

PRELIMINARY DRAINAGE STUDY LETTER

**THE NEWMAN BUILDING
2912 UNIVERSITY AVENUE
CITY OF SAN DIEGO, CALIFORNIA**

**SITE DEVELOPMENT PERMIT
PRJ-1105210
FEBRUARY 2025**

Prepared For:

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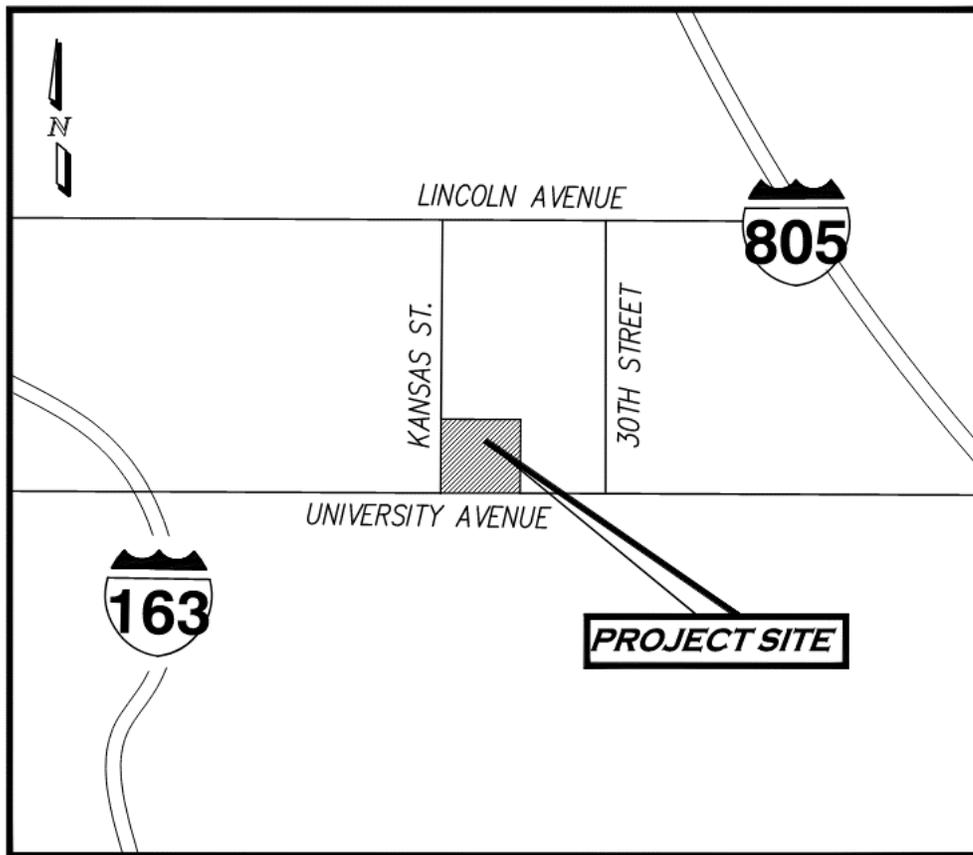
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I. INTRODUCTION

The purpose of this preliminary drainage study report is to evaluate the existing and proposed drainage conditions associated with the development of the Newman Building Project.

II. PROJECT DESCRIPTION

The proposed project is a 7-story building, 92-unit multi-use project located in North Park San Diego. The project is located at the northeast corner of the intersection of University Avenue and Kansas Street. The proposed building will use the existing building façade and introduce subterranean parking and residential stories above. The Project will also incorporate Low Impact Development features (LID) and Best Management Practices (BMPs) to capture and treat storm water runoff before it is discharged from the site.



VICINITY MAP
NOT TO SCALE

FIGURE 1

III. EXISTING DRAINAGE CONDITION

Runoff from the project drains toward one distinct POC. POC 1 is the point in the University Avenue gutter near the southwest corner of the project site.

Basin 1 encompasses the entire property. Runoff from the existing building is discharged to the gutter of Kansas Street to the west, the alley to the east, and the gutter of University Avenue to the south. The runoff all converges to the southwest corner of the property at POC-1.

Runoff from the project site is eventually collected by an existing type B curb inlet located west of the project, on the north side of University Avenue, just before the Utah Street intersection. This curb inlet is connected to the existing public storm drain in University Avenue that turns South onto Arnold Avenue. This storm drain runs south on Arnold Avenue until it is discharged into Balboa Park. Runoff eventually gets collected in a storm drain that continues southeast under Harbor Drive, eventually turning south and discharging into the San Diego Bay.

IV. PROPOSED DRAINAGE CONDITION

Runoff from the proposed project is anticipated to follow the existing drainage condition. The project proposes a curb outlet at the southwest corner of the site on Kansas Street. Overall, runoff in the developed condition will match the existing conditions by being directed towards POC-1 before being collected by the curb inlet in University Avenue, and ultimately discharge into the San Diego Bay.

V. HYDROLOGIC AND HYDRAULIC METHODOLOGY

All drainage basins/sub-basins to be analyzed are anticipated to be less than one square mile. Therefore, the Rational Method ($Q=CIA$) will be utilized to calculate runoff quantities for the 2-year, 50-year, and 100-year storm frequencies. The following criteria will be used in calculating the existing and proposed runoff coefficient (C-value), time of concentrations (T_c), Intensity (I) and peak flow rates (Q).

- Hydrologic soil group D will be assumed for all areas as this soil group takes into consideration the previous development of the campus, compacted soil conditions and results in the highest, most conservative flow rates.
- The composite runoff coefficients will be calculated for each basin based on soil type and impervious percentage using the following formula from San Diego County Hydrology Manual:

$$C = 0.90 \times (\% \text{ Impervious}) + C_p \times (1 - \% \text{ Impervious})$$

Where:

C_p = Pervious Coefficient Runoff Value for soil type D (0.35)

- Intensity values were calculated using the County of San Diego’s Rainfall Isopluvials for the 2, 50 & 100-Year 6 Hour & 24-Hour Storm Event and following equation:

$$I = 7.44 \times P_6 \times (T_c^{-0.645})$$

Where:

I = Rainfall Intensity in inches per hour (in/hr.)

P_6 = Rainfall in inches for the 6-hour storm event

T_c = Time of concentration in minutes

- Existing and Proposed overland initial travel time values will be computed using the table, “Maximum Overland Flow Length & Initial Time of Concentration”.
- “Gutter and Roadway Discharge – Velocity Chart” and “Manning’s Equation Nomograph” will be used to determine the flow velocity for concentrated flows in curb and gutters, drainage channels and conduits.
- Hydraulics - the proposed drainage systems are public and private and will be analyzed and sized or size confirmed using the peak discharge from a 50-year storm event and the Hydroflow Storm Sewers program. The 100-year storm event will also be analyzed to confirm there were no impacts to adjacent improvements or property.

It is anticipated that there will be no change in storm runoff as a result of the project.

The project is located outside of the FEMA flood zone as shown in the attached map.

VI. DISCUSSION AND CONCLUSIONS

Drainage

The proposed project is anticipated to be consistent with the existing drainage condition. The proposed project is anticipated to result in no change in larger storm runoff as the existing site is entirely impervious area, therefore no capacity analysis or detention will be required. The project may include additional landscape area as the design progresses. Therefore, this drainage approach is conservative, and the resulting Q100 will most likely be decreased.

CONDITON	POC	AREA (AC)	RUNOFF ‘C’	Q-100 YR (CFS)
Existing	1	0.32	0.95	1.4
Proposed	1	0.32	0.95	1.4
			Delta	0

LEGEND

- DRAINAGE BOUNDARY
- FLOW PATH
- POINT OF COMPLIANCE
- BASIN INFORMATION
- NODE ID
- JUNCTION ID
- ELEVATION AT NODE/JUNCTION
- CONVEYANCE LINK ID

POC

E.X.

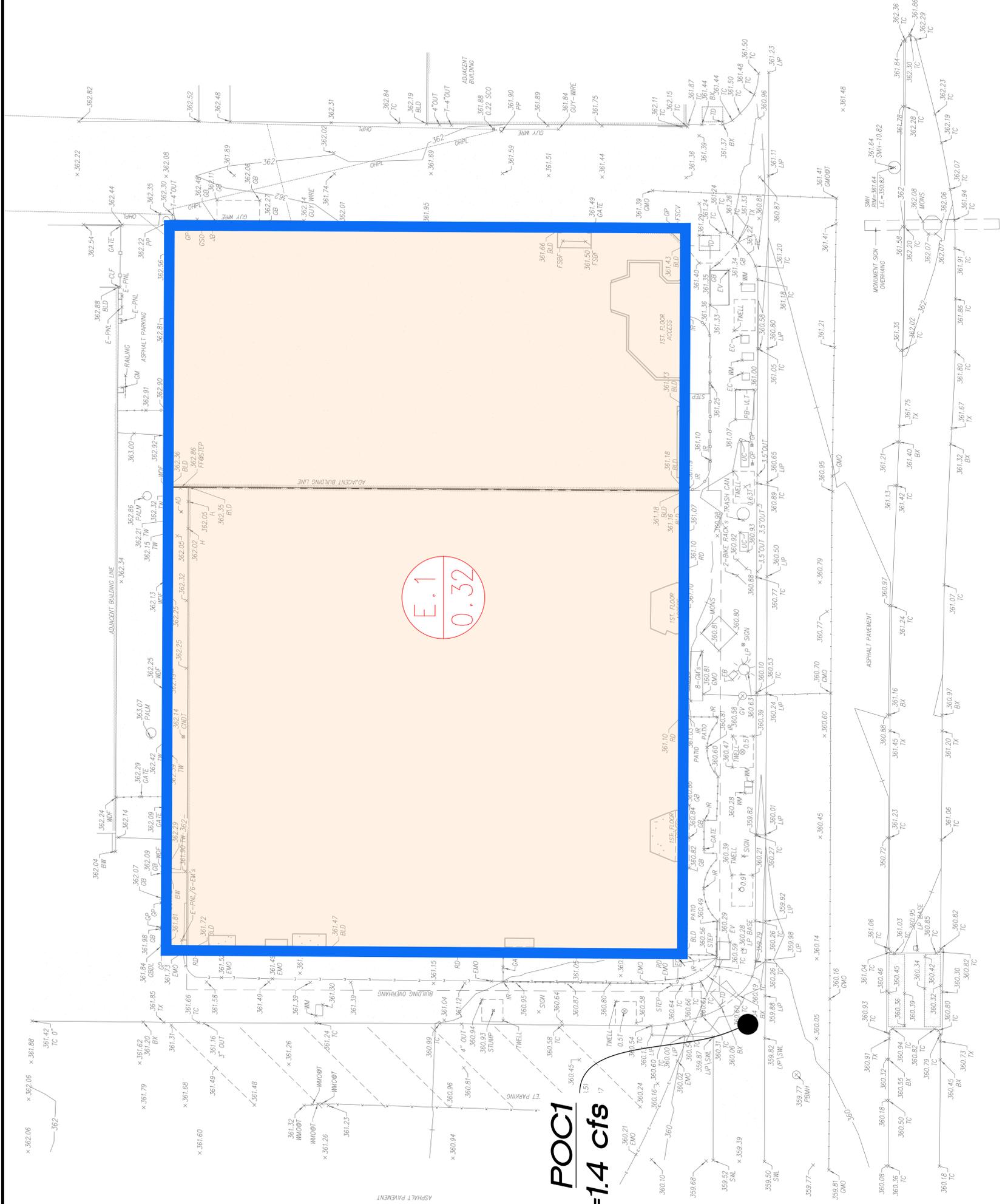
AC

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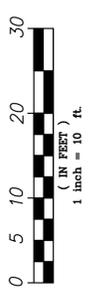
(XX.XX)

(X)



POC1
Q₁₀₀=1.4 cfs

E.1
0.32



THE NEWMAN BUILDING
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SAN DIEGO, CA 92104

EXHIBIT A- EXISTING DRAINAGE MAP

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SCALE: 1"=10'
DATE: 8/30/2023
PREPARED BY: ANM

LEGEND

- DRAINAGE BOUNDARY
- FLOW PATH
- POINT OF COMPLIANCE
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POC

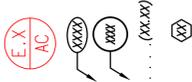
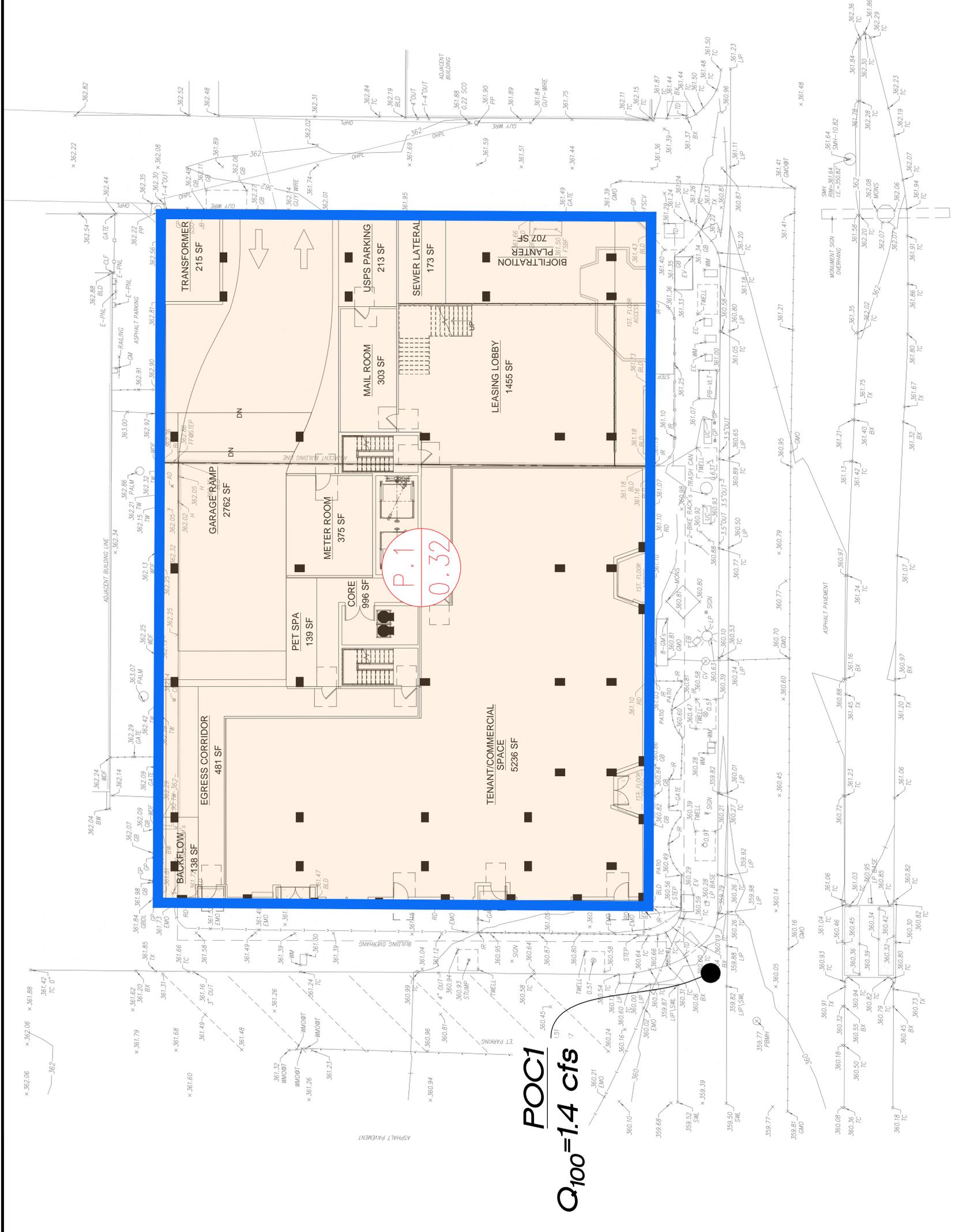


EXHIBIT B- PROPOSED DRAINAGE MAP

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SCALE: 1"=10'
DATE: 8/30/2023
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POC1

Q₁₀₀ = 1.4 cfs

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National Flood Hazard Layer FIRMette

117°08'11"W 32°45'11"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS



0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*



Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*



OTHER AREAS OF FLOOD HAZARD



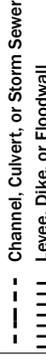
Area of Minimal Flood Hazard *Zone X*



Area of Undetermined Flood Hazard *Zone D*

OTHER AREAS

GENERAL STRUCTURES



20.2



17.5



8



Base Flood Elevation Line (BFE)



Limit of Study



Coastal Transect Baseline



Profile Baseline



Hydrographic Feature

OTHER FEATURES



Digital Data Available



No Digital Data Available



Unmapped

MAP PANELS

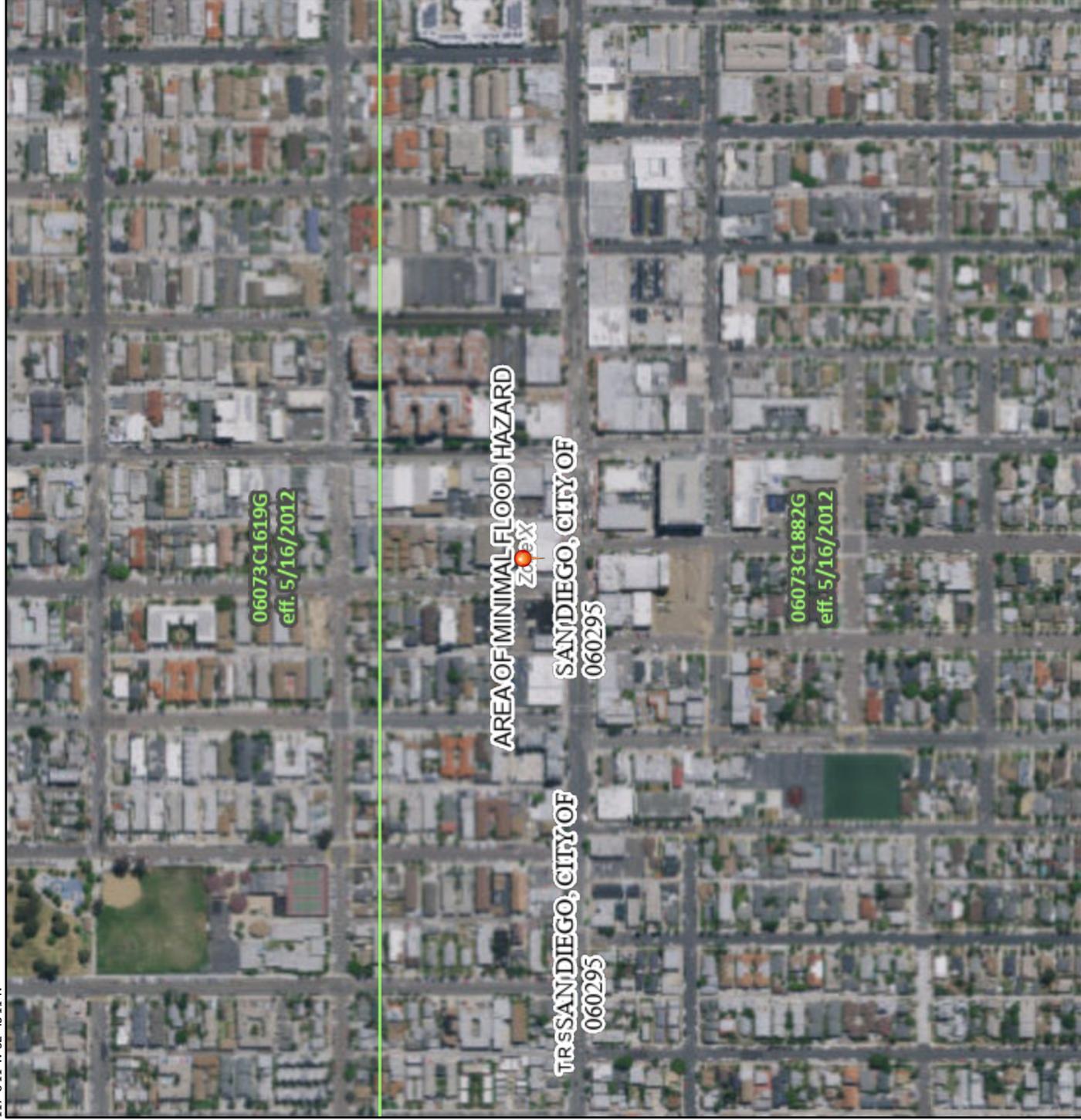


The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/25/2023 at 2:51 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



117°08'11"W 32°45'11"N



Basemap Imagery Source: USGS National Map 2023