CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director

Mayor Timothy M. Keller

December 3, 2019

Matt Satches, PE
Bohannan Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

RE: First Financial Credit Union
4910 Union Way NE
Grading and Drainage Plan
Engineer's Stamp Date: 11/15/19
Hydrology File: F16D015A

Dear Mr. Satches:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your resubmittal received 12/02/2019, the Grading & Drainage Plan and Drainage Report are approved for Building Permit and Grading Permit.

Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter. Prior to approval in support of Permanent Release of Occupancy by Hydrology, Engineer Certification per the DPM checklist will be required.

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Dough Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

Also as a reminder, please provide a Drainage Covenant for the proposed detention ponds per Chapter 17 of the DPM prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required.

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

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: First Financial Credit Union Building Permit #: _____ Hydrology File #: _____

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

Legal Description: Tract 1A-2-A-3 Renaissance Center

City Address: 4910 Union Way NE 87107

Applicant: Bohannan Huston, Inc. Contact: Matt Satches

Address: 7500 Jefferson St. NE, Albuquerque, NM 87109

Phone#: 505-823-1000 Fax#: _____ E-mail: msatches@bhinc.com

Owner: First Financial Credit Union Contact: Gavin Gillette

Address: PO Box 25587

Phone#: 505-462-1092 Fax#: _____ E-mail: Gavin.Gillette@ffnm.org

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

IS THIS A RESUBMITTAL?: __X__ Yes _____ No

DEPARTMENT: _____ TRAFFIC/ TRANSPORTATION __X__ HYDROLOGY/ DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

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

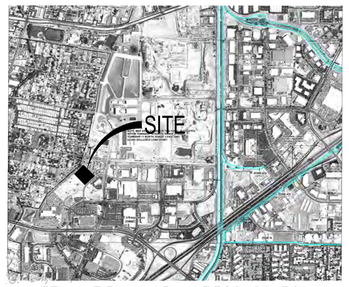
TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

__X__ 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
__X__ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: 11/27/2019 By: Matt Satches

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____



FEMA FIRM MAP # 35001C0138H

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	OFFB2	Rectang	16.2	12.00	16.00	0.67	0.67	5.00	2.00%	35.39
R2	1/4 B1 (TYP)	Rectang	1.9	3.00	3.00	0.50	0.50	2.00	2.00%	7.77
R3	B1& B4 & POND A & OFF B1	Rectang	21.7	15.00	16.00	0.50	0.67	4.00	2.00%	27.36
R4	1/2 B3	Rectang	0.4	1.00	2.00	0.50	0.50	2.00	2.00%	7.77
R5	1/2 B3	Rectang	0.4	1.00	2.00	0.50	0.50	2.00	2.00%	7.77
R6	B2	Rectang	4.3	5.00	5.00	0.50	0.50	2.00	2.00%	7.77

Weir Eq: Q=2.65L(h^1.5) - ** Capacity Based on Manning's Eq w/ N=0.013 - *

Weir Table

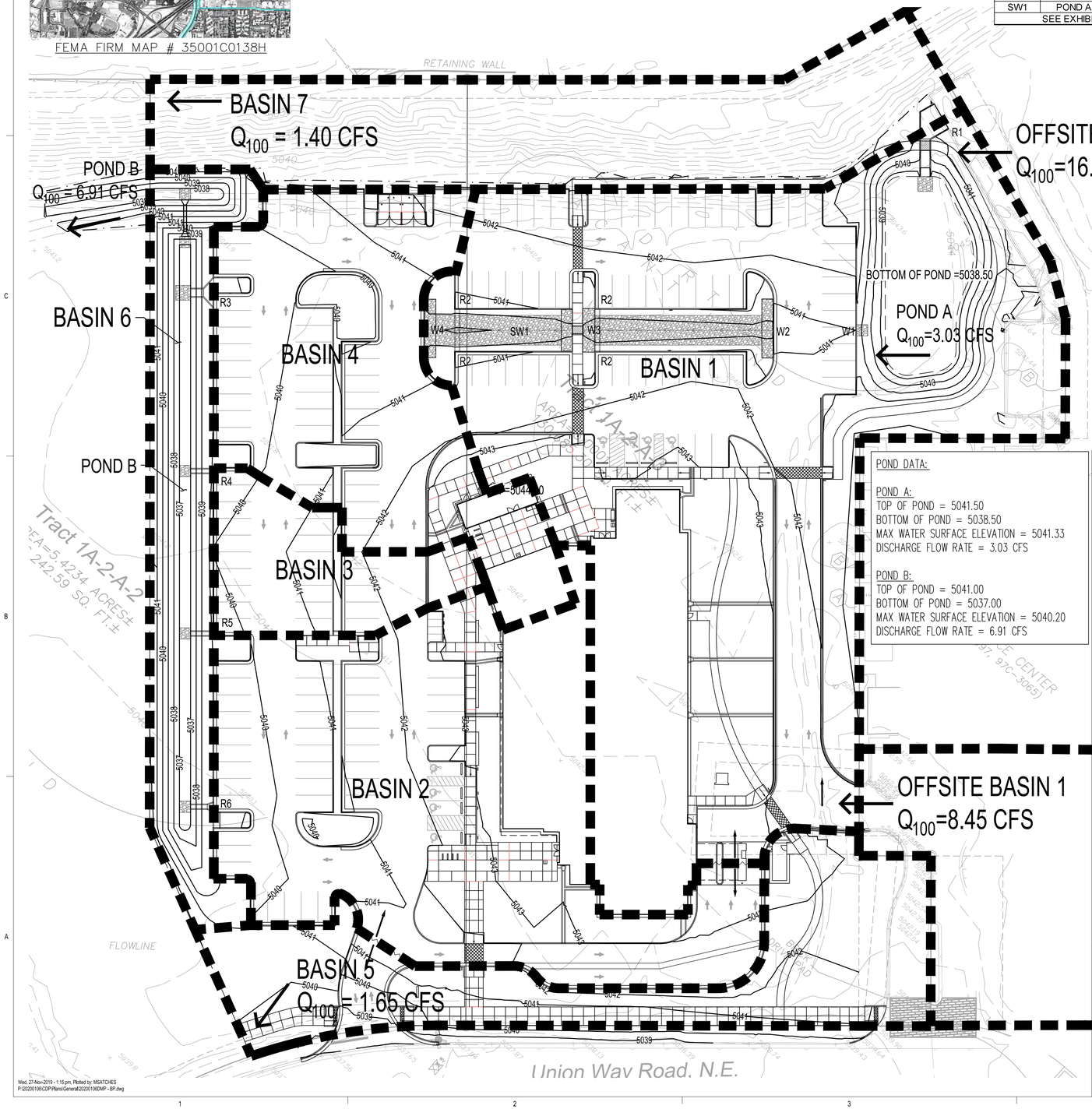
Weir #	Basin ID	Weir Type	Actual Flow (Q100)	Weir Bottom Width ft	Weir Top Width ft	Weir Height ft	Capacity* CFS
W1	POND A	Rectang	3.0	6.00	6.00	0.50	5.62
W2	POND A & 1/2 B1 & OFF B1	N/A	15.3	SEE EXHIBIT A			20.01
W3	POND A & B1 & OFF B1	N/A	19.1	SEE EXHIBIT A			22.08
W4	POND A & B1 & OFF B1	N/A	19.1	SEE EXHIBIT A			22.45

Weir Eq: Q=2.65L(h^1.5) - *

Swale Table

Swale #	Basin ID	Actual Flow	Mannings N	Bottom Width FT	Top Width FT	Depth FT	Minimum Slope (%)	Capacity* CFS	Velocity FPS
SW1	POND A & B1 & OFF B1	19.1	0.035	0.0	20.00	1.50	0.50	30.68	2.10

SEE EXHIBIT A FOR MORE INFORMATION Capacity Based on Manning's Eq *



POND DATA:

POND A:
TOP OF POND = 5041.50
BOTTOM OF POND = 5038.50
MAX WATER SURFACE ELEVATION = 5041.33
DISCHARGE FLOW RATE = 3.03 CFS

POND B:
TOP OF POND = 5041.00
BOTTOM OF POND = 5037.00
MAX WATER SURFACE ELEVATION = 5040.20
DISCHARGE FLOW RATE = 6.91 CFS

FFCU

Proposed Developed Conditions Basin Data Table

Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages A	B	C	D	Q(100yr) (CFS)	$V_{(100yr-24hr)}$ (CF)	Weighted Curve #	FIRST FLUSH (CF)
ONSITE BASINS										
BASIN-1	82029	1.88	0.0%	0.0%	45.0%	55.0%	*7.59*	*10890*	93	*1278*
BASIN-2	40506	0.93	0.0%	0.0%	15.0%	85.0%	*4.28*	*6098*	96	*976*
BASIN-3	8179	0.19	0.0%	0.0%	20.0%	80.0%	*0.86*	*1307*	96	*185*
BASIN-4	25277	0.58	0.0%	0.0%	15.0%	85.0%	*2.67*	*3920*	96	*609*
BASIN-5	19752	0.45	0.0%	0.0%	60.0%	40.0%	*1.65*	*2178*	91	*224*
BASIN-6	14728	0.34	0.0%	0.0%	100.0%	0.0%	*0.93*	*1307*	86	*0*
BASIN-7	25139	0.58	0.0%	25.0%	75.0%	0.0%	*1.40*	*2178*	84	*0*
TOTAL	**215610**	**4.95**	-	-	-	-	***19.38***	***27878***		***3272***
OFFSITE BASINS										
OFF B1	83334	1.91	0.0%	10.0%	10.0%	80.0%	*8.45*	*12197*	95	*N/A*
OFF B2	159538	3.66	0.0%	10.0%	10.0%	80.0%	*16.17*	*23522*	95	*N/A*
TOTAL	**242872**	**5.58**	-	-	-	-	***24.62***	***35719***		***N/A***

DRAINAGE NARRATIVE

INTRODUCTION AND EXISTING CONDITIONS:

THE PROJECT IS LOCATED ON THE WEST OF UNION WAY AND SOUTH OF AN EXISTING APARTMENT COMPLEX WITHIN THE RENAISSANCE CENTER. THE SITE IS LOCATED ON TRACT 1A-2-A-3 RENAISSANCE CENTER. THE CURRENT TRACT IS APPROXIMATELY 3.0 ACRES. WITH THIS DEVELOPMENT, THE TRACT WILL INCREASE TO 4.95 ACRES.

THE SITE GENERALLY SLOPES FROM SOUTH TO NORTH. THE EXISTING APARTMENT COMPLEX TO THE NORTH OF THE SITE FREE DISCHARGES ONTO THE FIRST FINANCIAL CREDIT UNION SITE. A CROSS LOT DRAINAGE EASEMENT HAS PREVIOUSLY BEEN GRANTED. THE RUNOFF FROM THE APARTMENTS CONTINUES THROUGH THE SITE TO THE SOUTH INTO AN EXISTING DETENTION POND LOCATED NORTH OF POWER FORD. THE PEAK DISCHARGE RATE FROM THE APARTMENTS WAS DETERMINED TO BE 23.99 CFS PER THE "BOB TURNER FORD USED CAR SALES EXPANSION" DRAINAGE REPORT DATED 1/24/2002. THE DISCHARGE LOCATIONS WERE DETERMINED PER THE "TRACT 1A NORTH RENAISSANCE APARTMENTS" PHASE 1 GRADING AND DRAINAGE PLAN DATED 2/5/1998.

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 EAST OF THE RIO GRANDE WITHIN PRECIPITATION ZONE 2. LAND TREATMENT PERCENTAGES WERE CALCULATED BASED ON THE CURRENT SITE PLAN.

PROPOSED CONDITIONS:

PER THE RENAISSANCE MASTER DRAINAGE PLAN, THIS SITE IS LIMITED TO 0.1 CFS PER ACRE OF DISCHARGE, THEREFORE THE ALLOWABLE DISCHARGE RATE IS APPROXIMATELY 0.5 CFS. THE SITE SURFACE DRAINS FROM SOUTH TO NORTH. THERE ARE VARIOUS RUNDOWNS, CURB OPENINGS, AND VARIOUS OTHER DRAINAGE INFRASTRUCTURE THROUGHOUT THE SITE. IN THE NORTHWEST CORNER OF THE SITE, THERE IS A POND (POND A) THAT IS USED TO CONTROL AND MITIGATE THE OFFSITE FLOWS FROM THE APARTMENT COMPLEX. POND A HAS APPROXIMATELY 18,200 CF OF VOLUME. THE LARGE VOLUME AND CURB OPENING OUTFALL REDUCE THE OFFSITE RUNOFF TO 3.03 CFS. THE REMAINING RUNOFF FROM THE APARTMENT COMPLEX FLOWS THROUGH THE FIRST FINANCIAL PARKING LOT INTO THE POND B ON THE SOUTH SIDE OF THE SITE. THE PARKING LOT IS UTILIZED AS A PORTION OF THE DETENTION POND AS WELL.

THE ALLOWABLE DISCHARGE RATE FROM OUR SITE IS 0.5 CFS. THE APARTMENT COMPLEX RUNOFF IS PROPOSED TO FREE FLOW 24.62 CFS THROUGH THE FIRST FINANCIAL SITE WHERE IT WILL ULTIMATELY OUTFALL INTO THE EXISTING DETENTION POND NORTH OF POWER FORD. THEREFORE, THE TOTAL ALLOWABLE DISCHARGE RATE FROM THE SITE IS APPROXIMATELY 25.12 CFS. BASINS 1, 2, 3, 4, AND 6 ULTIMATELY DISCHARGE INTO POND B. POND B UTILIZES A PORTION OF THE PARKING LOT AS A DETENTION POND AND ULTIMATELY DISCHARGES 6.91 CFS TO THE SOUTH. BASIN 5 DISCHARGES APPROXIMATELY 1.65 CFS TO CITY OF ALBUQUERQUE RIGHT OF WAY. BASIN 7 CONTAINS THE LARGE SLOPE ON THE WEST SIDE OF THE SITE. THIS SLOPE WILL REMAIN UNTOUCHED WITH THIS DEVELOPMENT AND DISCHARGES APPROXIMATELY 1.40 CFS TO THE SOUTH, ITS EXISTING HISTORIC OUTFALL LOCATION. TOTAL DISCHARGE FROM THE FIRST FINANCIAL SITE AND APARTMENT COMPLEX IS APPROXIMATELY 9.96 CFS, WHICH IS LESS THAN THE ALLOWABLE RATE. A CROSS LOT DRAINAGE EASEMENT IS PROVIDED FOR THE DISCHARGE SOUTH INTO THE ADJACENT PROPERTIES. POND B HAS APPROXIMATELY 5,113 CF OF RETENTION VOLUME, WHICH IS MORE THAN THE REQUIRED 3,272 CF STORM WATER QUALITY VOLUME. LANDSCAPED AREAS THROUGHOUT THE SITE ARE DEPRESSED AND POND A INCLUDES A MAJORITY OF RETENTION PONDING.

CONCLUSION:

THE CALCULATED PEAK DISCHARGE REDUCES THE TOTAL RUNOFF FOR BOTH THE FIRST FINANCIAL SITE AND APARTMENT COMPLEX, AND IS LESS THAN ALLOWABLE AS SPECIFIED IN THE RENAISSANCE CENTER MASTER DRAINAGE PLAN. WATER HARVESTING AREAS ARE LOCATED WITHIN THE LANDSCAPED ISLANDS AND INCORPORATED INTO PONDS A & B. THE GRADING AND DRAINAGE PLAN AS PRESENTED IS IN CONFORMANCE WITH THE CITY OF ALBUQUERQUE HYDROLOGY REQUIREMENTS. WITH THIS SUBMITTAL WE ARE REQUESTING BUILDING PERMIT PERMIT APPROVAL.

LEGEND

- PROPERTY LINE
- 5025 EXISTING INDEX CONTOUR
- 5024 EXISTING INTERMEDIATE CONTOUR
- 5025 PROPOSED INDEX CONTOUR
- 5024 PROPOSED INTERMEDIATE CONTOUR
- DRAINAGE BASIN

30 15 0 30
1"=30'

Bohannan Huston
www.bhinc.com 800.877.5332

ARCHITECTURE / DESIGN / INSPIRATION

DEKKER PERICH SABATINI

7601 JEFFERSON NE, SUITE 100
ALBUQUERQUE, NM 87109

505.761.9700 / DPSDESIGN.ORG

SEAL

MATTHEW H. SATCHER
NEW MEXICO
24572
REGISTERED PROFESSIONAL ENGINEER
11/15/19

PROJECT

FFCU OFFICE BUILDING DESIGN BUILD
UNION WAY ROAD NE
ALBUQUERQUE, NM 87107

PERMIT SET

REVISIONS

DRAWN BY	SS
REVIEWED BY	MHS
DATE	11/15/2019
PROJECT NO:	19.0029.001

DRAWING NAME

DRAINAGE MANAGEMENT PLAN

SHEET NO

C-001

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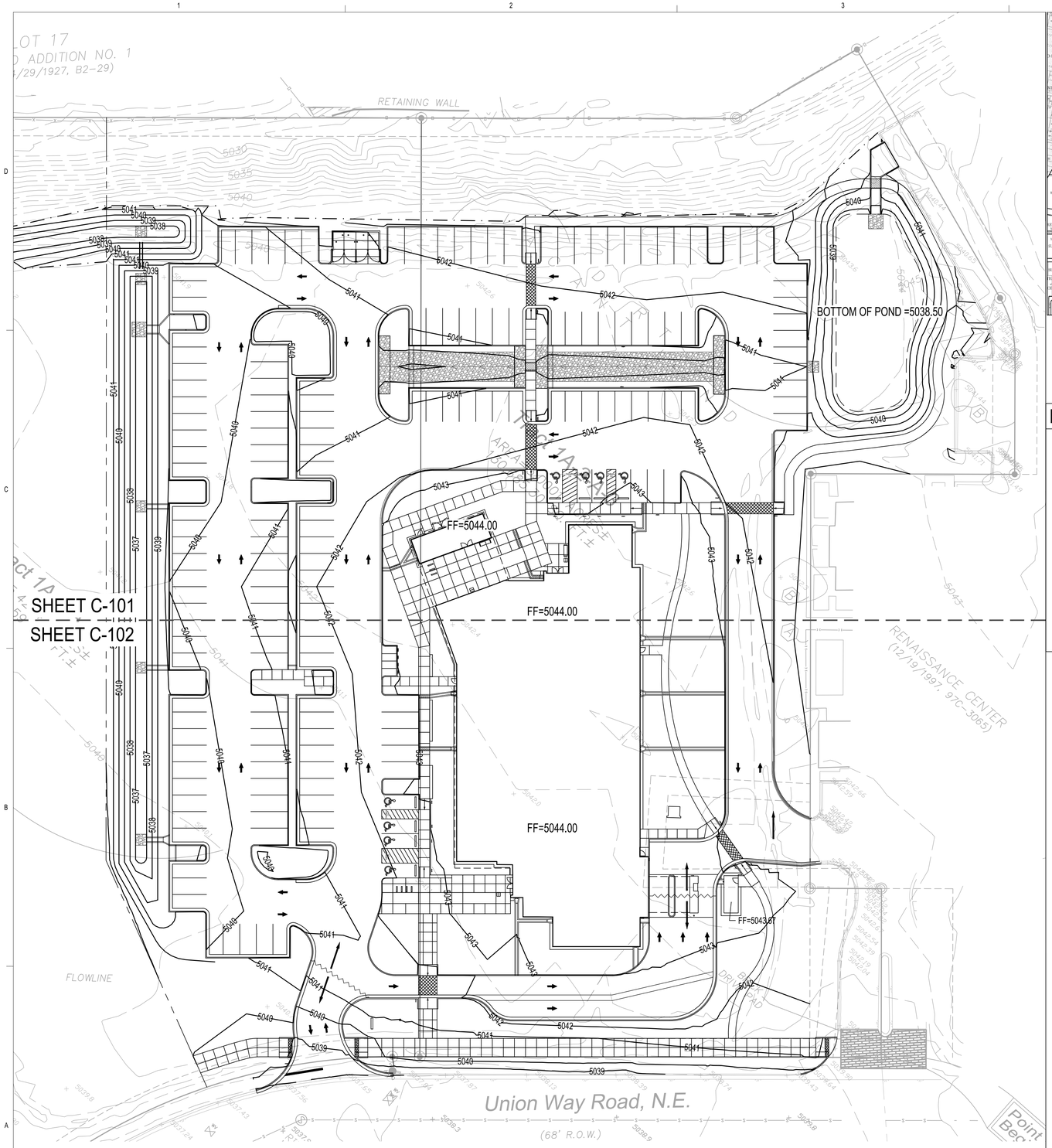

VICINITY MAP: F-16-Z
NOT TO SCALE

LEGEND

- PROPERTY LINE
- PROJECT LIMITS OF GRADING
- 4925 — EXISTING INDEX CONTOUR
- 4924 — EXISTING INTERMEDIATE CONTOUR
- 4925.25 — EXISTING GROUND SPOT ELEVATION
- 4925 — PROPOSED INDEX CONTOUR
- 4924 — PROPOSED INTERMEDIATE CONTOUR
- 26.75 — PROPOSED GRADE SPOT ELEVATION
  - FL=FLOW LINE
  - TC=TOP OF CURB
  - TS=TOP OF SIDEWALK
- DIRECTION OF FLOW
- WATER BLOCK/GRADE BREAK

GRADING NOTES

A. EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

B. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST, AND INCLUDED IN THE GMP.

C. EARTH SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.

D. 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.

E. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHT-OF-WAY.

F. 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 INSPECTOR. 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.

G. PAVING AND ROADWAY GRADES SHALL BE +/-0.1' FROM PLAN ELEVATIONS. PAD ELEVATION SHALL BE +/-0.05' FROM BUILDING PLAN ELEVATION.

H. ALL PROPOSED CONTOURS REFLECT TOP OF PAVEMENT ELEVATIONS IN THE PARKING AREA AND MUST BE ADJUSTED FOR MEDIANS AND ISLANDS.

I. VERIFY ALL ELEVATIONS SHOWN ON PLAN FROM BASIS OF ELEVATION CONTROL STATION PRIOR TO BEGINNING CONSTRUCTION.

J. THE CONTRACTOR SHALL PROVIDE AS-BUILTS SURVEY DATA TO ENSURE COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. THE SURVEY SHALL BE PERFORMED BY A PROFESSIONAL SURVEYOR LICENSED IN THE THE STATE OF ARIZONA. THE AS-BUILT DRAWING SHALL BE CERTIFIED BY THE SURVEYOR OF RECORD.

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 BERNALILLO COUNTY, 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.

30 15 0 30
1"=30'
ON 24"X36" SHEET

Bohannan Huston
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ARCHITECTURE / DESIGN / INSPIRATION

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SABATINI

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REGISTERED PROFESSIONAL ENGINEER
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FFCU OFFICE BUILDING DESIGN BUILD
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ALBUQUERQUE, NM 87107

PERMIT SET

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DRAWN BY	SS
REVIEWED BY	MHS
DATE	11/15/2019
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DRAWING NAME

OVERALL GRADING AND DRAINAGE PLAN

SHEET NO

C-100

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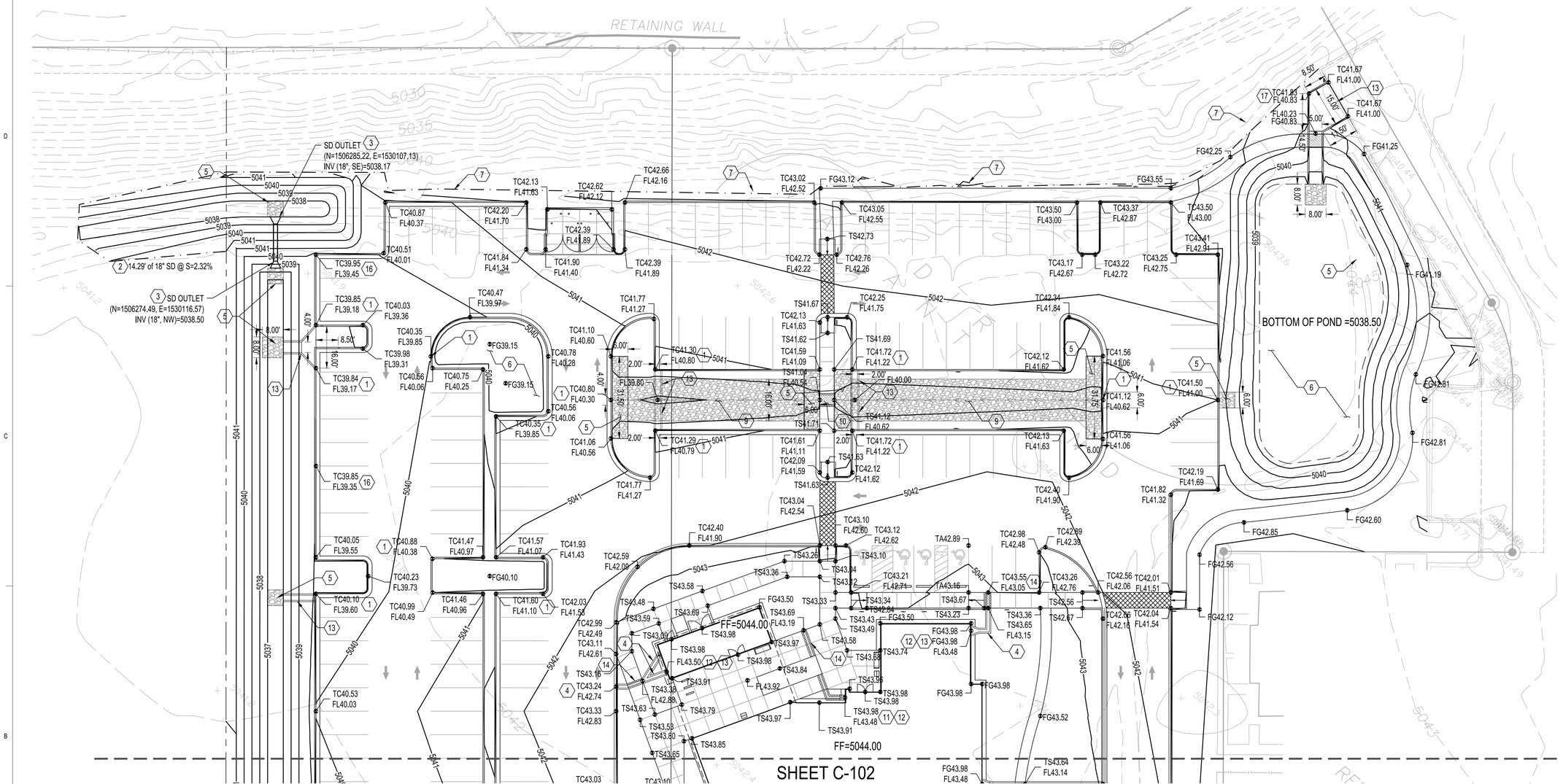

GRADING KEYNOTES

1. INSTALL CONCRETE CURB OPENING PER DETAIL "A" ON SHEET C-101. INSTALL COBBLE PAD AT OPENING PER DETAIL C1; SHEET LP501.
2. INSTALL HDPE (N12WT, OR APROVED EQUAL) STORM DRAIN PIPE. SEE PLAN FOR SIZE.
3. INSTALL CMP END SECTION (CONTECH OR APPROVED EQUAL). SEE PLAN FOR SIZE.
4. INSTALL CONCRETE RIBBON CHANNEL PER DETAIL "B1", SHEET C-103.
5. INSTALL RIP-RAP PAD PER DETAIL "D3," SHEET C-103.
6. WATER HARVESTING. LANDSCAPE DEPRESSION. ENSURE 6" MINIMUM DEPRESSION BELOW FLOWLINE.
7. MATCH EXISTING ELEVATION.
8. INSTALL CONCRETE VALLEY GUTTER PER DETAIL "B5," SHEET C-103.
9. INSTALL 10' WIDE RIP-RAP SWALE PER DETAIL "D1", SHEET C-103.
10. INSTALL 2 – 24" SIDEWALK CULVERTS PER COA STD DWG 2236.
11. INSTALL 12" SIDEWALK CULVERT PER COA STD DWG 2236. REPLACE 1'X1' STEEL SECTION WITH PEDESTRIAN RATED GRATE. CENTER ON ROOF DRAIN DOWNSPOUT.
12. CENTER CONCRETE RUNDOWN ON ROOF DRAIN DOWNSPOUT.
13. INSTALL CONCRETE RUNDOWN PER DETAIL "B3," SHEET C-103.
14. INSTALL 12" SIDEWALK CULVERT PER COA STD DWG 2236.
15. INSTALL 5' WIDE SIDEWALK CULVERT PER COA STD DWG 2236.
16. 5' TRANSITION FROM 6" CURB & GUTTER TO 8" CURB & GUTTER.
17. INSTALL 12" CURB AT CONCRETE RUNDOWN TRANSITION.

LEGEND

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N

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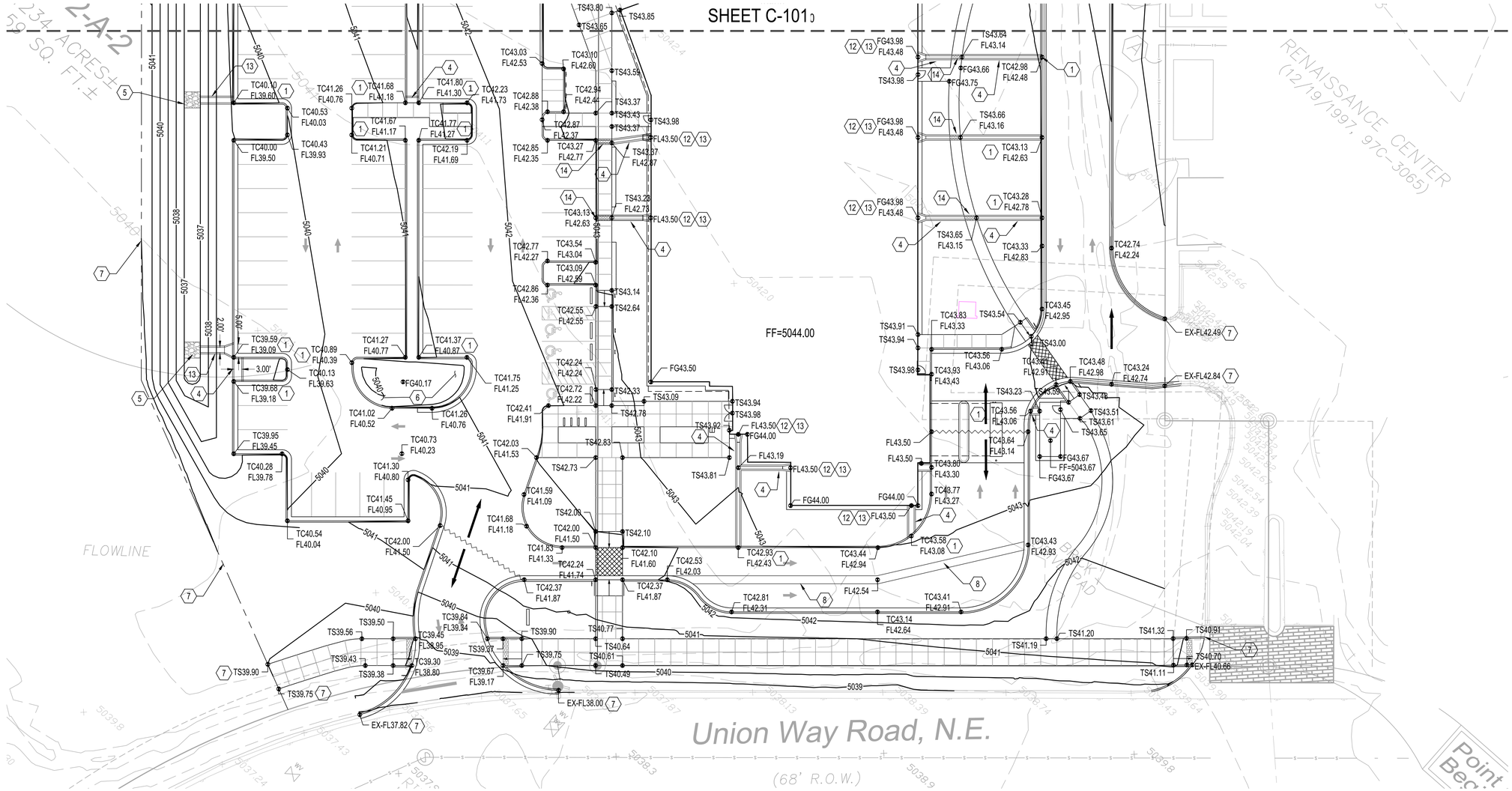
PROJECT NO:	19.0029.001

DRAWING NAME

GRADING AND DRAINAGE PLAN

SHEET NO

C-101



GRADING KEYNOTES

1. INSTALL CONCRETE CURB OPENING PER DETAIL "A" ON SHEET C-101. INSTALL COBBLE PAD AT OPENING PER DETAIL C1; SHEET LP501.
2. INSTALL HDPE (N12WT, OR APROVED EQUAL) STORM DRAIN PIPE. SEE PLAN FOR SIZE.
3. INSTALL CMP END SECTION (CONTECH OR APPROVED EQUAL). SEE PLAN FOR SIZE.
4. INSTALL CONCRETE RIBBON CHANNEL PER DETAIL "B1", SHEET C-103.
5. INSTALL RIP-RAP PAD PER DETAIL "D3," SHEET C-103.
6. WATER HARVESTING. LANDSCAPE DEPRESSION. ENSURE 6" MINIMUM DEPRESSION BELOW FLOWLINE.
7. MATCH EXISTING ELEVATION.
8. INSTALL CONCRETE VALLEY GUTTER PER DETAIL "B5," SHEET C-103.
9. INSTALL 10' WIDE RIP-RAP SWALE PER DETAIL "D1", SHEET C-103.
10. INSTALL 2 – 24" SIDEWALK CULVERTS PER COA STD DWG 2236.
11. INSTALL 12" SIDEWALK CULVERT PER COA STD DWG 2236. REPLACE 1'X1' STEEL SECTION WITH PEDESTRIAN RATED GRATE. CENTER ON ROOF DRAIN DOWNSPOUT.
12. CENTER CONCRETE RUNDOWN ON ROOF DRAIN DOWNSPOUT.
13. INSTALL CONCRETE RUNDOWN PER DETAIL "B3," SHEET C-103.
14. INSTALL 12" SIDEWALK CULVERT PER COA STD DWG 2236.
15. INSTALL 5' WIDE SIDEWALK CULVERT PER COA STD DWG 2236.
16. 5' TRANSITION FROM 6" CURB & GUTTER TO 8" CURB & GUTTER.
17. INSTALL 12" CURB AT CONCRETE RUNDOWN TRANSITION.

LEGEND

- PROPERTY LINE
- PROJECT LIMITS OF GRADING
- 4925 EXISTING INDEX CONTOUR
- 4924 EXISTING INTERMEDIATE CONTOUR
- EXISTING GROUND SPOT ELEVATION
- 4925 PROPOSED INDEX CONTOUR
- 4924 PROPOSED INTERMEDIATE CONTOUR
- PROPOSED GRADE SPOT ELEVATION
  FL=FLOW LINE
  TC=TOP OF CURB
  TS=TOP OF SIDEWALK
- DIRECTION OF FLOW
- WATER BLOCK/GRADE BREAK

N

20 10 0 20

1"=20'
ON 24"X36" SHEET

Bohannan Huston
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Wed, 27-Nov-2019 - 1:17pm, Plotted by: MSATCHES
P:\2020\106\COP\Plans\General\20201060P02 - BP.dwg

8/16/2019 9:10:17 AM

ARCHITECTURE / DESIGN / INSPIRATION

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SEAL

MATTHEW H. SATCHER
NEW MEXICO
24572
11/19/19
REGISTERED PROFESSIONAL ENGINEER

PROJECT

FFCU OFFICE BUILDING DESIGN BUILD
UNION WAY ROAD NE
ALBUQUERQUE, NM 87107

PERMIT SET

REVISIONS

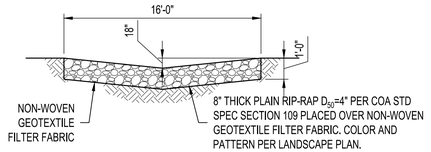
DRAWN BY	SS
REVIEWED BY	MHS
DATE	11/15/2019
PROJECT NO:	19.0029.001

DRAWING NAME

GRADING AND DRAINAGE PLAN

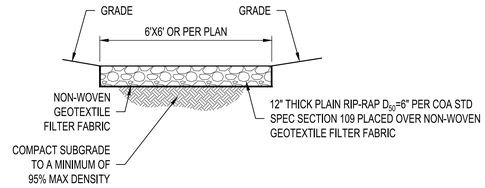
SHEET NO

C-102



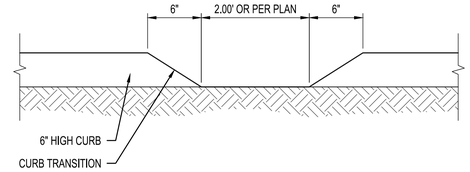
D1 RIP-RAP SWALE

NTS



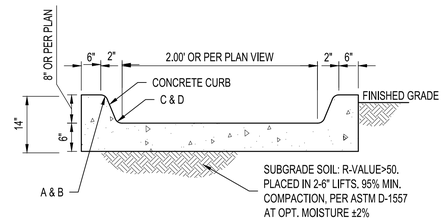
D3 RIP-RAP BLANKET

NTS

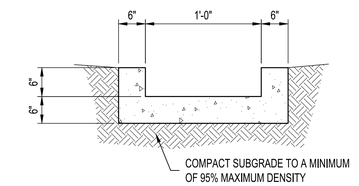


D5 CURB CUT

NTS



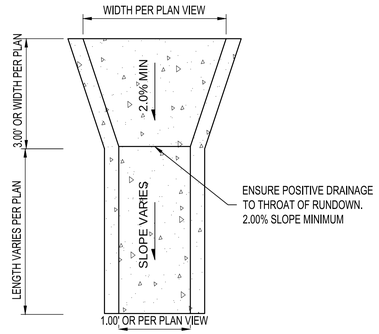
A. ±0.75" RADIUS
B. DIMENSIONS AT ROUNDED CORNERS MEASURED TO INTERSECTION OF STRAIGHT LINES.
C. ±2" RADIUS.
D. DIMENSIONS AT ROUNDED CORNERS MEASURED TO INTERSECTION OF STRAIGHT LINES.



B1 CONCRETE RIBBON CHANNEL

NTS

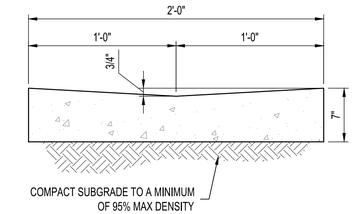
CROSS SECTION



PLAN VIEW

B3 CONCRETE RUNDOWN

NTS



NOTE: CONCRETE FOR ALL VALLEY GUTTERS WILL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI IN 24 HOURS

B5 CONCRETE VALLEY GUTTER

NTS

ARCHITECTURE / DESIGN / INSPIRATION

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SEAL

PROJECT

FFCU OFFICE BUILDING DESIGN BUILD
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ALBUQUERQUE, NM 87107

PERMIT SET

REVISIONS

DRAWN BY	SS
REVIEWED BY	MHS
DATE	11/15/2019
PROJECT NO:	19.0029.001

DRAWING NAME

GRADING AND DRAINAGE PLAN DETAIL SHEET

SHEET NO

C-103

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8/16/2019 9:10:17 AM

Wed, 27-Nov-2019 - 1:16 pm, Plotted by: MSATCHER
P:\2020\10\COP\Plans\General\2020110GP03 - BP.dwg

EXHIBIT A

W2

WEIR COEFFICIENT = 2.650 X-SECTION DISTANCE = 0.100

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	0.9	3.0	12.0	0.0	5.0	18.0	0.5
2.0	12.0	0.5	4.0	18.0	0.0	6.0	30.0	0.9

WSEL FT.	DEPTH INC FT.	FLOW AREA SQ.FT.	FLOW RATE (CFS)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS
0.100	0.100	0.600	0.503	0.838	6.000
0.200	0.200	1.200	1.422	1.185	6.000
0.300	0.300	1.800	2.613	1.451	6.000
0.400	0.400	2.400	4.022	1.676	6.000
0.500	0.500	3.000	5.621	1.874	6.000
0.600	0.600	3.900	7.591	1.946	12.000
0.700	0.700	5.400	10.450	1.935	18.000
0.800	0.800	7.500	14.512	1.935	24.000
0.900	0.900	10.200	20.011	1.962	30.000

ACTUAL Q
= 15.3 CFS

W3

WEIR COEFFICIENT = 2.650 X-SECTION DISTANCE = 0.100

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.7	3.0	10.0	0.6	5.0	14.0	1.1
2.0	10.0	1.1	4.0	14.0	0.6	6.0	24.0	1.7

WSEL FT.	DEPTH INC FT.	FLOW AREA SQ.FT.	FLOW RATE (CFS)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS
0.700	0.100	0.400	0.335	0.838	4.000
0.800	0.200	0.800	0.948	1.185	4.000
0.900	0.300	1.200	1.742	1.451	4.000
1.000	0.400	1.600	2.682	1.676	4.000
1.100	0.500	2.000	3.748	1.874	4.000
1.200	0.600	2.567	5.038	1.963	7.333
1.300	0.700	3.467	6.840	1.973	10.667
1.400	0.800	4.700	9.326	1.984	14.000
1.500	0.900	6.267	12.626	2.015	17.333
1.600	1.000	8.167	16.846	2.063	20.667
1.700	1.100	10.400	22.082	2.123	24.000

ACTUAL Q = 19.1 CFS

W4

WEIR COEFFICIENT = 2.650 X-SECTION DISTANCE = 0.100

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.1	3.0	10.0	0.3	5.0	20.0	0.8
2.0	10.0	0.8	4.0	20.0	0.3	6.0	30.0	1.1

WSEL FT.	DEPTH INC FT.	FLOW AREA SQ.FT.	FLOW RATE (CFS)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS
0.400	0.100	1.000	0.838	0.838	10.000
0.500	0.200	2.000	2.370	1.185	10.000
0.600	0.300	3.000	4.354	1.451	10.000
0.700	0.400	4.000	6.704	1.676	10.000
0.800	0.500	5.000	9.369	1.874	10.000
0.900	0.600	6.333	12.540	1.980	16.667
1.000	0.700	8.333	16.784	2.014	23.333
1.100	0.800	11.000	22.445	2.040	30.000

ACTUAL Q
= 19.1 CFS

SW 1

MANNING'S N = 0.035 SLOPE = 0.005

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.5	2.0	10.0	0.0	3.0	20.0	1.5

WSEL FT.	DEPTH INC	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOPWID WATER	TOTAL ENERGY (FT)	FROUDE NO.
0.100	0.100	0.067	0.027	1.348	0.404	1.333	1.333	0.103	0.319
0.200	0.200	0.267	0.171	2.696	0.642	2.667	2.667	0.206	0.358
0.300	0.300	0.600	0.505	4.045	0.841	4.000	4.000	0.311	0.383
0.400	0.400	1.067	1.087	5.393	1.019	5.333	5.333	0.416	0.402
0.500	0.500	1.667	1.971	6.741	1.183	6.667	6.667	0.522	0.417
0.600	0.600	2.400	3.205	8.089	1.335	8.000	8.000	0.628	0.430
0.700	0.700	3.267	4.835	9.438	1.480	9.333	9.333	0.734	0.441
0.800	0.800	4.267	6.903	10.786	1.618	10.667	10.667	0.841	0.451
0.900	0.900	5.400	9.450	12.134	1.750	12.000	12.000	0.948	0.460
1.000	1.000	6.667	12.515	13.482	1.877	13.333	13.333	1.055	0.468
1.100	1.100	8.067	16.137	14.831	2.000	14.667	14.667	1.162	0.476
1.200	1.200	9.600	20.351	16.179	2.120	16.000	16.000	1.270	0.482
1.300	1.300	11.267	25.193	17.527	2.236	17.333	17.333	1.378	0.489
1.400	1.400	13.067	30.698	18.875	2.349	18.667	18.667	1.486	0.495

ACTUAL Q = 19.1 CFS