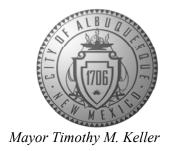
CITY OF ALBUQUERQUE

Planning Department Alan Varela, Interim Director



November 5, 2021

David Aube, P.E. Hartman & Majewski Design Group 120 Vassar Dr SE, Suite 100 Albuquerque, NM 87106

RE: **Hiland Plaza**

500 Central Ave. SE **Grading and Drainage Plan** Engineer's Stamp Date: 11/04/21 Hydrology File: K17D120

Dear Mr. Aube:

PO Box 1293

Based upon the information provided in your submittal received 09/17/2021, the Grading & Drainage Plan is approved for Building Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter.

Albuquerque

PRIOR TO CERTIFICATE OF OCCUPANCY:

NM 87103

1. Engineer's Certification, per the DPM Part 6-14 (F): Engineer's Certification Checklist For Non-Subdivision is required.

2. Please provide Drainage Covenant for the stormwater quality ponds per Article 6-15(C) of

the DPM prior to Permanent Release of Occupancy. Please submit an electronic file of the

Covenant and Exhibit for completeness to Marion G. Velasquez at mgvelasquez@cabq.gov. Once the electronic file is approved for completeness, please submit the original copies along with the \$ 25.00 recording fee check made payable to Bernalillo County to Marion on the 4th

floor of Plaza de Sol.

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.

www.cabq.gov

CITY OF ALBUQUERQUE

Planning Department Alan Varela, Interim Director



Mayor Timothy M. Keller

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

Sincerely, Renée C. Brissette Renée C. Brissette, P.E. CFM

Senior Engineer, Hydrology Planning Department

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



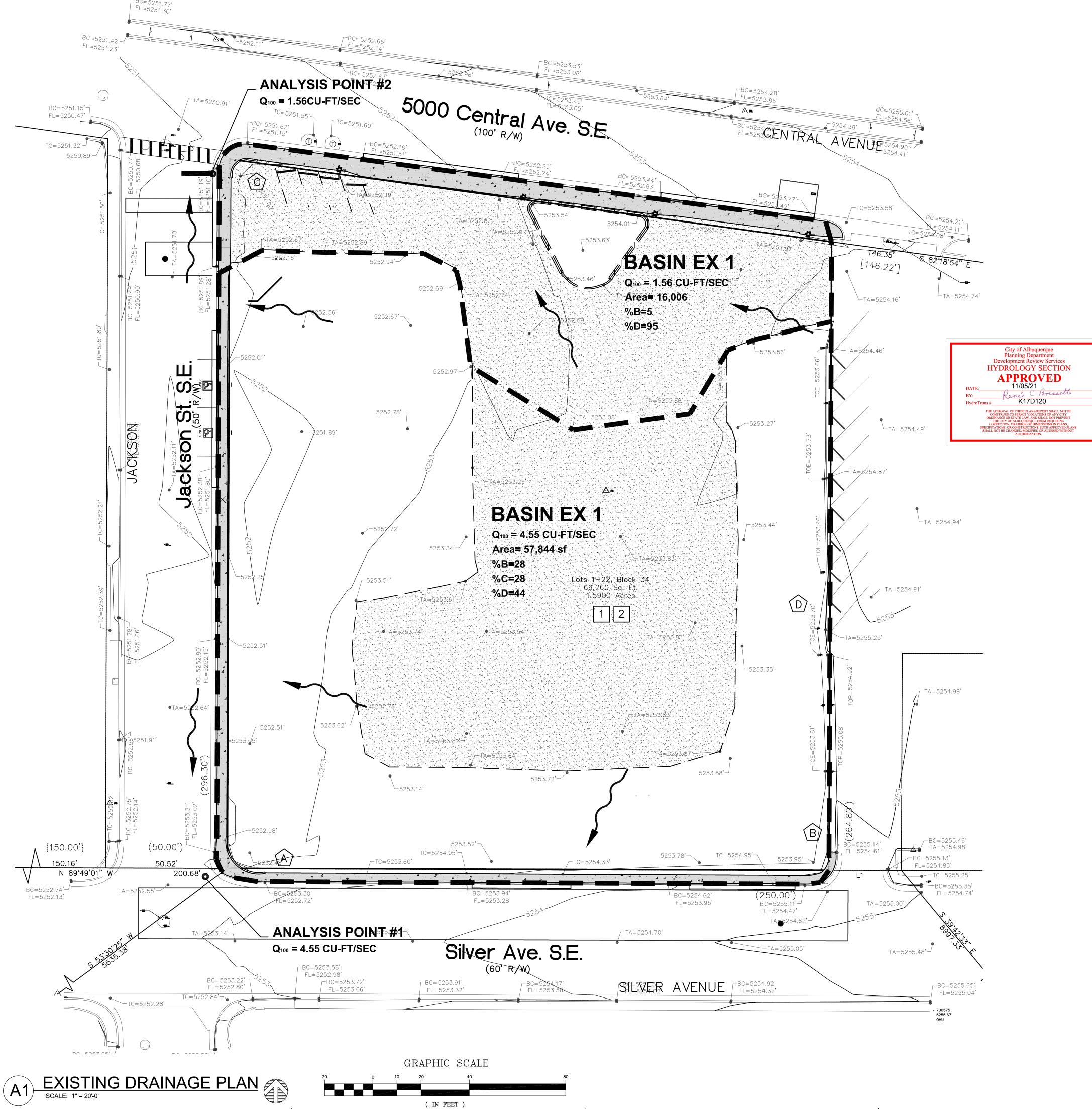
City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: Hiland Plaza	Building Per	Building Permit #:		Hydrology File #: K17-D120	
DRB#: PR-2021-00539	EPC#:		Work Order#: <u>685782</u>		
Legal Description: Hiland Plaza					
City Address: 500 Central Avenue SE					
Applicant: Greater Albuquerque Housing	Partnership		Contact: Miria	m hicks	
Address: 320 Gold Avenue SW, Suite 91	8, Albuquerque, N	M 87102			
Phone#: 505.705.3703	Fax#:		_ E-mail: <u>mirian</u>	n@abqgahp.org	
Other Contact: Design Group			_ Contact: Dave	e Aube	
Address: 120 Vassar Drive SE					
Phone#: <u>505-463-4503</u>	Fax#: <u>505-24</u>	12-6881	_ E-mail: <u>daube</u>	e@designgroupnm.com	
TYPE OF DEVELOPMENT: PL	AT (# of lots)	RESIDENCEX	DRB SITE _	ADMIN SITE	
IS THIS A RESUBMITTAL?Y	es X No				
DEPARTMENT TRANSPORTATIO	N X HYD	PROLOGY/DRAINAGE			
Check all that Apply:		TYPE OF APPROV			
TYPE OF SUBMITTAL:		X BUILDING PE CERTIFICATE			
ENGINEER/ARCHITECT CERTIFICAT	ΓΙΟΝ	CENTIFICATE	OF OCCUPANC	1	
PAD CERTIFICATION		PRELIMINAR'	Y PLAT APPROV	AL	
CONCEPTUAL G & D PLAN		SITE PLAN FO			
GRADING PLAN		SITE PLAN FO			
X DRAINAGE REPORT		FINAL PLAT	APPROVAL		
DRAINAGE MASTER PLAN					
FLOODPLAIN DEVELOPMENT PERM	IIT APPLIC	SIA/ RELEASI	E OF FINANCIAL	GUARANTEE	
ELEVATION CERTIFICATE		FOUNDATION	PERMIT APPRO	OVAL	
CLOMR/LOMR	ECL.)	GRADING PE	RMIT APPROVAL	L	
TRAFFIC CIRCULATION LAYOUT (T	ICL)	SO-19 APPRO	VAL		
TRAFFIC IMPACT STUDY (TIS) STREET LIGHT LAYOUT		PAVING PERM	MIT APPROVAL		
OTHER (SPECIFY)		GRADING/ PA		ON	
PRE-DESIGN MEETING?		WORK ORDER			
TRE DESIGN WEETING.		CLOMR/LOMI			
		FLOODPLAIN			
		OTHER (SPEC	CIFY)		
DATE SUBMITTED: <u>09-17-2021</u>					
COA STAFF:		SUBMITTAL RECEIVED:			
	FEE PAID:				



 $1 \operatorname{inch}_2 = 20 \text{ ft.}$





CONSULTANT

STAMP

PERMIT SET

PROJECT NAME

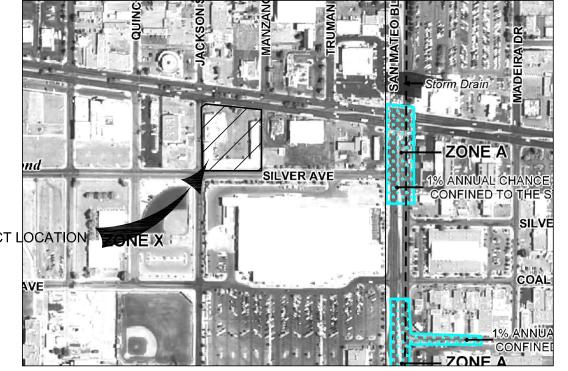
HILAND PLAZA

5000 CENTRAL AVENUE NE ALBUQUERQUE, NM 87108

A5 ZONE ATLAS PAGE K-17 NOT TO SCALE

FLOOD ZONE DETERMINATION

The surveyed area, as shown hereon, appears to lie within "ZONE X" (areas determined to be outside the 0.2% annual chance floodplain), shown on National Flood Insurance Program Flood Insurance Rate Map 35001C0354H



FEMA FLOOD ZONE NOT TO SCALE

LZONF A				

	Draina	age Summary	
Project: Project Numbe: Date: By:	Hiland Plaza 2574 05/28/21 Dave A		
Site Location			
Precipitaion Zone	2	Per COA DPM Chapter 6	
Existing summary			
Basin Name	Ex Basin 1	Ex Basin 2	
Area (sf)	57844	16006	
Area (acres) %A Land treatment %B Land treatment %C Land treatment %D Land treatment	1.33 0 28 28 44	0.37 0 5 0 95	
Soil Treatment (acres) Area "A" Area "B" Area "C" Area "D"	0.00 0.37 0.37 0.58	0.00 0.02 0.00 0.35	
Excess Runoff (acre-feet) 100yr. 6hr. 10yr. 6hr. 2yr. 6hr. 100yr. 24hr.	0.1702 0.0977 0.0537 0.1848	0.0690 0.0444 0.0288 0.0777	acre-ft. acre-ft. acre-ft. acre-ft.
Peak Discharge (cfs) 100 yr. 10yr. 2yr.	4.55 2.53 1.23	1.56 0.96 0.58	cfs cfs cfs

EXISTING DRAINAGE CALCULATIONS

NOT TO SCALE

REVISIONS

NO. DATE DESCRIPTION

Copyright: Design Group

Drawn by DAA

Checked by DAA

Date September 20, 2021

2574

SHEET NUMBER

Project number

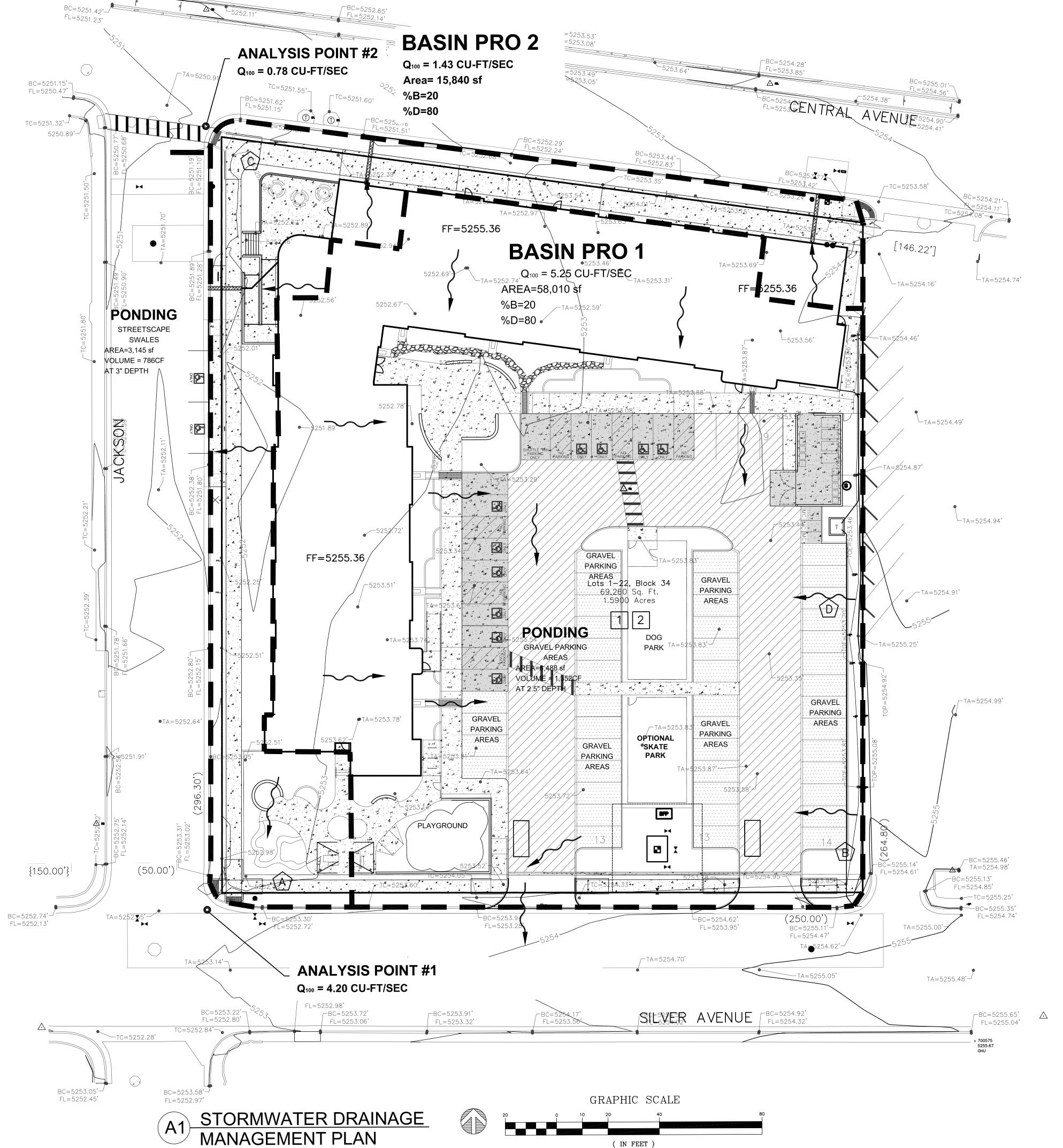
EXISTING

DRAINAGE

PLAN

SHEET TITLE

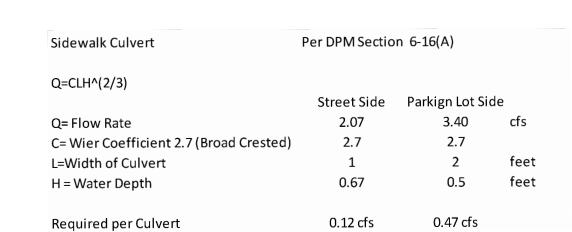
CD1



1 inch = 20 ft.

BC=5251.77' FL=5251.30'





	Draina	ge Sumı	mary
Project: Project Numbe: Date:	Hiland Plaza 2574 05/28/21		
Ву:	Dave A		
Site Location			
Precipitaion Zone	2 Per COA DPM Chapter 6		
Proposed summary			
Basin Name	Pro Basin 1	Pro Basin 2	
Area (sf)	58010	15840	
Area (acres)	1.332	0.364	
%A Land treatment			
%B Land treatment	20	20	
%C Land treatment			
%D Land treatment	80	80	
Soil Treatment (acres)			
Area "A"	0.00	0.00	
Area "B"	0.27	0.07	
Area "C"	0.00	0.00	
Area "D"	1.07	0.29	
Excess Runoff (acre-feet)			
100yr. 6hr.	0.2246	0.0613	acre-ft.
10yr. 6hr.	0.1407	0.0384	acre-ft.
2yr. 6hr.	0.0882	0.0241	acre-ft.
100yr. 24hr.	0.2513	0.0686	acre-ft.
•			
Peak Discharge (cfs)	5.25	1.43	cfs
100 yr. 10yr.	3.14	0.86	cfs
2yr.	1.79	0.49	cfs
- y ¹ .		5	
Water Quality Ponding Voulme (cf)	928.2	253.4	cf
Wter Quality Acre Feet	0.0213	0.0058	

This spreasheet will compute the ponding volume required based on incoming flow rate and the allowable discharge rates.

This is based on COA Chapter 6, Hydrographs for small watersheds.

Pond Routing and Vo	olumes	Ponds in gravel pave	Pond N
		Basin 1 (Peak Runoff total 5.25cfs	
Incoming Flow Rate	Qin	5.25	cfs
Allowable Discharge Rate	Qout	4.2	4.2 Total discharg
Hyrdology Zone		2	per Figure A-1
Area Total	At	1.332	acres
Area Type A	Aa	0	1.1
Area Type B	Ab	20	1 ' '
Area Type C	Ac	0	1
Area Type D Impervious	Ad	80	%
Excess runoff rates	Α	0.62	
	В	0.80	
	С	1.03	
	D	2.33	
Weighted E (Exces Runoff)		2.02	
Time of Concentration		0.2	hours
Time to Peak =0.7*Tc + ((1.6-(Ad/At)/12)		0.207	hours
Time of Base =2.107*E*At/Qp-(.25*Ad/At)		0.882	hours
Duration of Peak		0.200	hours
Time for end of peak		0.407	hours
Time when storage begins		0.165	hours
Time incoming is less that discharge		0.502	hours
Volume Required during storm	acre-feet	0.282	acre inch
Volume Required during storm	cf	1022	cubic feet
Volume Stored in Basin during storm	cf		Total
_			Stored
Volume Available by ponds	cf	1081	cubic feet
Volume Available total by basin	cf	1081	Total
•			Stored



STAMP



PERMIT SET

PROJECT NAME

HILAND PLAZA

5000 CENTRAL AVENUE NE ALBUQUERQUE, NM 87108

REVI	ISIONS	
NO.	DATE	DESCRIPTION
Copyrig	ht: Design G	roup
Drawn	by	DAA
Checke	d by	DAA

September 20, 2021

SHEET TITLE

Project number

STORMWATER
DRAINAGE MANAGEMENT
PLAN

SHEET NUMBER

CD2

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED

DATE:
11/05/21

BY:
HydroTrans # K17D120

THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE
CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY
ORDINANCE OR STATE LOUGH SEQUE BEILD OF CORRECTION, OR ERROR OR DIMENSIONS IN PLANS,
SPECIFICATIONS, OR CONSTRUCTIONS SUCH APPROVED PLANS
SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT
AUTHORIZATION.

THE HARTMAN + MAJEWSKI

DESIGN GROUP

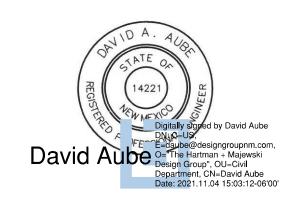
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HILAND PLAZA

5000 CENTRAL AVENUE NE ALBUQUERQUE, NM 87108

REVISIONS

_			
	NO.	DATE	DESCRIPTION
			<u> </u>

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Drawn by	DA
Checked by	DA
Date	September 20, 202
Project number	257

SHEET TITLE

STORMWATER Drainage Management Plan Narrative

SHEET NUMBER

CD3

I. PURPOSE AND SCOPE

THE PURPOSE OF THIS DRAINAGE PLAN IS TO PRESENT THE EXISTING AND PROPOSED DRAINAGE MANAGEMENT PLANS FOR THE HILAND PLAZA APARTMENTS.

II. SITE DESCRIPTION AND HISTORY

THE PROJECT SITE IS LOCATED AT SOUTHEAST CORNER OF CENTRAL AVENUE SE, AND JACKSON STREET, SE.

THE SITE WAS PREVIOUSLY DEVELOPED AS A HOTEL THAT WAS DEMOLISHED AND CURRENTLY ONLY THE ASPHALT PAVEMENT REMAINS.

III. COMPUTATIONAL PROCEDURES

HYDROLOGIC ANALYSIS WAS PERFORMED UTILIZING THE DESIGN CRITERIA BASED ON SECTION 6 HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL.

IV. PRECIPITATION

THE STORM EVENT USED FOR THE FOLLOWING CALCULATIONS IS THE 100YR-6HR STORM. THE PROJECT SITE IS LOCATED IN ZONE 2.

V. EXISTING DRAINAGE CONDITIONS

THE SITE PREVIOUSLY CONTAINED A MOTOR LODGE AND PARKING. THE MOTOR LODE HAS BEEN DEMOLISHED.

TO THE EAST A TWISTERS FACILITY HAS A ALLEY THAT DRAINS EXCESS RUNOFF TO CENTRAL AVENUE ON THE NORTH AND TO SILVER ON THE SOUTH. SILVER AVENUE HAS A STANDARD CURB AND GUTTER TO CONTAIN STORM RUNOFF. JACKSON STREET ALSO HAS STANDARD CURB AND GUTTER AND GENERALLY DRAINS NORTH AND SOUTH. THE CENTRAL AVENUE SIDE HAS A COUPLE OF DRIVEWAYS THAT WILL BE ELIMINATED AS PART OF THIS PROJECT, THIS WILL COMPLETE THE STORM WATER BARRIER ALONG CENTRAL.

NO STORM WATER DISCHARGE FROM THE PROJECT BOUNDARIES ARE ANTICIPATED TO ENTER THE PROPERTY.

BASIN #1 OF THE SITE DRAINS FROM EAST TO WEST.
EVENTUALLY THE EXCESS RUNOFF WILL OVERTOP THE
SIDEWALK AND CURB AND FLOW INTO JACKSON STREET SE.
RUNOFF ENTERING JACKSON STREET SE WILL GENERALLY FLOW
NORTH TO CENTRAL AVENUE SE. THE FINAL OUTFALL FOR A
MAJORITY OF THE SITE RUNOFF WILL BE INTO THE
INTERSECTION OF JACKSON STREET/CENTRAL AVENUE.

BASIN #1 HAS A PEAK DISCHARGE RATE OF 4.55 CFS.

BASIN #2 IS THE PORTION OF THE EXISTING ASPHALT PARKING THAT STILL DRAINS OUT INTO CENTRAL AVENUE THROUGH THE DRIVEWAYS. THIS BASIN GENERATES A PEAK RUNOFF OF 1.56 CFS.

THE COMBINED PEAK DISCHARGE FROM THE SITE IN THE EXISTING CONDITIONS IS 6.11 CFS.

VI. PROPOSED DRAINAGE CONDITIONS

PROPOSED IMPROVEMENTS INCLUDE A NEW FOUR STORY APARTMENT COMPLEX WITH ASSOCIATED PARKING AND PEDESTRIAN SIDEWALKS. THE SITE ALSO INCLUDES PLAYGROUND SPACES FOR THE CHILDREN AND YOUNG ADULTS.

THE ROOF SURFACE WILL GENERALLY FLOW INWARD TOWARD THE PARKING AREA WHERE RUNOFF CAN BE DETAINED AND RELEASED AT A CONTROLLED RATE BACK INTO THE STREET NETWORK. THERE ARE THREE SMALL SECTIONS OF ROOF THAT WILL BE DISCHARGED DIRECTLY INTO CENTRAL AVENUE, OR JACKSON STREET, STREETSCAPE SWALES TO FILTER RUNOFF PRIOR TO RELEASE INTO THE PUBLIC STREET.

STREETSCAPE SWALES WILL BE UTILIZED WHERE POSSIBLE ALONG ALL STREET FRONTAGES TO HARVEST AVAILABLE RUNOFF AND TO COMPLY WITH THE STORM WATER QUALITY REQUIREMENTS.

THE SITE HAS BEEN DIVIDED INTO TWO (2) BASINS.

PRO. BASIN #1 ACCOUNTS FOR THE PARKING AREAS, AS WELL AS THE MAIN ROOF AREA. THIS BASIN IS 58,010 SF AND GENERATES A PEAK RUNOFF RATE OF 5.25 CFS. RUNOFF WILL DRAIN TOWARD A PONDING AREA IN THE MIDDLE OF THE PARKING AREA. GRAVEL PAVE 2 WILL BE UTILIZED IN THE PARKING STALLS TO ALLOW FOR STORAGE OF RUNOFF FOR STORMWATER QUALITY AS WELL AS TO RESTRICT RUNOFF BACK TO HISTORIC RATES. GRAVEL PAVE WILL BE SET WITH AN OVERALL DEPTH OF GRAVEL OF 10". CITY ALLOWS FOR A POROSITY OF 25% THIS GIVES A TOTAL WATER STORAGE DEPTH OF 2.5" (.208') WITHIN THE GRAVEL ITSELF WITHOUT HAVING PONDING WATER ABOVE THE SURFACE. THE REQUIRED PONDING VOLUME FOR STORMWATER QUALITY IS 928 CUBIC FEET. AVAILABLE PONDING WITHIN THE GRAVEL PAVE 2 ASSEMBLY IS 1,352CF. THEREFORE NECESSARY WATER QUALITY IS CONTAINED. AFTER RETENTION OF THE STORMWATER QUALITY VOLUME, THE EXCESS RUNOFF RATE WILL BE REDUCED TO 3.95 CFS. THIS WILL FLOW OUT OF THE WESTERN DRIVEWAY INTO THE SILVER AVENUE RIGHT OF WAY.

PRO. BASIN #2 IS FOR RUNOFF THAT WILL DRAIN DIRECTLY TOWARD THE STREETSCAPE SWALES AND INTO THE PUBLIC RIGHT OF WAY. BASIN #2 CONTAINS 15,840 SQUARE FEET AND GENERATES A PEAK RUNOFF RATE OF 1.43CFS. STREETSCAPE SWALES WILL BE 6' WIDE AND DEPRESSED 2" FROM THE SIDEWALK AND CURB AND GUTTER. THE CENTER OF THE STREETSCAPE SWALE WILL BE SET PER CITY OF ALBUQUERQUE STANDARD STREETSCAPE SWALE DETAIL. VOLUME OF WATER RETAINED IN THE STREETSCAPE SWALES WILL BE 786CF. AFTER ROUTING THROUGH THE STREETSCAPE SWALE RUNOFF WILL BE REDUCED TO A PEAK DISCHARGE RATE OF 0.78CFS. THIS DISCHARGE RATE CAN EASILY BE HANDLED BY THE THREE 6" WIDE SIDEWALK CULVERTS THAT WILL DIRECT ROOF RUNOFF DIRECTLY TO THE SWALE (12" WIDE METAL COVER PLATE).

ROOF RUNOFF WILL BE DIRECTED TOWARD STANDARD SIDEWALK CULVERTS FROM THE THREE ROOF AREAS. THE LARGEST OF THE THREE ROOF AREAS IS 750 SF AND WILL GENERATE A PEAK DISCHARGE RATE OF 0.07 CFS DURING THE 100 YR, 6 HOUR STORM EVENT. SIDEWALK CULVERTS WERE ALL BE SIZED FOR THE PEAK RUNOFF FROM THIS ROOF. THE IDO REQUIRES THE BUILDING TO BE PUSH UP GAINST THE STREETS ON CENTRAL AND JACKSON. SINCE THE STREETSCAPE SWALES CANNOT BE UTILIZED FOR WATER QUALITY VOLUME, WE ARE INCREASING THE WATER STORED WITHIN BASIN 1 TO ACCOUNT FOR THE VOLUME THAT WOULD TO BE CONTAINED IN BASIN 2. THIS ADDS 253 CF TO BASIN 1.

BASIN 1 STORM WATER QUALITY VOLUMES WHEN INCREASED BY THE 253 CF. WILL REQUIRE THAT BASIN 1 RETENTION BE A TOTAL OF 1,181CF. THE AVAILABLE WATER STORAGE WITHIN THE GRAVEL PAVE SECTION (USING A 25% POROSITY FOR THE GRAVEL SECTION THAT IS 10" DEEP TOTAL (INCLUDING THE 2" ABOVE THE GRAVEL PAVE GRID) IS 1,352 CF. THIS IS BASED ON AN AREA OF 6,488SF AND A DEPTH OF 2.5" (.2083') GIVE AN AVAILABLE VOLUME OF 1,382CF.

VII. CONCLUSIONS

THE SITE HAS BEEN DESIGNED TO UTILIZED SHALLOW RETENTION BASINS AS CLOSE TO THE SOURCE TO THE STORM WATER AS PRACTICAL. THESE SHALLOW PONDS ARE COMPRISED OF GRAVEL PARKING SURFACES AND STREETSCAPE SWALES. THE EXISTING PEAK RUNOFF FOR THE SITE IS 6.11 CFS. THE REDEVELOPED RUNOFF RATE WILL BE REDUCED TO 4.98 CFS AFTER ROUTING STORM RUNOFF THROUGH THE PONDING AREAS REQUIRED FOR STORMWATER QUALITY COMPLIANCE.

THE PEAK RUNOFF RATE IS LESS THAN THE CURRENT CONDITIONS. THEREFORE THE DEVELOPMENT SHOULD NOT HAVE ANY ADVERSE AFFECTS ON DOWNSTREAM PROPERTIES.

THE SITE HAS BEEN DESIGNED TO RETAIN THE REQUIRED STORMWATER QUALITY VOLUME FOR A RE-DEVELOPED SITE.

