

Essex County Jail: Documentation and Adaptive Re-Use Analysis

Project Number: 2010:0068

Historic Site Management Grant, Garden State Historic Preservation Trust Fund

NJ Historic Trust, Department of Consumer Affairs, State of New Jersey

Submitted by: Professors Anthony Schuman and Darius Sollohub December 2020



SUMMARY

This Historic Site Management Grant Final Report represents an accounting of activities conducted to document the Essex County Jail site, raise awareness of its importance, develop a range of strategies for its preservation, and provide cost estimates for these alternative approaches. This document serves as a status report on the jail's current condition as well as a platform for future preservation, in whatever form that may take. The report describes a continuation of grant number 2010:0068, originally allocated by the New Jersey Historic Trust to University Heights Science Park in 2010. Outcomes of this original phase include an engineering study by Thornton Tomasetti, an historical analysis by Ulana Zakalak and Associates, measured drawings by CTS Architects, and a conceptual reuse study by Matthew Gosser (an NJIT adjunct faculty member). After that initial work was completed, institutional transformations at University Heights Science Park, the original grantee, caused a delay in grant momentum. As a legacy member of the original consortium, NJIT agreed in 2019 to take responsibility for completing the grant. NJIT President (and current Science Park Chair) Dr. Joel Bloom designated Profs. Schuman and Sollohub to direct work on the grant. The two worked closely with Andrew Christ, NJIT Vice President for Real Estate Development and Capital Operations, whose office provided the funds to fulfill the original grant objectives. This document summarizes the findings of this final phase of work under the grant. Glenn Ceponis, the Trust Preservation Specialist who has administered the entire grant, served as liaison.

BACKGROUND

The Essex County Jail is located in Newark, NJ, at the intersection of New and Newark Streets in the city's University Heights Science Park district. The original buildings on the site were designed by the noted Philadelphia architect John Haviland in 1837, with significant additions in 1890, 1895, and 1905 by others. It was decommissioned as a jail in 1971 and used for storage and office space until its complete abandonment in the 1990s. A devastating fire in 2001 destroyed a number of buildings and set the site on a path of accelerated deterioration due to open roofs and collapsed walls. The Essex County Jail was listed on the New Jersey State and National Registers of Historic Places in 1991 and today is owned by the City of Newark. Demolition of the jail for development has thus far been prevented by the NJ SHPO on grounds that the site is still undocumented and preservation strategies have not been fully considered, a status this report seeks to address.



COLUMBIA UNIVERSITY STUDY

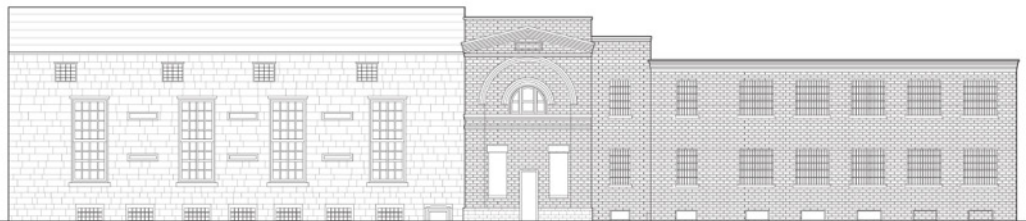
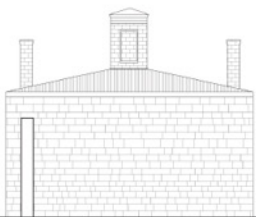
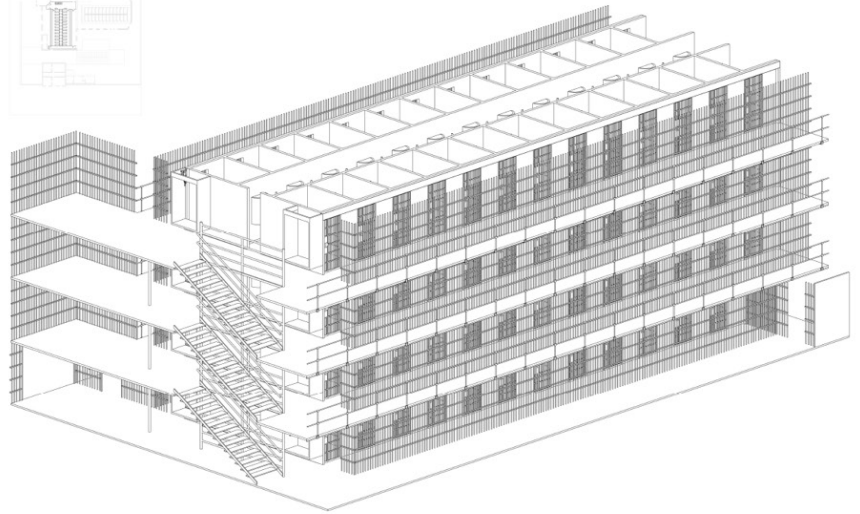
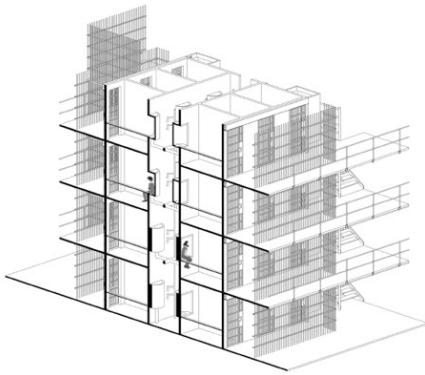
The resumed effort benefited from other entities focusing on the jail site, but contractually unrelated to the original grant. In the spring of 2018, Zemin Zhang, Executive Director of the Newark Preservation and Landmarks Committee, enlisted two joint studios from the graduate program in Historic Preservation at Columbia University to undertake a study of the Essex County Jail site. Under the direction of Professors Belmont Freeman and Bryony Roberts, these studios expanded upon efforts by Zakalak Associates to include extensive research into the jail's original architect, John Haviland, perhaps best known for designing Eastern State Penitentiary in Philadelphia. The first third of the semester focused on documentation and research. The studios utilized detailed measurements, photos, and 3D photogrammetry of the interior to create plans, elevations and a 3D digital model. Parallel to this documentation, teams researched the jail's mechanical systems, building materials, construction technology, prisoner life, jail operations, and its historic urban context. The studios also studied the politics and philosophies of imprisonment for the duration of the jail's use.

After the documentation and research phase, the studios split into two different groups to view the jail's possible future. Belmont Freeman's section focused on architectural design and looked at options for new programming and building on the jail site, such as a technology center, charter school hub, and housing options. Bryony Roberts's section focused on interpretive design and proposals for editing and transforming the structure to communicate its architectural and social history, with students choosing to develop projects centered on incarceration history, materials and technology, and community hubs.

The Columbia studios' efforts, including eleven developed adaptive reuse designs, are documented in a final report. The work of the Columbia studio became the basis of an exhibition on the jail's historic significance created by the Newark Preservation and Landmarks Committee (now Newark Landmarks) and displayed in Newark's Hahne's building atrium in the fall of 2019. Essex County Executive Joseph DiVincenzo attended this exhibit and committed to helping implement eventual preservation plans. In discussions with NJIT President Joel Bloom, Mr. DiVincenzo expressed support for developing the site for passive recreation with display panels detailing the history of the site. While there was no commitment to preservation of structures, both endorsed the principal of a park on the site. Mr. DiVincenzo cautioned that his office could not cover the estimated \$7 million in demolition, preservation, and construction costs. [Link to Final Report here.](#) [Link to exhibition here.](#)



On Sep. 25, 2019 Essex County Executive Joseph DiVincenzo attended an exhibit of research on the Essex County Jail developed by the graduate program in Historic Preservation at Columbia University. At the event, DiVincenzo committed to helping implement eventual preservation plans.




GRANT FUNDED EFFORTS


The following activities were undertaken by NJIT to complete the grantee's obligation under the terms of the grant.

Photogrammetry

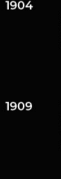
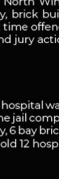
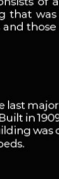
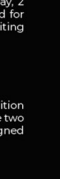



The Columbia studios produced extensive 3D photogrammetry of the Jail, but because Federal Aviation Administration (FAA) restrictions on Newark Airport's airspace prohibited the Columbia initiative from using drones for photogrammetry, their point cloud digital profiles have limited exterior fidelity. Given that the FAA has granted the New Jersey Innovation Institute (NJII) sole control of drone flights in FAA restricted airspace, NJIT's office of Real Estate Development and Capital Operations contracted with ParaTrees, an NJII I-Lab company, to produce drone-based photogrammetry of the jail's exterior. ParaTrees's drone recorded an exterior 3D model in March of 2019 to meld with Columbia's data and the merged photogrammetry, resulting in a high definition record of The Essex County Jail.



Aerial Image of of Essex County Jail



3D Model of Essex County Jail's current state

	two story brownstone building, four bays in depth, with a parallel hip slated roof punctuated by skylights.	
1890	The west wing is a two story brick structure that confined inmates with 5 to 30 day sentences.	
1895	The women's wing was constructed as a prison for both women and children. Prior to the construction of a separate wing, children were confined together with adult inmates, as were witnesses.	
1901	The prison complex is surrounded by a 12' high brownstone wall. In 1901, the vacant northern half of the block, adjacent to the Canal, was purchased and the wall was extended to enclose the entire block.	
1904	The North Wing consists of a 6 bay, 2 story, brick building that was used for first time offenders and those awaiting grand jury action.	
1909	The hospital was the last major addition to the jail complex. Built in 1909, the two story, 6 bay brick building was designed to hold 12 hospital beds.	
1926	The last addition to the complex is the warden's office, a small single bay, single room, two story brick building at the east side of the complex.	

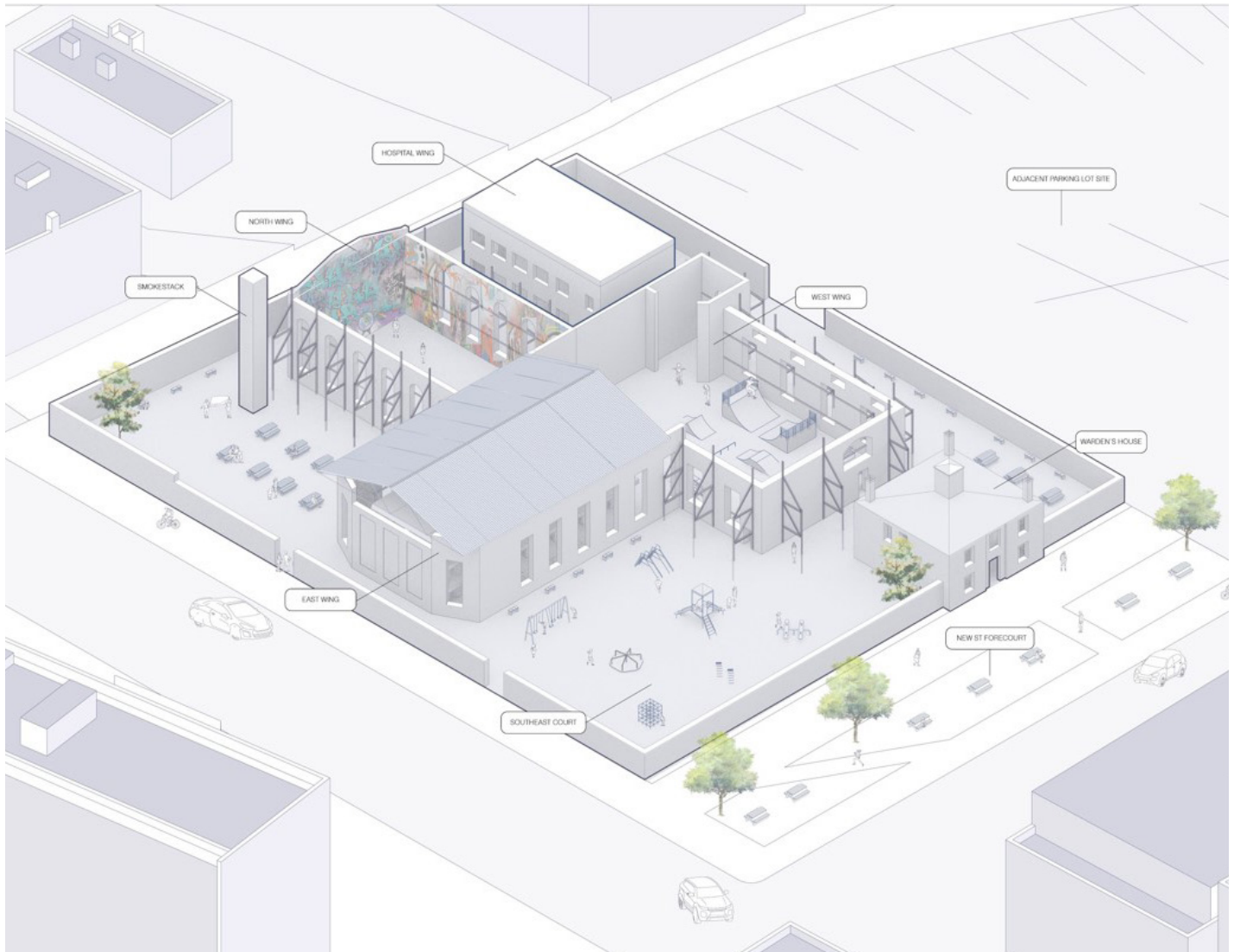
Augmented Reality

The high-quality modeling of the joint ParaTrees/Columbia effort facilitated a second contracted effort to produce an augmented reality (AR) platform to display the original building via a 3D model using digital tablets while on site. The AR model also positions archival photographs as well as the designs by Columbia students and others for viewing within the application. Implementing AR at the historic site is an emerging approach in documenting and interpreting the transformations that the jail has encountered over time. AR presents a non-invasive technique for recording the site's changes over time, offering an immersive and interactive experience that blurs the line between its present remains and its digital restoration. AR allows users to witness the jail's previous condition and also its potential for the future, turning the site into a living document of its historical deterioration and potential rehabilitation. The AR platform was developed by SOE Studio, a Columbia affiliate. The jail can be viewed (currently on Apple products only) by downloading the free Testflight app available for download through the Apple app store (search Old Essex).

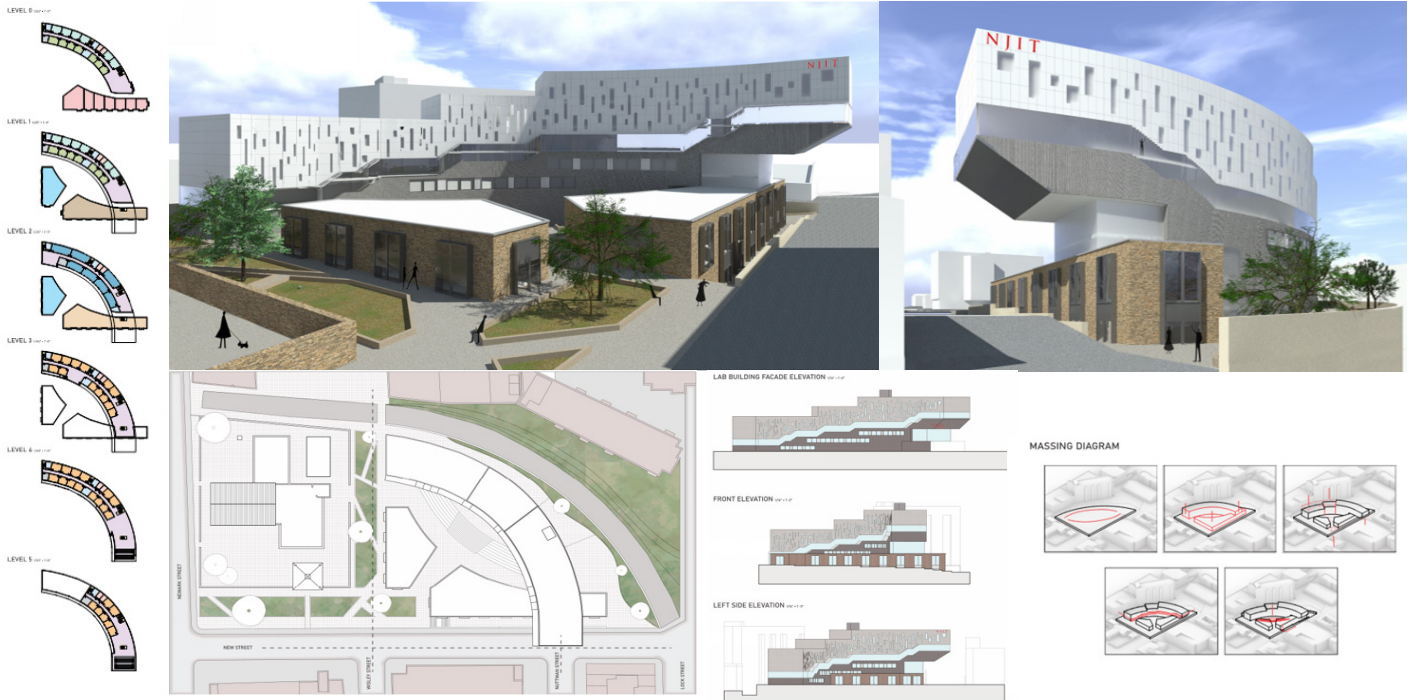


NJIT Studio

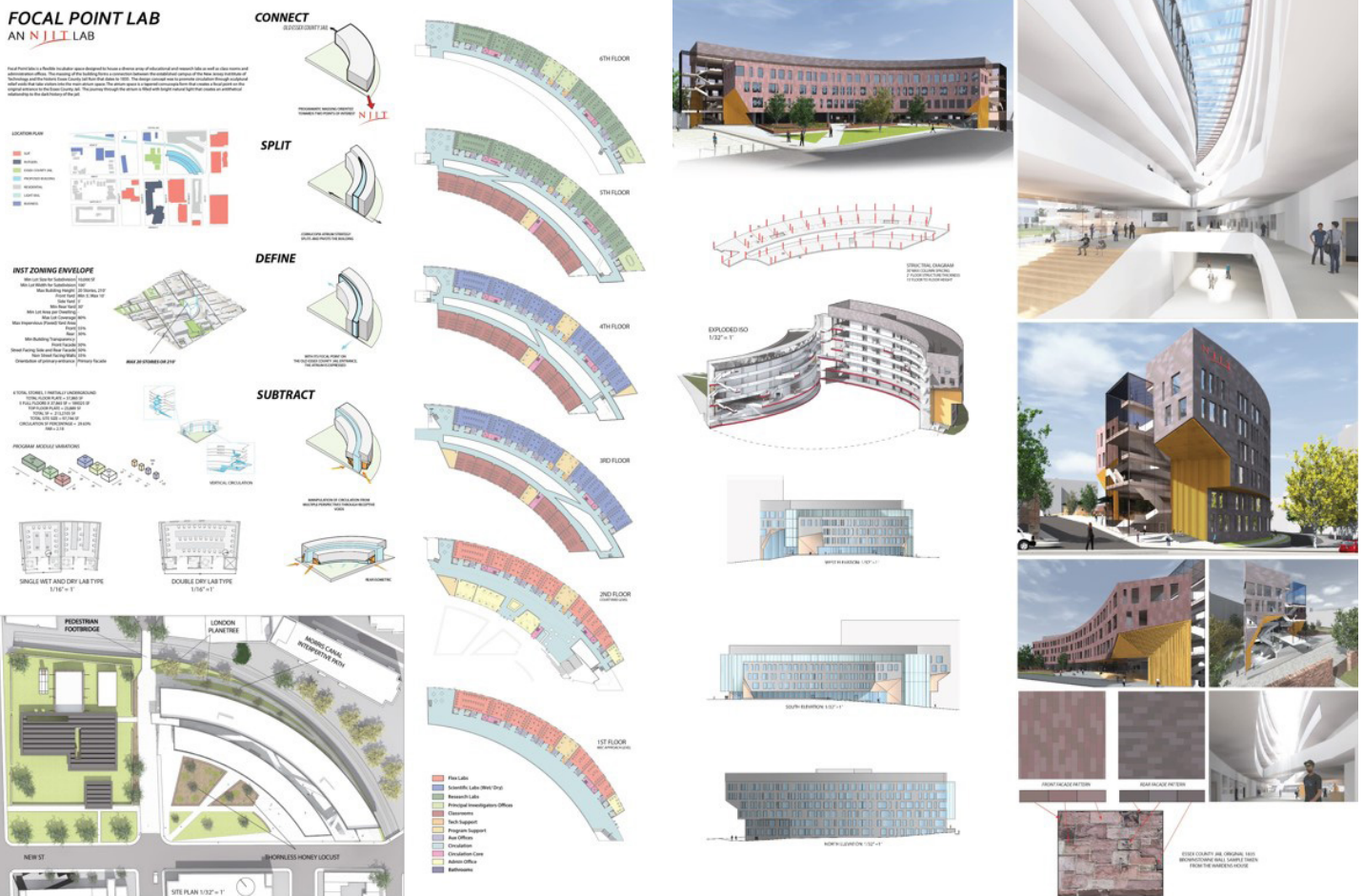
An upper level undergraduate architecture studio at NJIT developed strategies to preserve the Essex County Jail by integrating it with other uses. By conjoining the site with an adjacent parking lot, the studio proposed new buildings to serve NJIT's future housing and academic needs according to three types: laboratories, and undergraduate and graduate housing. Each is calibrated to complement passive recreation on the jail site. This academic exercise built upon the momentum of the Columbia studios to incorporate their detailed measurements, photos, interior 3D photogrammetry, and 3D digital model. The studio also benefitted from Columbia research into the jail's mechanical systems, building materials, construction technology, prisoner life, jail operations, and historic urban context. The studio also benefitted from Professor Schuman's liaison with the Morris Canal Working Group, which is planning a greenway along the canal route. Since the jail site abuts the canal bed as the light rail emerges from underground there may be some useful synergy here in terms of historic interest.



NJIT Studio



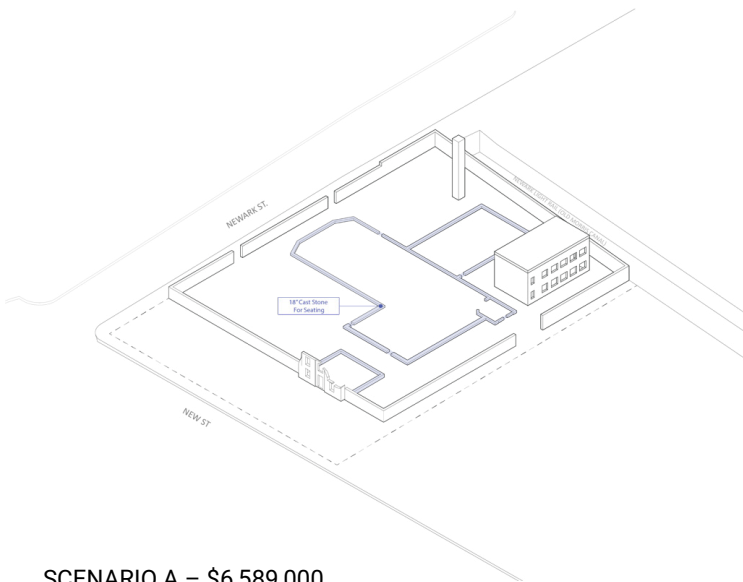
Rheanna Quagliariello



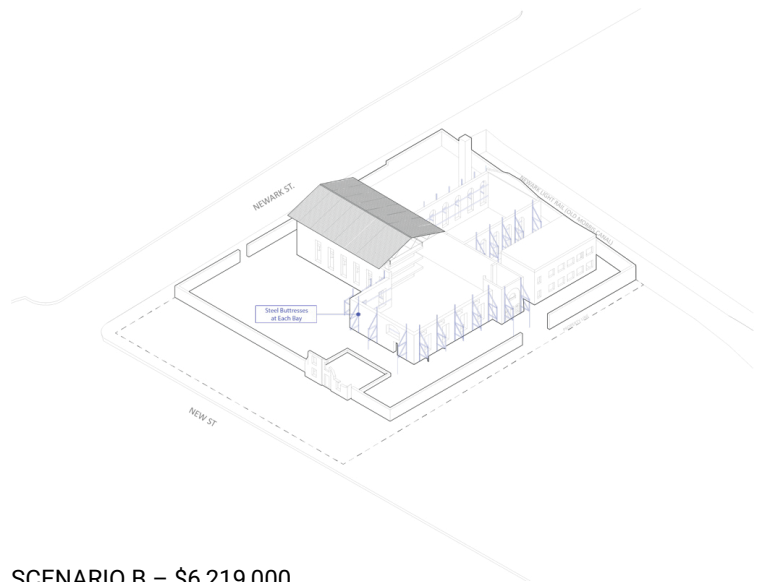
Shaun Scott

Cost Estimating

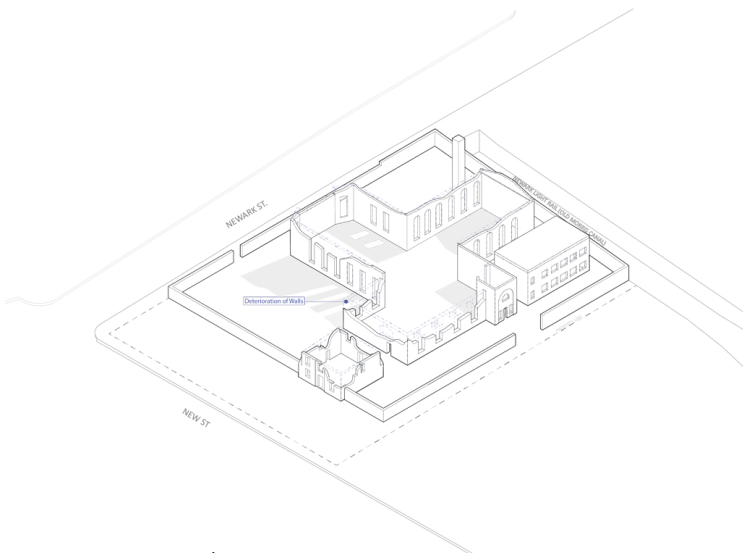
In order to determine the cost implications for adaptive reuses at the jail site, Professors Sollohub and Schuman culled the many propositions made by Columbia and NJIT for the site to prepare four alternative scenarios that ranged in the degree of demolition, stabilization, preservation, and adaptive reuse. The team leadership submitted the alternatives to Anser Advisory, a cost estimator familiar with both NJIT and projects of this type. A scope of work document suggested that preservation as a ruin would be similar in scope to that of the Smallpox Hospital Ruin Landmark on Roosevelt Island in New York City. After Anser staff visited the jail site, the team leaders requested analysis of the four alternative scenarios, each following a phased execution with conceptual estimates given in a low and high range of costs. Each scenario included common phases with several add/alternate elements for each. Above ground elements of the jail site included for analysis were the boundary wall, warden’s office, south wing, west wing, north wing, smokestack, and infirmary. In all scenarios, the infirmary, as the remaining structure in best condition, would be stabilized and “mothballed” for potential reuse at a later date. Prominent spaces include: New Street forecourt, and the southwest court. See scoping document here.



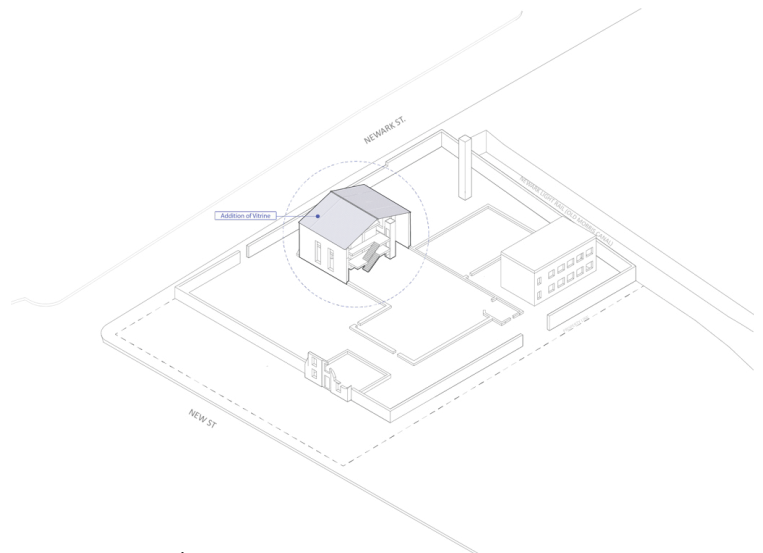
SCENARIO A – \$6,589,000
\$4,739,000 (base cost) + \$1,850,000 (add alternates)



SCENARIO B – \$6,219,000
\$4,729,000 (base cost) + \$1,490,000 (add alternates)

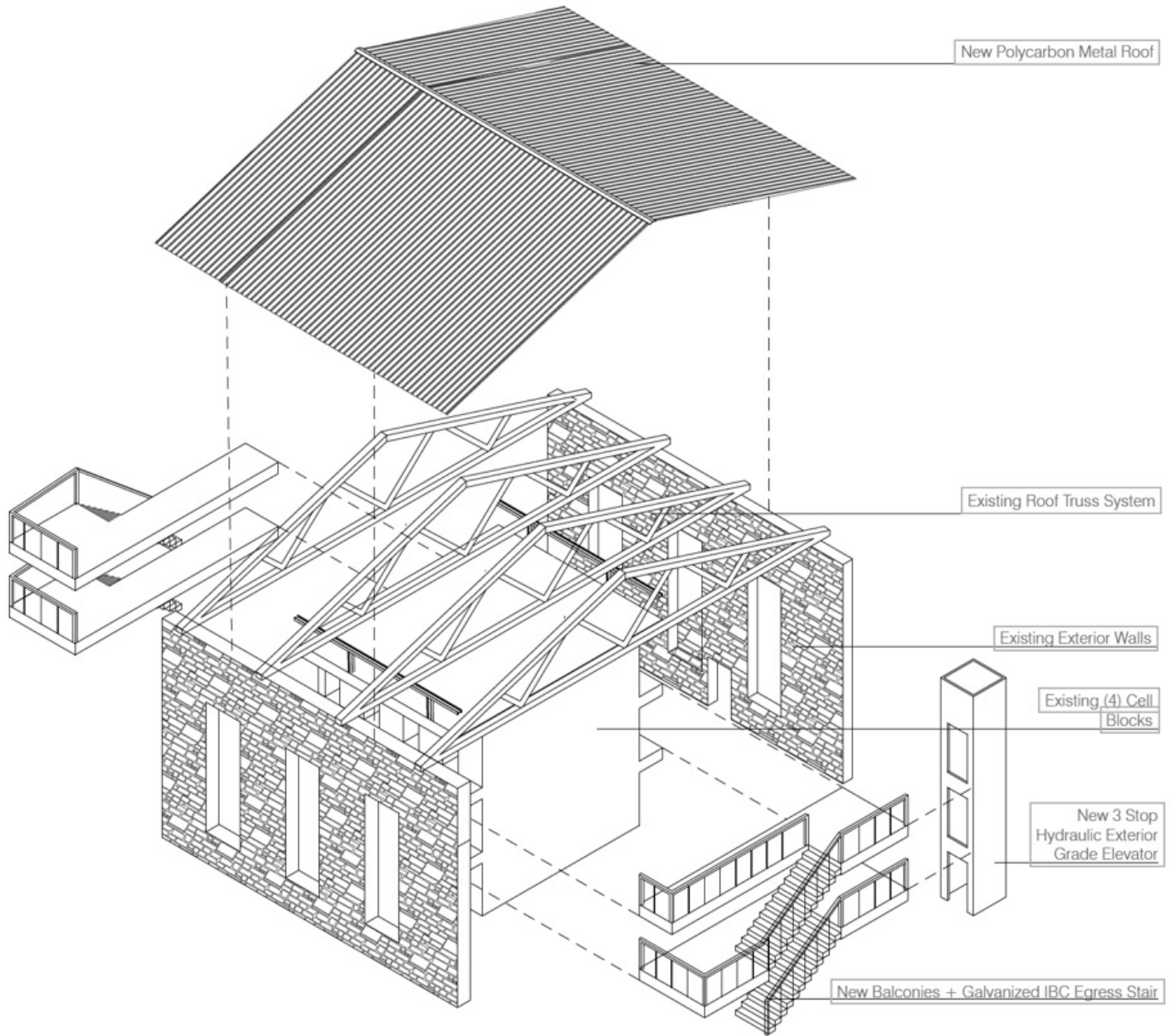


SCENARIO C – \$6,265,000
\$4,775,000 (base cost) + \$1,490,000 (add alternates)



SCENARIO D – \$6,693,000
\$5,793,000 (base cost) + \$900,000 (add alternates)

SCENARIO D – KEY COMPONENTS









RECOMMENDATIONS

After much deliberation, it is our considered opinion that the best future use of this property would be as an historic and educational county park. Preserved as a stabilized ruin, the site could host recreational amenities that attract a diverse public. Interpretive elements embedded in the site would tell the story of the history of the jail on the Morris Canal, which it abuts. Recreational uses at the Jail might include picnic areas, an outdoor performance venue, a skateboard park, and a graffiti wall. This approach has received the endorsement of NJIT, Newark Landmarks, Newark Arts, Biotrial (an adjacent business), and the Morris Canal Historic Society.

Among the four alternative scenarios, we strongly endorse the preservation of a portion of the west cell block along with portions of the walls delimiting the other primary jail structures. We believe it is important to the historical record to retain physical evidence of this innovative jail architecture. Moreover, given the renewed national dialogue on conditions of incarceration and social justice in general, the history of the jail can inform and encourage discussion of these critical issues. A spring 2021 studio in the Landscape Architecture program at Rutgers University New Brunswick led by Prof. Kathleen John-Alder, will continue academic efforts and contextualize the jail in the carceral landscape in New Jersey. Within Newark, the historic jail site can provide a meaningful counterpoint to the City's plan to refashion the First Police Precinct building (formerly the 4th Precinct, where the events of 1967 began) as a social services hub with a museum that chronicles police and community relations in Newark.

