

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

January 15, 2025

David B. Thompson, P.E.
Thompson Engineering Consultants, Inc.
PO Box 65769
Albuquerque, NM 87193

RE: Barelas Commissary Kitchen
1411 4th Street SW
Permanent C.O. – Accepted
Engineer's Certification Date: 01/10/2025
Engineer's Stamp Date: 03/01/2022
Hydrology File: L14D063

Dear Mr. Thompson:

PO Box 1293

Based on the Certification received 01/13/2025 and site visit on 01/15/2025, this letter serves as a “green tag” from Hydrology Section for a Permanent Certificate of Occupancy to be issued by the Building and Safety Division.

Albuquerque

If you have any questions, please contact me at 505-924-3314 or amontoya@cabq.gov.

NM 87103

Sincerely,

www.cabq.gov

Anthony Montoya, Jr., P.E.
Senior Engineer, Hydrology
Planning Department, Development Review Services



Albuquerque

AREA WITH REDUCED FLOOD RISK DUE TO LEVEE

Zone AE

35001C0333H
eff. 8/16/2012

PROPOSED ROADWAY 4948-12 FEET

EXISTING ROADWAY 4948 FEET

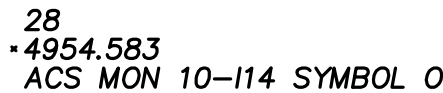
SITE

Zone AH
(EL 4949 Feet)

35001C0334G
eff. 9/26/2008

(D3) NOT TO SCALE

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 35001C0334G REVISED 09/26/2008.

[illegible]

THE PURPOSE OF THIS DRAINAGE PLAN IS TO PRESENT THE EXISTING AND PROPOSED DRAINAGE CONDITIONS FOR PROPOSED COMMISSARY KITCHEN, LOCATED 1411 4TH STREET SW, IN ALBUQUERQUE. THE ZONE ATLAS PAGE FOR THE SITE IS L-14-Z.

THE PROJECT SITE IS LOCATED ON THE WEST SIDE OF 4TH STREET SW, BETWEEN BELL AVENUE SW, AND BRIDGE BOULEVARD SW.

THE SITE IS CURRENTLY DEVELOPED WITH FULLY DEVELOPED PROPERTIES SURROUNDING.

HYDROLOGIC ANALYSIS WAS PERFORMED UTILIZING THE DESIGN CRITERIA BASED ON CHAPTER 6, HYDROLOGY, OF THE DEVELOPMENT PROCESS MANUAL RELEASED 2020. TABLES WITHIN CHAPTER 6, WERE USED TO AID IN THE STUDY OF THE SITE HYDROLOGY.

THE STORM EVENT USED FOR THE FOLLOWING CALCULATIONS IS THE 100YR-6HR STORM. THE PROJECT SITE IS LOCATED IN ZONE 2 (EAST OF RIO GRANDE, AND WEST OF SAN MATEO).

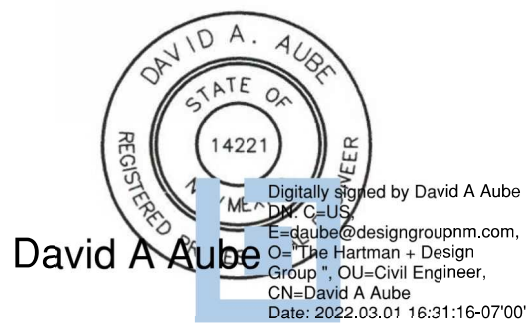
CURRENTLY THE SITE IS DEVELOPED WITH A SERIES OF WAREHOUSES ALONG THE SOUTHERN SIDE OF THE SITE. THESE WAREHOUSES HAVE A CENTER RIDGE ON THE ROOF AND RUNOFF DRAINS BOTH NORTH AND SOUTH. THE ADJACENT PARCEL HAS PLACED A CMU WALL ALONG THE LOT LINE THAT WILL DIRECT THE EXCESS RUNOFF FROM THE SOUTHERN HALF OF THE ROOF TO THE WEST WHERE IT WRAPS AROUND THE BUILDING AND FLOW TOWARD BELL AVENUE SW. THERE IS A DRAINAGE DITCH ON THE NORTH SIDE OF THE WAREHOUSE THAT ALSO DRAINS TOWARD BELL AVENUE SW.

THE BUILDINGS THAT FRONT 4TH STREET SW GENERALLY SLOPE TO THE WEST. RUNOFF FROM THESE ROOFS WILL ALSO DRAIN INTO THE GRAVEL PARKING NEAR THE WAREHOUSE AND INTO BELL AVENUE SW.

A SMALL RIDGE EXISTS BETWEEN THE TWO BUILDINGS THAT FRONT 4TH STREET SW. A SMALL PORTION OF THE SITE WILL DRAIN DIRECTLY TOWARD 4TH STREET. THERE IS ANOTHER SMALL PARCEL SOUTH OF THE MAIN PROJECT THAT WILL ALSO BE AFFECTED BY THIS PROJECT. NEW PARKING WILL BE ADDED ALONG 4TH STREET.

THE TOTAL RUNOFF FROM THE NORTHERN PARCEL IS 2.65 CFS AND THE SOUTHERN PARCEL IS 0.36 CFS.

STAMP + SIGNATURE



KEY PLAN



StormTech® MC-4500

Chamber Sizing

- Size (L x W x H) 52" x 100" x 60" 1321 mm x 2540 mm x 1524 mm
- Chamber Storage 106.5 ft3 (3.01 m3)
- Min. Installed Storage* 162.6 ft3 (4.60 m3)

Transportation Cert.(L14D063)

I, David B. Thompson, NMPE 9677, of the firm Thompson Engineering Consultants, INC. (TEC), hereby certify that the Grading and Drainage improvements surrounding 1411 South 4th Street, SW is in substantial compliance with and in accordance with the design intent of the Grading and Drainage Plan for 1411 4th Street SW dated March 1, 2022. I certify that I personally visited the project site on January 9, 2025 and have determined by visual inspection that the actual site conditions shown on this plan to be true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for Permanent Certificate of Occupancy for the building located at 1411 4th Street SW. This will be the second and final submittal for CO for the campus.

Survey Data was provided by Brian Martinez at Cartesian Surveying, and is dated 11-27-2024.

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the drainage aspects of this project. Those relying on the record documents are advised to obtain independent verification of its accuracy before using it for any other purpose.

Drainage Summary

Project: HOMEWISE COMMISSARY KITCHEN
Project Number: 2703
Date: 02/10/22
By: Dave

Site Location

Precipitation Zone

2 Per COA DPM Chapter 6

Proposed summary

Basin Name	Pro Basin 1	Pro Basin 2	Pro Basin 3	Pro Basin 4	Pro Basin 5	Pro Basin 6	Pro Basin 7
Area (acres)	2352	3070	4456	1144	16332	6709	3356
%A Land treatment	0.054	0.070	0.102	0.028	0.375	0.15	0.077
%B Land treatment	0	0	0	0	0	0	0
%C Land treatment	0	0	35	0	50	55	0
%D Land treatment	0	0	10	40	0	0	0
100yr. 24hr.	100	100	55	60	50	45	100
Soil Treatment (acres)							
Area "A"	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Area "B"	0.00	0.00	0.04	0.00	0.19	0.08	0.00
Area "C"	0.00	0.00	0.01	0.01	0.00	0.00	0.00
Area "D"	0.05	0.07	0.06	0.02	0.19	0.07	0.08
Excess Runoff (acre-feet)							
100yr. 6hr.	0.0105	0.0137	0.0142	0.0040	0.0489	0.0191	0.0150
10yr. 6hr.	0.0068	0.0089	0.0084	0.0024	0.0283	0.0108	0.0097
2yr. 6hr.	0.0045	0.0058	0.0048	0.0014	0.0158	0.0059	0.0063
100yr. 24hr.	0.0118	0.0154	0.0156	0.0044	0.0536	0.0208	0.0169
Peak Discharge (cfs)							
100 yr.	0.23	0.31	0.36	0.10	1.26	0.50	0.33
10yr.	0.15	0.19	0.20	0.06	0.69	0.27	0.21
2yr.	0.09	0.12	0.10	0.03	0.33	0.12	0.13
Water Quality Ponding Volume (cf)	0.0	0.0	27.3	0.0	68.4	65.4	72.7
Water Quality Acre Feet	0.0000	0.0000	0.0006	0.0000	0.0016	0.0015	0.0017

Pond Routing and Volumes

		Pond A	Pond B	
		Basin 1	Basin 2	
Incoming Flow Rate	Qin	1.04	1.59	cfs
Allowable Discharge Rate	Qout	0.00	1.05	6.55 Total discharge
Hydrology Zone		2	2	per Figure A-1
Area Total	At	0.054	0.070	acres
Area Type A	Aa	0	0	%
Area Type B	Ab	40	52	%
Area Type C	Ac	0	0	%
Area Type D Impervious	Ad	60	48	%
Excess runoff rates	A	0.53	0.53	
	B	0.78	0.78	
	C	1.13	1.13	
	D	2.12	2.12	
Weighted E (Exces Runoff)		1.58	1.42	
Time of Concentration		0.2	1.2	hours
Time to Peak		0.223	0.933	hours
=0.7*Tc + ((1.6-(Ad/At)/12)				
Time of Base		0.023	0.013	hours
=2.107"E*At/Qp-(.25*Ad/At)				
Duration of Peak		0.150	0.120	hours
Time for end of peak		0.373	1.053	hours
Time when storage begins		0.000	0.616	hours
Time incoming is less that discharge		0.023	0.700	hours
Volume Required during storm	acre-inch	0.090	0.055	acre inch
Volume Required during storm	cf	327	200	cubic feet
Volume Available in Basin	cf	327	202	Total Stored

This area was redesigned under separate permit for 1407 4th Street SW

POND B (WATER STORED WITHIN GRAVEL PAVE PARKING LOT)

AREA=3,217 SF

V = 202 CU-FT

Gravel Depth 3"

Porosity 25%

BASIN PRO 6

Q100 = 0.50 CU-FT/SEC

Area= 6,709 sf

POND A (BURIED INFILTRATION CHAMBERS)

V = 327 CU-FT

BASIN PRO 1

Q100 = 0.23 CU-FT/SEC

Area= 2,352 sf

BASIN PRO 4

Q100 = 0.10CU-FT/SEC

Area= 1,144 sf

BASIN PRO 5

Q100 = 1.26 CU-FT/SEC

Area= 16,332 sf

BASIN PRO 7

Q100 = 0.33 CU-FT/SEC

Area= 3,356 sf

BASIN PRO 2

Q100 = 0.31CU-FT/SEC

Area= 2,070 sf

BASIN PRO 3

Q100 = 0.36 CU-FT/SEC

Area= 4,456 sf

This was a phased project. This Certification is for the campus.

REVISIONS

No.	Description	Date
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NOTES

VI. PROPOSED DRAINAGE CONDITIONS

THE NEW BUILDING WILL REPLACE A PORTION OF THE WAREHOUSE SPACE THAT CURRENTLY OCCUPIES THE SITE. THE NEW BUILDING WILL HAVE A ROOF RIDGE THAT DRAIN APPROXIMATELY ½ OF THE ROOF TO THE EAST AND ½ TO THE WEST.

THE SITE HAS BEEN DIVIDED INTO 7 BASINS. BASINS PRO 1 - 4. GENERALLY MATCH THE EXISTING CONDITIONS AND DRAINAGE PATTERNS. BASINS PRO1 AND PRO 2 WILL DRAIN TOWARD A NEW COURTYARD SPACE LOCATED ON THE EASTERN SIDE OF THE NEW BUILDING. WHEN COMBINED WITH BASIN PRO 6 THE TOTAL EXCESS RUNOFF THAT WILL DRAIN INTO THE COURTYARD WILL BE 1.04 CFS. THE GEOTECHNICAL ENGINEER HAS REQUESTED THAT WE STAY AT PONDING BE AT LEAST 15" FROM BUILDINGS. SUBSURFACE SOILS BELOW 4" DEEP ARE SANDY AND HAVE CAPACITY FOR VERTICAL AND HORIZONTAL INFILTRATION.

THE INFILTRATION CHAMBER ASSEMBLY WILL INCLUDE 2 SECTION (106CF EACH) AND THE END SECTIONS. THIS WILL REST ON A LAYER OF GRAVEL AND WILL BE SURROUNDED BY PEA GRAVEL (CAPACITY OF 162 CUBIC FEET) CAPACITY OF THE CHAMBERS AND SURROUNDING GRAVEL PLUS AREA DRAINS WILL EXCEED THE REQUIRED 327 CUBIC FEET OF WATER STORAGE.

TO REACH THIS LAYER, ADS INFILTRATION CHAMBERS WILL BE BURIED AND COVERED WITH PEA GRAVEL, FILTER FABRIC AND SOIL TO SUPPORT LANDSCAPING. AREAS WELLS WILL BE LOCATED AT EACH END OF THE INFILTRATION CHAMBERS. THIS WILL ALLOW FOR SURFACE DRAINAGE TO QUICKLY FLOW DOWN INTO THE INFILTRATION CHAMBERS. THE UNDERGROUND STORM WATER STORAGE HAS BEEN DESIGNED TO FULL RETENTION OF THE 100 YEAR 6 HOUR EVENT.

IF THE DESIGN STORM EX EXCEEDED, A SIDEWALK CULVERT HAS BEEN ADDED TO ALLOW FOR EXCESS RUNOFF TO FLOW OUT INTO BELL AVENUE SW. THIS WILL OCCUR IS THE 100 YEAR, 6 HOUR EVENT IS EXCEEDED.

THE WESTERN PORTION OF THE SITE WILL FLOW OUT INTO A GRAVEL PARKING AREA (GRAVEL PAVE 2 SET AT 3" OF TOTAL GRAVEL DEPTH). THIS PONDING AREA (POND B) WILL COVER 3217 SF OF THE SITE AND WILL BE 3" DEEP. UTILIZING A 25% POROSITY THE WATER STORAGE INSIDE THE GRAVEL WILL BE 202 CUBIC FEET.

IF THE DESIGN STORM IS EXCEEDED, THE EXCESS RUNOFF WILL FLOW OUT THE DRIVEWAY AND INTO BELL AVENUE SW.

TOTAL DISCHARGE FROM THE SITE WILL BE 1.51 CFS (BASIN PRO 4, PRO 3, AND DISCHARGE FROM PRO 5).

VII. CONCLUSIONS

THE PROPOSED DEVELOPMENT WILL REDUCE THE EXCESS RUNOFF FROM THE NORTHERN PARCEL FROM 2.65 CFS TO 1.1 CFS. THE SOUTHERN PARCEL WILL REMAIN AS EXISTING AT 0.36 CFS. THE SITE WILL DISCHARGE LESS EXCESS RUNOFF IN THE REDEVELOPED CONDITION THAT IT DOES IN THE CURRENT CONDITION.

STAMP + SIGNATURE

DAVID A. AUBE
STATE OF NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
14221
Digitally signed by David A Aube
DN: cn=David A Aube, o=The Hartman + Design Group, ou=Engineering, email=daube@thehartmananddesign.com, c=US
Date: 2022.03.01 16:31:16-0700

KEY PLAN



CD2

REVISIONS		
No.	Description	Date

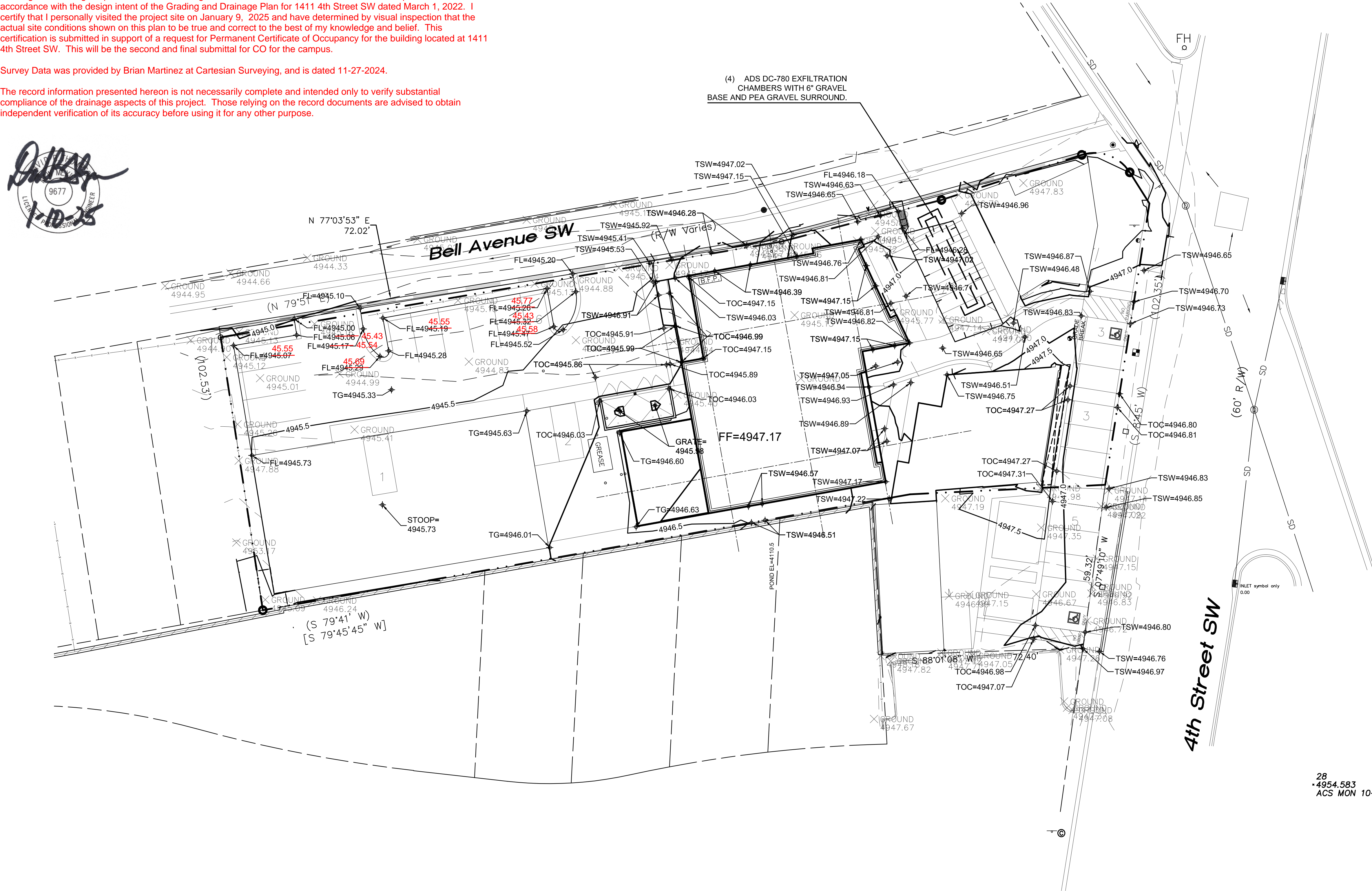
NOTES

Transportation Cert.(L14D063)

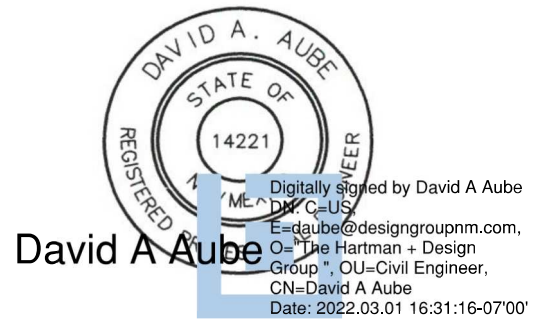
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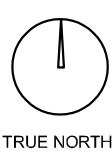


STAMP + SIGNATURE



KEY PLAN

PERMIT SET



(2) DC-780 EXFILTRATION
CHAMBERS WITH 6" GRAVEL
BASE AND PEA GRAVEL SURROUND.