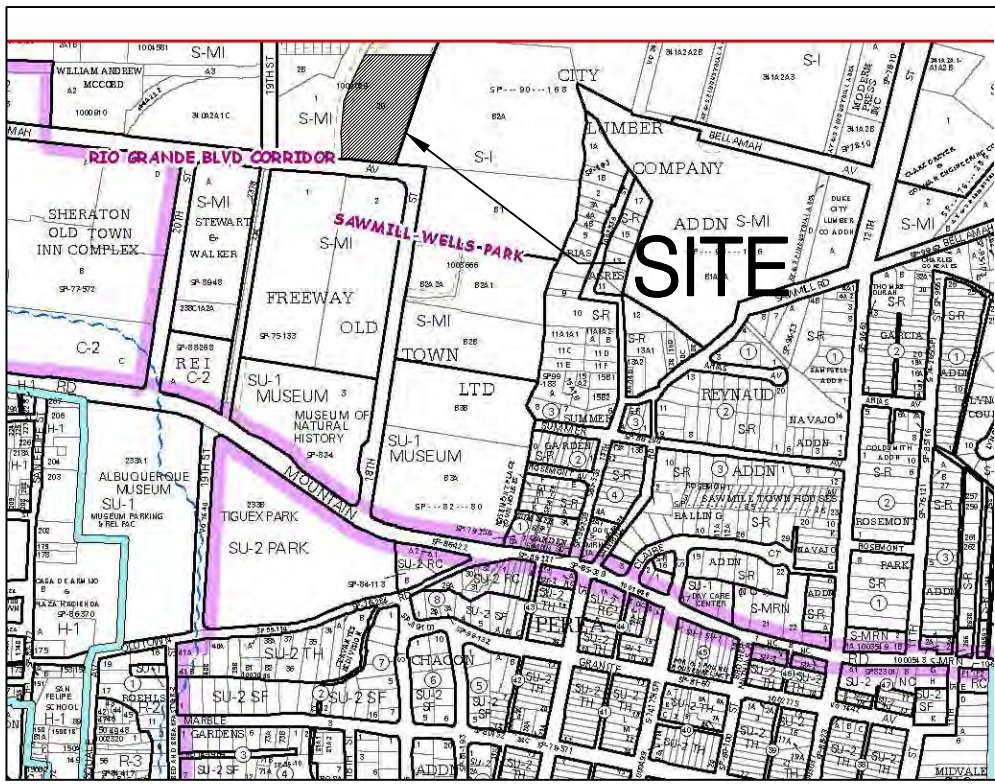


LEGEND

- PROPERTY LINE
- EXISTING CONTOURS
- EXISTING GROUND SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- TC=TOP OF CURB, FL=FLOW LINE
- TW=TOP OF WALL, BW=BOTTOM OF WALL
- EX=EXISTING, TO=TOP OF GRADE
- FGH=FINISH GROUND HIGH SIDE
- FGL=FINISH GROUND LOW SIDE
- PROPOSED DIRECTION OF FLOW
- WATER BLOCK
- PROPOSED INDEX CONTOURS
- PROPOSED INTER CONTOURS
- PROPOSED STORM DRAIN INLET
- PROPOSED MANHOLE
- EXISTING MONUMENT

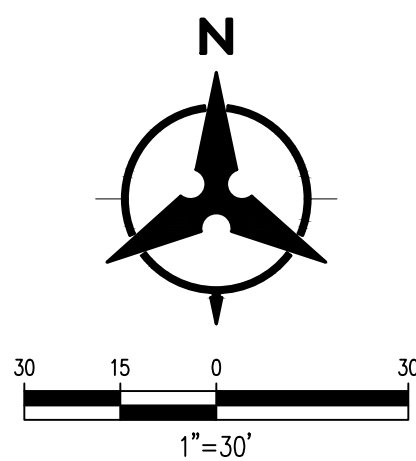
KEYED NOTES

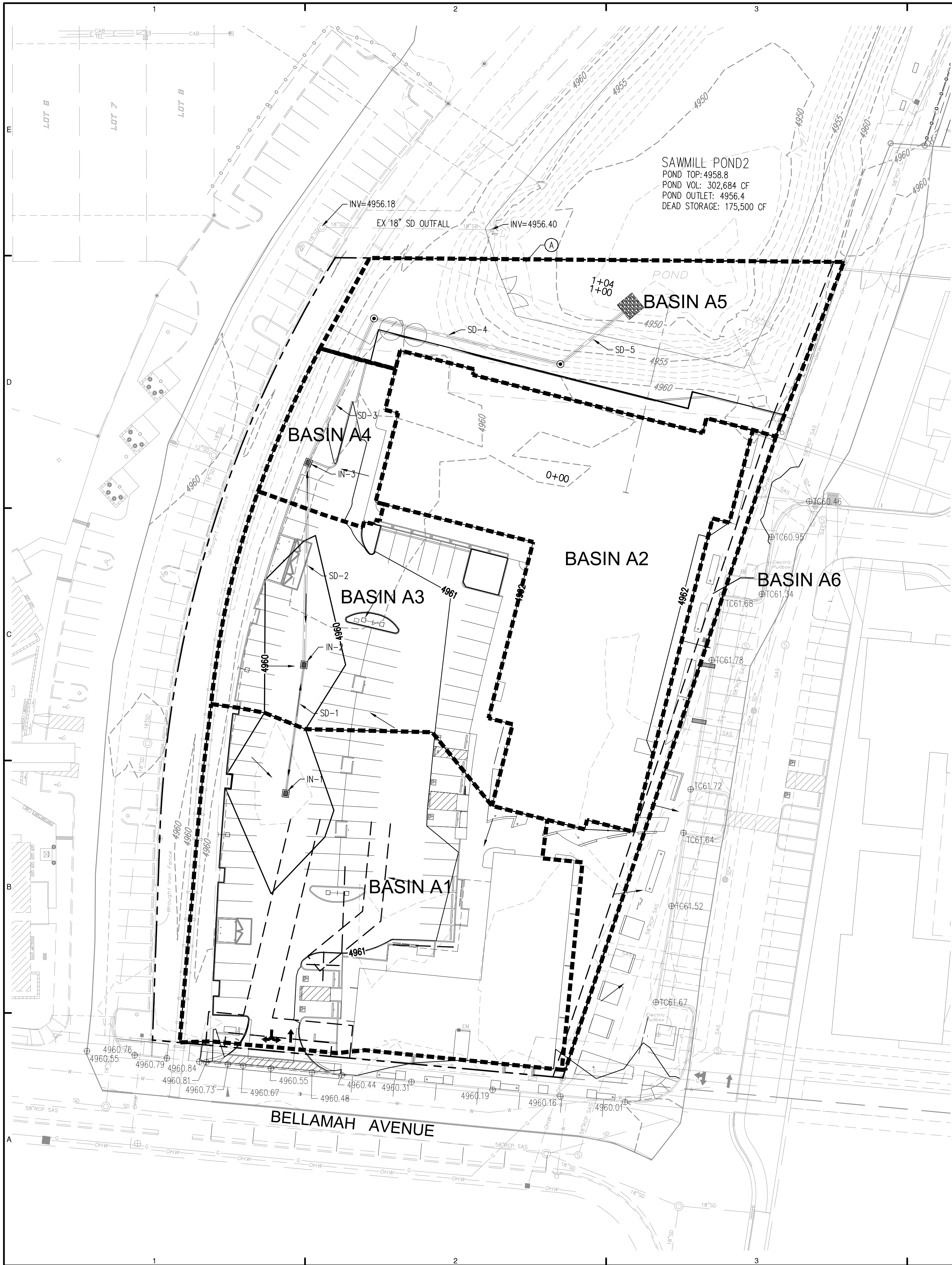
- DAYLIGHT PRIVATE STORM DRAIN TO POND WITH RIP RAP BLANKET
- HOPPE STORM DRAIN, SIZE PER PLAN.
- TYPE "D" INLET PER COA STD DWG 2206
- TYPE "E" STORM DRAIN MANHOLE PER COA STD DWG 2209



GENERAL NOTES

- 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.
- 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.
- 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.
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE FOR LOCATION OF EXISTING UTILITIES.
- 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.
- 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.
- 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.
- 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.
- 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.).
- 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.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO CONFORM WITH EPA REQUIREMENTS, INCLUDING COMPLIANCE WITH NPDES PHASE 2 REQUIREMENTS.





STORM DRAIN PIPE TABLE					
PIPE #	INLET/SD/BASIN	Size in.	Slope	Capacity* cfs	ACTUAL FLOW cfs
SD1	N1	12	1.00%	3.6	3.2
SD2	N2, SD2, A2	18	0.80%	9.4	7.8
SD3	N3, SD2	18	0.80%	9.4	8.1
SD4	SD3	18	0.80%	9.4	8.1
SD5	SD5	18	15.40%	33.9	8.1
Capacity Based on Manning's Eq w/ n=0.013					

INLET TABLE					
Inlet #	Inlet Type	Basin	Actual Flow (cfs)	Avail Head (ft)	Capacity (cfs)
N1	1" SQ. CO. W/ 1" INLET	A1	1.2	1.1	1.2
N2	1" SQ. CO. W/ 1" INLET	A2	1.5	1.1	1.5
N3	1" SQ. CO. W/ 1" INLET	A3	1.5	1.1	1.5

* CAPACITY BASED ON MANNING'S EQUATION AND CAPACITY BASED ON LESSER OF OFFICIAL AND REGULATIONS

SAWMILL VILLAGE PHASE 2												
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				Q(100yr) (cfs/ac.)	Q(100yr) (CFS)	V(100yr) (inches)	V _{100yr-24hr} (CF)	V _{100yr-24hr} (CF)	FIRST FLUSH (CF)
			A	B	C	D						
ON-SITE BASINS												
A1	31243	0.72	0%	10%	0%	90%	4.5	3.2	2.5	5171	6158	797
A2	25757	0.59	0%	0%	0%	100%	4.7	2.8	2.1	4553	5455	730
A3	17195	0.39	0%	5%	0%	95%	4.6	1.8	2.1	2542	3457	453
A4	2471	0.10	0%	54%	0%	48%	2.4	5.3	1.4	222	597	59
A5	16848	0.39	0%	0%	88%	14%	2.4	1.3	1.3	1787	1898	69
A6	5021	0.12	0%	6%	0%	95%	4.6	5.5	2.1	859	1018	135
TOTAL	100537	2.31	-	-	-	-	-	10.0	-	15831	18481	2252

GRADING AND DRAINAGE NARRATIVE

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 Bohannon 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 Bohannon 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.

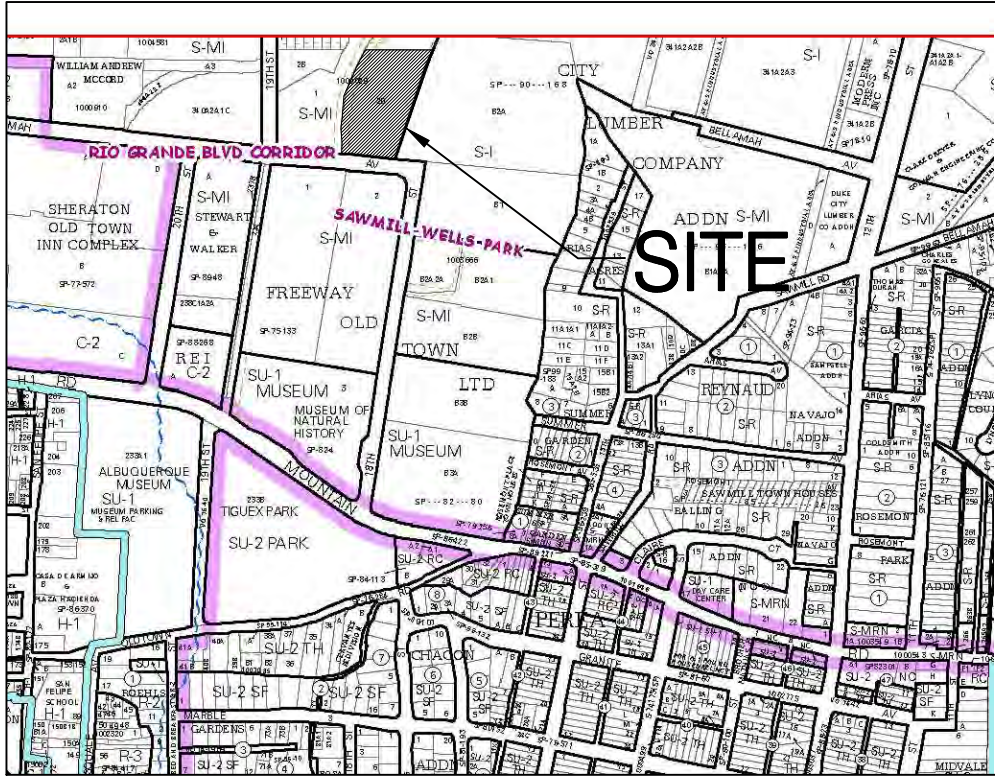
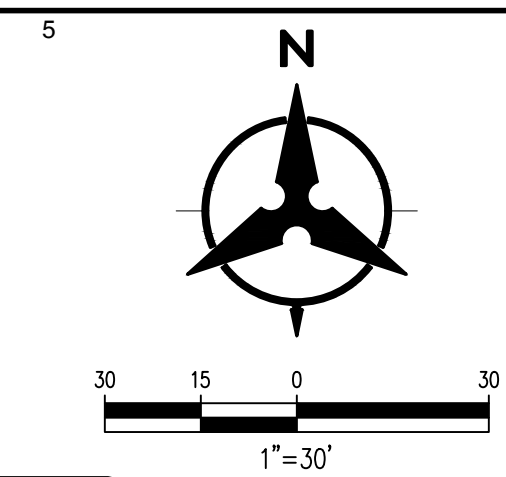
Methodology
Section 22.2 of the City of Albuquerque Development Process Manual was used to analyze the site hydrology. The site is in rainfall zone 2 as defined by figure A-1 of the DPM section 22. The onsite storm drain was sized based on Manning's Equation. The onsite storm drain inlets were sized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



VICINITY MAP
ZONE ATLAS PAGE J-13-Z



SAWMILL VILLAGE PHASE 2
BELLAMAH AVE NW AND 18TH ST
ALBUQUERQUE, NM

DATE: 7/24/17

REVISIONS

CAD DWG FILE:

DRAWN BY:

CHECKED BY:

COPYRIGHT:

SHEET TITLE

DRAINAGE
MANAGEMENT
PLAN

SHEET 1 OF 1