HALEY & ALDRICH, INC.
2033 N. Main Street
Suite 309
Walnut Creek, CA 94569
925.949.1012

18 January 2022
File No. 201747-000

Marjang Architecture
930 Cole Street, Suite 101
San Francisco, California 94117

Attention: Ms. Karen Mar

Subject: Floor Survey
Kensington Public Safety Building
217 Arlington Avenue
Kensington, California

Dear Ms. Mar:

In accordance with your request, Haley & Aldrich, Inc. (Haley & Aldrich) has performed a floor survey for the existing Kensington Public Safety Building located at 217 Arlington Avenue in Kensington, California. This floor survey has been performed as part of renovation and retrofit design efforts for the existing building, which is currently occupied by the Kensington Fire Department.

Project Background

The subject property is located on the northeastern side of Arlington Avenue, south of its intersection with Oberlin Avenue, as shown on the Project Locus, Figure 1. The site is approximately square-shaped with plan dimensions of about 100 by 100 feet. The site is situated on a hillside that has been graded to accommodate lots for adjacent residential construction, the construction of the subject facility, and for construction of Arlington Avenue. Currently, the site is occupied by an existing public safety building at the western portion of the site, which is occupied by the Kensington Fire Department. A parking lot is located in the eastern portion (rear) of the site.

The subject building is roughly rectangular in shape and covers a footprint area of approximately 79.5 feet by 41 feet. The structure is a wood-frame, two-story, split-level structure located on a slope, with the west side of the first floor exposed near street grade at Arlington Avenue and the east side of the second floor roughly level with an at-grade upslope parking lot. The eastern portion of the building's first floor was designed with retaining walls to resist lateral earth pressure from the slope and parking lot. The first floor of the structure includes an apparatus bay, which houses several fire engine vehicles. The structure foundations near the apparatus bay garage doors were reportedly augmented in 1998 through installation of drilled cast-in-place concrete piers, with a reported diameter of 18 to 24 inches and a reported depth of approximately 8 feet. In addition, six drilled piers were installed in 2009 along the southwestern corner of the structure.

Existing Conditions

Based on our review of historical geotechnical reports and building assessments, and on our recent discussions with you and the project structural engineer, ZFA Structural Engineers (ZFA), the existing floor surfaces (consisting of both concrete slab-on-grade and the plywood floor sheathing) have developed signs of moderate to severe distress since the building was constructed. This distress has manifested in the form of uneven and sloped surfaces, tilted vertical interior walls and elements, and floor and wall cracks.

Floor Survey

A total of 139 floor survey points were designated for topographic measurements by Haley & Aldrich and ZFA at locations throughout the first floor and second floor of the existing structure interior. The survey of both floors was performed on 12 November 2021. The topographic measurements were collected using a PRO-LEVEL Manometer (water-level), which reports relative elevation measurements of floor levels at discrete locations. Figures 2 and 3 show the survey points on both first and second floor. The relative elevation differences of the survey points adjusted according to the base points on both floors are summarized in tabular format on the attached Table 1 – Manometer Readings.

Supplemental floor level surveys may be performed to determine if settlement has ceased, or to identify the rate and location of continued settlements over time.

Closing

We appreciate the opportunity to provide engineering services on this project. Please do not hesitate to call if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

Nickey Akbariyeh, PE
Assistant Project Manager

Micah Hintz, PE, GE
Geotechnical Engineer

Attachments:

- Table 1 – Manometer Readings
- Figure 1 – Project Locus
- Figure 2 – Floor Survey (First Floor)
- Figure 3 – Floor Survey (Second Floor)

FIRST FLOOR				
Point ID	Direct Reading	Floor Finish Adjust.	Adjusted Reading	Zeroed Final Reading
A01	5.60	0.00	5.60	2.10
A03	7.70	0.00	7.70	4.20
A06	10.20	0.00	10.20	6.70
A07	3.80	0.00	3.80	0.30
A10	8.50	0.00	8.50	5.00
A12	10.50	0.00	10.50	7.00
A13	3.50	0.00	3.50	0.00
A18	10.90	0.00	10.90	7.40
A19	5.00	0.00	5.00	1.50
A22	9.05	0.00	9.05	5.55
A23	10.60	0.00	10.60	7.10
A24	10.30	0.00	10.30	6.80
A25	10.80	0.00	10.80	7.30
A26	9.15	-0.90	8.25	4.75
A27	10.00	-1.10	8.90	5.40
A29	8.60	-0.90	7.70	4.20
A30	9.80	-0.90	8.90	5.40
A31	10.30	-0.90	9.40	5.90
A32	9.70	-0.90	8.80	5.30
A33	7.10	-0.90	6.20	2.70
A34	9.30	-0.90	8.40	4.90
A35	9.70	-0.90	8.80	5.30
A36	10.30	-0.90	9.40	5.90
A37	9.60	-0.90	8.70	5.20
A38	9.60	-0.90	8.70	5.20
A39	7.60	-0.90	6.70	3.20
A40	9.30	-0.90	8.40	4.90
A41	10.20	-0.90	9.30	5.80
A42	10.50	-0.90	9.60	6.10
A43	9.90	-0.90	9.00	5.50
A44	7.90	-0.90	7.00	3.50
A45	9.40	-0.90	8.50	5.00
A46	9.70	-0.90	8.80	5.30
C02	5.60	0.00	5.60	2.10
C03	7.40	0.00	7.40	3.90
C04	8.50	0.00	8.50	5.00
C05	9.60	0.00	9.60	6.10
C09	7.60	0.00	7.60	4.10
C19	6.00	0.00	6.00	2.50
C20	6.50	0.00	6.50	3.00
C21	8.10	0.00	8.10	4.60
C22	10.00	0.00	10.00	6.50

FIRST FLOOR				
Point ID	Direct Reading	Floor Finish Adjust.	Adjusted Reading	Zeroed Final Reading
C26	10.00	0.00	10.00	6.50
C26A	9.70	-0.90	8.80	5.30
C30	10.20	-0.90	9.30	5.80
C30A	10.20	-0.90	9.30	5.80
C31	9.90	-1.10	8.80	5.30
C31A	9.70	-0.90	8.80	5.30
C32	9.90	-1.10	8.80	5.30
C34	9.30	-0.90	8.40	4.90
C36	10.00	-0.90	9.10	5.60
C44	7.90	-0.90	7.00	3.50
C45	9.50	-0.90	8.60	5.10
C46	7.40	-0.90	6.50	3.00
C47	9.80	-0.90	8.90	5.40

SECOND FLOOR				
Point ID	Direct Reading	Floor Finish Adjust.	Adjusted Reading	Zeroed Final Reading
B01	21.70	-12.85	8.85	4.60
B02	10.10	-0.40	9.70	5.45
B03	10.30	-0.40	9.90	5.65
B04	13.50	-3.10	10.40	6.15
B05	22.90	-16.15	6.75	2.50
B06	10.40	-0.40	10.00	5.75
B07	9.20	0.00	9.20	4.95
B08	9.90	0.00	9.90	5.65
B09	23.10	-16.15	6.95	2.70
B10	23.40	-12.75	10.65	6.40
B11	26.20	-16.15	10.05	5.80
B12	23.70	-16.15	7.55	3.30
B13	10.50	-0.40	10.10	5.85
B14	24.30	-16.15	8.15	3.90
B15	25.30	-16.15	9.15	4.90
B16	11.00	-0.70	10.30	6.05
B17	13.50	-3.10	10.40	6.15
B18	7.80	-0.35	7.45	3.20
B19	9.80	-0.35	9.45	5.20
B20	11.50	-0.70	10.80	6.55
B21	11.30	-0.70	10.60	6.35
B22	11.50	-0.70	10.80	6.55
B23	10.50	-0.35	10.15	5.90
B24	11.40	-0.70	10.70	6.45
B24A	11.10	-0.70	10.40	6.15
B25	11.80	-0.70	11.10	6.85
B26	8.90	-0.35	8.55	4.30
B27	10.20	-0.35	9.85	5.60
B28	11.00	-0.35	10.65	6.40
B29	11.30	-0.70	10.60	6.35
B30	11.60	-0.70	10.90	6.65
B31	9.60	-0.35	9.25	5.00
B32	10.90	-0.35	10.55	6.30
B33	11.05	-0.70	10.35	6.10
B34	11.80	-0.70	11.10	6.85
D01	20.60	-12.75	7.85	3.60
D02	21.70	-14.55	7.15	2.90
D04	12.90	-3.10	9.80	5.55
D05	19.50	-12.85	6.65	2.40
D05A	22.40	-12.85	9.55	5.30
D05B	25.70	-16.15	9.55	5.30
D05C	24.20	-14.55	9.65	5.40

SECOND FLOOR				
Point ID	Direct Reading	Floor Finish Adjust.	Adjusted Reading	Zeroed Final Reading
D05D	25.80	-16.15	9.65	5.40
D05E	25.10	-14.55	10.55	6.30
D06	9.90	-0.40	9.50	5.25
D07	9.40	0.00	9.40	5.15
D07A	9.80	-0.40	9.40	5.15
D08	9.90	0.00	9.90	5.65
D08A	11.00	0.00	11.00	6.75
D09	17.00	-12.75	4.25	0.00
D10	19.10	-12.75	6.35	2.10
D10A	23.10	-16.15	6.95	2.70
D11	26.20	-16.15	10.05	5.80
D11A	9.60	0.00	9.60	5.35
D12	7.20	-0.35	6.85	2.60
D15	10.30	-0.35	9.95	5.70
D16	11.00	-0.70	10.30	6.05
D18	8.01	-0.35	7.66	3.41
D21	11.10	-0.10	11.00	6.75
D23	10.50	-0.35	10.15	5.90
D26	8.90	-0.35	8.55	4.30
D27	10.35	-0.35	10.00	5.75
D29	11.10	-0.70	10.40	6.15
D33	11.05	-0.70	10.35	6.10
D34	11.80	-0.70	11.10	6.85
D35	11.00	-0.70	10.30	6.05
D35A	10.40	-0.40	10.00	5.75
D36	10.70	-0.10	10.60	6.35
D36A	11.30	-0.70	10.60	6.35
D37	10.70	-0.40	10.30	6.05
D37A	11.40	-0.70	10.70	6.45
D37B	11.20	-0.40	10.80	6.55
D37C	11.50	-0.70	10.80	6.55
D38	10.45	0.00	10.45	6.20
D38A	10.70	-0.45	10.25	6.00
D39	10.50	-0.85	9.65	5.40
D39A	10.00	-0.35	9.65	5.40
D40	9.05	-0.85	8.20	3.95
D41	8.70	-0.85	7.85	3.60
D43	26.40	-16.15	10.25	6.00
D43A	10.25	0.00	10.25	6.00
D44	9.60	-0.40	9.20	4.95
D44A	12.3	-3.10	9.20	4.95
D45	24.3	-16.15	8.15	3.90

Notes:

1. All readings are in inches
2. Finish floor adjustment corrects for changes in flooring type
3. Large floor finish adjustments for second floor due to multi-tiered floor
4. Color gradients for each floor range from red (lowest) to green (highest)

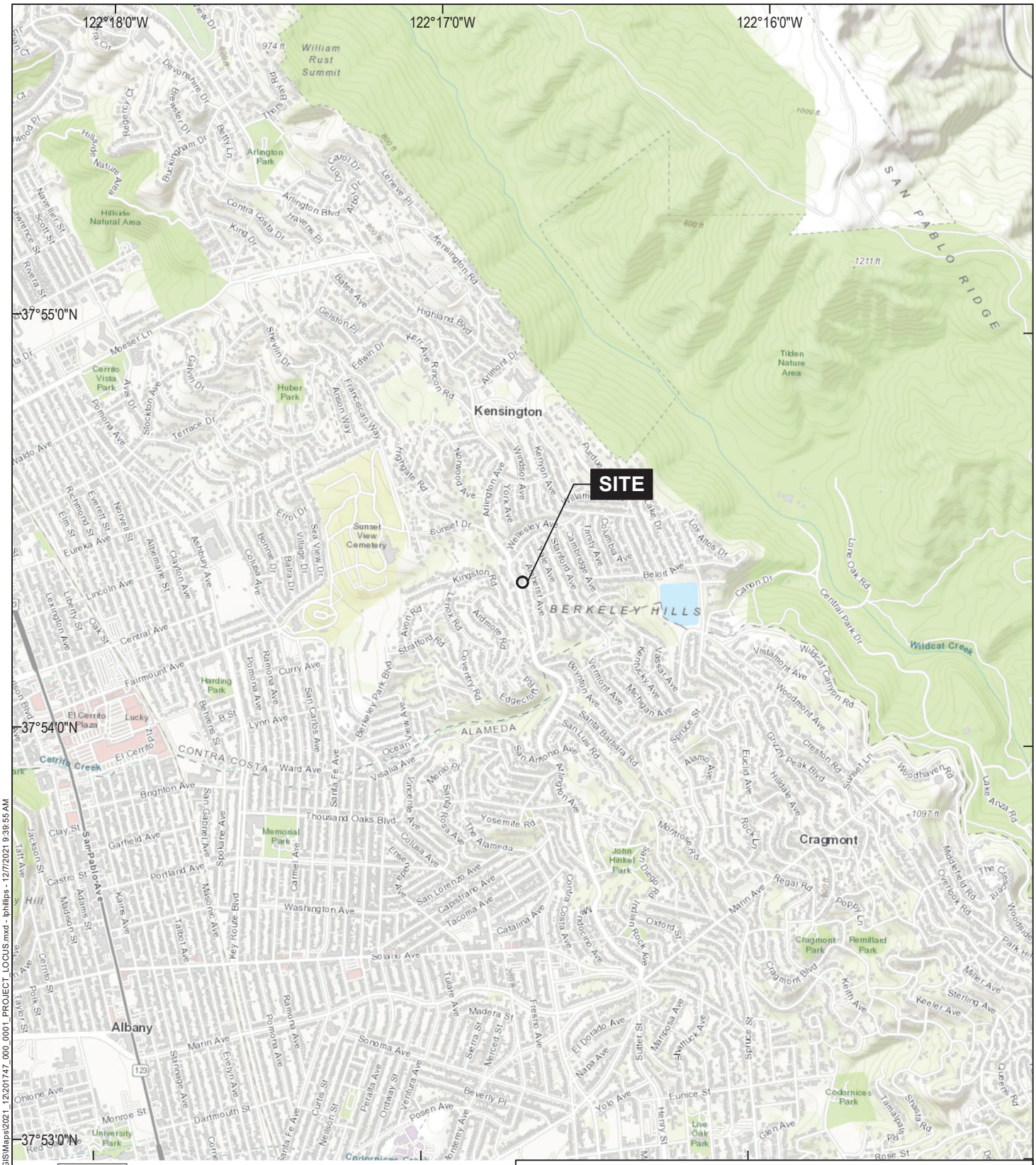
HALEY ALDRICH

KENSINGTON PUBLIC SAFETY BUILDING
217 ARLINGTON AVENUE
KENSINGTON, CALIFORNIA

MANOMETER READINGS

JANUARY 2022

TABLE 1



HALEY ALDRICH

KENSINGTON PUBLIC SAFETY BUILDING
217 ARLINGTON AVENUE
KENSINGTON, CALIFORNIA

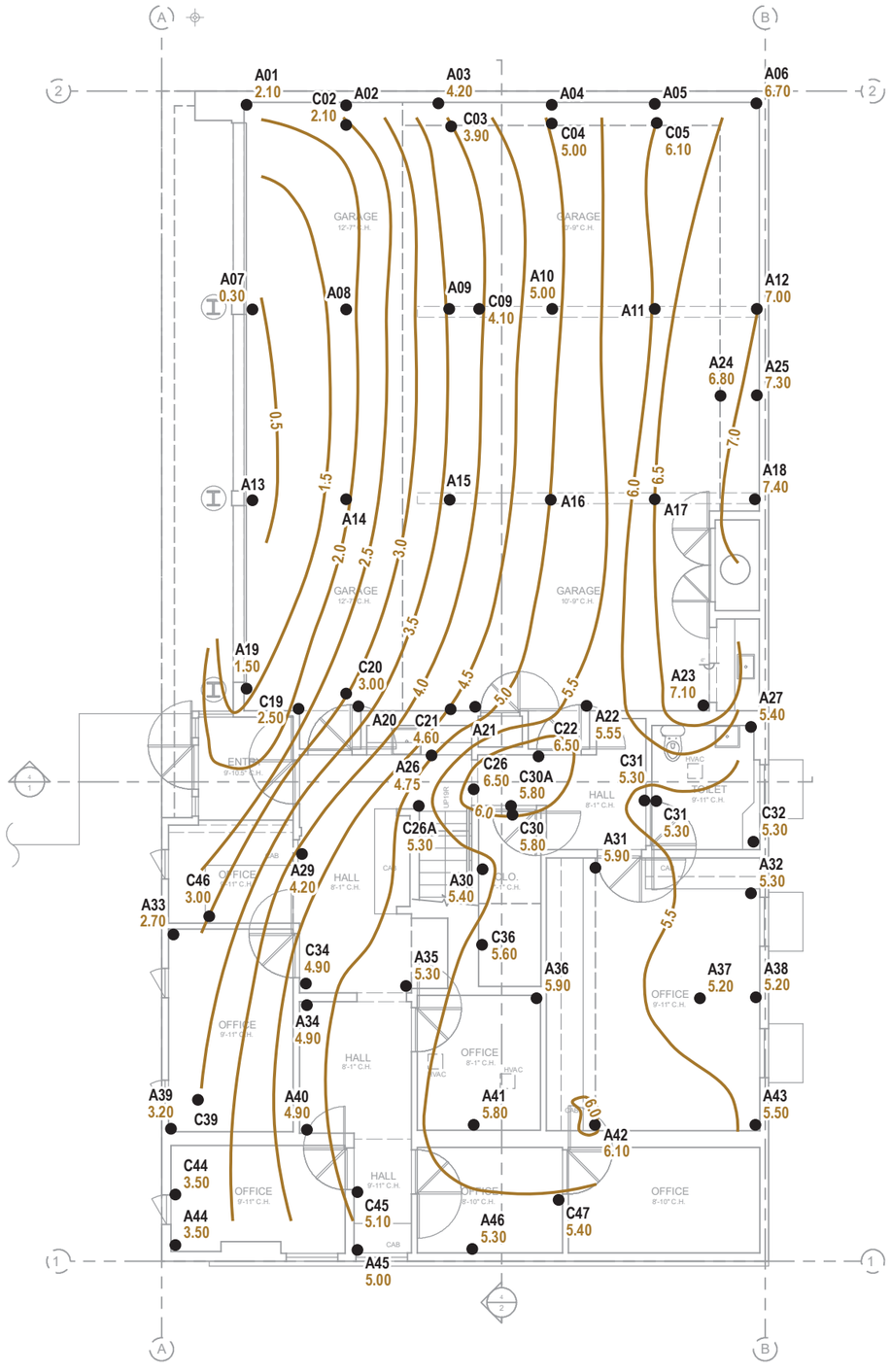
PROJECT LOCUS

MAP SOURCE: ESRI
SITE COORDINATES: 37°54'22"N, 122°16'43"W

APPROXIMATE SCALE: 1 IN = 2000 FT
JANUARY 2022

FIGURE 1

GIS: \\haleyaldrich.com\share\CF\Projects\0201747\GIS\Maps\2021_12\201747_000_0001_PROJECT_LOCUS.mxd - lphillips - 12/7/2021 9:39:55 AM



LEGEND

- FLOOR MEASUREMENT LOCATION, RELATIVE ELEVATION INDICATED IN INCHES
- ELEVATION CONTOUR, 0.5-INCH INTERVAL

NOTES

1. ALL MEASUREMENT LOCATIONS ARE APPROXIMATE.

2. BASE PLAN SOURCE: "EXISTING FLOOR PLAN" PREPARED BY EXISTING CONDITIONS DRAFTING, DATED 1 JULY 2021

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SCALE IN FEET

HALEY ALDRICH

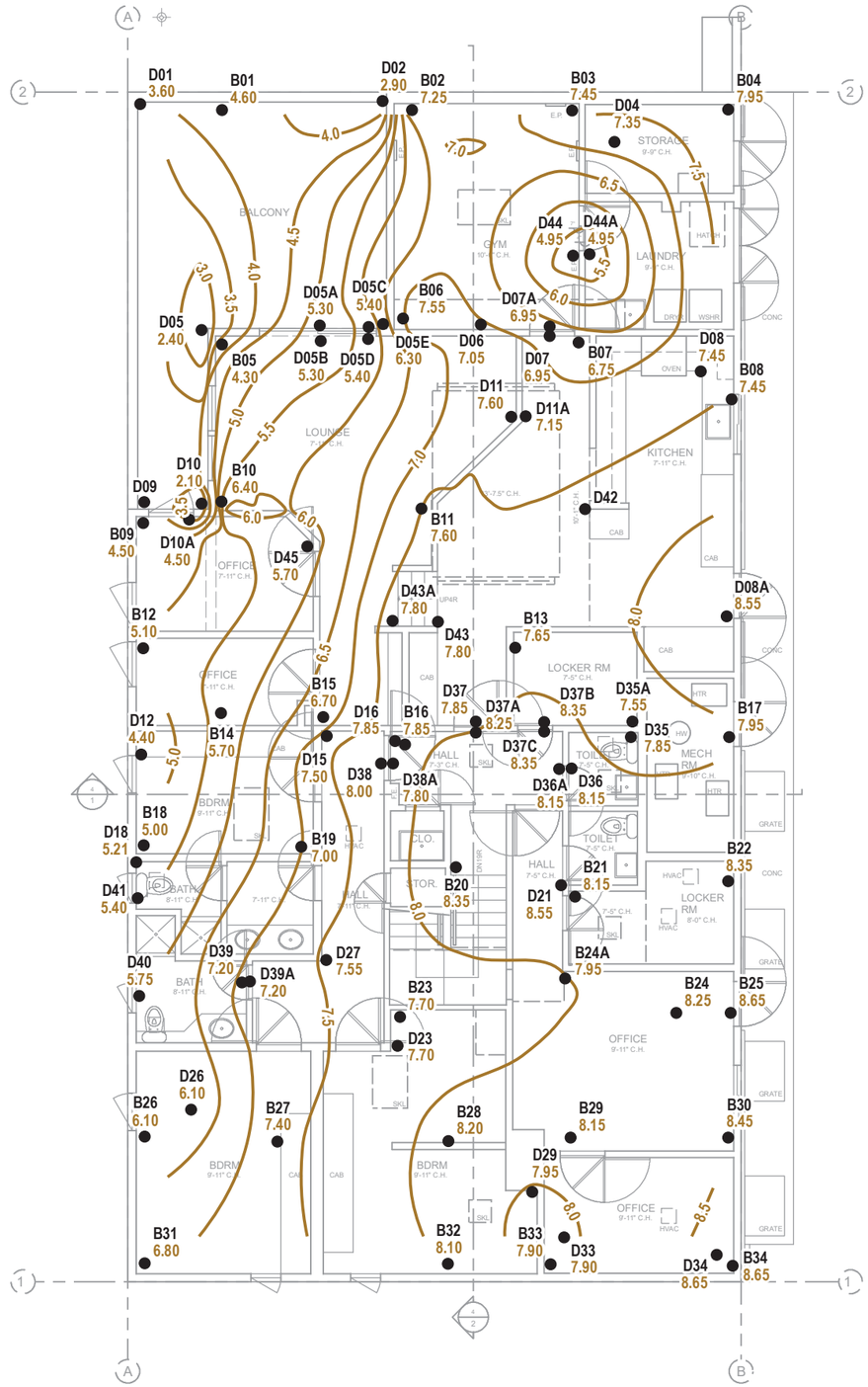
KENSINGTON PUBLIC SAFETY BUILDING
217 ARLINGTON AVENUE
KENSINGTON, CALIFORNIA

FLOOR ELEVATION SURVEY
FIRST FLOOR

JANUARY 2022

FIGURE 2

GIS: \\haleyaldrich.com\share\CF\Projects\0201747\GIS\Maps\2021_1112017747_000_00MB_FLOOR_ELEVATION_SURVEY.mxd - lphillips - 12/7/2021 11:38:05 AM



LEGEND

- FLOOR MEASUREMENT LOCATION, RELATIVE ELEVATION INDICATED IN INCHES
- ELEVATION CONTOUR, 0.5-INCH INTERVAL

NOTES

1. ALL MEASUREMENT LOCATIONS ARE APPROXIMATE.
2. BASE PLAN SOURCE: "EXISTING FLOOR PLAN" PREPARED BY EXISTING CONDITIONS DRAFTING, DATED 1 JULY 2021

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SCALE IN FEET

HALEY ALDRICH

KENSINGTON PUBLIC SAFETY BUILDING
217 ARLINGTON AVENUE
KENSINGTON, CALIFORNIA

FLOOR ELEVATION SURVEY SECOND FLOOR

JANUARY 2022

FIGURE 3

GIS: \\haleyaldrich.com\share\CF\Projects\0201747\GIS\Maps\2021_11\201747_000_00MB_FLOOR_ELEVATION_SURVEY.mxd - lphillips - 12/7/2021 11:38:05 AM