

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

September 11, 2019

Matt Satches, P.E.
Bohannon Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

**RE: Westgate Community Center
10001 DeVargas Rd SW
Grading and Drainage Plan
Engineer's Stamp Date: 9/3/19
Hydrology File: M09D030**

Dear Mr. Satches:

PO Box 1293

Based on the submittal received on 9/3/19, the Grading and Drainage Plan cannot be approved until the following corrections are made:

Prior to Building Permit:

Albuquerque

NM 87103

www.cabq.gov

1. Provide an armored emergency overflow from Pond 1; it does not need to be concrete, but it does need to be designed and shown on the stamped grading plan, not the landscaping plan. SW2 is shown in section B-B as a 15' wide swale with unknown depth, but the manning's calculation shows a top width of 45' and a (flow?) depth of 1.63'. The hydraulic calculations must match the section to be constructed. Flow depth needs to be determined in the channel and adequate freeboard provided. Spillway flow depth needs to be determined via the weir equation and adequate freeboard provided along the south and east sides of the pond. Future buildings need to be considered in this design.
2. Check dams need to be sized and spaced such that the toe of the upstream dam equals the crest of the next downstream dam and provide a sag at midpoint. See NMDOT standards and specifications for temporary erosion and sediment control measures for more details and design standards regarding check dams.
3. Slope stabilization needs to be called out around the western future building pad as well as the berm/swale along the east property line; it may be more reasonable just to reword the general note on C-100 to say "reseed all disturbed areas, including staging areas, per CoA spec section 1012."

CITY OF ALBUQUERQUE

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Prior to Certificate of Occupancy (For Information):

4. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision*, will be required.
5. City acceptance and close-out of the public Work Order will be required, unless a financial guarantee has been posted.

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



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: Westgate Community Center **Building Permit #:** _____ **Hydrology File #:** M09D030
DRB#: 2018-001373 **EPC#:** _____ **Work Order#:** _____
Legal Description: TR OF LAND WITHIN NW/4 NW/4 NW/4 EXC A SWLY POR SEC 33 T10NR2E (AKA PARCEL 1 SURVEY OF TOWN OF ATRISCO GRANT) CONT 12.8369 AC M/L
City Address: 10001 De Vargas Road SW 87121

Applicant: Bohannon Huston, Inc. **Contact:** Matt Satches
Address: 7500 Jefferson St. NE, Albuquerque, NM 87109
Phone#: 505-823-1000 **Fax#:** _____ **E-mail:** msatches@bhinc.com
Owner: City of Albuquerque **Contact:** Steve James
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** stephenjames@cabq.gov

TYPE OF SUBMITTAL: _____ PLAT (____ # OF LOTS) _____ RESIDENCE ☒ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL?: ☒ Yes _____ No

DEPARTMENT: _____ TRAFFIC/ TRANSPORTATION ☒ HYDROLOGY/ DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

_____ ENGINEER/ARCHITECT CERTIFICATION
_____ PAD CERTIFICATION
_____ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
_____ DRAINAGE MASTER PLAN
☒ DRAINAGE REPORT
_____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
_____ ELEVATION CERTIFICATE
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT (TCL)
_____ TRAFFIC IMPACT STUDY (TIS)
_____ OTHER (SPECIFY) _____
_____ PRE-DESIGN MEETING?

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
_____ FLOODPLAIN DEVELOPMENT PERMIT
_____ OTHER (SPECIFY) _____

DATE SUBMITTED: 9/3/2019 **By:** Matt Satches

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

August 30, 2019

Mr. Dana Peterson, PE
Senior Engineer
Planning Department
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87103

Re: Westgate Community Center - Hydrology File: M09D030
COA Hydrology Building Permit Approval Re-Submittal

Dear Mr. Peterson:

Enclosed for your review is a copy of the Westgate Community Center Drainage Management Plan and Grading Plan. Below is a brief description of how the comments from your response letter (dated 08/22/19) were addressed:

1. Provide hydraulic calculations for the riprap swale along the north side of the project; and calculations from Pond 1 back on the plan.

Response: Per Value Engineering performed on this project, there is no riprap swale along the north side of the project, but rather an earthen swale. The swale is intended to be revegetated by hydromulch per COA specification section 1012. See the Swale Table provided on the DMP for hydraulic calculations. This swale (SW1) has adequate capacity for all of Basin B-2 even though only a portion will arrive there. Due to the velocity in the swale, riprap check dams are installed for erosion protection. This swale is only temporary in nature.

2. Put the concrete swale (emergency overflow) from pond 1 back on the plan. Any alternative design needs to be designed and stamped by a professional engineer and provided on the stamped grading plan.

Response: This pond retains the 100 Yr-6 Hr storm event, see pond volume calculations on the DMP. A concrete emergency overflow swale is not be provided. The southwest corner of the pond is the low point. Should this pond reach capacity, the pond will overflow in the southwest corner and proceed through a landscaped section of the site. This landscaped area was analyzed as a swale (SW2), see Swale Table on the Drainage Management Plan for calculations. This landscaped area has adequate capacity for all of the basins contributing to Pond 1.

3. Put the riprap swale into pond 1 back on the plan. Any alternative design needs to be designed and stamped by a professional engineer and provided on the stamped grading plan.

Response: This is no longer a riprap swale, but rather an earthen swale. Due to the velocity in the swale, riprap check dams are installed for erosion protection. This swale is only temporary in nature.

Engineering 

Spatial Data 

Advanced Technologies 

Mr. Dana Peterson, PE
Senior Engineer
City of Albuquerque
August 30, 2019
Page 2

4. Put the riprap swale along east property line back on the plan. Any alternative design needs to be designed and stamped by a professional engineer provided on the stamped grading plan.

Response: Per Value Engineering performed on this project, there is no riprap swale along the north side of the project, but rather an earthen swale. Please see the Swale Table provided on the DMP for hydraulic calculations. This swale (SW3) had adequate capacity for all of Basin A-3.

5. Provide an armored swale and slope stabilization around the western future building pad. Put the put the retaining wall section (former section A-A) back on the plan for the section of stem wall that is getting built.

Response: The western future building pad will have a protective layer of compacted subgrade to be placed over the pads. A general note has been provided on sheet C-100 stating that prior to construction of future pad foundation, contractor shall field verify pad compaction and preparation. Separate building permit submittals will be required at that time. Other than hydromulch, no additional slope stabilization will be provided. Section A-A which has been placed back on sheet C-103.

6. Include a note that no work shall be allowed in the public ROW without an approved Work Order.

Response: This note has been added to the grading plan, see sheet C-100.

7. Will the basin B-2 area be used for staging? It needs to be reseeded if so; specify reseeding per section 1012 for all disturbed areas.

Response: A general note has been added to the grading plan, see sheet C-100.

8. Depress the landscaping in the parking islands to provide additional water quality and allow water to enter the islands instead of ponding/backing up in the parking spots.

Response: Please see keyed note #17.

9. Screen-back or otherwise annotate what parking islands & curbs will be built now and which are future.

Response: All curbs shown are to be built now.

With this submittal, we are requesting City of Albuquerque Hydrology Site Plan for Building Permit Approval. If you have any questions or require further information, please feel free to contact me.

Sincerely,



Matt Satches, PE
Engineer
Community Development and Planning

MHS/egn
Enclosures

P:\20190164\CD\Drawings\General\20190164_DMP-PH1-CD.dwg
Tue, 3-Sep-2019 11:11:11am, Plotted by: MSAATCHES

POND DATA:

POND 1:

(BASIN B-1, B-2, B-3)
VOLUME REQUIRED = 30,785 CF
VOLUME PROVIDED = 33,561 CF
TOP OF POND = 5168.00
MAX WATER SURFACE ELEVATION = 5167.75
EMERGENCY OVERFLOW ELEVATION = 5168.00

POND 2:

(BASIN A-1, A-5, A-6)
VOLUME REQUIRED = 17,946 CF
VOLUME PROVIDED = 9,585 CF
TOP OF POND = 5164.50
MAX WATER SURFACE ELEVATION = 5164.50*
* POND OVERFLOWS TO POND 3
(OVERFLOW VOL=8,361 CF)

POND 3: (FUTURE)

(BASIN A-2 & OVERFLOW OF BASIN A-1, A-5, A-6)
VOLUME REQUIRED = 21,336 CF
VOLUME PROVIDED = 24,678 CF
TOP OF POND = 5162.00
MAX WATER SURFACE ELEVATION = 5161.25

POND 4:

(BASIN A-4)
VOLUME REQUIRED (100YR-10DAY) = 1,321 CF
VOLUME PROVIDED = 3,024 CF
TOP OF POND = 5160.00
MAX WATER SURFACE ELEVATION = 5159.20

WESTGATE COMMUNITY CENTER
Existing Developed Conditions Basin Data Table
This table is based on the DPM Section 22.2, Zone: 1

Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100yr)	Q(100yr)	V(100yr)	V _(100yr-6hr)	V _(100yr-24hr)
			A	B	C	D	(cfs/ac.)	(CFS)	(inches)	(CF)	(CF)
EXISTING BASIN A	232346	5.33	100.0%	0.0%	0.0%	0.0%	1.29	6.88	0.44	8519	8519
EXISTING BASIN B	347850	7.99	100.0%	0.0%	0.0%	0.0%	1.29	10.30	0.44	12755	12755
TOTAL	580196	13.32	-	-	-	-	-	17.18	-	21274	21274

Proposed Developed Conditions Basin Data Table
This table is based on the DPM Section 22.2, Zone: 1

Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100yr) (cfs/ac.)	Q(100yr) (CFS)	V(100yr) (inches)	V _(100yr-6hr) (CF)	V _(100yr-10day) (CF)	FIRST FLUSH (CF)
			A	B	C	D						
CURRENT ONSITE BASINS												
BASIN A-1	48209	1.11	0.0%	0.0%	15.0%	85.0%	4.15	4.59	1.82	7324	12344	1161
BASIN A-2	87769	2.01	0.0%	0.0%	20.0%	80.0%	4.07	8.20	1.77	12975	21577	1989
BASIN A-3	16007	0.37	0.0%	0.0%	100.0%	0.0%	2.87	1.05	0.99	1321	1321	0
BASIN A-4	9262	0.21	0.0%	0.0%	35.0%	65.0%	3.85	0.82	1.63	1256	1993	171
BASIN A-5	55201	1.27	0.0%	0.0%	20.0%	80.0%	4.07	5.16	1.77	8161	13570	1251
BASIN A-6	28423	0.65	0.0%	0.0%	95.0%	5.0%	2.95	1.92	1.04	2461	2635	40
BASIN B-1	18834	0.43	0.0%	0.0%	100.0%	0.0%	2.87	1.24	0.99	1554	1554	0
BASIN B-2	207317	4.76	0.0%	0.0%	100.0%	0.0%	2.87	13.66	0.99	17104	17104	0
BASIN B-3	109175	2.51	0.0%	0.0%	65.0%	35.0%	3.40	8.51	1.33	12128	16808	1083
TOTAL	580197	13.32	-	-	-	-	-	45.15	-	64282	123977	5695

Concrete Rundown

Rundown #	Basin ID	Rundown Type	Actual Flow (Q100)	Min Weir** Length ft	Weir Opening Width ft	Weir Opening Height ft	Channel Height ft	Channel Width ft	Minimum Slope	Capacity* CFS
R1	A-2	Rectang	8.2	6.00	6.00	0.67	0.67	2.00	1.80%	11.18
R2	A-1	Rectang	4.6	4.00	6.00	0.67	0.67	2.00	4.90%	18.44
R3	A-5	Rectang	5.2	4.00	6.00	0.67	0.67	2.00	11.00%	27.63
Weir Eq: Q=2.65L(h ^{1.5}) - ** Capacity Based on Manning's Eq w/ N=0.013 - *										

Swale Table

Swale #	Basin ID	Actual Flow	Mannings N	Bottom Width FT	Top Width FT	Depth FT	Minimum Slope	Capacity* CFS	Velocity FPS
SW1	BASIN B-2	13.7	0.030	9.0	29.00	1.25	0.037	195.20	3.91
SW2	BASIN B-1, B-2, B-3	23.4	0.035	0.0	45.27	1.63	0.005	64.15	1.77
SW3	BASIN A-3	1.1	0.030	3.0	8.00	0.625	0.016	11.81	1.67
Capacity Based on Manning's Eq *									

PROPOSED DRAINAGE NARRATIVE

INTRODUCTION:

WESTGATE COMMUNITY CENTER IS LOCATED NORTH OF DEVARGAS ROAD, EAST OF SNOW VISTA CHANNEL AND WEST OF 98TH STREET. THE PURPOSE OF THIS SUBMITTAL IS TO PROVIDE A DRAINAGE MANAGEMENT PLAN FOR THE DEVELOPMENT OF THE WESTGATE COMMUNITY CENTER AND REQUEST COA HYDROLOGY BUILDING & GRADING PERMIT APPROVAL.

EXISTING CONDITIONS:

THE SITE IS CURRENTLY UNDEVELOPED AND FREE DISCHARGES TO THE SOUTH INTO DEVARGAS ROAD. THE SITE CURRENTLY DRAINS FROM NORTHWEST TO SOUTHWEST. THE SITE IS BORDERED TO THE WEST BY THE SNOW VISTA CHANNEL. THIS CHANNEL AND THE WESTGATE SITE, ARE NOT LOCATED WITHIN A FEMA DESIGNATED FLOOD ZONE (FEMA FIRM MAP #35001C0336H).

SITE HISTORY:

SEVERAL DRAINAGE REPORTS AND STUDIES HAVE INCLUDED THE SITE WITHIN THEIR ANALYSIS. SAD 222 DRAINAGE REPORT PREPARED BY THE LARKIN GROUP DATED 9/12/2000 STATES THAT THE INFRASTRUCTURE WITHIN THE TOWER/SAGE DRAINAGE BASIN WAS INITIALLY SIZED PRIOR TO THE ADOPTION OF AHJMO. SINCE THE ADOPTION OF AHJMO, IT WAS FOUND THAT THE RUNOFF CONTRIBUTING TO INFRASTRUCTURE WITHIN THE TOWER/SAGE DRAINAGE BASIN, INCLUDING THE 98TH STREET STORM DRAIN, WAS MORE THAN INITIALLY THOUGHT. THE STORM DRAIN WITHIN 98TH STREET WAS SIZED TO CARRY RUNOFF GENERATED WITHIN THE 98TH STREET RIGHT OF WAY. THE PROPERTY OWNERS ALONG THE WEST EDGE OF 98TH STREET BETWEEN TOWER ROAD AND DEVARGAS ROAD ARE NOT INCLUDED WITHIN THE ANALYSIS OF SAD 222 AS THEY WILL MANAGE THEIR OWN RUNOFF ONSITE. THE AMOLE HUBBELL DRAINAGE MANAGEMENT PLAN FINAL FACILITIES REPORT DATED 7/22/1999 NOTES SIMILAR DRAINAGE ISSUES WITHIN THE TOWER/SAGE DRAINAGE BASIN. PER THE REPORT, THE CITY OF ALBUQUERQUE HAS RESTRICTED NEW DEVELOPMENT TO A RUNOFF RATE OF 1.29 CFS/ACRE. THIS WAS PROPOSED TO ALLEVIATE THE ISSUES DOWNSTREAM OF THE SITE. A NEW AMOLE HUBBELL DRAINAGE REPORT PREPARED BY WILSON & CO DATED 3/26/14 REANALYZED THE AGING 1999 REPORT. THIS NEWER REPORT DESCRIBES THE SITE'S RUNOFF AS DISCHARGING AT THE NORTHWEST CORNER OF 98TH STREET AND DEVARGAS ROAD AS ANALYSIS POINT SV16 AT A RATE OF 181 CFS. THIS ANALYSIS POINT INCLUDES THE TRAILER PARK TO THE EAST AS WELL AS PROPERTY ALONG THE WESTERN SIDE OF 98TH STREET. THE SAD 222 REPORT PREVIOUSLY STATED THAT THESE PROPERTIES WILL MANAGE THEIR OWN RUNOFF ONSITE. THESE ARE CONTRADICTING STATEMENTS. FURTHER ANALYSIS OF THE AS-BUILT OF SAD 222 SHOW THAT THE STORM DRAIN WITHIN 98TH STREET WAS DESIGNED TO HAVE A CAPACITY OF 59.30 CFS. THIS FLOW IS SIGNIFICANTLY LESS THAN THE 181 CFS THAT THE 2014 AMOLE HUBBELL DRAINAGE REPORT DESCRIBES.

THE STORM DRAIN WITHIN 98TH STREET IS UNDER CAPACITY AND CANNOT HANDLE DEVELOPED FLOWRATES FROM THE WESTGATE COMMUNITY CENTER SITE. AFTER MEETING WITH COA HYDROLOGY ON 8/7/2018 AND RESEARCHING THE AFOREMENTIONED REPORTS AND AS-BUILTS, IT WAS DETERMINED THAT THE SITE WILL BE REQUIRED TO RETAIN THE 100 YEAR - 6 HOUR STORM EVENT ONSITE.

METHODOLOGY:

THE HYDROLOGIC ANALYSIS PROVIDED WITH THIS DRAINAGE MANAGEMENT PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 22.2 OF THE DPM. THE SITE IS LOCATED WITHIN PRECIPITATION ZONE 1. LAND TREATMENT PERCENTAGES WERE CALCULATED BASED ON THE SITE CONDITIONS.

PROPOSED CONDITIONS:

WESTGATE COMMUNITY CENTER IS BEING CONSTRUCTED IN PHASES. THE FIRST PHASE WILL CONSTRUCT THE CENTRAL PORTION OF THE BUILDING AND THE FIRST ROW OF PARKING. THE FUTURE BUILDOUT OF THE SITE IS INCLUDED WITHIN THE DESIGN OF THE ONSITE PONDS AND INFRASTRUCTURE.

THE SITE IS DIVIDED INTO 2 LARGE BASINS (BASIN A & BASIN B) GENERALLY SEPARATING THE SITE NORTH AND SOUTH.

BASIN A IS LOCATED ON THE SOUTH PORTION OF THE SITE. THIS BASIN DRAINS FROM NORTH TO SOUTH AND CONTAINS A PORTION OF THE PROPOSED BUILDING AS WELL AS THE PARKING LOT SOUTH OF THE BUILDING. THERE ARE VARIOUS CURB OPENINGS WITHIN THE PROPOSED PARKING AREA. THESE CURB OPENINGS ARE NOT SIZED FOR A DESIGN STORM EVENT. SUB-BASINS A-1, A-5, & A-6 ALL DRAIN TO PROPOSED POND 2 WITH A CUMULATIVE 100YR-6HR VOLUME OF APPROXIMATELY 17,945 CF. SUB-BASIN A-2 DRAINS TO PROPOSED POND 3 WITH A 100YR-6HR VOLUME OF APPROXIMATELY 12,975 CF. POND 2 AND POND 3 ARE LOCATED ALONG THE SOUTHERN PROPERTY LINE. THESE PONDS ARE SIZED TO RETAIN THE VOLUME FROM SUB-BASINS A-1, A-2, A-5, & A-6. POND 2 IS UNDERSIZED AND OVERFLOW FROM THIS POND CONTINUES INTO POND 3. SUB-BASIN A3 IS A SMALL BASIN ON THE EAST SIDE OF THE SITE WHICH DRAINS TO PROPOSED POND 4 WITH A 100YR-10DAY VOLUME OF APPROXIMATELY 1,321 CF. SUB-BASIN A-4 IS WITHIN THE PROPOSED PUBLIC SIDEWALK ACCESS EASEMENT. THIS SUB-BASIN IS NOT RETAINED ONSITE, BUT DISCHARGES APPROXIMATELY 0.82 CFS INTO DEVARGAS ROAD.

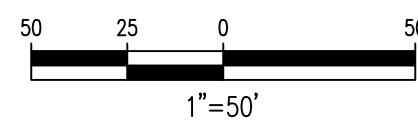
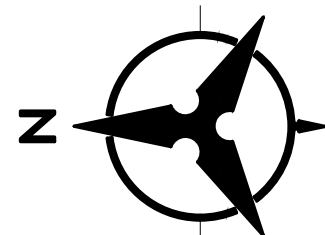
BASIN B IS LOCATED ON THE NORTH PORTION OF THE SITE. THIS BASIN IS PRIMARILY UNDEVELOPED AND WILL CONTINUE TO BE UNDEVELOPED. SUB-BASINS B-1 AND B-2 DISCHARGE TO THE SOUTHEAST INTO POND 1. SUB-BASIN B-3 DISCHARGES TO THE NORTH AND EAST OF THE EXISTING BUILDING INTO POND 1 AS WELL. THE 100YR-6HR VOLUME REQUIRED FOR POND 1 IS APPROXIMATELY 30,785 CF. DURING A LARGER STORM EVENT, RUNOFF FROM POND 1 WILL OVERFLOW TO THE SOUTH INTO A LANDSCAPED AREA.

FIRST FLUSH VOLUME IS RETAINED WITHIN THE 100YR-6HR STORM EVENT.

SEE POND DATA THIS SHEET FOR MORE INFORMATION.

CONCLUSION:

THE SITE RETAINS THE 100 YEAR-6 HOUR STORM EVENT. THEREFORE, WE ARE IN CONFORMANCE WITH THE CITY OF ALBUQUERQUE HYDROLOGY REQUIREMENTS AND REQUEST BUILDING & GRADING PERMIT APPROVAL.



LEGEND

---	PROPERTY LINE
---	LIMITS OF GRADING
---5025---	EXISTING INDEX CONTOUR
---5024---	EXISTING INTERMEDIATE CONTOUR
---5025---	PROPOSED INDEX CONTOUR
---5024---	PROPOSED INTERMEDIATE CONTOUR
-----	PROPOSED MAJOR-BASIN
-----	PROPOSED SUB-BASIN

LEE GAMESKY ARCHITECTS P.C.

2412 MILES ROAD SE
ALBUQUERQUE, NM 87106
505.842.8865 FAX 842.1693
lee@lganm.com



WESTGATE COMMUNITY CENTER
Albuquerque, New Mexico

PROJECT ARCHITECT:
LEE GAMESKY, AIA

Project #:
Date: 08.12.2019

DRAINAGE MANAGEMENT PLAN

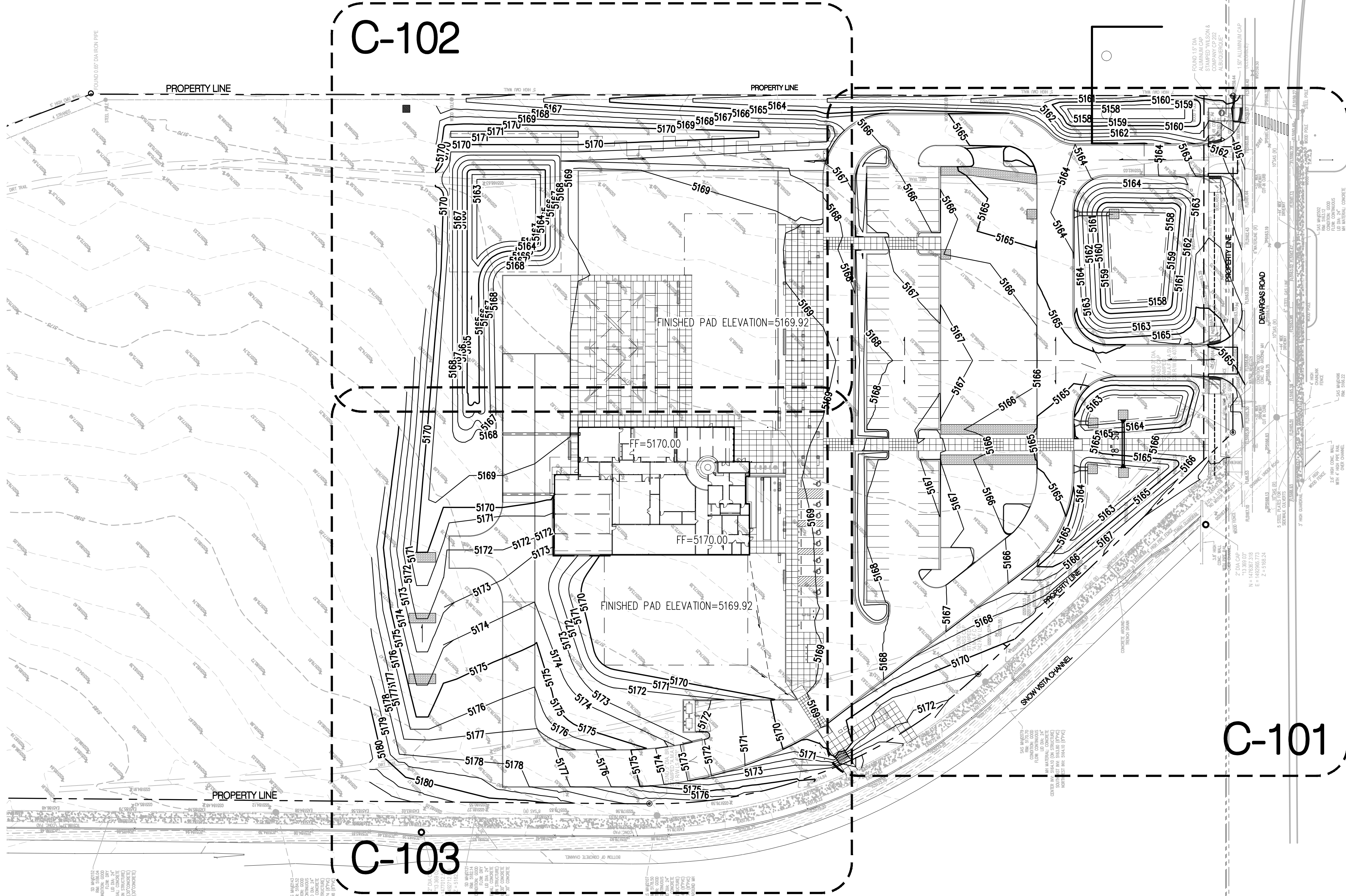
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C-001

100% CONSTRUCTION DOCUMENTS

Bohannon & Huston
www.bhinc.com 800.877.5332

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LEGEND

- PROPERTY LINE
- LIMITS OF GRADING
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING GROUND SPOT ELEVATION
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- PROPOSED FINISHED GRADE SPOT ELEVATION
- TC=TOP OF CURB, FL=FLOW LINE, TS=TOP OF SIDEWALK
- FGH=FINISH GROUND HIGH, FGL=FINISH GROUND LOW
- PROPOSED CURB & GUTTER
- DIRECTION OF FLOW
- WATER BLOCK/GRADE BREAK
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLETS
- SWALE FLOWLINE
- TOP OF BERM
- GRADE BREAK

NOTE

PRIOR TO CONSTRUCTION OF FUTURE PAD FOUNDATION, CONTRACTOR SHALL FIELD VERIFY PAD COMPACTION AND PREPARATION. SEPARATE BUILDING PERMIT SUBMITTALS WILL BE REQUIRED AT THAT TIME.

NOTE

CONTRACTOR SHALL PROVIDE AS-BUILT GRADING INFORMATION STAMPED BY A PROFESSIONAL SURVEYOR. AS-BUILT INFORMATION REQUIRED SHALL BE COORDINATED WITH THE ENGINEER AND SHALL BE SUFFICIENTLY DETAILED TO VERIFY THAT THE DRAINAGE WILL FUNCTION IN ACCORDANCE WITH THE DESIGN. AS-BUILT DATA SHALL BE PROVIDED AT LEAST 5 WORKING DAYS PRIOR TO CONTRACTOR'S REQUEST FOR PERMANENT CERTIFICATE OF OCCUPANCY. AT A MINIMUM, AS-BUILT DATA SHALL INCLUDE:

- ALL GRATES AND INVERTS OF CATCH BASINS
- APPROXIMATELY 75% OF ALL DESIGN SPOT ELEVATIONS & FINISHED FLOOR ELEVATIONS.

NOTE

HDPE PIPE AND FITTINGS SHALL BE INSTALLED AND BACKFILLED PER MANUFACTURER SPECIFICATIONS. CONNECTIONS TO CONCRETE MANHOLES AND CONCRETE DROP INLETS SHALL USE WATER STOP GASKETS AND SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS

NOTE

ENDS OF ALL STORM DRAIN PIPES, CULVERTS, & CMP END SECTIONS (LARGER THAN 12") SHALL BE COVERED WITH STEEL BARS APPROXIMATELY 12" SQUARE. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL. HYDRAULIC INTEGRITY SHALL NOT BE COMPROMISED. BARS TO BE PAINTED TO MATCH BUILDING.

NOTE

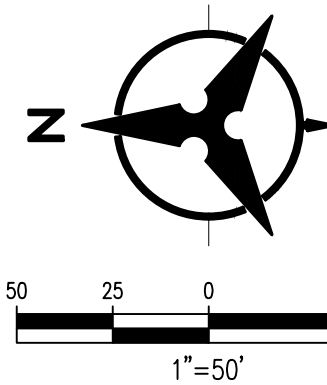
SIDEWALK CROSS-SLOPES SHALL BE AT A MINIMUM OF 1.0% AND A MAXIMUM OF 2.0%

NOTE

NO WORK SHALL BE ALLOWED IN THE PUBLIC ROW WITHOUT AN APPROVED WORK ORDER.

NOTE

STAGING AREA TO BE RE-SEEDED PER COA SPEC SECTION 1012 FOR ALL DISTURBED AREAS.



100% CONSTRUCTION DOCUMENTS

Bohannon & Huston
www.bhinc.com 800.877.5332

GENERAL NOTES

- A. 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 STANDARD SPECIFICATIONS SHALL APPLY.
- B. 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.
- C. 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.
- D. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE FOR LOCATION OF EXISTING UTILITIES.
- E. 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.
- F. 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.
- G. 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.
- H. 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.
- I. 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.).
- J. 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.
- K. 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.
- L. 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.
- M. 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.
- N. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO CONFORM WITH EPA REQUIREMENTS, INCLUDING COMPLIANCE WITH NPDES PHASE 2 REQUIREMENTS.
- O. THE CONTRACTOR SHALL PROVIDE 1 HARD COPY AND 1 ELECTRONIC COPY OF THE EPA STORM WATER POLLUTION PREVENTION PLAN ALONG WITH THE APPROPRIATE SUBMITTAL FEE TO CITY OF ALBUQUERQUE TWO WEEKS PRIOR TO THE START OF SITE DISTURBANCE.
- GRADING NOTES**
- P. EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.
- Q. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST.
- R. 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." ALL OTHER WORK SHALL, UNLESS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS (FIRST PRIORITY), AND/OR THE ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (SECOND PRIORITY).
- S. EARTH SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.
- T. 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.
- U. THE CONTRACTOR IS TO ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHT-OF-WAY.
- V. 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.
- W. PAD ELEVATION SHALL BE +/- 0.05' FROM BUILDING PLAN ELEVATION.
- X. VERIFY ALL ELEVATIONS SHOWN ON PLAN FROM BASIS OF ELEVATION CONTROL STATION PRIOR TO BEGINNING CONSTRUCTION.

NO.	DATE	REVISIONS	CHECKED BY:

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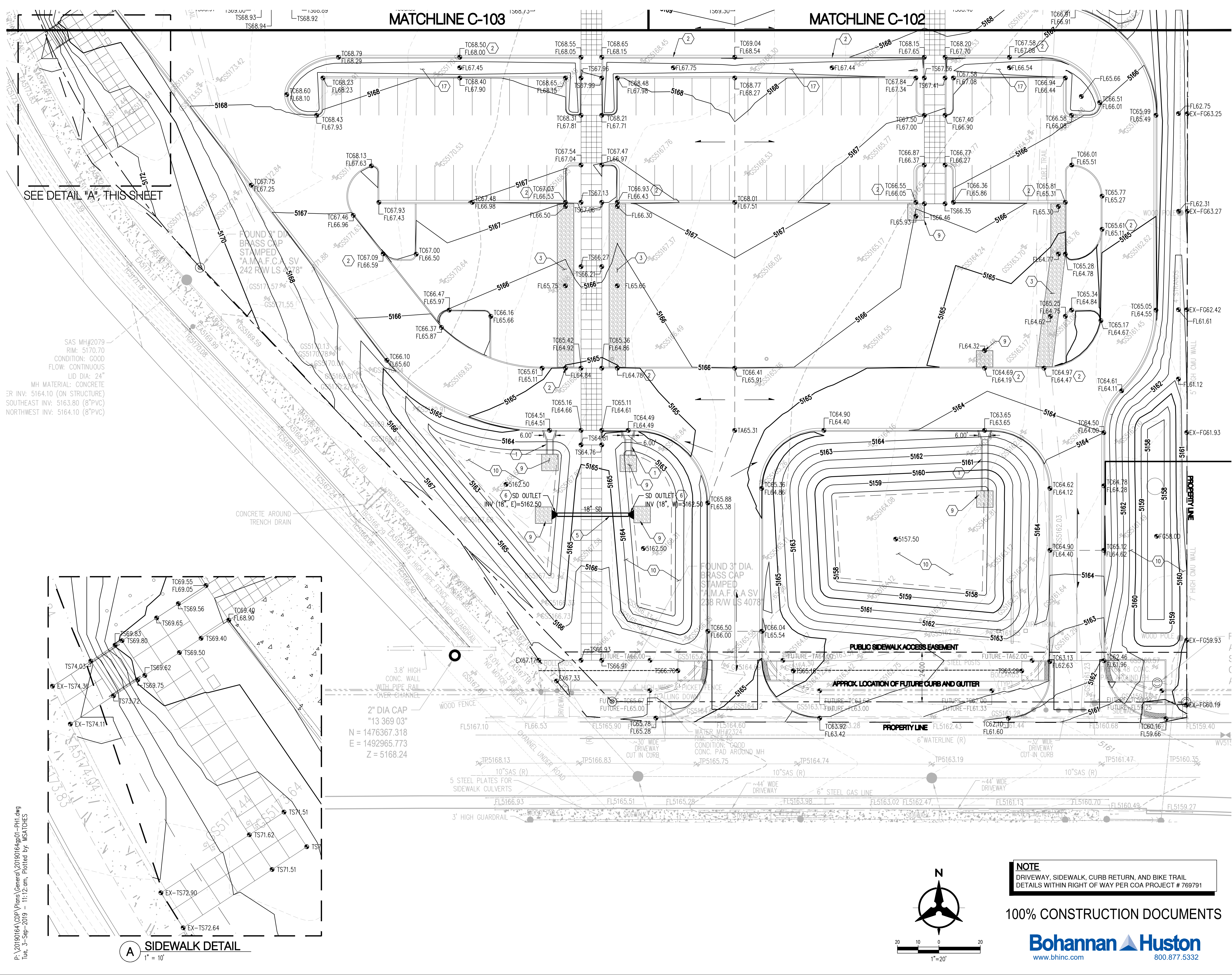


WESTGATE COMMUNITY CENTER
Albuquerque, New Mexico

PROJECT ARCHITECT: LEE GAMESKY, AIA	Project #: 16-01-AL
	Date: 08.12.2019

OVERALL GRADING AND DRAINAGE PLAN

By:	Sheet:	Of:
File:	C-100	



GRADING KEYED NOTES*

- INSTALL CONCRETE RUNDOWN PER DETAIL A, SHEET C-102.
- INSTALL CONCRETE CURB OPENING PER DETAIL B, SHEET C-102.
- INSTALL RIP RAP SWALE PER DETAIL E, SHEET C-102.
- RETENTION POND EMERGENCY OVERFLOW LOCATION.
- INSTALL HDPE (N12 WT. OR APPROVED EQUAL) STORM DRAIN PIPE. SEE PLAN FOR SIZE
- INSTALL CMP END SECTION (CONTECH OR APPROVED EQUAL), SEE PLAN FOR SIZE.
- RETAINING WALL. SEE STRUCTURAL PLAN FOR DETAILS.
- INSTALL BERM PER SECTION A-A, SHEET C-102.
- INSTALL RIP-RAP PAD PER DETAIL C, SHEET C-102.
- RETENTION POND.
- BEGIN TRANSITION FROM FULL HEIGHT CURB TO FLUSH CURB. SEE SITE PLAN FOR CURB DETAILS. .
- END TRANSITION FROM FULL HEIGHT CURB TO FLUSH CURB. SEE SITE PLAN FOR CURB DETAILS. .
- INSTALL CONCRETE VALLEY GUTTER PER DETAIL D, SHEET C-102.
- INSTALL CONCRETE RUNDOWN PER DETAIL F, SHEET C-102. CENTER ON ROOF DRAIN.
- INSTALL 24" SIDEWALK CULVERT PER COA STD DWG 2236. REPLACE 2'X2' SECTION OF CHECKERED STEEL WITH PEDESTRIAN RATED GRATE. CENTER ON ROOF DRAIN.
- FUTURE PHASE, INSTALL STRUCTURAL FILL PER GEOTECH REPORT.
- DEPRESS LANDSCAPE ISLANDS.
- INSTALL RIPRAP CHECK DAMS PER DETAIL G, SHEET C-103. SEE PLAN FOR SPACING.

*NOT ALL KEYED NOTES ARE USED ON THIS SHEET

LEGEND

	PROPERTY LINE
	LIMITS OF GRADING
	EXISTING INDEX CONTOUR
	EXISTING INTERMEDIATE CONTOUR
	EXISTING GROUND SPOT ELEVATION
	PROPOSED INDEX CONTOUR
	PROPOSED INTERMEDIATE CONTOUR
	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
	DIRECTION OF FLOW
	WATER BLOCK/GRADE BREAK
	PROPOSED STORM DRAIN LINE
	PROPOSED STORM DRAIN MANHOLE
	PROPOSED STORM DRAIN INLETS
	TOP OF BERM
	FUTURE SPOT ELEVATION

NO.	DATE	REVISIONS	CHECKED BY:

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Albuquerque, New Mexico

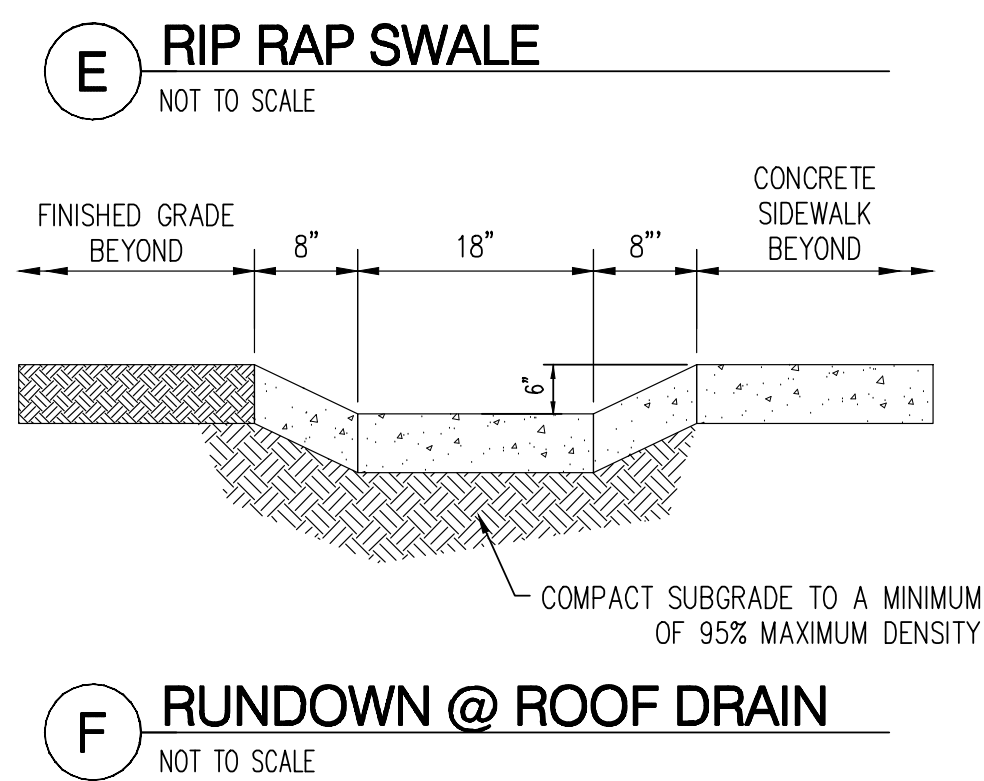
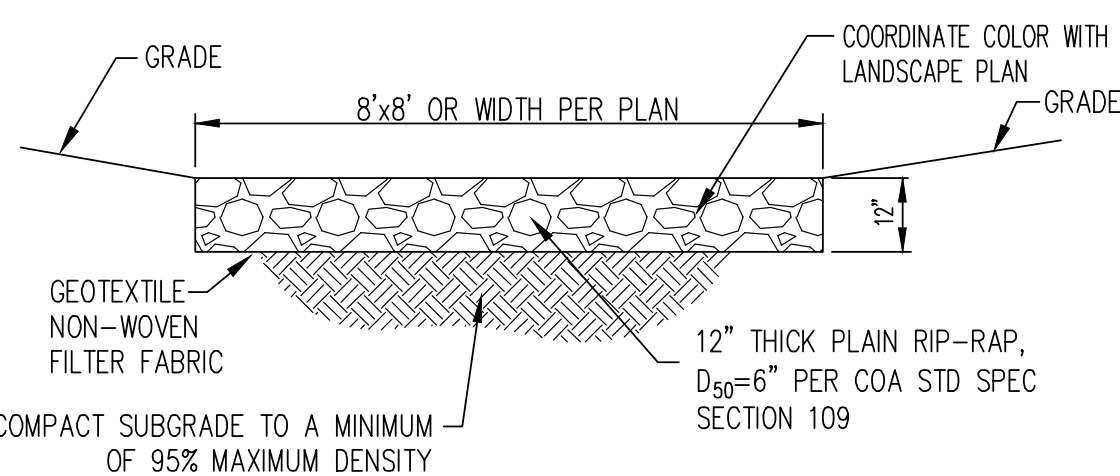
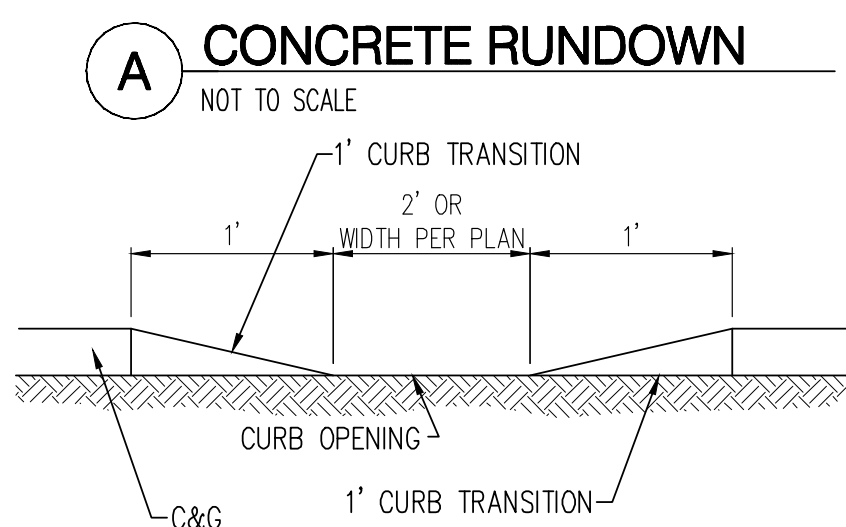
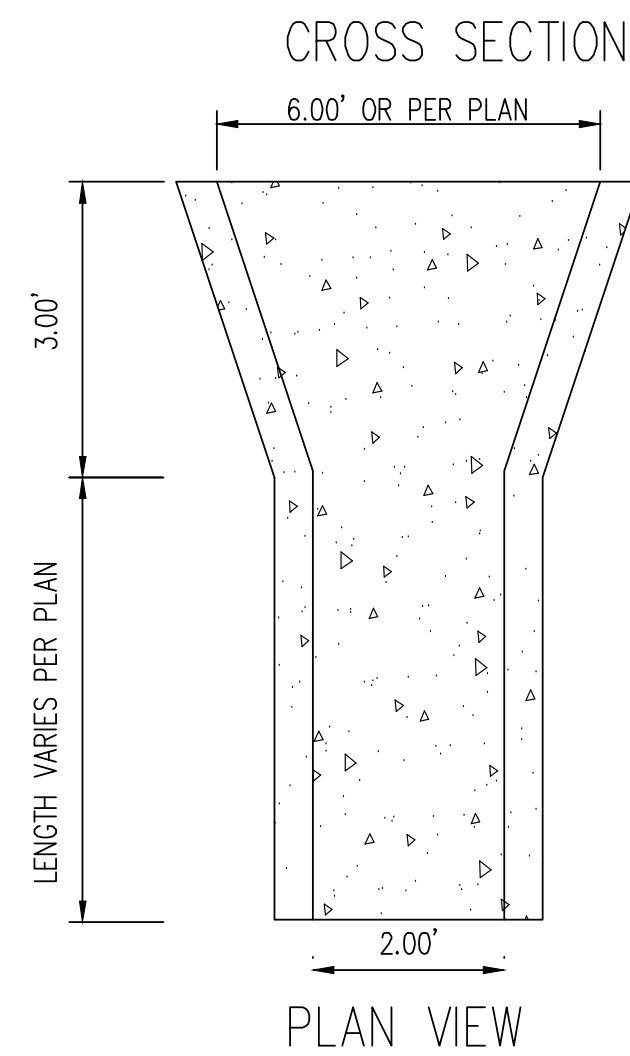
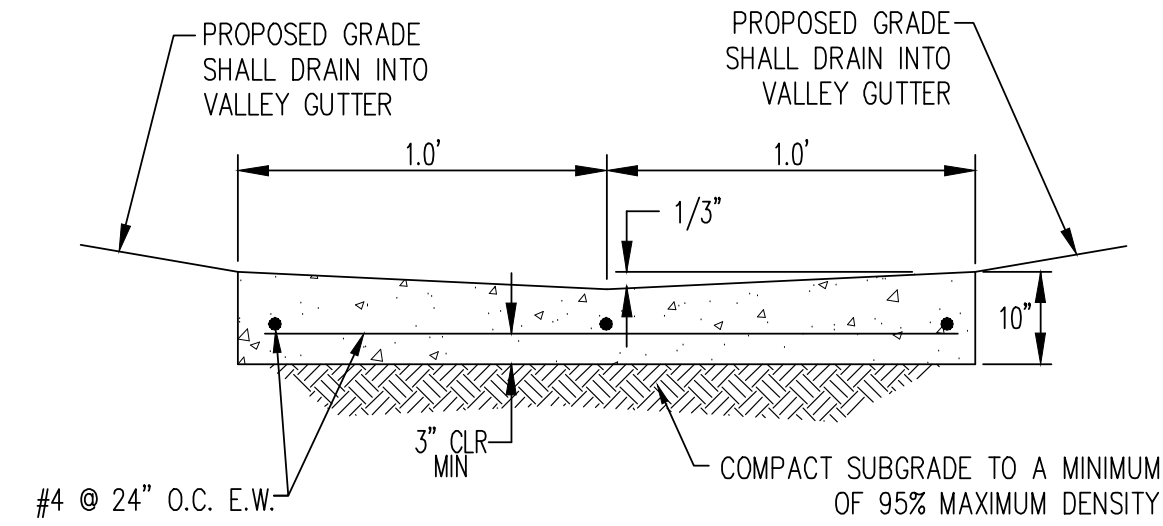
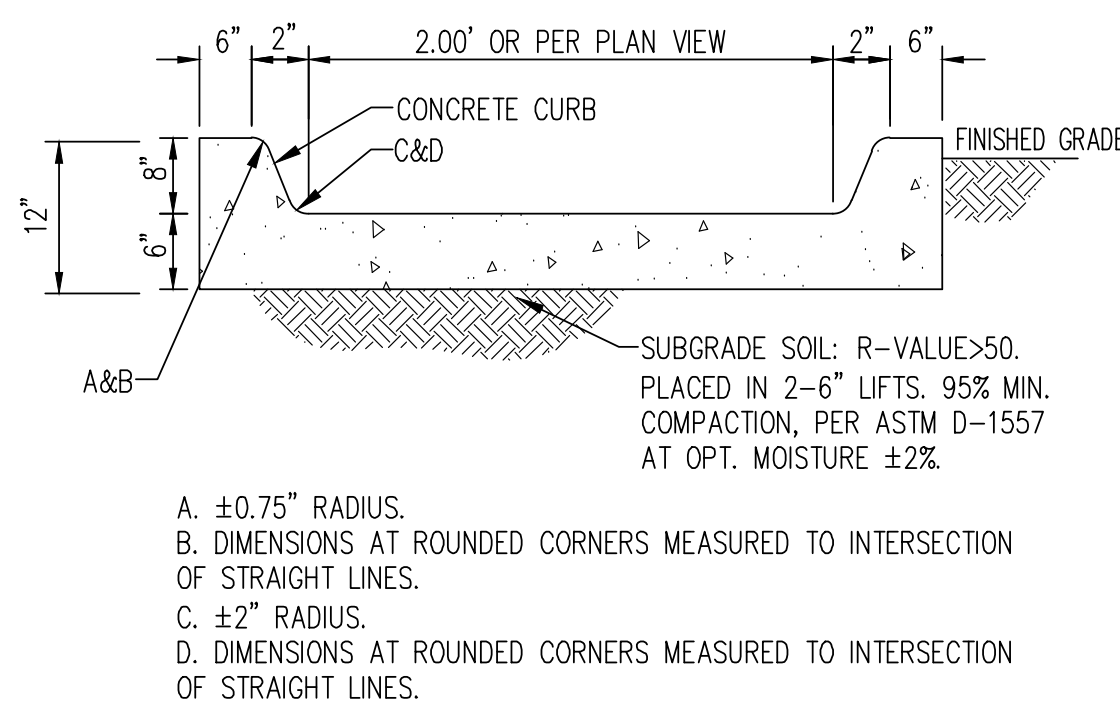
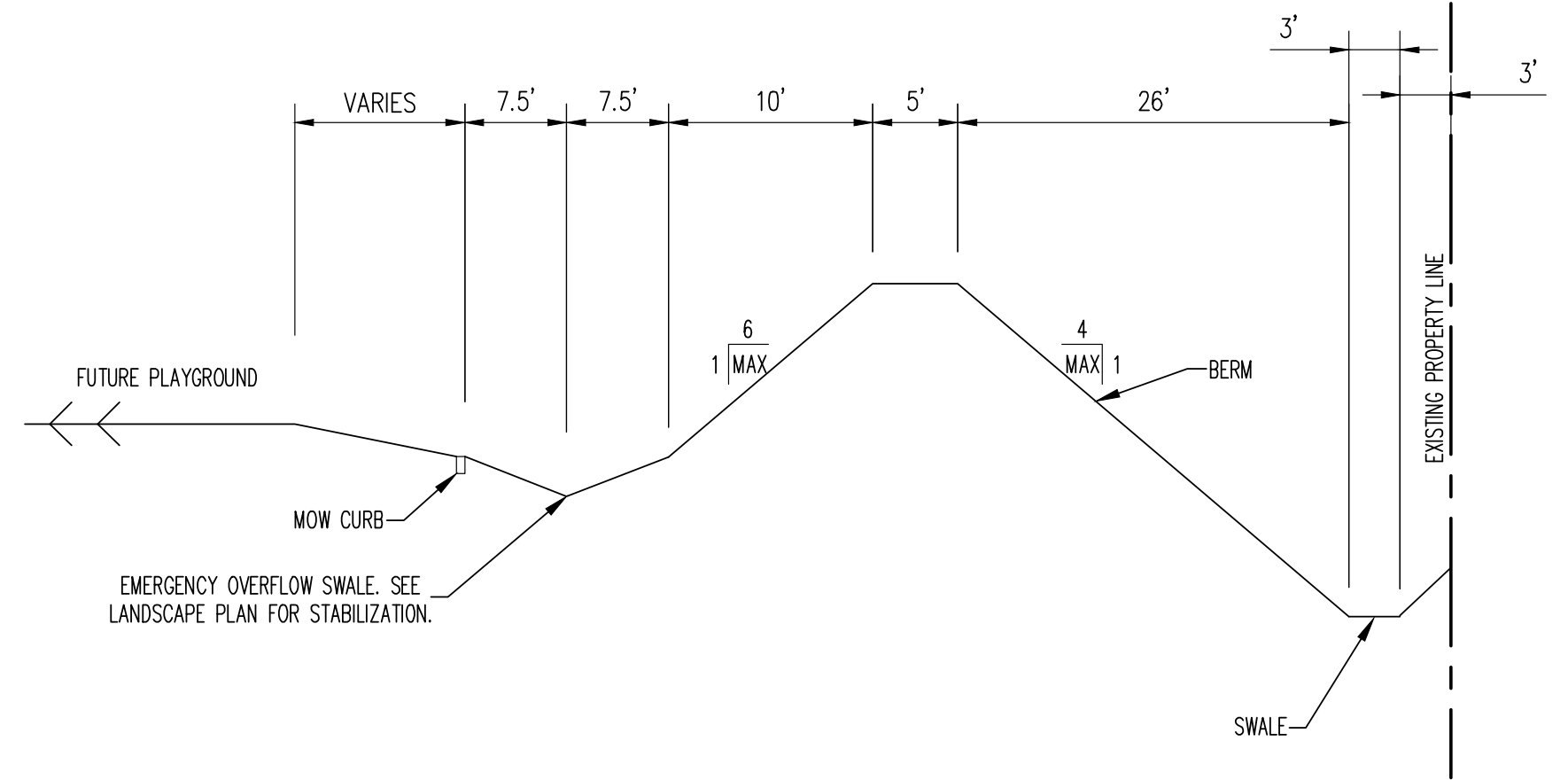
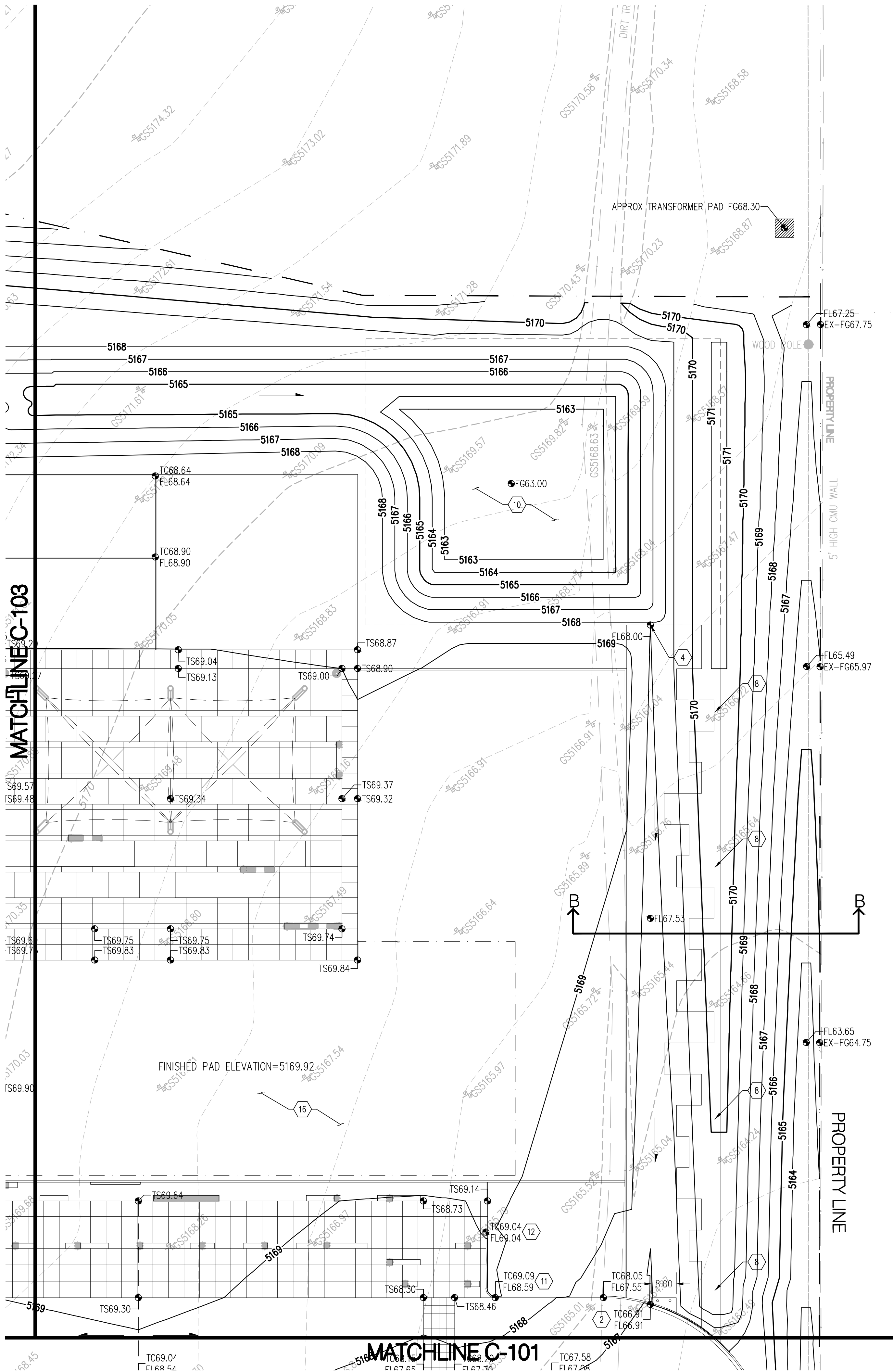
PROJECT ARCHITECT: LEE GAMESKY, AIA	Project #: 16-01-AL
	Date: 08.12.2019

GRADING AND DRAINAGE - SOUTH

By:	Sheet:	Of:
File:	C-101	

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GRADING KEYED NOTES*

1. INSTALL CONCRETE RUNDOWN PER DETAIL A, SHEET C-102.
2. INSTALL CONCRETE CURB OPENING PER DETAIL B, SHEET C-102.
3. INSTALL RIP RAP SWALE PER DETAIL E, SHEET C-102.
4. RETENTION POND EMERGENCY OVERFLOW LOCATION.
5. INSTALL HDPE (N12 WT. OR APPROVED EQUAL) STORM DRAIN PIPE. SEE PLAN FOR SIZE
6. INSTALL CMP END SECTION (CONTECH OR APPROVED EQUAL), SEE PLAN FOR SIZE.
7. RETAINING WALL. SEE STRUCTURAL PLAN FOR DETAILS.
8. INSTALL BERM PER SECTION A-A, SHEET C-102.
9. INSTALL RIP-RAP PAD PER DETAIL C, SHEET C-102.
10. RETENTION POND.
11. BEGIN TRANSITION FROM FULL HEIGHT CURB TO FLUSH CURB. SEE SITE PLAN FOR CURB DETAILS. .
12. END TRANSITION FROM FULL HEIGHT CURB TO FLUSH CURB. SEE SITE PLAN FOR CURB DETAILS. .
13. INSTALL CONCRETE VALLEY GUTTER PER DETAIL D, SHEET C-102.
14. INSTALL CONCRETE RUNDOWN PER DETAIL F, SHEET C-102. CENTER ON ROOF DRAIN.
15. INSTALL 24" SIDEWALK CULVERT PER COA STD DWG 2236. REPLACE 2'X2' SECTION OF CHECKERED STEEL WITH PEDESTRIAN RATED GRATE. CENTER ON ROOF DRAIN.
16. FUTURE PHASE, INSTALL STRUCTURAL FILL PER GEOTECH REPORT.
17. DEPRESS LANDSCAPE ISLANDS.
18. INSTALL RIPRAP CHECK DAMS PER DETAIL G, SHEET C-103. SEE PLAN FOR SPACING.

*NOT ALL KEYED NOTES ARE USED ON THIS SHEET

LEGEND

- PROPERTY LINE
- LIMITS OF GRADING
- 5170.34 EXISTING INDEX CONTOUR
- 5170.32 EXISTING INTERMEDIATE CONTOUR
- EX6025.25 EXISTING GROUND SPOT ELEVATION
- 5170.34 PROPOSED INDEX CONTOUR
- 5170.32 PROPOSED INTERMEDIATE CONTOUR
- XX.XX 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
- TOP OF BERM
- XX.XX FUTURE SPOT ELEVATION

NO.	DATE	REVISIONS	CHECKED BY:

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WESTGATE COMMUNITY CENTER
Albuquerque, New Mexico

PROJECT ARCHITECT:
LEE GAMELSKY, AIA

Project #:
Date: 08.12.2019

GRADING AND DRAINAGE - EAST

By: _____ Sheet: _____ Of: _____
File: _____ C-102

100% CONSTRUCTION DOCUMENTS

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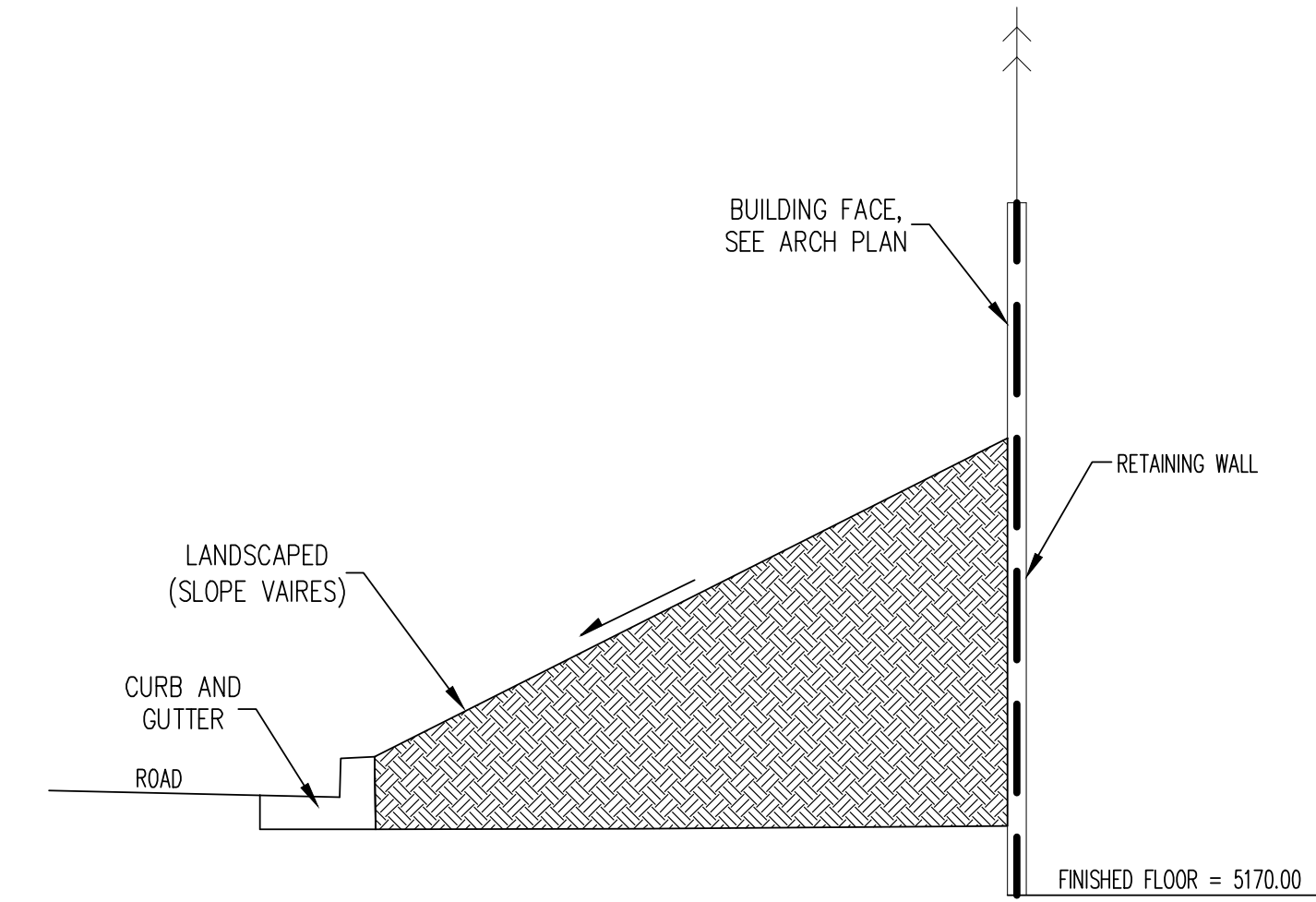
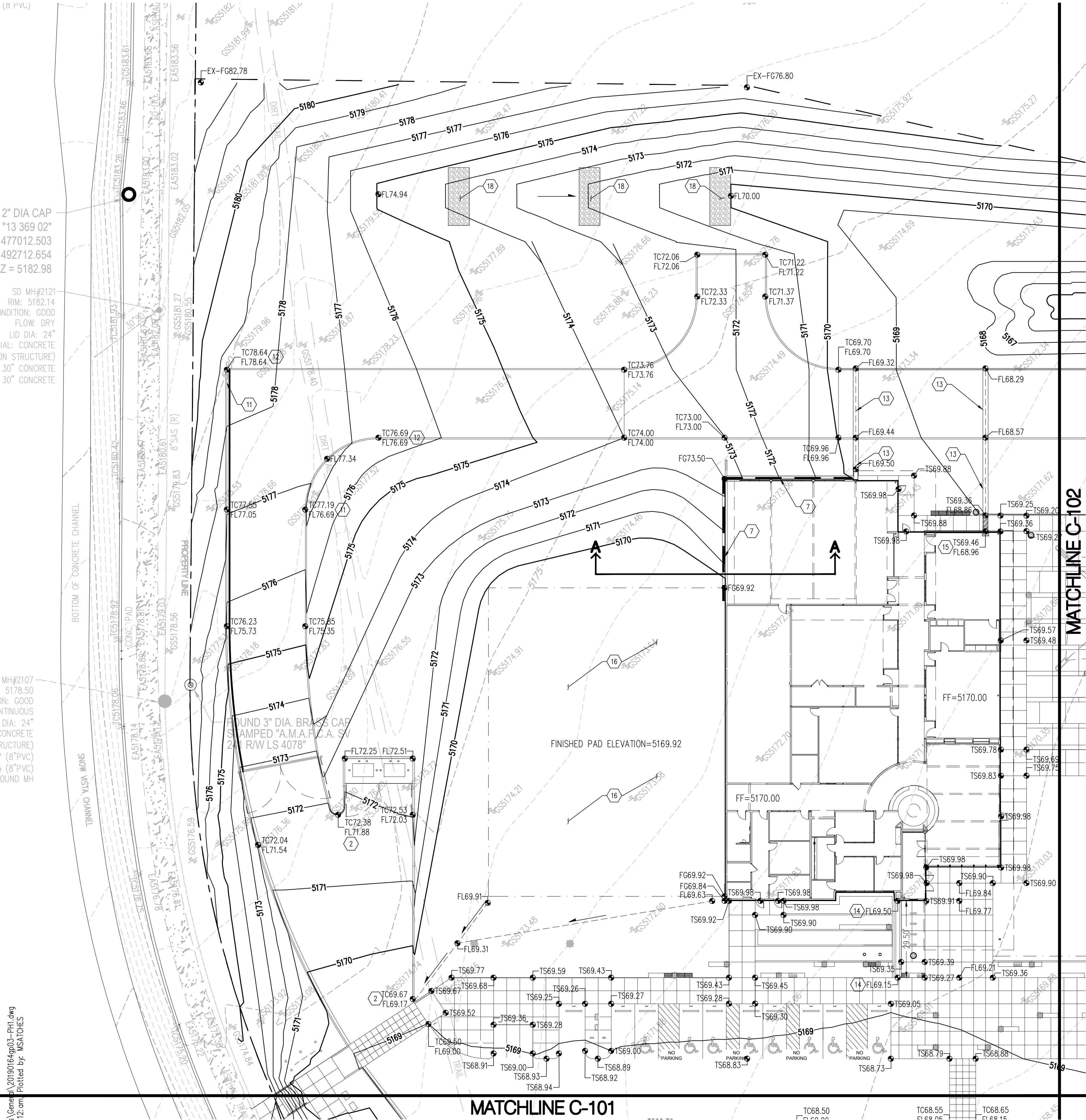
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2" DIA CAP
"13 369 02"
1477012.503
1492712.654
Z = 5182.98

SD MH#2121
RIM: 5182.14
CONDITION: GOOD
FLOW: DRY
LID DIA: 24"
RIAL: CONCRETE
ON STRUCTURE)
30" CONCRETE
30" CONCRETE

MH#2107
5178.50
ON: GOOD
NTINUOUS
DIA: 24"
CONCRETE
RUCTURE)
7 (8"PVC)
3 (8"PVC)
OUND MH

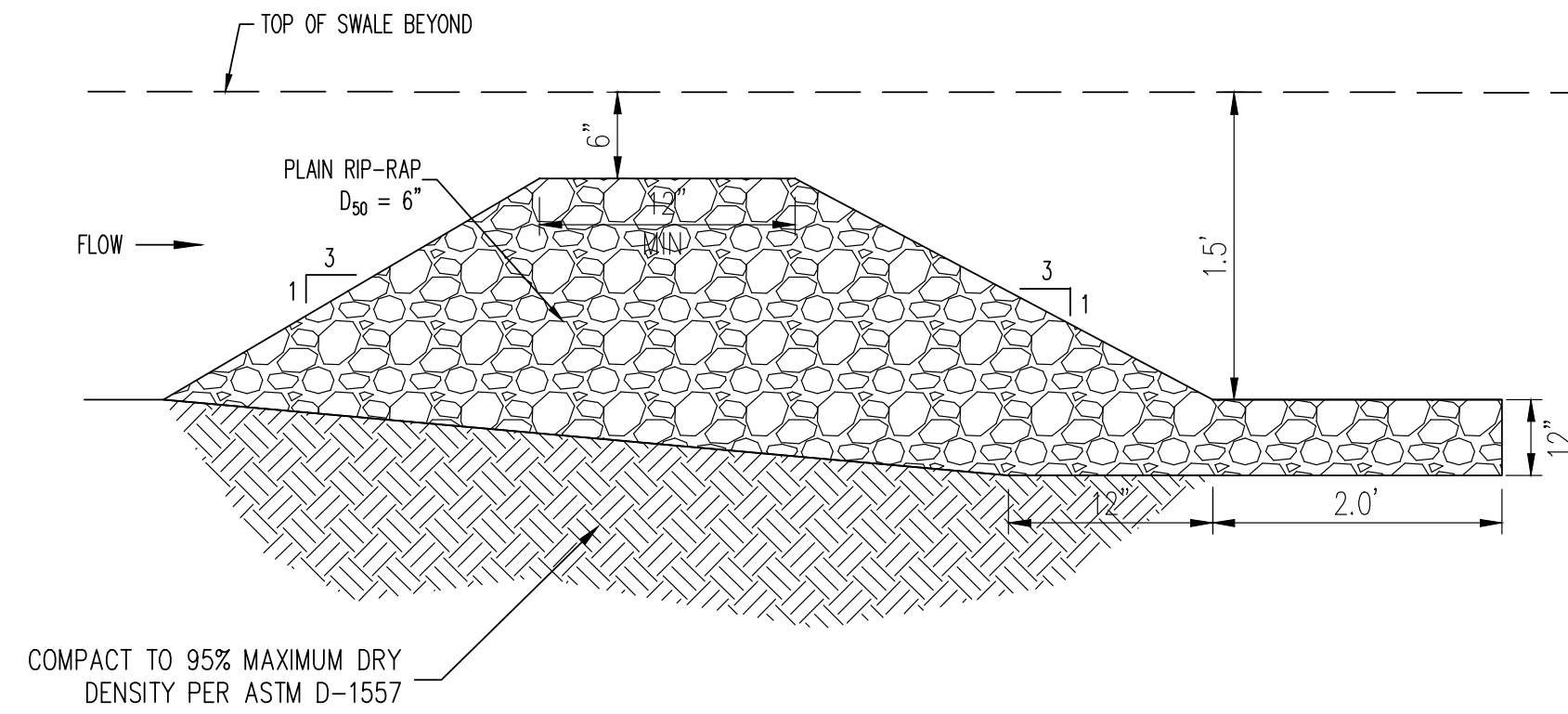
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A-A RETAINING WALL DETAIL
NOT TO SCALE

NOTES:

1. SEE PLANS FOR LOCATION OF DAMS.
2. CHECK DAMS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN THE DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE CHECK DAM.



G CHECK DAM
NOT TO SCALE

GRADING KEYED NOTES*

1. INSTALL CONCRETE RUNDOWN PER DETAIL A, SHEET C-102.
2. INSTALL CONCRETE CURB OPENING PER DETAIL B, SHEET C-102.
3. INSTALL RIP RAP SWALE PER DETAIL E, SHEET C-102.
4. RETENTION POND EMERGENCY OVERFLOW LOCATION.
5. INSTALL HDPE (N12 WT. OR APPROVED EQUAL) STORM DRAIN PIPE. SEE PLAN FOR SIZE
6. INSTALL CMP END SECTION (CONTECH OR APPROVED EQUAL), SEE PLAN FOR SIZE.
7. RETAINING WALL. SEE STRUCTURAL PLAN FOR DETAILS.
8. INSTALL BERM PER SECTION A-A, SHEET C-102.
9. INSTALL RIP-RAP PAD PER DETAIL C, SHEET C-102.
10. RETENTION POND.
11. BEGIN TRANSITION FROM FULL HEIGHT CURB TO FLUSH CURB. SEE SITE PLAN FOR CURB DETAILS. .
12. END TRANSITION FROM FULL HEIGHT CURB TO FLUSH CURB. SEE SITE PLAN FOR CURB DETAILS. .
13. INSTALL CONCRETE VALLEY GUTTER PER DETAIL D, SHEET C-102.
14. INSTALL CONCRETE RUNDOWN PER DETAIL F, SHEET C-102. CENTER ON ROOF DRAIN.
15. INSTALL 24" SIDEWALK CULVERT PER COA STD DWG 2236. REPLACE 2'X2' SECTION OF CHECKERED STEEL WITH PEDESTRIAN RATED GRATE. CENTER ON ROOF DRAIN.
16. FUTURE PHASE, INSTALL STRUCTURAL FILL PER GEOTECH REPORT.
17. DEPRESS LANDSCAPE ISLANDS.
18. INSTALL RIPRAP CHECK DAMS PER DETAIL G, SHEET C-103. SEE PLAN FOR SPACING.

*NOT ALL KEYED NOTES ARE USED ON THIS SHEET

LEGEND

- PROPERTY LINE
- LIMITS OF GRADING
- - - - - EXISTING INDEX CONTOUR
- - - - - EXISTING INTERMEDIATE CONTOUR
- EX5025.25 EXISTING GROUND SPOT ELEVATION
- 5025 PROPOSED INDEX CONTOUR
- 5024 PROPOSED INTERMEDIATE CONTOUR
- XX.XX 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
- TOP OF BERM
- XX.XX FUTURE SPOT ELEVATION

NO.	DATE	REVISIONS	CHECKED BY:

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WESTGATE COMMUNITY CENTER
Albuquerque, New Mexico

PROJECT ARCHITECT: LEE GAMELSKY, AIA
Date: 08.12.2019

GRADING AND DRAINAGE - WEST

By: _____ Sheet: _____ Of: _____
File: _____ C-103

100% CONSTRUCTION DOCUMENTS

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