SUNY CORTLAND – SMITH & CASEY RESIDENCE HALLS
DRAFT FEASIBILITY STUDY

Smith Tower
23 Water St, Cortland, NY 13045
Casey Tower
20 Broadway Ave, Cortland, NY 13045

April 27, 2018

PREPARED BY:
GOSHOW A/E TEAM

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DASNY Project No. 343370

Executive Summary

Goshow Architects developed this study under contract with the Dormitory Authority of the State of New York (DASNY). The intent of this report is to provide a Feasibility Study for the Smith and Casey Residence Halls on the Cortland campus of the State University of New York.

Built in 1972, the 10-story Smith and Casey Residence Halls currently house about 600 students. The existing suites do not provide kitchens and therefore these students purchase meal plans. Many upper class students choose to live off campus rather than in a student suite. To encourage these students to stay on campus, the college is investigating the feasibility of converting the 10th floor of each tower into apartments that will include kitchens. As a result, the number of meal plans would be reduced. The university would then want to regain the meal plans lost by adding new suites and is analyzing the option of demolishing and rebuilding the connector building to include floors 3-9 to house these suites. The Goshow team has been asked to study different options for the Smith-Casey Towers.

This feasibility study will include four conceptual design options. Option One includes the alteration of the 10th floor of the two buildings into apartment units with kitchens. Option Two consists of demolishing and redesigning the center connector building between the two towers to provide additional suites and would include shared areas to encourage student interaction. Option Three would provide the estimated construction cost to demolish the entire building and rebuild a new 600-bed residence hall. Option Four is to develop a test fit for a parking garage in the existing parking lot adjacent to the Casey tower. All options would include construction cost estimates.

An important consideration of this project concerns the impact on the existing buildings during construction. The university requires the least disruption possible to minimize the displacement of housed students during construction. This feasibility study will provide SUNY Cortland with the necessary information to make an informed decision about the future of the Smith-Casey Residence Halls.

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1.0 Project Introduction

1.1 Project Goals

The goal of the project is to develop a Feasibility Study to evaluate the impact of various options on the Smith-Casey Residence Halls. This Feasibility Study will consist of four options requested by DASNY and SUNY Cortland to enable them to determine a course of action.

One of the aims of the study is to determine which is the most feasible option(s) to provide the preferred student housing while maintaining the same revenue at the Smith-Casey Towers. The four options are:

1. Design 'Apartment Style' units with full kitchens on the 10th floor for both towers. Apartments will provide as many single occupancy bedrooms as possible.

2. Demolish the connector building and design a new connector building linking the two towers from floors 1-9 which will house additional suites, shared spaces including lounges, laundry rooms and a multi-purpose student activity room for 100 occupants.

3. Demolish both towers and the connector building and determine the cost to construct a new 600-bed residence hall in the same location. This option is limited to determining the cost of demolition and new construction in the same location. No plans, sections or elevations will be developed for this option.

4. Develop a test fit for a two-story parking garage on the existing south parking lot, adjacent to the Casey Tower. This study will indicate the number of additional parking spaces which can be provided as well as the estimated construction costs for this structure.

1.2 Project Process

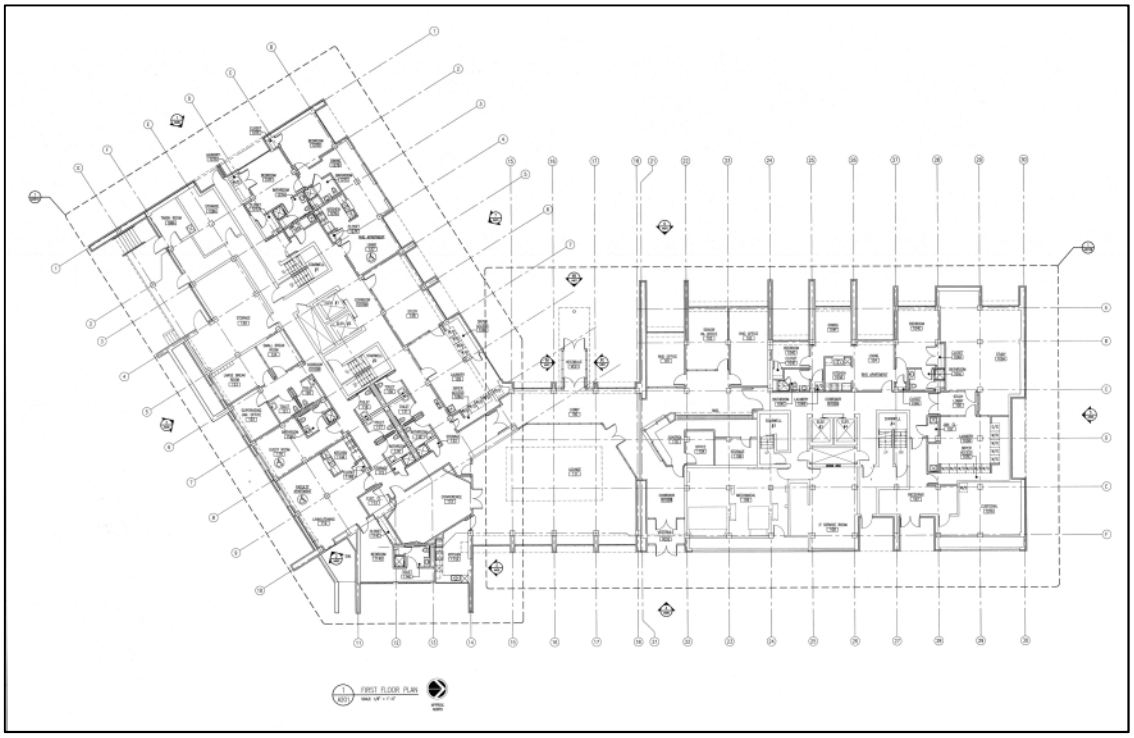
The design team was provided with a student housing market analysis report for Cortland's student housing programs that was completed in March 2017. The design team used this information to help them understand the demographics of the students at Cortland and of the future need for housing on campus. The design team, DASNY and SUNY Cortland held meetings on September 20th, 2017, February 28th, 2018, March 22nd, 2018, and April 4th, 2018 to further discuss the development of the study options. (See Appendix 7.1 for Meeting Minutes)

The process for developing the options also included several months of communication between the design team, DASNY, and SUNY Cortland. This process consisted of video conferences which enabled the design team and the client to review and develop the ideas of spatial needs, important adjacencies, and conceptual layouts. Existing drawings in pdf and autocad were sent by Cortland and used to develop the designs.

2.0 Existing Conditions

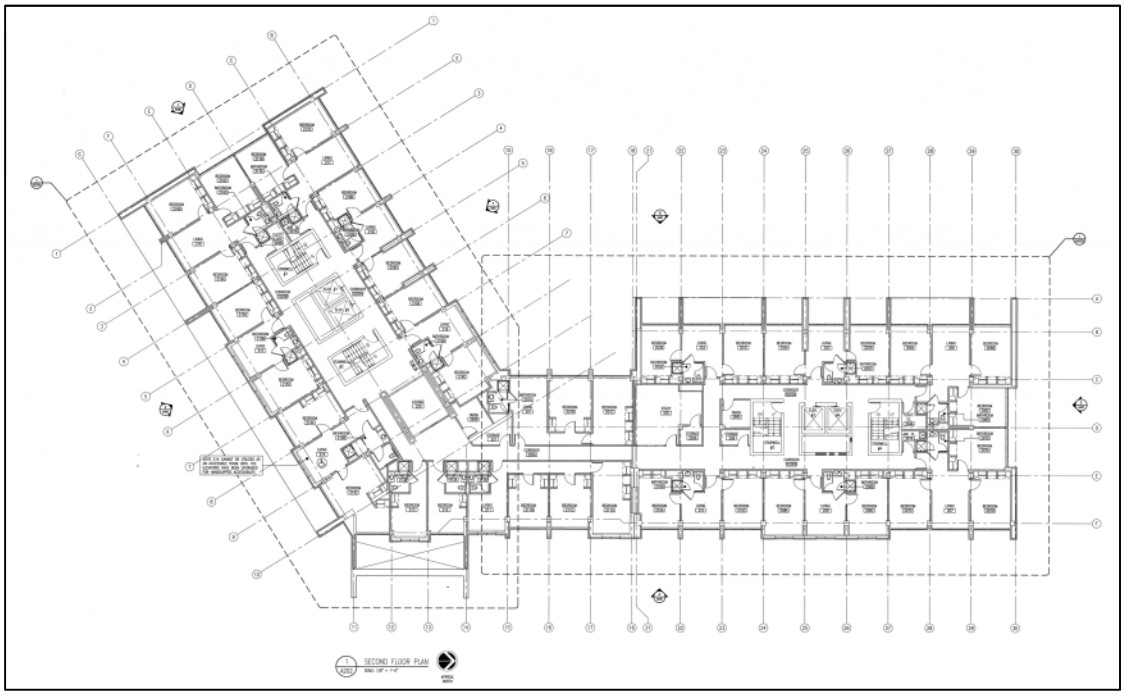
2.1 Existing Architecture

The Smith (23 Water St) and Casey (20 Broadway Ave) Residence Halls are located on the SUNY Cortland campus in New York and were built in 1972. The first floor provides primary access to both Casey and Smith Towers. Student residents are housed on floors 2-10. Two elevators and two stair towers in each tower allow access to all floors.



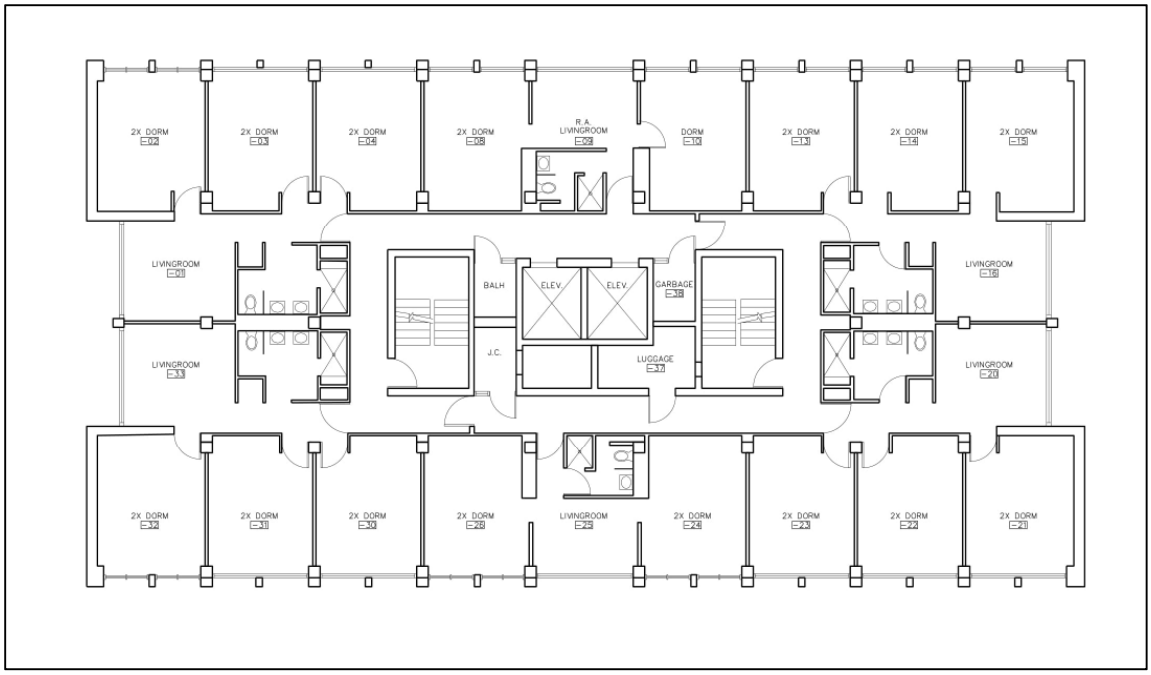
1. Existing First Floor

The Smith and Casey buildings are connected on the first and second floors. The first floor is has staff housing, mechanical and storages spaces as well as a recreation lounge, study lounges, conference room, a student staff office, the RHD offices and student mailboxes. The recreation lounge is equipped with a pool table, ping pong table and big screen TVs. Vending machines are located on the first floor. College ID is required for payment. There are laundry facilities on the first floor in each tower. The cost for use is included in the dining plan. There is a kitchen located on the first floor equipped with a sink, stove/oven and a microwave. The entire building is wireless Internet accessible. The halls are also open for winter sports athletes over winter break.



2. Existing Second Floor

The second floor elevation is 14’-0” above the first floor and provides bedroom suites. It is the only student residence floor to connect the two towers. 53 meal plan beds are provided on this floor of the Smith and Casey buildings with 12 more meal plans in the connector, totaling 65 meal plans for the second floor. Internal study and lounge rooms are available for student use.

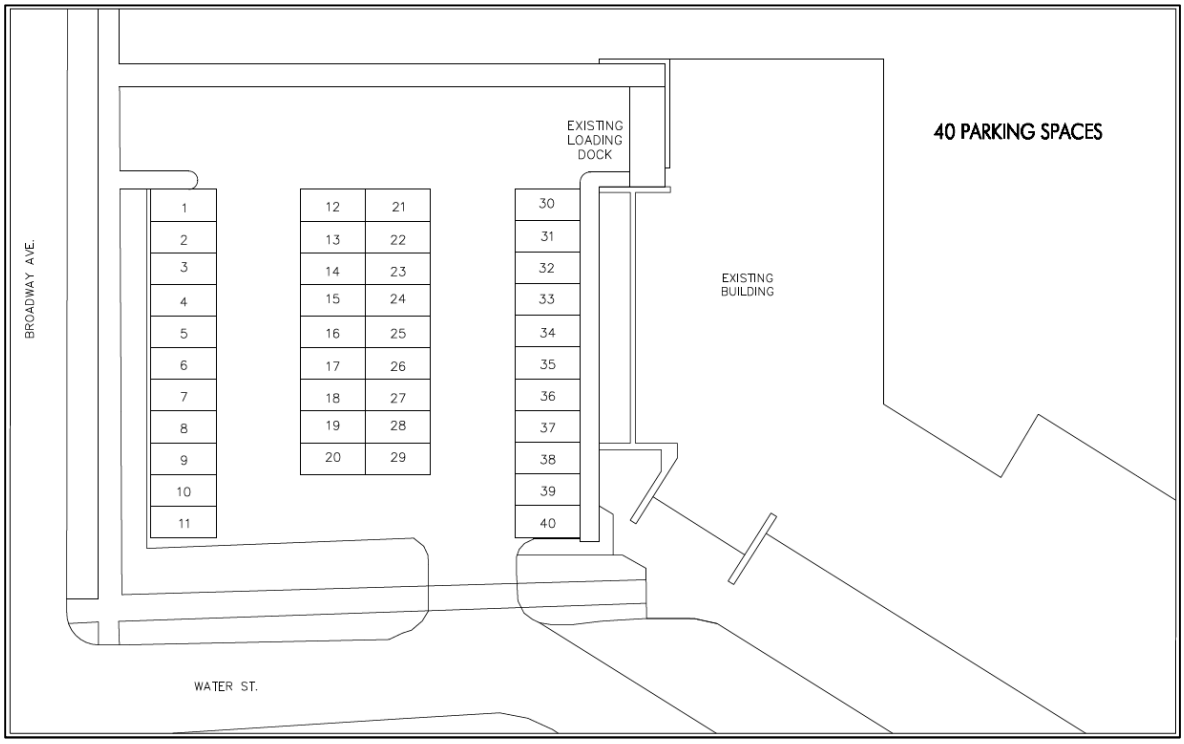


3. Typical Existing Floor Plan- 3-10

The third through tenth floors of the Smith and Casey buildings are not connected but have identical layouts. The floor-to-floor elevation is 8'-8". There is a total of 31 meal plans per tower, totaling 62 per floor for eight floors resulting in 496 meal plans for the third through tenth floors of Smith and Casey. The Smith-Casey towers have a total of 561 meal plans. The typical suite has two students sharing a bedroom and living area with a bathroom with a toilet, sink, and shower. The Casey Tower also offers a Gender Inclusive special interest housing option.

2.2 Existing Parking

The existing parking lot holds 40 spaces. A loading dock with access to the Casey building is at the back of the parking lot. Cars and trucks enter the parking lot on Water street and may exit onto Broadway avenue.



2.3 Existing Site

The site surrounding the existing towers and parking lot is fully developed with concrete sidewalks, granite curbs, and asphalt paving. There are walkway lights near the entries, landscaping, and several trees in front of the Casey-Smith link. A gas line enters the Casey tower on the south eastern corner. The site utilities are generally located in Water Street which passes the site on the east and they do not appear to be in conflict with the work.

2.4 Existing Structure

Smith-Casey Towers are a concrete framed structure, composed of two flanking ten story towers (Tower A and B) and a two story, center connecting wing. There is a basement under the Towers and a partial basement/utility tunnel under the Connector wing.

2.4.1 Superstructure:

The roof and typical floor framing of the towers is a 6” concrete flat plate. The framing for each tower is identical. The slabs are supported on 16” x 16” concrete columns.

The second level and first floor for the towers, and the first floor of the Connector wing over the basement area is an 8” concrete flat plate.

The roof and the second level floor of the connector link is framed with a 30" x 30" concrete waffle slab, with 4-½" slabs and 6" wide x 20" deep joists (24-½" total depth).

There is a 1" building expansion joint between the connector wing and Tower B.

2.4.2 Foundation:

The first floor for the Connector wing and the basement floors of the towers are framed with 6" slabs on grade. There is a 4" perforated foundation drain that runs around the perimeter of the basement level slab on grade.

The foundation system utilizes typical strip and spread footings with an allowable soil bearing capacity of 6000 psf. The center stair/elevator shaft walls are supported on a 2'-3" thick mat footing.

2.4.3 Lateral:

The lateral system for the towers is composed of concrete shear walls located around the center stair and elevator shafts.

At the time the building was constructed, seismic loading was not included in the building code, therefore the building would have been designed only for wind loads.

2.4.4 Floor/Roof Elevations:

The following elevations are provided for reference:

Basement Floor: 35'-6"
First Floor: 49'-6"
Second Floor: 63'-6"
Connector Roof: 77'-1"
Three Floor: 77'-6"
Four Floor: 86'-2"
Five Floor: 94'-10"
Sixth Floor: 103'-6"
Seventh Floor: 112'-2"
Eighth Floor: 120'-10"
Ninth Floor: 129'-6"
Tenth Floor: 138'-2"
Roof: 146'-10"

2.4.5 Existing Design Loads:

Roof Live Load (Snow): 40 psf
Typical Floor Live Load: 40 psf + 20 psf partition allowance
Second and First Floor Live Load: 100 psf + 20 psf partition allowance

2.5 Existing MEP

2.5.1 Fire Protection

Existing Standpipe System

- Fire service is an existing 6" combination domestic/fire service that enters the Smith tower basement mechanical room
- The existing fire protection system within the complex is a wet standpipe system. There are no building sprinklers.
- A fire pump within the smith tower basement mechanical room provides required water pressure for standpipe risers for both towers.
- Each tower stair tower has a 4" standpipe riser with 2-1/2" hose connection at each level.
- The standpipe system appears to be in good condition, at present it is unknown when the fire pump was last tested.

2.5.2 Electrical

Power

- The building is fed from a 13.8 Kilo-Volt (KV) campus distribution feeder labeled PF-2A through an S&C 15 KV loop switch located in the basement Electrical Room of Smith Tower. The S&C loop switch feeds a double ended unit substation located in the sane room. The double ended unit substation is configured in a Main-Tie-Main setup. Both sides of the unit substation are comprised of a 1500 Kilo-Volt Ampere (KVA) rated, 13,800 KV to 480Y/277V, three phase, four wire transformer, main breaker and distribution breakers. The two side of the unit substations are connected with a tie switch. Both Casey and Smith Towers are fed out of this electrical equipment.
- The 480V section of the unit substation are equipped with digital meters. The meter for Substation 'A' indicated a peak demand of 611 Amps (A). The meter for Substation 'B' indicated a peak demand of 822A.
- The is served by a generator that provides emergency power for lighting, elevators and the fire pump.
- The 480V system is stepped down to 208Y/120V, three phase, four wire through multiple dry type transformers located throughout the building.

Lighting

- The interior lighting system is comprised of recessed and surface mount fluorescent lighting throughout the building. The exterior lighting system is comprised of building mount high pressure sodium/metal halide type light fixtures.
- The lighting systems, while serviceable, are not energy efficient. It is recommended to provide LED lighting in renovated areas of the building.

Telephone/Data

- The Telephone/Data systems enter the building in the basement of Smith Tower.
- The Data network consists of Vertical fiber optic with horizontal copper network cabling originating from the IT closets located throughout the building.

Fire Alarm

- The building protected by a fully addressable Simplex 4100U fire alarm control panel.

- Addressable pull stations, smoke detectors, heat detectors, duct detectors and control/monitor modules are located throughout the building connected to signaling line circuits.
- Notification devices are located throughout the building powered from Notification Appliance Circuit (NAC) panels.
- The 4100U panel is connected to the Keltron campus monitoring multiplexing system.

Security

- The building is equipped with a Best Access Control System.

2.5.3 Plumbing

Existing Domestic Water Service

- The water service is a 6" combined domestic/fire service that includes a 6" reduced pressure backflow assembly within the Smith tower basement mechanical room.
- The existing backflow assembly looks in good condition, it is unknown as to when it was last tested.
- The existing water service meter looks new and in good condition.
- The domestic cold water system incorporates a booster pump system to provide a system pressure at the pump of 103 psi.
- A recent installation provided a water softener system for the cold water. The existing water softener in the Casey tower mechanical room was discontinued and abandoned in place. A second smaller water softener system was added for the heating system boiler system.
- No deficiencies were noted.

Existing Sanitary Service

- The existing building towers sanitary drains collectively discharge thru an 8" sanitary main drain to the public sanitary system, at 1% slope the 8" main would have a fixture flow capacity of 1600 fixture units.
- The existing sanitary system is cast iron piping.
- No deficiencies were noted.

Existing Water Distribution

- The existing water distribution system provides multiple water risers (cold/hot & HW return) to serve the bathroom groups on each floor for each tower.
- No deficiencies were noted.

Existing Domestic Hot Water

- The existing hot water system has two 1000 gallon HW storage tanks with electric coil heat in the Smith tower and one 1000 gallon HW storage tank with electric coil in the Casey tower.
- The HW storage tank in Casey tower and one of the two HW storage tanks in the Smith tower are shut down or/and disconnected. Only one of the HW storage tanks in the Smith tower is being used for both towers.
- The existing electric heaters in all three HW storage tanks are shut-off.
- In conjunction with the one existing electric heater currently being used, a plate/frame heat exchanger was installed in the Smith tower mechanical room to

generate domestic hot water, the heat exchanger utilizes boiler water to generate domestic HW at 140 degrees with a mixing valve to circulate 120 degree HW thru both towers.

- No deficiencies for HW supply within the building towers were noted.

3.0 Conceptual Studies

3.1 Option 1- Proposed 10th Floor Apartment Units

3.1.1 Design Option A (See Appendix 6.2 SK-01 Opt A)

This option explored the combination of doubles and singles in apartments. There are 6 apartments consisting of two 7-person apartment with 1 double and 5 singles, and four 2-person apartments with a double. Each apartment offers a kitchen, living room, and bathroom. The 7-person apartment offers two bathrooms. The new bathrooms are designed to use the existing chases. Cortland determined that no more than 6 people sharing one apartment.

3.1.2 Design Option B: Final (See Appendix 6.2 SK-01 Opt B)

This option has 6 handicap accessible apartments. In each tower, apartments range in size from two 5-person apartments with single bedrooms, two 2-person apartments with single bedrooms, and two 2-person apartments in a double bedroom. Each apartment will include a shared living area, kitchen, and handicap accessible bathroom with a shower. Each kitchen will accommodate a microwave, sink, dishwasher, refrigerator, and oven with a stove top. A Schluter shower system, with a tile floor and solid polymer surface, is preferred. The two 5-person apartments accommodate a larger living room, larger kitchen with two refrigerators, and an additional bathroom with one sink and one toilet. The new bathrooms are designed to use the existing chases.

3.2 Option 2- New Connector Building

3.2.1 Proposed First Floor (See Appendix 6.2 SK-2)

Following meetings with the design team, DASNY and Cortland, it was determined that an RA & RHD office will replace the study room in the Casey Tower. In addition, the faculty bedroom and guest bedroom will merge into one faculty bedroom. On the first floor of Smith, the RHD office will be converted into a kitchen and the laundry room will become a study room. The new connector will provide a lobby as well as a flexible 100-person meeting space with moveable partitions. The existing floor-to-floor elevation of 14’-0” will be maintained to match the existing towers.

3.2.2 Proposed Second Floor (See Appendix 6.2 SK-03)

The second floor connector building will add 8 bedrooms on the floor. A kitchenette with a microwave, oven with stovetop and sink will be provided. An additional lounge space, a collaborative space, and a laundry will also be provided. The collaborative space consists of media walls with built in monitors that students can write on to encourage interaction. There are 53 meal plan beds existing in the towers of the second floor. The new connector building will increase the second floor total to 61 meal plan beds.

3.2.3 Proposed Typical Floor Plan: 3rd through 9th Floors

3.2.3.1 Design Option A: (See Appendix 6.2 SK-04 Opt. A)

This option explored an open plan lounge allowing students to freely walk through. The connector is separated from the existing buildings by doors. The kitchenette and quiet room are located off the open lounge. The kitchenette has the option to be enclosed. A collaborative space is incorporated into the lounge which offers a lounge space on every floor. Cortland considered this layout impractical and preferred the enclosed lounge. This option was not further developed.

3.2.3.2 Design Option B: Final (See Appendix 6.2 SK-04 Opt. B)

The third through ninth tower floors will have the same layout. A new building will be designed to connect the Smith and Casey towers. To permit access to the connector, the existing suites in Casey closest to the new connection will no longer be suites and will share a public bathroom. One of the corner suites in Smith will also become individual bedroom suite with a shared bathroom. A mixture of suites and dormitory rooms was preferred by the college. The connector building will house an enclosed lounge area that seats approximately 35-40 students and has access to a controlled access kitchenette. The kitchenette will be equipped with a microwave, oven with stovetop and sink. The lounge can open into the hallway with sliding doors. Four more double bedrooms will be added with access to public ADA bathrooms. The laundry room will be equipped with one washer and one dryer. A quiet study room will take over an existing double bedroom and expand into the new connector building. This new connector building will increase the Smith-Casey meal plan total to 537.

3.3 Option 3- New Residence Hall

This option includes demolishing both towers and the connector building and providing the cost to construct a new 600-bed residence hall in the same location. This option is limited to determining the cost of demolition and new construction at this site. No plans, sections or elevations have been developed for this option.

3.4 Option 4- Parking Garage Test Fit *(See Appendix 6.2 SK-05 & SK-06)*

Total Parking Spaces: 52 Parking Spaces plus 3 Handicap Parking Spaces

The most common circulation system used in free-standing parking structures in North America is the continuous ramp, where sloping floors with aisles and parking off both sides of the aisle offer access to the parking spaces and the circulation route. The basic continuous sloping floor configuration is called the single-helix or scissors ramp. However, due to site constraints this system was not feasible and limited the parking design to square footage ratio. Instead of a parking ramp, we designed a smaller 2-lane ramp with a maximum slope of 1:8 and one transition ramp at either ends with 1:16 slopes to minimize bottoming out per IBC 406.4.4. The remaining square footage of the parking structure permits a total of 52 parking spaces plus 3 handicap parking spaces.

This parking structure test fit included the demolition and removal of the truck-loading dock.

For occupancy classification this parking structure, according to IBC 311.3, falls under low-hazard storage group S-2. Separation guidelines follow residential group R-2. Our design was placed approx. 13’-3” from the exterior edge of the wall of the adjacent Casey Residence Hall. Per code one means of egress for the parking structure is required for every 200 feet or more of travel distance.

Accessibility requirements mandate that the parking structure contain 3 accessible parking spaces for every 51-75 non-ADA parking spaces. According to IBC 1106.5, for every 6 or fraction thereof, at least 1 space needs to be ADA van accessible, which results in one required ADA van parking space for this test fit. ADA parking widths must measure a minimum 8’-0” in width with a 5’-0” adjacent aisle (ADA van accessible aisles measure up to 8’-0” in addition to the parking space).

The floor-to-floor height of the parking structure is 9’-6”. This height permits the minimum 7’-0” clearance required by code. This floor-to-floor height also accommodates accessible handicap van parking and drop off zones.

The column-spacing was designed for optimization of parking spaces and the minimum 26’-0” width clearance for vehicle turning radius for two-way lanes. The design proposes a north-south column spacing of 25’-6” and east-west column spacing of 34-0”. The thickness of the beam and floor slab is approx. 1’-6” to accommodate two levels of parking. This layout is the most efficient in achieving more parking spaces per square foot, while alleviating traffic at the entrance/exit points by using two-way lanes. It also uses 90-degree parking (45-degree angled parking produced the exact same parking count).

4.0 Design Recommendations

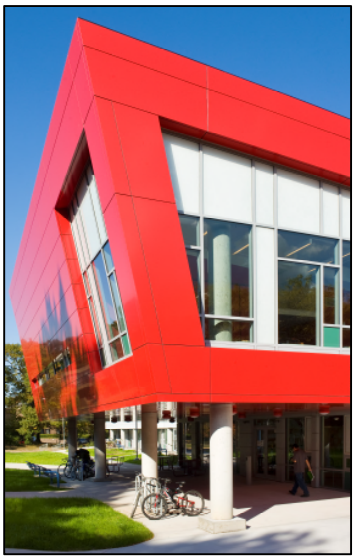
4.1 Architectural

4.1.1 Building Design:

1. Example of Double Height Space.

The new brick connector building will both pay homage to, and enhance the existing layout and design of the Smith-Casey Towers. The new rooms in the addition will closely follow the existing layout of the rooms on the typical floors.

A vestibule provides sheltered entry into the new lobby on the first floor. Key cards can provide restricted access to areas in the building. A double height space offers views to the new second floor lounge.



2. Example of first floor outdoor area with building overhang.

The primary focus of the new first floor connector will be the 100-person meeting space that can be divided into smaller areas by moveable partitions. The apartment structure above expands east beyond the first floor supported by approximately 14'-0" high columns creating a sheltered outdoor area allowing the meeting space to flow outside during the warm weather.

The typical connector residence floor will provide new meeting areas, including quiet and lounge spaces, to encourage student engagement and enhance student life at Cortland as well as kitchen and laundry facilities.

3. Example of Collaborative Space.

The second floor, which will benefit from the original 14'-0" floor-to-floor elevation, will have an additional lounge with views of the campus and the new lobby below. An adjacent collaborative area can be formed by media walls with built-in interactive drawing monitors.

Following the DASNY College and University Residence Hall Design Guidelines, materials will be selected based on economy, durability, and in collaboration with Cortland. The GA team is dedicated to providing sustainable design in all facets of the project and exploring the opportunity for LEED certification.

4.1.2 Codes and Regulatory Requirements

As outlined in the DASNY College and University Residence Hall Design Guidelines, Code Review for the rules and regulations by which this project would be designed and built with respect to the Health, Safety, and Welfare of its occupants will follow:

New York State Uniform Fire Prevention and Building Code, including:
- Building Code of New York State
- Fire Code of New York State
- Plumbing Code of New York State
- Mechanical Code of New York State
- Fuel Gas Code of New York State
- Property Maintenance Code of New York State
- Residential Code of New York State
- Existing Building Code of New York State

Energy Conservation Construction Code of New York State

Executive Order 111 – Energystar Appliances

New York State Department of Environmental Conservation, including:
- Air Emissions
- Flood Plain
- Stormwater

New York State Department of Labor
- Industrial Code Rule 4: Construction, Installation, Inspections and Maintenance of Low Pressure Boilers; Construction of Unfired Pressure Vessels
- Industrial Code Rule 36: Places of Public Assembly
- Industrial Code Rule 56: Asbestos

Americans with Disabilities Act

Americans with Disabilities Act Accessibility Guidelines

ICC/ANSI A117.1-2003, as referenced by the New York State Uniform Fire Prevention and Building Code

4.2 Site

The sitework involved with the either project will consist largely of restoration of disturbed items such as sidewalks, curbs, pavement, lighting, and landscaping. The restoration would utilize the same materials. Reconstruction would include the provision of accessible ramps and walks at the tower link and the parking garage. No utility restorations or improvements are anticipated at this time.

4.3 Structural

4.3.1 Option 1: Proposed 10th floor Apartments

The alterations of the existing building would be considered a Level 2 Alteration per the International Existing Building Code (IEBC) since the alterations would not affect more than 50% of the building area.

Structurally, the building is exempt from having to meet current code gravity loading requirements unless structural elements must support additional gravity loads as a result of the alterations. In that case, the affected elements would need to comply with current code requirements. The alterations are not expected to affect the lateral loads or the lateral resisting system for the building so the building is exempt from having to meet current code lateral loading requirements.

4.3.2 Option 2: New Connector Building

Includes demolishing and redesigning the center connector building between the two towers to provide additional dorm rooms and more shared program areas. This would be considered a horizontal addition per the IEBC.

The addition would need to be designed in accordance with the current code requirements, including seismic design. In order to ensure that the existing buildings do not have to be upgraded to current code requirements, the addition would need to be isolated from each tower with building expansion joints and would need to have an independent lateral system to resist code required wind and seismic loads.

4.3.3 Option 3: New Residence Hall

The complete demolition of the building and construction of a new facility. In this case, the building would be designed to meet all of the requirements of the NYS Uniform Code, including the provisions of the International Building Code (IBC).

In either case (addition or new building), a geotechnical analysis would need to be performed to provide earthwork recommendations and a seismic site class.

4.4 Mechanical

NOTE: the equipment sizes indicated in this section are based on engineering assumptions, general code requirements, and typical design standards. HVAC load calculations will be performed to correctly size the mechanical equipment.

4.4.1 Option 1: Proposed 10th floor Apartments

- Remove the existing electric baseboard heat from the entire floor.

- Remove the 6" x 6" exhaust duct and 10"x6" exhaust air register from the core toilet rooms (-05, -17, -19, and -34). The existing exhaust air duct risers in these spaces are to remain in order to keep the exhaust from the lobby and floors 3 thru 10 active. Powered roof exhausters, which provides the toilet room exhaust, are also to remain active.
- Remove the 6" x 6" exhaust duct and 6" x 6" exhaust air register from toilet rooms (-11 and -27). The existing exhaust air duct risers in these spaces are to remain in order to keep the exhaust from floors 3 thru 10 active. Powered roof exhausters, which provides the toilet room exhaust, are also to remain active.
- The 8" x 6" exhaust duct and 6" x 6" exhaust air registers in Janitor (-36), Tub (-35), Trash (-38), and Luggage (-37) are to remain. The existing 16" x 8" exhaust air duct riser in the core Mechanical space is to remain in order to keep the exhaust from floors 3 thru 10 active. The in-line exhaust fan in the penthouse, which serves this exhaust air ductwork, is to also remain active.
- Provide wall-to-wall electric baseboard heat on the exterior wall of each one of the new bedrooms (singles and doubles) as well as on the exterior wall of the Living Rooms.
- Provide 75 cfm exhaust air out of each new toilet room provided on the tenth floor. Provide 4" x 4" exhaust air duct and 4" x 4" exhaust air registers in each space. Reconnect to the existing powered roof exhausters exhaust air duct risers.
- Provide range hoods over each Apartment cooking range. Provide 3" exhaust duct from each hood to the exterior wall and terminate with a 3" wall cap.
- Provide two (2) cooling only rooftop air handlers for air conditioning the tenth floor Apartments. Each 7-1/2 ton (3,000 cfm) cooling rooftop unit will serve approximately 1/2 the floor. A 20" x 20" supply air riser will drop down thru the roof and split into multiple branches to serve the bedrooms and Living Rooms. Return air from the spaces will be returned back to the rooftop units.
    - If there is a concern or issue with being able to provide ductwork on the tenth floor due to limited head clearance, one alternate would be to provide a ductless split cooling system with the indoor units mounted in the Living Rooms and condensing units being located on the roof. This system would only require refrigerant pipe and condensate pipe being connected to the indoor units.

4.4.2 Option 2: New Connector Building

- Provide wall-to-wall electric baseboard heat on the exterior wall of each one of the new double bedrooms as well as on the exterior walls of the common areas.
    - One alternative to electric baseboard would be to provide a natural gas boiler on the ground floor. Provisions would have to be provided for a small mechanical room.
        - The high efficiency boiler would be sized for roughly 1,000 MBH output.
        - The hydronic distribution mains (hot water supply and return) would be 3" copper.
        - The hydronic baseboard would be 3/4" copper tube with aluminum fins.
        - In addition to the boiler, base-mounted pumps would be required. Two (2) pumps would be installed in parallel in a primary/backup configuration.
        - Hydronic accessories such as balancing valves, shut-off valves, an air separator, and expansion tank will also be required.
- Provide 150 cfm exhaust air out of each toilet room bank. Each toilet room will be provided with 75 exhaust air. Provide 4" x 4" exhaust air duct and 4" x 4" exhaust air registers in each toilet room. Route a 16" x 12" exhaust air riser up thru the common plumbing chase to a powered rooftop exhauster sized for 1,200 cfm.

- Provide dedicated dryer exhaust off of each one of the combination washer/dryer units shown in the connection. Additional make-up air will be required to offset the exhaust air from these dryers.
- Mechanical ventilation will be needed to support the 100person communal spaces. This will require a dedicated rooftop unit and distribution ductwork. The ventilation air, per 100-person communal space, would be 2,000 cfm.

4.4.3 Geothermal Heat Pump

SUNY Cortland has requested research of a geothermal heat pump system as a possible energy source for these buildings. Before this can be fully evaluated, test bores would be required to determine the soil conditions and heat transfer coefficient. Multiple bores of 250 ft to 300 ft deep would be required. Once this work is done, a Geothermal Consultant would be required to review this data, determine if there is enough green space, then size and layout the ground loop.

4.4.4 Life Cycle Cost Analysis – Building Infrastructure (Electric vs. Natural Gas)

This analysis could be provided in the event the option is chosen to demolish both towers, demolish the connector building, and provide in its place a 600-bed residence hall in the same location. The following information would be required to move forward with a life cycle cost analysis.

- Confirmation from the local utility that they have the natural gas capacity and pressure to support a new building.
- Two (2) years of natural gas and electric usage of Casey and Smith Towers, including the connector.
- An estimate would have to be developed comparing the construction cost of an all-electric building to one supplied with natural gas fired equipment.
- An energy model would be required to calculate comparative operating costs.

4.5 Electrical

4.5.1 Option 1: 10th Floor Renovations

Power

- Existing electrical system on floor shall be pulled back to the panelboard. New branch circuit wiring shall be provided to the renovated areas.

Lighting

- LED lighting with lighting controls shall be provided in the renovated areas.

Telephone/Data

- Existing Telephone/Data infrastructure shall be reused where possible.

Fire Alarm

- Existing Fire Alarm devices shall be removed and saved for reinstallation. Existing fire alarm circuiting will be reused where possible.

Security

- Access control modifications are not required for this option

4.5.2 Option 2: New Connector Building

Power

- New power feeders shall be provided for the infill to provide power to new panelboards.

Lighting

- LED lighting with lighting controls shall be provided in the renovated areas.

Telephone/Data

- Existing Telephone/Data infrastructure shall be extended into the renovated areas.

Fire Alarm

- New fire alarm Signaling Line Circuits and Notifications circuits shall be provided for the Link Infill and connected to pull stations, detectors and other initiating devices as well as notification devices.

Security

- Access control modifications are not required for this option.

4.6 Plumbing

4.6.1 Domestic Water service

- For both options 1 & 2, there will be no revisions to the domestic water service.

4.6.2 Sanitary Service

- For options 1 & 2, the existing building towers sanitary drain system/risers will remain.
- For option 1 – 10th floor renovations, the proposed renovations are within the same footprint as the existing toilet rooms. The existing sanitary drain/vent system piping for the 10th floor bathrooms will be adapted for the new bathroom layout and kitchen sink renovations. Piping work to be estimated for fixture rough-in only, existing risers to remain.
- For option 2 – connector link infill for floors 2 thru 10, provide new 4" sanitary and 4" vent stack risers from basement to 10th floor with new 4" VTR. Approximately 150 lf of sanitary drain and 100 lf of vent stack. Including fixture rough-in.

4.6.3 Water Distribution

- For options 1 & 2, the existing water distribution system water risers (cold/hot & HW return) serving the bathroom groups on each floor for each tower will remain.
- For options 1 & 2, the existing hot water storage tank(s) will remain, the existing plate & frame heat exchanger system will remain.
- For options 1 & 2, the existing water softeners will remain.
- For option 1 – 10th floor renovations, the proposed renovations are within the same footprint as the existing toilet rooms. The existing cold/hot water piping for the 10th floor bathrooms will be adapted for the new bathroom layout and kitchen sink renovations. Piping work to be estimated for fixture rough-in only, existing risers to remain.
- For option 2 – connector link infill for floors 2 thru 10, provide new 2-1/2" cold water, 1-1/2" hot water and ¾" HW return risers from basement to 10th floor with

new isolation valves connecting to existing cold, hot and hot water return system piping in basement mechanical room. Approximately 150 lf of insulated piping for each supply and return. A separate HW return pump will be provided back to the existing storage tank. Hot & cold-water fixture rough-in would be added to the overall riser piping.

4.6.4 Plumbing Fixtures

- For Option 1 & 2 – New fixtures will be wall hung flush valve type toilets and counter type lavatories with manual faucets. ADA compliant fixtures will be provided.
- Option 1 – Kitchen sinks will be ADA compliant without sprayers, single lever faucets.

4.7 Fire Protection

4.7.1 Existing Standpipe System

- For Option 1 – 10th floor renovations, there will be no changes to the existing standpipe system.
- For Option 2 – The connector link infill, the existing standpipe system will remain, the existing hose stations/stair towers provide adequate coverage on the proposed infill.

5.0 Cost Estimate

6.0 Appendix

6.1 Meeting Minutes

6.2 Drawings

SK-01 OPT. A- Proposed 10th Floor Apartments

SK-01 OPT. B- Proposed 10th Floor Apartments

SK-02- Proposed First Floor

SK-03- Proposed Second Floor

SK-04 OPT. A- Proposed Typical Floors (3rd-9th)

SK-04 OPT. B- Proposed Typical Floors (3rd-9th)

SK-05- Parking Garage Test Fit First Floor

SK-06- Parking Garage Test Fit Second Floor

SK-07- New Connection Rendering

SK-08- New Connection Rendering

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MINUTES FOR MEETING No. 02

Project Name:	DASNY SUNY Cortland Smith-Casey Feasibility Study
Project Location:	Cortland, New York
GA Project Number:	201725
DASNY Project Number:	343370
Meeting Date:	Wednesday, February 28, 2018
Meeting Time:	2:00 PM
Meeting Subject:	10th Floor Apartment Layouts
Meeting Location:	Conference Call

Attendees:

Name	Company	Phone No.	mail
Rob Shutts	SUNY Cortland	607 753-5616	rob.shutts@cortland.edu
Martin Edgington	SUNY Cortland	607 753-4370	martin.edgington@cortland.edu
Rob Binall	SUNY Cortland		
Ralph Carrasquillo	SUNY Cortland		
Juanita Larrabee	SUNY Cortland		
Nancy Goshow	Goshow Architects	212 242-3735	nag@goshow.com
Sandra Benjamin	Goshow Architects	212 242-3735	sbenjamin@goshow.com
Eric Goshow	Goshow Architects	212 242-3735	feg@goshow.com
Anastasia Limogiannis	Goshow Architects	212 242-3735	alimogiannis@goshow.com

The purpose of this telephone video conference was to discuss the proposed layout for the apartment style floors designed by the GA Team and to better understand the needs of the Residence Life team for the connector building for the Smith-Casey Project.

Item	Description	Status	Due	Action by
1.01	All in attendance were introduced.	INFO		
1.02	Eric Goshow presented the proposed design for the apartment style floors to the teams.	INFO		
1.03	Cortland agreed that the design resolves the major issues of the apartment spaces. Both teams agreed the middle apartments should be redesigned to accommodate more single rooms. The 10th floors of the two towers do not need to be connected due to	INFO/ OPEN		GA

Item	Description	Status	Due	Action by
	the communal nature of the apartment style layouts. Single rooms in apartments are preferred and will be integrated into the next layout design along with furniture layout.			
1.04	Cortland confirmed that 64 meal plan beds need to be made up in the connector building. Community spaces should be provided on every meal plan floor if possible.	INFO		
1.05	Cortland had concerns about the building needing to be unoccupied during construction. Goshow will provide phasing options to allow for continuous building operation.	OPEN		GA
1.06	Cortland will provide updated desired program for the connector building on the ground/lobby floors. Rob will send a marked-up plan of current spaces.	OPEN		Cortland
1.07	The addition of communal space for a maximum of 100 people that is flexible and can be sectioned off is important. One large office for professional staff, seminar rooms, and storage area will stay in the program. The dining room is no longer needed. Multicultural Life & Diversity Center could become an option in the connector space.	INFO		
1.08	Cortland confirmed their main concern is to offset the loss of meal plan beds, not necessarily maximize the amount of new beds.	INFO		
1.09	Cortland's goal is to connect the two towers on floors 3-9 to encourage communal interaction.	INFO		
1.10	Goshow will further pursue connection options to avoid blocking apartment windows. The connector will not structurally connect the two buildings.	OPEN		GA

Please notify the writer of these minutes of any comments or discrepancies within three (3) business days of the issue date. Afterwards these minutes will stand as mutually understood and agreed as written. They will be considered to be accurate representation of the discussions and decisions made during this meeting. These minutes will serve as a record of the meeting.

Item	Description	Status	Due	Action by
1.11	Demolition of the existing connector will address seismic concerns and requirements.	INFO		
1.12	GA will provide a test fit for a possible parking garage in the existing parking lot.	OPEN		GA
1.13	It was established that frequent dialogue between the Cortland and Goshow teams will happen throughout the design process through email and video conferencing.	OPEN		GA/ CORTLAND
1.14	GA will contact Cortland for next conference.	OPEN		GA

Prepared by: Anastasia Limogiannis February 28, 2018
Distribution: All attendees, C. Keado

Please notify the writer of these minutes of any comments or discrepancies within three (3) business days of the issue date. Afterwards these minutes will stand as mutually understood and agreed as written. They will be considered to be accurate representation of the discussions and decisions made during this meeting. These minutes will serve as a record of the meeting.

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MINUTES FOR MEETING No. 03

Project Name:	DASNY SUNY Cortland Smith-Casey Feasibility Study
Project Location:	Cortland, New York
GA Project Number:	201725
DASNY Project Number:	343370
Meeting Date:	Thursday, March 22, 2018
Meeting Time:	3:00 PM
Meeting Subject:	10th Floor Apartment Layouts, Meal Plan Room Layouts, Parking Garage
Meeting Location:	Conference Call

Attendees:

Name	Company	Phone No.	mail
Rob Shutts	SUNY Cortland	607 753-5616	rob.shutts@cortland.edu
Greg Sharer	SUNY Cortland		
Martin Edgington	SUNY Cortland	607 753-4370	martin.edgington@cortland.edu
Rob Binall	SUNY Cortland		
Ralph Carrasquillo	SUNY Cortland		
Nasrin Parvizi	SUNY Cortland		
Jean Brown	SUNY Cortland		
Chris Keado	DASNY		CKeado@dasny.com
Harry Ellsworth	DASNY		
Nancy Goshow	Goshow Architects	212 242-3735	nag@goshow.com
Sandra Benjamin	Goshow Architects	212 242-3735	sbenjamin@goshow.com
Eric Goshow	Goshow Architects	212 242-3735	feg@goshow.com
Anastasia Limogiannis	Goshow Architects	212 242-3735	alimogiannis@goshow.com

The purpose of this telephone video conference was to discuss the proposed layout for the apartment style floors designed by the GA Team and to better understand the needs of the Residence Life team for the connector building for the Smith-Casey Project.

Item	Description	Status	Due	Action by
1.01	All in attendance were introduced.	INFO		
1.02	Sandra Benjamin presented the three design options proposed for the apartment style floors to the teams.	INFO		

Item	Description	Status	Due	Action by
1.03	Cortland preferred Option 3, because of the smaller apartments. No more than 6 people should share an apartment. The bathrooms are to be reconfigured to accommodate 2 toilets, 1 shower, and 2 sinks. The kitchen will expand into where the existing bathrooms are and provide 2 refrigerators for the 6 person apartment.	INFO/ OPEN		GA
1.04	Cortland confirmed that a total of 542 meal plans need to be made up on floors 2-9. RA rooms are included in this count.	INFO		
1.05	Sandra Benjamin presented the three options for the meal plan layouts.	INFO		
1.06	Cortland preferred a combination of Option 1 and Option 3. Cortland prefers a combination of dorms and suites.	INFO		
1.07	A kitchen, lounge, and study room will be provided in each connector. Lockable single bathrooms will be provided for students with card access that are not in suites.	OPEN		GA
1.08	Cortland will confirm how many RA beds are needed per floor	OPEN		Cortland
1.09	Cortland's goal is to connect the two towers on floors 3-9 to encourage communal interaction.	INFO		
1.10	Goshow will further pursue connection options to avoid blocking apartment windows. The connector will not structurally connect the two buildings.	OPEN		GA
1.11	Demolition of the existing connector will address seismic concerns and requirements.	INFO		

Please notify the writer of these minutes of any comments or discrepancies within three (3) business days of the issue date. Afterwards these minutes will stand as mutually understood and agreed as written. They will be considered to be accurate representation of the discussions and decisions made during this meeting. These minutes will serve as a record of the meeting.

Item	Description	Status	Due	Action by
1.12	GA will provide a test fit for a possible parking garage in the existing parking lot.	OPEN		GA
1.13	It was established that frequent dialogue between the Cortland and Goshow teams will happen throughout the design process through email and video conferencing.	OPEN		GA/ CORTLAND
1.14	GA will contact Cortland for next conference.	OPEN		GA

Prepared by: Anastasia Limogiannis February 28, 2018
Distribution: All attendees, C. Keado

Please notify the writer of these minutes of any comments or discrepancies within three (3) business days of the issue date. Afterwards these minutes will stand as mutually understood and agreed as written. They will be considered to be accurate representation of the discussions and decisions made during this meeting. These minutes will serve as a record of the meeting.

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MINUTES FOR MEETING No. 04

Project Name: DASNY SUNY Cortland
Smith-Casey Feasibility Study
Project Location: Cortland, New York
GA Project Number: 201725
DASNY Project Number: 343370
Meeting Date: Wednesday, April 4th, 2018
Meeting Time: 3:00 PM
Meeting Subject: Working Session
Meeting Location: Conference Call

Attendees:

Name	Company	Phone No.	mail
Rob Shutts	SUNY Cortland	607 753-5616	rob.shutts@cortland.edu
Greg Sharer	SUNY Cortland		
Martin Edgington	SUNY Cortland	607 753-4370	martin.edgington@cortland.edu
Rob Binall	SUNY Cortland		
Ralph Carrasquillo	SUNY Cortland		
Nasrin Parvizi	SUNY Cortland		
Jean Brown	SUNY Cortland		
Chris Keado	DASNY	518 257-3305	CKeado@dasny.com
Harry Ellsworth	DASNY	518 257-3204	hellswor@dasny.org
Sandra Benjamin	Goshow Architects	212 242-3735	sbenjamin@goshow.com
Eric Goshow	Goshow Architects	212 242-3735	feg@goshow.com
Anastasia Limogiannis	Goshow Architects	212 242-3735	alimogiannis@goshow.com

The purpose of this telephone video conference was to discuss the proposed layout for the apartment style floors designed by the GA Team and to better understand the needs of the Residence Life team for the connector building for the Smith-Casey Project.

Item	Description	Status	Due	Action by
1.01	All in attendance were introduced.	INFO		
1.02	GA and Cortland discussed the existing condition of the ground floor with the new connection footprint.	INFO		

Item	Description	Status	Due	Action by
1.03	1 study room in Smith, and 1 RHD office and 1 RA office in each tower will be provided. Cortland will mark-up the ground floor plan with necessary program changes as discussed. The 100 person meeting area will include air conditioning.	OPEN		CORTLAND
1.04	GA presented the ADA accessible 10th floor apartment layout.	INFO		
1.05	The layout will be changed to accommodate a 5-person apartment, a 2-person apartment with a double room, and a 2-person apartment with single rooms. The bathrooms in the 5-person apartment will shrink to accommodate more kitchen and living room space.	OPEN		GA
1.06	DASNY will review ADA requirements and confirm if all the apartments being altered require ADA access.	OPEN		DASNY
1.07	GA presented the parking garage with 56 total parking spots including 3 ADA spots. The parking garage would have to eliminate the loading dock in order to accommodate an appropriate length ramp.	INFO		
1.08	Cortland does not find the need for constructing a parking garage adding only 16 more spots to be practical. No further development of the test fit will be provided. GA will provide a cost estimate of the design.	OPEN		GA
1.09	GA presented the new connector building.	OPEN		GA
1.10	Cortland & GA discussed the mark ups made by Cortland. The connector will accommodate a large lounge with access to a shared kitchenette, 1 washer and 1 dryer in a laundry room, and a quiet	OPEN		GA

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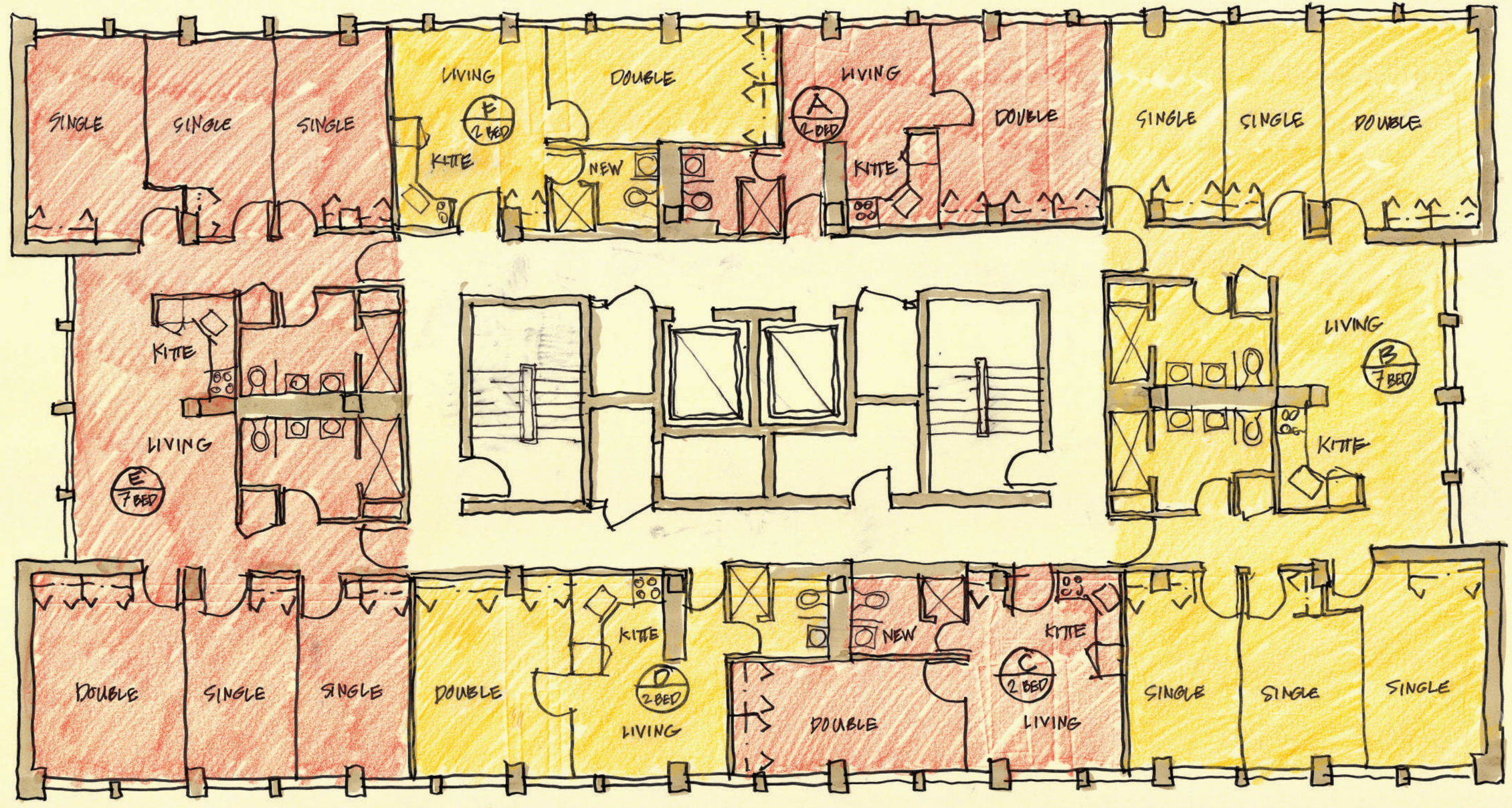
Item	Description	Status	Due	Action by
	room that will take over an existing double bedroom.			
1.11	GA will move forward with the feasibility report and discuss the final options with the consultants.	OPEN		GA

Prepared by: Anastasia Limogiannis April 4th, 2018
Distribution: All attendees

Please notify the writer of these minutes of any comments or discrepancies within three (3) business days of the issue date. Afterwards these minutes will stand as mutually understood and agreed as written. They will be considered to be accurate representation of the discussions and decisions made during this meeting. These minutes will serve as a record of the meeting.


SINGLE
SINGLE
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E
2 BED
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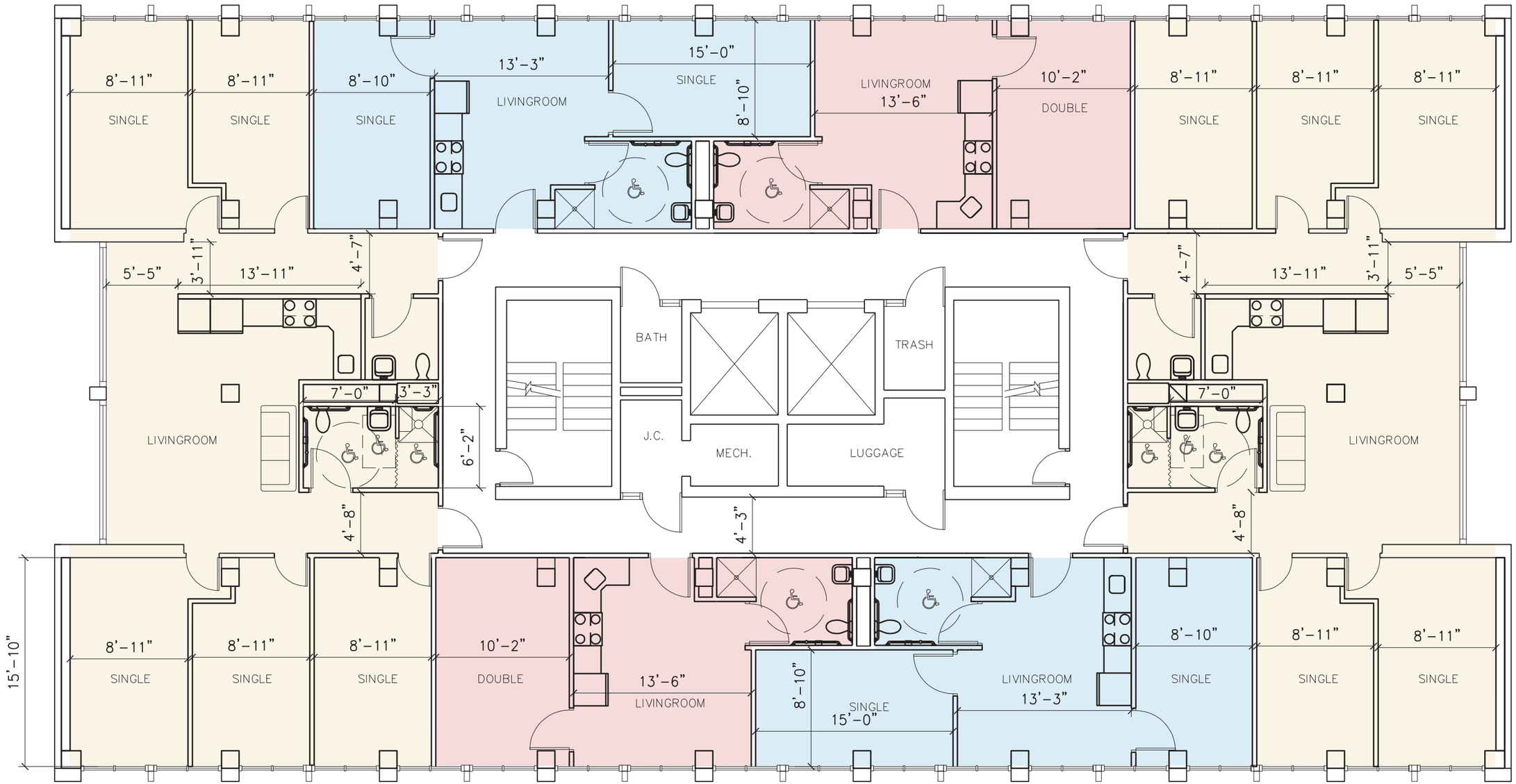
18 BEDS SMITH + 18 BEDS CASEY= 36 BEDS TOTAL



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SMITH-CASEY 10TH FLOOR APARTMENTS

1/8"=1'

04/09/2018

SK-01
OPTION B

CASEY BUILDING

SMITH BUILDING

79'-11"

99'-11"

110'-8"

34'-8"

110'-8"

76'-5"

27'-7"

23'-0"

59'-0"

109'-8"

70'-0"

LOADING DOCK

CLOSET 127E
BEDROOM 127D
LAUNDRY 127G
DINING 127B
BEDROOM 127F
BATHROOM 127C
W/D
BATHROOM 127H
CLOSET 127J
KITCHEN 127A
STORAGE 126A
TRASH ROOM 195A
JAN. CL. 197
CLOSET 127K
RHD APARTMENT LIVING 127
STAIRWELL #1
RA OFFICE 128A
ELEV. #1
CORRIDOR S100A
ELEV. #2
RHD OFFICE 128B
DRYER ACCESS 129B
W/D
STORAGE 126
SMALL BREAK ROOM 124
CORRIDOR S100B
STAIRWELL #2
LARGE BREAK ROOM 123
LAUNDRY 129
DRYER ACCESS 129A
TOILET 120
TOILET 130
TOILET 121
TOILET 118
TOILET 131
SUPERVISING JAN. OFFICE 122
TOILET 117
BATHROOM 119A
BATHROOM 132
STORAGE 133
BEDROOM
KITCHEN 114A
BATHROOM 116
CLOSET 114B
STORAGE 115
FACULTY APARTMENT
ELEC. CL. 113
LIVING/DINING 114
DOUBLE HEIGHT LOBBY
MEETING SPACE 1,566 SF
1,357 SF
NEW KITCHEN 101
SENIOR RA OFFICE 102
RHD OFFICE 103
BEDROOM 104B
CLOSET 104E
DINING 104F
BEDROOM 104G
LIVING 104
CLOSET 104H
BATHROOM 104J
KITCHEN 104A
RHD APARTMENT
STUDY 105A
BATHROOM 104C
LAUNDRY 104B
CORRIDOR N100A
CLOSET 104K
STUDY LOBBY 105
MAIL
CONTROL 110
OFFICE 110A
STORAGE 110B
STAIRWELL #3
ELEV. #3
ELEV. #4
STAIRWELL #4
JAN. CL. 197
STUDY ROOM 105B
CORRIDOR N100B
MECHANICAL 109
RECEIVING 107
W/D
CUSTODIAL 107A
IT SERVICE ROOM
VESTIBULE VES2

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SMITH-CASEY FIRST FLOOR

NTS

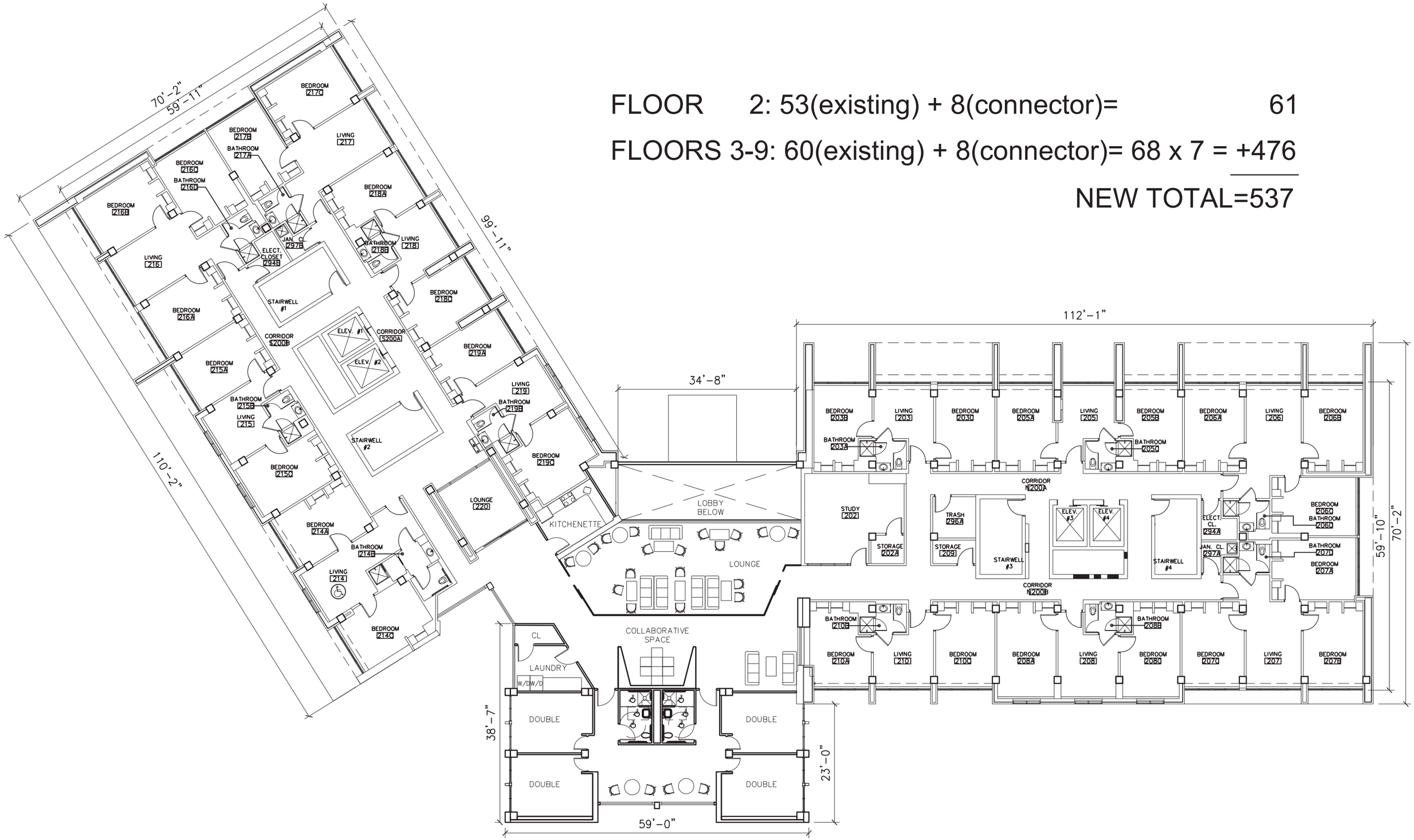
04/23/2018

SK-02

FLOOR 2: 53(existing) + 8(connector)= 61

FLOORS 3-9: 60(existing) + 8(connector)= 68 x 7 = +476

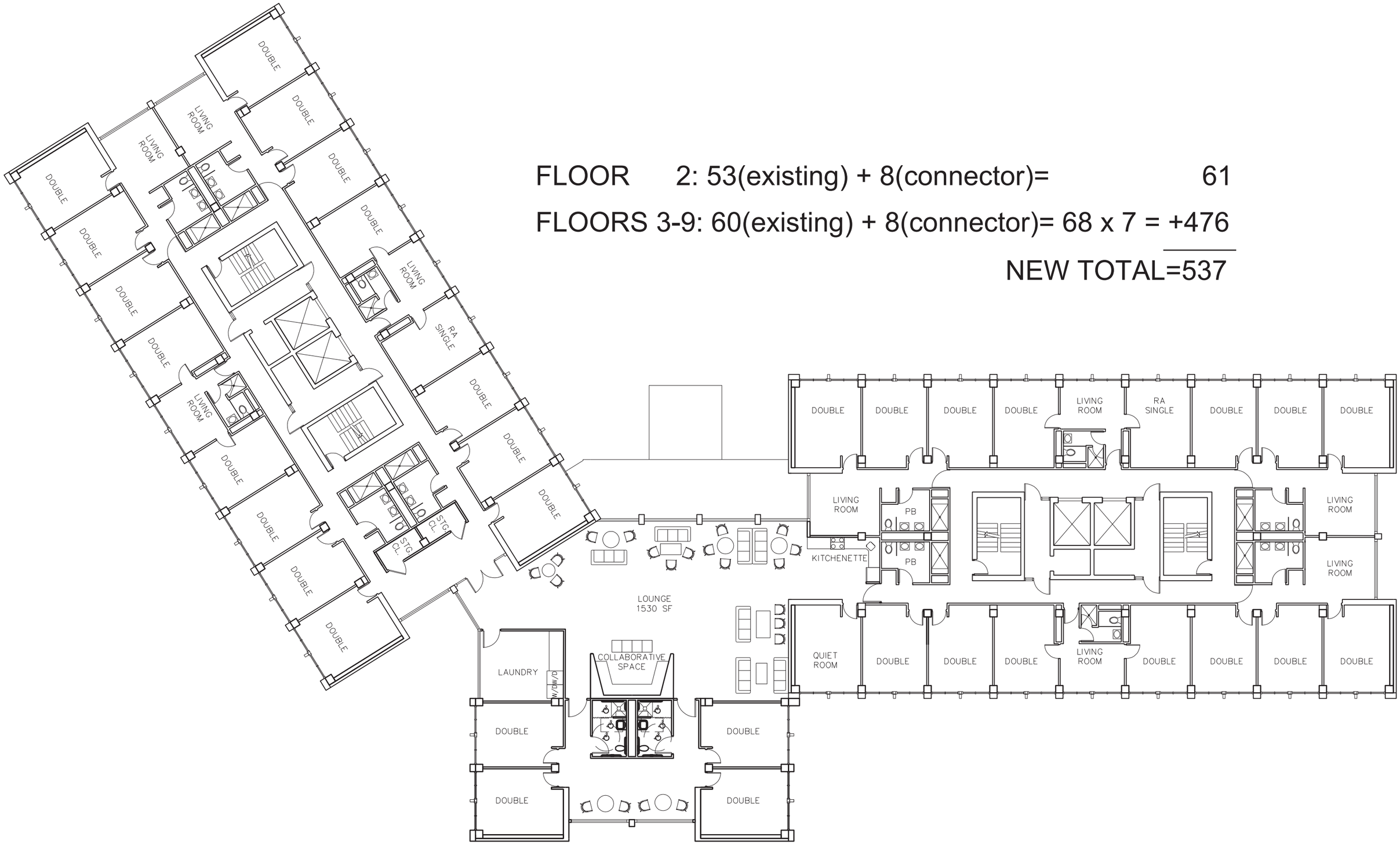
NEW TOTAL=537



FLOOR 2: 53(existing) + 8(connector)= 61

FLOORS 3-9: 60(existing) + 8(connector)= 68 x 7 = +476

NEW TOTAL=537



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SMITH-CASEY TYPICAL FLOOR-NEW CONNECTION

1/16"=1'

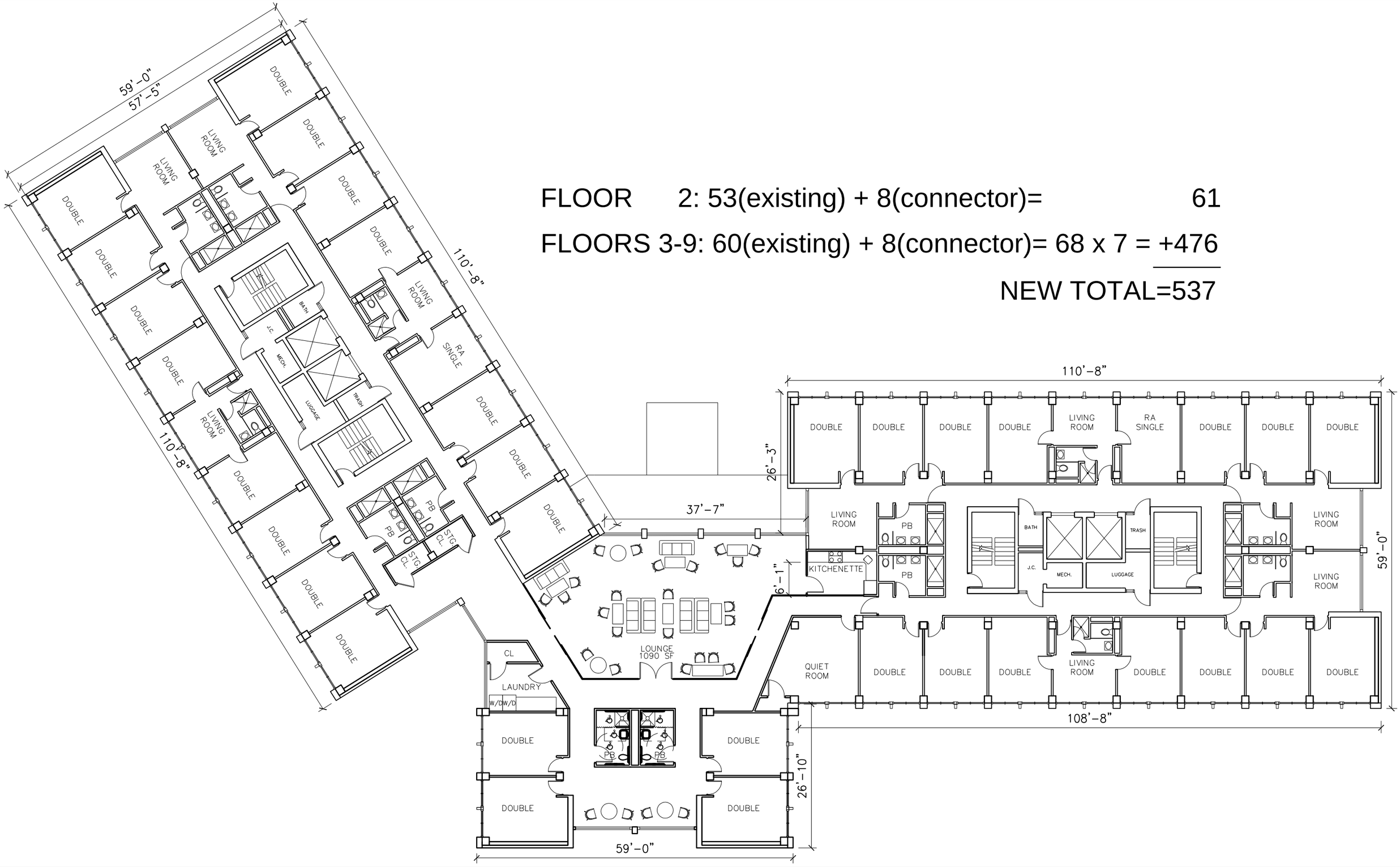
04/23/2018

SK-04
OPTION A

FLOOR 2: 53(existing) + 8(connector)= 61

FLOORS 3-9: 60(existing) + 8(connector)= 68 x 7 = +476

NEW TOTAL=537



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SMITH-CASEY TYPICAL FLOOR-NEW CONNECTION

1/16"=1'

04/23/2018

SK-04
OPTION B

52 PARKING SPACES
+ 3 ACCESSIBLE SPACES

BROADWAY AVE.

26'-0"

0'-0"

ADA-1

8'-0"

ADA-2

23

13'-3"

24

CASEY

1

2

3

4

5

6

7

8

9

10

ADA-3

11

12

13

14

15

16

17

18

19

20

21

22

24'-0"

8'-0"

ONE WAY

RAMP

24'-0"

26'-0"

SMITH

WATER ST.

52 PARKING SPACES
+ 3 ACCESSIBLE SPACES

BROADWAY AVE.

25
26
27
28
29
30
31
32
33
34
35

36 44
37 45
38 46
39 47
40 48
41 49
42 50
43 51

52

26'-0"

9'-6"

ONE WAY

CASEY

SMITH

WATER ST.

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SMITH - CASEY PARKING GARAGE TEST FIT - LEVEL 2

04/04/2018

SK-06

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SMITH - CASEY NEW CONNECTION RENDERING

04/24/2018

SK-07

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SMITH - CASEY NEW CONNECTION RENDERING

04/24/2018

SK-08