

March 4, 2014

Hon. Meenakshi Srinivasan
Chair
New York City Board of Standards and Appeals
250 Broadway, 29th Floor
New York, NY 10007

Re: New York Methodist Hospital
Center for Community Health
505-525 6th Street (Block 1084,
Lots 25, 26, 28, 39-44, 46, 48,
50-59, 164, 1001, and 1002)
BSA Cal. No. 289-13-BZ

Dear Chair Srinivasan and Commissioners:

We are submitting this letter in connection with the application by New York Methodist Hospital ("NYM" or the "Hospital") for a variance to facilitate the development of a new ambulatory care facility (the "Center") Hospital's main campus in Brooklyn. This letter and the attached materials provide responses to questions asked by the Board at the February 11, 2014, public hearing on the application, as set forth below.

1. *Provide studies for lesser variance options for the Center that (i) fully comply with the applicable height and setback regulations in the R7B district and (ii) reduce the degree of the building's non-compliance with the applicable height and setback regulations in the R6B district.*

Attached to this letter is a Lesser Variance Study prepared by Perkins Eastman Architects, consisting of illustrative diagrams for alternate designs of the Center that would require a lesser variance. The Study is a preliminary analysis of how the Hospital's needed program would be accommodated in such alternate versions of the building. While further analysis would be needed to finalize the program of such a building, the attached illustrative diagrams are representative of the nature and degree of program impacts that would result.

The Lesser Variance Study examines three modifications to the proposed Center's building envelope: (i) an increased setback at the 4th floor in the R6B district; (ii) an increased setback at the 5th through 7th floors in the R6B district; and (iii) an increased setback at the 6th floor in the R7B district to achieve full compliance with the R7B height and setback regulations. The portions of the building, as currently proposed, that would be eliminated by such modifications are shown on the Lesser Variance Reductions diagrams attached to this letter.

The first lesser variance option would increase the building's setback from 5th Street in the R6B district by an additional 15 feet, to a total depth of 20 feet from the street. In the current design for the Center, the western wing of the building contains a surgical suite with 12 operating rooms (ORs) on the 3rd floor, a post-anesthesia care unit

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(PACU) on the 4th floor, and Central Sterile Services (CSS) and Materials Management on the 2nd floor. As discussed in the application, the vertical adjacencies between these facilities are needed to create a controlled, sterile environment for the building's surgical functions and efficient travel distances for patients and staff. The PACU suite contains 36 patient rooms in order to maintain a 3-to-1 ratio to the building's ORs, as required by New York State Department of Health code. The amount of space for PACU cannot be reduced in size without requiring a reduction in the number of PACU rooms and, in turn, a reduction in the number of ORs on the 3rd floor. The Study therefore accomplishes the additional setback at the 4th floor by swapping the PACU suite with CSS and Materials Management on the 2nd floor. While this design modification maintains the needed vertical adjacencies and allows an increased setback at the 4th floor, it creates a number of issues, including possible impacts on the size of ORs, as follows:

- The relocation of CSS and Materials Management to a floor with smaller dimensions requires a reduction of the program area for one or both of these functions, with impacts on the efficiency of the building's operations. (See Lesser Variance Study, 4th Floor Plan Diagram)
- To accommodate the surgical suite, the current design for the Center has a stiffer floor construction at the 3rd floor to reduce vibration and deflection. This stiffer construction is achieved by utilizing standard-depth beams over shorter spans, requiring a denser column spacing on the floor immediately below. The more tightly-spaced columns do not significantly impede the configuration of CSS and Materials Management, but they would result in compromised or displaced PACU units if the PACU suite is relocated to the 2nd floor. (See Lesser Variance Study, 2nd Floor Plan Diagram)
- As an alternative to maintaining standard-depth beams and denser column spacing on the 2nd floor, the building could be designed with a deeper 3rd floor construction to achieve the floor stiffness required for the surgical suite. This would take the form of deeper structural framing members, spanning between fewer, farther-spaced columns than in the above option, to provide the stiffness required for the surgical floor. This solution results in either a greater floor-to-floor height for the floor and, in turn, the building, or a reduced headroom condition on the 2nd floor, with its associated loss of flexibility, compromised design, and complex coordination, maintenance, and construction, as described below.
- The location of CSS on the 4th floor with an increased setback from 5th Street would require that the building's soiled elevator and flanking support spaces be moved southward to remain within the building envelope. (See Lesser Variance Study, 4th Floor Plan Diagram) In order to accommodate the relocation of the elevator shaft and support spaces on the 3rd floor while maintaining sterile connections, the building's surgical suite must be reduced in size. This would require the displacement of support space or a reduction in the size of one or more ORs, with a resulting reduction in services to the community. (See Lesser Variance Study, 3rd Floor Plan Diagram)
- CSS and Materials Management both rely heavily on the western wing's service elevators. Moving these facilities two floors up in the building would increase demand on the service elevators, with impacts on other users of the elevators, and

require additional travel times for each delivery made to these spaces. (See Lesser Variance Study, 4th Floor Plan Diagram)

The Lesser Variance Study also examines the impacts of providing more significant setbacks along 5th Street to achieve full compliance with the height and setback regulations in the R7B district and to reduce the height of the portion of the building in the R6B district to four stories. In particular, the eastern wing's 6th floor is set back by approximately an additional 20 feet to the R6 district boundary line, and the western wing's 5th through 7th floors are set back approximately by an additional 69 feet to the R6 district boundary line. As demonstrated by the diagrams, the design of the Center cannot be modified as suggested without significantly reducing the size of or completely eliminating certain departments or services and compromising the building's flexibility, efficiency, and ability to provide innovative care programs. In particular:

- Many of the ambulatory surgery and clinical institute facilities would be severely reduced in size, resulting in a building that leaves the Hospital's programmatic need for additional space largely unsatisfied. In the Lesser Variance Study, the Orthopedics Institute is reduced by 1,053 departmental gross square feet (dgsf), or 16%; the Cardiology Institute is reduced by 2,958 dgsf, or 25%; the Cancer Care Institute is reduced by 11,463 dgsf, or 38%; and the Women's Center is reduced by 2,343 dgsf, or 15%. The total reduction in clinical program (including the loss of the hyperbaric chamber facilities, described below) is 22,622 dgsf, which is more than 18% of the 123,208 dgsf accommodated by the current design for the Center.
- Support facilities that are critical to the operation of the surgical suite would also be compromised. In the Lesser Variance Study, CSS is reduced by 196 dgsf, or 6%, and Materials Management is reduced by 538 dgsf, or 28%.
- Certain facilities would be eliminated entirely. In the Lesser Variance Study, the building would not be able to house any hyperbaric chamber facilities.
- Many healthcare program areas would be relocated or reconfigured, with the resulting elimination of efficient adjacencies. In the Lesser Variance Study, the Women's Center on the 7th Floor can be accommodated only by splitting the department into two spaces, one on each side of the building's circulation core, resulting in a bifurcation of services, increased travel times, and less efficient circulation paths for patients and staff. Rapid Response Lab and USP 797 Pharmacy are relocated from the 6th floor to the 4th floor, two floors away from the 6th floor Institute for Cancer Care that such facilities predominately serve. Further, mechanical and electrical equipment spaces currently located in the setback areas would be displaced, requiring a reconfiguration of program areas to accommodate them in new locations.

In short, a building with the suggested setbacks would be inadequate to satisfy the Hospital's programmatic needs.

2. *Provide diagrams illustrating the programmatic issues associated with construction a larger portion of the Center, e.g. up to five stories, over the existing Hospital garage.*

The attached Garage Overbuild Study demonstrates the programmatic deficiencies of a development that includes construction over the existing Hospital garage. The proposed design configuration of the Center on the U-shaped development site is based on a design principle by which two distinct circulation paths are provided (i) for patients and (ii) for staff, oriented around a centrally located core, with patients led progressively toward more controlled, private, and dedicated spaces—from the waiting area to registration, then to processing, then to preparation, and finally to treatment in the eastern and western wings of the building. This design not only provides a rational, efficient circulation network, but it is also needed to accommodate certain ambulatory care facilities in the building. The surgical suite, for example, must be located in the Center's western wing because the central core area and eastern wing do not have sufficient dimensions to accommodate the facilities. The PACU unit and CSS, which must be adjacent to the surgical suite, are therefore also located in the western wing, on the floors immediately above and below.

An additional wing located over the existing Hospital garage, with a height of five stories (or more or less), would not satisfy the Center's programmatic needs because the geometry would necessitate that it be functionally and operationally segregated from the remaining portion of the building. Connections could not be made between the garage wing and the main building because (i) the vehicular driveway and loading area would separate the garage wing and the rest of the building on the ground floor (see Ground Floor Plan Diagram) and (ii) security, infection-control, and operational standards for the ambulatory surgery facilities would prohibit pass-through access to the garage wing on the 2nd through 4th floors, which house CSS, PACU, and the ORs (see 2nd Floor Plan through 4th Floor Plan Diagrams). A connection would be possible only at the 5th floor, and even then would create a very long, inefficient circulation network between the main portion of the new facility and the garage wing of the building—a circulation network which would run through departments rather than distribute to them efficiently from a central core. In addition, the program areas within the garage wing and western wing on the 5th floor would have no functional relationship to each other, and therefore any connection between them would be detrimental to such programs and introduce security, infection, and efficiency concerns. (See 5th Floor Plan Diagram)

Such a design would also require an additional vehicular drop-off and pedestrian entrance on 5th Street, since almost all of the garage wing's floors, including the ground floor, could not be accessed from the building's central circulation core on 6th Street. This configuration would require an inefficient utilization of space, with more area dedicated to vertical and horizontal circulation and vehicular access, and would result in increased vehicular traffic on 5th Street. (See Ground Floor Plan Diagram) In short, the building would have the same deficiencies as the Complying Development. To the extent that the garage wing complied with applicable height and setback and rear yard equivalent regulations, it would similarly contain very narrow floor plates, capable of accommodating only inefficiently small suites for the Hospital's clinical institutes.

3. *Explain why the proposed floor-to-floor heights of the Center, particularly those for the 6th and 7th floors, are needed.*

The floor-to-floor height of most of the proposed Center's floors is 14'-0", which is appropriate for accommodating the medical facilities and equipment that the Center may need now or in the future. The consistency of this height among the building's floors provides appropriate flexibility for the reprogramming of the building.

Perkins Eastman Architects studied an alternate design for the Center in which the 5th through 7th floors are each reduced in floor-to-floor height by 6 inches to reduce the total building height by 1'-6". As shown by the attached elevation comparison

and massing comparison, these modifications result in a negligible reduction in the building's apparent height, while reducing the building's planning flexibility. They also compromise the efficiency of the building in a number of ways:

- The design, coordination, and maintenance of the building's utilities would become more complex. The height reduction would require a greater compaction of overhead utilities and equipment, with various systems lines and equipment needing to be either split to reduce overall depth or ganged, thereby limiting access to those lines and the equipment located behind them.
- Similarly, the height reduction would limit routing options for major ductwork and pipes, requiring a finer level of coordination and fabrication by contractors—with more conflicts in the field and costly and time-consuming field fixes.
- The height reduction would in some cases require the flattening of ductwork, resulting in suboptimal height-to-width ratios. Such ratios would result in increased surface friction, requiring either larger fans or increased demands on fans, with the associated wear and tear. They would also result in increased face velocities for air passage in some cases, and in turn reduced patient comfort.
- Design responses to the above problems, where possible, would in many cases require beam cuts and the utilization of shallower, heavier beams, with significant added costs.

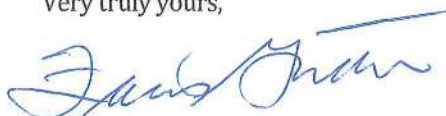
In light of the significant benefits to be gained by the proposed floor-to-floor ceiling heights, and the negligible benefit and new issues that would be created by decreasing such heights, we believe that the proposed design is highly appropriate.

4. *Discuss whether the proposed rooftop mechanical enclosures can be set back farther from 5th Street.*

As shown in the attached Equipment Screen Study, consisting of an 8th Floor Plan Diagram, 9th Floor Plan Diagram, and Section Diagrams, the rooftop mechanical closures for the proposed Center have been designed to provide the minimum required clearance around the rooftop equipment currently planned for the building. They cannot be set back farther from the street for this reason. As the design of the building advances, we will explore options for the mechanical equipment that may require smaller enclosures.

We would be pleased to provide the Board with any additional information you need. Thank you for your consideration.

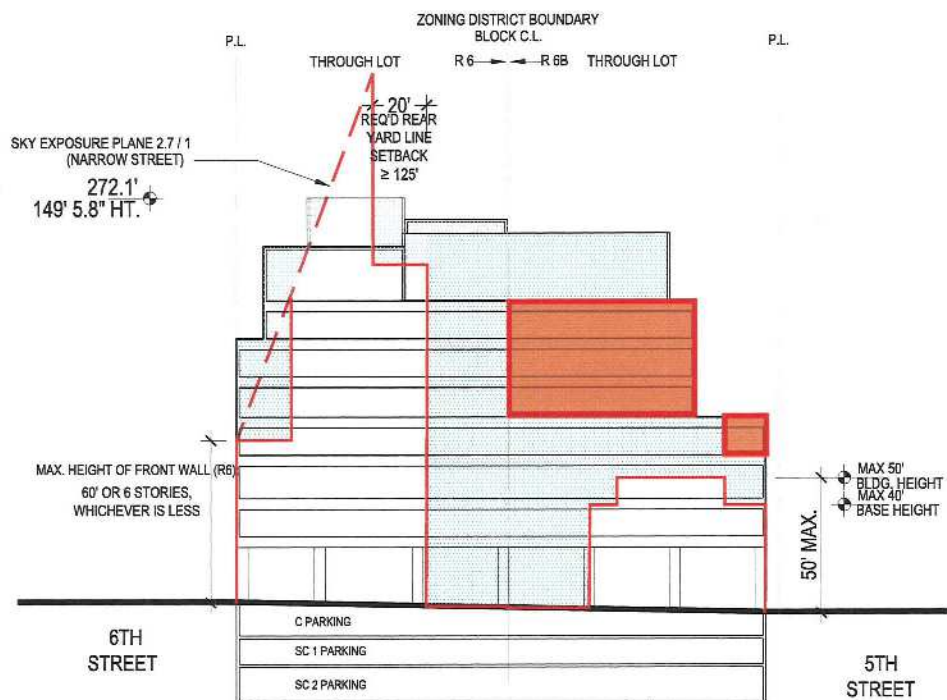
Very truly yours,



Francis Gunther, AIA
Principal

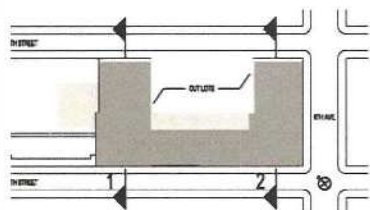
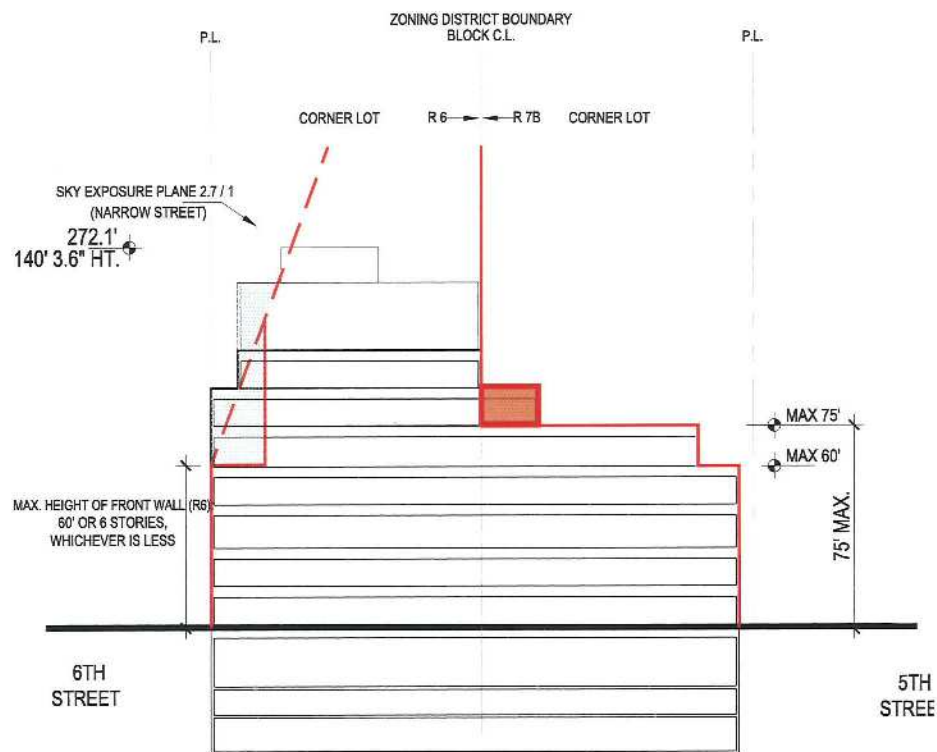
1

THROUGH LOT B: R6 / R6B



2

CORNER LOTS C & D: R6 / R7B

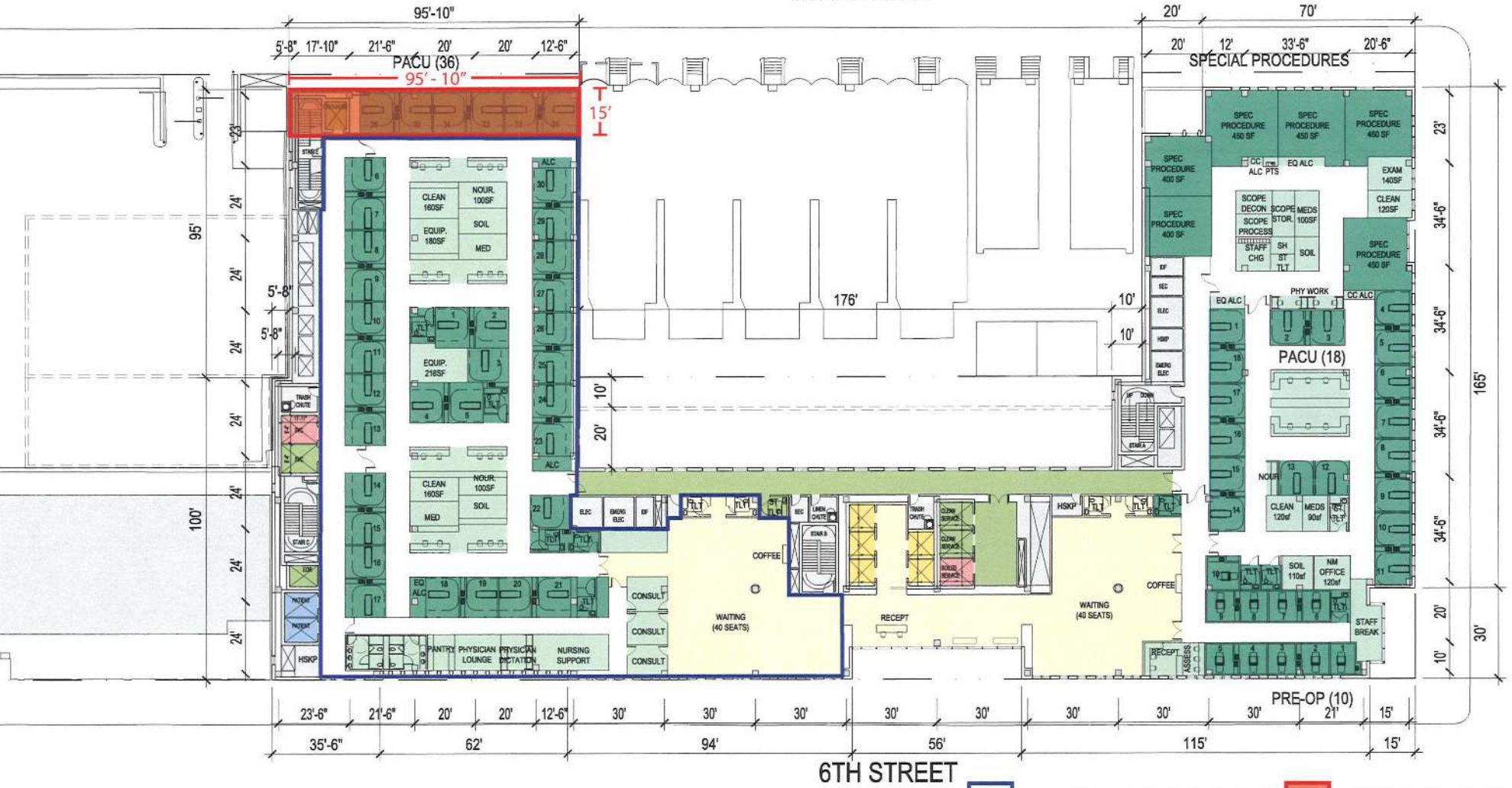


- AREAS OF NON-COMPLIANCE
- SKY EXPOSURE PLANE
- PERMITTED BUILDING ENVELOPE

LESSER VARIANCE REDUCTIONS

5TH STREET

8TH AVENUE



IMPACTED PROGRAMATIC SPACE LESSER VARIANCE REDUCTIONS

NEW YORK METHODIST HOSPITAL CENTER FOR COMMUNITY HEALTH

LESSER VARIANCE REDUCTIONS

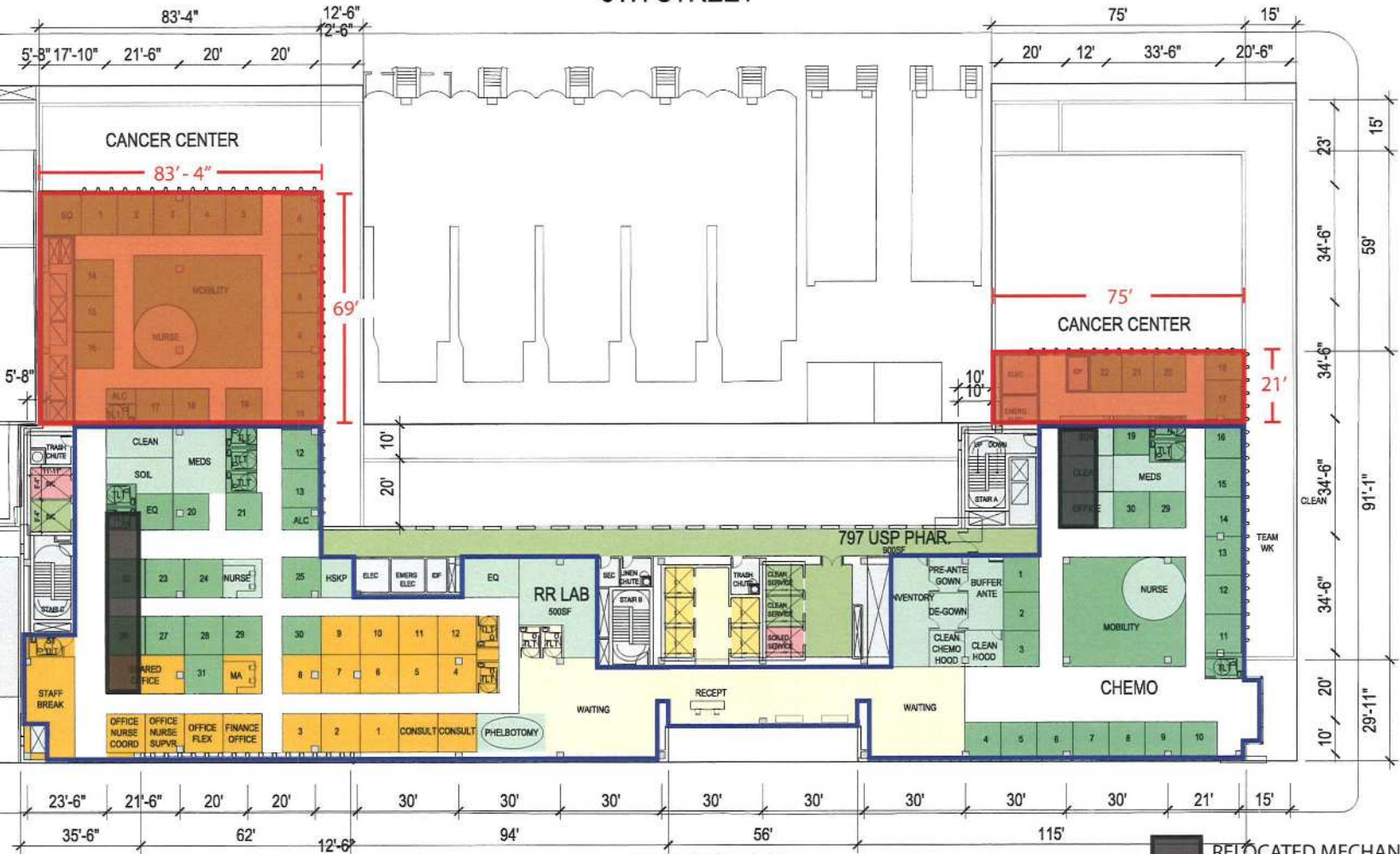
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DISPLACED MECHANICAL SPACE
RELOCATED

5TH STREET

8TH AVENUE



6TH STREET

RELOCATED MECHANICAL
IMPACTED PROGRAMMATIC SPACE
LESSER VARIANCE REDUCTIONS

5TH STREET

8TH AVENUE

GREEN ROOF

6TH STREET

IMPACTED PROGRAMATIC SPACE

RELOCATED MECHANICAL

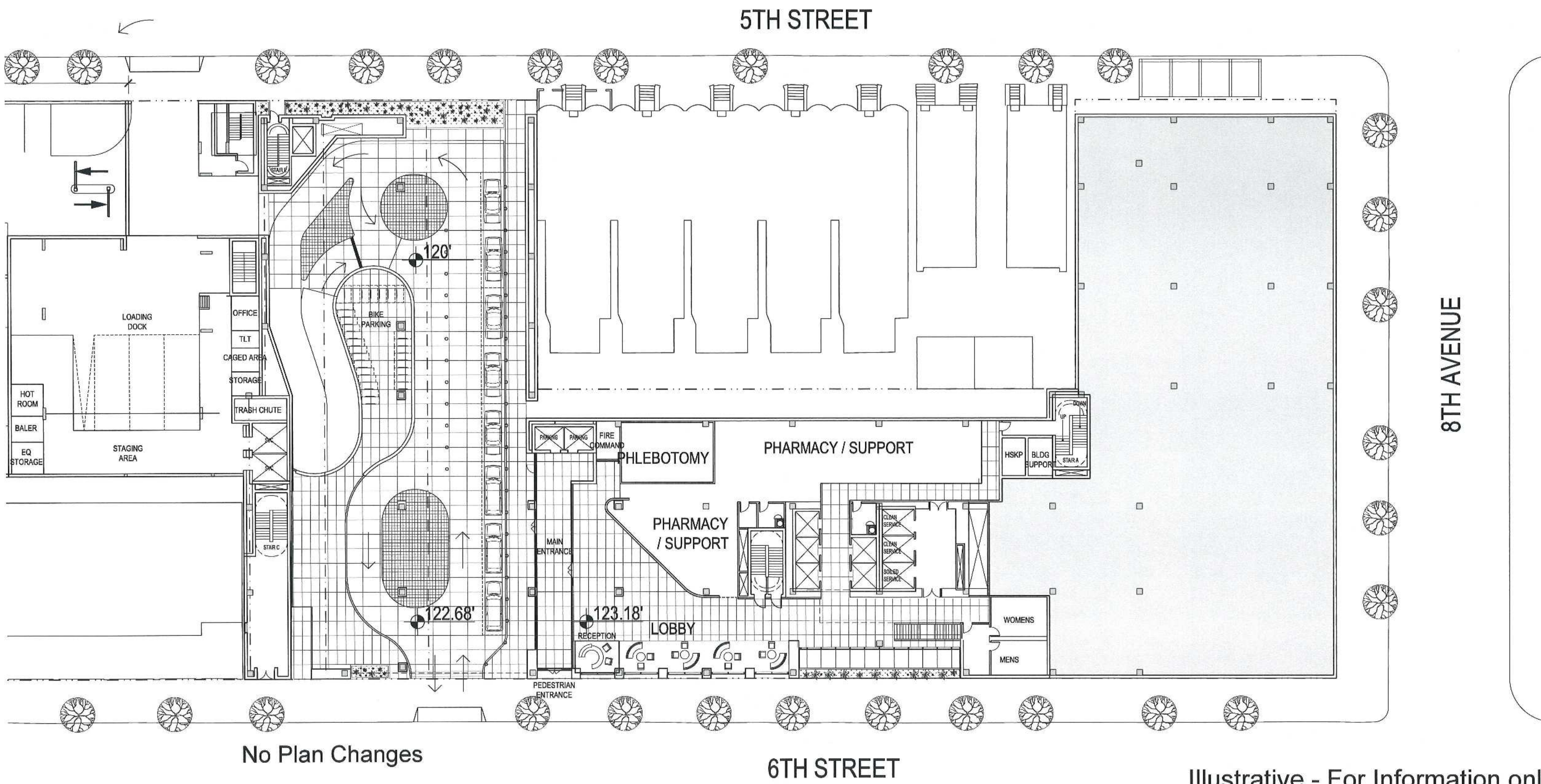
LESSER VARIANCE REDUCTIONS

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LESSER VARIANCE REDUCTIONS

7TH FLOOD SETBACK IN R/D

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LESSER VARIANCE STUDY

BSA

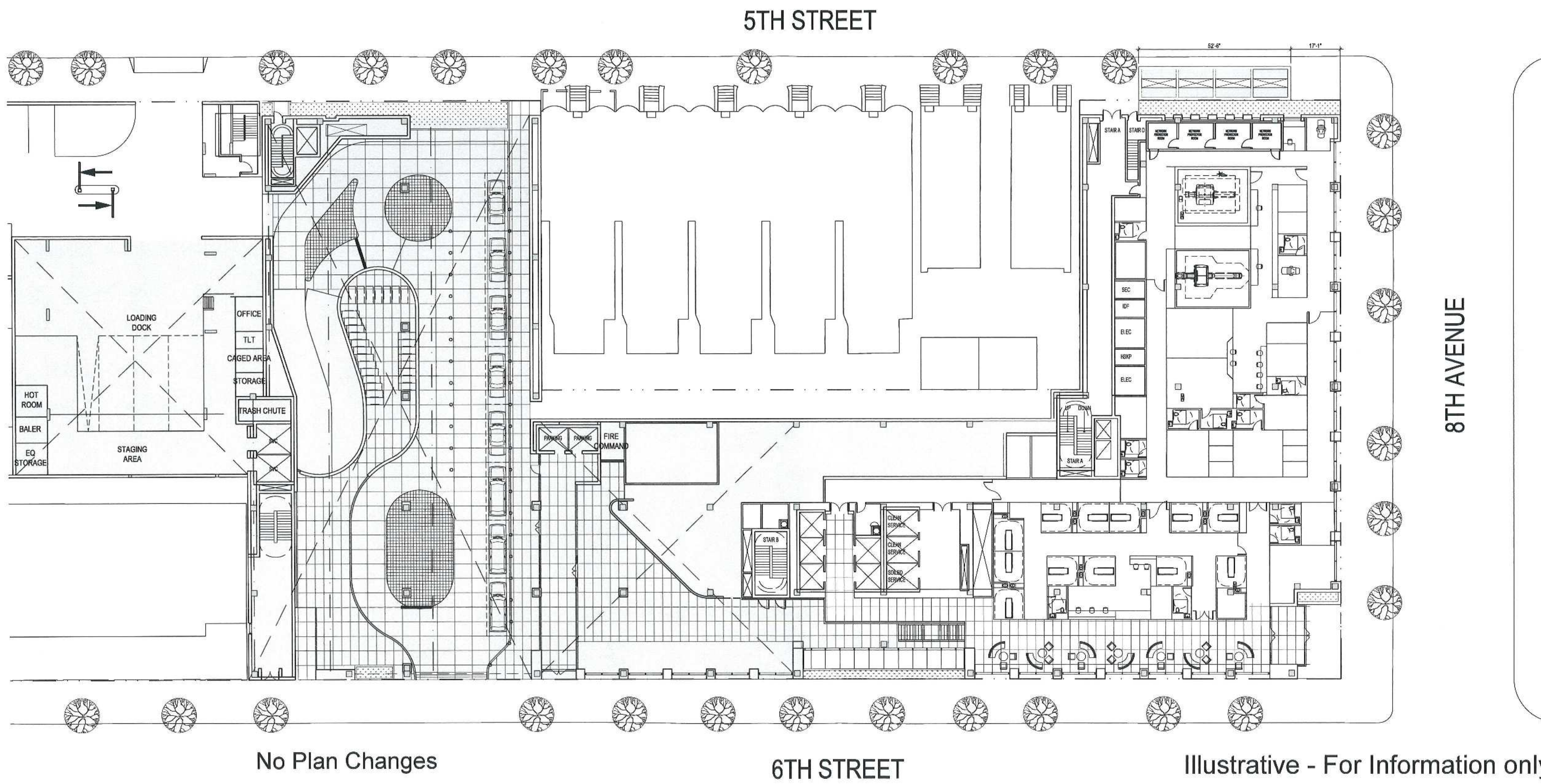
NY Methodist Hospital, Brooklyn
Ground Floor Plan

03-04-2014 Scale: 1" = 32'-0"



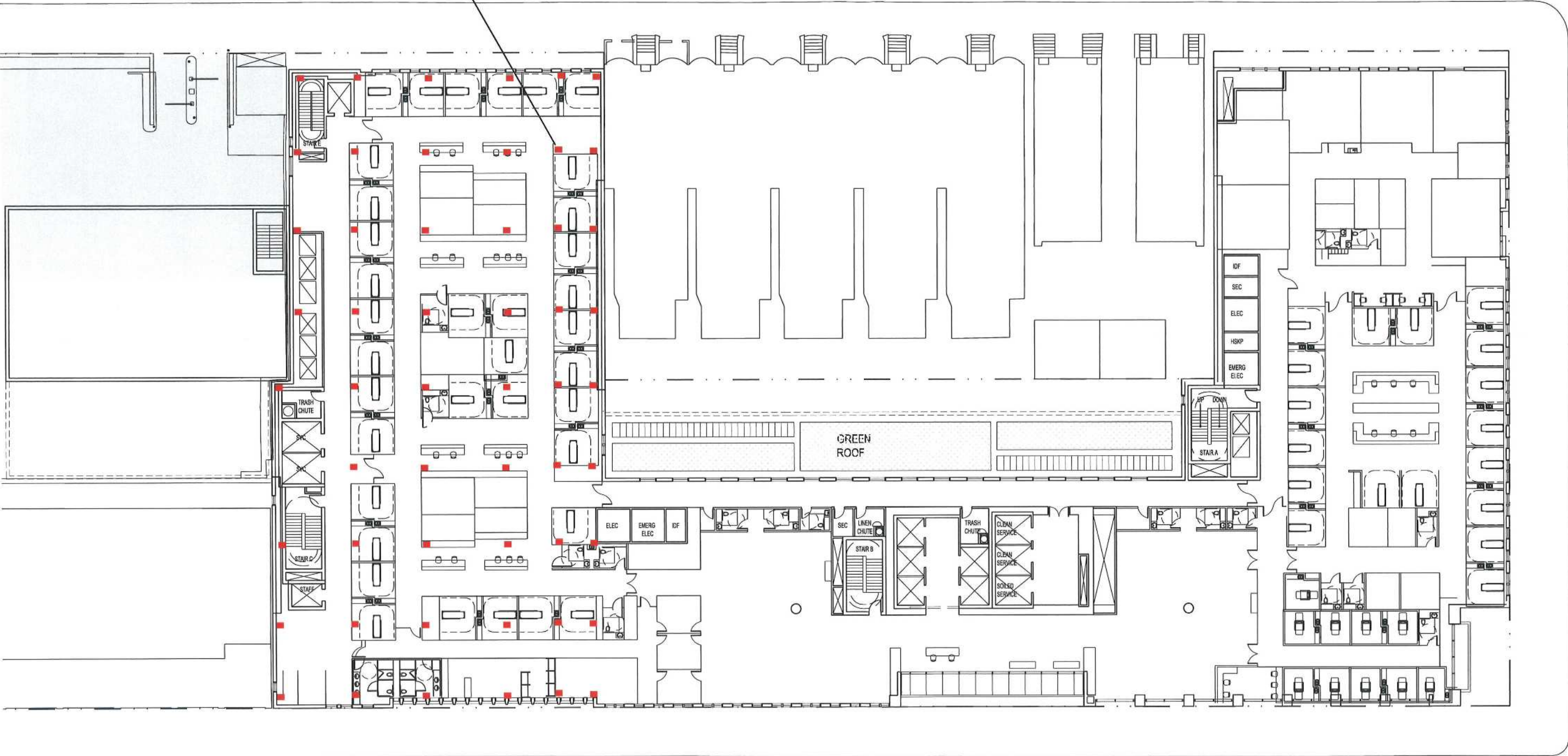
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The Center for Community Health



Compromised / Displaced
PACU due to denser column
grid for Surgical Suite above

5TH STREET



8TH AVENUE

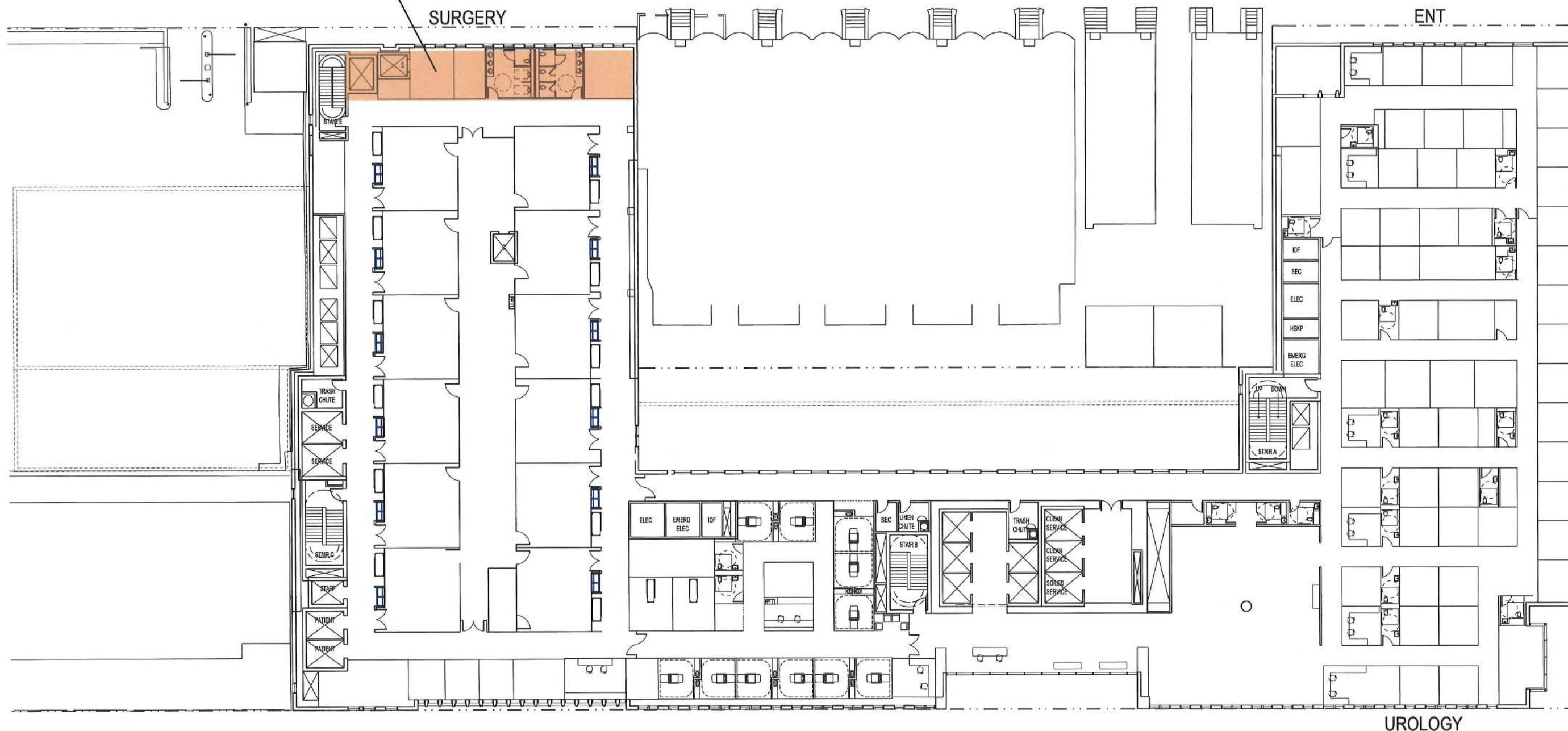
PACU and Special Procedures relocated from Fourth Floor

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LESSER VARIANCE STUDY



Surgery and support spaces impacted due to required shifting to the south of soiled elevator and support spaces

5TH STREET



8TH AVENUE

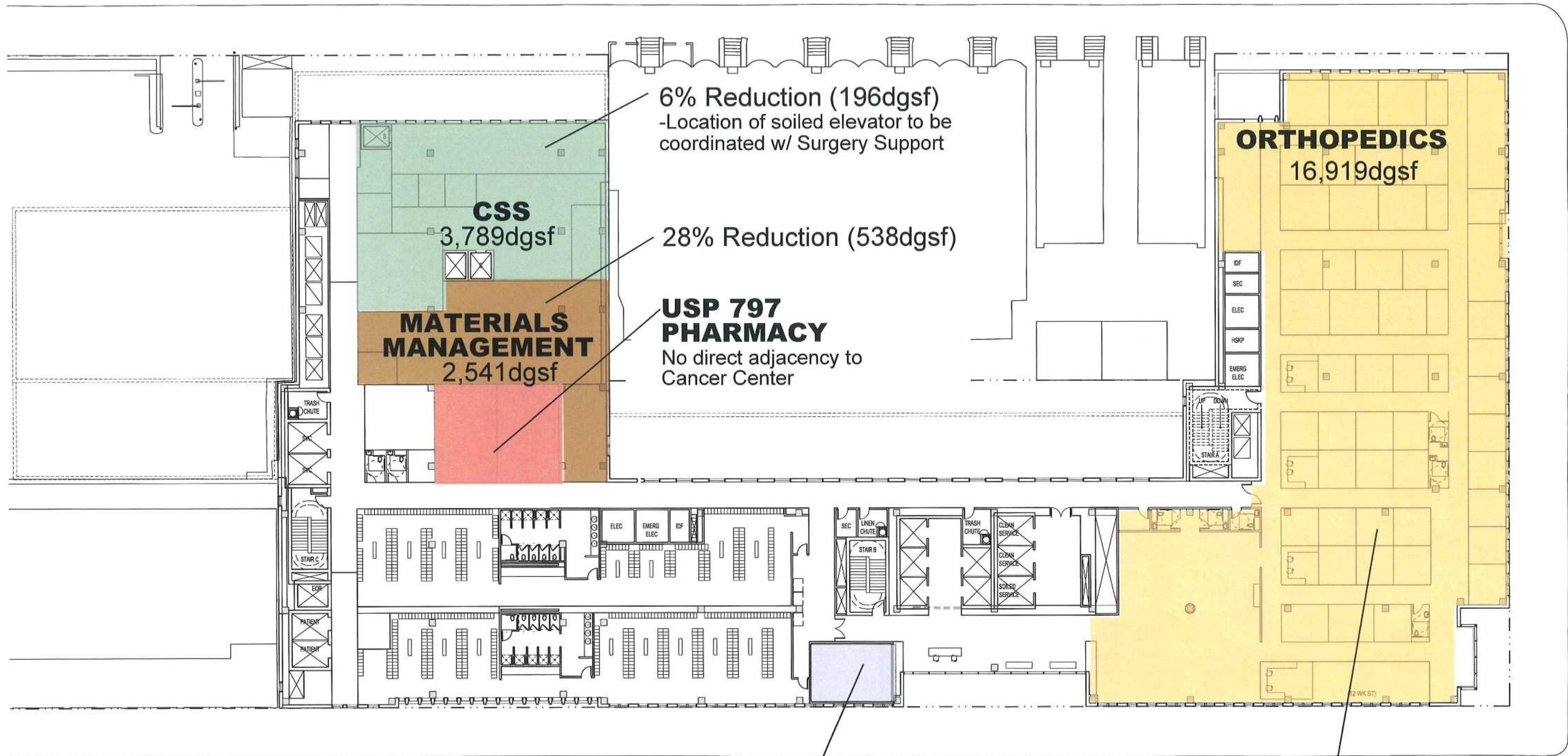
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LESSER VARIANCE STUDY



5TH STREET

8TH AVENUE



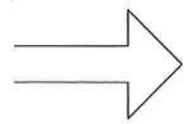
RAPID RESPONSE LAB

No direct adjacency to
Cancer Center

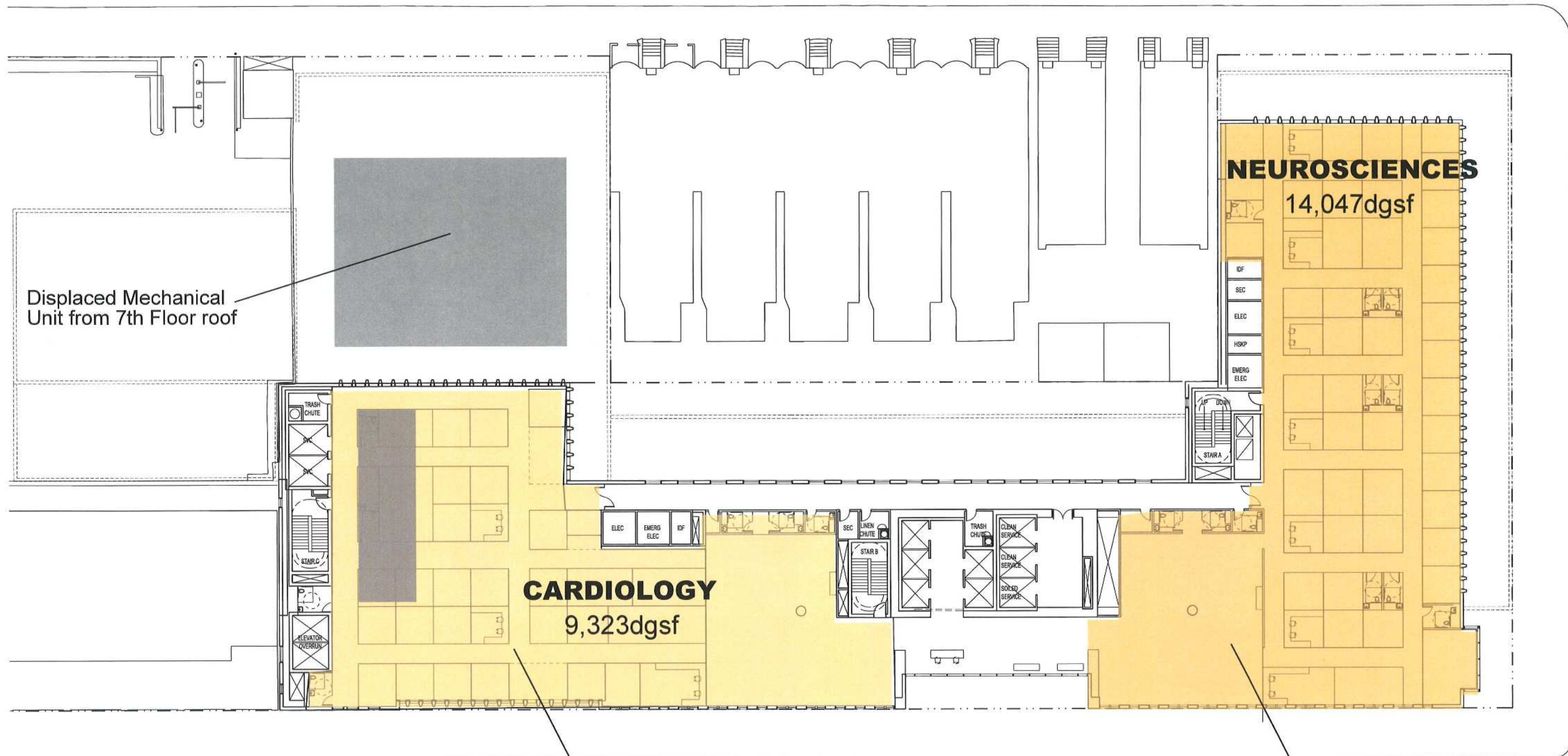
16% Reduction (1,053dgsf)

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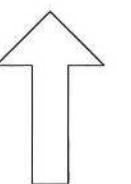
LESSER VARIANCE STUDY



5TH STREET



8TH AVENUE



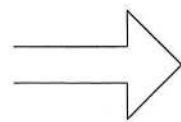
25% Reduction (2,958dgsf)

No Plan changes

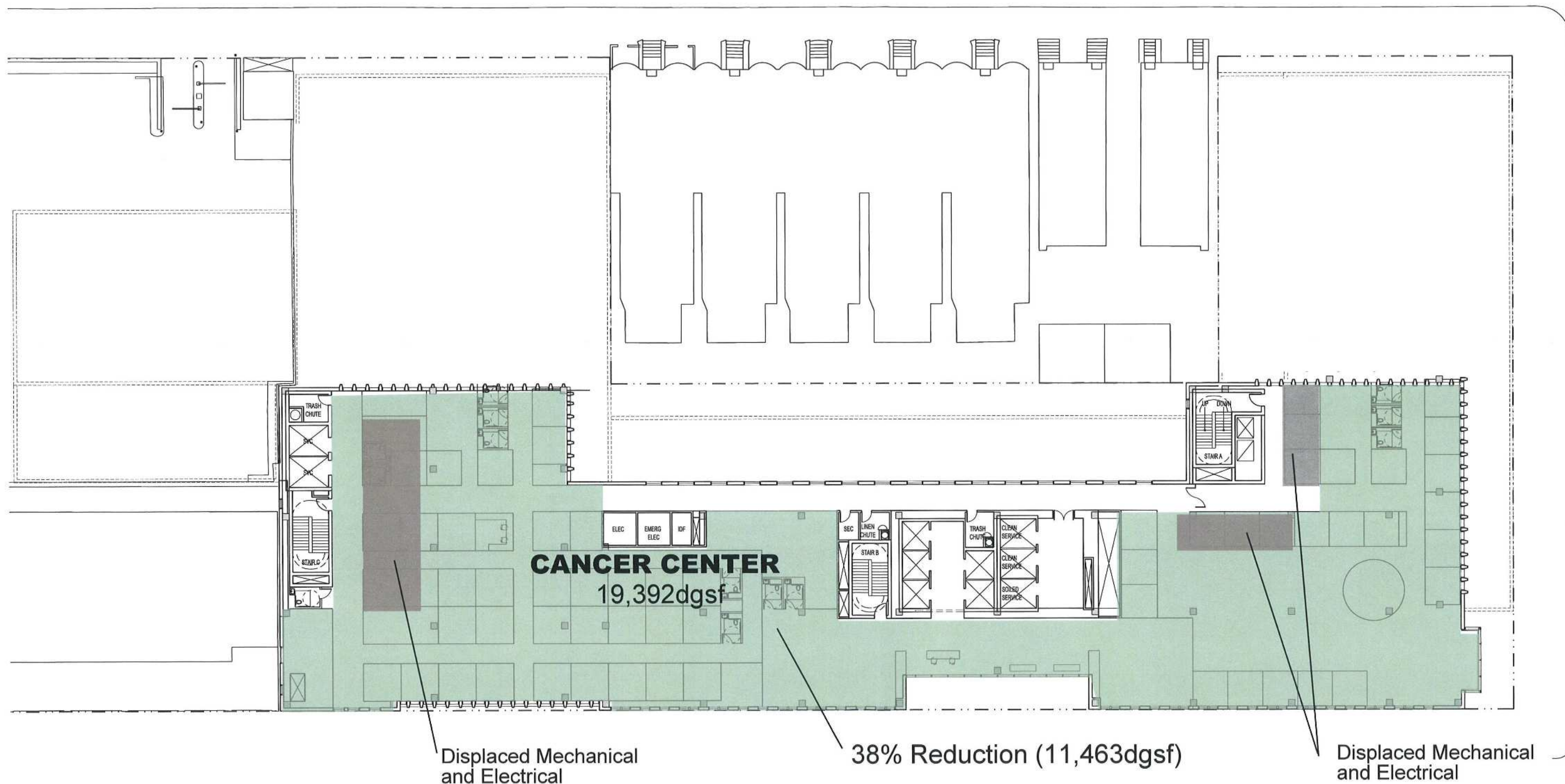
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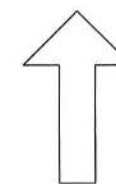




5TH STREET



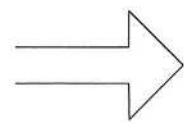
8TH AVENUE



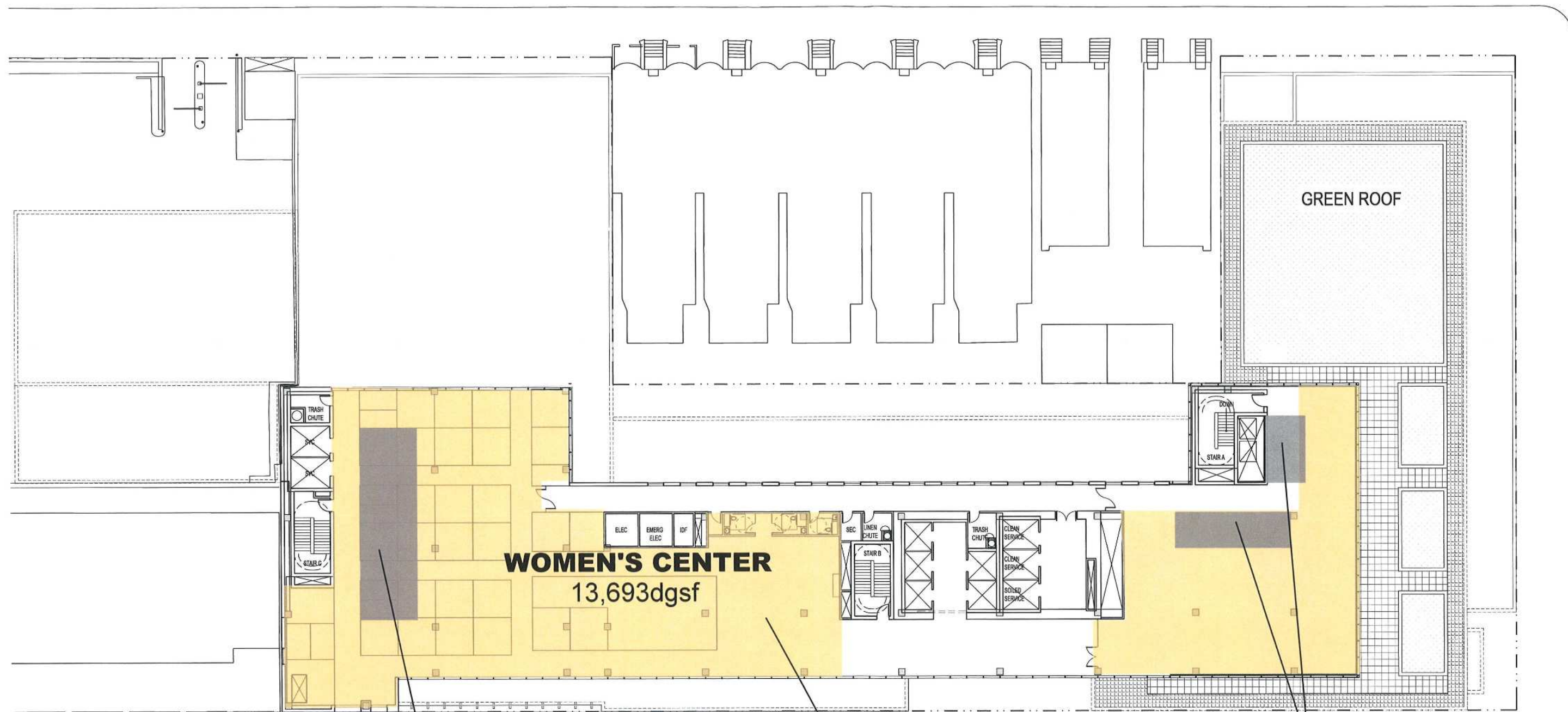
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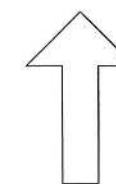




5TH STREET



8TH AVENUE



Displaced Mechanical
and Electrical

15% Reduction (2,343dgsf)
-Department split across circulation
core creating less efficiency

Displaced Mechanical
and Electrical

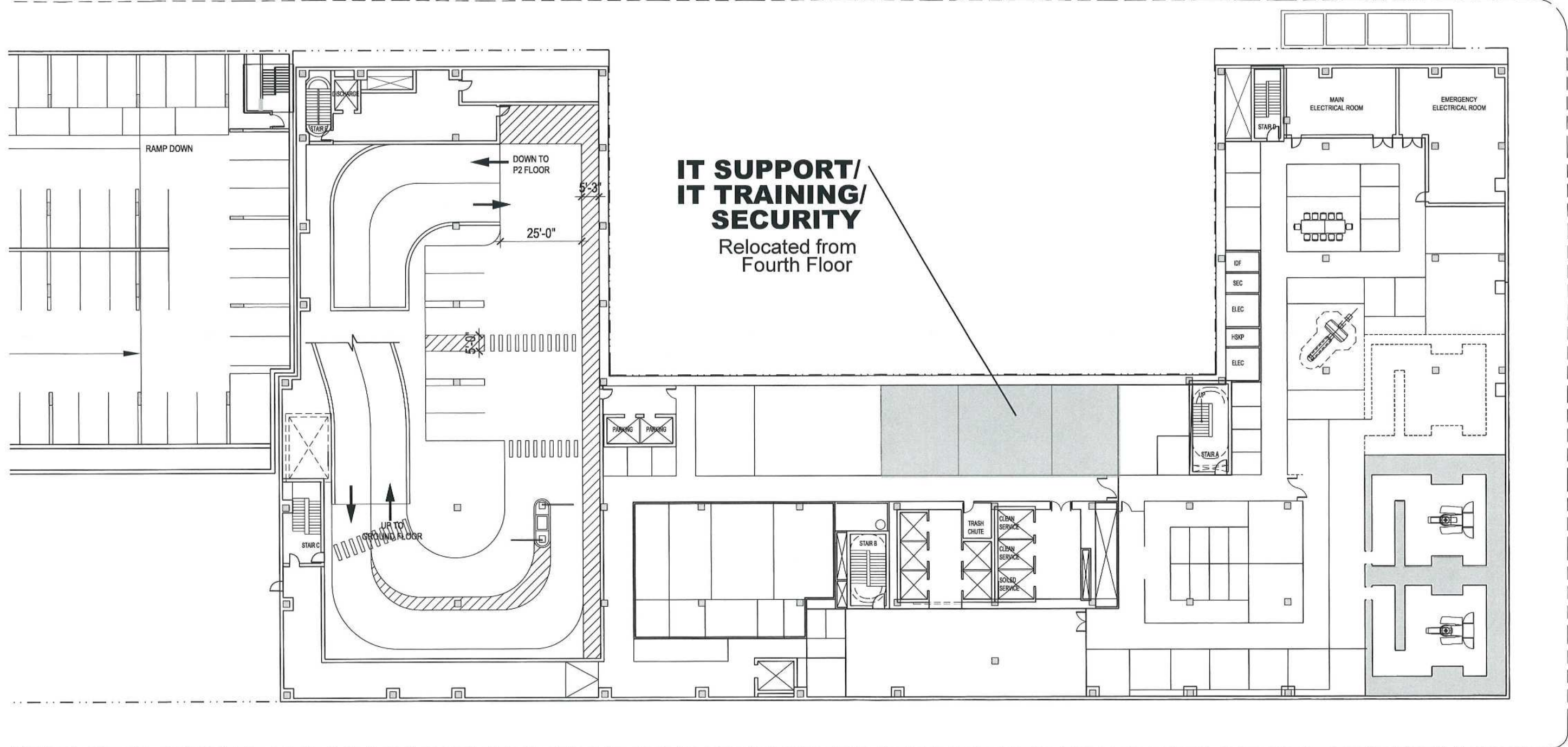
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LESSER VARIANCE STUDY



5TH STREET

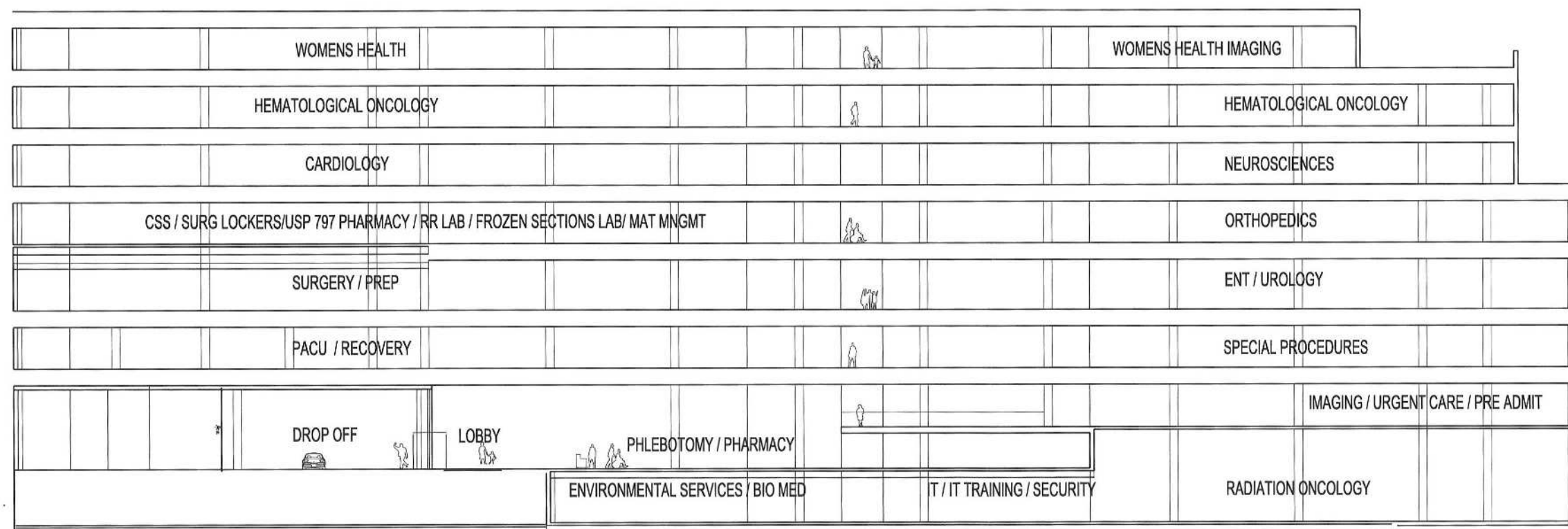
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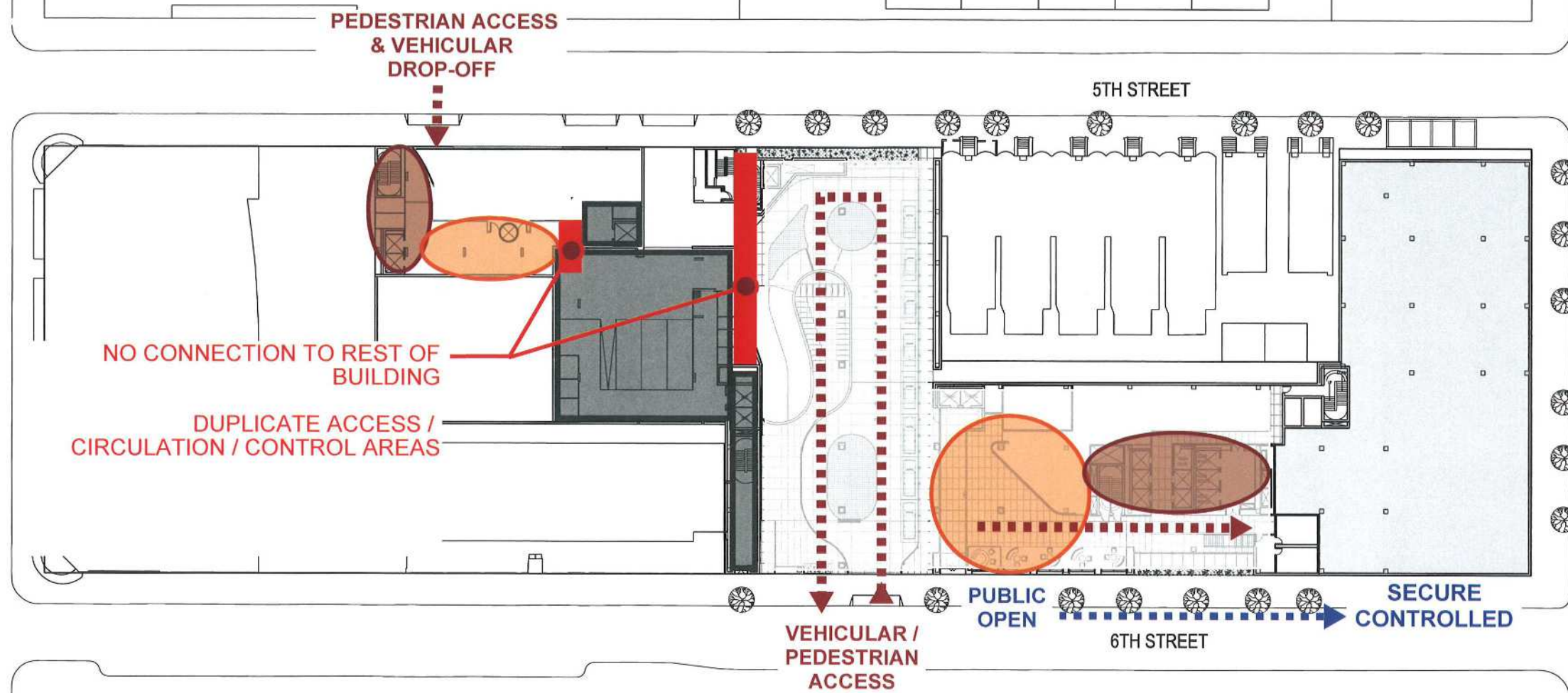


DEPARTMENTS REMOVED:
HYPERBARIC CHAMBER -4,805dgsf

DEPARTMENT REDUCTIONS:
CENTRAL STERILE SUPPLY - 3,789dgsf
6% reduction (196dgsf)
MATERIALS MANAGEMENT - 2,541dgsf
28% reduction (538dgsf)
ORTHOPEDICS CLINIC - 16,919dgsf
16% reduction (1,053dgsf)
CARDIOLOGY CLINIC - 9,323dgsf
25% reduction (2,958dgsf)
CANCER CENTER - 19,392
38% reduction (11,463dgsf)
WOMEN'S CENTER - 13,693dgsf
15% reduction (2,343dgsf)
TOTAL DEPARTMENTAL GROSS SF REDUCTION:
-23,356dgsf

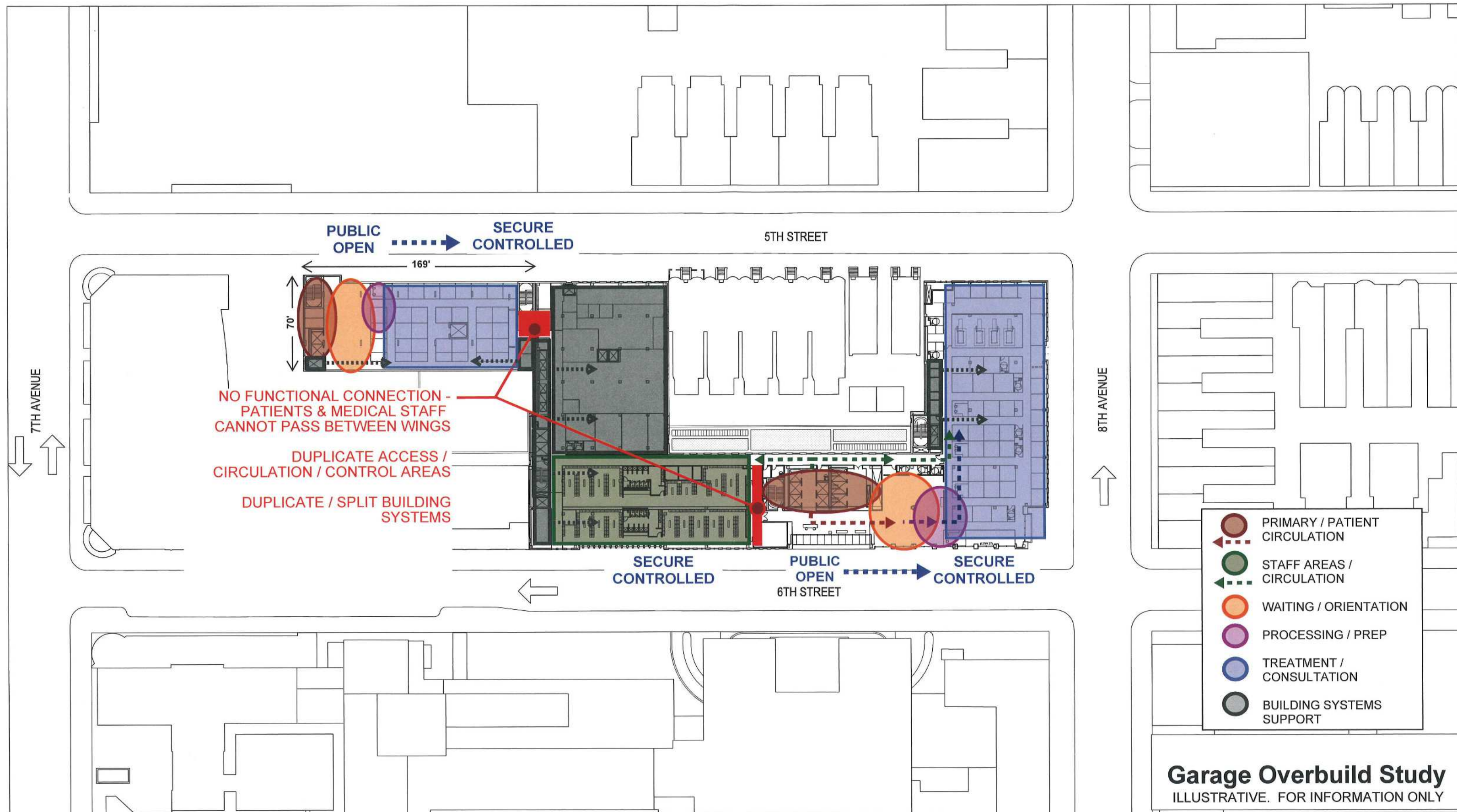
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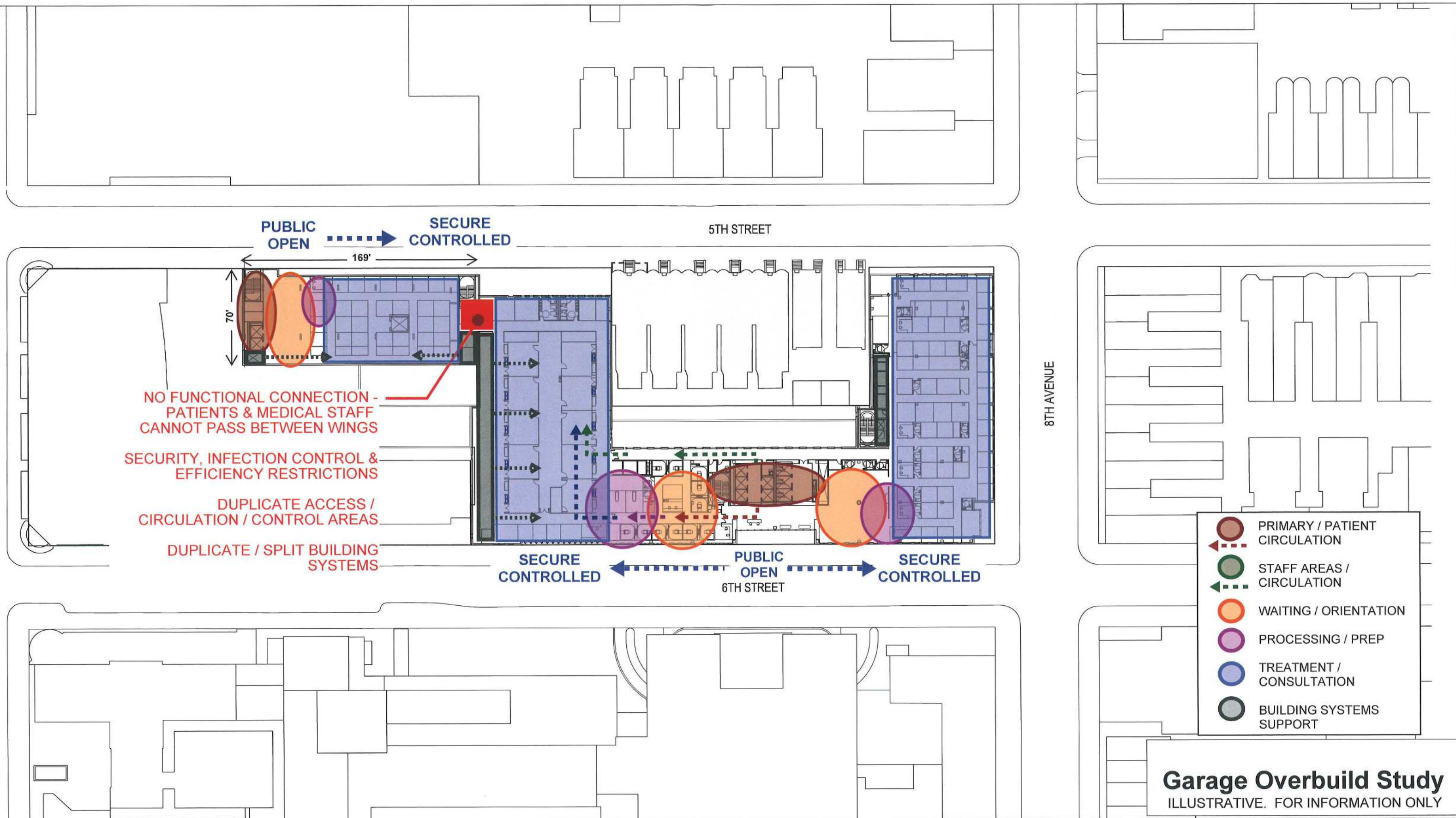


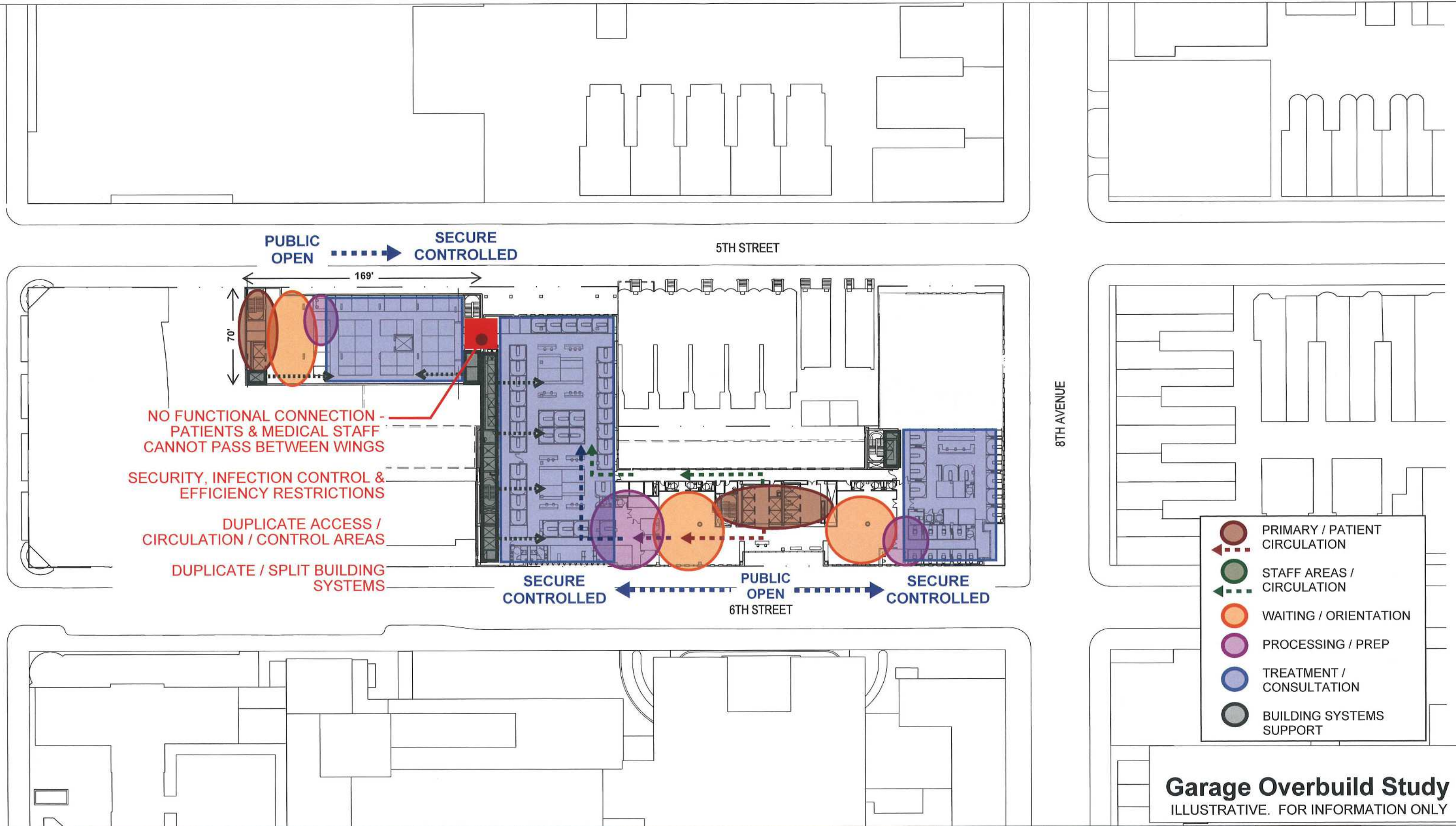


- PRIMARY / PATIENT CIRCULATION
- STAFF AREAS / CIRCULATION
- WAITING / ORIENTATION
- PROCESSING / PREP
- TREATMENT / CONSULTATION
- BUILDING SYSTEMS SUPPORT

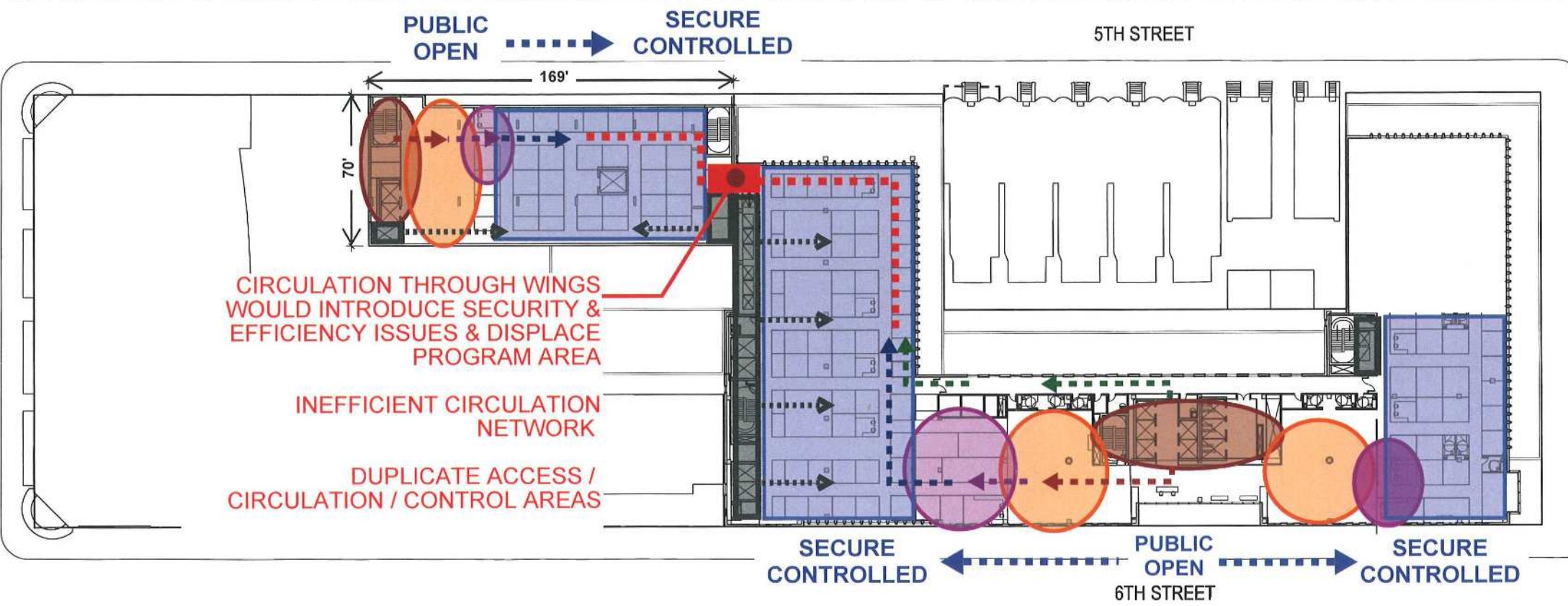
Garage Overbuild Study
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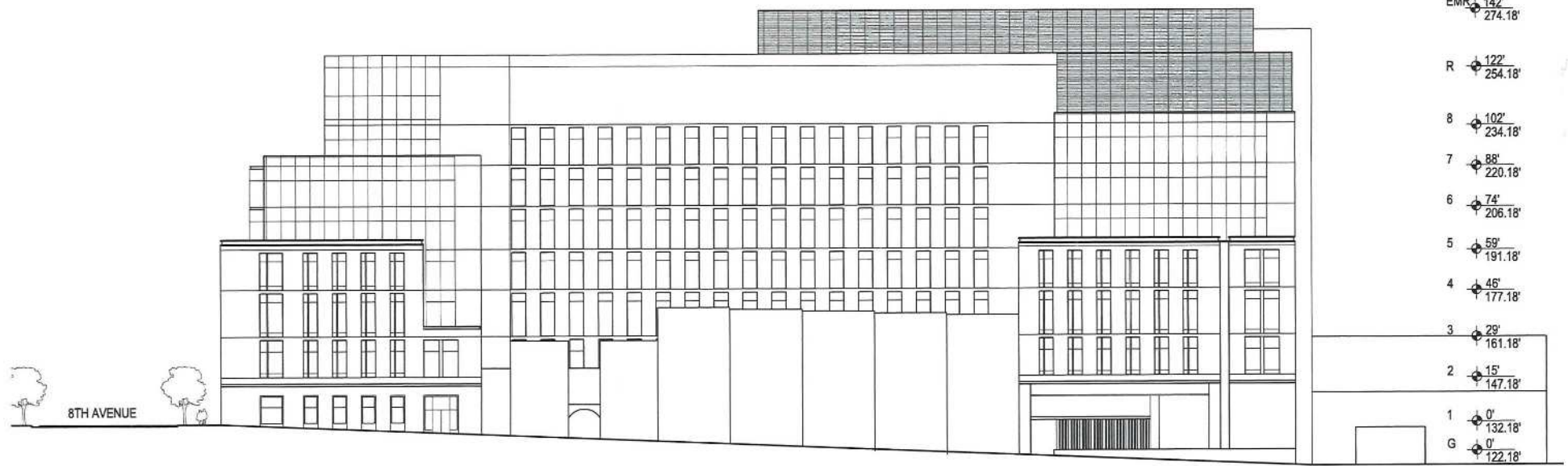
7TH AVENUE



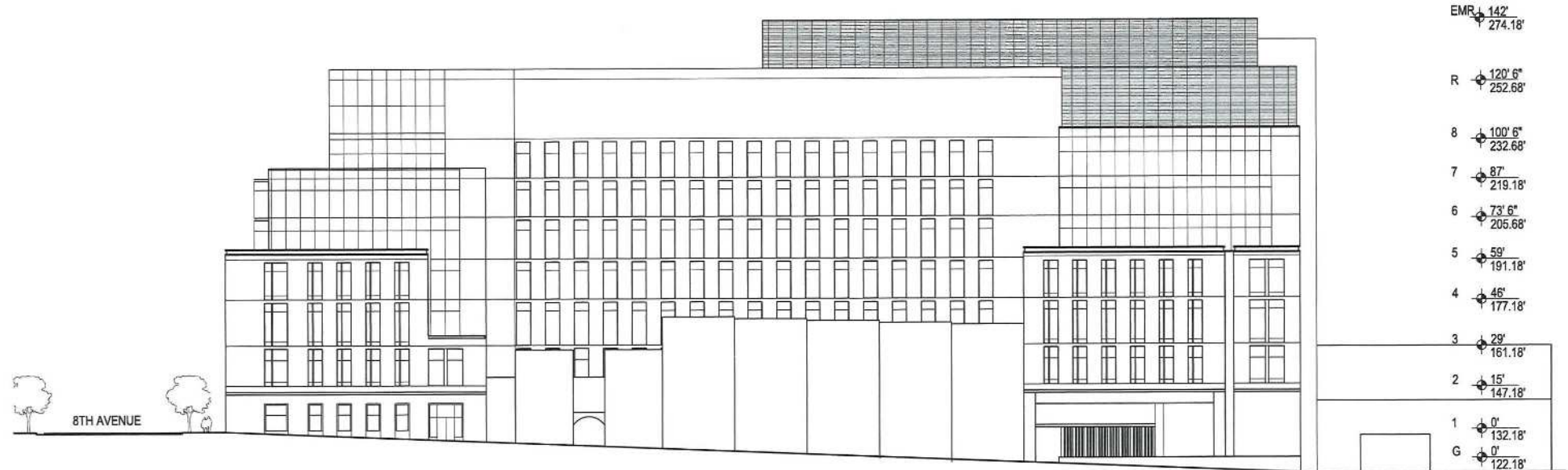
8TH AVENUE

- PRIMARY / PATIENT CIRCULATION
- STAFF AREAS / CIRCULATION
- WAITING / ORIENTATION
- PROCESSING / PREP
- TREATMENT / CONSULTATION
- BUILDING SYSTEMS SUPPORT

Garage Overbuild Study
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MASSING AS PER 01-28-2014 SUBMITTAL



MASSING WITH 5TH-7TH FLOOR HEIGHT REDUCTION

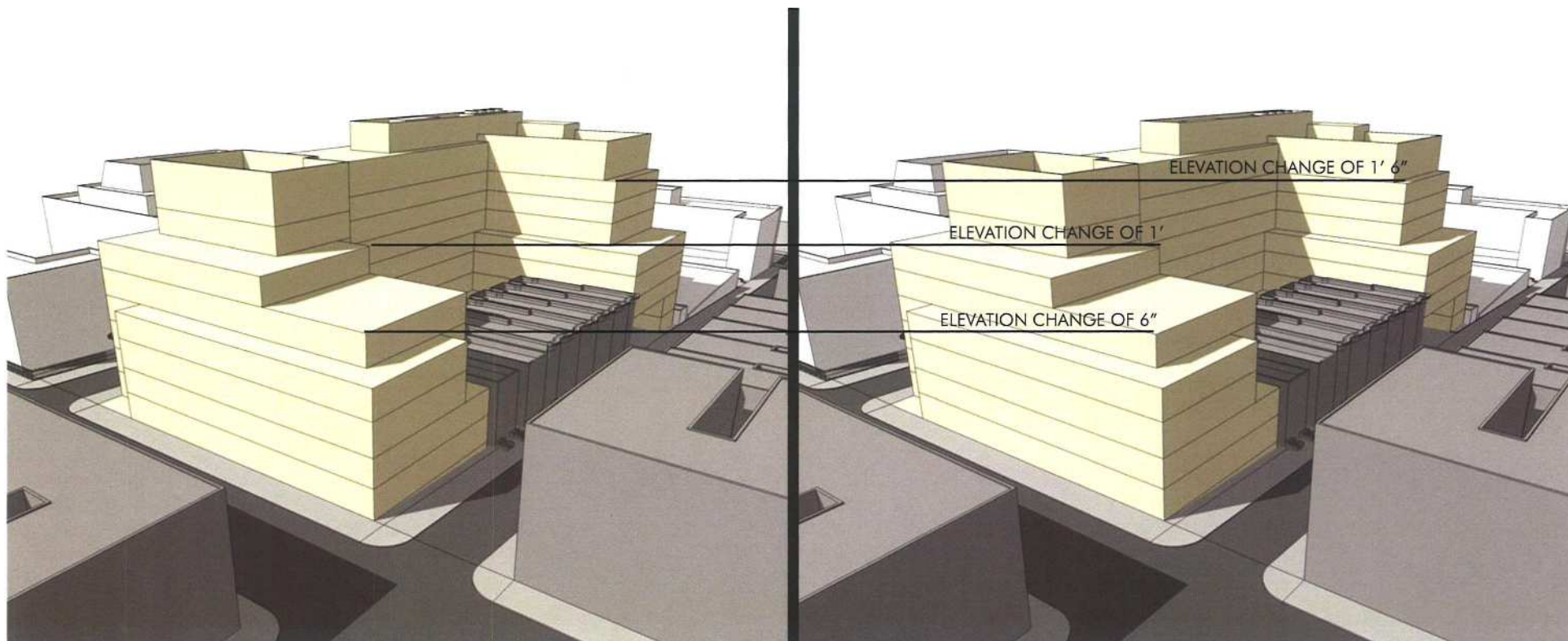
NEW YORK METHODIST HOSPITAL CENTER FOR COMMUNITY HEALTH

MASSING COMPARISON

NORTH ELEVATION

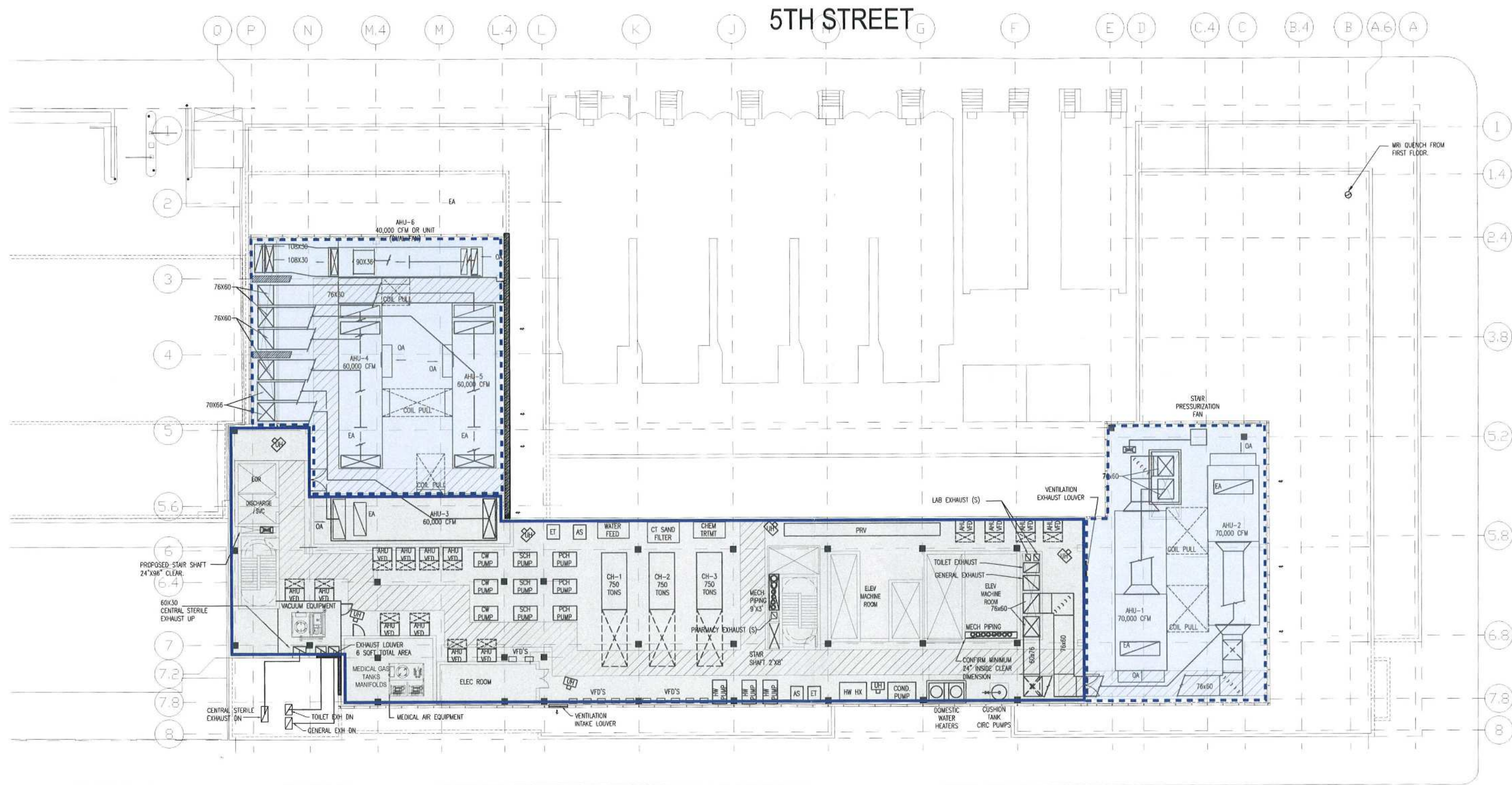
MARCH 4, 2014
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Douglas Eastman



MASSING AS PER 01-28-2014 SUBMITTAL

MASSING WITH 5TH-7TH FLOOR HEIGHT REDUCTION



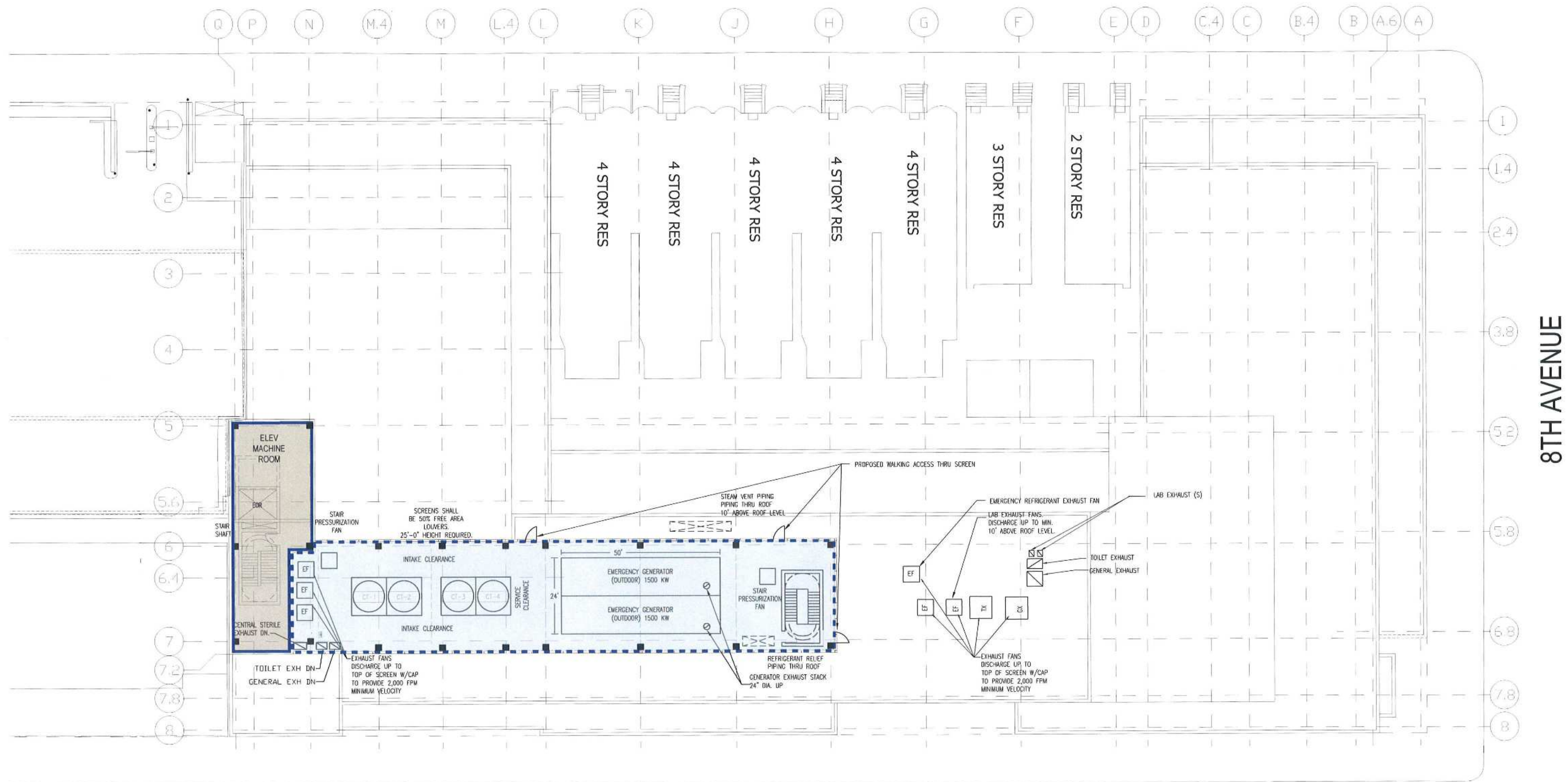
6TH STREET

- Enclosed mechanical area
- Screened mechanical area

ILLUSTRATIVE. FOR INFORMATION ON

Equipment Screen Study





8TH AVENUE

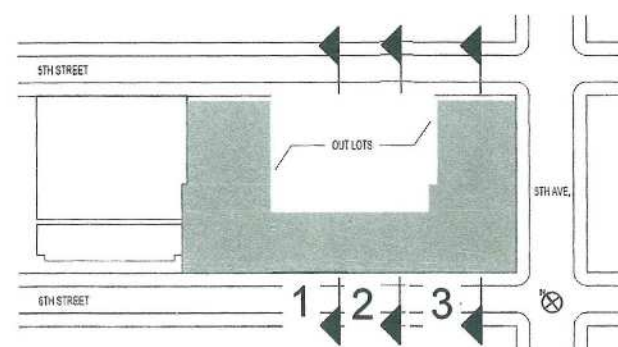
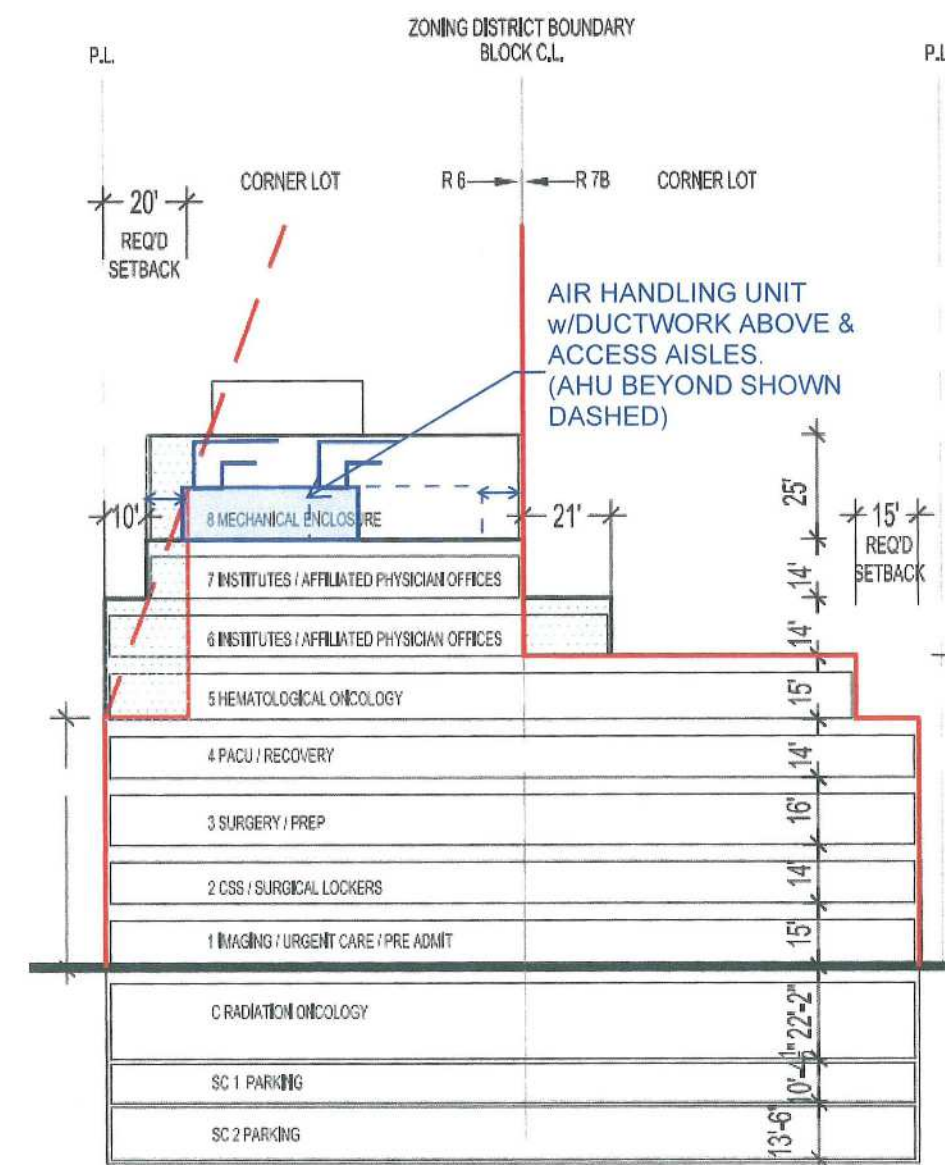
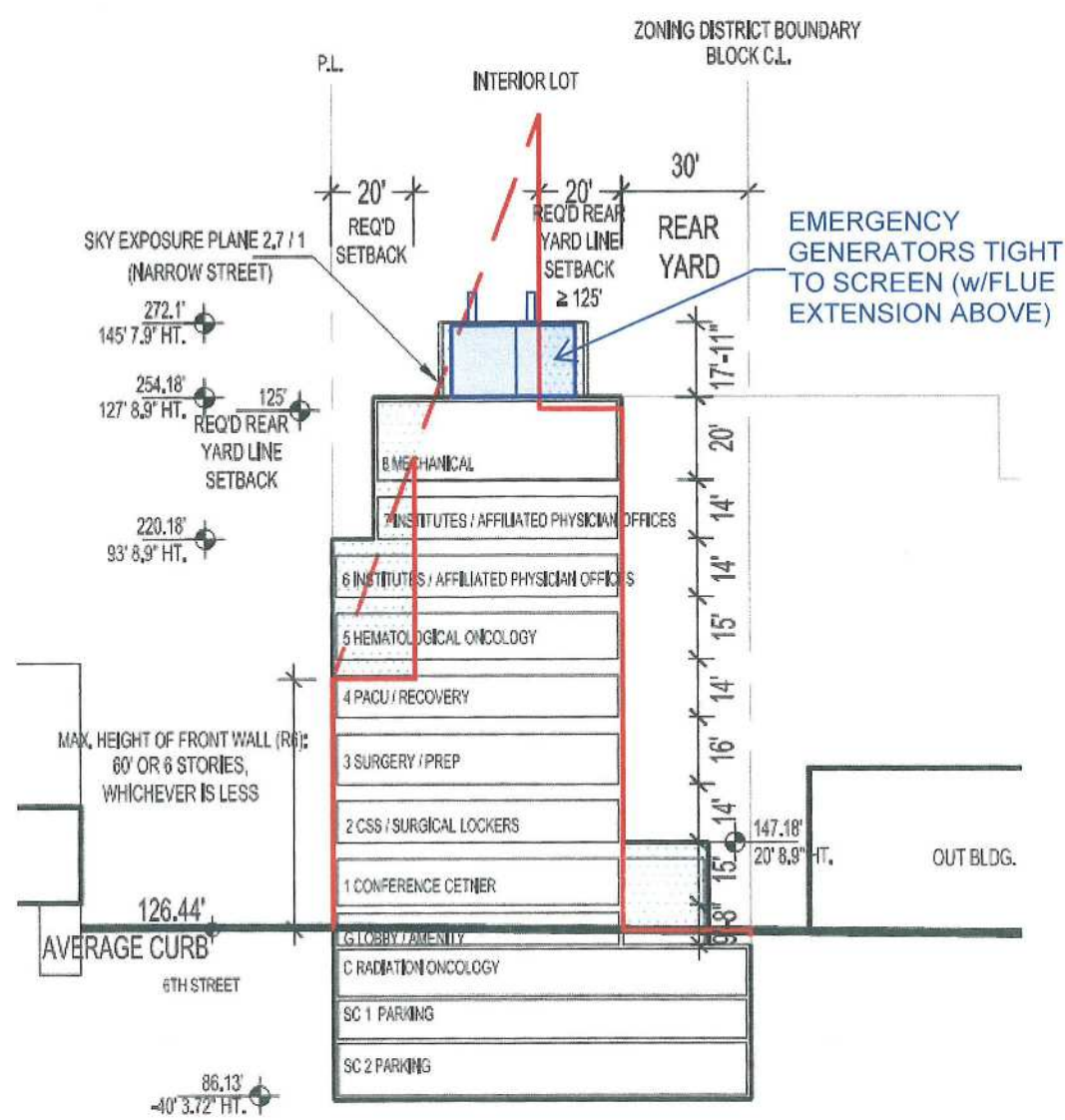
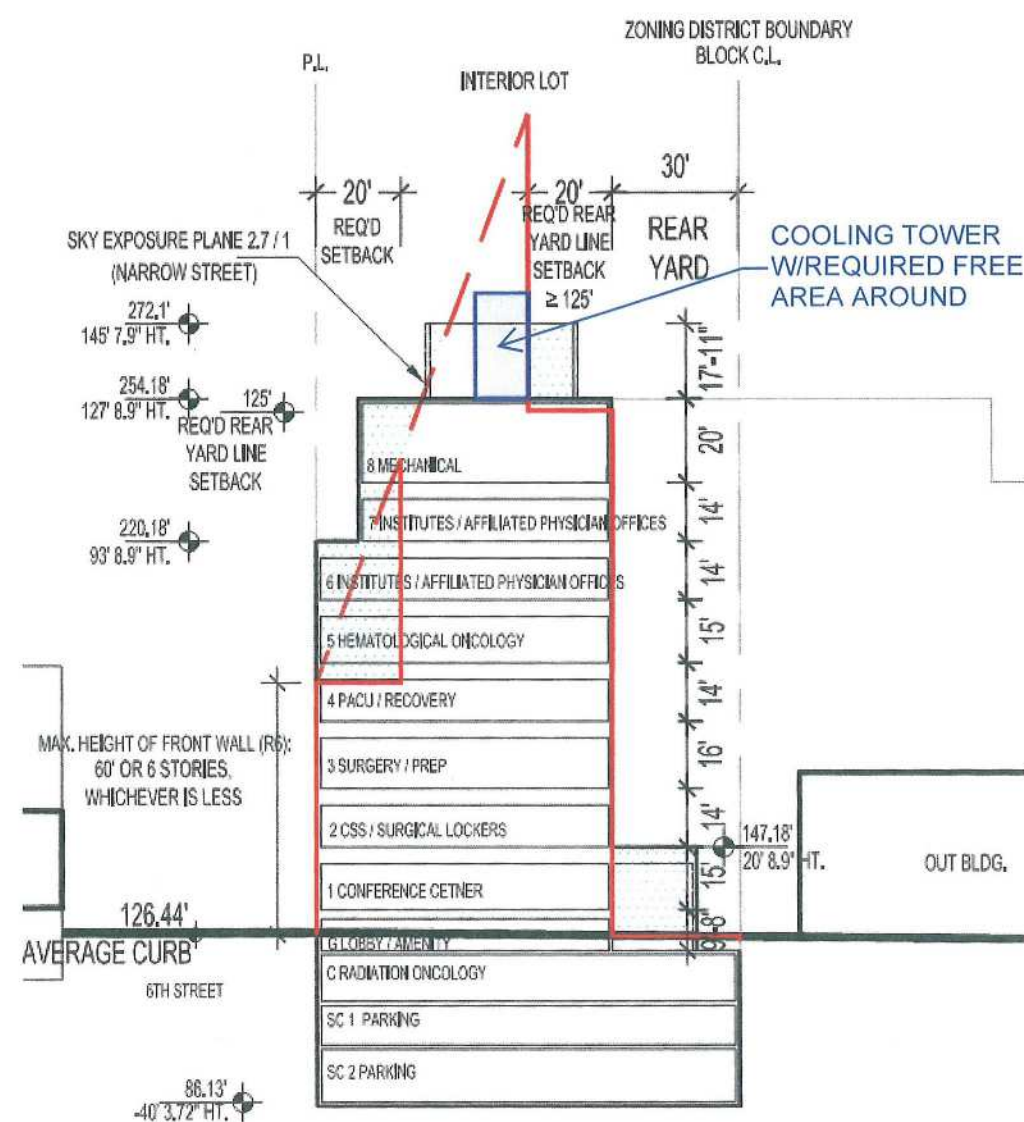
6TH STREET

- Enclosed mechanical area
- Screened mechanical area

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Equipment Screen Study





Equipment Screen Study

