

Condition Assessment and Treatment Plan for Libbey Memorial Physical Medicine Center

P R E - D E S I G N S E R V I C E S

500 RESERVE STREET
HOT SPRINGS NATIONAL PARK
HOT SPRINGS, ARKANSAS 71901



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Libbey Memorial PMC, Exterior South Elevation (STRATA, 2022)

1 PROJECT SUMMARY AND INFORMATION

1.0 Chapter 1 – Project Summary and Information

1.1 - Project Summary

1.1.1 - Introduction

This Libbey Memorial Physical Medicine Center Pre-Design Condition Assessment and Treatment Plan Report was assembled to update the conditions assessments and treatment recommendations from the previous 2009 Libbey Memorial Physical Medicine Center Historic Structure Report (HSR). This report documents the Pre-Design efforts of the Design Team to inform the upcoming Schematic Design scope of services and the anticipated scope and costs for the future rehabilitation of the Libbey Memorial Physical Medicine Center (Libbey Memorial PMC) and site.

1.1.2 - Project Purpose

This project work is based on the Scope of Work provided by the NPS, dated February 15, 2022, F05. The primary focus of this report is to define facility improvements required to prepare the Libbey Memorial PMC for future use. During the pre-design study, the future adaptive use was determined for Libbey to be a Multi-Park Museum Storage Facility. This overall adaptive use project would include the rehabilitation of the site and shell of the building, restoration of primary historic interior spaces and features, installation of new electrical, mechanical, plumbing, and fire protection systems, address accessibility, and include the rehabilitation of the remaining spaces to prepare the building for occupation as a Multi-Park Museum Storage Facility.

This project supports the mission of Hot Springs National Park to preserve the unimpaired natural and cultural resources and value of the national park system for the enjoyment, education, and inspiration of this and future generations.

1.2 - Summary of Existing Conditions and Recommended Treatment

The exterior of the Libbey Memorial PMC is in poor to good condition. Typical exterior stucco and masonry maintenance is required. Repairs and rehabilitation are recommended where there is water infiltration at the west gable, replacement of deteriorated non-historic windows, removal of non-original architectural features (porte cochere and sun porch), upgrading accessible entrances, addressing poor drainage, and repairs or replacement of site walkways. There is no existing equipment yard for mechanical and electrical equipment, which poses an issue for rehabilitation. With the building highly visible from all sides, screening the new electrical equipment, chiller, and generator, will be a challenge.

The interior of the building is in poor to fair condition. It has been vacant since 2005 with minimal maintenance, multiple renovations and demolition projects, and inadequate ventilation. Several primary historic spaces have retained their original materials and finishes, while other spaces have deteriorated or have been partially demolished.

Renovations, including several phases of interior demolition, have been ongoing since the Libbey Memorial PMC closed in 2005. These significant interior changes have resulted in the current condition of the building being well suited for **rehabilitation**, as identified in the 2009 HSR. The Libbey Memorial PMC is not currently listed in the National Register of Historic Places, nor is it within an existing National Register Historic District. However, the building has been determined to be individually eligible to be listed in the National Register for Criterion A and C. The Park plans to pursue listing in the National Register in the future. The HSR recommends a period of significance for the building from 1922 to 1958, with the period of interpretation from 1922 to 1943.¹

The Park identified the proposed building use for this Pre-Design Study as a Multi-Park Museum Storage Facility. The programming requirements for such a facility were test-fit into the existing building and appear to meet the space planning requirements provided by the Park. Pre-Design Programming Plans were provided as part of this study to show the potential square footage availability for primary program, circulation, and support spaces within the building. However, during the next design phase, further in-depth programming of the interior layout and design will be refined to reflect the Park and Region's needs.

The building will require significant upgrades to the structural components in the east wing and wherever primary high-capacity storage shelving will be utilized to meet the 350 psf required by the NPS for Museum Handbook, Part I, Chapter 7. Other NPS multi-park museum storage facilities have reportedly required 250 psf, so further direction from the NPS aligned with the new programming efforts will need to be conducted. Loading capacity, storage, security, mechanical and ventilation requirements, and associated structural upgrades will require further study in Schematic Design. The impact of the necessary structural upgrades (steel framing, columns, and new footings) on the building and allowable square footage and volume of the archival spaces will need to be evaluated. The final design must preserve the significant historic characteristics of the building while allowing for the new, compatible use.

The Libbey Memorial PMC rehabilitation will consist of site, shell, and core rehabilitation. Preservation Zones were designated in the 2009 HSR to assist in understanding the level of expected rehabilitation. These zones are discussed in detail in Chapter 3 – Treatment Recommendations. All recommended treatments for the interior and exterior of the Libbey must meet The Secretary of the Interior's Standards for the Treatment of Historic Properties, specifically for *Rehabilitation*.

This Pre-Design Treatment Recommendations include:

- Repairs to the site, exterior shell, and interior architectural components and finishes
- Required repair and upgrades for concrete structure and prescribed structural capacities
- Mechanical, electrical, plumbing, and fire protection systems upgrades
- Building code and life safety upgrades, including addressing egress

¹ Libbey Memorial Physical Medicine Center Historic Structure Report, Quinn Evans, 2009, 6.

- Accessibility upgrades per ABAAS standards
- Identification of remaining hazardous materials deficiencies (will follow in Schematic Design)
- Identification of existing site utilities and municipal water pressure to determine capacity for fire suppression systems

Architectural and structural features inherent to the site and construction of the historic Libbey Memorial PMC building present both limitations and opportunities. These are discussed further in Chapter 3 – Treatment Recommendations. A few examples include:

- The reinforced concrete structural slab and beams throughout are deteriorated from continued exposure to typical humid conditions of bathhouses.
- The exterior walls appear to be constructed of clay tile, with no embedded / engaged perimeter concrete columns, limiting the capacity of the unreinforced masonry walls.
- The location of the Libbey Memorial PMC is remote from Bathhouse Row, within a more residential scale neighborhood, and with limited on-site parking, which makes its potential adaptive use and ability to lease more difficult than bathhouses in the commercial area.
- All sides of the building are highly visible, limiting the location and size of new exterior equipment required to support the upgrade mechanical and electrical systems. There is also limited available area for this new equipment on the site. Other services, such as trash collection, will also need to be addressed.
- Previous abatement appears to have been limited. There is potential for additional hazardous materials to be found within the building, including asbestos, lead paint, radon, and mercury. Testing will be updated in Schematic Design

1.3 - Physical Description and Significance

History and information from the 2009 HSR

1.3.1 - Location

The Libbey Memorial PMC is a two-story building in the Mediterranean Revival style facing Reserve Avenue on the north and Laurel St and Spring Street on the southwest and southeast. The Libbey is approximately three blocks east of Bathhouse Row, on the hill, across from the now-shuttered army-navy hospital.

1.3.2 - Libbey Memorial Physical Medicine Center Historical Summary and Timeline -

“The Libbey Memorial Physical Medicine Center was constructed in 1922 by the National Park Service as the Government Free Bath Clinic, replacing an earlier structure serving the same purpose on Bathhouse Row. The Mediterranean Revival style building carried out this function until 1956, when declining use resulted in the closing of the free bathhouse and clinic and the building’s remodeling as a Physical Medicine Center...the only facility of its kind in the nation to be operated under government supervision. The concession-run PMC (renamed the Libbey Memorial PMC after the death of Park superintendent Donald S. Libbey, who first conceived the

idea for the Center) operated as a physical medicine center and health spa until 2005 when the concession contract was allowed to expire. The building has been vacant since that time.”² The two-story reinforced concrete and masonry structure has an exterior stucco finish and a gabled red clay tile roof with deep overhangs. The rectangular footprint with projecting pavilions encompasses a total of 20,066 gross square feet between two floors. Overall, at its longest dimensions, the building measures approximately 226’ east/west and 65’ north/south. The building was purpose-designed and constructed to be a state-of-the-art free government bathhouse, with bathing on the upper level and a free health clinic on the lower level. The two floors were connected by the central interior staircase.

The 1922 Government Free Bathhouse was designed by the Little Rock-based architectural firm Mann and Stern in the Mediterranean style, with a restraint not used in the design of bathhouses along Bathhouse Row. A significant renovation to transform the building into the Physical Medicine Center in the late 1950s was designed by Little Rock-based architectural firm Erhart, Eichenbaum, and Rauch Architects. For the last 17 years, the Libbey Memorial Physical Medical Center has remained vacant. Despite major interior alterations, the Libbey Memorial PMC retains the better part of its historic integrity and remains an important example of a unique purpose-built Government Free Bathhouse, the only facility of its kind at the time to be operated under government supervision. The building also retains high exterior integrity of a Mediterranean Revival bathhouse dating from the same period as other bathhouses in Hot Springs on Bathhouse Row.³

Major Known Renovations/Milestones Include:⁴

Episode I: Government Free Bathhouse and Clinic (1920-1943)

- 1922 – Government Free Bathhouse opens to the public.
- 1923-24 – Extra radiation added to correct heating and cooling system failures.
- 1924 – Ten feet added to chimney stack.
- 1926 – First leaks in tubs reported.
- 1927-28 – General repairs
- 1928 – All pools torn out, releaded, retiled, and reinstalled.
- 1929 – Runway for wheelchairs installed at the “main (south) entrance”
- 1930 – First floor lobby plus entire second floor windows replaced with steel window frames and sashes.
- 1933 – Main air ducts replastered.
- 1935 – General repairs.
- 1937 – Flagpole removed from south entrance and old pole from Superintendent’s residence installed on the north elevation.

² Libbey HSR, 1.

³ HSR, 2009, p.4.

⁴ Dates and information contained in the list are from the 2009 HSR.

Episode 2: Declining Years (1943-1957)

- 1943 – One side of bathhouse closed.
- 1947 – Ventilation system reconditioned, and two new radiators installed.
- 1948 – Arthritis clinic opens on first floor; Public Health Service clinic moved to Camp Garraday.
- 1949 – Arthritis clinic closed.
- 1951 – Exterior stone trim sandblasted.
 - Park Superintendent Donald S. Libbey proposes converting the bathhouse to a Physical Medicine and Rehabilitation Center.
- 1952 – New cooling tower completed.
- 1952 – Preliminary study for PMC submitted.
- 1957 – The Government Free Bathhouse closed for good.
 - Work begins on conversion to PMC facility.
 - The ca. 1920s formal landscaping was removed as part of the PMC conversion.

Episode 3: The Libbey Memorial Physical Medicine Center (1958 - 1981)

- 1958 – Physical Medicine Center opened.
- 1960 – The PMC was renamed the Libbey Memorial Physical Medicine Center in honor of Donald S. Libbey, who had died unexpectedly the previous year.
- 1962 – Jug fountain moved from Spring Street to Reserve Street.
- 1968 – Large pool deepened in lower level and extra egress door added to the sun terrace.
- 1978 – Leland Felix purchased the PMC corporation; the second floor was not in use at that time.
- 1979 – Dewey Crow acquired the PMC corporation.

Episode 4: The PMC and Hot Springs Health Spa (1981 - 2005)

- 1981 – The Hot Springs Health Spa opened on the second floor after extensive renovation.
- 1982 – Life safety upgrades including safety exits, emergency lighting, and fire alarm installed.
- 1985 – Second floor west wing renovated to expand the massage services.
- 1990 – New thermal water line laid.
- 1992 – Wall murals in second floor Lobby painted.
- 1993 – Reserve Street entrance porch raised to provide disabled access.
- 1997 – All windows replaced with a mixture of aluminum, vinyl, and wood units. Partial roof rehabilitation.
- 2003 – Plumbing and roof upgrades
- Ca. 2020 – Roof and skylight repair and replacement.

1.3.3 - Character-Defining Features

The period of significance for the Libbey Memorial PMC is from 1922 to 1958, with the recommended period of interpretation being from 1922 to 1943, as outlined in the 2009 HSR. This period of interpretation covers the period that begins with construction and extends to the end of Episode 1, which was the last year before public use began to sharply decline. This period is recommended for the rehabilitation of the landscape and site, building exterior, and building interiors. While renovations occurred until 1958, throughout the occupation, and later during the period of the building's vacancy, the Libbey Memorial PMC retains a significant amount of its historic integrity and exterior and interior character-defining features.

The Libbey Memorial PMC possesses historic integrity through the following:

- Although the building has undergone significant alterations on the interior, the overall exterior form and fenestration openings remain from the period of significance are relatively unchanged.
- Architectural detailing and construction materials from the period of significance are preserved on both the exterior and interior of the building.
- The building had maintained its original use as a bathhouse and center for health treatment until its closure in 2005.
- The original setting has been preserved.

Significant character-defining features are those which have historic character from the period of significance and have continued to convey the appearance and feeling of the building. Retention of these features maintains the historic integrity of the building, making it a priority to preserve, maintain, and repair these features.

Exterior, Site, and Landscape:

- Landscape
 - Spatial Organization
 - Arrangement of building on property
 - Relationship between building entrances and landscape
 - Lawn, sidewalks, and streets surrounding building
 - Triangular lawn on south side of property.
- Vegetation
 - Southern Magnolias along property boundaries
 - Lawn surrounding building
- Topography
 - Slope to south, enabling two grade-level entrances to two floors of the building.
- Circulation
 - Sidewalks at perimeter of site
 - Entrance plaza at north entrance
 - Driveway at south entrance (has been altered but reflects functional arrangement)
- Envelope:

- The white stucco cladding and masonry features, such as the north entrance gable and columns, remain.
- Window and door (fenestration) patterns remain. Although new exit doors were installed, they were installed in original opening locations.
- Front entry porch.
- Two primary facades – North facing Reserve Street, and South facing Laurel and Spring Streets.
- Two secondary facades – East – facing Laurel Street, and East - facing Spring Street.
- Red clay tile roof with skylight and cupola.
- Deep overhangs with exposed rafters.

Plan and Volume:

- The overall building footprint (projecting pavilions with east and west wings) and volume (2 stories partially in grade) have not changed since the period of significance. The interior plan and circulation have not changed significantly in the primary historic spaces since the original construction. Plan includes central lobbies, east and west wings, and a central stair.

Interior Features and Finishes:

- Texture and Pattern
 - Tile, colored concrete and patterned, or plan concrete flooring
 - Tile wainscots
 - Smooth plaster wall and ceiling finishes
 - Wood doors and marble partitions
 - Marble treads at stairs
 - Crown moldings
 - Built-in cabinetry at check-in counter
- Lighting
 - Ample daylight in exterior rooms
 - Use of borrowed light into corridors and inner spaces
 - Skylights and glass laylights
 - Remaining historic light fixtures
- Fixtures
 - Tubs at second floor west wing
 - Mechanical room north wall gauges

1.3.4 - Preservation Zones

The preservation of the Libbey Memorial PMC is imperative as part of the overall historic context of the bathhouses within Hot Springs National Park. The building reflects its chronological history and development as Hot Springs' Government Free Bathhouse during the period of significance from 1922 to 1958.

Rehabilitation Zones for the Libbey Memorial PMC were outlined in the 2009 HSR to guide the maintenance, repairs, design, and construction for work on the exterior and interior of the building. These Zones were reviewed and updated to reflect the current level of historic significance and integrity of specific building elements and individual spaces. These zones identify high, intermediate, and low levels of historic integrity to assist with planning and prioritization of appropriate levels of rehabilitation intervention in each space. These zones are outlined in Chapter 3 – Treatment Recommendations.

1.4 - Administrative Data

1.4.1 - Holistic Pre-Design Approach

The AE Design Team consulting on the Libbey Memorial PMC Pre-Design Study has worked closely to assess and develop treatment recommendations. The report delivers current information about the building conditions and updates the recommendations made in the 2009 HSR. These recommendations will assist the future design and further programming efforts in Schematic Design.

The AE Design Team consists of experts who have experience and enjoy working on rehabilitating historic buildings. The Team includes historical architects from STRATA Architecture Inc. and Quinn Evans; structural engineers with Structural Engineering Associates; MEPF engineers with IMEG; historical landscape architect from Quinn Evans; and an independent cost estimator. The existing conditions assessments were recorded in the field by the team members, including existing conditions, photographs, and measurements. The structural team supplemented their inspections by engaging with an outside contractor. The contractor provided ground penetrating radar (GPR) and destructive testing to confirm concrete reinforcing placement and condition.

Throughout the project, the Team held internal meetings to coordinate life safety code requirements, required repairs, and an understanding of the building limitations for installing updated mechanical, plumbing, electrical, and fire prevention systems and for structural repairs and upgrades. The Team held numerous in-person and online meetings with the Park and Regional NPS subject matter experts to review critical items, including fire prevention, code analysis, programming, expected level of rehabilitation, potential treatments, and museum management and curatorial storage. These meetings were productive, as participants offered their expertise and advice for addressing the unique challenges and opportunities for the rehabilitation of the Libbey Memorial PMC.

These meetings informed the recommended treatments presented in Chapter 3. The notes for these meetings are in Appendix B. While onsite, the Team also met with leaseholders for the

Superior and the Quapaw Bathhouses to understand their use and needs for their buildings. These meetings were essential for the Design Team to understand the importance of delivering a building ready for leasing that has considered the potential future uses and provided the best solutions for fire prevention and HVAC systems that are ready to customize for the tenant finish.

1.4.2 - Project Resources

Codes and Standards Related to the Rehabilitation

- IBC 2021
- IEBC 2021
- 2021 International Plumbing Code, International Mechanical Code, International Fire Code, International Life Safety Code, International Energy Conservation Code
- NFPA 70 NEC: National Electric Code
- NFPA 90A: Standard for the Installation of Air Conditioning and Ventilating Systems
- NFPA 72: National Fire Alarm Code
- NFPA 13: Standard for the Installation of Sprinkler Systems
- NFPA 14: Standard for the Installation of Standpipe and Hose Systems
- NFPA 24: Standard for the Installation of Private Fire Service Mains and Their Appurtenances
- ASHRAE 90.1: Energy Standard for Buildings.
- *Secretary of the Interior's Standards for the Treatment of Historic Properties*
 - *Rehabilitation*
 - *Guidelines for the Treatment of Cultural Landscapes*
- National Park Service Preservation Briefs
- NPS Management Policies 2006 and Director's Order #42
- Architectural Barriers Act Accessibility Standards (ABAAS)
- ABA Universal Design Standards for Outdoor Developed Areas, Public Rights of Way, Transportation Facilities
- 7 Principles of Universal Design
- Accessible Route Design Standards, DSC

Documents

The "Libbey Memorial Physical Medicine Center Historic Structure Report" was prepared in 2009 by Quinn Evans Architects and was referenced throughout this report.⁵ This HSR provided the history and basis for the current treatment recommendations. In addition, previous drawings and historical photographs were provided by the Park Curator, Tommy Hill. A list of these documents is in Appendix A: Reference Documents.

Drawings

AutoCAD drawings of the Libbey Memorial Physical Medical Center were provided by the NPS that had been prepared by Quinn Evans in 2009 for the Historic Structure Report. A building walk-through verified these drawings for use in this pre-design effort, and critical differences were noted and updated. A subsequent task order will include the production of updated, field-verified, electronic drawings in Revit for use during Schematic Design.

1.4.3 - Recommended Next Steps

The following outlines areas of life safety and building preservation concerns that were found during the AE Design Team site visit in March 2022.

1. Building Preservation: The AE Design Team recommends repairing the fountain thermal water and drain in the northwest areaway. The standing water is damaging the building.
2. Building Preservation: The AE Design Team recommends continuing to identify the source of the water infiltration into the west gable wall. This is likely due to poor flashing details at the inside face of the roof and should be repaired.

The following items are recommended to be completed to set up the project for success prior to or as part of the next phase of Schematic Design:

3. Site Survey: Production of a new site survey to include topography, drainage, all utilities (including depth of sanitary and water pipes), landscape, location of thermal water lines to the building, all related site features, and building first floor elevations at each entrance (lower level and upper level).
4. Hazardous Materials testing, specifically for:
 - a. Asbestos
 - b. Lead Paint
 - c. Radon
 - d. Soils Testing for Heavy Metals
 - e. Black debris on first floor from drain back-up
 - f. Plumbing pipes for mercury contamination
5. Revit As-Built Drawings: Production of field-verified building models in Revit for use during Schematic Design.
6. Piping Scoping: Scope and document all existing sanitary sewer pipes in the lower level, in the northwest areaway, and the exterior downspout drains, to map where they drain and the condition of the pipes. Plumbing and civil engineers should be present for this exercise to assist in documenting/mapping piping. This information is required for Schematic Design to provide costs for replacement, where required.
7. Concrete: Take core samples in floor slabs to investigate the potential for surface coat debonding or full delamination conditions. Two total cores would include Rooms 202 and 207.
8. Concrete Slab: Verify existing construction. Perform selective demolition of the concrete lower level slab in the east wing to confirm depth and adequate compaction of subgrade.
9. Geotechnical Investigation: Perform geotechnical in approximately 3 locations to determine the soil capacity for the existing required new footings.

10. Architectural Salvage Reuse: It is advised that the project architects work with Park Curatorial and Facilities staff to sort through architectural salvage in storage, as well as in areas within the building that may be demolished, to determine what will be reused as part of the rehabilitation project and what needs to move to Park storage. Determine if Park will remove items, or if the relocation needs to be included in contractor's bid. Determine if there are items in Park storage that could be used in the rehabilitation of the Libbey.
11. Provide further study of options for the location of the exterior generator and trash service.
 - a. To fully support all services to supply emergency power requires and exceptionally large piece of free-standing equipment. Current size is for powering all of the building systems. Explore only serving critical system during Schematic Design phase of work, such as fire alarm, emergency lighting, security, elevator, and HVAC to the archival spaces.
 - b. Explore options to remotely locate generator away from the building. Options to utilize the existing topography to install the generator partial in-grade should be explored.

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Libbey Memorial PMC, Exterior Window Detail (STRATA, 2022)

2 EXISTING CONDITIONS ASSESSMENT

2.0 Chapter 2 – Existing Conditions

2.1 - Introduction

The Design Team members were on site in March 2022 to assess the Libbey Memorial Physical Medicine Center (Libbey Memorial PMC). The Team took photographs and documented the existing conditions of the interior and exterior of the building. The Team provided updated building assessments and collected information to update the 2009 HSR treatment recommendations. Scope of work items were identified that will need to be completed to assist with the next phase of Schematic Design, including specialty consulting, testing services, and site surveying.

Overall, the building exterior has been well maintained and is in good condition. The interior conditions vary by floor and by room. Many renovations have occurred inside the building since the Libbey Memorial PMC opened, with a major renovation in the late 1950s to convert the use to a physical medicine center. Asbestos and hazardous materials were abated from the building in 1987 and again in 2008. After the Libbey closed in 2005, park staff worked to remove non-historic walls, fixtures, and finishes that had been constructed outside of the period of significance.

2.2 - Report and Chapter Organization

This Chapter includes brief narratives of the existing conditions by category of work, i.e., Site, Architectural, Structural, MEP, etc. with photographs at the end of each narrative section. Existing Conditions drawings are found after the chapter narrative. Tables were compiled to record the existing conditions of each category of work and are the basis for the treatment recommendations in Chapter 3. These tables can be found in Appendix G. Where applicable, the tables may reference photographs included in this chapter, and where available, quantities of the existing materials are listed.

The following standard condition assessment definitions were used to identify overall deficiency and conditions of the interior and exterior of the Maurice. These are typical industry definitions, utilized to prioritize preservation, maintenance, repair, and rehabilitation work.

Deficiency ratings are defined as:

Critical – Emergency / Immediate / Life Safety -

- This rating indicates an advanced state of deterioration or ongoing maintenance issue which may result in the failure of a specific feature or component if not corrected within the near future (typically less than 1 year).
- This rating may indicate an immediate threat to life safety of building occupants or visitors.
- This rating may indicate a serious building code violation.

Serious – Short Term –

- This rating indicates a deteriorated or missing condition which may result in failure of a specific feature of component if not corrected in the short term (typically 1-3 years).
- This rating does not currently reflect an immediate threat to life safety but does require corrective action.
- This rating may indicate code violation or accessibility issue.

Minor – Short or Long Term –

- This rating may indicate a component of or an overall building system that requires regular maintenance or preservation which may affect overall building performance or affect the long term preservation of the building (typically 3-5 years or further).
- This rating may identify recommended work to address non-life-safety issues or building upgrades to improve building occupant comfort and satisfaction.

Condition ratings are defined as:

Good – Rating identifies that the component or system is in overall operable condition with little wear. Item may require only routine maintenance but is not deteriorated or showing signs of deferred maintenance or need of repair.

Fair – Rating identifies the component or system is in overall operable condition with wear or showing signs of minor deterioration. Item may require maintenance or repair.

Poor – Rating identifies the component or system is in overall non-operable or overall deteriorated condition. Item may require significant maintenance, repair, or replacement.

Existing Conditions -

2.3 - Site Existing Conditions

The Libbey Memorial PMC is located on a triangular-shaped property bounded by Reserve, Spring, and Laurel Streets outside the Bathhouse Row National Historic Landmark District. No Cultural Landscape Report or Inventory has been completed for this site. A limited amount of information about the cultural landscape was discussed in the Historic Structural Report (HSR). The HSR has been the only guiding document to date. Site accessibility is addressed in Section 2.12.

Refer to the Existing Site Plan Drawing at the end of Chapter 2 and the Site Assessment Tables in Appendix G.

Grade

The site elevation drops significantly from the north side of the building to the south side by roughly 18 feet. The elevation change allows both the north and south entries to be essentially at grade. The existing driveway on the south side of the building slopes up to the south entrance elevation, unlike the historic design. Historically, the driveway was around 20 inches lower than it is currently.

Drainage

Stormwater sheet flows over the sloped site and grassy lawns around the building. Roof drainage is collected by downspouts located around the building perimeter. All but three of the downspouts are intended to be connected to an underground system. One of the downspouts on the west half of the north elevation, located between windows 100 and 101, has disconnected from the boot to the underground system. The easternmost downspout on the south elevation, adjacent to window 117, drains directly to grade. There is no splash block or other measure installed to minimize surface erosion at this location. An underground PVC pipe “daylights” through the curb at the west side of the south drive. Although not confirmed, it is assumed that one, or both, of the two downspouts located on the west half of the south elevation tie to this pipe underground. Stormwater is managed by area drains at the hard-scaped areas such as the west entry landing and northeast and northwest areaways. There is no drain in the northeast areaway. Standing water can be found in the northwest areaway at the basement west side entrance in front of the door. A drain pipe connected to the spring water jug filling fountain, located northwest of the upper level entrance, extends to a downspout in the northwest areaway. The downspout is not connected directly to the underground storm system as noted above, allowing spring water collect at the areaway floor and causing staining and biological growth on the concrete. Scoping of the drains and locating the underground system are important future work items that will help to define the project scope of work related to drainage.

Vehicular Facilities

The existing driveway at the south acts as a drop off area for visitors. Existing parking is only located on the street, surrounding the site on Laurel Street, Spring Street and Reserve Street.

Miscellaneous Site Elements

Miscellaneous items found around the site include a flagpole adjacent to the porte-cochere, street parking signage on Spring Street and Reserve Street, pole-mounted street lighting on Reserve Street, signage, and a mechanical unit. The mechanical unit is an air conditioning (AC) unit found on the west side, near door to the lower level. A National Park sign with a directional arrow indicating the location for the Visitor Center and Park Headquarters is located east of the building near the corner of Spring Street and Beech Street. A pole-mounted “Preserving Our Heritage” sign is located to the west of the north building entrance.

Site Utilities

Utilities and services to the Libbey Memorial PMC are addressed in the Mechanical, Plumbing, and Electrical sections below. Utilities include gas, electric, water, thermal water, cable, and sewer. These mapping of these services will be updated in the Schematic Design site survey. Water pressures should be adequate for water service and sprinklering the building. It is assumed sanitary piping and water service will be replaced.

2.4 - Landscape Existing Conditions

Plantings

There are minimal plantings around the building and site. Southern magnolias are planted in the area between street and sidewalk around the site perimeter. Other species (unidentified) of deciduous trees are located adjacent to the building and areaways. The trees vary in size and age. Shrubbery can be found around the driveway and at locations around the building foundation. All greenery is established, with most trees and shrubs in good condition. The Magnolia tree at the southwest side is in poor condition. Historically, the landscaping was denser and more manicured, particularly around the driveway and what used to be the plaza at the south.

Features

Historically, the south entrance had a more prominent pedestrian area, with a manicured landscape design. After the porte cochere was built in the 1950s, most of the landscaping and the pedestrian walkway were removed. A sun porch area along the east side of the south elevation, also constructed in the 1950s, is screened by a high masonry wall and accessed through an exterior gate at the east side and from the building interior. Sidewalks around the site are exposed aggregate concrete. The condition of the concrete throughout is poor to fair with some cracking and displacement of concrete slabs. A concrete walk cut-through provides a shortened route between Laurel and Reserve Street on the west side of the building. At about the mid-point of the cut-through, a stair with painted metal pipe railings is positioned to the elevation change. A natural spring water jug filling fountain is located near the north entrance. Its location allows easy access for pedestrians traveling by foot or car to use the fountain.

Photographs –



XC.1 – Exterior at north lawn, looking west.



XC.5– Exterior at North. Quarry tile and damaged concrete at plaza.



XC.2 – Exterior at south lawn, looking north.



XC.6 – Exterior at West. Damaged sidewalk, railing at stair.



XC.3– Exterior at South. Porte cochere.



XC.4– Exterior at east lawn, looking west.



XC.7 – Exterior at south lawn, looking north.

Architectural Existing Conditions

Refer to the Existing Conditions Drawings at the end of Chapter 2 and the Exterior and Interior Architectural Assessment Tables in Appendix G.

2.5 - Exterior Existing Conditions

The Libbey Memorial PMC is a two-story building in the Mediterranean Revival style. The exterior walls are finished with painted stucco with cast stone quoining and decorative elements at the north entry façade. A skylight with a cupola is centered on the roof and surrounded by red tile roofing. Both the north and south elevations include primary entries. The south entry and driveway are protected by a porte-cochere.

The exterior of the building is in poor to good condition. The clay tile roof and skylight were recently replaced. The roof shows minimal deterioration, and the skylight is in good condition. The metal-clad cupola centered on the roof is in good condition as well. The stucco shows cracking and peeling of the paint throughout the facades. The cast stone is in poor to fair condition, with open joints, cracking, and staining throughout the entire building. The windows and doors are in poor to fair condition, with a mix of original and vinyl and aluminum replacements. The windows on the lower level, eastern end of the south façade, were removed, and the openings were infilled with glass block that is in poor condition.

Photographs –



XAE.1 – North Entrance



XAE.10 XAE.2 – Partial north elevation.

Libbey Memorial Physical Medicine Center
AE Pre-Design Services – Condition Assessment / Treatment Plan
Hot Springs National Park, Arkansas



XAE.3 – West elevation.



XAE.6 – South face of the building, east end.



XAE.4 – South Entrance



XAE.7 – East elevation.



XAE.5 – South face of the building, west end.



XAE.8– Damaged clay tile.



XAE.9 – Damaged stucco wall, around gutter.



XAE.12 – Atmospheric staining, open joints, and cracking at cast stone column and quoin.



XAE.10 – Damaged wood at soffit and eave.



XAE.13 – Exterior at North. Bench with atmospheric and biological staining.



XAE.11 – Cracking at exterior wall paint and stucco.

2.6 - Interior Existing Conditions

Generally, the condition of the interior remains much as it had when the HSR was written in 2009, except for the removal of non-historic finishes. Overall, as stated in the HSR, the interior of the Libbey Memorial PMC is in overall fair to poor condition. Most of the issues and deterioration are due to the long use as a bathhouse and exposure to high moisture. The building has undergone many renovations, and the existing floor plan layout and most of the interior finishes are not historic.

The primary historic rooms (those within Preservation Zone 1) within Libbey are in fair condition. These rooms include the two Lobbies, the Men's Bathing Room, Shower Room, and Check-in Office. The materials that remain range from poor to good condition. The flooring throughout is generally in good condition, with a few localized damaged areas. There have been attempts to patch repair the plaster walls and ceilings, but these have continued to crack, especially from exposure to water. The ceilings show a significant amount of damage. The ceiling in Lobby 100 has been removed, and the ceilings within Lobby 200 and the Men's Bathing Room have a significant amount of plaster damage. The interior doors that remain are in poor condition, with some widths below 32".

Overall, the conditions of the remaining rooms vary from poor to fair. Throughout, the painted walls and ceilings are peeling or deteriorated from previous water infiltration issues. Tile is peeling from the walls and floors, and there are holes through plaster finishes and in the ceilings. Partial demolition of several of the rooms has included removal of non-historic partitions, removal of historic fixtures, removal of both non-historic and historic finishes, and demolition of previous MEP systems. Aside from the Men's Tub Room 218, other bathhouse fixtures, such as small pools, sitz baths, and a Scotch douche remain in the Men's Bath Hall 203 and Treatment Room 211. Some original wall and floor tile remain in Men's Bath Hall 203, but the many renovations of this room have resulted in diminished integrity of the materials and the authenticity of the room overall.

A set of drawings from 1987 that are labeled as 'As-Built' show the extent of the asbestos removal on the lower level as part of an overall building rehabilitation.¹ No asbestos removal work is noted on the second level drawings. The 2009 HSR mentions ATOKA, Inc. had provided an asbestos assessment for the Libbey in 2007. The HSR mentioned this was all abated prior to the completion of the HSR.²

The extent of any previous lead paint abatement has not been recorded. Flooding, reportedly from a backed-up sewer, has scattered a thick layer of fine, black debris throughout the eastern wing of the lower level. This material has not been identified, and it is being tracked throughout the lower level of the building. It is understood that mercury was a known treatment in the Libbey for certain diseases. No previous testing of the building pipes or other surfaces is known to have been done to check for potential

¹ HOSP_128_25016A.

² HSR, 2009, 96.

remaining mercury contamination. Lead liners were noted to have been used in the pools and showers, which likely remain.

Photographs – Interior



XAI.1 – Lobby 100. Damaged plaster and trim.



XAI.2 – Stair 100. Damaged marble stair and trim.



XAI.3 – Office 101. Historic interior window.



XAI.4 – Office 101. Existing alarm and damaged plaster.



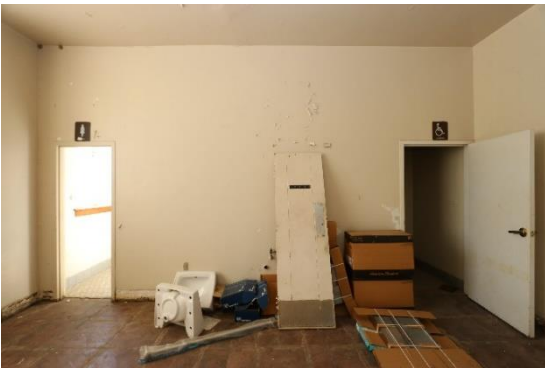
XAI.5 – Office 102. Damaged plaster and peeling wallpaper.



XAI.6 – Office 102. Concrete floor.



XAI.9 – Toilet 104. Historic marble partition.



XAI.7 – Office 103. West Wall.



XAI.10 – Toilet 104. Damaged wall plaster.



XAI.8 – Office 103. Damaged at window header.



XAI.11 – Toilet 105. Cracked wall plaster and paint.



XAI.12 – Toilet 105. Marble shower partition.



XAI.16 – Mechanical 107. Damaged plaster and holes cut into clay tile walls.



XAI.13 – Mechanical 106. Damaged wall plaster.



XAI.17 – Mechanical 107. Deterioration at concrete beam.



XAI.14 – Mechanical 106. Utility pipes anchored to the ceiling.



XAI.18 – Office 108. Wall grill and missing wall base.



XAI.19 – Office 109. Damaged plaster at ceiling.



XAI.22 – Toilet 110. Damaged paint at flooring



XAI.20 – Office 109. Exposed clay tile wall.



XAI.23 – Toilet 111. Damaged plaster and paint at window jamb.



XAI.21 – Toilet 110. Damaged plaster at the ceiling



XAI.24 – Laundry 112. Damaged door frame and removed door.



XAI.25 – Room 113. North wall.



XAI.29 – Mechanical 115. Deteriorated plaster wall.



XAI.26 – Room 113. Deteriorated metal door frame.



XAI.30 – Mechanical 115. Deteriorated plaster wall.



XAI.27 – Mechanical 114. Hole cut into wall.



XAI.28 – Mechanical 114. Pitted concrete floor.



XAI.31 – Toilet 116. Damaged tiles.



XAI.32 – Toilet 116. Damaged tiles and deteriorated door frame.



XAI.35 – Pool Room 117. Damaged wall plaster.



XAI.33 – Pool Room 117. Damaged flooring and walls, looking west.



XAI.36 – Toilet 118. Damaged plaster walls.



XAI.34 – Pool Room 117. Damaged floor tiles



XAI.37 – Toilet 118. Damaged plaster ceiling.



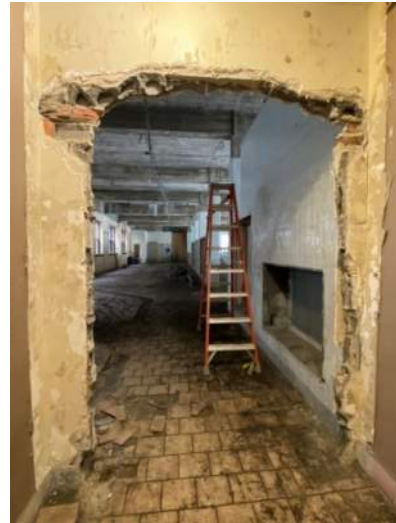
XAI.38 – Mechanical 119. Exposed concrete ceiling.



XAI.41 – Toilet 120. Damage at door frame.



XAI.39 – Mechanical 119. Damaged plaster wall.



XAI.42 – Hallway East 121. Damaged door opening.



XAI.40 – Toilet 120. Looking east.



XAI.43 – Hallway East 121. Damaged Floor



XAI.44 – Lobby 200. Cracked wall plaster.



XAI.47 – Office 201. Damaged walls, ceiling, and wallpaper.



XAI.45 – Lobby 200. Damaged plaster wall and dirty louver and quarry tile and base.



XAI.48 – Office 201. Damaged wallpaper and ceiling.



XAI.46 – Lobby 200. Damaged plaster and lighting in ceiling.



XAI.49 – Room 202. Looking northeast.



XAI.50 – Room 202. Damaged plaster.



XAI.54 – Closet 204. Looking south.



XAI.51 – Pool Room 203. Looking east.



XAI.55 – Closet 204. Damaged plaster.



XAI.52 – Pool Room 203. Damaged tiles.



XAI.53 – Pool Room 203. Damaged wall and floor tile.



XAI.56 – Toilet 205. Looking south.



XAI.57 – Toilet 205. Damaged plaster and abandoned pipes.



XAI.60 – Room 207. Looking northwest.



XAI.58 – Toilet 206. Damaged ceiling plaster.



XAI.61 – Room 207. Damaged plaster wall and abandoned adhesive.



XAI.59 – Toilet 206. Damaged wall plaster.



XAI.62 – Locker Room 208. Looking west.



XAI.63 – Hallway 209. Damaged laylight.



XAI.64 – Hallway 209. Missing wall base.



XAI.65 – Toilet 210. Looking east.



XAI.66 – Toilet 210. Damaged ceiling plaster.



XAI.67 – Treatment Room 211. Looking northwest.



XAI.68 – Treatment Room 211. Damaged floor tile.



XAI.69 – Treatment Room 211. Damaged ceiling plaster.



XAI.70 – Closet 212. Utility access at base of wall.



XAI.73 – Room 216. Damaged plaster, south wall.



XAI.71 – Closet 213. Utility access at base of wall.



XAI.74 – Room 216. Damaged plaster at window.



XAI.72 – Toilet 214. Damaged plaster, north wall.



XAI.75 – Room 217. Looking south



XAI.76 – Room 217. Damaged plaster at ceiling.



XAI.79 – Men's Bath 218. Damaged plaster wall and tile.



XAI.77 – Room 217. Damaged plaster at ceiling and wall hook above window.



XAI.78 – Men's Bath 218. Damaged flooring, plumbing, and wall tiles.



XAI.80 – Men's Bath 218. Damaged plaster in ceiling.



XAI.81 – Toilet 219. Damaged plaster and tiled walls, and plumbing.



XAI.84 – Locker Room 221. Looking west.



XAI.82 – Shower 220. Damaged tile flooring.



XAI.85 – Hallway 222. Looking southwest.



XAI.83 – Shower 220. Damaged shower marble wall.



XAI.86 – Toilet 223. Damaged ceiling plaster.



XAI.87 – Toilet 223. Damaged plaster at base of wall.



XAI.89 – Janitorial Closet 224. Damaged sink.



XAI.88 – Janitorial Closet 224. Damaged wall plaster.

2.7 - Structural Existing Conditions

Refer to the Existing Conditions Drawings at the end of Chapter 2 and the Structural Assessment Tables in Appendix G.

Building Construction

The focus of the visual investigation for the Libbey Memorial PMC was on the reinforced concrete beams and slabs. The underside of the concrete structure was visible throughout most of the lower level and showed the most signs of distress and deterioration of the visible building components. The exterior walls, roof, and roof framing were also observed but did not show significant signs of structural issues.

The structural portion of the report and associated calculations from the 2009 HSR were reviewed, and the findings are still valid concerning the conditions and need for repair.

Many of the overhead concrete beams visible in Pool Room 117 have two distinct layers of material, which is unconventional. There is a thin layer along the bottom of the beams, approximately one to two inches thick, falling away in many places. Close observation of the lower layer reveals no coarse aggregate in the material.

The 2009 HSR investigated this beam construction in depth. A petrographic analysis was performed for the lower strata, revealing that the material is a low strength grout slurry that was likely used in the bottom of the concrete forms to hold up the steel reinforcement. It was allowed to set prior to subsequent concrete pours, creating a poor bond between the two materials. This construction has implications on the load carrying capacity of the system as well as hazards for the occupants below. Areas where this condition were apparent were documented and included in the treatment checklist for repair.

Photographs – Structural



S.1 – Typical overhead beam repair due to original construction.



S.2 – Typical overhead slab repair area due to corrosion of reinforcing steel.

2.8 - Mechanical Existing Conditions

Refer to the Mechanical, Plumbing, Electrical and Fire Protection Existing Conditions Drawings at the end of Chapter 2 and the MEPF Assessment Tables in Appendix G.

Cooling

Libbey Memorial PMC is not currently cooled except for an abandoned blower coil unit located in the attic that served what appeared to be a room subdivided for offices. The associated condensing unit is located at the southwest exterior of the building.

Heating

The building is not currently heated. The building was heated by steam boilers connected to steam zone heating coils. The boilers were replaced around 1987 and therefore, past their typical life span as are the steam coils that date prior to 1987. Much of the steam piping has been demoed.

Ventilation

Libbey Memorial PMC has an existing air handling unit located in the basement that appears to have been installed in 1956 with some modifications, such as a fan replacement, occurring after that. The unit provided heating and ventilation only, and as stated above, no central cooling was provided except for the abandoned bower coil. Ductwork is distributed from the AHU in the first floor ceiling plenum and the attic. The majority of the ductwork is original to the 1956 HVAC improvements and a large amount has been demoed in preparation for tenant leasing.

Exhaust Systems

The existing exhaust systems have been abandoned.

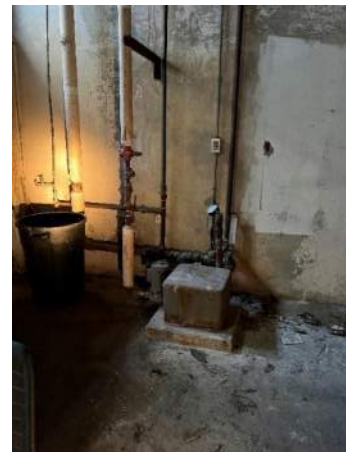
Photographs – Mechanical



XM.1 Abandoned Blower Coil Unit



XM.2 Existing Steam Boilers



XM.3 Existing Condensate Pump



XM.4 Existing Piping



XM.6 Demolded Ductwork



XM.5 Existing Air Handling Unit



XM.7 Exhaust System

2.9 - Plumbing Existing Conditions -

Water Service

The existing 3" water service was installed in the 1956 building improvements. There is an existing 2" backflow preventer installed at the service entrance, but it is missing an air gap fitting and floor drain to collect any possible discharge.

Water Heaters

Two domestic water heaters remain; one is an electric water heater, and the other is a gas fired heater. The gas fired heater appears to be a bit newer than the electric one, but they have been abandoned for years.

Domestic Water Distribution

Most of the domestic water distribution piping is either from the 1956 renovation or even earlier than that and is past its normal lifespan.

Sanitary Waste

Most of the original cast iron, hub, and spigot above grade waste and vent piping were replaced in the 1956 renovation. Still, much of the below slab mains remain, including the existing 6" vitrified clay tile service exiting the south side of the building west of the basement entrance.

Storm Water

Most of the rainwater collection is handled by an exterior gutter and downspout leader system. There are three area drains located in two areaways located at the basement level on the north side of the building. These drains have flat grates and are subject to blockage by leaves and other debris present in the areaways. These drains are also connected to the building sanitary waste piping.

The existing pools are drained to the city storm sewer system to the south of the building. These drains are isolated with gate valves located in manholes just south of the building.

Natural Gas

The existing gas meter has been removed from the site, but the service provider gas piping remains as well as the customer gas service piping into the building. The building gas piping seems to be in relatively good shape.

Thermal Spring Water

4" "cold" and 4" "hot" thermal spring water services enter the basement through the north wall of the basement and are piped to the existing basement pools. Much of the existing thermal spring piping has been removed, especially in the pool room itself. The mains appear to be in decent shape.

There is an existing spring water dispensing fountain near the street at the north entry of the building. This fountain has a bypass/circulating line that is connected to a roof downspout leader at the west areaway on the north side of the building. This leader has about a 24" section of leader near the base of the riser and thermal water is dumping into and flooding a portion of the west areaway.

We also believe there is a leak at the fountain service piping as the ground mounted service water meter box was full of water.

Photographs – Plumbing



XP.1 Water Service & Backflow Preventer



XP.4 Pool Drain Exterior Gate Valve



XP.7 Missing Section of Downspout Leader



XP.2 Water Heaters



XP.5 Abandoned Gas Service



XP.8 Thermal Water Service & Piping



XP.3 Plumbing Fixture



XP.6 Existing Gas Piping

2.10 - Electrical Existing Conditions

Service to Building

The existing electrical service originates from a pole mounted utility transformer that is installed on the corner of Reserve Street and Laurel Street. Underground conductors are routed from the pole mounted transformer to the metering point. A survey should be done to determine the exact routing of existing service to the building. There are two existing meters for this building. The meters are located under a stair near the northwest corner of the building. One of the meters is for a 120/240, 200 amp single phase service, and the other meter is for a 200 amp, 240 volt, three phase system High Leg delta system. It is recommended to replace both services to accommodate tenant use. The existing system does not have surge suppression. It is recommended to replace this service to accommodate tenant use.

Distribution

Conductors leave the exterior metering points and enter the first floor of Libbey and land on existing panelboards in the existing mechanical room. All existing panelboards are in poor condition and should be removed due to future tenant needs and existing damage or issues noted in the assessment. New distribution is recommended throughout for potential new tenant.

Generator

The building does not have any existing emergency lighting or exit signage that is functional. The existing emergency back up where required was accomplished using batteries.

Lighting

It is planned to remove all existing exterior and interior light fixtures. Most of the existing lighting in the building is of the temporary type.

Branch Circuits

It is recommended to remove all existing conduit and branch circuits. A large percentage of the existing conduit system is damaged and therefore unusable. Special consideration will need to be given to routing for all new conduits. In some cases, it may be necessary to use surface raceway. All new conduit and raceway should be carefully routed to coordinate with and maintain the historical nature of building.

Information Technology (IT)

It appears that existing IT services enter the building at several locations. It should be planned to disconnect and remove the existing services. More investigation is needed with the Owner and Service Provider to determine exact requirements and for service and service entrance location.

Security

The existing security system is not functional. A new security system is planned and should be provided based on the requirements of the potential tenant. All existing security alarm devices and associated wiring should be removed.

Lightning Protection

The existing building does not have a lightning protection system. It should be discussed if the renovated building should be provided with one.

2.11 - Fire Protection Existing Conditions -

Fire Suppression

The building is not currently sprinklered and has no other means of fire suppression. There is no fire water service to the building.

Fire Alarm

The building has an existing fire alarm system in limited areas. The existing system is not functional. All existing fire alarm devices and associated wiring should be removed.

Photographs – Electrical and Fire Protection



XE.1 Existing Fire Alarm System



XE.2 Exterior Lighting



XE.3 Exterior Lighting



XE.4 Exterior Exit



XE.7 Rust on Electrical Equipment



XE.10 emergency Light Fixtures



XE.5 Electrical Meters



XE.8 Rust on electrical Equipment



XE.11 Security System



XE.6 Existing Conduit System



XE.9 Exit Sign



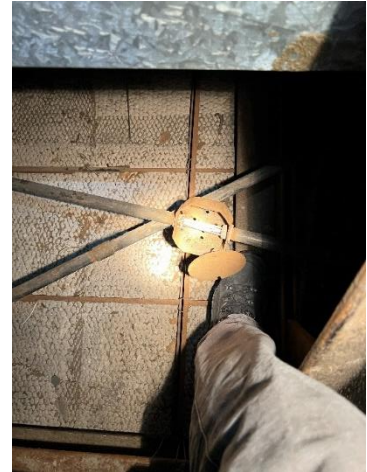
XE.12 Open Wiring



XE.13 Open Wiring



XE.16 Missing Light Fixtures



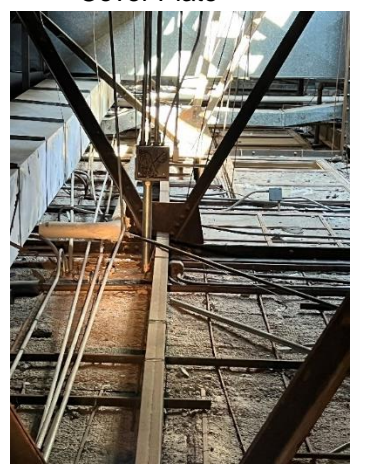
XE.19 Junction Box with Missing
Cover Plate



XE.14 Open Wiring



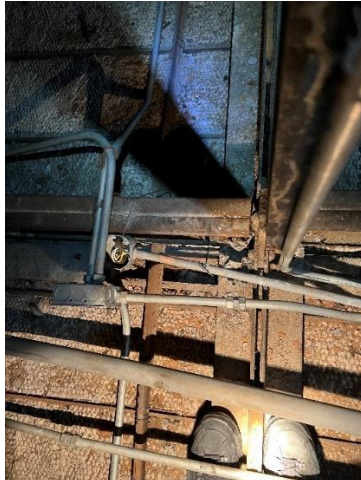
XE.17 Missing Knock Outs



XE.20 Junction Box with Missing
Cover Plate



XE.15 Missing Light Fixtures



XE.18 Junction Box with Missing
Cover Plate



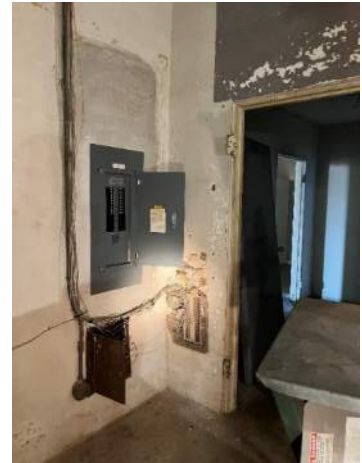
XE.21 Conduit above Lay Lite
System



XE.22 Broken Conduit System



XE.25 Open Dead Front



XE.28 Existing Telephone Wiring



XE.23 Missing Fire Alarm Device



XE.26 Removed Dead Front



XE.29 Emergency Lighting



XE.24 Damaged Conduit System



XE.27 Removed Dead Front



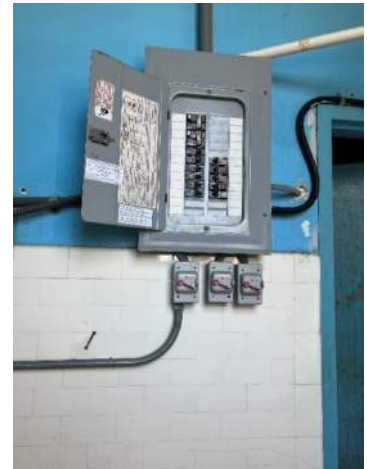
XE.30 Existing Exit Sign



XE.31 Temporary Electrical Equipment



XE.32 Incomplete Wiring



XE.33 SO Cord Used for Permanent Wiring

2.12 - Accessibility Existing Conditions

Refer to Appendix 'D' for the Universal Design and Scoping Form for ABAAS Facilities.

NPS Management Policies 2006 and NPS Director's Order #42 require facilities to be universally designed and accessible to every segment of the population. The existing building and site were reviewed as part of the overall building assessment, considering the 7 Principles of Universal Design, the Architectural Barriers Act Accessibility Standards (ABAAS), and the United States Access Board's Americans with Disabilities Act Accessibility Guidelines for buildings and facilities (ADAAG). Additionally, Accessibility & Universal Design Standards for Outdoor Developed Areas, Public Rights of Way, Transportation Facilities, and DSC requirements were considered.

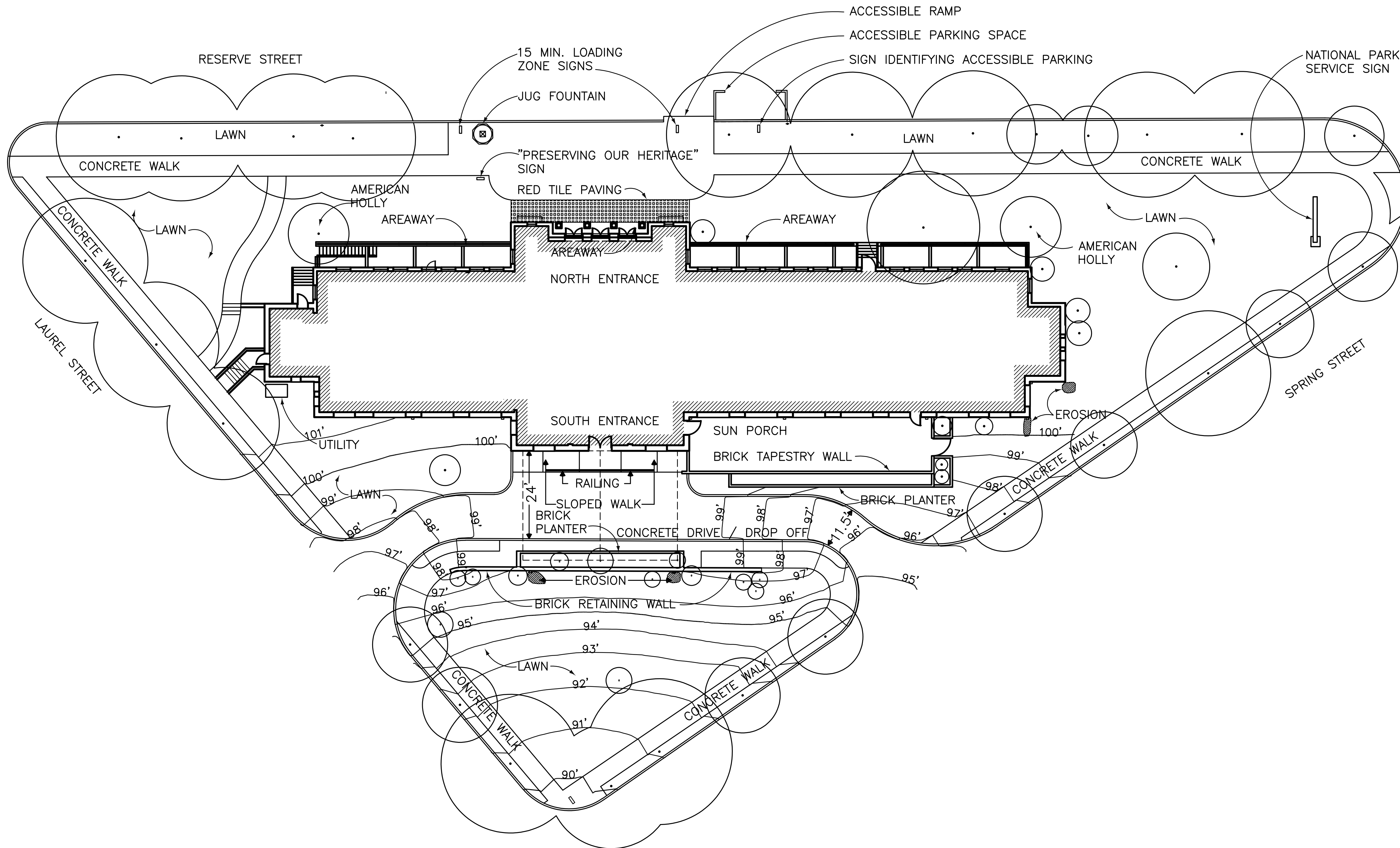
Exterior

The Libbey Memorial PMC is located on Reserve Street within a mixed residential and commercial area that includes street parking and sidewalks along the roadways. The north entry doors are at grade with a minimal threshold, but the single door leafs of the double doors do not meet width requirements for accessibility. The south entry door is accessed via a ramp from the concrete drive. Although the ramp slope meets accessibility requirements, the railing does not. Existing parking is street parking and not dedicated to the building. There are three designated accessible street parking spaces, one on Reserve Street and two on Spring Street. Although they are painted and include accessible signage, the spaces on Spring Street do not include access aisles or curb cuts to access the sidewalk.

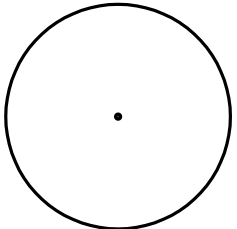


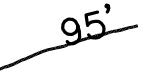
Interior

The building has two floors. Access between the interior floor levels is provided by a stair and an elevator. The elevator, which was installed in the late 1950s, does not function; however, the cab dimensions appear to meet contemporary accessibility requirements. Due to the historic components, such as narrow door widths and countertops, many accessibility minimums are not fulfilled. Contemporary requirements, such as drinking fountains and railing extensions are missing. Because the building has been abandoned, the toilet rooms have deteriorated and do not fulfill the accessibility minimums.

EXISTING CONDITIONS DRAWINGS

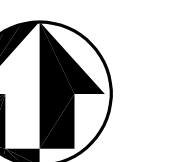
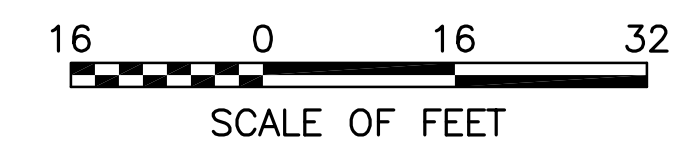


LEGEND


-  EXISTING TREE
-  EXISTING SHRUB
-  EXISTING SIGN
-  EXISTING CONTOUR ELEVATION

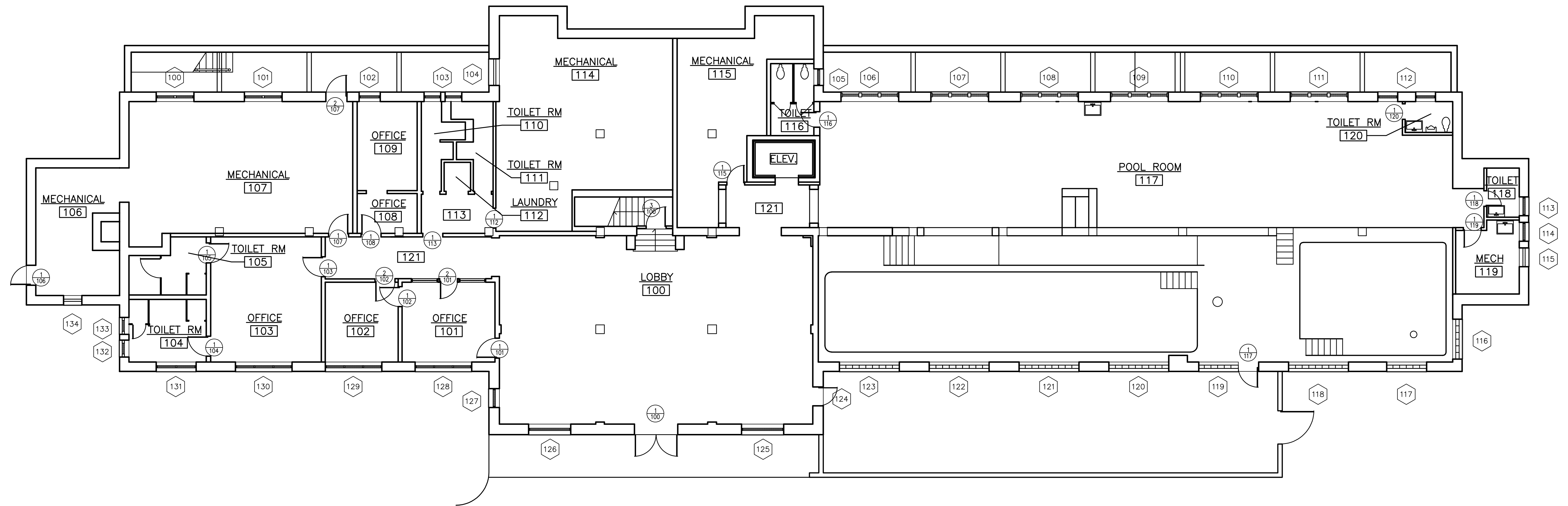
NOTE:
 1. ALL STREET TREES ARE SOUTHERN MAGNOLIAS. CANOPY SIZES SHOWN INDICATE APPROXIMATE SIZE OF THE TREES.
 2. BASE INFORMATION DERIVED BY COMBINING 1956 "SITE IMPROVEMENT PLAN" BY ERHART, EICHENBAUM AND RAUCH, FOR SOUTH SIDE OF BUILDING WITH 1992 PLANTING PLAN BY NPS FOR NORTH SIDE OF BUILDING. FIELD INVESTIGATION BY BWW, SEPTEMBER 2008.

1 SITE PLAN -- EXISTING
 C1 1/16" = 1'-0"



PROJECT NORTH

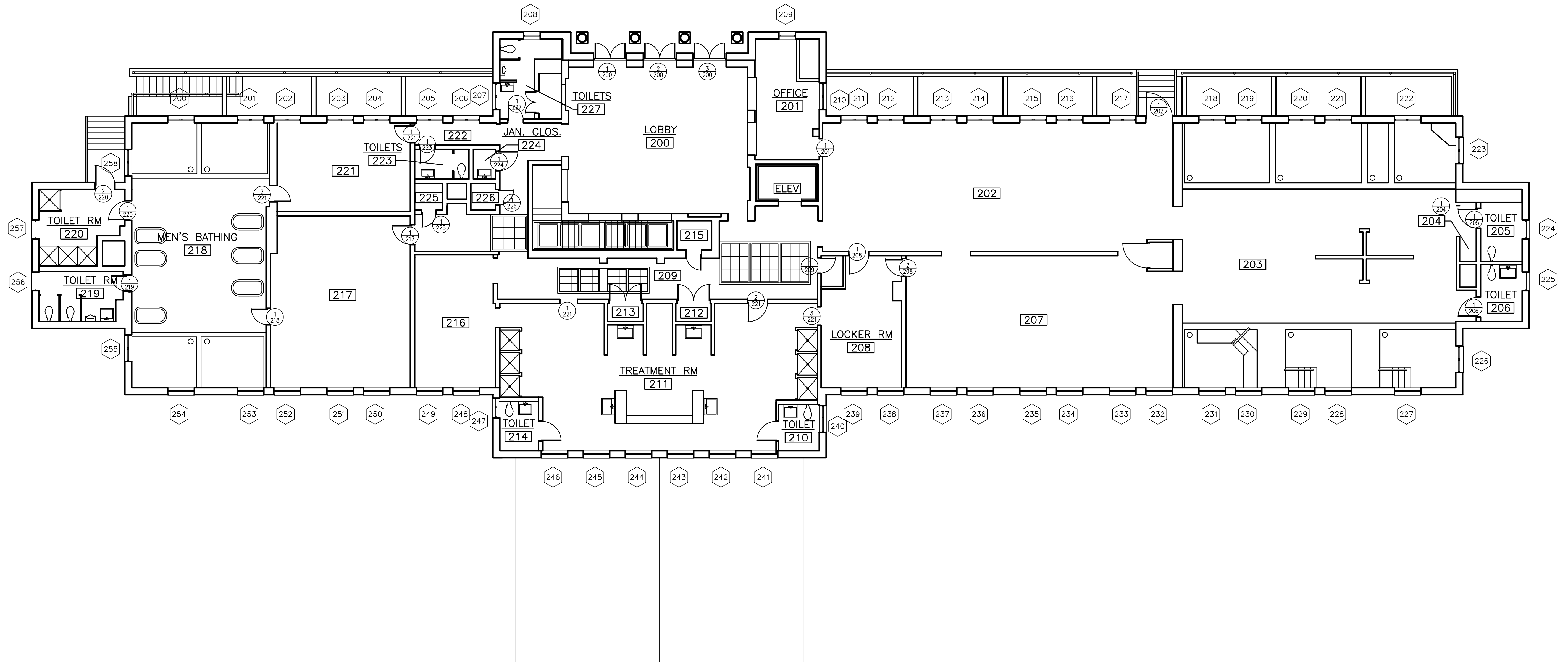
 1701 Oak Street, Suite 100 Ph. 816-474-0900 www.strata-arch.com	DESIGNED: JH	SUB SHEET NO. C1	TITLE OF SHEET LIBBEY MEMORIAL PMC SITE PLAN PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO. 128 180181
	TECH. REVIEW: GK			PMS/PKG NO. 318915
	DATE: 06/29/22			SHEET 1 OF 15



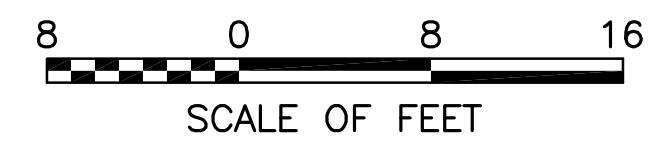
1 LIBBEY EXISTING LOWER LEVEL FLOOR PLAN
 A1 1/8" = 1'-0"



 STRATA ARCHITECTURE & PRESERVATION 1701 Oak Street, Suite 100 Ph. 816-474-0900 www.strata-arcp.com	DESIGNED:	CA	SUB SHEET NO.	TITLE OF SHEET LIBBEY MEMORIAL PMC EXISTING LOWER LEVEL FLOOR PLAN PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO.
	TECH. REVIEW:	AG			A1
	DATE:	06/29/22	PMIS/PKG NO.		
					SHEET



1 LIBBEY EXISTING UPPER LEVEL FLOOR PLAN
 A2 1/8" = 1'-0"



 1701 Oak Street, Suite 100 Ph. 818-474-0900 www.strata-arch.com	DESIGNED: CA	SUB SHEET NO. A2	TITLE OF SHEET LIBBEY MEMORIAL PMC EXISTING UPPER LEVEL FLOOR PLAN PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO. 128 180181
	TECH. REVIEW: AG			DATE: 06/29/22



Libbey Memorial PMC, Lower Lobby (STRATA, 2022)

3 TREATMENT RECOMMENDATIONS

3.0 Chapter 3 – Treatment Recommendations

3.1 - Introduction

The treatment recommendations for the rehabilitation of the Libbey Memorial Physical Medicine Center to prepare the building as a Multi-Park Museum Storage Facility are outlined in this chapter. These recommendations are based on the updated conditions assessment of the Libbey Memorial Physical Medicine Center (Libbey Memorial PMC) and reference the recommendations from the Libbey Memorial Physical Medicine Center Historic Structure Report, produced in 2009.

The building has been vacant since 2005. Since then, exterior maintenance has been ongoing. The roof and skylight were replaced within the last few years. Park staff have completed some interior demolition of non-historic partitions and building elements constructed outside of the period of significance. Asbestos removal in 2008 was completed to address noted flooring issues from a 2007 report.

The Park has selected the Libbey Memorial PMC as the site for a new Multi-Park Museum Storage Facility. The facility would use the entire building. This adaptive use is compatible with the historic building and would house Hot Springs National Park research library and curatorial and archival records and objects, as well as those records and objects from nearby national parks.

This chapter explores the treatment analysis and treatment recommendations for the planned rehabilitation. To prepare for the next phase of Schematic Design, the Team has identified additional items needed to complete the analysis and design work. Pre-Design plans to show a test fit for adaptive use as the Multi-Park Museum Storage Facility are included at the end of this chapter. In-depth programming with the Park during the next phase of Schematic Design will produce a final interior layout and design. Proposed Treatment Drawings are also at the end of the chapter, Treatment Tables are in Appendix H, and the Treatment Cost Estimate is in Appendix J.

3.2 - Preservation Zones

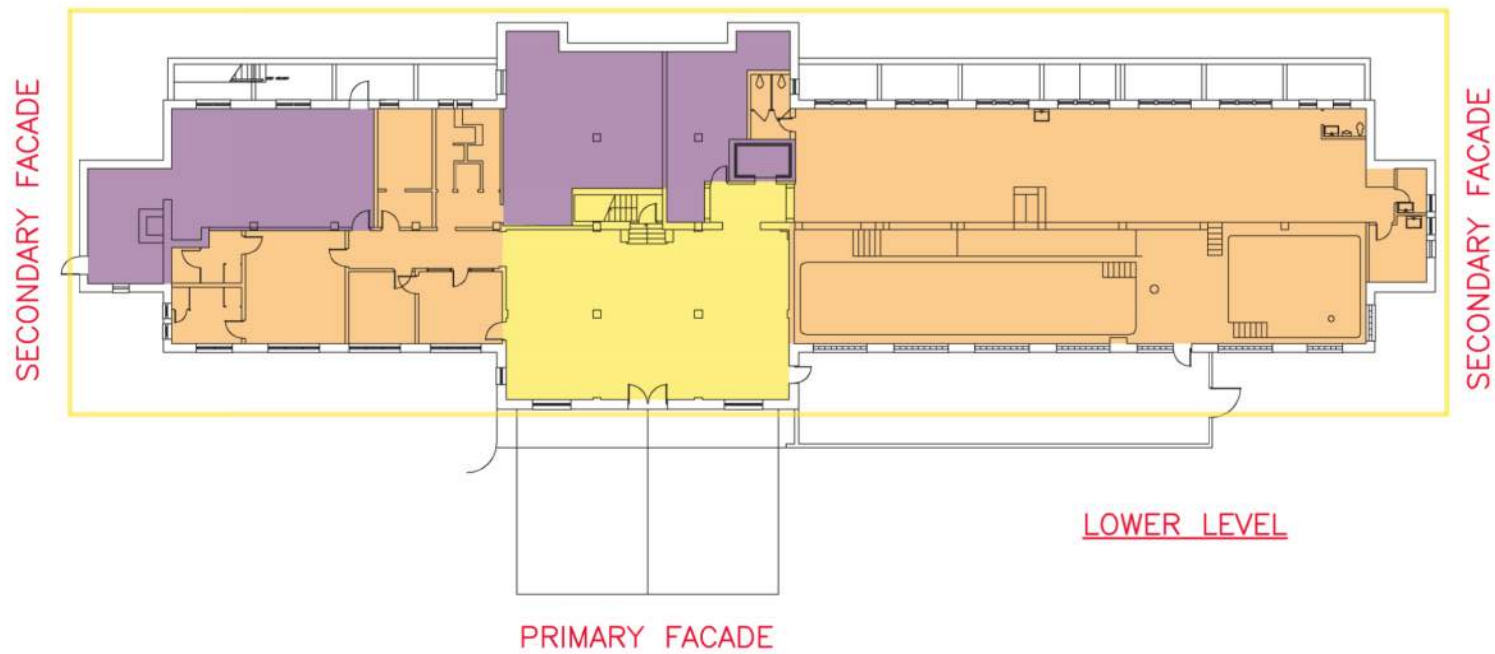
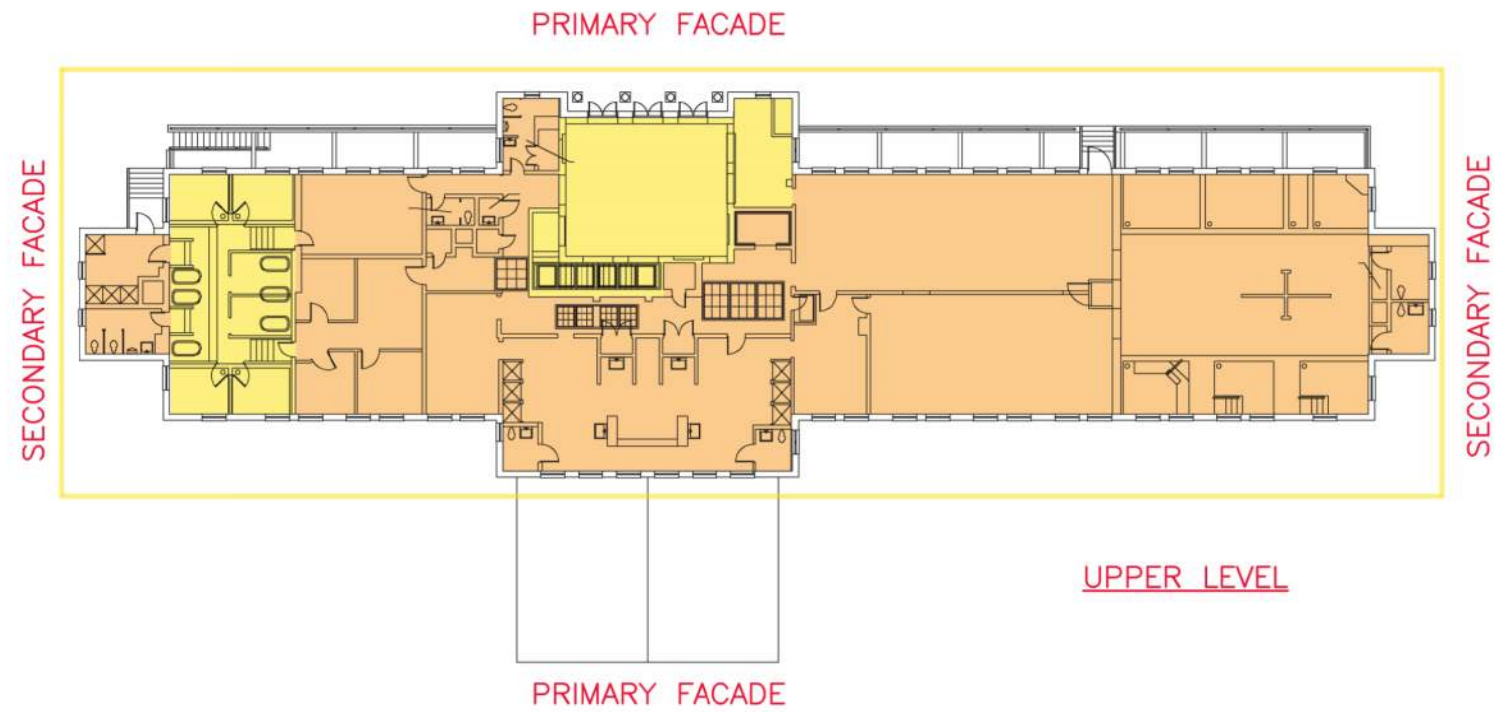
The Libbey Memorial Physical Medicine Center is eligible for listing in the National Register of Historic Places. Therefore, all proposed work shall meet the Secretary of the Interior's Treatment for Historic Properties. Every effort should be made to find a compatible adaptive reuse of the building that will include the preservation of historic and significant features. The period of significance for the Libbey is from 1922 – 1958, while the period of interpretation is from 1922 - 1943. For the purposes of the interior and exterior rehabilitation, the target POS is that identified as the period of interpretation.

Preservation Zones for the Libbey Memorial PMC are defined to inform recommended treatments for prominent spaces with historic integrity, differentiating them from spaces that have diminished integrity or are secondary in function. These preservation zones were initially

identified in the HSR and have been updated to reflect the current condition of the building. Rehabilitation projects should incorporate the recommendations outlines in these preservation zones.

Preservation Zones:

- Zone 1 (Yellow) - This preservation zone is the highest zone and includes the exterior envelope of the building and interior rooms. This zone identifies the exterior building faces and interior components and spaces that contain significant, character-defining building features from the period of significance. These building elements, including materials, form, function, and craftsmanship, should be retained, preserved, or rehabilitated to the highest level. Missing items may be recreated if reliable documentation exists. Every effort should be made to conceal ductwork, conduit, piping, and fire suppression systems. New MEP equipment, grilles, receptacles, and other items should be sensitive to the historic fabric.
- Zone 2 (Orange) – This preservation zone is the second-highest zone and includes spaces that have been previously altered, spaces where historic material is lost, spaces that may be repeated in other areas, or spaces that are not significant to the overall historic understanding of the building. These spaces present an opportunity for more alteration than those in Zone 1. Some historic materials that are not significant character-defining features, such as remnants of plaster walls or wall trim, may be removed or concealed by furring walls as part of building renovations. Some historic fixtures, finishes, walls, and equipment will be removed.
- Zone 3 (Purple) – This preservation zone is the lowest zone. This includes spaces that have been significantly altered, spaces where much of the historic material is lost, or spaces that are not significant to the overall historic understanding of the building. These spaces present an opportunity for more extensive alteration. Walls may be furred, and new finishes installed. Some spaces may be unfinished. These may also include areas that were never fully finished, such as mechanical rooms.



- ZONE 1 (Yellow) – PRIMARY PRESERVATION ZONE**
 – Building elements, materials, form, and craftsmanship to be retained, preserved, or rehabilitated to the highest level.

- ZONE 2 (Orange) – SECONDARY PRESERVATION ZONE**
 – Original materials are encouraged to be retained, preserved, or rehabilitated, if possible. These areas may not contain a high number of historic features, or contains features that are numerous in other locations. This category offers more flexibility for rehabilitation and installation of modern elements or equipment, including removal of original walls and elements.

- ZONE 4 (Purple) – NO PRESERVATION ZONE**
 – Little or no original historic or character-defining features remain. These may be spaces that were previously renovated and historic materials were removed, or they may be tertiary spaces, such as mechanical rooms, where no character-defining features were originally present. Remaining historic features may be covered or concealed. This zone offers opportunity for extensive rehabilitation and alteration.

3.3 - Programming, Building, and Site Information

The Design Team met with the Park, Region, and DSC to discuss the opportunities available for the rehabilitation and adaptive use of the Libbey Memorial PMC. At the beginning of this process, these meetings aimed to establish a baseline use for the building to design to a 'white box' condition for a future rehabilitation to accommodate the combined use by the Park law enforcement department and also for the Hot Springs National Park research library, and archival and curatorial storage. By selecting a preferred use for the building in Pre-Design, the Design Team can address life-safety code review, recommendations for installing new mechanical, electrical, and fire prevention systems, and identify the level of interior finishes for the planned rehabilitation. Notes from these meetings are in Appendix B. An appropriate and compatible adaptive use that preserves and retains the historic features of the Libbey Memorial PMC is a priority.

Building features:

- Two stories with central stair
- Centrally-located elevator that appears to meet ABA-accessibility guidelines
- Total 20,066 gross square feet, evenly divided per floor.
- The lower level has approximately 5,044 gross square feet dedicated to mechanical, service, restrooms, and circulation spaces, which represents just over half of the available square footage. This lower level would be the best used for public access, but it has the least amount of available square footage. If the building were equally divided by floors, upper-level tenant would have substantially more usable square footage. The building is not evenly divided with functional space.
- The area devoted to interpretive space for the Men's Bath Hall on the west side/upper level is approximately 1,242 square feet.
- The two lobbies take up a significant amount of square footage.

Features and functional issues specific to the adaptive use and rehabilitation of the Libbey Memorial PMC were discussed.

1. The Park would like to see an adaptive use for the Libbey that include public access for interpretive exhibits.
2. Due to the remoteness of the bathhouse from the historic Bathhouse Row (3 blocks to the west), it is unlikely a new bathhouse tenant would be interested in converting the building into a spa. The site is not walkable from the main street, and it is unlikely that a spa would get walk-in traffic. Because of this location, the business plan for this building cannot be compared to other Bathhouse Row properties.
3. A building use that requires substantial parking is not practical. Available spaces are mostly limited to street parking.
4. Heavy traffic on Reserve Street impacts safe street parking.
5. The building is highly visible from nearly every angle, and the site is very small, making the installation of specialty equipment difficult.
6. The Park identified that leasing would likely attract only local businesses.

7. The neighborhood is mostly residential and not well suited to commercial use.
8. Recycling, trash storage, and pickup are practical concerns.
9. A new fire suppression system is needed.
10. Park would like to see the Men's Bathing Room 218 and the adjacent spaces restored to the period of significance and used to interpret civil rights. This specific area would be staffed by NPS staff or volunteers at scheduled times. It would not generally be open all the time.

A few options for future use of the building were discussed.

- Business / Offices
- Museum/Gallery Space
- Health Spa
- Short-term Overnight Accommodations
- Park Offices

Option 1 - Dismissed

After several programming meetings, the Park and Region determined to explore an option for combined use as Law Enforcement and Multi-Park Museum Storage Facility. Currently, the law enforcement offices are across the street in inconvenient and tight facilities. The Hot Springs research library and curatorial storage are scattered between several buildings in the Park and in a nearby Bally building that is north of Libbey. This Option 1 was to test-fit these combined uses to determine if this was feasible. At first glance, the Libbey seems quite large, but once the mechanical, circulation, interpretive rooms, and back of house spaces are removed from the available square footage, the functional programming space is limited.

1. The Park provided the Team with anticipated square footage needs for a Multi-Park Museum Storage Facility based on current facilities and anticipated storage for other parks. These calculations included moving HOSP collections, research library, and map room, and providing in-processing with wet lab, isolation space with freezer, materials and supplies storage, loading area, offices, visiting researcher space, digital photography, break room, washer/dryer, restrooms, and regional NPS museum collection storage.
2. Law Enforcement provided the Team with anticipated square footage needed for their use to move most of their department from the buildings across the street. This included rooms for offices, public interaction, conferencing and training areas, arms storage, evidence storage, workout space, breakroom, locker room/shower rooms, and other support spaces, including anticipating some growth in staffing.
3. These two uses have very different needs and building systems requirements (MEP, security, and public access).
4. Each of their programs would require full use of the building if all needs on their programming list were met.

5. Once their programs were test-fit into the existing square footage, less than half of each of their requirements could be met. The second floor offers significantly more usable square footage than the lower level.
6. Another test-fit was started to check if the programming scopes were reduced to check if they would both fit. The clear answer was no., the building is only large enough for them to each be a single tenant.
7. The Option 1 combined use was dropped from further exploration.

Option 2 – Selected Option for Pre-Design

Discussions with the Park and Region settled on a pre-design option to look at the Multi-Park Museum Storage Facility, single user for the building. Items that were discussed are below:

1. A Regional Museum Storage Facility Plan (draft May 2022) has a 5-year plan that focuses on the consolidation of park museum collections and recommends a multi-park museum storage facility to be located in Hot Springs. It is the number two museum facility priority for the region. While it is not all flushed out, there will be future planning.
2. This facility would include current HOSP collections stored in the Lamar and Ozark Bathhouses and a separate Bally building north of Libbey.
3. For a multi-park facility to be successful, it needs to be useful for all parks that use the facility.
4. The USDA/ONF is currently housed across the street from the Libbey. They might be interested in space here if the building can be multi-agency storage as well. This was dismissed due to not enough square footage and requirements for them to have a separate entrance, HVAC, and security.
5. Natural Resources staff may remain in Lamar.
6. Programming specifics:
 - a. Is there a way to include a loading dock somewhere on one of the side elevations? Yes.
 - b. There is a lot of natural light, which is not conducive to curatorial storage.
 - c. Aisle space and space for movement needs to be considered for the new facility.
 - d. The Park has donor funds to purchase condensed shelving.
 - e. Can the first floor Lobby be subdivided and useful office space? Yes.
 - f. A separate freight elevator was discussed. The existing elevator is small, and it cannot be enlarged in its current location. Later, the Park chose not to install another elevator. Items can be delivered to the front entrance or the lower entrance. They opted to spend that money on structural reinforcement.
 - g. The storage areas should be compartmentalized to provide better fire protection.
 - h. Existing empty fire-resistant filing cabinets used for storing archives weigh +/- 800 pounds.

- i. The NPS Museum Handbook suggests 350 psf for concentrated loading. This will require significant structural upgrades for the upper level.
- j. Adjacencies were briefly reviewed as part of the pre-design plan test-fit.
- k. Cold storage options need to be explored.
- l. Review final generator needs. Will the generator need to run ALL systems, or only critical HVAC and electrical?
- m. Need custodial closet at each level.
- n. Need washer and dryer hook-up.
- o. Wet lab in the in-processing space will need a hood.
- p. Space for digital photography can be flexible.
- q. Intern space can be flexible.
- r. Need visitor researcher work space in highly visible area.
- s. In-depth programming for the Multi- Park Museum Storage Facility will be required to finalize and interior layout and design during Schematic Design. The existing Pre-Design Programming Plan were to provide a test-fit only at this time.
- t. The Design Team met with Regional Museum and Structural Fire programs.
- u. The Team also provided an HVAC Alternatives online workshop to discuss the priorities and specialized museum preservation needs for the storage facility.

Adaptive use of the Libbey for the HOSP research library, archives, and storage, along with the interpretive areas and NPS collections storage, seems to be an appropriate adaptive use of the building. There were a lot of factors that were considered during this pre-design effort that will require further analysis and study. The significant structural requirements of 350 psf will require a lot of additional structural reinforcing. This may be possible in the east wing, but this will not work well for the south area over the first floor Lobby. Additional structure to be added in this area will be complicated and may destroy the historic features of this space. Further planning will need to be done to determine if the research library planned for the second level above the Lobby will need to be relocated to a space that could more easily be reinforced.

3.4 - Building Limitations, Challenges, and Opportunities

Certain features of the historic Libbey Memorial PMC site and building present both challenges and opportunities for the rehabilitation and adaptive reuse of the building for the 21st century.

1. The reinforced concrete structural slab and beams throughout are deteriorated from continued exposure to bathhouse humid conditions. In addition, the exterior walls appear to be constructed of clay tile, with no other vertical concrete exterior columns, limiting the capacity of the unreinforced masonry walls. Due to these issues, the structural capacity of the second level, and maybe even some of the lower level, is limited.

Solution: perform the recommended core and slab testing and geotechnical testing and develop a detailed concrete restoration and supplemental framing plan to accommodate the new use.

2. The Libbey Memorial PMC site presents some challenges and limitations for rehabilitation. The site surrounding the building is triangular-shaped and is highly visible from all sides. With two primary facades (north and south), and the two secondary sides (east and west), the construction of a much-needed equipment yard on the exterior of the building is challenging. The equipment yard is needed to house electrical equipment, a chiller, and a very large whole-building generator. In addition to exterior equipment, the building will require trash service.

Consideration: Once the site survey is completed, a thorough study of the options to remote-locate this equipment yard, or at the very least, the generator, to a space away from the building. It would be best if this new area would take advantage of the site's topography, with the equipment partially below or set into grade. Screening of the new equipment may include walls and shrubbery.

3. The location of the Libbey Memorial PMC is remote from Bathhouse Row, within a more residential scale neighborhood, and with limited on-site parking, which makes its potential adaptive use and ability to lease more difficult than bathhouses in the commercial area.

Solution: Provide a few parking spaces in the new circle drive. Consider beautifying street parking. Provide ADA parking for both the upper and lower levels.

4. Previous abatement appears to have been limited or done on an as-needed basis. There is potential for additional hazardous materials to be found within the building, including asbestos, lead paint, radon, and mercury.

Solution: Survey and testing will be updated in Schematic Design.

5. The building contains several historic elements that should be salvaged before demolishing some of the areas in Preservation Zones 2 or 3.

Recommendation: The Architect and Park Curatorial and Facilities Staff can review all items to be demolished and provide a detailed list of items to be salvaged for the project or provided to the Park for either general park facility storage or museum collection storage. In addition, the Park may have other historic fixtures, marble, doors, hardware, or other building elements in general park facility storage that would be useful during the rehabilitation of the Libbey – especially for the interpretive Men's Bath Hall 218, Toilet 219, and Shower 220.

3.5 - Recommended Treatment Approach and Use – Multi-Park Museum Storage Facility

Refer to the Proposed Programming Plans at the end of this Chapter.

Renovations, including interior demolition and abatement, have been ongoing since the Libbey closed in 2005. These significant interior changes have resulted in the current condition of the building being appropriate for **rehabilitation**, as identified in the 2009 HSR. With the period of interpretation for the interior and exterior recommended to be from 1922-1943, the exterior treatment is also recommended to be rehabilitation. Exterior site work related to the overall project will reference recommendations in the 2009 HSR, which also recommends **rehabilitation** as the treatment for the site. The NPS defines rehabilitation as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. These character-defining features are outlined in Chapter 1 and informed the development of the Preservation Zones.

For this Pre-Design Study, the proposed use for the Libbey Memorial PMC is a Multi-Park Storage Facility. The program includes areas for the HOSP research library and map room, as well as their archives, curatorial records, and objects to be consolidated into a single building. The building will also include offices and support spaces, research spaces, in-processing with a wet lab, isolation with a freezer, large areas for regional parks collection storage, break room, and collection supplies and materials storage. Park staff or volunteers will also be available for interpretive tours of the restored Men's Bath Hall as part of pre-scheduled events.

After three meetings with the Park, Region, and DSC, the proposed pre-design programming plans have been developed. The drawings are attached after this section. These plans should be considered a Pre-Design stage and are not complete. The drawings focus on this option for the Multi-Park Storage Facility while preserving the historic primary spaces and features.

The Libbey Memorial PMC rehabilitation will consist of site, shell, and interior rehabilitation for adaptive use to address:

- Life safety and egress upgrades
- Accessibility upgrades
- Repairs to the exterior shell to prevent water and weather infiltration
- Rehabilitation of primary historic spaces and restoration of three rooms for interpretive use
- Museum-quality MEP and fire protection upgrades that support the preservation of museum collections
- Identification and abatement of hazardous materials
- Rehabilitation of the exterior to remove the canopy and restore the south façade of the building and all associated work with this area
- Recommended treatments shall meet the Secretary of the Interior's Standards for the Treatment of Historic Properties for Rehabilitation and for Cultural Landscapes

- Recommended treatment shall meet the requirements outlined in the Preservation Zones, protecting significant character-defining features and finishes.
- As a property eligible for the National Register, all work must be reviewed and approved by the Arkansas State Historic Preservation Office and the Midwest Regional Cultural Resource Specialist.
- The National Park Service Preservation Briefs and Technical Bulletins shall serve as supplemental guides for the rehabilitation.

3.6 - Pre-Design Program Plans

Refer to the Proposed Programming Plans at the end of this Chapter.

The Pre-Design plans were developed to show a test fit for how a Multi-Park Museum Storage Facility might function between the two levels of the Libbey building. These plans require further program development and will be reprogrammed and redesigned during Schematic Design to meet the Park and Region's needs.

The existing Pre-Design plans include a single tenant. The code review was completed assuming a single tenant. If multiple tenants were to lease the building, the design would need to be reviewed on that premise. The separation between tenants and full enclosure of the stairs would likely be required for multiple building tenants to occupy the building.

Overall, the Libbey Memorial PMC is approximately 20,066 gross square feet with equal square footage on each level. Currently, the Pre-Design plans show approximately 7,410 net square feet of dedicated archival space, 1,062 net square feet of research library space, 1,242 square feet of interpretive museum space, 500 net square feet of in-processing space, 2,387 net square feet of office and support spaces, and nearly 1,645 net square feet of mechanical and equipment area. The remaining square footage includes areas that are not usable, walls, chases, and the elevator shaft.

The Pre-Design Plans include the following:

First Floor:

- Lobby
- Offices
- In-processing with wet lab and isolation room
- NPS Collections Storage
- Restrooms (one with shower) and Custodial Closet
- Laundry
- General Collection and Materials Storage
- Mechanical, Electrical, and Elevator Machine Rooms
- Stair and Elevator Core

- Circulation

Second Floor:

- Restored Lobby to be used as a visiting researcher work area and meeting space
- Restored Check-In Office to be used as an office
- Restored Interpretive Spaces (Men's Bath Hall 218, Toilet 219, and Shower 220)
- Offices and Office Support Spaces
- Flexible work areas
- Break Room
- Restroom Core and Custodial Closet
- Stair and Elevator Core
- Circulation

3.7 - Code Analysis

Code Review: Libbey Physical Medicine Center / Former Government Free Bathhouse

Address: 501 Spring Street / 101 Reserve Street, Hot Springs National Park, Arkansas 71901

Scope of Work: The purpose of this analysis is to outline the fire protection and life safety provisions of the 2021 International Building Code and the 2021 Existing Building Code for a planned rehabilitation of the building.

The current review is based on Pre-Design Program Plan for a single tenant with a fully sprinklered building, which is subject to change as the design process moves forward. Code should be reviewed at each phase of the design.

The Libbey is eligible to be listed in the National Register of Historic Places and is owned by the National Park Service (Federal Government).

Building Code Edition: 2021 International Building Code
 2021 International Existing Building Code

Dates of Original Building Construction: 1922, significantly remodeled in 1956, and in the 1980s

1. Uses and Occupancy Classifications:

Existing:

 A3 (lower level) pool area

 B (upper level)

Proposed Change of Use:

 B and S-1 (lower level)

 B and S-1 (upper level)

2. Change of Use: This proposed plan is not considered a Change of Use to a higher hazard. A3 to B and S1 is an equivalent hazardous category.

 a. Change of Occupancy needs to comply with Chapter 10, Table 1011.6.

 b. Change of Occupancy needs to comply with Chapter 12, 1204.1.

 c. Change is in compliance with IEBC Tables 1011.5, 1011.6, and 1011.7.

 d. B to S1 is typically considered a more hazardous category, per 1011.6; however, since the building will be sprinklered, the allowable height and area of the building is in compliance with 2021 IBC tables 504.3 and 504.4 and 506.2.

 e. Exterior wall exposure from a B to an S1 is more hazardous use group, per Table 1011.7; however, no new exterior openings are being provided from the S1 occupancy. New opening on lower level from S1 occupancy is in compliance with 2021 IBC Table 705.8 and 705.2.

3. Occupancy Separation Requirements – Or Nonseparated Occupancies:

 Existing: N/A

 Proposed: Nonseparated per 508.3

4. Number of Stories: 2-story (due to 15' floor to floor height)
(No change in square footage)
Floor Area Per Floor, Total Floor:
First Floor: 10,037 Gross SF
Second Floor: 10,030 Gross SF
5. Construction:
Reinforced Concrete Structure (Floors, Beams, Columns)
Exterior Non-Structural Masonry Wall Infill and Stucco Finish
Wire mesh plaster ceiling at second floor
Steel roof framing with plaster infill and clay tile roofing
6. Construction Type (602): IIB
Special Provisions (if applicable 510.2-510.8) Table 506.2 Open Yard
6. Building Height (504.3 and 504.4):
Existing (Non-Sprinklered): Allowed 55 ft. and 2 stories (Compliant)
Proposed (Sprinklered): Allowed 75 ft. and 4 stories (Will be Compliant)
7. Fire Sprinkler Provided (yes/no), location and type:
Current: NO and not required per IEBC 1011.2.1
Proposed: YES – Required per IBC 903.2.9 Group S-1, Item 1 (for square
footage over 12,000 SF)
8. Fire alarm pull stations and notification provided (yes/no):
Current: NO
Proposed: YES
9. Exterior Wall Fire Resistance Based on Fire Separation Distance (602.1):
Distance to Property Line: Open Yard All Sides
10. Allowable and Proposed building Area and Increases (503, 506, 509):
Tabular Floor Area for Each Occupancy: See Chart at End of Section.
11. IEBC Chapter 7 – Scope of work is more than Level 1 Alteration; therefore, Chapter 8
Level 2 Alterations apply – reconfiguring space for new rooms is part of the current
project. In the future, a tenant interior rehabilitation will also likely be a Level 2.
12. Number of standard and accessible parking spaces required/provided: Street Parking
will be planned in the next phase of the design. At least 2 will be provided (one for each
entrance)

13. Number of plumbing fixtures required/provided:

#	OCC.	W.C. MALE	W.C. FEMALE	LAV/EA.	DF	JAN.
57	B	1	1	1	1	1
36	S1 / S	1	1	1	1	1
	TOTALS	2	2	2 EA	2	2

14. Building Entrances are Accessible: Yes

15. Compliant/Noncompliant:

- A) Existing Lower Level Sunporch Door Swings Wrong Way. 1/117 is Required Exit Currently.
- B) 2-Story Open Stair is Allowed per 2021 IBC 1019.3 Item 1
- C) Existing from Pool 117. Existing exit Door will be removed, and another in the general area will be installed. Per Section IEBC 804.5.1.1, Exception 1 for less than 10 persons, you can have increased travel distance. Warehouse occupancy, 1004.5 is divided by 500 persons, so less than 10 persons.

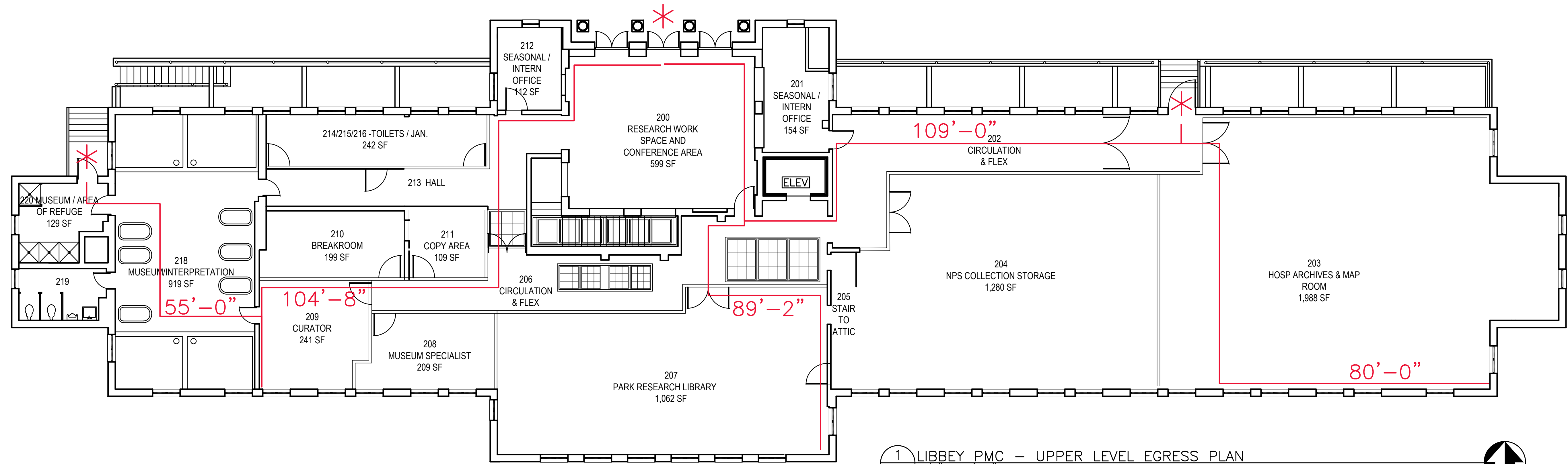
LIBBEY MEMORIAL PMC CODE REVIEW & OCCUPANT LOADS

First Floor = 10,036 GSF		Ancillary Spaces Net SF	'B' Net SF	Storage/ Warehouse 'S1'	Storage Net SF	Occupant Load (Req'd SF per occupant)	Total Max. Allowable Occupants
100/103/ 107/108/114	Lobby and Halls	1133				150	8
101 / 102	Archeologist & Digital Photo		328			150	2
104	NPS Collection Storage			888		300	3
105	Mechanical	902				300	3
106	Toilets and Jan Clo.	274				150	2
109	W/D Closet	25				0	0
110	Archeologist Tools Storage				149	300	0
111	Mechanical	660				300	2
112	Elevator Equip	83				300	0
113	Collection Supplies Storage				111	150	1
115	NPS Storage			2750		300	9
116	Isolation			504		150	3

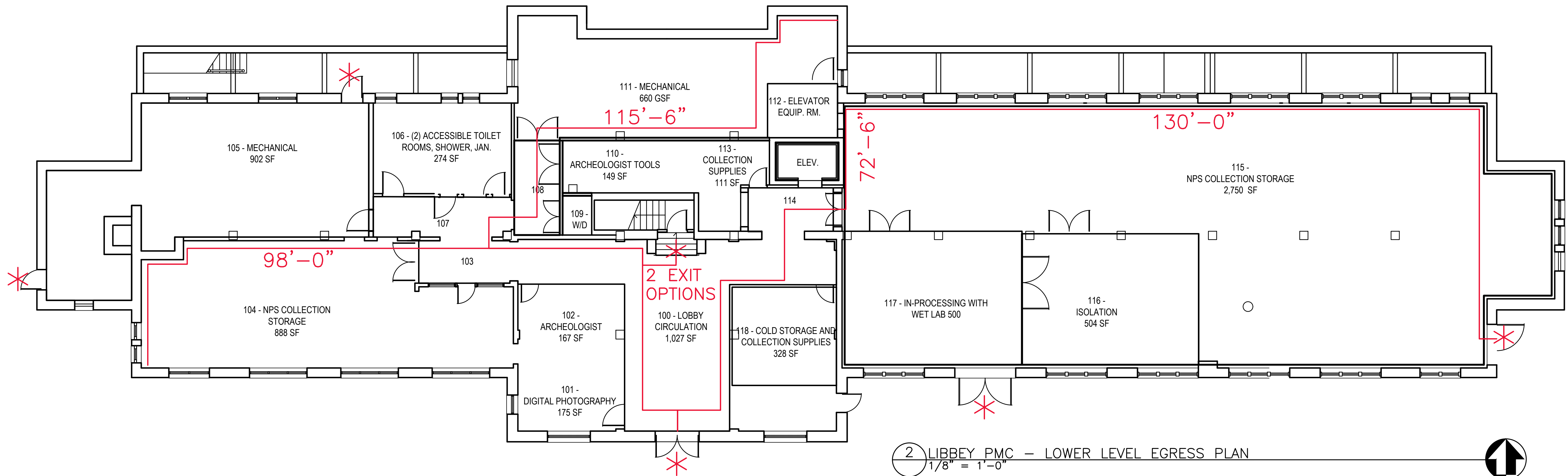
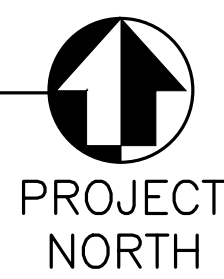
Libbey Memorial Physical Medicine Center
 AE Pre-Design Services – Condition Assessment / Treatment Plan
 Hot Springs National Park, Arkansas

117	In-Processing with Wet Lab		500			150	3
118	Cold Storage & Collection Supplies				235	150	2
Second Floor = 10,036 GSF		Ancillary Spaces Net SF	'B' Net SF	Storage/Warehouse 'S1'	Storage Net SF	Occupant Load (Req'd SF per occupant)	Total Max. Allowable Occupants
200	Lobby / Research/Conference		599			150	4
201	Office		154			150	1
202/206/213	Hall	1105				150	7
203	HOSP Archives & Map Room			1988		300	7
204	NPS Collection Storage			1280		300	4
205	Stairs						0
207	Park Research Library			1062		150	7
208	Museum Specialist Office		209			150	1
209	Curator Office		241			150	2
210	Breakroom		159			15	11
211	Copy Area		85			150	1
212	Office		112			150	1
214/215/216	Toilets/Jan	242				150	2
217/218	Museum / Interpretation		919			150	6
219	Museum / Interpretation		219			150	1
		4424	3525	8472	495		93

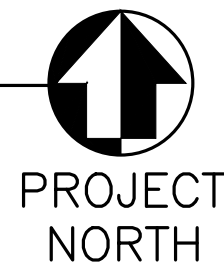
TOTAL BUILDING 93
 TOTAL ANCILLARY 24
 TOTAL B 33
 TOTAL S1 33
 TOTAL S 3



1 LIBBEY_PMC - UPPER LEVEL EGRESS PLAN
 1/8" = 1'-0"



2 LIBBEY_PMC - LOWER LEVEL EGRESS PLAN
 1/8" = 1'-0"



3.8 - Accessibility – Proposed Treatment

NPS Management Policies 2006 and Director's Orders #42 requires facilities be universally designed and accessible to every segment of the population. This project shall be designed to incorporate the 7 Principles of Universal Design including singular path design (site arrival point to entry), close-by parking and drop-off (per DSC standards), and design features intended to eliminate common mobility obstacles (interior doorways or demising walls) where more seamless approaches can provide privacy, safety and environmental performance (sound and light control, and physiological comfort).

Section 504 of the Rehabilitation Act of 1973, as amended, requires programs and services provided in a facility to be accessible to people with disabilities. This includes physical programs such as parking, picnicking and hiking, as well as interpretive and media programs such as exhibits, films, and ranger led programs. This project shall be designed so programs included are universally designed and accessible.

This project shall meet requirements of the Architectural Barriers Act Accessibility Standards (ABAAS) for facilities for visitors and employees. Additional requirements are provided on the Accessibility & Universal Design Standards for Outdoor Developed Areas, Public Rights of Way, Transportation Facilities, and DSC requirements.

Exterior

A new sloped walk is proposed at the south entrance, connecting the new driveway to the new accessible building entry. This new expanded driveway is proposed to include accessible parking spaces. The north plaza will be rebuilt and regraded to achieve accessible routes to the building and fountain. An accessible parking space is proposed adjacent to the north plaza.

Interior

New components will be designed to meet accessibility requirements noted above. The existing elevator should be repaired and made operable to provide the accessible route between floors.

Treatment Recommendations

3.9 - Site – Proposed Treatment

Refer to the Site Treatment Plan at the end of Chapter 3 and the Site Treatment Tables in Appendix H.

In keeping with the 2009 HSR recommendations, the goal is to preserve extant character-defining features and rehabilitate the landscape from the Episode 1 period (1922-1943). This includes preservation of spatial organization, select vegetation, topography, and extant features related to circulation.¹

It is unknown if previous archeological survey or investigation work has occurred on the Libbey site. Excavations and grading may require archeological monitoring. These requirements should be further explored during Schematic Design.

No Cultural Landscape Report or Inventory has been completed for this site. A limited amount of information about the cultural landscape was discussed in the Historic Structural Report (HSR). The HSR has been the only guiding document to date.

Grade

As part of the removal of the porte cochere on the south side of the building, the driveway will be regraded to a lower elevation allowing recreation of the steps at the entry reflecting the original entry design. This recommendation aligns with the recommendations in the HSR. The area south of the proposed drive should be regraded to gently slope down away from the drive and toward the intersection of Spring Street and Laurel Street.

A sloped walk is proposed from the driveway elevation to an existing door opening to the east of the stepped entry creating an accessible route to the building. Although this option results in two points of entry, it recreates the stepped entry configuration from the period of significance as recommended in the HSR. For consideration and further discussion, an alternate option is proposed that raises the elevation of the drive. These two approaches can be evaluated during the next project phases.

Modifications to the slope of the concrete plaza at the north of the building are proposed to create an accessible parking space at the street. Replacement of the deteriorated walkways around the site is recommended.

Drainage

Scoping of the drains throughout the project site is recommended as well as performing a survey to locate the underground systems. Downspouts appear to be connected to the underground system, which may need to be rerouted to accommodate work at the south entry and drive.

¹ Libbey Memorial Physical Medical Center, Quinn Evans, 2009, p. 131.

Landscape – Proposed Treatment

Plantings

The trees along the property boundaries should be maintained. Areas of lawn around the building should be retained. Additional plantings are recommended at the south entry reconfiguration to mimic the historic landscaping and configuration, particularly around the driveway. New plantings should be simple and complement existing plantings on site.

Features

The south driveway will return as a more prominent, pedestrian and vehicle friendly entrance. The brick screen wall and pavement of the sun porch should be removed as it is contemporary to the porte cochere and to allow for the creation of an accessible route to the building. Other site features such as the concrete walks, stair, railings, and the water jug filling fountain should remain, and damage and deterioration should be repaired. A mechanical screen wall is proposed around the area of mechanical equipment proposed at the southwest corner of the building.



South elevation, ca. 1920s. (Figure 09 from the HSR, page 19)

Architectural – Proposed Treatment

Refer to the Proposed Treatment Plans at the end of Chapter 3 and the Architectural Treatment Tables in Appendix H.

3.10 - Exterior Architectural – Proposed Treatment

Overall, many of the exterior materials such as the stucco, cast stone and louvers need to be cleaned to remove atmospheric staining and biological growth.

1. Stucco: There are localized areas of stucco walls that need repair. The stucco walls need to be repainted to eliminate the cracked and peeling paint.
2. Cast Stone: Cast stone repair recommendations include repointing open joints, patching areas where reinforcing is exposed, and application of a consolidant treatment to slow down the effects of the pervasive cracking.
3. Doors and Windows: The entry doors and windows are recommended to be replaced with units that mimic the historic windows. Refer to Appendix I for example for appropriate replacement windows. Glass block is recommended to be removed and replaced with windows matching the other openings on the lower level.
4. Lighting: Exterior lighting will be updated.
5. Exterior Demolition: Removal of the porte cochere on the south elevation is recommended to modify the south elevation and entry to align with the configuration during the period of significance. This work will require repair of the stucco finish on the south elevation and installation of cast stone entry surround. Additionally, the screen wall on the east half of the south elevation is recommended for removal since it was added outside of the period of significance. The work to the south elevation is guided by recommendations made in the HSR.



Photographs from the 1950s of the south elevation prior to the construction of the porte cochere. (Figure 20 from the HSR, page 25)

6. Roof Flashing: Inspect roof at Libbey with roofing contractor. Inspect inside edge flashing of west gable to determine where roof leak is coming from. This will require a lift, roofing contractor familiar with clay tile roofing, and removal and replacement of tiles along the inside of the gable wall.

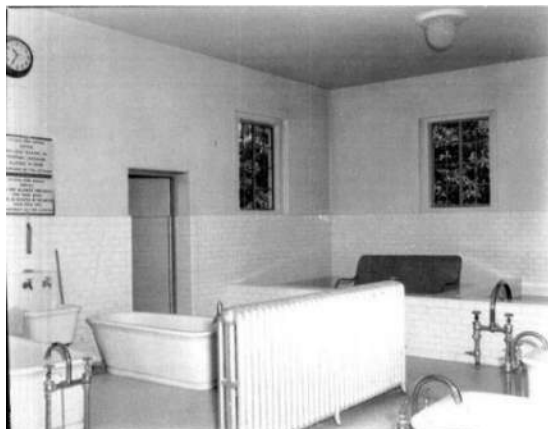
3.11 – Interior Architectural – Proposed Treatment

Primary Historic Spaces (Zone 1)

1. Lobby 100 requires a full ceiling replacement where none exists. Existing materials require restoration and repair. Two offices may be constructed in the east and west bays. Historically, the southeast corner of this room was an open work area, surrounded by a metal railing to maintain the central circulation of the space.
2. Lobby 200: The ceiling is damaged and requires full replacement. Replacement lighting, appropriate for the period may be installed. The marble features incorporated into the lobby stair and office reception counter should be cleaned and repaired. The front doors will likely be replaced. If this space is used as a research room/meeting room, then the Park may want to install a glass vestibule.
3. Men's Bathing Room 218; Toilet Room 219; Shower Room 220: These spaces will be restored to the period of significance for historic bath hall interpretation to highlight civil rights. The ceiling is deteriorated and requires replacement. The plumbing elements within all three spaces require refurbishment, missing components should be replaced, and damaged elements repaired. Historic doors should be repaired, and the original fabric retained. Missing components may include lighting, radiators, furnishings (see pool), clock, signage, shower panels, and other similar items. Note, the unique finishes on the door into the shower room in the figure below.



Men's bath hall, looking north, ca. 1930s. (Figure 10 from the HSR, page 20)



Men's bath hall, looking northwest, ca. 1950s. (Figure 26 from the HSR, page 30)

4. Office 201: Repairs are needed for the original wood cabinets in the office and countertop. Wallpaper is to be removed, walls and ceilings restored, and new flooring and lighting installed.
5. Stairs between Lobby 100 and Lobby 200: The central stair will be preserved and repaired. The laylight above will be cleaned and repaired. A new ABA-compliant handrail will be installed, and the non-compliant fire door at the bottom landing will be removed.

Secondary Spaces (Zone 2) and Tertiary Spaces (Zone 3)

Complete rehabilitation of all Zone 2 spaces, includes the following:

- General Rehabilitation:
 - o Historic features and fixtures will be retained where possible. Historic features and fixtures may be salvaged and reused where possible or turned over to the Park for storage.
 - o New MEP and fire prevention systems will be installed throughout.
 - o Rehabilitation to include new exit signage, emergency lighting, and areas of refuge.
- First Floor:
 - o Demolition of the existing pools and all related equipment.
 - o Demolition of all remaining mechanical, electrical, plumbing, and fire and security alarm systems.
 - o Demolition of the existing restrooms, non-original partition walls, and all finishes (essentially all areas not designated as Zone 1).
 - o Construction of new offices and office support areas, laundry facility, restrooms (one with shower), custodial closet, fire-rated NPS collections storage areas, all with new finishes and lighting.
 - o Construction of new machine room spaces and repairs to existing spaces for fire ratings.
 - o Relocate the elevator machine room.
 - o Repair check-in desk.
- Second Floor:
 - o Demolition of all remaining mechanical, electrical, plumbing, and fire and security alarm systems.
 - o Demolition of the existing restrooms, treatment room, locker rooms, support spaces and non-original walls in the west/central, central, and south portions of the second level (essentially all of the areas not designated Zone 1 or Interpretive).
 - o Construction of new offices and office support areas, work areas, break room, restrooms, custodial closet, fire-rated research library and NPS collections storage areas, all with new finishes and lighting.
 - o Construct new access stair to the attic.
 - o Restoration of the laylights.

3.12 - Structural – Proposed Treatment

Refer to the Proposed Plans at the end of Chapter 3 and the Structural Treatment Tables in Appendix H.

Building Construction

Most of the concrete repairs will be overhead, which include concrete removal and replacement in localized areas of beams and slabs. Where reinforcing steel has been cut, as for pipe penetrations, new reinforcement will need to be installed within the slab to re-establish the slab loading capacity. Additional repairs and recommendations for future investigation are included in the treatment checklist.

Additional Loading due to Change of Use

The Libbey Memorial PMC is constructed with reinforced concrete framing, masonry walls, and a steel framed roof. The original structural drawings show that the exterior walls are constructed of brick; however, based on observations and historic photos, the walls are believed to be constructed of clay tile units instead. In places where the interior face of the walls are exposed, concrete or clay tile was present. Historic construction photos show clay tile on the exterior of the building. It is unclear if brick or concrete were used in between the wythes of clay tile, which would be an unconventional form of construction. The clay tile is unlikely to accommodate increased loading due to changes in use. The steel framed roof may not be able to handle additional equipment loading because of the bearing conditions of the steel trusses. However, installation of a lightweight catwalk along the length of the attic is likely within the 5% load increase that is allowable by the International Existing Building Code Section 502.4. In addition, the structural portion of the 2009 HSR noted that several clips connecting the steel rafters to the purlins in the attic were missing and replaced with wire. It is recommended that where these clips are missing, self-drilling screws be installed through the flange of the purlin and the “steel lumber” rafters. The total quantity could not be confirmed, as many clips may be present but hidden from view.

The original structural drawings and previous structural reports regarding the condition of the structure were reviewed. The structural engineer for the 2009 HSR contributed calculations on the live load carrying capacity of the second level east and west wings. The calculations show that the capacity of the beams and slabs vary throughout the spaces. The varying live load capacities reported range from 50 to 75 psf. It should be noted that these would likely be insufficient for the 2-foot and 3-foot depth bathing pools under current codes. For reference, the loading of 2 feet of water is about 125 psf.

The proposed future usage for the east wing of the second level is high density storage. The ASCE 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures states, “Mobile library shelving that rolls on rails should also be designed to meet the actual requirements of the specific installation, which may easily exceed 300 psf. The rail support locations and deflection limits should be considered in the design and the engineer should work closely with the system manufacturer to provide a serviceable structure.” The NPS Museum Handbook states that “A live floor load of 350 psf is desirable, especially for particularly heavy

collections such as paper-based materials such as archives and herbaria, some fossil collections, metals, heavy equipment, and if you plan to install a moveable aisle (compactor) storage system.”

For reference, typical design live loads for library stack rooms are 150 psf, light duty storage warehouses are 125 psf, and heavy duty storage warehouses are 250 psf.

To increase the live load capacity of the structure, there are limited options given the extreme shortage of current capacity. One option, fiber-reinforced polymer (FRP), is often a surface applied wrap that can strengthen existing concrete members. The material properties and code limitations would restrict this material as an option; it can only increase capacity so much.

More conventional methods would include increasing the size of the beams and columns with supplemental reinforced concrete or steel framing, or a combination. Adding a new steel or concrete beam under a slab will reduce the span and increase the live load capacity of the slab. However, the design process is iterative, and as new supports are added, the existing framing will work differently than originally designed. One possible result of this is cracking appearing in the top surface of the concrete slabs.

Supplemental steel framing for this use may require very large size of steel beams to meet the deflection limits of a mobile shelving system. Steel is a ductile material compared to concrete, which is brittle. In general, concrete framing deflects very little in comparison to structural steel. If a steel beam is placed under a concrete slab, it may not actually be loaded until the concrete has deflected enough to engage the steel, which may also be the point of concrete fracture. The design of the steel framing may need to consider the existing concrete framing as contributing no strength to the capacity of the new system. As an option, load can be jacked into the steel beams.

Reinforced concrete may perform better; however, installing and tying in new concrete framing may be more labor intensive and difficult than steel. It may be more economical to lift a heavy steel beam into place rather than form and pour a new concrete beam overhead in an existing structure.

A substantial increase in live load capacity will also increase the loads to the foundations and will likely require additional columns and excavations for new footings on the first level. Depending on the final design, it may also require enlarging the existing columns and foundations. A geotechnical study will need to be performed to properly size the footings.

A schematic framing plan has been provided showing a potential configuration for new steel beams to be installed below the concrete framing. To maintain high ceilings, C Shapes (channels) may be installed on either side of the existing beams, and other steel members would be used to support the slabs. This plan can vary substantially depending on the final loading recommended by the high density storage manufacturer and the overall layout of the storage units. New columns or pilasters are shown on the plan, which may be steel or concrete.

Further study will be required to understand the potential impacts on the layout and available square footage and volume for the archival storage areas where new columns and beams are necessary to upgrade the loading capacity.

Comments on Structural Calculations

The previous calculations from the 2009 HSR made assumptions for steel strength of 33 ksi and concrete strength of 3,000 psi. These strengths are appropriate, if not conservative for the period of construction. ASCE 41 Seismic Rehabilitation of Existing Structures provides default properties for these materials given a structures date of construction (6.2.2.5). Steel from the 1920's was produced to meet 33 ksi yield strength, however the code allows for a 25% increase for expected strength. The code also allows for an increase for concrete strength, but the 3,000 psi concrete strength still aligns with the lower bound for beam construction. Although the calculations could be revised to be less conservative, there would not be a substantial increase in allowable live load.

Many of the beam analysis calculations found concrete shear to be the limiting factor for live load capacity. This is due to the stirrup spacing in the beams being greater than what was allowed by code. When shear is resisted by concrete strength alone, the calculation uses half of the concrete shear strength as a measure of conservatism. The previous calculations did not use this conservatism; however, codes have changed since these calculations were performed, and some shear strength from the stirrups may be used even with the greater spacing. The provisions of ACI 318 have been modified by ASCE 41 (6.3.4) to allow for 50% effectiveness of transverse reinforcing where the spacing exceeds half the effective depth of the member. Although the additional strength provided by the stirrups is low in comparison to the concrete strength, it does allow for the full concrete shear strength to be used in the calculation.

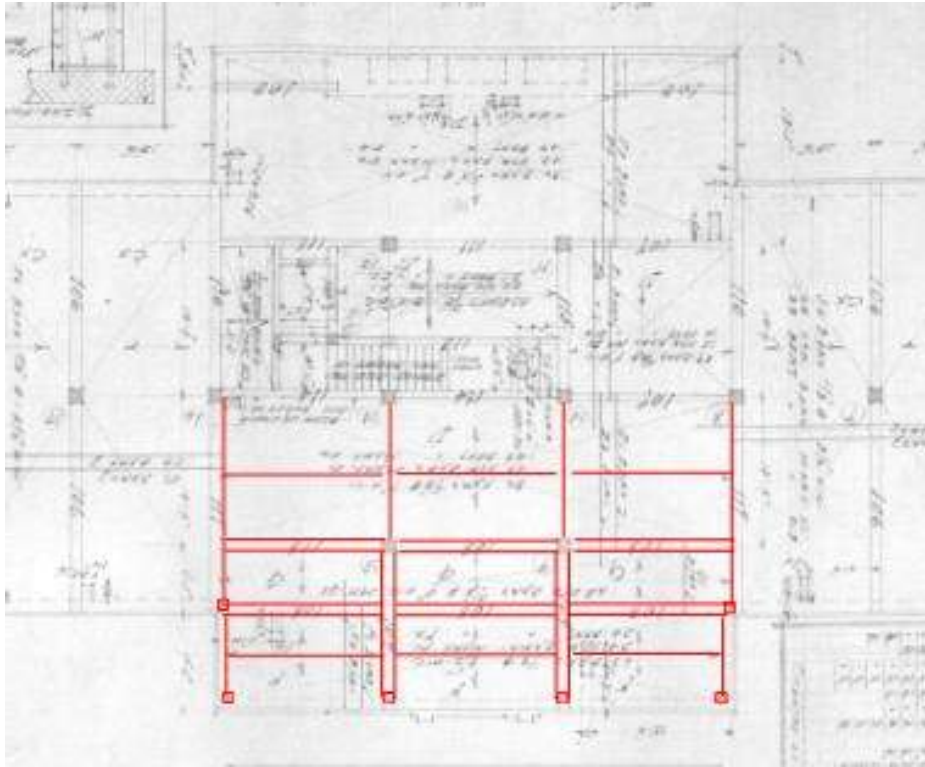
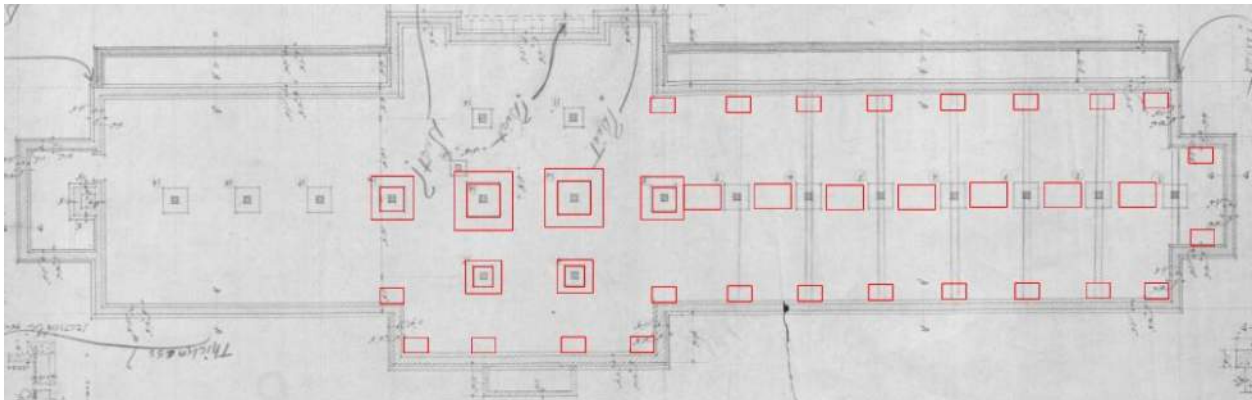


Figure S.1. Potential steel framing for second floor south wing.



Approximate sizes and locations of additional below-grade footings needed for high density storage on upper level. Additional footings are shown for the east wing and south portion. Please note footings shown are diagrammatic and sizes will vary. Footings will be sized after geotechnical study is performed.

Figure S.2. Potential footings required for new structural framing.

3.13 – General Mechanical, Plumbing, Electrical, and Fire Prevention – Proposed Treatment

Refer to the Mechanical, Plumbing, Electrical, and Fire Protection Treatment Plans at the end of Chapter 3 and the MPEF Treatment Tables in Appendix H.

All MEPF systems will be designed to the following codes:

- 2021 International Plumbing Code, International Mechanical Code, International Fire Code, International Life Safety Code, International Energy Conservation Code
- NFPA 70 NEC: National Electric Code
- NFPA 90A: Standard for the Installation of Air Conditioning and Ventilating Systems
- NFPA 72: National Fire Alarm Code
- NFPA 13: Standard for the Installation of Sprinkler systems
- NFPA 14: Standard for the Installation of Standpipe and Hose Systems
- NFPA 24: Standard for the Installation of Private Fire Service Mains and Their Appurtenances
- ASHRAE 90.1: Energy Standard for Buildings.

All current National Park Service guidelines will be followed where applicable, as well as the requirements set forth by the Secretary of the Interior's Standards for Rehabilitation and all applicable NPS Preservation Briefs.

3.13 - Mechanical – Proposed Treatment

Cooling

The existing abandoned blower coil unit located in the attic and associated condensing unit, ductwork, and piping will be removed.

A new 65 ton air cooled chiller will be installed to provide cooling for the building. 2 – 100% capacity each, variable primary, vertical in-line, floor mounted pumps will be provided to circulate chilled water to the air handling units and fan coil units. Chilled water specialties will include an air/dirt separator, expansion tank and glycol fill system. Chilled water piping will be Schedule 40 black steel or Type L copper with brazed joints.

Heating

The 3 existing steam boilers and their associated condensate pump, piping, boiler flue and controls will be removed. The remainder of the steam distribution piping will be removed.

3 – 50% capacity gas fired, condensing hot water boilers will be provided to heat the building. 3 – 50% capacity each, variable primary, vertical in-line pumps will be provided to circulate heating water to the air handling units, VAV box heating coils, fan coil units and unit heaters. Heating water specialties shall not be limited to an air/dirt separator,

expansion tank and auto and quick fill system. Heating water piping will be Schedule 40 black steel or Type L copper with brazed joints.

A shell and tube heat exchanger will be provided, to utilize the thermal spring water piped to the building to preheat the boiler return water to save energy. A vertical, in-line heat exchanger pump will be provided.

Air Conditioning

The existing heating/ventilating unit and associated ductwork, piping, and controls will be removed, as well as the remaining distribution ductwork.

A new air handling unit with specialized filtration, UV disinfection lighting and return fan will be provided to serve the archival and curatorial spaces. Space temperature control will be provided by constant volume boxes with reheat coils.

A variable air volume air handling unit with return fan will be provided to serve the remainder of the building. Space temperature control will be provided by VAV (variable air volume) boxes with reheat coils.

A mini split, DX system with a wall mounted indoor unit and remote outdoor condensing unit will be provided to cool the elevator equipment room.

Ventilation

As noted above the existing air handling unit will be removed.

Ventilation for the building will be provided by the new air handling units.

Exhaust Systems

The existing remaining exhaust systems will be removed.

New in-line exhaust fans will be provided to exhaust the new restrooms, janitor's closets and other general exhaust.

3.14 - Plumbing – Proposed Treatment

Water Service

The existing 3" water service was installed in the 1956 building improvements and appears to be adequate to serve future uses of the building. The condition of the piping should be further studied in the Schematic Design phase to determine the feasibility of reusing the main.

The existing 2" backflow preventer will be replaced with a new 3" backflow preventer.

Water Heaters

The two domestic water heaters and associated piping will be removed.

A new high efficiency, gas fired, condensing water heater and associated hot water circulating pump will be provided.

Domestic Water Distribution

All existing domestic water distribution piping will be removed.

New domestic water piping will be Type L copper piping with soldered joints. Domestic water piping will be extended to the water heater, plumbing fixtures, hose bibbs, wall hydrants and equipment.

Sanitary Waste

All existing above grade waste and vent piping will be removed. Although we don't recommend reuse of the below slab piping, it should be scoped to determine its location, elevation, and condition for possible reuse. The existing piping should also be tested for mercury contamination.

New waste and vent piping will be provided to and from plumbing fixtures, equipment, and floor drains. Above grade piping will be no-hub cast iron piping and below grade piping will be either hub and spigot cast iron or Schedule 40 PVC.

Storm Water

The three existing areaway drain grates will be replaced with beehive style cast iron grates and will be repiped to connect to the City storm sewer system. The gutter rain leaders on the north side of the building will also be repiped so they connect to the City storm sewer system instead of the building sanitary system.

The existing interior, above grade pool drainage piping as well as the exterior below grade piping and associated shut-off valves and manholes will be removed.

Natural Gas

The capacity of the gas service provider main should be evaluated with the gas company to determine if the current service is capable of serving the future use of the building. A new meter sized to serve the new boilers, emergency engine generator and water heater will be provided. The building gas piping seems to be in relatively good shape and should be further evaluated to serve the future building heating source.

Pools

As noted above, it does not appear that the existing therapy pools are planned to be used in the proposed future uses for the building and all associated piping will be removed.

Thermal Spring Water

The existing 4” “cold” and 4” “hot” thermal spring water services will remain. The remaining distribution piping will be removed. The “hot” thermal spring water will be extended to the heat exchanger to be used as a heat transfer source for the boiler return water as noted above.

The portion of the missing existing gutter downspout riser will be replaced so the thermal spring bypass/circulating piping connected to it will not dump into the north areaway. The routing and discharge of the bypass piping should be reevaluated.

The source of the fountain water service piping should be determined and repaired soon.

3.15 - Electrical – Proposed Treatment

Service to Building

The existing electrical service originates from a pole mounted utility transformer that is installed on the corner of Reserve Street and Laurel Street. Underground conductors are routed from the pole mounted transformer to the metering point. A survey should be done to determine exact routing of existing service to the building. There are two existing meters for this building. The meters are located under a stair near the northwest corner of the building. One of the meters is for a 120/240, 200 amp single phase service and the other meter is for a 200 amp, 240 volt, three phase system High Leg delta system. It is recommended to replace both services to accommodate possible tenant use. The new service voltage that is recommended is 120/208 volt, three phase, 4 wire. Surge suppression is recommended for the new service. More investigation is needed with the Utility Service Provider to determine exact course of action for new service and location on site for pad mounted utility transformer. The treatment plans show potential locations for all anticipated electrical distribution equipment.

Distribution

Conductors leave the exterior metering points and enter the first floor of Libbey and land on existing panelboards in the existing mechanical room. All existing panelboards should be removed due to future tenant needs and existing damage or issues noted in the assessment. New distribution is recommended throughout for potential new tenant. The treatment plans show potential locations for all anticipated electrical distribution equipment.

Generator

The building does not have any existing emergency lighting or exit signage that is functional.

A new natural gas generator is planned to be installed. The gas service to the generator will need to be carefully looked at to ensure proper service to generator. The new

generator is planned to be 120/208 volt, three phase, 4 wire. The entire building is planned to be served by the generator due to the needs of the potential tenant. This can be further explored during Schematic Design to determine the minimum critical systems that need to remain operational. Three new exterior mounted transfer switches are planned to be served from the generator. One transfer switch is planned to serve emergency lighting loads, fire alarm system and the security system. The second transfer switch is planned to serve the bulk of the rest of the new loads in the building. The last transfer switch is planned to serve the exterior chiller. Surge suppression is recommended for all generator services. The treatment plans show potential locations for all anticipated electrical distribution equipment.

Branch Circuits

It is recommended to remove all existing conduit and branch circuits. A large percentage of the existing conduit system is damaged and therefore unusable. Special consideration will need to be given for routing for all new conduits. In some cases, it may be necessary to use surface raceway. All new conduit and raceway should be carefully routed to coordinate with and maintain historical nature of building and be paintable to match the surrounding finishes. If a tenant is not in place a basic convenience receptacle layout would be needed throughout.

Lighting

It is planned to remove all existing exterior and interior light fixtures. Most of the existing lighting in the building is of the temporary type. All new LED lighting and controls should be provided. Decorative lighting may be required in various spaces throughout the building like the lobby and interpretation spaces. Install new emergency lighting and exit signage. If a tenant is not in place basic strip lighting and minimal lighting control would be needed throughout.

Information Technology (IT)

Existing IT services enter the building at several location. It should be planned to disconnect and remove the existing services. More investigation is needed with the Owner and Service Provider to determine exact requirements and for service and service entrance location. The new service control panel (s) should be in a controlled environment. Wiring for the system should be planned to be routed in conduit where same would be visible. Exposed wiring may be a consideration where ceilings are installed.

Security

The existing security system is not functional. A new security system is planned and should be provided based on the requirements of the potential tenant. The new security control panel should be in a controlled environment. Wiring for the system should be planned to be routed in conduit where same would be visible. Exposed wiring may be a consideration where ceilings are installed.

Lightning Protection

The existing building does not have a lightning protection system. It should be discussed if the renovated building should be provided with one. A high-level assessment has been performed. The assessment shows that a lightning protection system is recommended.

3.16 - Fire Protection – Proposed Treatment

Fire Suppression

A new 6" fire water service will be extended into the basement mechanical room. A recent fire hydrant test indicates that the city water main has adequate capacity and pressure to serve the building. A 6" double check backflow preventer will be provided on the main at the building entrance. The 6" main will be extended to serve sprinkler systems in the building.

A double interlock, pre-action, dry sprinkler system will be provided to serve the curatorial and archival storage areas. A nitrogen generator will be provided for the air source for the dry-pipe system. Piping will be Schedule 40 galvanized iron.

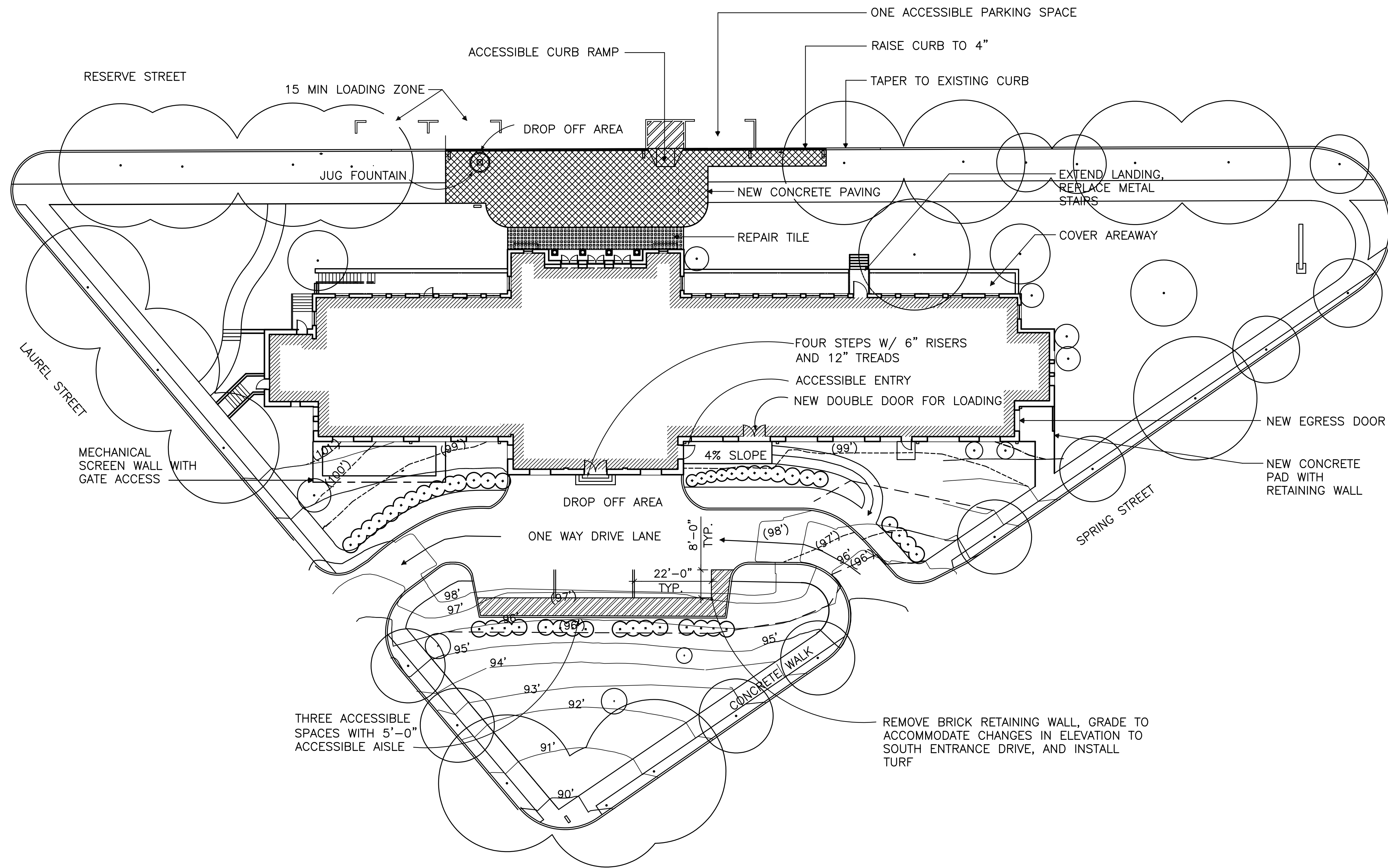
A wet sprinkler system will be provided to serve the remainder of the building. Piping will be Schedule 40 black steel.

Fire Alarm

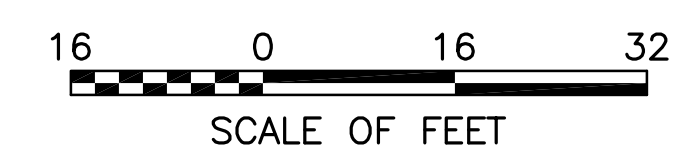
The building has an existing fire alarm system in limited areas. The existing system is not functional and should be removed. The new system should be planned to serve possible future tenant use. The new system should be connected into a central station for remote monitoring. The new fire alarm control panel should be in a controlled environment. Wiring for the system should be planned to be routed in conduit where same would be visible. Exposed wiring may be a consideration where ceilings are installed. The fire alarm system should be planned to monitor the sprinkler system.

PRE-DESIGN PROGRAMMING
AND TREATMENT
RECOMMENDATION DRAWINGS

Pre-Design Programming
and Treatment
Recommendation Drawings

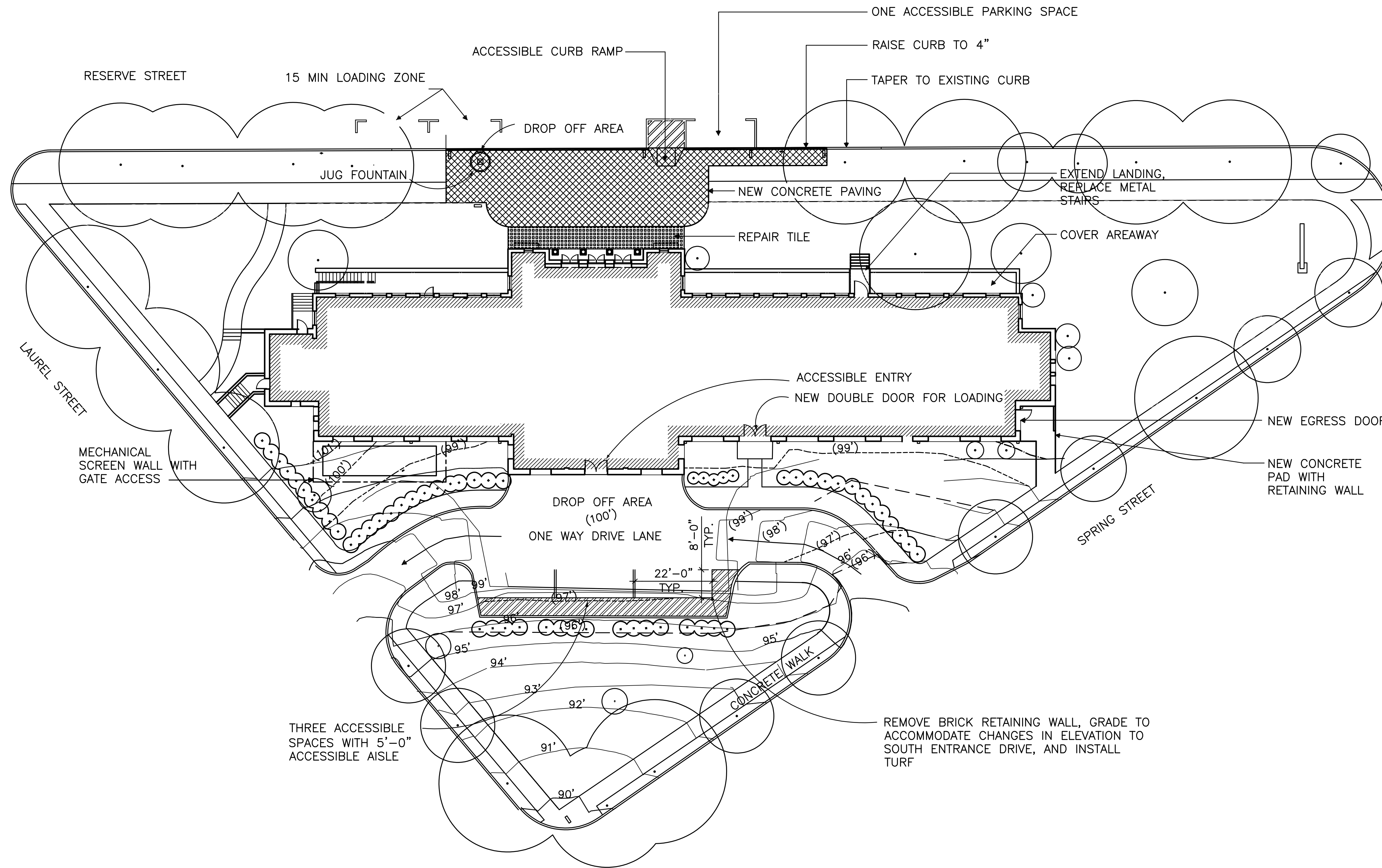


- LEGEND
- EXISTING TREE
 - EXISTING SHRUB
 - PROPOSED SHRUB
 - STREET SIGN
 - NEW CONCRETE PAVEMENT
 - PROPOSED CONTOUR
 - EXISTING CONTOUR



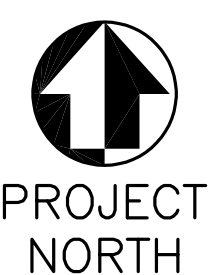
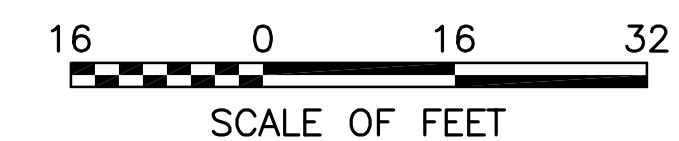
1 SITE PLAN - OPTION 01
 C2 1/16" = 1'-0"

 1701 Oak Street, Suite 100 Ph. 818-474-0900 www.strata-arch.com	DESIGNED: JH	SUB SHEET NO. C2	TITLE OF SHEET LIBBEY MEMORIAL PMC SITE PLAN	DRAWING NO. 128 180181
	TECH. REVIEW: GK		PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	PMIS/PKG NO. 318915 SHEET 4 of 15
	DATE: 06/29/22			



LEGEND

	EXISTING TREE
	EXISTING SHRUB
	PROPOSED SHRUB
	STREET SIGN
	NEW CONCRETE PAVEMENT
	PROPOSED CONTOUR
	EXISTING CONTOUR



1 SITE PLAN - OPTION 02
 C3 1/16" = 1'-0"

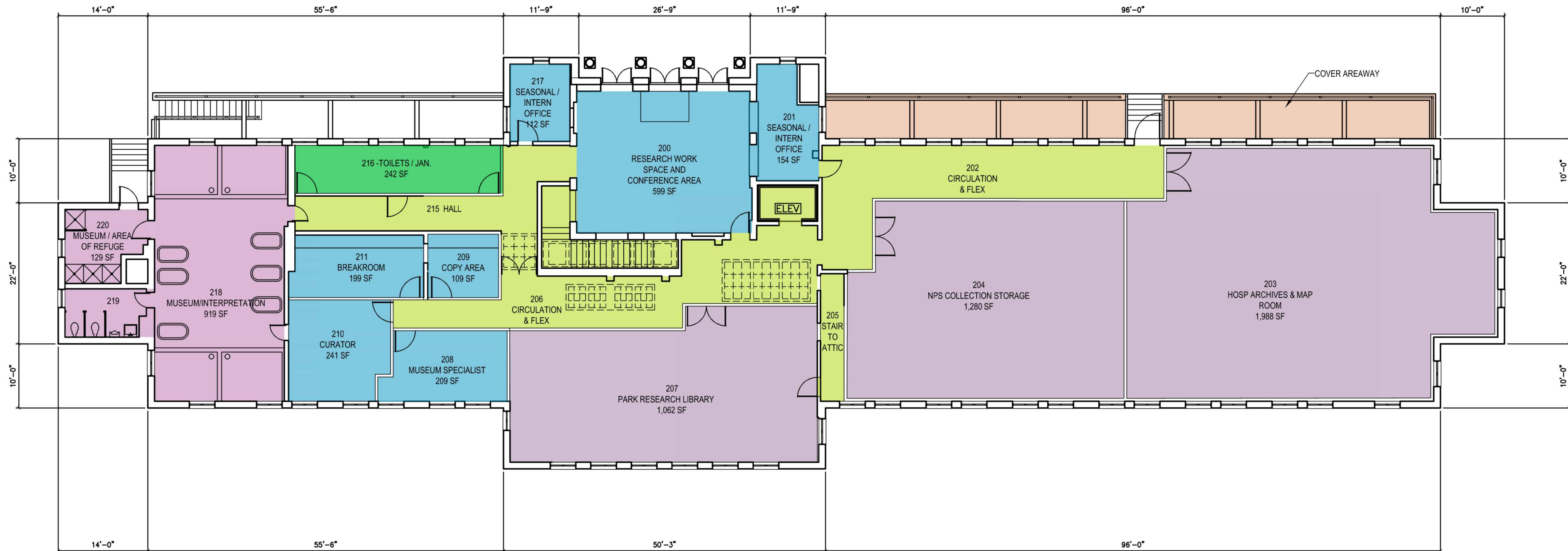
 1701 Oak Street, Suite 100 Ph. 818-474-0900 www.strata-arch.com	DESIGNED: JH	SUB SHEET NO. C3	TITLE OF SHEET LIBBEY MEMORIAL PMC SITE PLAN	DRAWING NO. 128 180181
	TECH. REVIEW: GK		PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC	PMIS/PKG NO. 318915
	DATE: 06/29/22		HOT SPRINGS NATIONAL PARK	SHEET
				5 OF 15



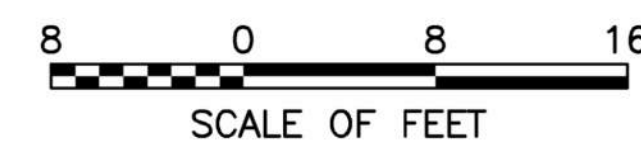
1 LIBBEY PMC - MULTI-PARK FACILITY - LOWER LEVEL FLOOR PLAN
 A3 1/8" = 1'-0"



 STRATA ARCHITECTURE + PRESERVATION 1701 Oak Street, Suite 100 Ph. 816-474-0900 www.strata-arch.com	DESIGNED:	CA	SUB SHEET NO. A3	TITLE OF SHEET LIBBEY MEMORIAL PMC LOWER LEVEL FLOOR PLAN PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO.
	TECH. REVIEW:	AG			128
	DATE:	06/29/22			180181
					PMIS/PKG NO. 318915
					SHEET 6 of 15



1 LIBBEY PMC — MULTIPARK FACILITY — UPPER LEVEL FLOOR PLAN
 A4 1/8" = 1'-0"



PROJECT
NORTH

 1701 Oak Street, Suite 100 Ph. 816-474-0900 www.strata-arch.com	DESIGNED: CA	SUB SHEET NO. A4	TITLE OF SHEET LIBBEY MEMORIAL PMC UPPER LEVEL FLOOR PLAN PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO. 128 180181
	TECH. REVIEW: AG			DATE: 06/29/22



ADDITIONAL ELECTRICAL SERVICE EQUIPMENT WITH LANDSCAPE SCREENING

NEW MECHANICAL SCREENING

RESTORE HISTORIC STAIRS

ACCESSIBLE ENTRANCE

NEW LOADING ENTRANCE

NEW EXIT



1 SOUTH ELEVATION - OPTION 01
xx 1/8" = 1'-0"

STRATA
ARCHITECTURE + PRESERVATION
1701 Oak Street,
Suite 100
Ph. 818-474-0900
www.strata-arch.com

DESIGNED:
JH
GK
TECH. REVIEW:
JH
DATE:
06/29/22

SUB SHEET NO.
A5

TITLE OF SHEET
LIBBEY MEMORIAL PMC
SOUTH ELEVATION
PRE-DESIGN
CONDITION ASSESSMENT AND TREATMENT PLAN
FOR THE MAURICE BATHHOUSE AND LIBBEY
MEMORIAL PMC
HOT SPRINGS NATIONAL PARK

DRAWING NO.
128
180181
PMIS/PKG NO.
318915
SHEET
8 of 15

GENERAL NOTES:

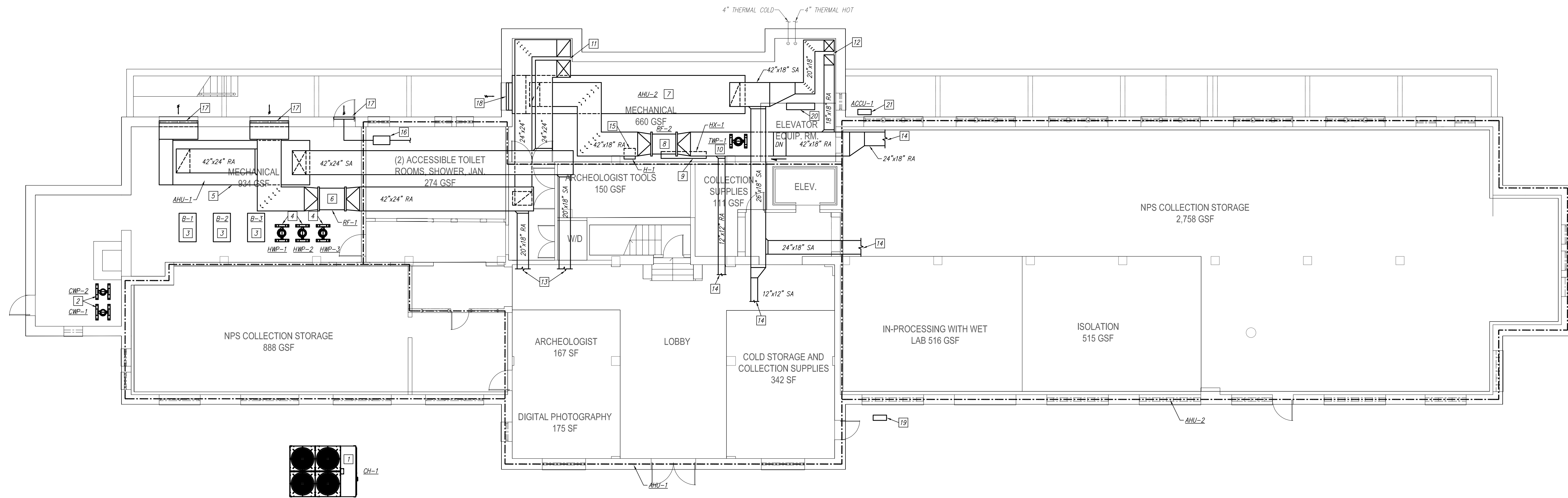
1. DEMO ALL EXISTING MECHANICAL EQUIPMENT, PIPING AND DUCTWORK.
2. AREAS SERVED BY AHU-1 WILL BE CONTROLLED BY SINGLE DUCT VAV BOXES WITH HOT WATER REHEAT COILS.
3. AREAS SERVED BY AHU-2 WILL BE CONTROLLED BY SINGLE DUCT CONSTANT VOLUME BOXES WITH REHEAT COILS.
4. ROUTING OF TERMINAL EQUIPMENT, DUCTWORK AND PIPING SHALL BE VERY CAREFULLY COORDINATED WITH EXISTING CONDITIONS, PRESERVATION ZONES AND HISTORIC NATURE OF BUILDING DURING SCHEMATIC DESIGN OF THE PROJECT TO CONFORM WITH THE NATIONAL PARKS REQUIREMENTS AND GUIDELINES.

KEYED NOTES:

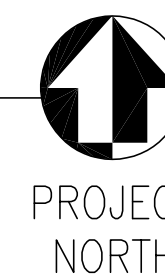
- 1 YORK YLAA00705E OR EQUAL 60 TON AIR COOLED CHILLER @ 20' HEAD. PIPE TO HEAT EXCHANGER AND HEATING WATER RETURN MAIN.
- 2 B&G E-BOSC OR EQUAL VERTICAL IN-LINE CHILLED WATER PUMP. 115 GPM @ 70' HEAD. CONNECT TO CHILLER AND ROUTE TO AIR HANDLING UNITS VIA SPIROTHERM AIR/DIRT SEPARATOR. PROVIDE GLYCOL FILL SYSTEM.
- 3 LOCHINVAR FB0751 OR EQUAL CONDENSING BOILER. 540 MBH MIN AMRI OUTPUT.
- 4 B&G E-BOSC 1.5x1.5x9.5B OR EQUAL HEATING WATER PUMP. 40 GPM @ 65' HEAD. CONNECT TO BOILER AND ROUTE TO AIR HANDLING UNITS, VAV BOXES AND UNIT HEATERS VIA SPIROTHERM OR EQUAL AIR DIRT SEPARATOR.
- 5 YORK SOLUTIONS OR EQUAL VAV COOLING ONLY AHU WITH ECONOMIZER. AIR BLENDERS, MERV 11 FILTRATION, FAN ARRAY, COOLING COIL AND UV LIGHTING. 9000 CFM.
- 6 LOREN COOK QMX 270 OR EQUAL MIXED FLOW IN-LINE RETURN FAN 8000 CFM.
- 7 TERITROL IIT, YORK SOLUTIONS OR EQUAL AHU WITH MIN. OA, DYNAMIC V8 OR EQUAL HIGH EFFICIENCY FILTRATION, CARBON/POTASSIUM PENANGANATE FILTRATION, FAN ARRAY, HUMIDIFIER, COOLING COIL AND UV LIGHTS. 7000 CFM.
- 8 LOREN COOK QMX OR EQUAL MIXED FLOW INLINE RETURN FAN 6500 CFM.
- 9 B&G OR EQUAL SHELL AND TUBE HEAT EXCHANGER TO TRANSFER HEAT FROM THERMAL SPRING WATERS TO PREHEAT BOILER HEATING WATER. CONNECT TO EXISTING THERMAL WATER PIPING.

KEYED NOTES:

- 10 B&G E-BOSC OR EQUAL HEAT EXCHANGER PUMP. 80 GPM @ 20' HEAD. PIPE TO HEAT EXCHANGER AND HEATING WATER RETURN MAIN.
- 11 24"x24" SA AND 24"x24" RA UP TO SECOND FLOOR.
- 12 20"x18" SA AND 18"x18" RA UP TO SECOND FLOOR.
- 13 EXTEND AND SERVE AHU-1 AREAS.
- 14 EXTEND AND SERVE AHU-2 AREAS.
- 15 DRISTEEM VAPORSTREAM VLC 6-1 OR EQUAL 6KW HUMIDIFIER STEAM GENERATOR.
- 16 INLINE EXHAUST FAN SERVING 1ST AND 2ND FLOOR RESTROOMS AND JANITOR CLOSETS. DUCT TO NEW EXH LOUVER.
- 17 NEW LOUVER IN EXISTING WINDOW OPENING.
- 18 REPLACE EXISTING LOUVER.
- 19 POSSIBLE LOCATION FOR CONDENSING UNIT FOR COLD STORAGE WALK-IN.
- 20 MINI-SPLIT DX INDOOR UNIT.
- 21 MINI-SPLIT DX CONDENSING UNIT FOR ELEVATOR EQUIP ROOM. RUN REFRIGERANT PIPING TO INDOOR UNIT.



1 FIRST FLOOR MECHANICAL PLAN -- LIBBEY
M1 1/8" = 1'-0"



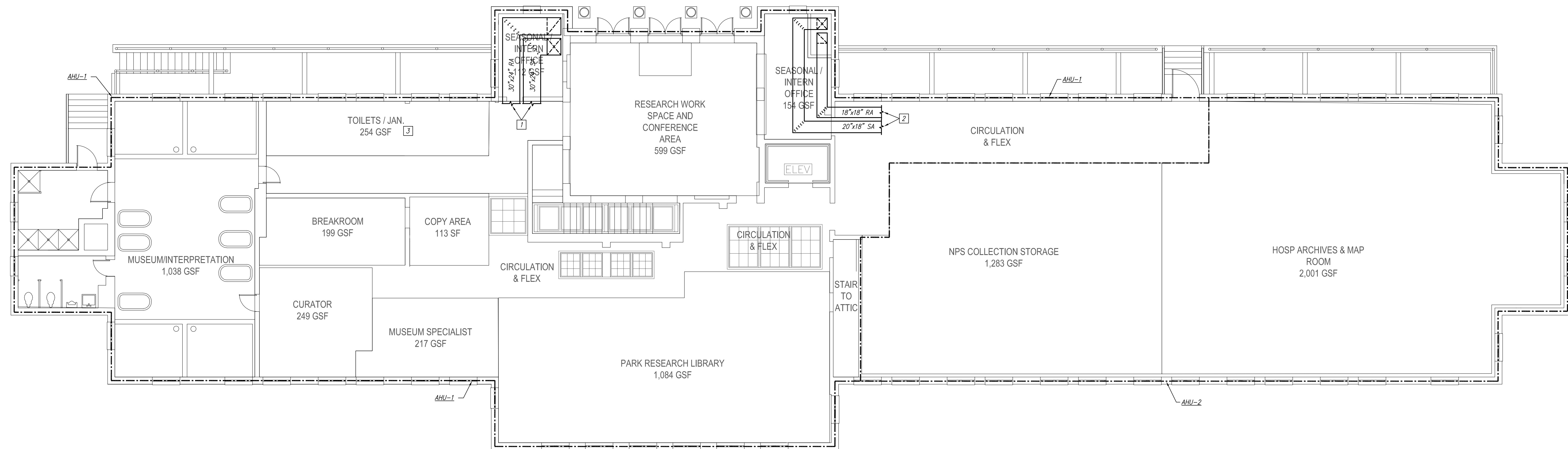
<p>1600 Baltimore, Suite 300 Kansas City, MO 64108 Ph. 816-842-9437 WWW.IMEG.CORP.COM</p>	DESIGNED: SGB	SUB SHEET NO. M1	TITLE OF SHEET LIBBEY MEMORIAL PMC FIRST FLOOR MECHANICAL PLAN PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO. 128 180181
	TECH. REVIEW: SGB			PMIS/PKG NO. 318915
DATE: 06/29/22			SHEET 9 OF 15	

GENERAL NOTES:

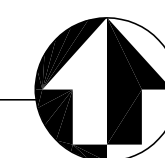
1. DEMO ALL EXISTING MECHANICAL EQUIPMENT, PIPING AND DUCTWORK.
2. AREAS SERVED BY AHU-1 WILL BE CONTROLLED BY SINGLE DUCT VAV BOXES WITH HOT WATER REHEAT COILS.
3. AREAS SERVED BY AHU-2 WILL BE CONTROLLED BY SINGLE DUCT CONSTANT VOLUME BOXES WITH REHEAT COILS.
4. ROUTING OF TERMINAL EQUIPMENT, DUCTWORK AND PIPING SHALL BE VERY CAREFULLY COORDINATED WITH EXISTING CONDITIONS, PRESERVATION ZONES AND HISTORIC NATURE OF BUILDING DURING SCHEMATIC DESIGN OF THE PROJECT TO CONFORM WITH THE NATIONAL PARKS REQUIREMENTS AND GUIDELINES.

KEYED NOTES:

- 1 EXTEND DUCTWORK TO SERVE AHU-1 AREAS.
- 2 EXTEND DUCTWORK TO SERVE AHU-2 AREAS.
- 3 AREAS EXHAUSTED BY EXHAUST FAN ON FLOOR BELOW.



1 SECOND FLOOR MECHANICAL PLAN -- LIBBEY
M2 1/8" = 1'-0"



PROJECT NORTH

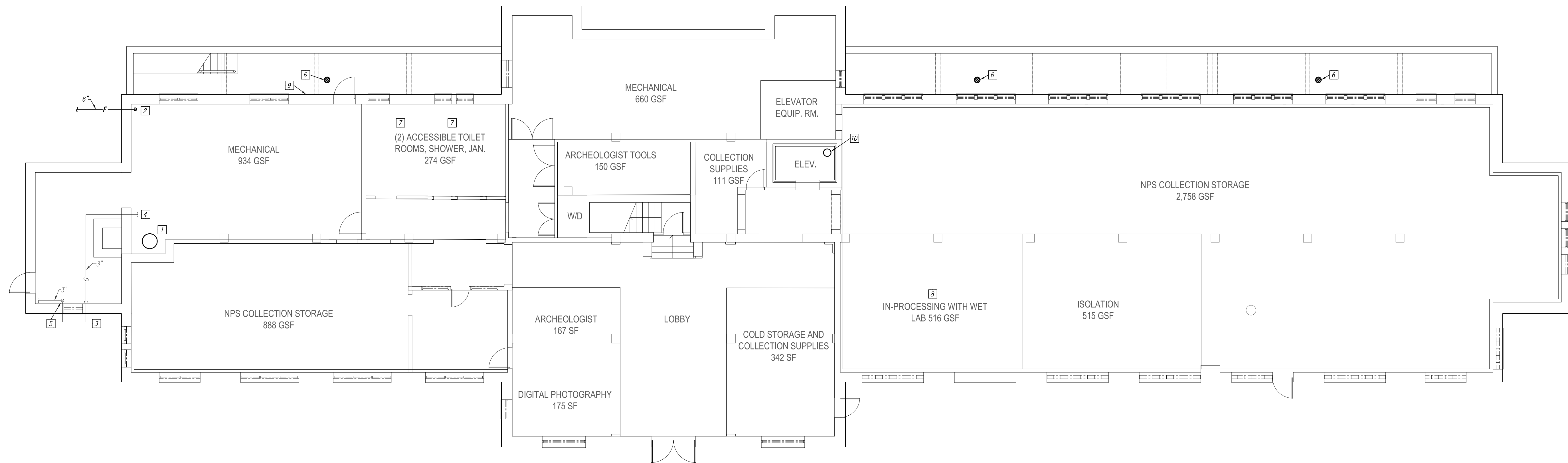
<p>1600 Baltimore, Suite 300 Kansas City, MO 64108 Ph. 816-842-8437 WWW.IMEG.CORP.COM</p>	DESIGNED: SGB MWM/BWC TECH. REVIEW: SGB	SUB SHEET NO. M2	TITLE OF SHEET LIBBEY MEMORIAL PMC SECOND FLOOR MECHANICAL PLAN PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO. 128 180181
	DATE: 06/29/22			PMIS/PKG NO. 318915 SHEET 10 OF 15

GENERAL NOTES:

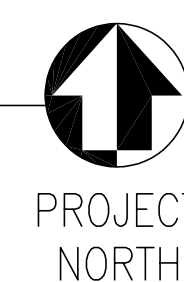
1. DEMO ALL EXISTING PIPING AND EQUIPMENT EXCEPT THE GAS MAIN AND WHERE SHOWN OTHERWISE.
2. EXISTING UNDERSLAB WASTE PIPING SHALL BE SCOPED FOR LOCATION, ELEVATION AND CONDITION TO DETERMINE IF PIPING CAN BE REUSED. PIPING SHALL ALSO BE TESTED FOR MERCURY CONTAMINATION.
3. NOT ALL WORK IS SHOWN. FLOOR DRAINS SHALL BE PROVIDED AT MECHANICAL AND PLUMBING EQUIPMENT AND RESTROOMS. HOSE BIBBS SHALL BE PROVIDED IN MECHANICAL ROOM AND WALL HYDRANTS AT EXTERIOR.
4. ROUTING OF TERMINAL EQUIPMENT, DUCTWORK AND PIPING SHALL BE VERY CAREFULLY COORDINATED WITH EXISTING CONDITIONS, PRESERVATION ZONES AND HISTORIC NATURE OF BUILDING DURING SCHEMATIC DESIGN OF THE PROJECT TO CONFORM WITH THE NATIONAL PARKS REQUIREMENTS AND GUIDELINES.

KEYED NOTES:

1. INSTALL NEW HIGH EFFICIENCY GAS-FIRED CONDENSING WATER HEATER W/RECIRCULATING PUMP. EXTEND HOT WATER & HOT CIRCULATING PIPING TO PLUMBING FIXTURES.
2. NEW 6" FIRE WATER SERVICE AND DOUBLE CHECK BACKFLOW PREVENTER. EXTEND & SPRINKLER ENTIRE BUILDING PER NFPA 13. PROVIDE SEPARATE SPRINKLER ZONES FOR FIRST, SECOND FLOORS AND ATTIC. FIRE SUPPRESSION SYSTEM FOR ARCHIVAL AREAS IS UNDETERMINED AT THIS TIME. ASSUME A DRY PIPE, DOUBLE INTERLOCK PREACTION SYSTEM. SPRINKLER SYSTEM FOR ATTIC & SECOND FLOOR SHALL BE A DRY PIPE SYSTEM. PROVIDE NITROGEN GENERATOR FOR DRY PIPE SYSTEMS. PIPING FOR DRY PIPE SYSTEMS SHALL BE GALVANIZED IRON.
3. UPGRADE EXISTING GAS SERVICE TO INCLUDE EMERGENCY ENGINE GENERATOR. ROUTE GAS PIPING TO GENERATOR.
4. CONNECT GAS PIPING TO NEW BOILERS & WATER HEATER.
5. REPLACE EXISTING BACKFLOW PREVENTER W/PPZ TYPE. EXTEND & CONNECT TO WATER HEATER, PLUMBING FIXTURES, EQUIPMENT, WALL HYDRANTS & HOSE BIBBS.
6. REPLACE EXISTING AREA DRAIN W/NEW AD W/BEEHIVE STRAINER. EXISTING DRAIN IS CONNECTED TO SANITARY WASTE INSIDE BUILDING. PIPE TO CONNECT TO STORM SEWER OUTSIDE OF BUILDING.
7. NEW PLUMBING FIXTURES W/VITRIOUS CHINA LOW FLOW WALL MOUNTED WATER CLOSETS (1.28 GPF) & URINALS (0.25 GPF), 0.5GPM LAV FAUCETS & TERRAZZO JANITORS SINK W/FAUCET AND PAIL HOOK.
8. EXTEND COLD, HOT, HOT CIRCULATING PIPING & WASTE & VENT PIPING TO WET LAB.
9. REPLACE MISSING SECTION OF MISSING SHEET METAL DOWNSPOUT LEADER.
10. PROVIDE NEW OIL MINDER TYPE SUMP PUMP IN SUMP IN ELEVATOR PIT. PUMP DISCHARGE TO SANITARY WASTE W/GALVANIZED IRON PIPING.



1 FIRST FLOOR PLUMBING PLAN - LIBBEY
 P1 1/8" = 1'-0"



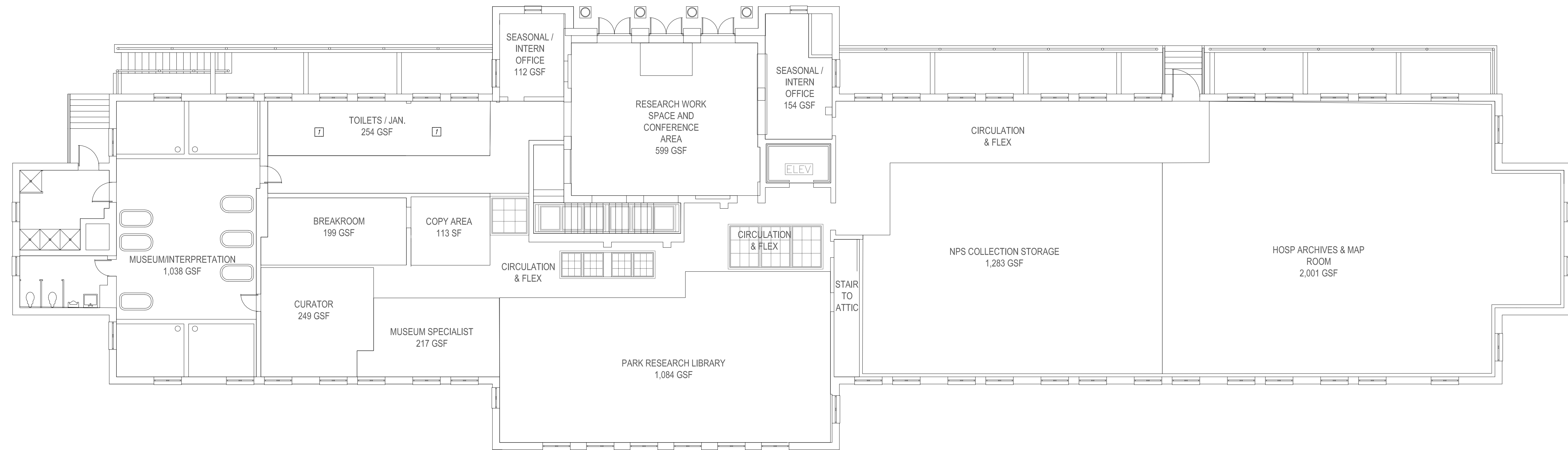
<p>1600 Baltimore, Suite 300 Kansas City, MO 64108 Ph. 816-842-9437 WWW.IMEG.CORP.COM</p>	DESIGNED: SGB MWM/BWC TECH. REVIEW: SGB	SUB SHEET NO. P1	TITLE OF SHEET LIBBEY MEMORIAL PMC FIRST FLOOR PLUMBING PLAN PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO. 128 180181
	DATE: 06/29/22			PMS/PKG NO. 318915 SHEET 11 OF 15

GENERAL NOTES:

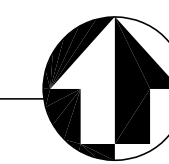
1. DEMO ALL EXISTING PIPING AND EQUIPMENT EXCEPT THE GAS MAIN AND WHERE SHOWN OTHERWISE.
2. NOT ALL WORK IS SHOWN. FLOOR DEVICES SHALL BE PROVIDED AT MECHANICAL AND PLUMBING EQUIPMENT AND RESTROOMS. HOSE BIBBS SHALL BE PROVIDED IN MECHANICAL ROOM AND WALL HYDRANTS AT EXTERIOR.
3. ROUTING OF TERMINAL EQUIPMENT, DUCTWORK AND PIPING SHALL BE VERY CAREFULLY COORDINATED WITH EXISTING CONDITIONS, PRESERVATION ZONES AND HISTORIC NATURE OF BUILDING DURING SCHEMATIC DESIGN OF THE PROJECT TO CONFORM WITH THE NATIONAL PARKS REQUIREMENTS AND GUIDELINES.
4. PROVIDE DRY PIPE SPRINKLER SYSTEM IN ATTIC TO SERVE 2ND FLOOR & ATTIC. PIPING SHALL BE GALVANIZED IRON.

KEYED NOTES:

- 7 NEW PLUMBING FIXTURES W/VIETRIUS CHINA LOW FLOW WALL MOUNTED WATER CLOSETS (1.28 GPF) & URINALS (0.25 GPF), 0.5GPM LAV FAUCETS & TERRAZZO JANITORS SINK W/FAUCET AND PAIL HOOK.



1 SECOND FLOOR PLUMBING PLAN - LIBBEY
P2 1/8" = 1'-0"

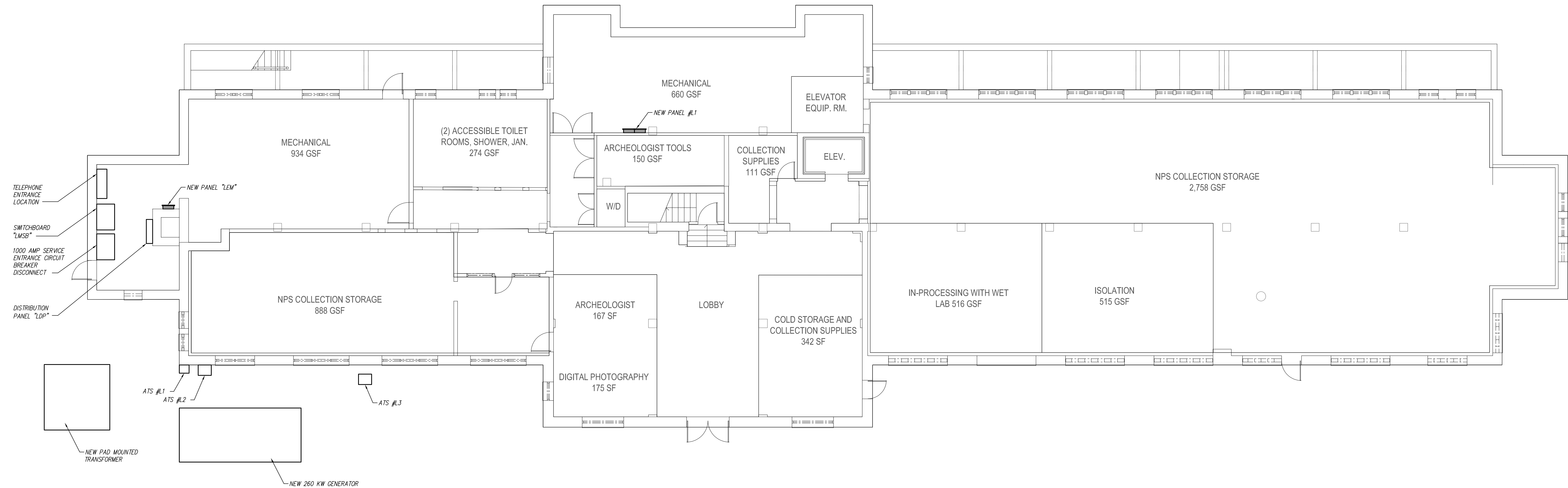


PROJECT NORTH

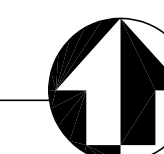
<p>1600 Baltimore, Suite 300 Kansas City, MO 64108 Ph. 816-842-9437 WWW.IMEG-CORP.COM</p>	DESIGNED: SGB	SUB SHEET NO. P2	TITLE OF SHEET LIBBEY MEMORIAL PMC SECOND FLOOR PLUMBING PLAN PRE-DESIGN	DRAWING NO. 128 180181
	<p>MWM/BWC TECH. REVIEW: SGB</p>		CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	PMIS/PKG NO. 318915 SHEET 12 OF 15
DATE: 06/29/22				

GENERAL NOTES:


1. REFER TO MECHANICAL PLANS FOR ALL MECHANICAL EQUIPMENT LOCATIONS.



1 FIRST FLOOR ELECTRICAL PLAN - LIBBEY
 E1 1/8" = 1'-0"

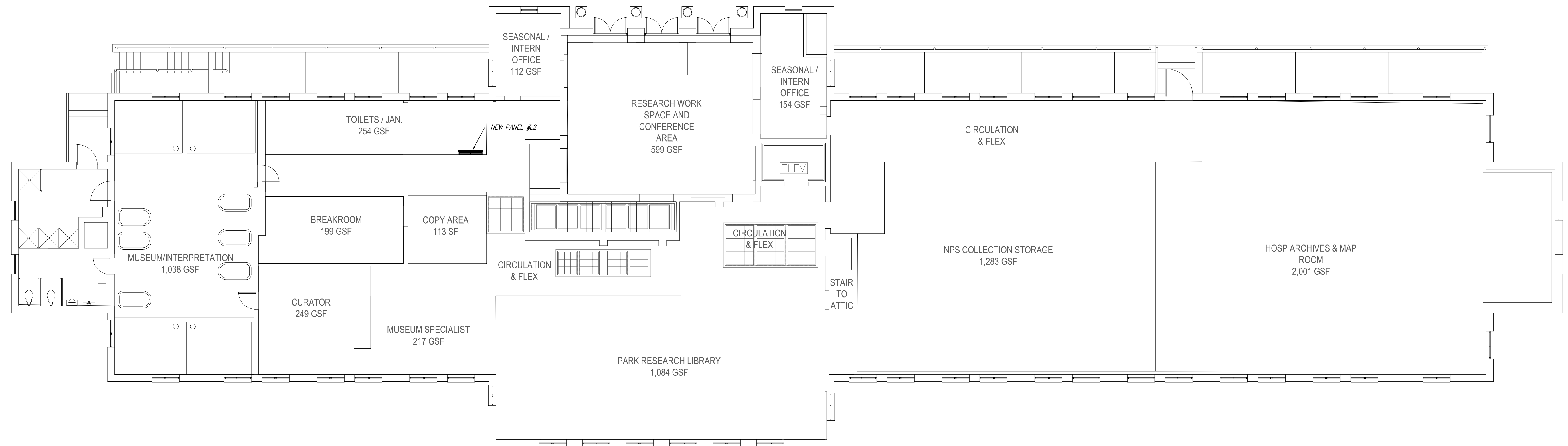


PROJECT NORTH

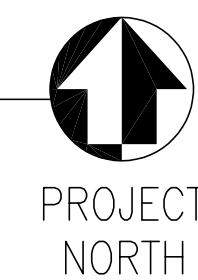
 1600 Baltimore, Suite 300 Kansas City, MO 64108 Ph. 816-842-8437 WWW.IMEG-CORP.COM	DESIGNED: PIP CADD MWM/BWC TECH. REVIEW: PJP DATE: 06/29/22	SUB SHEET NO. E1	TITLE OF SHEET LIBBEY MEMORIAL PMC FIRST FLOOR ELECTRICAL PLAN PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO. 128 180181 PMIS/PKG NO. 318915 SHEET 13 OF 15


GENERAL NOTES:

1. REFER TO MECHANICAL PLANS FOR ALL MECHANICAL EQUIPMENT LOCATIONS.



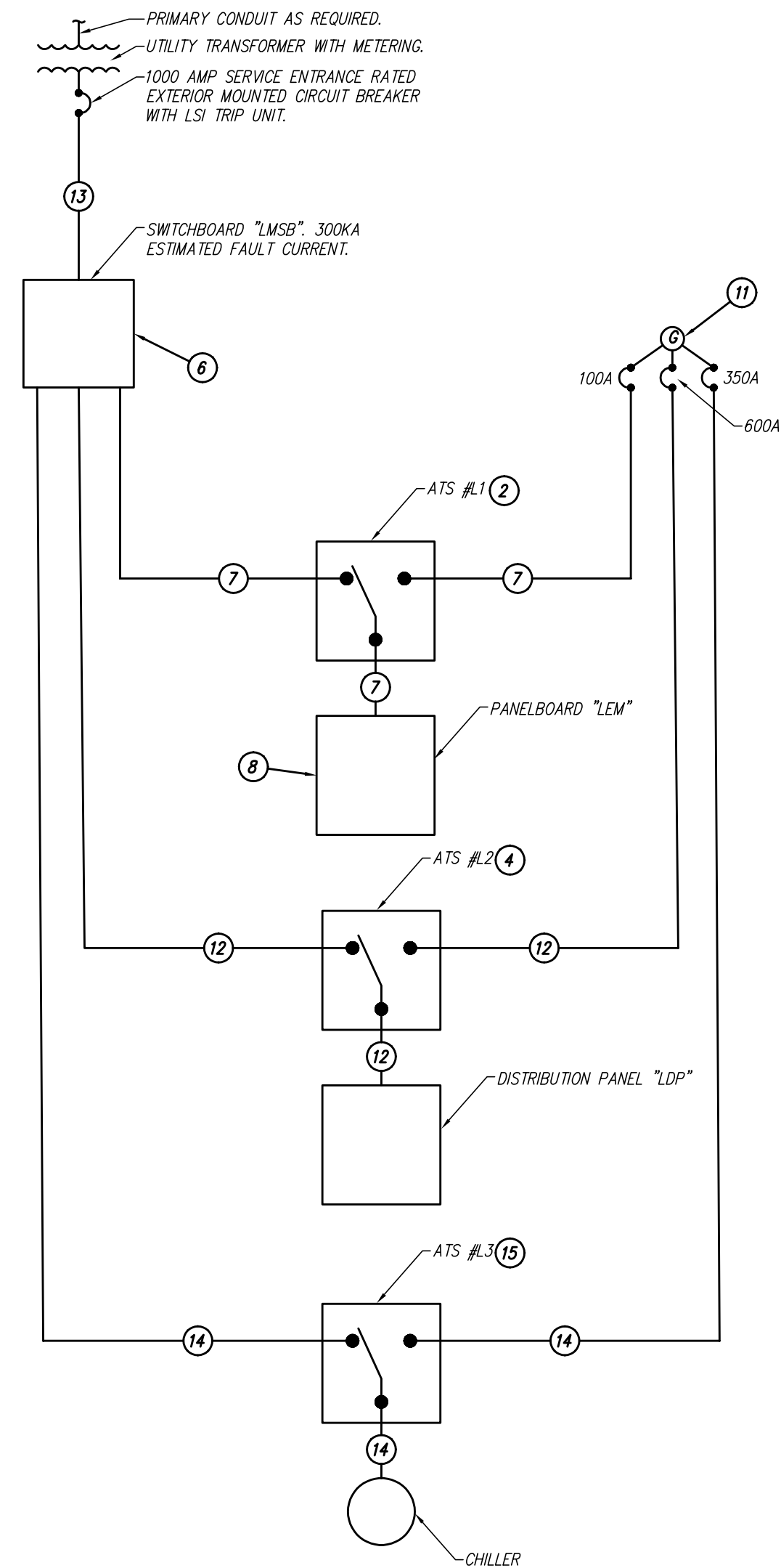
1 SECOND FLOOR ELECTRICAL PLAN - LIBBEY
E2 1/8" = 1'-0"



 1600 Baltimore, Suite 300 Kansas City, MO 64108 Ph. 816-842-8437 WWW.IMEG-CORP.COM	DESIGNED: PJP MWM/BWC TECH. REVIEW: PJP DATE: 06/29/22	SUB SHEET NO. E2	TITLE OF SHEET LIBBEY MEMORIAL PMC SECOND FLOOR ELECTRICAL PLAN PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO. 128 180181 PMIS/PKG NO. 318915 SHEET 14 OF 15


KEYED NOTES:

- ① 400 KW NATURAL GAS GENERATOR, 120/208 VOLT, 3 PHASE, 4 WIRE. PROVIDE WITH THREE OUTPUT CIRCUIT BREAKERS. THE PROVIDED CIRCUIT BREAKERS SHALL BE SELECTIVELY COORDINATED WITH DOWNSTREAM CIRCUIT BREAKERS. A COORDINATION STUDY SHALL BE PROVIDED. THE CIRCUIT BREAKERS PROVIDED SHALL HAVE LSI ADJUSTMENT. GENERATOR SHALL BE INSTALLED AS A SEPARATELY DERIVED SYSTEM. FURNISH AND INSTALL APPROPRIATELY DESIGNED GROUNDING ELECTRODE SYSTEM.
- ② 100 AMP, 4 POLE OPEN TRANSITION TRANSFER SWITCH.
- ③ 100 AMP, 4 POLE OPEN TRANSITION TRANSFER SWITCH.
- ④ 600 AMP, 4 POLE OPEN TRANSITION TRANSFER SWITCH.
- ⑤ 5 SETS (4 #500 MCM W IN EACH 4" C.)
- ⑥ FURNISH AND INSTALL APPROPRIATELY DESIGNED GROUNDING ELECTRODE SYSTEM.
- ⑦ 4 #1 W, 1 #8 GND IN 1 1/2" C.
- ⑧ 42 POLE LIFE SAFETY PANEL.
- ⑨ 3 SETS (4 #500 MCM W, 1 #2/0 GND IN EACH 4" C.)
- ⑩ 2 SETS (3 #250 MCM W, 1 #2 GND IN EACH 3" C.)
- ⑪ 260 KW NATURAL GAS GENERATOR, 120/208 VOLT, 3 PHASE, 4 WIRE. PROVIDE WITH THREE OUTPUT CIRCUIT BREAKERS. THE PROVIDED CIRCUIT BREAKERS SHALL BE SELECTIVELY COORDINATED WITH DOWNSTREAM CIRCUIT BREAKERS. A COORDINATION STUDY SHALL BE PROVIDED. THE CIRCUIT BREAKERS PROVIDED SHALL HAVE LSI ADJUSTMENT. GENERATOR SHALL BE INSTALLED AS A SEPARATELY DERIVED SYSTEM. FURNISH AND INSTALL APPROPRIATELY DESIGNED GROUNDING ELECTRODE SYSTEM.
- ⑫ 2 SETS (4 #350 MCM W, 1 #1 GND IN EACH 3" C.)
- ⑬ 3 SETS (4 #500 MCM W, IN EACH 4" C.)
- ⑭ 3 #500 MCM W, 1 #3 GND IN 4" C.)
- ⑮ 400 AMP, 4 POLE OPEN TRANSITION TRANSFER SWITCH.
- ⑯ PROVIDE WITH TVSS.



LIBBEY ONE LINE

SCALE: NOT TO SCALE

 1600 Baltimore, Suite 300 Kansas City, MO 64108 Ph. 816-842-8437 WWW.IMEG-CORP.COM	DESIGNED: PIP CAD: MWM/BWC TECH. REVIEW: PJP DATE: 06/29/22	SUB SHEET NO. E3	TITLE OF SHEET LIBBEY MEMORIAL PMC ELECTRICAL ONE LINE PRE-DESIGN CONDITION ASSESSMENT AND TREATMENT PLAN FOR THE MAURICE BATHHOUSE AND LIBBEY MEMORIAL PMC HOT SPRINGS NATIONAL PARK	DRAWING NO. 128 180181 PMIS/PKG NO. 318915 SHEET 15 OF 15



Libbey Memorial PMC, Upper Lobby (STRATA, 2022)

APPENDICES

APPENDIX A - REFERENCE DOCUMENTS

HOSP - Condition Assessment and Treatment Plan - Maurice Bathhouse and Libbey Memorial Physical Medicine Center

Hot Springs National Park

PMIS 318915B

NPS MWRO Contract: 140P6020D0004 - Task Order:

LIST OF DOCUMENTS FOR REFERENCE

Received by AE Team	Title	NPS File / Drawing No.	Date	Consultant	Sheets	Format	Repository	Repository
LIBBEY								
x	Original Drawings	128/80066	Undated	Mann & Stern Architects, Little Rock, AR	15 pages		Came from QEA	Not in Park Archives - in State Archives - See Below
x	Second Floor Plan	128/60379		Mann & Stern Architects, Little Rock, AR	1		Came from QEA	
X	Original Specifications		1921	GFB General Specifications Part 1 and Part 2	2 books		Park	
x	Window Details Free Bath House	128/60380			1	PDF	Came from QEA	
x	U.S. Gov't Bath House Conversion	128/80063	1936	Erhart, Eichenbaum and Rauch Architects, Little Rock	3	PDF	Came from QEA	
			1940s	Drawings in mylar stored in archives			Park	in Park Archives
x	Profile of Water Line to Free Bath House	128/60276	1939					
X	Utilities for Free Bath House - Part of Master Plan	2107	1951	NPS Engineering	1 sheet	PDF	Came from QEA	
X	Alterations and Additions - Physical Medicine Center	HS / 3010	1956	Ebhart, Eichenbaum, and Rauch Architects, Little Rock, AR	24 Sheets	PDF	Park	
X	Libbey Memorial Physical Medicine Center Rehabilitation	128/25016A	1987 Repair Docs As-Constructed 1989	Demolition & Asbestos Containing Material Removal & Rehabilitation	9 Sheets	PDF		
	A Planting Plan		1992	NPS				
X	Property Capital Assessment - Libbey Memorial Physical Medicine Center		2003	Lakeshore Architects, Grafton, WI	396 pages	PDF	Park	
X	Historic Structure Report - Libbey Memorial Physical Medicine Center	128/143718	2009	Quinn Evans Architects	341 pages	PDF	Park	
X	RFP -		2014		35 pages	PDF	Park	
X	RFP -		2015		34 pages	PDF	Park	
	Floor Plans / Electronic Files		2009	Quinn Evans Architects		CAD		
MAURICE								
	Floor Plans / Electronic Files					CAD		missing external reference links
	Site Plans							Yes, some of Stone Arch Projects available
	Original Drawings - None exist							
x	1915 Maurice Renovations	126/60092	1915		8	PDF	From HSR	
x	1937 Proposed Additions - Not Built	125/60095	1937		1	PDF		
x	1937 Proposed Additions - Not Built	125/60497	1937		5	PDF		
x	1943 Pool Ramp	125/8021	1943		1	PDF		
x	Historic Structure Preservation Guide for the Maurice Bathhouse		?	DSC, NPS	168	PDF	IRMA	

Meeting Notes

1. Site Visit Closeout Meeting Notes, 3/10/2022
2. Online Discussion on Uses to Explore for Pre-Design Efforts for Maurice and Libbey, 3/24/2022
3. Online HVAC Alternatives Workshop for Maurice and Libbey (with comparison tables), 3/28/22
4. Online Libbey Multi-Park Storage Facility Discussion, 3/31/2022
5. Online Fire Protection Meeting, 4/5/2022
6. Online Fire and Life Safety Code Review Meeting, 4/7/2022
7. Online Libbey Multi-Park Facility Programming and Maurice Spa Café Programming Discussion, 4/11/2022

APPENDIX B - MEETING NOTES

SITE VISIT MEETING NOTES

Predesign Services - Condition Assessment and Treatment Plan Maurice Bathhouse and Libbey Memorial Physical Medicine Center (LMPMC)

Hot Springs National Park (HOSP)
PMIS 318915B

Re: Site Visit Closeout Meeting

Date: 3/10/2022

Attendees:

Laura Miller, Superintendent, HOSP
Mark Scott, Facility Manager, PM, HOSP
Tom Hill, Curator, HOSP
Angie Gaebler, STRATA
Jennifer Henriksen, Quinn Evans
Phil Parra, Electrical Engineer, IMEG
Stuart Braden, Mechanical Engineer, IMEG
Ralph Jones, Structural Engineer, SEA
Philip Steed, Structural Engineer, SEA
John Rosemurgy, COR, Historical Architect, Cultural Resources (Phone)
Brian Leaders, GAOA Program Lead (Phone)
David Lieb, PM, DSC (Phone)
Missy Smothers, Chief of Business Services, HOSP (Phone)

Discussion:

1. Introductions
2. Drawing and Document Coordination
 - a. Many thanks to Tom and Mark for tracking down drawings for us this week (both hard copies and electronic scans)
 - b. Libbey - Are there drawings available for the Libbey Roof replacement project? If not, any project files or photographs?
 - c. Are there historic paint analysis documents available for Libbey?
3. Schedule upcoming Mechanical/Electrical Meeting. Park has requested the week of March 28. John will coordinate this.
4. Items to be Provided (Not in Current Contract):
 - a. Scoping of all drains in Maurice and Libbey
 - b. Site Survey at Maurice and Libby to update utilities
 - c. Hazardous Materials – existing reports are out of date.
 - d. Attic Access in Libbey – may need to provide some type of platforms for access to assess attic space.
 - e. Civil Engineer for Spring Management in Maurice
 - f. Historic paint analysis
5. Thermal Water project that is concurrent with our project (KHA and HDR) collection and distribution study.
 - a. KHA project will provide new thermal water to both buildings.

- b. Our team is responsible for water inside the building.
 - i. 4" hot and 3" cold thermal water is roughed-in.
 - ii. What is capacity/flow of the thermal water system? Park will assist.
6. Libbey –
- a. Architectural –
 - i. Door not latching in men's shower room (second level) to the exterior stair.
 - 1. Mark will check this.
 - ii. Leak at west wall not readily visible. Leak is active, as there is water in the wall.
 - 1. May require tile removal during SD to inspect flashing and detailing at wall and gutters.
 - 2. Are there documents/photographs available for the new roof installation?
 - b. Structural –
 - i. Not a lot of life safety concerns
 - ii. Use caution – there is delaminating concrete overhead
 - iii. Park may want to finish cleaning up loose glass from laylights
 - iv. SEA is hoping that the high-resolution scans of the original drawings may yield further information that will help with the documentation of the reinforcing.
 - c. Mechanical
 - i. Vintage boilers.
 - ii. Gas service not on.
 - iii. New mechanical equipment will need to be placed on site.
 - iv. Thermal water drain in north areaway – portion of the boot is missing, and the grate is not draining all of the water. There is standing water in the areaway.
 - v. 4" hot and 4" cold thermal water is roughed-in.
 - d. Electrical
 - i. Electrical Services (Existing and New)
 - 1. Grounded leg – system is active
 - 2. Could not find the second service outside – it is possible this is an underground splice?
 - ii. Generator will need to run the entire building if archival storage OR business
 - 1. Would want natural gas generator
 - iii. New electrical equipment will need to be placed on site.
 - e. Fire Protection
 - i. The existing fire alarm system is not active
 - ii. There is no water line rough-in for a fire sprinkler system at Libbey
 - iii. Will need to look at water service pressure, flow, and available city main size.
7. Maurice –
- a. Architectural –
 - i. Does the part anticipate repairing or replacing the skylights?
 - 1. Replace
 - ii. Elevators
 - 1. Existing elevators may stay as historic artifacts, if allowed by code.
 - iii. Roof:
 - 1. Due to the rain, we were able to identify a few roof leaks over the south and west sides of the north stair.
 - 2. There are areas of the roof that are not draining properly (ponding).
 - 3. Drains that use the old flue (boiler stack) are very close to where these leaks are located.
 - 4. Will need overflows...parapet drains may be an option. There are existing overflow scuppers on most of the roofs.
 - 5. The NE roof is bucking and bubbling.
 - 6. Looked at clay tile roof

- a. Some areas where valley flashing does not appear to have been installed as it should be.
 - 7. Park may want to remove the voluntary tree over the NE roof that is dropping berries and discoloring the skylight and roof.
 - iv. Fall Protection:
 - 1. The public can easily access the area north of the Maurice (from the hillside). This is a very unsafe condition and a potential fall hazard. The team recommends the Park install a fence at the NE corner of the building to prevent the public from accessing the hillside.
- b. Structural
 - i. Settlement Issues
 - 1. As-built drawings found yesterday show underpinning during an earlier project.
 - 2. Grouting at corners does not appear to have been done to the level needed. These areas would benefit from additional GPR testing to confirm extent of grouting during Schematic Design.
 - ii. Testing On-Site This Week:
 - 1. Included GPR testing on reinforcing steel at beams and slabs.
 - 2. Western Specialties (Contractor) chipped out concrete to view size and spacing at areas approved by Mark. These areas were patched.
 - iii. Crawlspace:
 - 1. This is considered to be a 'confined entry' space. Therefore, no testing was done in this area.
 - 2. This will need further testing during Schematic Design.
 - iv. Findings:
 - 1. All steel reinforcing bars are smooth (not deformed like we use today)
 - 2. There is some debonded concrete at beams. The Park might proceed with removal of these loose materials, so they do not fall and hurt anyone.
 - v. The Roycroft Room has cracks in the brick pilasters between the windows which is directly below the beams. These will need to be braced during repairs.
 - vi. Skylights in the bath house (first floor men's and women's) need tension bracing. The thrust of the skylights is pushing walls outward. This is the same issue with the walls at the back U-shaped gabled roof areas, where the roof framing is creating thrust and causing movement in the walls. Some additional framing has been added, but it is likely not adequate.
 - vii. HVAC equipment on the first floor may not have had loads calculated/structural analysis. There are very large penetrations through the slabs.
- c. Mechanical –
 - i. Note that major mechanical systems are on the first floor of all buildings on Bathhouse Row due to flooding.
 - ii. Gauge of existing ductwork may be an issue, as they are sagging. This will require further inspection if any is to be reused.
 - iii. Can use existing chases and soffits for mechanical, fire prevention, and electrical distribution
 - iv. Existing exhaust fan in the basement is not on. May be a faulty humidistat? IMEG was able to hotwire this to turn it on, so it works. This needs to be addressed to provide some air movement in the crawlspace and basement.
 - v. Has 2" water service.
 - vi. Has 6" water service roughed-in for fire.
 - vii. Will explore different types of mechanical systems.
 - viii. Thermal water in place could be used for preheating. Thermal water could also be used for pool.
 - ix. Internal roof drains are collected in the basement pool. This needs to be changed. The roof will require new overflows. See note on overflows above.
- d. Civil –
 - i. The exterior runnel along the north side of the building has a drain that was covered with several inches of mud, debris, and trash. We attempted to clean this out, but this needs a more aggressive cleaning. A beehive strainer should be installed over the

drain. This area likely fills with water and leaks into the north wall of the building during heavy rains. This runnel drains an enormous amount of water from the NE roof, the hillside, the north lawn, and the west roof over the sunporch.

- ii. Spring management in the basement will be required as part of the Schematic Design services.
- iii. Previous attempts have not worked.
 - 1. The drains in the bottoms of the concrete collector boxes are plugged or draining very slowly.
 - 2. The park might be able to temporarily bring water from the side of the tank (above the drain line) instead of the bottom to avoid silting up.
 - a. Long-Term: Design team suggested running covered trenches from collection basins to the sump pit to allow cleaning of trenches, so they do not plug up.
- e. Electrical
 - i. Reviewed existing electrical service. 1st floor panel was meant to be temporary and is possibly over-dutied. It also does not meet fault current requirements.
 - ii. Panels on 2nd and 3rd floor may remain.
 - iii. Will not reuse branch circuit conduit. They are all too rusted out. Some of the conduit has been reused for current lighting, which is not recommended.
- f. Fire Protection
 - i. Fire alarm system is not active.
 - ii. Will need to look at water service pressure
- g. Fiber Service
 - i. Existing fiber service at the end of the pool services other buildings. This will need to be relocated prior to construction.

Action Items:

- A. Mark will check out the humidistat/exhaust fan in Maurice basement/crawlspace to get it working.
- B. Tom will check to see if there are any documents for paint analysis at Maurice.
- C. Mark – Our team will need capacity/flow of thermal water systems into Maurice and Libbey from KHA/HDR team when available.

END OF NOTES

ONLINE MEETING NOTES

Predesign Services - Condition Assessment and Treatment Plan Maurice Bathhouse and Libbey Memorial Physical Medicine Center (LMPMC)

Hot Springs National Park (HOSP)
PMIS 318915B

Re: Discussion on Uses to Explore for Pre-Design Efforts for Maurice and Libbey

Date: March 24, 2022

Attendees:

Laura Miller, Superintendent, HOSP
Angie Gaebler, STRATA
John Rosemurgy, COR
Brian Leaders, Regional Office

Discussion:

1. Building Code:
 - a. Region wants the team to use 2021 Building Code.
 - b. City of Hot Springs uses 2012.
2. We briefly discussed the upcoming HVAC/Electrical online meeting for next Monday. Our team has prepared an agenda. The focus will be on the tight space available and constraints for equipment at Maurice.
3. Maurice Uses
 - a. Option 1 –
 - i. Spa with support Café (may use the Roycroft Room as part of the cafe/bar/tasting room).
 - ii. Basement to emphasize reuse of the pool.
 - iii. Not interested in overnight use due to code requirements.
 - b. Option 2 –
 - i. Restaurant and retail with event space.
 - ii. Upper floor spaces may become office, but it's unlikely these would be good office spaces due to no onsite parking.
4. Libbey Uses
 - a. Option 1 – Combined Curatorial Archives and Law Enforcement with Museum use in the west side second level bathing room (locker room (maybe), bathing room, toilet room, and shower room).
 - b. STRATA provided an overlay of the available square footages per floor to show where mechanical, circulation, toilets, and available office areas are located.
 - i. There is not enough room to accommodate both programs provided by the park for the Curatorial and Law Enforcement uses.
 - ii. It was agreed that Angie would work on a few 'test fit' options to demonstrate to the park what will fit. It is understood that certain items on the department's wish-lists may not be accounted for in the building and may remain off-site in another park building.
5. Regional Head Curator – John will set up a time to discuss further required programming and security requirements with Heather Young for next week.

Action Items:

- STRATA to provide test fit options for Libbey

END OF NOTES

ONLINE MEETING NOTES

Predesign Services - Condition Assessment and Treatment Plan Maurice Bathhouse and Libbey Memorial Physical Medicine Center (LMPMC)

Hot Springs National Park (HOSP)
PMIS 318915B

Re: Discussion on HVAC Alternatives for Maurice and Libbey

Date: March 28, 2022

Attendees:

Laura Miller, Superintendent, HOSP
Mark Scott, Facility Manager, HOSP
John Rosemurgy, COR, NPS
Brian Leaders, Regional Office, NPS
David Lieb, Project Manager Denver Center, NPS
Angie Gaebler, STRATA
Claire Ashbrook, STRATA
Phillip Parra, IMEG
Stuart Branden, IMEG
Philip Steed, SEA
Gania Kandalajt, Quinn Evans

Action Items:

1. STRATA to draft an e-mail to Brian Leaders outlining the Design Teams questions about NPS requirements for Energy Modeling and Efficiency. Email to outline what energy updates will be happening at the building.
2. NPS to provide Design Team with information about water pressure for both Maurice and Libbey.
3. STRATA to provide a list of supplemental work that needs to happen including hazmat testing and site survey work.

Discussion:

1. Objectives: online workshop objective is to arrive at a preferred system for the buildings.
2. See attached Tables attached: *Maurice and Libbey Mechanical Systems Comparisons*.
2. Maurice Existing Systems:
 - a. 6" water line roughed in, which should be more than enough. It is in a bad place if the pool will be rehabilitated.
 - b. No fire pumps and booster pumps in other bathhouses reviewed.
 - c. 2" water main comes into the southeast corner of the building, which seems small for the size of the building (this could handle 13 water closets). Also has a 1.5-inch backflow preventer installed.
 - d. Gas service is too small and currently only provided to the water heater. Needs to be upgraded.
 - e. Basement is getting drainage from the springs. There were attempts to harness that water, but they have failed. This is an immediate repair.
 - f. There is currently a 30-ton chiller installed and the building most likely needs a 90-ton chiller (7-feet wide and 20-feet long). Currently, the Hale has part of its equipment housed on the

- Maurice property. To have enough room to house the new Maurice equipment, the Hale equipment would need to move.
- g. The design team does not know the waste and vent piping system routing. If NPS wants to continue using these pipes, then it would be worth scoping these pipes to determine their routes and condition.
 - h. Single Zone Direct Expansion System (DX) system (routed in the basement) was installed. The ductwork is too light-gauged and needs to be replaced. Steam piping remaining throughout the building needs to be removed.
 - i. Roof drains are currently piped into the basement pool. The Team is not sure if the pool drains to the stormwater drain or the sanitary drain. If it drains into the sanitary drain, this does not meet code.
 - j. Fordyce does have a hydronic system (VAV System). Quapaw Baths have a DX system with several mini-split systems. Superior Bathhouse voices they have concerns about their current system heating and cooling the front space.
 - k. The existing site sets roughly 4'-0" below the first floor.

3. Maurice Proposed Mechanical Systems:

- a. Option 1A (Preferred): Chilled system (Air-cooled chiller) that would serve VAV air handling units with VAV boxes with hot water reheat coils per space. High-efficiency hot water condensing boilers would be the building heating source that would serve the air handling units, VAV box coils, and unit heaters. The Hot Springs would be used for preheating water. A dedicated aquatics-type air handling unit with dehumidification would be provided to serve the thermal pool. This is the design team's preferred option.
- b. Option 1B: This option is similar to Option 1A except that smaller spaces and spaces with limited ceiling heights (such as offices and small retail spaces) could be served by 4-pipe fan coil units. These units can be horizontally ducted in a ceiling plenum, vertical ducted in a mechanical closet, or horizontal exposed wall-mounted units below a window. Areas served by these fan coil units would require the use of a dedicated outdoor air system (DOAS), hopefully with some sort of energy recovery (enthalpy wheel, flat plate heat exchanger, or hydronic loop) to supply ventilation and pressurization air to those spaces. The DOAS units can be packaged (self-contained cooling and gas heating) roof-mounted units or hydronic indoor units
- c. Option 2: VRF (Variable Refrigerant Flow) system teamed with DOAS Units. We recommend that the VRF system be a heat recovery system as there will likely be spaces that will require heating year-round and systems in cooling mode can transfer heat to those areas requiring heating. Some air handling units will still be required to serve larger spaces and would need to be DX split systems.
- d. Add dehumidifiers in the unoccupied spaces in the basement to keep it dry.
- e. If the kitchen requires a Type 1 grease hood, a kitchen hood exhaust fan will be required along with a hood make-up air handling unit with both heating and cooling. These can either be self-contained or hydronic like the DOAS units.
- f. Air handling unit is a unit that is inside the building. A roof unit is a self-contained unit that is either on the roof or on the side of the building. A dedicated outdoor air system is a means to temp outside air prior to bringing it into the building.
- g. The park has a project at Lowell where they looked at a VRF system and discovered they would not have had much money savings. VRF can minimize the need for ductwork, the outdoor system exchange will also be smaller. The disadvantage is that they are not really made to support large spaces and so you would need several of them.
- h. One mechanical room vs. mechanical room on every floor: If multiple mechanical rooms were installed, the Team would keep mechanical rooms stacked on the north side of the building.
 - The group also discussed installing a north mechanical room and a south mechanical room on the third floor and not having a mechanical room on the second floor.
 - The park noted that the third floor has better views compared to the second floor.

- j. How do you separate utility costs? Team thinks they would have an energy management system installed that could track and calculate usage. The usage numbers could be used by the leaser to divide usage costs. The team could also design sub-metering.
 - Currently, the park buildings are all single-use occupancy and NPS believes that the Maurice will be a single user that would sublease the space.
 - The design team will provide a guideline within the report on what the system can handle when it comes to future tenants.

4. Libbey Existing Systems:

- a. 3" water line that enters the building.
- b. No booster into the building and no fire suppression within the building. A new fire service line would need to be brought into the building.
- c. Thermal water system is leaking and the overflow of the thermal fountain ties into the roof drainage system.
- d. HVAC system was served by three boilers. A lot of the steam piping has been removed. The air-system that is existing is almost 80 years old. A lot of the main ductwork has been removed.
- e. Attic is full of large ductwork that serviced the second floor. The ductwork was installed independently per floor.

5. Libbey Proposed Mechanical Systems:

- a. Option 1 (Preferred): An air-cooled chiller that would serve dedicated air handling units for the three defined spaces including Law Enforcement, Curatorial, and Museum. The Law Enforcement AHU would likely be a VAV air handling unit with individual VAV boxes with hot water reheat coils to serve those spaces. Depending on the size and number of rooms in the Museum area, the AHU serving that space could be either a VAV AHU like noted above, or a single zone air handling unit. Curatorial would have an upgraded system that would include high-efficiency filtration, carbon/potassium permanganate filtration, humidification, dehumidification with minimum outside air. High-efficiency condensing water boilers would be provided to supply heating water to the air handling units, VAV reheat coils, and unit heaters. This is the design team's preferred option.
- b. Option 2: A VRF system teamed with DOAS Units could be provided to serve smaller spaces similar to the systems discussed in Option 2 for Maurice.

6. Libbey Electrical:

- a. (2) 200 amp system that enters the building on the northwest side of the building. These are older systems that we would not recommend using anymore. Recommend removing both services and installing a new 800 amp system. The design team is currently planning for a 120/208 volt system.
 - The Design Team believes it would support two elevators.
 - 250 kVA natural gas generator is planned to be installed. Space will be needed on site for the new generator. It will be very large.
 - Plan on all new IT set-up
 - New fire alarm system would need to be replaced.
 - Plan on all new services for Libbey
 - Gas service will need to be confirmed as acceptable to serve the generator.
 - The IT system is old and appears to be copper. A new IT service will need to be planned.
 - The fire alarm system is not active. It is likely that a new system will be needed for the new space function.

7. Maurice Electrical:

- a. 120/208 volt system enters on the north side of the building. There is an exterior disconnect located on the north. The existing system is in good condition, and the existing service could

remain. One panel located in Mechanical 103 may need to be replaced. The other panels throughout the building most likely can remain. The existing panels are single-section panels, which might require additional sub-panels.

- There is an existing fire alarm system in Maurice. It is currently not on and not providing any coverage. It is likely that a new system will be needed for the new space function.
- The IT system enters the building at the south end of the pool. The service provides connections for the pump house and the visitors center. If the pool is to be activated the IT services will need to be planned to be moved.
- Generator to provide full back-up, 450 kVa natural gas generator would be required. It would need to be located on the north side of the building. The Design Team is currently looking at natural gas generators. Gas service will need to be confirmed as acceptable to serve the generator.

8. Energy Modeling and Efficiency:

- a. Does the park want the exterior walls to be insulated? NPS will run the question by the facility management team and requested that STRATA draft an e-mail explaining the situation.
- b. Will be replacing windows at Libbey. Storm windows will be installed a Maurice. Exterior doors will be upgraded.

9. Additional Discussion:

- a. Updated site survey for Maurice and Libbey needs to be completed. This will help with accessibility studies, documenting utilities, and drainage.
- b. Manholes at Libbey on the east side that has values. The design team and park believe it is connected to pool drainage.
- c. The design team has identified concerns where additional testing is required for hazardous material.
- d. Finding pressure for City water at Libbey and Maurice. The Park will work to get that information for the design team.

END OF NOTES

NPS HOSP - Maurice Mechanical Systems Comparisons - Online Meeting 3/28/2022

System	Component	Pros	Cons
Hydronic Systems with Air Handling Units (Preferred System)	Chiller	More efficient than equipment with DX coils and remote condensing units.	Can be more expensive than one-to-one AHU's with DX coils depending on number of AHU's required
		Better unloading capabilities and dehumidification control than straight DX systems	Requires more equipment
		Only one outdoor unit to serve multiple pieces of equipment	Requires more qualified maintenance experience
	Chilled Water Pumps	Required for circulating chilled water to air handling units and fan coil units	Additional equipment to maintain
	Hot Water Boilers	Very efficient heat source	Venting and combustion air ducting required
		Better temperature control and unloading than gas furnaces or electric coils	Requires more qualified maintenance experience
	Heating Water Pumps	Required for circulating chilled water to air handling units and fan coil units	Additional equipment to maintain compared to electric coil heating sources
	Hydronic Piping	Required for chilled and hot water distribution piping	Larger than refrigerant piping or electric conduit
	Air Handling Units	Generally one source of maintenance compared to fan coil units	Requires single larger mechanical room
		More options such as higher levels of filtration, humidification, dehumidification, free cooling with economizer	Larger ductwork
		More robust and longer life span than fan coil units	Unless serving single zones, requires terminal units or reheat coils
	Terminal Units	Typically variable air volume boxes (VAV) provide more precise temperature and ventilation control	Typically requires either heating water or electric reheat coils
		Less maintenance than a fan coil unit (box damper and coil)	Fan coils require regular filter replacement, motor and coil maintenance
	Fan Coil Units	Will be required for 3rd floor spaces due to low floor-to-floor height. Units are smaller than air handling units	More units are required
Ductwork is typically smaller		More units are required	
Can be horizontal concealed above a ceiling, horizontal exposed, vertical concealed, vertical exposed or closet mounted		Each unit requires motor, filter, coil and controls maintenance.	
DOAS Unit	Each unit supplying occupied spaces requires separate outside air ventilation	Requires dedicated outside air supply (DOAS) units or separate ducted outside air connections	
	Can be supplied with energy recovery (wheel, flat plate heat exchanger or run-around) loop to preheat and/or precool outside air using exhaust air or relief air as the heat exchange source.	An extra piece of equipment to maintain. If supplied with energy recovery, this would require a higher level of maintenance technician.	
Hydronic Systems with Fan Coil Units	Chiller	Decouples conditioning of outside air from the air handling units.	Requires mounting outside of building (self contained) or indoors with ducted outside air and exhaust to unit to the outside and supply and exhaust air to the indoor units or spaces.
		See comments above	See comments above
	Chilled Water Pumps	See comments above	See comments above
	Hot Water Boilers	See comments above	See comments above
	Heating Water Pumps	See comments above	See comments above
	Hydronic Piping	See comments above	See comments above
	Fan Coil Units	Units are smaller than air handling units	Fan coil units do not have as wide of options as air handling units such as high efficiency filtration options, unit mounted humidification, access and other options than AHU's do. Air handling units may be required to serve areas needing more options than can be provided by fan coil units.
		Ductwork is typically smaller	More units are required
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Variable Refrigerant Flow System	Heat Pump Condensing Units	Decouples conditioning of outside air from the air handling units.	Requires mounting outside of building (self contained) or indoors with ducted outside air and exhaust to unit to the outside and supply and exhaust air to the indoor units or spaces.
		In heat recovery form they can be very efficient. Indoor units requiring cooling can exchange heat with those requiring heating.	Requires multiple indoor units similar to the fan coil units noted above. Large spaces may require multiple units to serve the same
	Indoor Units	Can exchange heat between individual indoor units	Indoor units, like the fan coil units noted above, can not serve as large spaces as air handling units and do not have as many options as air handling units.
		Can be horizontal concealed above a ceiling, horizontal exposed, vertical concealed, vertical exposed or closet mounted	Each indoor unit requires motor, filter, coil and controls maintenance.
		Each unit supplying occupied spaces requires separate outside air ventilation	Requires dedicated outside air supply (DOAS) units or separate ducted outside air connections
	DX Air Handling Units	May be required if space is larger than a single VRF unit can serve or if rooms need components to provide environmental requirements that the VRF indoor units can't provide	Since this is not a hydronic system the air handling units require a DX cooling coil and remote condensing unit and depending on size that can be large. If the unit requires heat an electric heating coil would be required.
DX cooling is a simpler system than chilled water		DX cooling does not provide as precise part load control and dehumidification	
Refrigerant Piping	Refrigerant piping is typically smaller for the same capacity (tonnage) than chilled water piping	Refrigerant piping lengths are elevation changes are limited and must be run at the correct slopes and other requirements to not trap oil in the system	

NPS HOSP - Libbey Mechanical Systems Comparisons - Online Meeting 3/28/2022

System	Component	Pros	Cons
Hydronic Systems with Air Handling Units (Preferred System)	Chiller	More efficient than equipment with DX coils and remote condensing units.	Can be more expensive than one-to-one AHU's with DX coils depending on number of AHU's required
		Better unloading capabilities and dehumidification control than straight DX systems	Requires more equipment
		Only one outdoor unit to serve multiple pieces of	Requires more qualified maintenance experience
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	Hydronic Piping	See comments above	See comments above
	Fan Coil Units	Units are smaller than air handling units	Fan coil units do not have as wide of options as air handling units such as high efficiency filtration options, unit mounted humidification, access and other options that AHU's do. Air handling units may be required to serve areas needing more options
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Decouples conditioning of outside air from the air handling units.		Requires mounting outside of building (self contained) or indoors with ducted outside air and exhaust to unit to the outside and supply and exhaust air to the indoor units or spaces.	
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		DX cooling is a simpler system than chilled water	DX cooling does not provide as precise part load control and dehumidification
Refrigerant Piping	Refrigerant piping is typically smaller for the same capacity (tonnage) than chilled water piping	Refrigerant piping lengths are elevation changes are limited and must be run at the correct slopes and other requirements to not trap oil in the system	

ONLINE MEETING NOTES

Predesign Services - Condition Assessment and Treatment Plan Maurice Bathhouse and Libbey Memorial Physical Medicine Center (LMPMC)

Hot Springs National Park (HOSP)
PMIS 318915B

Re: Libbey Multi-Park Storage Facility Discussion

Date: March 31, 2022

Attendees:

Laura Miller, Superintendent, HOSP
Tommy Hill, Museum Curator, HOSP
John Rosemurgy, COR, NPS
Brian Leaders, GAOA Program Manager, NPS
Heather Young, Museum Program Manager, Region, NPS
Angie Gaebler, STRATA
Claire Ashbrook, STRATA

Action Items:

1. NPS (John Rosemurgy) to schedule a meeting with Don Boucher. Meeting to include Tommy Hill, Laura Miller, Angie Gaebler, Claire Ashbrook, IMEG, Brian Leaders, and Heather Young.
2. Heather Young to determine what parks would be interested in using the multi-park storage facility and what their archival/storage needs are.
3. NPS (John Rosemurgy) to schedule a meeting with STRATA and Kevin Schluckebier for code questions.

Discussion:

Meeting Objective: Review the needs for a multi-park storage facility and determine if the needs can be met within Libbey.

1. Program needs were reviewed.
 - a. Law Enforcement and Curatorial Uses:
 - i. 12,000 net square feet of program space was wanted by both groups, and Libbey only has 10,000 gross square feet per floor).
 - ii. That 10,000 gross square feet per floor includes a large amount of circulation, mechanical, storage, and restroom spaces, which were not included in the programming efforts of the Curatorial or Law Enforcement uses.
 - b. Even with reducing square footage requests for several areas, The Design Team determined there is not enough square feet available in the Libbey for both uses to share the building without making major cuts to each of their programming requirements.
 - c. Square Footage Available for Archival Space: Upper Floor is 6200 SF. On the lower level roughly 5800 SF.
2. Multi-Park Storage Needs:
 - a. Heather identified that for a multi-park storage facility to be successful and approved, it needs to be beneficial for all parks that would use the facility.
 - a. Question for NPS: How many museum facilities are we eliminating at other parks? What storage facilities are being relocated at Hot Springs?

- b. Question for NPS: What are the curatorial and archives special needs of the other parks?
 - c. Question for NPS: Are there any risks with the Libbey Facility? Is the Libbey Facility going to be a higher-risk building or a lower-risk building compared to current park archival storage?
 - d. Current Hot Springs Curatorial Facility: Hot Springs plans to move all curatorial departments and storage out of the Lamar facility and into the Libbey.
 - Natural Resources (currently on the second floor) might remain at Lamar, as well as the NPS training rooms.
 - Current SF Requirements for Archival: (Tom at Hot Springs calculated the SF of what Hot Springs is already using and increased the number. NPS notes that with the new facility, the archival materials will be stored in a new way that will require less storage space (shelves will stack). The square footage figured includes all Hot Springs storage, including the Bally building, not just the storage in Lamar.
 - e. Other Hot Springs Archival Items: Ozark Bathhouse currently has art on display that is owned by NPS. If Ozark Bathhouse was leased, the art would need to move to the new archival storage.
 - f. Another Consideration for Libbey: The Forest Service might consider curatorial and lab space in the Libbey. This would make Libbey a Multi-Park / Multi-Agency Facility. Heather mentioned this gets complicated, and the facility would have to have clear entrances and interior separations.
 - g. Other Parks that might use the Facility:
 - William Clinton Birthplace
 - Arkansas Post (archeology collection is stored at the University)
 - Fort Smith Fort Smith is stored at the maintenance building in the park and mainly consists of historical items and archives. Fort Smith's storage might be the same size as Lamar's training room and has rolling shelves, as well as a workspace for cataloging. Fort Smith does have furniture within their archives, but it is held at another building in town. Fort Smith's building is around 20 feet long and 10 feet wide (Bally building) without HVAC.
 - Buffalo (a portion of Buffalo archives are stored in Bally building - Laura could see Buffalo interested in moving).
 Parks not likely to move:
 - Pea Ridge (Currently stored in Independence)
 - Central High School (Heather does not see Central interested in moving. They have a good facility)
3. Heather mentioned that Midwest Region has MWAC as a back-up archeology storage facility.
4. Keweenaw is only 11,000 SF (only storage space), and their collections are much bigger than Hot Springs and the other parks identified as possible tenants of the Multi-Park Storage Facility.
5. Programming Specific to Libbey:
- a. Aisle space and space for movement needs to be considered for the new facility.
 - b. Libbey's historic lobby could have open offices located there or even the training space.
 - The Design Team found evidence that the interior of the lobby was divided for office space (in historic pictures).
 - c. Elevators:
 - Libbey currently has one normal-sized elevator. It's not clear if this meets current accessibility requirements.
 - The Park discussed adding a new freight elevator.
 - Does the Park want to maintain two elevators?
 - Long-term, the Park believes that one option would be to demolish the existing elevator and install a single freight elevator. STRATA pointed out that the existing elevator location will not work for a larger freight elevator – the constraints are too small.
 - The other option, which the Park agreed to, is that the existing elevator will remain and be upgraded, and that large items can be brought to the north (front) entry, if

needed to store on the upper level. This will save funding to be spent on structural improvements required.

- b. Fire Suppression:
 - There is no current system installed at Libbey.
 - John will schedule meeting with Don Boucher at Region.
 - Look at all options
 - There is no insulation in the attic.
6. Libbey Project Moving Forward:
- a. What does it mean to the Park if the Libbey cannot serve both Law Enforcement and Curatorial? Laura indicated that Law Enforcement can maintain using the space in the Duplex.
 - b. Is there support within the Region to have a Multi-Park Storage Facility?
 - i. It was believed by the group that it was supported within the region. It was noted that the regional facility plan has been updated.
 - ii. Region has a 5 to 10-year plan that currently identifies Keweenaw as the region's first multi-park facility priority, and Hot Springs is second on the list.
 - iii. For a Multi-Park Storage Facility to be fully supported, the park will need to get commitment and support from other parks.
 - c. If the Libbey Storage Facility moved forward as a single park, the Park may face questions from DC on why they are not creating a white box facility.
 - d. GAOA money is for the shell of the building and white box of the building interior.
 - e. If the Park moves forward with the Libbey as the Multi-Park facility, and the funding only pays for the shell and white box interior, the park does not know what funding source would be available for completing the interior.
 - f. The Park has a gift (roughly \$400,000) that is supposed to be used for curatorial shelving. The Park has not brought this idea in front of BIRB.
 - g. The group has agreed that the location for Libbey may not attract leasees. The best use for the structure, is likely the Park.
 - h. Are there other funds available to convert Libbey into a Multi-Park Storage Facility? Currently, no one is aware of any funding.
 - i. The group discussed talking with BIRB about planning and remodeling of Libbey for the multi-park facility was the best move. There are concerns about this conflicting with the GAOA money statement, as this project was initially developed to fund a white box for leasing. Laura said she spoke with Tokey Boswell and understood it was okay to proceed forward with BIRB identifying Libbey as a storage facility.
 - j. The existing Hot Springs empty archival storage cabinets weigh +/-800 pounds.
 - k. STRATA mentioned that the upper level cannot structurally support heavy loads without modification.
 - l. Conservatively, Libbey might provide 8000+/- sq/ft of storage space.

END OF NOTES

ONLINE MEETING NOTES

Predesign Services - Condition Assessment and Treatment Plan Maurice Bathhouse and Libbey Memorial Physical Medicine Center (LMPMC)

Hot Springs National Park (HOSP)
PMIS 318915B

Re: Discussion on Fire Protection

Date: April 5, 2022

Attendees:

John Rosemurgy, COR, NPS
Don Boucher, Structural Fire Management Officer, NPS
David Lieb, Project Manager, NPS
Jennifer Claster, Project Manager, Denver Service Center, NPS
Mark Scott, Facility Manager, HOSP
Angie Gaebler, STRATA
Claire Ashbrook, STRATA
Stuart Braden, IMEG

Action Items:

1. Don Boucher indicated he would reach out to Hot Spring Fire Department and determine how they would use a standing pipe system (to be included with the schematic design efforts)
2. STRATA to discuss options for the systems with Heather and the Park for Libbey.

Discussion:

- Objectives: Review the needs for fire protection for Libbey and Maurice
- Libbey Fire Protection
 - Reviewed the plan.
 - Building has smoke detectors, but they are not hooked up.
 - We do have enough water pressure to support a wet fire suppression line.
 - General philosophy is to keep it as simple as possible. Use Dry or Pre-action systems if there is major concern for the objects.
 - Better if you could do a separate system for archival areas of the building.
 - The more compartmentalization in the design, the better. (Create fire rating between different departments to contain highly flammable materials). Consider 2-hours walls for fire ratings.
 - Initial system could be a Clean Agent system with the sprinkler as a backup.
 - Nitrogen is what is being used for a dry pipe system. Want to go with a nitrogen generator (not bottles).
 - Dry may require a pump to meet the sixty second regulation requirements.
 - In locations where there is a true archival system, the design team might want to look at a Clean Agent system. The sprinkler system would be retained in those locations as a backup. NPS does this where the storage is in a more remote location (45 min response time by fire department). This type of system was installed at Effigy Mounds. This is not the case here.
 - Archives can be placed in fire-rated cabinets for important archival material (they already have several of these cabinets).

- Maurice Fire Protection
 - Reviewed the plan.
 - With a Pre-action system, you add an alarm system into the mix. Typically, the alarm system will pick up the smoke before the sprinkler head. Use a smoke sampling system within the area using the Clean Agent system. (A Pre-action System is a sprinkler system employing closed automatic sprinklers connected to a piping system that contains air or nitrogen that may or may not be pressurized. A supplemental detection system (release line) is installed in the same area as the sprinklers).
 - Don's preference is a wet system because much less can go wrong, and it is easier to maintain.
 - The Pre-action systems have value where you have a cross zone that must have two heads respond.
 - Basement Confined Area (crawl space that has the active spring). It is noncombustible material. If there is nothing combustible there, then Don is not concerned about that area have a sprinkler.
 - The design team could start with a dry system and move to a wet (if the building is going to set vacant).
 - What is the pressure that needs to be at the top of the system (if standpipe system)? Don would want to talk to the fire department to see what their approach is locally.
 - Don thinks there will be a standpipe because of the 3 stories. Don noted he has a good relationship with the Hot Springs Fire Department.
 - Dry might be an option as a cost savings system if the building is vacant?
- No fire pumps in any of the buildings. Fordyce does not have a sprinkler system.
- Predesign, perhaps we capture the advantages and disadvantages of viable systems in a matrix (Noted by John R.).
 - (David Lieb) I agree-I think the park may need to re-evaluate what they must store, how they currently store / how they may want to store, and those program components can be flushed out during SD.
 - (John Rosemurgy) Good point, we also may need to lean on Heather Young, MWR Museum Program Lead, to assist the park with preliminary planning for storage.

END OF NOTES

ONLINE MEETING NOTES

Predesign Services - Condition Assessment and Treatment Plan Maurice Bathhouse and Libbey Memorial Physical Medicine Center (LMPMC)

Hot Springs National Park (HOSP)
PMIS 318915B

Re: Fire and Life Safety Codes Discussion for Libbey and Maurice Bathhouses

April 7, 2022

Attendees:

John Rosemurgy, COR, NPS
Brian Leaders, NPS (Joined at the end)
Kevin Schluckebier, Regional Chief in Design and Construction, NPS
David Lieb, Project Manager, DSC, NPS
Jennifer Claster, Project Manager, DSC, NPS
Mark Scott, Facility Manager, HOSP
Angie Gaebler, STRATA
Claire Ashbrook, STRATA
Jeff Boyle, Code Consultant Services

Action Items:

1. STRATA will provide NPS with the 2018 IEBC 1203.2 Code Commentary (see attached at end of notes).
2. STRATA will present the plans to the Park.

Discussion:

Objectives: Review the needs for fire protection for Libbey and Maurice and discuss Life Safety Building Code Requirements.

1. NPS wants the project to utilize IBC 2021 and Existing Building Code 2021

Libbey Codes Discussion

1. Reviewed the plan and use of the spaces.
2. Libbey is not in the National Register district, but it is eligible to be individually listed in the National Register of Historic Places.
3. They have updated the exiting on the building as part of a previous renovation.
4. Areaway is on the north side of the building and provides an exit from the basement mechanical room.
5. The doors in the lower level lobby swing out.
6. Plan to keep an exit door somewhere on the south (east) side of the lower level of Libbey. Existing door will not work since it's at the raised pool height. Door will need to be lowered and can also be relocated.
7. Toilet/plumbing counts have not been done yet.
8. Open stair between the lower level and upper level. This is a historic condition.
9. Rehabilitation occupancy use is from an existing use A3 to less hazardous use B and S1 (upper and lower).
10. Warehouse occupancy is going to be used for the archival storage areas.
11. The building will be full sprinklered.

12. Accessible means of egress in Libbey: During Schematic Design, the design shall include areas of refuge. They are not required by code, but the NPS wants these included where fully accessible exits are not possible. This applies to the upper level only.
13. Has any consideration been given to gender neutral spaces?
 - a. Adding a family restroom on the lower and upper levels, or make all restrooms single-use?
14. Watch dead end corridors (needs to be 75 feet).

Maurice Codes Discussion

1. Reviewed the plan and use of the spaces at each floor.
2. It is listed in a national historic district and is a contributing building.
3. Type IIIB construction because of some of the wood framing at the back roof.
4. Overnights Rooms: There is no loading nearby and it is bit of a nightmare to get people into the building with all of their stuff. Therefore, overnight rooms have not been considered in the reuse options.
5. Accessible means of ingress/egress in Maurice:
 - a. Ramp was added to the front of the building to make it accessible.
6. Basement historically was A3, First Floor A3 and B, Second Floor B, and Third Floor is B and A2.
7. Basement will remain A3 if pool is opened.
8. With a sprinkler system - Assembly to B occupancy
9. It is important to identify the exiting and separation requirements.
10. Upper levels may be an A2 use.
11. 2021 IBC Section 1009.3.3 Exceptions 1 and 2.
 - a. While areas of refuge are not required, NPS wants these included.
 - b. Plan to include a space at each floor with signage and 2-way communication.
 - c. Area of refuge may be designated room or space with the signage and communication.
12. 1203.2 Existing Code: Allows the stair to be open. 2018 Commentary on this furthers this explanation. The commentary is attached at the end of these notes.
 - a. Leave the stairs open on the first floor.
 - b. Kevin has not had this occur on other buildings.
 - c. Everyone agrees that closing the stair at the first floor would damage the first floor flow and historic integrity of the circulation.
 - d. Will keep doors at the basement, second, and third floor levels.
13. Rating 1203.6 of stairway. Existing enclosure for tight fitting doors.
14. Kevin indicated that he would rather waive an additional stair requirement.
15. If the tenant decides to have multiple tenants in the building, they will have to close the stair.
16. What is the longest common path? The first floor has the longest common path, that you currently access. This will need to be explored further during schematic design.
17. 508.3 of IBC indicates that this building complies with nonseparation.
18. May need a second exit in Mechanical Rooms (determine how many BTU).

END OF NOTES

SECTION 1203 FIRE SAFETY

1203.1 Scope. *Historic buildings* undergoing alterations, changes of occupancy, or that are moved shall comply with Section 1203.

❖ This section recognizes the unique aspects associated with older historical structures. It reinforces the importance of the means of egress pathway while granting the code official some latitude in accepting some degree of variance in the egress components. (for example, direction of exit door swing, egress path width and height).

1203.2 General. Every *historic building* that does not conform to the construction requirements specified in this code for the occupancy or use and that constitutes a distinct fire hazard as defined herein shall be provided with an approved automatic fire-extinguishing system as determined appropriate by the code official. However, an automatic fire-extinguishing system shall not be used to substitute for, or act as an alternative to, the required number of exits from any facility.

❖ Fire-extinguishing systems are effective substitutes for some requirements that are typical for new construction, particularly passive systems such as rated doors and corridors. By slowing or suppressing the development of a fire, a sprinkler system will make passive fire resistance unnecessary. This section also establishes that an automatic sprinkler system is not considered appropriate as a substitution for a reduction in the required number of exits.

1203.3 Means of egress. Existing door openings and corridor and stairway widths less than those specified elsewhere in this code may be approved, provided that, in the opinion of the code official, there is sufficient width and height for a person to pass through the opening or traverse the means of egress. Where approved by the code official, the front or main exit doors need not swing in the direction of the path of exit travel, provided that other approved means of egress having sufficient capacity to serve the total occupant load are provided.

❖ This provision would permit the continuance of a structure no more hazardous than before rehabilitation, with minimum standards of usability. Provisions for new construction would require that exit doors swing in the direction of exit travel for an occupant load exceeding 50.

1203.4 Transoms. In fully sprinklered buildings of Group R-1, R-2 or R-3 occupancy, existing transoms in corridors and other fire-resistance-rated walls may be maintained if fixed in the closed position. A sprinkler shall be installed on each side of the transom.

❖ This permits the retention of nonwired/nonrated glass in historic transoms in rated walls in residential occupancies where protected by an automatic fire sprinkler system throughout the building. This section requires the transoms to be closed and specific protection on both sides of the transoms. This approach

basically affords a level of safety equivalent to the passive protection provided by a rated corridor or other rated construction.

1203.5 Interior finishes. The existing interior finishes shall be accepted where it is demonstrated that they are the historic finishes.

❖ While existing wood paneling or other finishes may not meet flame spread requirements for walls or ceilings, this section allows the finishes to remain in place if they can be shown to be historic in nature. If not, there should be no reason not to address the flame spread rating of the materials since the sensitivity of the historic nature of the building is no longer an issue.

1203.6 Stairway enclosure. In buildings of three stories or less, exit enclosure construction shall limit the spread of smoke by the use of tight-fitting doors and solid elements. Such elements are not required to have a fire-resistance rating.

❖ Enclosure of stairways to control smoke would provide an improvement, but permitting the enclosure to be nonrated would allow for use of traditional materials. Example enclosures include plain or wired glass, smoke-activated doors and similar assemblies. This provides for flexibility, but requires at least a minimum level of passive smoke control to protect stairways for exiting.

1203.7 One-hour fire-resistant assemblies. Where 1-hour fire-resistance-rated construction is required by these provisions, it need not be provided, regardless of construction or occupancy, where the existing wall and ceiling finish is wood or metal lath and plaster.

❖ The substitution of standard, old-fashioned lath and plaster for 1-hour-rated wall construction is a well-established alternative and is considered as meeting the intent of the code to provide a safe path for exit.

1203.8 Glazing in fire-resistance-rated systems. Historic glazing materials are permitted in interior walls required to have a 1-hour fire-resistance rating where the opening is provided with approved smoke seals and the area affected is provided with an automatic sprinkler system.

❖ Glazing of interior partitions can be vulnerable because of potential leakage around the edge of the glazing or because of heat-induced glass breakage. This provision addresses both concerns. The sprinkler system should be provided on both sides of the wall containing the glazing.

1203.9 Stairway railings. Grand stairways shall be accepted without complying with the handrail and guard requirements. Existing handrails and guards at all stairways shall be permitted to remain, provided they are not structurally dangerous.

❖ New construction requirements for handrail and guardrail height have increased over the years. Since an ornamental railing is typically difficult to modify, however, particularly without significant architectural change, the code permits historic railings that are

ONLINE MEETING NOTES

Predesign Services - Condition Assessment and Treatment Plan Maurice Bathhouse and Libbey Memorial Physical Medicine Center (LMPMC)

Hot Springs National Park (HOSP)
PMIS 318915B

Re: Libbey Multi-Park Facility Programming and Maurice Spa/Cafe Programming Discussions

Date: April 11, 2022

Attendees:

John Rosemurgy, COR, NPS
Laura Miller, Superintendent, HOSP
Heather Young, Museum Program Manager, Region, NPS
David Lieb, Project Manager, DSC, NPS
Jennifer Claster, Project Manager, DSC, NPS
Tommy Hill, Museum Curator, HOSP
Angie Gaebler, STRATA
Claire Ashbrook, STRATA

Discussion:

Objective: Review overall programming needs and adjacencies for Libbey to be renovated as a Multi-Park Storage Facility.

The review today is of the pre-design program layouts for test-fits and cost estimating. Further programming efforts will be undertaken as part of Schematic Design.

Libbey Multi-Park Facility Program

1. Reviewed the preliminary program plans. Updated them in real-time to address adjacencies and needs.
2. Include map/map cases.
3. Think about cold storage. It is costly to maintain/replace/utilities.
 - o How much space is required, and what type of storage room is actually needed?
 - o Can the items be stored in cold storage cabinets instead of in a room?
4. Need a loading door. Large, double-doors preferred with a loading dock, or something at grade.
5. Park has 3 total Fire King cabinets for storage that can be in hallways and are fire-rated. They would like two more. They should not be housed in collection spaces.
6. Will need to review if generator needs to run ALL systems? The generator required for this facility is very large.
7. Wet lab in processing will need a hood.
8. In-processing and Isolation need to be adjacent to one another. Would be best to go directly from in-processing to isolation.
9. Loading doors/dock directly into in-processing.
10. Best of Archeologist is near the entrance door. They drag a lot of tools and equipment in and out. Archeologist needs a shower. This can be in one of the restrooms. Archeologist may remain at Lamar. This is not determined yet.
11. Custodial closet near restrooms on each floor.
12. Space for interns can be flexible. Lower level or upper level.

13. Photography space is for taking digital photographs of objects. Currently, the photography spaces get set-up and broken down.

Maurice – Spa/Café Program

1. Reviewed the preliminary program plans. Updated them in real-time to address adjacencies and needs.
2. Prefer to identify potential locker rooms without specifying gender.
3. Communal pools will likely use chlorine.
4. Not all bathhouses on Bathhouse Row have back-up generators. Is it possible to have a smaller generator for systems only? Yes! No need for a generator to run all systems. Is this a definite requirement? It will take up quite a bit of space in the north yard.
5. Would like to have loading/receiving dock?
 - o Worked with team to remove existing basement ramp and construct new, wider ramp with a wider basement entrance door. Include a flat landing at bottom of ramp to store small trash roll-aways.
6. Explore options for freight elevator in Schematic Design? Or, perhaps dumbwaiters, if café or restaurant functions better with a kitchen at a different level?
7. Park thinks restaurant may need to be more than a café.
8. Do we need to keep the Maurice Office? HSR indicates it should be maintained. This hinders the use of the large area south of the Roycroft Den.
9. Will need to address air handling unit relocation to Hale property during Schematic Design.
10. The area to the south of the pool could be a product in-take area/storage space instead of serving the pool area. This would be up to the tenant.

END OF NOTES

APPENDIX C - EXISTING WINDOW SURVEY SCHEDULE

WINDOW SCHEDULE - Libbey

NUMBER	WINDOW DIMENSION		TYPE	REMARKS	OVERVIEW
	WIDTH	HEIGHT			
100	5'-8"	7'3"	AL	New fixed DH window to match historic, two sashes mulled together	Paint is faded and/or peeling on majority of windows. Biological growth is located along the majority of the first floor windows. The glass is in good condition with some broken or missing panes.
101	5'-8"	7'3"	AL	New fixed DH window to match historic, two sashes mulled together	
102	3'-6"	7'3"	AL	New fixed DH window to match historic	
103	5'-8"	7'3"	AL	New fixed DH window to match historic, two sashes mulled together	
104	4'-0"	5'-0"	AL	New fixed DH window to match historic	
105	2'-6"	5'-0"	AL	New fixed DH window to match historic - apply opaque film on interior of glass	
106	9'-0"	7'3"	AL	New fixed DH window to match historic, three sashes mulled together - apply opaque film on interior of glass	
107	9'-0"	7'3"	AL	New fixed DH window to match historic, three sashes mulled together - apply opaque film on interior of glass	
108	9'-0"	7'3"	AL	New fixed DH window to match historic, three sashes mulled together - apply opaque film on interior of glass	
109	9'-0"	7'3"	AL	New fixed DH window to match historic, three sashes mulled together - apply opaque film on interior of glass	
110	9'-0"	7'3"	AL	New fixed DH window to match historic, three sashes mulled together - apply opaque film on interior of glass	
111	9'-0"	7'3"	AL	New fixed DH window to match historic, three sashes mulled together - apply opaque film on interior of glass	
112	9'-0"	7'3"	AL	New fixed DH window to match historic, three sashes mulled together - apply opaque film on interior of glass	
113	2'-10"	2'-3"	AL	New fixed window to match historic	
114	2'-10"	2'-3"	AL	New fixed window to match historic	
115	2'-10"	2'-3"	AL	New fixed window to match historic	
116	6'-0"	7'-0"	HM	Modify opening for new HM egress door and frame	
117	6'-0"	7'-0"	AL	Replace glass block with new fixed DH window to match historic, two sashes mulled together	
118	9'-0"	7'-0"	AL	Replace glass block with new fixed DH window to match historic, three sashes mulled together	
119	6'-0"	7'-0"	AL	Replace glass block with new fixed DH window to match historic, three sashes mulled together	
120	9'-0"	7'-0"	AL	Replace glass block with new fixed DH window to match historic, three sashes mulled together	
121	9'-0"	7'-0"	AL	Replace glass block with new fixed DH window to match historic, three sashes mulled together	
122	9'-0"	7'-0"	AL	Modify opening and replace glass block with HM double door and frame for loading	
123	9'-0"	7'-0"	AL	Replace glass block with new fixed DH window to match historic, three sashes mulled together	
124	6'-4"	8'-6"	AL	New fixed casement window with transom to match historic	
125	6'-4"	8'-6"	AL	New fixed casement window with transom to match historic	
126	2'-10"	8'-4"	AL	New fixed casement window with transom to match historic	
127	9'-0"	7'-0"	AL	Replace glass block with new fixed DH window to match historic, three sashes mulled together	
128	9'-0"	7'-0"	AL	Replace glass block with new fixed DH window to match historic, three sashes mulled together	
129	9'-0"	7'-0"	AL	Replace glass block with new fixed DH window to match historic, three sashes mulled together	
130	6'-0"	7'-0"	AL	Replace glass block with new fixed DH window to match historic, two sashes mulled together	
131	2'-6 1/2"	5'-0"	AL	New fixed window to match historic	
132	2'-6 1/2"	5'-0"	AL	New fixed window to match historic	
133	3'-3"	3'-3"	AL	New fixed window to match historic	
200	4'-0"	5'-0"	AL	New fixed casement window to match historic	
201	4'-0"	5'-0"	AL	New fixed casement window to match historic	
202	4'-0"	5'-0"	AL	New fixed casement window to match historic	
203	4'-0"	5'-0"	AL	New fixed casement window to match historic	
204	4'-0"	5'-0"	AL	New fixed casement window to match historic	
205	4'-0"	5'-0"	AL	New fixed casement window to match historic	
206	4'-0"	5'-0"	AL	New fixed casement window to match historic	
207	4'-0"	5'-0"	AL	New fixed casement window to match historic	
208	2'-10"	5'-0"	AL	New fixed DH window to match historic	
209	2'-10"	5'-0"	AL	New fixed DH window to match historic	
210	4'-0"	5'-0"	AL	New fixed casement window to match historic	
211	4'-0"	5'-0"	AL	New fixed casement window to match historic	
212	4'-0"	5'-0"	AL	New fixed casement window to match historic	
213	4'-0"	5'-0"	AL	New fixed casement window to match historic	
214	4'-0"	5'-0"	AL	New fixed casement window to match historic	
215	4'-0"	5'-0"	AL	New fixed casement window to match historic	
216	4'-0"	5'-0"	AL	New fixed casement window to match historic	

APPENDIX D - UNIVERSAL DESIGN AND SCOPING FORM FOR ABAAS FACILITIES

NPS UNIVERSAL DESIGN and ACCESSIBILITY SCOPING FORM for ABAAS FACILITIES

Use for facilities, buildings (new and existing), parking and drop-off areas, and sites (walks, ramps, plazas, lawns, etc.)



PROJECT & PMIS NO.: 318915B

DATE: 26 April 2022

Prepared by: Quinn Evans

Programs and activities provided at this facility (existing and proposed):			
Site Programs	Amenities	Building Programs	Interpretive Programs
<input checked="" type="checkbox"/> Car Parking	<input type="checkbox"/> Benches/Seating	<input type="checkbox"/> Visitor Use Building	<input type="checkbox"/> Information Desk
<input type="checkbox"/> Bus Parking	<input type="checkbox"/> Restrooms	<input checked="" type="checkbox"/> Historic Building	<input type="checkbox"/> Brochures/Handouts
<input type="checkbox"/> RV Parking.	<input type="checkbox"/> Family Restrooms	<input type="checkbox"/> Maintenance Building	<input type="checkbox"/> Audiovisual Programs
<input type="checkbox"/> Employee Parking	<input type="checkbox"/> Employee Restrooms	<input type="checkbox"/> Museum	<input checked="" type="checkbox"/> Exhibits
<input checked="" type="checkbox"/> Building Entrance	<input type="checkbox"/> Public Telephones	<input type="checkbox"/> Theater	<input type="checkbox"/> Interactive Exhibits
<input checked="" type="checkbox"/> Drop-off Area	<input type="checkbox"/> Drinking Fountains	<input type="checkbox"/> First Aid/ Wellness Room	<input type="checkbox"/> Large Scale Map
<input type="checkbox"/> Alt. Transportation	<input type="checkbox"/> Vending Machines	<input type="checkbox"/> Information desk	<input type="checkbox"/> Tactile Map
<input type="checkbox"/> Bus/Shuttle Stop	<input type="checkbox"/> Concessions - Food	<input type="checkbox"/> Visitor Lodging	<input type="checkbox"/> Guided Tours
<input type="checkbox"/> Service Area	<input type="checkbox"/> Concessions - Ticketing	<input type="checkbox"/> Employee Housing	<input type="checkbox"/> Educational Programs
<input checked="" type="checkbox"/> Walks	<input type="checkbox"/> Gift Shop	<input type="checkbox"/> Conference Room(s)	<input type="checkbox"/> Museum Objects
<input type="checkbox"/> Shelters	<input type="checkbox"/> Bookstore	<input type="checkbox"/> Office Space	<input checked="" type="checkbox"/> Waysides
<input type="checkbox"/> Seating/Gathering Space	<input type="checkbox"/> Trash/Recycling	<input type="checkbox"/> Kitchen/Break Room	<input type="checkbox"/> Special Events
<input checked="" type="checkbox"/> Cultural Landscape	<input type="checkbox"/> Bicycles – racks/rental	<input checked="" type="checkbox"/> Elevator	<input type="checkbox"/> Self-Guided Walks
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Other: Future tenant TBD	<input type="checkbox"/> Other:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1. **Universal Design:** Universal Design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. Most simply, Universal Design is human-centered design with all users in mind.

The Seven Principles of Universal Design. Project utilizes the seven principles of universal design throughout the design process to provide a facility that is useable by all.

Yes No N/A

- Principle 1: Equitable Use.** The design is useful and marketable to people with diverse abilities. Is the same means of use provided for all users: identical whenever possible; equivalent when not?
The existing building includes the same means of access from the exterior and equivalent means of access through the building. The project will rehabilitate the building for use by the National Park Service. The assumed uses include collections storage and offices on the lower and upper floors, and an exhibit on the upper floor.
- Principle 2: Flexibility in Use.** Does the design accommodate a wide range of individual preferences and abilities? Is a choice of method provided?
The fit-out of the space is based on storage and office use and existing architecture.
- Principle 3: Simple and Intuitive Use.** Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
The fit-out of space is proposed to be for collections storage and offices. The project establishes a consistent path of travel through the building with stair and elevator access on axis from the main entry through the lobby. The elevator is located around the corner from the stair entry, but visible from the lobby.
- Principle 4: Perceptible Information.** Does the design communicate necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities?
At this point in project development, signage and wayfinding have not been studied, but as it is designed it is expected to meet Principle 4.

5. **Principle 5: Tolerance for Error.** Is there a tolerance for error? Does the design minimize hazards and the adverse consequences of accidental or unintended actions?
The project proposes expanding the driveway and adding parking spaces to accommodate on-site needs for parking. Additionally, a new sloped walk will be added to the entry as part of the proposed revisions to the exterior entry.
6. **Principle 6: Low Physical Effort.** Does the design require low physical effort? Can the design be used efficiently and comfortably and with a minimum of fatigue?
The existing plaza slope at the north entrance and the new ramp and landing are placed appropriately. The minimal number of doors necessary for security and privacy are included in the current design.
7. **Principle 7: Size and Space for Approach and Use.** Is there appropriate size and space provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility. Is there adequate space provided for the use of assistive devices or personal assistance?
The project proposes expanding the driveway, ramping, and interior toilet rooms to provide appropriate size and space at the main entry doors and interior spaces.

2. **DSC Universal Design Best Practice Requirements** (* if requirement cannot be met, describe reason for departure and accommodations provided)

Yes No* N/A

- b) **Integrated Pedestrian Routes.** Project is designed so that all users follow the same routes through the facility and site. Describe any departure: *The existing building includes equivalent means of access into and through the building. The exterior entry is accessed by a central stair from the driveway and a separate sloped walk into another entrance. The building includes two floors. Vertical circulation through the building is via one stairway and one elevator.*
- c) **Level Entrance.** Project is designed so the primary entrances (visitor and employee) do not have steps. Staired secondary routes can be included on sloped sites. Describe any departure: *The existing building includes equivalent means of access into and through the building. The exterior entries are accessed by a central plaza from the sidewalk at the north and a new ramp from the driveway at the south entrance.*
- d) **Covered Entry.** Project provides a covered entry and roof drains away from entry walk and entrance. Describe any departure: *The main entry is the historic main entry and does not include a canopy. The roof does not slope onto the entry elements.*
- e) **Close-in parking and drop-off.** Distance from drop-off and closest accessible parking space (car and RV/Bus) to accessible entrance of facility is 200' or less. Describe any departure: *A designated drop-off area is located at the south side of the building. On-street parking is available on a first-come/first-serve basis around the site. Accessible parking spaces are proposed adjacent to the south entry drop-off.*
- f) **Power Assist Entrance Doors.** Visitor use buildings provide power assist door openers on main accessible entrances. Describe any departure:
- g) **Accessibility Plans.** Provide accessibility plans to identify project universal design and accessibility goals. Include site plan with all accessible parking and accessible routes with slope requirements; floorplans with accessible features, accessible routes, turning space, maneuvering space and reach ranges shown.

ABAAS Chapter 2: Scoping Requirements

3. **F202 Existing Buildings and Facilities** (Renovations and additions including historic facilities)

Yes No N/A

- a) **F202.2.1 Accessible Route.** An accessible route is provided from accessible parking spaces (car and bus/RV), accessible drop off; public sidewalks; and public transportation to accessible entrances.
- b) **F202.2.3 Toilet Facilities.** Project provides at least one men's and one women's accessible toilet facility on an accessible route.

- c) **F202.3.1 Prohibited Reduction in Access.** Project does not decrease or have the effect of decreasing the accessibility of a building or facility below the requirements for new construction.
- d) **Entrances to existing facilities.** If Project is a historic building, is the accessible route the same as general public route? If not, does the accessible route rejoin the general route quickly and intuitively?
- e) **Exception.** The only exceptions used for qualified historic buildings and facilities are one accessible route to one accessible entrance (instead of standard 60% of entrances), at least one accessible floor in a multi-story building, and no less than one toilet room for each sex complying with ABAAS 603 or one unisex toilet room.
- f) **SHPO Concurrence.** If any of these exceptions are taken, is there a concurrence memo from the SHPO? ABAAS Advisory F202.5 - These exceptions apply only when the State Historic Preservation Officer agrees that compliance with requirements for the specific element would threaten or destroy the historic significance of the building or facility. *The project will seek SHPO Concurrence for any exceptions but has not at this phase of project development.*

4. **F203 General Exceptions** (facility spaces not required to comply with ABAAS requirements) A project element meets one of these exceptions:

Yes No N/A

- a) **F203.4 Raised Areas.** Areas raised primarily for purposes of security, life safety, or fire safety, including but not limited to, observation or lookout towers, or fire towers
- b) **F203.5 Limited Access Spaces.** Spaces accessed only by ladders, catwalks, crawl spaces, or very narrow passageways.
- c) **F203.6 Machinery Spaces.** Spaces frequented only by service personnel for maintenance, repair, or occasional monitoring. Machinery spaces include, but are not limited to, elevator, mechanical, electrical or communications equipment rooms; piping or equipment catwalks; water or sewage treatment pump rooms and stations; electric substations and transformer vaults; and highway and tunnel utility facilities.
- d) **F203.7 Single Occupant Structures.** Single occupant structures accessed only by passageways below grade or elevated above standard curb height, including but not limited to, toll booths that are accessed only by underground tunnels.

5. **F205 Operable Parts**

Yes No N/A

- a) **Hardware.** Door, window, restroom and furnishing hardware, levers, knobs, openers, etc. can be operated with one hand and do not require tight grasping, pinching, or twisting of the wrist; are designed between 15" minimum and 48" maximum above the finished floor. The force required to operate hardware is 5 pounds maximum.
- b) **Operable Parts.** Light switches, electrical outlets, appliance controls, window blind controls, etc. are designed between 15" minimum and 48" maximum above the finished floor. The force required to activate operable parts is 5 pounds maximum.

6. **F206 Accessible Routes**

Yes No N/A

- a) **F206.2.2 Within a Site.** At least one accessible route connects accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site.
- b) **F206.2.3 Multi-Story Buildings and Facilities.** At least one accessible route connects each story in multi-story buildings and facilities.
- c) **EXCEPTION** used for this project: Where a two story building or facility has one story with an occupant load of five or fewer persons that does not contain public use space, that story shall not be required to be connected to the story above or below.
- d) **EXCEPTION** used for this project: Where exceptions for alterations to qualified historic buildings or facilities are permitted by ABAAS F202.5, an accessible route shall not be required to stories located above or below the accessible story. – note – programmatic access is required for all programs provided on all floors
- e) **F206.3 Location.** Accessible routes coincide with or are located in the same area as general circulation paths. Where circulation paths are interior, accessible routes are also interior.

Advisory F206.3 Location. The accessible route must be in the same area as the general circulation path. This means that circulation paths, such as vehicular ways designed for pedestrian traffic, walks, and unpaved paths that are designed to be routinely used by pedestrians must be accessible or have an accessible route nearby. Additionally, accessible vertical interior circulation must be in the same area as stairs and escalators, not isolated in the back of the facility.

- f) **F206.4 Entrances.** At least 60 percent of all public entrances and the employee entrance comply with 404, and are on an accessible route complying with ABAAS 402.

7. F206.5 Doors, Doorways and Gates

Yes No N/A

- a) **Clear Floor Space on both sides of accessible doors.** Accessible doors are designed to have adequate clear floor space meeting ABAAS Figure 404.2.4.1.
- b) **F206.5.1 Entrances.** Each entrance to a building or facility complying with ABAAS F206.4 has at least one accessible door, doorway, or gate complying with ABAAS 404.
- c) **F206.5.2 Rooms and Spaces.** Within a building or facility, at least one door, doorway, or gate serving each accessible room or space is designed to comply with ABAAS 404.

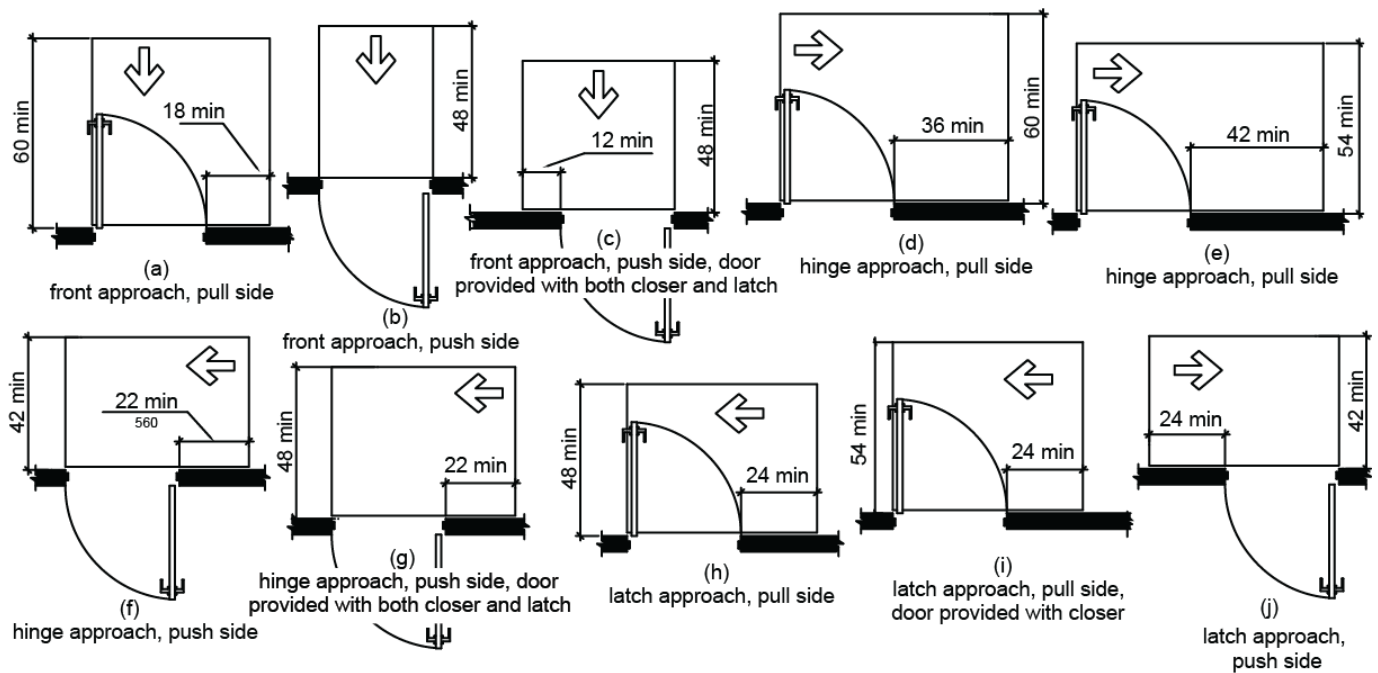


Figure 404.2.4.1 Maneuvering Clearances at Manual Swinging Doors and Gates

8. F207 Accessible Means of Egress

Yes No N/A

- a) **F207.1 General.** Means of egress complies with applicable section of the 2009 International Building Code (IBC). The accessible egress route is shown on code plan.
- b) **Areas of Refuge.** This project includes areas of refuge complying with 2009 IBC that serve as a part of the accessible means of egress. The accessible egress route is shown on code plan.
- c) **F207.2 Platform Lifts.** Standby power is provided for platform lifts that serve as a part of the accessible means of egress.

9. **F208 Parking Spaces** Newly constructed parking facilities shall provide accessible parking spaces in accordance with Table F208.2. Where a parking facility provides separate types of parking spaces (car, recreational vehicle, bus, drop off/unloading, etc.), ABAAS Table F208.2 shall apply to each separate type of parking space provided.

Yes No N/A

- a) **Accessible Parking Spaces.** F208.2 Minimum number of accessible parking spaces meets Table F208.2
- b) **F208.2.4 Van Parking Spaces.** For every six or fraction of six accessible parking spaces required, at least one is an accessible van parking space complying with ABAAS [502](#).
- c) **F208.3 Location.** Accessible parking spaces are located on the shortest accessible route from parking to an accessible entrance, 200' or less from entrance.
- d) **F208.3 Oversized Vehicle Location.** Accessible oversized parking spaces for RV's and buses are located on the shortest accessible route from the oversized vehicle parking facility to an accessible entrance. Accessible spaces are 200' or less from entrance.
- e) **F208.3 Employee Parking Location.** Accessible employee parking spaces are located on the shortest accessible route from the employee parking area to an accessible employee entrance. Accessible spaces are 200' or less from entrance.
- f) **F208.3 Dispersed Locations.** Where parking serves more than one accessible entrance or program, accessible parking spaces are dispersed and located on the shortest accessible route (200' or less) to the accessible entrances or program.

Table F208.2 Parking Spaces:

Total Number of Parking Spaces Provided in Parking Facility	Minimum Number of Required Accessible Parking Spaces (including van spaces)	Minimum Number of Required van Accessible Parking Spaces	Minimum Number of Required RV/Bus Accessible Parking Spaces
1 to 25	1	1	1
26 to 50	2	1	2
51 to 75	3	1	3
76 to 100	4	1	4
101 to 150	5	1	5
151 to 200	6	2	6
201 to 300	7	2	7
301 to 400	8	2	8
Total Parking Spaces provided for this project:	# of accessible spaces provided:	# of van accessible spaces provided:	# of RV/bus accessible spaces provided:

10. **F209 Passenger Loading Zones and Bus Stops** Passenger loading zones (Drop-off areas) shall be provided in accordance with F209.

Yes No N/A

- a) **503 Passenger Loading Zones.** Passenger loading zones (Drop-off areas) meet the requirements of ABAAS [503](#), and are 200' or less of primary entrance.

11. [F211 Drinking Fountains](#)

Yes No N/A

- a) **F211.2 Drinking Fountains.** If provided; at least one has a spout height of 36" max. for wheelchair users; and at least one with a spout height between 38" and 43" for standing persons.

12. [F213 Toilet Facilities and Bathing Facilities](#)

NOTE: Toilet facilities and locker rooms are not designed at this phase in project development, but the intent is to meet requirements as the design is developed in future project phases.

Yes No N/A

- a) **F213.3.1 Toilet Compartments.** Where toilet compartments are provided, at least one accessible toilet compartment complies with ABAAS 604.8.1. In addition, at least one ambulatory accessible compartment complies with 604.8.2 where six or more toilet compartments are provided, or where the combination of urinals and water closets totals six or more fixtures.
- b) **1109.2.1(IBC) Unisex toilet rooms.** In assembly and mercantile occupancies, an accessible unisex toilet room is provided where an aggregate of six or more male and female water closets is required.
- c) **F213.3.3 Urinals.** Where more than one urinal is provided, at least one is accessible and meets ABAAS 605.
- d) **F213.3.4 Lavatories.** Where lavatories are provided, at least one is accessible and complies with ABAAS 606.
- e) **F213.3.5 Mirrors.** Where mirrors are provided, at least one is accessible and complies with ABAAS 603.3.
- f) **F213.3.6 Bathing Facilities.** Where bathtubs or showers are provided, at least one accessible bathtub or shower complying with ABAAS 607 or 608 is provided.
- g) **Coat hooks and/or Shelves.** Where provided, at least one accessible hook and/or shelf is provided between 40" and 48" above the finish floor in the accessible compartment or room.

13. [F215 Fire Alarm Systems](#)

NOTE: Fire alarm systems are not designed at this phase in project development, but the intent is to meet requirements as the design is developed in future project phases.

Yes No N/A

- a) **F215.2 Public and Common Use Areas.** Alarms in public use areas and common use areas have permanently installed audible and visible alarms complying with ABAAS 702.
- b) **F215.3 Employee Work Areas.** Where employee work areas have audible alarm coverage, the wiring system is designed so that visible alarms can be integrated into the system.
- c) **F215.4 Transient Lodging.** Guest rooms with communication features required by ABAAS F224.4 have permanently installed audible and visible alarms complying with ABAAS 702.
- d) **F215.5 Residential Facilities.** Accessible residences have alarm systems complying with ABAAS 809.5 and 702.

14. [F216 Signs](#)

NOTE: Signage is not designed at this phase in project development, but the intent is to meet requirements as the design is developed in future project phases.

Yes No N/A

- a) **F216.2 Designations.** Interior and exterior signs identifying permanent rooms and spaces have raised characters and braille complying with ABAAS 703.1, 703.2, and 703.5. Where pictograms are provided, they comply with 703.6 and have text descriptors with raised characters and braille complying with ABAAS 703.2 and 703.5.
- b) **F216.4 Means of Egress.** Signs for means of egress comply with ABAAS F216.4.
- c) **F216.4.1 Exit Doors.** Doors at exit passageways, exit discharge, and exit stairways are identified by signs with raised characters and braille complying with ABAAS 703.1, 703.2, and 703.5.
- d) **F216.4.2 Areas of Refuge.** Signs required by the 2009 IBC to provide instructions in areas of refuge comply with ABAAS 703.5.

- e) **F216.4.3 Directional Signs.** Signs required by the 2009 IBC to provide directions to accessible means of egress comply with ABAAS 703.5.
- f) **F216.5 Parking.** Accessible parking spaces have signs complying with ABAAS 502.6
- g) **F216.5 Parking.** Exception 1 - Parking area for this project has a total of four or fewer parking spaces, including accessible parking spaces; identification of accessible parking spaces is not required.
- h) **F216.6 Entrances.** Where not all entrances are accessible, accessible entrances are identified by the International Symbol of Accessibility (ABAAS 703.7.2.1). Directional signs (ABAAS 703.5) are provided at the non-accessible entrances to the nearest accessible entry.
- i) **F216.10 Assistive Listening Systems.** Assembly areas required by ABAAS F219 to provide assistive listening systems have signs informing patrons of the availability of the assistive listening system.

15. **F219 Assistive Listening Systems**

Yes No N/A

- a) **F219.2 Required Systems.** In each assembly area where audio amplification is provided or audible communication is integral to the use of the space, an assistive listening system is provided. Number of receivers meets requirements of ABAAS F219.

16. **F221 Assembly Areas and Outdoor Seating Areas**

Yes No N/A

- a) **F221.1 General.** Assembly areas provide wheelchair spaces, companion seats, and designated aisle seats complying with ABAAS F221 and ABAAS 802. In addition, lawn seating shall comply with ABAAS F221.5.
- b) **F221.2.1 Number.** Wheelchair spaces provided comply with figure ABAAS F221.2.1.1
- c) **F221.2.2 Integration.** Wheelchair spaces are integrated into the seating plan. Wheelchair spaces cannot be segregated from general seating areas.
- d) **F221.2.3 Lines of Sight and Dispersion.** Wheelchair spaces provide lines of sight complying with ABAAS 802.2. Wheelchair spaces provide spectators with choices of seating locations and viewing angles that are substantially equivalent to, or better than, the choices of seating locations and viewing angles available to all other spectators.
- e) **F221.2.3.1 Horizontal Dispersion** and **F221.2.3.2 Vertical Dispersion.** Wheelchair spaces are dispersed horizontally and vertically. Dispersion is not required for assembly areas with 300 or fewer seats **if** the wheelchair spaces provide viewing angles that are equivalent to, or better than, the average viewing angle provided in the facility.
- f) **F221.3 Companion Seats.** At least one companion seat complying with ABAAS 802.3 is provided for each wheelchair space required by ABAAS F221.2.1.
- g) **F221.4 Designated Aisle Seats.** At least 5 percent of the total number of aisle seats provided comply with ABAAS 802.4 (folding armrests and identification) and are the aisle seats located closest to accessible routes.
- h) **F221.5 Lawn Seating.** Lawn seating areas and exterior overflow seating areas, where fixed seats are not provided, connect to an accessible route.
- i) **F221.1 Exterior Seating Areas.** Site seating areas that accommodate 4 or more persons (2 benches or more) provide integrated wheelchair seating complying with Section ABAAS F221.

F221.2.1.1 Number of Wheelchair Spaces in Assembly Areas:

Number of Seats in theater or seating area (bench length/24")	Minimum Number of Required Wheelchair Spaces	Number of Seats in Exterior Seating Areas (bench length/24")	Minimum Number of Required Wheelchair Spaces
4 to 25	1	4 to 25	1
26 to 50	2	26 to 50	2
51 to 150	4	51 to 150	4
151 to 300	5	151 to 300	5
301 to 500	6	301 to 500	6
Number of seats in assembly	# of accessible spaces	Number of seats in exterior	# of accessible spaces

area:	provided:	seating area:	provided:
-------	-----------	---------------	-----------

17. [F226 Dining Surfaces and Work Surfaces](#)

Yes No N/A

- a) **F226.1 General.** Where dining surfaces or work surfaces are provided, at least 5 percent are accessible and comply with ABAAS 902.
- b) **F226.2 Dispersion.** Accessible dining surfaces and work surfaces are dispersed throughout the space or facility containing dining surfaces and work surfaces.

18. [F229 Windows](#)

Yes No N/A

- a) **F229.1 General.** Where glazed openings are provided in accessible rooms or spaces for operation by occupants, at least one window is designed with accessible operable parts complying with ABAAS ([Section 309](#)). In accessible rooms or spaces, each glazed opening required by an administrative authority to be operable shall comply with ABAAS 309.
- b) **Window Coverings.** Window coverings, blinds, etc. provided in accessible rooms or spaces are designed to be operable at accessible reach ranges ([section 308](#)) less than 48" above floor, allow adequate clear floor space for operation and comply with ABAAS 309.

Notes:

APPENDIX E - MECHANICAL AND ELECTRICAL EQUIPMENT CUT SHEETS

NOTES:

1. PLACEMENT ON A LEVEL SURFACE FREE OF OBSTRUCTIONS (INCLUDING SNOW, FOR WINTER OPERATION) OR AIR RE-CIRCULATION ENSURES RATED PERFORMANCE, RELIABLE OPERATION AND EASE OF MAINTENANCE. SITE RESTRICTIONS MAY COMPROMISE MINIMUM CLEARANCES INDICATED BELOW, RESULTING IN UNPREDICTABLE AIR FLOW PATTERNS AND POSSIBLE DIMINISHED PERFORMANCE. JOHNSON CONTROLS UNIT CONTROLS WILL OPTIMIZE OPERATION WITHOUT NUISANCE HIGH PRESSURE SAFETY CUTOUT. HOWEVER, THE SYSTEM DESIGNER MUST CONSIDER POTENTIAL PERFORMANCE DEGRADATION.

1.1. RECOMMENDED MINIMUM CLEARANCES:

- 1.1.1. SIDE TO WALL - 1828.8mm[6']
- 1.1.2. REAR TO WALL - 1828.8mm[6']
- 1.1.3. CONTROL PANEL TO WALL - 1219.2mm[4']
- 1.1.4. TOP - NO OBSTRUCTIONS ALLOWED.
- 1.1.5. DISTANCE BETWEEN ADJACENT UNITS - 3048mm[10']
- 1.1.6. NO MORE THAN ONE ADJACENT WALL MAY BE HIGHER THAN UNIT.

2. WEIGHT AND CENTER OF GRAVITY - REFER TO AVM REPORT.

3. INSTALLING CONTRACTOR MUST INCLUDE VENT AND DRAIN ACCOMMODATIONS IN CHILLED WATER PIPING NEAR THE EVAPORATOR.

4. NUMBER OF COMPRESSORS MAY VARY FROM DRAWING.

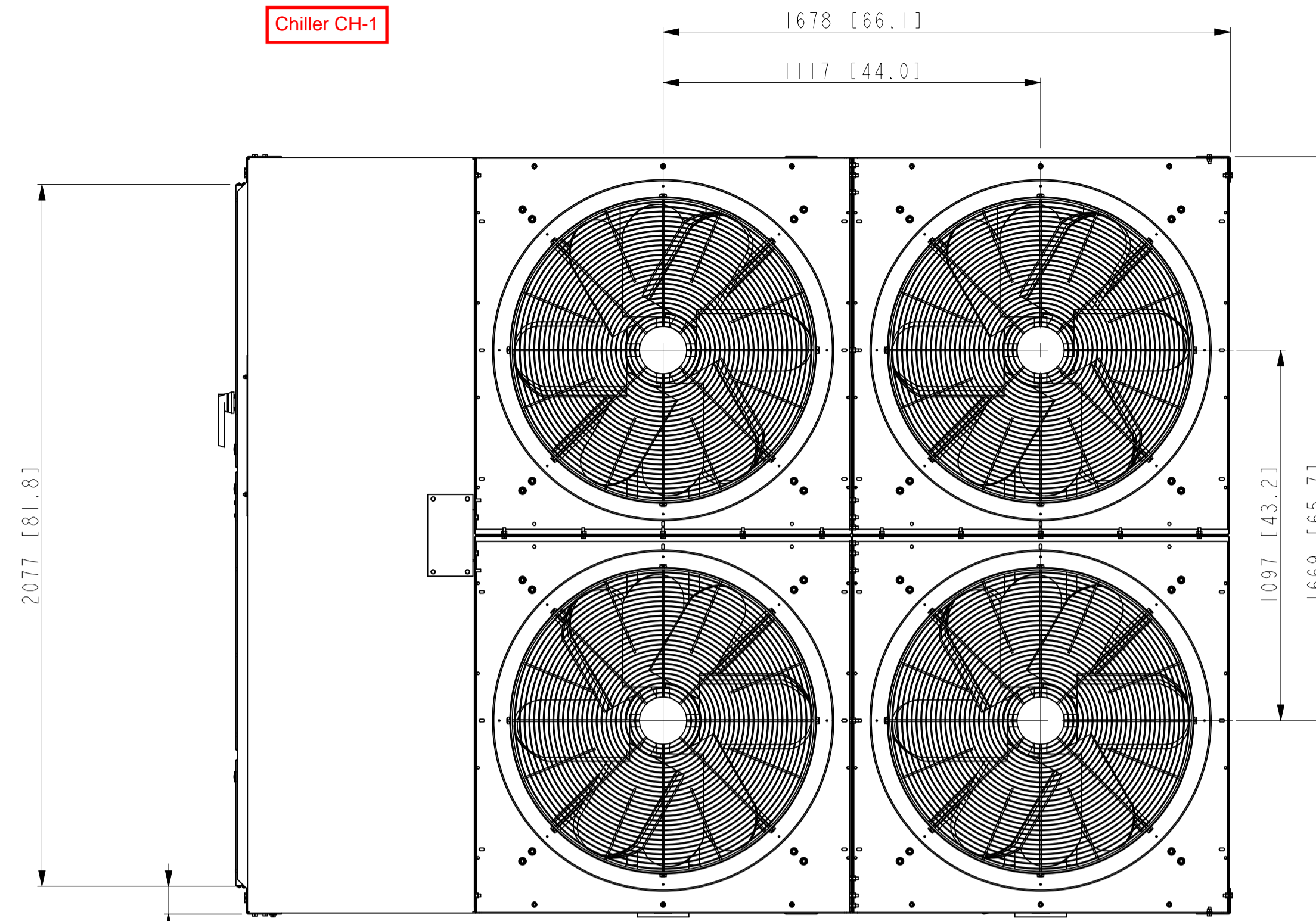
4.1. REFER TO YORKworks REPORTS.

5. OVERALL HEIGHT OF UNIT IS 2394.6mm-[94.27"] ON MONTERREY, MEXICO AND SAN ANTONIO, TEXAS BUILDS AND EUROPEAN BUILDS (VSD FANS ONLY).

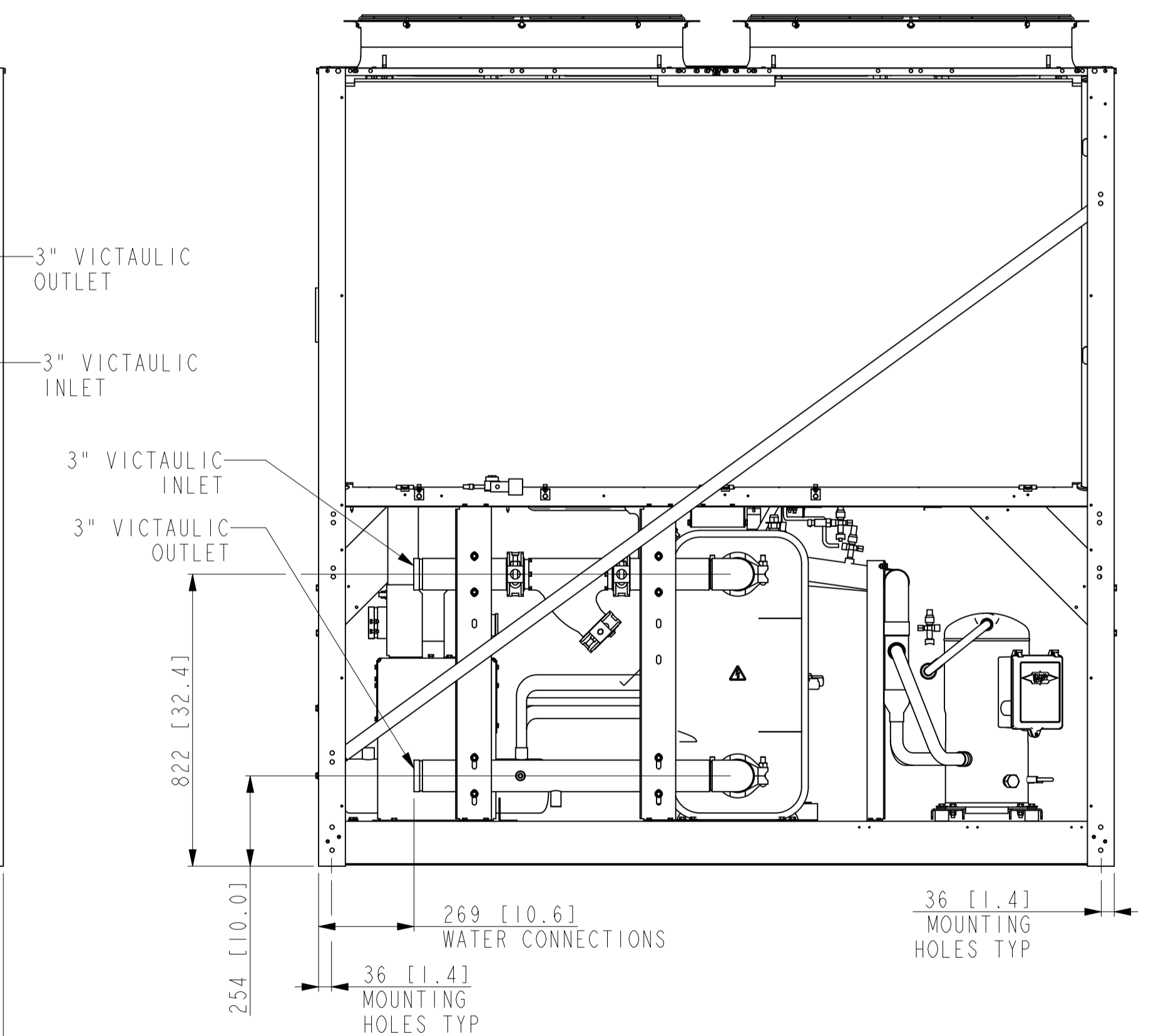
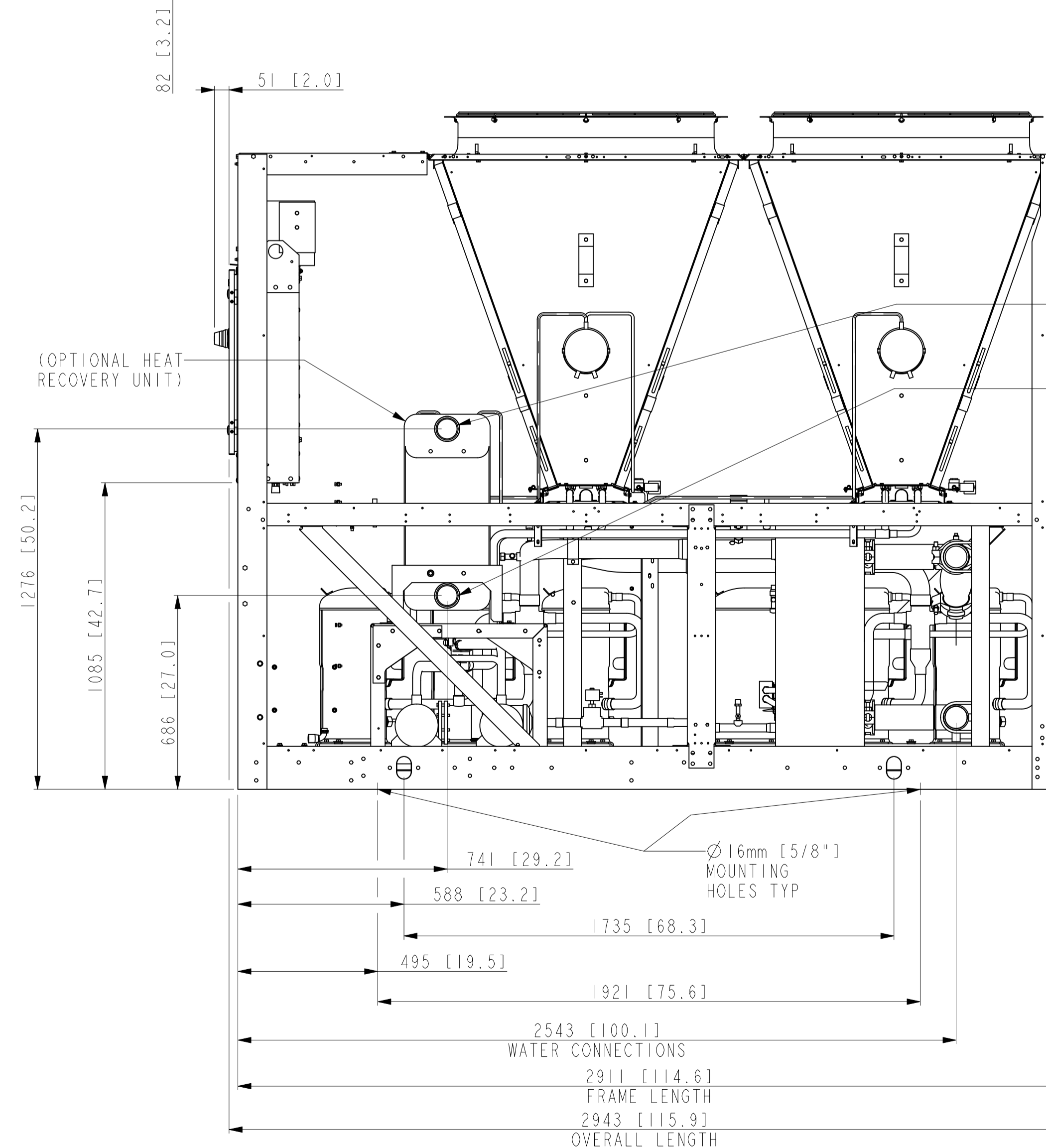
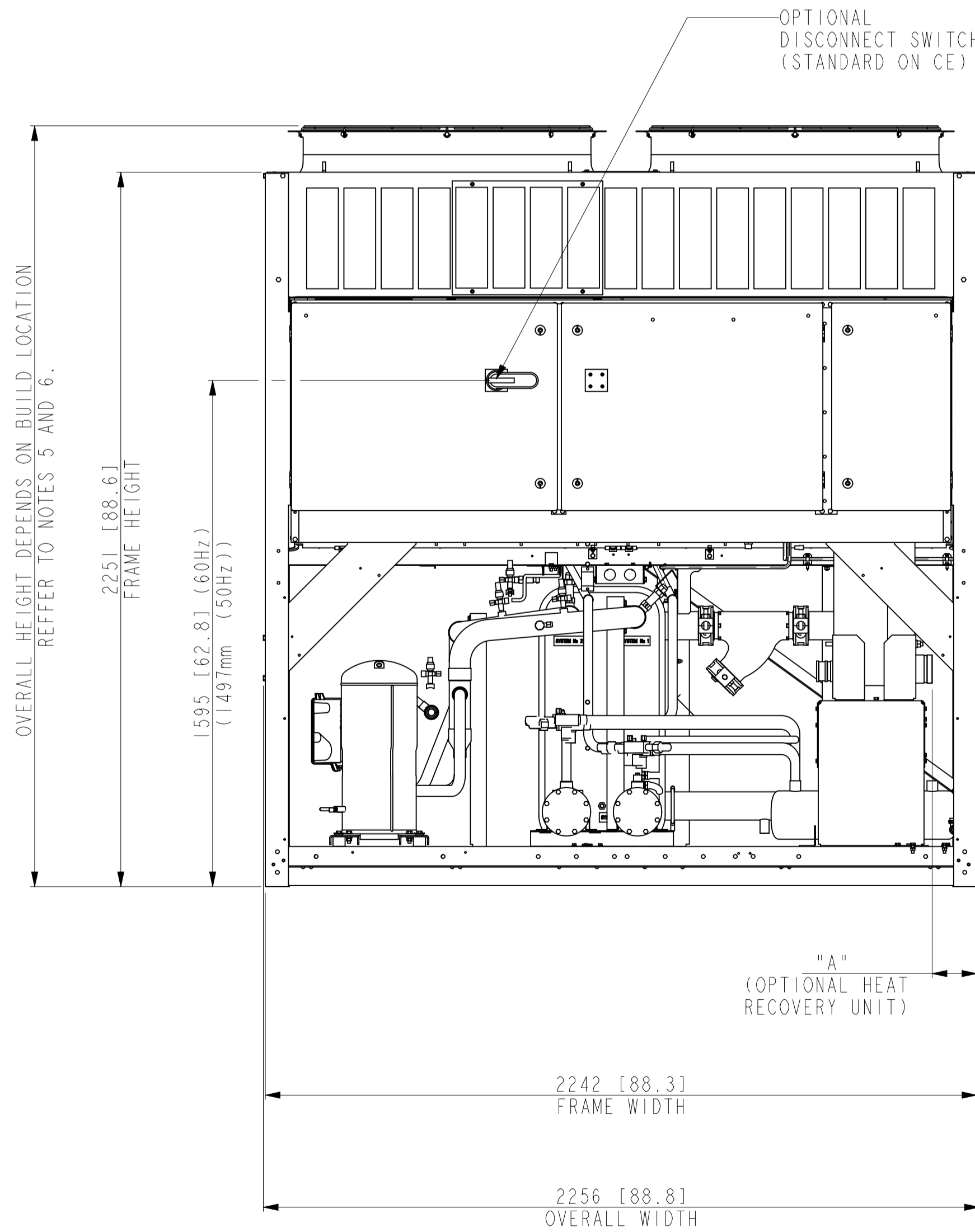
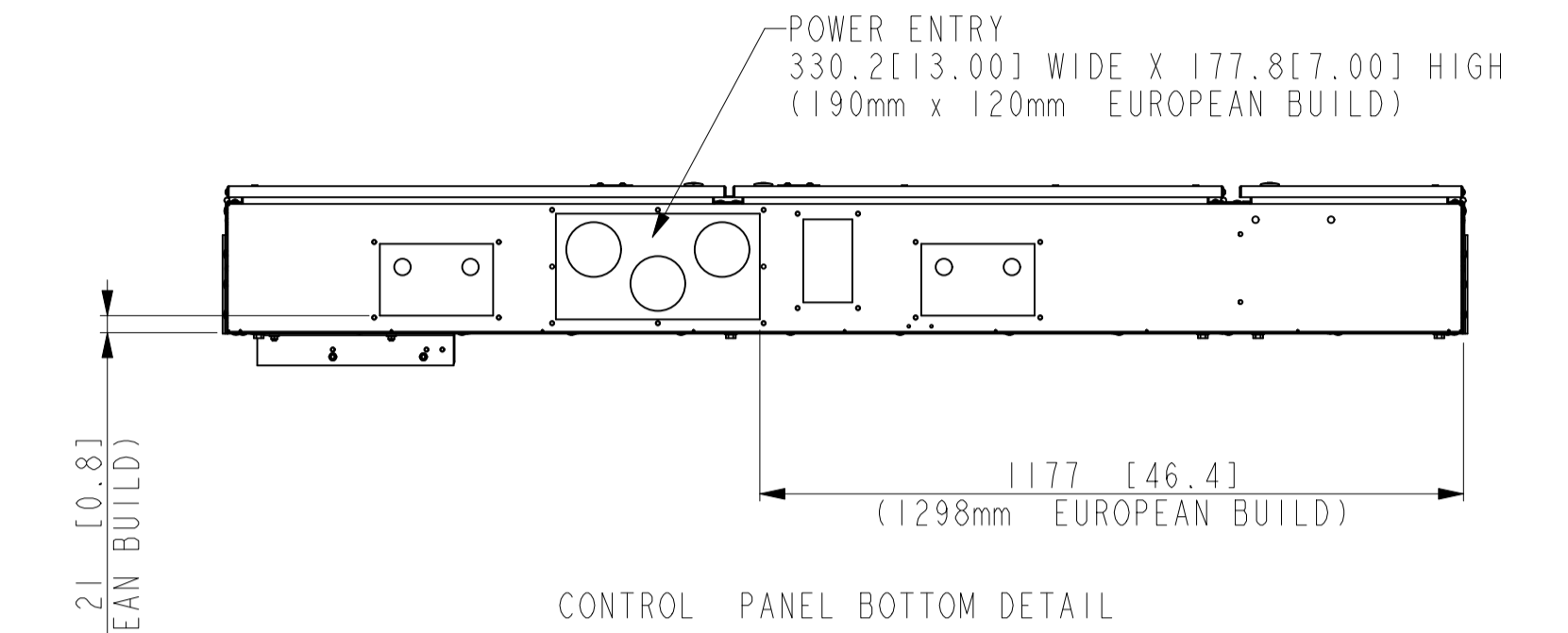
6. ON EUROPEAN BUILDS, OVERALL HEIGHT OF UNIT IS 2507.0mm-[98.70"] WITH STANDARD FANS AND IS 2541.0mm [100.04"] WITH LOW AMBIENT KIT AND WITH C FAN.

7. FOR MONTERREY, MEXICO, SAN ANTONIO, TEXAS AND EUROPEAN BUILDS ONLY.

Chiller CH-1



MODEL NUMBER	DIMENSION "A"	MODEL NUMBER	DIMENSION "A"
YLAA 0070 SE	141 [5.6]	YLAA 0221 HJ	227 [8.9]
YLAA 0080 SE	141 [5.6]	YLAA 0262 HJ	227 [8.9]
YLAA 0089 SE	141 [5.6]	YLAA 0286 SJ	141 [5.6]
YLAA 0221 HE	227 [8.9]		
YLAA 0241 SE	227 [8.9]		
YLAA 0261 HE	227 [8.9]		
YLAA 0262 HE	227 [8.9]		
YLAA 0286 SE	141 [5.6]		
YLAA 0320 SE	141 [5.6]		



THIS DRAWING PERTAINS TO THE FOLLOWING MODELS:

YLAA 0070 SE	YLAA 0241 SE	YLAA 0262 HE
YLAA 0080 SE	YLAA 0261 HE	YLAA 0221 HJ
YLAA 0089 SE	YLAA 0286 SE	YLAA 0262 HJ
YLAA 0221 HE	YLAA 0320 SE	YLAA 0286 SJ

REV.	DATE	EC. NO.	DR.	CHK.	ENG.
J	09-JUN-2020	ECN20-0441	GT	AS	XW

NOTE 6 AMENDED DIM 2541MM WAS 2535MM. FAN TERMINAL BOX 6MM HIGHER.

REVISION	CONTINUED

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Johnson Controls - BUILDING EFFICIENCY
507 EAST MICHIGAN STREET, MILWAUKEE, WI, 53202 USA

THIRD ANGLE
DO NOT SCALE

YLAA 4-FAN
50HZ AND 60HZ
WITH HEAT RECOVERY

MATERIAL N/A
ENG. STD. N/A
PART NO.
CUT SIZE N/A

DRAWN M. LUPTON 06-DEC-2013
MODELER M. LUPTON 06-DEC-2013
CHKD A. SATCH 06-DEC-2013
ENG

CAGE NUMBER 66935
DRAWING NUMBER 035-24059-002

SCALE: 0.075 MASS (kg): 0.000 ORIG. NO.: SHEET 1 OF 1

REVISION J
VERSION J

HIGH EFFICIENCY COMMERCIAL BOILERS

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SMART  TOUCH[™]

CON-X-US[®] REMOTE CONNECT

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CASCADE REDUNDANCY

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UP TO 25:1 TURNDOWN RATIO

DIRECT-VENTING UP TO 100 FEET USING PVC, CPVC,
POLYPROPYLENE OR STAINLESS STEEL

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96.2% 
THERMAL EFFICIENCY



CREST[®]

CONDENSING BOILER

RIDE THE LOCHINVAR WAVE™ TO 96.2% EFFICIENCY

With the exclusive Wave fire-tube design, advancements in Lochinvar combustion technology and the SMART TOUCH™ control with CON-X-US®, CREST changed how the industry thinks about fire-tube boilers. Now, six new CREST boilers, with 750,000, 1.0 million, 1.25 million, 1.5 million, 1.75 million and 2.0 million Btu/hr inputs, deliver **96.2% thermal efficiency**.

THE CREST COMBUSTION SYSTEM

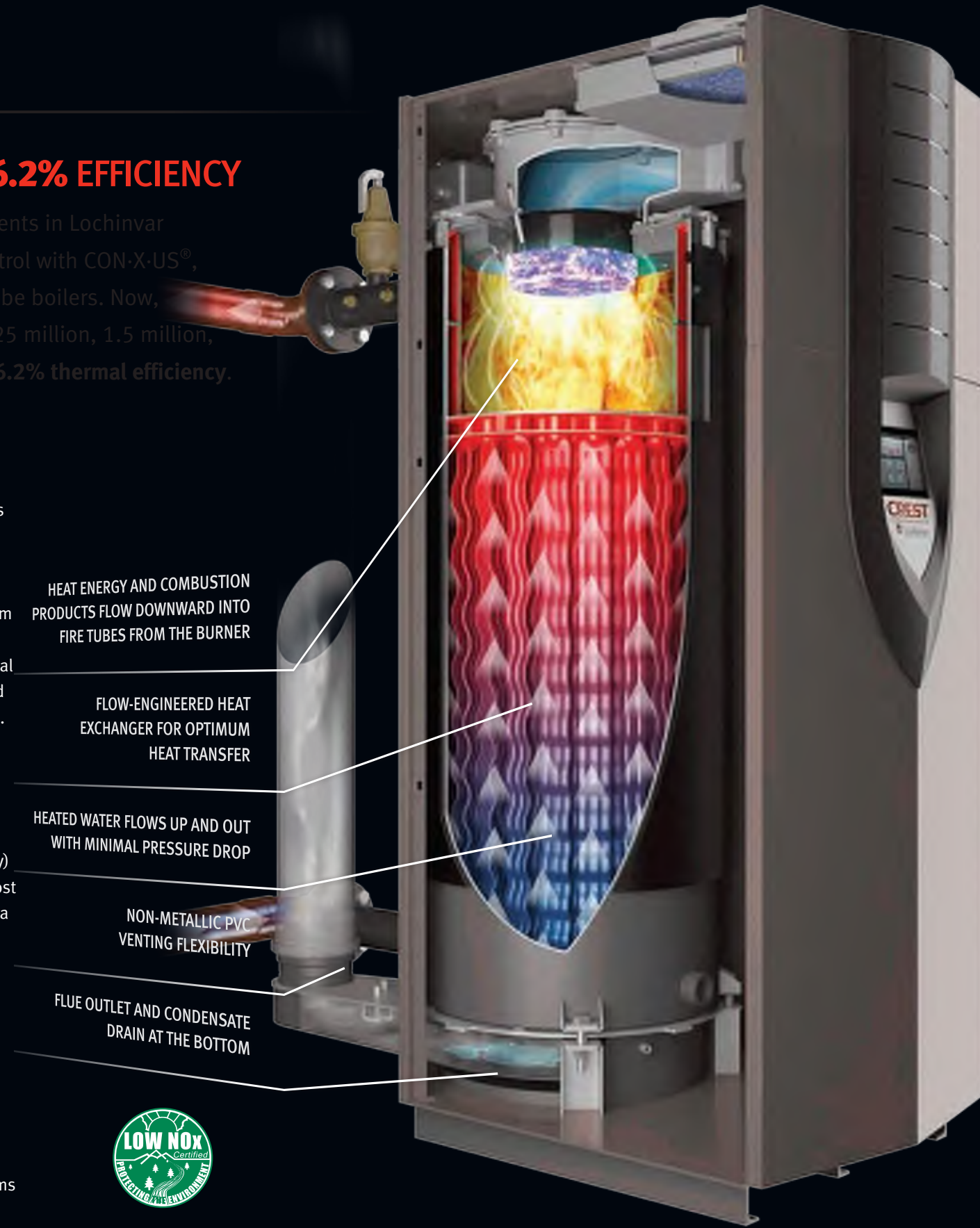
CREST boilers are equipped with a top-mounted micro-metal fiber burner, engineered specifically for fire-tube technology. The system is designed to ensure smooth, quiet modulating combustion with up to 25:1 turndown. A FBN-2001 fires at its maximum 2,000,000 Btu/hr rate when the heat load is highest, and then gradually turns down to as low as 4% (80,000 Btu/hr) as load decreases. A modulating system runs smoothly and efficiently, without frequent on/off cycling. When the system is zoned, CREST's high turndown works to match the actual system demand. In return, CREST reduces the customer's fuel bill and provides better comfort by load-matching the heat loss of the system.

REDUCE INSTALLATION COST WITH VARIABLE FLOW TECHNOLOGY

CREST can operate over a wide range of flow rates with very low pressure drop. This permits installation of a *full flow* (variable primary) system. Installation is streamlined, without the time and materials cost of primary/secondary piping, and pumps needed to maintain flow in a water-tube boiler. Variable flow also makes CREST more flexible at handling frequent fluctuations in the system flow rate.

HIGH EFFICIENCY WITH MINIMUM SUPPLY PRESSURE

CREST operates reliably with supply gas pressure as low as 4 inches water column. Negative Regulation technology draws gas into a pre-mix combustion system, instead of relying on utility pressure through the gas valve. Operation is steady in low gas pressure systems or when peak gas supply demand occurs. Plus, Neg/Reg fan control fine-tunes the fuel/air ratio entering the burner, providing an even, cleaner-burning flame, achieving high combustion efficiency.



SMART TOUCH

INTRODUCING BOILER PLANT CONTROL, FROM ANYWHERE.

Crest features the next generation of Lochinvar's all-in-one SMART TOUCH™ operating control with the integration of the CON-X-US® advanced technology. SMART TOUCH with CON-X-US provides outstanding functionality, and can be integrated directly into a Building Automation Systems via Modbus and BACnet MSTP as standard equipment.

And now, the CON-X-US mobile communication platform allows the SMART TOUCH to go where no other boiler has gone before.

CON-X-US provides the ability to monitor and manage multiple Crest boiler plants without ever stepping into the mechanical rooms. CON-X-US will send alerts via text or email notifying of changes in system status, and anytime, from anywhere, a user can check system status and re-program any boiler function. Once downloaded, the free CON-X-US mobile application allows for remote access to all SMART TOUCH functions using any internet-capable device.

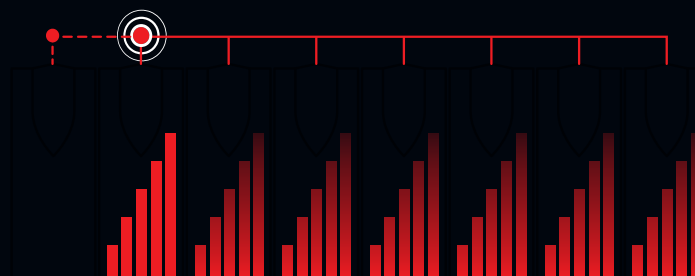


PEACE OF MIND, WHEN IT MATTERS MOST

Cascade Redundancy provides peace of mind because it helps ensure that a CREST boiler system will always deliver reliable performance with no downtime. If the lead boiler is turned off for maintenance, Cascade Redundancy automatically shifts the lead role to the second sequenced boiler. Up to eight CREST boilers can be sequenced using a 2-wire daisy-chain connection. Cascade sequencing can be programmed for Lead-Lag or Efficiency Optimized operation.

With Lead-Lag operation, one lead boiler modulates to capacity on demand. As load increases, the system then cascades to additional lag boilers in sequence. The first-on role shifts daily, distributing equal runtimes to each unit.

In an Efficiency Optimized system (see illustration below), all boilers fire and modulate simultaneously at the same Btu/hr input rates, maximizing thermal efficiency.



CON-X-US™

FLEXIBLE VENTING OPTIONS

CREST offers 6 venting options, and permits direct-vent air intake and exhaust runs up to 100 equivalent feet, using PVC, CPVC, polypropylene or stainless steel pipe. Plus, multiple units can be common-vented to reduce time and materials cost.

- Room Air Vertical
- Room Air Sidewall
- Direct-Vent
- Common-Vent*
- Direct-Vent Vertical
- Vertical w/Sidewall Air

*Contact Lochinvar for information on common venting of CREST boilers.

CREST[®]

CONDENSING BOILER

RIDE THE LOCHINVAR WAVE™ TO 96.2% EFFICIENCY

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HIGH EFFICIENCY WITH MINIMUM SUPPLY PRESSURE

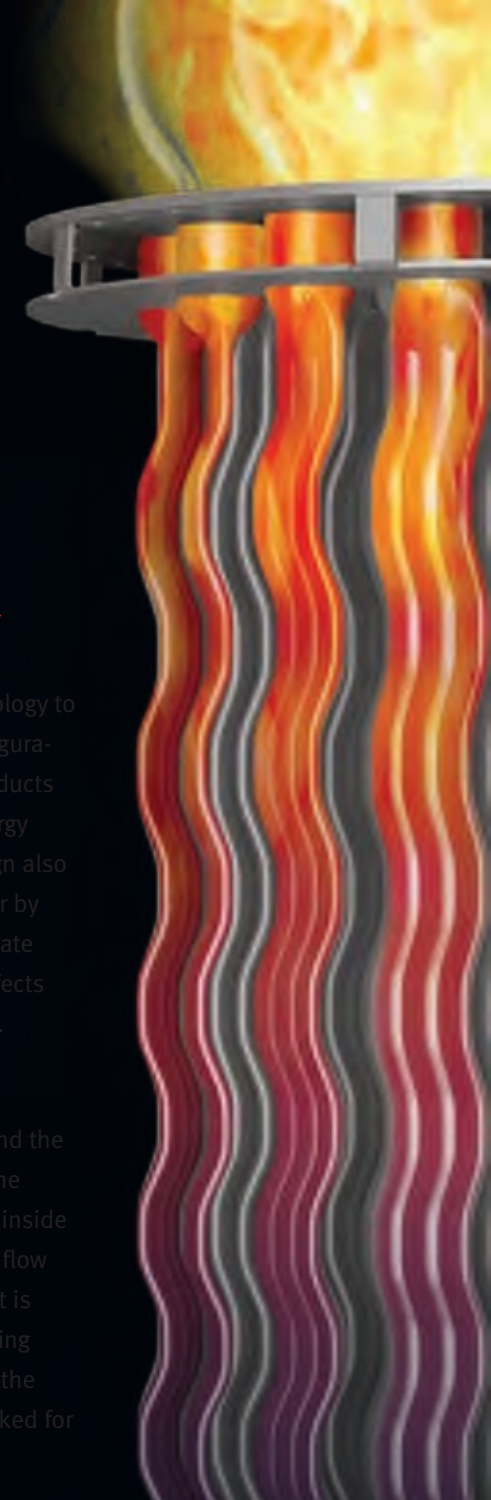
CREST operates reliably with supply gas pressure as low as 4 inches water column. Negative Regulation technology draws gas into a pre-mix combustion system, instead of relying on utility pressure through the gas valve. Operation is steady in low gas pressure systems or when peak gas supply demand occurs. Plus, Neg/Reg fan control fine-tunes the fuel/air ratio entering the burner, providing an even, cleaner-burning flame, achieving high combustion efficiency.



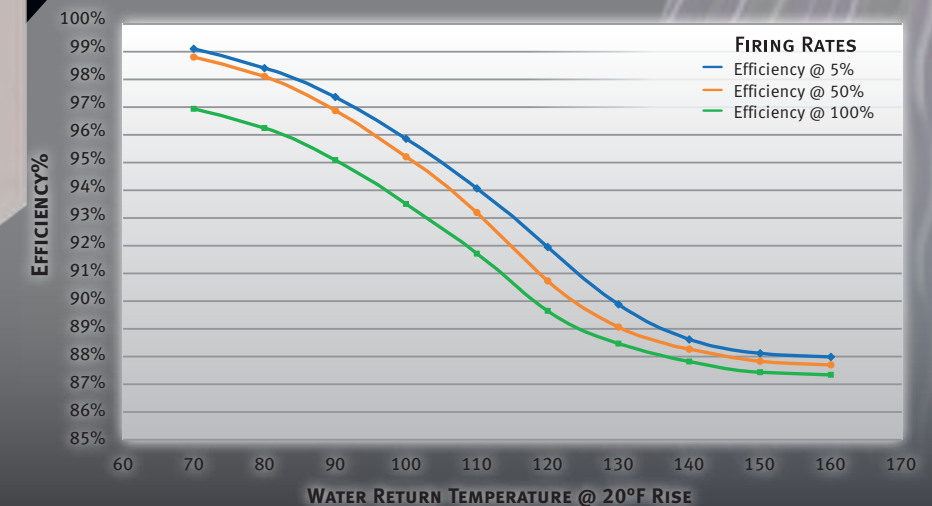
SUPERIOR FIRE-TUBE HEAT EXCHANGER DESIGN BOOSTS THERMAL EFFICIENCY

The CREST boiler takes fire-tube technology to a new level. The patented Wave™ configuration creates turbulence as flue gas products flow down the tube, scrubbing the energy from the flue products. The Wave design also enhances the life of the heat exchanger by allowing the tubes to flex, so they operate stress free with none of the adverse effects suffered by traditional fire-tube boilers.

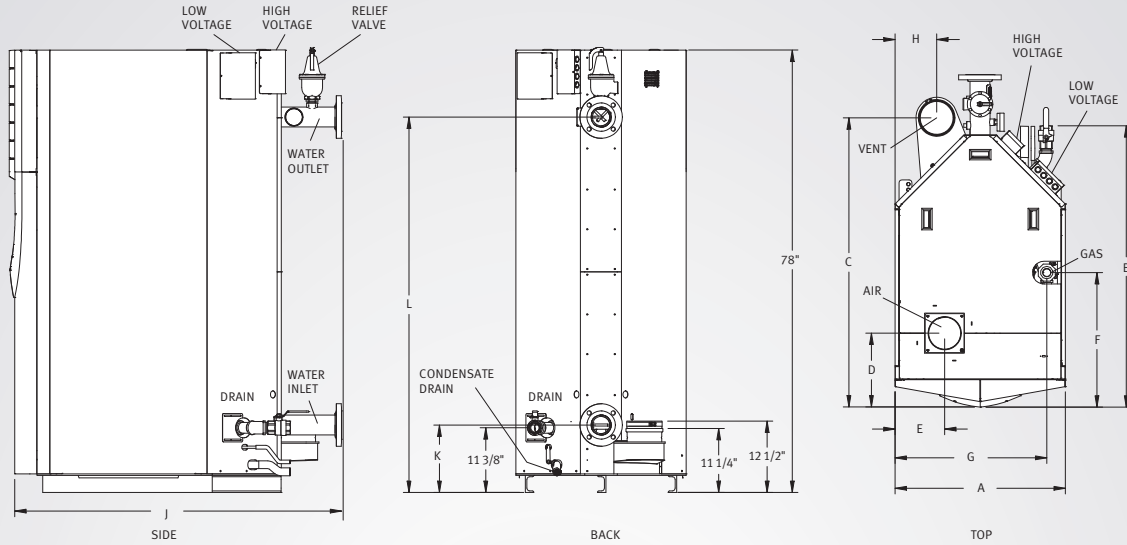
Each fire tube is welded into the heat exchanger and surrounded by water, and the heat transfer process is enhanced by the water's counterflow. As water flows up inside the vessel, super-heated flue products flow down the fire tube. With one pass, heat is effectively captured, reaching condensing temperatures. At the top of the vessel, the combustion chamber is also water-backed for additional heat transfer.



CREST BOILER EFFICIENCY



CREST® BOILER DIMENSIONS AND SPECIFICATIONS



Model Number	Input MBH		AHRI Thermal %	Output MBH	Net AHRI Rating MBH	Turndown	Dimensions (A-L)															Water				
	Min	Max					A	B	C	D	E	F	G	H	J	K	L	Gas Conn.	Inlet/Outlet	Air Intake	Vent Size	Oper. Weight	Ship. Weight			
FBN0751	50	750	96.2%	722	627	15:1	30"	49-1/2"	51"	13"	8-3/4"	23-3/4"	26-3/4"	7-3/8"	57-5/8"	11-7/8"	66-1/8"	1-1/4"	3"	6"	6"	1,768	1,560			
FBN1001	50	1,000	96.2%	962	837	20:1	30"	49-1/2"	51"	13"	8-3/4"	23-1/8"	26-3/4"	6-1/2"	57-5/8"	11-7/8"	66-1/8"	1-1/4"	3"	6"	6"	1,838	1,596			
FBN1251	63	1,250	96.2%	1,203	1,046	20:1	30"	49-1/2"	51-3/8"	13"	8-3/4"	21-5/8"	26-3/4"	6-1/2"	57-3/4"	11-7/8"	66-1/8"	1-1/4"	3"	6"	8"	1,975	1,648			
FBN1501	60	1,500	96.2%	1,443	1,255	25:1	30"	59-1/4"	62-3/8"	15-7/8"	9"	27-7/8"	26-7/8"	5-1/8"	68"	12-3/8"	65-3/8"	1-1/2"	4"	8"	8"	2,307	1,961			
FBN1751	70	1,750	96.2%	1,684	1,464	25:1	30"	58-3/4"	61-1/2"	15-7/8"	9"	27-1/8"	27"	5-1/8"	68"	12-3/8"	65-3/8"	1-1/2"	4"	8"	8"	2,458	2,017			
FBN2001	80	1,999	96.2%	1,924	1,673	25:1	30"	58-3/4"	61-1/2"	15-7/8"	9"	26-3/4"	27"	5-1/8"	68"	12-3/8"	65-3/8"	1-1/2"	4"	8"	8"	2,570	2,087			

NOTES: Indoor installation only. Change "N" to "L" for LP gas models and to "D" for dual fuel models. (Consult factory for availability of Dual Fuel models)
 *Information subject to change without notice

SMART TOUCH™ FEATURES

- CON-X-US Remote Connect**
- SMART TOUCH Touchscreen Operating Control**
- Full-Color 8" Touchscreen LCD Display**
- Built-in Cascading Sequencer for up to 8 Boilers**
 - Built-in Redundancy
 - Cascade Multiple Sized Boilers
 - Lead/Lag Cascade
 - Efficiency Optimized Cascade
- Front-End Loading Capability with Copper-Fin II® and Power-Fin® Boilers**
- Building Management System Integration with 0-10 VDC Input**
- BACnet MSTP Communications**
- Modbus Communication**
- Outdoor Reset Control with Outdoor Air Sensor**
- Password Security**
- Domestic Hot Water Prioritization**
 - DHW tank piped with priority in the boiler loop
 - DHW tank piped as a zone in the system with the pumps controlled by the Smart System
 - DHW Modulation Limiting
 - Separately Adjustable SH/DHW Switching Times
- Low Water Flow Safety Control & Indication**
- Inlet & Outlet Temperature Readout**
- Freeze Protection**
- Service Reminder**
- Time Clock**
- Data Logging**
 - Hours Running, Space Heating
 - Hours Running, Domestic Hot Water
 - Hours Running, Modulation Rate
 - Ignition Attempts
 - Last 10 Lockouts
- Programmable System Efficiency Optimizers**
 - Night Setback
 - Anti-Cycling
 - Outdoor Air Reset Curve
 - Ramp Delay
 - Boost Temperature & Time
 - Modulation Factor Control

- Three Pump Control**
 - System Pump
 - Boiler Pump
 - Domestic Hot Water Pump
- High-Voltage Terminal Strip**
 - 120 VAC / 60 Hertz / 1 Phase Power Supply
 - System Pump, Boiler Pump and DHW Pump Power
- Low-Voltage Terminal Strip**
 - 24 VAC Auxiliary Device Relay
 - Auxiliary Proving Switch Contacts
 - Alarm on Any Failure Contacts
 - Runtime Contacts
 - DHW Thermostat Contacts
 - Unit Enable/Disable Contacts
 - System Sensor Contacts
 - DHW Tank Sensor Contacts
 - Outdoor Air Sensor Contacts
 - Cascade Contacts
 - 0-10 VDC BMS External Control Contact
 - 0-10 VDC Variable Speed Boiler Pump Control Contact

OPTIONAL EQUIPMENT

- Alarm Bell
- BMS Gateway - BACnet IP or LonWorks
- Wireless Outdoor Temperature Sensor
- Condensate Neutralization Kit
- SMART TOUCH PC Software
- Common Vent Kits
- Dual Fuel Gas Train
- Motorized Isolation Valve
- Variable Speed Boiler Pump
- Electrical Options (Shipped Loose):
 - 208V/3Ø/60Hz
 - 480V/3Ø/60Hz
 - 600V/3Ø/60Hz

CODES & REGISTRATIONS

- ANSI Z21.13/CSA Certified
- ASME Certified, "H" Stamp / National Board
- California Code Compliant
- CSD1 / Factory Mutual / GE Gap Compliant
- Canadian Registration Number (CRN)
- South Coast Air Quality Management District Qualified
- AHRI Certified

STANDARD FEATURES

- 96.2% Thermal Efficiency (AHRI)
- Up to 99% Thermal Efficiency in Low-Temp. Applications
- Modulating Burner with up to 25:1 Turndown
- Direct-Spark Ignition
- Low NOx Operation
- Sealed Combustion
- Air Inlet Filter w/Replacement Reminder
- Low Gas Pressure Operation
- Vertical and Horizontal Direct Venting
 - Direct Vent up to 100 Feet
 - PVC, CPVC, Polypropylene or AL29-4C
- ASME "H" Stamped Heat Exchanger
- 316L Stainless Steel Fire Tubes
- 160 psi Working Pressure
- On/Off Switch
- Adjustable High Limit with Manual Reset
- Low Water Cutoff with Manual Reset & Test
- High & Low Gas Pressure Switches w/Manual Reset
- Low Air Pressure Switches
- Condensate Trap w/Blocked Drain Switch
- Drain Valve
- System Sensor
- Outdoor Air Sensor
- Inlet & Outlet Temperature Sensors
- High-Voltage Terminal Strip
- Low-Voltage Terminal Strip
- Downstream Gas Test Cocks
- 50 psi ASME Relief Valve
- Temperature & Pressure Gauge
- Zero Clearances to Combustible Materials
- 10-Year Limited Warranty (See Warranty for Details)
- 1-Year Warranty on Parts (See Warranty for Details)



Lochinvar, LLC
 300 Maddox Simpson Parkway
 Lebanon, Tennessee 37090
 P: 615.889.8900 | F: 615.547.1000
www.lochinvar.com



Job/Project:	Representative: Blackmore and Glunt, Inc.		
ESP-Systemwize: WIZE-BC8E7892	Created On: 04/06/2022	Phone: (314) 878-4313	
Location/Tag:	Email: sblackmore@b-g.com		
Engineer:	Submitted By:	Date:	
Contractor:	Approved By:	Date:	

Split-Coupled In-Line Centrifugal Pump

Series: e-80SC

Model: 2x2x7B

Features & Design

- Best in Class Hydraulic Performance
- Shaft Jacking Coupling
- Optional Flange Mounting Supports



*The Bell & Gossett Series e-80SC is available in stainless steel fitted construction, with flows to 8500 GPM, heads to 202 ft.

Pump Selection Summary

Duty Point Flow	115 US gpm
Duty Point Head	70 ft
Control Head	21 ft
Duty Point Pump Efficiency	59.6 %
Part Load Efficiency Value (PLEV)	56.8 %
Impeller Diameter	5.25 in
Motor Power	7.5 hp
Duty Point Power	3.35 bhp
Motor Speed	3600 rpm
RPM @ Duty Point	2976 rpm
NPSHr	8.62 ft
Minimum Shutoff Head	79 ft
Minimum Flow at RPM	26 US gpm
Flow @ BEP	130 US gpm
Fluid Temperature	68 °F
Fluid Type	40% Propylene glycol
Weight (approx. - consult rep for exact)	0 lbs
Pump Floor Space Calculation	1.87 ft ²

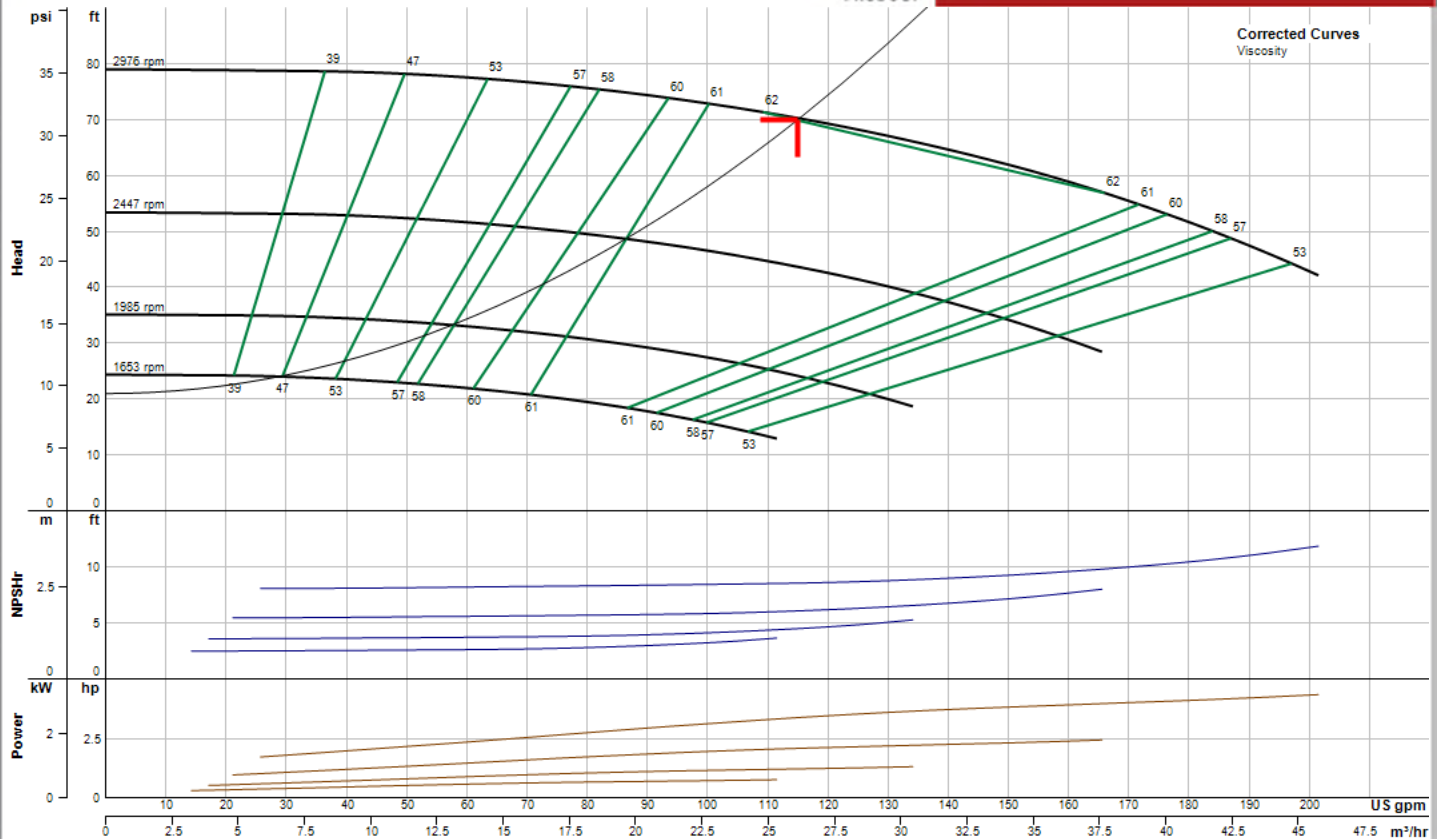
Performance Curve

Energy Efficiency Ratings:

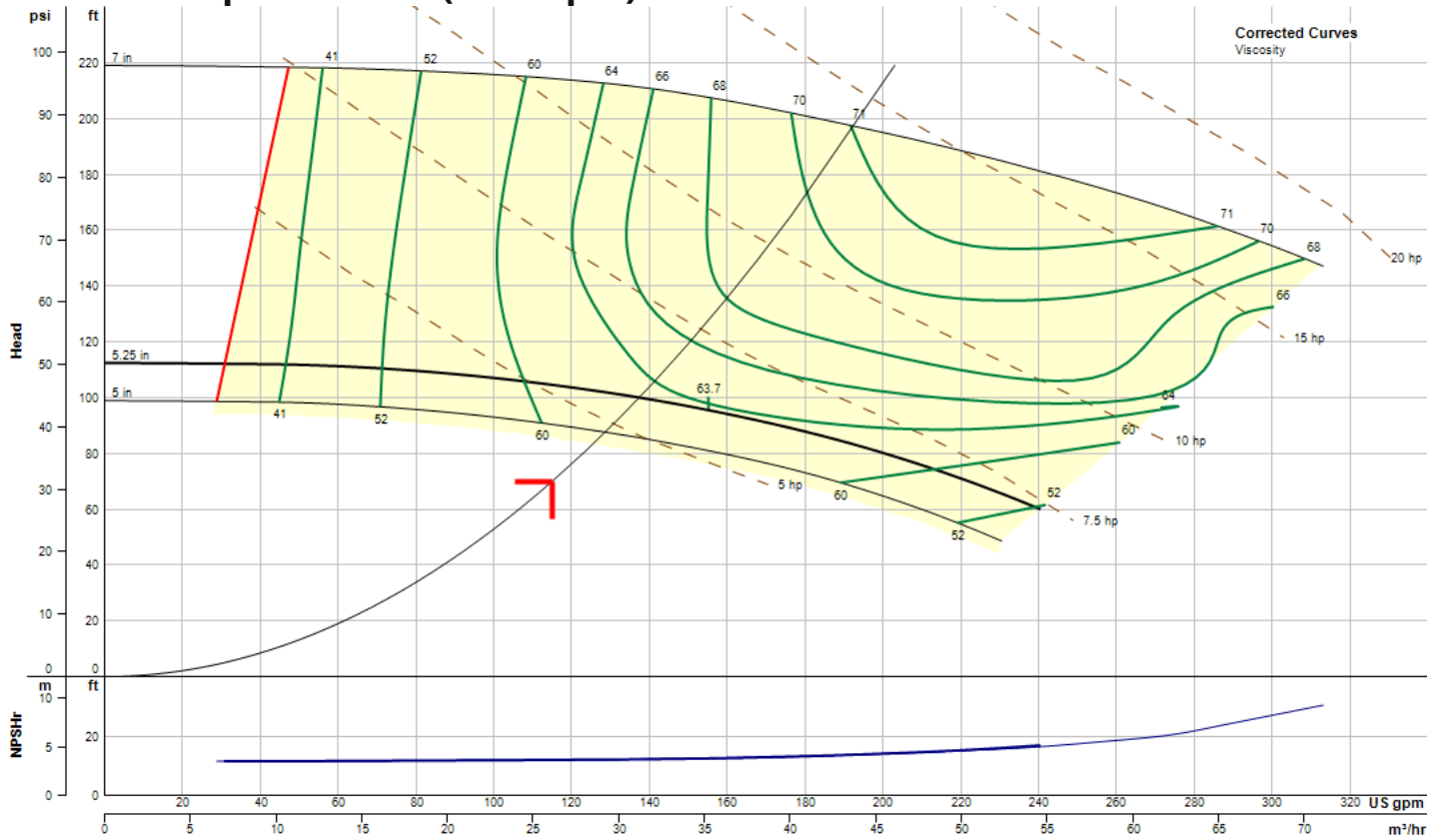
Pump & Motor PEIc: 0.87 ERc: 13
Pump, Motor & Drive: PEIv: 0.44 ERv: 56



e-80SC
2x2x7B
2976 RPM



Constant Speed Curve (3550 rpm)

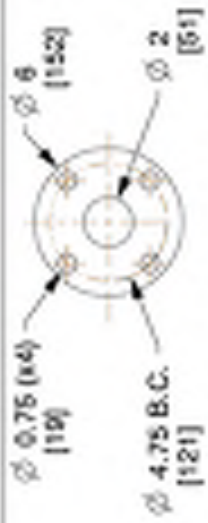
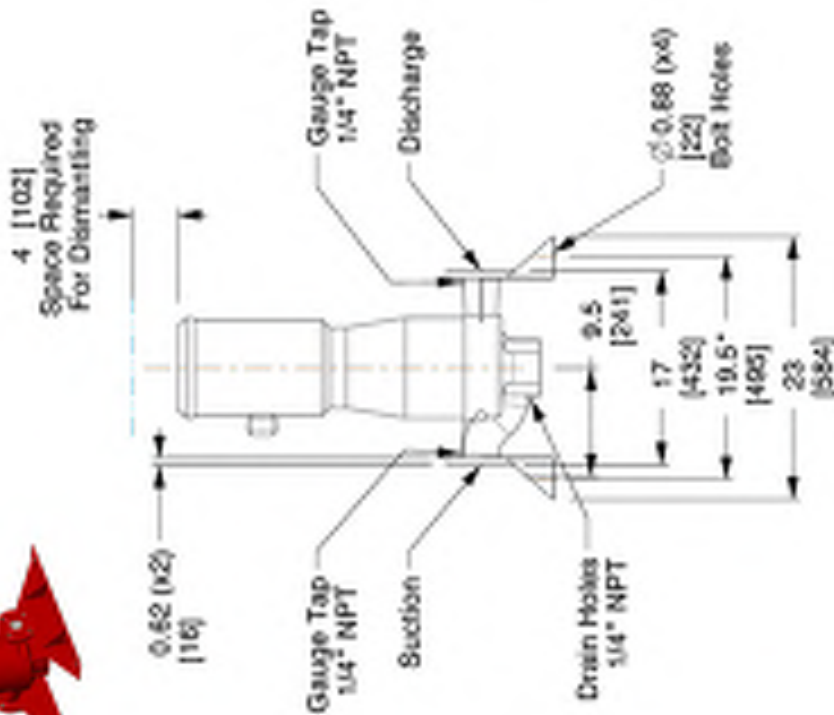


Operating Point

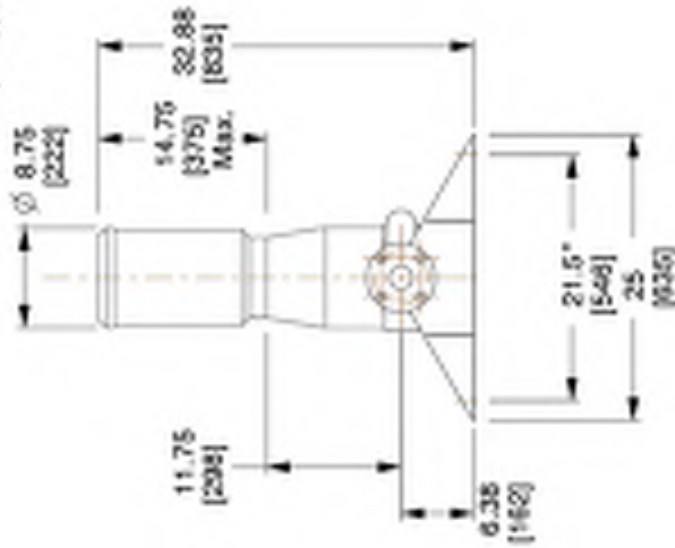
Flow: 115 US gpm **Head:** 69.9 ft **Speed:** 2976 **Efficiency:** 59.6% **Point BHP:** 3.35 **End Of Curve:** 57%

Maximum Duty Point (at rated motor speed)

Flow: 137 US gpm **Head:** 99.6 ft **Speed:** 3550 **Efficiency:** 62.4% **Point BHP:** 5.65 **NOL Flow:** 240 US gpm **Runout Flow:** 240 US gpm **NOL (BHP):** 7.32



**2" SUCTION & DISCHARGE
FLANGE DETAILS**
ANSI 125#



* Dist. Between Bolt Holes

BG-E80SC-2x2x7B-184TC-1-FM

Series e-80SC In-Line Mounted Centrifugal Pumps
Motor Frame: 184TC | Flange: ANSI 125# | Flange mount

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Dimensions are subject to change

Not to be used for construction unless certified



8200 N. Austin Ave.
Morton Grove, IL 60053, USA

Scale : M.T.S.

Dimensions : IM (mm)

Submittal # : B-552.4

Materials of Construction

Description	Stainless Steel Fitted Pump
Shaft	416 Stainless Steel
Volute	Cast Iron ASTM A48 Class 30B
Impeller	ASTM A743 Grade CF8 (304SS)
Impeller Key	Stainless Steel
Impeller Lock Washer	Stainless Steel
Impeller Capscrew	Stainless Steel
Volute Gasket	Cellulose Fiber
Throttle Bushing	Carbon Graphite
Seal Assemblies	
• Standard Seal-Inside Flushed	
Bellows	EPR
Faces	Carbon-Ceramic
Metal Parts	Stainless Steel or Brass
Spring	Stainless Steel or Brass
• Optional Seal -Inside Flushed	
Bellows	EPR
Faces	Carbon-Tungsten Carbide
• Optional Seal-Outside Flushed	
O-Rings	EPR
Faces	Carbon-Ceramic
Metal Parts	Stainless Steel

Standard pump construction is 175 psi working pressure with 125 ANSI flange drilling. Optional 250 psi working pressure with 250 ANSI flange drilling is available.

Seal Selection Guide - Optional Outside Seal

A. Standard Seal - Inside with flush line.

EPR/Carbon-Ceramic; Temperature Range -20° to +250°F (-29° to +121°C).

*Maximum pressure is 175 psi (12 bar).

B. Optional Seal - Inside with flush line.

EPR/Carbon-Tungsten Carbide; Temperature Range -20° to +250°F (-29° to +121°C). * For use on open or closed water systems. Maximum pressure is 250 psi (17 bar).

C. Optional Seal - Outside with flush line.

EPR/Carbon-Ceramic Type "8B2"; Temperature Range -20° to +250°F (-29° to +121°C). * For use on closed or open systems where the pressure requirements exceed the limitations of the standard seal or an alternate seal design is desired. Maximum pressure is 250 psi (17 bar).

*For operating conditions above 250°F (121°C and no greater than 300°F (149°C) a cooled flush is required. On closed systems cooling is accomplished by inserting the optional heat exchanger kit in the flush line to cool the seal flushing fluid.

Flush line filters and sediment separators are available on request.

Configuration Options

Contact your local rep for assistance

Mounting

- In-Line Piping
- Flange Supports

Pump Variable Speed Control

- Integrated Technologic® Sensorless Control (ITSC)
- Integrated Technologic® (IT)
 - External input by others
 - Pressure Sensor(s)
 - Differential Pressure Sensor(s)
 - Flow Sensor(s)
- By Others

Type of Seal

- Standard Inside Unitized (EPR/Carbon-Ceramic)
- Inside Unitized (EPR/Carbon-Tungsten Carbide)-250#
- Inside Unitized (FKM/Carbon-Ceramic)
- Inside Unitized (EPR/SilCar/SilCar/SS)
- Other seal, see description
- Outside (EPR/Carbon-Ceramic)-250#
- Outside (FKM/Carbon-Ceramic)-250#



Shown with optional Technologic IPC variable frequency drive and Technologic PPS controller

Job/Project:	Representative: Blackmore and Glunt, Inc.		
ESP-Systemwize: WIZE-99C790DE	Created On: 04/10/2022	Phone: (314) 878-4313	
Location/Tag:	Email: sblackmore@b-g.com		
Engineer:	Submitted By:	Date:	
Contractor:	Approved By:	Date:	

Split-Coupled In-Line Centrifugal Pump

Series: e-80SC
Model: 1.5x1.5x9.5B

Features & Design

- Best in Class Hydraulic Performance
- Shaft Jacking Coupling
- Optional Flange Mounting Supports



*The Bell & Gossett Series e-80SC is available in stainless steel fitted construction, with flows to 8500 GPM, heads to 202 ft.

Pump Selection Summary

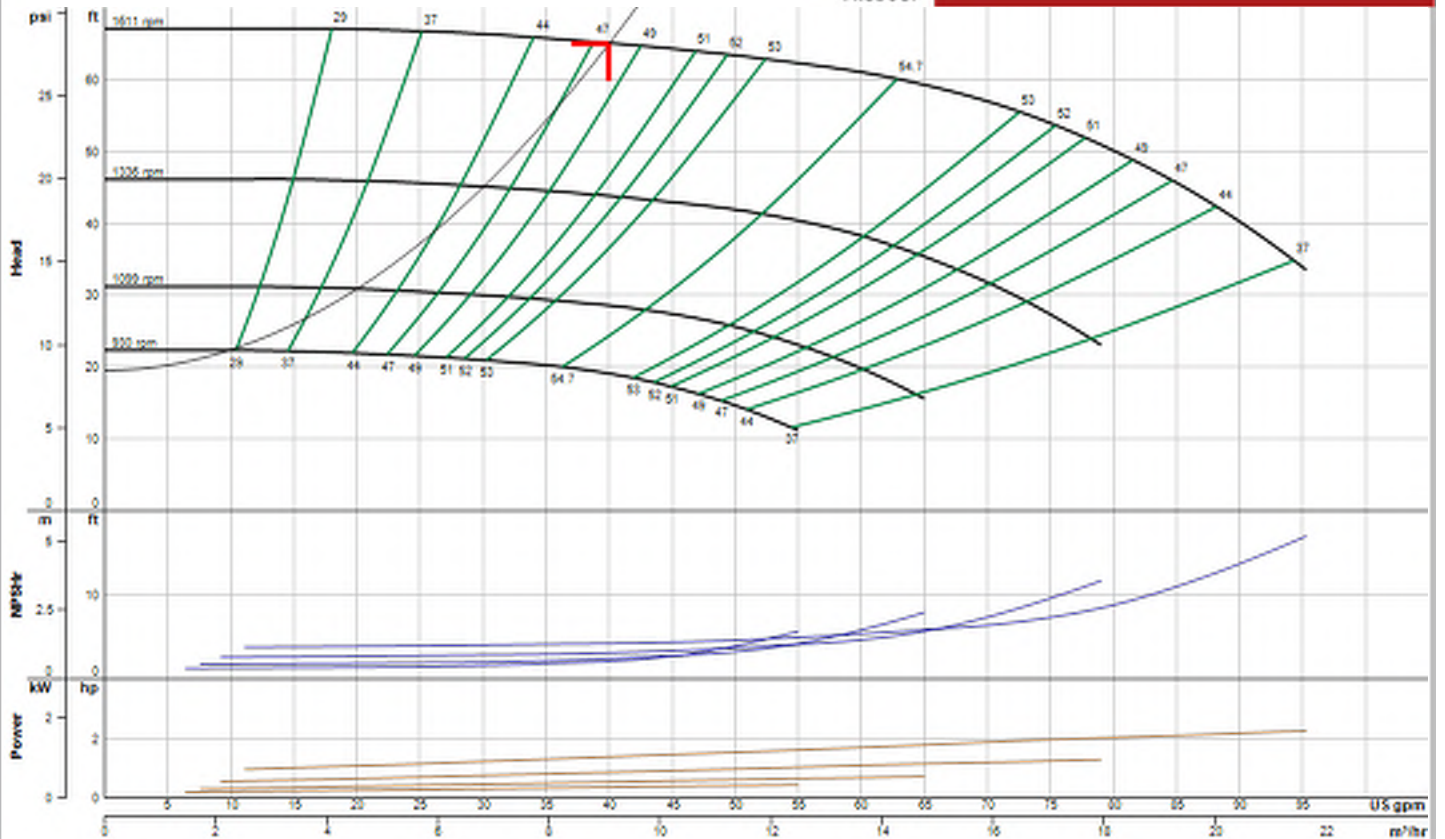
Duty Point Flow	40 US gpm
Duty Point Head	65 ft
Control Head	19.5 ft
Duty Point Pump Efficiency	47.4 %
Part Load Efficiency Value (PLEV)	40.2 %
Impeller Diameter	8.625 in
Motor Power	3 hp
Duty Point Power	1.38 bhp
Motor Speed	1800 rpm
RPM @ Duty Point	1611 rpm
NPSHr	4.26 ft
Minimum Shutoff Head	67.1 ft
Minimum Flow at RPM	9.43 US gpm
Flow @ BEP	62.8 US gpm
Fluid Temperature	68 °F
Fluid Type	Water
Weight (approx. - consult rep for exact)	0 lbs
Pump Floor Space Calculation	1.78 ft²

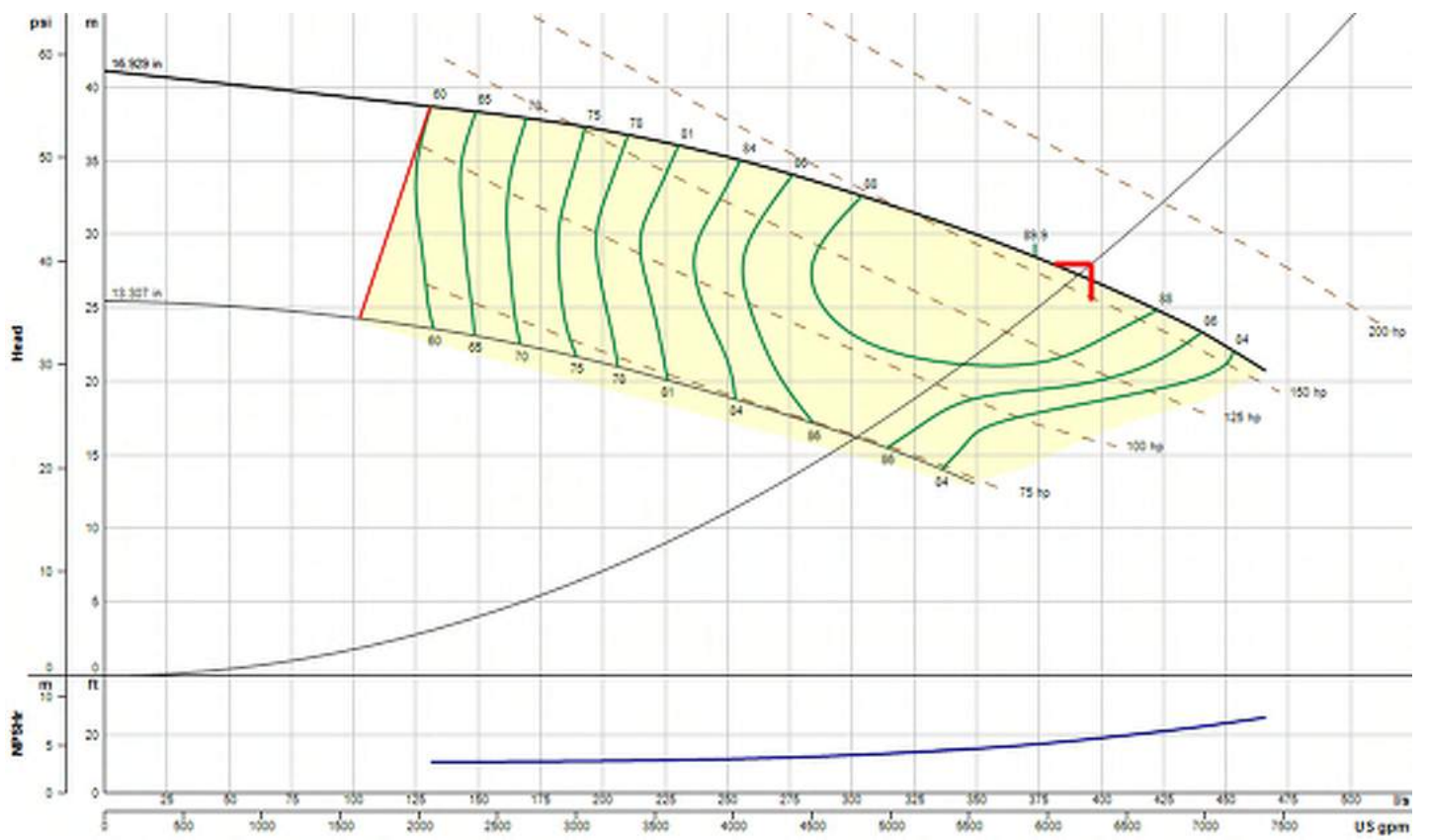
Performance Curve

Energy Efficiency Ratings:
Pump & Motor PEIc: 0.8 ERcI: 20
Pump, Motor & Drive: PEIv: 0.42 ERvI: 58



e-80SC
1.5x1.5x9.5B
1611 RPM

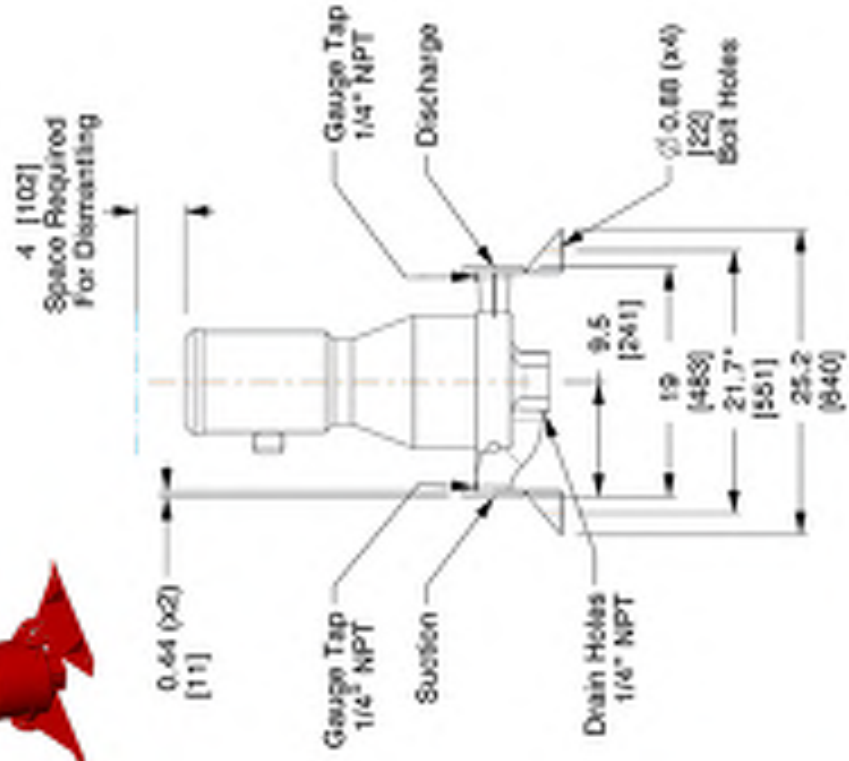




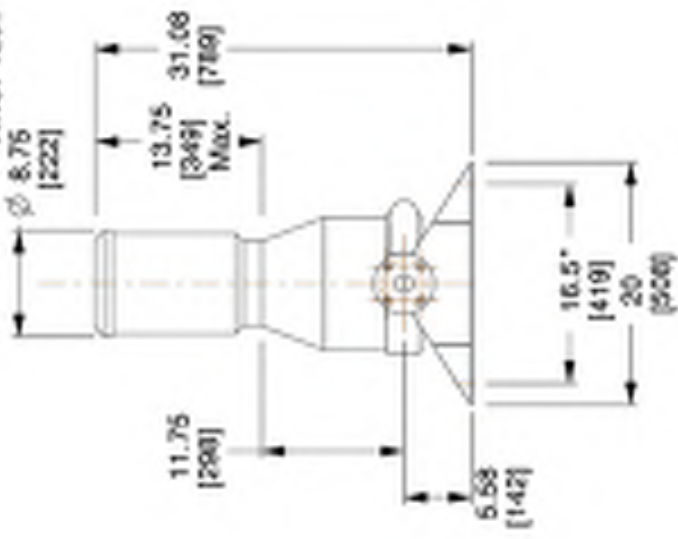
Operating Point

Flow: 40 US gpm Head: 65.1 ft Speed: 1611 Efficiency: 47.4% Point BHP: 1.38 End Of Curve: 42%

Maximum Duty Point (at rated motor speed)



**1.5" SUCTION & DISCHARGE
FLANGE DETAILS
ANSI 125#**



* Dist. Between Bolt Holes

BG-E80SC-1.5x1.5x9.5B-182TC-1-FM

Series e-80SC In-Line Mounted Centrifugal Pumps
Motor Frame-182TC | Flange-ANSI 125# | Flange mount

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Dimensions are subject to change

Not to be used for construction unless certified

Bell & Gossett
a xylem brand

8200 N. Austin Ave.
Morton Grove, IL 60053, USA

Dimensions : IM (mm) Scale : M.T.S. Submittal # : B-552.2

Materials of Construction

Description	Stainless Steel Fitted Pump
Shaft	416 Stainless Steel
Volute	Cast Iron ASTM A48 Class 30B
Impeller	ASTM A743 Grade CF8 (304SS)
Impeller Key	Stainless Steel
Impeller Lock Washer	Stainless Steel
Impeller Capscrew	Stainless Steel
Volute Gasket	Cellulose Fiber
Throttle Bushing	Carbon Graphite
Seal Assemblies	
• Standard Seal-Inside Flushed	
Bellows	EPR
Faces	Carbon-Ceramic
Metal Parts	Stainless Steel or Brass
Spring	Stainless Steel or Brass
• Optional Seal -Inside Flushed	
Bellows	EPR
Faces	Carbon-Tungsten Carbide
• Optional Seal-Outside Flushed	
O-Rings	EPR
Faces	Carbon-Ceramic
Metal Parts	Stainless Steel

Standard pump construction is 175 psi working pressure with 125 ANSI flange drilling. Optional 250 psi working pressure with 250 ANSI flange drilling is available.

Seal Selection Guide - Optional Outside Seal

A. Standard Seal - Inside with flush line.

EPR/Carbon-Ceramic; Temperature Range -20° to +250°F (-29° to +121°C).

*Maximum pressure is 175 psi (12 bar).

B. Optional Seal - Inside with flush line.

EPR/Carbon-Tungsten Carbide; Temperature Range -20° to +250°F (-29° to +121°C). * For use on open or closed water systems. Maximum pressure is 250 psi (17 bar).

C. Optional Seal - Outside with flush line.

EPR/Carbon-Ceramic Type "8B2"; Temperature Range -20° to +250°F (-29° to +121°C). * For use on closed or open systems where the pressure requirements exceed the limitations of the standard seal or an alternate seal design is desired. Maximum pressure is 250 psi (17 bar).

*For operating conditions above 250°F (121°C and no greater than 300°F (149°C) a cooled flush is required. On closed systems cooling is accomplished by inserting the optional heat exchanger kit in the flush line to cool the seal flushing fluid.

Flush line filters and sediment separators are available on request.

Configuration Options

Contact your local rep for assistance

Mounting

- In-Line Piping
- Flange Supports

Pump Variable Speed Control

- Integrated Technologic® Sensorless Control (ITSC)
- Integrated Technologic® (IT)
 - External input by others
 - Pressure Sensor(s)
 - Differential Pressure Sensor(s)
 - Flow Sensor(s)
- By Others

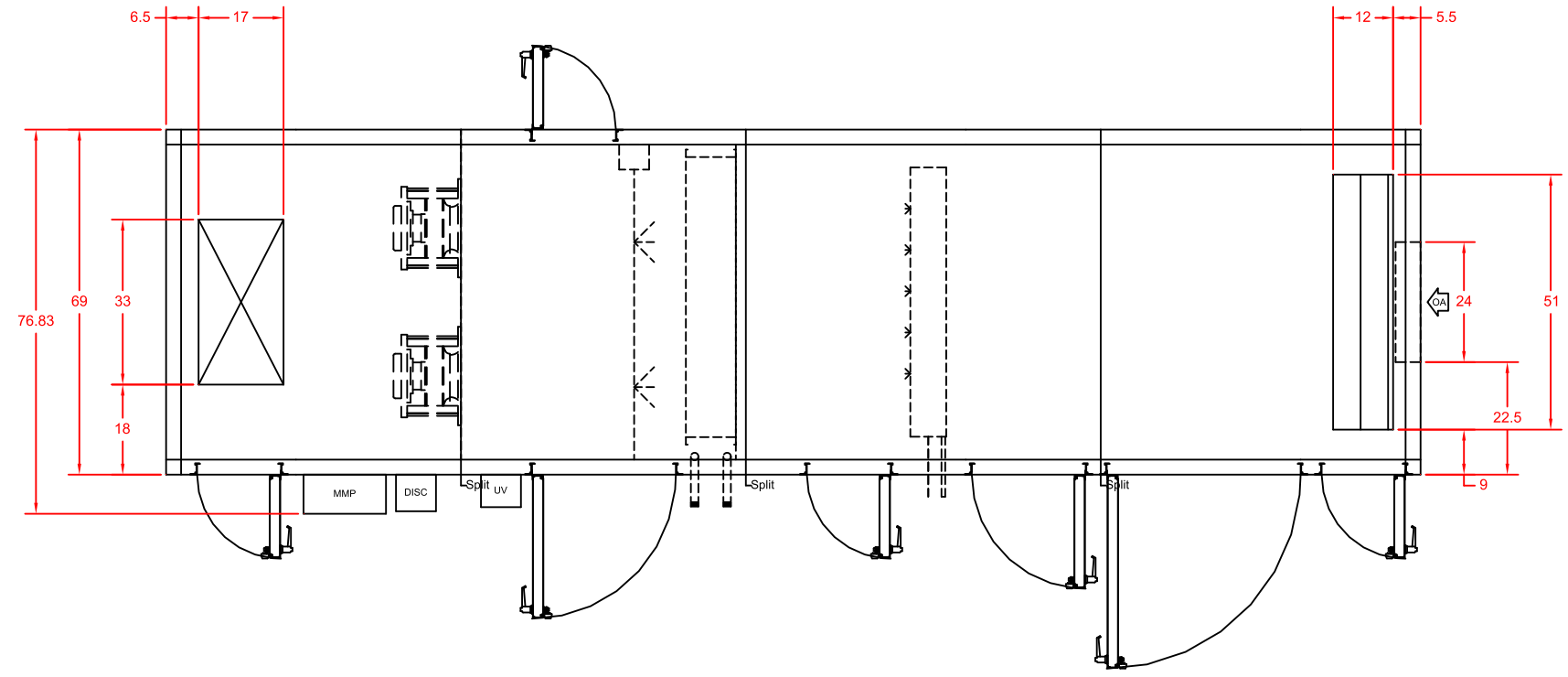
Type of Seal

- Standard Inside Unitized (EPR/Carbon-Ceramic)
- Inside Unitized (EPR/Carbon-Tungsten Carbide)-250#
- Inside Unitized (FKM/Carbon-Ceramic)
- Inside Unitized (EPR/SilCar/SilCar/SS)
- Other seal, see description
- Outside (EPR/Carbon-Ceramic)-250#
- Outside (FKM/Carbon-Ceramic)-250#

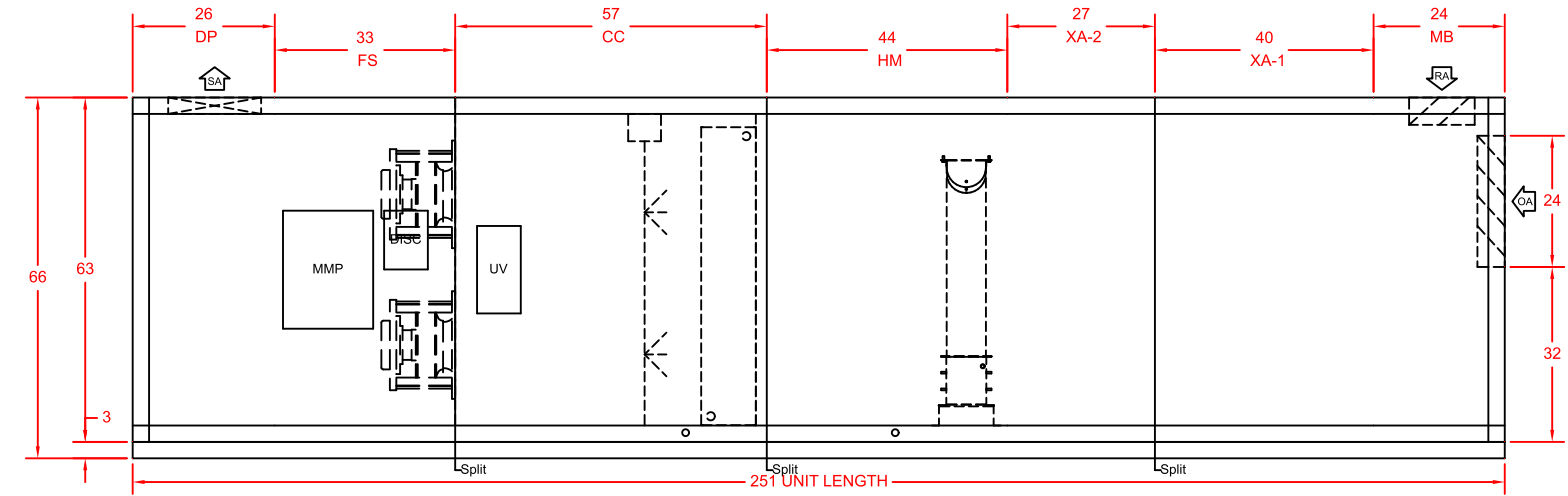


Shown with optional Technologic IPC variable frequency drive and Technologic PPS controller

AHU-2



PLAN VIEW



* NOTE: MAX HEIGHT

ELEVATION VIEW

UNIT CONSTRUCTION
 Model: Solution-XTI-63x69 Construction: Indoor
 Motor Location:
 Unit Weight: 3,887 lbs. (+/- 10%)

Right
 Front (Return)
 Left
 Rear (Supply)
 AIRFLOW

NOTES

Units with a baserail and a bottom opening: Duct connection flush with the bottom of unit, not flush with bottom of baserail.

Refer to performance report for shipping split details. Allow sufficient space around the unit for removing the access panels and various parts of the unit. A minimum clearance equal to the width of the unit must be provided on one side of the unit for removing the coil or fan assembly.

Contractor responsible for penetrations and connections of all electrical boxes and internal coil connections.

Overall dimensions account for: outdoor roof peak and overhang, motor control and/or factory package control boxes, coil connections, rain hoods, pipe chases, AMS-60 damper/EAML louver (if applicable,) base rail - in order to convey the true space requirements for the unit.

Certain items may extend beyond cabinet dimensions including: door handles, light switches, electrical boxes, lifting lugs, gas fuel system, etc.

The overall unit length includes an additional 1/4" per shipping split due to additional gasketing and split connection hardware.

Dimension tolerances: Unit (+/- 1/2"); Piping (+/- 2")

Ⓢ - Designates Shipped Loose Item(s)

PIPING CONNECTIONS
(In order of Airflow)

Segment	Type	Hand	Quantity	Supply	Return
CC	MPT	Left	1 Sup 1 Ret	1 1/2"	1 1/2"

Drain pan connection size 1 1/4" MPT SCH 40 (Connections on Left Side of unit)

SECTION LIST

SECT	DESCRIPTION
MB	Mixing Box
XA-1	Variable Length Access
XA-2	Variable Length Access
HM	Humidifier
CC	Cooling Coil
FS	Supply Fan - EG1R-240-310-35 - EBM 3.00 kW
DP	Discharge Plenum

PRODUCT DRAWING
 SOLUTION XT AIR HANDLING UNIT DETAIL
 MODEL: Solution-XTI-63x69
NOT FOR CONSTRUCTION

Project Name: Hot Springs National Park
 Location:
 Engineer:
 Contractor:
 For:

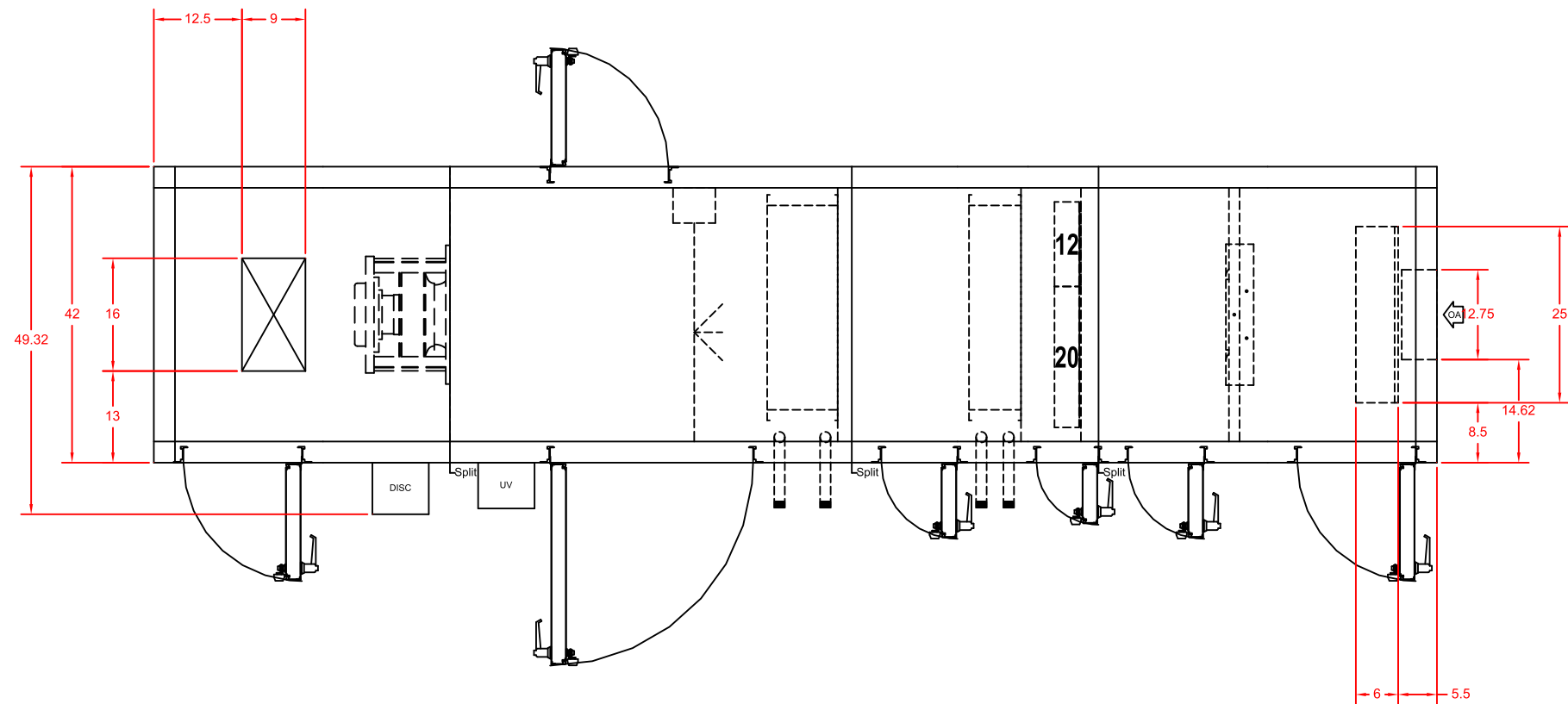
Sold To:
 Cust Purch Order#:
 Contract#:
 UNIT TAG: **AHU-2 - Sheet 1**

Date: 4/13/2022 14:16:12
 Version:
 Form No.:
 Dwg. Lev.: 5/03
 Dwg. Scale: NTS

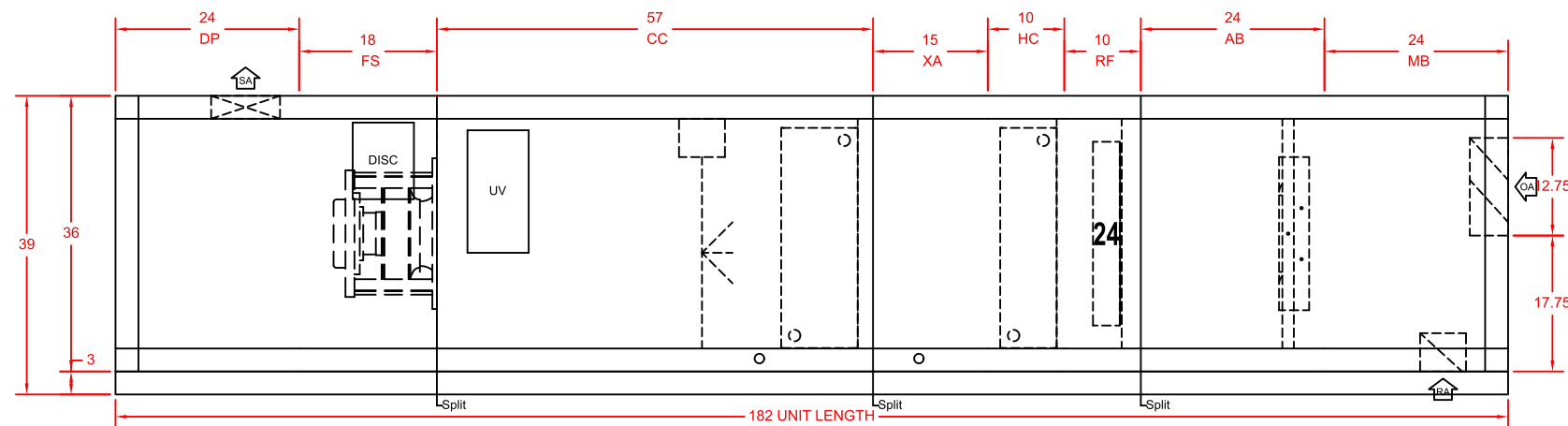
Serial Number:
 SQ Database Number:
 YORKworks Release:
 Dwg. Name:
 Dwg. Location:



AHU-3



PLAN VIEW



ELEVATION VIEW

* NOTE: MAX HEIGHT

UNIT CONSTRUCTION
 Model: Solution-XTI-36x42 Construction: Indoor
 Motor Location:
 Unit Weight: 2,057 lbs. (+/- 10%)

PLAN VIEW
 Rear (Supply) Right Front (Return) Left AIRFLOW

NOTES

Units with a baserail and a bottom opening: Duct connection flush with the bottom of unit, not flush with bottom of baserail.

Refer to performance report for shipping split details. Allow sufficient space around the unit for removing the access panels and various parts of the unit. A minimum clearance equal to the width of the unit must be provided on one side of the unit for removing the coil or fan assembly.

Contractor responsible for penetrations and connections of all electrical boxes and internal coil connections.

Overall dimensions account for: outdoor roof peak and overhang, motor control and/or factory package control boxes, coil connections, rain hoods, pipe chases, AMS-60 damper/EAML louver (if applicable,) base rail - in order to convey the true space requirements for the unit.

Certain items may extend beyond cabinet dimensions including: door handles, light switches, electrical boxes, lifting lugs, gas fuel system, etc.

The overall unit length includes an additional 1/4" per shipping split due to additional gasketing and split connection hardware.

Dimension tolerances: Unit (+/- 1/2"); Piping (+/- 2")
 © - Designates Shipped Loose Item(s)

PIPING CONNECTIONS
 (In order of Airflow)

Segment	Type	Hand	Quantity	Supply	Return
HC	MPT	Left	1 Sup 1 Ret	1 1/2"	1 1/2"
CC	MPT	Left	1 Sup 1 Ret	1 1/2"	1 1/2"

Drain pan connection size 1 1/4" MPT SCH 40
 (Connections on Left Side of unit)

SECTION LIST

SECT	DESCRIPTION
MB	Mixing Box
AB	Air Blender
RF	High Efficiency Filter
HC	Heating Coil
XA	Variable Length Access
CC	Cooling Coil
FS	Supply Fan - EG1R-240-310-35 - EBM 3.00 kW
DP	Discharge Plenum

PRODUCT DRAWING
 SOLUTION XT AIR HANDLING UNIT DETAIL
 MODEL: Solution-XTI-36x42
NOT FOR CONSTRUCTION

Project Name: Hot Springs National Park
 Location:
 Engineer:
 Contractor:
 For:

Sold To:
 Cust Purch Order#:
 Contract#:
 UNIT TAG: **AHU-3 - Sheet 1**

Date: 4/13/2022 18:7:3
 Version:
 Form No.:
 Dwg. Lev.: 5/03
 Dwg. Scale: NTS

Serial Number:
 SQ Database Number:
 YORKworks Release:
 Dwg. Name:
 Dwg. Location:





COOK



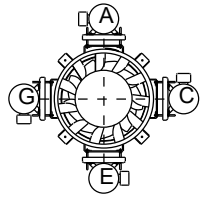
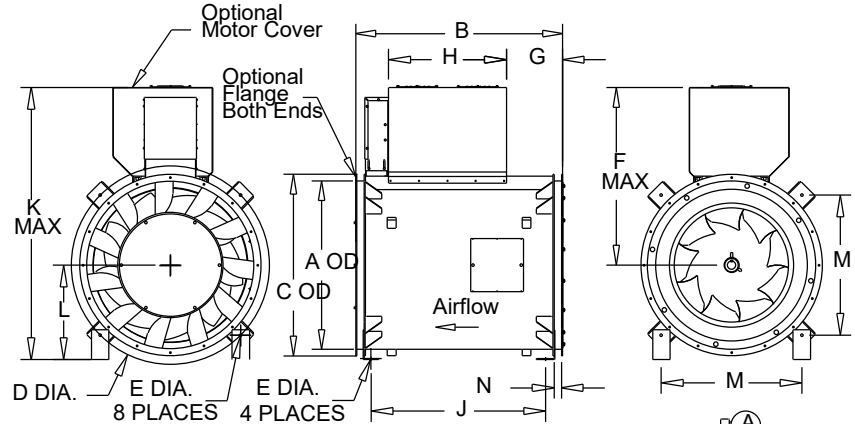
MARK: R/E-1
PROJECT: LIBBEY FANS
DATE: 4/9/2022

Return/Exhaust Fan R/E-1

QMX

**Mixed Flow Inline
Vertical/Horizontal Mount
Belt Drive
Arrangement 9
Level 1**

STANDARD CONSTRUCTION FEATURES:
 High efficiency mixed flow wheel - Continuously welded steel housing with Lorenized powder coating
 - Welded aerodynamic straightening vanes - Integral inlet and outlet collars for slip fit duct connections - Adjustable motor plate utilizing threaded studs for positive belt tensioning - Heavy duty ball or roller bearings with extended lube lines - Belt guard - Lifting lugs - Shaft locking collar.



Performance (*Bhp includes 7% drive loss)

Qty	Catalog Number	Flow (CFM)	SP (inwc)	Fan RPM	Power* (HP)	FEG	FEI
1	245QMX	7200	1.00	849	1.78	75	1.44

Altitude (ft): 900 Temperature (F): 70

Motor Information

HP	RPM	Volts/Ph/Hz	Enclosure	FLA	Position	Mounted	VFD Rated
3	1725	460/3/60	ODP -PE	4.8	E	Yes	Yes

NEMA Premium® efficiency motor per MG-1 (2014) Table 12-12
 FLA based on NEC (2014) Table 430.250

Fan Information

Level	OVel(fpm)	Fan Mount	Access
1	1105	Horz. Ceiling	G

Sound Data Sound Power by Octave Band

	1	2	3	4	5	6	7	8	LwA	dBA
Inlet	79	80	80	77	72	68	60	52	78	67
Outlet	79	79	81	77	71	67	61	54	78	67

Accessories:

Premium Efficiency Motor (Min. 89.5%)
 DRIVES (1.5 SF) @ 849 RPM
 SC-245 SET(4) - ISOLATORS

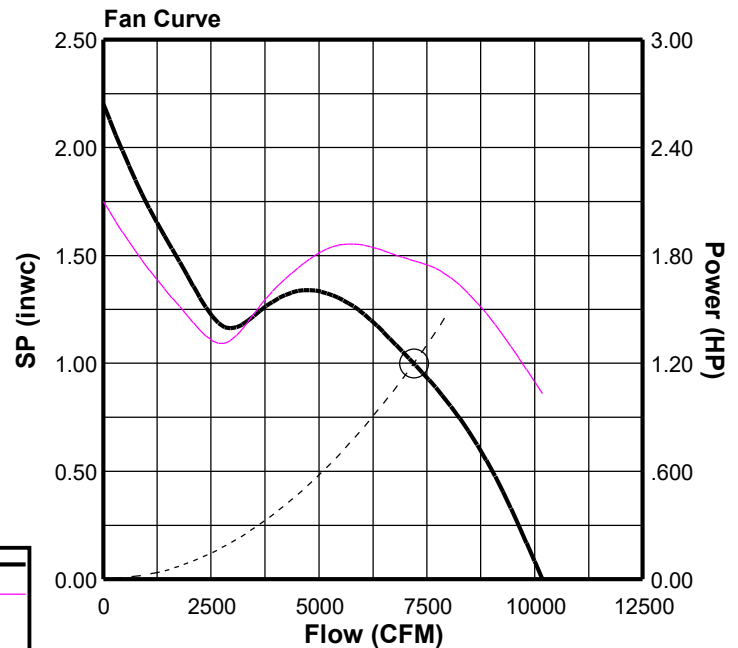
Dimensions (inches)

A	34-3/4
B	44-1/2
C	37-3/4
D	41-9/16
E	3/8
F	37-7/8
G	14-3/16
H	23-3/4
J	35-7/8
K	58-3/8
L	20-1/2
M	29-7/16
N	1-15/16

NOTE: Accessories may affect dimensions shown.

Weight(lbs)***	Shipping	867	Unit	679
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***Includes fan, motor & accessories.



Fan Curve Legend

CFM vs SP	—
CFM vs HP	—
Point of Operation	○
System Curve	- - -



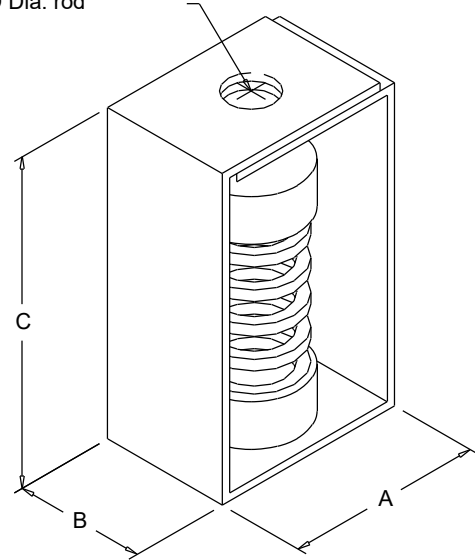
COOK

PROJECT: LIBBEY FANS
DATE: 4/9/2022

SPRING CEILING

Spring
Isolator
Ceiling Mounted

for D Dia. rod



Dimensions (inches)

Mark	Qty	Description	A	B	C	D Dia.	Rated Deflection
R/E-1	1	SC-245 SET(4)	3-11/16	2-1/4	5-1/4	1/2	1.19



COOK



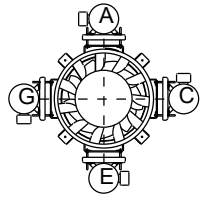
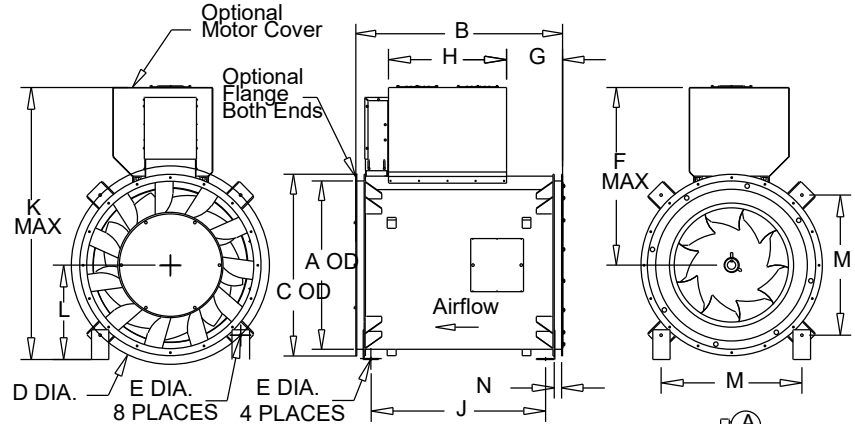
MARK: R/E-2
PROJECT: LIBBEY FANS
DATE: 4/9/2022

QMX

Return/Exhaust Fan R/E-2

**Mixed Flow Inline
Vertical/Horizontal Mount
Belt Drive
Arrangement 9
Level 1**

STANDARD CONSTRUCTION FEATURES:
 High efficiency mixed flow wheel - Continuously welded steel housing with Lorenized powder coating
 - Welded aerodynamic straightening vanes - Integral inlet and outlet collars for slip fit duct connections - Adjustable motor plate utilizing threaded studs for positive belt tensioning - Heavy duty ball or roller bearings with extended lube lines - Belt guard - Lifting lugs - Shaft locking collar.



MOTOR POSITION CHART
(View Facing Outlet)
Mounting positions are field adjustable.

Performance (*Bhp includes 8% drive loss)

Qty	Catalog Number	Flow (CFM)	SP (inwc)	Fan RPM	Power* (HP)	FEG	FEI
1	225QMX	5500	1.00	888	1.37	80	1.41

Altitude (ft): 900 Temperature (F): 70

Motor Information

HP	RPM	Volts/Ph/Hz	Enclosure	FLA	Position	Mounted	VFD Rated
2	1725	460/3/60	ODP -PE	3.4	E	Yes	Yes

NEMA Premium® efficiency motor per MG-1 (2014) Table 12-12
 FLA based on NEC (2014) Table 430.250

Fan Information

Level	OVel(fpm)	Fan Mount	Access
1	1001	Horz. Ceiling	G

Sound Data Sound Power by Octave Band

	1	2	3	4	5	6	7	8	LwA	dBA
Inlet	81	79	80	76	71	66	58	50	77	66
Outlet	81	78	79	77	70	65	59	52	77	66

Accessories:

Premium Efficiency Motor (Min. 86.5%) w/SGR
 DRIVES (1.5 SF) @ 888 RPM
 SC-245 SET(4) - ISOLATORS

Dimensions (inches)

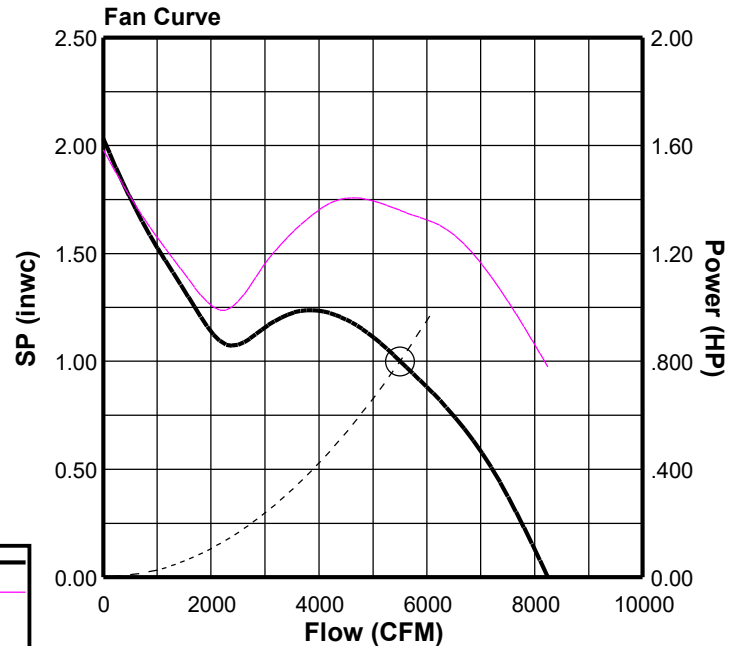
A	31-15/16
B	41
C	34-15/16
D	38-3/4
E	3/8
F	34-11/16
G	15-1/2
H	19-3/8
J	32-3/8
K	53-11/16

L	19
M	27-3/8
N	1-15/16

NOTE: Accessories may affect dimensions shown.

Weight(lbs)***	Shipping	733	Unit	556
-----------------------	-----------------	------------	-------------	------------

***Includes fan, motor & accessories.



Fan Curve Legend

CFM vs SP	—
CFM vs HP	—
Point of Operation	○
System Curve	-----



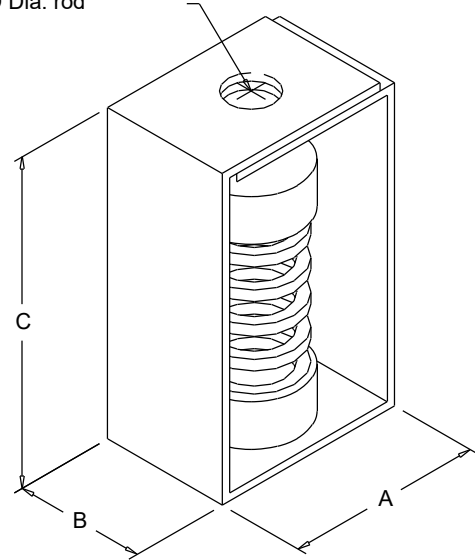
COOK

PROJECT: LIBBEY FANS
DATE: 4/9/2022

SPRING CEILING

Spring
Isolator
Ceiling Mounted

for D Dia. rod



Dimensions (inches)

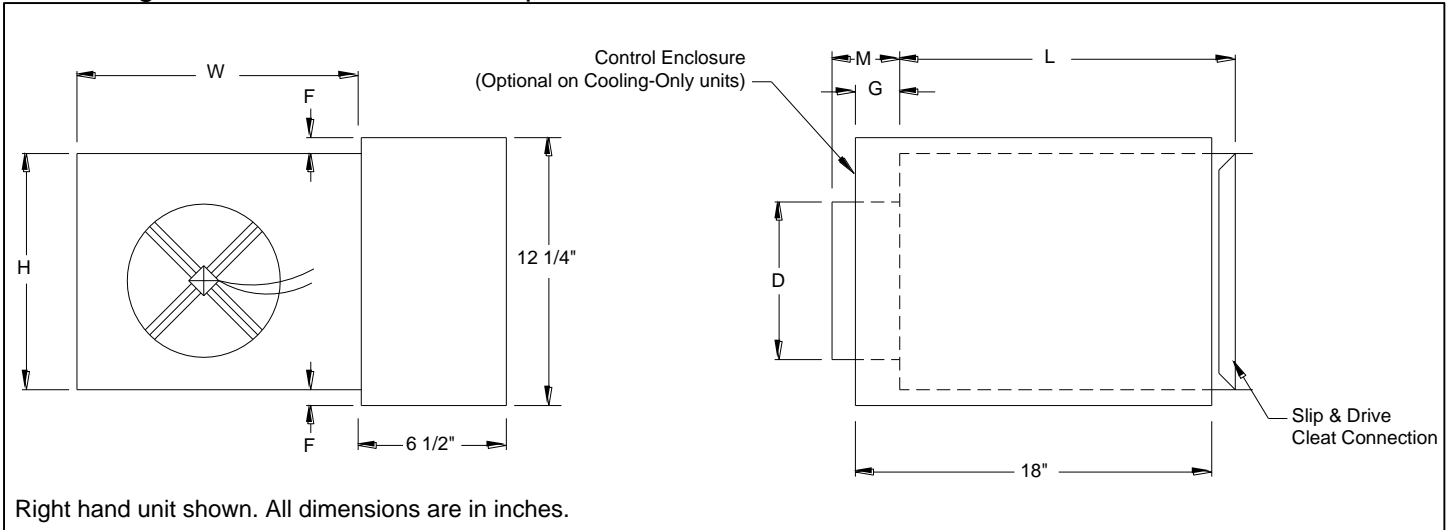
Mark	Qty	Description	A	B	C	D Dia.	Rated Deflection
R/E-2	1	SC-245 SET(4)	3-11/16	2-1/4	5-1/4	1/2	1.19

DESV

Single Duct Terminal Unit

Direct Digital Control, Pressure Independent

Typical VAV Box with Heating Coil



Inlet Size	CFM Range	D	F	G	H	L	M	W
4	0-225	3 ⁷ / ₈	2 ¹ / ₈	7 ³ / ₈	8	15 ¹ / ₂	5 ³ / ₈	12
5	0-350	4 ⁷ / ₈	2 ¹ / ₈	7 ³ / ₈	8	15 ¹ / ₂	5 ³ / ₈	12
6	0-500	5 ⁷ / ₈	2 ¹ / ₈	7 ³ / ₈	8	15 ¹ / ₂	3 ³ / ₈	12
7	0-650	6 ⁷ / ₈	1 ¹ / ₈	7 ³ / ₈	10	15 ¹ / ₂	3 ³ / ₈	12
8	0-900	7 ⁷ / ₈	1 ¹ / ₈	7 ³ / ₈	10	15 ¹ / ₂	3 ³ / ₈	12
9	0-1050	8 ⁷ / ₈	-	5 ³ / ₈	12 ¹ / ₂	15 ¹ / ₂	3 ³ / ₈	14
10	0-1400	9 ⁷ / ₈	-	5 ³ / ₈	12 ¹ / ₂	15 ¹ / ₂	3 ³ / ₈	14
12	0-2000	11 ⁷ / ₈	-	5 ³ / ₈	15	15 ¹ / ₂	3 ³ / ₈	16
14	0-3000	13 ⁷ / ₈	-	3 ³ / ₈	17 ¹ / ₂	15 ¹ / ₂	3 ³ / ₈	20
16	0-4000	15 ⁷ / ₈	-	3 ³ / ₈	18	15 ¹ / ₂	3 ³ / ₈	24
24 x 16	0-8000	23 ⁷ / ₈ x 15 ⁷ / ₈	1 ¹ / ₈	5 ³ / ₈	18	15	3 ³ / ₈	38



Accessories (Optional)

- Check if provided.
- | | | | |
|--|--|---|--|
| <input type="checkbox"/> 24 V Control Transformer | <input type="checkbox"/> 1" Fiberglass Liner | <input type="checkbox"/> UltraLoc Liner | <input type="checkbox"/> Removable Air Flow Sensor |
| <input type="checkbox"/> Dust Tight Enclosure Seal | <input type="checkbox"/> 1" EcoShield Liner | <input type="checkbox"/> ½" EcoShield Liner (Foil Face) | <input type="checkbox"/> Bottom Access Door |
| <input type="checkbox"/> Fibre Free Liner | <input type="checkbox"/> 1" Fibre Free Liner | <input type="checkbox"/> 1" EcoShield Liner (Foil Face) | <input type="checkbox"/> OSP & IBC Certification |
| <input type="checkbox"/> ½" EcoShield Liner | <input type="checkbox"/> Low Leakage Seal/Test/Certify | <input type="checkbox"/> Disconnect Switch | <input type="checkbox"/> Red List Compliant "Google" Gasketing |
| <input type="checkbox"/> ½" Fibre Free Liner | <input type="checkbox"/> SteriLoc Liner | <input type="checkbox"/> Hanger Brackets | <input type="checkbox"/> _____ |

General Description

- Heavy gauge steel housing. Mechanically sealed and gasketed, leak resistant construction. Less than 2% of nominal cfm at 1.5" sp wg.
- Dual density internal insulation, treated to resist air erosion. Meets requirements of NFPA 90A and UL 181.
- Rectangular discharge opening is designed for slip and drive cleat duct connection.
- Multipoint center averaging inlet velocity sensor.
- Digital control packages can be factory mounted by Titus.
- Choice of right hand or left hand control location.
- Model DESV without coils can be installed horizontally, vertically, or at any angle. Operation is not affected by position. For units with coils, consult technical support.
- Gauge tees for cfm measurement.
- OSHPD Seismic Certification: OSP-0352-10
- Only Titus Alpha digital controls package approved for seismic installation.

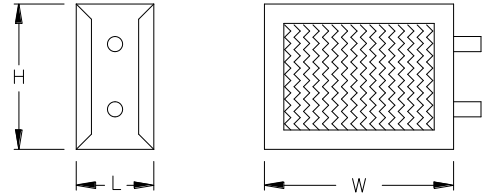
This submittal is meant to demonstrate general dimensions of this product. The drawings are not meant to detail every aspect of the product. Drawings are not to scale. Titus reserves the right to make changes without written notice.

Accessories (Optional)

Hot Water Coil Section

- Aluminum ripple fins, 10 per inch
- Coil pipe connections are male, sweat, type "L" copper. Connection sizes are 1/2" OD for 1 row coil unit sizes 04-08. All other coils have 7/8" OD.
- Coil is installed at discharge of unit.
- On units with attenuators, coil are installed at the discharge of attenuator.

- 1 Row
- 2 Row
- 3 Row
- 4 Row



Electric Coil Section

Optional SCR Controlled Electric Heater

Optional Lynergy Controlled Electric Heater

Standard Features

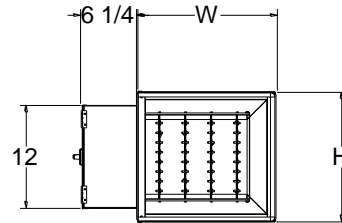
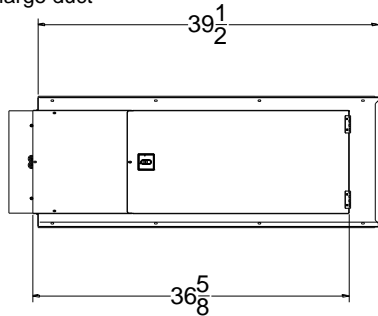
- Single side access to low voltage, high voltage, and electric heater controls.
- Automatic reset thermal cutouts, one per element
- Manual reset secondary protection.
- Positive pressure flow switch
- Magnetic contactor for each step.
- Slip and drive cleat discharge duct connection.

Options

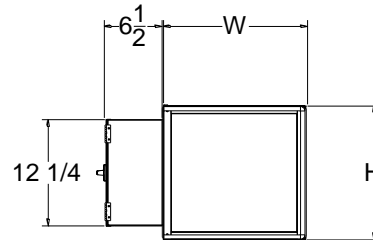
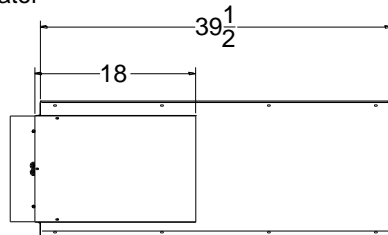
- Fuse Block
- Disconnect switch, door interlock type
- Dust tight construction
- Mercury contactors

Supply Voltage

- 120V, 1 ph, 60Hz
- 208V, 1 ph, 60Hz
- 240V, 1 ph, 60Hz
- 277V, 1 ph, 60Hz
- 208V, 3 ph, 60Hz
- 480V, 3 ph, 60Hz (4 wire wye standard)



Integral Sound Attenuator



Inlet Size	H	W	Water Coil	
			L (1-2 Row)	L (3-4 Row)
4	8	12	5	7 1/4
5	8	12	5	7 1/4
6	8	12	5	7 1/4
7	10	12	5	7 1/4
8	10	12	5	7 1/4
9	12 1/2	14	5	7 1/4
10	12 1/2	14	5	7 1/4
12	15	16	5	7 1/4
14	17 1/2	20	7 1/2	9 3/4
16	18	24	7 1/2	9 3/4
24 x 16	18	38	5	7 1/4

The total length of the DESV unit is the summation of the unit length (with or without attenuator) and the length of the optional water coil.

This submittal is meant to demonstrate general dimensions of this product. The drawings are not meant to detail every aspect of the product. Drawings are not to scale. Titus reserves the right to make changes without written notice.

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Commercial Gas Water Heaters

CYCLONE® Mxi MODULATING

MODULATING BURNER ADVANCES THE CYCLONE TO HIGHER LEVELS OF EFFICIENCY

The full line of A. O. Smith Cyclone Mxi condensing water heaters has been designed to provide years of dependable service and feature industry leading technology. Models are available from 120,000 to 500,000 Btu/h and all deliver thermal efficiencies of 95% and higher. The unique helical coil heat exchanger limits weld joints for optimal service life while maximizing heat transfer.

Cyclone is the industry leader in high efficiency commercial water heating. The current Mxi modulating models adjust firing rate to the specific demand further increasing efficiency and money savings.

INTELLIGENT CONTROL SYSTEM WITH TOUCH SCREEN DISPLAY AND ICOMM CONNECTIVITY ONBOARD*

- Exclusive A. O. Smith designed touch display control system
- Provides detailed water heater status information
- Precise temperature control adjustable from 90 to 180 degrees
- Built-in diagnostics
- Run history information
- *Cyclone Mxi models manufactured March 1, 2018 to present come standard with iCOMM Wi-Fi connectivity onboard. Remotely monitor and adjust the water heater via the A. O. Smith app. No charge connectivity using Wi-Fi or Ethernet connection.

SUBMERGED COMBUSTION CHAMBER, WITH HELICAL HEAT EXCHANGER COIL

- Positioned in center of tank, surrounded by water to virtually eliminate radiant heat loss from chamber
- Direct spark ignition
- Spiral heat exchanger keeps hot burner gases swirling, uses centrifugal force to maximize efficiency of heat transfer to water in tank
- Spiral heat exchanger reduces lime scale from forming on water-side surfaces, which maintains energy efficiency over time

POWERED ANODES STANDARD ON ALL MODELS

- Provides long-lasting tank protection in varying water conditions
- Powered anodes are non-sacrificial
- Automatically adjusts output needed to properly protect the tank

PERMAGLAS® ULTRA COAT™ GLASS LINING

- Glass coating is applied using a liquid slush coating technique to ensure uniform coating
- Heat exchanger coil is glassed both externally and internally for optimum protection

MECHANICAL VENTING VERSATILITY

- Conventional power venting or direct venting
- Vents vertically or through a sidewall
- Front located exhaust and condensate connections allow for easy install and access
- Vents with low cost PVC Schedule 40 intake and exhaust pipe. Approved for optional CPVC Schedule 40, Polypropylene and AL29-4C stainless steel vent materials
- Direct-vent intake and exhaust pipe can terminate separately outside building or through single opening, using concentric vent assembly
- Canadian installations require ULC S636 PVC/CPVC, ULC S636 Polypropylene and AL29-4C stainless steel pipe for intake and exhaust

HIGH EFFICIENCY MODULATING PRE-MIX POWERED BURNER

- Down-fired pre-mix burner provides optimum efficiency and quiet operation
- Top-mounted burner position prevents condensation from affecting burner operation

3-YEAR LIMITED TANK / 1-YEAR LIMITED PARTS WARRANTY

- For complete warranty information, consult written warranty or go to hotwater.com.



BTH-120(A) THROUGH BTH-500(A)
MODEL SHOWN:
BTH-199(A) SERIES 300/301



ASME (Optional)



Commercial Gas Water Heaters

OTHER FEATURES:

SPACE-SAVING DESIGN FOR INSTALLATION FLEXIBILITY

- Easy-to-remove top cover for convenient access to serviceable parts
- 0" installation clearances on sides and rear, 1-1/2" installation clearance on top
- Handhole cleanout allows easy access to tank interior for cleaning
- 0" clearance to combustibles, approved for installation on combustible floors

CODES AND STANDARDS

- CSA certified and ASME rated T&P relief valve
- Maximum hydrostatic working pressure: 160 psi
- All models are design certified by Underwriters Laboratories (UL), Inc., to ANSI Z21.10.3 - CSA 4.3 Standards
- Meets the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition ASHRAE/IES 90.1
- Design Certified by Underwriters Laboratories to NSF standard 5 for 180°F (62°C) water
- Complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar requirements for ultra low-NOx emissions
- ASME tank construction optional on 120-500 model sizes

VENT REQUIREMENTS FOR BTH 120(A) - 250(A)

Number of 90° Elbows Installed	3 Inch Pipe	4 Inch Pipe
	Maximum Feet (Meters)	Maximum Feet (Meters)
One (1)	45 feet (13.7 meters)	115 feet (35 meters)
Two (2)	40 feet (12.2 meters)	110 feet (33.5 meters)
Three (3)	35 feet (10.7 meters)	105 feet (32 meters)
Four (4)	30 feet (9.1 meters)	100 feet (30.5 meters)
Five (5)	N/A	95 feet (29 meters)
Six (6)	N/A	90 feet (27.4 meters)

VENT REQUIREMENTS FOR BTH 300(A) - 500(A)

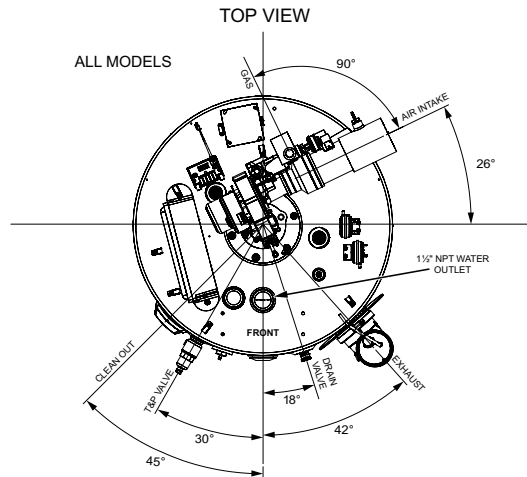
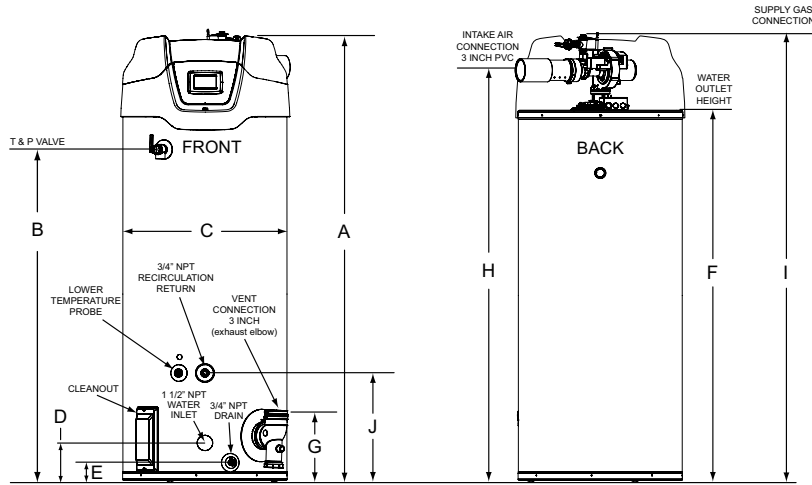
Number of 90° Elbows Installed	4 Inch Pipe	6 Inch Pipe
	Maximum Feet (Meters)	Maximum Feet (Meters)
One (1)	65 feet (19.8 meters)	115 feet (35 meters)
Two (2)	60 feet (18.2 meters)	110 feet (33.5 meters)
Three (3)	55 feet (16.8 meters)	105 feet (32 meters)
Four (4)	50 feet (15.2 meters)	100 feet (30.5 meters)
Five (5)	45 feet (13.7 meters)	95 feet (29 meters)
Six (6)	40 feet (12.2 meters)	90 feet (27.4 meters)

GAS PRESSURE REQUIREMENTS

Model Number	Manifold Pressure		Minimum Supply Pressure		Maximum Supply Pressure	
	Natural Gas	Propane Gas	Natural Gas	Propane Gas	Natural Gas	Propane Gas
BTH-120(A)	0"W.C. (0 kPa)	0"W.C. (0 kPa)	3.5"W.C. (1.10 kPa)	8.5"W.C. (2.12 kPa)	14"W.C. (3.49 kPa)	14"W.C. (3.49 kPa)
BTH-150(A)	0"W.C. (0 kPa)	0"W.C. (0 kPa)	3.5"W.C. (1.10 kPa)	8.5"W.C. (2.12 kPa)	14"W.C. (3.49 kPa)	14"W.C. (3.49 kPa)
BTH-199(A)	0"W.C. (0 kPa)	0"W.C. (0 kPa)	3.5"W.C. (1.10 kPa)	8.5"W.C. (2.12 kPa)	14"W.C. (3.49 kPa)	14"W.C. (3.49 kPa)
BTH-250(A)	0"W.C. (0 kPa)	0"W.C. (0 kPa)	3.5"W.C. (1.10 kPa)	8.5"W.C. (2.12 kPa)	14"W.C. (3.49 kPa)	14"W.C. (3.49 kPa)
BTH-300(A)	0"W.C. (0 kPa)	0"W.C. (0 kPa)	4.8"W.C. (1.19 kPa)	8.5"W.C. (2.12 kPa)	14"W.C. (3.49 kPa)	14"W.C. (3.49 kPa)
BTH-400(A)	0"W.C. (0 kPa)	0"W.C. (0 kPa)	4.8"W.C. (1.19 kPa)	8.5"W.C. (2.12 kPa)	14"W.C. (3.49 kPa)	14"W.C. (3.49 kPa)
BTH-500(A)	0"W.C. (0 kPa)	0"W.C. (0 kPa)	4.8"W.C. (1.19 kPa)	8.5"W.C. (2.12 kPa)	14"W.C. (3.49 kPa)	14"W.C. (3.49 kPa)

Depending on the installed equivalent length, and/or the number of appliances connected, the supply gas line size may need to be increased beyond the minimum required size.

BTH 120-250



* Center line of water outlet on top of the water heaters is approximately 7 inches from the front edge of the water heater

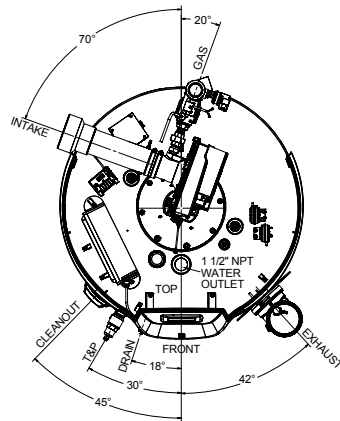
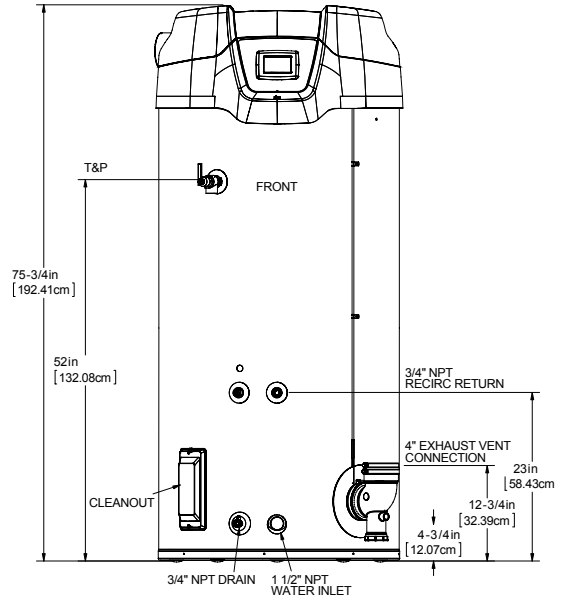
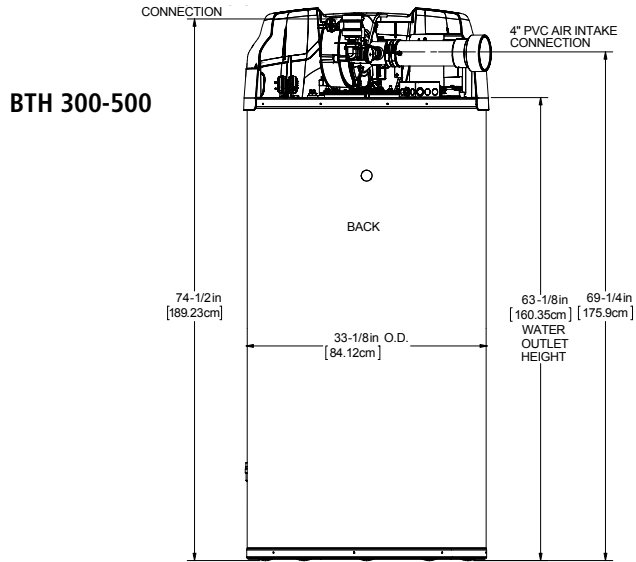
Model Number	Approx. Capacity		Dimensions										lb/kg	Approx. Shipping Weight Std	Approx. Shipping Weight ASME
			A	B	C	D	E	F	G	H	I	J			
BTH-120(A)	Gallons	60	55 1/2	35	27 3/4	6 5/16	3	42 1/4	11 1/4	48 1/2	53 1/2	18 1/4	lb	460	490
	Liters	227	141	88.9	70.5	16	7.62	107.32	28.6	123.2	135.9	46.36	kg	208	220
BTH-150(A)	Gallons	100	76 1/2	56 3/8	27 3/4	6 5/16	3	64	11 1/4	70	75 1/2	18 1/4	lb	523	553
	Liters	379	194.9	143.2	70.5	16	7.62	162.6	28.6	177.8	191.8	46.36	kg	237	251
BTH-199(A)	Gallons	100	76 1/2	56 3/8	27 3/4	6 5/16	3	64	11 1/4	70	75 1/2	18 1/4	lb	523	553
	Liters	379	194.9	143.2	70.5	16	7.62	162.6	28.6	177.8	191.8	46.36	kg	237	251
BTH-250(A)	Gallons	100	76 1/2	56 3/8	27 3/4	6 5/16	3	64	11 1/4	70	75 1/2	18 1/4	lb	523	553
	Liters	379	194.9	143.2	70.5	16	7.62	162.6	28.6	177.8	191.8	46.36	kg	237	251

Electrical characteristics-120V-60Hz A.C., 5.0 A

"A" in model represents ASME construction

Propane gas models available

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.



Model Number	Approx. Capacity		Dimensions										lb/kg	Approx. Shipping Weight Std	Approx. Shipping Weight ASME
			A	B	C	D	E	F	G	H	I	J			
BTH-300(A)	Gallons	119	75 3/4	52	33 1/8	4 3/4	4 3/4	63 1/8	12 3/4	69 1/4	74 1/2	23	lb	855	855
	Liters	450.96	192.41	132.08	84.12	12.07	12.07	160.35	32.39	175.9	189.23	58.43	kg	387	387
BTH-400(A)	Gallons	119	75 3/4	52	33 1/8	4 3/4	4 3/4	63 1/8	12 3/4	69 1/4	74 1/2	23	lb	855	855
	Liters	450.96	192.41	132.08	84.12	12.07	12.07	160.35	32.39	175.9	189.23	58.43	kg	387	387
BTH-500(A)	Gallons	119	75 3/4	52	33 1/8	4 3/4	4 3/4	63 1/8	12 3/4	69 1/4	74 1/2	23	lb	855	855
	Liters	450.96	192.41	132.08	84.12	12.07	12.07	160.35	32.39	175.9	189.23	58.43	kg	387	387

Electrical characteristics-120V-60Hz A.C., 5.0 A

"A" in model represents ASME construction

Propane gas models available

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.



Commercial Gas Water Heaters

RECOVERY CAPACITY

Model Number	Type of Gas	Input		Thermal Efficiency
		BTU/HR	kW	
BTH-120(A)	Natural/Propane	120,000	35	95%
BTH-150(A)	Natural/Propane	150,000	44	98%
BTH-199(A)	Natural/Propane	199,900	58	97%
BTH-250(A)	Natural/Propane	250,000	73	96%
BTH-300(A)	Natural/Propane	300,000	88	96%
BTH-400(A)	Natural/Propane	399,900	117	95%
BTH-500(A)	Natural/Propane	499,900	146	95%

Model Number	U.S. GALLONS/HR AND LITRES/HR AT TEMPERATURE RISE INDICATED													
	Approx. Capacity	°F	30°F	40°F	50°F	60°F	70°F	80°F	90°F	100°F	110°F	120°F	130°F	140°F
		°C	17°C	22°C	28°C	33°C	39°C	44°C	50°C	56°C	61°C	67°C	72°C	78°C
BTH-120(A)	60 U.S. Gals.	GPH	461	345	276	230	197	173	154	138	126	115	106	99
	227 Litres	LPH	1743	1308	1046	872	747	654	581	523	475	436	402	374
BTH-150(A)	100 U.S. Gals.	GPH	594	445	356	297	255	223	198	178	162	148	137	127
	379 Litres	LPH	2248	1686	1349	1124	963	843	749	674	613	562	519	482
BTH-199(A)	100 U.S. Gals.	GPH	783	588	470	392	336	294	261	235	214	196	181	168
	379 Litres	LPH	2965	2224	1779	1483	1271	1112	988	890	809	741	684	635
BTH-250(A)	100 U.S. Gals.	GPH	970	727	582	485	416	364	323	291	264	242	224	208
	379 Litres	LPH	3670	2753	2202	1835	1573	1376	1223	1101	1001	918	847	786
BTH-300(A)	119 U.S. Gals.	GPH	1164	873	698	582	499	436	388	349	317	291	269	249
	450.96 Litres	LPH	4405	3304	2643	2202	1888	1652	1468	1321	1201	1101	1017	944
BTH-400(A)	119 U.S. Gals.	GPH	1535	1151	921	767	658	576	512	460	419	384	354	329
	450.96 Litres	LPH	5810	4358	3486	2905	2490	2179	1937	1743	1585	1453	1341	1245
BTH-500(A)	119 U.S. Gals.	GPH	1919	1439	1151	959	822	720	640	576	523	480	443	411
	450.96 Litres	LPH	7263	5448	4358	3632	3113	2724	2421	2179	1981	1816	1676	1556

Recovery capacities are based on AHRI rated thermal efficiencies.
For ASME Construction add an "A" to the end of the model number ex: BTH-120A.

STORAGE CAPACITY

Model Number	U.S. Gallons	Liters
BTH 120	60	227
BTH 150	100	379
BTH 199	100	379
BTH 250	100	379
BTH 300	119	450.96
BTH 400	119	450.96
BTH 500	119	450.96

GAS LINE CONNECTION SIZE

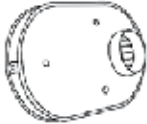
Model	Series	Natural Gas	Propane Gas
BTH 120	300/301	3/4" NPT	3/4" NPT
BTH 150	300/301	3/4" NPT	3/4" NPT
BTH 199	300/301	3/4" NPT	3/4" NPT
BTH 250	300/301	3/4" NPT	3/4" NPT
BTH 300	300/301	1-1/2" NPT	1-1/2" NPT
BTH 400	300/301	1-1/2" NPT	1-1/2" NPT
BTH 500	300/301	1-1/2" NPT	1-1/2" NPT

OPTIONAL KITS



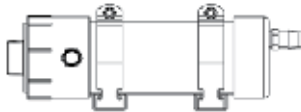
OPTIONAL CONCENTRIC VENT KITS

- BTH-120 - 250 vent kit p/n 100111100
- BTH-300 - 500 vent kit p/n 100113124



OPTIONAL LOW PROFILE TERMINATION VENT KITS

- 3" Flush Mount Vent Kit p/n 100187887
- 4" Flush Mount Vent Kit p/n 100187888
- 6" Flush Mount Vent Kit p/n 100187889



OPTIONAL CONDENSATE NEUTRALIZATION KITS

- BTH-120-199 kit p/n 100112380
- BTH-250-500 kit p/n 100112381

SPECIFICATION

(Natural or Propane) gas water heater(s) shall be A. O. Smith Cyclone Mxi model # _____ or equal, minimum 95% thermal efficiency, a storage capacity of _____ gallons, an input rating of _____ BTUs per hour, a recovery rating of _____ gallons per hour (gph) at 100°F rise and a maximum hydrostatic working pressure of 160 psi. Water heater(s) shall: 1. Modulating gas burner that automatically adjusts the input based on demand. 2. Powered anodes that are non sacrificial and maintenance free. 3. Have seamless glass-lined steel tank construction, with glass lining applied to all water-side surfaces after the tank has been assembled and welded; 4. Meets the thermal efficiency and/or standby loss requirements of the U. S. Department of Energy and current edition of ASHRAE/IES 90.1; 5. Have foam insulation and a CSA Certified and ASME rated T&P relief valve; 6. Have a down-fired power burner designed for precise mixing of air and gas for optimum efficiency, requiring no special calibration on start-up; 7. Be approved for 0" clearance to combustibles.

The control shall be an integrated solid-state temperature and ignition control device with integral diagnostics, graphic user interface, fault history display, and shall have digital temperature readout. No charge connectivity shall be provided allowing for remote viewing and fault notification via app. 1. All models are design certified by Underwriters Laboratories (UL), Inc., according to ANSI Z21.10.3 - CSA 4.3 standards governing storage type water heaters; 2. Meet the thermal efficiency and standby loss requirements of the U. S. Department of Energy and current edition ASHRAE/IES 90.1. Complies with SCAQMD Rule 1146.2 and other air quality management districts with similar requirements for low NOx emissions.

120K-250K BTU Input: For Standard Power Venting: Water heater(s) shall be suitable for power venting using a (3" or 4") _____ diameter PVC pipe for a total distance of (50 ft or 120 ft.) _____ equivalent feet of vent piping. For Power Direct Venting: Water heater(s) shall be suitable for power direct venting using a (3" or 4") _____ diameter PVC pipe for a total distance of (50 ft or 120 ft.) _____ equivalent feet of vent piping and (50 ft. or 120 ft.) _____ equivalent feet of intake air piping.

300K - 500K BTU Input: For Standard Power Venting: Water heater(s) shall be suitable for standard power venting using a (4" or 6") _____ diameter PVC pipe for a total distance of (70 ft. or 120 ft.) _____ equivalent feet of vent piping. For Power Direct Venting: Water heater(s) shall be suitable for power direct venting using a (4" or 6") _____ diameter PVC pipe for a total distance of (70 ft or 120 ft.) _____ equivalent feet of vent piping and (70 ft. or 120 ft.) _____ equivalent feet of intake air piping.

Operation of the water heater(s) in a closed system where thermal expansion has not been compensated for (with a properly sized thermal expansion tank) will void the warranty.

COMMON VENTING KITS FOR UP TO 3 WATER HEATERS (ONE KIT PER WATER HEATER REQUIRED)

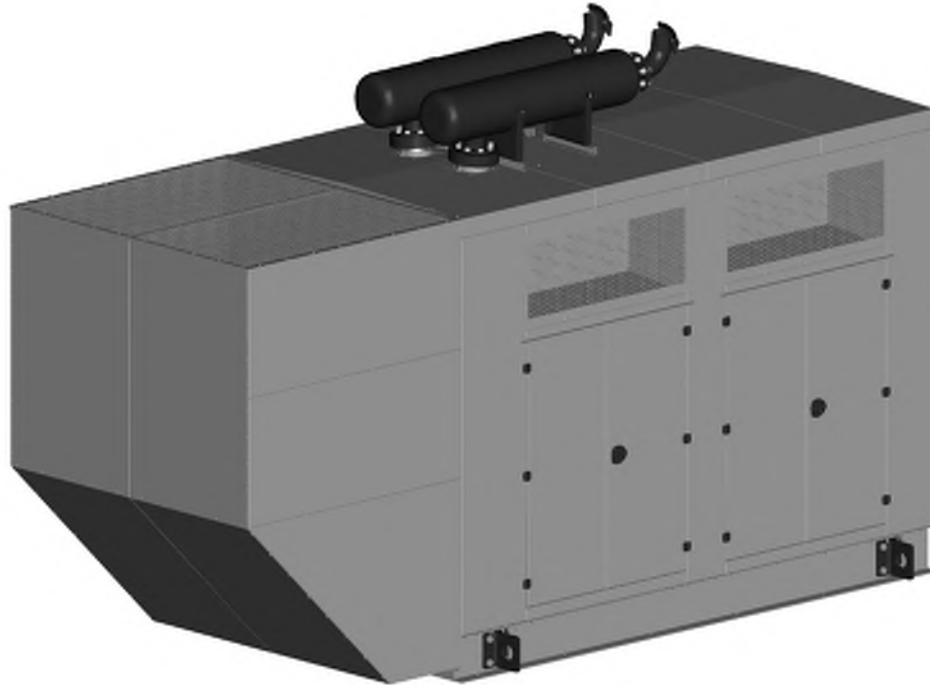
Kit	Description
100227396	PVC Common Vent Kit, 120 – 250 Models
100223775	PVC Common Vent Kit, 300 – 500 Models
100227395	Polypropylene Common Vent Kit, 120 -250 Models
100223774	Polypropylene Common Vent Kit, 300 - 500 Models

Installations must comply with all national, state and local codes. See kit instructions and corresponding water heater manual for detailed installation instructions and additional information. 50 Feet maximum equivalent length of straight pipe common vent and elbows
NOTE: Order 1 kit for each water heater. See the Common Vent Kit manual or spec sheet for detailed information.



Enclosure and Sound Data Sheet - Gas, Infinite Exhaust

60 Hz: 260-400 kW Standby / 235-355 kW Prime



Level 3 Enclosure (pictured)*

Enclosure Level Identification

Level 1	Weather-protective enclosure constructed of heavy gauge steel or aluminum with fixed stormproof panels designed for 130 mph wind load rating. Enclosure consists of a bolted construction with factory-mounted external. Hinged, lockable double-door access on both sides of the enclosure.
Level 2	Level 1 enclosure with UL 94 HF-1 compliant, 1.5" thick sound attenuated foam insulation installed inside enclosure walls.
Level 3	Level 2 enclosure with exhaust scoop with UL 94 HF-1 compliant, 1.5" thick sound attenuated foam. Internal silencers available.

CERTIFICATIONS AND STANDARDS

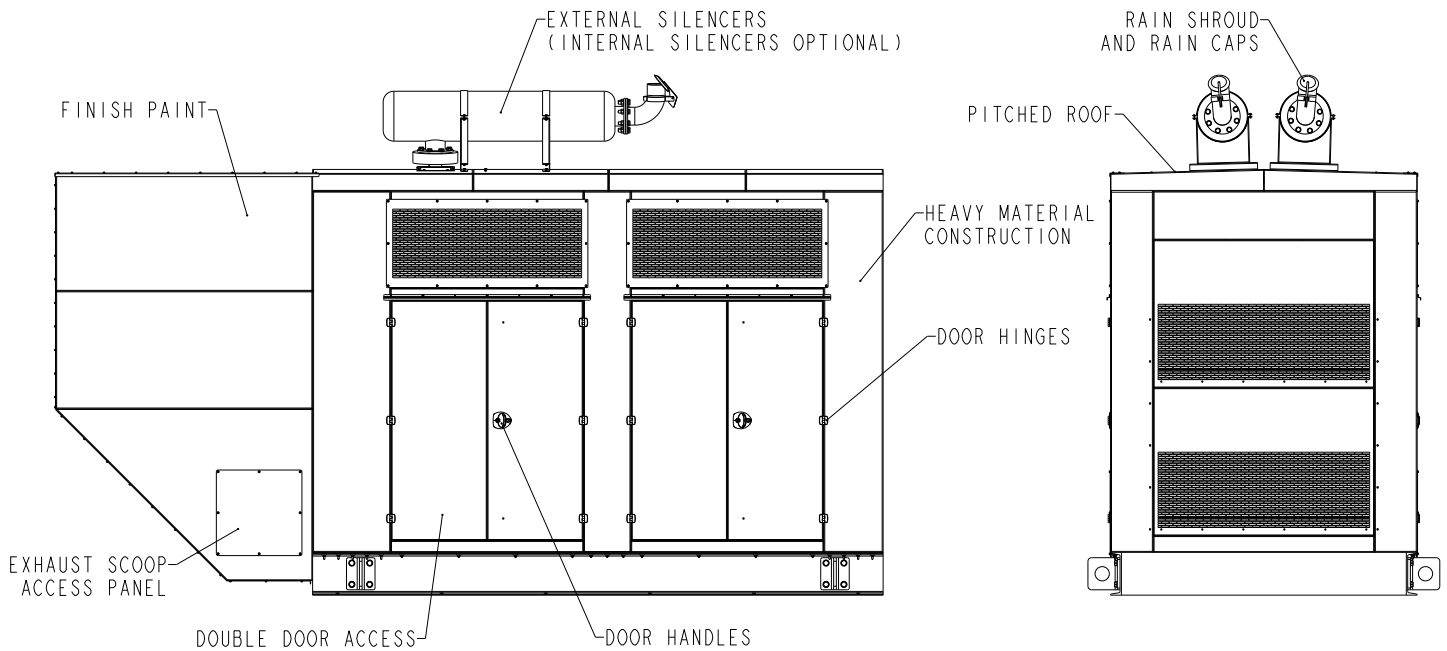
- UL 2200
- CSA C22.2 No. 100
- CSA C22.2 No. 14

Enclosure and Sound Data Sheet - Gas, Infinite Exhaust

60 Hz: 260-400 kW Standby / 235-355 kW Prime

STANDARD FEATURES FOR ALL LEVELS

- Heavy material construction
 - Steel Enclosure: 1.9 mm (0.075 in) - 14 gauge or greater thickness
 - Aluminum Enclosure: 2.3 mm (0.09 in) or greater thickness
- 130 mph wind rating
- Service access
 - Double door access gives ease of service to all components
- Pitched roof
- Rain shroud and rain cap
- Rodent barriers
- Scoop access panels and drain
- Hardware
 - Powder coated hinges with stainless steel pins
 - Key-lockable and pad-lockable powder coated door handles
- Powder Coat Finish Paint: RAL 7001 Silver Grey standard
 - Custom colors available upon request
- External silencer (Industrial grade or better)
 - Stainless steel flexible exhaust connections (where applicable)



Level 3 Enclosure (pictured)*

OPTIONAL FEATURES

- Door restraints
- AC or DC light package
- Motorized / gravity louvers (where available)
- Internal silencer (Critical grade)
 - Insulated or wrapped silencers, catalyst, and exhaust pipes
 - Stainless steel flexible exhaust connections (where applicable)
- 190 mph wind rating
- For other custom options, please consult factory.

Enclosure and Sound Data Sheet - Gas, Infinite Exhaust

60 Hz: 260-400 kW Standby / 235-355 kW Prime

SOUND RATINGS dB(A) AT 7 METERS

Application	Model	Power Node	Level 1	Level 2	Level 3
Standby (Natural Gas)	<i>mtu</i> 8V0183 GS260	260 kW	80.6	80.1	72.7
	<i>mtu</i> 10V0183 GS350	350 kW	83.9	80.9	73.9
	<i>mtu</i> 12V0183 GS400	400 kW	83.9	81.4	73.6
Standby (Liquid Propane)	<i>mtu</i> 8V0183 GS260	160 kW	81.2	80	72.9
	<i>mtu</i> 10V0183 GS350	245 kW	83.7	80.8	74.5
	<i>mtu</i> 12V0183 GS400	295 kW	83.7	81.3	75.1
Prime (Natural Gas)	<i>mtu</i> 8V0183 GS260	235 kW	80.6	80	72.8
	<i>mtu</i> 10V0183 GS350	300 kW	83.8	80.8	72.3
	<i>mtu</i> 12V0183 GS400	355 kW	83.6	81.2	73

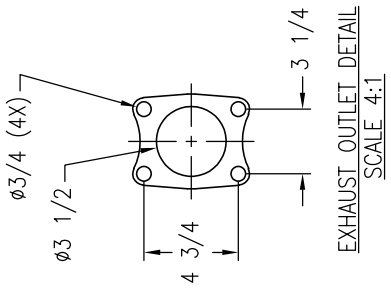
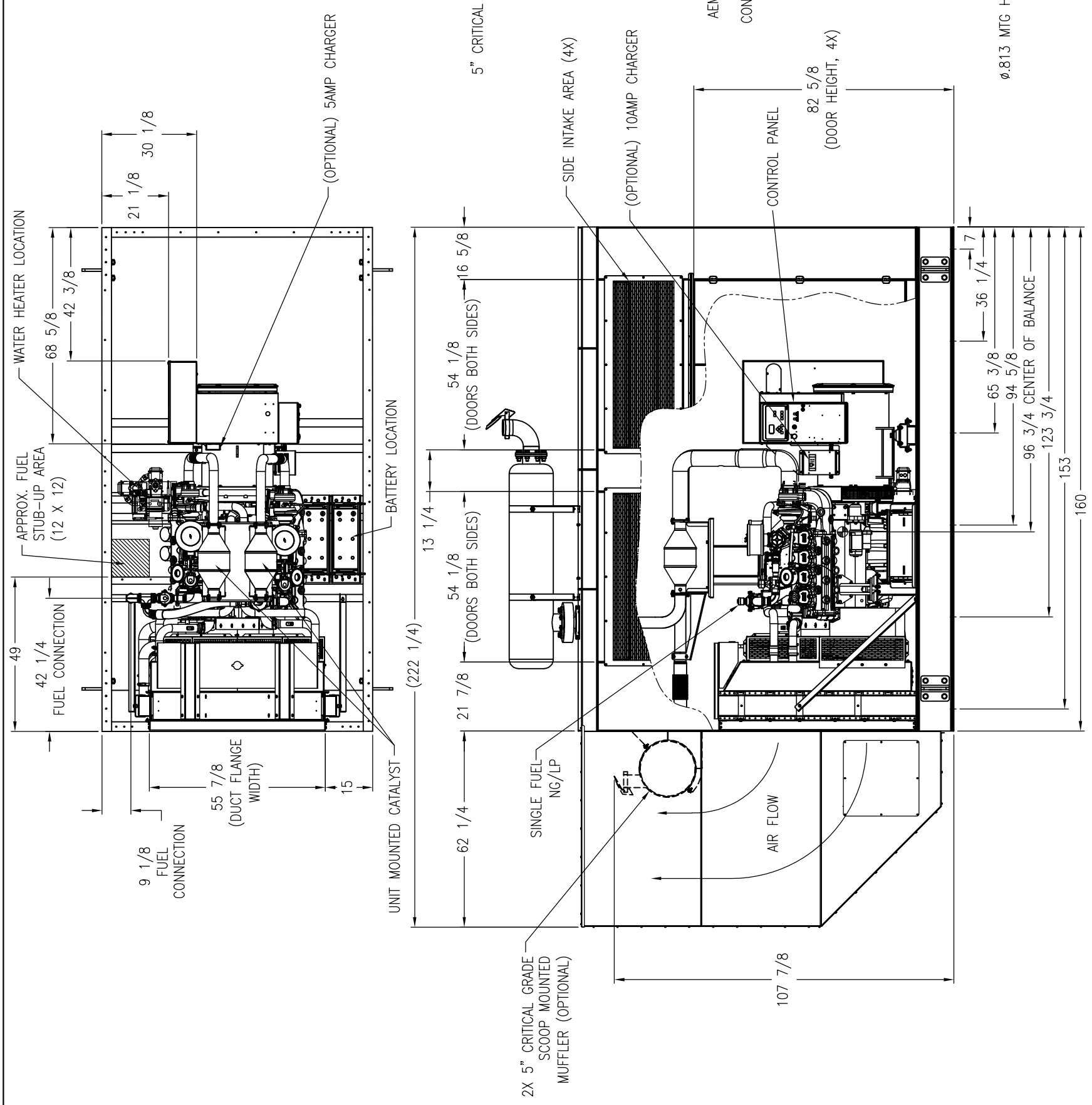
NOTE:

- Aluminum enclosure sound levels are approximately 2 dB(A) higher than listed sound levels for steel enclosures
- For installation within 50 miles of the coast, aluminum enclosures are recommended to prevent accelerated corrosion
- Sound pressure levels subject to environment, instrumentation, measurement, installation, and generator set variability
- Generator set is tested on level ground without spring isolators installed
- Sound power levels per ISO 8528-10 and ANSI S1.13-2005
- Sound data measured with:
 - Full-rated load
 - Standard radiator package
 - Infinite exhaust connection

* Note: Visual appearance may differ between power nodes.

NOTES:

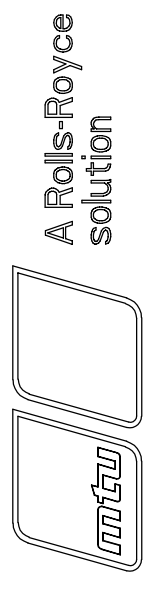
1. APPROX. UNIT WEIGHT: DRY: 13,482 LBS WET: 13,987 LBS
2. HOUSING AND EXHAUST ARE NOT SHOWN IN TOP VIEW
3. HOUSING IS SOUND ATTENUATED WITH FOAM



DRAWING TOLERANCES: ±1/4" EXCEPT BASE MTC. HOLES: ±1/8"

DIMENSIONAL LAYOUT	
DRAWN TO SCALE	MODEL: GS260N6SRA
ALL DIMENSIONS ARE IN INCHES	DATE: 01-11-11
DATE: 01-11-11	DRAWN BY: CJK
DWG. #: GS260N6SRA(14.6L)L3-MI	

GEN-SET INFORMATION	
ENGINE: DOOSAN 14.6L	ENCLOSURE: PH104469
GENERATOR: 432 CSL	BREAKER: 450 AMP
RADIATOR: W/ENGINE	TANK: NA
RADIATOR AMBIENT: NA	MUFFLER: CRITICAL
DUCT FLANGE: PH104479	TRAILER: NA
CONTROL PANEL: DGC-2020	ISOLATORS: PADS
BASE: 98031	




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REVISION	DATE	INITIALS	REVISION DESCRIPTION
D	4-30-20	JMH	UPDATED CATALYST/TITLE BLOCK
C	2-28-12	CJK	ADDED SCOOP MOUNTED EXHAUST
B	02-24-11	CJK	UPDATED FUEL CONNECTION AND MTC HOLE LOCATIONS
A	01-11-11	CJK	INITIAL RELEASE

OUTLINE FOR ASCO® 300 SERIES 150-600 AMPERE "J" FRAME (3ATS,3NTS,3ADTS,3NDTS) FRONT CONNECTED TRANSFER SWITCHES TYPE 3R/12 ENCLOSURE

GENERAL NOTES

- TYPE 3R/12 ENCLOSURE. FREE STANDING. FLOOR OR WALL MOUNTABLE. 14 GAUGE CONSTRUCTION.
- THREE POINT LATCHING DOOR WITH LOCKABLE HANDLE.
- FINISH: ANSI 61 GRAY, POLYESTER POWDER STANDARD. OTHER ANSI COLORS AVAILABLE CONSULT FACTORY UL RECOGNIZED.
- RECOMMENDED CLEARANCES:
FRONT: 24 INCHES
- A 20% RATED GROUND BUS IS PROVIDED.
- UNIT IS DESIGNED FOR COMBINATION TOP AND BOTTOM CABLE ENTRY. THE STANDARD SWITCH CONFIGURATION IS FOR TOP LUGS EMERGENCY AND LOAD AND BOTTOM LUGS NORMAL. OPTIONALLY, THE SWITCH MAY BE SUPPLIED WITH REVERSE NORMAL & EMERGENCY LUGS. (REFER TO THE WIRING DIAGRAM FURNISHED WITH EACH TRANSFER SWITCH TO DETERMINE TERMINATION POSITIONS).
- A FULL RATED NEUTRAL CONNECTION FOR EACH SOURCE AND THE LOAD IS OPTIONAL. WHEN PROVIDED IT IS IN ONE OF THE FOLLOWING FORMATS AS SPECIFIED BY THE CATALOG NO. NEUTRAL TYPE:
A. SOLID (COPPER BUS) NEUTRAL
B. SWITCHED NEUTRAL POLE
C. OVERLAPPING NEUTRAL POLE (NOT AVAILABLE ON 7ACTS/ADTS UNITS)
-  CENTER OF GRAVITY.

CABLING NOTES

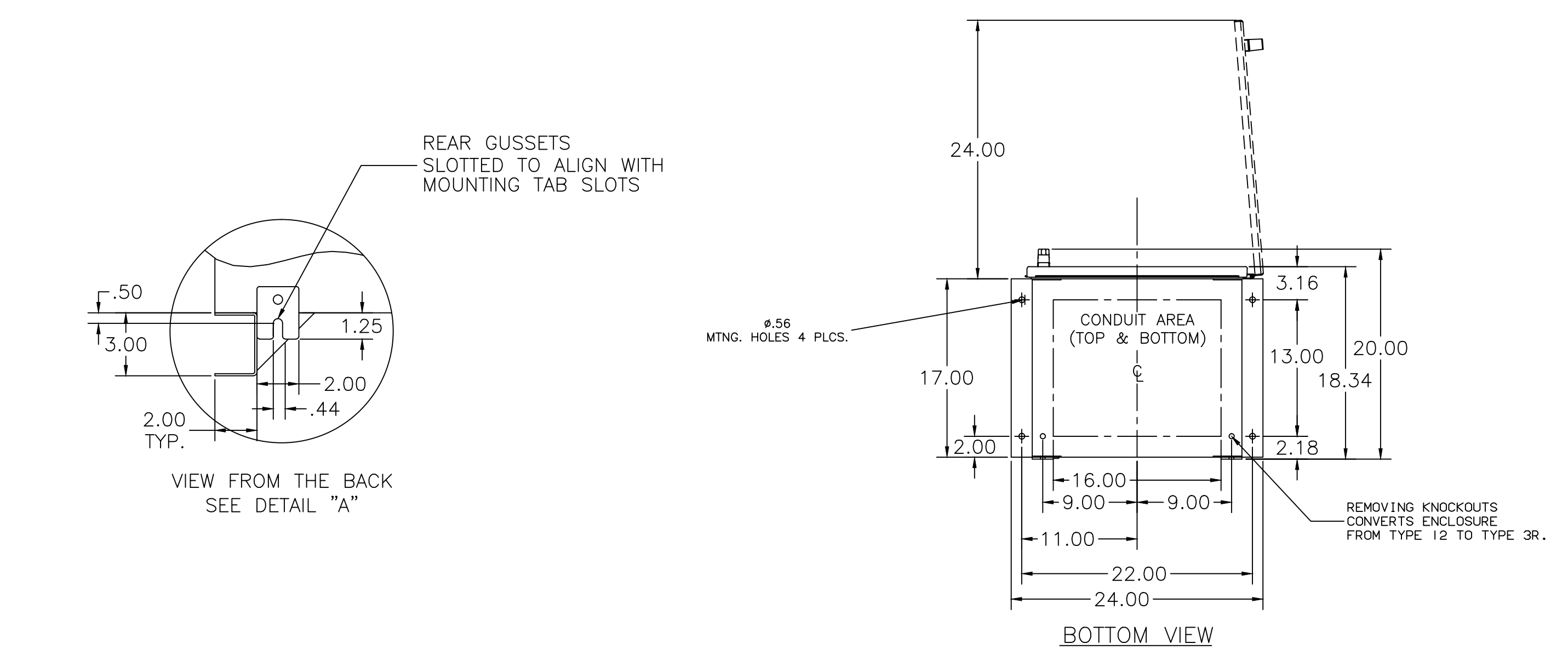
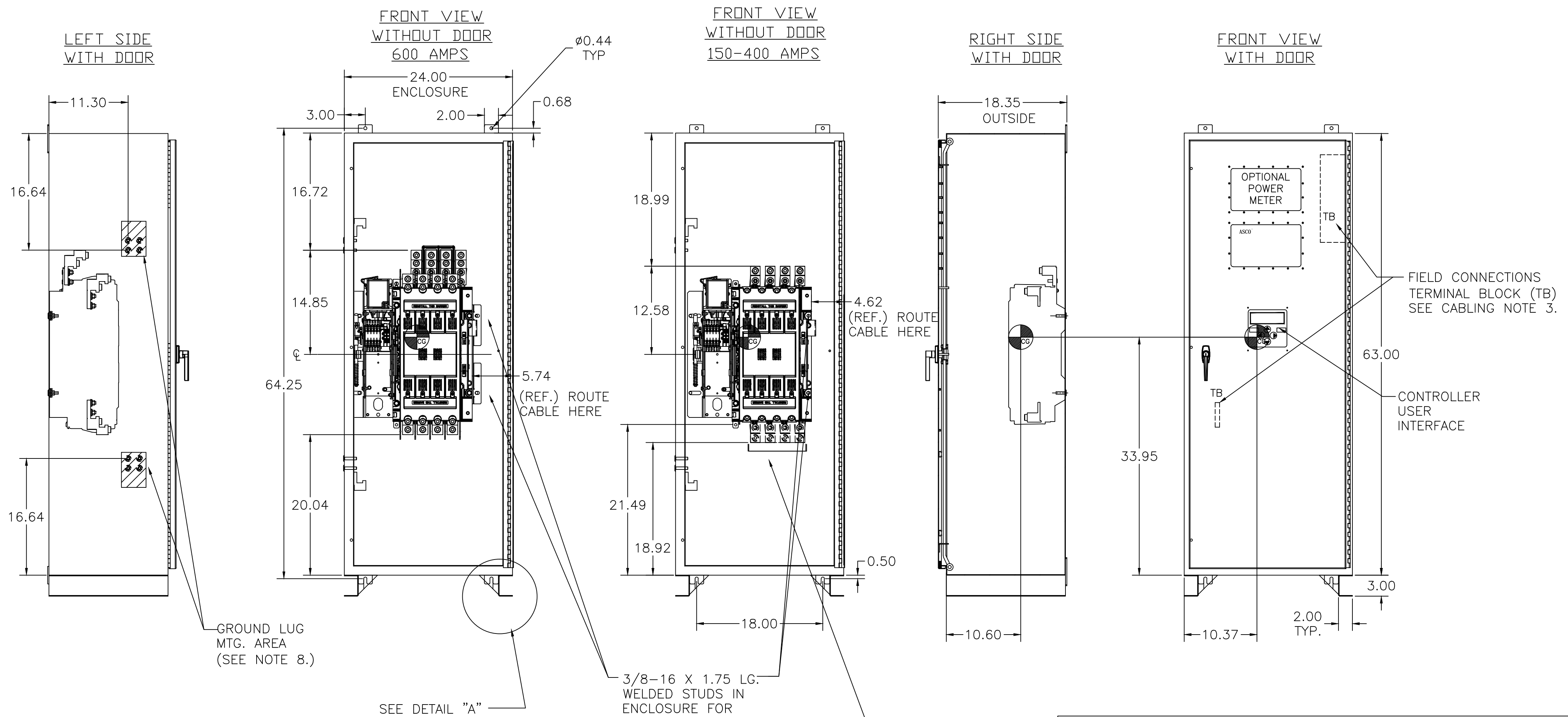
- ALL SIZES SUPPLIED STANDARD WITH MECHANICAL (SCREW TYPE) LUGS. (SEE AMP SIZE BELOW)
A. LUG MATERIAL: ALUMINUM ALLOY 6061-T6 WITH ELECTRO TIN PLATED FINISH.
B. SCREW MATERIAL: ALUMINUM ALLOY 6262-T9 WITH ELECTRO TIN PLATED FINISH.
C. UL LISTED, CSA CERTIFIED.
D. LUG SCREW TIGHTENING TORQUE PER UL 486B: 19 FT-LBS.
E. SUITABLE WIRE BENDING SPACE IS PROVIDED. (SEE AMP SIZE BELOW)
- GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS. (SEE AMP SIZE BELOW).
- CUSTOMER TERMINAL BLOCKS:
FOR ALL 300 SERIES 3ADTS, 3NDTS UNITS THE TB WILL BE MOUNTED ON THE UPPER RIGHT INSIDE OF ENCLOSURE. FOR 3ATS AND 3NTS UNITS TB WILL BE MOUNTED ON THE TRANSFER SWITCH FRAME AS INDICATED.

NOTES 150-400 AMP SWITCHES

- SUPPLIED WITH STANDARD MECHANICAL (SCREW TYPE) LUGS ON THE NORMAL, EMERGENCY & LOAD BUS STABS. ONE (1) LUG PER PHASE AND NEUTRAL EACH SUITABLE FOR CONNECTION OF TWO (2) 1/0 -250MCM CU/AL CABLES OR ONE (1) #4 -600MCM CU/AL CABLE.
A. SUITABLE WIRE BENDING SPACE IS PROVIDED FOR UP TO ONE (1) 600MCM CABLE PER TERMINAL PER NEC.
- GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS;
SIX (6) 1/0 -250MCM CU/AL CABLES OR THREE (3) #4 -600MCM CU/AL CABLE CONNECTIONS.

NOTES 600 AMP SWITCHES

- SUPPLIED WITH STANDARD MECHANICAL (SCREW TYPE) LUGS ON THE NORMAL, EMERGENCY & LOAD BUS STABS. ONE (1) LUG PER PHASE AND NEUTRAL EACH SUITABLE FOR CONNECTION OF TWO (2) #2 -600MCM CU/AL CABLES.
A. SUITABLE WIRE BENDING SPACE IS PROVIDED FOR UP TO TWO (2) 600MCM CABLE PER TERMINAL PER NEC.
- GROUND LUGS ARE PROVIDED STANDARD AS FOLLOWS;
SIX (6) #2 -600MCM CU/AL CABLE CONNECTIONS.




ATS SWITCH RATING (AMPS)	POLES	WEIGHTS LB (KG)
260-400	2	206 (93)
260-400	C2	N/A
260-400	3	212 (96)
260-400	C3	N/A
260-400	4	218 (99)
600	2	211 (96)
600	C2	N/A
600	3	215 (98)
600	C3	N/A
600	4	225 (102)

CTS/DTS SWITCH RATING (AMPS)	POLES	WEIGHTS LB (KG)
150-400	2	222 (101)
150-400	C2	N/A
150-400	3	228 (104)
150-400	C3	N/A
150-400	4	224 (102)
600	2	247 (112)
600	C2	N/A
600	3	234 (106)
600	C3	N/A
600	4	241 (109)

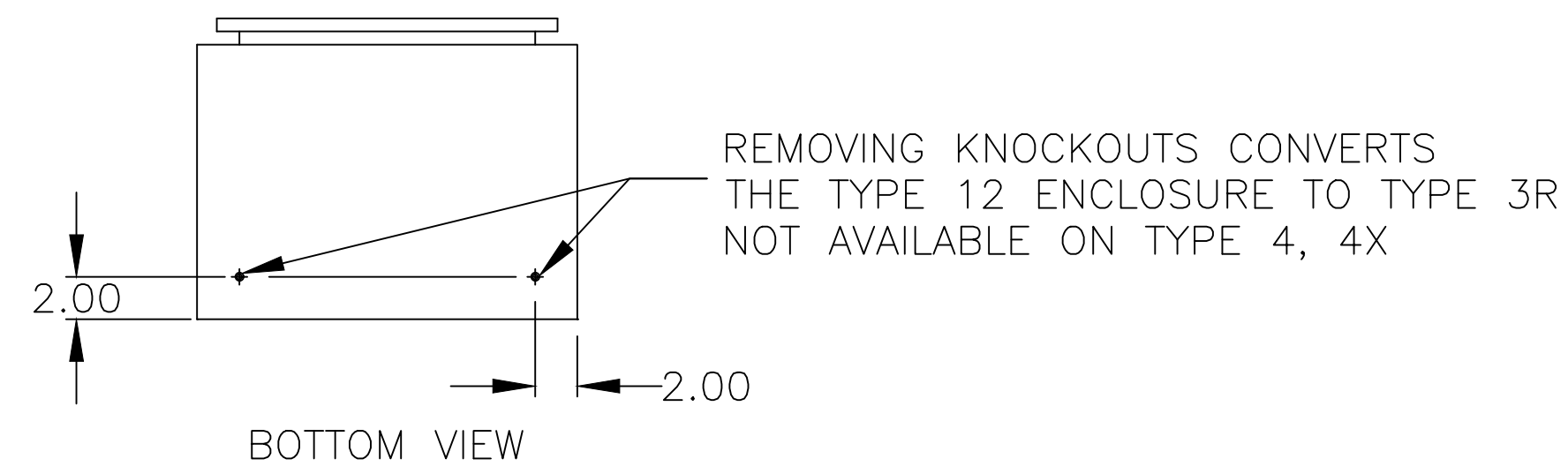
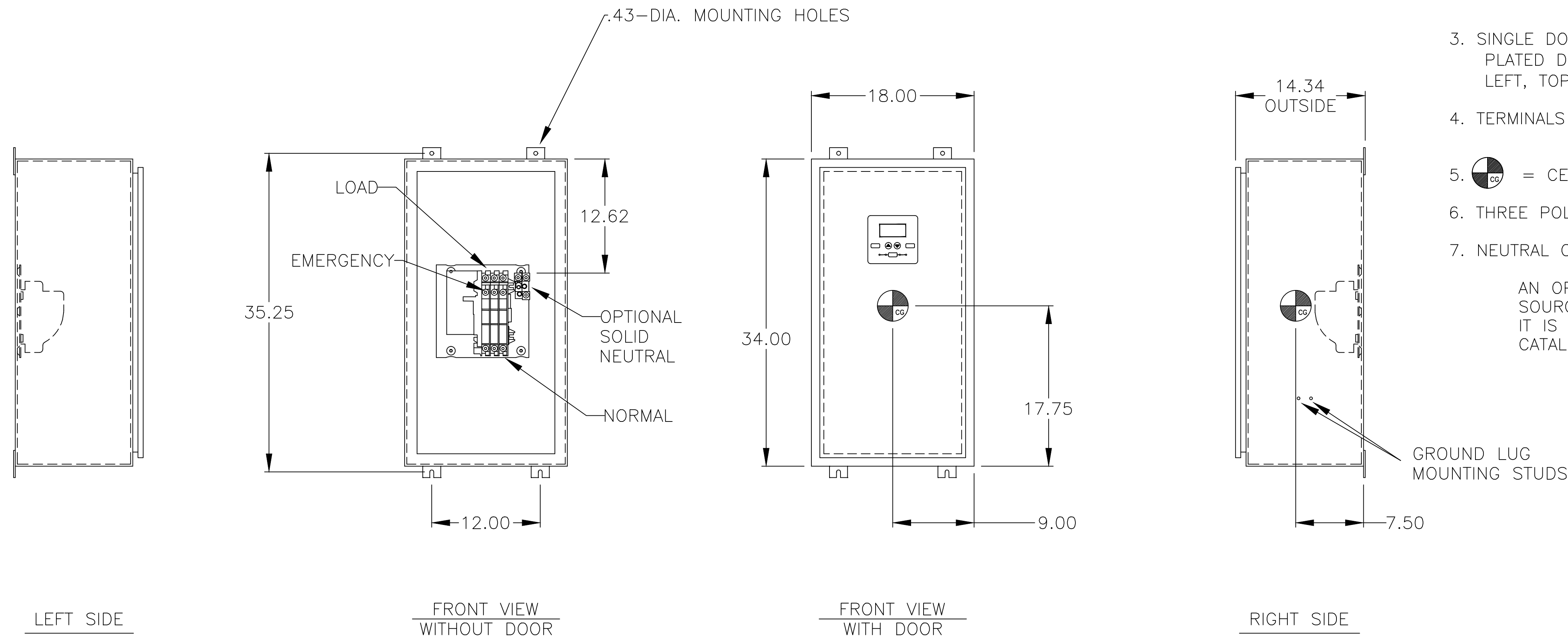
PROJECT NAME:	COMPOSITE OUTLINE		
300 SERIES TS "J"	150-600 AMP TYPE 3R/12		
DRAWN BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-035	ASSEM. REF. NO.
CHECKED BY	DATE	PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.	SCALE NONE SIZE DS
PROJECT APPROVAL BY	DATE		COMPUTER GENERATED DRAWING
FINAL APPROVAL			DWG. NO. 1001393-002
		ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORENCE PARK, NEW JERSEY 07932 U.S.A.	DRAWING A REV. ECN 249736 SHEET 1 OF 1

OUTLINE FOR ASCO[®] 300 SERIES TRANSFER SWITCHES (D3ATS/D3NTS) 30-200 AMPERES, TYPE 3R/4/4X/12 ENCLOSURE

1. TYPE 3R/4/4X/12 WALL MOUNTED ENCLOSURE.
2. STANDARD FINISH TYPE 3R/4/12: ANSI 61 GRAY. POLYESTER POWDER STANDARD. UL RECOGNIZED. OTHER ANSI COLORS AVAILABLE CONSULT FACTORY.
FINISH TYPE 4X: ENCLOSURE BODY #2B
DOOR SMOOTH BRUSHED #3.
TYPE 4X (U) EXTERIOR CONSTRUCTED OF CODE GAUGE TYPE 316 STAINLESS STEEL.
TYPE 4X (H) EXTERIOR CONSTRUCTED OF CODE GAUGE TYPE 304 STAINLESS STEEL.
3. SINGLE DOOR, RIGHT SIDE HINGE, LEFT SIDE PADLOCK HASP, PLATED DOOR CLAMPS (LEFT SIDE FOR TYPES 3R & 12; LEFT, TOP & BOTTOM FOR TYPE 4).
4. TERMINALS – SCREW TYPE LUGS FOR EXTERNAL POWER CONNECTIONS.
5.  = CENTER OF GRAVITY.
6. THREE POLE SWITCH WITH SOLID NEUTRAL SHOWN FOR REFERENCE.
7. NEUTRAL CONFIGURATIONS:

AN OPTIONAL FULL RATED NEUTRAL CONFIGURATION FOR EACH SOURCE AND THE LOAD MAY BE PROVIDED. WHEN EQUIPPED IT IS IN ONE OF THE FOLLOWING FORMATS AS SPECIFIED BY THE CATALOG NUMBER NO. NEUTRAL TYPE:
 (A) SOLID (COPPER BUS) NEUTRAL
 (B) SWITCHED NEUTRAL POLE
 (C) OVERLAPPING NEUTRAL POLE (SEE NOTICE)

NOTICE:
 When an overlapping switched neutral assembly is provided, the normal and emergency source neutral terminations are physically reversed from those of the normal and emergency source phase terminations. Locate the neutral termination markings and review the wiring diagram before connecting the neutral conductors



SWITCH RATING (AMPS)	RANGE OF WIRE
30-150	(1) #14 TO 4/0 AWG AL-CU WIRE
200	(1) #14 TO 4/0 AWG COPPER WIRE

APPROXIMATE SHIPPING WEIGHT, LBS (KG)

AMP SIZE	POLES	WEIGHT
30-200	A2	86 (39)
	B2/C2/A3	88 (40)
	B3 & C3	90 (41)

D	266971	TR	BK	5/16/17
	SEE ECN			
C	254244	TR	BK	4/15/15
	SEE ECN			
B	252058	WK	BK	12/03/14
	SEE ECN			
A	248677	BWM	SDH	5/30/14
	SEE ECN			
—	245266	BWM	SDH	11/6/13
	ISSUE			

PROJECT NAME:		REV. TO SHEET	ECN NO.	BY	APP.	DATE
COMPOSITE OUTLINE						
300 SERIES, D3ATS/D3NTS RATED 30-200 AMPERES						
TYPE 3R/4/4X/12 ENCLOSURE						
BY	DATE	MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-005		ASSEM. REF. NO.	COMPUTER GENERATED DRAWING	
DRAWN BY	BWM	11/6/13			SCALE	SIZE DS
CHECKED			PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		DWG. NO.	
PROJECT APPROVAL	SDH	11/6/13			978723-002	
FINAL APPROVAL					ASCOTM ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A.	DRAWING D ECN NO. 266971 SHEET 1 OF 1

NPS Reference Manual 58 Structural Fire Management - Chapter 7 - Appendix A

1. Historic Property Assessment Matrix
2. Fire Safety Assessment

APPENDIX F - NPS FIRE
REFERENCE MANUAL 58,
STRUCTURAL FIRE MANAGEMENT,
CHAPTER 7

Libbey Memorial PMC - Multi-park Museum and Curatorial Storage Facility

HISTORIC PROPERTY ASSESSMENT MATRIX		
<p>Not all NPS properties may require the same level of fire protection. Use this chart to help establish criteria for selecting different levels of protection appropriate to the significance and integrity of historic structures or collections. <u>This chart serves as a reference guide only</u>; it does not establish design criteria for historic structures or collection facilities. Note: Determining the proper fire protection for each specific application should be a collaboration between the resource manager and the Regional AHJ (process team). Depending on the complexity of the resource, the services of a fire protection engineer may be required by the process team. All final plans must be reviewed and approved by the Regional AHJ.</p>		
HOW TO USE THIS MATRIX		
Rate each historic structure or other collections facility according to the 7 elements above, using a score of 1-5 (levels 1-5).		
For a total score of:	Scoring Recommendations	
1 – 14	Fire alarm system should be considered; however, Fire Suppression System May Not Be Needed for this Structure (<i>variance request would be required if no system installed</i>).	
15 – 21	Fire alarm system required; Park may Want to Install a Fire Suppression System in this Structure (<i>variance request would be required if no system installed</i>).	21
22 – 28	Fire alarm system required; Park should Install a Fire Suppression System in this Structure (<i>variance request would be required if no system installed</i>).	
29 – 35	Fire alarm system required; Suppression System Required (<i>variance request would be required if no system installed</i>).	

HISTORIC PROPERTY ASSESSMENT MATRIX					
	LEVEL 5 (Five Points)	LEVEL 4 (Four Points)	LEVEL 3 (Three Points)	LEVEL 2 (Two Points)	LEVEL 1 (One Point)
1. Significance	National Register Eligible or part of park's enabling legislation	Nationally Significant	Regionally Significant and/or a primary park theme	Locally Significant	Common; little or no local significance, associative, design, construction, or information value.
2. Integrity	Good	Fair	Poor	Reconstruction	Little remaining historic fabric
3. Use	Exhibit Building open to the public: Self-guided tours only; may include assembly, overnight accommodation, cooking facility	Open to the public: Staff-guided tours only; controlled access; storage	Mixed Use: Public access and offices, retail, and/or storage	NPS or partner offices	Storage only
4. Location: Response	No brigade response available. No road access; developed utility service w/ topo. Access difficulties. High visitation; large crowds may impede responders.	Brigade response > 30 minutes. Rural road; reasonable topo. Access without developed utility services. Seasonal road access difficulties	Rural road access with developed utility services	Brigade response < 20 minutes. Urban access with minor vegetative or physical constraints	Brigade response <10 minute. Urban access, no vegetative or physical constraints
5. Location: Accessibility	High crime area: Perimeter easily accessible after-hours	High crime area: Perimeter not easily accessible after-hours	Low crime area: Perimeter easily accessible	Low crime area: not easily accessible	Low crime area: Secured Perimeter 24/7 or difficult to access
6. Construction Type (See <i>International Building Code (IBC)</i>, for additional information)	Type V: Wood Frame (Light Combustible Construction)	Type IV: Heavy Timber (Heavy Combustible Construction)	Type III: Masonry walls, wood floors (partial Combustible Construction)	Type II: Non-combustible (Non-combustible Construction)	Type I: Fire Resistive (Non-combustible Construction).
7. Fuel Load: Proximity	High: Adjacent, attached buildings not in owned by NPS; Forest/grasslands in fire-prone area	High: Adjacent, attached buildings owned by NPS; OR Forest/grasslands in fire-prone area	High: Adjacent, attached buildings not in owned by NPS, OR Forest/grasslands in fire-prone area	Adequate: Defensible space based on historic models	Not prone to fires
SCORE	10	4	3	2	2

PARK HOSP	FMSS ID#		NAME (structure) Libbey Memorial PMC				Name (surveyor)
FIRE SAFETY ASSESSMENT							
STRUCTURE DESCRIPTION	YES	NO	HIGH	MEDIUM	LOW	N/A	COMMENT
Visitor Access (Low = 0-50, Med = 51-299, High >300)	X				X		Approximate Daily Number:
Security							
Building Security	X						
Collection Security	X						
Occupancy Types							
Overnight Accommodations (Low = 0-50, Med = 51-200, High >200)		X					Daily Number:
Library Reading Area	X						
Library Archives (Low = 0-200sqft, Med = 201-350sqft, High = >350sqft)	X						Approximate SQ FT:
Museum Exhibit (Low = 0-625sqft, Med = 626-1000sqft, High = >1000sqft)	X						Approximate SQ FT:
Museum Curatorial Storage (Low = 0-150sqft, Med = 151-350sqft, High = >350sqft)	X						Approximate SQ FT:
Other Specialized Storage Requirements	X						
Assembly Occupancies		X					
Theaters & Auditoriums		X					
Residential		X					
Business, Office	X						
Educational, Institutional		X					
Vehicle Repair		X					
Kitchens, Restaurants		X					
Storage, Manufacturing	X						
Stages		X					
Repair Garages		X					
Machine Shop, Wood Shop		X					
Risks							
Ignition Sources and Risk (Low = general electrical, Med = use of extension/strip cords, High = electric/fuel space heaters, stoves, candles, etc.)					X		
Combustible Construction and Rating per NFPA (See evaluation worksheet 1, col. 6)	Type:						
Code Compliant Exiting from Structure (Low = 1 exit, Med = 2 exits, High = 3+ exits)			X				
Potential Impact of Installation Damage to Historic Fabric (Low = minor, Med = moderate, High = substantial)				X			
Fuel Load for Structure (Low = no exhibits, no storage; Med = exhibits, no storage; High = exhibits and storage)			X				

PARK	FMSS ID#		NAME (structure)	Name (surveyor)			
FIRE SAFETY ASSESSMENT							
STRUCTURE DESCRIPTION	YES	NO	HIGH	MEDIUM	LOW	N/A	COMMENT
Potential for Resource Loss and Risks (arson, wildland fire, lighting, etc.) (Low = Risk is not likely, Med = Risk is limited, High = Risk is very possible)					X		
Life Safety Risks (Low = single grade level, 2 or more exits; Med = multiple story, less than two exits; High = multiple story above or below grade with single exit)						X	
Existing Fire Protection Devices							
Emergency Lights (yes/no) Will be included	X						
Fire Resistive Separations Will be included	X						
Available Monitor Station Will be included	X						Age:
Existing Fire Detection and Alarm System Will be included	X						Age & Manufacture:
Existing Fire Suppression System Will be included	X						Type:
Lightning Protection		X					Unless deemed as a need by NPS
Existing Fire Protection Systems/Devices are Installed Building-wide							
Site Fire Protection Resources							
Available Water (Low = well, Med = reservoir/pumps, High = commercial supply)			X				Type: Provide new fire service
City Water	X						Capacity and Pressure: 1250 GPM @ 115 PSI
Individual Well		X					Capacity and Pressure: Residual
Other (Describe)							Capacity and Pressure:
Available Electricity* (Low = single phase power; Med = sufficient 3 phase power; however, unreliable; High =reliable commercial supply)			X				
Single Phase Power							Reliability:
Three Phase Power*	X						Reliability:
Site or Backup Power*	X						Yes ___ No ___ Age _____
Local Available/Reliable Fire Department Response (Low = >15 min; Med = >7 min <15 min; High = >4 min <7 min)					X		Verify with City
Site Access Constraints*		X					
Mutual Aid in Place with Local FD (MOU, MA, or Cooperative Agreement) – Yes/No answer only							Verify Park
FD Familiarity with Building	X						
This initial Fire Safety Assessment: This assessment is intended to provide useful information for the evaluation of each structure to define any major issues that could affect the project. It does not replace an actual code evaluation of the building.							
* Building and/or Collection Security –What is the vulnerability of the building or collection from arson or vandalism? Arson is perhaps the single largest risk to cultural properties. It is a security issue more than a fire protection issue.							

PARK	FMSS ID#						NAME (structure)	Name (surveyor)
FIRE SAFETY ASSESSMENT								
STRUCTURE DESCRIPTION	YES	NO	HIGH	MEDIUM	LOW	N/A	COMMENT	
* Available Electricity – In rural settings, overhead power lines can often be knocked down during storms, causing power outages.								
* Single Phase versus Three Phase – Has been an issue at some NPS remote sites. Can be an expensive issue for most fire pumps.								
* Site or Backup Power: This issue speaks to power reliability or availability in many rural situations. Many NPS sites do not have a primary power system and rely either on a site-managed power generator, or on backup generators that are provided due to unreliable commercial power.								
* Site Access Constraints: As part of the site analysis, are there any obstacles which can restrict access by a fire department? Such as a bridge that is vulnerable to flooding; a lane of trees along the site driveway, which could blow down in a storm and restrict access; a rural road subject to washout.								

APPENDIX G - EXISTING CONDITIONS TABLES

EXISTING CONDITIONS TABLES - SITE

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Assessment Checklist - Site						
Deficiency Rating	Condition Rating	Component – Exterior or Interior	Existing Condition	Reference	Qty	Unit
Site						
Serious	Fair	Sidewalks	Concrete sidewalks with minor damage: ±20% of slabs exhibit cracking and spalling and/or are displaced leaving large gaps/tripping hazards between sidewalk slabs.	XC.6		
Minor	Good	North entry plaza tile	Red tile paving and mortar in good condition with atmospheric staining throughout and minimal cracking/deterioration.	XC.5		
Minor	Fair	North entry plaza concrete	Concrete is in fair condition with cracking throughout.	XC.5		
Minor	Good	West entry	Concrete retaining walls (painted) and concrete steps down to lower level in good condition. Joint between retaining wall and building wall is open. Drain at bottom landing is covered in debris; 5.5”	XAE.3		
Minor	Good	Handrails at west sidewalk	No apparent damage, minor surface corrosion	XAE.3		
Minor	Good	Lighting	Site lighting is all building mounted. No apparent damage, did not test lighting, so cannot confirm if fixtures are operable			
Minor	Fair	Drainage	Site slopes down from north to south. Assume multiple downspouts connect underground to drain; downspout west of porte cochere daylight at curb	XC.4		
Minor	Poor	Benches	Covered in atmospheric and biological staining, minor cracks throughout legs, minor spalling	XAE.13		
Minor	Good	Metal stair at south elevation	Metal in good condition, with biological staining on majority of surfaces.			
Minor	Fair	Porte Cochere + driveway	Cracks throughout concrete driveway, small ramp to entry Retaining wall at driveway: atmospheric and biological staining throughout	XC.3		
Serious	Poor	Areaway	General: Water damage and biological growth throughout walls, sills, slab, beams, windows. Staining at retaining walls, windows, and sills and below, and beams. Cracking throughout slab with debris at corners. East: 18” between bottom of wall and west of stair; door in poor condition, rusted at bottom. West: no area drain, spring water to downspout, which is disconnected from underground pipe, no cracks			

EXISTING CONDITIONS TABLES - ARCHITECTURAL EXTERIOR

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Assessment Checklist – Architectural Exterior						
Deficiency Rating	Condition Rating	Component – Exterior or Interior	Existing Condition	Reference	Qty	Unit
Exterior						
Minor	Good	Roof: Tile	Clay tile roof was recently replaced. There are a few individual pieces that have been damaged.	XAE.8		
Serious	Good	Roof: Flashing	Flashing is missing at gutter edge at west elevation, causing water penetrating into stucco wall.	XAE.9		
Minor		Roof: Soffit + Eave	Minor wood damage throughout. Paint peeling at a few localized areas.	XAE.10		
Serious		Roof: Drainage	General: Gutters show signs of wear and weathering; Profiles have changed by bowing and widening. North: Some gutters are no longer sloping properly to the downspouts, allowing ponding and leaking to occur away from the downspout on the west end. Downspouts have moved South: Where gutters butt up against stucco wall, stucco is damaged enough to see through to the clay tile.			
Serious		Chimney	Cracking throughout paint layer of chimney. Biological growth at upper portion. Copper flashing improperly sealed. Structure appears to be leaning slightly.			
Minor		Skylight + Cupola	Cupola weathered and dirty			
Serious	Poor	Walls	General: Cracking and surface damage within the paint found throughout exterior walls; Stucco cracking from window corners into sills. Unknown whether cracks go deep into stucco, not just paint. Some spalling at bottom or edge of walls. Previous stucco patching observed, but crack is still evident. North: localized area of paint bubbling, with water trapped inside; staining from guard rail; numerous vertical cracks on west and east end between windows; previous crack repair in good condition on east end East: hollow area behind cracking; multiple horizontal cracking, bubbling on south end South: paint is bubbling at west end, drain has cracks, multiple areas of cracks previously repaired. West: staining at south end under eave, horizontal cracking throughout, bubbling paint at north end of exterior stucco walls	XAE.11		

Serious	Poor to fair	Windows	No apparent damage throughout typical double-hung and double casement windows, few windows indicate wood damage, sealant and weather-sealing deteriorated; broken glass throughout glass block units; staining on window sills. North: infill at east areaway middle unit			
Minor	Fair	Doors	See interior notes. Exterior doors at south are not original, with the original framing showing where original hardware was located.			
Minor	Good	Louvers	Debris found throughout louvers. Paint peeling exposes substrate. North: half of vents at areaway are damaged.			
Minor	Fair	Columns	Atmospheric and biological staining throughout cast stone columns, with hairline cracking throughout.	XAE.12		
Serious	Fair	Cast Stone	Open joints throughout cast stone, cracking is typical, with staining heaviest on the projected elements. Cracking, delamination, and spalling observed throughout the decorative pieces. Exposed and rusted reinforcing in some cornice pieces. Cracking, including at joints, can be found throughout. Quoins have cracking throughout the joints and hairline cracks throughout most of the pieces. Atmospheric staining observed throughout window surrounds.	XAE.12		
Minor	Good	Lighting	Lighting fixtures do not look to be original.			

EXISTING CONDITIONS TABLES - ARCHITECTURAL

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Assessment Checklist – First Level						
Deficiency Rating	Condition Rating	Component – Exterior or Interior	Existing Condition	Reference	Qty	Unit
General						
Serious	Poor		Lead paint testing is recommended throughout			
Serious	N/A		Asbestos testing is recommended in concealed spaces			
Serious	N/A		Radon testing is recommended			
Serious	N/A		Testing black dust/dirt on the lower level is recommended			
Serious	N/A		Testing piping for mercury is recommended			
Room 100 - Lobby						
Minor	Good	Base	General: Quarry tile wall base is in overall good condition South: one tile damaged (45% obscured by miscellaneous objects) West: fair condition, water damage at exterior wall	XAI.1		
Minor	Fair	Walls	General: Painted plaster walls and pilasters exhibit minor cracking and peeling of paint throughout East: Paint and plaster damaged at exterior wall and piping locations; cracking where wall meets trim South: water staining at perimeter of window West: water damage at exterior wall	XAI.1		
Minor	Good	Trim	General: Painted wood built-up crown molding is in overall good condition North: no additional notes East: limited areas with gaps between trim pieces South: no additional notes West: water damage with staining and deterioration at ±30% of trim elements	XAI.1		
Minor	Poor	Doors	Hollow metal door and frame within stair opening infill on north wall: corrosion and damage on all elements including hardware	XAI.2		
Minor	Poor	Doors	Sliding gate, overhead track, and hardware at stair on north wall: corrosion and peeling paint on track and gate	XAI.2		
Minor	Poor	Doors	Hollow metal double door frame on north wall: door is missing, frame and abandoned hinges remain, poor condition with peeling paint and corroded steel			
Minor	Fair	Doors	Aluminum storefront door, transom, and frame on east wall: mechanical			

			damage on door, staining on frame, operating hardware not ABAAS compliant			
Minor	Poor	Doors	Aluminum storefront double door, transom, and frame on south wall: weatherstripping has failed, large gap at meeting stiles, corroded closer, power operator device not tested during site visit			
Minor	Poor	Doors	Hollow metal door and frame on west wall: Corrosion at door and lower 12" of frame, operating hardware not ABAAS compliant			
Minor	Good	Flooring	General: quarry tile flooring is in overall good condition with minimal cracking and staining			
Minor	Poor	Ceiling	Plaster ceiling is missing, trim is only component remaining	XAI.1		
Room 100 - Stair						
Minor	Fair	Marble stair	Staining, minor cracking, some open joints at marble treads, risers, and cheek walls. Non-slip material adhered to treads.	XAI.2		
Minor	Good	Quarry tile landings	Staining and non-slip material adhered to landings	XAI.2		
Minor	Good	Base	Marble base is in overall good condition with staining typical and minimal open joints			
Minor	Fair	Walls	Plaster two-story walls with areas of water damage and peeling paint on all walls. Horizontal cracking on north wall approximately aligned with second floor level.			
Minor	Good	Handrails	Pipe handrail mounted to painted wood mounting board on wall in good condition overall. No handrail installed at top and bottom stair runs. Handrail that is in place is not ABAAS compliant.			
Minor	Fair	Ceiling	Plaster ceiling with two laylights. Plaster is in good condition overall. Laylights are discussed in a separate section.			
Minor		Openings	Arch top openings in north wall, noted in Room 200 - Lobby			
Minor	Good	Trim	Copper edge protection at exposed corners in good condition			
Room 101 - Office						
N/A	Fair	Floor	Concrete floor with minor cracking in the east west direction along south end of floor. Concrete deterioration / patching at door 1/101.		167 SF	
Minor	Good	Wall-North	Plaster is in good condition with minor deterioration at the section below the vision panel to the west of the door. It appears that there was previous deterioration that was patched with a drywall compound. There is a light switch in this location that is turned 90 degrees from what is standard. There is a louver in the wall adjacent to the light switch with plastic sheet taped over the louver. Directly above the west head of the door there is a 12" crack. There are significant areas of paint delamination. Suspect lead-based paint due to brittle appearance. There is a 6" wallpaper boarder at the top of the wall adjacent to the ceiling which has peeled off the wall over half of its distance. At the upper west corner there is a build out of 13" deep x 2'-10" wide x 26" high for mechanical ductwork / grill.		154 SF	
Minor	Missing	Wall – North - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7" above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.		14 LF	

Minor	Fair to Poor	Wall North - Trim	The north wall has two side lite vision panels that frame the door symmetrically but are not placed symmetrically than the north wall. From the east side the frame is 2'-3 3/4" and 7" from the west wall. Overall side lite trim to side lite trim is 11'-7 7/8". The wood trim appears to be original and is in fair condition for the most part with one section of poor condition with cracked and split trim adjacent to the west side of the door at the sill of the side lite. Original Syenite glass (textured obscure glazing) appears to still be extant on the east side of the door. The glazing on the west side of the door is clear and appears to be contemporary. The trim insets from the face of plaster approximately 1/4" to 1/2" in depth and has a trim piece (1" wide) surrounding the frame. To the east of the door at the side lite trim there is minor gouges at the corner trim. The finish is painted on both sides and is in fair condition with minor areas of delamination.			
Minor	Good	Wall – North – Door	2/101 door is non-original but appears to be in good condition with areas of corrosion and ferrous staining. The hardware is all contemporary replacement.			
Minor	Good	Wall-East	Plaster is in good condition with minor areas of paint delamination, specifically at the south edge, above the door. Directly north of Door 1/101, there are two non-original fire alarm panels mounted mid height with surface mounted conduit feeds. There are two additional control boxes located to the north and top of the fire alarm panels, one appears to be for security controls. There is an electrical outlet mounted at the north edge of the wall with a missing cover plate.		132 SF	
Minor	Missing	Wall – East - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7" above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.		12 LF	
Minor	Fair to Poor	Wall – East – Door	The existing door is a non-original hollow metal door and frame. There is corrosion and ferrous metal staining at the base of the door and frame to minimally a 6" height. There is a threshold that transitions from the lobby tiled floor to the concrete floor of the office. The transition height is 3/4." The threshold appears to be white marble. The door hardware is all non-original but appears to be in good condition.			
Minor	Fair to Good	Wall-South	The plaster is in Good to fair condition with areas of moisture infiltration and bloom present at the base of the window and the bump out at the east side of the window. It is unclear where the moisture is coming from. The base of the wall and upper three feet adjacent to the ceiling of the bump out have significant paint delamination. There is minor damage to the plaster corner at the lower 15" from the floor. There is one hairline crack running vertically at the center window down to the floor. Below the center of the window there is a through wall louver. To the west of the window opening there is a surface mounted outlet and vertical conduit to the ceiling that has been pulled off the wall. (230 Volt)		154 SF	
Minor	Missing	Wall – South - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7" above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.		14 LF	

Minor	Fair to Good	Wall South - Trim	The trim surround at the window appears to be non-original elements altered when the window was replaced. The sill and apron appear to be original wood trim, painted finish. The sill/apron wood trim is in poor condition with sun damage, minor gouges and several areas of finish deterioration including missing or delaminated paint. There is a coating on the apron that appears to be an adhesive. The interior wood trim surround at the replacement windows is in good condition.			
Minor	Good	Wall – South – Window	The three part window (127) is a non-original placement window.			
Minor	Good	Wall-West	The plaster wall is in good condition with no evident areas of cracking. There are a few fasteners that have been abandoned. The plaster paint finish has several areas of deterioration / delamination over the full wall. There are two electrical outlets and one tele/data outlet on the wall the tele data cover is unfastened with exposed wiring. The outlet north of the door is missing the device and the outlet cover.		132 SF	
N/A	Missing	Wall – West - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.		12 LF	
Minor	Good	Wall West - Trim	The trim surrounding door 1/102 is original and is in good condition. The door was originally stained and no has a painted finish. The paint is in fair to poor condition with areas of delamination and missing paint.			
Minor	Good	Wall – West – Door	1/102 is original and in good condition with minor gouging at the base of the door. The lower hinge connection is in poor condition with splitting, and it appears the hinge was relocated to a higher position on the door to address the splitting. The hinges appear to be original but re in poor condition with the lower hinge missing the ball tip and significant corrosion present. The latch set / knobs are non-original and there is a surface mounted throw-bolt mid-height.			
Minor	Good	Ceiling	The plaster is in good condition with finish (paint) delamination across most of the ceiling. There are two replacement mechanical lovers to the east and west of the central ceiling fan / light fixture. The louvers have plastic sheet covers taped over them. There is a smoke detector located north of the ceiling fan escutcheon. The ceiling fan is non-original and has exposed wiring.		167 SF	
Room 102 - Office						
Minor	Fair	Floor	Concrete topping slab floor with scoring and red finish. The floor appears to be in good condition with one minor area of cracking running north – south at the south center section. There is discoloration around the perimeter of each simulated tile scoring that appears to be adhesive.		131 SF	
Minor	Unknown	Wall-North	It appears that the wall is original plaster, but the finish is obscured by wallpaper and wood panel wainscot. To the west of the door is a through		121 SF	

			wall louver which is missing the cover at the interior of the room.			
N/A	Missing	Wall – North - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base. There is a gap of ¾” to 1” at the edge of the concrete floor and plaster wall.		11 LF	
Minor	Good	Wall – North – Door	2/102 door is non-original but appears to be in good condition with areas of corrosion and significant ferrous staining. The hardware is all contemporary replacement. The door is set with in a contemporary hollow metal frame which also has areas of corrosion.			
Minor		Wall-East	The original plaster wall is partially obscured by wall paper at the upper half. The lower half appears to have previously had wood wainscot which is non-extant. The 1/8” plaster finish coat is significantly deteriorated with significant delamination. There are three outlet - two have missing devices, the third device us unknown and all are missing cover plates.		132 SF	
Minor		Wall – East - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base. There is a gap of ¾” to 1” at the edge of the concrete floor and plaster wall.		12 LF	
Minor		Wall East - Trim	The trim / door 1/102 are original. The trim at the south side of the door has minor areas of deterioration with a gap at the lower hinge where it was relocated. The bottom 1 ½” of trim at both sides has deterioration. The painted finish is crazing and missing in some areas (suspect lead based paint).			
Minor		Wall – East – Door	Reference description at Office 101 west wall.			
Minor		Wall-South	The original plaster wall is partially obscured by wall paper at the upper half. The lower half appears to have previously had wood wainscot which is non-extant. The 1/8” plaster finish coat is significantly deteriorated with areas of hairline cracking and a few sections with delamination specifically under the west half of the window. There is a through wall louver centered under the window. The interior louver cover is missing.		121 SF	
Minor		Wall – South - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base. There is a gap of ¾” to 1” at the edge of the concrete floor and plaster wall.		11 LF	
Minor		Wall South - Trim	The trim surround at the window appears to be non-original elements altered when the window was replaced. The sill and apron appear to be original wood trim, painted finish. The sill/apron wood trim is in poor condition with sun damage, minor gouges and several areas of finish deterioration including missing or delaminated paint. The interior wood trim			

			surround at the replacement windows is in good condition.			
Minor		Wall – South – Window	The window (128) is a non-original replacement window in good condition.			
Minor	Unknown	Wall-West	It appears that the wall is original plaster, but the finish is obscured by wallpaper and wood panel wainscot. There are two outlets in the wall, both missing devices and cover plates.		132 SF	
Minor	Unknown	Wall – West - Base	It is assumed that the existing base has been removed The wood wainscot is currently concealing the base condition.		12 LF	
Minor		Ceiling	The plaster ceiling is in good condition with areas of finish deterioration over most of the space. (Lead based paint suspect) The paint finish is delaminated in several areas. There are two mechanical diffusers to the east and west of the center of the room. There are three fixture anchors with exposed wiring at the north side of the room. There is a smoke detector.		131 SF	
Room 103 - Office						
Minor	Fair	Floor	Concrete topping slab floor with scoring and red finish. The floor appears to be in good condition with minor area of cracking running east – west at the center of the room, a hairline crack along the southwest and third score line from the east has been saw cut. There is discoloration around the perimeter of each simulated tile scoring that appears to be adhesive. A floor drain sets to the east of the room, centered north to south. The drain cover is in poor condition with corrosion throughout. Just northwest of the floor drain, there are four anchors abandoned in the floor.		312 SF	
Minor	Fair to Good	Wall- North	The plaster wall is in fair to good condition with minor areas of cracking along the base of the wall towards the western side. At the top of the wall, a rectangular shape cracked has developed with small patches of plaster missing. The plaster paint finish is in good condition with minor cracking.		181 SF	
Minor	Missing	Wall – North - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base. There is a gap of ¾” to 1” at the edge of the concrete floor and plaster wall.		16.5 LF	
Minor	Good	Wall-East	The plaster wall is in good condition with no evident areas of cracking. There are a few fasteners that have been abandoned and several holes from removed anchors. The plaster paint finish is in good condition. There are two electrical outlets, one light switch, and one tele/data outlet on the wall the outlets are missing the device and the outlet cover and the light switch is missing the terminal and switches. There is a metal louver just south the door 1/103.		206 SF	
Minor	Missing	Wall – East - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area		18.75 LF	

			where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base.			
Minor	Fair	Wall – East – Door	1/103 door hollow metal door frame is non-original but appears to be in good condition with minor areas of corrosion at the base. There is no door or hardware attached to the frame.			
Minor	Fair to Good	Wall-South	The plaster is in good to fair condition with minor areas of cracking on the western side of the wall and just below the center of the window. There are significant areas of paint delamination around the jambs and header of the window opening. At the west corner of the wall and at the window are hornet nests.		181 SF	
Minor	Missing	Wall – South - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. There is a gap of ¾” to 1” at the edge of the concrete floor and plaster wall.		16.5 LF	
Minor	Fair to Good	Wall South - Trim	The trim surround at the window one of the few original trim elements not altered when the window was replaced. The interior stop is not original. The sill and apron appear to be original wood trim, painted finish. The sill/apron wood trim is in fair condition with minor gouges and minor areas of finish deterioration including missing or delaminated paint.			
Minor	Good	Wall – South – Window	The three part window (129) is a non-original placement window.			
Minor	Fair to Good	Wall- West	The plaster wall is in fair to good condition with minor areas of plaster deterioration (initial starts to plaster bloom) just below an abandoned pipe and valve center on the wall, as well as a horizontal crack at the top of the wall. The plaster paint finish is in fair condition with several areas of cracking/delamination. There are two electrical outlets on the wall		206 SF	
Minor	Missing	Wall – West - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base.		18.75 LF	
N/A	Fair	Wall – West – Door	Reference Room 104 and Room 105 for door and frame information			
Minor	Fair to Good	Ceiling	The plaster ceiling is in fair to good condition with areas of paint finish deterioration over a portion of the space. There one mechanical diffuser centered in the room. There are three abandoned fixture holes with exposed wiring and a smoke detector.		312 SF	
Room 104 -Toilet						
Minor	Fair to Good	Floor	The 2-inch by 2-inch and 1-inch by 2-inch cream and blue ceramic tile is non-original and in good condition, minus three missing tiles in the southwest corner. The same tiles are installed inside the shower stall.		109 SF	
Minor	Unknown	Wall-North	The plaster is in fair condition with areas of moisture infiltration and bloom present just west of the shower stall, behind the toilet and in the western		126.5 SF	

			lower corner of the wall. Mounted long the wall is the floor mounted toilet, wall mounted sink (with a mirror and light fixture mounted just above the sink), and a shower. There is one light switch just west of the wall mounted mirror. Both the shower and joist are surrounded by marble partitions. The partitions are in fair condition with the west shower partition contain ferrous staining			
Minor	Missing	Wall – North - Base	The 6-inch by 6-inch ceramic cove base is in fair condition with minor grout deterioration.		11.5 LF	
Minor	Good	Wall – North – Door	The toilet partition door is painted and has a brass mortise lockset and trim in place. The paint finish of the door is in poor condition.			
Minor		Wall-East	The plaster is in fair condition with areas of moisture infiltration and bloom present just south of the shower stall, between the shower stall and door 1/104. There are two light switches on this wall, one just south of door 1/104, and one just to the north.		104.5 SF	
Minor		Wall – East - Base	The 6-inch by 6-inch ceramic cove base is in fair condition with minor grout deterioration just north of door 1/104.		9.5 LF	
Minor		Wall – East – Door	1/104 door hollow metal door and frame are non-original and are in fair condition with significant areas of corrosion at the base. The closer on the door has been removed.			
Minor		Wall-South	The plaster is in good to fair condition with minor areas of vertical cracking on the eastern side of the wall and horizontal cracking just above the window. There are significant areas of paint delamination around the east jamb and header of the window opening.		126.5 SF	
Minor		Wall – South - Base	The 6-inch by 6-inch ceramic cove base is in fair condition with minor grout and several areas of paint splash are visible along the top of the tiles.		11.5 LF	
Minor		Wall South - Trim	The trim surround at the window appears to be non-original elements altered when the window was replaced. The sill and apron appear to be non-original wood trim that has not been painted. The sill/apron wood trim is in fair condition with sun damage and warping of the sill board on the west.			
Minor	N/A	Wall – South – Window	The window (130) is a non-original replacement window in good condition.			
Minor		Wall-West	The plaster is in fair condition with areas of moisture infiltration and bloom present in the north corner, just west of the floor mounted toilet.		104.5 SF	
Minor		Wall – West - Base	The 6-inch by 6-inch ceramic cove base is in fair condition with minor grout and several tiles along the north, pulling away from the wall. Several areas of paint splash are visible on the tiles.		9.5 LF	
Minor		Wall – West - Trim	The trim surround at the window appears to be non-original elements altered when the window was replaced. The interior concaved trim on the south jamb of window 131 is cracked (trim length +/-4'-6")			
Serious		Wall – West –	The windows (131 and 132) is a non-original replacement window in good			

		Window	condition.			
Minor		Ceiling	The plaster ceiling is in good condition. There one light fixture in place, just above the shower. There is one abandoned fixture hole with exposed wiring and a square opening cut into the ceiling, centered on the east edge.		109 SF	
Room 105 -Toilet						
Minor	Fair to Good	Floor	The 2-inch by 2-inch and 1-inch by 2-inch cream and blue ceramic tile is non-original and in good condition, minus a 2-foot by 6-inch patch of missing tiles at door 1/105. The same tiles are installed inside the shower stall.		83 SF	
Minor	Unknown	Wall-North	The plaster is in fair condition with areas of moisture infiltration and bloom present along the base of the wall at the western bump-out. The plaster paint finish is in fair condition with hairline cracking throughout the wall. A door stop is installed at the base of the western portion of the wall.		93.5 SF	
Minor	Missing	Wall – North - Base	The 6-inch by 6-inch ceramic cove base is in fair condition with minor grout deterioration and areas of paint splash.		8.5 LF	
Minor		Wall-East	The plaster is in fair condition with areas of moisture infiltration and bloom present at the wall between door 1/105 and the shower stall. The plaster paint finish is in fair condition with hairline cracking throughout the wall. There are three light switches mounted on the wall, just south of door 1/105.		126.5 SF	
Minor		Wall – East - Base	The 6-inch by 6-inch ceramic cove base is in fair condition with minor grout deterioration and areas of paint splash.		11.5 LF	
Minor		Wall – East – Door	1/104 door hollow metal door and frame are non-original and are in fair to good condition with minor areas of corrosion at the base.			
Minor		Wall-South	The plaster is in fair condition with areas of moisture infiltration and bloom present just below the wall mounted sink and in the western corner. Mounted long the wall is the floor mounted toilet, wall mounted sink (with a mirror directly above the sink and light fixture mounted straddling the metal toilet partition), and a shower. There is one light switch just west of the wall mounted mirror. The shower has marble partitions that are in fair to good condition with ferrous staining. The toilet has a pre-finished metal partition that is in good condition.		93.5 SF	
Minor		Wall – South - Base	The 6-inch by 6-inch ceramic cove base is in fair condition with minor grout deterioration and areas of paint splash.		8.5 LF	
Minor		Wall-West	The plaster is in fair to poor condition with areas of moisture infiltration and bloom present along the base of the wall. The plaster paint finish is in fair condition with hairline cracking throughout the wall. There is a coating on the door frame of door 1/103 that appears to be an adhesive.		126.5 SF	
Minor		Wall – West - Base	The 6-inch by 6-inch ceramic cove base is in fair condition with minor grout deterioration and areas of paint splash.		11.5 LF	
Minor	Fair to	Ceiling	The plaster ceiling is in good to fair condition. There two light fixtures in		83 SF	

	Good		place, one just above the shower and the other centered on the ceiling. There is one mechanical vent and one mechanical diffuser. There is crack running north to south in the ceiling.			
Room 106 - Mechanical						
Minor	Good	Floor	The concrete floor is in good condition.		241 SF	
Minor	Fair to Poor	Wall – North	The board formed concrete wall is in fair condition with diagonal hairline cracking predominantly focused on the center of the wall. There is horizontal cracks at the top and base of the wall. The horizontal crack running along the base of the wall (roughly 4'-0" off the F.F. has ferrous staining throughout. The paint finish is in fair to poor condition with areas of missing and cracking paint. A pipe sticks through the wall and around pipe penetration there is a chunk of concrete missing.		181 SF	
Minor	N/A	Wall – North- Base	Evidence of a wall base is not visible.		12.5 LF	
Minor	Fair to Poor	Wall East	The board formed concrete wall is in fair condition. There is a medium sized diagonal crack that extends from the upper north corner of the door opening between Mechanical 106 to Mechanical 107 to the ceiling. On the north side of the wall, two large holes have been cut through the top of the wall to allow for utility piping to pass thru the wall. On the south side of the wall, two large holes have been cut through the top of the wall to allow for utility piping to pass thru the wall. At the south side of the wall there is a horizontal crack spanning along the base of the wall (roughly 1'-6" off F.F.). The paint finish is in fair to poor condition with areas of missing and cracking paint. There are multiple pipes anchored to the wall and several abandoned anchors.		275.5 SF	
Minor	N/A	Wall – East - Base	Evidence of a wall base is not visible.		19 LF	
Minor	Fair to Good	Wall – East - Chimney	The plaster walls of the chimney are in fair to poor condition with hairline cracking throughout. The plaster on the north wall, below the chimney access door, has areas of moisture infiltration, efflorescence, and bloom present. The plaster at both the north and south corners of the chimney is damaged. The paint finish is in fair to poor condition with areas of missing and cracking paint throughout. There is a wall mounted outlet at the southeast corner of the chimney.			
Minor	Fair	Wall-South	The board formed concrete wall is in fair condition. There is ferrous staining along the base of the wall and minor horizontal cracking at the top of the wall. Roughly centered on the wall is a wood access door (rough measurement of 3'-0" by 4'-0").		181 SF	

			The paint finish is in fair to poor condition with areas of missing and cracking paint. There are multiple pipes anchored to the wall and several abandoned anchors.			
Minor	N/A	Wall – South - Base	Evidence of a wall base is not visible.		12.5 LF	
Minor	Fair	Wall-West	The board formed concrete wall is in fair condition with a few minor hairline cracks. Roughly centered on the wall is a rough concrete patch where an opening once was located (rough measurement of 3'-0" by 3'-0"). The paint finish is in fair to poor condition with areas of missing, peeling, and cracking paint. There is a fire alarm, exist sign, and a wall mounted outlet mounted on the wall.		275 SF	
Minor	N/A	Wall – West - Base	Evidence of a wall base is not visible.		19 LF	
Minor	Fair to Poor	Wall – West – Door	Door 1/106 is a non-original fiberglass door installed within a simple wood frame. The fiberglass door is in good condition. The wood frame is in fair condition and not an adequate frame (both in size and durability) for a commercial building.			
Minor	Fair	Ceiling	The board formed deck is in fair condition. There are multiple pipe holes penetrating the ceiling deck. Centered at the south edge of the ceiling a large hole has been cut into the concrete deck to allow utilities to pass thru (roughly 3'-0" x 4'-0") There is one abandoned light fixture and smoke detector mounted to the ceiling.		241 SF	
Room 107 - Mechanical						
Minor	Fair to Poor	Floor	The concrete floor is in fair condition. There is minor cracking throughout and on the northeastern corner the top coat of concrete has been etched away, exposing the slab aggregate. This deterioration is occurring near the exterior door 2/107 and near the floor drain. Dirt and debris on the floor, suggests that water is infiltrating through below the door and into the building. Near the center of the center of the eastern wall there is a slight heave in the floor. A large floor drain is installed just west of the northeastern corner. The drain is missing its cover. A smaller floor drain is located just north of the middle mechanical unit. The drain does not have cover and is filled with debris.		676 SF	
Minor	Fair to Poor	Wall – North	The plaster wall is in fair condition with hairline cracking throughout the wall. Plaster is missing below Window 101, and in the western corner, the plaster has more deterioration. The plaster has an orange peel texture and portions of the plaster wall are obscured from view due to cabinets, equipment, and marble panels being stored against the wall. The plaster paint finish is in fair to poor condition with cracking, delamination, and missing finish throughout. A 3" diameter through wall hole is located just east of door 2/107, which is allowing daylight, critters, and water to enter		469 SF	

			the building. There are multiple surface mounted outlets installed on the wall, as well as utility access boxes, existing sign, and fire alarm. Abandoned anchors can be found throughout the wall. The historical mechanical gage is mounted between Window 100 and Window 101 and is a character defining feature.			
N/A	N/A N/A	Wall – North- Base	Evidence of a wall base is not visible.		33.5 LF	
Minor	Fair to Poor	Wall North - Trim	The trim surround at Window 100 (appears original – need to review HSR) of the few original trim elements not altered when the window was replaced. The sill and apron appear to be original and are in poor condition with most of the paint missing or delaminated and a significant bowing to the sill. The trim surround at Window 101 (appears original – need to review HSR) of the few original trim elements not altered when the window was replaced. The sill and apron appear to be original and have a painted finish. The sill/apron wood trim is in fair to good condition with most of the paint finish deteriorated including missing or delaminated paint.			
Minor	N/A	Wall – North – Window	The windows (100 and 101) are non-original placement window.			
Minor	Fair to Poor	Wall – North – Door	Door 2/107 is a non-original hollow metal door and frame installed within a historic wood trim box. The hollow metal door and frame are in fair to poor condition. With deterioration throughout the base of the door and frame are in fair to poor condition. The original wood (check HSR) trim is in fair condition. The base of the trim has been taking on water and has signs of deterioration. There are a few gouges on the wood jambs and door header.			
Minor	Fair	Wall-East	The plaster wall is in fair to poor condition with minor areas of missing plaster at the center/top of the wall, where a portion of the wall was cut away to accommodate various building systems (rough measurement of 5'-0" by 5'-0"). The plaster has an orange peel texture. The plaster paint finish is in fair to poor condition with cracking, delamination, and missing finish throughout. Multiple pipes and conduit penetrate the wall, with the majority located on the north side. Several utility devices are installed on the wall, including an old timecard reader. Just north of the timecard reader is a recessed electrical outlet.		276.5	
N/A	Missing	Wall – East - Base	Evidence of a wall base is not visible.		19.75 LF	
Minor	Fair to Poor	Wall-South	The plaster wall is in fair to poor condition with missing plaster at the top of the wall, where a portion of the wall was cut away to accommodate various building systems. In this location, a large area of hollow clay tile infill is exposed. Portions of the wall obscured from view due to large mechanical units installed directly Infront of the wall.		497 SF	

			The plaster paint finish is in fair to poor condition with more significant deterioration occurring roughly 6'-0" off the F.F., Several utility devices and pipes are anchored to the wall including a wall mounted light switch just west of door 1/107 and a large custodial sink in the western corner.			
N/A	N/A	Wall – South - Base	Evidence of a wall base is not visible.		35.5 LF	
Minor		Wall – South – Door	Door 1/107 is a non-original hollow metal door and frame. The hollow metal door and frame are in fair condition with patches of deterioration/corrosion throughout the base of the door and frame.			
Minor	Fair to Poor	Wall-West	The plaster wall is in fair with missing area of plaster around conduit penetrations and minor hairline cracking throughout. The plaster paint finish is in fair condition with minor patches of missing and deterioration occurring throughout. A large mechanical duct penetrates the wall at the southern edge and several pipes are anchored to the wall, just north of the duct. Two electrical panels are mounted on the north side of the wall with multiple conduits anchored to the wall. The electrical panels have patches of corrosion throughout. There are abandoned anchors throughout the wall (15+).		308 SF	
N/A	N/A	Wall – West - Base	Evidence of a wall base is not visible.		22 LF	
Minor	Fair	Wall – West – Door	A door opening between Mechanical 106 and Mechanical 107 is a concrete opening that has no trim.			
Minor	Fair to poor	Ceiling	The ceiling is in fair to poor condition, comprised of an exposed concrete deck with two concrete beams running north to south and a central concrete joist running east to west. There is cracking throughout the concrete deck with larger cracking west of the east beam and just east of the west wall. Both concrete beams have delamination and cracking throughout the base of the beams with rebar visible in some locations. The paint finish is in fair to poor condition with areas of missing, peeling and cracking paint. There are multiple pipes, fixtures, ducts, and conduit anchored to the ceiling. Many of the pipes, fixtures, and conduit have patchy areas of corrosion. Multiple abandoned anchors and anchors holes existing throughout the ceiling.		676 SF	
Room 108 - Office						
Minor	Good	Floor	Concrete floor with ghosting of 9x9 tiles. The floor appears to be in good condition with a few hairline cracks.		53 SF	
Minor	Fair	Wall – North	The plaster wall is in fair to good condition with minor areas of cracking. The plaster has a smooth textured finish. The plaster paint finish is in fair condition with cracking focused on the base of the wall. There are a wood board anchored to the wall on the eastern side that was a support for a coat rack, and a metal vent at the base of the wall on the western side. The		72 SF	

			metal vent has corrosion throughout.			
Minor	Missing	Wall – North- Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.		6 LF	
Minor	Fair to Good	Wall – North – Door	Door opening 2/108 is a hollow metal door frame without the door. The door frame is in fair to good condition with small areas of corrosion throughout.			
Minor	Good	Wall-East	The plaster wall is in good condition and has a smooth textured finish. The plaster paint finish is in good condition		48 SF	
Minor	Missing	Wall – East - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.		6 LF	
Minor	Fair to Good	Wall-South	The plaster is in fair condition with cracking throughout and small patches of missing plaster (roughly 8-inches sq.). The plaster has a smooth finish. The plaster paint finish is in fair condition with cracking/crazing throughout the wall. There are a wood board anchored to the wall on the eastern side that was a support for a coat rack. There are a light switch box that is missing the device and cover, just east of door 1/108. There is a metal vent installed at the base of the wall that has corrosion throughout.		72 SF	
Minor	Missing	Wall – South - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.		6 LF	
Minor	Fair to Good	Wall – South – Door	Door opening 1/108 is a hollow metal door frame with a metal door. The door and frame are in fair to good condition, with minor matches of deterioration/corrosion. The door closer is missing and a padlock is installed on the door. There is a push plate with a handle installed over the push plate. The hand is not centered.			
Minor	Good	Wall-West	The plaster wall is in good to fair condition and has a smooth finish. The plaster paint finish is in good to fair condition with minor cracking from floor to ceiling at the northern corner. There is one electrical outlet installed on the wall.		48 SF	
Minor	Missing	Wall – West - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base.		6 LF	
Minor	Fair to Good	Ceiling	The plaster ceiling is in good condition with on a few minor hairline cracks. There one mechanical diffuser in place and one abandoned fixture hole with exposed wiring.		53 SF	
Room 109 - Office						
Minor	Good	Floor	Concrete floor with ghosting of 9x9 tiles. The floor appears to be in good condition with a few hairline cracks running north to south.		120 SF	

Minor	Fair	Wall – North	The plaster wall is in fair condition with cracking throughout and a chunk of plaster missing (one foot sq.) on the top eastern side of the wall. The plaster has a smooth finish. The plaster paint finish is in fair condition with cracking/crazing throughout the wall, with more significant deterioration near the top. There is a metal pipe that runs along the base of the wall (running east/west).		99 SF	
Minor	Missing	Wall – North- Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.		9 LF	
Minor	Fair to Good	Wall North - Trim	The trim surround at the window one (appears original – need to review HSR) of the few original trim elements not altered when the window was replaced. The sill and apron appear to be original and have a painted finish. The sill/apron wood trim is in fair to good condition with most of the paint finish deteriorated including missing or delaminated paint.			
Minor	N/A	Wall – North – Window	The window (102) is a non-original placement window.			
Minor	Fair to Good	Wall-East	The plaster wall is in good condition and has a smooth textured finish. The plaster paint finish is in fair condition with cracking and crazing throughout the wall. There is a small bump-out at the northern corner of the wall and the upper portion of the southern half of the wall has been cut to accommodate various building systems.		148.5 SF	
Minor	Missing	Wall – East - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.		13.5 LF	
Minor	Fair to Good	Wall-South	The lower of portion of visible south wall is plaster to roughly 10’-0” above F.F. above is exposed hollow clay tile infill. The plaster is in fair to good condition with a horizontal cracking just above door 2/108. The plaster has a smooth finish. The plaster paint finish is in fair condition with cracking/crazing throughout the wall. There is a metal vent installed at the base of the wall, western side, which has corrosion throughout. A light switch box is located just east of door 2/108, the device and cover are missing.		99 SF	
Minor	Missing	Wall – South - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.		6 LF	
N/A	N/A	Wall – South – Door	Door opening 2/108 is addressed in Room 108.			
Minor	Good	Wall-West	The plaster wall is in fair condition with deterioration, including the subtle start to plaster bloom, at the base of the wall. The plaster has a smooth finish. The upper portion of the southern half of the wall has been cut to accommodate various building systems The plaster paint finish is in good to fair condition with minor cracking and delamination around the areas of		148.5 SF	

			plaster deterioration. There are two electrical outlets installed on the wall.			
Minor	Missing	Wall – West - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base.		13.5 LF	
Minor	Poor	Ceiling	The plaster ceiling is in poor condition with the southern half completely cut away to accommodate various building systems. The plaster that remains on the north is in poor condition with cracking throughout and a 3-foot by 2-foot hole missing on the northern edge. There is one abandoned fixture hole with exposed wiring. The plaster paint finish is in poor condition with cracking and delamination throughout.		120 SF	
Room 110 - Toilet						
Minor	Fair	Floor	Concrete floor is in fair condition with minor pitting and peeling gray paint. In locations where the gray paint is missing, red paint is visible beneath the gray paint. There are no signs of scoring. Note: There is no way to make this room meet current accessibility requirements.		54 SF	
Minor	Fair	Wall – North	The plaster wall is in fair condition with minor areas of cracking below window 103. The plaster has a smooth texture and a light-yellow paint finish. The plaster paint finish is in fair condition with cracking and light crazing below window 103. There are abandoned anchors in the wall.		33 SF	
Minor	Missing	Wall – North- Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		3 LF	
Minor	Fair	Wall North - Trim	The trim surround at the window is one (appears original – need to review HSR) of the few original trim elements not altered when the window was replaced. The sill and apron appear to be original and have been cut on the east edge. The sill/apron wood trim is in fair condition with most of the paint finish deteriorated including missing or delaminated paint.			
Minor	Fair	Wall – North – Window	The two part window (103) is a non-original replacement window in good condition. The western portion of the window is in Toilet 110 and the eastern portion of the window is in Toilet 111.			
Minor	Fair to Poor	Wall-East	The plaster is in fair to poor condition with areas of moisture infiltration and bloom present just below the wall mounted sink and around the wall mounted urinal. The plaster has a smooth texture and a light-yellow paint finish. The plaster paint finish is in fair condition with cracking and delamination throughout the wall. Mounted long the wall from north to south is a wall mounted urinal, a floor		350 SF	

			mounted toilet with a marble partition and a wood partition door (and brass hardware), a wall mounted sink (with a mirror directly above the sink). There are two light switches, one just north of the wall mounted sink and the second on the south edge of the wall. Both switches are missing the devices and switch covers. An abandoned light fixture is located just above the wall mounted mirror, with wiring exposed.			
Minor	Missing	Wall – East - Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		25 LF	
Minor	Fair	Wall-South	The plaster is in fair condition with hairline cracking throughout. The plaster has a smooth texture and a light-yellow paint finish. The plaster paint finish is in fair condition with cracking throughout the wall.		44 SF	
Minor	Missing	Wall – South - Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		1 LF	
Minor	Fair	Wall – South – Door	Door opening 1/110 is a hollow metal door frame in fair condition with minor patches of deterioration/corrosion and peeling paint throughout. The door hinges are still attached to the frame, but the door has been removed.			
Minor	Fair to Poor	Wall-West	The plaster is in fair to poor condition with hairline cracking throughout and delamination along the south edge. The plaster has a smooth texture and a light-yellow paint finish. Several patches are visible in the wall and the patches have been finished with a rougher finish. The plaster paint finish is in fair condition with cracking throughout the wall.		148.5 SF	
Minor	Missing	Wall – West - Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		13.5 LF	
Minor	Fair to Poor	Ceiling	The plaster ceiling is in fair to poor condition with multiple locations of missing and delaminating plasters. The restroom ceiling has two levels with the higher level on the north. A large area of missing plaster (roughly 4’-0” by 4’-0”) is located at the south side of the ceiling and another large hole exists at the vertical face of the soffit. Moisture damage is visible in the ceiling, just above the toilet. There is one mechanical diffuser hanging from the ceiling and one abandoned light fixture hole with exposed wiring.		54 SF	
Room 111 - Toilet						
Minor	Fair	Floor	Concrete floor is in fair condition with minor pitting and peeling gray paint. In locations where the gray paint is missing, red paint is visible beneath the gray paint. There are no signs of scoring, but minor hairline cracking running east to west. Note: There is no way to make this room meet current accessibility requirements.		55 SF	
Minor	Fair to Poor	Wall – North	The plaster wall is in fair to poor condition with areas of moisture infiltration and plaster blooming below window 103. There are several gouges throughout the plaster. The plaster has a smooth texture and a light-yellow		71.5 SF	

			<p>paint finish. The plaster paint finish is in fair condition with cracking and light crazing at the base of the wall.</p> <p>A rusty exposed pipe/conduit runs along the base of the wall.</p>			
Minor	Missing	Wall – North- Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		6.5 LF	
Minor	Fair	Wall North - Trim	The trim surround at the window is one (appears original – need to review HSR) of the few original trim elements not altered when the window was replaced. The sill and apron appear to be original with a painted finish. The sill/apron wood trim is in fair condition with most of the paint finish deteriorated including missing or delaminated paint.			
Minor	N/A	Wall – North – Window	The two part window (103) is a non-original replacement window in good condition. The western portion of the window is in Toilet 110 and the eastern portion of the window is in Toilet 111.			
Minor	Fair	Wall-East	The plaster is in fair condition with gouges throughout the base of the wall. The plaster has a smooth texture and a light-yellow paint finish. The plaster paint finish is in fair condition with hairline cracking throughout the wall.		148.5 SF	
Minor	Missing	Wall – East - Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		13.5 LF	
Minor	Good	Wall-South	The plaster and paint finish are in good condition with a smooth texture and a light-yellow paint finish.		44 SF	
Minor	Missing	Wall – South - Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		1 LF	
Minor	Fair	Wall – South – Door	Door opening 1/111 is a hollow metal door frame in fair condition with minor patches of deterioration/corrosion and peeling paint throughout. The door hinges are still attached to the frame, but the door has been removed.			
Minor	Fair	Wall-West	<p>The plaster is in fair condition with areas of deterioration along the base and corners of the wall, where there is visible gouges and scratches to the plaster. The plaster has a smooth texture and a light-yellow paint finish. The plaster paint finish is in fair condition with cracking and delamination throughout the wall.</p> <p>Mounted long the wall from north to south is a floor mounted toilet with a marble partition and a wood partition door, a wall mounted sink (with a mirror directly above the sink). There are two light switches, one just north of the wall mounted sink and the second on the south edge of the wall. Both switches are missing the devices and switch covers. An abandoned light fixture is located just above the wall mounted mirror, with wiring exposed. There are several abandoned anchors and anchor holes in the walls.</p>		350 SF	
Minor	Missing	Wall – West - Base	There is no existing base, but there is a paint line roughly 2” off f.f.		25 LF	

			suggesting a base was installed at one time. No adhesive is visible.			
Minor	Fair	Ceiling	The plaster ceiling is in fair condition with minor hairline cracking throughout. The plaster has a smooth texture and a light-yellow paint finish. There one mechanical diffuser in place and one abandoned light fixture hole with exposed wiring.		55 SF	
Room 112 - Laundry						
Minor	Good	Floor	Concrete floor is in good condition with minor pitting.		17 SF	
Minor	Fair	Wall – North	The plaster wall is in good condition with a smooth texture and a light-yellow paint finish. Minor scuffs throughout wall. The large laundry chute is anchored to the north wall and the supports of the shoot have patches have corrosion throughout.		44 SF	
Minor	N/A	Wall – North- Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		4 LF	
Minor	Good	Wall-East	The plaster wall is in good condition with a smooth texture and a light-yellow paint finish. Minor scuffs throughout wall.		44 SF	
Minor	Missing	Wall – East - Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		4 LF	
Minor	Good	Wall-South	The plaster wall is in good condition with a smooth texture and a light-yellow paint finish. Minor scuffs throughout wall.		20 SF	
Minor	Missing	Wall – South - Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		1 LF	
Minor	Fair	Wall – South – Door	Door opening 1/112 is a hollow metal door frame in fair condition with minor patches of deterioration/corrosion and peeling paint throughout. The door hinges are still attached to the frame and part of the door closer, but the door has been removed and is leaning against the wall.			
Minor	Good	Wall-West	The plaster wall is in good condition with a smooth texture and a light-yellow paint finish. Minor scuffs throughout wall.		44 SF	
Minor	Missing	Wall – West - Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		4 LF	
Minor	Good	Ceiling	The plaster ceiling is in good condition with a light-yellow paint finish.		17 SF	
Room 113 - Hall						
Minor	Fair	Floor	Concrete floor is in fair condition with minor pitting and flaking red paint throughout. There is no signs of scoring. The floor has a few hairline cracks running east to west along the west side.		63 SF	
Minor	Fair	Wall – North	The plaster wall is in fair to good condition with a smooth texture. The plaster paint finish is a light-yellow color and in fair condition with minor areas of cracking and delamination throughout the wall.		80 SF	
Minor	N/A	Wall – North- Base	There is no existing base, but there is a paint line roughly 2” off f.f. suggesting a base was installed at one time. No adhesive is visible.		2 LF	
Minor	N/A	Wall – North – Door	Door openings are addressed in Room 110,111 and 112.			

Minor	Good	Wall-East	The plaster wall has a smooth texture and is in fair condition with missing and cracking plaster around door frame 1/114. The plaster paint finish is a light-yellow color and in fair condition with minor areas of cracking and delamination throughout the wall. At the top of the wall, a paint line of a tan colored paint extends across a portion of the wall, suggesting there may have been trim installed at one time.		48 SF	
Minor	Missing	Wall – East - Base	There is no existing base, but there is a paint line roughly 2" off f.f. suggesting a base was installed at one time. No adhesive is visible.		3 LF	
N/A	Fair	Wall – East – Door	Door opening is addressed in Room 114.			
Minor	Fair	Wall-South	The plaster wall has a smooth texture and is in fair to poor condition with cracking plaster and a few areas of delamination throughout. The plaster paint finish is a light-yellow color and in fair condition with a fair amount of cracking and crazing at the bump out located along the eastern side of the wall. There is one light switch east of door 1/113 that is missing the device and the switch cover. There is a metal thru wall vent east of door 1/113 that has patches of corrosion throughout.		80 SF	
Minor	Missing	Wall – South - Base	There is no existing base, but there is a paint line roughly 2" off f.f. suggesting a base was installed at one time. No adhesive is visible.		7 LF	
Minor	Fair	Wall – South – Door	Door opening 1/113 is a hollow metal door frame in fair condition with minor patches of deterioration/corrosion throughout. The door hinges are still attached to the frame, but the door is missing.			
Minor	Good	Wall-West	The plaster wall is in good condition with a smooth texture. The plaster paint finish is a light-yellow color and in good condition.		48 SF	
Minor	Missing	Wall – West - Base	There is no existing base, but there is a paint line roughly 2" off f.f. suggesting a base was installed at one time. No adhesive is visible.		6 LF	
Minor	Fair to Good	Ceiling	The plaster ceiling is in good to fair condition with hairline cracking throughout. There one mechanical diffuser and one abandoned fixture hole with exposed wiring.		63 SF	
Room 114 - Mechanical						
Minor	Fair	Floor	Concrete floor is uneven, with the western side setting almost ½-inch higher than the eastern side. The floor is in fair condition with pitting, exposed aggregate, and hairline cracking throughout.		700 SF	
Minor	Fair	Wall – North	The board formed concrete wall is in fair condition with 2 medium vertical cracks. Portions of the wall were not visible due to large mechanical equipment and ducts blocking visibility of the western side of the wall. A 6-inch by 2-inch chunk of concrete is missing at the base of the wall. There are multiple anchor holes and anchors throughout the wall. The paint finish is a cream color and in fair condition with flaking and		406 SF	

			missing paint throughout the wall.			
Minor	N/A	Wall – North- Base	There is no evidence of a base ever being installed.		29 LF	
Minor	Fair	Wall-East	<p>The plaster wall is in fair condition with multiple areas of missing material and cracking. The wall has varying plaster finishes with several large areas that appear to be patched. The predominant plaster texture is a sanded texture. The top of the wall is covered with utility penetrations, which has left damaged plastered and exposed brick infill. There are multiple anchor holes and abandoned anchors throughout the wall.</p> <p>The paint finish is a cream color and in fair condition with flaking and missing paint throughout the wall.</p>		308 SF	
Minor	N/A	Wall – East - Base	There is no evidence of a base ever being installed.		22 LF	
Minor	Fair	Wall-South	<p>The plaster is in fair condition with minor areas of cracking throughout. The plaster on the east side of the wall has a sanded texture, while the plaster on the west side of the wall has a smooth finish. It is a cream color and in fair condition with flaking and missing paint throughout the wall.</p> <p>There are multiple panels anchored to the wall that are in poor condition with patches of corrosion throughout the panel box and conduit. There are several anchor holes and abandoned anchors, as well as exposed wiring anchored to the wall.</p>		420 SF	
Minor	N/A	Wall – South - Base	There is no evidence of a base ever being installed.		30 LF	
Minor	Fair to Poor	Wall-West	<p>The plaster wall has a smooth texture and is in fair to poor condition with minor cracking throughout. Two large holes (rough measurement 2'-0" by 2'-0" have been cut into the top of the southern half of the wall. The plaster paint finish is a cream color and in fair to poor condition with a fair amount of cracking and crazing throughout the wall.</p> <p>Multiple pipes, conduits, and utility devices are mounted or penetrate the wall. Several anchor holes and abandoned anchors can be found throughout the wall. On the northern half of the wall, a historic wall mounted utility sink is installed. The sink is in fair to poor condition with deterioration visible throughout the sink.</p>		456.5 SF	
Minor	N/A	Wall – West - Base	There is no evidence of a base ever being installed.		32.4 LF	
Minor	Fair	Wall West - Trim	The wood door trim appears to be original and is in fair condition. The trim has a painted finish that is fair condition with cracking and missing paint throughout.			
Minor	Missing	Wall – West – Door	Door opening 1/114 is a wood door frame, reference Wall West – Trim. The door hinges are still attached to the frame, but the door is missing.			
Minor	Fair	Ceiling	The board formed exposed concrete deck is in fair condition with large portions of the ceiling obscured from view due to mechanical equipment,		700 SF	

			ducts, and piping. Throughout the ceiling are abandoned anchors, straps, and conduits.			
Room 115 - Mechanical						
Minor	Fair to Poor	Floor	Exposed concrete with hairline cracking and heavy oil staining		365 SF	
Minor	Fair to Poor	Wall - North	Plaster with minor finish plaster material loss at lower 12" and at the recessed section along the east. Heavy paint delamination.		308 SF	
Minor	Fair to Poor	Wall - East	Plaster with minor finish plaster material loss at lower 36" and oil staining or suspect mold at north recessed area. Heavy paint delamination. Rising damp and staining at lower 18"		406 SF	
Minor	Fair	Wall - South	Plaster with minor deterioration. Minor paint delamination. Electrical panel at recessed south wall with door removed and deteriorated plaster surround.		196 SF	
Minor	Fair to Poor	Wall – South - Door	Non-original hollow metal frame and wood door with contemporary hardware.			
Minor	Fair to Poor	Wall – West	Plaster with minor finish plaster material loss and small areas of plaster bloom present. Heavy paint delamination.		396 SF	
Minor	Fair	Ceiling	Partial ceiling extant at southern half of room. Northern Half is concrete structural deck concealed by mechanical ductwork. There are two openings where light fixtures appear to have been removed and one opening where There is a mechanical louver that has a high level of corrosion.		365 SF	
Room 116 - Toilet						
Minor	Fair	Floor	1 x white unglazed hexagonal tile appear to be in good condition where visible for observation and not concealed with heavy coating of black coal dust.		70 SF	
Minor	Fair to Poor	Wall - North	Plaster with heavy texture skim coating, painted salmon. White 3 x 6 subway tile wainscot with 4x6 bullnose top cap – gloss finish. The tile is cracked in several locations and has heavy staining at lower 24: of wall. Plumbing fixtures appear to be original and are in poor condition with heavy staining. Original white marble toilet partitions are extant and in fair condition		66 SF	
Minor	Poor	Wall – North - Base	3x6 white tile, gloss finish		6 LF	
Minor	Poor	Wall - East	Plaster with heavy texture skim coating, painted salmon. White 3 x 6 subway tile wainscot with 4x6 bullnose top cap – gloss finish. The tile is cracked in several locations, specifically at the northside of the door frame, with an adhesive coating where a veneer material had been installed.		121 SF	
Minor	Poor	Wall – East - Base	3x6 white tile, gloss finish		8 LF	
Minor	Fair	Wall – East - Door	Door has been removed, door frame is non-original metal framed opening with heavy ferrous staining and corrosion, specifically at the lower 1'-0" of the frame, both sides			

Minor	Fair	Wall – East - Window	Wood frame surround with non-original window. Tile sill (bullnose front edge) with wood stool on top			
Minor	Poor	Wall - South	Plaster with heavy texture skim coating, painted salmon. White 3 x 6 subway tile wainscot with 4x6 bullnose top cap – gloss finish. The tile is cracked in several locations with an adhesive coating where a veneer material had been installed. Veneer material is present at the western 30” of the tile but is delaminated from the wall. Wood infill at west ern edge above tile wainscot		66 SF	
Minor	Poor	Wall – South - Base	3x6 white tile, gloss finish		6 LF	
Minor	Poor	Wall – West	Plaster with heavy texture skim coating, painted salmon. White 3 x 6 subway tile wainscot with 4x6 bullnose top cap – gloss finish. The tile is cracked in several locations. Veneer material is present at the southern 60” of the tile. Electrical junction box – corroded at south side of door.		121 SF	
Minor	Poor	Wall – West - Base	3x6 white tile, gloss finish		11 LF	
Minor	Fair	Ceiling	Plaster with heavy texture skim coating, painted salmon. Exhaust fan louver centered in northern half of room; louver has heavy corrosion. Light fixture junction box exposed with no device or escutcheon present.		70 SF	
Room 117 – Pool Room (North of Gridline 3)						
Minor	Poor	Floor	The floor is concrete slab with mosaic tiles covering it and an additional layer of non-original 8x8 beige tile. The beige tile was not installed where there were temporary partitions installed (since removed) and is in fair to poor condition. There are several sections where the tile is loose and detached from the underlying floor, as well as an area at the west end of the room where both layers of tile have become loose and detached from the concrete slab. The entire floor is covered with a dark coal dust coating with several items of debris present. There are miscellaneous pipe penetrations along the north wall and at the east wall where the restroom was removed.		3718 SF (Whole Room)	
Minor	Fair to Poor	Wall - North	The north wall is comprised of four bays (non-symmetrical) and build-outs for restrooms at the east end. The bays are separated by plaster pilasters that provide an enclosure for vertical piping. The first bay on the west has two sections of windows (triple ganged windows), the next bay has one set of triple windows, the third bay has two sets of triple windows, and the last bay has one set of triple windows and a single window. The plaster at the wall is in poor to failing condition and has had a textured skim coat applied over the full wall. There are several areas of incompatible patching with heavy texture. Where non-original partitions were previously installed, there is damage to the plaster with anchor remnants still in place. The plaster at the base of each pilaster is highly deteriorated with missing and damaged sections of material, corrosion at the underlying metal lath, and ferrous metal staining. Above the height of the original plaster ceiling, the		1330 SF (Whole Room)	

			<p>concrete structure is exposed. At the east end of the room at the restroom build-out, the plaster has been skimmed with a highly textured non-original plaster (cementitious) coating and painted. Where the shower enclosure was removed at the east, there is a section of missing plaster and CMU wall structure at the plumbing lines approximately 18" wide x 24" high. There are four through wall mechanical louvers with grills at the interior. The metal exhibits a high level of corrosion, and the paint finish has failed in several places on the mechanical grills. There are four electrical junction boxes along the wall at approximately 18" above the finish floor. The devices and cover plates are missing, the junction boxes are highly corroded, and the surface mounted conduit feeds to the boxes have been removed. There are metal brackets extending 2 1/2" from the plaster wall at the first bay to the west in three locations. The brackets are corroded. Along the west side of the first and third pilaster, there is a marble build out that is the depth of the pilaster and the height of the bottom of the window apron (27 1/2" wide x 11" deep x 39 1/2" tall). The marble has a 4" diameter cutout on the front for plumbing connections. The eastern built-out has been painted.</p>			
Minor	Poor	Wall – North - Base	5 1/4" high ceramic tile base in poor condition with areas of missing and loose tile. At the east half of the room, the tile has been painted.		95 LF (Whole Room)	
Minor	Fair to Poor	Wall – North - Trim	Original wood trim is extant at the window head, jamb, and sill as well as apron. The wood sills and aprons are in fair condition, with sun damage and some minor cracking / checking in the sills at all windows. The fourth, fifth and sixth sets of windows from the west have areas of the apron and sill that have been removed and notched to allow for walls and equipment to be installed.			
Minor	Poor	Wall - East	The plaster on the walls is in poor to failing condition with sections missing where the shower enclosures were removed (it is assumed these areas were covered with tile). The plaster has been skimmed with a non-original heavy textured cementitious coating. There are sections of incompatible patching present. At the south shower enclosure (non-extant) there is a missing section of plaster, and the underlying CMU is exposed with missing units where the shower controls were previously located. The far east wall to Restroom 118 is in fair condition with a similar skim coating and incompatible cementitious coating surrounding the hollow metal door frame.		560 SF (Whole Room)	
Minor	Poor	Wall – East - Base	5 1/4" high ceramic tile base in poor condition with areas of missing and loose tile. Most of the tile has been painted. Where the shower enclosures were removed, there is no base.		40 LF (Whole Room)	
N/A	N/A	Wall – East - Trim	There is no trim.			

Minor	Fair to Poor	Wall - South	At the edge of the pools (south half of the room), there is a mid-height wall and concrete columns that extend to structural deck that are clad with 4 x 4 light blue tile. There are eight bays with the two end bays being infilled. The east bay is plaster with a heavy skimmed texture (non-original) and the west end is infilled with 4 x 4 tile cladding and openings for mechanical equipment on the west and a storage unit on the right. Section of the storage unit have been removed and only vertical wood remnants are in place. The tile extends to an 11'-0" height in this bay and at the columns. The tile is in fair to poor condition. At the third bay from the east, there is a narrow stair that provides access to the pool areas. At the column to the west of this stair, there is a metal alarm bell mounted high on the column. At bays four and five, there are storage units with sliding doors and wood infill with shelving. These units extend to a height of 6'-7" above the non-original tile floor. At bay six, the enclosure is similar to four and five, but the storage unit has been removed and the area is recessed (exposed unfinished plaster) with a mirror mounted over a large portion of the opening. The wood framing and backing in the storage units is in failed condition. There are sections in these bays that have been damaged and allow access to the area below the pool deck. There is access to a ramp and stairs leading to the pools at the seventh bay. The tile has several pieces that have been damaged or are cracked, there is ferrous metal staining at the fifth bay on the top of the storage units. There are miscellaneous fasteners installed in the tile. There are nonoriginal adhesives and coatings covering portions of the tile. Above the tile, the concrete structure is exposed.		1330 SF (Whole Room)	
Minor	Fair	Wall – South - Base	There is a 5 ¼" tile base (no cove) that runs the full length of the wall. The base is in fair condition with a few sections of loose tiles.		95 LF (Whole Room)	
Minor	Fair	Wall – South - Trim	The insets for the storage units have an integral aluminum frame. The frames are in fair condition with some pitting present on the surface.			
Minor	Poor	Wall – West	The plaster wall is in fair to good condition with areas of plaster missing and modified with the entrance to the space being enlarged with original materials removed. At the south end of the wall, the opening to the space was enlarged with materials partially removed and left in an unfinished condition with CMU edges broken and exposed. There appears to have been two shower enclosures at the center of this wall that are no longer extant. The shower enclosures and associated tile have been removed from the wall. Where the plumbing fixtures were concealed in the wall, the CMU and plaster materials have been removed and are missing. At the north end of the wall there is a recessed section of the wall that leads to a restroom.		560 SF (Whole Room)	
Minor	Missing	Wall – West - Base	The base is missing		40 LF	

N/A	N/A	Wall – West - Trim	There is no trim			
Minor	Missing	Wall – West - Door	The door into the restroom on the north has been removed			
Minor	Missing	Ceiling	It appears that there was originally a plaster ceiling that was suspended from the concrete structural deck above. The ceiling is missing in its entirety. There is miscellaneous trim present at the line of where the ceiling would have originally been placed.		3718 SF (Whole Room)	
Room 117 – Pool Room (South of Gridline 3)						
Minor	Fair to Poor	Floor	Non-original 8x8 beige tile and 1x mosaic tiles at the pool surrounds. There is a single drain in each pool basin. Pool floor is 8x8 blue tiles, sloped to drain. Between the 3 rd and 4 th bays, there is a ramp that extends to the upper deck. At the 1 st bay there is a set of stairs – 6 risers. There are 4x4 beige and maroon tiles on these treads. Similar conditions at the stair from the north side to the upper deck in the 6 th bay from west There are 1 ½” diameter steel handrails on both sides of the ramp. The north side is mounted to the tiled wall, the south side is mounted on posts which carry around to the stairs that lead down into the pool. The 1x mosaic tiles surrounding both pools is in a deteriorated condition with several missing or loose tiles. The mosaic edge is raised from the upper deck tile at 1” in height (all locations). The handrail extends into the pool and runs continuous on the north pool wall but is broken into segmented sections on the south to create a walkway to the west end of the pool to the west. The stair leading from the north side of the room 117 to the east pool has handrails on both sides (stair width is 25”, handrail spacing is 26” and used 1” diameter rail). The east handrail connects to a guardrail with vertical posts spaced at 6” on center. The guardrail is continuous to a stair on the south side of the west edge of the pool and converts to a handrail leading down into the pool. The handrails and guardrail at the east pool are in poor condition with failed paint finish and several areas with corrosion. The handrail leading into the pool is stainless steel. The pool surround has an integral hand hold at the west, south, and east sides of the pool to the west and at all sides of the perimeter of the pool to the east. Drains are integrated into these hand holds. There are several missing or damaged tiles at this integral handrail at both pools.			See “ Room 117 - North of Gridline 3” for all quantities
Minor	Fair	Wall - North	7 bays with the western bay infilled with 4x4 light blue tile. 4 th bay over, there is an electrical panel exposed on the east face of the column (3 rd column). 4x4 tile extend to align with north side of column (11’-0” from tile finished floor), roughly 7’-5” from upper deck. The pool walls are clad with 1x mosaics and are in a significantly deteriorated condition with staining present, loose and delaminating sections of tile, and missing tiles.			
Minor	Fair	Wall – North - Base	Tile 4x4 light blue gloss finish (typical at 4x4 tiles)			
Minor	Fair	Wall - East	The east wall of the pool area is clad with 4x4 light blue tile. The north side			

			connects to the mechanical room with a large overhead louver – which has significant corrosion. There is a recessed box mounted below the louver. The frame of the recessed unit is corroded. Centered below the louver, there are two 2" diameter holes that penetrate the mechanical room 119.			
Minor	Fair	Wall – East - Base	Tile 4x4 light blue gloss finish			
Minor	Fair to Poor	Wall – East - Window	At the southern corner, there is a glass block window infill. There are 6 glass blocks in the north/south direction and 6 and a half glass blocks in the vertical direction (half block sits at the base). There are 10 broken glass blocks at this opening. The mortar appears to be in fair condition.			
Minor	Poor	Wall - South	4x4 light blue tile, gloss finish split up by bays of glass block window openings. The tiles turn back into the window insets. There are multiple cracked tiles at each section both horizontally and vertically. At the built-out pilaster west of the door /block opening, the tile has a ¼ to ½" vertical gap and crack along the west side. There are hose bibs located at every other bay. Adjacent to the door is a fire alarm pull station.			
Minor	Fair	Wall – South - Base	4x4 light blue tile, gloss finish			
Minor	Fair to Poor	Wall – South - Window	At the eastern corner, there is a glass block window infill. The widths of the glass blocks in the east west direction varies and there are 6 and a half glass blocks in the vertical direction (half block sits at the base). There are a total of seven glass block window openings. From the east – Opening #1: 6 blocks wide, 15 broken glass blocks, #2 – 9 blocks wide, 13 broken blocks and 1 replacement block, #3 – 6 blocks wide with a door integrated at the east side, 20 blocks broken, #4 – 9 wide, 9 broken and cracked sill tile here, #5 – 9 across and 18 broken, #6 – 9 across, 11 broken, #7 9 across and 8 broken, this window has a mechanical exhaust fan integrated in lieu of 1 glass block . The mortar appears to be in fair condition.			
Minor	Fair	Wall – West	4x4 light blue glass block, gloss finish. Small areas of hairline cracking			
Minor	Fair	Wall – West - Base	4x4 light blue tile, gloss finish			
N/A	N/A	Wall – West - Trim	N/A			
Minor	N/A	Ceiling	Plaster ceiling in this area is non-extant, concrete structure is exposed.			
Room 118 - Toilet						
Minor	Poor	Floor	The floor is concealed by a high level of debris. Where visible behind the door (south end of space) and at the center of the room, there is a mosaic floor tile (2" square white tile mixed with a 1x2" blue tile) the floor tile is in poor to failing condition		34 SF	
Minor	Fair to Poor	Wall - North	The north wall is plaster with a tile wainscot. The plaster is in poor to failing condition with a high level of delamination and paint finish loss. There are areas of plaster bloom present. The 4 x 4" light blue tile wainscot (11 courses high with a top bullnosed edge) is in fair condition with 12 broken tiles at the west side. The tiles have a high level of grime and staining on the surface.		49.5 SF	

Minor	Fair	Wall – North - Base	Tile base		4.5 LF	
N/A	N/A	Wall – North - Trim	No Trim			
Minor	Fair to Poor	Wall - East	Plaster wall with a tile wainscot. There is a high level of plaster deterioration with large sections of missing materials. Where the plaster is missing, concrete foundation walls and clay tile is exposed. The light blue 4 x 4 tile wainscot is in fair condition with five abandoned ferrous metal anchors / fasteners that have corroded and stained the tile and two broken tiles at the south end. The tiles have a high level of grime and staining on the surface.		82.5 SF	
Minor	Fair	Wall – East - Base	Tile base		7,5 LF	
N/A	N/A	Wall – East - Trim	There is no trim at the wall			
Minor	Fair	Wall – East - Window	The window frame appears to be original with a new replacement window inset in the opening. The frame is in fair condition with areas of gouging and paint finish loss. Where the awning sash previously connected at the hinges, the wood is notched and exposed.			
Minor	Fair to Poor	Wall - South	The south plaster wall with tile wainscot is in poor condition. The plaster is significantly deteriorated with a high level of delamination from the substructure and paint finish failure. There is an exposed electrical junction box embedded in the plater to the left (east) of the sink that is highly corroded with no device or cover plate. There is a light fixture junction box above the sink with a high level of corrosion and exposed wires. There is no fixture or escutcheon. There is a mirror mounted to the wall centered above the sink. The tile wainscot is in fair condition with 15 tiles cracked or impacted by plumbing fixture penetrations / anchors.		49.5 SF	
Minor	Poor	Wall – South – Plumbing fixtures	The toilet has been removed with just the wall pipe penetration existing and the floor drain. The wall mounted sink is extant and in fair condition. The faucet and drain pipes have a high level of corrosion and cuprous staining. The cleanout drain below the pipes exhibits ferrous metal staining.			
Minor	Fair	Wall – South - Base	Tile Base		4.5 LF	
N/A	N/A	Wall – South - Trim	There is no trim			
Minor	Poor	Wall – West	The plaster is in poor condition with a high level of cracking and delamination. The paint finish on the plaster has failed and is sheeting off the wall. There is a high level of plaster bloom and suspect mold on the wall. There is an electrical junction box with a high level of corrosion to the north of the door frame. There is no device or cover plate and the junction box. The tile wainscot is in poor condition with 40 cracked or damaged tiles, specifically where the new hollow metal door frame was installed. There has been concrete patching completed on either side of the door jamb and at sections of the broken tile.		82.5 SF	
Minor	Fair	Wall – West - Base	Tile base		4.5 LF	

N/A		Wall – West - Trim	No extant trim			
Minor	Fair	Wall – West - Door	Door 1/118 is a non-original hollow metal door and frame. All door hardware is contemporary. The door and frame are in fair condition with areas of corrosion present and paint finish loss.			
Minor	Poor	Ceiling	Most of the plaster ceiling has failed and is missing with small sections still extant along the north and south walls. The concrete structural deck is exposed overhead with openings for plumbing and duct work and spalled concrete surface with exposed reinforcing steel. There is a metal edge angle still extant where a lay-in ceiling was previously installed at the full perimeter of the room.		34 SF	
Room 119 - Mechanical						
Minor	Fair	Floor	Concrete with no finish. In front of the east jamb of the door is a 3” diameter cut out in the concrete floor which is open with no cap. There is a floor drain / clean out located just east of the entry door. There is a raised 7” high equipment curb in the southeast corner of the room.			
Minor	Poor	Wall - North	The plaster finish at the north wall is in a significantly deteriorated condition with large sections of missing materials at the east side of the entrance door and at the north wall around piping concealed in the wall cavity. There is an electrical junction box east of the door jamb that has significant corrosion and no device or cover plate. There is an electrical timer switch box at the north wall that has significant corrosion at the enclosure as well as exposed conduit which runs to the east wall and penetrates to the exterior through the window frame in the east wall. There is a non-original 1” steel angle that runs across the north wall following the jogs in the wall. It appears to have supported a secondary ceiling structure that is no longer extant. Remnant ceiling material is in the northeast corner of the room.			
Minor	Missing	Wall – North - Base	There is no defined base material at the north wall, but it appears that there may have been an integral concrete base at one time – matching the east wall. There is a small area on the north wall with what appears to be a small section of the concrete base extant.			
N/A	N/A	Wall – North - Trim	There is no trim at the north wall.			
Minor	Fair to Poor	Wall – North - Door	The entry door 1/119 is a non-original hollow metal frame and door. The knock down metal frame is in fair condition with several areas of corrosion present. The hollow metal door is in poor condition with a high level of corrosion, specifically at the base of the door. Door hardware is contemporary.			
Minor	Fair	Wall - East	The plaster finish is in a significantly deteriorated condition with clear evidence of moisture infiltration. There are several hairline cracks running vertically and horizontally through the plaster and areas of delaminated plaster. Missing sections of the plaster finish coat are present at the base at the north end of the wall (3” high x 24” long), mid-height on the wall			

			underneath the window (12” high x 18” long), and along the south edge of the wall under the mechanical equipment as well as mid-height on the wall. At the mid-height point of deterioration this area of the wall is below grade at the exterior, so conditions of water infiltration cannot be determined. In the center of the wall, there is mechanical ductwork that connects to a louver (previously window 115) and the plaster surround of the window opening has been enlarged to accommodate the sheet metal duct. The plaster is damaged around this opening. Below the non-original duct, there is a through wall vent (concealed by grade on the exterior). The grill cover has significant corrosion and paint delamination. There are two electrical shut off panels / switches at this wall with surface mounted conduit. Above the head of the window all plaster finish is missing.			
Minor	Good	Wall – East - Base	There is an integral concrete cove base extant along the east wall.			
N/A	N/A	Wall – East - Trim	There is no trim at the wall.			
Minor	Fair	Wall – East - Window	The wood window (114) frame is original with a new wood frame inset within the surround and a non-original replacement window installed. The original wood frame is in fair condition with paint finish delamination.			
Minor	Fair to Poor	Wall - South	The wall is plaster with a significant amount of original materials loss from approximately 8’-0” high and above as well as sections of missing plaster (finish coat) behind the mechanical equipment. The line of horizontal cracking present on the east wall extends to the south wall. The paint finish is in failed condition with significant delamination and material loss. The east corner at the top of the existing plaster has a large area of delamination. The clay tile build out around plumbing in the west corner has missing areas of plaster above 7’-0” exposing the clay tile and a high level of plaster cracking and delamination below this height. The mechanical equipment and ductwork is rusting and corroded in several areas.			
Minor	Fair	Wall – South - Base	There is an integral concrete cove base extant along the wall.			
N/A	N/A	Wall – South - Trim	There is no trim at the wall.			
Minor	Fair to Poor	Wall – West	There has been a high level of changes to the west wall. There are areas of extant plaster in fair to poor condition with a high level of finish (paint) delamination and plaster bloom and mold present at the height aligned with the pool surround to the west. There is a wood framed and wood panel access door located in the center of the wall above approximately 8’-0” in height (approximately 24” x 24” size opening). At the base of the wall is a large access door to below the pool. The wood frame is in poor condition with finish (paint) loss and the wood door has been removed from its hinges. The opening is roughly 36” x 36”. To the north of the access door there is a 4” diameter pipe extending out of the plaster wall.			
Minor	Fair	Wall – West - Base	There is an integral concrete cove base extant along the wall.			

Minor	Poor	Wall – West - Trim	There is wood trim surrounding the access door, but it does not appear to be original. The paint finish on the trim has failed and is missing in most locations.			
Minor	Fair	Ceiling	The ceiling is exposed concrete structural deck with hairline cracking and efflorescence / deposits at the cracks, areas of spalled and missing concrete at plumbing penetrations, and exposed corroded reinforcing steel. Several anchors are tied to the ceiling and are highly corroded. Most anchors appear to be abandoned and unused.			
Room 120 - Toilet						
Minor	Fair	Floor	The floor is covered with a non-original 8 x 8 (9x9?) ceramic tile, light beige color. The tile is in fair condition where visible. There is a high level of debris and grime covering the floor.			
Minor	Fair	Wall –Base	Tile base			
Minor	Fair to Poor	Wall - North	The wall is comprised of plaster at the upper level and light blue 4x4 tile wainscot with a bullnosed top edge. The plaster is in poor condition with deteriorated areas exhibiting bloom, suspect mold, and improper patching at the window surround. There is no missing plaster material. It is unclear if the sill at the window that extends over the tile to cap the wall at the window recess is original or replacement trim. It is in poor condition. The tile wainscot is in fair condition with three cracked tile and fastener penetrations at the grab bar on the east end.			
N/A	Fair	Wall – North - Trim	The trim surround at the window is non original.			
Serious	Fair	Wall – North - Window	Non-original replacement window. Note the insect screen is torn.			
Minor	Fair	Wall - East	The wall is comprised of plaster at the upper level and light blue 4x4 tile wainscot with a bullnosed top edge. The plaster is in fair condition with deteriorated areas exhibiting suspect mold and minor bloom along the tip of the tile edge. There is no missing plaster material. The tile wainscot is in fair condition with 14 cracked and damaged tiles with fastener penetrations at the plumbing accessories.			
Minor		Wall - South	The wall is comprised of plaster at the upper level and light blue 4x4 tile wainscot with a bullnosed top edge. The plaster is in fair condition with deteriorated areas exhibiting suspect mold and improper patching above the sink surrounding the mirror and light fixture. There is an open junction box with exposed wiring at the light fixture above the sink. There is no missing plaster material. The tile wainscot is in fair to poor condition with 22 cracked and damaged tiles with fastener and pipe penetrations at the plumbing fixtures. There is a non-original patching / plaster material over the broken tiles at the water line penetration below the sink.			
Minor	Poor	Wall – South – Plumbing fixtures	There is a toilet, urinal, and sink plumbing fixture still extant at the south wall. The fixtures are in fair condition with a high level of staining and			

			grime. The sink bowl is cracked near the drain escutcheon. The sink handles are in fair to good condition, but do not meet accessibility requirements for ease of use / graspability. The drain pipes have a high level of corrosion and cuprous staining. The cleanout drain below the pipes exhibits ferrous metal staining.			
	Fair	Wall – West	The wall is comprised of plaster at the upper level and light blue 4x4 tile wainscot with a bullnosed top edge. The plaster is in fair condition with deteriorated areas exhibiting suspect mold. It appears that the plaster finish is non-original or has been skimmed over with a new finish. There is an open junction box with a high level of corrosion to the south of the door frame. There is no device or cover plate. The tile wainscot is in fair condition with 9 cracked and damaged tiles.			
Minor		Wall – West - Door	The door at this opening has been removed and is missing. There is non-original wood blocking roughly 2” x 2” installed vertically at the north and south jambs of the opening the height of the door frame. The hollow metal frame is in poor and failing condition with a high level of corrosion at the base of the frame			
Minor	N/A	Ceiling	The plaster ceiling is non-extant. Non-original ¾” wood trim is present at the ceiling line along the north wall.			
Room 121 – Elevator Lobby East						
Minor	Poor	Floor	8x8 beige tile that is loose and broken			
Minor	Fair to poor / Unknown	Wall - North	Condition of plaster is unknown as it is concealed by wall paper. Non-original elevator entry door is to the east with minor signs of corrosion. Elevator cap has vinyl wall covering and VCT flooring with stainless steel handrail and laying ceiling tile. Elevator is in fair to poor condition. Non original hollow metal frame is present on the west end with corrosion and paint finish failure. Centered above the door, at the ceiling line is a 6 x 12 mechanical louver with heavy corrosion on the surface.			
Minor	Poor	Wall – North - Base	5 ¼” tile (Partial)			
N/A	N/A	Wall – North - Trim	N/A			
Minor	Fair	Wall – North - Door	Wood door 1/115, unfinished condition (bare wood, no paint or stained finish)			
Minor	Poor	Wall - East	Damaged plaster and CMU surround into Pool Room 117			
N/A	N/A	Wall – East - Base	N/A			
N/A	N/A	Wall – East - Trim	N/A			
		Wall - South	Unknown plaster condition due to concealment with wall paper			
Minor	Fair to Poor	Wall – South - Base	5 ¼” tile with one missing tile at opening to Lobby – Partially painted.			
Minor	Poor	Wall – South - Trim	N/A – wood corner guard at opening to Lobby in poor condition with damage at east jamb			
Minor	Fair to	Wall – West	Non-original drywall infill above millwork counter with plaster partial height			

	Poor		wall below counter. Material and finish are in fair condition with areas of paint delamination and loss at lower wall. Exit sign is mounted to drywall above counter			
Minor	Fair	Wall – West - Base	5 ¼" tile, painted			
Minor	Poor	Wall – West – Desk (Millwork)	Counter and trim appear to be non-original and are in poor condition. The plastic laminate veneer has detached from the underlayment / wood body.			
Minor	Fair	Ceiling	Non-original plaster with heavy texture skimmed over full surface. Two junction boxes for light fixtures are present with no devices or escutcheons. Bare wires are exposed.			
Room 121 - Hallway						
Minor	Fair	Floor	Concrete topping slab floor with scoring and red finish is on the western side of the hallway (a little less than half). The west floor appears to be in good condition. There is discoloration around the perimeter of each simulated tile scoring that appears to be adhesive. The eastern side of the floor is concrete (no scoring or color). The east floor appears in good to fair condition with hairline cracking throughout.			
Minor	Fair	Wall – North	The plaster wall is in fair condition with minor areas of cracking and a chunk of plaster missing, exposing the clay tile structure, at the base, centered. The plaster has a sanded texture. The plaster paint finish is in fair condition with cracking along the top at the eastern edge. There is one electrical outlet and two metal louvers. The louvers have deterioration throughout.			
Minor	Missing	Wall – North- Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7" above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base. There is a gap of ¾" to 1" at the edge of the concrete floor and plaster wall.			
Minor		Wall – North – Door	Door openings are addressed in Room 107,108 and 113.			
Minor	Fair to Good	Wall-East	The plaster wall is in fair to good condition with minor areas of cracking. The plaster has a sanded texture. The plaster paint finish is in fair condition with crazing throughout. Just north of the door opening into Lobby 100 is the ghosting where an exit sign was installed. Abandon anchors remain in the wall from the signage.			
Minor	Missing	Wall – East - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7" above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base.			
Minor	Fair	Wall – East – Door	Door opening between Hallway 121 and the Lobby 100 is a plastered opening that is in good to fair condition. The plaster paint finish is cracking throughout the header.			
Minor	Fair to	Wall-South	The plaster is in fair to good condition with minor areas of cracking			

	Good		throughout and scratches in the plaster around door 2/101. The plaster has a sanded texture. The plaster paint finish is in fair condition with cracking along the eastern corner and above door opening 2/101. Portions of the wall are obscured by equipment (washing/dryer) and metal cabinets. A metal vent is located at the base of the wall, venting between Hallway 121 and Office 102. The vent has deterioration throughout.			
Minor	Missing	Wall – South - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive.			
Minor		Wall South - Trim	The original wood trim at the sidelights and door 2/101 is addressed in Office 101.			
		Wall – South – Door	Door openings are addressed in Office 101 and 102.			
Minor	Good	Wall-West	The plaster wall is in good condition and has a sanded texture. The plaster paint finish is in good condition. Just south of door opening 1/103 is a metal wall vent that has corrosion throughout. A fire alarm bell is centered at the top of the wall.			
Minor	Missing	Wall – West - Base	The existing base has been removed at some point in the past. There is a clear paint color delineation at 7” above the concrete floor. Most of the area where the base was previously located is coated with an adhesive. Page 77 of the HSR indicates that there was an integral concrete base.			
Minor		Wall – West – Door	Door opening 1/103 is addressed in Office 103.			
Minor	Fair	Ceiling	The plaster ceiling is in fair condition with hairline cracking throughout and small patches of missing plaster (roughly one square foot total). There one mechanical diffuser in place, centered on the ceiling. There are three abandoned fixture holes with exposed wiring and small round opening cut into the ceiling.			

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Assessment Checklist – Architectural – Second Floor						
Deficiency Rating	Condition Rating	Component – Exterior or Interior	Existing Condition	Reference	Qty	Unit
Room 200 – Lobby						
Minor	Good	Base	General: Quarry tile wall base is in overall good condition with staining and minor cracking in grout. North: minor cracking in tile East: 1 tile damaged South: no additional notes West: one area of open joints, approximately 3 tiles	XAI.4		
Minor	Poor	Walls	General: Painted plaster walls exhibit cracking and peeling of paint throughout. North: Mechanical louvers low in wall exhibit surface corrosion and peeling paint, areas of walls adjacent to doors are stained (dirt). East: Diagonal crack in upper south corner of wall extending over arched opening, previous patch has failed. South: Diagonal cracks in upper corners of wall extending over arched openings, previous patches have failed. West: Diagonal cracks in upper corners of wall extending over arched openings, previous patches have failed.	XAI.3		
Minor	Fair	Trim	General: Plaster crown molding is in overall fair condition with minor paint peeling and cracking throughout North: cracking in crown, some of which connect to cracks in ceiling	XAI.3		
Minor	Poor	Doors	Three sets of exterior wood French doors with wood frames and transoms on north elevation: Doors so not appear to be original, but frames and transoms do. Park staff noted doors do not open and close properly. Typical conditions include paint peeling, lack of weatherstripping, large gap at meeting stiles, cracked thresholds. Transoms and frames are in good condition, evidence of previous door hinge locations remain on frames.			
Minor	Fair	Openings	Arched openings in south wall into stair with painted wood sills and apron and marble panels between sill and wall base. Paint peeling at sills. Marble stained and joint material between panels has failed.			
Minor	Fair	Counter	Wood reception counter with marble face. Wood counter edge finish is worn, and stain is fading. Marble face exhibits areas of staining and joint material between panels has failed.			

Minor	Good	Flooring	Quarry tile floor is in overall good condition, joints damaged with cracks through grout in some areas.			
Minor	Poor	Ceiling	Paint peeling throughout flat plaster ceilings; lighting and mechanical components are outdated and rusted; 2 sf of exposed rusted metal lathe; some cracking from components to wall.	XAI.5		
Room 201 – Office						
Minor	Poor	Base	No remaining materials.	XAI.6		
Minor	Fair	Walls	General: Plaster walls with paint and plaster cracked throughout, paint peeling North: wood trim in good condition; some damage around windows; wood hanger blocks in fair condition East: Upper portion covered in wallpaper water damage and staining, large crack through plaster South: no wallpaper, electrical panels located here West: no wallpaper, cork display board covers portion of wall	XAI.6		
Minor	Good	Trim	No ceiling trim; painted wood chair rail wall trim on east wall in good condition.	XAI.7		
Minor	Poor	Doors + windows	Door missing, hollow metal frame remaining in fair condition with peeling paint and some corrosion at bottom of frame Windows: see exterior notes.			
Minor	Fair	Counter	Built-in wood cabinets at reception counter in fair condition, finish worn and damaged, wood worn and damaged at edges, drawers missing, and hardware missing pieces and not fully operational. See Room 200 notes for Lobby face of reception counter notes			
Minor	Poor	Flooring	Original is missing, only concrete remains, cracks found throughout slab – central from north wall to drain and west window to south wall.	XAI.6		
Minor	Poor	Ceiling	Paint peeling throughout, water damage at East wall, holes near light fixture.	XAI.7		
Room 202 – Locker Room (North – Men)						
Minor	Fair	Floor	Exposed concrete floor. Minor cracking and crazing of the topping was present. No settlement or structural cracking was observed. Along the south wall, extending out 4'-0", there is a path of mastic or setting mortar present where a non-original material was previously installed.			
Minor	Fair	Wall - North	Plaster finish at the upper wall with a heavy textured skim coating. The lower (approximately 42" in height) portion of the wall was originally smooth plaster. The lower portion has adhesive present across the full length of the wall. It is assumed that veneer paneling was previously installed in this location. There is minor damage present at the plaster surrounds around the windows. There are two electrical outlets centrally located on the wall at approximately 18" above the concrete floor. The electrical junction boxes exhibit corrosion and the devices located in the junction box appear to be damaged. There are no cover plates at the outlets. There is a metal bracket located at the east side of the 5 th window (from the west). The bracket is rusted. There are a few pieces of non-original wood blocking installed at the west side of the door that extend approximately 42" in height. A fire alarm pull station with surface mounted conduit (romex) is mounted to the wood.			

			There is an exit sign, with surface mounted conduit extending up to the ceiling, mounted above the door and transom.			
Minor	Fair	Wall - North - Door	There is a single, non-original hollow metal frame and door installed. The frame is set within a secondary frame with a decreased width at the opening. The door is			
Minor	Fair	Wall - North - Window	There are seven casement windows and one transom window (east end above the door) located on this wall. The windows are non-original replacements. The plaster jamb surrounding the windows create a slight recess at the window frame where the plaster does not have the heavy textured skim coating.			
Minor	Fair	Wall - East	The plaster finish at this wall is a smooth texture more in keeping with the original plaster texture. There is a center section where it appear lockers or a cabinet covered the wall, and the paint color is different. The lower portion of the wall, similar to the north wall, has areas of adhesive where a veneer panel was previously installed and has been removed. There are two Monstera leaves painted above the opening to Room 203. There is suspect areas of mold and minor deterioration at the lower wainscot section of the plaster finish coat.			
Minor	N/A	Wall - East - Base	The base is missing at this wall. There is adhesive present to a 6" height.			
Minor	Fair	Wall - South	The plaster finish at this wall is a smooth texture more in keeping with the original plaster texture. The lower portion of the wall, similar to the north and east walls, has areas of adhesive where a veneer panel was previously installed and has been removed. The east end has a closet build out that connects to an opening which leads into Room 207. There is an additional plaster framed opening further west, also leading to Room 207. There is minor damage to the plaster finish coat at the lower "wainscot" portion of the wall. Approximately centered on the wall, there is a fire alarm bell. There is an exit sign mounted above the closet door.			
Minor	Missing	Wall - South - Base	The base is missing at this wall. There is adhesive present to a 6" height.			
Minor	Fair	Wall - South - Door	There is a non-original hollow metal door and frame located at the west end of the wall which leads to the Women's Locker Room / Restroom area. The door and frame have minor corrosion present. The door hardware is contemporary.			
Minor	Fair	Wall - West	The plaster finish at this wall is a smooth texture more in keeping with the original plaster texture. The lower portion of the wall, similar to the south wall, has areas of adhesive where a veneer panel was previously installed and has been removed. The south side of the wall has a non-cased opening which leads into the Lobby 200. There is a motion sensor wall mounted above this opening. There is a hollow metal framed opening leading to Office 201. There is minor damage to the plaster finish coat at the lower "wainscot" portion of the wall. The frame appears to be in fair condition.			
Minor	Missing	Wall - West - Base	The base is missing at this wall. There is adhesive present to a 6" height.			
Minor	Poor	Ceiling	The plaster ceiling has a smooth textured finish. There are large sections in two areas on the ceiling where the finish coat and brown coat have delaminated and fallen. Approximately 5'-0" x 8'-0" and 4'-0" x 4'-0" in size. There are two locations			

			with recessed junction boxes where lighting was originally installed. The western fixture location is missing with no device, fixture, or escutcheon. The eastern fixture location currently has wires connected to a porcelain socket and bare bulb fixture hanging down from the ceiling. There is a round supply diffuser / grill located in the ceiling with paint finish deterioration and corrosion on the metal. There is a smoke detector near the west end of the ceiling on the south side of the room, and a hanging device (function unknown) towards the east end of the room on the south side.			
Room 203 – East Bath Hall						
Minor	Poor	Floor	Original 1x white non-glazed hexagonal tile coated with non-original mastic and adhesives. Near the shower wall enclosures – west side, there is a 4” diameter floor drain penetration that is uncovered. There are miscellaneous floor penetrations for plumbing lines and fixtures at the pools.			
Minor	Fair to Poor	Wall - North	Plaster upper wall with heavy texture skim coat and scored lines for simulated texture and 3x6 white glazed subway tiles with 4x6 bullnose cap. Lower portion of wall that is within bath pool areas is 1x square mosaic tile unglazed (white or light gray). At the western bath pool, there is a non-original coating that covers four courses of 3x6 tiles above the pool 2x2 tiles (non-original). Plaster is in poor condition with areas of moisture infiltration and delamination. The east end of the space has missing sections of plaster and exposed clay tile wall structure. There is minor paint delamination at the plaster. At the tiles, there are areas of cracking and ferrous metal staining, specifically within three courses from the height of the pool 1x mosaic tiles.			
Minor	Poor	Wall – North – Bath wall	3x6 white glazed subway tiles with white 3x6 tile cap. Western most bath has a non-original parge coating over the tile. There is a section at the east with a non-original parge coating over the tile.			
Minor	N/A	Wall – North - Trim	N/A at windows			
Minor	N/A	Wall – North - Window	Non-original casement windows			
Minor Minor	Fair to Poor	Wall - East	Plaster upper wall with heavy texture skim coat and scored lines for simulated pattern and wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap. Plaster is in poor condition with areas of moisture infiltration and delamination. The skim coating is uneven, specifically above the window to the north. The north end of the space has missing sections of plaster and exposed clay tile wall structure. There is minor paint delamination at the plaster. There is a missing section of bullnose tile below the area of missing plaster at the northern end. At the south side of the window, there is a section of missing bullnose cap tile that have been replaced with three 4x4 square tiles, white glazed finish. There are miscellaneous fasteners, staining, adhesives, and sealants on the tile. At the center of the wall there is a large mechanical louver (36” x 36”) set in the 3x6 tile. At the southern			

			half of the wall, above the bath / pool area, there is a non-original 4x4 tile veneer installed over the 3x6 subway tiles. The veneer is a white 4x4 tile with three burgundy tiles exposed. A non-original coating has been installed over the lower two courses of the 4x4 tile and extends down into the pool over 2x2 tiles within the pool basin. Surface mounted junction boxes, control boxes and conduit run across the surface of the wall.			
Minor	Fair to Poor	Wall – East - Shower	Centered in front of the east wall are non-original glazed green tile partial height walls for shower enclosures. These block walls are in fair condition with minor areas of damage.			
Minor	Fair to Poor	Wall – East - Base	3x6 white tile. There are cracked sections of tile, and at the opening to Room 206, south side, there is a missing tile.			
Minor	Fair to Poor	Wall - South	Plaster upper wall with heavy texture skim coat and scored with lines for simulated pattern and wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap covered with a non-original 4x4 tile veneer. Plaster is in poor condition with areas of moisture infiltration and delamination. The skim coating is uneven. There is minor paint delamination at the plaster.			
Minor	Poor	Wall – South - Pool	The wall is covered with a 3x6 white glazed subway tile. The tile is significantly deteriorated and cracked with areas that have had a veneer covering installed and mastic / setting mortar is still present. At the eastern pool, there are several of the tile cap that are cracked and damaged with pieces missing. At the center pool, a concrete parge coating was installed at the cap and the staining from this has washed down the face of the tile. There are missing tile from the top course and several cracked and damaged tile in the course below. A non-original tile cap has been installed at the center and west pools.			
Minor	Poor	Wall – South - Base	3x6 white subway tile			
Minor		Wall – West	Plaster upper wall with heavy texture skim coat and scored with lines for simulated pattern and wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap. The original tile wainscot is covered with a non-original 4x4 tile veneer at the south section of the room, south of the southern opening to Room 207. The tile veneer is white with three burgundy tiles integrated in a checker board pattern. Plaster is in fair condition with areas of minor paint delamination. There is a steel support beam above the center bay at the ceiling line. There is an exit sign mounted on the wall with surface mounted conduit at the doorway into Room 202.			
Minor	Poor	Wall – West - Base	3x6 Tile white glazed. South and center sections are cracked and stained tile.			
Minor		Ceiling	The ceiling has been faux painted with a teal blue paint and simulated white clouds. The paint finish is concealing part of the plaster conditions that are present. Cracking and areas of plaster patching appear to be present across the ceiling. There are wood access panels and non-original steel supports / anchors down the center of the space. There are six extant round mechanical supply grills. Three			

			grills are located at the south section, two at the center section, and one at the northwest section. There is a sheet metal covering at the center section on the north that is concealing the opening where a louver was originally installed. There is a round opening in the southeast corner where a louver was previously installed. At the east end of the ceiling to the north of center, there is a grouping of exposed wires extending down from the ceiling approximately 24". At the center of the east end, there is a 1'-0" SF missing section of plaster. There are four historic surface mounted light fixtures that appear to be original. The bottoms of the frosted glass shades have minor damage at all four fixtures. The metal ceiling escutcheon has areas of corrosion. The fasteners for the lamp shades are corroded.			
Room 204 – Chemical Storage Closet						
Minor	Fair	Floor	Original 1x white unglazed hexagonal tile			
Minor	N/A	Wall - Base	No base			
Minor	Good	Wall - North	Plaster is smooth textured with a painted finish			
Minor	Missing	Wall - North - Door	The door has been removed. The existing frame is non-original hollow metal which has high levels of deterioration at the base in terms of both deformation and rusting / corrosion.			
Minor	Fair	Wall - East	Plaster wall with painted finish. The upper portion of the wall is in good condition. The lower portion of the wall has a high level of paint delamination and missing finish. The lower 24" of the wall has staining present either from moisture in the adjacent Toilet Room or from chemicals previously stored in this area.			
Minor	Fair	Wall - South	Plaster wall with painted finish. The upper portion of the wall is in good condition. The lower portion of the wall has a high level of paint delamination and missing finish. There are built in shelves at a recessed area of the closet. The wood shelving is in fair condition with minor paint deterioration. The lower 24" of the wall has staining present either from moisture in the adjacent room or from chemicals previously stored in this area.			
Minor		Wall - West	Plaster wall with painted finish. Most of the wall has a high level of paint delamination and missing finish. The lower 36" of the wall has missing and delaminated areas of the plaster finish coating.			
Minor		Ceiling	The ceiling is a painted plaster finish with a surface mounted porcelain socket / bare bulb light fixture. There are small areas of paint finish delamination and minor staining.			
Room 205 – Chemical Treatment Room (Historic Toilet Room)						
Minor	Fair	Floor	Original 1x white unglazed hexagonal tile			
Minor	Fair	Wall - Base	3x6 white glazed tile			
Minor	Fair	Wall - North	Plaster wall with a painted finish and tile wainscot. Tile is 3x6 white glazed subway tile with a 4x6 bullnosed top cap trim. There are several tiles that are cracked and have minor damage and staining. A light switch is located at the west edge of the wall. The device has corrosion on the metal cover plate. A surface mounted shut off breaker is located above the tile wainscot and connects to a surface mounted			

			junction box fed with surface mounted conduit. A non-original wood shelf is installed in the east corner. Miscellaneous piping runs across the wall.			
Minor	Fair	Wall - East	Plaster wall with a painted finish and tile wainscot. Tile is 3x6 white glazed subway tile with a 4x6 bullnosed top cap trim. There are several tiles that are cracked and have minor damage and staining. A non-original wood shelf is installed in the north corner. Miscellaneous piping runs across the wall. At the south end, there is a non-original wood panel mounted to the wall above the tile wainscot.			
Minor	Fair	Wall - East - Window	The wood frame surround appears to be original. The window is a non-original replacement. The trim at the sill has minor moisture damage and paint finish deterioration.			
Minor	Fair	Wall - South	Plaster wall with a painted finish and tile wainscot. Tile is 3x6 white glazed subway tile with a 4x6 bullnosed top cap trim. There are several tiles that are cracked and have minor damage and paint coating small areas on the tiles. Plumbing fixture piping penetrates this wall at a sink location (sink is non-extant) and a water closet. Miscellaneous piping runs across the wall. At the east side, there is plaster damage above the wainscot where a mirror was removed. There is a wall mounted light fixture centered over the sink location. The fixture is contemporary.			
Minor	Fair	Wall - West	Plaster wall with a painted finish and tile wainscot. Tile is 3x6 white glazed subway tile with a 4x6 bullnosed top cap trim. There are several tiles that are cracked and have minor damage, specifically around the non-original hollow metal door frame. The lower tile at the south side of the door have cracked and broken pieces to a height of 4 courses. At the north side of the door, the tile and wall framing is missing in its entirety for a height of eight courses. A surface mounted electrical panel is located to the south of the door with three control switches placed below it, surface mounted on the tile. Surface mounted conduit feeds tie to this electrical connection.			
Minor	Poor	Wall - West - Door	The door is a non-original hollow metal door and frame. Both are in a highly deteriorated condition with a high level of corrosion.			
Minor		Ceiling	Plaster ceiling with a painted finish. The plaster is in good condition but has a high level of paint finish deterioration and delamination.			
Room 206 – Chemical Storage Room (Historic Toilet Room)						
Minor	Fair	Floor	Original 1x white unglazed hexagonal tile. Water closet fixture has been removed with the water closet drain left open.			
Minor	Fair	Wall - Base	3x6 white glazed tile			
Minor	Fair	Wall - North	Plaster wall with a painted finish and tile wainscot. Tile is 3x6 white glazed subway tile with a 4x6 bullnosed top cap trim. There are several tiles that are cracked and have minor damage at the tiles. Plumbing fixture piping penetrates this wall at a sink location (sink is extant) and a water closet (removed). A light switch is located on the wall to the west of the sink fixture. There is a high level of corrosion on the metal cover plate. There is a wall mounted light fixture centered over the sink location. The fixture is contemporary. Below the fixture is wood blocking. It is			

			assumed that this was used for anchorage of a mirror.			
Minor	Fair to Poor	Wall - East	Plaster wall with a painted finish and tile wainscot. The plaster has a few sections with bloom and finish coat delamination. At the south end there is a missing section of the finish coat (under 1SF). The paint finish is highly deteriorated and delaminating in several areas. Tile is 3x6 white glazed subway tile with a 4x6 bullnosed top cap trim. There are several tiles that are cracked and have minor damage and staining. A non-original wood blocking panel is installed in the north corner. Miscellaneous piping runs across the wall. At the south end, there is a non-original wood shelf mounted to the wall on the tile wainscot. To the south of the window opening, there is a broken bullnose cap tile.			
Minor	Fair	Wall - East - Window	The wood frame surround appears to be original. The window is a non-original replacement. The trim at the sill has minor moisture damage and paint finish deterioration.			
Minor	Fair	Wall - South	Plaster wall with a painted finish and tile wainscot. The plaster has a few sections with bloom and finish coat delamination at the east side. Also, at the east side there is a section of plaster missing with a concealed area of plumbing in the wall exposed, The paint finish has minor deterioration and delamination. Tile is 3x6 white glazed subway tile with a 4x6 bullnosed top cap trim. There are several tiles that are cracked and have minor damage and fastener holes. A light switch is mounted at the west side of the wall adjacent to the door frame. The metal cover plate has minor corrosion.			
Minor	Fair to Poor	Wall - West	Plaster wall with a painted finish and tile wainscot. The plaster has a few sections with paint finish deterioration. Tile is 3x6 white glazed subway tile with a 4x6 bullnosed top cap trim. There are several tiles that are cracked and have minor damage , specifically at both sides of the non-original metal door frame. Surface mounted electrical chemical control switches are mounted just under the wainscot cap. Surface mounted conduit fees the panel. The metal enclosure has very minor corrosion.			
Minor	Poor	Wall - West - Door	The flush panel wood door with stained finish is mounted in a painted hollow metal frame. The door is in good condition. The HM frame is highly corroded with paint finish deterioration.			
Minor	Fair	Ceiling	Plaster ceiling with a painted finish. The plaster is in good condition but has a high level of paint finish deterioration and delamination. There is an open junction box where the original ceiling mounted light fixture was assumed to have been located. To the north of this, a square sheet metal cover is installed, assumed to be over a mechanical supply opening.			
Room 207 – Cooling Room (South)						
Minor	Fair	Floor	Exposed concrete floor with an area of non-original mastic and setting mortar located at the northeast corner of the room adjacent to the closet. This is an approximately 6'-0" square area. There is minor cracking in the concrete floor and remnants of assumed carpet tile adhesive.			

Minor	Fair	Wall - North	The plaster finish at this wall is a smooth texture more in keeping with the original plaster texture. The lower portion of the wall has areas of adhesive where a veneer panel was previously installed and has been removed. The east end has a closet build out that connects to an opening which leads into Room 202. There is an additional plaster framed opening centered in the wall further west, also leading to Room 202. There is minor damage to the plaster finish coat at the lower “wainscot” portion of the wall. There a surface mounted junction box and conduit centered above the uncased plaster opening in the middle of the wall. Altered plaster paint finishes indicate a previous sign was wall mounted above the closet.			
Minor	N/A	Wall - North - Base	The base is missing at this wall. There is adhesive present to a 6” height.			
Minor	Fair	Wall - East	The plaster finish at this wall is a smooth texture more in keeping with the original plaster texture. A hollow metal cased opening is located at the north side of the wall. There is a high level of corrosion at the frame with deteriorated paint finish. At the south side of the wall there is a change in paint color (assumed to have had lockers or a cabinet in this location previously) and tiled mirrors are adhered to the wall (Approximately 8’-0” wide x 6’-0’ high.)			
Minor	Fair	Wall - South	The plaster finish at this wall is a smooth texture more in keeping with the original plaster texture. The lower portion of the wall, except for the 10’-0”, has areas of adhesive where a veneer panel was previously installed and has been removed. There is minor damage to the plaster finish coating at the areas where the veneer panel was removed.			
Minor	N/A	Wall - South - Base	The base is missing at this wall. There is adhesive present to a 6” height.			
Minor		Wall - South - Window	There are six non-original casement windows installed at this wall. The plaster surrounds at the windows have minor areas of deterioration, specifically at the sills.			
Minor		Wall - West	The plaster finish at this wall is a smooth texture more in keeping with the original plaster texture. The lower portion of the wall has areas of adhesive where a veneer panel was previously installed and has been removed. There is minor damage to the plaster finish coating at the areas where the veneer panel was removed. A large mechanical louver with a high level of rust and corrosion on the metal surface, is installed in the wall adjacent to the door at the north side.			
Minor		Wall - West - Base	The base is missing at this wall. There is adhesive present to a 6” height.			
Minor		Wall - West - Door	Non-original hollow metal door and frame with corrosion present and paint finish deterioration. Push pull function, contemporary door hardware.			
Minor		Ceiling	Smooth plaster ceiling with very minor deterioration and paint finish delamination. There are two locations where light fixtures are assumed to have been previously located. The junction boxes are open with no cover plate or escutcheon. Wiring is extended beyond the ceiling to provide an electrical feed to two porcelain socket bare bulb fixtures (temporary light source). There is a round mechanical supple grill			

			with minor metal corrosion and paint finish deterioration. There is a hanging device (function unknown) towards the east end of the room on the north side.			
Room 208 – Locker Room						
Minor		Floor	The 6-inch by 6-inch rust red quarry tiles are in fair condition. In several locations the grout is deteriorating or missing.			
Minor		Wall – North	The plaster wall is in fair condition. The plaster has two texture patterns, a smooth texture is on the lower portion of the wall and a highly sanded texture on the upper portion of the wall. The paint finish varies between gray, light blue and an aqua blue. The plaster paint finish is in good condition.			
Minor		Wall North – Base	The 6-inch by 6-inch muted blue quarry tiles (non-cove) are in fair condition. In several locations the grout is deteriorating or missing.			
Minor		Wall North – Door	Door opening 1/208 is non-original hollow metal door and frame in fair condition with minor paint deterioration and a few patches of corrosion. The door has push/pull hardware and a door closer.			
Minor		Wall – East	The plaster wall is in fair condition. The plaster has two texture patterns, a smooth texture is on the lower portion of the wall and a highly sanded texture on the upper portion of the wall. The paint finish varies between gray, light blue and an aqua blue. The plaster paint finish is in fair condition. A metal grill is installed at the wall bump out, just south of door 2/208. There are two wood cleats installed on the wall just south of the bump out.			
Minor		Wall East – Base	The 6-inch by 6-inch muted blue quarry tiles (non-cove) are in fair condition. In several locations the grout is deteriorating or missing.			
Minor		Wall East – Door	Door opening 2/208 is non-original hollow metal door and frame in fair condition with minor paint deterioration and patches of corrosion throughout the base. The door has push/pull hardware.			
Minor		Wall – South	The plaster wall is in fair condition with patches of deterioration at the top of the wall. The plaster has a smooth texture. The paint finish is an aqua blue. The plaster paint finish is in fair condition with minor cracking.			
Minor		Wall South – Base	The 6-inch by 6-inch muted blue quarry tiles (non-cove) are in fair condition. In several locations the grout is deteriorating or missing.			
Minor		Wall South – Trim	No original trim at this wall. The window apron, sill, and stops have been removed. The replacement window insets from the original window opening, roughly 3 ½-inches.			
Minor		Wall South – Window	The double-casement windows (239, 238) are non-original replacement windows.			
Minor		Wall – West	The plaster wall is in fair condition. The plaster has two texture patterns, a smooth texture is on the lower portion of the wall and a highly sanded texture on the upper portion of the wall. The paint finish varies between gray, light blue and an aqua blue. The plaster paint finish is in fair condition. Metal partitions are installed along the west wall creating three changing room stalls.			

Minor		Wall – West - Base	The 6-inch by 6-inch muted blue quarry tiles (non-cove) are in fair condition. In several locations the grout is deteriorating or missing.			
Minor		Ceiling	The plaster ceiling is in fair condition with minor hairline cracking. There is one ceiling fan, two abandoned light fixture holes with exposed wiring, one metal diffuser, and one spot light installed at the ceiling. The paint finish is a white and is in fair condition with minor cracking and flaking.			
Room 209 – Hallway						
Minor	Fair	Floor	Exposed concrete floor is in fair condition. There is minor cracking in the concrete floor throughout.			
Minor	Fair to Poor	Wall – North	The plaster wall is in fair to poor condition with a few areas of delaminated plaster and gouges. The plaster has a smooth texture and a pale blue paint finish. The plaster paint finish is in poor condition with cracking and flaking throughout, with severe damage at the western side of the wall. An existing sign and conduit are installed where the wall turns to the north along the eastern side. The elevator and elevator button is located along the east corner.			
Minor	Missing	Wall North – Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair	Wall – East	The plaster wall is in fair condition with minor hairline cracking. The plaster has a smooth texture and a pale blue paint finish. The plaster paint finish is in fair condition with cracking and flaking along the north side of the wall. An electrical outlet is installed near the base of the wall at the south side.			
Minor	Missing	Wall – East - Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair to Poor	Wall – South	The plaster wall is in fair condition with minor hairline cracking and gouges throughout. The plaster has a smooth texture and a pale blue paint finish. Where the topcoat of paint is missing, a mustard yellow and pale pink color are visible. The plaster paint finish is in poor condition with cracking and flaking throughout. An emergency light and conduit are installed outside door 2/221 and an electrical outlet is installed at the west side. A metal grill is installed near the base of the wall on the western side. The grill has spots of corrosion.			
Minor	Missing	Wall – South - Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Poor	Wall – West	The plaster wall is in fair condition with minor hairline cracking and multiple anchors abandoned in the wall. The plaster has a smooth texture and a pale blue paint finish. The plaster paint finish is in fair condition with minor cracking. A metal grill is installed near the base of the wall on the north side. The grill has spots of corrosion.			
Minor	Missing	Wall – West - Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair to Poor	Ceiling	The plaster ceiling is in poor condition with multiple locations of cracking and delaminating plasters. Laylights are installed on the east and west sides of the			

			hallway. There are three wood laylights paired together and each laylight is a nine-lite. The glazing of the laylight is obscured and six of the glazing panels are broken. There is one smoke detector, four abandoned light fixture hole with exposed wiring, and one mechanical diffuser.			
Room 210 – Toilet						
Minor	Fair	Floor	The 2-inch by 2-inch mixed with 2-inch by 1-inch tile floor is in fair condition. There are several cracked tiles, and the grout is deteriorating or missing throughout the floor.			
Minor	Fair to Poor	Wall – North	The upper part of the wall is a plaster wall in fair to poor condition. The plaster has a non-original sanded texture. The installation of the plaster was poorly done and there is cracking and inconsistent texture throughout the wall. The paint finish is a light gray-blue and is in good condition. The lower part of the wall has a wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap. The tile is in fair condition with several cracked tiles and a few that are coated with an adhesive. Mounted long the wall (starting on the east) is the floor mounted toilet, a grab bar above the toilet, wall mounted soap dispenser, a wall mounted sink (with a mirror/soap dispenser/ paper towel dispenser, and wall mounted light fixture mounted just above the sink).			
Minor	Poor	Wall – East	The upper part of the wall is a plaster and in poor condition. The plaster has a non-original texture that varies. The installation of the plaster was poorly done and there is cracking, signs of moisture infiltration and inconsistent texture throughout the wall. The paint finish is a light gray-blue and is in fair condition. The lower part of the wall has a wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap. The tile is in fair condition with several cracked tiles and abandoned anchors (3 total) within the wall. Mounted long the wall (starting on the north) is a grab bar and directly below the grab bar is a wall mounted toilet paper towel dispenser.			
Minor		Wall East – Trim	No original trim at this wall. The window apron, sill, and stops have been removed. The replacement window insets from the original window opening, roughly 3 ½-inches.			
Minor		Wall East – Window	The double-casement window (240) is a non-original replacement window.			
Minor	Poor	Wall – South	The upper part of the wall is a plaster and in poor condition. The plaster has a non-original rough texture that varies. The installation of the plaster was poorly done and there is cracking and inconsistent texture throughout the wall. The paint finish is a light gray-blue and is in fair condition. The lower part of the wall has a wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap. The tile is in fair condition. Mounted on the east side of the wall is a wall mounted feminine product dispenser.			
Minor	Fair	Wall – West	The upper part of the wall is a plaster and in fair condition. The plaster has a non-original rough texture that varies. The installation of the plaster was poorly done and there are gauges and inconsistent texture throughout the wall. The paint finish			

			is a light gray-blue and is in fair condition. The lower part of the wall has a wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap. The tile is in fair condition.			
Minor	Fair	Wall West – Door	Door opening 1/210 is non-original hollow metal door and frame in fair condition with paint deterioration at the base and throughout the frame. The door has a modern doorknob and a metal chain lock installed just above the door handle.			
Minor	Poor	Ceiling	The plaster ceiling is in poor condition with a large section of delaminating plasters all along the north side of the ceiling. The paint finish is white and is failing with delamination along the north side of the ceiling. There is one metal diffuser installed on the north side of the ceiling.			
Room 211 – Treatment						
Minor	Poor	Floor	The tile flooring is a mixture of 2-inch by 2-inch mixed with 2-inch by 1-inch tiles to create a pattern, 2-inch by 2-inch, and 1-inch by 1-inch tiles. The installation pattern is random. The tiles are in poor condition with several locations of buckling tiles, missing tiles throughout and severe grout deterioration.			
Minor	Fair to Poor	Wall – North	The north wall is a mix of paster and glazed CMU. The plaster is located on the east and west sides of the wall and is in fair to poor condition with poor installations and cracking throughout. The upper part of the plaster has a sanded texture, and the lower portion of the plaster varies between smooth and a rough texture. The paint finish varies between white, gray, and light blue. The glazed CMU is in the center of the wall. The base block is coved, and the corner blocks have bullnose corners. The CMU is in fair condition with a few cracked blocks, several abandoned metal curtain road supports and gouges to the glazing throughout. Mounted long the wall (starting on the west) is the floor mounted sitz bath, a floor mounted Scotch Douche, and a sitz bath mounted on a raised platform. Within Room 211 there is a freestanding half-height partition wall concrete from glazed CMU. The base block is coved, and the corner blocks have bullnose corners. The wall is in fair condition with several abandoned anchors and gouges throughout the CMU. On the east and west side of the freestanding partition wall are historic wall mounted sinks that are in fair to good condition. Just below the sinks is a foot pedal control for the sink.			
Minor	Fair to Poor	Wall North – Base	At the plaster walls the base is 6-inch by 6-inch muted blue quarry tiles (non-cove) are in fair to poor condition. There are several cracked tiles. In several locations the grout is deteriorating or missing.			
Minor	Fair to Poor	Wall North – Doors	Door opening 1/211 is non-original hollow metal frame in fair condition with paint deterioration at the base and throughout the frame. The door is missing, but the hinges are still installed on the door frame. A metal door is currently being housed above the shower on the east. It was not determined if this door is the missing door from 1/211. Door opening 2/211 is non-original hollow metal door and frame in fair condition with paint deterioration at the base and throughout the frame.			

Minor	Fair to Poor	Wall – East	The east wall is a mix of paster, marble, and tile. The plaster is located on the lower south side of the wall and throughout the upper portion of the wall. The plaster is in fair to poor condition with cracking and delamination throughout. The upper part of the plaster has a sanded texture, and the lower portion of the plaster has a smooth finish. The paint finish varies between gray and aqua blue. Center on the east wall are three (3) shower stalls. The north shower wall has a marble back (east) wall. The other showers are fully tiled with 4-inch by 4-inch tile. The marble and tile are in fair condition.			
Minor	Fair to Poor	Wall East – Base	At the plaster walls the base is 6-inch by 6-inch muted blue quarry tiles (non-cove) that are in fair to poor condition. There are several cracked tiles. In several locations the grout is deteriorating or missing.			
Minor	Fair to Poor	Wall-South	The plaster wall is in fair to poor condition with poor patch installations and cracking throughout. The plaster has two texture patterns, a smooth texture is on the lower portion of the west side of the wall and a highly sanded texture on the upper portion of the wall and lower east side of the wall. The paint finish varies between a light seafoam green and a bright aqua blue. The paint finish is in fair with minor cracking and flaking throughout. In the middle of the wall there is ghosting from a partition that is no longer extant. Several abandoned anchors remain in the wall.			
Minor	Fair	Wall South – Base	The 6-inch by 6-inch muted blue quarry tiles (non-cove) are in fair to poor condition. There are several cracked tiles. In several locations the grout is deteriorating or missing.			
Minor	Missing	Wall South – Trim	No original trim at this wall. The window apron, sill, and stops have been removed. The replacement window insets from the original window opening, roughly 3 ½-inches.			
Minor		Wall South – Windows	The double-casement windows (241, 242, 243, 244, 245, 246) are non-original replacement windows.			
Minor	Fair to Poor	Wall – West	The west wall is a mix of paster, marble, and tile. The plaster is located on the lower south side of the wall and throughout the upper portion of the wall. The plaster is in fair to poor condition with cracking and delamination throughout. There is severe moisture deterioration near the south shower stall. The upper part of the plaster has a sanded texture, and the lower portion of the plaster has a smooth finish. The paint finish varies between gray and aqua blue. Center on the west wall are three (3) shower stalls. The north shower wall has a marble interior. The other showers are fully tiled with 4-inch by 4-inch tile. The marble and tile are in fair to poor condition.			
Minor	Fair to Poor	Wall – West - Base	At the plaster walls the base is 6-inch by 6-inch muted blue quarry tiles (non-cove) that are in fair to poor condition. There are several cracked tiles. In several locations the grout is deteriorating or missing.			
Minor	Poor	Ceiling	The plaster ceiling is in poor condition with cracking and large areas of missing plaster throughout. Two major areas of deterioration are located above the east			

			and west shower stalls. The ceiling has a smooth finish and a white-colored paint finish. There is multiple abandoned light fixture and diffusers throughout the ceiling.			
Room 212 – Closet						
Minor	Good	Floor	Exposed concrete floor is in good condition but is covered in debris. There is no threshold installed between the closet door and the concrete hallway.			
Minor	Good	Wall – North	The plaster wall is in good condition. The plaster has a smooth texture and a paint finish. The paint finish is a light cream and is in good condition.			
Minor		Wall – Base	No base, nor is there evidence that a base was installed.			
Minor		Wall North – Door	Door opening 1/212 is non-original double hollow metal doors and frame are in fair condition with paint deterioration and patches of corrosion throughout the door and frame.			
Minor		Wall – East	The plaster wall is in good condition. The plaster has a smooth texture and a paint finish. The paint finish is a light cream and is in good condition.			
Minor	Good to Fair	Wall – South	The plaster wall is in good to fair condition. The plaster has a smooth texture and a paint finish. Minor patches of plaster are missing around the access hole in the west corner that provides to utility pipes. The paint finish is a light cream and is in good condition.			
Minor		Wall – West	The plaster wall is in good condition. The plaster has a smooth texture and a paint finish. The paint finish is a light cream and is in good condition.			
Minor		Ceiling	The plaster ceiling is in fair to good condition with minor cracking. The ceiling has a smooth finish and a light cream paint finish. There is one abandoned light fixture with an exposed light bulb.			
Room 213 – Lobby Closet						
Minor	Fair	Floor	Exposed concrete floor is in fair condition with a north to south vertical crack on the west side. There is no threshold installed between the closet door and the concrete hallway.			
Minor	Fair	Wall – North	The plaster wall is in fair condition with a smooth texture. There are minor cracks throughout the wall. The paint finish is a light cream and is in fair condition with cracking throughout.			
Minor		Wall – Base	No base, nor is there evidence that a base was installed.			
Minor	Fair	Wall North – Door	Door opening 1/213 is non-original double hollow metal doors and frame are in fair condition with paint deterioration and patches of corrosion throughout the door and frame.			
Minor	Fair	Wall – East	The plaster wall is in fair condition with a smooth texture. There are minor cracks throughout the wall. The paint finish is a light cream and is in fair condition with cracking throughout.			
Minor	Fair	Wall-South	The plaster wall is in fair condition. The plaster has a smooth texture and there are several cracks throughout the wall. Minor patches of plaster are missing around the access hole in the west corner that provides to utility pipes. The paint finish is a light cream and is in fair condition with cracking throughout.			

Minor	Fair	Wall – West	The plaster wall is in fair condition with a smooth texture. There are minor cracks throughout the wall. The paint finish is a light cream and is in fair condition with cracking throughout.			
Minor	Poor	Ceiling	The plaster ceiling is in poor condition with cracking and large areas of missing plaster throughout. The ceiling has a smooth finish and a cream-colored paint finish. There is one abandoned light fixture with an exposed light bulb.			
Room 214 – Toilet						
Minor	Fair	Floor	The 2-inch by 2-inch mixed with 2-inch by 1-inch tile floor is in fair condition. There are several cracked tiles, and the grout is deteriorating or missing throughout the floor.			
Minor	Poor	Wall – North	The upper part of the wall is a plaster wall in poor condition. The plaster has a non-original rough texture. The installation of the plaster was poorly done and there is cracking, inconsistent texture, and delamination throughout the wall. The paint finish is a light blue and is in fair to poor condition. The lower part of the wall has a wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap. The tile is in fair condition with several cracked tiles and a few that are coated with an adhesive. Mounted long the wall (starting on the west) is the floor mounted toilet, a grab bar above the toilet (severely corroded), wall mounted air freshener, a wall mounted sink (with a mirror/soap dispenser/ paper towel dispenser, and wall mounted light fixture mounted just above the sink, and a wall mounted soap dispenser).			
Minor	Fair	Wall – East	The upper part of the wall is a plaster and in fair condition. The plaster has a non-original rough texture that varies. The installation of the plaster was poorly done. The paint finish is a light blue and is in fair condition. The lower part of the wall has a wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap. The tile is in fair condition with several cracked tile along the base of the wall.			
Minor		Wall East – Door	Door opening 1/214 is non-original hollow metal door and frame in fair condition with paint deterioration at the base and throughout the frame. The door has a modern doorknob and a metal chain lock installed just above the door handle.			
Minor	Fair	Wall – South	The upper part of the wall is a plaster and in fair condition. The plaster has a non-original rough texture that varies. The installation of the plaster was poorly done. The paint finish is a light blue and is in fair condition. The lower part of the wall has a wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap. The tile is in fair condition with several cracked tile.			
Minor	Fair to Poor	Wall – West	The upper part of the wall is a plaster wall in fair to poor condition. The plaster has a non-original rough texture. The installation of the plaster was poorly done and there is inconsistent texture throughout the wall. Along the north edge the plaster has moisture damage that includes cracking, delamination, and plaster blooms. The paint finish is a light blue and is in fair to poor condition. The lower part of the wall has a wainscot of 3x6 white glazed subway tiles with 4x6 bullnose cap. The tile is in fair condition with several cracked tiles and six (6) abandoned anchors.			

			Mounted long the wall (starting on the north) is a grab bar and directly below the grab bar is a wall mounted toilet paper towel dispenser.			
Minor		Wall West – Trim	No original trim at this wall. The window apron, sill, and stops have been removed. The replacement window insets from the original window opening, roughly 3 ½-inches.			
Minor		Wall West – Window	The double-hung vinyl window (247) is a non-original replacement window.			
Minor	Poor	Ceiling	The plaster ceiling is in poor condition with cracking and moisture deterioration visible throughout. The paint finish is white and is in fair condition. There is one metal diffuser installed on the north side of the ceiling. The diffuser has corrosion throughout.			
Room 215 – Closet (Not Observed)						
Room 216 – Locker Room						
Minor	Fair to Poor	Floor	The 6-inch by 6-inch rust red quarry tiles are in fair to poor condition. There are several cracked and missing tiles. In several locations the grout is deteriorating or missing.			
Minor	Fair to Good	Wall – North	The plaster wall is in fair to poor condition. The plaster has two texture patterns, a smooth texture is on the lower portion of the wall and a highly sanded texture on the upper portion of the wall. The paint finish is a light blue. The plaster paint finish is in good condition.			
Minor	Fair to Poor	Wall North – Base	The 6-inch by 6-inch muted blue quarry tiles (non-cove) are in fair to poor condition. There are several cracked and missing tiles. In several locations the grout is deteriorating or missing.			
Minor	Fair to Poor	Wall – East	The plaster wall is in fair to poor condition with moisture issues visible in the south corner. The plaster has two texture patterns, a smooth texture is on the lower portion of the wall and a highly sanded texture on the upper portion of the wall. The paint finish varies between a light blue and a bright aqua blue. The plaster paint finish is in fair to poor condition with significant deterioration in the south corner where there is cracking and delamination throughout. There is metal grill, painted, in the north corner. An exit sign and conduit are mounted above door opening 2/216.			
Minor	Fair to Poor	Wall East – Base	The 6-inch by 6-inch muted blue quarry tiles (non-cove) are in fair to poor condition. There are several cracked and missing tiles. In several locations the grout is deteriorating or missing.			
Minor		Wall East – Trim	No original trim at this wall			
Minor	Fair	Wall East – Doors	Door opening 1/216 is a hollow metal frame in fair condition with minor patches of corrosion and peeling paint throughout. The door is missing, but the door hinges are still mounted to the north side of the hollow metal frame.			

			Door opening 2/216 and a wood incased door opening. The wood trim is non-original and a simple 8-inch flat wood board. An air freshener dispenser is mounted on the top north corner.			
Minor	Poor	Wall – South	The plaster wall is in poor condition with moisture issues and plaster bloom visible on the eastern side of the wall. The plaster has a smooth texture. At the corners of windows 248 and 249, the plaster has been rounded, creating a bullnose edge The paint finish varies between a light blue and a bright aqua blue. The plaster paint finish is in poor condition with significant deterioration including cracking, delamination, and missing paint throughout.			
Minor	Fair to Poor	Wall South – Base	The 6-inch by 6-inch muted blue quarry tiles (non-cove) are in fair to poor condition. There are several cracked and missing tiles. In several locations the grout is deteriorating or missing.			
Minor	Missing	Wall South – Trim	No original trim at this wall. The window apron, sill, and stops have been removed.			
Minor		Wall South – Window	The casement windows (248 and 249) are non-original replacement windows. The casement windows are inset from the original window opening roughly 3 ½-inches. The brick infill is visible on the east side of window 248.			
Minor	Fair to Poor	Wall – West	The plaster wall is in fair to poor condition. The plaster has two texture patterns, a smooth texture is on the lower portion of the wall and a highly sanded texture on the upper portion of the wall. The paint finish varies between a light blue and a bright aqua blue. The plaster paint finish is in good condition.			
Minor	Fair to Poor	Wall West – Base	The 6-inch by 6-inch muted blue quarry tiles (non-cove) are in fair to poor condition. There are several cracked and missing tiles. In several locations the grout is deteriorating or missing.			
Minor	Fair	Ceiling	The plaster ceiling is in fair condition with minor hairline cracking. There is one ceiling fan, one abandoned light fixture hole with exposed wiring, and one metal diffuser installed at the ceiling. The paint finish is a white and is in fair condition with minor cracking and flaking.			
Room 217 -						
Minor	Fair to Poor	Floor	Non original VCT 1'-0" by 1'-0" flooring is in fair to poor condition. Many of the tiles are chipped and several are missing. There is ghosting on the tile indicating the location of infill walls that have been removed.			
Minor	Fair	Wall – North	The plaster wall is in fair condition with minor horizontal cracking on the upper portion of the wall. The plaster has two texture patterns, a smooth texture is on the upper portion of the wall and a highly sanded texture on the lower portion of the wall. Ghosting is visible in the wall where infill walls once stood. The paint finish varies from a light cream, to a light yellow, to a tan. The plaster paint finish is in fair to poor condition with cracking throughout. There is an abandoned light switch in the western half of the wall that is missing its cover plate.			

Minor	Missing	Wall – North-Base	There is no existing base, but there is adhesive remaining roughly 5” off f.f. suggesting a base was installed at one time.			
Minor		Wall - Trim	No original trim on wall.			
Minor	Fair to Poor	Wall-East	<p>The plaster wall is in fair to poor condition with hairline cracking throughout the wall. The plaster has two texture patterns, a smooth texture is on the upper portion of the wall and a highly sanded texture on the lower portion of the wall. Ghosting is visible in the wall where infill walls and flooring once stood. The paint finish varies from a light cream, light yellow, to a tan. The plaster paint finish is in fair to poor condition with cracking throughout.</p> <p>There are two abandoned outlets on the wall. Both are wall mounted and one is hanging from the wall, no longer securely mounted. A wall mounted exit sign is hanging down from the top of the wall, no longer securely mounted. There are multiple abandoned anchors and anchor holes in the wall (+10).</p>			
Minor	Missing	Wall – East - Base	There is no existing base, but there is adhesive remaining roughly 5” off f.f. suggesting a base was installed at one time.			
Minor	Fair	Wall – East – Door	Door opening 1/217 is a hollow metal door and frame in fair condition with minor patches of corrosion and peeling paint throughout. The locking hardware for the door is missing.			
Minor	Fair to Poor	Wall-South	<p>The plaster wall is in fair to poor condition with hairline cracking throughout the wall. The plaster has two texture patterns, a smooth texture is on the upper portion of the wall and a highly sanded texture on the lower portion of the wall. Ghosting is visible in the wall where an infill wall once stood. The paint finish varies from a light cream to a tan. The plaster paint finish is in fair to poor condition with cracking and peeling paint throughout.</p> <p>There are three abandoned wall mounted outlets on the wall and three wall mounted hooks above the three windows. There are multiple abandoned anchors and anchor holes throughout the face of the wall.</p>			
Minor	Missing	Wall – South - Base	There is no existing base, but there is adhesive remaining roughly 5” off f.f. suggesting a base was installed at one time.			
Minor	Missing or Hidden	Wall South - Trim	The original wood window trim is not visible in the openings. The window openings have been covered in a thick, rough textured, plaster. It is unknown parts of the original wood trim still is in place beneath the non-original plaster.			
Minor	Fair	Wall – South – Window	The three aluminum replacement casement windows (250, 251, 252) are non-original replacement windows in fair to good condition. There are no original sills or aprons visible.			
Minor	Poor	Wall-West	The plaster wall is in poor condition with horizontal cracking throughout the top of the wall and several areas of missing plaster. The plaster has two texture patterns, a smooth texture is on the upper portion of the wall and a highly sanded texture on the lower portion of the wall. Ghosting is visible in the wall where an infill wall once			

			<p>stood. On the north upper side of the wall, plaster is missing and delaminating. There is evidence that moisture may have been an issue in this location, prior to the roof being replaced. The paint finish varies from a light cream, to light yellow, to a tan. The plaster paint finish is in fair to poor condition with cracking. Missing, and peeling paint throughout.</p> <p>There is one abandoned recessed outlet on the wall, a thermostat, and two abandoned plumbing pipes sticking out from the wall. Two metal grills are installed within the wall. The southern grill is installed high in the wall and appears older. The northern grill is installed at the bump out in the north corner and appears newer.</p>			
Minor	Missing	Wall – West - Base	There is no existing base, but there is adhesive remaining roughly 5” off f.f. suggesting a base was installed at one time.			
Minor		Wall West - Trim	The trim at door 1/218 is discussed under room 218.			
Minor	Poor	Ceiling	The plaster ceiling is in poor condition with multiple locations of missing and delaminating plasters and two large holes cut into the ceiling (one roughly 4’-0” by 4’-0” and the other 1’0” diameter hole). There is one smoke detector, one abandoned light fixture hole with exposed wiring, and multiple abandoned hanging supports for a removed drop ceiling still anchored to the plaster ceiling.			
Room 218 – Men’s Tub Room						
Minor	Good	Floor	Hexagonal marble tile is in overall good condition with dirt throughout. Additional conditions include: one floor drain approximately centered in the room; remnants of second floor plumbing penetrations along centerline of room; evidence of former floor treatment at doors: adhesive at east doors, outline at west; crack in floor extending from north to south ends near plumbing side of west tubs; diagonal crack northeast corner of southeast tub; diagonal crack northwest corner of southwest tub and southwest corner of southwest tub	XAI.8		
Minor	Fair	Tubs	<p>General: There are 6 tubs in Room 221 Men’s Bathing. The tubs are in overall fair condition and are stained and covered in dirt. There are vertical areas at the outside of each tub that are intentionally without glaze (unsure of reason); each tub has four abandoned connections adjacent to plumbing with rectangular ghosting around them.</p> <p>Majority of plumbing piping is in place missing elements include: drain stops in all tubs except the middle west and hot and cold knobs missing at northwest and southwest tubs. Corrosion is present at southwest and middle east plumbing. The northeast tub sits below tile in northwest and southeast corners, but this appears to be a fault in the original casting; middle west tub has small chip near plumbing; southwest tub exhibits cracking in southwest corner</p>	XAI.8		

Minor	Fair	Pools	<p>General: Two pools are positioned at both the north and south ends of the space. The exterior face and caps of the pool walls are clad with white subway tile. The interior face of the pool walls and the pool floors are finishes with square mosaic tile.</p> <p>The white subway tile wall exterior and caps are in fair condition overall. Cracking in the tile is concentrated near plumbing fixtures. Additional areas of cracking include: step cracking at east end of south pool wall and diagonal cracking at east end of north pool wall. Adhesive from former construction remains on tile. Remaining pool features noted in items below.</p>			
Minor	Fair	Pools	<p>Pool interiors are in overall fair condition. Interior walls and floors are finished in square mosaic tile with cove at wall-floor transition. Floors slope at drains. Pool interiors are covered in dirt and debris. The interiors are also moderately stained and have areas with biological growth. Additional interior tile conditions of note:</p> <p>Crack in floor extending up north wall in northwest pool Cracking and failed patches in floor of southwest pool Horizontal crack low in dividing wall in southwest pool Cracking at east end of south wall of southeast pool</p>			
Minor	Fair	Pools	<p>Plumbing elements at north and south pools are in overall fair condition with some surface corrosion and some missing and deteriorated elements. Missing and deteriorated elements include:</p> <p>Drain covers in all pools missing Overflow cover corroded in northeast pool and missing in remaining pools Pipe support missing at northeast and southwest pools Floor penetration escutcheon missing at northeast pool</p>			
Minor	Fair	Walls	<p>General: Walls are painted plaster walls above a white subway tile wainscot approximately 62" tall. Remnants of overbuild typical at all walls</p> <p>North: unsupported electrical boxes remains where wall removed, east half of tile wainscot painted, vertical cracking in tile below west window, water damage at plaster in west corner.</p> <p>West: cracking and water damage at plaster and behind tile wainscot in north and south corners, cracked and missing tiles at north end of wall; crack in plaster from north door head, hairline cracking in plaster throughout, tile wainscot stained around sink, vertical crack in tile at sink; horizontal crack from south end of wall extending above south door opening (close to ceiling).</p> <p>South: vertical cracking in tile below west window; water damaged plaster at corners, diagonal cracks from east and west corners extending above windows.</p> <p>East: missing grille at north end, some plaster cracking throughout and diagonal cracking in plaster from south corner, deteriorated and missing plaster near south door, deteriorated and missing plaster near north door; tile painted at north end; electrical switch missing cover plate.</p>	XAI.9		
Minor	Fair	Windows	<p>General: Aluminum replacement windows in fair condition, open joints typical at corners of sashes, screens are missing, oxidized hardware</p> <p>Damage at west window head</p>			

Minor	Fair	Doors	Northeast: 32" painted hollow metal door and frame in fair condition. Paint is peeling in areas on door and frame, closer does not operate properly, door knob is not ABAAS compliant, metal threshold is loose, stone threshold below			
Minor	Fair	Doors	Southeast: 36" painted wood single lite stile and rail door and wood frame in fair condition. Damage at bottom of door above double action hinge mounting. Metal plates with exposed fasteners at top and bottom of door, painted. Modern pull hardware and plate installed over metal push plate that wraps door edge, stone threshold.			
Minor	N/A	Doors	Northwest 36" door – see room 227 for notes Southwest 30" door – see room 226 for notes			
Minor	Poor	Ceiling	Flat plaster is in poor condition, paint peeling, water damage, and missing plaster in some areas, cracking, and additional delamination of plaster from metal lath in two large areas; ceiling fans (not historic), rounds mechanical grilles, open junction boxes, exposed wires, and a damaged smoke detector are all located in the ceiling	XAI.10		
Room 219 – Toilet Room						
Minor	Good	Floor	Hexagonal marble tile is in overall good condition with dirt throughout and staining around urinal and lav. Diagonal cracking in northwest corner. Hairline crack near urinal.			
Minor	Fair	Walls	General: Walls are painted plaster walls above a white subway tile wainscot approximately 62" tall. Plaster is in overall poor condition with cracking and peeling paint throughout, and tile is in overall fair condition with cracking throughout tile glaze. North: Vertical cracking in small areas of tile, diagonal cracking in tile at west end. West: Moisture damage in upper north end of plaster in corner and above window, vertical cracking in tile below window, diagonal cracking in tile at lower north and south corners. South: Diagonal cracking and loss of tile material in lower west corner, minor vertical cracking in tile, stepped cracking in tile from upper corner of urinal, staining on tile around urinal and in lower east corner. East: Diagonal and horizontal cracking in tile near door, vent opening low in wall missing vent cover	XAI.11		
Minor	Poor	Window	Wood six-over-nine double hung replacement window in historic wood frame. Replacement sashes in poor condition with corner joints open, failed weatherstripping, and staining behind applied muntins. Historic frame in fair condition with peeling paint and minor wood damage.			
Minor	Fair	Door	Flush panel wood door (stained) in wood frame (painted). Door finish is worn and wood veneer on door is cracked in some areas. Paint is peeling from frame, but frame is in otherwise good condition. Metal kick plate at door bottom with exposed fasteners. (2) hinges with ball tips is in fair condition. Escutcheon for door knob and lock in place, knob is missing. Closer is missing, but evidence of mounting locations remain.			
Minor	Good	Ceiling	Flat plaster ceiling has single crack extending between north and south walls and one area of damaged plaster with lath exposed. Minimal areas of peeling paint.			

			Historic light fixture remains (did not confirm operation during site visit). Trim for round mechanical vent in place, but louver section removed.			
Minor	Fair	Partitions	Marble toilet partitions along south wall has minor staining on marble; doors and door hardware missing, accessories mounted to partitions with loss of paint and surface corrosion. Metal pipe supports and fittings in fair condition: metal is oxidized, some missing elements including bolts, some loose attachments	XAI.11		
Minor	Poor	Plumbing fixtures	Plumbing fixtures include two floor-mounted toilets, one floor-mounted urinal, and one wall-mounted lavatory. Fixtures have minor cracking and are significantly stained. Plumbing is missing pieces and not operable.	XAI.11		
Room 227 – Toilet Room						
Minor	Poor to Good	Floor	Hex marble tile: main area slopes to drain is in good condition. Shower areas lead-lined flashing/tub are in poor condition.	XAI.12		
Minor	Poor to good	Walls	North: plaster above tile wainscot has cracking throughout. Paint is peeling, with mildew; fire-pull alarm, open junction box; marble at shower is poor, end panel is missing, wainscot tile is in good condition. West: Similar to the north – tile cracking below the window, marble at the north shower is in good condition, some staining; no marble at south shower, plaster patch is in poor condition with water damage/moisture cracking above the window, plaster is displaced. South: window is the same as Room 226 – poor condition; one marble panel remains at shower, remaining wall plaster poorly executed. East: Stepped crack from marble panel to exterior wall in addition to cracking throughout; similar to north – marble missing at shower, plaster patched with skim coat. Stepped cracking at mechanical bump out extending across ceiling; mildew at northwest corner; tile wainscot is in good condition except at north of door, with loose tiles and no grout; single panel wood door and frame, painted, door knob is missing. Assume open electrical switch; mechanical grille is missing.	XAI.13		
Serious	Fair	Doors	North: Exterior HM door and frame 2/220 - panic bar, closer, exit sign, threshold, weather stripping good to fair; door does not latch			
Minor	Poor	Ceiling	Flat plaster ceiling painted, with historic light fixtures, attachment is unknown; mechanical is missing, new flood light at door; ceiling is in poor condition, cracking with previous patches			
Minor	Poor to Good	Floor	Hex marble tile: main area slopes to drain is in good condition. Shower areas lead-lined flashing/tub are in poor condition.	XAI.12		
Room 221 – Locker Room						
Minor		Walls	General: Minor cracks, peeling, and holes throughout			
Minor		Doors + windows	Doors: missing, frame remains, 32" opening Windows:			
Minor		Flooring	Exposed concrete, discoloration (rust-like color), cracks			
Minor		Ceiling	Paint cracking throughout, especially from fixtures to walls; southeast corner has			

			damaged plaster			
Room 222 – Hallway						
Minor		Walls	Paint cracking throughout plaster walls, with patches missing			
Minor		Doors	Door missing			
Room 223 – Toilet						
Minor	Fair to Good	Floor	Exposed concrete floor is in fair to good condition. Ghosting is visible throughout the floor were 9x9 tiles were once installed.			
Minor	Fair to Poor	Wall – North	The plaster wall is in fair to poor condition. The plaster has a smooth texture and a pale blue paint finish. The plaster paint finish is in poor condition with cracking and flaking throughout. Where the topcoat of paint is missing, a mustard yellow color is visible. A light switch is installed just to the east of door 1/223. The switch is missing its cover.			
Minor	Missing	Wall North – Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair to Poor	Wall North – Door	Door opening 1/223 is non-original hollow metal door and frame are in fair to poor condition with paint deterioration and patches of corrosion throughout the door and frame.			
Minor	Fair	Wall – East	The plaster wall is in fair condition. The plaster has a smooth texture and a pale blue paint finish. The plaster paint finish is in fair condition with minor patches of cracking and flaking.			
Minor	Missing	Wall East – Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair to Poor	Wall – South	The plaster wall is in fair condition. The plaster has a smooth texture and a pale blue paint finish. The plaster paint finish is in fair condition with minor patches of cracking and flaking. Where the topcoat of paint is missing, a pink and seafoam green color are visible. There are several abandoned anchors in the wall. Mounted long the wall (starting on the east) is the floor mounted toilet, marble toilet partition, wall mounted paper towel dispenser, a wall mounted sink (with a mirror, soap dispenser, and wall mounted light fixture mounted just above the sink). The marble toilet partition is in good condition.			
Minor	Missing	Wall South – Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair	Wall – West	The plaster wall is in fair condition. The plaster has a smooth texture and a pale blue paint finish. The plaster paint finish is in fair condition with minor patches of cracking and flaking.			
Minor	Missing	Wall West – Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair	Ceiling	The plaster ceiling is in fair condition with hairline cracking in several locations. The paint finish is a light blue and is failing with delamination and flaking throughout.			

			There is one metal diffuser that has corrosion throughout and one abandoned glass pendent light fixture.			
Room 224 – Janitorial Closet						
Minor	Good	Floor	Exposed concrete floor is in good condition but is covered in debris. A marble threshold is installed between the closet door and the tiled hallway.			
Minor		Wall –Base	No base, nor is there evidence that a base was installed.			
Minor	Poor	Wall – North	The plaster wall is in poor condition. The plaster has a smooth texture and a pale green paint finish. The paint finish is failing, with significant delamination and flaking throughout. Under the patches of missing paint are areas of white and mustard colored paint. Two pipes span floor to ceiling along the west side of the north wall. The pipes are in fair condition with significant corrosion throughout both pipes.			
Minor	Fair	Wall – East	The plaster wall is in fair condition. The plaster has a smooth texture and varying paint finish of pale green and dust rose. There is one wood cleats, spanning out roughly 10” from the south corner. The cleat is installed to support the side of the wood shelf installed on the south wall.			
Minor	Fair	Wall-South	The plaster wall is in fair condition. The plaster has a smooth texture and varying paint finish of pale green and dust rose. There is one wood cleats, spanning the full width of the wall, and supporting a wood shelf. Just below the wood shelf is a wall mounted faucet and a historic wall mounted industrial sink centered on the wall. The sink is in poor condition with corrosion and ferrous staining throughout			
Minor	Fair to Poor	Wall-West	The plaster wall is in fair to poor condition. The plaster has a smooth texture and a pale green paint finish. The paint finish is failing, with significant delamination and flaking throughout.			
Minor		Wall – West - Base	No base, nor is there evidence that a base was installed.			
Minor	Fair to Poor	Ceiling	The plaster ceiling is in fair to poor condition with minor cracking throughout. The plaster near the plumbing pipe penetrations in the northwest corner of the ceiling has significant cracking and areas of missing plaster. The ceiling has a smooth finish and a cream-colored paint finish. The paint finish is in fair to poor condition with delamination and flaking and several patches throughout the ceiling. There is one abandoned light fixture with an exposed light bulb.			
Room 225 – Closet						
Minor	Good	Floor	Exposed concrete floor is in good condition. There is minor cracking in the			

			concrete floor.			
Minor	Fair to Good	Wall – North	The plaster wall is in fair to good condition with minor hairline cracking. The plaster has a smooth texture and a pale green paint finish. The plaster paint finish is in fair condition with minor patches of cracking and flaking. There are four wood cleats, spanning the full width of the wall, still installed on the wall to support shelving that is no longer in place.			
Minor	Missing	Wall – North-Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair to Good	Wall-East	The plaster wall is in fair to good condition. The plaster has a smooth texture and a pale green paint finish. The plaster paint finish is in fair condition with minor patches of cracking and flaking. There are four wood cleats, spanning half the width of the wall, still installed on the wall to support shelving that is no longer in place.			
Minor	Missing	Wall – East - Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Good	Wall-South	The plaster wall is in good condition. The plaster has a smooth texture and a pale green paint finish. The plaster paint finish is in fair condition.			
Minor	Missing	Wall – South - Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair	Wall South - Door	Door opening 1/225 is non-original is a hollow metal door and frame in fair condition with paint deterioration at the base and around the doorknob. The door has a modern doorknob and a metal hasp lock installed just above the door handle.			
Minor	Fair to Good	Wall-West	The plaster wall is in fair to good condition. The plaster has a smooth texture and a pale green paint finish. The plaster paint finish is in fair condition with minor patches of cracking and flaking. There are four wood cleats, spanning half the width of the wall, still installed on the wall to support shelving that is no longer in place.			
Minor	Missing	Wall – West - Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair to Good	Ceiling	The plaster ceiling is in fair to good condition with minor cracking along the west side. The ceiling has a smooth finish. There is one abandoned light fixture with an exposed light bulb.			
Minor						
Minor	Fair	Floor	Exposed concrete floor is in fair condition. It sets ¼-inch lower than the tiled hallway flooring and has several cracks throughout the floor. Paint splatters are also visible throughout.			

Minor	Good	Wall – North	<p>The plaster wall is in good condition. The plaster has a smooth texture and a pale green paint finish.</p> <p>There are four wood cleats, spanning out roughly 10” from the west corner. The cleats are installed to support shelving. The upper three painted wood shelves are still in place, the lower shelf is missing.</p>			
Minor	Missing	Wall – North-Base	There is no existing base, but there is adhesive remaining and a paint line roughly 6” off f.f. suggesting a base was installed at one time.	9,		
Minor	Good	Wall – East	The plaster wall is in good condition. The plaster has a smooth texture and a pale green paint finish.			
Minor	Missing	Wall – East - Base	There is no existing base, but there is adhesive remaining and a paint line roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair to Poor	Wall – East – Door	Door opening 1/226 is non-original but appears to be in fair to poor condition with areas of corrosion and ferrous staining throughout. The hardware is all contemporary. The door has a modern doorknob and a metal hasp lock installed just above the door handle.			
Minor	Good	Wall-South	<p>The plaster wall is in good condition. The plaster has a smooth texture and a pale green paint finish.</p> <p>There are four wood cleats, spanning out roughly 10” from the west corner. The cleats are installed to support shelving. The upper three painted wood shelves are still in place, the lower shelf is missing. An electrical conduit spanning from the floor to the ceiling is anchored to the south wall.</p>			
Minor	Missing	Wall – South - Base	There is no existing base, but there is adhesive remaining and a paint line roughly 6” off f.f. suggesting a base was installed at one time.	9,		
Minor	Good	Wall-West	<p>The plaster wall is in good condition. The plaster has a smooth texture and a pale green paint finish.</p> <p>There are four wood cleats, spanning the full width of the wall, still installed on the wall to support shelving. The upper three painted wood shelves are still in place, the lower shelf is missing.</p>			
Minor	Missing	Wall – West - Base	There is no existing base, but there is adhesive remaining and a paint line roughly 6” off f.f. suggesting a base was installed at one time.	9,		
Minor	Fair to Good	Ceiling	<p>The plaster ceiling is in fair to good condition with a single minor cracking running north to south. Minor patches of plaster are missing around the light fixture (centered) and the conduit (south side). The ceiling has a smooth finish and a cream color paint finish.</p> <p>There is one abandoned light fixture centered on the ceiling.</p>			
Room 227 – Toilet						
Minor	Fair	Floor	Exposed concrete floor is in fair condition with diagonal cracking in the northeast			

			corner. Ghosting is visible throughout the floor were 9x9 tiles were once installed. A marble threshold is installed between the restroom door and the tiled hallway.			
Minor	Fair to Good	Wall – North	The plaster wall is in fair to good condition. The plaster has a smooth texture and a pale cream paint finish. At the corners of window 208, the plaster has been rounded, creating a bullnose edge. The plaster paint finish is in fair condition with minor patches of cracking and flaking. Where paint is missing, a pale seafoam green color is visible.			
Minor	Missing	Wall North – Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor		Wall North – Trim	The window trim and sill are non-original replacements. The apron at the window is one of the few original trim elements not altered when the window was replaced. The apron wood trim is in fair condition with minor gouges and minor areas of finish deterioration including missing or delaminated paint.			
Minor		Wall North – Window	The casement window (208) is a non-original replacement window.			
Minor	Fair	Wall – East	The plaster wall is in fair condition. The plaster has a smooth texture and a pale cream paint finish. The plaster paint finish is in fair condition with minor patches of cracking and flaking.			
Minor	Missing	Wall East – Base	There is no existing base, but there is adhesive remaining roughly 6” off f.f. suggesting a base was installed at one time.			
Minor	Fair to Poor	Wall East – Door	Door opening 2/227 is non-original double hollow metal doors and frame are in fair to poor condition with paint deterioration and patches of corrosion throughout the door and frame.			
Minor	Fair to Good	Wall East – Closet Interior	The closet is non-original construction. The floor is exposed concrete floor with 9x9 ghosting from tiles that were once installed. The concrete floor is in fair to good condition. There is no existing base, but there is adhesive remaining and a paint line roughly 2” to 4” off f.f. suggesting a base was installed at one time. The walls in ceiling are in fair to poor condition. There is hairline cracking throughout. The light cream paint finish is in fair condition with delamination and flaking throughout. Cleats to remain on the wall from where shelving was installed. The ceiling has an abandoned light fixture installed.			
Minor	Fair	Wall-South	The plaster wall is in fair condition. The plaster has a smooth texture and a pale cream paint finish. The plaster paint finish is in fair condition with minor patches of cracking and flaking. There is one light switch just east of the door opening 1/227. Mounted above the light switch is an air freshener distributor.			
Minor	Missing	Wall – South -	There is no existing base, but there is adhesive remaining roughly 6” off f.f.			

		Base	suggesting a base was installed at one time.			
Minor	Fair to Poor	Wall South – Door	Door opening 2/227 is non-original hollow metal door and frame are in fair to poor condition with paint deterioration and patches of corrosion throughout the door and frame.			
Minor	Fair	Wall – West	<p>The east wall is in fair condition. The plaster has a smooth texture and a pale cream paint finish. At the corners of window 207, the plaster has been rounded, creating a bullnose edge. The plaster paint finish is in fair condition with minor patches of cracking and flaking. On the north side of the wall, the wall has been furred out roughly 1'-0" from the exterior wall. This furred out wall is located where the plumbing fixtures are hung.</p> <p>Mounted long the wall (starting on the north) is the floor mounted toilet, wall mounted urinal. On the south side of the half-wall partition is a wall mounted sink (with a mirror and paper towel dispenser mounted just above the sink). Both the urinal and toilet are surrounded by a marble partition. The partitions are in fair condition.</p>			
Minor	Missing	Wall West – Base	There is no existing base, but there is adhesive remaining roughly 6" off f.f. suggesting a base was installed at one time.			
Minor	Fair to Good	Wall West – Trim	The trim surround at Window 207 (appears original – need to review HSR) of the few original trim elements not altered when the window was replaced. The concaved wood stop remains at the window. The sill and apron appear to be original and have a painted finish. The sill/apron wood trim is in fair to good condition with patches of the paint finish deteriorated including missing or delaminated paint.			
Minor		Wall West – Window	The three-part window (207) is a non-original placement window.			
Minor	Poor	Ceiling	<p>The plaster ceiling is in poor condition with multiple locations of cracking and delaminating plasters throughout. The paint finish is a teal blue and is failing with delamination and flaking throughout.</p> <p>There is one metal diffuser that has severe corrosion throughout and one abandoned light fixture hole with exposed wiring.</p>			
Room 300 – Attic						
Critical	Fair to Poor		<p>The Attic was not full observed due to limited access. The floor of the attic is an exposed steel purlins with the back side of the second-floor plaster visible between purlins. There is no flooring in the attic.</p> <p>Within the attic floor are several divided wood laylights that have an obscure glazing. The glazing is held into place with wood stops. Some of the glazing is broken and at risk of falling to the rooms below. The attic is filled with mechanical ducts and some of the ducts were installed over the laylights.</p>			

			The roof is supported by steel trusses that span north to south. Between the steel trusses a cementitious wall/ceiling covering was installed. In several locations just below the skylight the cementitious covering is gone, and the steel lath is exposed.			
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EXISTING CONDITIONS TABLES - STRUCTURAL

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Assessment Checklist – Structural						
Deficiency Rating	Condition Rating	Component – Exterior or Interior	Existing Condition	Reference	Qty	Unit
Structural						
N/A	N/A	Floor Structure	Sounding of structural slabs unclear in two areas, possible delaminations or surface coat debonding.		2	LS
Serious	Poor	Concrete Floor Framing	Overhead concrete beam deterioration		150	LF
Serious	Poor	Concrete Floor Framing	Overhead concrete slab deterioration – partial depth		300	SF
Serious	Poor	Concrete Floor Framing	Overhead concrete slab deterioration – full depth		375	SF
Serious	Poor	Concrete Floor Framing	Concrete reinforcing cut at existing slab penetrations. Quantity estimated.		100	EA
Serious	Poor	Concrete Floor Framing	Concrete slab deterioration – partial depth		24	SF
Serious	Poor	Concrete Floor Framing	Concrete cracking		225	LF
Serious	Poor	Steel Roof Framing	Clips missing from rafters			
N/A	N/A	Concrete Footings	Construction, depth, and soil capacity unknown			
N/A	N/A	Masonry Walls	Construction of clay tile walls unknown (covered with stucco and plaster)			

EXISTING CONDITIONS TABLES - MECHANICAL AND PLUMBING

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Assessment Checklist – Mechanical and Plumbing						
Deficiency Rating	Condition Rating	Component – Exterior or Interior	Existing Condition	Reference	Qty	Unit
Mechanical						
Minor	NA	Building Cooling	Existing building does not have cooling or dehumidification capability except that noted below.		1	17,000 SF
Minor	Poor	Building Cooling	Split system blower coil unit was added at some time in attic to serve what appears to be office space in Room 217	XM.1	1	LS
Critical	Poor	Building Heating	The existing boilers were installed in 1987 and are past their useful life and are not operational, therefore there is no building heat.	XM.2	3	EA
Serious	Poor	Steam Condensate Pump	Steam pump was installed in 1987 and is past its useful life	XM.3	1	EA
Serious	Poor	Steam Heating Piping	The steam piping is past its useful life and much has been removed	XM.4	1	LS
Serious	Poor	Air Handling Unit	The heating/ventilating AHU was installed in 1956 and the fan replaced in 1987 and is past its useful life.	XM.5	1	LS
Serious	Poor	Ductwork	Much of the existing ductwork has been removed and what remains is past its useful life or damaged	XM.6	1	LS
Serious	Poor	Exhaust Systems	Exhaust systems have either been removed or have been deactivated an all are past their useful life	XM.7	2	EA
Plumbing						
Minor	Fair	Water Service	3” water service was installed in 1956.	P1, XP.1	1	LS
Serious	Fair	Water Service Backflow Preventer	2” backflow preventer is old, has no strainer or isolation valves at unit and has no air gap fitting, drain or floor drain to drain to.	P1, XP.1	1	LS
Minor	Poor	Domestic Water Heater	An existing gas fired water appears to be installed in 2003 and is close to the end of its useful life span	XP.2	1	LS
Minor	Poor	Domestic Water Heater	An existing electric water heater appears to be an older model and has been setting unused for many years.	XP.2	1	LS
Minor	Poor	Domestic Water Piping	Most piping was installed in 1956 and is past its useful life		1	LS
Minor	Poor	Plumbing Fixtures	Plumbing fixtures are well past their useful life and do not meet current water efficiency codes and guidelines	XP.3	1	LS
Minor	Poor	Sanitary Waste & Vent Piping	Most above waste and vent piping was installed in 1957, is cast iron hub and spigot piping and past its useful life span.		1	LS

Minor	Poor	Sanitary Waste Piping	Underslab sanitary waste main is mostly original to the original 1920's construction with new branch piping installed in 1956 and is past its useful lifespan.		1	LS
Minor	Poor	Sanitary Sewer Piping	6" vitrified clay pipe sanitary sewer was installed in the 1920's		1	LS
Minor	Poor	Storm Water Piping	Pool drains and overflow drains are tied into 8" vitrified clay pipe site storm sewer piping. The pool drains have exterior gate valves located in manholes	XP.4	1	LS
Critical	NA	Gas Service	Gas service has been disconnected	P1, XP.5	1	LS
Minor	Fair	Gas Piping - Int	Gas piping appears to be in fair shape	P1, XP.6	1	LS
Serious	Poor	Thermal Water Fountain - Ext	There appears to be a leak in the thermal water service to the dispensing fountain as the meter box is full of water.		1	LS
Serious	Poor	Thermal Waters -Ext	Thermal water bypass piping is connected to a downspout leader at the NW areaway. The bottom portion of the downspout leader is missing, and water is dumping and ponding in the areaway.	XP.7	1	3 FT
Minor	Fair	Thermal Water Piping	Thermal water piping serving the abandoned pools was installed in 1956.	P1, XP.8	1	LS
Minor	Fair	Areaway Drains	Areaway drain grates are flat and are easily covered with debris	P1, XP.7	2	EA

EXISTING CONDITIONS TABLES - ELECTRICAL AND FIRE PROTECTION

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Assessment Checklist – Electrical and Fire Prevention						
Deficiency Rating	Condition Rating	Component – Exterior or Interior	Existing Condition	Reference	Qty	Unit
Electrical						
Serious	Fair	Exterior Lighting	Some components are in fair condition. Some components are missing. However, components did not appear to have emergency backup. Components also appear to be using old inefficient technologies.	XE.2, XE.3	12	
Serious	Fair	Exterior Exits	All exterior exits do not have lighting at them.	XE.4	2	
Minor	Fair	Electrical Meters	Meters are located close to grade under an existing stair. Location and height are not conducive to ease of maintenance or safety.	XE.5	2	
Minor	Poor	Conduit	Approximately 60% of the existing conduit system is in poor condition.	XE.6	1	LS
Minor	Fair	Service Entrance Panelboards	Equipment has the appearance of rust. Molded case circuit breakers should be replaced if any water exposure has occurred. Circuit breakers may not function properly if water has been present.	XE.7, XE.8	2	
Critical	Fair	Exit Signs	Exit signs are not functioning.	XE.9, XE.30	1	LS
Critical	Fair	Emergency Lights	Emergency light fixtures are not functioning.	XE.10, XE.29	1	LS
Minor	Fair	Security System	Security system is not functioning. Battery appears not to be functional.	XE.11	1	LS
Critical	Poor	Open wiring	Open wiring was observed in several locations throughout the building. Open wiring represents a safety hazard for anyone entering building.	XE.12, XE.13, XE.14	1	LS
Minor	Fair	Light Fixtures	Light fixtures are missing in various locations throughout the building.	XE.15, XE.16	1	LS
Minor	Fair	Junction Boxes	There are open knock outs in various junction boxes.	XE.17	1	LS
Minor	Fair	Junction Box Cover Plates	There are junction boxes with missing cover plates.	XE.18, XE.19, XE.20	1	LS
Minor	Fair	Conduit over Lay Lite	Relocate conduit from lay lite system.	XE.21	1	LS

Serious	Poor	Non continuous conduit system	Conduit system was observed to be broken in several locations. In these cases, grounding system is not functioning properly.	XE.22	1	LS
Serious	Fair	Conduit System	Conduit System was damaged in several locations throughout the building.	XE.6, XE.24	1	LS
Serious	Fair	Panelboards	Several panelboards were observed with dead fronts removed or openings in dead fronts. Shock hazard and greater arc flash hazard exists with dead fronts removed or compromised.	XE.25, XE.26, XE.27	1	LS
Minor	Fair	Telephone and data equipment and wiring	Telephone and data equipment and wiring is outdated and does not appear to be functional.	XE.28	1	LS
Minor	Good	Temporary Equipment and wiring	All temporary equipment should be removed or installed in a more protected manner. Temporary wiring should only be installed for 90 days or less to comply with the NEC unless construction is occurring.	XE.31	1	LS
Serious	Poor	Incomplete wiring	Equipment was observed with wiring incomplete or partially demolished.	XE.32	1	LS
Serious	Poor	SO Cord used for permanent installation	SO cord was observed to be installed for what appeared to be a permanent wiring installation.	XE.33	1	LS
Serious	NA	Arc Flash Labels	Equipment was observed with no arc flash labels.		1	LS
Serious	Poor	Grounding Electrode System	Could not identify if the building has a code compliant grounding electrode system.		1	LS
Fire Protection						
Critical	NA	Fire Suppression	No fire protection systems installed		19,000	SF
Critical	NA	Fire Suppression	No fire service has been provided to the building		19,000	SF
Critical	Poor	Fire Alarm System	System is not functioning. Some existing wiring appears to be damaged. Some existing wiring and devices have been removed.	XE.1	1	LS
Critical	Poor	Fire Alarm Devices	Open wiring was observed. Devices appear to be missing.	XE.23		

APPENDIX H - TREATMENT TABLES

TREATMENT TABLES - SITE

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Treatment Checklist - Site								
Uni-Format WBC Code	Deficiency Rating	Condition Rating	Component – Exterior or Interior	Existing Condition	Reference	Qty	Unit	Total Cost or Allow.
Site								
	Serious	Fair	Sidewalks	Sidewalk: remove and replace deteriorated concrete sidewalk slabs, match existing exposed aggregate finish	XC.6 XAE.1	925	SF	
	Minor	N/A	Signage	Provide NPS monument sign at building exterior		1	EA	
	Minor	N/A	Signage	Provide NPS post-mounted interpretive sign at building exterior		1	EA	
	Minor	Good	South entry plaza tile	Remove staining from quarry tile and grout	XC.5	420	SF	
	Serious	Fair	North entry concrete	Remove and replace concrete plaza at north entry, regrade to achieve accessible routes to building and bottle filling station. New concrete to match existing exposed aggregate finish	XC.5 XAE.1	1730	SF	
	Serious	Fair	North entry concrete	Replace concrete curb along Reserve Street, include one curb cut with accessible slope and flared transitions	XC.5 XAE.1	110	LF	
	Serious	Fair	North entry parking	Paint lines to identify parking spots on Reserve Street (2 accessible, 2 general)	XAE.1	4	EA	
	Minor	Fair	West entry	Repoint open joint between retaining wall and building wall with sealant		6	LF	
	Serious	Good	West entry	Replace drain at west entry lower landing, tie to underground storm system		1	EA	
	Minor	Good	Handrails	Prep and paint handrails at concrete site stair and concrete northwest areaway stair	XAE.3 XC.6	32	LF	
	Critical	Good	Lighting	Replace exterior building-mounted lighting with appropriate architectural fixtures at north and south entries		4	EA	
	Critical	N/A	Lighting	Provide exterior building-mounted lighting at exit/loading doors		4	EA	

	Critical	Fair	Drainage	Survey to locate utilities including underground drain locations, scope drains to remain. <i>Note: this is not a construction cost item but recommended for next design phase.</i>				
	Critical	Poor	Drainage	Clean out north elevation downspout boot and underground drain, replace downspout and connect to underground		1	EA	
	Serious	Poor	Benches	Remove atmospheric staining and biological growth from concrete benches	XAE.13	2	EA	
	Serious	Poor	Benches	Repair cracks in concrete benches	XAE.13	24	LF	
	Serious	Good	Metal stair at west end of north elevation	Prep and paint metal stair landing, treads, and stringers	XAE.2	1	EA	
	Minor	Good	Guardrail	Prep and paint guardrail at northwest areaway		40	LF	
	Critical	Fair	Northeast and Northwest areaways	Remove debris and biological growth from northwest and northeast areaways floors and walls		3250	SF	
	Critical	Poor	Doors	Replace door and frame in northwest areaway with HM door and frame with transom, paint		1	EA	
	Serious	Fair	Northeast areaway	Remove guardrail from areaway perimeter	XC.1	100	LF	
	Serious	Fair	Northeast areaway	Cap areaway with sloped standing seam freedom gray roofing system over wood deck and framing	XC.1	570	SF	
	Serious	Fair	Northeast areaway	Reroute downspouts at northeast areaway to run along top of new areaway cap	XC.1	4	EA	
	Serious	Good	Metal stair at east end of north elevation	Replace metal egress stair with new metal egress stair that extends over areaway cap, include guardrails and handrails, paint	XC.1	1	EA	
	Critical	N/A	New east egress	Regrade slope at new east egress door location, provide concrete retaining wall (2'-0" tall x 8'-0" length) and concrete slab (5'-0"x5'-0")	XC.4	1	EA	
	Minor	Good	Sun porch	Remove egress stair		1	EA	
	Critical	Good	Sun porch	Remove concrete paving (675 SF), masonry screen wall (85 LF), metal gate (4'-0" wide), and associated plantings	XC.3 XAE.6	1	EA	
	Critical	Fair	Porte Cochere	Remove porte cochere and masonry retaining wall including brick masonry wall adjacent to building wall	XC.3 XAE.6	1400	SF	

	Critical	Fair	Porte Cochere	Remove concrete drive, sidewalks, and entry ramp	XC.3 XAE.4	4700	SF	
	Critical	N/A	South entry	Regrade south entry area (approximately 20" lower than existing at high point), create new concrete driveway with access at Spring Street and Laurel Street incorporating (2) accessible parking spaces, extend sidewalks along new driveway (area noted is approximate area of new concrete)	XC.2 XC.3	5400	SF	
	Critical	N/A	South entry	Regrade area of sun porch and create concrete landing at door and concrete accessible sloped walk (4% slope) down to parking elevation (300 SF concrete) (1200 SF regraded area)		300 1200	SF SF	
	Critical	N/A	South entry	Provide concrete landing and four steps with 6" risers and 12" treads at south entry doors		1	EA	
	Critical	N/A	South entry	Provide 6'-0" tall pre-finished aluminum louvered screen wall around mechanical equipment at west side of south entry.		60	LF	
	Critical	N/A	South entry	Reinstate lawn and provide new plantings in area disturbed by south entry work	XC.2	7000	SF	
	Critical	Fair	Site	Geotech study may be required for new parking area on south side of building. <i>Note: this is not a construction cost item but recommended for next design phase.</i>		--	--	

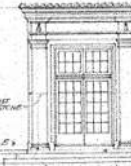
TREATMENT TABLES - ARCHITECTURAL EXTERIOR

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Treatment Checklist – Exterior Architectural

Uni-format WBC Code	Deficiency Rating	Condition Rating	Component – Exterior or Interior	Existing Condition	Reference	Qty	Unit	Total Cost or Allowance
Exterior								
	Serious	Fair	Roof: Tile	Replace damaged clay tile	XAE.1	20	EA	
	Critical	Fair	Roof: Flashing	Install additional flashing at stucco wall, around gutter Replace sealant at flashing	XAE.2	1 750	LF LF	
	Serious	Fair	Roof: Soffit + Eave	Replace damaged wood Repaint wood	XAE.3	10	SF SF	
	Critical	Poor	Roof: Drainage	Replace gutters Install additional flashing		220 2	LF LF	
	Critical	Poor	Chimney	Repaint Clean biological growth Remove and reseal copper flashing Clean out chimney interior Provide sheet metal chimney cap		300 100 20 1 30	SF SF LF EA SF	
	Serious	Fair	Skylight + Cupola	<i>Cupola weathered and dirty</i>				
	Critical		Walls	Repaint cracked and deteriorated paint surfaces Repair cracked stucco Repair spalling Repair previous stucco patches Clean stained walls	XAE.4	1700 75 3 5 3000	SF LF SF SF SF	
	Critical	Poor	Windows	See window schedule for scope of work				
	Critical	Poor	Doors	Refer to interior notes for door scope of work.				
	Serious	Fair	Louvers	Clean debris Repaint existing louvers Replace damaged vents		3 10	EA EA	
	Critical	Poor	Columns	Clean atmospheric and biological staining Repair hairline cracking	XAE.5	42 20	LF LF	
	Critical	Poor	Cast Stone	Repoint open joints Repair cracking Clean staining Repair exposed and rusted rebar and cast stone.	XAE.5	150 50 100 10	LF LF LF LF	

				Replace deteriorated cast stone Clean atmospheric & biological staining at benches Apply H100 consolidant/water-repellant to all of cast stone (2 applications)		10 2	LF EA SF	
	Serious	Fair	Lighting	Install new fixtures		12	EA	
	Critical	Poor	South Entry	Replace stucco at area of brick wall removal and paint		650	SF	
	Critical	---	South Entry	Recreate cast stone entry surround at south door		1	EA	

TREATMENT TABLES - ARCHITECTURAL INTERIOR

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Treatment Checklist – Architectural Interior								
Uni-format WBC Code	Deficiency Rating	Condition Rating	Component – Exterior or Interior	Treatment	Reference	Qty	Unit	Total Cost or Allow.
General								
	Critical	Poor	HazMat – Lead Paint			1	LS	Allowance \$45,000
	Critical	Poor	HazMat – Lead Pool Liners			1	LS	Allowance \$4,000
	Critical	Poor	HazMat – Asbestos			1	LS	Allowance \$10,000
	N/A	N/A	HazMat – Radon			1	LS	Allowance \$5,000
	Critical	Poor	HazMat – Pipe Removal			1	LF	Allowance \$45,000
Lower Level – Demolition								
	Minor	Poor	Selective Demolition - Flooring	Demo Tile Flooring (2 layers)		1900	SF	
	Minor	Poor	Selective Demolition - Flooring	Demo Tile Flooring (1 layers)		250	SF	
	Minor	Poor	Selective Demolition - Walls	Interior Walls (Clay Tile with Plaster)		228	LF	
	Minor	Poor	Selective Demolition – Wall Tile	Demo ceramic wall tile off existing walls to remain.		800	SF	
	Minor	Poor	Selective Demolition – Building Elements	Demo (2) pools, including pool decks, pools, stairs, pool accessories (Approximately 1900 SF)		1900	SF	
	Minor	Poor	Selective Demolition – Building Elements	Carefully remove marble toilet/shower partitions (total of 6)		6	EA	
	Minor	Poor	Selective Demolition -	Plaster Ceiling		400	SF	

			Ceiling					
	Minor	Poor	Selective Demolition - Pilasters	Remove pilasters on exterior walls of pool room, which includes plumbing piping.		4	EA	
	Minor	Poor	Selective Demolition – Interior Doors	Remove existing interior door frames and doors.		18	EA	
Room 100 – Lobby								
	Serious	Good	Floor and Base	Remove dirt and staining from quarry tile wall base and floor	XAI.1	1390	SF	
	Serious	Good	Base	Remove and replace damaged quarry tile wall base	XAI.1	10	EA	
	Critical	Fair	Walls	Remove paint from walls		1400	SF	
	Critical	Fair	Walls	Repair cracking in plaster		225	SF	
	Critical	Fair	Walls	Remove damaged plaster and replace	XAI.1	250	SF	
	Critical	Fair	Walls	Apply skim coat of plaster over all walls		1400	SF	
	Critical	Fair	Walls	Repaint all walls		1400	SF	
	Critical	Good	Trim	Remove water damaged wood built-up crown molding and replace	XAI.1	10	LF	
	Critical	Good	Trim	Repaint all wood built-up crown molding and drop beams		475	SF	
	Critical	Poor	Doors	Door 3/100: Remove hollow metal single door and frame and infill wall at stair		2	EA	
	Critical	Poor	Doors	Door 3/100: Refurbish gate, track, and hardware: remove surface corrosion and paint. Note: Fix gate in open position.		1	EA	
	Critical	Poor	Doors	Door 1/101: Replace hollow metal single door and frame		1	EA	
	Critical	Poor	Doors	Remove hollow metal double door frame, repair plaster at opening head and jambs		1	EA	
	Critical	Fair	Doors	Door 2/100: Replace aluminum single door and frame with transom. Provide pre-finished aluminum single-lite replacement door.		1	EA	
	Critical	Poor	Doors	Door 1/100: Replace aluminum double door and frame with transom. Provide pre-finished aluminum single-lite replacement doors.		1	EA	
	Critical	Poor	Ceiling	Install new GWB suspended ceiling	XAI.1	1335	SF	
	Critical	Poor	Ceiling	Paint GWB suspended ceiling		1335	SF	
	Critical	N/A	Lighting	Provide pendant hung architectural light fixtures		6	EA	
Room 100 – Stair								
	Serious	Fair	Marble stair	Remove non-slip material strips and staining	XAI.2	95	SF	
				Replace non-slip material strips		110	LF	
	Serious	Good	Quarry tile landings	Remove non-slip material strips and staining	XAI.2	60	SF	
	Critical	Fair	Walls	Patch damaged plaster	XAI.2	25	SF	
	Critical	Fair	Walls	Repaint all walls		800	SF	

	Serious	Good	Handrails	Replace wall-mounted handrails at stair to meet current code requirements		40	LF	
	Serious	N/A	Handrails	Provide post-mounted handrails at bottom run of stair		9	LF	
	Serious	Fair	Ceiling	Repaint ceiling		40	SF	
Within Lobby 100 - 101/102 - Archeologist								
				Construct new office walls and doors				
Within Lobby 100 - 118 – Cold Storage and Collection Supplies								
				Construct new office walls and doors				
Room 103 – Hallway								
	Minor	N/A	Floor	Install quarry tile		97	SF	
	Minor	N/A	Wall – Base	Install 6” quarry tile cove base		21	LF	
	Minor	N/A	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		440	SF	
	Minor	N/A	Paint	Prep, prime, and paint walls and ceiling.		527	SF	
	Minor	N/A	Ceiling	Install ½” gypsum board over existing plaster ceiling.		97	SF	
Room 104 – NPS Collection Storage								
	Minor	N/A	Floor	Install epoxy flooring.		888	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		140	LF	
	Minor	N/A	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		770	SF	
	Minor	N/A	Wall – New Wall	Fur out from existing exterior wall with 6” metal stud, 5/8” impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14’-0”)		70	LF	
	Minor	N/A	Wall – Double Door	Install hollow metal frame and metal double door.		1	EA	
	Minor	Poor	Wall – Historic Door and Sidelights	Make repairs to existing wood door and sidelights. Install minor wood repairs. Prep, prime, and paint. Replace existing door with a new wood door.				\$2500 Allowance
	Minor	N/A	Wall – Infill	Infill existing door opening on the east wall with metal studs, acoustical insulation, and 5/8” impact resistant gypsum.		24	SF	
	Minor	N/A	Paint	Prep, prime, and paint walls.		2,638	SF	
	Minor	Poor	Ceiling	Install suspended acoustical ceiling.		888	SF	
Room 105 – Mechanical								
	Minor	Fair	Floor	Seal existing concrete floor.		934	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		143	LF	
	Minor	N/A	Wall – Plaster Repairs	Make minor repairs to existing plaster walls		300	SF	Allowance
	Minor	N/A	Wall - New	Infill existing south door with large opening in the east wall. Infill shall be CMU masonry to maintain fire rating.		15	SF	
	Minor	N/A	Wall - Door	Install 90 min rated metal door and frame		1	EA	
	Minor	N/A	Paint	Prep, prime, and paint walls and ceiling.		2951	SF	

	Minor	N/A	Fire Rated Penetrations	All penetrations to the walls and ceiling shall have fire stops.					\$1000 Allowance
Room 106 – Toilets, Single-Shower, and Janitorial Closet									
	Minor	N/A	Floor	Install epoxy flooring.		274	SF		
	Minor	N/A	Wall – Base	Install 4” rubber base.		66	LF		
	Minor	Poor	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		726	SF		
	Minor	N/A	Wall – New Wall	Install 6” metal framing, 5/8” impact resistant gypsum board, and acoustic insulation. Wall to extend from slab to underside of deck.		29	LF		
	Minor	N/A	Wall – Paint	Prep, prime, and paint walls.		1,045	SF		
	Minor	N/A	Wall - Door	Install three (3) hollow metal doors and frames.		3	EA		
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		274	SF		
	Minor	N/A	Bathroom Accessories	Install (2) Toilet Paper Dispensers, (2) sets of ADA grab bars, (2) Sanitary-Napkin Disposal units, (2) Soap Dispensers, (2) Mirrors, (2) Baby Changing Stations, (2) Paper Tower and Trash Can, (2) Wall Hooks, (1) Stainless Steel Mop Holder					Allowance
Room 107 – Hallway									
	Minor	N/A	Floor	Install quarry tile		120	SF		
	Minor	N/A	Wall – Base	Install 6” quarry tile cove base		40	LF		
	Minor	N/A	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		572	SF		
	Minor	N/A	Paint	Prep, prime, and paint walls and ceiling.		692	SF		
	Minor	N/A	Ceiling	Install ½” gypsum board over existing plaster ceiling.		120	SF		
Room 108 – Hallway									
	Minor	N/A	Floor	Install quarry tile		93	SF		
	Minor	N/A	Wall – Base	Install 6” quarry tile cove base		27	LF		
	Minor	N/A	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		180	SF		
	Minor	N/A	Wall - New	Install 6” metal framing, 5/8” impact resistant gypsum board, and acoustic insulation. Wall to extend from slab to underside of deck.		20	LF		
	Minor	N/A	Paint	Prep, prime, and paint walls and ceiling.		492	SF		
	Minor	N/A	Ceiling	Install ½” gypsum board over existing plaster ceiling.		93	SF		
			Equipment	Install recessed fire extinguisher cabinet and fire extinguisher (total 3) throughout the lower level.		3	EA		
Room 109 – Washer and Dryer									
	Minor	N/A	Floor	Install epoxy flooring.		25	SF		
	Minor	N/A	Wall – Base	Install 4” rubber base.		16	LF		
	Minor	N/A	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		90	SF		
	Minor	N/A	Wall - New	Install 6” metal framing, 5/8” impact resistant gypsum board, and acoustic insulation. Wall to extend from slab to underside		4	LF		

				of deck.				
	Minor	N/A	Wall – Paint	Prep, prime, and paint walls.		176	SF	
	Minor	N/A	Wall – Double Door	Install hollow metal frame and metal double door.		1	EA	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		25	SF	
	Minor	N/A	Equipment	Install washer and dryer hook-ups				Allowance
Room 110 – Archeologist Tools								
	Minor	Poor	Floor	Install epoxy flooring.		150	SF	
	Minor	Poor	Wall – Base	Install 4” rubber base.		48	LF	
	Minor	Poor	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		322	SF	
	Minor	Poor	Wall - New	Install 6” metal framing, 5/8” impact resistant gypsum board, and acoustic insulation. Wall to extend from slab to underside of deck.		19.5	LF	
	Minor	Poor	Wall – Paint	Prep, prime, and paint walls.		594	SF	
	Minor	Poor	Wall – Double Door	Install hollow metal frame and metal double door.		1	EA	
	Minor	Poor	Ceiling	Install suspended acoustical ceiling.		150	SF	
Room 111 – Mechanical								
	Minor	Poor	Floor	Seal existing concrete floor.		660	SF	
	Minor	Poor	Wall – Base	Install 4” rubber base.		122	LF	
	Minor	Poor	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		56	SF	
	Minor	Poor	Paint	Prep, prime, and paint concrete walls and ceiling.		2,368	SF	
Room 112 – Elevator Equipment Room (2-hr Fire Rated)								
	Minor	Poor	Floor	Seal existing concrete floor.		94	SF	
	Minor	Poor	Wall – Base	Install 4” rubber base.		33	LF	
	Minor	Poor	Wall – New	Install new 2-hr fire rated walls		36	LF	
	Minor	Poor	Wall – Paint	Prep, prime and paint all walls		462	SF	
	Minor	Poor	Ceiling	Prep, prime, and paint concrete ceiling.		94	SF	
	Minor	Poor	Equipment	Install fire extinguisher		1	EA	
Room 113 – Collection Supplies								
	Minor	Poor	Floor	Install epoxy flooring.		111	SF	
	Minor	Poor	Wall – Base	Install 4” rubber base.		43	LF	
	Minor	Poor	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		320	SF	
	Minor	Poor	Wall – New	Install 6” metal framing, 5/8” impact resistant gypsum board, and acoustic insulation. Wall to extend from slab to underside of deck.		17	LF	
	Minor	Poor	Wall – Paint	Prep, prime and paint all walls		473	SF	
	Minor	Poor	Wall – Door	Install hollow metal doors and frames.		1	EA	
	Minor	Poor	Existing Counter	Make repairs to existing counter/pass-thru window				\$1200 Allowance

	Minor	Poor	Ceiling	Install suspended acoustical ceiling.		111	SF	
Room 114 – Hallway								
	Minor	Poor	Floor	Install quarry tile		110	SF	
	Minor	Poor	Wall – Base	Install 6” quarry tile cove base		15	LF	
	Minor	Poor	Wall - Wallpaper	Remove wallpaper from existing plaster walls		135	SF	
	Minor	Poor	Wall – Plaster	Make minor repairs to existing plaster		135	SF	
	Minor	Poor	Wall – Paint	Prep, prime and paint all walls and ceiling		245	SF	
	Minor	Poor	Elevator	Install new elevator within existing shaft.		1	EA	
	Minor	Poor	Ceiling	Install ½” gypsum board over existing plaster walls.		110	SF	
Room 115 – NPS Collection Storage								
	Minor	Poor	Floor	Install epoxy flooring.		2,758	SF	
	Minor	Poor	Wall – Base	Install 4” rubber base.		266	LF	
	Minor	Poor	Wall – Corner Guards	Install heavy duty corner guards (3 total)		3	EA	
	Minor	Poor	Wall – Paint	Prep, prime and paint all walls		2,926	SF	
	Minor	Poor	Wall – New	Fur out from existing exterior wall with 6” metal stud, 5/8” impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14’-0”)		247	LF	
	Minor	Poor	Wall – Double Door	Install hollow metal frame and metal double door.		1	EA	
	Minor	Poor	Wall – Window Coverings	Provide painted solid surface at windows (12 total at 8’-8” x 7’-0”) (3 total at 2’-3” x 2’-0”) (1 total at 6’-0” x 7’-0”)		16	EA	
	Minor	Poor	Columns	Fur around existing concrete (11’-0”), install 5/8” impact resistant gypsum. Prep, prime, and paint (7 total columns)		7	EA	
	Minor	Poor	Ceiling	Install suspended acoustical ceiling.		2,758	SF	
Room 116 – Isolation								
	Minor	Poor	Floor	Install epoxy flooring.		515	SF	
	Minor	Poor	Wall – Base	Install 4” rubber base.		92	LF	
	Minor	Poor	Wall – New	New 6” metal stud, 5/8” impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14’-0”)		1,012	SF	
	Minor	Poor	Wall – New	Fur out from existing exterior wall with 6” metal stud, 5/8” impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14’-0”)		26	LF	
	Minor	Poor	Wall – Paint	Prep, prime and paint all walls		65	LF	
	Minor	Poor	Wall – Double Door	Install hollow metal frame and metal double door.		1	EA	
	Minor	Poor	Ceiling	Install suspended acoustical ceiling.		515	SF	
Room 117 – In-Processing with Wet Lab								
	Minor	N/A	Floor	Install epoxy flooring.		516	SF	

	Minor	N/A	Wall – Base	Install 4” rubber base.		92	LF	
	Minor	N/A	Wall – New	New 6” metal stud, 5/8” impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14’-0”)		26	LF	
	Minor	N/A	Wall – New	Fur out from existing exterior wall with 6” metal stud, 5/8” impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14’-0”)		45.5	LF	
	Minor	Poor	Wall – Paint	Prep, prime and paint all walls		1,012	SF	
	Minor	Poor	Wall – Double Door	Install hollow metal frame and metal double door.		1	EA	
	Minor	Poor	Ceiling	Install suspended acoustical ceiling.		516	SF	
Upper Level – Demolition								
	Minor	Poor	Selective Demolition - Flooring	Demo Vinyl Flooring		546	SF	
	Minor	Poor	Selective Demolition - Flooring	Demo Tile Flooring (1 layers)		3,334	SF	
	Minor	Poor	Selective Demolition - Walls	Interior Walls (Clay Tile with Plaster)		247	LF	
			Selective Demolition – Glazed CMU	Interior Partitions (Glazed CMU)		135	LF	
	Minor	Poor	Selective Demolition – Wall Tile	Demo ceramic wall tile off existing walls to remain. Rooms 203, 205, 206, 210, and 214.		924	SF	
	Minor	Poor	Selective Demolition – Building Elements	Demo (7) pools, including pool decks, pools, stairs, pool accessories (Approximately 800 SF)		800	SF	
	Minor	Poor	Selective Demolition – Building Elements	Carefully remove marble toilet/shower partitions (total of 9). Rooms 211, 223, and 227.		9	EA	
	Minor	Poor	Selective Demolition – Building Elements	Carefully remove wood locker room partitions (total of 3)		3	EA	
	Minor	Poor	Selective Demolition – Building Elements	Remove attic access ladder		1	EA	
	Minor	Poor	Selective Demolition – Interior Doors	Remove existing interior door frames and doors. (Upper Level)		25	EA	
Upper Level – General								

	Critical	N/A	Equipment	Install recessed fire extinguisher cabinet and fire extinguisher (total 3) throughout the upper level.		3	EA.	
	Minor	Poor	Wall	Perimeter plaster wall repairs and locations where wall will not be furred.		1,355	SF	
	Minor	N/A	Wall	Miscellaneous exterior wall prep		800	SF	
		N/A	Wall - Signage	Provide room signage, exiting signage, and navigational signage				Allowance
	Minor	N/A	Ceiling	Repair open holes in existing plaster ceiling.		800	SF	
	Serious	Poor	Ceiling	Consider protective glazing on the topside of all laylights to prevent glass breakage				Allowance \$35,000
	Critical	Poor	Ceiling - Laylights	Clean and make minor repairs to existing laylights.				Allowance \$15,000
	Critical	Poor	Ceiling - Laylights	Replace (10) glazing panels within laylights.		10	EA.	Allowance \$6,000
Room 200 - Lobby								
	Minor	Good	Floor and Base	Remove dirt and staining from quarry tile wall base and floor	XAI.4	630	SF	
	Minor	Good	Base	Repair areas of deteriorated grout in quarry tile base and floor		50	SF	
	Critical	Poor	Walls	Remove paint from walls and ceiling		2100	SF	
	Critical	Poor	Walls	Repair cracking in plaster	XAI.3	50	LF	
	Critical	Poor	Walls	Remove damaged plaster and replace	XAI.4	100	SF	
	Critical	Poor	Walls	Apply skim coat of plaster over all walls		1500	SF	
	Critical	Poor	Walls	Repaint all walls		1500	SF	
	Minor	Fair	Walls	Remove staining from marble wall panels		25	SF	
	Serious	Fair	Trim	Repair crack in plaster crown molding		5	LF	
	Serious	Fair	Trim	Repaint plaster crown molding		98	SF	
	Minor	Good	Trim	Repaint wood sills and aprons at arched openings		15	SF	
	Critical	Poor	Doors	Replace exterior wood double doors (1, 2, and 3/200)	XAE.	3	EA	
	Critical	Poor	Doors	Repaint wood frames and transom windows		3	EA	
	Critical	Fair	Counter	Remove staining from marble reception counter facade		40	SF	
	Critical	Fair	Counter	Replace joint material between marble panels		10	LF	
	Critical	Fair	Counter	Refinish wood edge trim at countertop		14	LF	
	Critical	Poor	Ceiling	Remove plaster ceiling and ceiling mounted lighting and equipment	XAI.5	600	SF	
	Critical	Poor	Ceiling	Install new GWB suspended ceiling	XAI.5	600	SF	
	Critical	Poor	Ceiling	Paint GWB suspended ceiling		600	SF	
	Critical	N/A	Lighting	Provide pendant hung architectural light fixtures		6	EA	
Room 201 - Office								
	Critical	Poor	Base	Install new 6" tall wood base	XAI.6	44	LF	
	Critical	Poor	Walls	Remove wallpaper from walls	XAI.7	280	SF	
	Critical	Poor	Walls	Remove paint from walls	XAI.6	560	SF	

	Critical	Poor	Walls	Remove damaged plaster and replace	XAI.7	10	SF	
	Critical	Poor	Walls	Apply skim coat of plaster over all walls		560	SF	
	Critical	Poor	Walls	Repaint all walls		560	SF	
	Critical	Poor	Doors	Door 1/201: Replace hollow metal door and frame, paint		1	EA	
	Critical	Fair	Windows	See window schedule for scope		--	--	
	Critical	Fair	Counter	Refinish and repair wood cabinets: replace (2) missing drawers, repair veneer on (3) doors, replace (1) door, refurbish (5) cabinet latches, replace (1) latch		1	ALLOW	
	Critical	Poor	Flooring	Provide carpet flooring		155	SF	
	Critical	Poor	Ceiling	Replace plaster ceiling with suspended gypsum board ceiling	XAI.6	155	SF	
	Critical	Poor	Ceiling	Paint gypsum board ceiling	XAI.7	155	SF	
		N/A	Lighting	Provide pendant hung architectural light fixtures		2	EA	
Room 202 – Circulation & Flex								
	Minor	N/A	Floor	Install LVT flooring.		539	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		131	LF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		1,441	SF	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		539	SF	
	Critical	N/A	Equipment	Provide all accessories required for an area of rescue including signage, two-way communication, etc.		2	EA	
Room 203 – HOSP Archives & Map Room								
	Minor	N/A	Floor	Install epoxy flooring.		2,001	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		183	LF	
			Wall – Corner Guards	Install heavy duty corner guards (3 total)		3	EA	
	Minor	N/A	Wall – New	Fur out from existing exterior wall with 6” metal stud, 5/8” impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14’-0”)		138	LF	
	Minor	N/A	Wall – New	New 6” metal stud, 5/8” impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14’-0”)		45	LF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		2,013	SF	
	Minor	N/A	Wall – Double Door	Install hollow metal frame and metal double door.		1	EA	
	Critical	N/A	Wall – Windows	Provide painted solid surface at windows (15 total at 4’-0” x 4’-9”)		15	EA	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		2,001	SF	
Room 204 – NPS Collection Storage								
	Minor	N/A	Floor	Install epoxy flooring.		1,283	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		145	LF	
		N/A	Wall – Corner	Install heavy duty corner guards (1 total)		1	EA	

			Guards					
	Minor	N/A	Wall – New	Fur out from existing exterior wall with 6” metal stud, 5/8” impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14’-0”)		43.5	LF	
	Minor	N/A	Wall – New	New 6” metal stud, 5/8” impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14’-0”)		102	LF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		1595	SF	
	Minor	N/A	Wall – Double Door	Install hollow metal frame and metal double door.		1	EA	
	Critical	N/A	Wall – Windows	Provide painted solid surface at windows (7 total at 4’-0” x 4’-9”)		7	EA	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		1,283	SF	
Room 205 – Stair to Attic								
	Minor	N/A	Floor	Install epoxy flooring.		10	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		9	LF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		500	SF	
	Minor	N/A	Wall – Door	Install hollow metal doors and frames.		2	EA	
	Minor	N/A	Stairs	Construct a new metal stair to the attic. Include rubber treads and metal handrails.		1	EA	
	Minor	N/A	Wall – Storage Closet	Provide framing and gypsum board to create storage closet below stairs.		162	SF	
Room 206 – Circulation & Flex								
	Minor	N/A	Floor	Install LVT flooring.		579	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		177	LF	
		N/A	Wall – Corner Guards	Install heavy duty corner guards (9 total)		9	EA.	
	Minor	Poor	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		2,124	SF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		2,124	SF	
	Minor	N/A	Wall – Double Door	Install hollow metal frame and metal double door (North Wall).		1	EA.	
	Minor	N/A	Wall –Door	Install hollow metal frame and metal door (North Wall).		1	EA.	
	Minor	Poor	Ceiling	Making repairs to existing ceiling		579	SF	
Room 207 – Park Research Library								
	Minor	N/A	Floor	Install LVT flooring.		1,084	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		145	LF	
		N/A	Wall – Corner Guards	Install heavy duty corner guards (1 total)		1	EA	
	Minor	N/A	Wall – New	Fur out from existing exterior wall with 6” metal stud, 5/8” impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14’-0”)		68	LF	

	Minor	Poor	Wall – Gypsum	Install ½” gypsum board over existing plaster walls.		286	SF	
	Minor	N/A	Wall – New	New 6” metal stud, 5/8” impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14’-0”)		52	LF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		1740	SF	
	Minor	N/A	Wall – Double Door	Install hollow metal frame and metal double door.			EA	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		1,084	SF	
Room 208 – Museum Specialist								
	Minor	N/A	Floor	Install carpet tiles flooring.		217	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		64	LF	
			Wall – Corner Guards	Install heavy duty corner guards (1 total)		1	EA	
	Minor	N/A	Wall – New	New 6” metal stud, 5/8” impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14’-0”)		30	LF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		768	SF	
	Minor	N/A	Wall – Double Door	Install hollow metal frame and metal double door.		1	EA	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		217	SF	
Room 209 – Copy Area								
	Minor	N/A	Floor	Install LVT flooring.		113	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		40	LF	
	Minor	N/A	Wall – New	New 6” metal stud, 5/8” impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14’-0”)		43	LF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		602	SF	
	Minor	N/A	Wall – Door	Install hollow metal frame and metal door.		1	EA	
		N/A	Wall - Cabinets	Install base cabinets and upper cabinets		11.5	LF	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		113	SF	
Room 210 – Curator								
	Minor	N/A	Floor	Install carpet tiles flooring.		249	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		61	LF	
	Minor	N/A	Wall – New	New 6” metal stud, 5/8” impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14’-0”)		17	LF	
	Minor	Poor	Wall – Gypsum	Patch holes in existing plaster. Skim coat plaster.		165	SF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		896	SF	
	Minor	N/A	Wall – Door	Install hollow metal frame and metal door.		1	EA	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		249	SF	
Room 211 – Breakroom								
	Minor	N/A	Floor	Install LVT flooring.		199	SF	
	Minor	N/A	Wall – Base	Install 4” rubber base.		58	LF	
	Minor	N/A	Wall – New	New 6” metal stud, 5/8” impact resistant gypsum. Wall to		20	LF	

				extend from slab to underside of deck (roughly 14'-0")				
	Minor	Poor	Wall – Gypsum	Install ½" gypsum board over existing plaster walls.		10	LF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		854	SF	
	Minor	N/A	Wall – Door	Install hollow metal frame and metal door.		1	EA	
		N/A	Wall – Cabinets	Install base cabinets and upper cabinets		20	LF	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		199	SF	
Room 215 – Hall								
	Minor	N/A	Floor	Install 6" quarry tile		278	SF	
	Minor	N/A	Wall – Base	Install 6" quarry tile cove base		101	LF	
	Minor	N/A	Wall – Plaster	Patch holes in existing plaster. Skim coat plaster.		280	SF	
	Minor	N/A	Wall – Corner Guards	Install heavy duty corner guards (4 total)		4	EA	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		1796	SF	
	Minor	Poor	Ceiling – Plaster	Patch holes in existing plaster. Skim coat plaster.		278	SF	
Room 216 – Toilets and Janitorial								
	Minor	N/A	Floor	Install 6" quarry tile		254	SF	
	Minor	N/A	Wall – Base	Install 6" quarry tile cove base		148	LF	
		N/A	Wall – New	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0")		58	LF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		1,120	SF	
	Minor	N/A	Wall – Door	Install hollow metal frame and metal door.		3	EA	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		254	SF	
		N/A	Bathroom Accessories	Install (2) Toilet Paper Dispensers, (2) sets of ADA grab bars, (2) Sanitary-Napkin Disposal units, (2) Soap Dispensers, (2) Mirrors, (2) Baby Changing Stations, (2) Paper Tower and Trash Can, (2) Wall Hooks, (1) Stainless Steel Mop Holder				Allowance
Room 217 – Season Intern Office								
	Minor	N/A	Floor	Install 6" quarry tile		112	SF	
	Minor	N/A	Wall – Base	Install 6" quarry tile cove base		42	LF	
	Minor	Poor	Wall – New	Patch holes in existing plaster. Skim coat plaster.		252	SF	
	Minor	N/A	Wall – Paint	Prep, prime and paint all walls		588	SF	
	Minor	N/A	Wall – Door	Install hollow metal frame and metal door.		1	EA	
	Minor	N/A	Ceiling	Install suspended acoustical ceiling.		112	SF	
Room 218 – Men's Bath Hall – Interpretive Areas								
	Serious	Good	Floor	Remove debris and staining from hexagonal marble tile	XAI.8	470	SF	
	Critical	Poor	Tubs	Refurbish plumbing fixtures from corrosion and staining Replace damaged and missing plumbing components with elements to match original (knobs and stops)	XAI.8	6 6	EA EA	

							EA	
	Critical	Fair	Pools	Remove debris and staining from square tile pool floor and walls		355	SF	
	Critical	Fair	Pools	Repair bad patch at cracks in tile pool floors and walls		40	LF	
	Critical	Poor	Pools	Replace missing drain cover		2	EA	
				Refurbish overflow		2	EA	
				Replace missing pipe support pieces, escutcheon		4	EA	
	Critical	Poor	Walls - plaster	Remove paint from walls	XAI.9	960	SF	
	Critical	Poor	Walls - plaster	Repair cracking in plaster		65	LF	
	Critical	Poor	Walls - plaster	Remove damaged plaster and replace	XAI.9	200	SF	
	Critical	Poor	Walls - plaster	Apply skim coat of plaster over all walls	XAI.9	960	SF	
	Critical	Poor	Walls - plaster	Repaint all walls		960	SF	
	Critical	Fair	Walls - subway tile	Remove paint from tile wainscot		50	SF	
	Critical	Fair	Walls - subway tile	Remove dirt and staining from tile wainscot		800	SF	
	Critical	Fair	Walls - subway tile	Replace damaged tile	XAI.9	20	SF	
	Critical	Poor	Walls	Replace missing 2'-0" x 2'-6" painted metal grille in wall, match existing		1	EA	
	Critical	Poor	Windows	See window schedule for scope		--	--	
	Critical	Fair	Doors	Door 2/221: replace hollow metal door and frame		1	EA	
	Critical	Fair	Doors	Door 1/218: replace stile and rail single-lite door in existing frame, paint		1	EA	
	Critical	Fair	Doors	Doors 1/219 and 1/220: Repair wood door and frame, refinish, refurbish hardware including replace missing knobs		2	EA	
	Critical	Poor	Ceiling	Replace plaster ceiling with suspended gypsum board ceiling	XAI.10	1038	SF	
	Critical	Poor	Ceiling	Paint gypsum board ceiling		1038	SF	
		N/A	Lighting	Install restored antique or replica lighting		8	EA	
Room 219 – Toilet Room (Interpretive Area)								
	Critical	Fair	Floor	Remove debris and staining from hexagonal marble tile		95	SF	
	Critical	Poor	Walls - plaster	Remove paint from walls	XAI.11	320	SF	
	Critical	Poor	Walls - plaster	Repair cracking in plaster		65	LF	
	Critical	Poor	Walls - plaster	Remove damaged plaster and replace	XAI.11	96	SF	
	Critical	Poor	Walls - plaster	Apply skim coat of plaster over all walls		320	SF	
	Critical	Poor	Walls - plaster	Repaint all walls		320	SF	
	Critical	Fair	Walls - subway tile	Remove dirt and staining from tile wainscot	XAI.11	240	SF	
	Critical	Fair	Walls - subway tile	Replace damaged tile		20	SF	
	Critical	Fair	Ceiling	Replace plaster ceiling with suspended gypsum board ceiling		95	SF	
	Critical	Fair	Ceiling	Paint gypsum board ceiling		95	SF	
	Critical	Fair	Ceiling - lighting	Remove, salvage, and restore historic ceiling light fixture. Reinstall.		1	EA	
	Minor	Fair	Plumbing fixtures	Clean up plumbing fixtures and replace missing elements, next project phase should explore options for sealing drains	XAI.11	1	ALLOW	

	Minor	Fair	Toilet partitions	Remove staining and paint from marble toilet partitions, refurbish partition supports, replace missing toilet partition doors (marble) Note: Next project phase to review with park staff if there are items in storage that can be used to fit out toilet room		1	ALLOW	
Room 220 – Shower Room (Interpretive Area)								
	Critical	Poor	Floor	Replace hex marble tile in shower bases	XAI.12	36	SF	
	Critical	Poor	Floor	Rebuild subway tile clad shower curbs	XAI.12	11	LF	
	Critical	Fair	Floor	Remove debris and staining from hexagonal marble tile	XAI.12	90	SF	
	Critical	Fair	Walls – marble	Replace missing marble shower surrounds	XAI.13	3	EA	
	Critical	Poor	Walls - plaster	Remove paint from walls		400	SF	
	Critical	Poor	Walls - plaster	Repair cracking in plaster		10	LF	
	Critical	Poor	Walls - plaster	Remove damaged plaster and replace		55	SF	
	Critical	Poor	Walls - plaster	Apply skim coat of plaster over all walls		400	SF	
	Critical	Poor	Walls - plaster	Repaint all walls		400	SF	
	Critical	Fair	Walls - subway tile	Remove dirt and staining from tile wainscot		165	SF	
	Critical	Fair	Walls - subway tile	Replace damaged tile		10	SF	
	Critical	Fair	Ceiling	Replace plaster ceiling with suspended gypsum board ceiling		130	SF	
	Critical	Fair	Ceiling	Paint gypsum board ceiling		130	SF	
	Critical	Fair	Ceiling - lighting	Install restored antique or replica lighting		1	EA	
	Critical	Fair	Doors	Door 2/220: Repair HM door latch, paint door and frame		1	EA	
Elevator								
	Critical	Poor	Elevator	Refurbish existing elevator including replace interior finishes, replace lighting, replace railings, replace door thresholds, upgrade controls, replace exterior finishes, replace missing fascia above door, inspect and repair operating mechanisms. Replace all existing equipment.		1	EA	
Attic								
		Poor	Roof – Plaster Panels	Provide repairs to existing cementitious plaster panels at underside of roof.				Allowance \$9,000
	Critical	Poor	Attic – Floor	Install catwalks in attic for maintenance of HVAC				
		N/A	Attic	Scaffolding				Allowance \$3,500

TREATMENT TABLES - STRUCTURAL

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Treatment Checklist – Structural								
Uni-format WBC Code	Deficiency Rating	Condition Rating	Component – Exterior or Interior	Treatment	Reference	Qty	Unit	Total Cost
Structural								
	N/A	N/A	Geotechnical	Provide geotechnical study at perimeter to provide data on existing footings and soil capacity.		3	EA	
	N/A	N/A	Floor Structure	Take core samples in floor slabs to investigate potential for surface coat debonding or full delamination conditions, Rooms 202 and 207. Two (2) total 3” diameter core holes.		2	LS	
	Serious	Poor	Concrete Floor Framing	Overhead beam repairs. Contractor to chip away deteriorated, sound, and unsound concrete along the bottom of overhead concrete beams. Chipping concrete around existing reinforcing without damaging steel reinforcing. Repair preparation includes shotblasting clean existing reinforcing and application of rust inhibiting products. Concrete repairs may be shotcrete or hand troweled patching. Quantity based on linear quantity with the anticipation of 4” concrete removal from the bottom of a 12” wide concrete beam. Consider scaffolding costs for high ceilings.		150	LF	
	Serious	Poor	Concrete Floor Framing	Overhead partial depth slab repairs. Contractor will need to sound all overhead surfaces and perform repairs as described for overhead beam repairs, chipping away concrete and replacing for slab areas. Quantity based on square footage of an overhead repair 4” deep. Consider scaffolding costs for high ceilings.		300	SF	
	Serious	Poor	Concrete Floor Framing	Full depth slab repairs. Concrete repairs that require full depth removal and replacement. Repairs may be formed from underside and poured from above. Quantity based on square footage of a 6” thick slab. Individual repairs range in size from 1 to 60 square feet. Consider scaffolding costs for high ceilings.		375	SF	
	Serious	Poor	Concrete Floor	Top of slab installation of new reinforcing bars where existing		50	EA	

			Framing	reinforcing has been cut at floor penetrations. Repair method requires sawcutting into slab, parallel to existing reinforcing, and inserting a new bar into the slab.				
	Serious	Poor	Concrete Floor Framing	Bottom of slab installation of new reinforcing bars where existing reinforcing has been cut at floor penetrations. Repair method requires sawcutting into slab, parallel to existing reinforcing, and inserting a new bar into the slab.		50	EA	
	Serious	Poor	Concrete Floor Framing	Partial depth slab repairs. Perform localized slab repairs in Room 211 to remove bulge in floor. Quantity based on anticipated 3” deep removal and replacement of slab concrete.		24	SF	
	Serious	Poor	Concrete Floor Framing	Overhead epoxy injection for concrete slab cracks.		100	LF	
	Serious	Poor	Concrete Floor Framing	Top of slab epoxy injection for concrete slab cracks.		125	LF	
Structural Improvements								
	N/A	N/A	Supplemental Steel Framing	A preliminary sketch showing additional steel framing for the east wing has been provided for pricing only. This is to accommodate new high density storage in the east wing second level. Structural improvements include new footings installed below grade and supplementing existing footings. Installation of new concrete columns and pilasters, installation of structural steel beams.				
	N/A	N/A	Slab on Grade	Existing drawings show a 6” slab on grade. This would be sufficient for high density storage, provided that the rail spacing is not excessive. Recommend that the existing construction be verified; perform selective demolition to confirm depth of slab and ensure adequate compaction of subgrade. Sufficient to meet code minimum 1,500 psf.				
	Critical	Poor	Steel Framing – Roof	Structural Steel Roof Framing Repairs – Replace clips connecting steel rafters		100	EA	Allowance
	N/A	N/A	Attic	Provide structure for new lightweight catwalk for attic maintenance access.				

TREATMENT TABLES - MECHANICAL AND PLUMBING

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Treatment Checklist – Mechanical and Plumbing								
Uni-format WBC Code	Deficiency Rating	Condition Rating	Component – Exterior or Interior	Treatment	Reference	Qty	Unit	Total Cost
Mechanical								
	Minor	NA	Building Cooling	Provide new 65 ton air cooled chiller		1	EA	\$65,000 (equipment only)
	Minor	Poor	Building Cooling	Demo existing blower coil system and associated ductwork		1	LS	
	Minor	NA	Building Cooling	Provide 2 - 100% capacity each, variable primary, vertical in-line, floor mounted chilled water pumps.		2	EA	
	Minor	NA	Building Cooling	Provide chilled water accessories including air/dirt separator and quick and auto fill system and glycol fill system.		1	LS	
	Minor	NA	Building Cooling	Connect Schedule 40 black steel chilled water piping to chiller, chilled water pumps, air/dirt separator, air handling units and fan coil units		1	LS	
	Critical	Poor	Building Heating	Disconnect and remove 3 existing boilers and associated condensate pump, boiler blow down separator, flue piping and associated steam piping.		1	LS	
	Critical	Poor	Steam Heating Piping	Disconnect and remove remaining steam heating piping		1	EA	
	Critical	NA	Building Heating	Install 3 - 50% capacity each gas fired condensing boilers		3	EA	
	Critical	NA	Building Heating	Provide 3 - 50% capacity each, variable primary, vertical in-line heating water pumps.		3	EA	
	Critical	NA	Budling Heating	Provide heating water accessories including air/dirt separator and quick and auto fill system		1	LS	
	Critical	NA	Building Heating	Provide shell and tube heat exchanger to provide preheat of boiler return water utilizing thermal water.		1	EA	
	Critical	NA	Building Heating	Provide vertical in-line heat exchanger pump		1	EA	
	Critical	NA	Building Heating	Connect Schedule 40 black steel or Type L copper heating water piping to boilers, heating water pumps, air/dirt separator, air handling units, VAV boxes, fan coil units & unit heaters		1	LS	
	Serious	Poor	Air Conditioning	Disconnect and remove the existing air handling unit and all		1	LS	

				associated ductwork.				
	Serious	NA	Air Conditioning	Provide new air handling unit system, return fan and associated ductwork and constant volume boxes with hot water reheat coils to serve the archival spaces		1	6500 CFM	
	Serious	NA	Air Conditioning	Provide new air handling unit system, return fan and associated ductwork and VAV boxes with hot water reheat to serve the remainder of the occupied building spaces.		1	9000 CFM	
	NA	NA	Air Conditioning	Provide mini-split DX indoor unit and remote condensing unit for elevator equipment room		1	LS	
	Serious	Poor	Exhaust Systems	Provide inline exhaust fan and associated ductwork to serve the new janitor's closets and restrooms		1	LS	
Plumbing								
	Minor	Fair	Water Service	Other than the age of the pipe the service appears to be in good condition. Full evaluation will need to be done during schematic design.		1	LS	
	Serious	Fair	Water Service Backflow Preventer	Replace existing backflow preventer with new 3" RPZ backflow preventer with air gap fitting and drain piping		1	LS	
	Serious	NA	Water Service Backflow Preventer	Provide 4" floor drain in pit and associated waste and vent piping at backflow preventer location		1	LS	
	Minor	Poor	Domestic Water Heaters	Demo existing gas fired water heater and electric water heater and associated piping		2	EA	
			Domestic Hot Water	Provide high efficiency gas fired domestic water heater and associated hot water circulating pump		1	LS	
	Minor	Poor	Domestic Water Piping	Demo existing domestic water piping and replace with new copper piping extended to water heater, plumbing fixtures, hose bibbs and equipment.		1	LS	
	Minor	Poor	Sanitary Waste & Vent Piping	Demo existing above slab on grade waste and vent piping and provide new piping to and from plumbing fixtures, equipment, and floor drains		1	LS	
	Minor	Poor	Sanitary Waste and Vent Piping	Above grade piping shall be cast-iron no-hub piping. Piping below slab shall be either hub and spigot cast iron or Schedule 40 PVC.		1	LS	
	Minor	Poor	Sanitary Waste Piping	Scope existing below slab waste piping to determine the location, elevation, and condition of the existing piping. Piping should also be tested for mercury contamination. Determination of feasibility of using below slab waste piping can be made after completion of those tasks.		1	LS	
	Minor	Poor	Storm Water	Demo existing interior above grade and exterior storm water		1	LS	

			Piping	piping connected to the abandoned pools.				
	Critical	NA	Gas Service	Verify current gas service piping capacity with gas provider to serve the new boilers, water heater(s) and emergency engine generator and to provide new gas meter. Size incoming line to as required and connect to generator and existing 3” piping into the building.		1	LS	
	Critical		Gas Piping	Connect Schedule 40 black steel gas piping to new boilers and water heaters				
	Serious	Poor	Thermal Water Fountain - Ext	Determine source of service water leak at dispensing fountain and repair		1	LS	
	Serious	Poor	Thermal Waters - Ext	Replace the missing portion of downspout leader		1	3 FT	
	Minor	Fair	Thermal Water Piping - Int	Disconnect and remove all thermal water piping up to service entrance piping		1	LS	
	Minor	Fair	Areaway Drains	Replace existing areaway drains with new drains with beehive metal domes. Connect to new stormwater piping connected to city storm sewer piping.		3	EA	

TREATMENT TABLES - ELECTRICAL AND FIRE PROTECTION

Deficiency Ratings (Critical, Serious, Minor)

Condition Ratings (Good, Fair, Poor)

Libbey Treatment Checklist – Electrical and Fire Protection								
Uni-format WBC Code	Deficiency Rating	Condition Rating	Component – Exterior or Interior	Treatment	Reference	Qty	Unit	Total Cost
Electrical								
	Minor	Poor	Existing Conduit	Remove all unused and damaged conduit in building.		19,000	SF	
	Minor	Fair	Existing Electrical Service	Remove Existing Electrical Service and provide new. Refer to one-line diagrams, schedules, and plans.		1	1	
	Serious	Poor	Grounding electrode system	Furnish and install new grounding electrode system.		1	SF	
		NA	Generator	Furnish and install new natural gas generator. Generator to power the entire building. Refer to one-line diagrams, schedules, and plans.		1	SF	
		NA	Transfer Switches	Furnish and install three new emergency transfer switches.		3	EA	
		NA	Emergency Panel	Furnish and install new panelboard to serve new emergency lighting loads.		1	EA	
	Minor	Good	Temporary Panel	Disconnect and remove existing temporary connections.		19,000	SF	
		NA	Existing connections	Disconnect all existing mechanical equipment and other equipment in the building not required to remain.		1	LS	
	Minor	Fair	Remove existing panelboards	Remove all old panelboards in building.		1	LS	
	Serious	Poor	Interior wiring	Remove all damaged and unused wiring.		19,000	SF	
	Minor	good	Temporary Wiring	Remove all temporary wiring.		19,000	SF	
	Critical	Fair	Exit Signs	Furnish and install all new exit signs		1	LS	
	Critical	Fair	Emergency Lighting	Furnish and install all new interior emergency egress lighting.		1	SF	
	Serious	Fair	Exterior Egress Lighting	Furnish and install new emergency egress lighting.		1	SF	
	Minor	Fair	Normal Lighting	Furnish and install all new lighting throughout building.		1	SF	
		NA	Convenience receptacles	Furnish and install convenience power throughout the building.		1	SF	
	Minor	Fair	Security System	Furnish and install a new security system. Include door security for all exterior doors. Include door security for certain interior doors serving archive collection and archive storage areas.		1	SF	

		NA	Mechanical connections	Furnish and install connections to all new mechanical equipment.		1	SF	
		NA	Penetration seals	Furnish and install all seals throughout building as required.		1	SF	
		NA	Elevator connection.	Furnish and install new connections to new elevator.		1	SF	
	Minor	Fair	IT Service	Disconnect and remove existing IT service.		1	LS	
		NA	IT Service	Furnish and install IT connections throughout the building.		1	LS	
	Serious	NA	Arc Flash Label	Furnish and install arc flash labels for all electrical equipment.		1	LS	
Fire Protection								
	Critical	NA	Fire Alarm System	Furnish and install new fire alarm system.		19,000	SF	
		NA	Dry Pipe System	Furnish and install all connections to dry pipe fire protection serving attic.		1	SF	
		NA	Air Sampling fire protection system	Furnish and install VESDA fire protection system (or equal) to provide protection of collection and archive area.		1	SF	
	Critical	NA	Fire Suppression - Int	Install double interlock pre-action dry pipe sprinkler system for		8,500	SF	
	Critical	NA	Fire Suppression - Int	Install wet sprinkler system for remainder of building		8,500	SF	
	Critical	NA	Fire Suppression - Ext	Install new 6" fire water service to SW corner of building			LF	
	Critical		Fire Suppression - Int	Install new 6" double check backflow preventer in SW basement		1	LS	

APPENDIX I - REPLACEMENT WINDOW PRODUCT CUT SHEETS

SR6700 SERIES DATA SHEET

TYPE	AAMA RATING & TEST SIZE	VENT SIZE (inches)	AIR (cfm/ft ²) at 50 mph	WATER (psf)	DESIGN PRESSURE (psf)	STRUCTURAL OVERLOAD (psf)	U-VALUE (BTU/hr/ft ² /°F) ¹
CASEMENT	CW-PG90 36 x 60	34-½ x 58-½	0.03	12.11	40.10	60.15	0.42 – 0.50
AWNING	CW-PG100 60 x 36	58-½ x 34-½	0.01	12.11	100.25	150.38	0.43 – 0.51
FIXED	AW-PG110 60 x 99	N/A	0.01	12.11	110.28	165.41	0.28 – 0.37
FIXED WITH FLOATING VENT	CW-PG40 93 x 98	61-¾ x 37-¼	0.03	12.11	40.10	60.15	0.37 – 0.44

NOTE: The air infiltration and water resistance performance values provided above were achieved in a controlled lab environment. Performance of our products in the field will vary depending on product configurations, installation methods, and ambient conditions. AAMA 502 "Voluntary Specification for Field Testing of Newly Installed Fenestration Products" should be adhered to for testing installed products. | ¹ U-values will vary depending upon glazing selected

SR6700 SERIES QUICK VIEW:

The SR6700 steel replication window is designed to replicate the original steel windows used in many buildings. Available in fixed, projected and casement configurations. The innovative SR6700 Series window features a "floating vent", large openings and minimal sight lines.

STANDARD FEATURES

- 1" nominal TDL concave muntins & applied grids, replicates historic steel profiles
- Slim-line integral and fixed-stack mull for minimal sight-lines
- Floating vent design with 2" perimeter sight-line
- Stainless steel concealed hinges
- White bronze cam lock hardware
- Overlap of vent to frame for historic replication
- Concave exterior glazing leg
- Out-swing operation only
- Receptor and panning systems available for installation

OPTIONAL FEATURES

- Triple grids - simulated TDL muntins in conjunction with true muntins
- Vent limit devices
- Interior screens with wicket doors
- Receptor frame



Window series: SR6700 Steel Replica Projected/Fixed — General Specifications & Details

- Nominal Frame/Sill Wall Thickness: 0.125"
- Applications: Historic Replication
- Test Size (Fixed with Vent):
Overall: 93" x 98"
Vent: 61-¾" x 37-¼"
- Test Size (Fixed Only): 60" x 99"
- Test Size (Casement): 36" x 60"
- Glazing Options:
Simulated true divided lite
Insulating: 1" IG available
- Muntins: Between-the-glass muntins & true-divided lites available

- Finish Options:
AAMA 2603 — Standard acrylic or polyester
AAMA 2604 — 2 coat 50% fluoropolymer
AAMA 2605 — 2 coat fluoropolymer 70% kynar
Powder Coat
Anodized
- Hardware (Operable Units):
Hinges: 4-bar stainless steel
Lock/Latch: White bronze standard
- Accessories: Contact factory for availability
Frame Family: 3¾"
Fixed Lite Option System: SR6700
Mullions:
Stacking: Integral & fixed-stack mull
Side: 3-piece-mull
Panning: Available
Trims: Available
Receptor Systems: Available
- Exceptions: Call Graham sales rep or see website for more information.

Our products are tested to the standards of and certified by the American Architectural Manufacturer's Association and the National Fenestration Rating Council.



1400/S1400H SERIES DATA SHEET

TYPE	SERIES	AAMA RATING & TEST SIZE	AIR (cfm/ft ²) at 50 mph	WATER (psf)	DESIGN PRESSURE (psf)	STRUCTURAL OVERLOAD (psf)	U-VALUE (BTU/hr/ft ² /°F) ¹	CRF
FIXED	1400	AW-PG120 60 x 99	0.01	12.11	120.30	180.45	0.34 – 0.54	71
		FW-HC100 60 x 99	0.01	12.11	120.30	180.45	0.34 – 0.54	71
	S1400H	AW-PG100 60 x 99	0.01	12.11	100.25	150.38	0.35 – 0.53	60
	S1400H (offset)	AW-PG115 60 x 106	0.03	12.11	120.30	180.45	0.30 – 0.42	66

NOTE: The air infiltration and water resistance performance values provided above were achieved in a controlled lab environment. Performance of our products in the field will vary depending on product configurations, installation methods, and ambient conditions. AAMA 502 "Voluntary Specification for Field Testing of Newly Installed Fenestration Products" should be adhered to for testing installed products. | ¹ U-values will vary depending upon glazing selected

1400/S1400H SERIES QUICK VIEW:

This fixed window system mulls to fixed and operable products of the same frame depth.

STANDARD FEATURES

- Mulls to fixed and operable products of same frame depth
- Bead glazing up to 1" thick
- Coped corner construction

OPTIONAL FEATURES

- Dual windows combine two frames joined by thermal barrier; each frame may be single or dual glazed
- Dual-glazed split sash to permit use of high-performance glazing combinations & integral blinds
- True and exterior-applied muntin grids
- Radius shapes and custom curving to specification
- Sloped glazing leg option
- Thermal strut (S1400H) version available
- Dual finish (two-tone color) option (S1400H)
- Blast-resistant (B1400) and Hurricane-Resistant (HI1400) version available
- Offset simulated hung (S1400H)



1400 Fixed

S1400H Fixed

S1400H Fixed Offset

Window series: 1400/S1400H Fixed — General Specifications & Details

- Nominal Frame/Sill Wall Thickness: 0.062/.078"
- Applications: Industrial, Educational, Hospitals, and Acoustical
- Max. Test size: 5'0" x 8'3"
- Glazing Options:
 - Single Glazed: Available
 - Insulating: 1" IG available; also dual glazed options
 - Integral Mini-Blinds: Available on dual-glazed units
- Dual-Glazed Option:
 - Guardian™ option with interior access panels for cleaning and maintenance
- Muntins: Exterior-applied profile muntin grids available with glass thickness reduction

- Finish Options:
 - AAMA 2603 — Standard acrylic or polyester
 - AAMA 2604 — 2 coat 50% fluoropolymer
 - AAMA 2605 — 2 coat fluoropolymer 70% kynar
 - Powder Coat
 - Anodized
- Accessories:
 - Frame Family: 4"
 - Mullions:
 - Stacking: Integral & fixed-stack mull
 - Side: 3-piece-mull
 - Panning: Available
 - Trims: Available
 - Receptor Systems: Available
 - Screen: Security/vandal screen available
- Exceptions: Call Graham sales rep or see website for more information.

Our products are tested to the standards of and certified by the American Architectural Manufacturer's Association and the National Fenestration Rating Council.



APPENDIX J - COST ESTIMATE

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project: Condition Assessment and Treatment Plan for the Libbey Bathhouse
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS: 318915B
Estimate Date: 5/12/2022
Prepared By: Michael Orel, CPE
Company: CMR
Address: 11006 Parallel Parkway, Suite 200
City, State Zip: Kansas City, KS 66109
Phone: 913-262-6715

BACKGROUND SUPPORTING MATERIAL (Scope of Work):

Condition assessment and treatment plan for the Maurice Bathhouse. The NPS will make necessary facility improvements to prepare the structures for leasing by toothers. This will include repairs to architectural components and finishes; structural, mechanical, electrical, plumbing, and fire suppression systems upgrades; building code and life safety review; identification of remaining hazmat deficiencies, and accessibility upgrades per ABAAS.

SOURCE OF COST DATA:

Document all sources of cost information used in the estimate. (Attach additional information if necessary)

ESTIMATE ASSUMPTIONS:

Estimate assumes that all improvements will be constructed as a single project.

MAJOR CHANGES FROM PREVIOUS ESTIMATE:

N/A

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate

BASIS OF ESTIMATE

PROJECT INFORMATION

Project: Condition Assessment and Treatment Plan for the Libbey Bathhouse
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS: 318915B
Estimate Date: 5/12/2022

DESCRIPTION OF MARK-UP & ADD-ONS:

Location Factor:	<u>0.00%</u>	Utilized local prices
Remoteness Factor:	<u>1.00%</u>	Site is 50 miles from published commercial center.
Wage Rate Factor:	<u>0.00%</u>	Local prevailing wage rates were considered when preparing this estimate so no adjustments are needed
State & Local Taxes:	<u>9.50%</u>	Sales tax rate for Hot Springs Ark
Design Contingency:	<u>18.00%</u>	This is a pre-design level estimate
Standard. General Conditions:	<u>8.00%</u>	This type of project will require higher than normal general conditions.
Government General Conditions:	<u>6.50%</u>	This type of project will require higher than normal government general conditions.
Historic Preservation Factor:	<u>3.00%</u>	This project is historic in nature and will require a special attention to the historic fabric in the building
Contractor Overhead:	<u>8.50%</u>	Reasonable for this type of project
Contractor Profit:	<u>10.00%</u>	profit reasonable for a project of this size
Bonds and Permits:	<u>3.00%</u>	Reasonable for this type of project
Contracting Method Adjustment:	<u>15.00%</u>	Contracting method unknown and specialty contractors are required
Annual Inflation Escalation Factor:	<u>7.00%</u>	Projected annual inflation rate.
Time Until Project Midpoint (Months)	<u>20</u>	Number of months from estimate (or data) date until the projects midpoint of construction.

OTHER COMMENTS:

This estimate is based on the building being vacant and 100% available to the contractor with no phasing involved.

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate
PROJECT COST SUMMARY**

Project: Condition Assessment and Treatment Plan for the Libbey Bathhouse
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22

Reviewed By: AG
Date: 05/12/22

Asset / Project Element	Size/Count	Units
Asset / Project Element Name	19,000	SF

Item No.	WBS	Description	Material Cost/Unit	Total Material Cost	Installation Cost/Unit	Total Install Cost	Direct Cost/Unit	Total Direct Costs	NET Cost/Unit	Total NET Costs
1	A10	Foundations	\$ 0.55	\$ 10,400	\$ 2.42	\$ 46,000.00	\$ 2.97	\$ 56,400	\$ 6.79	\$ 128,929
2	A20	Basement Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3	B10	Superstructure	\$ 27.48	\$ 522,065	\$ 20.64	\$ 392,150.00	\$ 48.12	\$ 914,215	\$ 109.99	\$ 2,089,872
4	B20	Exterior Enclosure	\$ 27.57	\$ 523,778	\$ 7.78	\$ 147,865.00	\$ 35.35	\$ 671,643	\$ 80.81	\$ 1,535,360
5	B30	Roofing	\$ 0.85	\$ 16,170	\$ 0.83	\$ 15,775.00	\$ 1.68	\$ 31,945	\$ 3.84	\$ 73,025
6	C10	Interior Construction	\$ 11.04	\$ 209,749	\$ 5.27	\$ 100,140.50	\$ 16.31	\$ 309,890	\$ 37.28	\$ 708,400
7	C20	Stairs	\$ 1.09	\$ 20,750	\$ 0.51	\$ 9,625.00	\$ 1.60	\$ 30,375	\$ 3.65	\$ 69,436
8	C30	Interior Finishes	\$ 15.53	\$ 295,039	\$ 18.98	\$ 360,529.50	\$ 34.50	\$ 655,569	\$ 78.87	\$ 1,498,613
9	D10	Conveying Systems	\$ 5.26	\$ 100,000	\$ 2.63	\$ 50,000.00	\$ 7.89	\$ 150,000	\$ 18.05	\$ 342,896
10	D20	Plumbing Systems	\$ 4.29	\$ 81,525	\$ 4.19	\$ 79,575.00	\$ 8.48	\$ 161,100	\$ 19.38	\$ 368,271
11	D30	HVAC	\$ 24.23	\$ 460,350	\$ 15.31	\$ 290,900.00	\$ 39.49	\$ 750,250	\$ 90.27	\$ 1,715,053
12	D40	Fire Protection	\$ 5.86	\$ 111,375	\$ 6.33	\$ 120,325.00	\$ 12.19	\$ 231,700	\$ 27.88	\$ 529,660
13	D50	Electrical	\$ 27.91	\$ 530,250	\$ 21.79	\$ 414,100.00	\$ 49.70	\$ 944,350	\$ 113.62	\$ 2,158,760
14	E10	Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	E20	Furnishings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
16	F10	Special Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	F20	Selective Building Demolition	\$ -	\$ -	\$ 15.62	\$ 296,760.00	\$ 15.62	\$ 296,760	\$ 35.70	\$ 678,386
18	G10	Site Preparation	\$ 0.03	\$ 625	\$ 1.68	\$ 31,935.00	\$ 1.71	\$ 32,560	\$ 3.92	\$ 74,431
19	G20	Site Improvements	\$ 3.46	\$ 65,695	\$ 5.17	\$ 98,323.00	\$ 8.63	\$ 164,018	\$ 19.73	\$ 374,941
20	G30	Site Mechanical Utilities	\$ 1.37	\$ 26,000	\$ 2.20	\$ 41,800.00	\$ 3.57	\$ 67,800	\$ 8.16	\$ 154,989
21	G40	Site Electrical Utilities	\$ 11.39	\$ 216,350	\$ 1.93	\$ 36,580.00	\$ 13.31	\$ 252,930	\$ 30.43	\$ 578,192
22	G50	Other Site Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23	XX	Special Use - 1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
24	XX	Special Use - 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
25	XX	Special Use - 3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal Direct Construction Costs			\$ 167.90	\$ 3,190,121	\$ 133.28	\$ 2,532,383.00	\$ 301.13	\$ 5,721,504	\$ 688.38	\$ 13,079,215
Total Value of Government Furnished Property (GFP) Included in Direct Costs			\$ 0.00	\$ 0.00	\$ -	\$ -	\$ -	\$ 0	In most cases GFP is normally zero - see footnote-	
Direct Cost Subtotal without GFP			\$ 167.90	\$ 3,190,121	\$ 133.28	\$ 2,532,383.00	\$ 301.13	\$ 5,721,504		
Published Location Factor			0.00%					\$ 0	Notes & Comments:	
Remoteness Factor			1.00%					\$ 57,215		
Federal Wage Rate Factor			0.00%					\$ 0		
State & Local Taxes			9.50%					\$ 303,062		
Design Contingency			18.00%					\$ 1,029,871		
Total Direct Construction Costs								\$ 7,111,652		
Standard General Conditions			8.00%					\$ 568,932		
Government General Conditions			6.50%					\$ 462,257		
Historic Preservation Factor			3.00%					\$ 213,350		
Subtotal NET Construction Cost								\$ 8,356,191		
Overhead			8.50%					\$ 710,276		
Profit			10.00%					\$ 835,619		
Estimated NET Construction Cost								\$ 9,902,086		
Bonds & Permits			3.00%					\$ 297,063		
Contracting Method Adjustment			15.00%					\$ 1,485,313		
Inflation Escalation			20	Months	Annual Rate =	7.00%	Inc. Bonds & CMA	\$ 1,394,753		
Total Estimated NET Cost of Construction								\$ 13,079,215		

GFP costs are only used when the Government pre-purchases items, or provides other materials out of Government inventory, to be installed by contractor. Adjustments and Markup on GFP only include Inflation Escalation; No other adjustment factors or O&P markup have been applied.

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: Reviewer Name
 Date: Review Date

Summary Item **A10 Foundations**

Total Cost: \$56,400

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
A1010	STANDARD FOUNDATIONS								
	Take core samples in floor slabs to investigate potential for surface coat debonding or full delamination conditions, Rooms 202 and 207. Two (2) total 3" diameter core holes.	2	EA	\$ -	\$0	\$ 1,500.00	\$3,000	\$ 1,500.00	\$3,000
	Column footings for additional floor framing	36	EA	\$ 150.00	\$5,400	\$ 500.00	\$18,000	\$ 650.00	\$23,400
	Geotechnical Investigation for sizing footings.	1	LS	\$ -	\$0	\$15,000.00	\$15,000	\$ 15,000.00	\$15,000
SUBTOTAL	STANDARD FOUNDATIONS	19000	SF	\$ 0.28	\$5,400	\$ 1.89	\$36,000	\$ 2.18	\$41,400

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
A1030	SLAB ON GRADE								
	Demo and Patch Slab for Plumbing Rough-Ins ALLOW	1	LS	\$ 5,000.00	\$5,000	\$ 10,000.00	\$10,000	\$ 15,000.00	\$15,000
SUBTOTAL	SLAB ON GRADE	19000	SF	\$ 0.26	\$5,000	\$ 0.53	\$10,000	\$ 0.79	\$15,000

Summary Item **A10 Foundations**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
A10	Foundations	19000	SF	\$ 0.55	\$10,400	\$ 2.42	\$46,000	\$ 2.97	\$56,400

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/02/22

Summary Item **B10 Superstructure**

Total Cost: \$914,215

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
B1010	FLOOR CONSTRUCTION								
	Overhead beam repairs.	150	LF	\$ 60.00	\$9,000	\$ 100.00	\$15,000	\$ 160.00	\$24,000
	Overhead partial depth slab repairs	300	SF	\$ 60.00	\$18,000	\$ 100.00	\$30,000	\$ 160.00	\$48,000
	Full depth slab repairs.	375	SF	\$ 70.00	\$26,250	\$ 100.00	\$37,500	\$ 170.00	\$63,750
	Top of slab installation of new reinforcing bars where existing reinforcing has been cut at floor penetrations.	50	EA	\$ 25.00	\$1,250	\$ 225.00	\$11,250	\$ 250.00	\$12,500
	Bottom of slab installation of new reinforcing bars where existing reinforcing has been cut at floor penetrations	50	EA	\$ 25.00	\$1,250	\$ 275.00	\$13,750	\$ 300.00	\$15,000
	Partial depth slab repairs	24	SF	\$ 60.00	\$1,440	\$ 100.00	\$2,400	\$ 160.00	\$3,840
	Overhead epoxy injection for concrete slab cracks.	100	LF	\$ 15.00	\$1,500	\$ 50.00	\$5,000	\$ 65.00	\$6,500
	Top of slab epoxy injection for concrete slab cracks.	125	LF	\$ 15.00	\$1,875	\$ 50.00	\$6,250	\$ 65.00	\$8,125
	Additional steel framing for the east wing	32	Ton	\$ 8,500.00	\$272,000	\$ 4,500.00	\$144,000	\$13,000.00	\$416,000
	Columns for Floor support	5	Ton	\$ 8,500.00	\$42,500	\$ 4,500.00	\$22,500	\$13,000.00	\$65,000
	Additional steel framing for south	16	Ton	\$ 8,500.00	\$136,000	\$ 4,500.00	\$72,000	\$13,000.00	\$208,000
	Attic catwalk	700	SF	\$ 15.00	\$10,500	\$ 25.00	\$17,500	\$ 40.00	\$28,000
SUBTOTAL	FLOOR CONSTRUCTION	1000	SF	\$ 521.57	\$521,565	\$ 377.15	\$377,150	\$ 898.72	\$898,715

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
B1020	ROOF CONSTRUCTION								
	Repair Missing clips	100	LS	\$ 5.00	\$500	\$ 150.00	\$15,000	\$ 155.00	\$15,500
SUBTOTAL	ROOF CONSTRUCTION	19000	SF	\$ 0.03	\$500	\$ 0.79	\$15,000	\$ 0.82	\$15,500

Summary Item **B10 Superstructure**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
B10	Superstructure	19000	SF	\$ 27.48	\$522,065	\$ 20.64	\$392,150	\$ 48.12	\$914,215

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: AG
 Date: 05/12/22

Summary Item **B20 Exterior Enclosure**

Total Cost: \$671,643

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
B2010	EXTERIOR WALLS								
	Replace damaged wood and Repaint	10	SF	\$ 8.00	\$80	\$ 30.00	\$300	\$ 38.00	\$380
	Repaint Chimney	300	SF	\$ 5.00	\$1,500	\$ 6.50	\$1,950	\$ 11.50	\$3,450
	Clean biological growth	100	SF	\$ 5.00	\$500	\$ 4.50	\$450	\$ 9.50	\$950
	Remove and reseal copper flashing	20	LF	\$ 40.00	\$800	\$ 100.00	\$2,000	\$ 140.00	\$2,800
	Clean out chimney interior	1	EA	\$ -	\$0	\$ 520.00	\$520	\$ 520.00	\$520
	Provide sheet metal chimney cap	30	SF	\$ 35.00	\$1,050	\$ 45.00	\$1,350	\$ 80.00	\$2,400
	Repaint cracked and deteriorated paint surfaces	1700	SF	\$ 1.00	\$1,700	\$ 2.25	\$3,825	\$ 3.25	\$5,525
	Repair cracked stucco walls	75	LF	\$ 2.00	\$150	\$ 10.00	\$750	\$ 12.00	\$900
	Repair spalling	3	SF	\$ 30.00	\$90	\$ 125.00	\$375	\$ 155.00	\$465
	Repair previous stucco patches	5	SF	\$ 50.00	\$250	\$ 125.00	\$625	\$ 175.00	\$875
	Clean stained walls	3000	SF	\$ -	\$0	\$ 2.00	\$6,000	\$ 2.00	\$6,000
	Repaint existing louvers	3	EA	\$ 50.00	\$150	\$ 150.00	\$450	\$ 200.00	\$600
	Replace damaged vents	10	EA	\$ 150.00	\$1,500	\$ 125.00	\$1,250	\$ 275.00	\$2,750
	Clean atmospheric and biological staining	42	LF	\$ 5.00	\$210	\$ 20.00	\$840	\$ 25.00	\$1,050
	Repair hairline cracking	20	LF	\$ 1.00	\$20	\$ 10.00	\$200	\$ 11.00	\$220
	Repoint open joints	150	LF	\$ 1.00	\$150	\$ 10.00	\$1,500	\$ 11.00	\$1,650
	Repair cracking	50	LF	\$ 1.00	\$50	\$ 10.00	\$500	\$ 11.00	\$550
	Clean staining	100	LF	\$ 5.00	\$500	\$ 10.00	\$1,000	\$ 15.00	\$1,500
	Repair exposed and rusted rebar and cast stone.	10	LF	\$ 35.00	\$350	\$ 50.00	\$500	\$ 85.00	\$850
	Replace deteriorated cast stone	10	LF	\$ 125.00	\$1,250	\$ 650.00	\$6,500	\$ 775.00	\$7,750
	Clean atmospheric & biological staining at benches	2	EA	\$ 250.00	\$500	\$ 350.00	\$700	\$ 600.00	\$1,200
	Apply H100 consolidant/water-repellant to all of cast stone	1200	SF	\$ 2.00	\$2,400	\$ 1.50	\$1,800	\$ 3.50	\$4,200
	Replace stucco at area of brick wall removal and paint	650	SF	\$ 0.25	\$163	\$ 5.00	\$3,250	\$ 5.25	\$3,413
	Recreate cast stone entry surround at south door	1	EA	\$ 45,000.00	\$45,000	\$ 5,000.00	\$5,000	\$ 50,000.00	\$50,000
SUBTOTAL	EXTERIOR WALLS	19000	SF	\$ 3.07	\$58,363	\$ 2.19	\$41,635	\$ 5.26	\$99,998

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item **B20 Exterior Enclosure**

Total Cost: \$671,643

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
B2020	EXTERIOR WINDOWS								
	Modify opening and replace glass block with HM double door and frame for loading, provide wood trim	1	EA	\$ 6,500.00	\$6,500	\$ 2,600.00	\$2,600	\$ 9,100.00	\$9,100
	Modify opening for new HM egress door and frame	1	EA	\$ 4,500.00	\$4,500	\$ 2,600.00	\$2,600	\$ 7,100.00	\$7,100
	New fixed casement window to match historic 4'x5'	53	EA	\$ 3,600.00	\$190,800	\$ 1,040.00	\$55,120	\$ 4,640.00	\$245,920
	New fixed casement window with transom to match historic, provide interior wood trim, stool, and apron 2'10x8'4	1	EA	\$ 4,860.00	\$4,860	\$ 1,040.00	\$1,040	\$ 5,900.00	\$5,900
	New fixed casement window with transom to match historic, provide interior wood trim, stool, and apron 6'4x8'6	2	EA	\$ 9,945.00	\$19,890	\$ 1,040.00	\$2,080	\$ 10,985.00	\$21,970
	New fixed DH window to match historic 2'10x5'0	6	EA	\$ 2,002.50	\$12,015	\$ 1,040.00	\$6,240	\$ 3,042.50	\$18,255
	New fixed DH window to match historic - apply opaque film on interior of glass, replace interior wood trim, stool, and apron 2'6"x5'	1	EA	\$ 1,875.00	\$1,875	\$ 1,560.00	\$1,560	\$ 3,435.00	\$3,435
	New fixed DH window to match historic, replace interior wood trim, stool, and apron 3'6"x7'3"	1	EA	\$ 3,937.50	\$3,938	\$ 1,560.00	\$1,560	\$ 5,497.50	\$5,498
	New fixed DH window to match historic, three sashes mullied together - apply opaque film on interior of glass, replace interior wood trim, stool, and apron 9'x7'3"	7	EA	\$ 10,125.00	\$70,875	\$ 1,040.00	\$7,280	\$ 11,165.00	\$78,155
	New fixed DH window to match historic, two sashes mullied together, replace interior wood trim, stool, and apron 5'8x7'3	3	EA	\$ 6,208.65	\$18,626	\$ 1,040.00	\$3,120	\$ 7,248.65	\$21,746
	New fixed double hung window with transom to match historic, provide interior wood trim, stool, and apron 2'6x5'	2	EA	\$ 1,875.00	\$3,750	\$ 1,040.00	\$2,080	\$ 2,915.00	\$5,830
	New fixed window to match historic 2'10"x2'3"	3	EA	\$ 1,125.00	\$3,375	\$ 1,040.00	\$3,120	\$ 2,165.00	\$6,495
	New fixed window to match historic, provide interior wood trim, stool, and apron 3'3"x3'3"	1	EA	\$ 1,837.50	\$1,838	\$ 1,040.00	\$1,040	\$ 2,877.50	\$2,878
	No window - mechanical louver	1	EA	\$ -	\$0	\$ 1,040.00	\$1,040	\$ 1,040.00	\$1,040

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item	B20 Exterior Enclosure	Total Cost: \$671,643							
	Replace glass block with new fixed DH window to match historic, three sashes mulled together, replace interior wood trim, stool, and apron 9'x7'	8	EA	\$ 9,450.00	\$75,600	\$ 1,040.00	\$8,320	\$ 10,490.00	\$83,920
	Replace glass block with new fixed DH window to match historic, two sashes mulled together, replace interior wood trim, stool, and apron 6'x7'	2	EA	\$ 6,300.00	\$12,600	\$ 1,040.00	\$2,080	\$ 7,340.00	\$14,680
SUBTOTAL	EXTERIOR WINDOWS	19000	SF	\$ 22.69	\$431,041	\$ 5.31	\$100,880	\$ 28.00	\$531,921

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
B2030	EXTERIOR DOORS								
	Door 2/107 Replace door and frame in areaway with HM door and frame with transom, paint	1	EA	\$ 2,250.00	\$2,250	\$ 650.00	\$650	\$ 2,900.00	\$2,900
	Door 2/100: Replace aluminum single door and frame with transom. Provide pre-finished aluminum single-lite replacement door. Room 100	1	EA	\$ 3,250.00	\$3,250	\$ 750.00	\$750	\$ 4,000.00	\$4,000
	Door 1/100: Replace aluminum double door and frame with transom. Provide pre-finished aluminum single-lite replacement doors. Room 100	1	EA	\$ 3,250.00	\$3,250	\$ 750.00	\$750	\$ 4,000.00	\$4,000
	Replace exterior (non-historic) window	1	EA	\$ 2,500.00	\$2,500	\$ 500.00	\$500	\$ 3,000.00	\$3,000
	Replace exterior wood double doors Room 200	3	EA	\$ 4,500.00	\$13,500	\$ 300.00	\$900	\$ 4,800.00	\$14,400
	Repaint transom windows Room 200	3	EA	\$ 125.00	\$375	\$ 150.00	\$450	\$ 275.00	\$825
	Door 2/220: Repair HM door latch, paint door and frame Room 220	1	EA	\$ 2,250.00	\$2,250	\$ 350.00	\$350	\$ 2,600.00	\$2,600
	Door 1/105 Replace Exterior HM Door, Frame. Hardware	1	EA	\$ 3,500.00	\$3,500	\$ 500.00	\$500	\$ 4,000.00	\$4,000
	Door 1/202 Replace Exterior HM Door, Frame. Hardware	1	EA	\$ 3,500.00	\$3,500	\$ 500.00	\$500	\$ 4,000.00	\$4,000
SUBTOTAL	EXTERIOR DOORS	19000	SF	\$ 1.81	\$34,375	\$ 0.28	\$5,350	\$ 2.09	\$39,725

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
B20	Exterior Enclosure	19000	SF	\$ 27.57	\$523,778	\$ 7.78	\$147,865	\$ 35.35	\$671,643

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: AG
 Date: 05/12/22

Summary Item **B30 Roofing**

Total Cost: \$31,945

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
B3010	ROOF COVERINGS								
	Cap areaway with sloped standing seam copper roofing system over wood deck and framing	570	SF	\$ 10.00	\$5,700	\$ 15.00	\$8,550	\$ 25.00	\$14,250
	Replace damaged clay tile	20	EA	\$ 150.00	\$3,000	\$ 75.00	\$1,500	\$ 225.00	\$4,500
	Install additional flashing at stucco wall, around gutter	1	LS	\$ 40.00	\$40	\$ 1,200.00	\$1,200	\$ 1,240.00	\$1,240
	Replace sealant at flashing	750	LF	\$ 1.00	\$750	\$ 2.50	\$1,875	\$ 3.50	\$2,625
	Replace gutters	220	LF	\$ 30.00	\$6,600	\$ 7.50	\$1,650	\$ 37.50	\$8,250
	Install additional flashing	2	LF	\$ 40.00	\$80	\$ 500.00	\$1,000	\$ 540.00	\$1,080
SUBTOTAL	ROOF COVERINGS	19000	SF	\$ 0.85	\$16,170	\$ 0.83	\$15,775	\$ 1.68	\$31,945

Summary Item **B30 Roofing**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
B30	Roofing	19000	SF	\$ 0.85	\$16,170	\$ 0.83	\$15,775	\$ 1.68	\$31,945

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Lib
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item C10 Interior Construction

Total Cost: \$309,890

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C1010	INTERIOR PARTITIONS								
	Infill existing south door with large opening in the east wall. Infill shall be cmu masonry to maintain fire rating. Room 105	15	SF	\$ 15.00	\$225	\$ 25.00	\$375	\$ 40.00	\$600
	Install 1/2" gypsum board over existing plaster walls. Room 106	726	SF	\$ 5.00	\$3,630	\$ 2.00	\$1,452	\$ 7.00	\$5,082
	Install 6" metal framing, 5/8" impact resistant gypsum board, and acoustic insulation. Wall to extend from slab to underside of deck. Room 106	29	LF	\$ 6.00	\$174	\$ 9.00	\$261	\$ 15.00	\$435
	Install 1/2" gypsum board over existing plaster walls. Room 107	572	SF	\$ 5.00	\$2,860	\$ 2.00	\$1,144	\$ 7.00	\$4,004
	Install 1/2" gypsum board over existing plaster ceiling. Room 107	120	SF	\$ 5.00	\$600	\$ 2.00	\$240	\$ 7.00	\$840
	Install 1/2" gypsum board over existing plaster walls. Room 108	180	SF	\$ 5.00	\$900	\$ 2.00	\$360	\$ 7.00	\$1,260
	Install 6" metal framing, 5/8" impact resistant gypsum board, and acoustic insulation. Wall to extend from slab to underside of deck. Room 108	20	LF	\$ 6.00	\$120	\$ 9.00	\$180	\$ 15.00	\$300
	Install 1/2" gypsum board over existing plaster ceiling. Room 108	93	SF	\$ 5.00	\$465	\$ 2.00	\$186	\$ 7.00	\$651
	Install 1/2" gypsum board over existing plaster walls. Room 109	90	SF	\$ 5.00	\$450	\$ 2.00	\$180	\$ 7.00	\$630
	Install 6" metal framing, 5/8" impact resistant gypsum board, and acoustic insulation. Wall to extend from slab to underside of deck. Room 109	4	LF	\$ 6.00	\$24	\$ 9.00	\$36	\$ 15.00	\$60
	Install 1/2" gypsum board over existing plaster walls. Room 110	322	SF	\$ 5.00	\$1,610	\$ 2.00	\$644	\$ 7.00	\$2,254
	Install 6" metal framing, 5/8" impact resistant gypsum board, and acoustic insulation. Wall to extend from slab to underside of deck. Room 110	19.5	LF	\$ 6.00	\$117	\$ 9.00	\$176	\$ 15.00	\$293
	Install 1/2" gypsum board over existing plaster walls. Room 111	56	SF	\$ 5.00	\$280	\$ 2.00	\$112	\$ 7.00	\$392
	Install new 2-hr fire rated walls Room 112	36	LF	\$ 12.00	\$432	\$ 8.00	\$288	\$ 20.00	\$720

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Lib
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item	C10 Interior Construction	Total Cost: \$309,890							
	Install 1/2" gypsum board over existing plaster walls. Room 113	320	SF	\$ 5.00	\$1,600	\$ 2.00	\$640	\$ 7.00	\$2,240
	Install 6" metal framing, 5/8" impact resistant gypsum board, and acoustic insulation. Wall to extend from slab to underside of deck. Room 113	17	LF	\$ 6.00	\$102	\$ 9.00	\$153	\$ 15.00	\$255
	Install 1/2" gypsum board over existing plaster walls. Room 114	110	SF	\$ 5.00	\$550	\$ 2.00	\$220	\$ 7.00	\$770
	Fur out from existing exterior wall with 6" metal stud, 5/8" impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14'-0") Room 115	247	LF	\$ 70.00	\$17,290	\$ 9.00	\$2,223	\$ 79.00	\$19,513
	Fur around existing concrete (11'-0"), install 5/8" impact resistant gypsum. Prep, prime, and paint (7 total columns) Room 115	7	EA	\$ 440.00	\$3,080	\$ 200.00	\$1,400	\$ 640.00	\$4,480
	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0") Room 116	1,012	SF	\$ 8.00	\$8,096	\$ 6.00	\$6,072	\$ 14.00	\$14,168
	Fur out from existing exterior wall with 6" metal stud, 5/8" impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14'-0") Room 116	26	LF	\$ 70.00	\$1,820	\$ 9.00	\$234	\$ 79.00	\$2,054
	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0") Room 117	26	LF	\$ 8.00	\$208	\$ 6.00	\$156	\$ 14.00	\$364
	Fur out from existing exterior wall with 6" metal stud, 5/8" impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14'-0") Room 117	45.5	LF	\$ 70.00	\$3,185	\$ 9.00	\$410	\$ 79.00	\$3,595
	Fur out from existing exterior wall with 6" metal stud, 5/8" impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14'-0") Room 203	138	LF	\$ 70.00	\$9,660	\$ 9.00	\$1,242	\$ 79.00	\$10,902
	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0") Room 203	45	LF	\$ 8.00	\$360	\$ 6.00	\$270	\$ 14.00	\$630
	Fur out from existing exterior wall with 6" metal stud, 5/8" impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14'-0") Room 204	43.5	LF	\$ 70.00	\$3,045	\$ 9.00	\$392	\$ 79.00	\$3,437

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Lib
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item	C10 Interior Construction	Total Cost: \$309,890							
	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0") Room 204	102	LF	\$ 8.00	\$816	\$ 6.00	\$612	\$ 14.00	\$1,428
	Provide framing and gypsum board to create storage closet below stairs. Room 205	162	SF	\$ 15.00	\$2,430	\$ 6.00	\$972	\$ 21.00	\$3,402
	Install 1/2" gypsum board over existing plaster walls. Room 206	2,124	SF	\$ 5.00	\$10,620	\$ 2.00	\$4,248	\$ 7.00	\$14,868
	Fur out from existing exterior wall with 6" metal stud, 5/8" impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (DI roughly 14'-0") Room 207	68	LF	\$ 70.00	\$4,760	\$ 9.00	\$612	\$ 79.00	\$5,372
	Install 1/2" gypsum board over existing plaster walls. Room 207	286	SF	\$ 5.00	\$1,430	\$ 2.00	\$572	\$ 7.00	\$2,002
	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0") Room 207	52	LF	\$ 8.00	\$416	\$ 6.00	\$312	\$ 14.00	\$728
	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0") Room 208	30	LF	\$ 8.00	\$240	\$ 6.00	\$180	\$ 14.00	\$420
	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0") Room 209	43	LF	\$ 8.00	\$344	\$ 6.00	\$258	\$ 14.00	\$602
	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0") Room 210	17	LF	\$ 8.00	\$136	\$ 6.00	\$102	\$ 14.00	\$238
	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0") Room 211	20	LF	\$ 8.00	\$160	\$ 6.00	\$120	\$ 14.00	\$280
	Install 1/2" gypsum board over existing plaster walls. Room 211	10	LF	\$ 5.00	\$50	\$ 2.00	\$20	\$ 7.00	\$70
	New 6" metal stud, 5/8" impact resistant gypsum. Wall to extend from slab to underside of deck (roughly 14'-0") Room 216	58	LF	\$ 8.00	\$464	\$ 6.00	\$348	\$ 14.00	\$812
SUBTOTAL	INTERIOR PARTITIONS	19000	SF	\$ 4.36	\$82,749	\$ 1.44	\$27,401	\$ 5.80	\$110,150

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Lib
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item **C10 Interior Construction**

Total Cost: \$309,890

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C1020	INTERIOR DOORS								
	Door 3/100: Remove hollow metal single door and frame and infill wall at stair Room 100	2	EA	\$ 2,250.00	\$4,500	\$ 350.00	\$700	\$ 2,600.00	\$5,200
	Door 3/100: Refurbish gate, track, and hardware: remove surface corrosion and paint. Note: Fix gate in open position. Room 100	1	EA	\$ 1,500.00	\$1,500	\$ 500.00	\$500	\$ 2,000.00	\$2,000
	Door 1/101: Replace hollow metal single door and frame Room 100	1	EA	\$ 2,250.00	\$2,250	\$ 350.00	\$350	\$ 2,600.00	\$2,600
	Remove hollow metal double door frame, repair plaster at opening head and jambs Room 100	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Replace hollow metal door and frame Room 201	1	EA	\$ 2,500.00	\$2,500	\$ 1,500.00	\$1,500	\$ 4,000.00	\$4,000
	Door 2/221: replace hollow metal door and frame	1	EA	\$ 2,250.00	\$2,250	\$ 350.00	\$350	\$ 2,600.00	\$2,600
	Door 1/218: replace stile and rail single-lite door in existing frame, paint	1	EA	\$ 1,650.00	\$1,650	\$ 200.00	\$200	\$ 1,850.00	\$1,850
	Doors 1/219 and 1/220: Repair wood door and frame, refinish, refurbish hardware including replace missing knobs	2	EA	\$ 1,650.00	\$3,300	\$ 200.00	\$400	\$ 1,850.00	\$3,700
	Door 3/100: Remove hollow metal single door and frame and infill wall at stair Room 100	2	EA	\$ 2,250.00	\$4,500	\$ 350.00	\$700	\$ 2,600.00	\$5,200
	Door 1/101: Replace hollow metal single door and frame Room 100	1	EA	\$ 2,250.00	\$2,250	\$ 350.00	\$350	\$ 2,600.00	\$2,600
	Remove hollow metal double door frame, repair plaster at opening head and jambs Room 100	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal frame and metal double door. Room 104	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Make repairs to existing wood door and sidelights. Install minor wood repairs. Prep, prime, and paint. Replace existing door with a new wood door. Room 104	1	EA	\$ 1,250.00	\$1,250	\$ 1,250.00	\$1,250	\$ 2,500.00	\$2,500
	Install 90 min rated metal door and frame Room 105	1	EA	\$ 4,500.00	\$4,500	\$ 1,500.00	\$1,500	\$ 6,000.00	\$6,000

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Lib
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item	C10 Interior Construction							Total Cost:	\$309,890
	Install three (3) hollow metal doors and frames. Room 106	3	EA	\$ 3,750.00	\$11,250	\$ 1,800.00	\$5,400	\$ 5,550.00	\$16,650
	Install hollow metal frame and metal double door. Room 109	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal frame and metal double door. Room 110	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal doors and frames. Room 113	1	EA	\$ 2,500.00	\$2,500	\$ 1,500.00	\$1,500	\$ 4,000.00	\$4,000
	Install hollow metal frame and metal double door. Room 115	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal frame and metal double door. Room 116	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal frame and metal double door. Room 117	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal frame and metal double door. Room 203	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal frame and metal double door. Room 204	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal doors and frames. Room 205	2	EA	\$ 2,500.00	\$5,000	\$ 1,500.00	\$3,000	\$ 4,000.00	\$8,000
	Install hollow metal frame and metal double door (North Wall). Room 206	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal frame and metal door (North Wall). Room 206	1	EA	\$ 2,500.00	\$2,500	\$ 1,500.00	\$1,500	\$ 4,000.00	\$4,000
	Install hollow metal frame and metal double door. Room 207	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal frame and metal double door. Room 208	1	EA	\$ 3,750.00	\$3,750	\$ 1,800.00	\$1,800	\$ 5,550.00	\$5,550
	Install hollow metal frame and metal door. RM 209	1	EA	\$ 2,500.00	\$2,500	\$ 1,500.00	\$1,500	\$ 4,000.00	\$4,000
	Install hollow metal frame and metal door. RM 210	1	EA	\$ 2,500.00	\$2,500	\$ 1,500.00	\$1,500	\$ 4,000.00	\$4,000
	Install hollow metal frame and metal door. RM 211	1	EA	\$ 2,500.00	\$2,500	\$ 1,500.00	\$1,500	\$ 4,000.00	\$4,000
	Install hollow metal frame and metal door. RM 216	3	EA	\$ 2,500.00	\$7,500	\$ 1,500.00	\$4,500	\$ 4,000.00	\$12,000
	Install hollow metal frame and metal door. RM 217	1	EA	\$ 2,500.00	\$2,500	\$ 1,500.00	\$1,500	\$ 4,000.00	\$4,000
SUBTOTAL	INTERIOR DOORS	19000	SF	\$ 5.07	\$96,250	\$ 2.49	\$47,300	\$ 7.56	\$143,550

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Lib
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: AG
 Date: 05/12/22

Summary Item **C10 Interior Construction**

Total Cost: \$309,890

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C1030	INTERIOR SPECIALTIES								
	Toilet Paper Dispensers	4	EA	\$ 25.00	\$100	\$ 65.00	\$260	\$ 90.00	\$360
	sets of ADA grab bars	4	EA	\$ 75.00	\$300	\$ 65.00	\$260	\$ 140.00	\$560
	Sanitary-Napkin Disposal units	4	EA	\$ 150.00	\$600	\$ 65.00	\$260	\$ 215.00	\$860
	Soap Dispensers	4	EA	\$ 75.00	\$300	\$ 65.00	\$260	\$ 140.00	\$560
	Mirrors	4	EA	\$ 200.00	\$800	\$ 65.00	\$260	\$ 265.00	\$1,060
	Baby Changing Stations	4	EA	\$ 450.00	\$1,800	\$ 65.00	\$260	\$ 515.00	\$2,060
	Paper Tower and Trash Can	4	EA	\$ 350.00	\$1,400	\$ 65.00	\$260	\$ 415.00	\$1,660
	Wall Hooks	4	EA	\$ 75.00	\$300	\$ 35.00	\$140	\$ 110.00	\$440
	Stainless Steel Mop Holder	2	EA	\$ 150.00	\$300	\$ 65.00	\$130	\$ 215.00	\$430
	Fire Extinguishers	7	EA	\$ 150.00	\$1,050	\$ 250.00	\$1,750	\$ 400.00	\$2,800
	Install washer and dryer hook-ups Room 109	1	LS	\$ 500.00	\$500	\$ 500.00	\$500	\$ 1,000.00	\$1,000
	203, 204, 206, 207, 208, 215	22	EA	\$ 250.00	\$5,500	\$ 150.00	\$3,300	\$ 400.00	\$8,800
SUBTOTAL	INTERIOR SPECIALTIES	19000	SF	\$ 0.68	\$12,950	\$ 0.40	\$7,640	\$ 1.08	\$20,590

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C1040	MISC CONSTRUCTION								
	Clean and make minor repairs to existing laylights. Room 206	1	LS	\$ 7,500.00	\$7,500	\$ 7,500.00	\$7,500	\$ 15,000.00	\$15,000
	Replace (10) glazing panels within laylights. Room 206	10	Unit	\$ 300.00	\$3,000	\$ 300.00	\$3,000	\$ 600.00	\$6,000
	Replace (2) glazing panels within laylights.	2	EA	\$ 1,400.00	\$2,800	\$ 1,400.00	\$2,800	\$ 2,800.00	\$5,600
	Provide repairs to existing cementitious plaster panels at underside of roof.	1	LS	\$ 4,500.00	\$4,500	\$ 4,500.00	\$4,500	\$ 9,000.00	\$9,000
SUBTOTAL	MISC CONSTRUCTION	19000	SF	\$ 0.94	\$17,800	\$ 0.94	\$17,800	\$ 1.87	\$35,600

Summary Item **C10 Interior Construction**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C10	Interior Construction	19000	SF	\$ 11.04	\$209,749	\$ 5.27	\$100,141	\$ 16.31	\$309,890

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: AG
 Date: 05/12/22

Summary Item **C20 Stairs**

Total Cost: \$30,375

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C2010	STAIR CONSTRUCTION								
	Construct a new metal stair to the attic. Include rubber treads and metal handrails. Room 205	1	EA	\$ 8,500.00	\$8,500	\$ 3,500.00	\$3,500	\$ 12,000.00	\$12,000
SUBTOTAL	STAIR CONSTRUCTION	19000	SF	\$ 0.45	\$8,500	\$ 0.18	\$3,500	\$ 0.63	\$12,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C2020	STAIR FINISHES								
	Replace wall-mounted handrails at stair to meet current code requirements Room 100 Stair	40	LF	\$ 250.00	\$10,000	\$ 125.00	\$5,000	\$ 375.00	\$15,000
	Provide post-mounted handrails at bottom run of stair Room 100 Stair	9	LF	\$ 250.00	\$2,250	\$ 125.00	\$1,125	\$ 375.00	\$3,375
SUBTOTAL	STAIR FINISHES	19000	SF	\$ 0.64	\$12,250	\$ 0.32	\$6,125	\$ 0.97	\$18,375

Summary Item **C20 Stairs**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C20	Stairs	19000	SF	\$ 1.09	\$20,750	\$ 0.51	\$9,625	\$ 1.60	\$30,375

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item C30 Interior Finishes

Total Cost: \$655,569

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C3010	WALL FINISHES								
	Remove and replace damaged wall base tile Room 100	10	EA	\$ 25.00	\$250	\$ 100.00	\$1,000	\$ 125.00	\$1,250
	Remove paint from walls Room 100	1400	SF	\$ 1.00	\$1,400	\$ 3.00	\$4,200	\$ 4.00	\$5,600
	Repair cracking in plaster Room 100	225	SF	\$ 5.00	\$1,125	\$ 5.00	\$1,125	\$ 10.00	\$2,250
	Remove damaged plaster and replace Room 100	250	SF	\$ 5.00	\$1,250	\$ 5.00	\$1,250	\$ 10.00	\$2,500
	Apply skim coat of plaster over all walls Room 100	1400	SF	\$ 3.00	\$4,200	\$ 5.00	\$7,000	\$ 8.00	\$11,200
	Repaint all walls Room 100	1400	SF	\$ 1.00	\$1,400	\$ 2.25	\$3,150	\$ 3.25	\$4,550
	Remove water damaged wood built-up crown molding and replace Room 100	10	LF	\$ 25.00	\$250	\$ 35.00	\$350	\$ 60.00	\$600
	Repaint all wood built-up crown molding and drop beams Room 100	475	SF	\$ 1.00	\$475	\$ 2.25	\$1,069	\$ 3.25	\$1,544
	Patch damaged plaster Stair 100	25	SF	\$ 5.00	\$125	\$ 5.00	\$125	\$ 10.00	\$250
	Replace non-slip material strips Room 100 Stair	110	LF	\$ 5.00	\$550	\$ 3.00	\$330	\$ 8.00	\$880
	Clean staining Room 100 Stair	95	SF	\$ 1.00	\$95	\$ 5.00	\$475	\$ 6.00	\$570
	Repaint Walls Room 100 Stair	800	SF	\$ 1.00	\$800	\$ 2.25	\$1,800	\$ 3.25	\$2,600
	Install new wood base Room 201	44	LF	\$ 15.00	\$660	\$ 10.00	\$440	\$ 25.00	\$1,100
	Remove wallpaper; Room 201	280	SF	\$ 0.50	\$140	\$ 3.00	\$840	\$ 3.50	\$980
	Remove paint from walls Room 201	560	SF	\$ 1.00	\$560	\$ 3.00	\$1,680	\$ 4.00	\$2,240
	Remove and replace water damaged plaster Room 201	10	SF	\$ 4.00	\$40	\$ 10.00	\$100	\$ 14.00	\$140
	Apply skim coat of plaster over all walls Rm 201	560	SF	\$ 3.00	\$1,680	\$ 5.00	\$2,800	\$ 8.00	\$4,480
	Repaint all walls Rm 201	560	SF	\$ 1.00	\$560	\$ 2.25	\$1,260	\$ 3.25	\$1,820
	Repair where there is water damage Room 201	5	SF	\$ 4.00	\$20	\$ 15.00	\$75	\$ 19.00	\$95
	Repair areas of deteriorated grout in quarry tile base and floor Room 200	50	SF	\$ 3.00	\$150	\$ 5.00	\$250	\$ 8.00	\$400
	Remove paint from walls and ceiling Room 200	2100	SF	\$ 1.00	\$2,100	\$ 3.00	\$6,300	\$ 4.00	\$8,400
	Repair cracking in plaster Room 200	50	LF	\$ 5.00	\$250	\$ 5.00	\$250	\$ 10.00	\$500
	Remove damaged plaster and replace Rm 200	100	SF	\$ 1.00	\$100	\$ 5.00	\$500	\$ 6.00	\$600
	Apply skim coat of plaster over all walls Rm 200	1500	SF	\$ 3.00	\$4,500	\$ 5.00	\$7,500	\$ 8.00	\$12,000
	Repaint all walls Room 200	1500	SF	\$ 1.00	\$1,500	\$ 2.25	\$3,375	\$ 3.25	\$4,875
	Remove staining from marble wall panels Rm 200	25	SF	\$ 2.00	\$50	\$ 3.00	\$75	\$ 5.00	\$125
	Repair crack in plaster crown molding Room 200	5	LF	\$ 5.00	\$25	\$ 5.00	\$25	\$ 10.00	\$50
	Repaint plaster crown molding Room 200	98	SF	\$ 1.00	\$98	\$ 2.25	\$221	\$ 3.25	\$319

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item	C30 Interior Finishes	Total Cost: \$655,569							
	Repaint wood sills and aprons at arched openings Room 200	15	SF	\$ 1.00	\$15	\$ 2.25	\$34	\$ 3.25	\$49
221	Remove paint from walls Room 218	960	SF	\$ 1.00	\$960	\$ 3.00	\$2,880	\$ 4.00	\$3,840
221	Repair cracking in plaster Room 218	65	LF	\$ 5.00	\$325	\$ 5.00	\$325	\$ 10.00	\$650
221	Remove damaged plaster and replace Room 218	200	SF	\$ 5.00	\$1,000	\$ 5.00	\$1,000	\$ 10.00	\$2,000
221	Apply skim coat of plaster over all walls Room 218	960	SF	\$ 3.00	\$2,880	\$ 5.00	\$4,800	\$ 8.00	\$7,680
221	Repaint all walls Room 218	960	SF	\$ 1.00	\$960	\$ 2.25	\$2,160	\$ 3.25	\$3,120
221	Remove paint from tile wainscot Room 218	50	SF	\$ 1.00	\$50	\$ 3.00	\$150	\$ 4.00	\$200
221	Remove dirt and staining from tile wainscot Room 218	800	SF	\$ 1.00	\$800	\$ 3.00	\$2,400	\$ 4.00	\$3,200
221	Replace damaged tile Room 218	20	SF	\$ 5.00	\$100	\$ 10.00	\$200	\$ 15.00	\$300
221	Replace missing 2'-0" x 2'-6" painted metal grille in wall, match existing Room 218	1	EA	\$ 250.00	\$250	\$ 125.00	\$125	\$ 375.00	\$375
226	Remove paint from walls Room 219	320	SF	\$ 1.00	\$320	\$ 3.00	\$960	\$ 4.00	\$1,280
226	Repair cracking in plaster Room 219	65	LF	\$ 5.00	\$325	\$ 5.00	\$325	\$ 10.00	\$650
226	Remove damaged plaster and replace Rm 219	96	SF	\$ 5.00	\$480	\$ 5.00	\$480	\$ 10.00	\$960
226	Apply skim coat of plaster over all walls Rm 219	320	SF	\$ 3.00	\$960	\$ 5.00	\$1,600	\$ 8.00	\$2,560
226	Repaint all walls Room 219	320	SF	\$ 1.00	\$320	\$ 2.25	\$720	\$ 3.25	\$1,040
226	Remove dirt, staining from tile wainscot Rm 219	240	SF	\$ 1.00	\$240	\$ 3.00	\$720	\$ 4.00	\$960
226	Replace damaged tile Room 219	20	SF	\$ 5.00	\$100	\$ 10.00	\$200	\$ 15.00	\$300
227	Replace missing marble shower surrounds Rm 220	3	EA	\$ 1,250.00	\$3,750	\$ 350.00	\$1,050	\$ 1,600.00	\$4,800
227	Remove paint from walls Room 220	400	SF	\$ 1.00	\$400	\$ 3.00	\$1,200	\$ 4.00	\$1,600
227	Repair cracking in plaster Room 220	10	LF	\$ 5.00	\$50	\$ 5.00	\$50	\$ 10.00	\$100
227	Remove damaged plaster and replace Rm 220	55	SF	\$ 5.00	\$275	\$ 5.00	\$275	\$ 10.00	\$550
227	Apply skim coat of plaster over all walls Rm 220	400	SF	\$ 3.00	\$1,200	\$ 5.00	\$2,000	\$ 8.00	\$3,200
227	Repaint all walls Room 220	400	SF	\$ 1.00	\$400	\$ 2.25	\$900	\$ 3.25	\$1,300
227	Remove dirt and staining from tile wainscot Room 220	165	SF	\$ 1.00	\$165	\$ 3.00	\$495	\$ 4.00	\$660
227	Replace damaged tile Room 220	10	SF	\$ 5.00	\$50	\$ 10.00	\$100	\$ 15.00	\$150
	Install 6" quarry tile cove base Room 103	21	LF	\$ 5.00	\$105	\$ 5.00	\$105	\$ 10.00	\$210
	Install ½" gypsum board over existing plaster walls. Room 103	440	SF	\$ 3.50	\$1,540	\$ 3.00	\$1,320	\$ 6.50	\$2,860
	Prep, prime, and paint walls and ceiling. Rm 103	527	SF	\$ 1.00	\$527	\$ 2.25	\$1,186	\$ 3.25	\$1,713
	Install 4" rubber base. Room 104	140	LF	\$ 1.00	\$140	\$ 2.00	\$280	\$ 3.00	\$420
	Install ½" gypsum board over existing plaster walls. Room 104	770	SF	\$ 3.50	\$2,695	\$ 3.00	\$2,310	\$ 6.50	\$5,005

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item	C30 Interior Finishes	Total Cost: \$655,569							
	Fur out from existing exterior wall with 6" metal stud, 5/8" impact resistant gypsum, vapor barrier, R-19 Insulation. Wall to extend from slab to underside of deck (roughly 14'-0") Room 104	70	LF	\$ 42.00	\$2,940	\$ 42.00	\$2,940	\$ 84.00	\$5,880
	Infill existing door opening on the east wall with metal studs, acoustical insulation, and 5/8" impact resistant gypsum. Room 104	24	SF	\$ 5.00	\$120	\$ 5.00	\$120	\$ 10.00	\$240
	Prep, prime, and paint walls. Room 104	2,638	SF	\$ 1.00	\$2,638	\$ 2.25	\$5,936	\$ 3.25	\$8,574
	Install 4" rubber base. Room 105	143	LF	\$ 1.00	\$143	\$ 2.00	\$286	\$ 3.00	\$429
	Minor repairs to existing plaster walls Rm 105	300	SF	\$ 3.00	\$900	\$ 5.00	\$1,500	\$ 8.00	\$2,400
	Prep, prime, and paint walls and ceiling. Rm 105	2951	SF	\$ 1.00	\$2,951	\$ 2.25	\$6,640	\$ 3.25	\$9,591
	All penetrations to the walls and ceiling shall have fire stops. Room 105	1	LS	\$ 500.00	\$500	\$ 500.00	\$500	\$ 1,000.00	\$1,000
	Install 4" rubber base. Room 106	66	LF	\$ 1.00	\$66	\$ 2.00	\$132	\$ 3.00	\$198
	Prep, prime, and paint walls. Room 106	1045	SF	\$ 1.00	\$1,045	\$ 2.25	\$2,351	\$ 3.25	\$3,396
	Install 6" quarry tile cove base Room 107	40	LF	\$ 5.00	\$200	\$ 5.00	\$200	\$ 10.00	\$400
	Prep, prime, and paint walls and ceiling. Rm 107	692	SF	\$ 1.00	\$692	\$ 2.25	\$1,557	\$ 3.25	\$2,249
	Install 6" quarry tile cove base Room 108	93	SF	\$ 5.00	\$465	\$ 5.00	\$465	\$ 10.00	\$930
	Prep, prime, and paint walls and ceiling. Rm 108	492	SF	\$ 1.00	\$492	\$ 2.25	\$1,107	\$ 3.25	\$1,599
	Install 4" rubber base. Room 109	16	LF	\$ 1.00	\$16	\$ 2.00	\$32	\$ 3.00	\$48
	Prep, prime, and paint walls. Room 109	176	SF	\$ 1.00	\$176	\$ 2.25	\$396	\$ 3.25	\$572
	Install 4" rubber base. Room 110	48	LF	\$ 1.00	\$48	\$ 2.00	\$96	\$ 3.00	\$144
	Prep, prime, and paint walls. Room 110	594	SF	\$ 1.00	\$594	\$ 2.25	\$1,337	\$ 3.25	\$1,931
	Install 4" rubber base. Room 111	122	LF	\$ 1.00	\$122	\$ 2.00	\$244	\$ 3.00	\$366
	Prep, prime, and paint concrete walls and ceiling. Room 111	2368	SF	\$ 1.00	\$2,368	\$ 2.25	\$5,328	\$ 3.25	\$7,696
	Install 4" rubber base. Room 112	33	LF	\$ 1.00	\$33	\$ 2.00	\$66	\$ 3.00	\$99
	Prep, prime and paint all walls Room 112	462	SF	\$ 1.00	\$462	\$ 2.25	\$1,040	\$ 3.25	\$1,502
	Prep, prime, and paint concrete ceiling. Rm 112	94	SF	\$ 1.00	\$94	\$ 2.25	\$212	\$ 3.25	\$306
	Install 4" rubber base. Room 113	43	LF	\$ 1.00	\$43	\$ 2.00	\$86	\$ 3.00	\$129
	Prep, prime and paint all walls Room 113	473	SF	\$ 1.00	\$473	\$ 2.25	\$1,064	\$ 3.25	\$1,537
	Install 6" quarry tile cove base Room 114	15	LF	\$ 5.00	\$75	\$ 5.00	\$75	\$ 10.00	\$150
	Remove wallpaper from existing plaster walls Room 114	135	SF	\$ 0.50	\$68	\$ 3.00	\$405	\$ 3.50	\$473
	Make minor repairs to existing plaster Room 114	135	SF	\$ 0.25	\$34	\$ 1.00	\$135	\$ 1.25	\$169
	Prep, prime and paint all walls and ceiling Room 114	245	SF	\$ 1.00	\$245	\$ 2.25	\$551	\$ 3.25	\$796
	Install 4" rubber base. Room 115	266	LF	\$ 1.00	\$266	\$ 2.00	\$532	\$ 3.00	\$798
	Prep, prime and paint all walls Room 115	2926	SF	\$ 1.00	\$2,926	\$ 2.25	\$6,584	\$ 3.25	\$9,510

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item	C30 Interior Finishes							Total Cost:	\$655,569
	Install 4" rubber base. Room 116	92	LF	\$ 1.00	\$92	\$ 2.00	\$184	\$ 3.00	\$276
	Prep, prime and paint all walls Room 116	65	SF	\$ 1.00	\$65	\$ 2.25	\$146	\$ 3.25	\$211
	Install 4" rubber base. Room 117	92	LF	\$ 1.00	\$92	\$ 2.00	\$184	\$ 3.00	\$276
	Prep, prime and paint all walls Room 117	1012	SF	\$ 1.00	\$1,012	\$ 2.25	\$2,277	\$ 3.25	\$3,289
	Perimeter plaster wall repairs and locations where wall will not be furred.	1355	SF	\$ 3.00	\$4,065	\$ 5.00	\$6,775	\$ 8.00	\$10,840
	Miscellaneous exterior wall prep	800	SF	\$ -	\$0	\$ 3.00	\$2,400	\$ 3.00	\$2,400
	Install 4" rubber base. Room 202	131	LF	\$ 1.00	\$131	\$ 2.00	\$262	\$ 3.00	\$393
	Prep, prime and paint all walls Room 202	1,441	SF	\$ 1.00	\$1,441	\$ 2.25	\$3,242	\$ 3.25	\$4,683
	Install 4" rubber base. Room 203	183	LF	\$ 1.00	\$183	\$ 2.00	\$366	\$ 3.00	\$549
	Prep, prime and paint all walls Room 203	2013	SF	\$ 1.00	\$2,013	\$ 2.25	\$4,529	\$ 3.25	\$6,542
	Install 4" rubber base. Room 204 Room 204	145	LF	\$ 1.00	\$145	\$ 2.00	\$290	\$ 3.00	\$435
	Prep, prime and paint all walls Room 204	1595	SF	\$ 1.00	\$1,595	\$ 2.25	\$3,589	\$ 3.25	\$5,184
	Install 4" rubber base. Room 205	9	LF	\$ 1.00	\$9	\$ 2.00	\$18	\$ 3.00	\$27
	Prep, prime and paint all walls Room 205	500	SF	\$ 1.00	\$500	\$ 2.25	\$1,125	\$ 3.25	\$1,625
	Install 4" rubber base. Room 206	177	LF	\$ 1.00	\$177	\$ 2.00	\$354	\$ 3.00	\$531
	Prep, prime and paint all walls Room 206	2,124	SF	\$ 1.00	\$2,124	\$ 2.25	\$4,779	\$ 3.25	\$6,903
	Install 4" rubber base. Room 207	145	SF	\$ 1.00	\$145	\$ 2.00	\$290	\$ 3.00	\$435
	Prep, prime and paint all walls Room 207	1740	SF	\$ 1.00	\$1,740	\$ 2.25	\$3,915	\$ 3.25	\$5,655
	Install 4" rubber base. Room 208	64	LF	\$ 1.00	\$64	\$ 2.00	\$128	\$ 3.00	\$192
	Prep, prime and paint all walls Room 208	768	SF	\$ 1.00	\$768	\$ 2.25	\$1,728	\$ 3.25	\$2,496
	Install 4" rubber base. Room 209	40	LF	\$ 1.00	\$40	\$ 2.00	\$80	\$ 3.00	\$120
	Prep, prime and paint all walls Room 209	602	SF	\$ 1.00	\$602	\$ 2.25	\$1,355	\$ 3.25	\$1,957
	Install 4" rubber base. Room 210	61	LF	\$ 1.00	\$61	\$ 2.00	\$122	\$ 3.00	\$183
	Patch holes in existing plaster. Skim coat plaster. Room 210	165	SF	\$ 5.00	\$825	\$ 5.00	\$825	\$ 10.00	\$1,650
	Prep, prime and paint all walls Room 210	896	SF	\$ 1.00	\$896	\$ 2.25	\$2,016	\$ 3.25	\$2,912
	Install 4" rubber base. Room 211	58	LF	\$ 1.00	\$58	\$ 2.00	\$116	\$ 3.00	\$174
	Prep, prime and paint all walls Room 211	854	SF	\$ 1.00	\$854	\$ 2.25	\$1,922	\$ 3.25	\$2,776
	Install 6" quarry tile cove base Room 215	101	LF	\$ 5.00	\$505	\$ 5.00	\$505	\$ 10.00	\$1,010
	Prep, prime and paint all walls Room 215	1796	SF	\$ 1.00	\$1,796	\$ 2.25	\$4,041	\$ 3.25	\$5,837
	Patch holes in existing plaster Walls. Skim coat plaster. Room 215	280	SF	\$ 5.00	\$1,400	\$ 5.00	\$1,400	\$ 10.00	\$2,800
	Patch holes in existing plaster ceiling. Skim coat plaster. Room 215	278	SF	\$ 5.00	\$1,390	\$ 5.00	\$1,390	\$ 10.00	\$2,780
	Install 6" quarry tile cove base Room 216	148	LF	\$ 5.00	\$740	\$ 5.00	\$740	\$ 10.00	\$1,480
	Prep, prime and paint all walls Room 216	1,120	SF	\$ 1.00	\$1,120	\$ 2.25	\$2,520	\$ 3.25	\$3,640
	Install 6" quarry tile cove base Room 217	42	LF	\$ 5.00	\$210	\$ 5.00	\$210	\$ 10.00	\$420
	Prep, prime and paint all walls Room 217	588	SF	\$ 1.00	\$588	\$ 2.25	\$1,323	\$ 3.25	\$1,911

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item	C30 Interior Finishes	Total Cost:								\$655,569
	Patch holes in existing plaster. Skim coat plaster. Room 217	252	SF	\$ 5.00	\$1,260	\$ 5.00	\$1,260	\$ 10.00	\$2,520	
SUBTOTAL	WALL FINISHES	19000	SF	\$ 5.03	\$95,635	\$ 9.28	\$176,234	\$ 14.31	\$271,870	

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C3020	FLOOR FINISHES								
	Remove dirt and staining from quarry tile wall base and floor Room 200	630	SF	\$ 1.00	\$630	\$ 5.00	\$3,150	\$ 6.00	\$3,780
	Repair cracks in subfloor slab Room 201	30	LF	\$ 2.00	\$60	\$ 10.00	\$300	\$ 12.00	\$360
	Remove non-slip material strips and staining Room 100 Stair	95	SF	\$ -	\$0	\$ 5.00	\$475	\$ 5.00	\$475
	Replace non-slip material strips Room 100 Stair	110	LF	\$ 15.00	\$1,650	\$ 10.00	\$1,100	\$ 25.00	\$2,750
	Remove non-slip material strips and staining Room 100 Stair	60	SF	\$ 15.00	\$900	\$ 10.00	\$600	\$ 25.00	\$1,500
	Provide carpet flooring Room 201	155	SF	\$ 3.50	\$543	\$ 4.00	\$620	\$ 7.50	\$1,163
	Remove debris and staining from hexagonal marble tile Room 218	470	SF	\$ -	\$0	\$ 3.00	\$1,410	\$ 3.00	\$1,410
	Remove debris and staining from square tile pool floor and walls Room 218	355	SF	\$ -	\$0	\$ 5.00	\$1,775	\$ 5.00	\$1,775
	Repair bad patch at cracks in tile pool floors and walls Room 218	40	LF	\$ 5.00	\$200	\$ 15.00	\$600	\$ 20.00	\$800
	Remove debris and staining from hexagonal marble tile Room 219	95	SF	\$ -	\$0	\$ 3.00	\$285	\$ 3.00	\$285
	Replace hex marble tile in shower bases Rm 220	36	SF	\$ 10.00	\$360	\$ 5.00	\$180	\$ 15.00	\$540
	Rebuild subway tile clad shower curbs Room 220	11	LF	\$ 25.00	\$275	\$ 10.00	\$110	\$ 35.00	\$385
	Remove debris and staining from hexagonal marble tile Room 220	90	SF	\$ -	\$0	\$ 3.00	\$270	\$ 3.00	\$270
	Remove dirt and staining from quarry tile wall base and floor Room 100	1390	SF	\$ -	\$0	\$ 1.00	\$1,390	\$ 1.00	\$1,390
	Install quarry tile Room 103	97	SF	\$ 4.00	\$388	\$ 5.00	\$485	\$ 9.00	\$873
	Install epoxy flooring. Room 104	888	SF	\$ 3.00	\$2,664	\$ 4.25	\$3,774	\$ 7.25	\$6,438
	Seal existing concrete floor. Room 105	934	SF	\$ 1.00	\$934	\$ 1.00	\$934	\$ 2.00	\$1,868
	Install epoxy flooring. Room 106	274	SF	\$ 3.00	\$822	\$ 4.25	\$1,165	\$ 7.25	\$1,987
	Install quarry tile Room 107	120	SF	\$ 4.00	\$480	\$ 5.00	\$600	\$ 9.00	\$1,080
	Install quarry tile Room 108	93	SF	\$ 4.00	\$372	\$ 5.00	\$465	\$ 9.00	\$837

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item	C30 Interior Finishes									Total Cost:	\$655,569
	Install epoxy flooring. Room 109	25	SF	\$ 3.00	\$75	\$ 4.25	\$106	\$ 7.25	\$181		
	Install epoxy flooring. Room 110	150	SF	\$ 3.00	\$450	\$ 4.25	\$638	\$ 7.25	\$1,088		
	Seal existing concrete floor. Room 111	660	SF	\$ 1.00	\$660	\$ 1.00	\$660	\$ 2.00	\$1,320		
	Seal existing concrete floor. Room 112	94	SF	\$ 1.00	\$94	\$ 1.00	\$94	\$ 2.00	\$188		
	Install epoxy flooring. Room 113	111	SF	\$ 3.00	\$333	\$ 4.25	\$472	\$ 7.25	\$805		
	Install quarry tile Room 114	110	SF	\$ 4.00	\$440	\$ 5.00	\$550	\$ 9.00	\$990		
	Install epoxy flooring. Room 115	2758	SF	\$ 3.00	\$8,274	\$ 4.25	\$11,722	\$ 7.25	\$19,996		
	Install epoxy flooring. Room 116	515	SF	\$ 3.00	\$1,545	\$ 4.25	\$2,189	\$ 7.25	\$3,734		
	Install epoxy flooring. Room 117	516	SF	\$ 3.00	\$1,548	\$ 4.25	\$2,193	\$ 7.25	\$3,741		
	Install LVT flooring Room 202	539	SF	\$ 5.00	\$2,695	\$ 5.00	\$2,695	\$ 10.00	\$5,390		
	Install epoxy flooring. Room 203	2001	SF	\$ 3.00	\$6,003	\$ 4.25	\$8,504	\$ 7.25	\$14,507		
	Install epoxy flooring. Room 204	1283	SF	\$ 3.00	\$3,849	\$ 4.25	\$5,453	\$ 7.25	\$9,302		
	Install epoxy flooring. Room 205	10	SF	\$ 3.00	\$30	\$ 4.25	\$43	\$ 7.25	\$73		
	Install LVT flooring. Room 206	579	SF	\$ 5.00	\$2,895	\$ 5.00	\$2,895	\$ 10.00	\$5,790		
	Install LVT flooring. Room 207	1084	SF	\$ 5.00	\$5,420	\$ 5.00	\$5,420	\$ 10.00	\$10,840		
	Install carpet tiles flooring. Room 208	217	SF	\$ 3.50	\$760	\$ 4.00	\$868	\$ 7.50	\$1,628		
	Install LVT flooring. Room 209	113	SF	\$ 5.00	\$565	\$ 5.00	\$565	\$ 10.00	\$1,130		
	Install carpet tiles flooring. Room 210	249	SF	\$ 3.50	\$872	\$ 4.00	\$996	\$ 7.50	\$1,868		
	Install LVT flooring. Room 211	199	SF	\$ 5.00	\$995	\$ 5.00	\$995	\$ 10.00	\$1,990		
	Install 6" quarry tile Room 215	278	SF	\$ 6.00	\$1,668	\$ 6.00	\$1,668	\$ 12.00	\$3,336		
	Install 6" quarry tile Room 216	254	SF	\$ 6.00	\$1,524	\$ 6.00	\$1,524	\$ 12.00	\$3,048		
	Install 6" quarry tile Room 217	112	SF	\$ 6.00	\$672	\$ 6.00	\$672	\$ 12.00	\$1,344		
SUBTOTAL	FLOOR FINISHES	19000	SF	\$ 2.68	\$50,954	\$ 3.53	\$67,158	\$ 6.22	\$118,111		

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C3030	CEILING FINISHES								
	Install new GWB suspended ceiling Room 100	1335	SF	\$ 7.00	\$9,345	\$ 10.00	\$13,350	\$ 17.00	\$22,695
	Paint GWB suspended ceiling Room 100	1335	SF	\$ 0.75	\$1,001	\$ 1.50	\$2,003	\$ 2.25	\$3,004
	Repaint ceiling Room 100 Stair	40	SF	\$ 1.00	\$40	\$ 2.25	\$90	\$ 3.25	\$130
	Remove plaster ceiling and ceiling mounted lighting and equipment Room 200	600	SF	\$ -	\$0	\$ 5.00	\$3,000	\$ 5.00	\$3,000
	Install new GWB suspended ceiling Room 200	600	SF	\$ 7.00	\$4,200	\$ 10.00	\$6,000	\$ 17.00	\$10,200
	Paint GWB suspended ceiling Room 200	600	SF	\$ 0.75	\$450	\$ 1.50	\$900	\$ 2.25	\$1,350
	Replace plaster ceiling with suspended gypsum board ceiling Room 201	155	SF	\$ 10.00	\$1,550	\$ 7.50	\$1,163	\$ 17.50	\$2,713
	Paint gypsum board ceiling Room 201	155	SF	\$ 0.75	\$116	\$ 1.50	\$233	\$ 2.25	\$349

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item	C30 Interior Finishes								Total Cost:	\$655,569
	221	Replace plaster ceiling with suspended gypsum board ceiling Room 218	1038	SF	\$ 10.00	\$10,380	\$ 7.50	\$7,785	\$ 17.50	\$18,165
	221	Paint gypsum board ceiling Room 218	1038	SF	\$ 0.75	\$779	\$ 1.50	\$1,557	\$ 2.25	\$2,336
	226	Replace plaster ceiling with suspended gypsum board ceiling Room 219	95	SF	\$ 10.00	\$950	\$ 7.50	\$713	\$ 17.50	\$1,663
	226	Paint gypsum board ceiling Room 219	95	SF	\$ 0.75	\$71	\$ 1.50	\$143	\$ 2.25	\$214
	227	Replace plaster ceiling with suspended gypsum board ceiling Room 220	130	SF	\$ 10.00	\$1,300	\$ 7.50	\$975	\$ 17.50	\$2,275
	227	Paint gypsum board ceiling Room 220	130	SF	\$ 0.75	\$98	\$ 1.50	\$195	\$ 2.25	\$293
		Install 1/2" gypsum board over existing plaster ceiling. Room 103	97	SF	\$ 3.50	\$340	\$ 3.00	\$291	\$ 6.50	\$631
		Install suspended acoustical ceiling. Room 104	888	SF	\$ 3.00	\$2,664	\$ 3.00	\$2,664	\$ 6.00	\$5,328
		Install suspended acoustical ceiling. Room 106	274	SF	\$ 3.00	\$822	\$ 3.00	\$822	\$ 6.00	\$1,644
		Install suspended acoustical ceiling. Room 109	25	SF	\$ 3.00	\$75	\$ 3.00	\$75	\$ 6.00	\$150
		Install suspended acoustical ceiling. Room 110	150	SF	\$ 3.00	\$450	\$ 3.00	\$450	\$ 6.00	\$900
		Install suspended acoustical ceiling. Room 113	111	SF	\$ 3.00	\$333	\$ 3.00	\$333	\$ 6.00	\$666
		Install suspended acoustical ceiling. Room 115	2758	SF	\$ 3.00	\$8,274	\$ 3.00	\$8,274	\$ 6.00	\$16,548
		Install suspended acoustical ceiling. Room 116	515	SF	\$ 3.00	\$1,545	\$ 3.00	\$1,545	\$ 6.00	\$3,090
		Install suspended acoustical ceiling. Room 117	516	SF	\$ 3.00	\$1,548	\$ 3.00	\$1,548	\$ 6.00	\$3,096
		Repair open holes in existing plaster ceiling.	800	SF	\$ 3.00	\$2,400	\$ 3.00	\$2,400	\$ 6.00	\$4,800
		Install suspended acoustical ceiling. Room 202	539	SF	\$ 3.00	\$1,617	\$ 3.00	\$1,617	\$ 6.00	\$3,234
		Install suspended acoustical ceiling. Room 203	2001	SF	\$ 3.00	\$6,003	\$ 3.00	\$6,003	\$ 6.00	\$12,006
		Install suspended acoustical ceiling. Room 204	1283	SF	\$ 3.00	\$3,849	\$ 3.00	\$3,849	\$ 6.00	\$7,698
		Making repairs to existing ceiling Room 206	579	SF	\$ 2.00	\$1,158	\$ 2.00	\$1,158	\$ 4.00	\$2,316
		Install suspended acoustical ceiling. Room 207	1,084	SF	\$ 3.00	\$3,252	\$ 3.00	\$3,252	\$ 6.00	\$6,504
		Install suspended acoustical ceiling. Room 208	217	SF	\$ 3.00	\$651	\$ 3.00	\$651	\$ 6.00	\$1,302
		Install suspended acoustical ceiling. Room 209	113	SF	\$ 3.00	\$339	\$ 3.00	\$339	\$ 6.00	\$678
		Install suspended acoustical ceiling. Room 210	249	SF	\$ 3.00	\$747	\$ 3.00	\$747	\$ 6.00	\$1,494
		Install suspended acoustical ceiling. Room 211	199	SF	\$ 3.00	\$597	\$ 3.00	\$597	\$ 6.00	\$1,194
		Install suspended acoustical ceiling. Room 216	254	SF	\$ 3.00	\$762	\$ 3.00	\$762	\$ 6.00	\$1,524
		Install suspended acoustical ceiling. Room 217	112	SF	\$ 3.00	\$336	\$ 3.00	\$336	\$ 6.00	\$672
SUBTOTAL	CEILING FINISHES		19000	SF	\$ 3.58	\$68,041	\$ 3.99	\$75,818	\$ 7.57	\$143,859

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item C30 Interior Finishes

Total Cost: \$655,569

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C3035	MISC INTERIOR								
	Remove staining from marble reception counter facade Room 200	40	SF	\$ 2.50	\$100	\$ 15.00	\$600	\$ 17.50	\$700
	Replace joint material between marble panels Room 200	10	LF	\$ 2.00	\$20	\$ 3.00	\$30	\$ 5.00	\$50
	Refinish wood edge trim at countertop Room 200	14	LF	\$ 1.00	\$14	\$ 10.00	\$140	\$ 11.00	\$154
	Refinish and repair wood cabinets: replace (2) missing drawers, repair veneer on (3) doors, replace (1) door, refurbish (5) cabinet latches, replace (1) latch Room 201	1	EA	\$ 1,500.00	\$1,500	\$ 1,500.00	\$1,500	\$ 3,000.00	\$3,000
226	Remove staining and paint from marble toilet partitions, refurbish partition supports, replace missing toilet partition doors (marble) Room 219	1	LS	\$ 2,250.00	\$2,250	\$ 650.00	\$650	\$ 2,900.00	\$2,900
	Make repairs to existing counter/pass-thru window Room 113	1	LS	\$ 600.00	\$600	\$ 600.00	\$600	\$ 1,200.00	\$1,200
	Provide painted solid surface at windows (12 total at 8'-8" x 7'-0") (3 total at 2'-3" x 2'-0") (1 total at 6'-0" x 7'-0") Room 115	16	EA	\$ 650.00	\$10,400	\$ 250.00	\$4,000	\$ 900.00	\$14,400
	Door Signs	41	EA	\$ 250.00	\$10,250	\$ 75.00	\$3,075	\$ 325.00	\$13,325
	Consider protective glazing on the topside of all laylights to prevent glass breakage	1	LS	\$ 17,500.00	\$17,500	\$ 17,500.00	\$17,500	\$ 35,000.00	\$35,000
	Provide all accessories required for an area of rescue including signage, two-way communication, etc. Room 202	2	EA	\$ 1,500.00	\$3,000	\$ 1,500.00	\$3,000	\$ 3,000.00	\$6,000
	Provide painted solid surface at windows (15 total at 4'-0" x 4'-9") Room 203	15	EA	\$ 650.00	\$9,750	\$ 250.00	\$3,750	\$ 900.00	\$13,500
	Provide painted solid surface at windows (7 total at 4'-0" x 4'-9") Room 204	7	EA	\$ 650.00	\$4,550	\$ 250.00	\$1,750	\$ 900.00	\$6,300
	Install base cabinets and upper cabinets Room 209	11.5	LF	\$ 650.00	\$7,475	\$ 150.00	\$1,725	\$ 800.00	\$9,200
	Install base cabinets and upper cabinets Room 211	20	LF	\$ 650.00	\$13,000	\$ 150.00	\$3,000	\$ 800.00	\$16,000
SUBTOTAL	MISC INTERIOR	19000	SF	\$ 4.23	\$80,409	\$ 2.17	\$41,320	\$ 6.41	\$121,729

Summary Item C30 Interior Finishes

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: AG
 Date: 05/12/22

Summary Item **C30 Interior Finishes**

Total Cost: \$655,569

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
C30	Interior Finishes	19000	SF	\$ 15.53	\$295,039	\$ 18.98	\$360,530	\$ 34.50	\$655,569

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbe
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: AG
 Date: 05/12/22

Summary Item **D10 Conveying Systems**

Total Cost: \$150,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D1010	ELEVATORS								
	Refurbish existing elevator including replace interior finishes, replace lighting, replace railings, replace door thresholds, upgrade controls, replace exterior finishes, replace missing fascia above door, inspect and replace operating mechanisms	1	EA	\$ 100,000.00	\$100,000	\$ 50,000.00	\$50,000	\$ 150,000.00	\$150,000
SUBTOTAL	ELEVATORS	19000	SF	\$ 5.26	\$100,000	\$ 2.63	\$50,000	\$ 7.89	\$150,000

Summary Item **D10 Conveying Systems**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D10	Conveying Systems	19000	SF	\$ 5.26	\$100,000	\$ 2.63	\$50,000	\$ 7.89	\$150,000

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: AG
 Date: 05/12/22

Summary Item **D20 Plumbing Systems**

Total Cost: \$161,100

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D2010	PLUMBING FIXTURES								
221	Refurbish plumbing fixtures from corrosion and staining Room 218	6	EA	\$ 500.00	\$3,000	\$ 1,500.00	\$9,000	\$ 2,000.00	\$12,000
	Install new sink in break room	1	EA	\$ 3,500.00	\$3,500	\$ 750.00	\$750	\$ 4,250.00	\$4,250
	Install new water closets	4	EA	\$ 2,250.00	\$9,000	\$ 750.00	\$3,000	\$ 3,000.00	\$12,000
	Install new lavatories	4	EA	\$ 1,750.00	\$7,000	\$ 750.00	\$3,000	\$ 2,500.00	\$10,000
	Install new janitor sinks	2	EA	\$ 1,250.00	\$2,500	\$ 750.00	\$1,500	\$ 2,000.00	\$4,000
	Install new shower	1	EA	\$ 1,350.00	\$1,350	\$ 750.00	\$750	\$ 2,100.00	\$2,100
	Install new water cooler	2	EA	\$ 2,250.00	\$4,500	\$ 750.00	\$1,500	\$ 3,000.00	\$6,000
	Install new washer/dryer hookups	1	EA	\$ 500.00	\$500	\$ 350.00	\$350	\$ 850.00	\$850
221	Replace missing drain cover Room 218	2	EA	\$ 350.00	\$700	\$ 150.00	\$300	\$ 500.00	\$1,000
221	Refurbish overflow Room 218	2	EA	\$ 350.00	\$700	\$ 650.00	\$1,300	\$ 1,000.00	\$2,000
221	Replace missing pipe support pieces, escutcheon Room 218	4	EA	\$ 850.00	\$3,400	\$ 150.00	\$600	\$ 1,000.00	\$4,000
226	Clean up plumbing fixtures and replace missing elements, next project phase should explore options for sealing drains Room 219	1	LS	\$ 250.00	\$250	\$ 500.00	\$500	\$ 750.00	\$750
SUBTOTAL	PLUMBING FIXTURES	19000	SF	\$ 1.92	\$36,400	\$ 1.19	\$22,550	\$ 3.10	\$58,950

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D2020	DOMESTIC WATER DISTRIBUTION								
	Provide high efficiency gas fired domestic water heater and associated hot water circulating pump	1	EA	\$ 6,500.00	\$6,500	\$ 1,500.00	\$1,500	\$ 8,000.00	\$8,000
	Demo existing domestic water piping and replace with new copper piping extended to water heater, plumbing fixtures, hose bibbs and equipment.	10	EA	\$ 650.00	\$6,500	\$ 1,200.00	\$12,000	\$ 1,850.00	\$18,500
SUBTOTAL	DOMESTIC WATER DISTRIBUTION	19000	SF	\$ 0.68	\$13,000	\$ 0.71	\$13,500	\$ 1.39	\$26,500

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item **D20 Plumbing Systems**

Total Cost: \$161,100

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D2030	SANITARY WASTE								
	Provide 4" floor drain in pit and associated waste and vent piping at backflow preventer location	1	EA	\$ 1,250.00	\$1,250	\$ 1,300.00	\$1,300	\$ 2,550.00	\$2,550
	Provide 4" floor drain in restrooms and washer and dryer locations associated waste and vent piping	6	EA	\$ 1,250.00	\$7,500	\$ 1,300.00	\$7,800	\$ 2,550.00	\$15,300
	Demo existing above slab on grade waste and vent piping and provide new piping to and from plumbing fixtures, equipment and floor drains	10	EA	\$ 650.00	\$6,500	\$ 1,200.00	\$12,000	\$ 1,850.00	\$18,500
	Scope existing below slab waste piping to determine the location, elevation and condition of the existing piping. Piping should also be tested for mercury contamination. Determination of feasibility of using below slab waste piping can be made after completion of those tasks. Make Repairs as needed	1	LS	\$ 10,000.00	\$10,000	\$ 10,000.00	\$10,000	\$ 20,000.00	\$20,000
	Elevator Sump Pump	1	EA	\$ 2,500.00	\$2,500	\$ 500.00	\$500	\$ 3,000.00	\$3,000
SUBTOTAL	SANITARY WASTE	19000	SF	\$ 1.46	\$27,750	\$ 1.66	\$31,600	\$ 3.12	\$59,350

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D2040	RAIN WATER DRAINAGE								
	Determine source of service water leak at dispensing fountain and repair	1	LS	\$ 1,500.00	\$1,500	\$ 1,500.00	\$1,500	\$ 3,000.00	\$3,000
	Replace the missing portion of downspout leader	1	EA	\$ 250.00	\$250	\$ 300.00	\$300	\$ 550.00	\$550
	Replace existing areaway drains with new drains with beehive metal domes	3	EA	\$ 500.00	\$1,500	\$ 1,500.00	\$4,500	\$ 2,000.00	\$6,000
SUBTOTAL	RAIN WATER DRAINAGE	19000	SF	\$ 0.17	\$3,250	\$ 0.33	\$6,300	\$ 0.50	\$9,550

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D2050	SPECIAL PLUMBING SYSTEMS								
	Gas Piping to Generator	75	LF	\$ 5.00	\$375	\$ 25.00	\$1,875	\$ 30.00	\$2,250
	Gas Piping to Boilers	150	LF	\$ 5.00	\$750	\$ 25.00	\$3,750	\$ 30.00	\$4,500
SUBTOTAL	SPECIAL PLUMBING SYSTEMS	19000	SF	\$ 0.06	\$1,125	\$ 0.30	\$5,625	\$ 0.36	\$6,750

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: AG
 Date: 05/12/22

Summary Item D20 Plumbing Systems

Total Cost: \$161,100

Summary Item D20 Plumbing Systems

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D20	Plumbing Systems	19000	SF	\$ 4.29	\$81,525	\$ 4.19	\$79,575	\$ 8.48	\$161,100

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item **D30 HVAC**

Total Cost: \$750,250

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D3020	HEAT GENERATING SYSTEMS								
	Install 3 - 50% capacity each gas fired condensing boilers	3	EA	\$ 21,666.67	\$65,000	\$ 7,500.00	\$22,500	\$ 29,166.67	\$87,500
	Provide 3 - 50% capacity each, variable primary, vertical in-line heating water pumps.	3	Unit	\$ 6,500.00	\$19,500	\$ 1,500.00	\$4,500	\$ 8,000.00	\$24,000
	Provide heating water accessories including air/dirt separator and quick and auto fill system	1	LS	\$ 3,500.00	\$3,500	\$ 1,200.00	\$1,200	\$ 4,700.00	\$4,700
	Provide shell and tube heat exchanger to provide preheat of boiler return water utilizing thermal water.	1	EA	\$ 15,000.00	\$15,000	\$ 1,500.00	\$1,500	\$ 16,500.00	\$16,500
	Provide vertical in-line heat exchanger pump	1	EA	\$ 6,500.00	\$6,500	\$ 1,500.00	\$1,500	\$ 8,000.00	\$8,000
	Connect Schedule 40 black steel or Type L copper heating water piping to boilers, heating water pumps, air/dirt separator, air handling units, VAV boxes, fan coil units & unit heaters	1	LS	\$ 5,000.00	\$5,000	\$ 5,200.00	\$5,200	\$ 10,200.00	\$10,200
SUBTOTAL	HEAT GENERATING SYSTEMS	19000	SF	\$ 6.03	\$114,500	\$ 1.92	\$36,400	\$ 7.94	\$150,900

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D3030	COOLING GENERATING SYSTEMS								
	Provide new 65 ton air cooled chiller	1	EA	\$ 65,000.00	\$65,000	\$ 8,500.00	\$8,500	\$ 73,500.00	\$73,500
	Provide 2 - 100% capacity each, variable primary, vertical in-line, floor mounted chilled water pumps.	2	EA	\$ 6,500.00	\$13,000	\$ 1,500.00	\$3,000	\$ 8,000.00	\$16,000
	Provide chilled water accessories including air/dirt separator and quick and auto fill system	1	LS	\$ 7,500.00	\$7,500	\$ 2,500.00	\$2,500	\$ 10,000.00	\$10,000
	Connect Schedule 40 black steel chilled water piping to chiller, chilled water pumps, air/dirt separator, air handling units and fan coil units	1	LS	\$ 10,000.00	\$10,000	\$ 5,000.00	\$5,000	\$ 15,000.00	\$15,000
SUBTOTAL	COOLING GENERATING SYSTEMS	19000	SF	\$ 5.03	\$95,500	\$ 1.00	\$19,000	\$ 6.03	\$114,500

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item D30 HVAC

Total Cost: \$750,250

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D3040	DISTRIBUTION SYSTEMS (HVAC)								
	Provide new air handling unit system, return fan and associated ductwork and constant volume boxes with hot water reheat coils to serve the archival spaces	9000	CFM	\$ 5.18	\$46,600	\$ 3.00	\$27,000	\$ 8.18	\$73,600
	Provide new air handling unit system, return fan and associated ductwork to serve the remainder of the occupied building spaces.	6500	CFM	\$ 14.05	\$91,300	\$ 3.00	\$19,500	\$ 17.05	\$110,800
	Humidifier for AHU-2	1	EA	\$ 3,500.00	\$3,500	\$ 3,500.00	\$3,500	\$ 7,000.00	\$7,000
	Provide mini-split DX indoor unit and remote condensing unit for elevator equipment room	1	EA	\$ 6,500.00	\$6,500	\$ 1,500.00	\$2,500	\$ 8,000.00	\$8,000
	Provide inline exhaust fan and associated ductwork to serve the new janitor's closets and restrooms	1	EA	\$ 6,500.00	\$6,500	\$ 2,500.00	\$2,500	\$ 9,000.00	\$9,000
	Ductwork/Grilles/Registers	19000	SF	\$ 3.00	\$57,000	\$ 5.00	\$95,000	\$ 8.00	\$152,000
SUBTOTAL	DISTRIBUTION SYSTEMS (HVAC)	19000	SF	\$ 11.13	\$211,400	\$ 7.89	\$150,000	\$ 18.97	\$360,400
Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G3060	CONTROLS & INSTRUMENTATION								
	CONTROLS & INSTRUMENTATION	19000	SF	\$ 2.00	\$38,000	\$ 3.00	\$57,000	\$ 5.00	\$95,000
SUBTOTAL	CONTROLS & INSTRUMENTATION	19000	SF	\$ 2.00	\$38,000	\$ 3.00	\$57,000	\$ 5.00	\$95,000
Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G3080	SYSTEM TESTING & BALANCING								
	Testing and Balancing	19000	SF	\$ 0.05	\$950	\$ 1.50	\$28,500	\$ 1.55	\$29,450
SUBTOTAL	SYSTEM TESTING & BALANCING	19000	SF	\$ 0.05	\$950	\$ 1.50	\$28,500	\$ 1.55	\$29,450

Summary Item D30 HVAC

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D30	HVAC	19000	SF	\$ 24.23	\$460,350	\$ 15.31	\$290,900	\$ 39.49	\$750,250

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: AG
 Date: 05/12/22

Summary Item **D40 Fire Protection**

Total Cost: \$231,700

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D4010	FIRE PROTECTION SPRINKLERS SYSTEMS								
	Install double interlock pre-action dry pipe sprinkler system for	8500	SF	\$ 3.00	\$25,500	\$ 4.00	\$34,000	\$ 7.00	\$59,500
	Install wet sprinkler system for remainder of building	8500	SF	\$ 2.00	\$17,000	\$ 3.00	\$25,500	\$ 5.00	\$42,500
	Furnish and install all connections to dry pipe fire protection serving attic.	9750	SF	\$ 2.50	\$24,375	\$ 3.50	\$34,125	\$ 6.00	\$58,500
	Furnish and install VESDA fire protection system (or equal) to provide protection of collection and archive area.	8900	SF	\$ 5.00	\$44,500	\$ 3.00	\$26,700	\$ 8.00	\$71,200
SUBTOTAL	FIRE PROTECTION SPRINKLERS SYSTEMS	17000	SF	\$ 6.55	\$111,375	\$ 7.08	\$120,325	\$ 13.63	\$231,700

Summary Item **D40 Fire Protection**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D40	Fire Protection	19000	SF	\$ 5.86	\$111,375	\$ 6.33	\$120,325	\$ 12.19	\$231,700

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: AG
Date: 05/12/22

Summary Item **D50 Electrical**

Total Cost: \$944,350

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D5010	ELECTRICAL SERVICE & DISTRIBUTION								
	Main Switchboard 1000 Amp	1	EA	\$ 55,000.00	\$55,000	\$ 1,500.00	\$1,500	\$ 56,500.00	\$56,500
	600 Amp Panel	2	EA	\$ 15,000.00	\$30,000	\$ 1,500.00	\$3,000	\$ 16,500.00	\$33,000
	Feeders	450	LF	\$ 25.00	\$11,250	\$ 15.00	\$6,750	\$ 40.00	\$18,000
	Furnish and install new grounding electrode system.	19000	SF	\$ 0.25	\$4,750	\$ 0.75	\$14,250	\$ 1.00	\$19,000
	Furnish and install convenience power throughout the building.	19000	SF	\$ 4.00	\$76,000	\$ 4.00	\$76,000	\$ 8.00	\$152,000
	Furnish and install connections to all new mechanical equipment	19000	SF	\$ 3.00	\$57,000	\$ 1.50	\$28,500	\$ 4.50	\$85,500
	Furnish and install emergency shutdown system for the boilers and associated equipment	1	LS	\$ 5,000.00	\$5,000	\$ 5,000.00	\$5,000	\$ 10,000.00	\$10,000
	Furnish and install arc flash labels for all electrical equipment	19000	SF	\$ 0.15	\$2,850	\$ 0.10	\$1,900	\$ 0.25	\$4,750
SUBTOTAL	ELECTRICAL SERVICE & DISTRIBUTION	19000	SF	\$ 12.73	\$241,850	\$ 7.21	\$136,900	\$ 19.93	\$378,750

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D5020	LIGHTING & BRANCH WIRING								
	Furnish and install all new exit signs	19000	SF	\$ 1.00	\$19,000	\$ 1.00	\$19,000	\$ 2.00	\$38,000
	Furnish and install all new lighting throughout building.	19000	SF	\$ 6.00	\$114,000	\$ 3.00	\$57,000	\$ 9.00	\$171,000
	Provide pendant hung architectural light fixtures Room 100	6	EA	\$ 1,000.00	\$6,000	\$ 200.00	\$1,200	\$ 1,200.00	\$7,200
	Remove and replace light fixtures Room 200	6	EA	\$ 1,200.00	\$7,200	\$ 200.00	\$1,200	\$ 1,400.00	\$8,400
	Remove and replace light fixtures with restored antique or replica fixtures Room 201	2	EA	\$ 1,200.00	\$2,400	\$ 200.00	\$400	\$ 1,400.00	\$2,800
	Install new exterior fixtures	12	EA	\$ 900.00	\$10,800	\$ 200.00	\$2,400	\$ 1,100.00	\$13,200
221	Remove, salvage, and restore historic ceiling light fixture. Reinstall. Room 218	8	EA	\$ 1,500.00	\$12,000	\$ 2,500.00	\$20,000	\$ 4,000.00	\$32,000
226	Remove, salvage, and restore historic ceiling light fixture. Reinstall. Room 219	1	EA	\$ 1,500.00	\$1,500	\$ 2,500.00	\$2,500	\$ 4,000.00	\$4,000
227	Remove, salvage, and restore historic ceiling light fixture. Reinstall. Room 220	1	EA	\$ 1,500.00	\$1,500	\$ 2,500.00	\$2,500	\$ 4,000.00	\$4,000

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: AG
 Date: 05/12/22

Summary Item D50 Electrical								Total Cost:	\$944,350
SUBTOTAL	LIGHTING & BRANCH WIRING	19000	SF	\$ 9.18	\$174,400	\$ 5.59	\$106,200	\$ 14.77	\$280,600

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D5030	COMMUNICATIONS & SECURITY								
	Furnish and install new fire alarm system.	19,000	SF	\$ 2.00	\$38,000	\$ 3.00	\$57,000	\$ 5.00	\$95,000
	Furnish and install a new security system.	19000	SF	\$ 2.50	\$47,500	\$ 3.00	\$57,000	\$ 5.50	\$104,500
	Furnish and install IT connections throughout the building.	19000	SF	\$ 1.50	\$28,500	\$ 3.00	\$57,000	\$ 4.50	\$85,500
SUBTOTAL	COMMUNICATIONS & SECURITY	19000	SF	\$ 6.00	\$114,000	\$ 9.00	\$171,000	\$ 15.00	\$285,000

Summary Item D50 Electrical

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
D50	Electrical	19000	SF	\$ 27.91	\$530,250	\$ 21.79	\$414,100	\$ 49.70	\$944,350

**United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)**

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: Reviewer Name
Date: Review Date

Summary Item F20 Selective Building Demolition

Total Cost: \$296,760

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
F2010	BUILDING ELEMENTS DEMOLITION								
	Demo existing gas fired water heater and electric water heater and associated piping	2	EA	\$ -	\$0	\$ 1,040.00	\$2,080	\$ 1,040.00	\$2,080
	Demo existing interior above grade and exterior storm water piping connected to the abandoned pools.	1	LS	\$ -	\$0	\$ 1,560.00	\$1,560	\$ 1,560.00	\$1,560
	Disconnect and remove all thermal water piping up to service entrance piping	1	LS	\$ -	\$0	\$ 2,080.00	\$2,080	\$ 2,080.00	\$2,080
	Demo existing blower coil system and associated ductwork	1	LS	\$ -	\$0	\$ 2,500.00	\$2,500	\$ 2,500.00	\$2,500
	Disconnect and remove 3 existing boilers and associated condensate pump, boiler blow down separator, flue piping and associated steam piping.	3	EA	\$ -	\$0	\$ 2,500.00	\$7,500	\$ 2,500.00	\$7,500
	Disconnect and remove remaining steam heating piping	1	LS	\$ -	\$0	\$ 4,160.00	\$4,160	\$ 4,160.00	\$4,160
	Disconnect and remove the existing air handling unit and all associated ductwork.	19000	SF	\$ -	\$0	\$ 1.00	\$19,000	\$ 1.00	\$19,000
	Electrical Demolition	19000	SF	\$ -	\$0	\$ 3.00	\$57,000	\$ 3.00	\$57,000
	LOWER LEVEL								
	Demo Tile Flooring (2 layers)	1900	SF	\$ -	\$0	\$ 5.00	\$9,500	\$ 5.00	\$9,500
	Demo Tile Flooring (1 layers)	250	SF	\$ -	\$0	\$ 3.50	\$875	\$ 3.50	\$875
	Interior Walls (Clay Tile with Plaster)	228	LF	\$ -	\$0	\$ 42.00	\$9,576	\$ 42.00	\$9,576
	Demo ceramic wall tile off existing walls to remain.	800	SF	\$ -	\$0	\$ 2.00	\$1,600	\$ 2.00	\$1,600
	Demo (2) pools, including pool decks, pools, stairs, pool accessories (Approximately 1900 SF)	1900	SF	\$ -	\$0	\$ 8.00	\$15,200	\$ 8.00	\$15,200
	Carefully remove marble toilet/shower partitions (total of 6)	6	EA	\$ -	\$0	\$ 350.00	\$2,100	\$ 350.00	\$2,100
	Plaster Ceiling	400	SF	\$ -	\$0	\$ 5.00	\$2,000	\$ 5.00	\$2,000
	Remove pilasters on exterior walls of pool room, that includes plumbing piping.	4	EA	\$ -	\$0	\$ 850.00	\$3,400	\$ 850.00	\$3,400
	Remove existing interior door frames and doors.	18	EA	\$ -	\$0	\$ 150.00	\$2,700	\$ 150.00	\$2,700
	UPPER LEVEL								
	Demo Vinyl Flooring	546	SF	\$ -	\$0	\$ 3.00	\$1,638	\$ 3.00	\$1,638
	Demo Tile Flooring (1 layers)	3334	SF	\$ -	\$0	\$ 3.50	\$11,669	\$ 3.50	\$11,669
	Interior Walls (Clay Tile with Plaster)	247	LF	\$ -	\$0	\$ 42.00	\$10,374	\$ 42.00	\$10,374

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: Reviewer Name
 Date: Review Date

Summary Item	F20 Selective Building Demolition									Total Cost:	\$296,760
	Interior Partitions (Glazed CMU)	135	LF	\$ -	\$0	\$ 40.00	\$5,400	\$ 40.00	\$5,400	\$5,400	
	Demo ceramic wall tile off existing walls to remain. Rooms 203, 205, 206, 210, and 214.	924	SF	\$ -	\$0	\$ 2.00	\$1,848	\$ 2.00	\$1,848	\$1,848	
	Demo (7) pools, including pool decks, pools, stairs, pool accessories (Approximately 800 SF)	800	SF	\$ -	\$0	\$ 8.00	\$6,400	\$ 8.00	\$6,400	\$6,400	
	Carefully remove marble toilet/shower partitions (total of 9). Rooms 211, 223, and 227.	9	EA	\$ -	\$0	\$ 350.00	\$3,150	\$ 350.00	\$3,150	\$3,150	
	Carefully remove wood locker room partitions (total of 3)	3	EA	\$ -	\$0	\$ 150.00	\$450	\$ 150.00	\$450	\$450	
	Remove attic access ladder	1	EA	\$ -	\$0	\$ 250.00	\$250	\$ 250.00	\$250	\$250	
	Remove existing interior door frames and doors. (Upper Level)	25	EA	\$ -	\$0	\$ 150.00	\$3,750	\$ 150.00	\$3,750	\$3,750	
SUBTOTAL	BUILDING ELEMENTS DEMOLITION	19000	SF	\$ -	\$0	\$ 9.88	\$187,760	\$ 9.88	\$187,760	\$187,760	

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
F2020	HAZARDOUS COMPONENTS ABATEMENT								
	HazMat – Lead Paint	1	LS	\$ -	\$0	\$ 45,000.00	\$45,000	\$ 45,000.00	\$45,000
	HazMat – Asbestos	1	LS	\$ -	\$0	\$ 10,000.00	\$10,000	\$ 10,000.00	\$10,000
	HazMat – Radon	1	LS	\$ -	\$0	\$ 5,000.00	\$5,000	\$ 5,000.00	\$5,000
	HazMat – Pipe Removal	1	LS	\$ -	\$0	\$ 45,000.00	\$45,000	\$ 45,000.00	\$45,000
	HazMat – Lead Pool Liners	1	LS	\$ -	\$0	\$ 4,000.00	\$4,000	\$ 4,000.00	\$4,000
SUBTOTAL	HAZARDOUS COMPONENTS ABATEMENT	19000	SF	\$ -	\$0	\$ 5.74	\$109,000	\$ 5.74	\$109,000

Summary Item F20 Selective Building Demolition

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
F20	Selective Building Demolition	19000	SF	\$ -	\$0	\$ 15.62	\$296,760	\$ 15.62	\$296,760

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: Reviewer Name
 Date: Review Date

Summary Item **G10 Site Preparation**

Total Cost: \$32,560

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G1020	SITE DEMOLITION & RELOCATIONS								
	Remove stair	1	EA	\$ -	\$0	\$ 500.00	\$500	\$ 500.00	\$500
	Remove guardrail from areaway perimeter	100	LF	\$ -	\$0	\$ 3.00	\$300	\$ 3.00	\$300
	Remove debris and biological growth from areaway floor	340	SF	\$ -	\$0	\$ 2.00	\$680	\$ 2.00	\$680
	Remove debris and biological growth from areaway floor and walls	2500	SF	\$ 0.25	\$625	\$ 2.00	\$5,000	\$ 2.25	\$5,625
	Remove concrete paving	675	SF	\$ -	\$0	\$ 2.00	\$1,350	\$ 2.00	\$1,350
	Remove, masonry screen wall	85	LF	\$ -	\$0	\$ 5.00	\$425	\$ 5.00	\$425
	Remove metal gate	340	SF	\$ -	\$0	\$ 2.00	\$680	\$ 2.00	\$680
	Remove porte cochere and masonry retaining wall including brick masonry wall adjacent to building wall	1400	SF	\$ -	\$0	\$ 5.00	\$7,000	\$ 5.00	\$7,000
	Remove concrete drive, sidewalks, and entry ramp	4700	SF	\$ -	\$0	\$ 2.00	\$9,400	\$ 2.00	\$9,400
SUBTOTAL	SITE DEMOLITION & RELOCATIONS	19000	SF	\$ 0.03	\$625	\$ 1.33	\$25,335	\$ 1.37	\$25,960

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G1030	SITE EARTHWORK								
	Regrade slope at new east egress door location	1	EA	\$ -	\$0	\$ 650.00	\$650	\$ 650.00	\$650
	Regrade south entry area	5400	SF	\$ -	\$0	\$ 1.00	\$5,400	\$ 1.00	\$5,400
	Regrade area of sun porch	1200	SF	\$ -	\$0	\$ 1.00	\$1,200	\$ 1.00	\$1,200
SUBTOTAL	SITE EARTHWORK	19000	SF	\$ -	\$0	\$ 0.35	\$6,600	\$ 0.35	\$6,600

Summary Item **G10 Site Preparation**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G10	Site Preparation	19000	SF	\$ 0.03	\$625	\$ 1.68	\$31,935	\$ 1.71	\$32,560

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: Reviewer Name
Date: Review Date

Summary Item **G20 Site Improvements**

Total Cost: \$164,018

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G2020	PARKING LOTS								
	Paint lines to identify parking spots on Reserve Street (2 accessible, 2 general)	4	EA	\$ 1.00	\$ 4	\$ 17.00	\$ 68	\$ 18.00	\$ 72
SUBTOTAL	PARKING LOTS	19000	SF	\$ 0.00	\$ 4	\$ 0.00	\$ 68	\$ 0.00	\$ 72

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G2030	PEDESTRIAN PAVING								
	Sidewalk: remove and replace deteriorated concrete sidewalk slabs	925	SF	\$ 3.00	\$ 2,775	\$ 5.00	\$ 4,625	\$ 8.00	\$ 7,400
	Remove staining from quarry tile and grout	420	SF	\$ -	\$ 0	\$ 3.00	\$ 1,260	\$ 3.00	\$ 1,260
	Remove and replace concrete plaza at north entry, regrade to achieve accessible routes to building and bottle filling station	1730	SF	\$ 5.00	\$ 8,650	\$ 7.00	\$ 12,110	\$ 12.00	\$ 20,760
	Replace concrete curb along Reserve Street include one curb cut with accessible slope and flared transitions	110	LF	\$ 5.00	\$ 550	\$ 10.00	\$ 1,100	\$ 15.00	\$ 1,650
	Repoint open joint at retaining wall with sealant	6	LF	\$ 1.00	\$ 6	\$ 15.00	\$ 90	\$ 16.00	\$ 96
	Refinish handrails at concrete stair	1	EA	\$ 15.00	\$ 15	\$ 150.00	\$ 150	\$ 165.00	\$ 165
	Remove atmospheric staining and biological growth from concrete benches	2	EA	\$ 25.00	\$ 50	\$ 300.00	\$ 600	\$ 325.00	\$ 650
	Repair cracks in concrete benches	24	LF	\$ 5.00	\$ 120	\$ 15.00	\$ 360	\$ 20.00	\$ 480
	provide concrete retaining wall	16	SF	\$ 15.00	\$ 240	\$ 25.00	\$ 400	\$ 40.00	\$ 640
	Provide concrete concrete slab (5'-0"x5'-0")	25	SF	\$ 3.00	\$ 75	\$ 5.00	\$ 125	\$ 8.00	\$ 200
	Create new concrete driveway with access at Spring Street and Laurel Street incorporating (2) accessible parking spaces, extend sidewalks along new driveway	5400	SF	\$ 3.00	\$ 16,200	\$ 5.00	\$ 27,000	\$ 8.00	\$ 43,200
	Create concrete landing at door and concrete accessible sloped walk	300	SF	\$ 3.00	\$ 900	\$ 5.00	\$ 1,500	\$ 8.00	\$ 2,400
	Concrete landing and four steps with 6" risers and 12" treads at south entry	120	SF	\$ 3.00	\$ 360	\$ 5.00	\$ 600	\$ 8.00	\$ 960
SUBTOTAL	PEDESTRIAN PAVING	19000	SF	\$ 1.58	\$ 29,941	\$ 2.63	\$ 49,920	\$ 4.20	\$ 79,861

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
Park: Hot Springs National Park
Park Alpha: HOSP
PMIS Number: 318915B

Estimate By: Michael Orel, CPE
Date: 05/12/22
Reviewed By: [Reviewer Name](#)
Date: [Review Date](#)

Summary Item **G20 Site Improvements**

Total Cost: \$164,018

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G2040	SITE DEVELOPMENT								
	Refinish guardrail and stair handrail at areaway	75	LF	\$ 1.00	\$75	\$ 25.00	\$1,875	\$ 26.00	\$1,950
	Replace metal egress stair with new metal egress stair that extends over areaway cap, include guardrails and handrails, paint	1	EA	\$ 3,500.00	\$3,500	\$ 1,500.00	\$1,500	\$ 5,000.00	\$5,000
	Provide 6'-0" tall pre-finished aluminum louvered screen wall around mechanical equipment at west side of south entry.	60	LF	\$ 60.00	\$3,600	\$ 90.00	\$5,400	\$ 150.00	\$9,000
	Provide NPS monument sign at building exterior	1	EA	\$ 5,000.00	\$5,000	\$ 2,500.00	\$2,500	\$ 7,500.00	\$7,500
	Provide NPS post-mounted interpretive sign at building exterior	1	EA	\$ 2,500.00	\$2,500	\$ 500.00	\$500	\$ 3,000.00	\$3,000
SUBTOTAL	SITE DEVELOPMENT	19000	SF	\$ 0.77	\$14,675	\$ 0.62	\$11,775	\$ 1.39	\$26,450

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G2050	LANDSCAPING								
	Prep metal stair landing, treads, stringers, handrails to remove biological growth and minor surface corrosion, paint	1	EA	\$ 75.00	\$75	\$ 1,560.00	\$1,560	\$ 1,635.00	\$1,635
	disturbed by south entry work	7000	SF	\$ 3.00	\$21,000	\$ 5.00	\$35,000	\$ 8.00	\$56,000
SUBTOTAL	LANDSCAPING	19000	SF	\$ 1.11	\$21,075	\$ 1.92	\$36,560	\$ 3.03	\$57,635

Summary Item **G20 Site Improvements**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G20	Site Improvements	19000	SF	\$ 3.46	\$65,695	\$ 5.17	\$98,323	\$ 8.63	\$164,018

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: Reviewer Name
 Date: Review Date

Summary Item **G30 Site Mechanical Utilities**

Total Cost: \$67,800

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G3010	WATER SUPPLY								
	Install new 6" fire water service to SW corner of building	100	LF	\$ 15.00	\$1,500	\$ 25.00	\$2,500	\$ 40.00	\$4,000
	Install new 6" double check backflow preventer in SW basement	1	EA	\$ 850.00	\$850	\$ 650.00	\$650	\$ 1,500.00	\$1,500
	Replace existing backflow preventer with new 3" RPZ backflow preventer with air gap fitting and drain piping	1	EA	\$ 650.00	\$650	\$ 650.00	\$650	\$ 1,300.00	\$1,300
SUBTOTAL	WATER SUPPLY	19000	SF	\$ 0.16	\$3,000	\$ 0.20	\$3,800	\$ 0.36	\$6,800

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G3030	STORM SEWER								
	Clean out north elevation downspout boot and underground drain, replace downspout and connect to underground	1	EA	\$ 500.00	\$500	\$ 1,250.00	\$1,250	\$ 1,750.00	\$1,750
	Tie roof drains into storm system	3	EA	\$ 500.00	\$1,500	\$ 1,250.00	\$3,750	\$ 1,750.00	\$5,250
	New perimeter drain system	600	LF	\$ 35.00	\$21,000	\$ 55.00	\$33,000	\$ 90.00	\$54,000
SUBTOTAL	STORM SEWER	19000	SF	\$ 1.21	\$23,000	\$ 2.00	\$38,000	\$ 3.21	\$61,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G30	Site Mechanical Utilities	19000	SF	\$ 1.37	\$26,000	\$ 2.20	\$41,800	\$ 3.57	\$67,800

United States Department of the Interior
National Park Service
Class B Construction Cost Estimate (expanded)

LINE ITEM COST SUMMARY

Project: Condition Assessment and Treatment Plan for the Libbey
 Park: Hot Springs National Park
 Park Alpha: HOSP
 PMIS Number: 318915B

Estimate By: Michael Orel, CPE
 Date: 05/12/22
 Reviewed By: Reviewer Name
 Date: Review Date

Summary Item **G40 Site Electrical Utilities**

Total Cost: \$252,930

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G4010	ELECTRICAL DISTRIBUTION								
	New Service	150	LF	\$ 20.00	\$3,000	\$ 25.00	\$3,750	\$ 45.00	\$6,750
	Feeder for ATS/Generator	450	LF	\$ 25.00	\$11,250	\$ 15.00	\$6,750	\$ 40.00	\$18,000
	ATS	3	EA	\$ 15,000.00	\$45,000	\$ 1,560.00	\$4,680	\$ 16,560.00	\$49,680
	260 KW Gas Generator	1	EA	\$145,000	\$145,000	\$ 10,500.00	\$10,500	\$ 155,500.00	\$155,500
SUBTOTAL	ELECTRICAL DISTRIBUTION	19000	SF	\$ 10.75	\$204,250	\$ 1.35	\$25,680	\$ 12.10	\$229,930

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G4020	SITE LIGHTING								
	Replace exterior building-mounted lighting with appropriate fixtures at north and south entries	4	EA	\$ 1,200.00	\$4,800	\$ 300.00	\$1,200	\$ 1,500.00	\$6,000
	Provide exterior building-mounted lighting at exit/loading doors	4	EA	\$ 1,200.00	\$4,800	\$ 300.00	\$1,200	\$ 1,500.00	\$6,000
SUBTOTAL	SITE LIGHTING	19000	SF	\$ 0.51	\$9,600	\$ 0.13	\$2,400	\$ 0.63	\$12,000

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G4030	SITE COMMUNICATIONS & SECURITY								
	New It/Telephone service to building	1	LS	\$ 2,500.00	\$2,500	\$ 8,500.00	\$8,500	\$ 11,000.00	\$11,000
SUBTOTAL	SITE COMMUNICATIONS & SECURITY	19000	SF	\$ 0.13	\$2,500	\$ 0.45	\$8,500	\$ 0.58	\$11,000

Summary Item **G40 Site Electrical Utilities**

Uniformat II WBS Code	Description	Quantity	Unit	MATERIAL		INSTALLATION		TOTALS	
				Material Cost/Unit	Total Material Cost	Install Cost/Unit	Total Install Cost	Total Cost/Unit	Total Cost
G40	Site Electrical Utilities	19000	SF	\$ 11.39	\$216,350	\$ 1.93	\$36,580	\$ 13.31	\$252,930