



**HENRY STREET
REDEVELOPMENT**

SCHEMATIC DESIGN PACKAGE FOR THE HISTORIC DISTRICT COMMISSION
NOVEMBER 20, 2020



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- II.** BUILDING ANALYSIS
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 - FACADE SURVEY
 - STRUCTURAL NARRATIVE

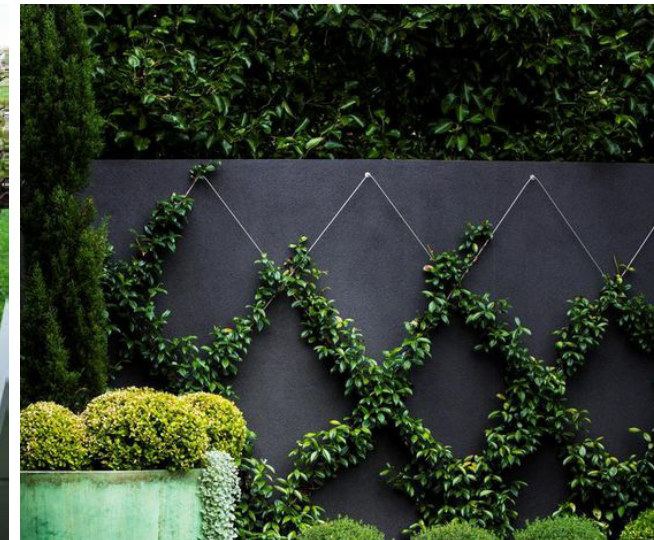
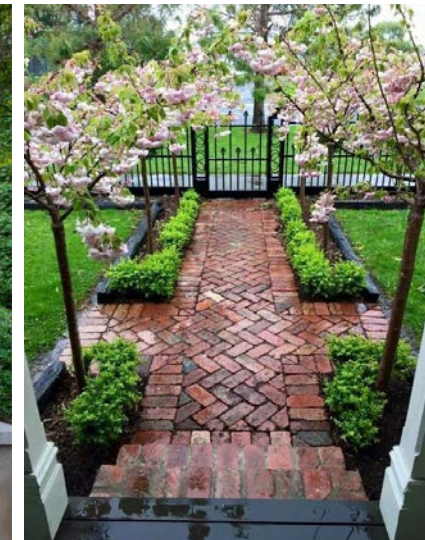


SITE / LANDSCAPE DESIGN

- > Inspired by the historic neighborhood and **respectful** of the architectural heritage
- > Activated with modern amenities and materiality to promote placemaking
- > **Capitalize** on the scale and uniqueness of the existing alleys
- > Embrace the locational influences and streetscape walkability
- > Provide **distinction** between the private and public realms
- > Simple design = simple maintenance
- > Reinforce the block's **unique identity** within the larger context of District Detroit

SITE DESIGN

Reference Images



SITE DESIGN

Site Plan



Note Key

1. Scored Concrete Paving with Paver Inlay and Border
2. Pavers
3. Concrete Paving
4. Existing Sidewalk to Remain
5. Asphalt Parking Lot and Drive Aisle
6. 4" Depth Decomposed Granite
7. 4" Depth Crushed Aggregate Mulch
8. 4'-0" Ht. Ornamental Aluminum Fence
9. Ornamental Aluminum Gate
10. 12" Ht. X 6" Wide Concrete Planter Curb
11. 18" Ht. Ornamental Aluminum Garden Fence
12. 6'-0" Ht. Ornamental Aluminum Fence
13. Tot Lot Playground - Surface to Be 12" Depth Engineered Wood Mulch
14. 8'-0" ht. Masonry Screen Wall
15. Dumpster
16. Existing Building Porch
17. Barrier Free Porch Lift
18. Bike Rack
19. 6'-0" Ht. Ornamental Aluminum Fence with 1.5" Picket Spacing

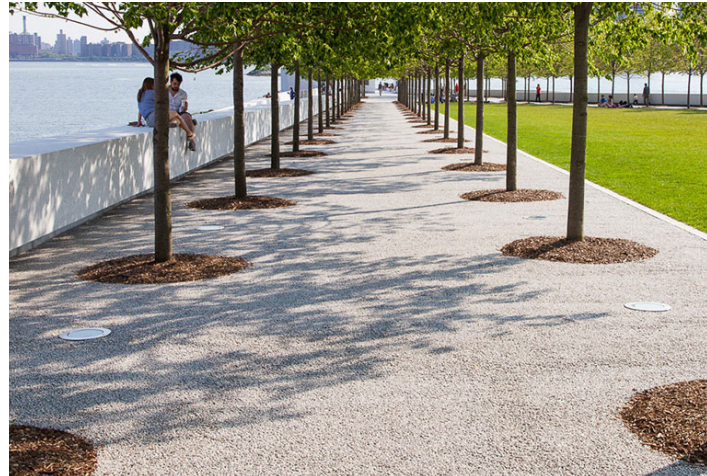


SITE DESIGN

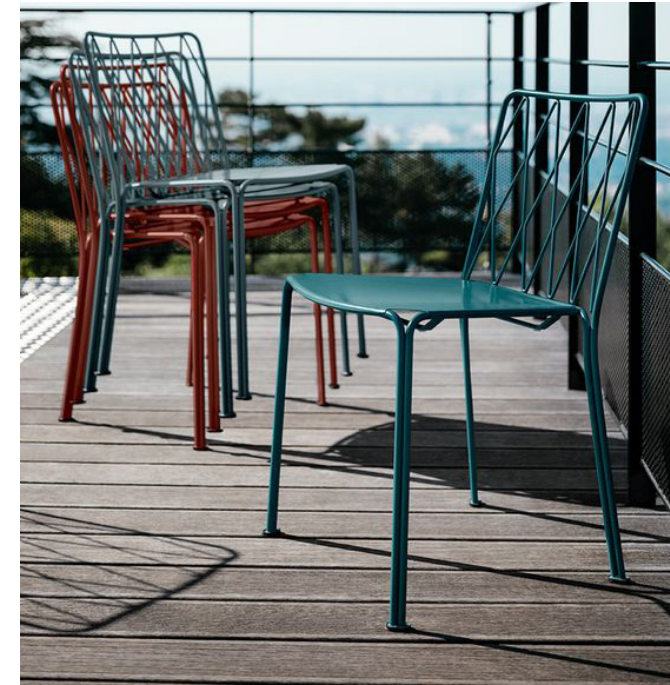
Amenities & Materials



Concrete Pavement with Diamond Joint Pattern



Decomposed Granite Walkway



Bistro Chairs



Concrete Pavement with Paver Inlay



Ornamental Garden Fence



Lawn Furniture



Pavers in Basketweave Pattern



Ornamental Fence



Metal Planters



Deciduous Trees



Ornamental Trees



Shrubs, Perennials and Groundcovers





BUILDING ANALYSIS

BUILDINGS

489 HENRY ST.

459 HENRY ST.

447 HENRY ST.

439 HENRY ST.

427 HENRY ST.

2467 CASS AVE.

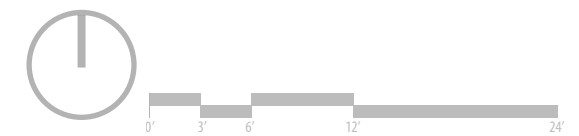
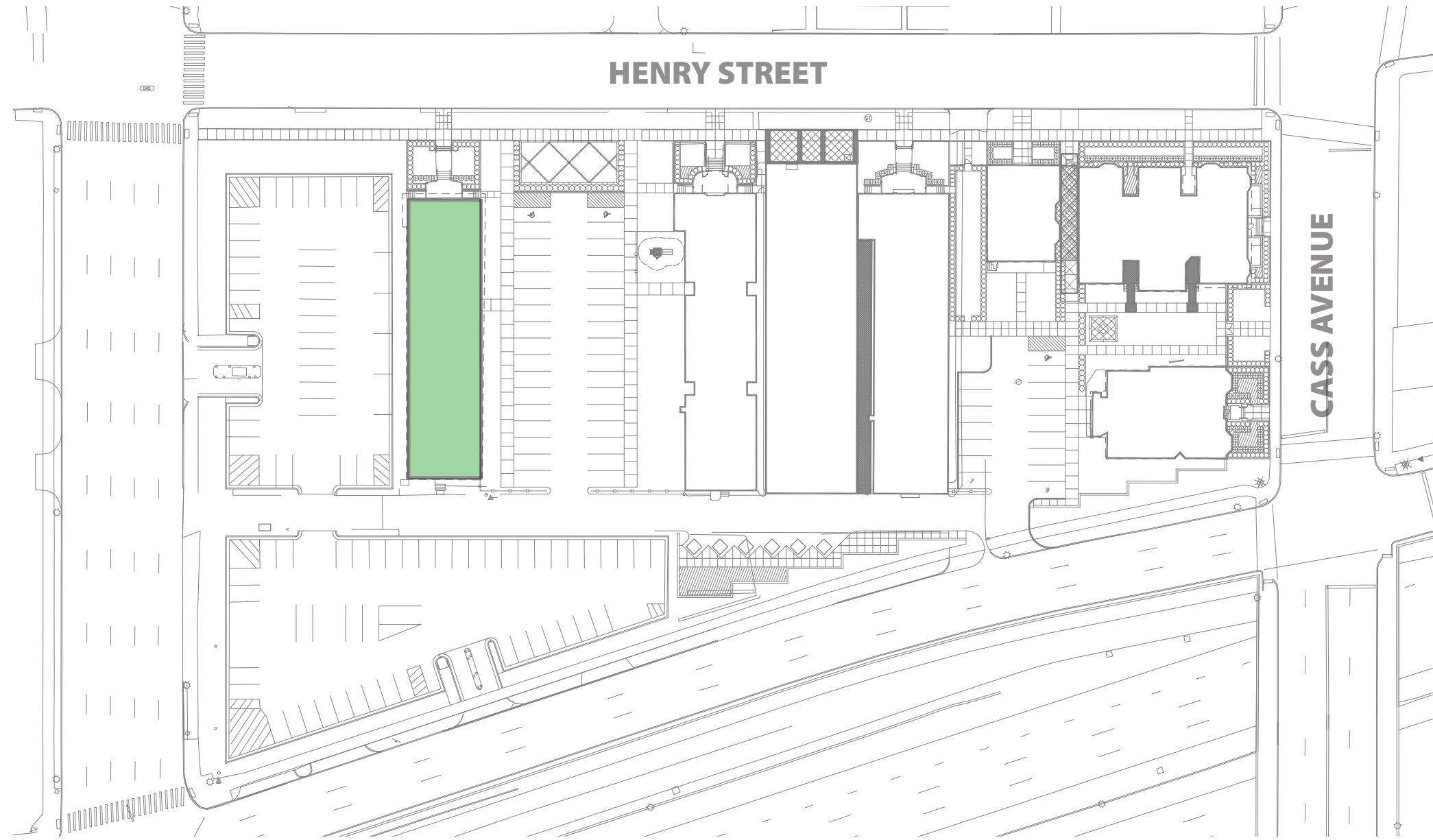
2447 CASS AVE.

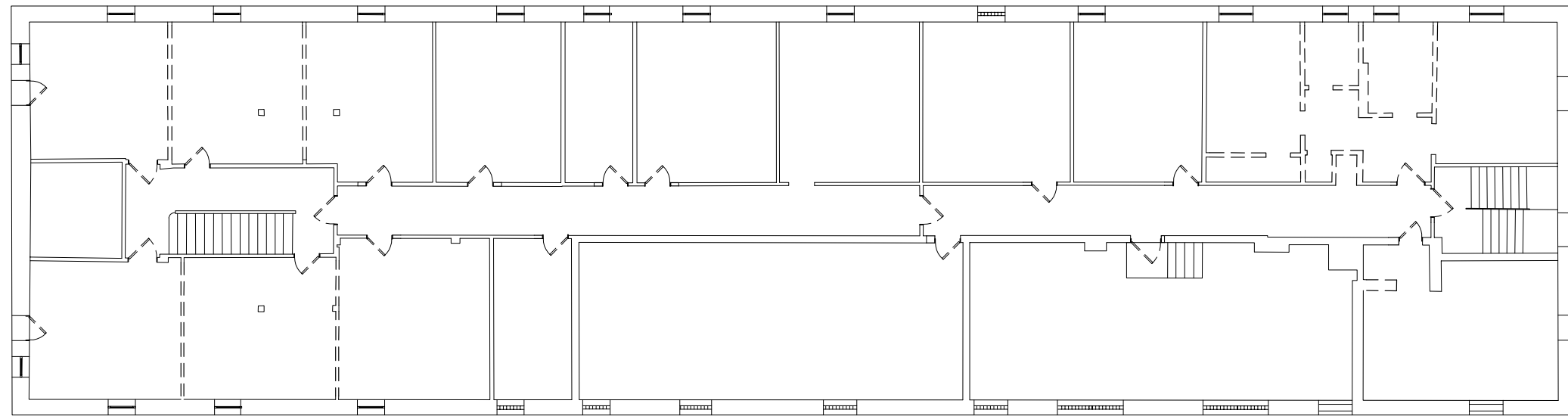
489 HENRY STREET

Berwin Apartments

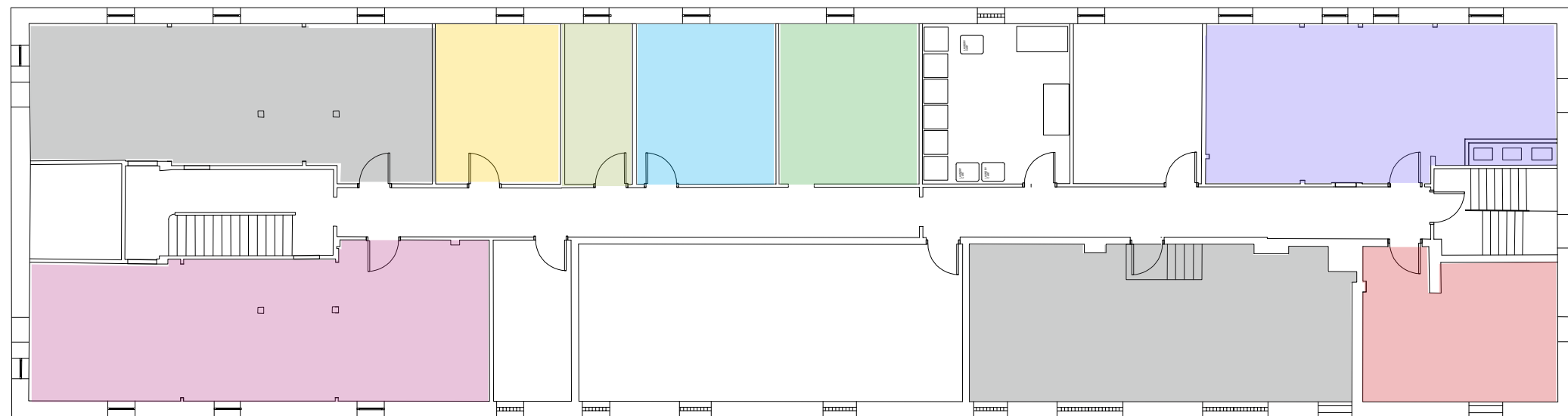
Constructed in 1915



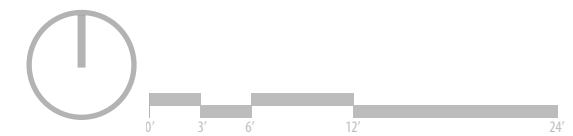


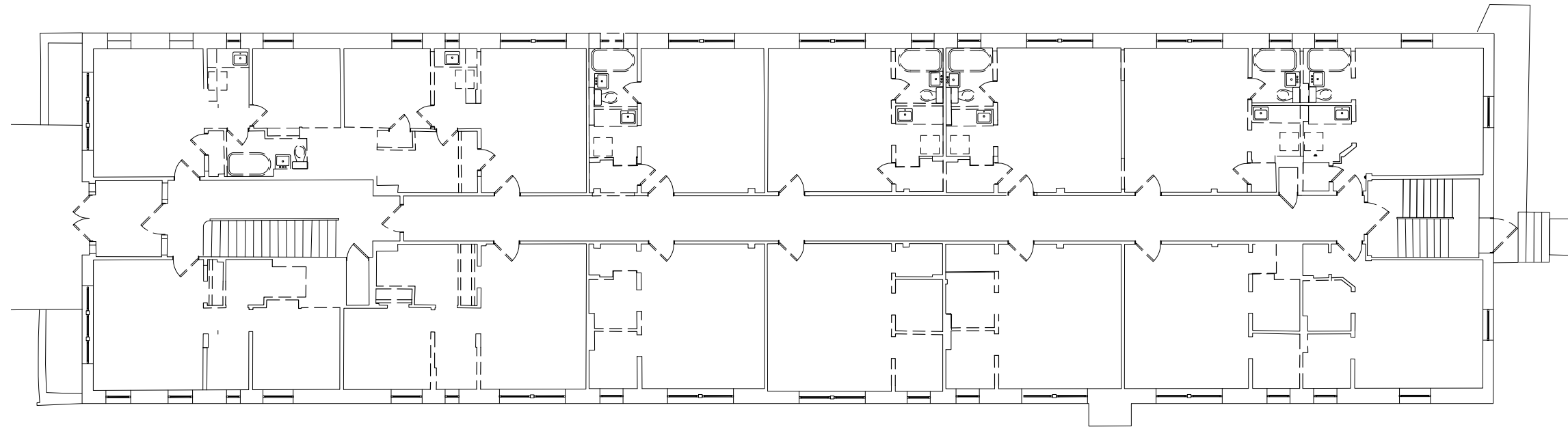


EXISTING BASEMENT PLAN

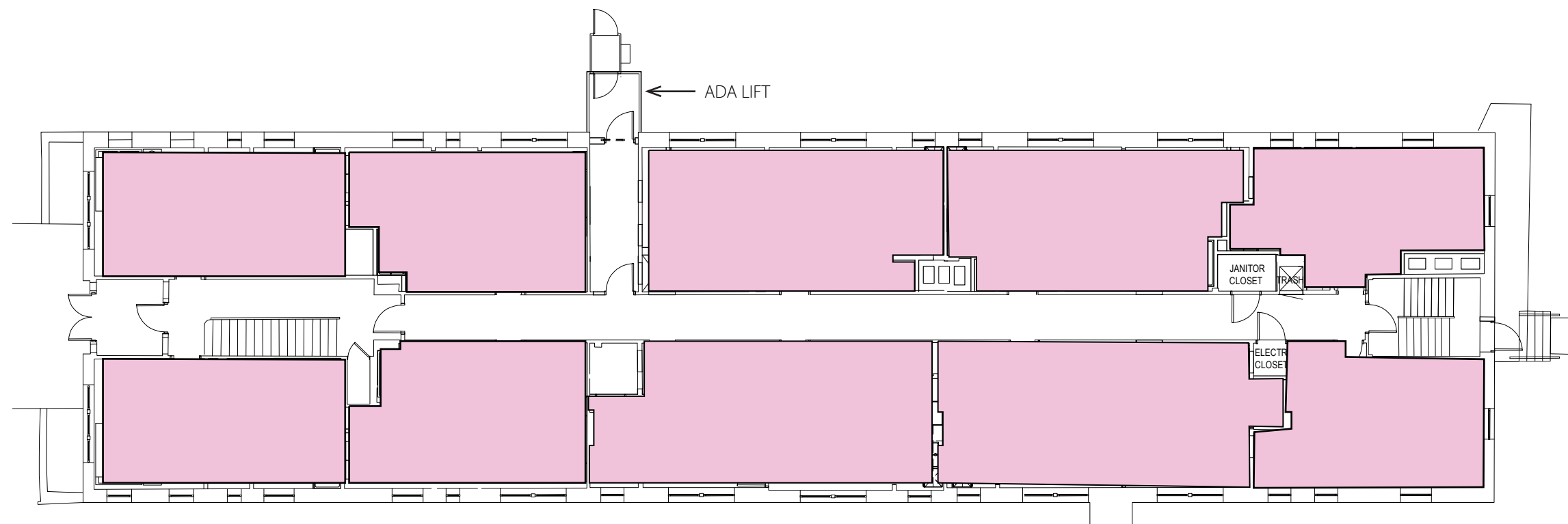


PROPOSED BASEMENT PLAN

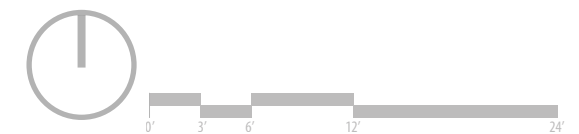


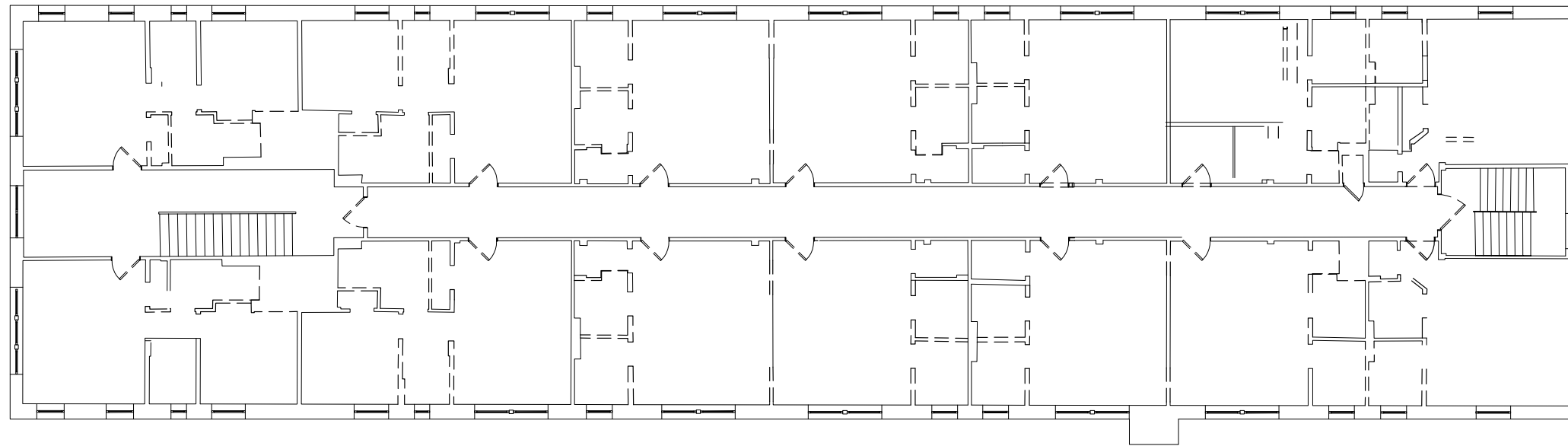


EXISTING 1st FLOOR PLAN

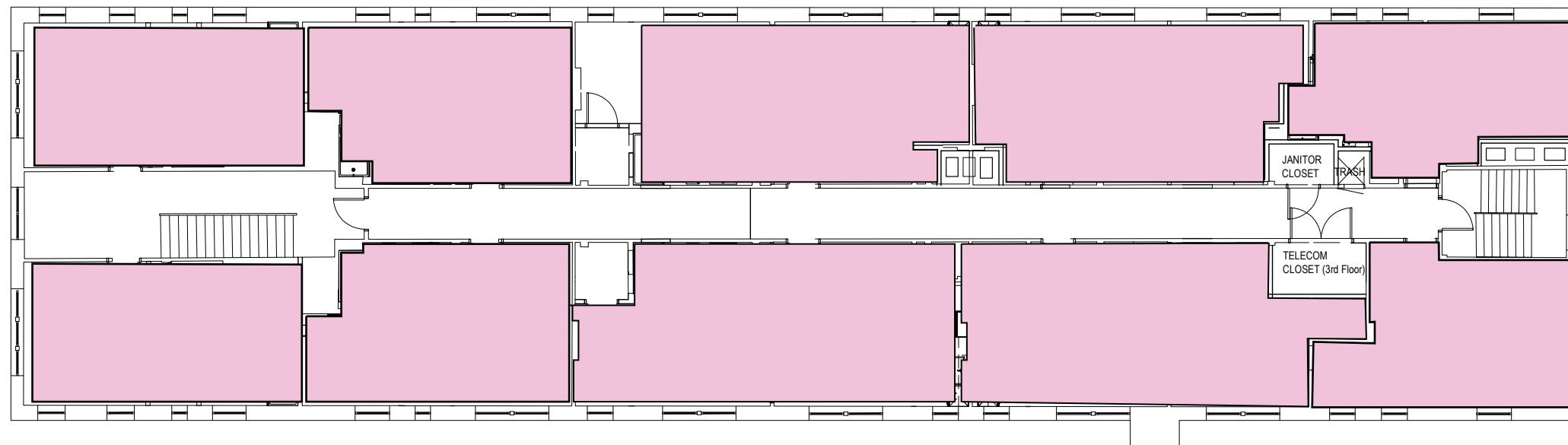


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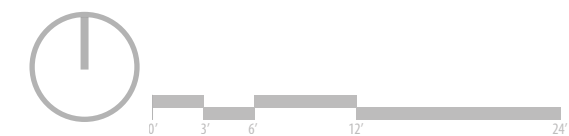


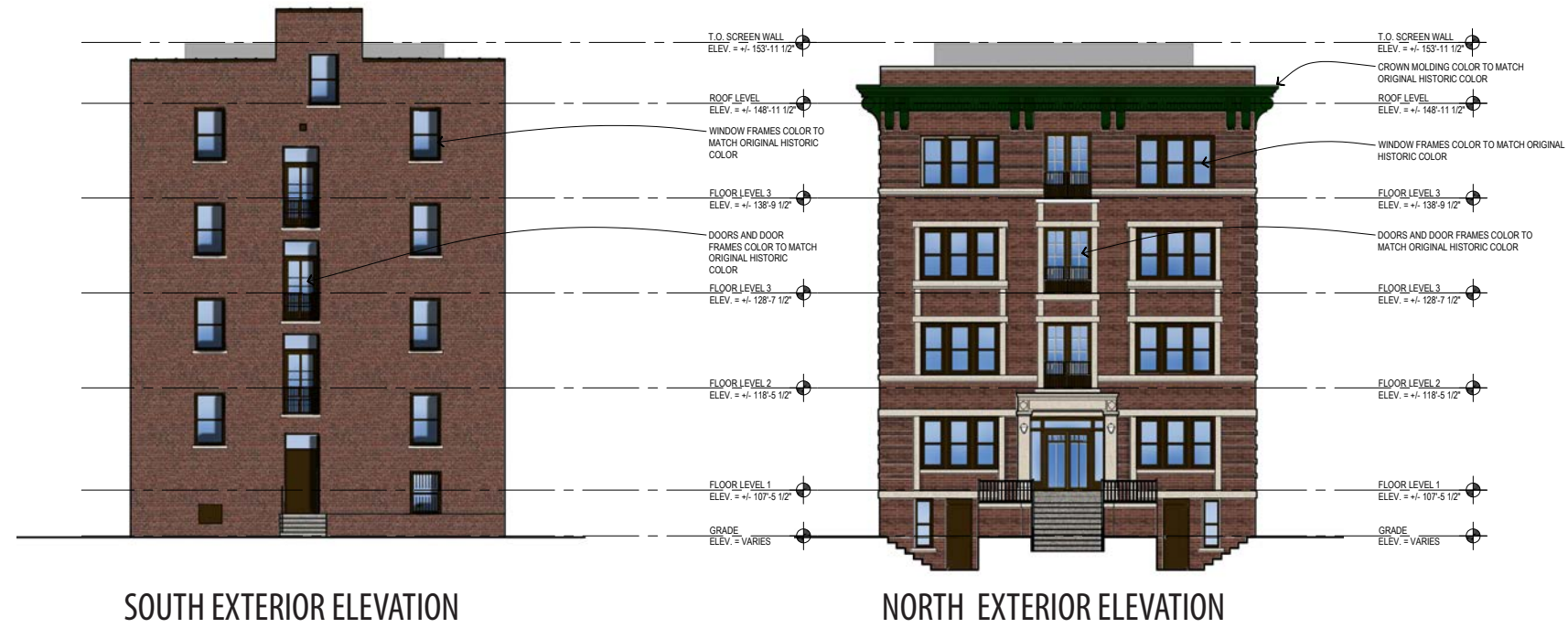


EXISTING 2nd - 4th FLOOR PLAN



PROPOSED 2nd - 4th FLOOR PLAN





489 HENRY STREET

Berwin Apartments



EAST EXTERIOR ELEVATION



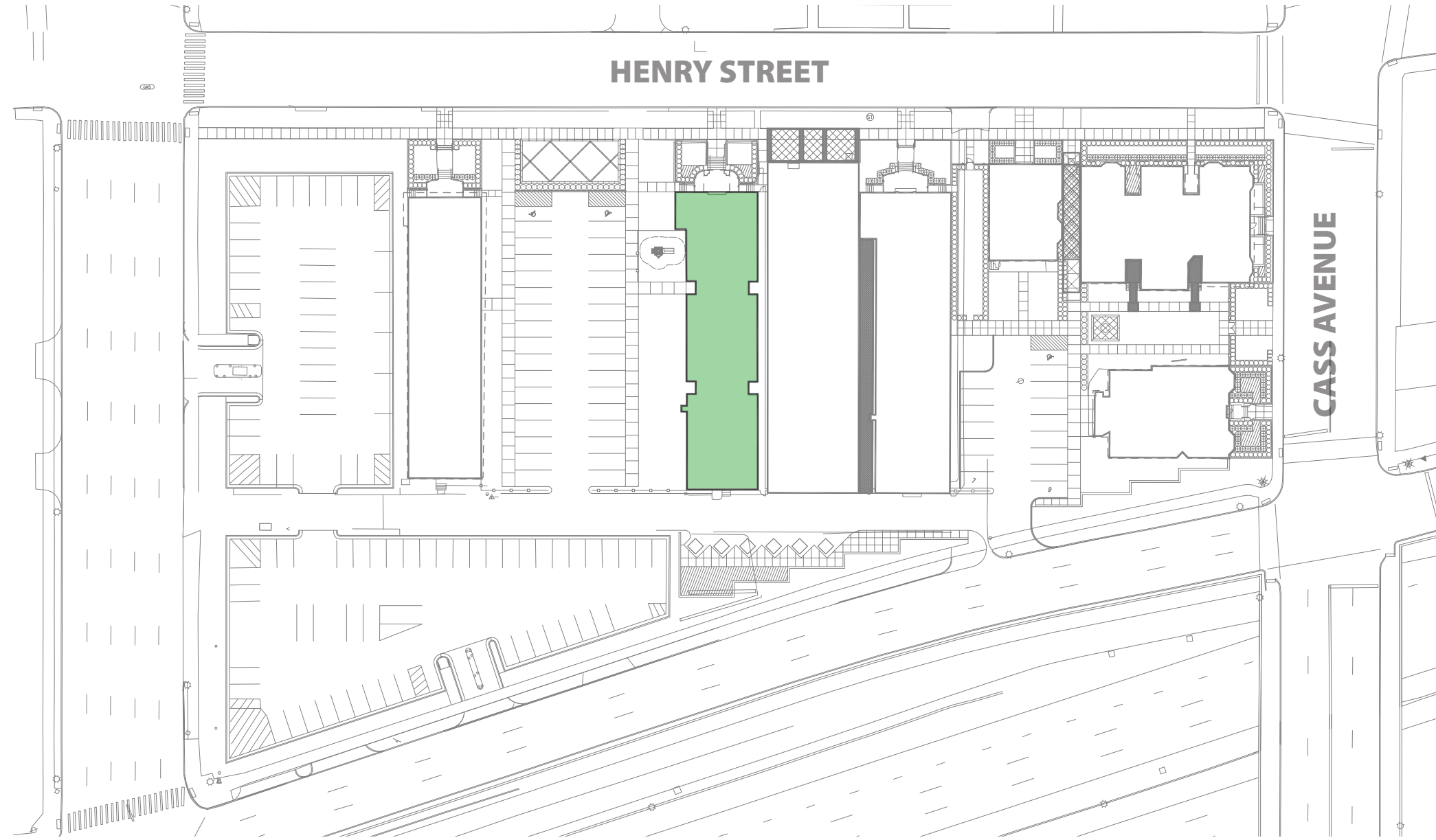
459 HENRY STREET

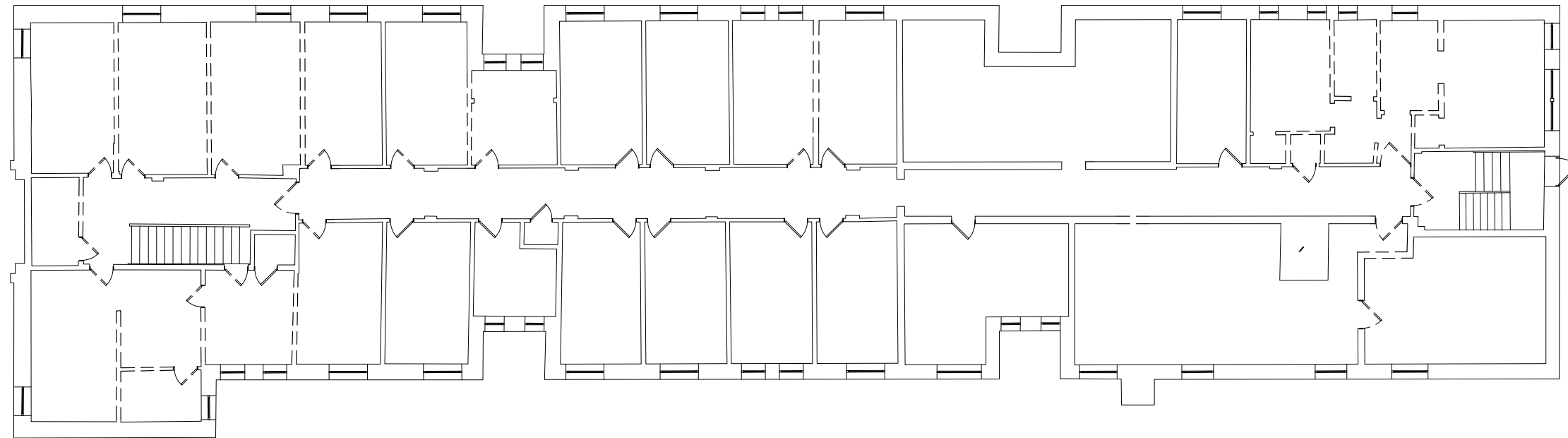
Claridge Apartments

Constructed in 1916

CLARIDGE

459

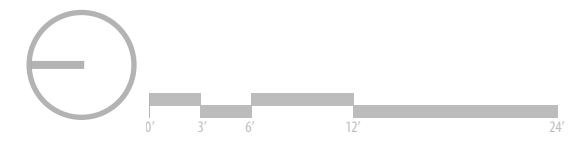


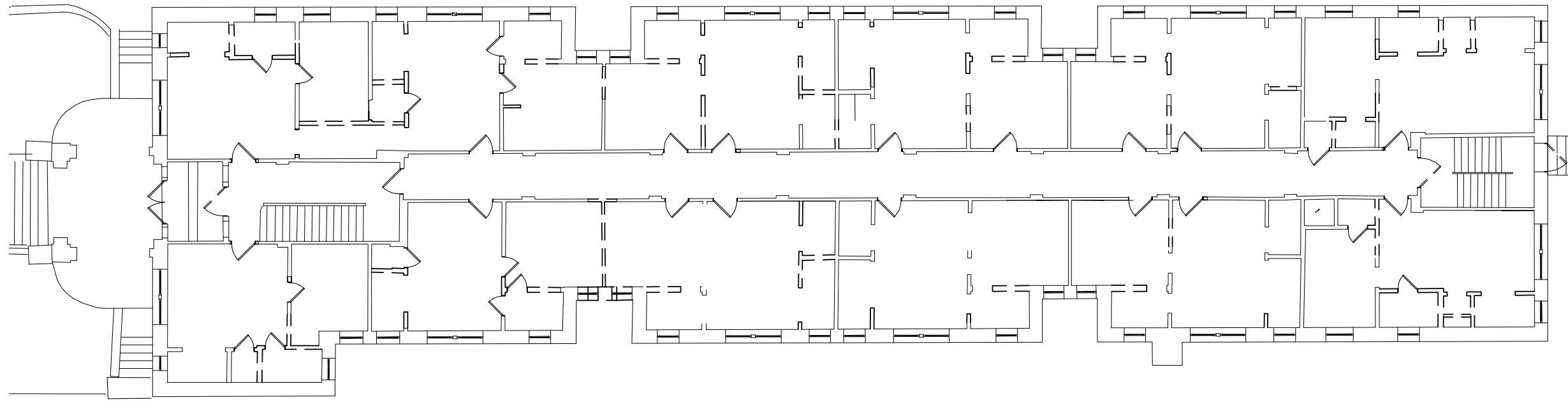


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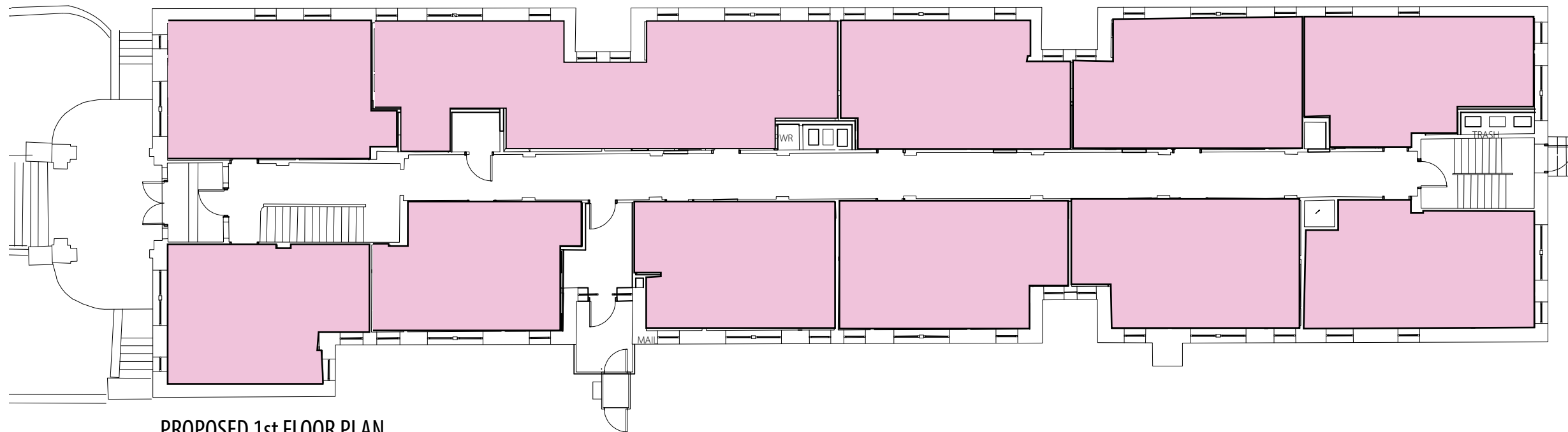


PROPOSED BASEMENT PLAN

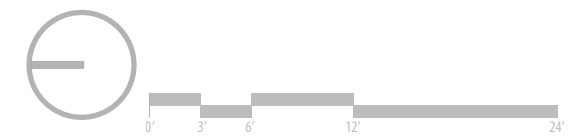


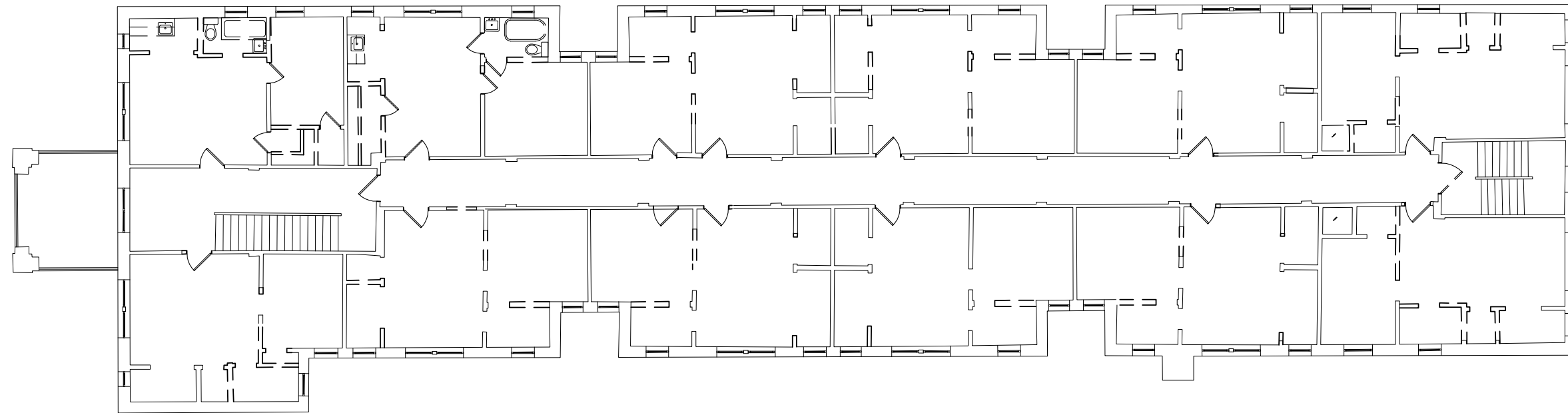


EXISTING 1st FLOOR PLAN

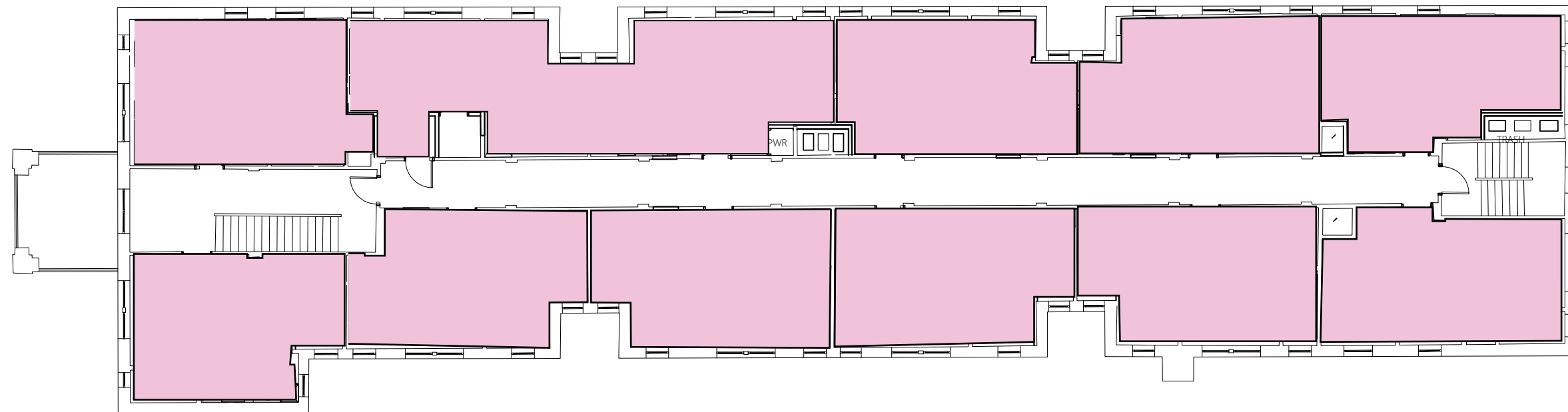


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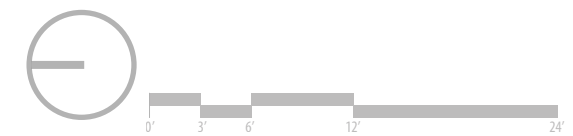


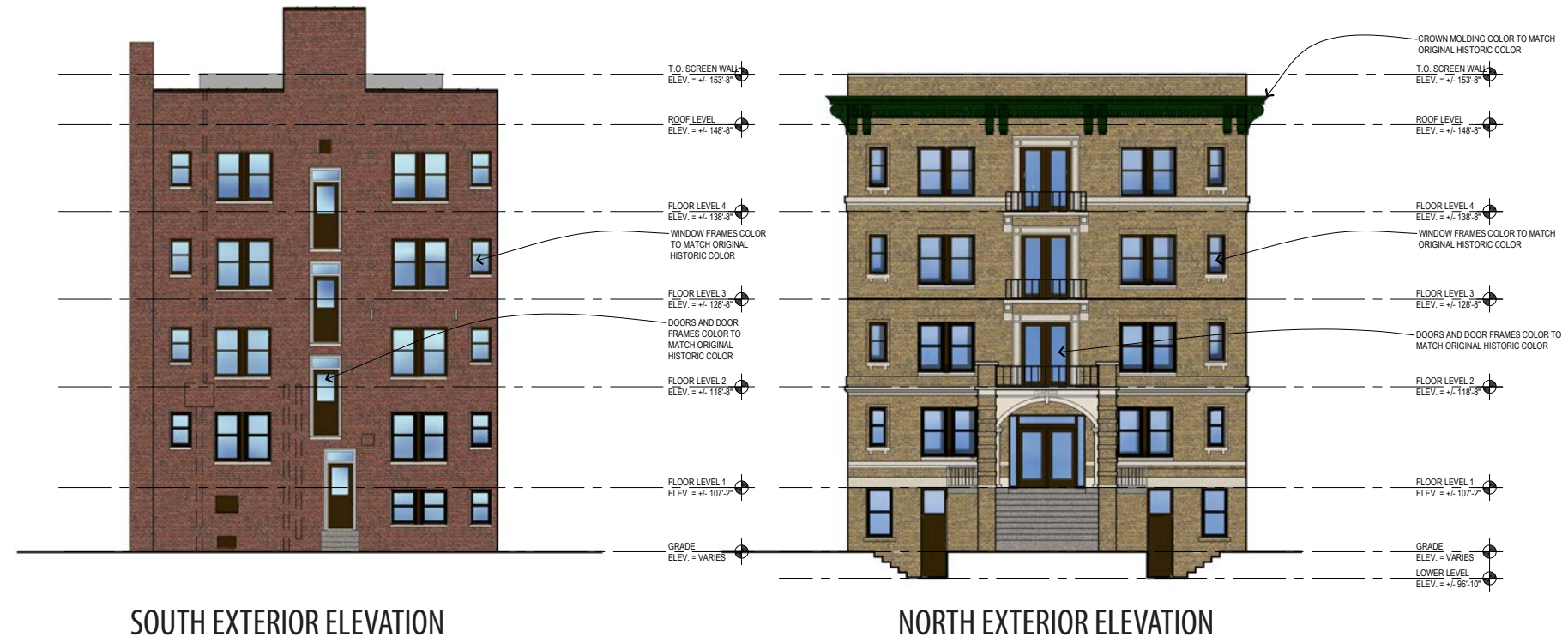


EXISTING 2nd - 4th FLOOR PLAN



PROPOSED 2nd - 4th FLOOR PLAN







EAST EXTERIOR ELEVATION



447 HENRY STREET

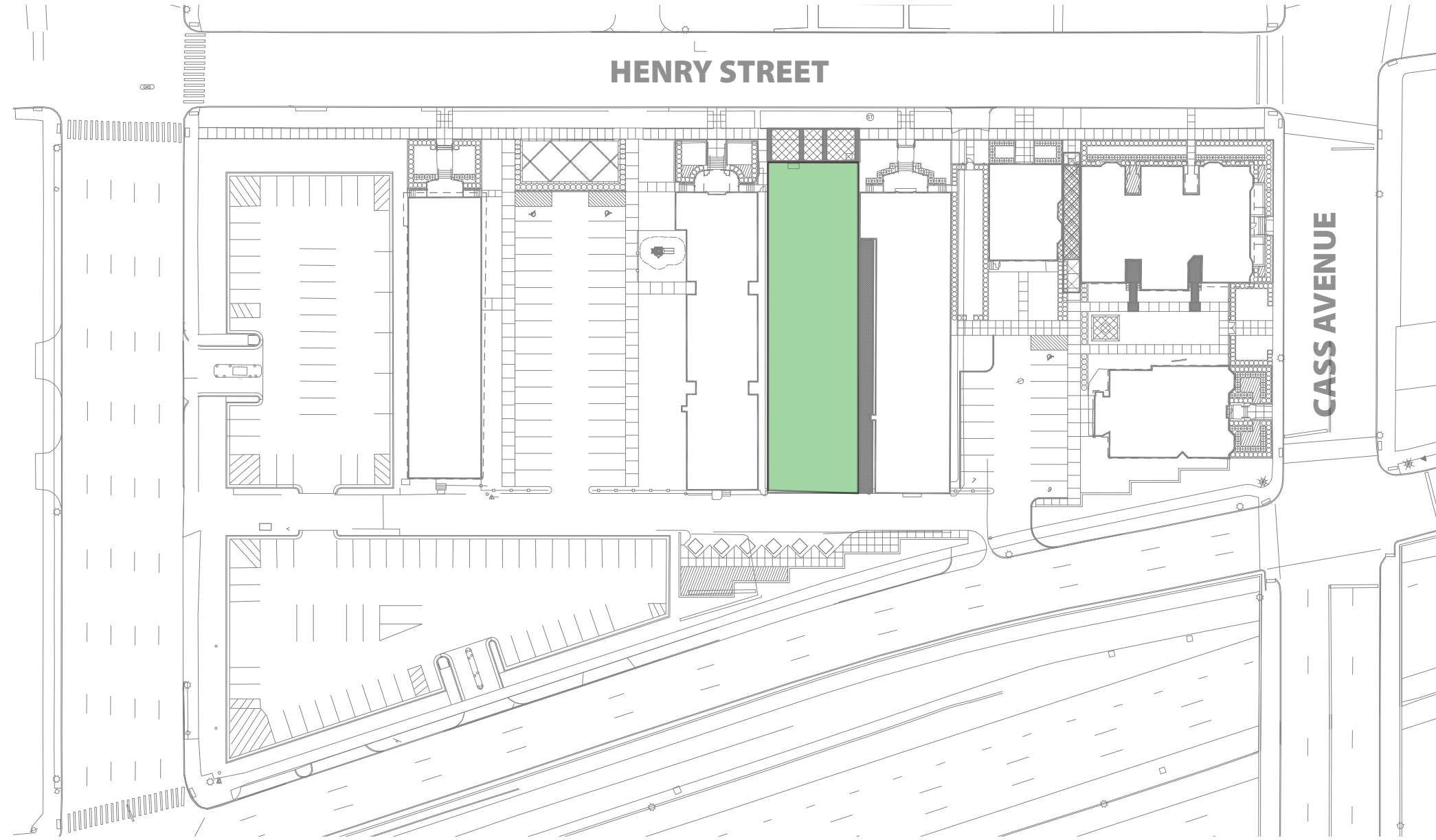
William B. Ralston Garage

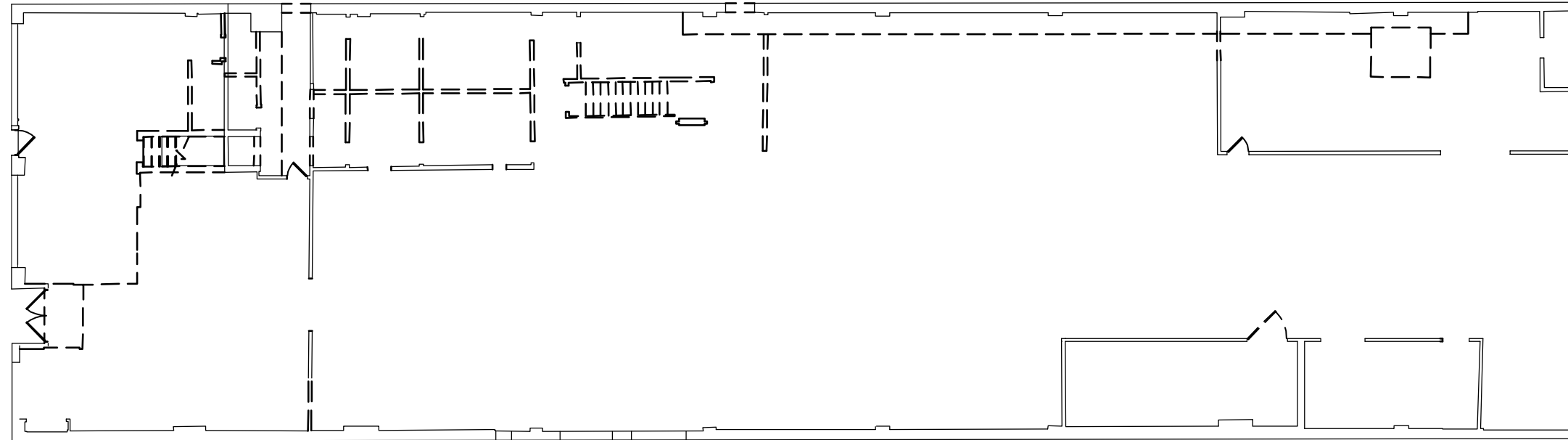
Constructed in 1922 as auto repair facility;

Converted to Bowling Alley in 1956;

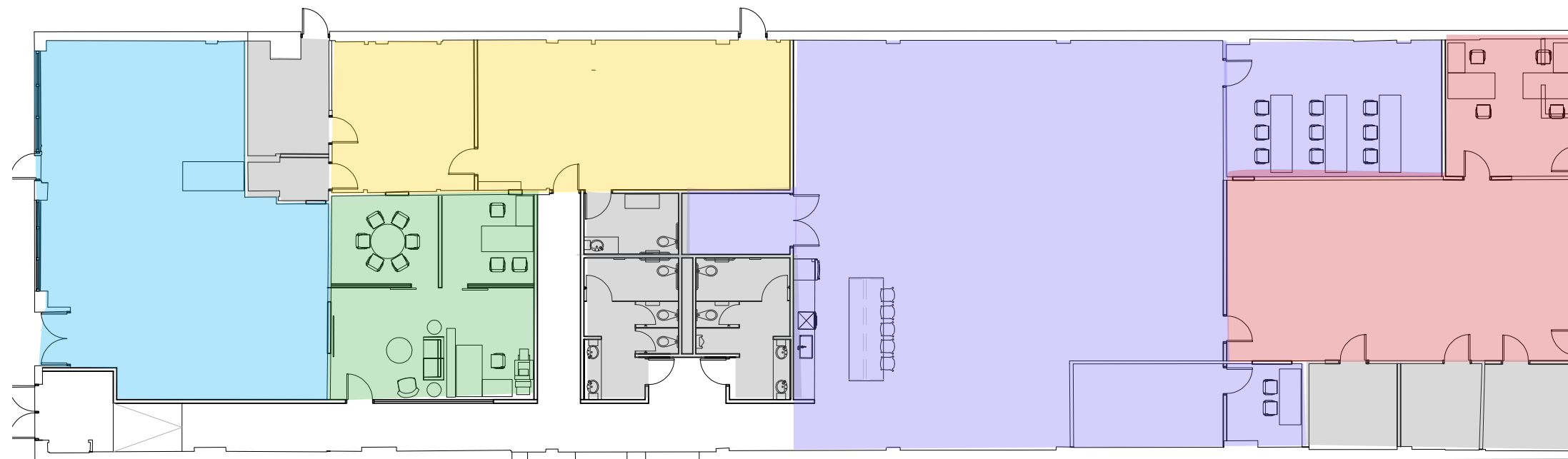
Re-purposed as Town Center Laundry in 1970



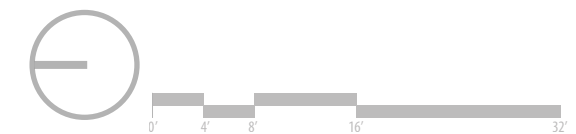


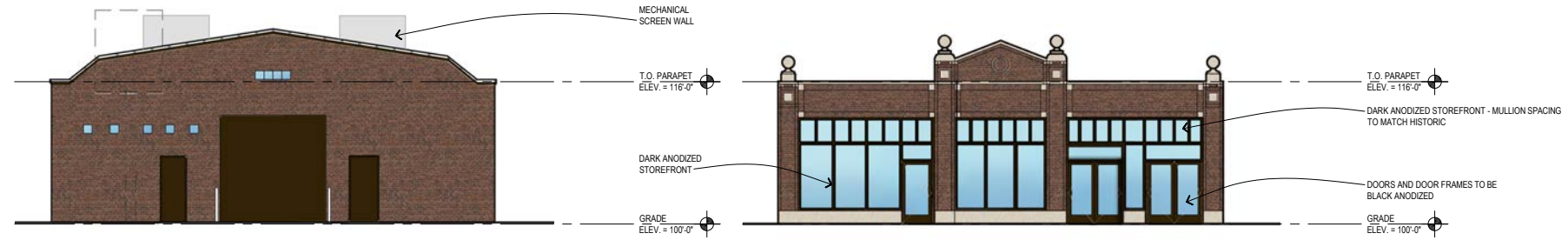


EXISTING FLOOR PLAN



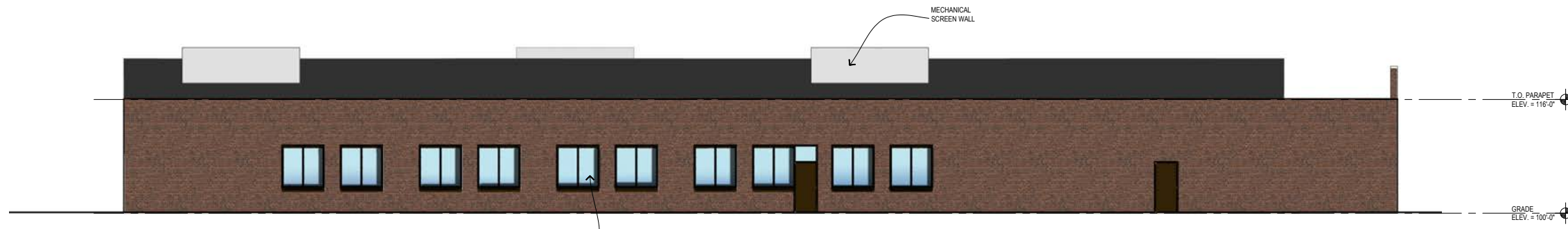
PROPOSED FIRST FLOOR PLAN



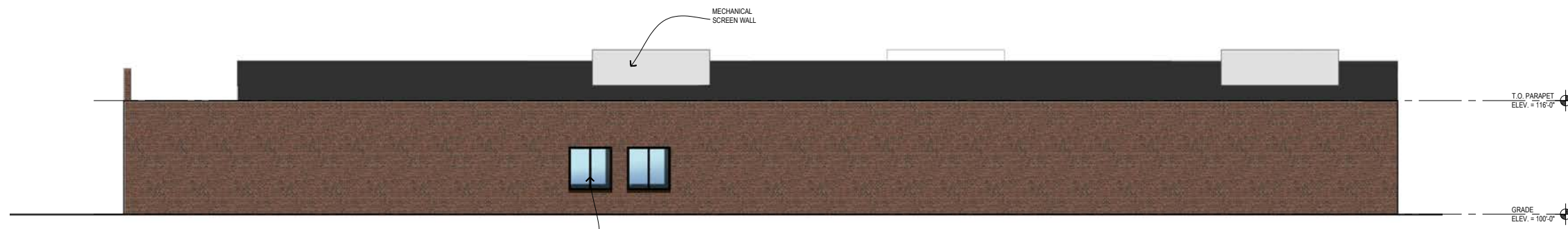


SOUTH EXTERIOR ELEVATION

NORTH EXTERIOR ELEVATION



EAST EXTERIOR ELEVATION



WEST EXTERIOR ELEVATION



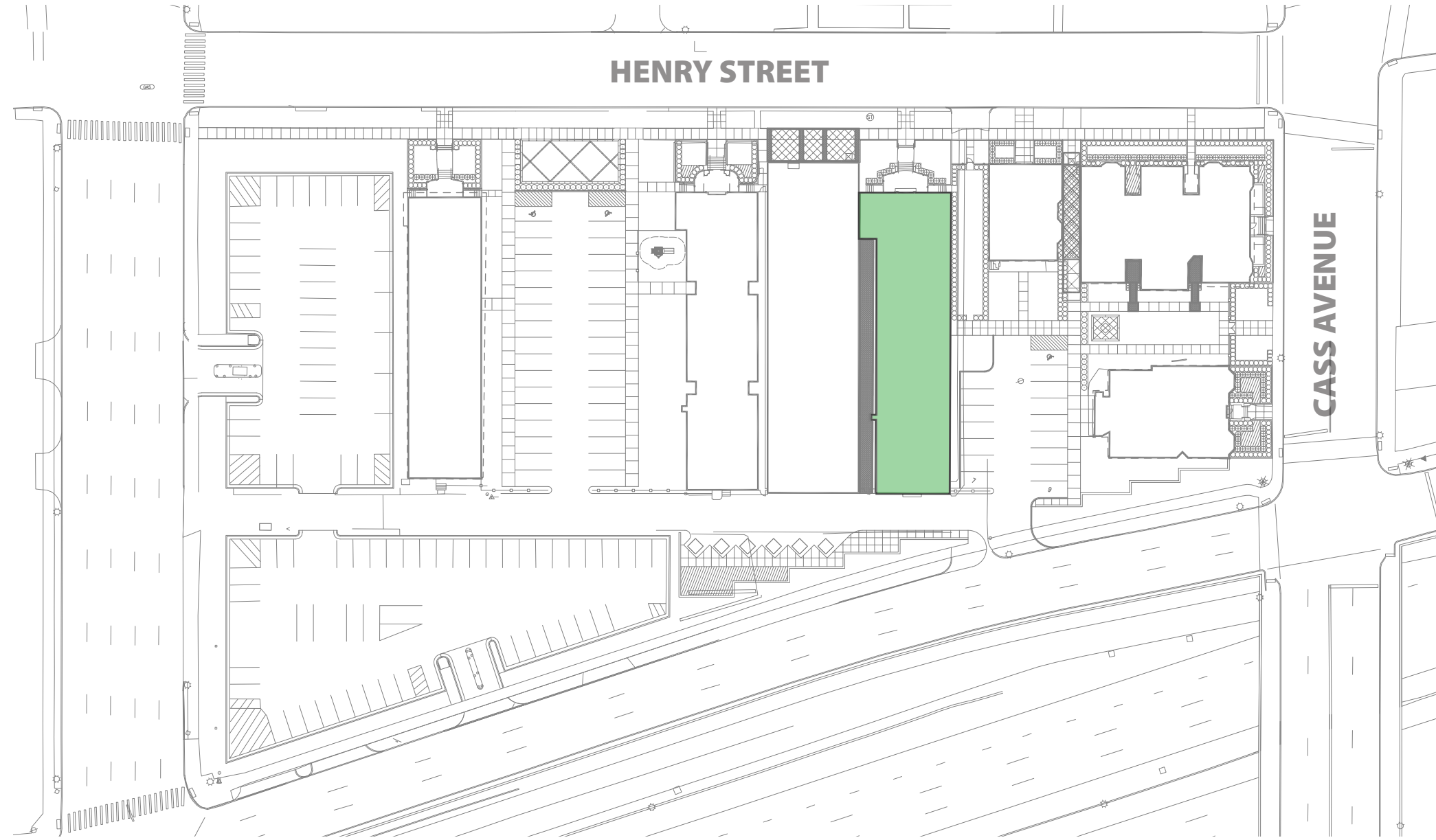
439 HENRY STREET

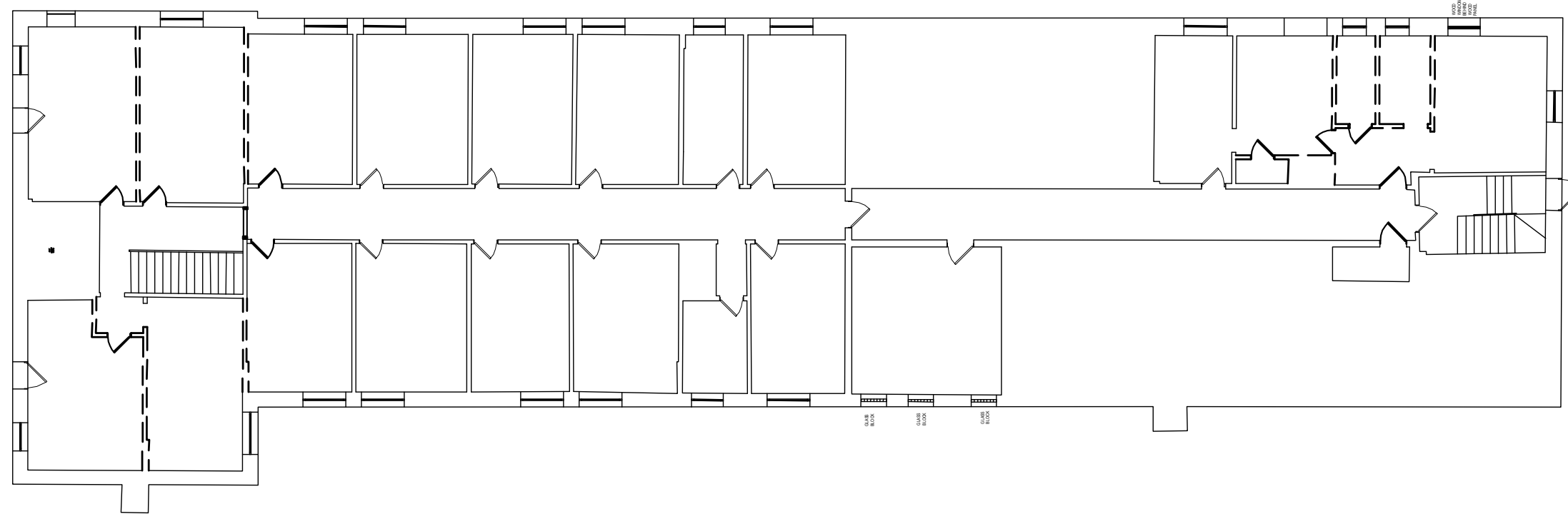
Bretton Hall

Constructed in 1915

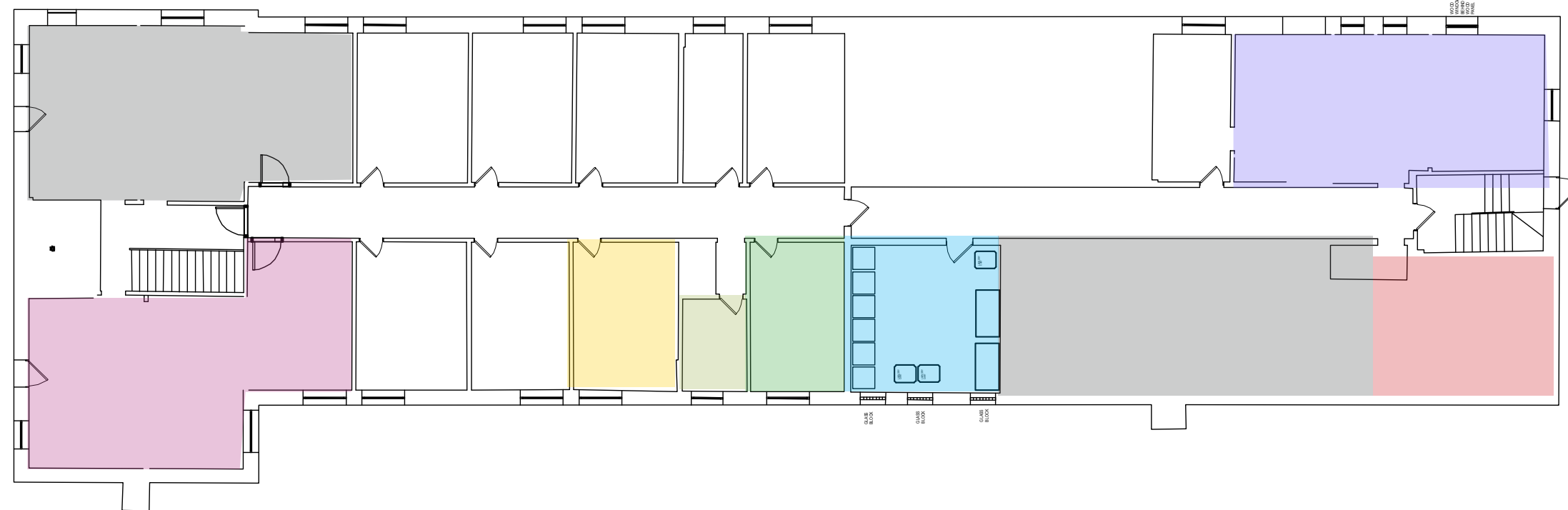
● **BRETTON HALL** ●

439

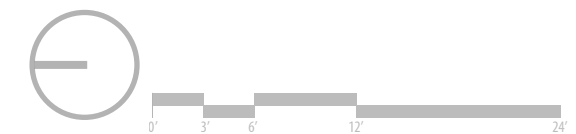


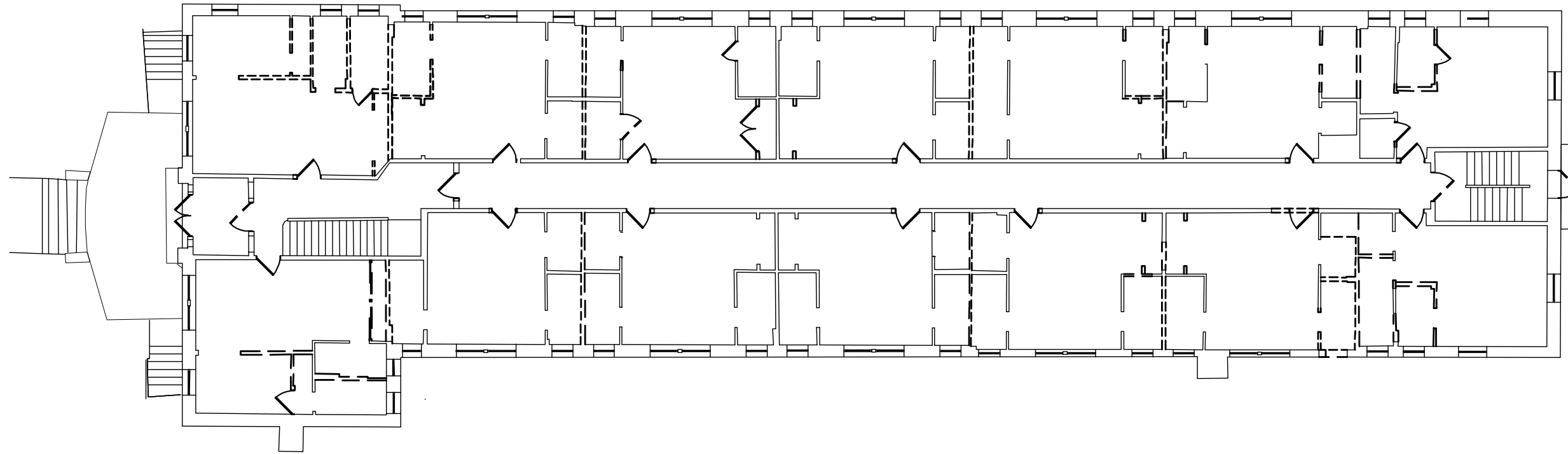


EXISTING BASEMENT PLAN

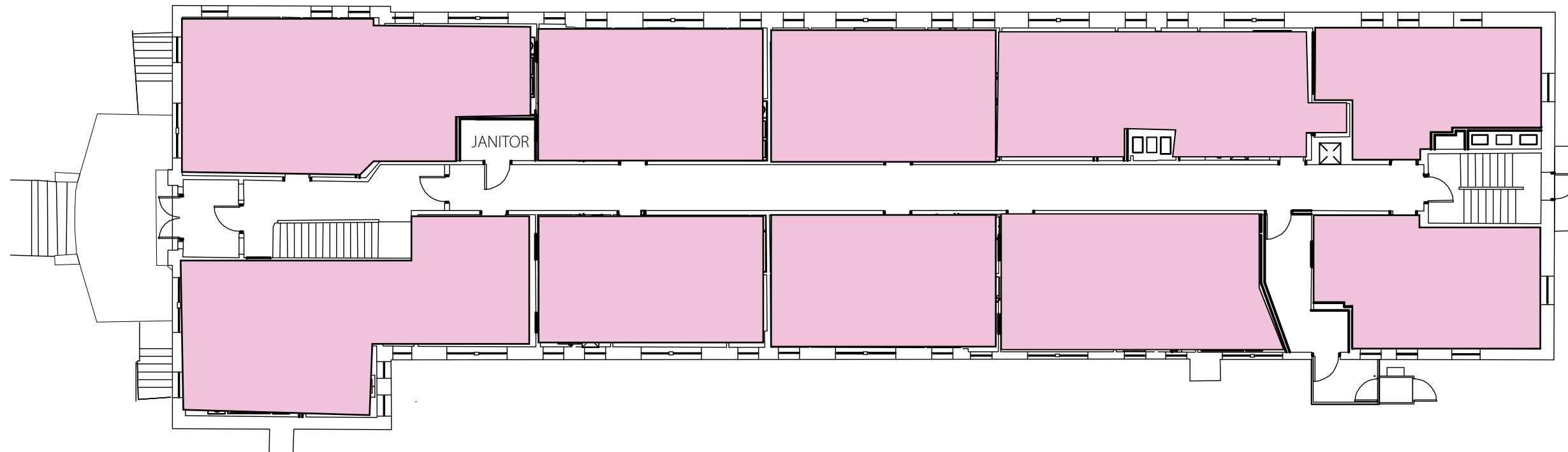


PROPOSED BASEMENT PLAN



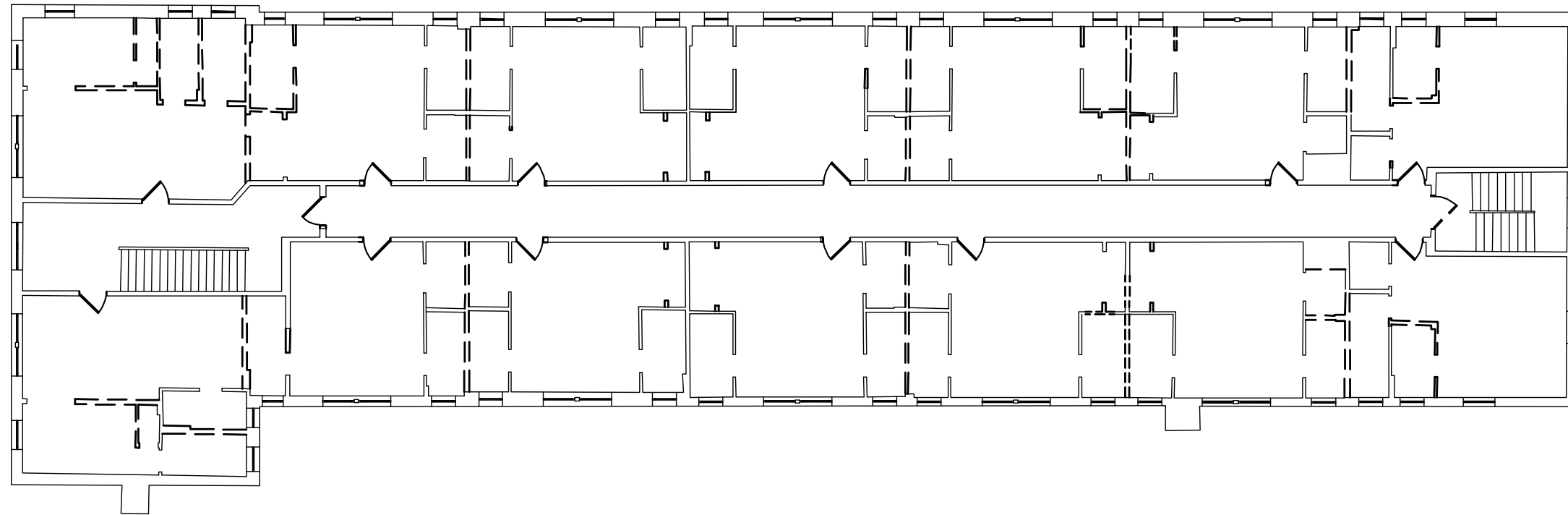


EXISTING 1st FLOOR PLAN

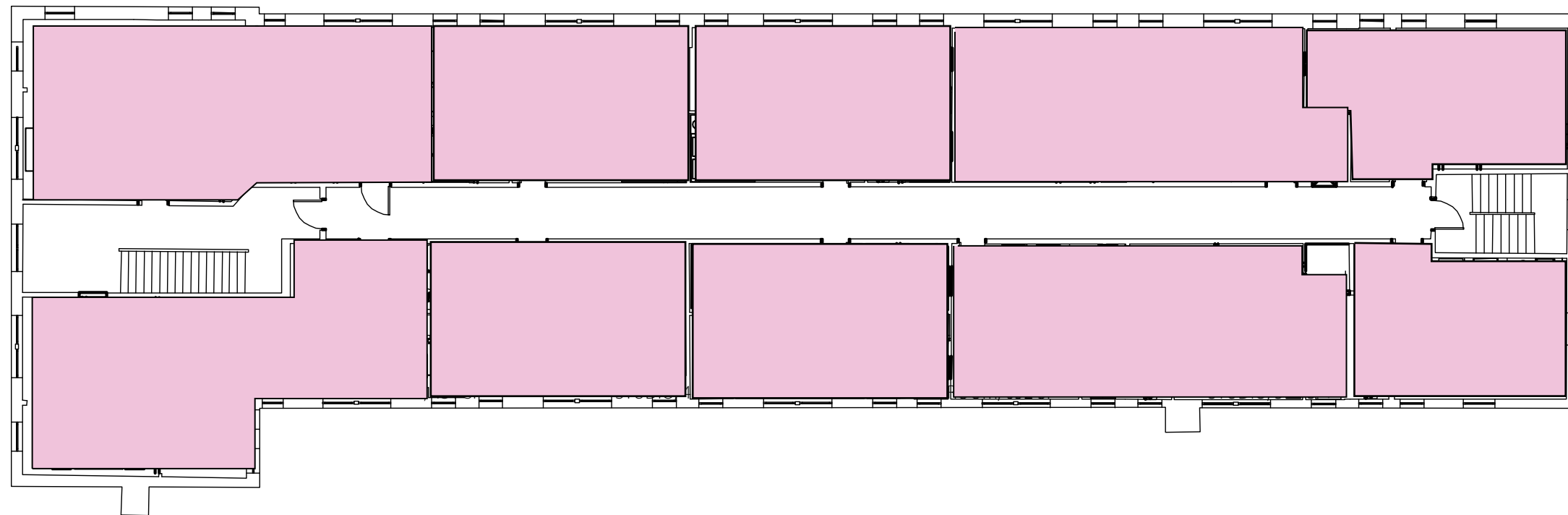


PROPOSED 1st FLOOR PLAN

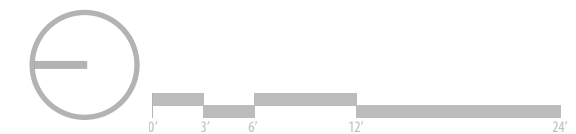




EXISTING 2nd - 4th FLOOR PLAN

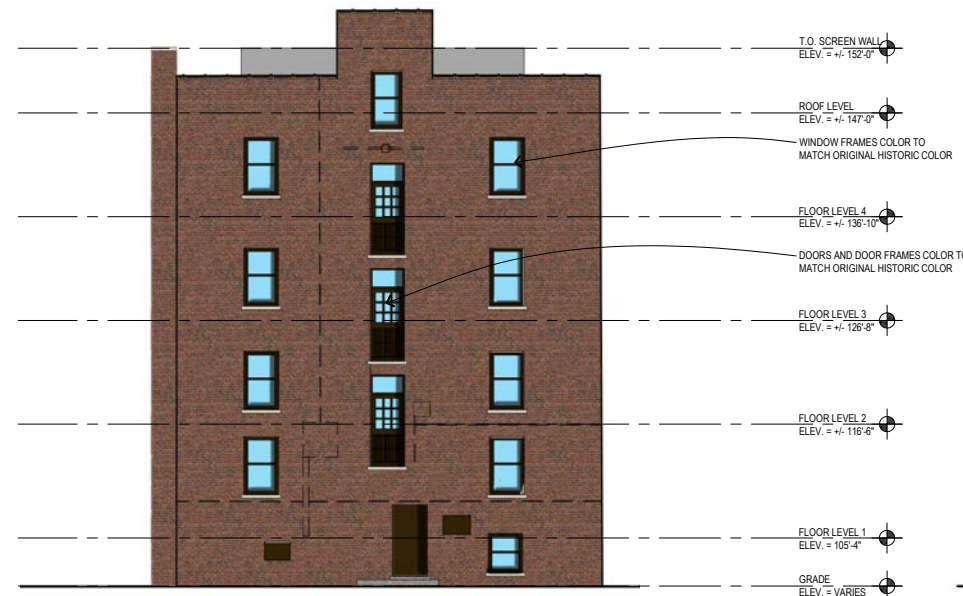


PROPOSED 2nd - 4th FLOOR PLAN



439 HENRY STREET

Bretton Hall



SOUTH EXTERIOR ELEVATION



NORTH EXTERIOR ELEVATION



WEST EXTERIOR ELEVATION





EAST EXTERIOR ELEVATION



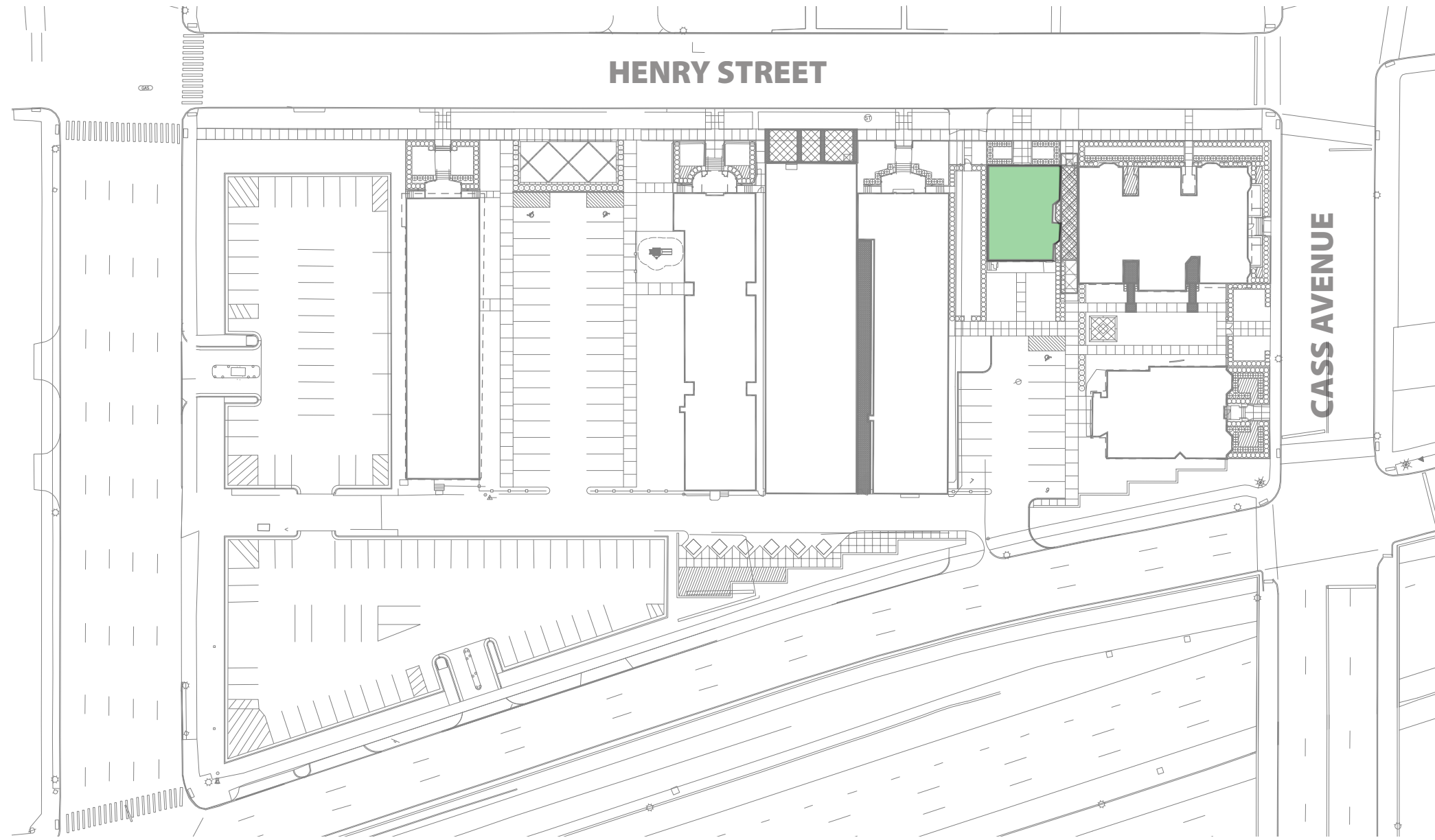
427 HENRY STREET

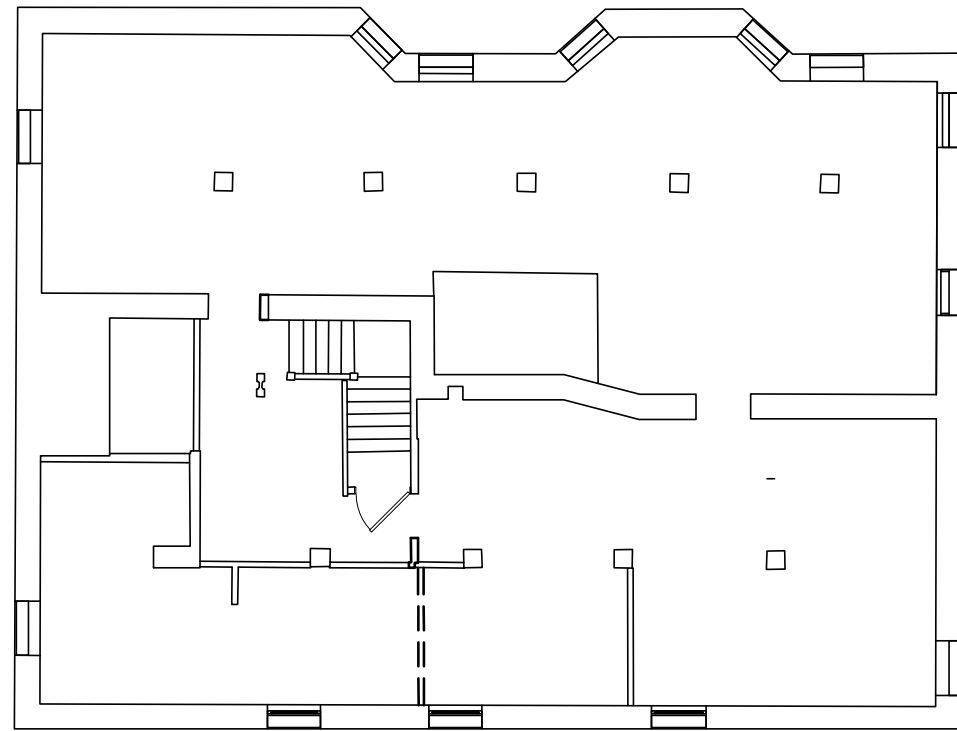
The Henry / Henry Apartments / Henry Flats

Constructed in 1900

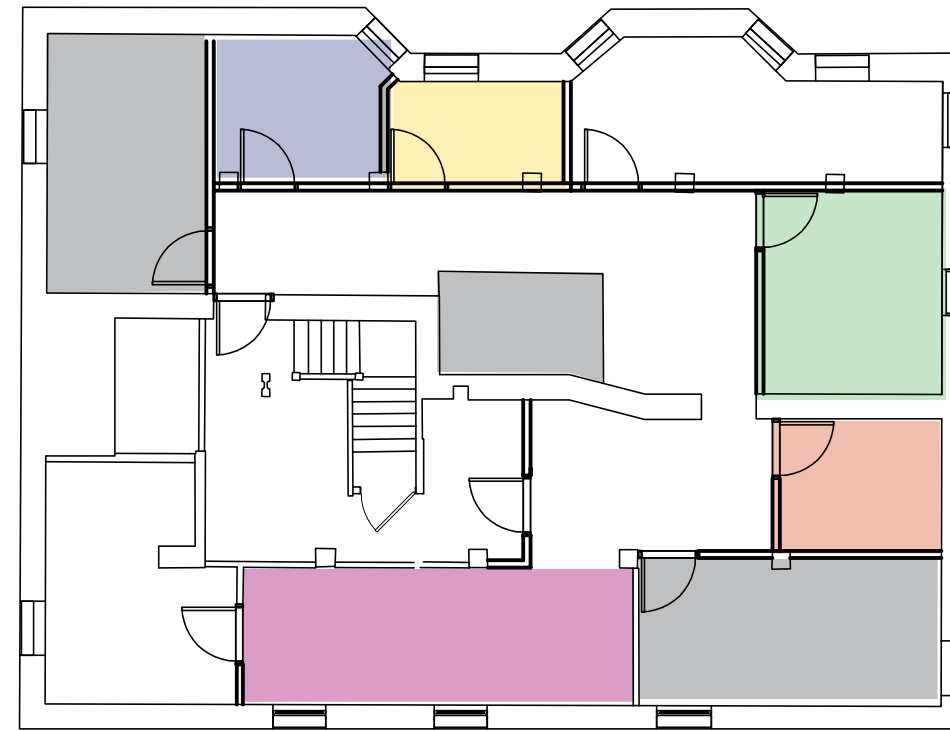
THE HENRY

427

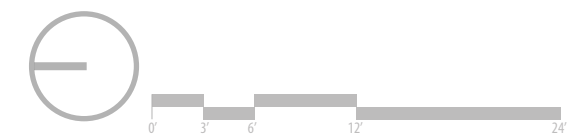


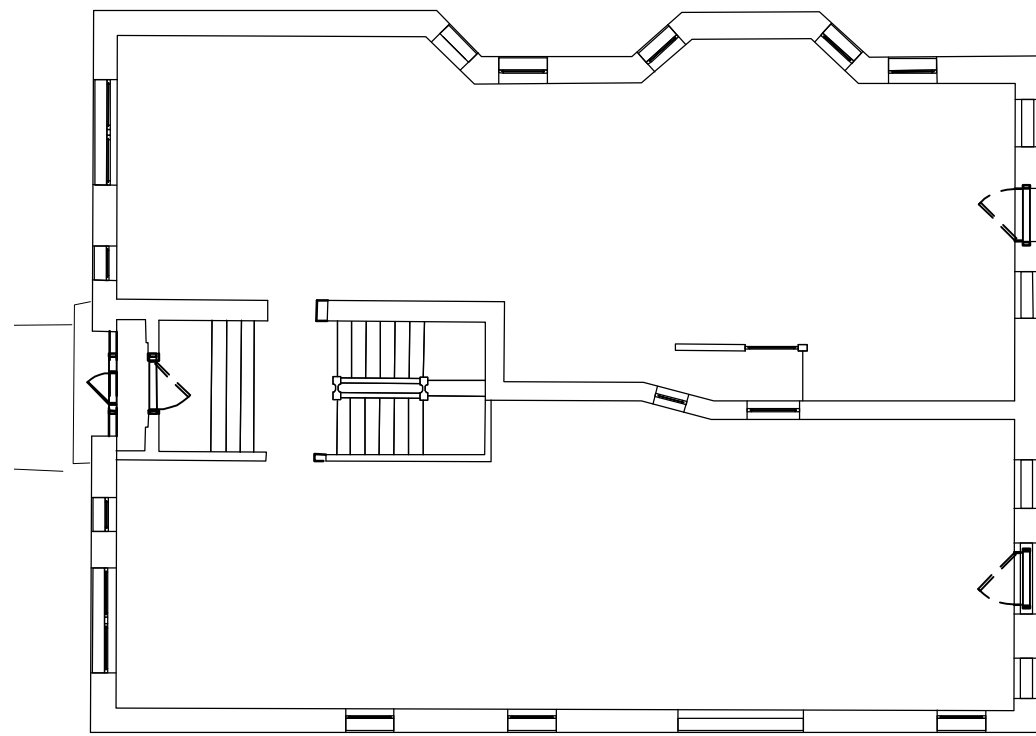


EXISTING BASEMENT PLAN

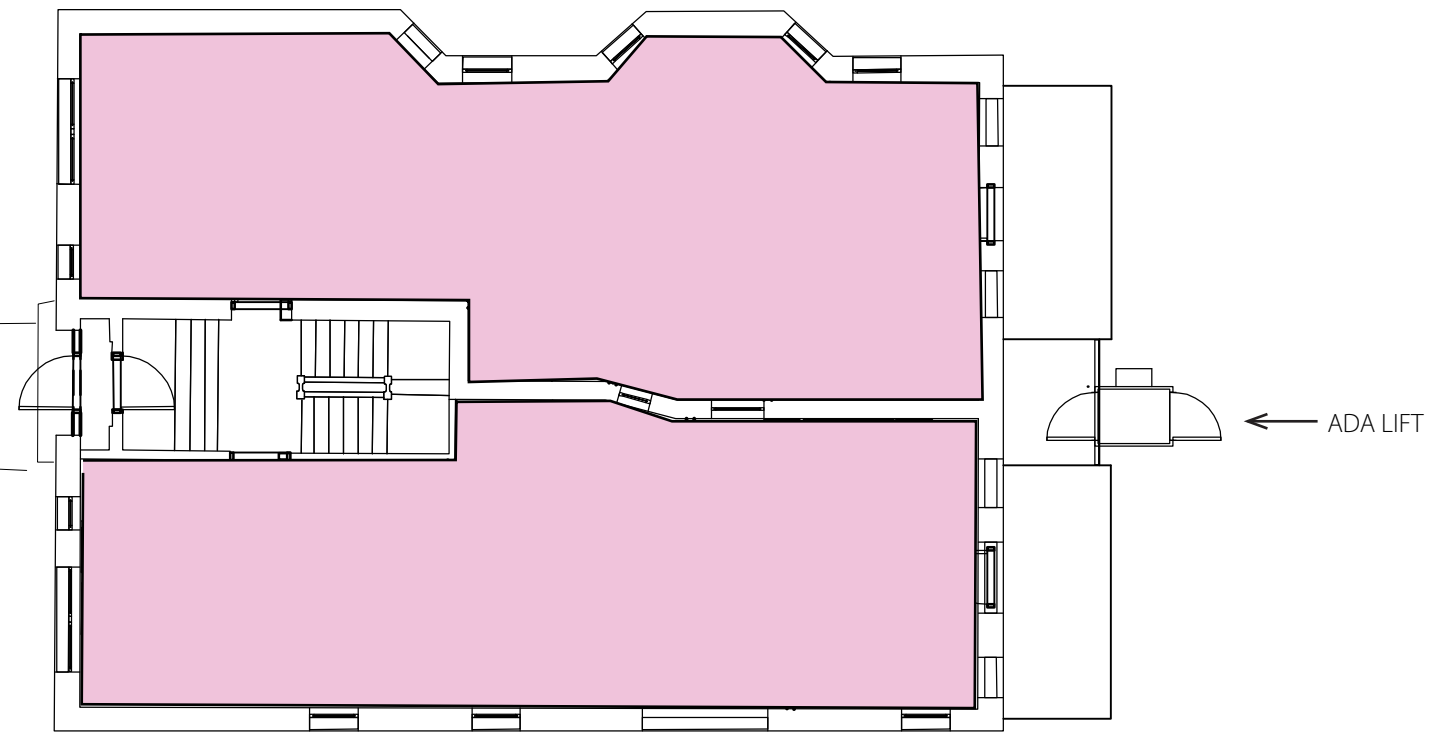


PROPOSED BASEMENT PLAN

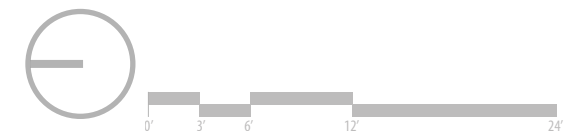


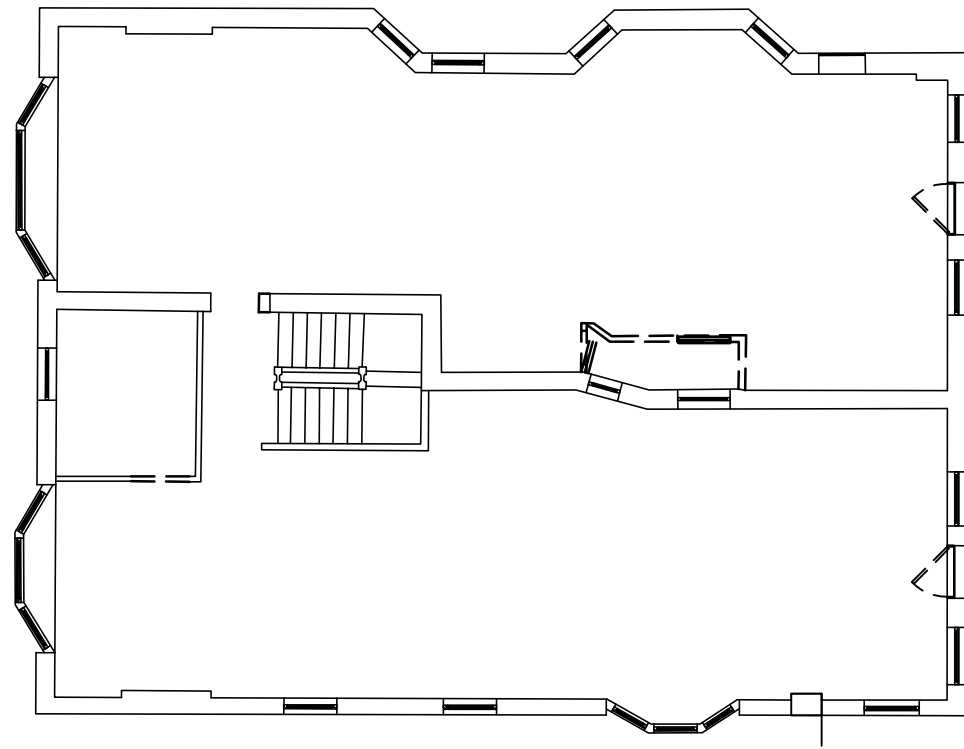


EXISTING FIRST FLOOR PLAN

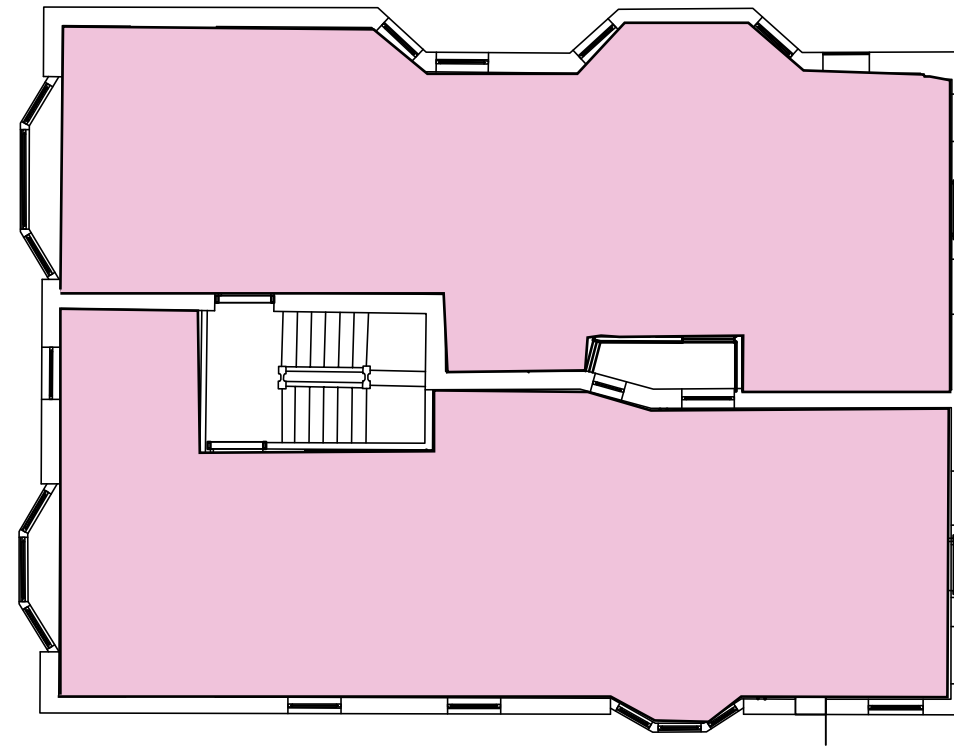


PROPOSED FIRST FLOOR PLAN





TYPICAL EXISTING FLOOR LAYOUT 2-3



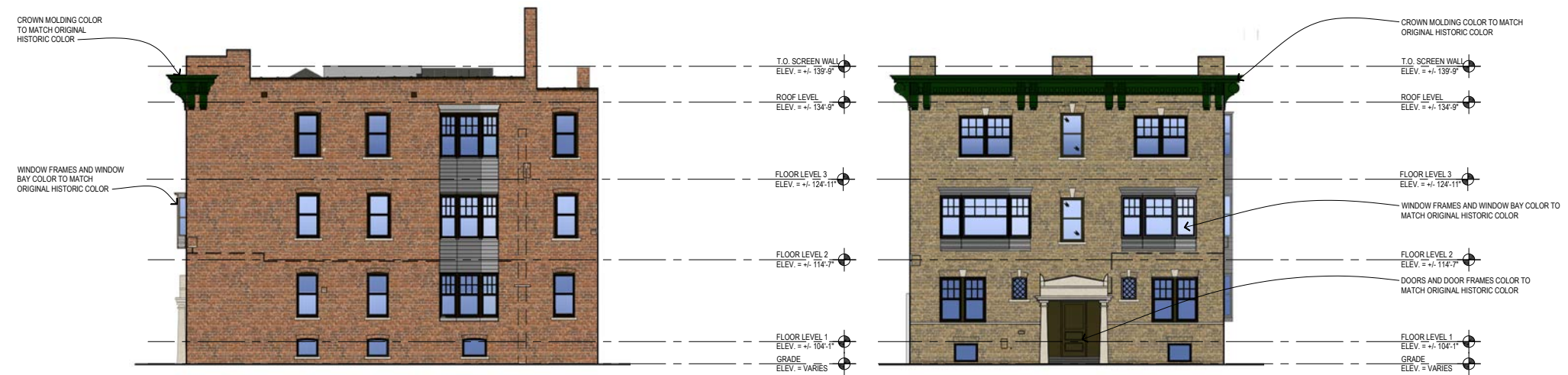
TYPICAL FLOOR LAYOUT 2-3





SOUTH EXTERIOR ELEVATION

EAST EXTERIOR ELEVATION



WEST EXTERIOR ELEVATION

NORTH EXTERIOR ELEVATION



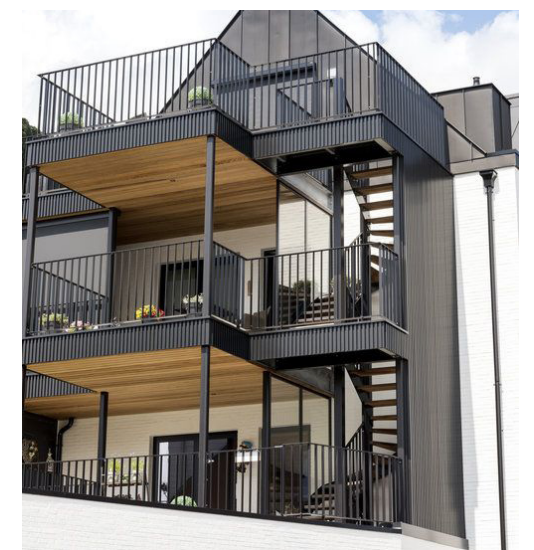
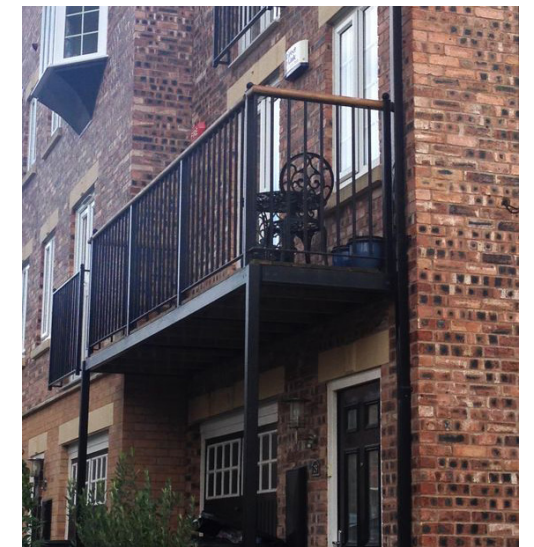


COLD-FORMED STEEL
STRUCTURE (PAINTED)

CONCRETE FOOTING

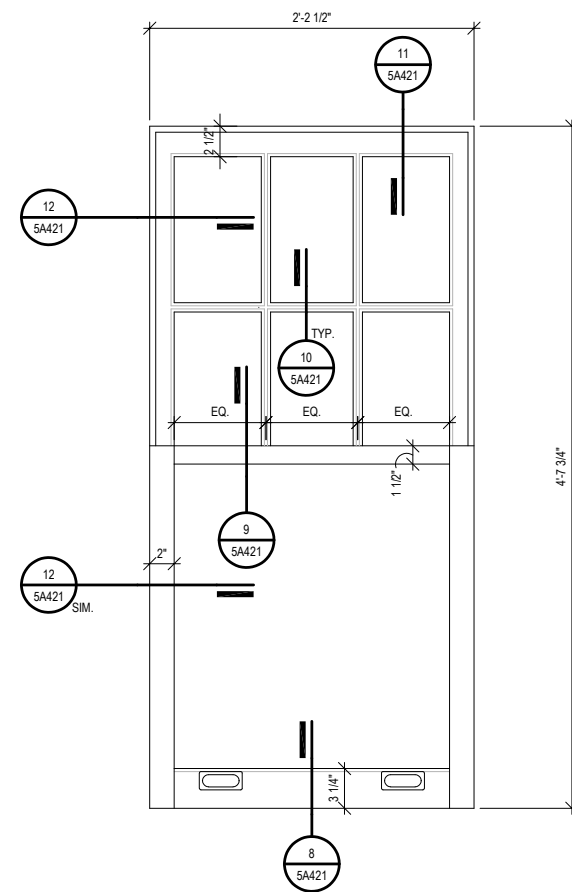
LOW MAINTENANCE
COMPOSITE DECKING
AT WALKING SURFACE
& WITHIN CEILING OF
BALCONY ABOVE

ADA LIFT

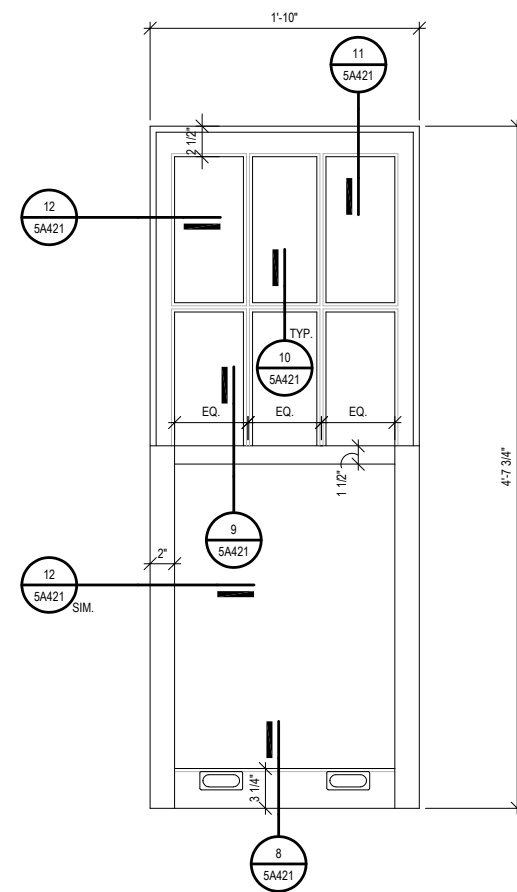


427 HENRY STREET

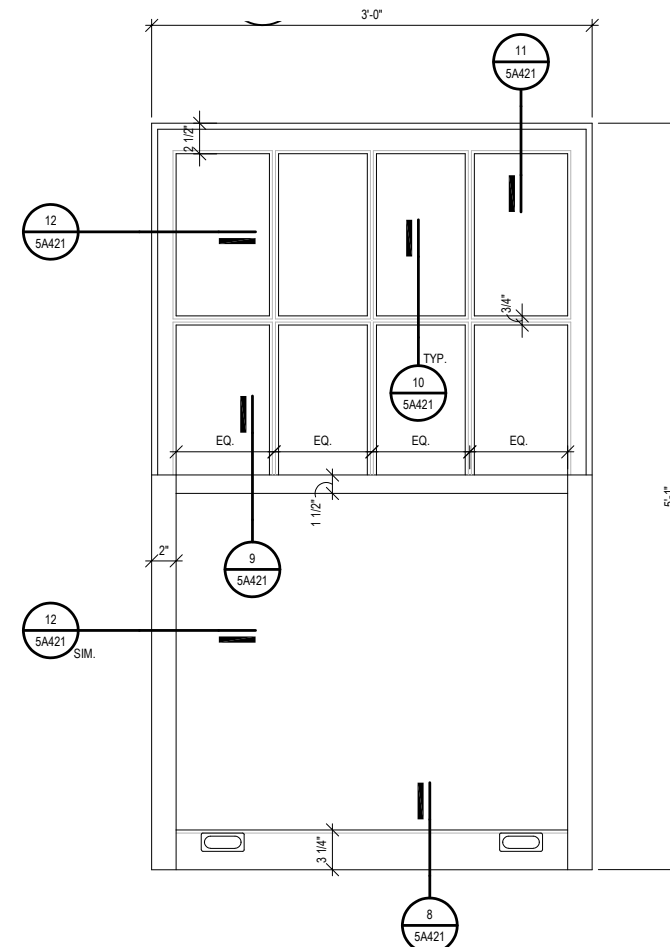
The Henry / Henry Apartments / Henry Flats



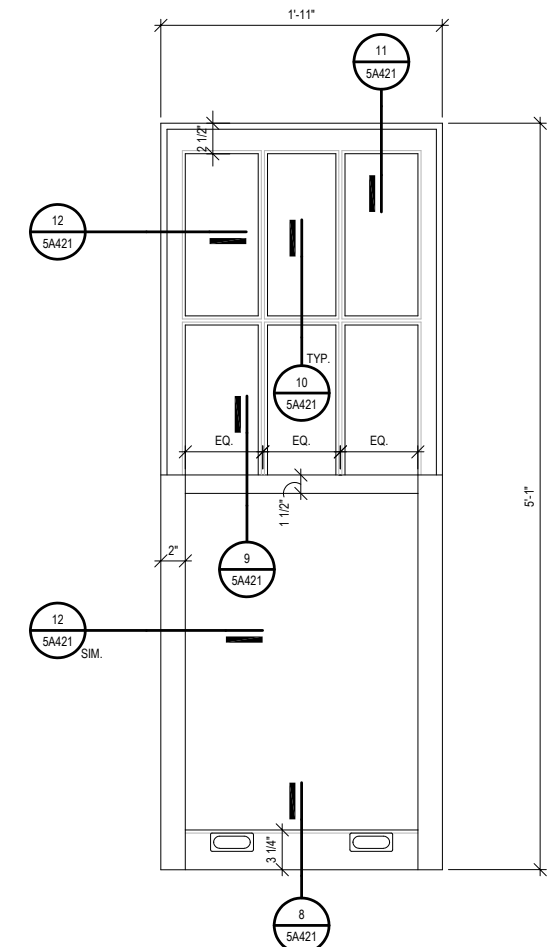
427 HENRY
EXISTING WINDOW
6
5A421 1-1/2"=1"



427 HENRY
EXISTING WINDOW
3
5A421 1-1/2"=1"



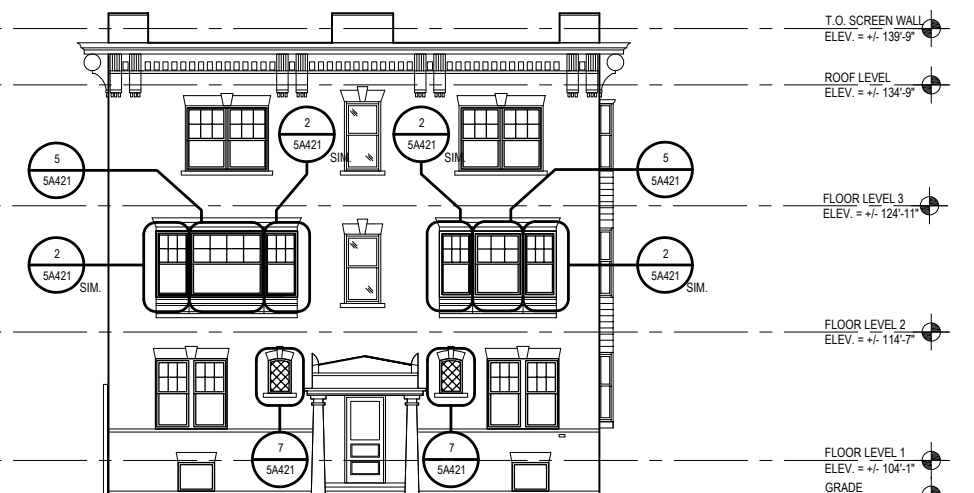
427 HENRY
EXISTING WINDOW
5
5A421 1-1/2"=1"



427 HENRY
EXISTING WINDOW
2
5A421 1-1/2"=1"



427 HENRY WEST
EXTERIOR ELEVATION
4
5A401 1/8"=1'-0"



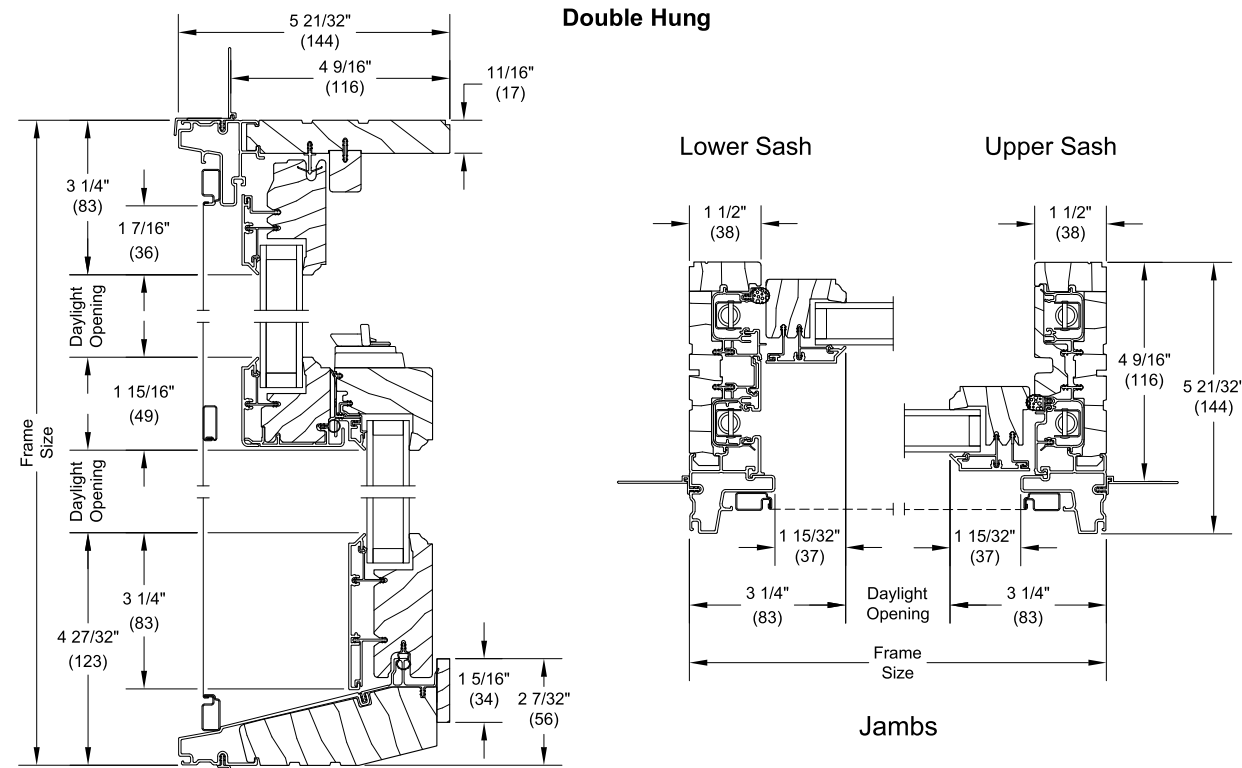
427 HENRY NORTH
EXTERIOR ELEVATION
1
5A401 1/8"=1'-0"

GENERAL NOTE
PER CIVIL 129.6 = 100'-0"



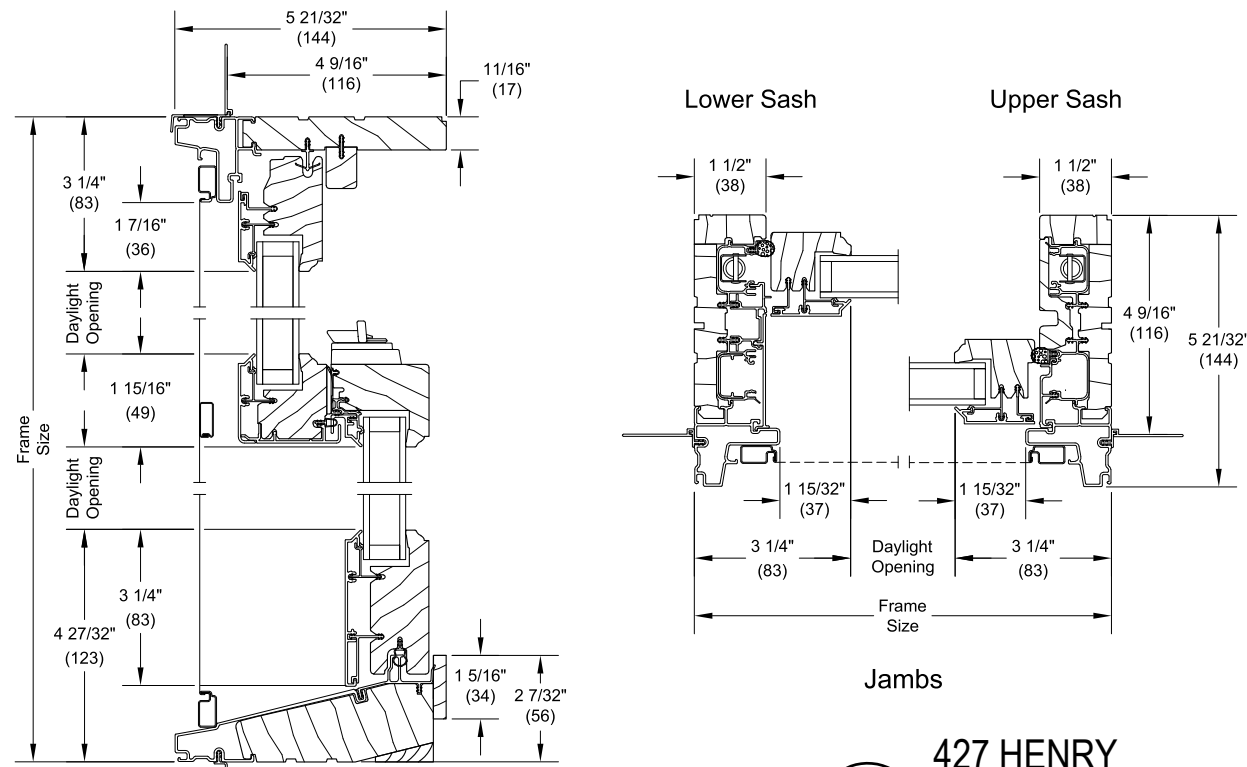
Section Details: Operating

Scale: 3" = 1' 0"

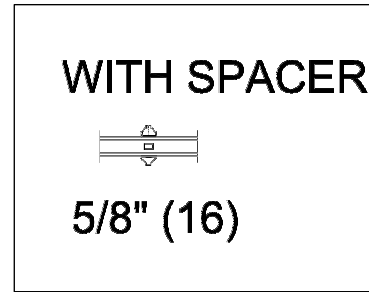


Head Jamb and Sill

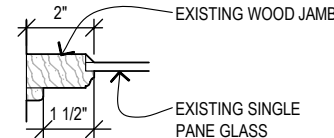
Single Hung



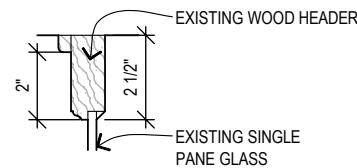
13 427 HENRY PROPOSED WINDOW DETAIL
5A401 SCALE AS NOTED



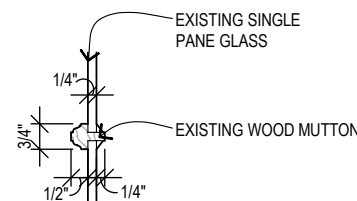
14 427 HENRY NEW MUNTIN DETAIL
5A401 Not to Scale



12 427 HENRY EXISTING JAMB
5A421 3"=1"



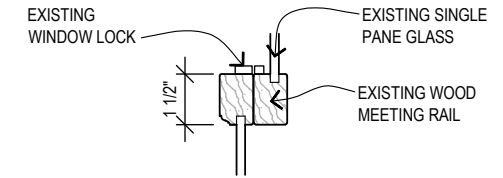
11 427 HENRY EXISTING HEADER
5A421 3"=1"



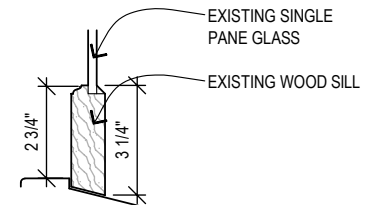
10 427 HENRY EXISTING MUNTIN
5A421 3"=1"

427 HENRY STREET

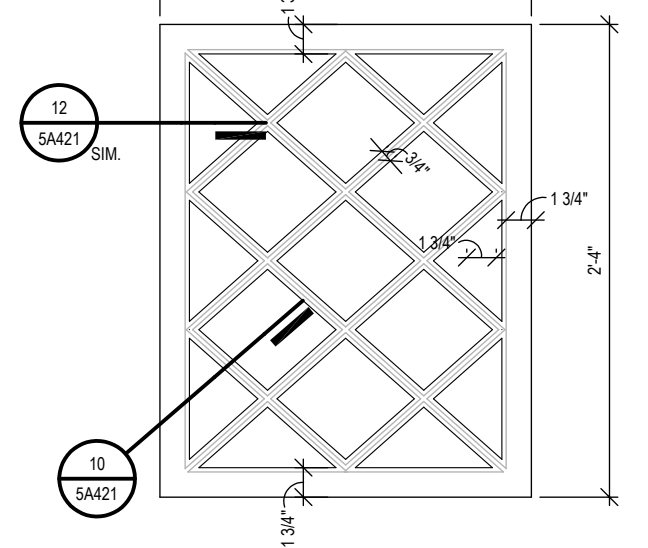
The Henry / Henry Apartments / Henry Flats



9 427 HENRY EXISTING MEETING RAIL
5A421 3"=1"



8 427 HENRY EXISTING SILL
5A421 3"=1"



7 427 HENRY EXISTING WINDOW
5A421 1-1/2" = 1"

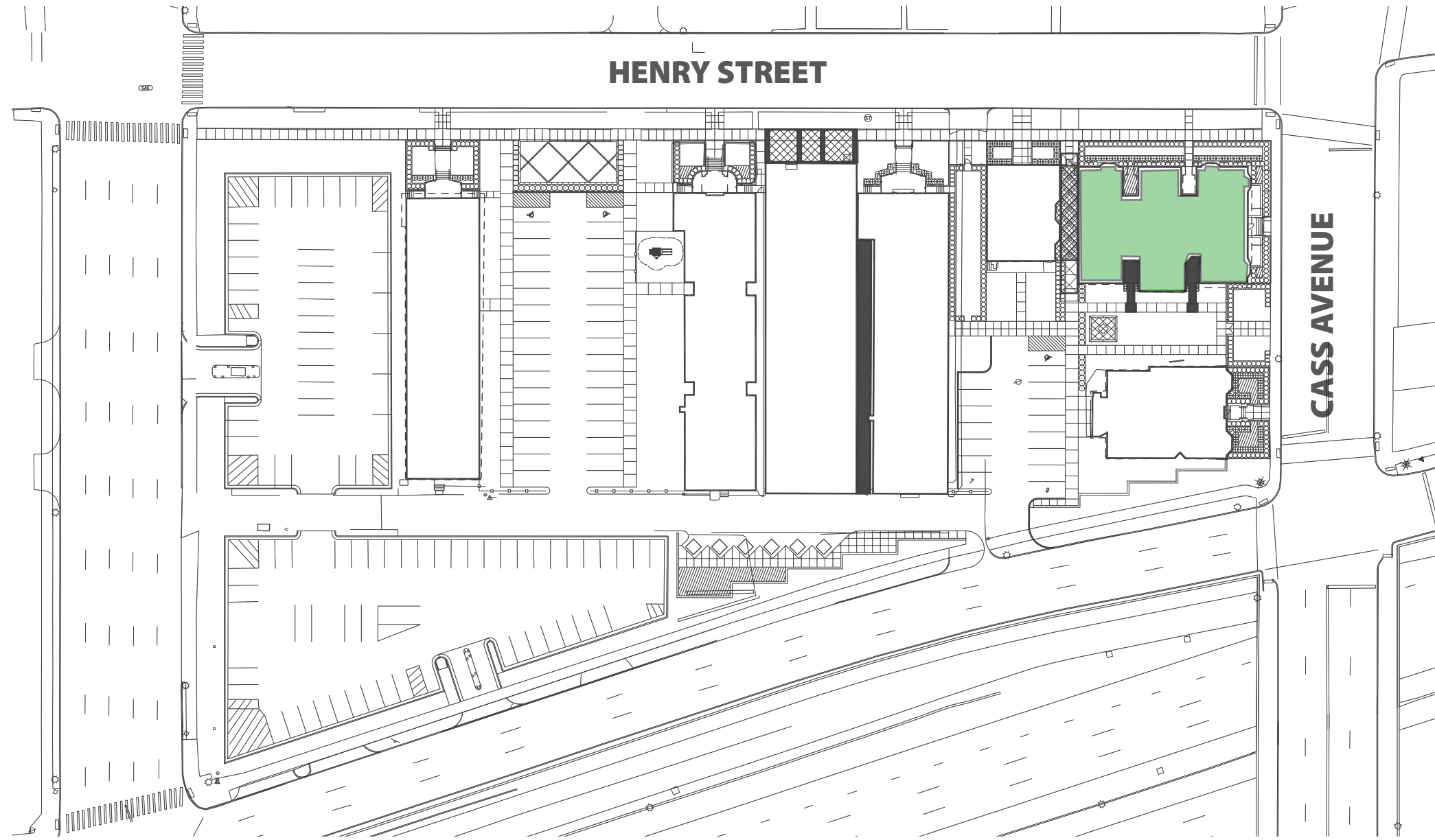


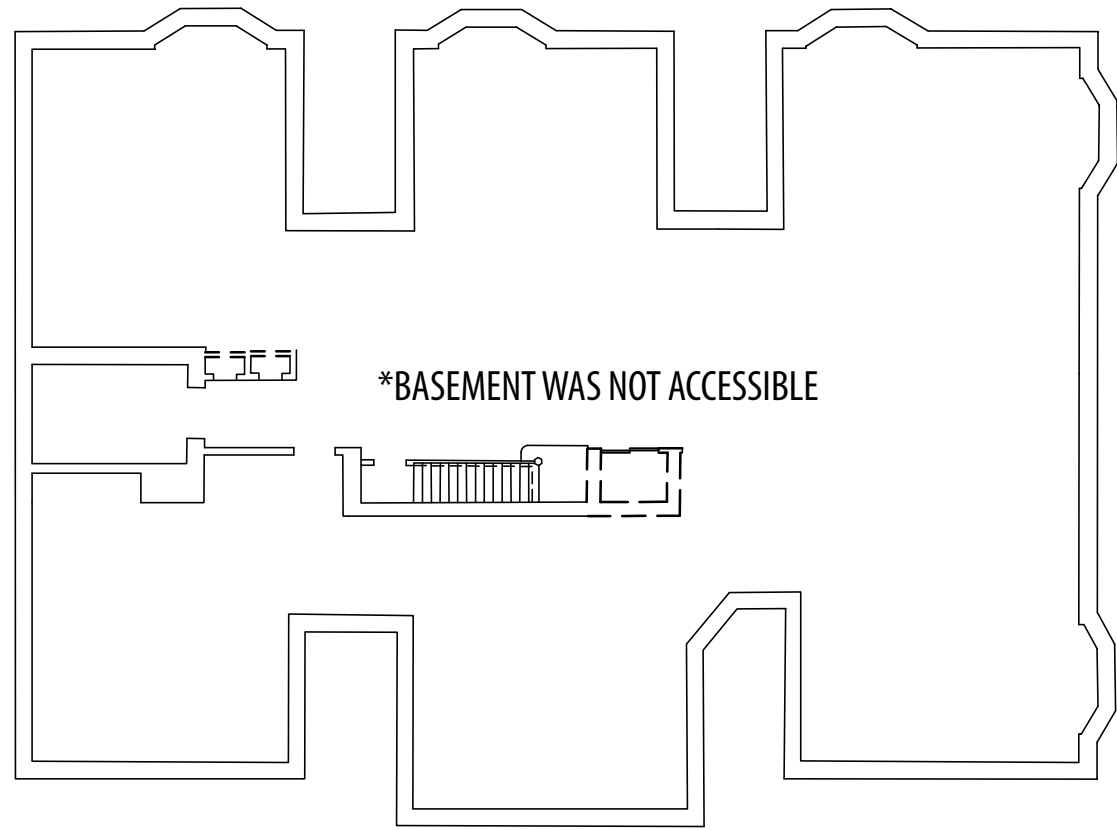
2467 CASS AVENUE

Atlanta Apartments

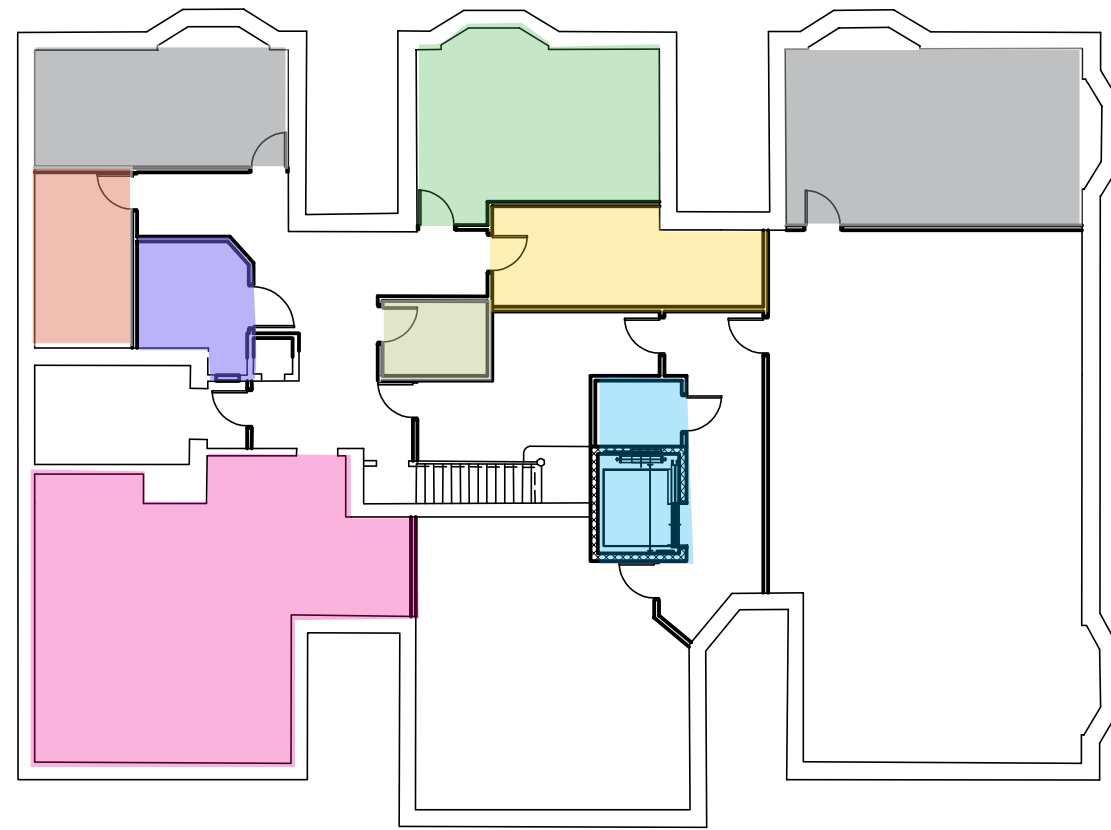
Constructed in 1915



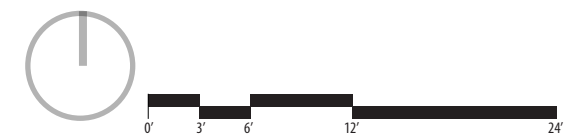


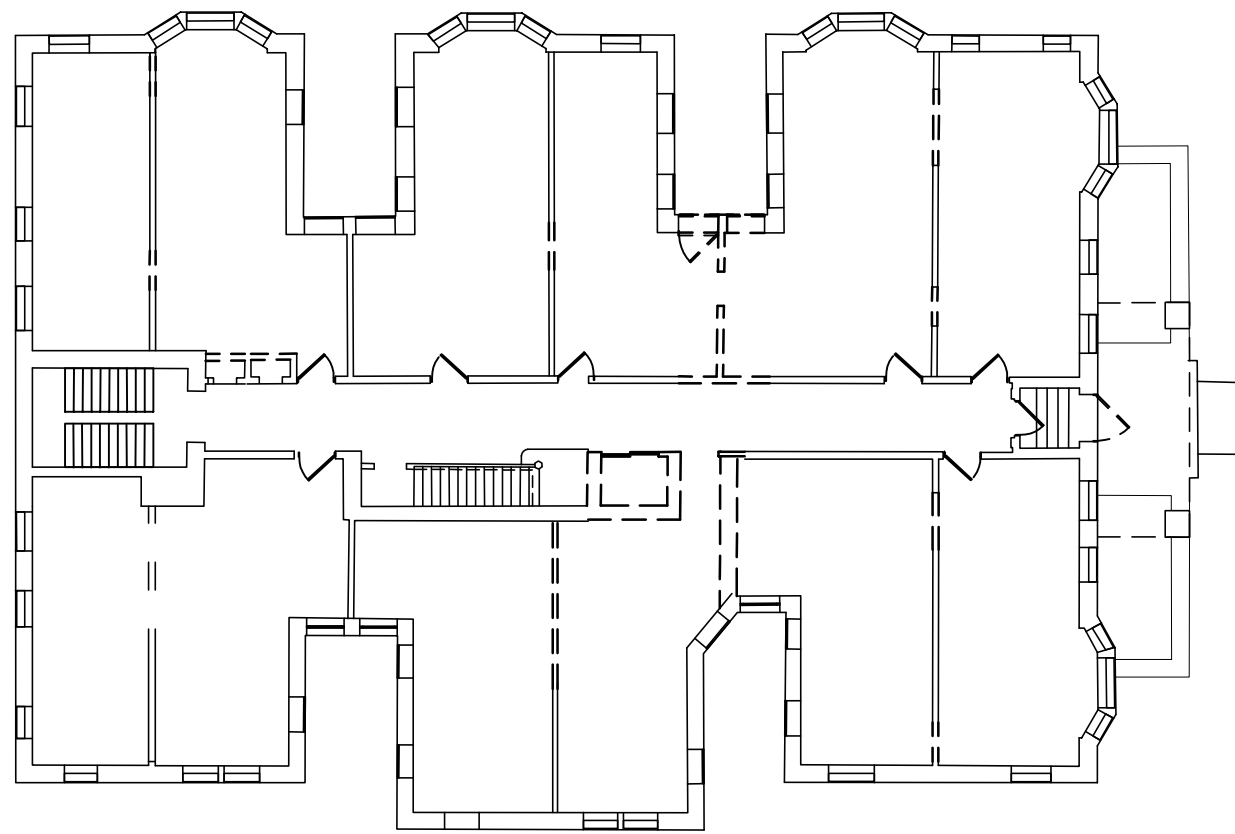


EXISTING BASEMENT PLAN

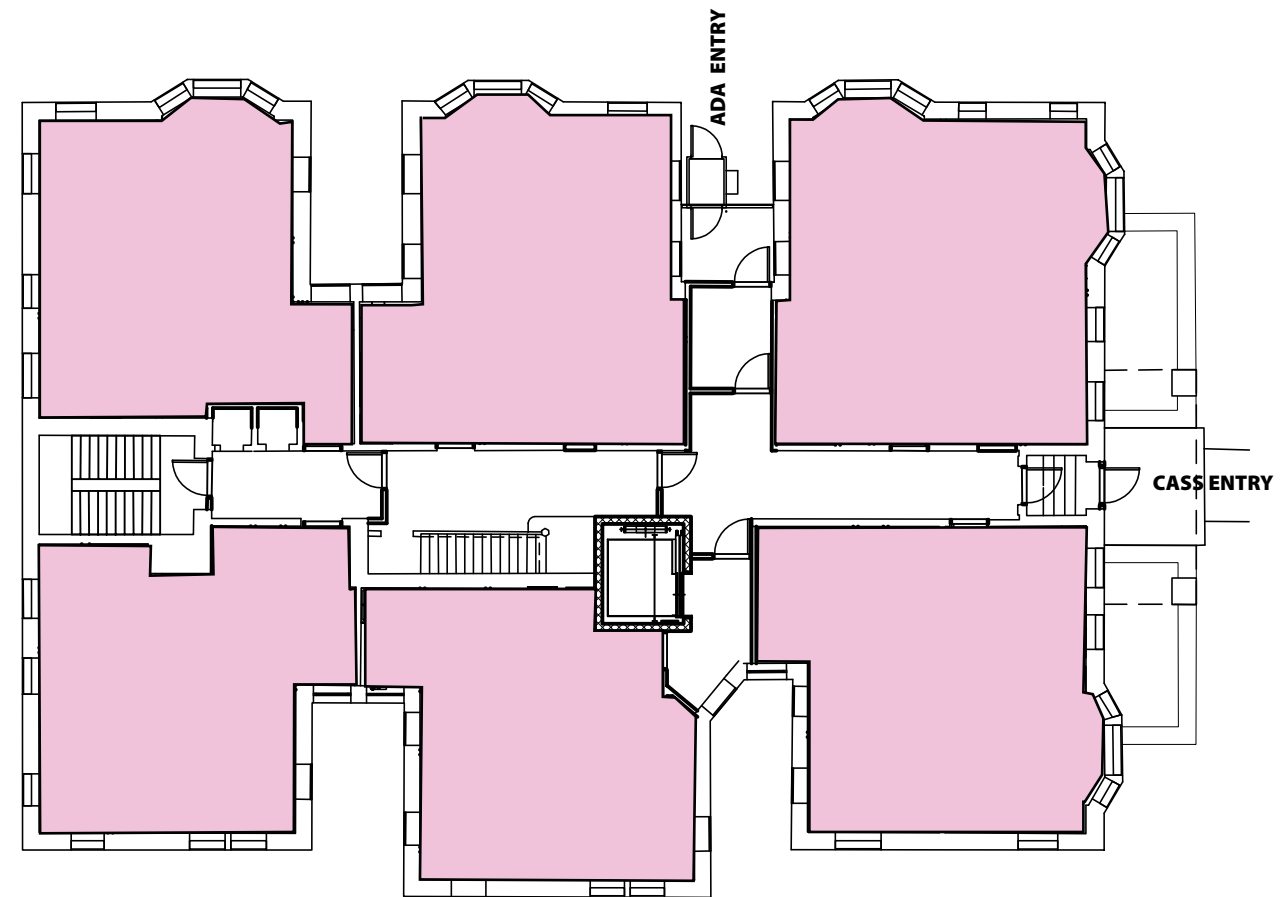


PROPOSED BASEMENT PLAN



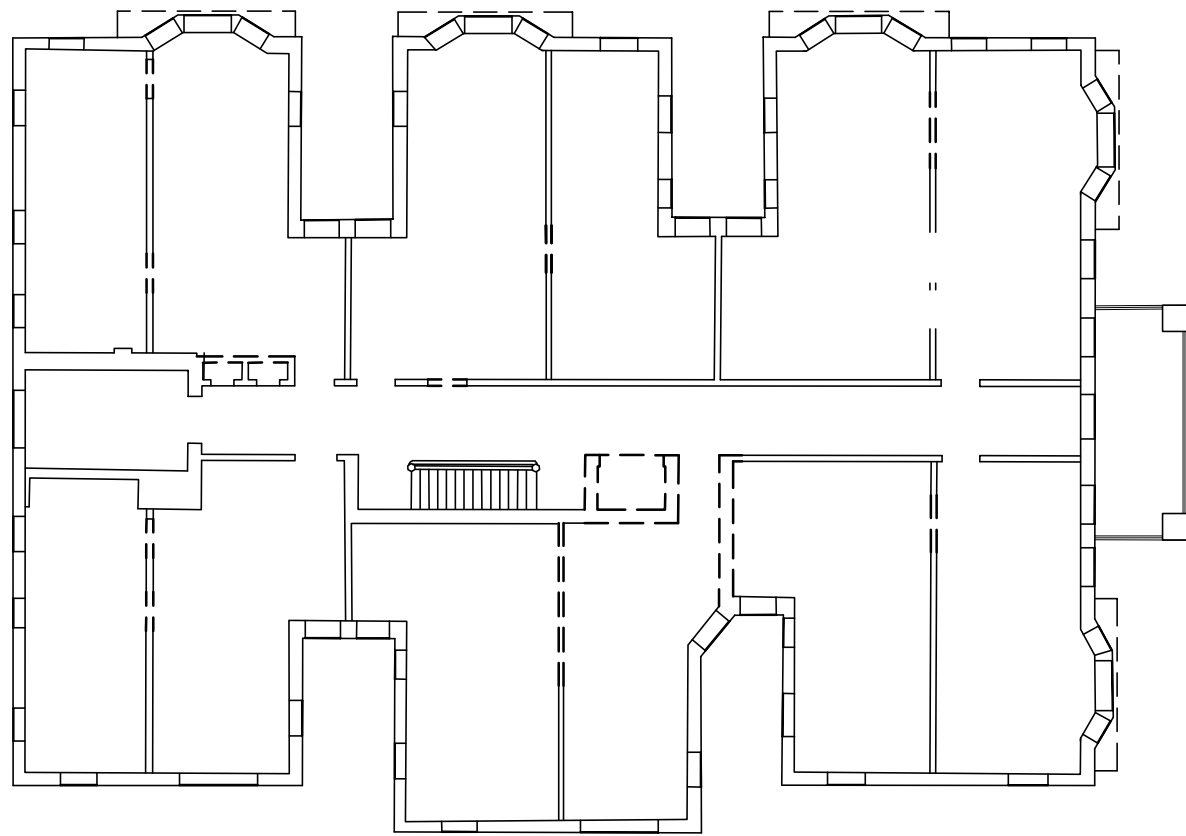


EXISTING FIRST FLOOR PLAN

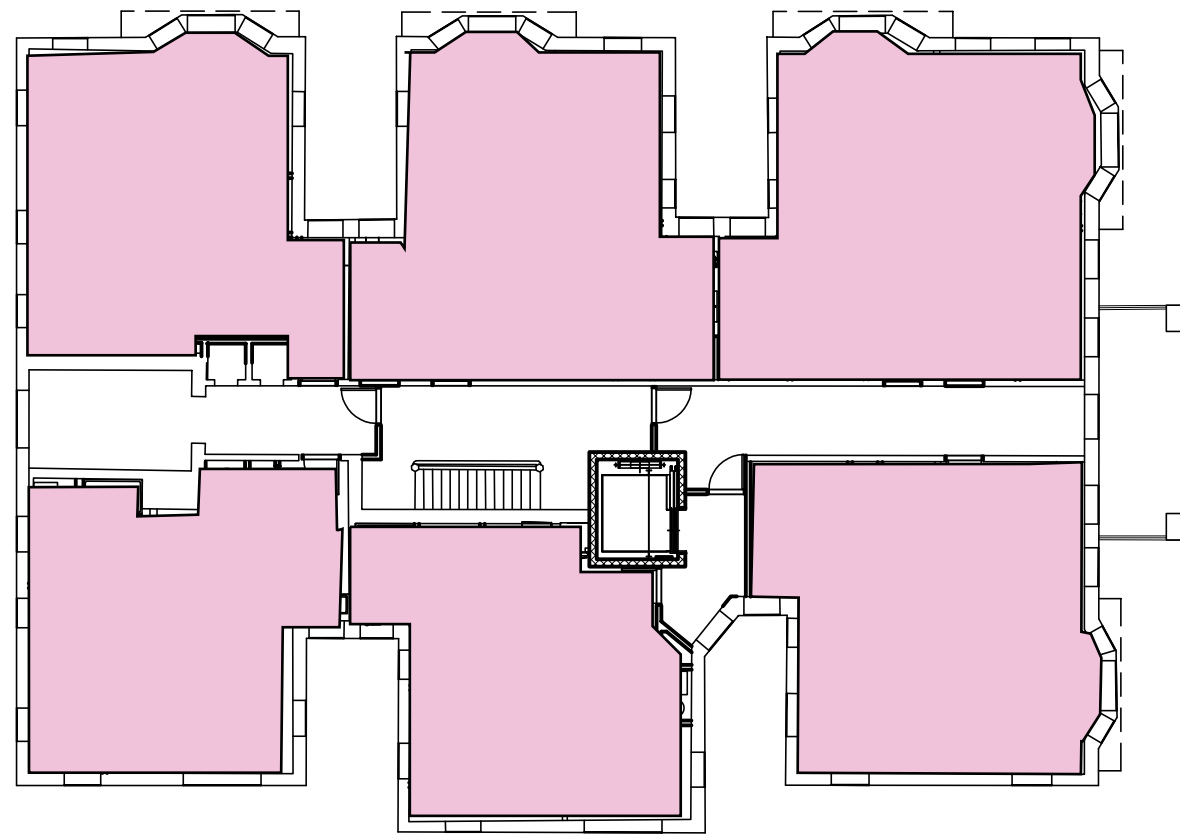


PROPOSED FIRST FLOOR PLAN





TYPICAL EXISTING PLAN FLOORS 2-4



TYPICAL FLOOR PLAN FLOORS 2-4





SOUTH EXTERIOR ELEVATION



EAST EXTERIOR ELEVATION





NORTH EXTERIOR ELEVATION

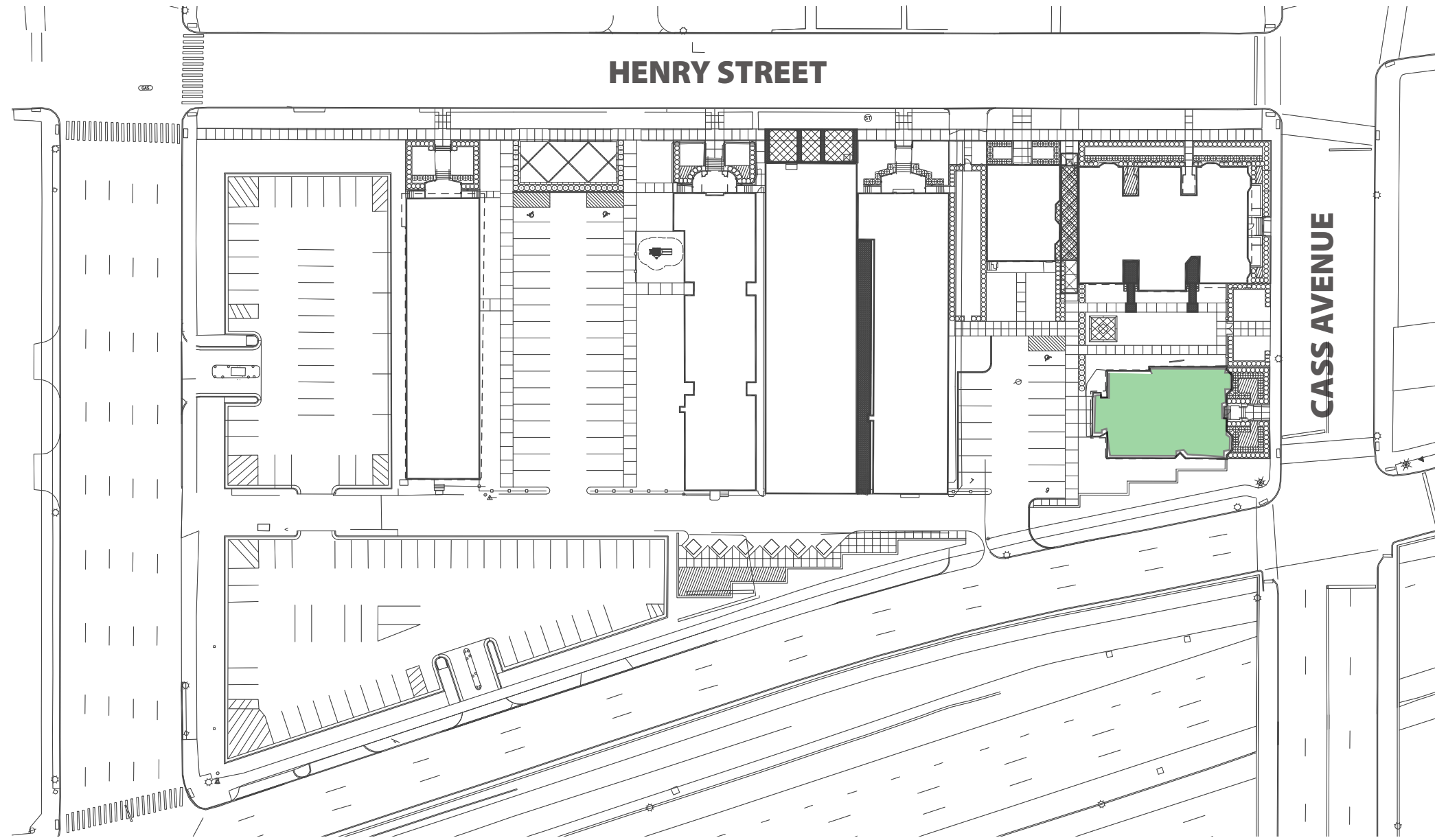


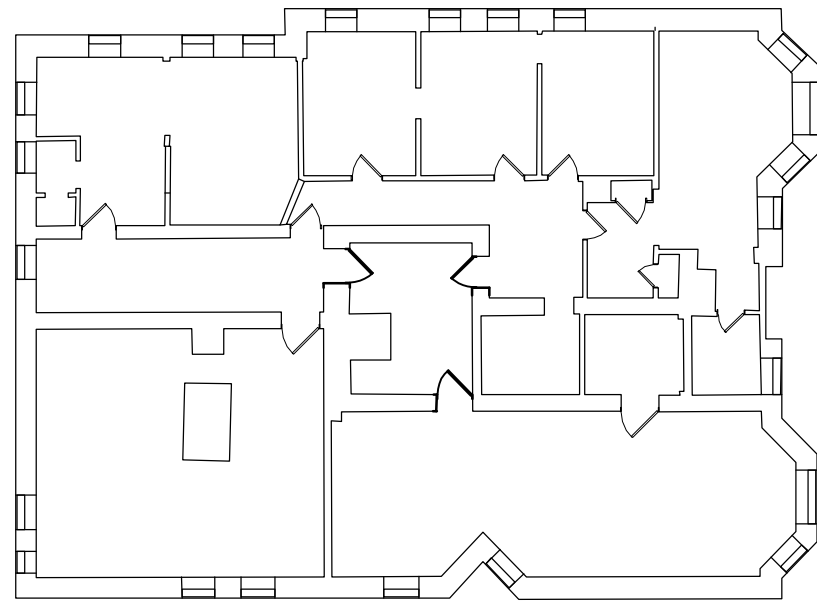
WEST EXTERIOR ELEVATION



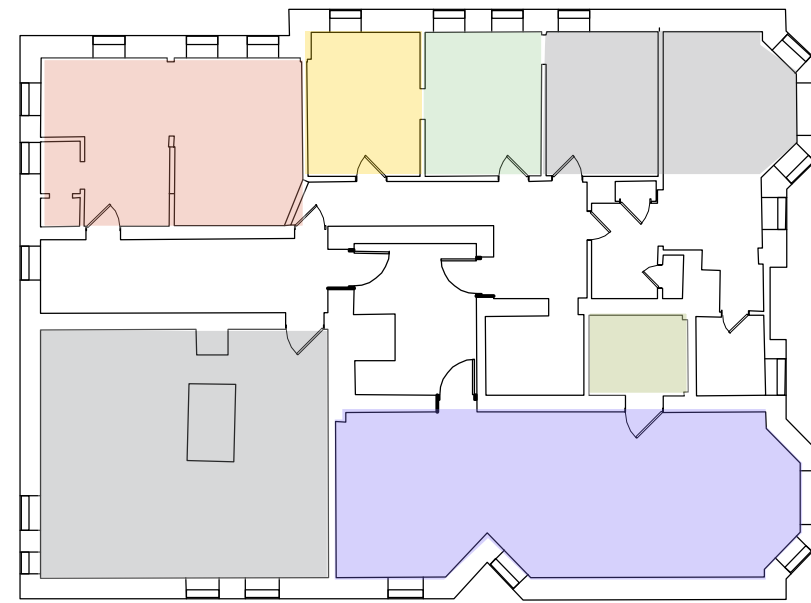
2447 CASS AVENUE
Grande Apartments / Hotel Ansonia
Constructed in 1906



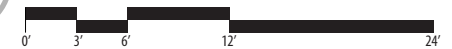


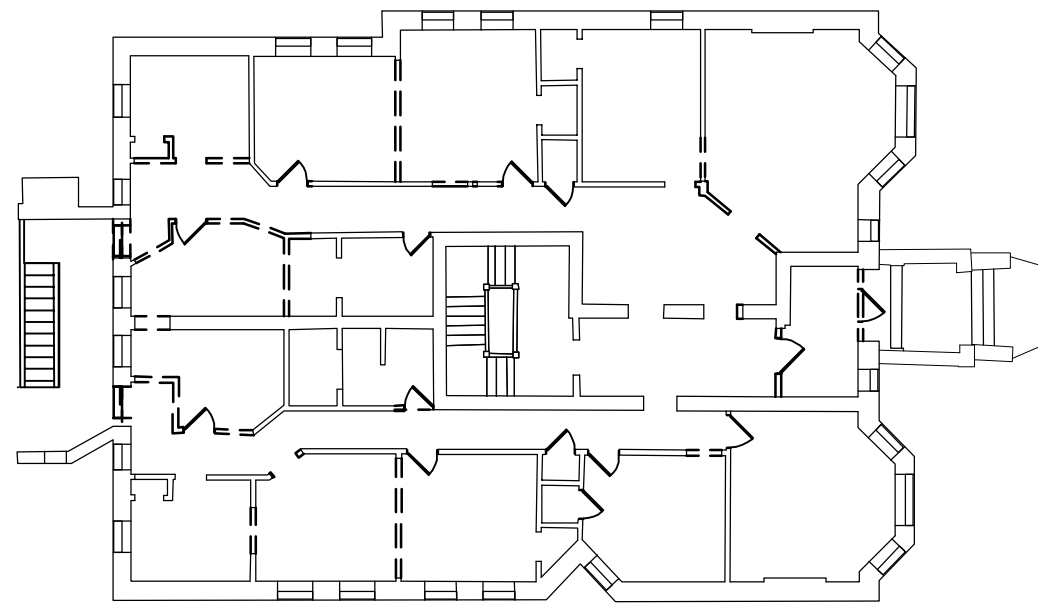


EXISTING BASEMENT PLAN

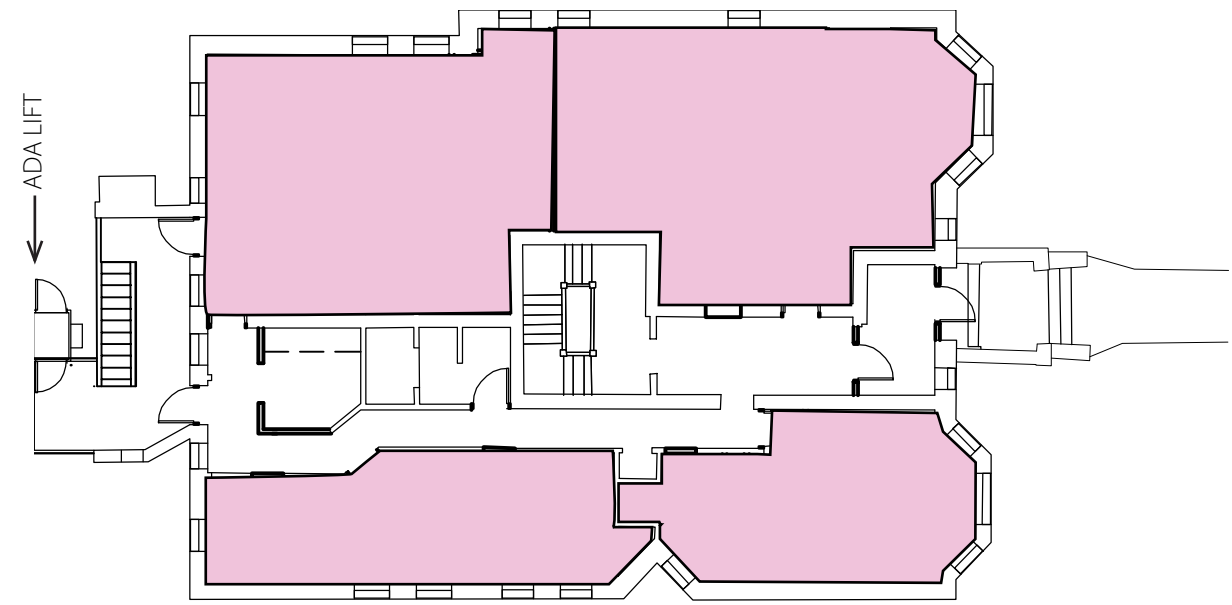


PROPOSED BASEMENT PLAN



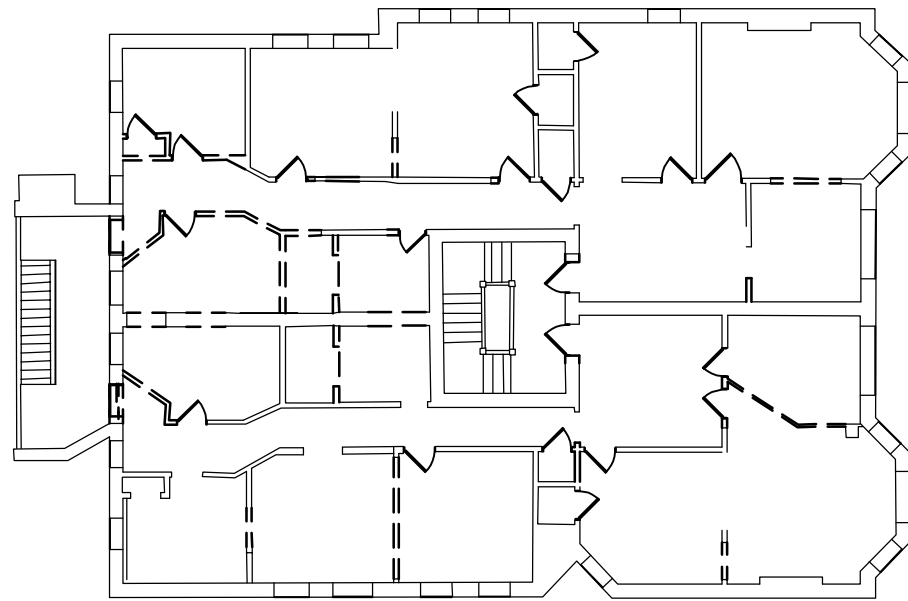


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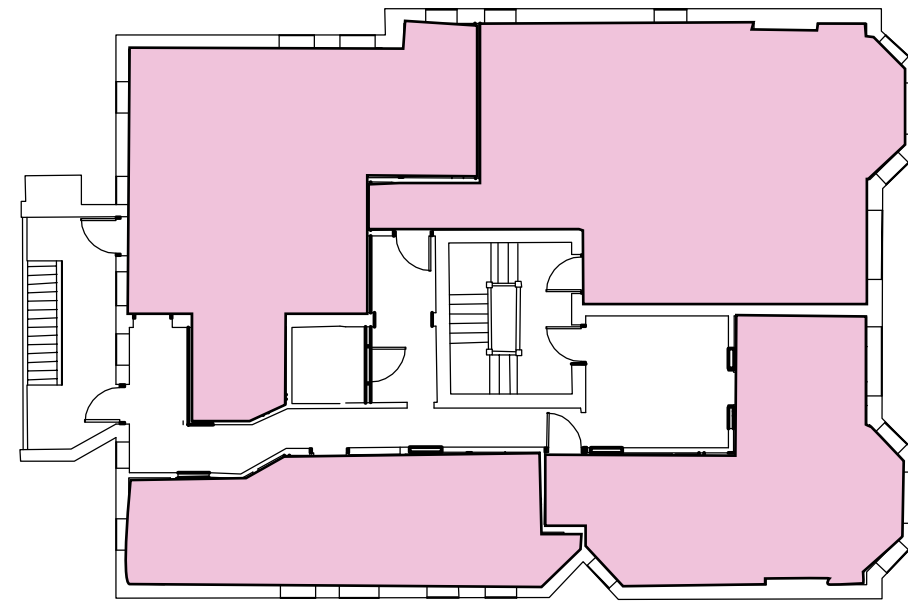


PROPOSED FIRST FLOOR PLAN

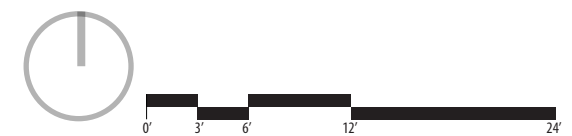


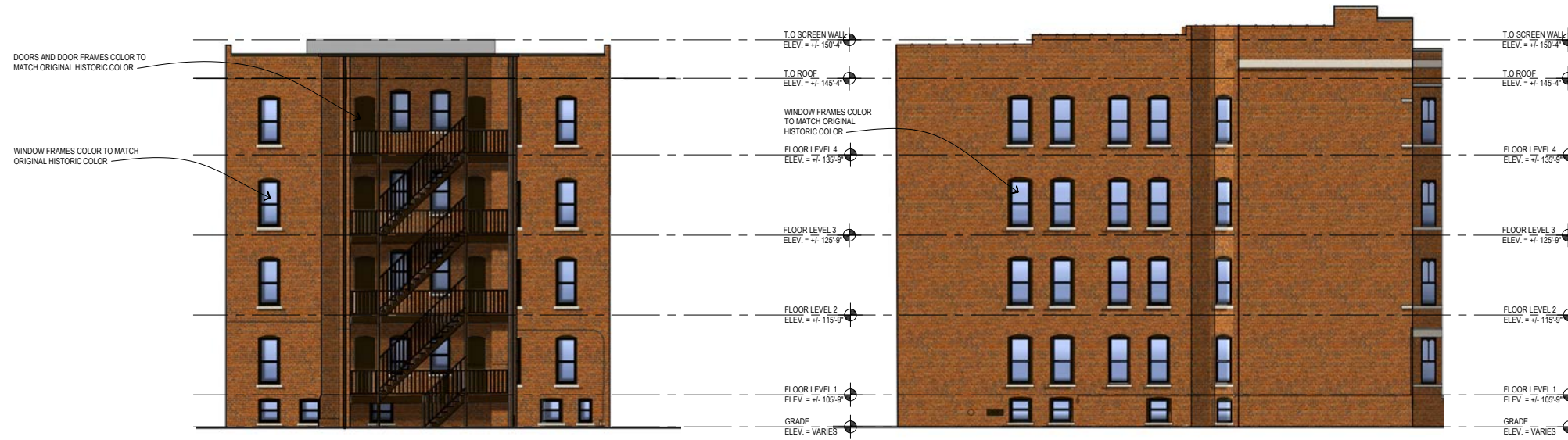


TYPICAL EXISTING 2-4 FLOOR PLAN



TYPICAL PROPOSED 2-4 FLOOR PLAN





WEST EXTERIOR ELEVATION

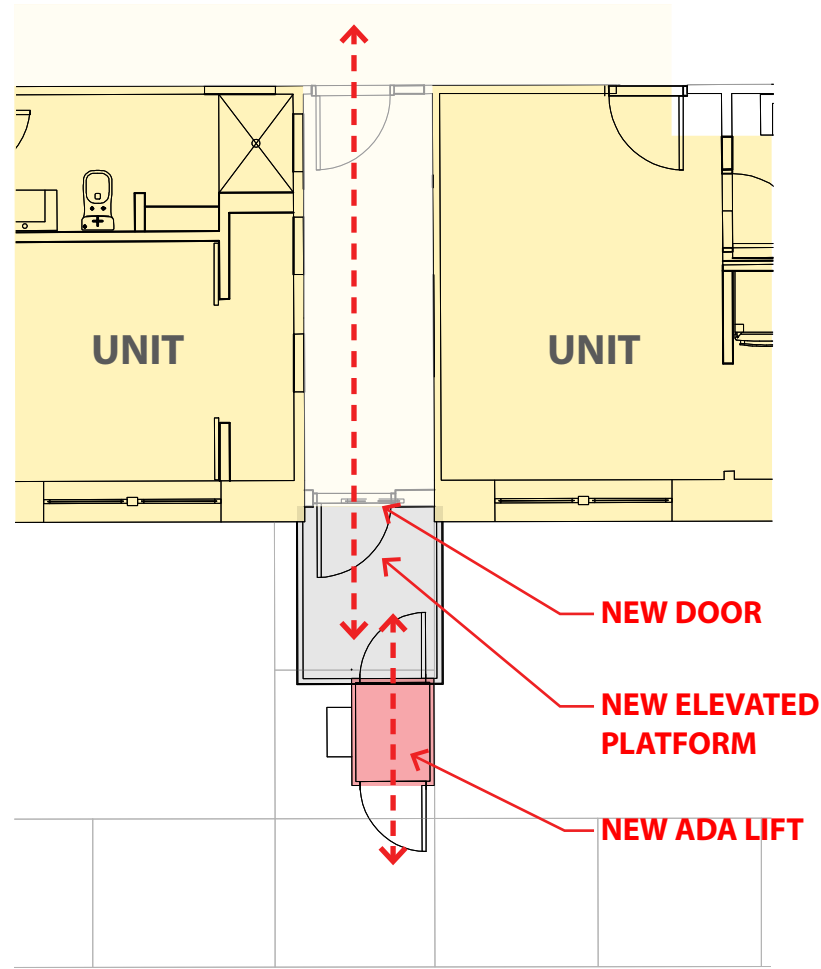
SOUTH EXTERIOR ELEVATION



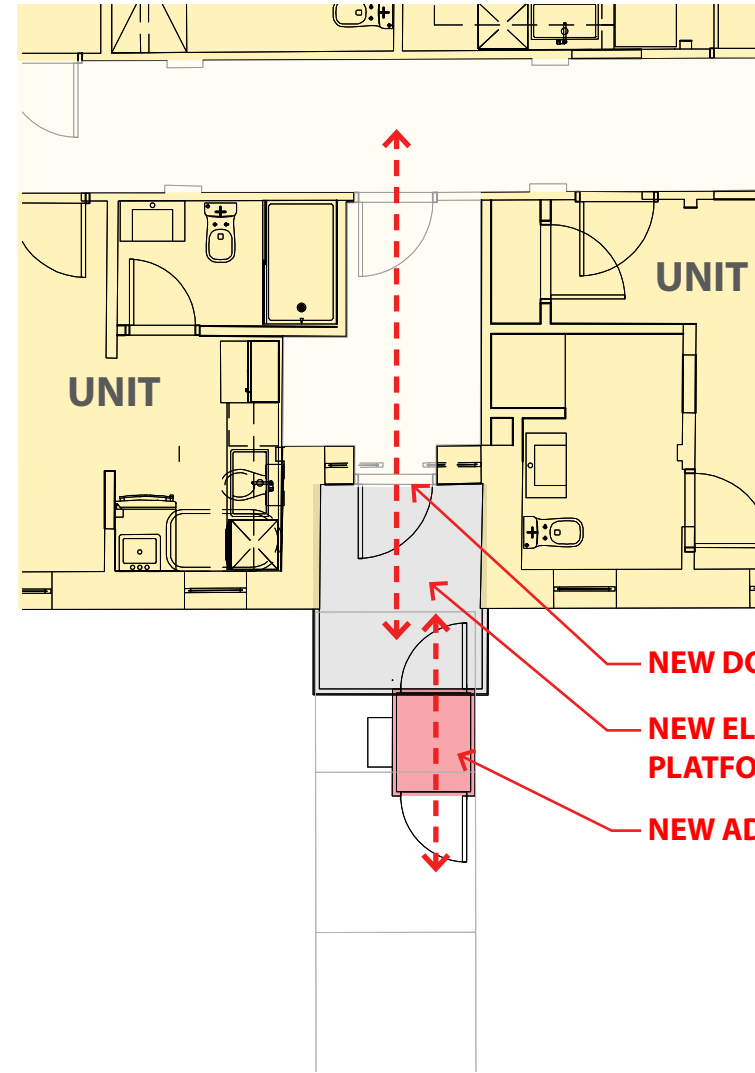
NORTH EXTERIOR ELEVATION

EAST EXTERIOR ELEVATION

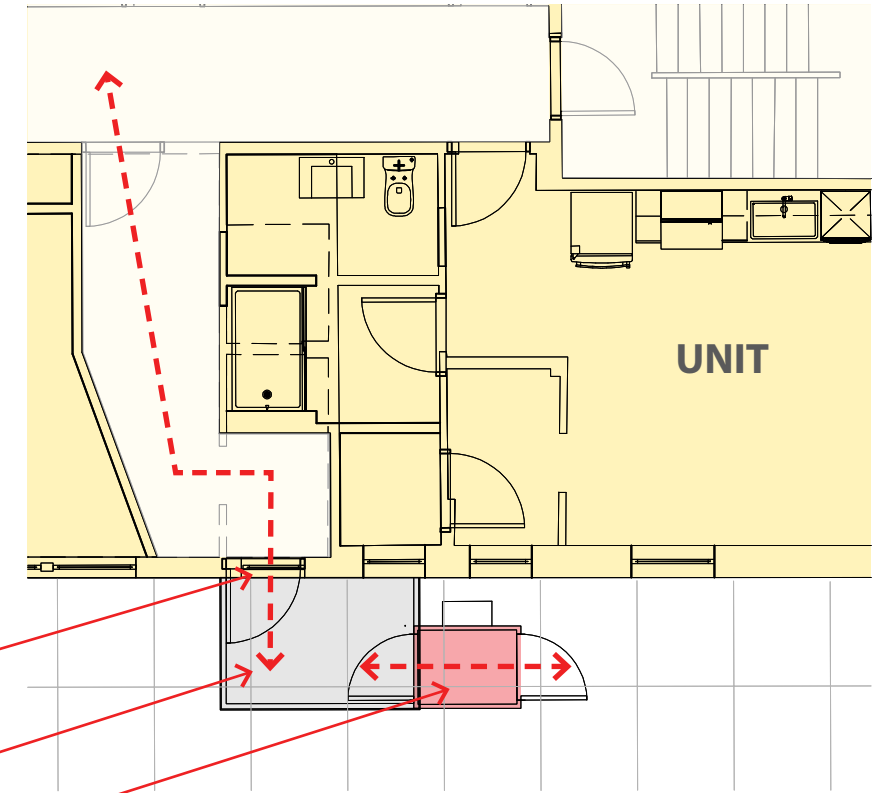




489 HENRY ST.



459 HENRY ST.

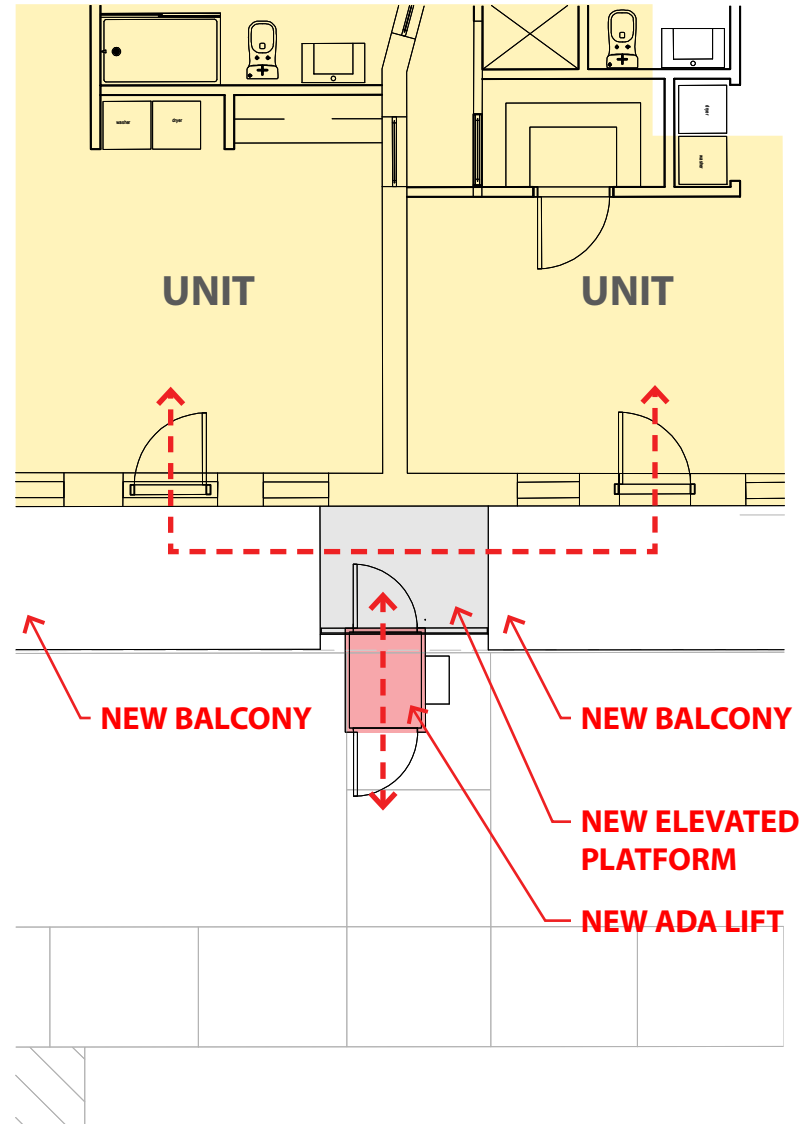


439 HENRY ST.

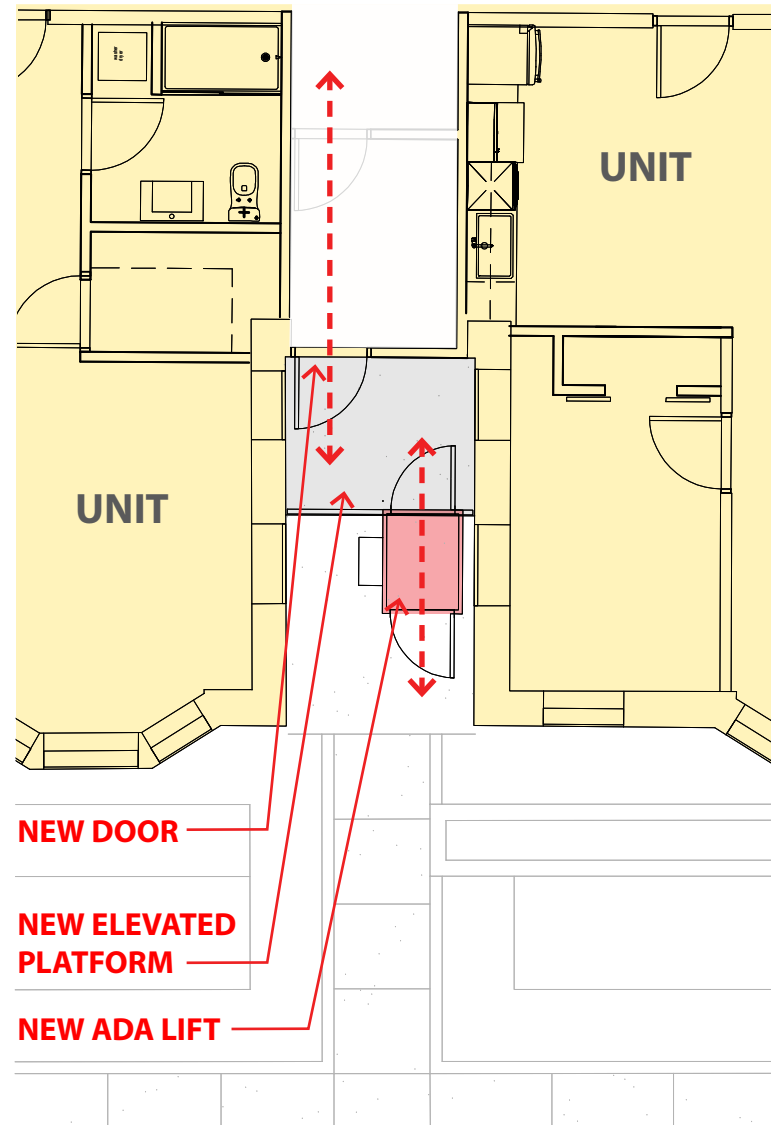


ADA LIFT

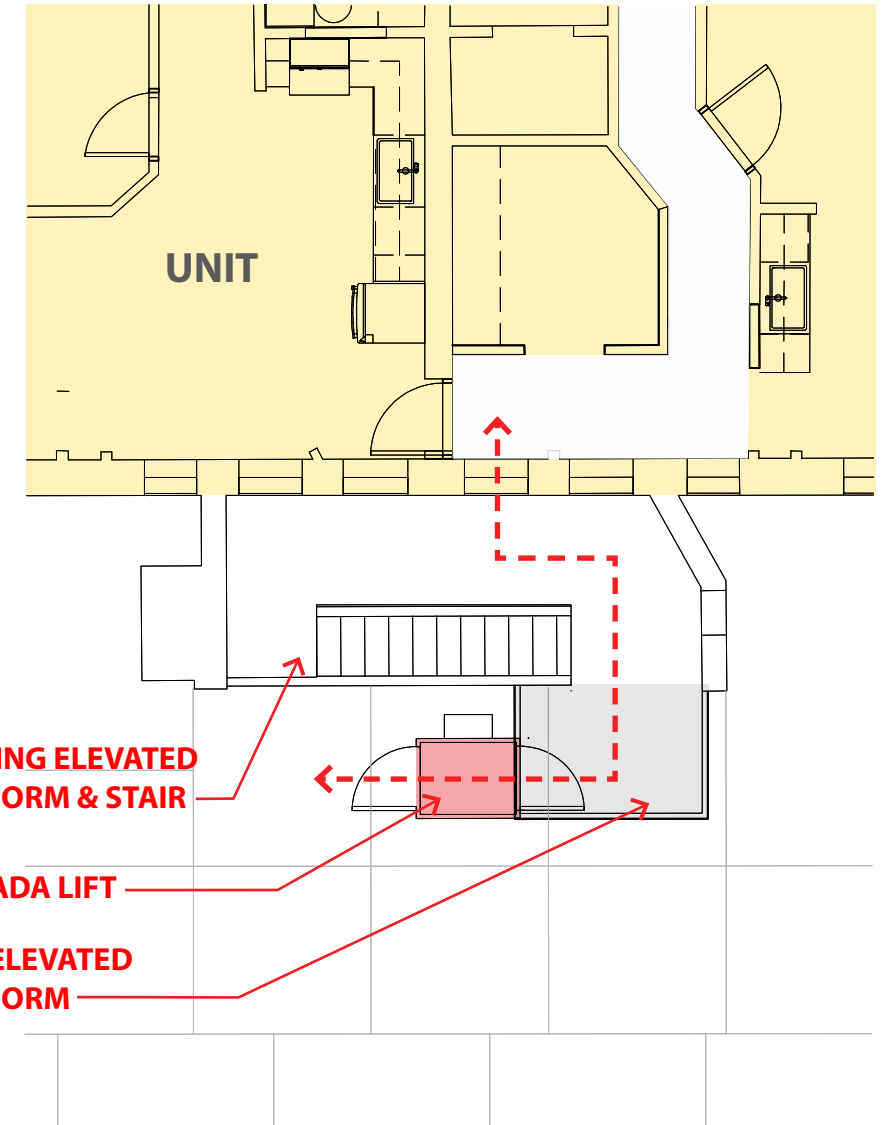




427 HENRY ST.



2467 CASS AVE.



2447 CASS AVE.





PROJECT RENDERINGS

SITE DESIGN

Perspective View > Cass & Henry



SITE DESIGN

Perspective View > 447 Henry



SITE DESIGN

Perspective View > 427 Henry Alley



SITE DESIGN

Perspective View > Cass Garden



SITE DESIGN

Perspective View > Cass & Henry Bird's Eye





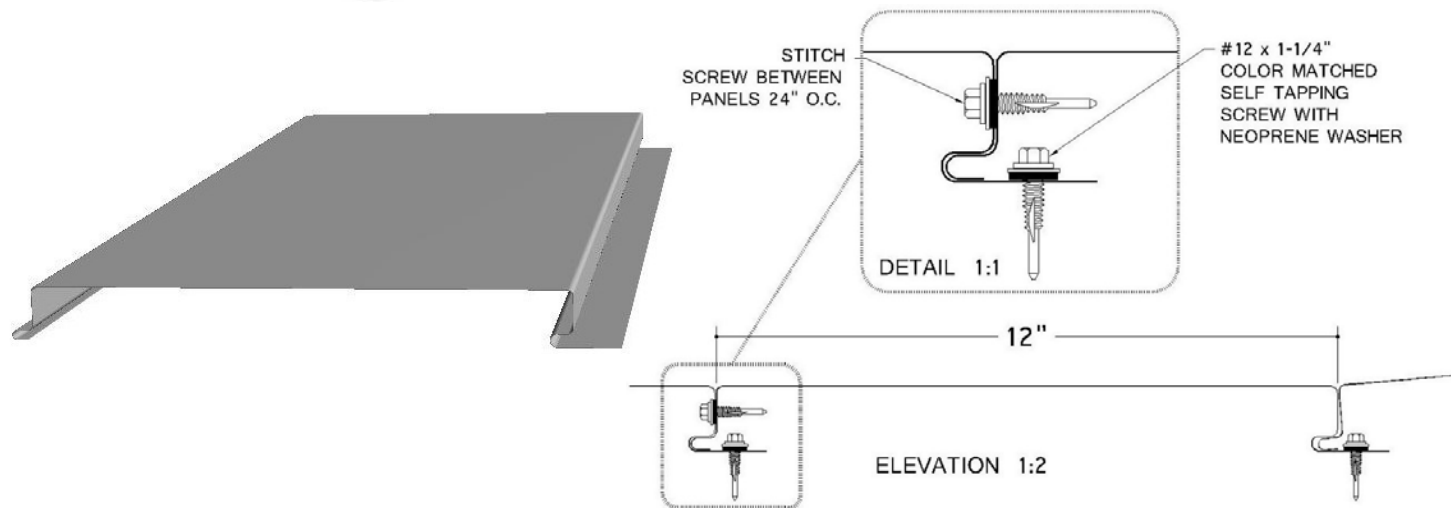
APPENDIX



**ROOF SCREEN
STUDIES**



Flat Panel Data Sheet



Flat and flush, this steel panel creates a wall that has no bumps or ribs. Used when you have a screen that needs to blend in with surrounding walls.

Dimensions

- 12" net coverage.
- Up to 25" long panels.
- 24 gauge standard – additional gauges are available.

Finish and Warranty

- Factory Kynar finish available in standard color.
- Paint ready zinc coating also available.
- 25 year warranty

Installation Info

- Install with seams oriented vertically.
- Anchor to frames with concealed, pan head fasteners

Additional Info

- Perforation options available.
- Stucco embossed options available

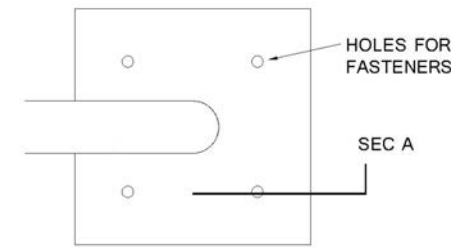
CASCADE ROOFTOP SCREENS, INC.
 688 WALSH AVENUE – SANTA CLARA, CA 95050 – PHONE: (408) 827-1700
 www.cascaderooftopscreens.com



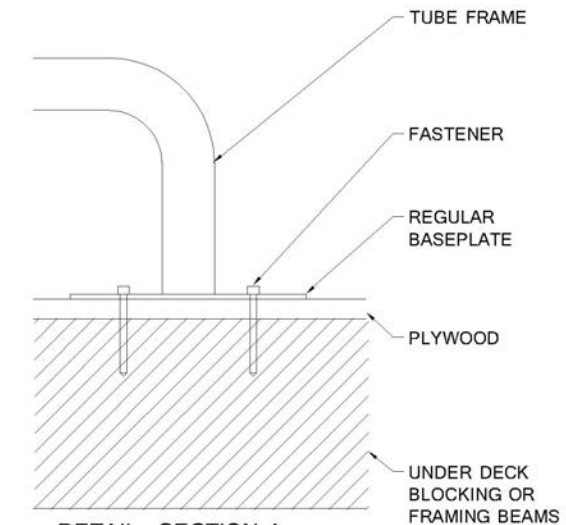
688 Walsh Ave
 Santa Clara, CA 95050
 408 - 827 -1700

PATENT PENDING

ALL DIMENSIONS VARIABLE BASED ON ARCHITECTURAL AND ENGINEERING REQUIREMENTS



PLAN
 REGULAR
 BASE PLATE
 SCALE 1:4

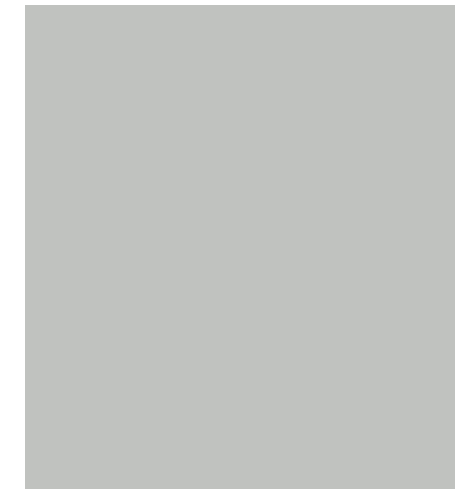


DETAIL -SECTION A
 REGULAR
 BASE PLATE
 SCALE 1:4

NOTE: ALL ROOF SCREENS WILL BE 5'-0" IN HEIGHT

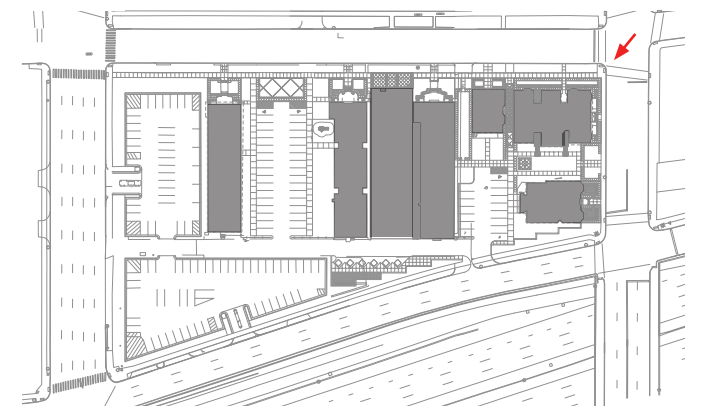


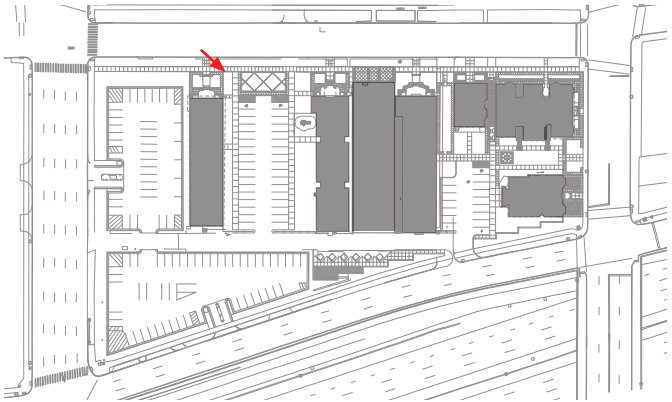
ROOF SCREEN EXAMPLE

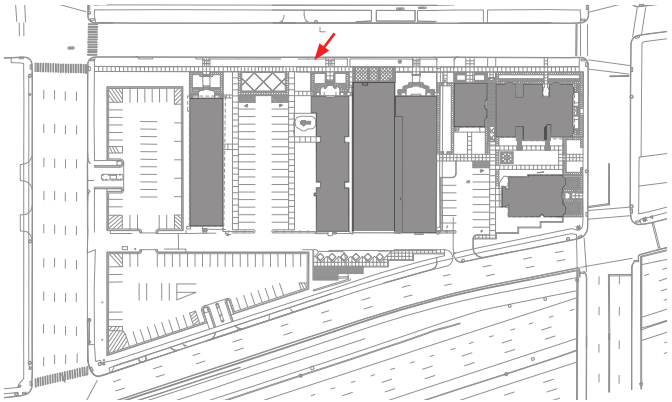


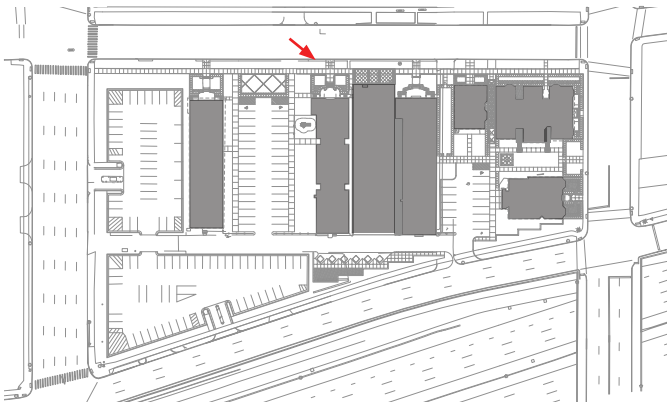
ROOF SCREEN COLOR
 KYNAR FINISH - DOVE GREY

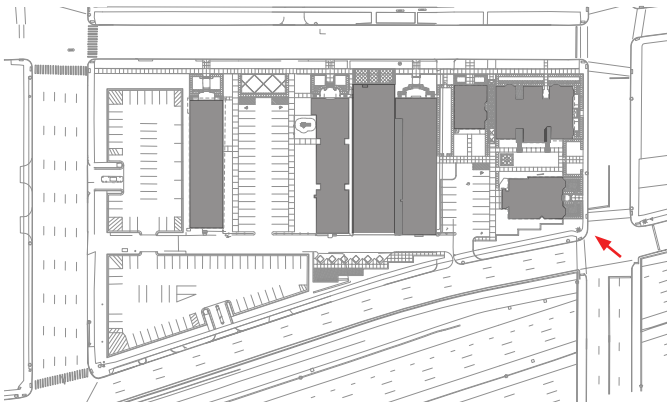


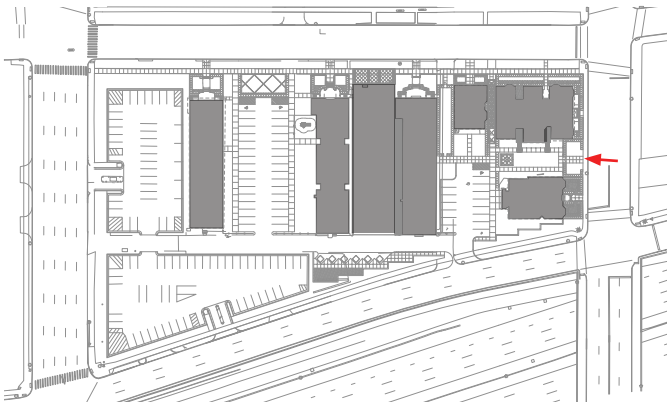


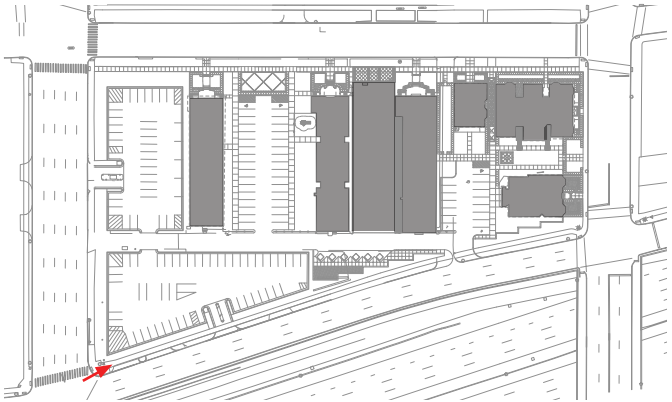
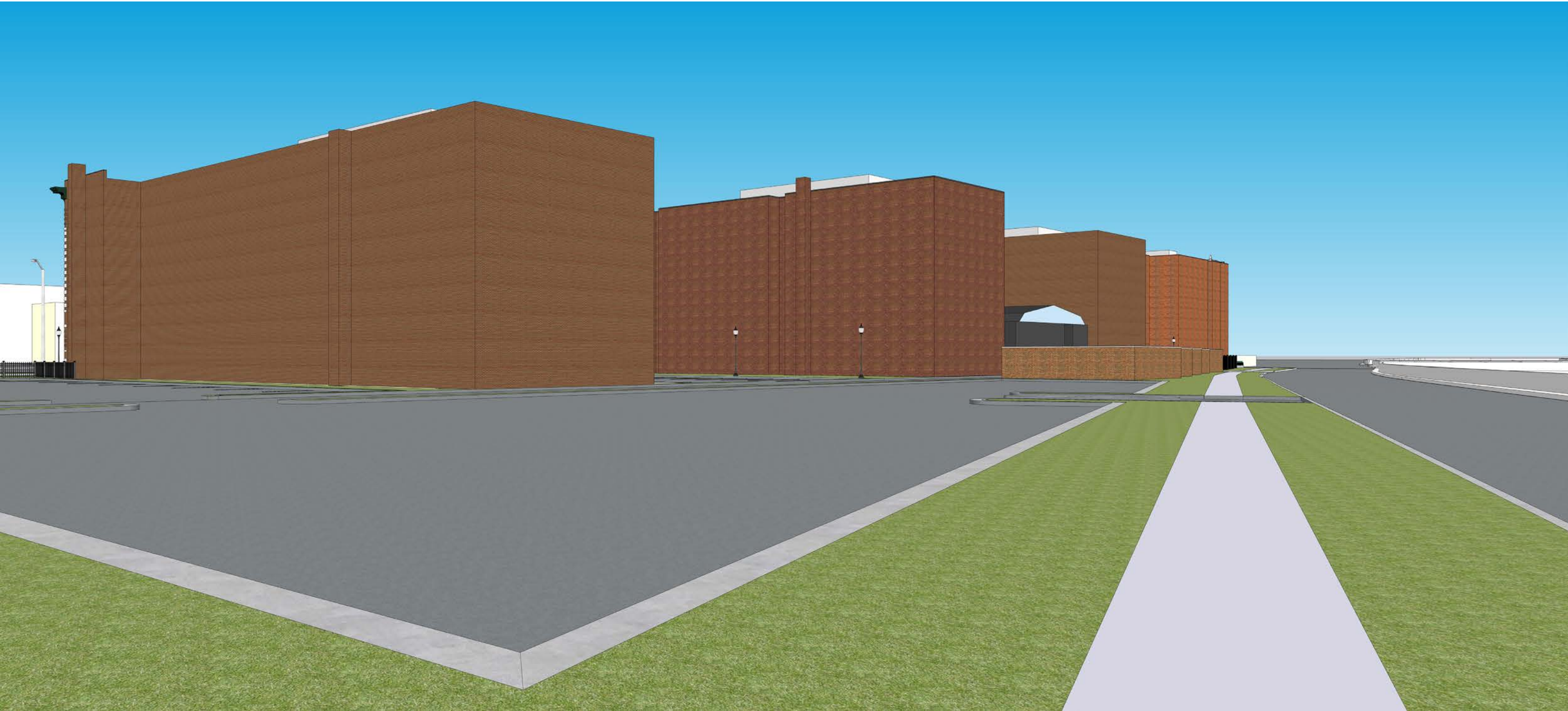














FACADE SURVEY

GENERAL NOTES:

- Remove all vines/vegetation from exterior surfaces
- Remove all mortar/sealant above steel window lintels, scrape steel, apply rust inhibitive primer, epoxy paint, then tuckpoint joint
- Tuckpoint all limestone parapet caps, bands, sills, cornices, window/door surrounds, etc. joints, and place sealant at all sky facing joints.
- Clean all masonry prior to masonry repair work. Cleaning to be with light duty detergent and low pressure water rinse only (less than 500 psi water pressure.) Remove any paint on masonry prior to cleaning.
- Replace all windows per window schedule

KEY NOTES:

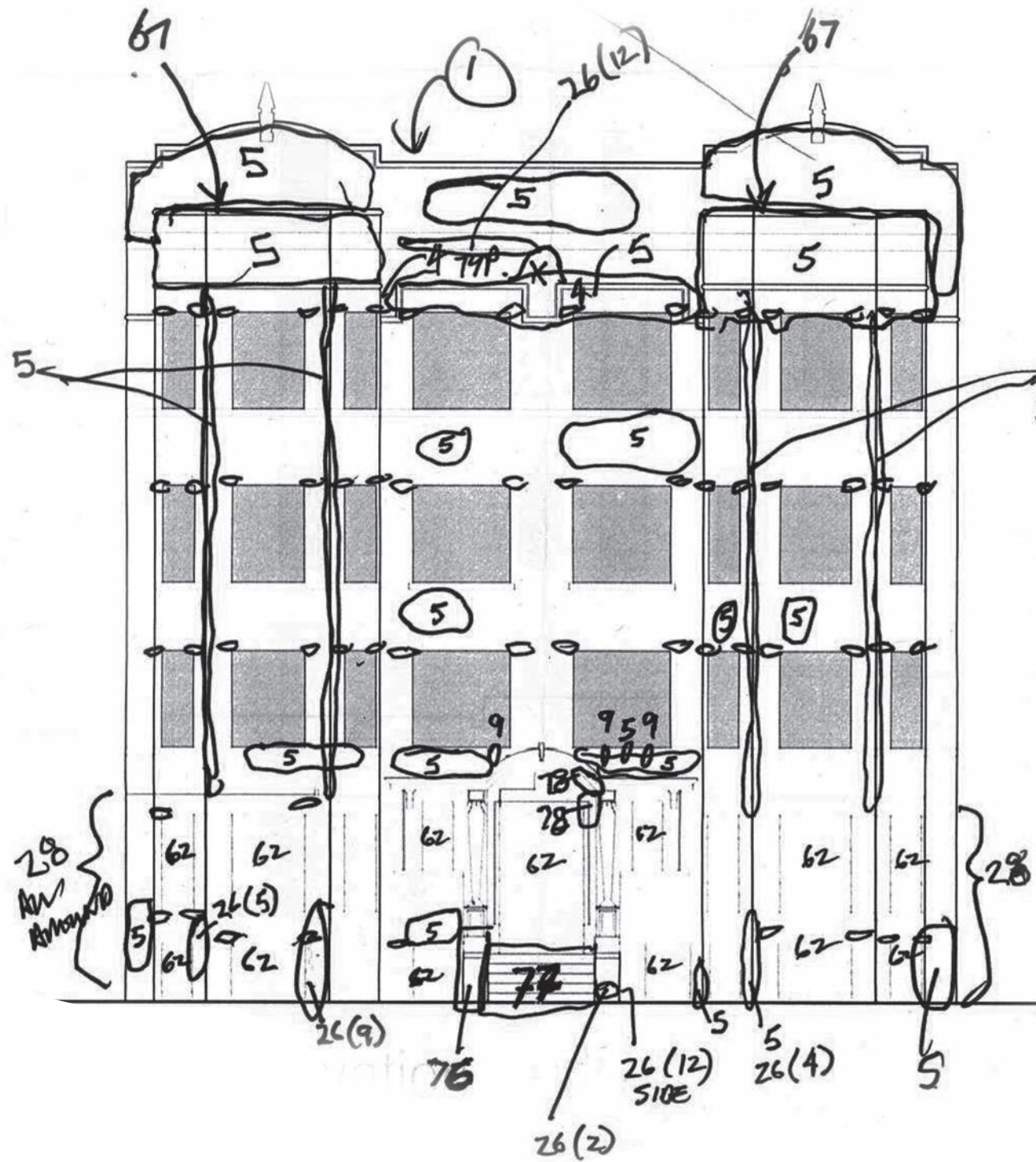
1. 4" Limestone parapet capstones to remain. See general notes for limestone tuckpointing
2. Former cornice band (approximately 22" high)
3. Former cornice band (approximately 33" high) Infill 21 brick slots at former cornice outriggers. Replace 15 spalled bricks this area.
4. Remove brick at steel lintel bearing location. Scrape steel, apply rust-inhibitive primer, epoxy paint and reinstall brick.
5. Tuckpoint all brick joints within circled area.
6. Remove anachronistic windows, frames and masonry kneewalls. Reconstruct double wood/glass doors to match 439 Henry.
7. Remove fixed glazing and frames. Replace per note #6 above.
8. Remove/replace metal railing. Remove any loose limestone. Patch stone with Cathedral Stone "Restoration Mortar" in custom coloration to match existing stone.
9. Epoxy repair of limestone sill band crack in custom color to match existing stone.
10. Install new metal guard railing.
11. Remove existing metal railing and replace per #10 above.
12. Remove anachronistic side metal railings. Patch stone and brick. Install new metal guard railing.
13. Install new center metal handrail (if required per MI Rehab code.)
14. Remove all paint (4 layers) from existing porch stone arch, front/rear columns & pilasters (all sides) and side arches.
15. Cut existing stone kneewall cap perpendicular to wall & replace with new limestone block
16. Replace 5 bricks on west side of brick column damaged at removal of metal railing.
17. Replace 4" limestone cap on stairwell kneewall full length.
18. Patch bottom concrete stair tread.
19. Remove existing stone/concrete steps (2). Install new 5' deep concrete landing (by width of door/sidelight opening) and one (1) concrete step with concrete footings for both.
20. Epoxy repair 25 lineal feet of concrete porch slab cracks
21. Rebuild brick stair pier with new 4" limestone capstones.
22. Rebuild 10 square feet of porch masonry side kneewall, and 20 square feet of stair kneewall, and tuck point 20 square feet of sidewall plus replace 30 bricks.
23. Patch 2 square feet of concrete slab at west vertical face at building wall.
24. Replace six (6) bricks at south base of column.
25. Scrape, prime, paint wood eave fascia (typical- all building elevations)
26. Replace bricks (# of bricks)
27. Replace 4" limestone chimney cap
28. Remove paint & graffiti from wall (prior to masonry cleaning.)
29. Same as #26 above
30. Rebuild top two (2) brick courses and install new 4" capstone all sides.
31. Replace one clay tile cap section
32. Existing transformer pedestal to remain
33. Existing 10" glass blocks to remain
34. Missing cap flashing at cornice. Replace (including counterflashing in brick reglet at parapet wallbehind.)
35. Strip, apply rust inhibitive primer and paint pressed tin cornice all elements/all sides.
36. Scrape, apply rust inhibitive primer, and paint metal balconette railing.
37. Scrape, reglaze, prime, paint wood double doors. Install exterior aluminum/glass storm doors with single glass lites painted to match wood doors.
38. Remove top metal bar mounted to top of metal railing, remove rust, apply rust inhibitive primer all sides, paint and then reinstall bar on railing.
39. See #37
40. Remove all paint from stone entry surround
41. Replace anachronistic metal railing
42. Install center handrail (if required by MI Rehab code)
43. Remove/rebuild concrete block stairwell retaining wall with new 4" limestone capstones.
44. Remove/rebuild porch brick front and side walls, with new concrete footing/brick shelf if it is not existing.
45. Remove limestone header and steel angles header, replace steel with rust inhibitive primer, epoxy paint all sides and ends, then reinstall limestone header.
46. ??Replace concrete steps and new center handrail??
47. Remove five (5) metal sign anchor straps, fill mortar or brick to match existing color
48. Remove 51 anchors, fill mortar or brick to match existing color
49. Replace damaged limestone finial globe with epoxy anchored stainless steel dowel into existing limestone base.
50. Remove/reset limestone base block
51. Remove 18" deep metal storefront canopy
52. Epoxy repair limestone finial globe
53. Remove existing storefront glazing, framing, doors and replace with aluminum/glass storefront framing/glazing.
54. Remove steel plate, fill mortar or brick to match existing color
55. Replace piece of limestone capstone
56. Replace 10"x10" metal vent cover.
57. Rebuild brick wall full depth (3 wythes thick) in this area.
58. Existing coal chute door to remain, Seal shut and paint.
59. Remove cable box fill mortar or brick to match existing color
60. Remove light fixture fill mortar or brick to match existing color
61. Decorative metal wall vent to remain, scrape/paint.
62. Remove CMU window infill
63. Remove electrical lines/ conduits
64. Remove anachronistic CMU courtyard wall
65. Strip paint off entire pressed tin cornice, apply rust inhibitive primer, then paint.
66. Remove remote gas meter reader contacts.
67. Remove/replace single ply roof on bay window structure with flashing/counterflashing (in brick reglet on wall behind) and new cap/drip edge flashing at perimeter.
68. Remove/replace cornice cap flashing with counter flashing in brick reglet above and 1" drip edge at perimeter.
69. Remove/replace wood guardrails all three sides of each porch
70. Remove wood porch deck. Install ¾" marine grade plywood subfloor with continuous ice & water shield sheet over and Trex-type deck boards above with Trex-type edge trim.
71. Patch pressed tin cornice fascia at bracket and soffit (3 square feet.)
72. Replace crushed pressed tin crown molding (4 lineal feet.)
73. Remove metal bracket, fill mortar or brick to match existing color
74. Remove porch ceiling soffit panels, replace with painted bead board slats.
75. Remove plumbing vent/pipes, fill opening with toothed in brick to match existing.
76. Remove/rebuild porch kneewall with new concrete footing
77. Remove/replace stone porch and steps with concrete and new concrete footings
78. Remove concrete patch at door surround. Sculpt new patch with Cathedral Stone "Restoration Mortar" in custom color to match existing limestone.
79. Remove/reset limestone sill block
80. Patch 2 lineal feet opening at edge of cornice soffit (pop rivet metal patch, and apply Bondo-type patching compound over fasteners and all edges to achieve a smooth surface
81. Similar to #80, use Bondo-type patching material to sculpt form of missing scroll base.
82. Similar to #80, install rectangular metal patch at rectangular plinth at bottom of bracket.
83. Similar to #80 at 8 lineal feet of open soffit edge.
84. Similar to #83, for 10 lineal feet of open soffit edge.
85. Remove metal patch, install patch to match crown molding (1 lineal foot)
86. Replace missing pressed tin bracket



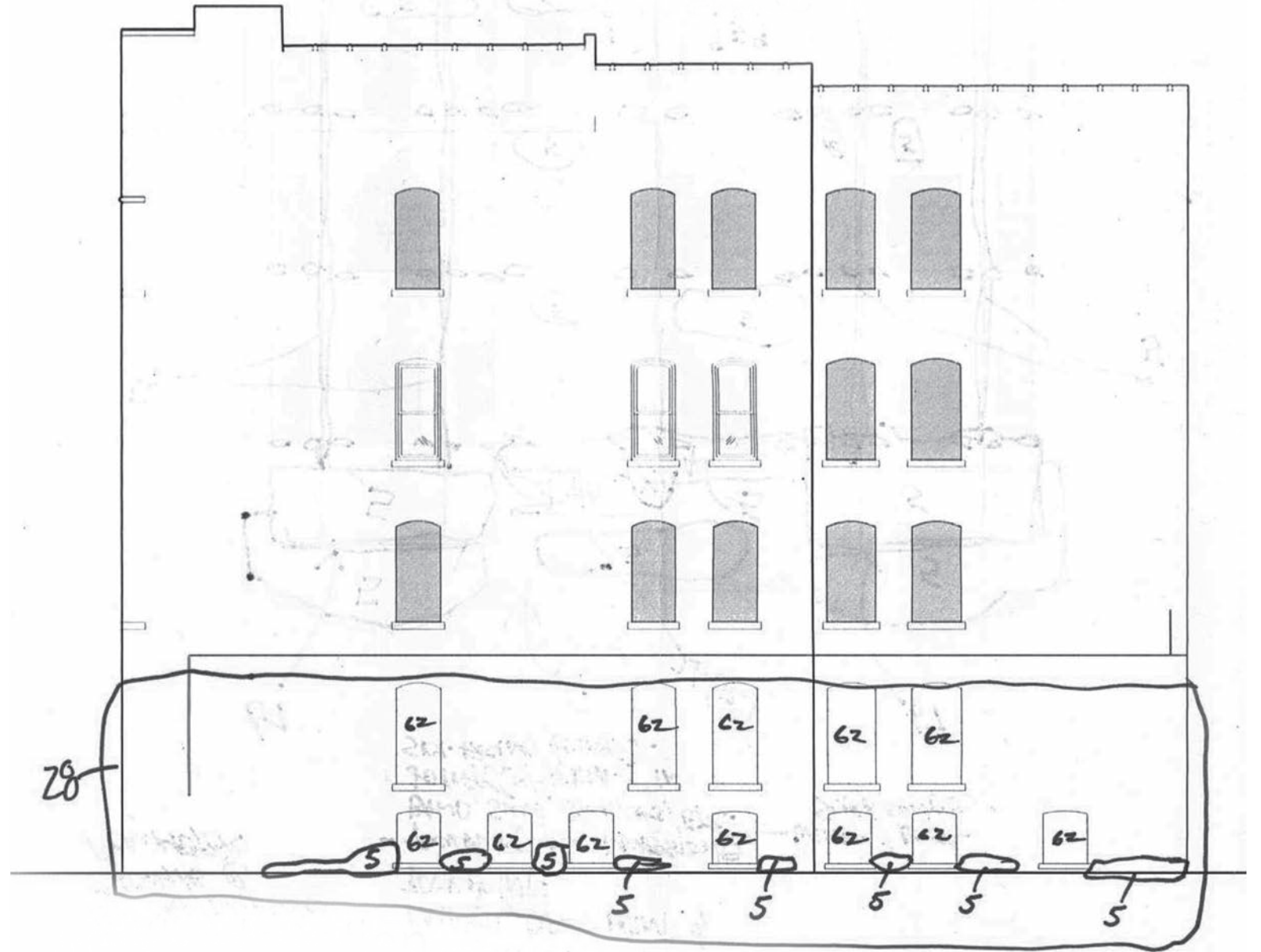
87. Resecure pressed tin bracket, apply sealant on top/side joints at cornice soffit, leave bottom joint open for drainage.
88. Replace 6 lineal feet of pressed tin crown molding.
89. Similar to #80
90. Install new metal cove trim (3 lineal feet.)
91. Install new metal soffit panel (15 lineal feet)
92. Similar to #80, 12 lineal feet.
93. Install new metal plinth trim
94. Cement parging on common brick at former cornice band (approximately 24" high)
95. Install new wood crown molding at bay window cornice (18 lineal feet)
96. Steel hoist beam to remain
97. Remove hose bib, patch mortar/brick
98. Remove wood stairs/landings/roof support columns (shoring required), rebuild to match historic details
99. Remove/replace gutters and downspouts
100. Replace first floor wood bay window structure, finishes, complete.
101. Replace painted wood clapboard siding to match historic material.

NOTE: SEE FOLLOWING SKETCH FIELD NOTE PAGES FOR EXAMPLES OF HIGHLY DETAILED EXTERIOR PRESERVATION WORK ON THE VARIOUS BUILDINGS.



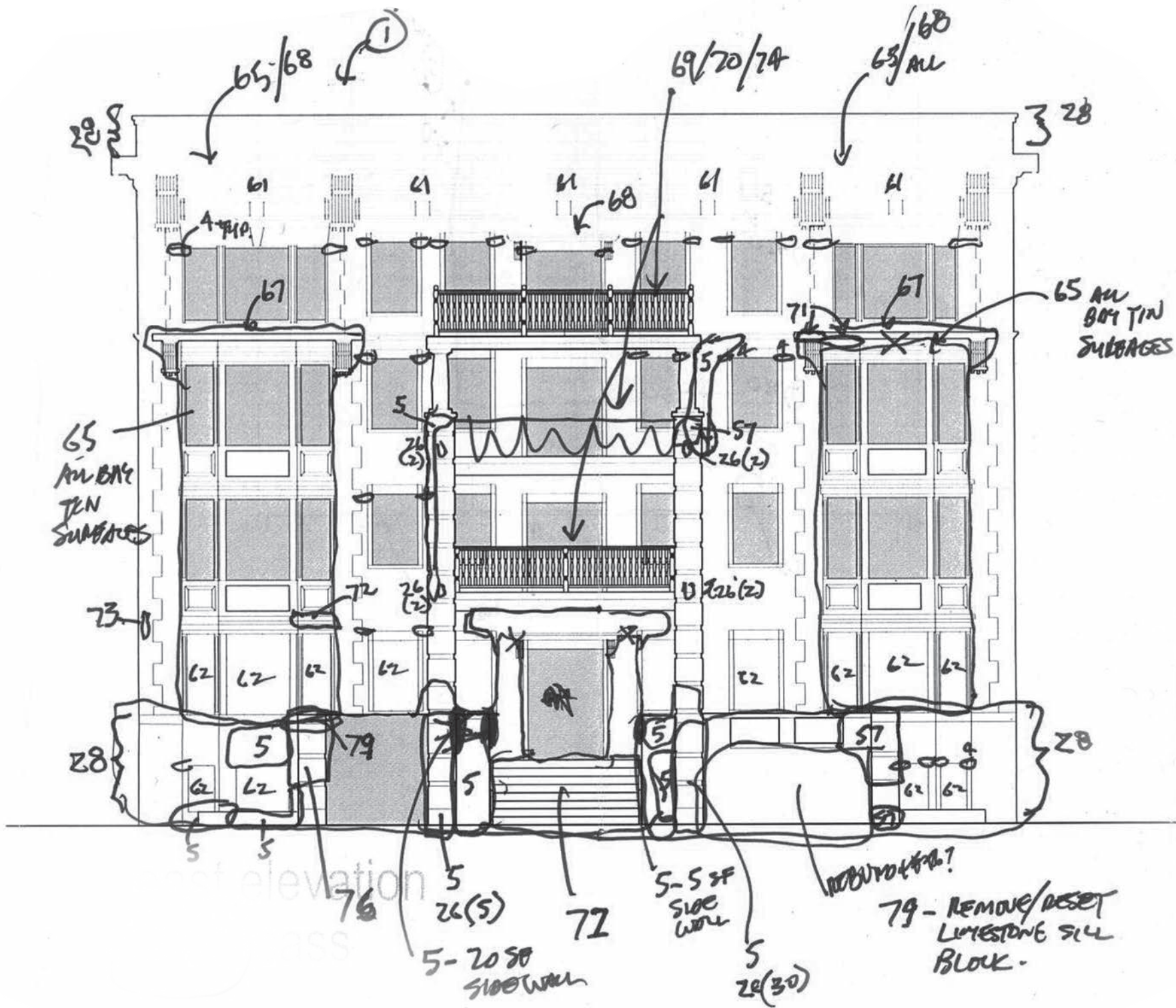


EAST EXTERIOR ELEVATION



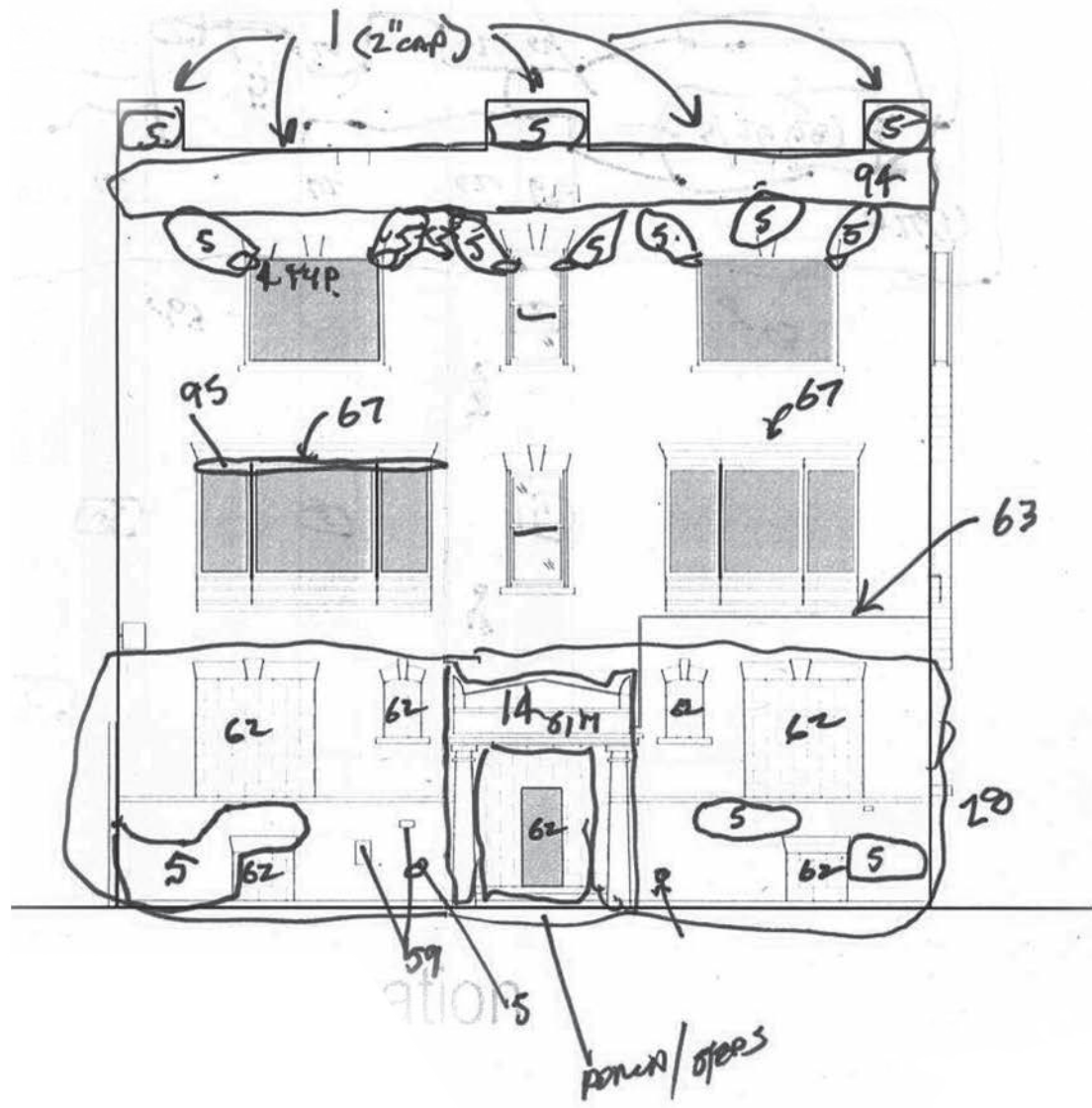
NORTH EXTERIOR ELEVATION



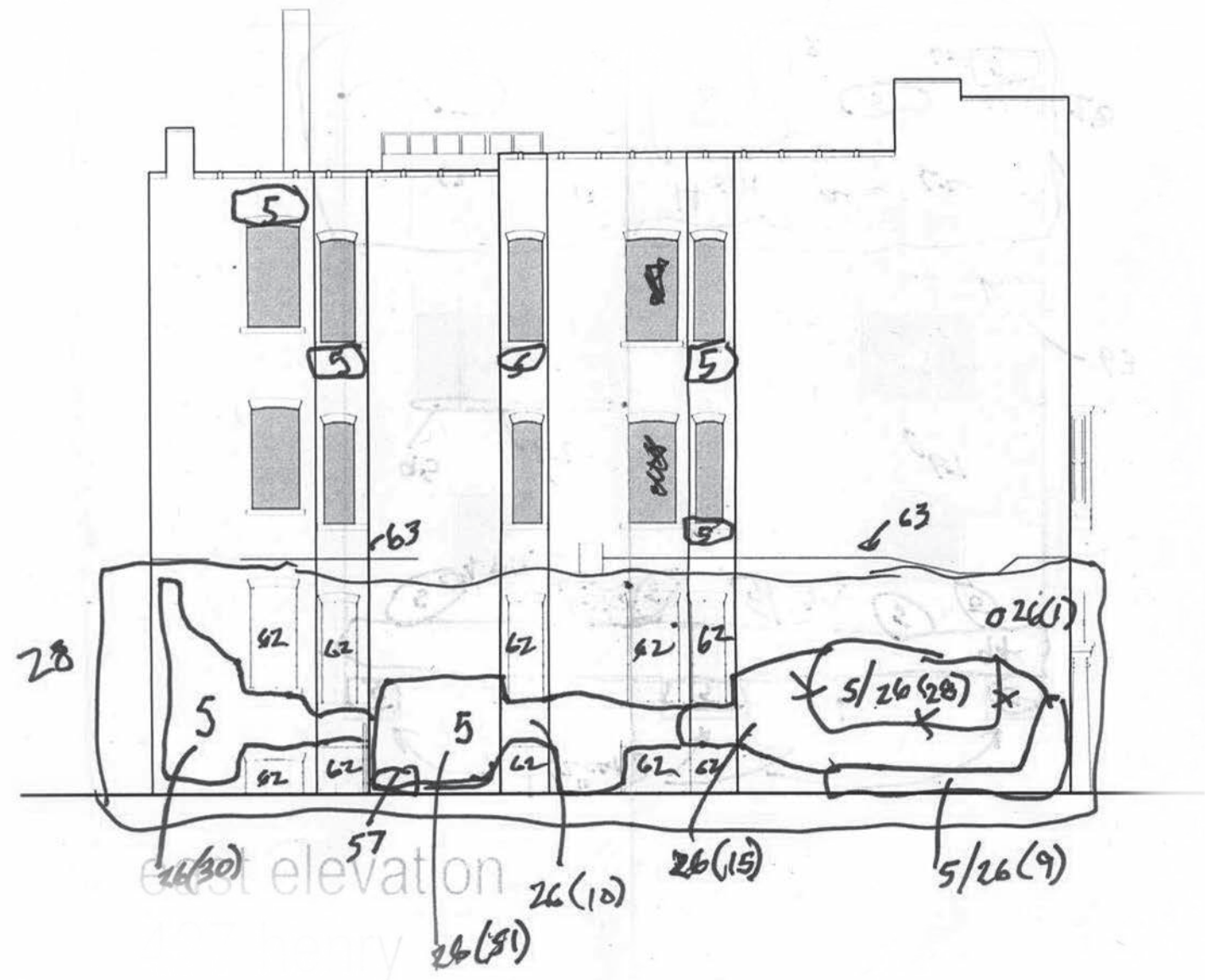


EAST EXTERIOR ELEVATION



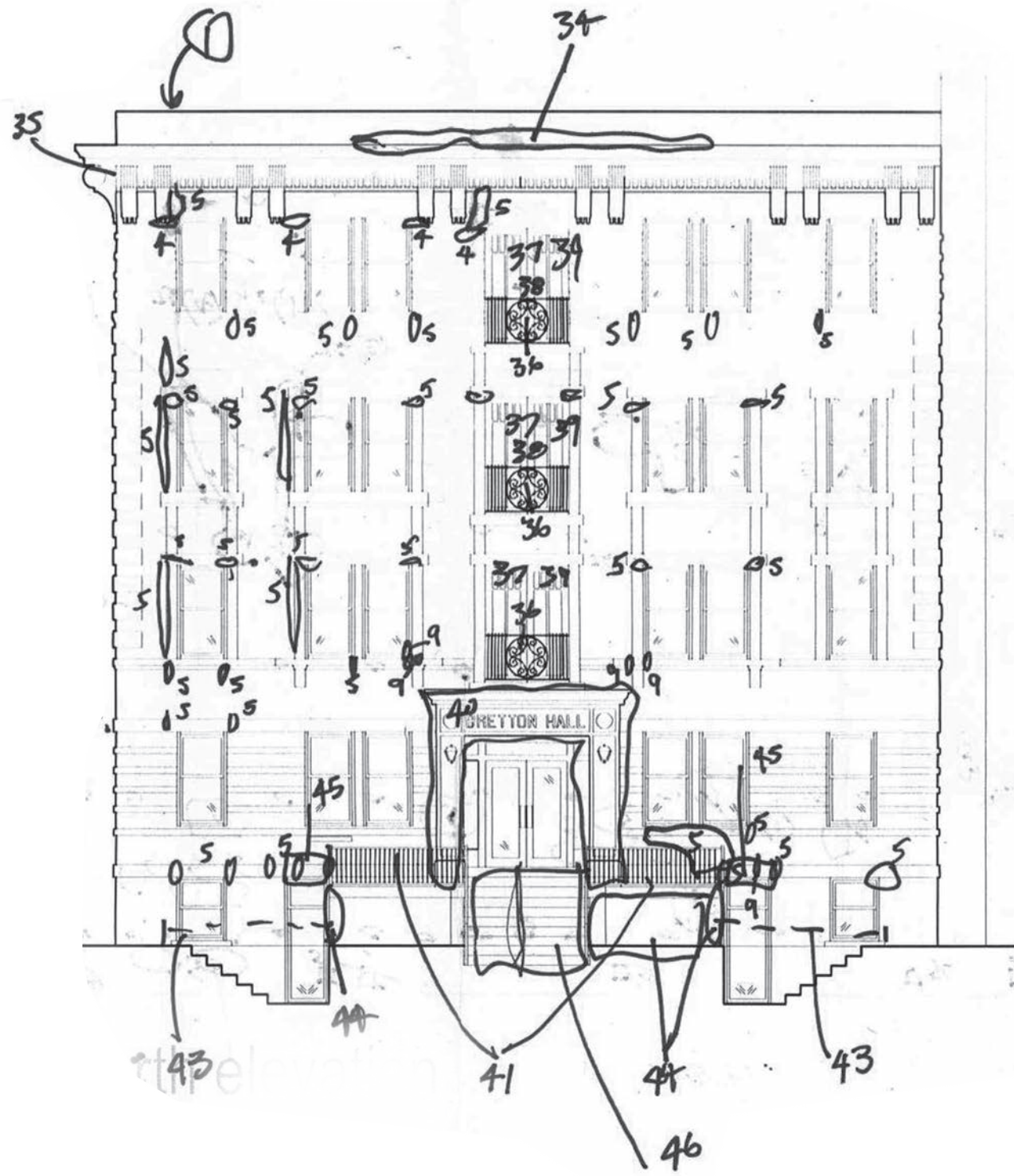


NORTH EXTERIOR ELEVATION



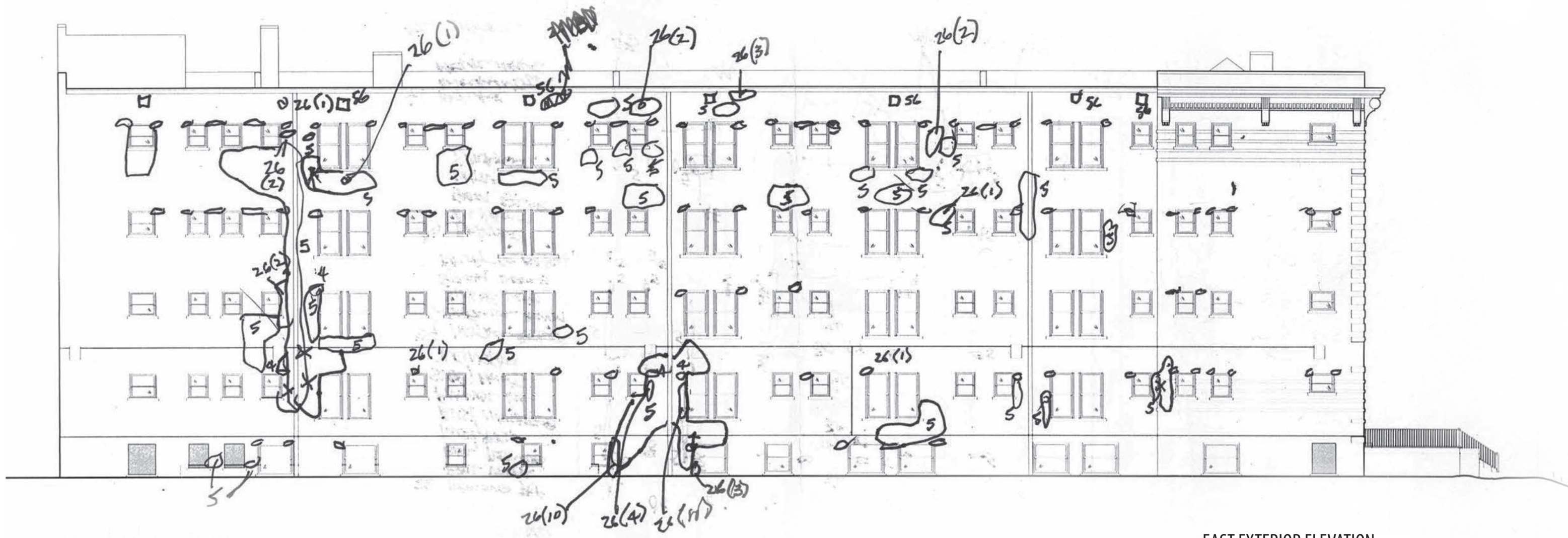
EAST EXTERIOR ELEVATION





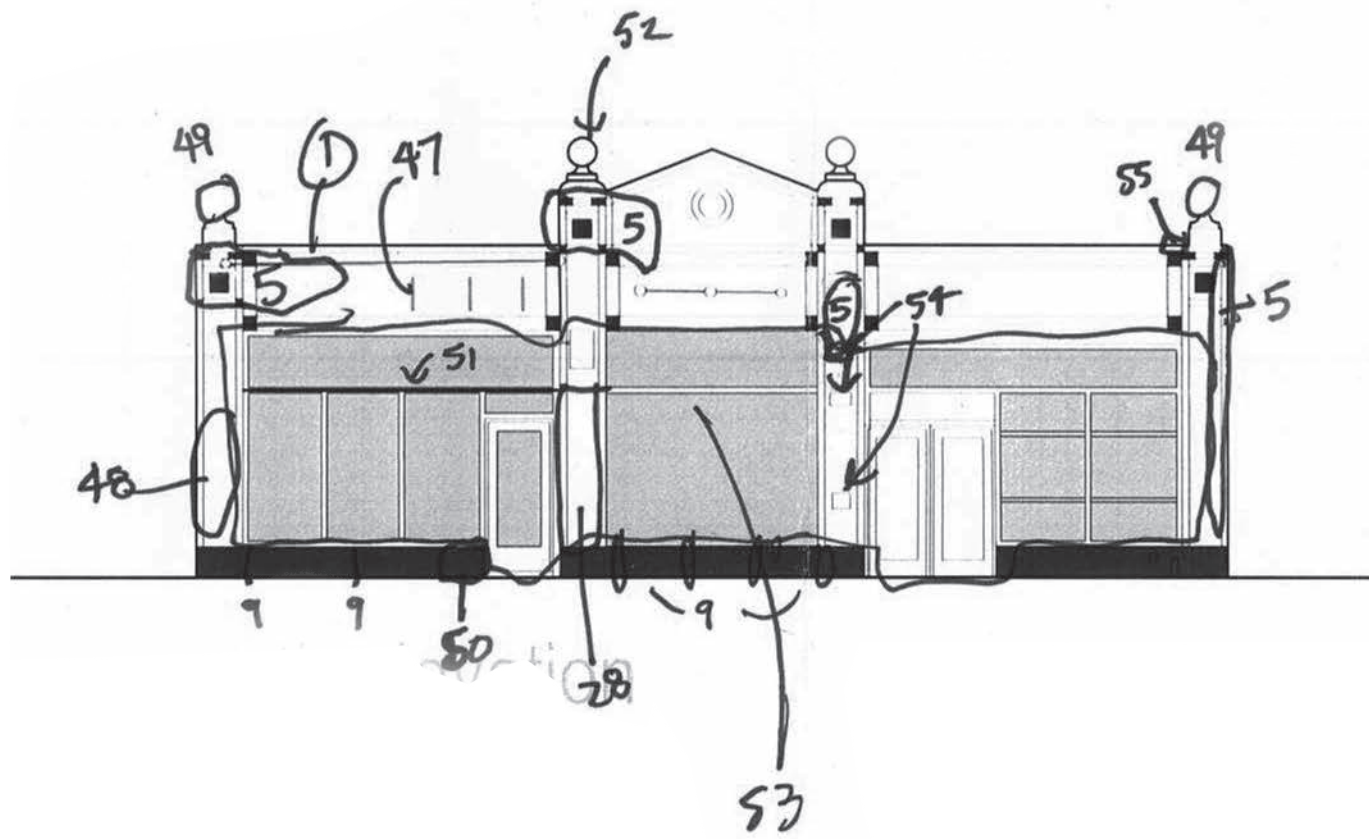
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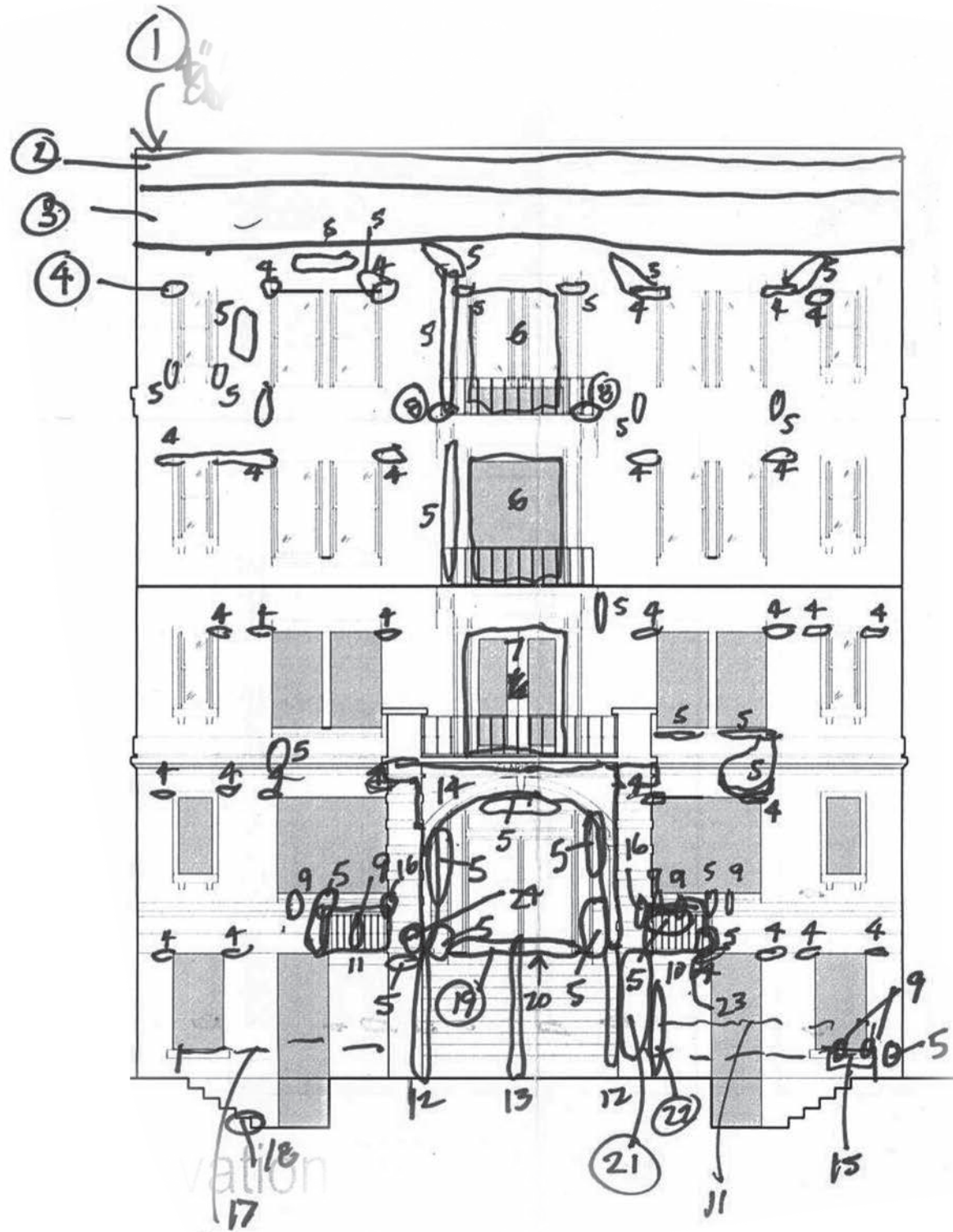
EAST EXTERIOR ELEVATION





NORTH EXTERIOR ELEVATION





NORTH EXTERIOR ELEVATION





**STRUCTURAL
NARRATIVE**

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1.1 Market Rate Building – 489 Henry

Existing four-story, 31,100sf residential building. With the following structural components:

- Brick basement walls.
- Steel columns in basement.
- Steel frame supporting walls either side of corridor.
- Wood floor and roof joists spanning to exterior brick masonry bearing walls, interior wood stud walls or steel beams.
- Corridors have terrazzo finish on thick set mortar bed.
- Front façade decorated with face brick veneer and stone window and door surrounds.

1.2 Market Rate Building – 247 Henry

Existing three-story, 6,340sf residential building. With the following structural components:

- Brick basement walls.
- Steel columns in basement with wood girders supporting first floor joists.
- Wood floor and roof joists spanning to exterior brick masonry bearing walls and interior brick bearing walls.
- Interior light-well with skylight.
- Front façade decorated with face brick veneer and metal/wood trim surrounding doors and windows.
- Original water table at front parapet has been removed and brick parged.

1.3 Market Rate Building – 2447 Cass

Existing four-story, 15,025sf residential building. With the following structural components:

- Brick basement walls.
- Steel columns in basement with wood girders supporting first floor joists.
- Wood floor and roof joists spanning to exterior brick masonry bearing walls and interior brick bearing walls.
- Interior light-well with skylight.
- Central stair with skylight overhead.
- Front façade decorated with face brick veneer and decorative stone surrounding entrance doors and windows.

1.4 Market Rate Building – 2467 Cass

Existing four-story, 24,850sf residential building. With the following structural components:

- Brick basement walls.
- Steel columns in basement.
- Steel frame supporting walls either side of corridor.
- Wood floor and roof joists spanning to exterior brick masonry bearing walls, interior wood stud walls or steel beams.
- Corridors have terrazzo finish on thick set mortar bed.
- Front façade decorated with face brick veneer and metal/wood window and door surrounds.
- Metal clad water table at front parapet.

1.5 Affordable Building – 459 Henry

Existing four-story, 30,125sf residential building. With the following structural components:

- Brick basement walls.
- Steel columns in basement.
- Steel frame supporting walls either side of corridor.
- Wood floor and roof joists spanning to exterior brick masonry bearing walls, interior wood stud walls or steel beams.
- Corridors have terrazzo finish on thick set mortar bed.
- Front façade decorated with face brick veneer and stone window and door surrounds.

1.6 Affordable Building – 439 Henry

Existing four-story, 32,935sf residential building. With the following structural components:

- Brick basement walls.
- Steel columns in basement.
- Steel frame supporting walls either side of corridor.
- Wood floor and roof joists spanning to exterior brick masonry bearing walls, interior wood stud walls or steel beams.
- Corridors have terrazzo finish on thick set mortar bed.
- Front façade decorated with face brick veneer and stone window and door surrounds.



1.7 Affordable Building – 447 Henry

Existing single story 9,078sf commercial building. With the following structural components:

- Appears to have a basement.
- Steel columns in basement.
- Wood floor and roof joists spanning to exterior brick masonry bearing walls, interior wood stud walls or steel beams.
- Front façade decorated with face brick veneer, metal panels and stone at parapet and coping.

2 Building Codes and Standards

The design is based on the 2015 Michigan Rehabilitation Building Code (hereafter referred to as the Code). Additional structural standards used include:

- General loading standard: ASCE 7-10 Minimum Design Loads for Buildings and Other Structures.
- Concrete standard: ACI 318-14 Building Code Requirements for Structural Concrete and Commentary
- Steel standard: ANSI/AISC 360-10 Specification for Structural Steel Buildings.
- Masonry standard: Building Code Requirements and Specification for Masonry Structures, 2013 (TMS 402-16 / TMS 602-16)
- Wood standard: National Design Specification for Wood Construction 2015

3 Loading

3.1 Dead Loads

Dead loads include the weight of all structural elements and permanently structural elements plus the superimposed weight of finishes, cladding, and fixed equipment.

3.2 Live Loads

Assumed live loads for various floor uses are given in Tables 1,2 and 3.

Table 1

<i>Occupancy</i>	<i>Live Load</i>
Retail	100 PSF
Balconies	60 PSF
Residential areas	40 PSF + 15 PSF Partitions
Roof – Typical	20 PSF
MEP Equipment Areas	60 PSF

The Code permits live loads to be reduced for structural elements that support a floor area larger than 400 ft². Live loads will be reduced as permitted by ASCE 7-10 for the design of columns, girders and foundations.

3.3 Wind Loads

The following wind loading parameters for this site are from ASCE 7-10:

- Risk Category: II
- Basic Wind Speed, 3-second gust (V_u): 115 mph
- Exposure Category: B
- Enclosure Classification: Enclosed Buildings

3.4 Seismic Design

Buildings are registered as historic buildings and by CODE seismic upgrade of building is not required.



3.5 Snow Loads

The following snow loading parameters for the side are based on ASCE 7-10:

- Ground Snow Load: $P_g=25$ PSF
- Flat Roof Snow Load $P_f= 20$ PSF Minimum
- Additional snow drift as calculated for vertical projections, on lower roofs adjacent to high roofs or sloped roofs as required.

3.6 Load Combinations

For preliminary design, the load combinations are taken from the ASCE 7 code. The principal combinations are:

Load Combination (Strength)
$1.4(D + F)$
$1.2(D + F + T) + 1.6(L + H) + 0.5(L_r \text{ or } S \text{ or } R)$
$1.2D + 1.6(L_r \text{ or } S \text{ or } R) + (f_1 L \text{ or } 0.8W)$
$1.2D \pm 1.0W + f_1 L + 0.5(L_r \text{ or } S \text{ or } R)$
$1.2D \pm 1.0E + f_1 L + 0.2S$
$0.9D \pm 1.0W + 1.6H$
$0.9D \pm 1.0E + 1.6H$

Where:

D = Self weight plus Superimposed Dead Load

L = Live Load

L_r = Roof Live Load

S = Snow Load

W = Wind Load

E = Earthquake Load ($E = E_h \pm E_v$)

F = Fluid Load

H = Earth Pressure or Ground Water Pressure

R = Rain Load

T = Temperature Load

$f_1 = 1.0$ Use: Public areas, garage, loads greater than 100psf

$= 0.5$ Use: Others

The above load combinations are modified to include the factor (H) for load conditions including lateral earth pressure or ground water pressure as required.

3.7 Serviceability Combinations

Load Combination (Serviceability)
$1.0D + 1.0L$
$1.2D + 1.0W_{\text{service}}$
$0.6D - 1.0W_{\text{service}}$
$1.0D + 0.75L + 0.75W_{\text{service}}$

Where W_{service} is taken as the 10 year return period wind.

3.8 Foundation Load Combinations

The foundation soil demands are calculated based on a working stress foundation/soil stiffness model and working stress design load combinations.

4 Serviceability Criteria

4.1 Vertical Deflections

The following allowable limits for vertical deflection are assumed:

- Live Load displacement span/360
- Live Load displacement for wood floor and roof trusses span/480
- Total Dead + Live Load displacement span/240
- Total Dead + Live Load displacement for wood floor and roof trusses span/360
- Perimeter Beams supporting masonry or over window openings span/600

4.2 Lateral Drift

The following allowable limits for lateral drift are assumed:

- Wind story drift (10yr) floor height/400

4.3 Floor Vibration

Perceptible vibrations due to people walking can be disturbing to occupants, particularly to those undertaking quiet activities in residences, restaurants, offices and waiting areas. Typical walking frequencies of up to 2.4 Hz in corridors and 2.0 Hz in office or residences will be checked.

To help mitigate the perceptibility of vibration, the floors of the residential buildings will be designed for maximum live load displacement of span/480, effectively stiffening the floor.



5 Material Specifications

The following materials are assumed in the current structural design:

Concrete	f'_c
• All superstructure cast-in-place concrete	4 ksi
• Slab on grade, Spread Footings, Grade Beams	4 ksi
• Precast concrete members	5 ksi

Wood

- Framing Lumber: S-P-F No 1/ No 2 or better complying with:
 - $F_b = 875\text{psi}$
 - $F_t = 450\text{psi}$
 - $F_v = 135\text{psi}$
 - $F_{cp} = 425\text{psi}$
 - $F_c = 1,150\text{psi}$
 - $E = 1,400,000\text{psi}$
- Laminated Veneer Lumber (LVL): All LVL members shall have the following minimum properties: $F_b = 2600\text{psi}$, $F_v = 285\text{psi}$, $E = 1900\text{ksi}$.
- Wood Structural Panel Sheathing: All panels shall be and rated by the American Plywood Association (APA). Panels shall be interior grade with exterior glue with the following panel span rating, UNO: Roof 42/24; Floors 48/24; Wall 30/16. Where fire rating is required comply with fire retarded treated (such as pyro-guard) plywood.
- All members (studs, headers and plywood) in exterior walls and as noted on architectural drawings shall be Fire Retarded Treated Wood (FRTW) to match properties listed above.
- Older, harder wood framing found in these historic buildings may be substantially stronger and more rigid than equivalent commercially available lumber. Therefore replacement wood sizes may be heavier or deeper than originally used/required.
- Original design embed many wood members into brick/masonry walls. This is not good practice and any wood in contact with brick/masonry or concrete should be pressure treated.

Steel	Grade
• Reinforcing Bars (ASTM A625)	GR 60
• Structural Steel Rolled Shapes	ASTM A992 Grade 50
• Miscellaneous Steel Shapes	ASTM A36 Grade 36
• Square or rectangular Tubes	ASTM A500 Grade B
• Round Steel Tubes or Pipes	ASTM A500 Grade B

6 Existing Building Condition Assessment

The various framing layout and preliminary condition of each building is included in the set of Schematic Design drawings included with this Report. A brief summary of each building is provided below. Note, the summary and drawings are based in limited initial site visits and will improve in detail and scope through the design process.

6.1 489 Henry

The building is currently occupied therefore it is hard to fully assess the condition of the hidden structural members. It appears the interior structure is in fair to good condition suitable for proposed use. The following issues need to be addressed:

- If the elevator required to be updated the elevator pit may need to be deepened from 4'-0" (typical for older elevators) to 5'-0" (required for most current elevator models).
- The decorative front façade and elevated entrance porch area required substantial repairs with visible cracking and displacement in and out of plane due to corrosion of embedded steel lintels.

6.2 247 Henry

The building is currently vacated and exterior windows have been boarded up. The following notable issues need to be addressed:

- Entrance slab steps appear to be free floating and may need to be re-constructed to provide frost depth foundations.
- Front façade is in fair condition with some deterioration of the metal and wood trim sounding the windows.
- Exterior side walls are in fair condition with minor to moderate repairs required to window lintels, areas of deteriorated brick and coping tiles.
- The exterior rear requires extensive repairs/replacement of damaged and deteriorated brick and mortar. Damage caused by un-controlled run-off of roof sloping toward the rear.
- Interior structural framing appears in fair to moderate condition. Of concern is the condition of the wood floor and roof joists bearing into the brick exterior walls. Long term exposure to damp walls may result in rotten and deteriorated bearing ends not obviously visible.



6.3 2447 Cass

The building is currently vacated and exterior windows have been boarded up. The following notable issues need to be addressed:

- The entrance steps and elevated entrance is in poor condition and needs substantial repairs.
- The front façade is in fair condition with some cracking of the stone surrounding the windows and entrance door.
- The exterior side walls are in fair condition with minor to moderate repairs required to window lintels, areas of deteriorated brick and coping tiles.
- The exterior rear requires moderate repairs/replacement of damaged and deteriorated brick and mortar. Damage caused by un-controlled run-off of roof sloping toward the rear as well as deterioration of exposed wood balconies and staircase.
- The interior framing is in fair condition with areas of sagging floors, fire damage and wood rot observed in the rear ends.
- The main stair is sloping and sagging and will need to be repaired.
- Wood bearing into brick walls will need detailed inspection to assess extent of wood rot.

6.4 2467 Cass

The building is currently vacated and exterior windows have been boarded up. The following notable issues need to be addressed:

- The elevated entrance steps, landing and side porches are in very poor condition and complete re-construction of this area is required.
- The front façade is in fair condition with some deterioration of the metal and wood trim surrounding the windows and front balconies.
- The exterior side walls are in fair condition with minor to moderate repairs required to window lintels, areas of deteriorated brick and coping tiles.
- Moderate to severe deterioration of the brick observed in recessed areas where open roof drain pipes are constantly exposing brick to concentrated water flow.
- The metal decorative water table appear in fair condition. The condition of the supporting structure is unknown. A test pocket is recommended to assess the condition of the supporting structure.
- The interior structural floor and roof framing is in very poor condition. Full reconstruction of floors on both sides of the corridors are required.
- Elevator pit may need to be enlarged.
- No access to the basement due to un-safe condition of existing stairs.

6.5 459 Henry

The building is currently occupied therefore it is hard to fully assess the condition of the hidden structural members. It appears the interior structure is in fair to good condition suitable for proposed use. The following issues need to be addressed:

- If the elevator required to be updated the elevator pit may need to be deepened from 4'-0" (typical for older elevators) to 5'-0" (required for most current elevator models).
- The decorative front façade and elevated entrance porch area required repairs with minor cracking and displacement observed.



6.6 439 Henry

The building is currently occupied therefore it is hard to fully assess the condition of the hidden structural members. It appears the interior structure is in fair to good condition suitable for proposed use. The following issues need to be addressed:

- If the elevator required to be updated the elevator pit may need to be deepened from 4'-0" (typical for older elevators) to 5'-0" (required for most current elevator models).
- The decorative front façade and elevated entrance porch area required repairs with minor cracking and displacement observed.

6.7 447 Henry

No access to the interior of this building. The following issues need to be addressed on the exterior:

- Moderate cracking in front façade caused by corroding steel lintels above large openings.
- Stone coping and decorative urns are in poor condition and need to be replaced.
- Areas of damaged and deteriorated brick need to be repaired.





THANK YOU

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