DUE DILIGENCE REPORT

LASSEN COUNTY COURTHOUSE SQUARE

MARCH 15, 2019

COUNTY OF LASSEN

LIONAKIS

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EXECUTIVE SUMMARY

BACKGROUND

Lionakis was engaged to develop options for responsible and effective improvements to Lassen County's Historic Courthouse and the Annex Building located in Susanville known as Courthouse Square. Each building has been in service for several years and the recommended improvements will allow them to remain in service into the future. Several of the improvements address fire/life safety and accessibility deficiencies that are the result of changing building codes and requirements over the years. Other improvements address replacement of aging systems and deferred maintenance.

This report defines an overall scope of improvements, listed below. Many of the upgrades and improvements, particularly those addressing structural and fire/life safety and accessibility compliance, would be triggered by any major modification or renovation project under consideration by the County. By defining this work, the County can develop a phased approach to undertaking the necessary improvements and upgrades. As such, the following list represents major scope of work areas; phasing the improvements would be sequenced to match available funding and County needs.

Recommended Improvements

- Structural Safety
  - Seismic Assessment & Recommended Improvements
  - Exterior Cladding at the Courthouse
- Fire/Life Safety Systems
  - Fire Exit Stairs
  - Fire Alarm System
  - Fire Suppression System
  - Emergency Exit Lighting
- Accessibility Compliance
  - Accessible Path of Travel to each Building
  - Accessible Path of Travel within each Building
  - Elevator
  - Accessible Restrooms & Public Facilities
- Building Systems
  - Historic Character Defining Features
  - Building Envelope
  - Mechanical, Electrical, and Plumbing Systems

Courthouse Square is defined by the City block bounded by South Roop Street to the north, Mill Street to the east, South Lassen Street on the south, and Court Street on the west. The buildings located within the block include the Historic Courthouse, the Annex Building, and the Historic Jail, which is dilapidated and abandoned.

In 2012, a new courthouse – The Hall of Justice, located at 2610 Riverside Drive in Susanville – was constructed for The Superior Court of California, County of Lassen. The Court moved to the new building vacating the Historic Courthouse and the Annex Building. Presently the Historic Courthouse houses the following County Departments:

- Clerk of the Board of Supervisors
- County Clerk Recorder & Elections
- Assessor
- Treasurer and Tax Collector

Currently the Annex Building houses the following County Departments:

- Auditor
- Information Services
- County Counsel
- Administration Office
- Personnel
- Board of Supervisors Offices

The Departments listed above will remain at Courthouse Square for the foreseeable future and require less square footage area than both buildings provide. This allows other departments, for example, to move from the Annex into the Courthouse. It also provides "swing-space" for other departments to be relocated to the Annex. As a result of this flexibility, the following moves are planned:

Historic Courthouse

- Administration Office
- Personnel
- Board of Supervisors' Chambers and Meeting Room
- Board of Supervisors' Private Offices
- County Counsel

Annex Building

- Public Works
- Building and Planning
- Surveyor

The available space that the County has in the Historic Courthouse and the Annex Building present an opportunity to co-locate departmental functions for public convenience and divest in existing properties that are less efficient from both maintenance and workplace efficiency standpoints. However, the task of providing upgrades to these facilities is a complex matter. This report outlines the recommended improvements and how to approach these upgrades.

HISTORIC COURTHOUSE

For the past 100 years, the Historic Courthouse has been in continuous use: Court was held on the second floor in the Historic Courtroom as well as in a modified space in the basement when it became clear that caseload required a second courtroom. The building is well maintained but has significant deficiencies from seismic safety, fire/life safety, and accessibility perspectives in 2019, almost a full 104 years after the building was designed.

Any building that has survived and continues to function for over 100 years deserves accolades for durable design, construction, and facility maintenance. However, building code requirements change over time and the building is long overdue for improvements that address the fire/life safety and accessibility improvements that buildings which are designed today must provide.

In early January 2016, Lionakis and our Team of consulting engineers and design professionals visited the Courthouse to investigate the building's operational and functional aspects. Extensive assessments of the Courthouse's building systems were conducted. Additionally, building occupants and staff responsible for building maintenance were interviewed. The insight gained from this site visit, as well as subsequent research and design development, provided the basis for the findings presented below.

STRUCTURAL SYSTEM

The structural system of the Historic Courthouse employed a concrete column and slab design that was progressive for its time. The building's original blueprints provide some information on the foundation, columns, and floor slabs, but lack clarity on the design of the interior walls and, of note, the design of the exterior envelope system. This is typical for drawings and construction methods of the early 1900s. At that time contractors and carpenters determined many of the construction details in the field based on the best locally available materials.

For example, the blueprints for the Historic Courthouse depict unreinforced hollow clay tile as the material for all interior walls. As part of the due diligence process, Lionakis had Pete Heimbigner, County Public Works, open-up a section of an interior wall to expose the cavity between the interior and exterior walls. This was requested by Darron Huntingdale, a Structural Engineer with Lionakis, to confirm the type of hollow clay tile used for the construction of the interior walls. Upon inspection of the exposed wall cavity, it was discovered that the interior walls were constructed of metal lath and thick plaster finishes, not the hollow clay tiles as depicted on the original blueprints.

This discovery is an example of how the actual construction of a building in the early 1900s deviated from its blueprints: For the Historic Courthouse, we can only speculate why the interior walls were constructed with metal lath and plaster when the blueprints called for hollow clay tile. Perhaps a ready source of hollow clay tile was not available locally at the time of construction. The cost to bring hollow clay tile to Susanville from sources in Sacramento or the Bay Area would have been extremely cost prohibitive. Further, we can also speculate that metal lath was more economical to transport to the site, even from Sacramento, and there would have been ready, local sources for materials to make plaster.

Based on this it is reasonable to presume that all the building's interior walls are constructed of metal lath and plaster. In one respect, this is a good thing because unreinforced hollow clay tile walls, though fireproof, are extremely brittle and fracture outward – with force – during seismic events. While the Courthouse's metal lath and plaster walls are also fireproof and would not be prone to fracture outward during a seismic event, they do not provide the same level of lateral force resistance as hollow clay tile walls.

The building exterior consists of locally quarried Ryolite Tuff stone as the infill material between the concrete slab floors. This creates a cohesive and continuous exterior, but structurally, this stone only spans between the slabs of the separate floor levels. Given the concrete structural system, which works well in managing vertical gravity loads, the stone exterior can only resist minor lateral loads, such as wind. Unfortunately, as an infill material, this stone will not resist the magnitude of lateral loading generated by a seismic event. Further, this stone does not meet minimum prescriptive thickness requirements for assessing existing buildings to today's code standards.

As such, further investigation was requested to determine how best to brace the building to resist seismic loading. Options considered included reinforcing sections of the exterior wall system (hidden inside the wall cavity), as well as installing structural braced walls on the interior. More is explained about these improvements in the Structural Assessment (Section 3) portion of this report, which describes the structural analysis process used to develop best-value seismic reinforcing recommendations. This analysis included developing a computer model of the Courthouse to understand how it would perform in a range of seismic events.

It bears noting that the Historic Courthouse was, by all indications, designed and built in accordance with the building codes and methods and construction means in use at the time. The seismic reinforcing recommendations and improvements outlined in the Structural Assessment are the result of a century of code improvements and knowledge gained from seismic events. It is also of note that the California Building Code and its reference code, The International Building Code, updates seismic design requirements every three years based on understanding gained from recent seismic events related to site-specific geology. The seismic reinforcing recommendations in the Structural Assessment utilized current requirements to develop best-value options to reinforce the building's lateral structural system and preserve its historic character.

LIFE SAFETY

Like designing for seismic forces, building codes have significantly progressed in addressing life/safety needs over the past 100 years. Building accidents that result in the loss of life are studied extensively and codes are revised and updated to address the deficiencies that caused such accidents. From the Chicago Fire to a pyrotechnics accident at a concert, the life safety requirements that evolve over time improve the fire/life safety performance of buildings in incremental but significant ways. Comparing a building such as the Historic Courthouse, designed over 100 years ago (even with its upgrades over the years), to current code requirements is challenging but doable; this results in recommended upgrades to the building's fire/life safety systems.

By all practical measures, a building not built under the current code will not have the up-to-date fire/life safety systems, including fire exiting, fire alarm and fire suppression systems, prescribed by that current code. Further, a building not designed and built under the current code is not as safe as one which was. However, our communities have hundreds of buildings which were not designed to current code, yet we spend our days – whether at work, school, or shopping – entering and inhabiting these "less-safe" buildings.

While it would certainly be impossible to upgrade all buildings to current codes, it is realistic to apply current code requirements to existing buildings so that they can meet the fire/life safety expectations of building users and occupants. The 2016 California Building Code provides a checklist method to determine an existing building's life safety relative to current code. This checklist is included and explained in the Fire/Life Safety Report (Section 4).

BUILDING ACCESSIBILITY

When the Historic Courthouse was designed there was no awareness of accessibility and, certainly, there was no Americans with Disabilities Act (ADA). Further there were different perspectives on minimum accommodations in buildings. For example, the building was originally designed with *one* male restroom (on the second floor) and *one* female restroom (on the first floor)! Over time, building occupants added a women's restroom on the second floor – in a file storage area – and converted the first-floor women's room to a unisex restroom.

Before the summarized accessibility recommendations are presented, it is important to understand how the ADA works. The ADA was enacted in 1991 as a law to provide a legal pathway for those with standing, i.e. a physically limiting disability, to sue building owners who do not provide minimum accessible facilities to accommodate individuals with disabilities. While it is important to acknowledge that the public expects community facilities to be accessible, the ADA does not require buildings to be continuously upgraded to remain open.

As a result, it is possible for a building such as the Historic Courthouse to serve the public for over 100 years without *significant* or extensive accessibility improvements. The stated, the further "behind" the Courthouse remains with respect to providing accessibility measures which comply with current code (Title 24) and ADA, the greater the risk of a lawsuit from a group or individual with standing. As such, it is important to upgrade to the latest accessibility standards when considering a significant building upgrade or change of use.

The Historic Courthouse has very little that meets current accessibility requirements. While an access ramp was installed some years ago to access the front door, important design aspects like maximum slope and minimum landing requirements have changed in the interim making it non-compliant. Key areas for improvement include providing an accessible path of travel from accessible parking stalls to the building's front entry, clearances and operability at the front door, code-compliant handrails, public service counter heights, and accessible restrooms. As with fire/life safety regulations, accessibility requirements are upgraded and change with each code cycle (every 3 years). As a result, previous accessibility improvements, like the ramp noted above, may not meet current requirements even though they did at the time the they were constructed.

The Accessibility Report (Section 5) was prepared by Michelle Davis, AIA, Lionakis' in-house Certified Access Specialist (CASp) and assesses, in considerable detail, the overall accessible improvements the Historic Courthouse requires. The code acknowledges that the overall cost of these improvements can be significant. As a result, it sets the required valuation of the accessibility improvements on any project to maximum 20% of the overall cost of construction of that project.

Given this cap, Lionakis recommends that accessibility measures be undertaken in the following order as the County considers various projects to improve the Historic Courthouse:

1. Provide a compliant accessible path of travel from the parking area to the Courthouse's front entry and make the front doors comply with requirements for maximum opening force. This option would/could consider the use of automatic door openers to meet this requirement.

2. Install an elevator or lift to provide accessibility to the second floor. This is important in that the County intends to hold Board of Supervisor meetings in the Historic Courtroom. This scope item would include providing accessible restrooms to accommodate the public when attending Board of Supervisor meetings.

3. Provide upgraded and accessible restrooms for staff use.

MECHANICAL SYSTEM

The Historic Courthouse utilizes a steam boiler to produce heat during the colder clime of Susanville. In fact, the boiler (located in the basement) was inspected by the Mechanical Engineers on our Team and was determined to be of significant quality and in excellent condition. The County has upgraded the burners to meet modern emission standards and the passive radiant heating system still works today, as it was intended in 1917. While the equipment has changed over the years, radiantly heating the building still serves the building and its occupants very well.

The building had no cooling equipment originally. An air handling unit was installed to serve the Historic Courtroom due to its higher demand for fresh air, which is typical in spaces with many occupants. Over time, building occupants were less inclined to suffer through hot summer days, so window AC units were added throughout the building, as well as a swamp cooler system that serves the first floor. Both solutions are less than ideal given our modern expectations for thermal comfort and cooling. We recommend leveraging smart, energy efficient technologies to enhance the comfort of the Historic Courthouse, especially for cooling loads.

Thermal improvement strategies are recommended in the Mechanical & Plumbing Systems Report (Section 6), but the summarized approach is to add controls to the existing heating equipment and to add new distributed cooling systems throughout the building that can be managed by a digital building management system, as is typical in all modern buildings. The Annex Building, for example, has such a system. Because the boiler and its distributed radiators around the building are both durable and functioning, it is recommended to keep them in place. Valves can be added to existing radiators and an updated boiler control system to allow the entire system to operate efficiently *and* provide the correct amount of heat only where it is needed.

Because there was no original cooling system, it is recommended to remove the window units and swamp cooler and provide a consistent split air conditioning or Variable Refrigerant Flow (VRF) system to serve the entire building. A forced air system would be difficult to incorporate into this building due to the larger sized ducts that would be required. A fluid-based VRF system, like the one already installed in the Judge's Chambers, allows for efficient cooling units to be placed throughout the building with less impact on existing finishes and structure. This is an important consideration for a building on the National Register of Historic Places – HVAC systems must be designed so as not to detract from the aesthetic and historic character defining features of the building.

Such improvements, including the removal of unsightly and historically incompatible window units, will improve the aesthetic and historic character of this venerable building and allow it to operate efficiently for decades into the future. This is essential to repurposing and preserving the Courthouse as an asset for the County.

ELECTRICAL SYSTEM

Electrons have not changed during the past 100 years, but the devices in our buildings powered by these electrons have changed significantly. For example, the typical elevator installed in every commercial building utilizes three-phase electrical current. While it is not important to understand what three-phase current is, it *is* important to know that the Historic Courthouse is presently *only* served by single-phase current. As such, a commercial grade elevator, or lift, that accommodates a gurney (required by code) and is reliable enough for repeated use, needs a different kind of current than the building provides. Other modern electrical systems such as energy efficient LED lighting and pumps that move the refrigerant in a VRF cooling system require three-phase current.

There are two ways to address this issue: Upgrade the building to three-phase electrical power or provide a phase converter for the elevator. The first is a better long-term investment to set the building up for the future, including providing the required electrical current for modern electrical systems. The second allows for quick and affordable installation and meeting of accessibility requirements as soon as possible. This is a decision that should be weighed during the overall planning of improvement projects for the Courthouse. We recommend the long-term investment of upgrading to three-phase electrical power; it is the value-based option.

It is also recommended that the panel capacity be upgraded to accommodate the ever-increasing electrical demand of digital office environments and, most importantly, flexibility in meeting Information Technology needs. Upgrading the panel capacity will also involve the installation of a modern, safe, and functional building electrical system. In order to effectively leverage the Historic Courthouse as a Public asset, it is important to provide adequate space, power, and fiber infrastructure for current technology needs and plan for growth.

ANNEX BUILDING

The Annex Building is considerably newer than the Historic Courthouse. It is configured with a basic rectangular floor plan with standard stud and gypsum wall board partitions which are easily reconfigured to accommodate remodeling and rearrangement of spaces. The building's structural system consists of load bearing exterior walls with roof trusses bearing on slender steel tube structural posts spaced throughout the floor plan. Because of this, the relatively open floor plan (on both the first and second floors) is ideal for developing functional workspaces for County departments located elsewhere like Public Works and Building and Planning. Both departments would benefit from co-location at the Annex Building and are envisioned to share the second floor to realize the efficiencies gained from working in proximity to each other.

When the building supported the operations of the Court, the building's first floor provided space for a Courtroom, as well as Court Clerk and support functions. The County's IT Department and infrastructure is situated in the eastern portion of the first floor and will remain there for the foreseeable future. While the first floor is largely vacant the former Courtroom and support spaces remain in place. These areas require further study and design to develop a flexible layout to transform and maximize the space for future use by County departments.

STRUCTURAL SYSTEM

The Annex Building was designed under a model code (circa 1968) for structural design which means it does not require seismic or other structural improvements.

LIFE SAFETY

The Annex Building has an adequate number of exits as well as a dedicated exit stair from the second floor to the lower level (first floor) of the building, which exits to grade. Given its adequate fire exits, as well as a fire alarm system (see Electrical System below) and standpipe, the building is protected but not up to current code. The recommended improvements and how the building scores relative to minimum safety scores found in the building code is shown in the enclosed Fire/Life Safety Report (Section 4).

BUILDING ACCESSIBILITY

As noted in the Building Accessibility Section for the Historic Courthouse, the code changes every three years and so there are numerous accessibility revisions recommended for the Annex Building. The slope of the exterior ramp system at the front of the building is much too steep and will either need to be reconfigured or removed and replaced in order to comply with current slope and handrail requirements. Additionally, the restrooms do not meet current Title 24 or ADA requirements for accessibility and will need to be assessed and remodeled as part of any future tenant improvement project.

MECHANICAL SYSTEM

The Annex Building presently utilizes a split system and a package unit to provide cool air to building occupants. The building's HVAC system was upgraded previously with the original rooftop package units abandoned in place beneath a wood framed metal standing seam roof, which was ostensibly installed to provide a longer lasting roof system. The split systems that replaced the package units, as well as the remaining HVAC components, are managed via a computer-based building automation system. This system is located in a closet on the second floor and allows control and adjustment of the entire system from a computer interface. This is the type of system recommended for the Historic Courthouse in order to meet minimum modern thermal comfort requirements for its occupants.

The few mechanical improvements recommended for the Annex Building include enhanced chemical treatment protocol for variable frequency drives, both for extended equipment life and reliability. Additionally, air intakes should be extended through the new added metal roof and additional components should be added to the building automation system. An earthquake isolation valve at the main gas service to the building should also be installed for added safety and control in a seismic event.

ELECTRICAL SYSTEM

Lighting and Fire Alarms systems need to be upgraded for both life safety and energy efficiency. Light fixtures are near the end of their practical service life and need to be converted to LED fixtures. This will bring the building into compliance with Title 24 energy densities once the building is remodeled for new departments. The fire alarm system must be upgraded to modern standards when the building is remodeled for new departments.

IMPROVEMENT PHASING

BACKGROUND

Lionakis was retained by Lassen County to provide architectural and engineering services to modernize the Historic Courthouse and the Annex in December 2015. The Courthouse Square Modernization Project began in earnest with an on-site, full-day site visit by Lionakis' Team of Architects, Engineers, and an Accessibility Specialist.

The project progressed over the better part of two and one-half years as Lionakis and County Public Works developed options to address each building's main needs identified as part of the study. Over this time, the initial scope of services evolved as County needs were reprioritized and available funding was reassigned. A Draft Assessment Report (DAR) was prepared and issued for comment on June 9, 2016. The DAR was completed using the 2013 California Building Code (CBC), which was the Code in force at the time. On January 1, 2017, the 2016 CBC was adopted, and subsequent assessment was done using this Code.

This report includes the content and findings of the DAR, as well as significant project correspondence such as emails and memos. A detailed List of Meetings and Milestones, which chronicles how the work progressed, is presented in Appendix A. This list outlines how the project's scope and focus evolved in response to changing priorities, needs, and available funding. The is an overview of the progression of the work, as shown in detail in Appendix A:

12/1/15 - Project Scope & Goal Meeting with County Team in Susanville

Nick Docous, AIA, Principal-in-Charge, and Mike Novak, AIA, Project Manager, met with County Staff to discuss the scope of work, the work plan, and County expectations. During this meeting the County Staff outlined the County's goal to hold a meeting of the Board of Supervisors in the Historic Courtroom by December 15th, 2016. The project budget was set at $1,000,000 for improvements *and* soft costs.

12/3/15 - Memorandum

Lionakis summarized the meeting in a December 3, 2015, Memo describing the approach and workplan proposed by Lionakis at the 12/1/2015 meeting in Susanville. The new elevator on the second floor would be the focus of the first "round" of improvements as part of an overall assessment of the needs of both the Courthouse Annex and the Historic Courthouse. The assessment would be complied into a "Due Diligence" report *for the Courthouse*.

1/5/16 - On-site, full-day site visit by Lionakis to Assess the Courthouse and Annex

During the January 5, 2016, site investigation, Lionakis' interdisciplinary team of architects and engineers spent the better part of the day touring both the Courthouse and the Annex assessing the condition of each building's systems. The team spent focused time reviewing the original blueprints and "walking" the basement, first floor, and second floor to identify feasible, cost effective options for a new elevator.

1/21/16 -Memo: Summary of 1/5/16 Site Visit & Revised Scope & Approach Recommendations

A detailed memo was issued outlining the initial findings from the 1/5/16 site visit and recommendations for improvements. In this memo, Lionakis recommended that resources be refocused to direct the work effort to prepare a conceptual plan for an Elevator Project *in addition to completing the Assessment Study and Test & Fit Space Plans.*

Summary of refocusing resources for preparing a generalized Due Diligence & Facilities Report, conceptual design for the elevator project, and test/fit space plans for the Annex and Courthouse. In addition, the memo describes what was found during the 1/5/2016 site investigation of the Annex and Courthouse:

Structural & Seismic – The Annex Building was found to be in good condition. The Historic Courthouse has limitations and risks – particularly for seismic force resistance. Additional study was recommended.

Fire/Life Safety – Code compliance with fire alarm and fire system requirements are being investigated and may be required as part of an elevator project.

Accessibility – Many improvements would be required. An elevator to the second floor of the Historic Courthouse would be required to hold a Board of Supervisors meeting in the Historic Courtroom. Additionally, the building requires accessibility improvements from the parking lot to the front entry, and code compliant restrooms.

Mechanical, Electrical & Plumbing (MEP) Systems – Overall, MEP focus during the Site Visit was on the Historic Courthouse. Generally, the Annex Building was found to be in good condition. The following areas of upgrade and study were identified for the Courthouse:

1. Upgrade Electrical Service to Three-Phase Power
2. Potential Campus Electrical Upgrade (as part of providing Three-Phase Power to the Historic Courthouse.

Historic Courthouse's listing on the National Register of Historic Places – Page & Turnbull (P&T), the project's Historic Architect, initiated research into defining the "Character Defining Features" of the Historic Courthouse, including application of the Secretary of the Interior's Building Standards and Regulations for Historic Places to the project.

2/25/16 - Conceptual Design for Courthouse Elevator

A conceptual design for an elevator connecting the basement, first level, and second level was developed and submitted to the County for review.

3/11/16 - Memo: Board of Supervisors Presentation Courthouse Elevator Project

Outline reporting progress on the Courthouse project provided by Lionakis to County staff.

3/16/16 – Proposal for architectural and engineering services

Lionakis provides a proposal to prepare schematic design, construction documents, bidding support, construction administration for a design-bid-build project of the elevator, ADA compliant restrooms, and ADA path of travel.

3/22/16 – Board of Supervisors Project Status Report and Amendment of Agreement

County staff and Lionakis provided a project status report to the Board of Supervisors. An amendment to the scope of work is required for architectural and engineering services for preparing design and construction documents for the elevator and ADA improvements and a more generalized Due Diligence Report.

3/22/16 – Site Visit Space Planning Meeting

Lionakis met with county staff to confirm overall goals for adaptive reuse of Historic Courthouse and Annex building.

4/07/16 – Fee Proposal for the Courthouse Square Due Diligence and Elevator Project

Lionakis provides a revised fee proposal to County Staff that as a follow-up to the 3/22/16 Board of Supervisors meeting presentation, discussion and direction to County staff.

4/19/16 – First Amendment to Lionakis Agreement

Board of Supervisors approves the first amendment to the Architectural/Engineering Consultant Agreement with Lionakis.

6/9/16 - Draft Due Diligence Report

A first draft Lassen County Courthouse Square Due Diligence Report was prepared.

8/1/16 - Memo: Sequencing of Phased Improvements

A summary memo was issued with recommended steps for improvement projects developed with County Public Works.

1/30/17 - Memo: County Direction to Proceed with Accessibility Projects

Lionakis provides a project summary and update to County staff based upon County's reduced project budget of $500,000 for accessibility improvements.

2/28/17 - County staff provides an update to the Board of Supervisors

3/17/17 - Prioritization of Accessibility Improvements

Prioritization of Accessibility Improvements submitted to County Staff.

6/5/17 to1/22/18 Activities in support of Accessibility Improvements

- Budget Model / Pro Forma provided for Accessibility Improvements
- Courthouse Square Topo Survey provided by County
- ADA Transition Plans provided for Courthouse & Annex provided by County

3/29/18 to 7/10/18 Construction Documents for Accessibility Improvements

Construction Documents prepared, reviewed, approved for Accessibility Improvements:

- Regrade & repave Parking Lot
- Accessible Parking Stalls
- Accessible Paths of Travel to Historic Courthouse and Annex Building
- New Courthouse Ramp to Front Entry

5/15/18 – Second Amendment to Lionakis Agreement

Board of Supervisors receives a project report from County staff and the Board approves the second amendment to the Architectural/Engineering Consultant Agreement with Lionakis. Amendment to complete the Due Diligence Report, exterior ADA improvements construction documents, bidding, construction administration, and structural engineering (seismic report).

5/21/18 to7/26/18 ASCE 41 Seismic Evaluation of Historic Courthouse

Lionakis creates computer model of the Historic Courthouse to determine its ability to resist seismic loading using the "Push-Over Analysis" methodology. Extensive due diligence was conducted by Lionakis to confirm type and extent of construction used to build the Courthouse (as compared to what is shown on the original blueprints).

7/17/18 – County staff provides project update to the Board of Supervisors

Board of Supervisors adopts resolution approving the acceptance of grant funds from the State of California.

8/29/18 – Plan Check Approval – Exterior ADA Improvements

10/24/18 - Project Update Meeting in Sacramento – Structural (seismic) Assessment

Preliminary structural assessment for Historic Courthouse were presented to County staff.

10/31/18 – Memo: Structural Assessment Summary Lassen County Courthouse

Lionakis provides a memorandum following up on 10/24/2018 meeting regarding the structural assessment of the Historic Courthouse.

11/16/18 – Memo: Seismic Options First Draft

Lionakis provides a memo regarding a proposed seismic retrofit for Courthouse to County staff.

12/5/18 - Structural (Seismic) Assessment & Project Scope GoTo Meeting

Lionakis presents type and extent of construction that was used to build the Courthouse (i.e. hollow clay tile infill walls depicted on the original blueprints were not installed). Lionakis reported that the Push-Over Analysis would not be required per the Building Code. Instead, seismic design will be developed using the 2018 California Historical Building Code (CHBC). Lionakis was directed to complete the Seismic Report by December 22, 2018.

12/22/18 Memo: Structural Seismic Evaluation and Preliminary Retrofit Schemes

Lionakis recommendation for seismically strengthening the Historic Courthouse presented to County in consideration of not damaging significant historical elements.

CONCLUSION

The Historic Courthouse requires a wide range of improvements to maintain it as a usable facility. Chief among them is the need to strengthen the building for seismic loading. Structural improvements are required to address the lateral force resistance of the building because the hollow clay tile infill walls depicted on the original blueprints appear not to have been installed during construction of the building. This is discussed in greater detail in Structural Assessment, Section 3. Additionally, the stone cladding that defines the architectural presence of the Courthouse requires reinforcing as well to prevent it from falling “out of plane” in an earthquake.

Lionakis recommends that seismic improvements be undertaken first. The ability of the Historic Courthouse to resist seismic forces in an earthquake so that occupants can exit the building is the highest priority. During installation of seismic improvements, many of the recommended improvements to address the building’s other needs (Fire/Life Safety, Accessibility, MEP System improvements) can be phased, and even combined with the structural work, as part of an overall building upgrade program. The next steps include development of a strategic building program to bring the Historic Courthouse into compliance with seismic, fire/life safety, and accessibility codes. The Historic Courthouse is a venerable architectural and community asset. Investment in the building will enable it to serve the County and its residents for years to come.

The section below outlines a general approach to the development of a phased, prioritized program for the Historic Courthouse which complies with Code requirements, as well as the Annex Building. It is estimated that the Courthouse will need to be fully vacated to undertake and complete the recommended improvements. The development of the program for the Historic Courthouse must also include a schedule for the proposed improvements, including time for design, CDs, approval of CDs by Authorities Having Jurisdiction (AHJ), and bidding the work.

PHASED/PRIORITIZED PROGRAM FOR THE HISTORIC COURTHOUSE & ANNEX BUILDING

PHASE 0

- **Vacate Courthouse – To be determined by County**.

PHASE 1

1.1 HISTORIC COURTHOUSE – Listed in order of Recommended Priority

- **Prepare Plans, Specifications and Engineering.**
- **Seismic Improvements**
    - Remove Hazardous Materials
    - Remove and Store Architectural and Historic Elements
    - Demolition
    - Seismic Upgrades and Improvements

- **Life Safety Systems Improvements**
    - Provide second exit at levels one and two
    - Rated separate at basement level landing, rated door and wall
    - Install battery backup lighting at exits and exit signage
    - Install complete smoke detector coverage throughout building

- **Install Elevator**
    - Includes the cutting of a hoistway through the existing concrete slabs and reinforcing those openings. The elevator cannot impact the foundations and so the pit at the basement level must be above the slab, requiring a ramp for access.
    - Alternate investigation should include Code allowance of a lift or other means of acceptable, compliant vertical transportation from the first level to the Historic Courthouse on the second level.

- **Modify Electrical Infrastructure**
    - Includes either a phase converter for the elevator or an upgraded three-phase electrical service.
    - Consideration should be given to conversion of the electrical service to three-phase for future growth and flexibility, including electrical infrastructure for Information Technology growth

- **Accessible Path Improvements**
    - Replace concrete walk and ramp to provide allowable slopes per modern accessibility code. Replace front door and remove vestibule. Replace stair handrails.
    - May include parking area improvements and/or expansion

- **Restroom Upgrades**
    - Provide unisex restrooms as required.

- **Historic Considerations**
    - All proposed improvements will need to be reviewed for compliance with the Secretary of the Interior's Historic Building Standards. Also, since the project is funded by a State grant, the California State Historic Preservation Office (SHPO) will have review and approval authority over the project.

- **Ornamental Repair and Reinforcement**
    - Assess the exterior stonework and ornament for repair and reinforcing to ensure architectural terra cotta and ornamentation does not fall off during a seismic event.

1.2 HISTORIC COURTHOUSE – Listed in order of Recommended Priority

- **Prepare Plans, Specifications and Engineering.**
- **Life Safety Improvements**
    - Install code compliant fire alarm system
    - Perform inspection of all rated walls and penetrations and rate with fire sealant to UL design standards
    - Replace doors in rated walls with 20 minute rated labeled doors

- **Design and Build Tenant Improvement Project #1**
    - Design the tenant improvements for levels one, two, attic, and basement. These were conceptually envisioned as part of the space planning scope of work, completed in 2016. Colored space plans are included in Appendix I.
    - Upgrade lighting systems.

- **Design and Install New HVAC components and Building Automation System**
    - Design a comprehensive mechanical update for the Historic Courthouse. Remove swamp cooler and window units and replace with split system wall units throughout the building. Add control valves to radiators and tie all units and controls back to a building automation system. To be determined pending disposition of boiler heating system.

- **Replace Windows**
    - Replace windows with insulated dual pane windows with the same look and feel of original windows. The existing windows are not per the original design.

- **Restroom Upgrade**
    - Provide unisex restroom(s) in the basement.

PHASE 2

- **Repopulate Courthouse**

PHASE 3

ANNEX – TBD

- **Vacate Annex – To be determined by County**
- **Prepare Plans, Specifications, and Engineering.**
- **Sitework**
    - Improve accessibility at Courthouse basement stairs and at parking areas between the Courthouse and Annex. Revise accessible approach to Annex Building public entrances.
    - Pave site of Old Jail
    - Install ornamental fencing around Historic Jail.
- **Tenant Improvement Project #2**
    - Revise floor plan layout and complete tenant improvements to relocate departments to the Annex Building (i.e. Auditor to level 1). These were conceptually envisioned as part of the space planning scope of work, completed in 2016. Colored space plans are included in Appendix I.
    - Upgrade lighting systems.
    - Provide remodeled accessible restrooms on both levels.
- **Upgrade Annex Alarm System**
    - Upgrade fire alarm system throughout Annex
- **Upgrade Annex Mechanical System**
    - As recommended in this report for longer life and better reliability.
- **Upgrade Annex Electrical Service**
    - Install larger panel to serve Annex Building.
- **Repopulate Annex**

STRUCTURAL ASSESSMENT

OVERVIEW

The Structural Assessment focuses exclusively on seismic assessment of the Historic Courthouse because the Annex Building was found to be in good condition for vertical and seismic load resistance. The seismic assessment was conducted in two parts:

1. An initial assessment in 2016 (known as the "2016 Assessment") per California Building Standards Code (CBC) requirements to utilize ASCE 41 Tier 1 for Seismic Evaluation and Retrofit of Existing Buildings.

2. And a subsequent method (known as the "2019 Assessment") utilizing ASCE 41 Tier 3 in 2018. The 2019 Assessment was completed as recommended by the 2016 Assessment.

The 2016 Assessment is included in Appendix B of this report. Discussion of the 2019 Assessment follows.

2019 ASSESSMENT

The 2019 Assessment is an overview and builds on the 2016 Assessment. The 2019 Assessment makes specific recommendations to seismically strengthen the Historic Courthouse. These recommendations were reviewed by Willdan Engineering, Lassen County's third-party plan and peer review consultant. Willdan Engineering's letter of findings and concurrence is attached to and made a part of this report.

The seismic evaluation and preliminary retrofit schemes for the Lassen County Historic Courthouse are for addressing the deficiencies identified in the ASCE 41, Tier 1 screening as conveyed in the June 9, 2016, Due Diligence Report prepared by Lionakis.

The 2019 Assessment included development of a 3D computer simulation of building components that make up the vertical and lateral force resisting systems.

A portion of this building was previously used as the county courthouse and associated court administration services that have since moved to the new Hall of Justice. Several County departments continue to occupy the building and provide services to the public and other agencies. The County proposes to conduct Board of Supervisors' meetings within the original, historic courtroom of this building. This board room would be considered an assembly space with an occupant load of less than 300 people. This board room would be considered an ancillary space to the overall function of the building's administration offices. The current office use and the proposed future use is not considered an occupancy change, which would trigger a code upgrade. This building is considered a Risk Category II structure under the 2016 California Building Code. In addition, the County wishes to re-use the vacant court administration and other offices for other County departments and uses.

This building is described as a two-story building with a full basement level and partial attic level. This building is fully built-out to its previous use, as a courthouse and supporting administrative services. The interior partitions are of older construction consisting of hardened finishes. Limited exploration of the structural system was performed due to these hard surfaces. Our assessment is based on our evaluation of the original documents and minimal exploration of the building.

Documents provided for our review included the original Architectural and Structural Blueprints, Sheets 1 through 14 consisting of plans, elevations, sections, and details. These documents were prepared by George C. Sellon Architects, in Sacramento, CA and dated July 3, 1915.

Based on the California Department of Conservation website, California Geological Survey has not evaluated Susanville for known mapped earthquake hazard zones such as earthquake-induced liquefaction, slope stability failure, and/or surface fault rupture. It is assumed no significant active faults or fault zones exist within the immediate vicinity, and therefore, there are no known geological site hazards that would require a geological hazard report based on our experience with projects in this area.

For this evaluation we have assumed soil class D, Stiff Soil, that has a design short-period spectral response acceleration S_{XS} = 0.51g and a design spectral response acceleration parameter at a one-second period S_{X1} = 0.28g. For the parameters given, the level of seismicity shall be classified as high per ASCE/SEI 41-13, Table 2-5.

ASCE 41 Tier 3 Seismic Evaluation was the considered method to address the deficiencies identified in the ASCE 41 Tier 1 screening. This approach is typically used to address Tier 1 deficiencies. ASCE 41 Tier 3 is a systematic evaluation that includes a 3D computer simulation of building components that make up the vertical and lateral force resisting systems. This simulation evaluates the strength and stiffness of existing lateral and vertical force resisting components to confirm their performance and/or potential deficiencies. Deficiencies are then retrofitted to improve their ductility and the building performance to a level that meets an overall performance objective.

Lassen County staff assisted Lionakis by investigating interior wall construction conditions and found that the hollow clay tile infill shown for the building's interior walls on the original circa 1915 construction documents do not exist. The investigation revealed that the interior walls were, instead, constructed of plaster over lath. Plaster over lath construction does not have the required strength and stiffness to be considered infill structural walls used as part of a concrete framed building. Additionally, the concrete beam and column frame system that exists does not have adequate strength and stiffness to resist the building forces alone.

Using the above ASCE 41 Tier 3 approach generally yields good results and reasonable construction values for a seismic retrofit. However, when buildings lack a lateral force resisting system with adequate strength and stiffness, a different evaluation and retrofit approach is more appropriate. Instead of justifying the existing materials and/or improving existing lateral force resisting systems, in concert with the County, it was determined that the best approach was to design a retrofit scheme with a new lateral force system that is designed to meet the California Historical Building Code (CHBC), 2018 Edition. The intent of the retrofit as stated in the CHBC is to "prevent partial and total structural collapse such that the overall risk of life-threatening injury as a result of structural collapse is low."

Historical considerations were made to limit the seismic retrofit scope to areas considered secondary or non-contributing and away from the primary significant rooms and exterior elevations with significant historical elements as identified in Table 1 and the Significance Diagrams of the Historic Architectural Evaluation (Historic Report) prepared by Page & Turnbull (P&T). P&T is the Historic Architectural Consultant retained by Lionakis to inventory and describe the historic character defining features of the Courthouse. The full Historic Report is included in this report, see Appendix H. Rooms with primary historic character defining features included the Courtroom, the building's Main Entry and Lobby, and its Hallways. Primary contributing elements within these rooms include stairways, vaulted ceilings, walls, floors, interior balustrades, and drinking fountains. Exterior elements considered primary include the front columns, exterior veneer, and architectural terra cotta.

The County has set a budgetary consideration of approximately $1.25 million for the seismic retrofit construction. The budget is limited to seismic retrofit and associated removal and repair of wall finishes to install seismic retrofit measures. This budget does not include demolition or replacement of mechanical, electrical, plumbing, or low voltage components in the areas of seismic retrofit. Upgrading the mechanical, electrical, plumbing and low voltage systems is assumed to be included in an overall interior improvement project; the budget for these alterations would be included in the overall tenant improvement scope of work.

This retrofit scheme only addresses the exterior veneer out-of-plane bracing and does not specifically address interior and exterior anchorage of historical nonstructural components such as vaulted ceilings, interior balustrades, drinking fountains, front columns, and terra cotta. However, these nonstructural elements were considered in the budget model. The scope for anchoring historic, nonstructural components requires further investigation. Determining the method of attachment of these elements is expected to be difficult and somewhat involved, so as not to damage the historic, nonstructural elements in the process. This investigation should be done by a qualified contractor with experience with historical building renovations.

Currently, it is beneficial to improve the building's lateral force resisting system and the exterior veneer to reduce the overall risk of life threating injury. Although anchorage of the nonstructural components is important and as long as they do not pose a life threating falling hazard and prevent egress out of the building, the County may defer this scope to a future nonstructural component retrofit project if funds do not allow for the investigation and retrofit of these components.

Environmental Studies

The County is in the process of retaining services to identify and test hazardous materials throughout the Historic Courthouse. Hazardous materials shall be removed prior to any demolition and construction retrofit. Hazardous material testing and the removal of hazardous material is not included as part of the $1.25 million seismic retrofit budget.

Construction Type

Exterior wall construction is assumed to consist of single-wythe 6" exterior stone masonry attached to 1" thick interior lath and plaster finish. The cavity between the stone masonry and plaster is assumed to be 6". The stone masonry and plaster are tied together with steel ties with spacing assumed to not exceed 48" on center in each direction. Assumptions are based upon limited visual observations at limited areas of the building.

Interior walls that are a part of the original construction have been found to be lath and plaster walls, which are tied together, with a cavity between the two faces of lath and plaster. The Hollow Clay Tile (HCT) interior walls depicted in the original documents do not appear to have been constructed as shown on the original blueprints for the building. As such, removal and bracing of HCT walls is excluded from the seismic retrofit budget.

Basis of design - California Historic Building Code (CHBC)

- Unsupported height or length to thickness of stone masonry shall not exceed a ratio of 13. Since we assume 6" single wythe stone masonry, supports shall not exceed 6'-6".
- Without testing, the maximum ultimate shear strength of the stone masonry is 9 pounds per square inch. Testing the ultimate shear strength is good practice and can be included as part of the required testing during construction. It is not expected that the shear test results would affect the recommendations of this report; we are not relying on the exterior veneer as part of the lateral force resisting system.
- Stainless steel ties shall be epoxied in horizontally drilled holes between outer stone wythes at the floor and roof at a spacing not exceeding 4 feet on center.
- Design forces used need not exceed 0.75 times the seismic forces prescribed by the California Building Code, 2018 edition.

Seismic Evaluation and Retrofit

The existing concrete beam and column frame action were evaluated to determine the building's structural capacity. It was found that the existing beam and column frame action does not have adequate strength and lacks stiffness to prevent significant damage to the exterior stone masonry.

In addition to evaluating the concrete beam and column frame action, the stone masonry shear capacity was also evaluated using CHBC book values without testing. It was found that the stone masonry does not have adequate strength. Further, using it as part of a center core-drilled approach (see Alternate Seismic Retrofit Approach below) would still result in both in-plane and out-of-plane structural failure. In our professional opinion, strengthening the stone masonry would not be feasible due to the quantity of openings and the exterior wall assembly's height to thickness ratio.

To provide a seismic force resisting system with adequate strength and stiffness that reduces building drift, it was concluded that adding a new rigid wall system would provide the best value. A concrete and/or shotcrete rigid wall system that is applied to the inside face of the stone masonry is recommended. This method of applying concrete to the inside face of the stone masonry is a traditional technique that does not require specialty contractors. This method provides both in-plane and out-of-plane strength and stiffness.

These new concrete walls are proposed in the non-historic office areas on either side of the Courtroom and Front Lobby because these spaces are identified in Table 1 and the Significance Diagrams in the Historic Report as areas considered secondary or non-contributing historical element/feature. These walls are proposed at locations requiring both in-plane and out-of-plane strength and stiffness. Where new concrete walls are to be installed, selective and partial removal of the interior lath and plaster would be required. This lath and plaster is considered as a secondary significant historical element/feature in the Historic Report. This existing finish is assumed to be replaced with gypsum board over steel stud furring with wall finishes to match existing plaster.

The proposed concrete wall thickness of these walls ranges between 4 inches to 10 inches thick. Concrete wall thicknesses greater than 6 inches, however, would require increasing the overall wall thickness to greater than what currently exists and will not fit within the existing cavity. Wall thickness and insulation requirements would need to be assessed as part of the construction documents phase and in concert with a tenant improvement project.

Exterior walls not receiving the proposed concrete rigid wall system will need to be braced at 6'-6" on center maximum each way and 4'-0" on center along the floors and roof line. To address the out-of-plane stone masonry veneer wall anchorage, two (2) rows of masonry anchors at 48" on center are proposed between the stone masonry and the existing beams and columns. This new anchorage is applied from the outside of the building and locating these anchors in mortar joints may be explored to reduce the visual impacts to the exterior appearance. These anchors provide the required out-of-plane restraint required by the CHBC.

When out-of-plane restraint is required between existing beams and columns, HSS steel strong backing is proposed within the cavity between the exterior stone veneer and the interior lath and plaster finish. Where strong backing is required to be installed to brace the exterior stone veneer wall, selective and partial removal of the interior lath and plaster would be required. This lath and plaster is considered secondary significant in the Historic Report. This existing finish is assumed to be replaced with gypsum board over steel stud furring with wall finish to match existing plaster.

Demolition and retrofit scope was limited in areas considered primary significant historical element/feature in the Historic Report. These areas included the Courtroom, the Main Entry, Lobby, and its Architectural Stairs, and the building's Hallways. Seismic retrofit work within primary significant areas is limited to address falling hazards that may cause partial structural collapse and to reduce the risk of life-threatening injury, as intended by the CHBC.

Work is limited to strong backing at the Courtroom. To minimize impacts to the historical features in the Courtroom, this strong backing will be installed through the roof. The strong backing consists of HSS tubes within the wall cavity and anchored to the exterior stone masonry. This anchorage requires small holes drilled through the interior finish within the courtroom. After the HSS has been anchored to the stone masonry, plaster surfaces can be repaired and the plaster walls can be braced to the new HSS strong backing. These HSS members would be grouted solid to increase the stiffness of the strong backing.

Structural improvements to the interior hallway walls are not required as part if the lateral force resisting system. Instead, new shear walls are recommended to be installed in the offices adjacent to the historic lobby. This approach minimizes, if not eliminates, impact to the lobby's historic character.

The front wall adjacent to the main entry is more challenging. To minimize impacts to historical features, the application of concrete to the inside face of the stone masonry is proposed within the cavity of this wall. Access to this cavity, however, may be difficult without impacting the interior finishes. An alternate solution may be strong backing similar to the courtroom at this location. While this would still impact the interior finishes, the approach would be less invasive and impactful.

The above retrofit scope is intended to address the ASCE 41 Tier 1 deficiencies and improve building performance to prevent partial and total structural collapse. Due diligence work required to validate this design includes the following:

- Gain access to the void space above the courtroom ceiling and determine how the ceiling is supported and braced. This could be accomplished by cutting a hole to the wall between the third level and the attic above the courtroom.
- Gain access to the void space each side of the front entry to observe how the walls are anchored and determine the best method of bracing walls for out-of-plane forces. This could be accomplished by cutting a hole and providing access from below the stair from the adjacent office.
- Gain access to observe anchorage of terracotta ceilings above entry and determine if the existing anchorage is corroded and that it properly braces this ceiling. This access could be accomplished by drilling holes through the third level floor.
- Confirm all void spaces between stone veneer and lath and plaster where strong backing and shear walls are to be located. This could be accomplished by core drilling holes at each location.
- Confirm all exterior stone masonry is 6” thick.
- Confirm and coordinate new concrete walls with the proposed future tenant improvement.

Testing not required or deferred:

- Veneer mortar shear testing may be deferred during construction. Veneer shear is not used in this retrofit scheme. Shear values are used to confirm overall “health” of the stone masonry veneer.
- A Geotechnical Report will need to be provided to validate soil bearing values for design and preparation of construction documents. As noted earlier in this report, Susanville is not known for mapped earthquake hazard zones such as earthquake-induced liquefaction, slope stability failure, and/or surface fault rupture, therefore a geotechnical hazard report is not required.

Nonstructural historic building components include interior balustrades, drinking fountain, architectural columns at the building’s front entry, and terra cotta above the front entry should be reviewed for proper anchorage to prevent falling hazards during an earthquake event. These are identified as primary significant historical elements in the Historic Report. The purpose of retrofitting these elements is to protect the occupants from the potential falling hazard and because these elements contribute to the historic fabric of the building. Retrofit options for these elements require further investigation as the original construction documents do not fully address how these elements were anchored.

Investigation and anchorage of these elements is generally difficult because the methods of anchorage are covered by hardened finishes, some of them of historic significance. Further, exploration to determine how each component is anchored could result in damage to these elements. Investigation, in concert with the design and installation of anchorage measures by a qualified design-build contractor with historical building experience, would result in the least impactful and most effective design. The design build approach could be accomplished using a performance specification and could be contracted separately from the concrete shear wall and steel strong backing retrofit scope. Alternatively, since these elements would not cause a partial structural collapse and as long as they do not pose a potential falling hazard which could injure and prevent egress out of the building, the County could elect to defer this scope.

This report does not address nonstructural component considered secondary and non-contributing as identified in the Historic Report. These elements include suspended ceilings, lights, and other miscellaneous nonstructural components that could either be removed or upgraded to meet current California Building Code. These nonstructural elements generally do not pose a life safety concern and are components that may be removed and replaced as part of an overall tenant improvement project.

Alternate Seismic Retrofit Approach

A center core reinforcing method was considered at the exterior courtroom walls as these walls are identified as primary significant historical elements in the Historic Report. This method involves drilling holes through the center of the exterior stone masonry units and installing reinforcing bars, which are bonded to the masonry units with grout. This method has utility for multi-wythe walls when the objective is to increase in-plane shear capacity. However, because the Courtroom pier walls are tall and skinny, center coring was eliminated from consideration because neither in-plane or out-of-plane loads could be restrained adequately. Because of this configuration, strong backing is recommended as the best option.

Opinion of Probable Cost

The preliminary budget model for the recommended option is upwards of $1.375 million. The attached breakdown identifies the various scope areas and recommended improvements. Budget amounts are based on Lionakis experience and provide a starting point for establishing an overall Pro Forma for the required structural upgrades. Further, mark-ups have been applied to the hard cost subtotal to account for general conditions and contractor mark-ups. A 30% contingency has also been applied, which is reasonable given the conceptual nature of the work thus far, as well as the historic nature of the building. Soft costs were not included in the budget model. Clarity on the budget model will result once the recommended option is tested and validated (see below).

Summary

The proposed retrofit is based on our engineering knowledge and experience with buildings of this type. The recommended option outlined above provides the best value when considering factors such as minimizing impacts to historic character, availability of the regional contracting community to bid and undertake the work, and final expected seismic performance results for this building type.

This proposed retrofit scheme and supporting calculations were reviewed by Ricardo Guzman, SE, with Willdan Engineering, Lassen County's third-party plan and peer review consultant. Willdan Engineering submitted the attached letter, dated December 10, 2018, which agrees with the proposed retrofit scheme as being "very close to optimum for improving the life safety performance of the Lassen County Historical Courthouse according to the 2018 CHBC."

Willdan Engineering also stated that the methods used to improve the building's performance are appropriate and effective. Further, Willdan Engineering recommends additional review during the design and preparation of construction documents to validate structural calculations, and to address any concerns that relate to the conceptual recommendations of this report.

Given the extent of the available documents and limited visual inspections, validating the proposed retrofit scope to determine its feasibility is the next step in the process. As stated above, based on our engineering knowledge and experience, the option is feasible and has utility. However, access to the areas that were not explored and/or inaccessible is required to confirm the ability to install the proposed scheme, as well as to identify unknown and/or hidden conditions.

To confirm such conditions Lionakis recommends that demolition of wall systems and other improvements where seismic upgrades are proposed be undertaken as a first step. With these areas "opened-up," visual inspection to confirm planning assumptions can be verified and seismic retrofit plans will be based on actual conditions – to the greatest extent possible. It is also recommended that this process include selecting and consulting with a general contractor experienced in seismic retrofit projects to review logistics, validate the budget model, and provide market pricing adjustments.

Appendix C includes the following documents and exhibits used to develop and validate the findings and recommendations of this study:

- Budget Model
- Drawings & Detail Sketches
- Willdan Engineering Validation Letter, December 10, 2018

FIRE/LIFE SAFETY REPORT

ANALYSIS OF EXISTING BUILDINGS

The need to assess the fire/life safety systems of existing buildings is common. Lionakis applied Chapter 34 of the 2013 CBC to evaluate fire/life safety systems of the Historic Courthouse and the Annex Building *as part of the 2016 scope of services*. Chapter 34 provided a checklist and scoring standard with 19 separate factors to determine if a building was acceptably safe or if it needed fire/life safety improvements. Checklists for both buildings can be found in Appendix D.

When the next edition of the CBC (the 2016 CBC) was adopted on January 1, 2017, *Chapter 34 and its checklist process, were discontinued.* Nevertheless, for conducting the analysis of the buildings the checklist process does provide a basic level of understanding of the fire/life safety systems of each building under the 2013 CBC.

HISTORIC COURTHOUSE

For the Historic Courthouse, a 100+ year-old building, fire/life safety improvements generally occur over time to provide updated systems as both technology and codes change. Also, major renovation projects will trigger upgrades to current systems. In reviewing the history of alterations to the Historic Courthouse, there have not been any major projects that would have triggered the installation of new fire/life safety systems. Additionally, apart from the installation of residential smoke detectors, there have been no outwardly apparent fire/life safety upgrades over the years.

As an update to the application of the Chapter 34 checklist from the 2013 CBC, Lionakis did a detailed assessment of fire exiting for the Historic Courthouse *under the 2016 CBC*, the current code in force. The following areas will need to be addressed:

1. Basement: Number of exits in basement appears adequate. Travel distance appears within requirements. Separation is required to eliminate opening between basement and levels above.
2. Level One: The Main entry considered a single fire exit; a second fire exit is required to provide the code-required number of fire exits.
3. Level Two: Open stair (exit access stairways) to level one for exit through the Building's Entry Lobby. Although there are two stairs, the distance separating them is less than the required minimum. As such these two stairs only count as one fire exit system. Level two requires a second fire exit.
4. Level Three: If the third floor is to be used as an occupied, individual story, two fire exits are required. If level three is considered as a mezzanine of level two, then one stair to level two is acceptable. However, use of the space will be limited to basic storage. Maximum common path and maximum travel distance requirements will need to be restudied and defined if the space is reconfigured.

5. The A-3 occupancy (Historic Courtroom) on level two (presently not an exit discharge floor) requires automatic sprinkler system for the area containing Group A-3 per Sec 903.2.1.3, unless a second fire exit is provided to level one (which must continue out of the building).

   Assigning an A-3 occupancy to the Historic Courtroom is the strictest interpretation/application of the code. It also defines the largest scope that this occupancy would trigger (i.e. fire suppression, rated doors, second fire exit, etc.). In the next phase of the project – design, documentation, and procurement – alternative options that would not impact the architecturally significant features of the Historic Courtroom can be discussed with the Chief Building Official.

   Developing alternative options in historic structures is an industry standard practice and this approach has been successfully employed on similar buildings to mitigate (if not eliminate) impacts to historic elements and meet minimum fire/life safety requirements.
6. Updated and complete one-hour fire rated separations including all penetrations
7. Provide complete smoke detector coverage throughout the building at all levels and areas.
8. Install a new fire alarm system enhanced with fire command and public address system.
9. Install battery backup lighting at exits, exit paths and exit signage

ANNEX BUILDING

The Annex Building is a newer building with more modern fire/life safety systems. This led to a better Minimum Life Safety Score when the 2013 CBC Chapter 34 checklist was completed. As a result, less upgrade scope will be needed. As with the Courthouse, the checklist provides a basic level of understanding of the fire/life safety systems of the Annex Building. It will provide a basis for assessing its fire/life safety systems *under the CBC in force at the time improvements are designed*.

As an update to the application of the Chapter 34 checklist from the 2013 CBC, Lionakis conducted an overview assessment of fire exiting for the Annex Building *under the 2016 CBC*, the current code in force. Fire exiting met code under the 2013 CBC; it was found to comply, as well, with fire exiting requirements under the 2016 CBC.

Assessment of fire/life safety requirements for the Annex Building under the 2016 CBC, the current code in force. The following deficiencies will need to be addressed:

1. Confirm or add smoke detectors throughout facility including ductwork.
2. Confirm one-hour rated stair has not been compromised. Seal any unrated penetrations.
3. Confirm HVAC system complies with code sections stated in table.
4. Confirm doors open in direction of exit/egress. If not, modify door swing.
5. Confirm exit lighting and exit signage is connected to backup generator.

ACCESSIBILTY

OVERVIEW

The need to revise accessibility during improvements projects is consistent across all projects and is not unique to the County's Courthouse Square Buildings. As noted previously the accessible requirements of the code change every three years and it is not uncommon to see accessible improvements made only a few years prior that have become non-conforming due to code changes. Over the course of work on this project, a site visit was made by a CASp Architect to observe and document accessibility needs in the field. A Facility Accessibility Compliance Review (Appendix E) was included in the 6/9/16 Draft Due Diligence Report.

Further, a prioritized list of Accessibility Improvements (Appendix F) was submitted and vetted with County Public Works in March 2017. Work for an Accessibility Improvements project was developed and submitted on June 5, 2017 (Appendix G). Construction Documents for this scope of work were prepared, reviewed, and approved by Lassen County's third-party plan reviewer, Willdan Engineering, on August 29, 2018.

The Facility Accessibility Compliance Review was conducted under the 2013 CBC. When the project is scheduled for preparation of construction documents, accessibility compliance will need to be reassessed to meet the requirements of the *CBC in force at the time improvements are designed*. The Review prepared for this project will provide a basic level of understanding of the conditions in each building, as well as a basis for assessing accessibility needs under the CBC in force at the time the improvements are designed. This will be required as part of the overall renovation and repurposing of the building and should be factored into the development of a Phased/Prioritized Program of Improvements.

MECHANICAL & PLUMBING SYSTEMS

GENERAL

Lionakis and the project's Mechanical Engineer, Glumac & Associates, conducted a thorough assessment of each building's mechanical and plumbing systems. The following outlines each system's condition and observations from the 1/5/16 site visit. At the time the systems were assessed, the codes listed below were in force and were used to draw conclusions and make recommendations. Recommended improvements to upgrade and improve the performance of each building's mechanical systems conclude this section of the report.

- California Building Code (CBC), 2013 Edition
- California Mechanical Code (CMC), 2013 Edition
- California Plumbing Code (CPC), 2013 Edition
- Building Energy Efficiency Standards (CEC), 2013 Edition
- California Fire Code (CFC), 2013 Edition

The Courthouse qualifies as a Historic building: the 2013 California Historical Building Code (CHBC) would apply as described below. This would also apply with later versions of the CHBC.

- Any non-historic components of the building such as new or replacement mechanical/plumbing systems or equipment needs to comply with the Building Energy Efficiency Standards (CHBC 102.1.1).

SYSTEMS DESCRIPTION

Heating Ventilation and Air Conditioning (HVAC) Systems

Courthouse

Heating, cooling and ventilation is provided by the equipment and systems listed below. In Susanville the greater demand is for heating during the winter and colder days of spring and autumn. The Courthouse often requires heating in the spring and autumn, which are often referred to as "swing seasons."

The Historic Courthouse utilizes a steam boiler (see Photo C.1) to produce heat during the colder clime of Susanville. In fact, the boiler (located in the basement) was inspected by the Mechanical Engineers on our Team and was determined to be of significant quality and in excellent condition. The County has upgraded the burners to meet current emission standards and the passive radiant heating system still works today, as it did when the Courthouse opened in 1917. While the equipment has changed over the years, radiantly heating the building still serves the building and its occupants very well.

- The building's heating water system is supported by the following equipment:
    - 1,500 Mbh hot water boiler fired by natural gas
    - Single pipe distribution loop
    - Expansion tank
    - 5" heating water main provides distribution of the system.

- Portions of the basement are served by hot water radiators for heating and packaged air conditioning units mounted in the windows for cooling. See Photo C.2.
- The first floor is served by evaporative coolers (see Photo C.4) and packaged air conditioning units mounted in the windows for cooling. Hot water radiators for heating, and operable windows for ventilation.
- The Historic Courtroom located on the second floor is served by a dedicated direct evaporative cooler for cooling (see Photo C.5), hot water radiators for heating (see Photo C.7), and operable windows for supplemental ventilation.
- The balance of the second floor is served by packaged air conditioning units mounted in the windows and a direct expansion (DX) split system for cooling, hot water radiators for heating (see Photo C.8), and operable windows for ventilation.
- The third floor is served by packaged air conditioning units mounted in the windows and split system DX units for cooling, hot water radiators for heating and operable windows for ventilation.

Annex

Heating, cooling and ventilation to the building is provided by the following equipment:

- The Data Center located in the basement is served by a combination of equipment: (2) split system DX, packaged air conditioning units and a 6-ton air cooled packaged air conditioning unit located on grade. All the units operate continuously to maintain cooling temperature in the space. See Photo A.4.
- The balance of the first and the second floors are served by above ceiling ducted water source heat pumps (WSHPs). Ventilation air is provided by wall louvers on the first floor and roof intakes on the second floor.
- The glazed (on three sides) enclosure on the south side of the building, which provides public accesses to first floor level, is served by a split system DX heat pump providing heating and cooling to the space. No means of ventilation was observed.
- The building was previously served by direct evaporative coolers in series with an air handling unit to provide heating. The system's equipment was abandoned in place when a new, standing seam metal roof was installed over the entire building in 2002. The old equipment was not removed and remains in place in the attic that was created when the new roof was installed. See Photo A.6.
- The WSHP loop is supported by the following equipment:
    - 450 Mbh hot water boiler fired by natural gas
    - ~50-ton fluid cooler. See Photo A.5.
    - (2) condenser water circulation pumps. See Photo A.4.
    - Make-up water connection
    - (2) Expansion tanks
    - 3" condenser water main provides distribution of the system.

Building Automation Systems (BAS)

BAS provide integrated and programmable controls that enable the efficient operation of HVAC and other mechanical systems. These systems can also be programmed to control other building components such as lighting and water monitoring/use. An integrated BAS is an investment which can pay for itself many times over with the energy that can be saved.

Courthouse

The Historic Courthouse does not have a BAS for monitoring and control of the building's HVAC systems and equipment. Starting and stopping of equipment, such as the window mounted air conditioning units, is a manual operation performed by County personnel on site.

Annex

The Annex Building currently uses a direct digital control system by Carrier (circa 2002) to monitor and control the condenser water source heat pumps and loop. An operator's workstation is located on the second floor in a closet adjacent to the Employee Lounge. The operator's workstation provides a graphical floor plan noting heat pump zoning and set points (Photos A.1 and A.2). Starting and stopping of equipment is a manual operation performed by County personnel on site. In other words, the Carrier BAS maintains cooling and heating set points efficiently, but must be manually turned off and on, as well as to change between cooling and heating modes.

Plumbing Systems

Courthouse & Annex

Plumbing fixtures serving the restrooms were observed to be older, standard flow non-ADA compliant fixtures. See Photos A.7, Annex, and C.6, Courthouse.

Domestic Cold and Hot Water

Courthouse

The Historic Courthouse is served by a 3" domestic cold water main. Domestic hot water is provided by an electric 4.5 kW 80-gallon water heater. The system does not have a recirculation pump to maintain the loop temperature. See Photo C.3.

Annex

The Annex is served by a 3" domestic cold water main. Domestic hot water is provided by an electric 4.5kW 60-gallon water heater. The system does not have a recirculation pump to maintain the loop temperature. See Photo A.3.

Sanitary Waste and Vent

Courthouse

The Historic Courthouse is served by a 4” sanitary lateral that connects to the municipal sanitary main in South Lassen Street.

Annex

The Annex is served by a 4” sanitary lateral that connects to the municipal sanitary main in South Lassen Street.

Natural Gas

Courthouse

A dedicated gas meter, shutoff valve and pressure reducing valve are provided by the City of Susanville for the building and serves the boiler. Downstream of the meter, the building is served by a 1-1/2” medium pressure gas main operating at 2 psig.

Annex

A dedicated gas meter, shutoff valve and pressure reducing valve are provided by the City of Susanville for the building and serves the boiler, emergency generator and water heater (see above). Downstream of the meter, the building is served by a 1-1/4” medium pressure gas main operating at 2 psig.

Fire Protection

Courthouse

The building is not protected by a fire sprinkler system. A single standby 1-1/2” pipe was observed terminating with a capped assembly on the first and second floors at the south side of the building.

Annex

The building is not protected by a fire sprinkler system.

FINDINGS & RECOMMENDATIONS

The following findings and recommendations are noted based on Glumac’s evaluation of the building, review of the as-built drawings, and discussions with County Public Works:

Courthouse

- Interior portions of the basement do not have ventilation air.

  RECOMMNDATION: If the space is occupied in the future, provisions should be made to provide ventilation air the basement.

- Heating for the system is enabled by a time clock whereby the boiler runs for a period of time prior to shutting off. The boiler is adequately sized for the building load however as there are no control valves at any of the radiators, the rooms do not have zone temperature control.

  RECOMMENDATION: Install a BAS system to control and monitor the boilers. Provide control valves and thermostats at the radiators throughout the building to provide zone level temperature control.

- The heating water system utilizes a single main loop for distribution. Instead of using a pump for system circulation, the system relies on stratification of the heating water to circulate water through the loop to the upper floors. Supply and return piping from the radiators connect to the same pipe. The boiler and converters appear to have adequate capacity to heat the building.

  RECOMMENDATION: None, the heating water system works adequately as installed.

- The boiler burner was converted from fuel oil to natural gas in 2010.

  RECOMMENDATION: Continue ongoing preventative maintenance of the boiler.

- The air conditioning units installed in the windows are not efficient, lack centralized control (which would increase energy efficiency) and impact the historic character of the building.

  RECOMMENDATION: The County should consider the use of Variable Refrigerant Flow (VRF) systems to provide heating and cooling for building. VRF systems are ideal as the impact to the building aesthetics is minimized and the systems are extremely energy efficient.

- The natural gas system is missing an earthquake isolation valve.

  RECOMMENDATION: Install an earthquake isolation valve.

- Hangers and supports for the piping consist of flexible straps, which is not code compliant. Multiple instances were also observed where other utilities were used to support piping. Further, none of the piping that was observed had code compliant seismic restraints.

  RECOMMENDATION: Install seismic bracing and support piping and ductwork using code compliant means and fasteners.

Annex

- Based on feedback from County Public Works, the WSHPs maintain temperature control in both heating and cooling conditions. The system appears to have adequate capacity and zoning to maintain thermal comfort for occupants in the building.

  RECOMMENDATION: None, the water source heat pump system works adequately and is an energy efficient system. Regular preventive maintenance is recommended; it will extend the life of the WSHP system and its components.

- The fluid cooler showed signs of calcium build up on the equipment casing suggesting a hard water condition in the municipal water supply. The system currently doesn't have a water softener nor uses a water treatment system.
  RECOMMENDATION: Install a water softener system (or equivalent). Another option would be to contract with a chemical treatment provider to extend the life of equipment that uses water: the boilers and fluid cooler.

- The water source heat pump fluid cooler and circulation pumps do not have variable frequency drives and as a result the system operates on a constant volume basis.

  RECOMMENDATION: Install variable frequency drives at equipment to reduce annual operating costs.

- Ventilation air for some of the water source heat pumps on the second floor is drawn directly from the attic. Ventilation air typically is drawn from the outdoors.

  RECOMMENDATIONS: Extend outside air intakes through roof or other means to reach outdoors.

- A separate cooling system is dedicated to the Data Center. The use of this packaged HVAC unit allows the use of airside economizer for the room. The data center room was being maintained at 62^{o}F as a result of operating all the equipment continuously instead of staging the equipment in a lead/standby scenario. As a result, the system is consuming more energy that would be typically required to maintain a temperature of 68^{o}F in the room.

  RECOMMENDATION: Reset room air temperature to 68^{o}F to lower annual operating costs. A BAS, specifically for the Data Center could be considered as well.

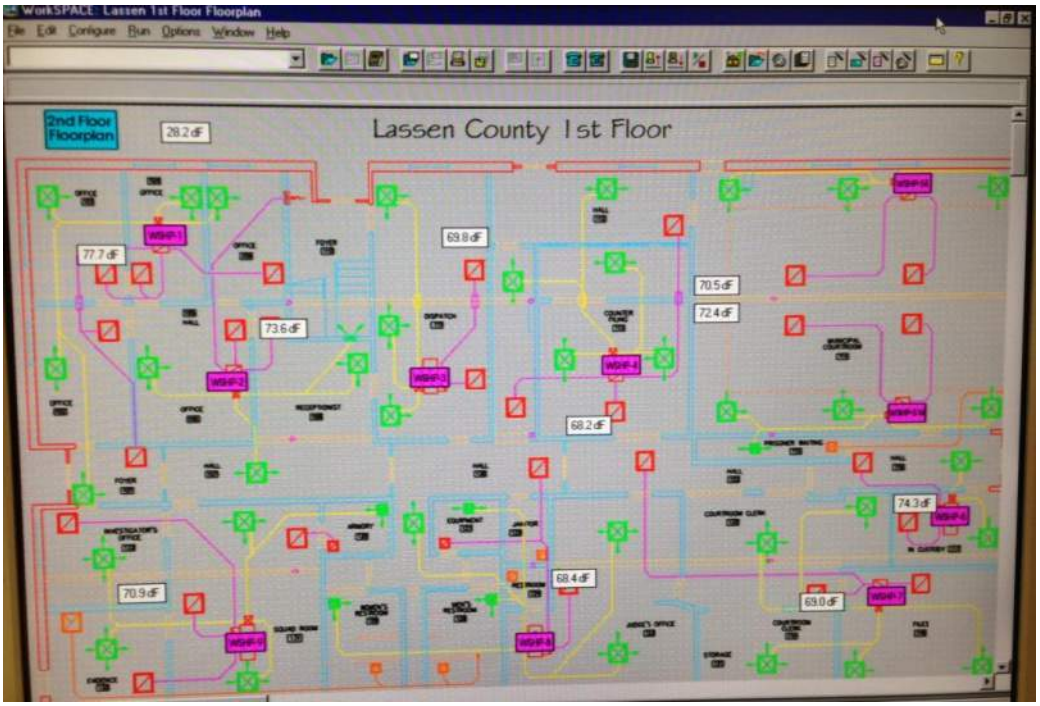
- The BAS system doesn't allow remote monitoring or control of all the mechanical equipment.

  RECOMMENDATION: Add the boilers, fluid cooler, and pumps to the BAS system. The Data Center could be added to this system as well.

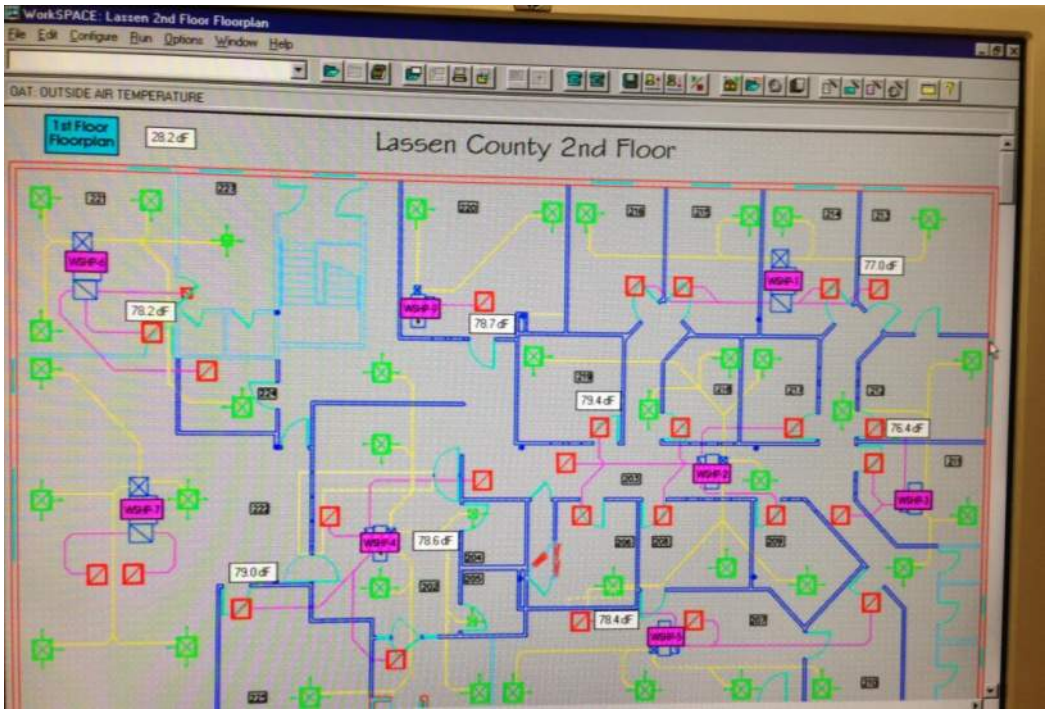
- The natural gas system is missing an earthquake isolation valve.

  RECOMMENDATION: Install an earthquake isolation valve.

PHOTOS



A.1 – ANNEX BAS 1ST FLOOR ZONING FLOOR PLAN



A.2 – ANNEX BAS 2ND FLOOR ZONING FLOOR PLAN

A.3 – ANNEX ELECTRIC WATER HEATER

A.4 – ANNEX PACKAGED HVAC UNIT SERVING DATA CENTER

A.4 – ANNEX CONDENSER WATER PUMP

A.5 – ANNEX FLUID COOLER AND HOT WATER BOILER

A.6 – ANNEX ABANDONED EQUIPMENT IN ATTIC

A.7 – ANNEX RESTROOM TOILET WITH FLUSH VALVE (TYPICAL)

C.1 – COURTHOUSE HOT WATER BOILER WITH NEW BURNER

C.2 – COURTHOUSE PACKAGED AC UNIT & RADIATOR SERVING BASEMENT

C.3 – COURTHOUSE BASEMENT ELECTRIC WATER HEATER

C.4 – COURTHOUSE EVPORATIVE COOLING UNIT SERVING 1ST FLOOR

C.5 – SPLIT SYSTEM FAN COIL SERVING 3RD FLOOR

C.6 – COURTHOUSE FLUSH TANK TOILETS (TYPICAL)

C.7 – COURTHOUSE COURTROOM RADIATOR AND WALL GRILL

C.8 – COURTHOUSE 2ND FLOOR RADIATOR AND PACKAGED AC UNIT (TYPICAL)

ELECTRICAL SYSTEMS

GENERAL

Lionakis and the project's Electrical Engineer, Glumac & Associates, conducted a thorough assessment of each building's electrical systems. The following outlines each system's condition and observations from the 1/5/16 site visit. At the time the systems were assessed, the codes listed below were in force and were used to draw conclusions and make recommendations. Recommended improvements to upgrade and improve the performance of each building's electrical systems conclude this section of the report.

- California Electrical Code, 2013 Edition
- California Building Code (CBC), 2013 Edition
- Building Energy Efficiency Standards (CEC), 2013 Edition
- California Fire Code, 2010 Edition, NFPA 13
- California Fire Code, 2013 Edition, NFPA 72.

The Courthouse qualifies as a Historic building: the 2013 California Historical Building Code (CHBC) would apply as described below. This would also apply with later versions of the CHBC.

- Any non-historic components of the building such as new or replacement electrical systems or equipment needs to comply with the Building Energy Efficiency Standards (CHBC 102.1.1).
- Interior and exterior lighting systems in qualified historic building as defined in the State Historic Building Code are exempt from lighting power allowances if they consist solely of historic lighting components or replicas of historic lighting components. All other lighting systems shall comply with the lighting power allowances.

SYSTEMS DESCRIPTION

Electrical Service

Courthouse Square Campus

The site's electrical system is a 120/240V 3-phase delta 800 ampere service located on the south west exterior of the Annex building. It has incoming pull section and utility meter enclosures. Electrical service is fed from Lassen Municipal Utility District (LMUD) via pole mounted utility transformer which is located adjacent to the Annex building.

Historic Courthouse

The Historic Courthouse is fed from the main Campus switchboard on the south side of the Annex Building. The Courthouse, which is approximately 23,700 square feet in size, currently houses County offices, the vacant historic courtroom, and various support spaces. Electrical service is provided from the main switchboard at 120/240v single-phase 600 amperes. The original electrical service to this building was upgraded at an unknown time. The electrical service for this building is sufficient for current uses but is undersized for equipment requiring three-phase power, such as an elevator or lift, and for future repurposing and modernization needs.

Annex

The Annex is fed from the main Campus switchboard located on the south side of the Annex Building. The Annex is comprised of approximately 14,150 square feet, and houses County offices, a vacant courtroom, and the County's main Data Room for the county. The existing switchboard is mounted next to the southwest side of the building. The main electrical switchboard was upgraded and installed when the generator was added (at an unknown time). The 800-ampere board feeds the Annex Building, the Historic Courthouse, and the unoccupied Historic Jail.

All indicators point to this service as being undersized for future repurposing and modernization projects at the Campus. Further testing, such as taking load readings, is required to verify the adequacy of the electrical service and determine whether there is any spare capacity. Any future upgrade in the electrical service to the campus will need to provide adequate power for growth and flexibility, especially for increasing IT and work environment loads.

Emergency Stand-by Power System

Annex

An existing emergency generator located on the southwest side of the Annex Building is located near the incoming pull section/utility meter enclosure. This generator serves only the Annex Building and was installed in 2014. The installation included an automatic transfer switch to transfer to emergency power during utility power failures.

Lighting

Courthouse

The interior lighting for the Historic Courthouse is comprised of the following fixtures, some are of historical character (noted):

- Corridors and lobbies: Sconce, pendant fluorescent and incandescent light fixtures, many of these are fed using wire mold.
- Courtroom: Wall sconces and pendant light fixtures.
- Mechanical and storage rooms: Compact fluorescent and incandescent screw in socket type fixtures linear and fluorescent pendants.
- File storage rooms: Surface 4-foot wrap around fluorescent light fixture.

- Break rooms and offices: Recessed 2x4 fluorescent light fixtures.
- There are pendant light fixtures and chandeliers in the lobbies that are part of the historical character of the building and must remain.
- Many of the light fixtures in various areas are incandescent lamped.
- The building does not have an interior automatic lighting control system.
- The exterior lighting of the Courthouse comprises of arm mounted high pressure sodium lamps.

Annex

The lighting in the Annex Building is comprised of the following:

- Corridors and lobbies: Recessed 2x4 fluorescent light fixtures.
- Courtroom: Recessed 2x4 fluorescent light fixtures.
- Mechanical and storage rooms: Recessed 2x4 fluorescent light fixtures.
- File storage rooms: Recessed 2x4 fluorescent light fixtures.
- Break rooms and offices: Recessed 2x4 fluorescent light fixtures.
- The building does not have an interior automatic lighting control system.
- The exterior lighting of the Annex comprises of arm mounted high pressure sodium lamps and wall packs.

Fire Alarm System

Courthouse

There appears to be no fire alarm system located in the Historic Courthouse. Several residential type smoke alarm devices were observed in the building.

Annex

The existing fire alarm control panel is in the basement of the Annex Building. Pull stations, smoke detectors, horns, and strobes are sparsely located around the building.

FINDINGS

The following findings and recommendations are noted based on Glumac's evaluation of the building, review of the as-built drawings, and discussions with County Public Works:

Courthouse Square Campus

- The existing electrical infrastructure service appears inadequate to serve the 35,000 square feet building space for future renovation or repurposing.

  RECOMMNDATION: For renovation and repurposing it is recommended that services to the annex and historic courthouse buildings be separated. Also, based on the intended use of space for planned, future projects, a Campus electrical service upgrade should be investigated.

- The emergency generator system may not have enough spare capacity to add additional loads in future to support renovation and repurposing.

  RECOMMENDATION: Conduct load readings to determine the generator's load capacity. The bigger picture has to do with establishing what, if any, additional Campus loads require emergency stand-by power.

Courthouse

- An elevator or a lift to the second level is required to provide an accessible means of access to the Historic Courtroom for Board of Supervisor meetings. Elevators and lifts generally require three-phase power. As a result, the existing single-phase service to the Historic Courthouse may need to be upgraded to three-phase service.

  RECOMMNDATION: Further study is required to determine the most effective option to provide access to the second level of the Courthouse. As noted above, load testing the main switchboard will determine if there is spare capacity in the Courthouse's single-phase service. If there is spare capacity, an elevator or lift that operates on single-phase power is an option. However, the bigger picture revolves around providing adequate power to accommodate growth, increasing IT load demands, and future projects.

- A new fire alarm system will need to be installed throughout the Historic Courthouse. This is a code required fire/life safety measure that will be triggered by any major renovation project.

  RECOMMENDATION: Install a new fire alarm system that will comply with NFPA 72 requirements in force at the time of the design and installation of the system.

- The exterior lighting of the Courthouse has been upgraded since its original construction.

  RECOMMENDATION: The existing exterior lighting system needs to be replaced with new energy efficient light fixtures. The site system lighting is not part of the historic character of the Courthouse or the Courthouse Square and can be designed and specified to current code standards.

Courthouse & Annex

- Many of the interior lighting fixtures in both buildings appear to be at the end of their product lives and are not energy efficient. In addition, interior lighting systems in both buildings do not meet Title 24 requirements.

  RECOMMENDATION: For renovation and repurposing, replacing existing light fixtures with new energy efficient light fixtures, including controls systems to meet Title 24 requirements, is recommended. Fixtures that must remain as part of the historic character of the Courthouse can be retrofitted to replace existing lamps with new energy efficient lamps. New lighting systems must include multi-level switching, occupancy sensors, and daylight photocell controls per Title 24 energy standards in areas without historic lighting components.

- The lighting recommendation for this report is based on the 2013 Title 24 Energy Efficiency Standards. The California Energy Commission updated these standards in the 2016 Title 24.

  RECOMMENDATION: Recommendations in this report should be reviewed for compliance with the version of Title 24 in force at the time the new lighting systems are designed and installed.

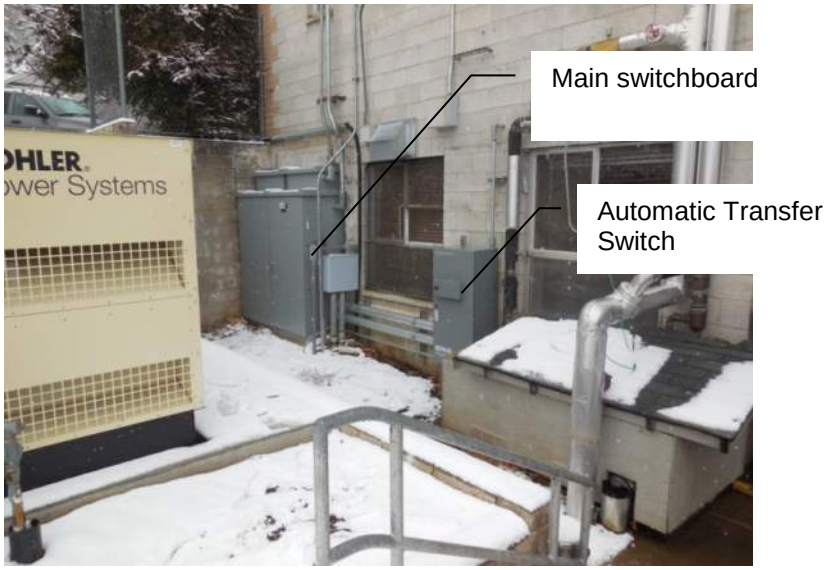
Annex

- The fire alarm system in the Annex will need to be upgraded under any significant remodel of the building, which is anticipated

  RECOMMENDATION: Install a new fire alarm system that will comply with NFPA 72 requirements in force at the time of the design and installation of the system.

PHOTOS

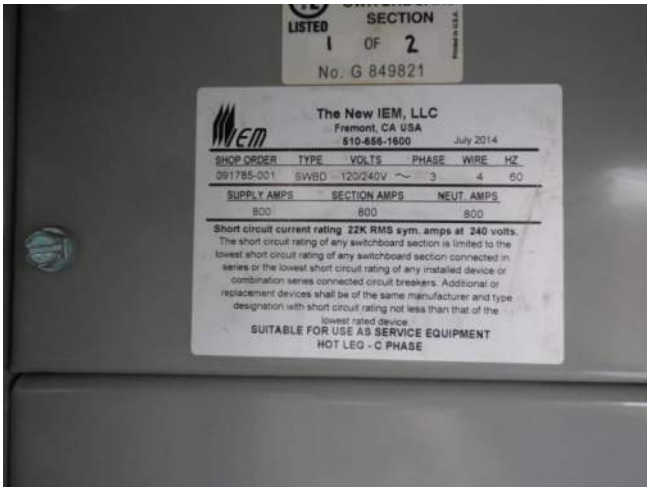
A.1-Site



A.2-Main Switchboard

Electrical Meter

A.3-Main Switchboard



A.4-MSB

A.5-Courthouse panel

A.6-Courthouse feeders

A.7-Emergency Stand-by Generator for Annex Building

A.8-Annex fire alarm control panel

HISTORICAL ASSESSMENT

OVERVIEW

The Historic Courthouse is on the National Registry of Historic Places, which is appropriate to its place in history. The County is supportive of the building's legacy and is invested in maintaining the interior and exterior distinctive characteristics that make it a venerable part of the community. Improvements to this 100-year old historic building, commensurate with current building codes and respectful of its historic character, will allow it to function for many years to come as an example of the modern repurposing of a Historic building. In its ultimate rehabilitation, the Historic Courthouse will retain and preserve its character and provide decades of continued use by the County.

A survey of the Historic Courthouse was conducted as part of the project and is included in Appendix H. This report identified the important historic architectural elements of the building, as well as documenting history about its Architect, George S. Sellon, and its historic significance to Lassen County. Of primary note is the Survey's identification of the Primary, Secondary, and Non-Contributing historic features of the building. These features are extensively inventoried in the Survey in Table 1 and building floor plans and elevations. This inventory defines the building's elements that must be preserved as part of any building upgrade or project, such as seismic reinforcing.

SPACE PLANNING

TEST & FIT SPACE PLAN

As part of the Courthouse Square Modernization project, Lionakis' Interior Designers met with several County departments on March 22, 2016, to discuss the conceptual layout and adjacencies that would effectively provide modern, functional workspaces in the Historic Courthouse and the Annex Building. The high-level concepts developed during these meetings provide a basis for establishing budgets, scope, and schedules for relocating and moving departments into these buildings. These concepts did not delve into specific details such as the design of private offices or systems furniture layouts; this level of design will occur as part of the tenant improvement projects that will relocate County departments listed below into the Historic Courthouse and the Annex Building.

Most importantly, the overall blueprint for these buildings was established in the meeting on March 22, 2016: The Historic Courthouse will be repurposed to provide space for County Administration services. The Annex Building becomes a Public Works focused building to better serve County residents. Close collaboration with the County departments at the meeting determined the following allocation of departments and was considered as an optimal master plan for the Historic Courthouse and the Annex Building:

<u>Historic Courthouse</u>

- County Administrator's Office (New)
- Personnel (New)
- Board of Supervisors' Chambers and Meeting Room (New)
- Board of Supervisors' Private Offices (New)
- Training and Conferencing Space (New)
- Recorder and Elections
- Assessor
- Treasurer and Tax Collector

<u>Annex Building</u>

- Public Works (New)
- Building and Planning (New)
- Auditor *
- Information Services
- Spare Area available for future consolidations

* The Auditor remains in the Annex Building due to space limitations in the Historic Courthouse. They will be moved to Level 1 to facilitate a direct walking access to the Historic Courthouse as they have strong ties to the administrative departments located there.

The conceptual space plans developed for each building allows several departments to be consolidated at Courthouse Square, which in turn allows the County to reduce reliance on other facilities around the City and eventually divest in those facilities to reduce operational and maintenance costs. Colored space plans for the Historic Courthouse and the Annex Building follow are included in Appendix I, as well as departmental area charts.

APPENDIX A – LIST OF MEETINGS & MILESTONES

12/1/15	-	Project Scope & Goal Meeting with County Team in Susanville
1/5/16	-	On-site, full-day site visit by Lionakis to Assess the Courthouse and Annex
1/21/16	-	Memo: Summary of 1/5/16 Site Visit & Revised Scope & Approach Recommendations
3/11/16	-	Memo – Conceptual Design for Courthouse Elevator
3/16/16	-	Presentation of Conceptual Design to Board of Supervisors Attach Doc (ppt)
4/7/16	-	Fee Proposal for Elevator Project
6/9/16	-	Draft Assessment Report Issued
8/1/16	-	Memo – Sequencing of Phased Improvements
1/30/17	-	Memo – County Direction to Proceed with Accessibility Projects
3/17/17	-	Prioritization of Accessibility Improvements
6/5/17	-	Budget Model / Pro Forma for Accessibility Improvements
8/9/17	-	Courthouse Square Topo Survey Initiated by County
10/20/17	-	Topo Survey provided by County
1/22/18	-	ADA Transition Plans provided for Courthouse & Annex provided by County
3/29/18	-	Proposal for Accessibility Improvements
3/29/18	-	Proposal for ASCE 41 Tier 3 Seismic Evaluation of Historic Courthouse
5/21/18	to	7/26/18 Investigation, Research, and 3-D Modeling for Seismic Assessment
8/29/18	--	CDs for Accessibility Improvements Approved by Willdan
10/24/18	-	Project Update Meeting in Sacramento – Accessibility & Seismic Evaluation
12/5/18	-	Seismic Assessment & Project Scope Discussion
12/22/18		Draft Seismic Report submitted for Review & Comment
2/26/19	-	Seismic Report accepted by the County

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APPENDIX B – 2016 STRUCTURAL ASSESSMENT

May 23, 2016

Lassen Historical Courthouse – Seismic Evaluation
Lionakis Project #015437
Structural Assessment Report

Lassen County has requested a structural assessment report consisting of a structural seismic evaluation of the existing Lassen County Historic Courthouse to determine the present earthquake performance level and to identify potential upgrades in order to improve the performance of this building. This building was previously used as the county courthouse and associated court administration services that have since moved to the new county courthouse. This building is currently used as a county administration office. The County proposes to hold county hearings within the original courtroom of this building. This hearing room would be considered an assembly space with an occupant load of less than 300 people. This hearing room would be considered an ancillary space to the overall function of this buildings administration offices. We don't believe that the current office use or the proposed future hearing room would be considered an occupancy change triggering a code upgrade. This building is considered a Risk Category II structure under the 2013 California Building Code.

This building is described as a two story building with a full basement level and partial attic level. This building is fully built-out to its previous use, as a courthouse and supporting administrative services. The build-out is of older construction consisting of harden surfaces. We were unable to explore the original condition of the structural system due to these hard surfaces. Our assessment is based on our evaluation of the original documents and minimal exploration of the building.

ASCE 41 – Evaluation

We have conducted this structural seismic evaluation of the existing Lassen County Historic Courthouse using ASCE/SEI 41-13, "Seismic Evaluation and Retrofit of Existing Buildings."

ASCE 41 consists of three phases that are defined as the following three tiers:

- Tier 1 – Screening
- Tier 2 – Deficiency-Based Evaluation and Retrofit
- Tier 3 – Systematic Evaluation and Retrofit

This ASCE/SEI 41-13 structural seismic evaluation consists of screening phase (Tier 1) and deficiency-based evaluation phase (Tier 2). ASCE/SEI 41-13 has two performance objectives and they are life safety and immediate occupancy. For this project we used the life safety performance objective. An ASCE/SEI 41-13 Tier 1 screening and Tier 2 evaluation is the recommended method to quickly identify building deficiencies and used to propose concentrated retrofit scheme that may be addressed in a future Tier 3 systematic evaluation and seismic retrofit program.

Generally a building evaluated and meets a Tier 1, life safety performance objective, will experience moderate damage during a BSE-1 seismic event. BSE-1E seismic hazard has a 20% probability of exceedance in 50 years and this is known as a 225 year mean return period earthquake. Moderate damage would requiring repairs prior to occupying the building again. On the other hand, during a BSE-2 seismic event, this same building would experience severe damage, requiring extensive rehabilitation to structural and non-structural component and may not be economically practical repair after this event. BSE-2E seismic hazard has a 5% probability of exceedance in 50 years and is known as a 975 year mean return period earthquake. The expected damage that is tolerated by the county needs to be clearly defined so that they achieve their desired performance objective.

Tier 1 screening phase allows for a rapid evaluation of the structural and nonstructural building components and used to determine geologic hazards at the site. The purpose of a Tier 1 is to quickly screen out buildings that comply with the provisions of the ASCE/SEI 41-13 standard and to identify any potential deficiencies. The Tier 2 evaluation is prescriptive structural system calculations required within the Tier 1 checklist. Non-destructive and destructive material testing was not done for this evaluation and would typically be required during an in-depth Tier 3 systematic evaluation and retrofit.

Document Review:

We were able to review the original Architectural and Structural Sheets, Sheets 1 through 14 that included plans, elevations, sections, and details. These documents were prepared by George C Sellon Architects, in Sacramento, CA and dated 7/3/1915.

Soil reports were not provided for our review. We would not expect that this site has the potential of earthquake-induced liquefaction, slope stability failure, and/or surface fault rupture. We would recommend having a geotechnical and geological hazards report prepared by a geotechnical engineer prior to any future projects requiring foundation improvements to determine potential seismic induced site hazards. For this assessment we have assumed soil class D, Stiff Soil, that has a design short-period spectral response acceleration S_{XS} = 0.51g and a design spectral response acceleration parameter at a one-second period S_{X1} = 0.28g. For the parameters given, the level of seismicity shall be classified as high per ASCE/SEI 41-13, Table 2-5.

Observation of Existing Conditions:

This structural assessment consists of one site visit and is limited to exposed and observed elements. Hidden and unforeseen conditions are excluded from this report. Based upon our visual observation of the interior and exterior condition, we have concluded that this building is in fair condition considering its exposure to the harsh Sierra Nevada climate for approximately 100 years. With repair and continual maintenance, we believe that that county can extend the life of this structure.

Cladding performance and condition of the exterior shell, if properly maintained, can protect the contents within the building and extend the life structural and nonstructural components. The roof appears to be water tight and is a newer single-ply roof membrane in good condition. Exterior stone wall cladding is in fair condition and requires maintenance. The stone masonry mortar joints at the parapet, above the heated interior, is subjected to freeze/thaw and water damage. Mortar joints are gouged between the stone blocks elements that require pointing of the mortar to prevent further damage from occurring. Terracotta veneer around the parapet and window sills are in fair condition. Several terracotta elements are damaged and broken. The mortar joints between the terracotta appears to retain moisture that could allow water to enter and damage the anchorage of these elements. Exterior walls generally appear to be plumb, flat, and straight with negligible observed settlement and thermal cracking. The damage that was observed does not appear to be caused by previous seismic events and/or caused by soil settlement issues. With maintenance and repair of the exterior damage and with confirmation testing and possible strong backing we believe that the exterior walls could generally conform to the Tier 1 and Tier 2 life safety objective.

Exterior flatwork and site walls is in poor condition. Damage appears to be caused by freeze/thaw resulting in concrete spalling and deterioration. Site elements are generally not included in the structural vertical and lateral force resisting system and could be repaired and replace without adversely affect the buildings performance.

Interior condition was limited to wall, ceiling, and floor finishes. Interior walls and ceilings appear to be in fair condition. We did observe what appears to be minor settlement cracking near wall openings that appeared to be nonstructural. Floor deflection and stress cracking was observed at the suspended floor slabs and appears to have been caused by concrete creep. Concrete creep is more prevalent in horizontally spanning concrete slabs and beams that are loaded over extended time. The attic floor had the most visible deflection as a result of the library stacks that were used for court files and books. The attic loads have mostly been removed during the court move out and this may avert additional

deflection and damage. We would recommend periodic review of the attic floor structure. This review could include a floor survey that would benchmark the current condition that could be compared in the future.

Tier 1 Screening:

Our tier 1 screening is limited to our review of the original documents and our limited access to exposed and observed structural elements.

The following list of structural elements that are shown on the original documents that could not be easily observed or verified:

- Non-ductile reinforced concrete beam and column framed construction and materials.
- Interior infill wall construction that is considered as a part of the lateral force resisting system.
- Foundation sizes and rebar.
- Exterior cladding anchorage

The lateral force resisting system for this building is not well defined. Based on the original building documents this building appears to rely on concrete frames with infill masonry shear walls. This is an older method of construction that consists of a frame assembly consisting of cast-in-place concrete beams and columns. The beams are cast integral with cast-in-place concrete slab floor and roof diaphragms. These diaphragms are relatively rigid compared to the concrete column/beam frame and infill wall stiffness. Seismic performance of this type of contrition depends on the interaction between the frame and the infill masonry. The combined behavior of this type of construction generally represents a shear wall structure rather than a framed structure. Masonry infill panels, if constructed solidly between the columns and beam, form diagonal compression struts between the intersections of the framed members. If infill walls are offset from the framed members, removed during previous tenant improvements, and/or altered by adding doors and windows, the diagonal struts may not fully engage the column and beam framed members. Alternations to the infill walls have detrimental effects to the development of the required strut that is necessary for this system to work. For the ASCE 41-13 Tier 1 and Tier 2 procedures this Building type and its behavior is considered Type C3 Concrete frames with Infill Masonry Shear Walls.

Infill walls should generally consist of solid clay brick, concrete block, or hollow clay tile masonry. Unfortunately we were unable to verify or confirm interior infill walls. The original documents identify 4” tile infill walls along several column gridlines in both directions. The interior walls may have been hollow tile construction that was removed during a previous tenant improvement projects. 4” hollow tile is not an appropriate infill wall construction. The minimum wall height to wall thickness ratios for infill walls should be less than 9. The exterior wall construction consists stone masonry that appears to be proud of the concrete column and beam framed system. Interior side of this wall is furred with a 6” cavity that separates the interior finish plaster from the exterior stone veneer. The exterior walls appear to be nonbearing masonry wall cladding that may contribute to the lateral force resisting system but not necessary meet the requirements of infill walls. We could not determine or verify the anchorage between the diaphragm and the exterior masonry wall construction. The thickness of the exterior masonry is assumed to be approximately 6” thick and does not meet the wall height to wall thickness ratios required for infill construction. If this stone is considered a veneer, it needs to be properly supported by strong backed to prevent out-of-plane failure. The veneer out-of-plane resistance should be further evaluated to determine if it is properly braced.

The concrete frame consists of 12 ¾” minimum to 20” maximum square reinforced concrete columns that support 12” to 20” wide x 1’-11” to 2’-4” deep reinforced concrete beams that run in the buildings transverse direction. Floor and roof diaphragms are generally 5” reinforced concrete. The reinforcement within the concrete members could not be verified or confirmed.

Some of the elements observed did not necessary meet the minimum life safety requirements. Other elements could not confirmed and would require additional investigation. In order to meet the life safety performance objective all elements would need to be screened and confirmed. Since we were unable to complete the Tier 1 screening and Tier 2 evaluation, we can't necessary confirm that this building meets the life safety performance objective within ASCE/SEI 41-13.

Due to our inability to confirm the existing lateral force resisting system and component anchorage that may potentially pose a falling concern, we recommend a Tier 3 evaluation and rehabilitation program to consist of the following:

- Confirm existing infill wall construction and layout. This will require destructive testing to determine where infill walls currently exist and if they fully engage the concrete beam and column frame assembly. These infill walls may require out-of-plane restraint consisting of strong backing in order to meet the buildings performance objective. If the infill wall construction is to be used as part of the lateral force resisting system, strength testing of the mortar joints would be required to determine bond strength between masonry.
- Analyze the current concrete beam and column frame assembly and determine if it has adequate capacity with or without the infill walls to resist the required demand as a result of the performance objective. This analysis requires a 3-dimensional computer model used to perform analysis using either liner static procedure or liner dynamic procedure. Existing frame and infill wall deficiencies would then be identified and a proper rehabilitation schemes could then be explored.
- Strengthen the lateral force resisting system may be required in order to meet the buildings performance objective. Some potential strengthening options could include new reinforced concrete infill walls, shotcrete applied over the existing infill walls, and steel brace members between the existing concrete frames. Other unconventional options may include adding seismic dampers that would enhance the lateral performance of the existing buildings concrete beam and column frame system.
- Evaluate and strengthen the support of the exterior stone masonry veneer in order to meet the performance objective. This will require additional destructive investigation to fully understand how the exterior stone veneer is supported to the structure.
- Confirm the terracotta anchorage is not deteriorated and compromised. This would require destructive investigation to determine how the terracotta is fasten and what the current condition is of these fasteners.
- Upgrade the existing ceiling and wall mounted nonstructural component anchorage for elements that weight more than 20 lbs and floor mounted components that weight more than 400 lbs.

This building does not conform to current building construction techniques or codes. Engineering practice and codes have evolved and are continually being refined. Based on our engineering judgment and our limited use of ASCE/SEI 41-13 Tier 1 screening and Tier 2 evaluation, we recommend further in depth evaluation and possibly rehabilitation using ASCE/SEI 41-13 Tier 3 systematic evaluation and retrofit of the deficient elements .

Several areas of concern relate to the overall lateral force resisting system and components that pose a life safety risk of falling. By further evaluating and possibly retrofitting this building to the life safety performance objective, the county could potentially reduce seismic risk and extend the buildings life. An ASCE/SEI 41-13 Tier 3 systematic evaluation with a complementary retrofit program would address any concerns within this evaluation report. We recommend that the county considers a retrofit program when enhancements are made to this building. Future building enhancements will not necessary trigger a code update or require that this building is retrofitted. A retrofit program may be completed over several phases and can be a part of an overall modernization or tenant improvement project. We recommend a retrofit program that would enhance the building performance so it meets the life safety performance objective using a BSE-1 hazard level and collapse prevention using a BSE-2 hazard level.

Sincerely,

Darron Huntingdale | SE | SECB | Associate
LIONAKIS

APPENDIX C
SUMMARY DATA SHEET

BUILDING DATA

Building Name: Lassen County Courthouse (015437) Date: 01/05/16

Building Address: 220 S Lassen St, Susanville, CA 96130

Latitude: 40.41632°N Longitude: 120.66349°W By: _____

Year Built: 1917 Year(s) Remodeled: _____ Original Design Code: _____

Area (sf): _____ Length (ft): 124'-0" Width (ft): 65'-0"

No. of Stories: 3 + basement Story Height: 11'-0" Total Height: 36'-10" (from ground level)

USE ☐ Industrial ☐ Office ☐ Warehouse ☐ Hospital ☐ Residential ☐ Educational ☒ Other: Civic

CONSTRUCTION DATA

Gravity Load Structural System: Concrete slab over one-way beams and columns

Exterior Transverse Walls: _____ Openings? Windows

Exterior Longitudinal Walls: _____ Openings? Doors, windows

Roof Materials/Framing: _____

Intermediate Floors/Framing: _____

Ground Floor: _____

Columns: _____ Foundation: _____

General Condition of Structure: _____

Levels Below Grade? Basement

Special Features and Comments: _____

LATERAL-FORCE-RESISTING SYSTEM

	Longitudinal	Transverse
System:	Concrete frame with Infill	Concrete frame with Infill
Vertical Elements:		
Diaphragms:		
Connections:		

EVALUATION DATA

BSE-1N Spectral Response Accelerations: S_{Ds} = 0.493 S_{D1} = 0.268

Soil Factors: Class = D (Assumed) F_a = 1.529 F_v = 2.326

BSE-1E Spectral Response Accelerations: S_{XS} = 0.518 S_{X1} = 0.276

Level of Seismicity: High Performance Level: Life Safety (3-C)

Building Period: T = 0.462

Spectral Acceleration: S_a = 0.517

Modification Factor: $C_mC_1C_2$ = 1.08 Building Weight: W = 2,300 kips (above ground level)

Pseudo Lateral Force: $V = C_mC_1C_2S_aW$ = 0.558W = 1,283 kips

BUILDING CLASSIFICATION: _____

REQUIRED TIER 1 CHECKLISTS	Yes	No
Basic Configuration Checklist	☒	☐
Building Type C3 Structural Checklist	☒	☐
Nonstructural Component Checklist	☒	☐

FURTHER EVALUATION REQUIREMENT: _____

Project: Lassen County Courthouse Location: Susanville

Completed by: Darron Huntingdale Date: 01/05/16

16.1.2LS LIFE SAFETY BASIC CONFIGURATION CHECKLIST

Low Seismicity

Building System

General

C NC N/A (U) LOAD PATH: The structure shall contain a complete, well defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1) documents are unclear appears to be C3 type construction.

(C) NC N/A U ADJACENT BUILDINGS: The clear distance between the building is greater than 4% of the height of the shorter building. This statement shall not apply for the following building types: W1, W1a, and W2. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)

(C) NC N/A U MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)

Building Configuration

(C) NC N/A U WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above. (Commentary: Sec. A2.2.2. Tier 2: Sec. 5.4.2.1)

(C) NC N/A U SOFT STORY: The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)

(C) NC N/A U VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 5.4.2.3)

(C) NC N/A U GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)

(C) NC N/A U MASS: There is no change in effective mass more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)

(C) NC N/A U TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)

Moderate Seismicity: Complete the Following Items in Addition to the Items for Low Seismicity.

Geologic Site Hazards

C NC N/A (U) LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance shall not exist in the foundation soils at depths within 50 ft under the building. (Commentary: Sec. A.6.1.1. Tier 2: 5.4.3.1) This require Geotechnical Engineer input.

C NC N/A (U) SLOPE FAILURE: The building site is sufficiently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: 5.4.3.1) This require Geotechnical Engineer input.

C NC N/A (U) SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: 5.4.3.1) This require Geotechnical Engineer input.

High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.

Foundation Configuration

(C) NC N/A U OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than $0.6S_a$. (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)

C NC (N/A) U TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Site Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)

Project: Lassen County Courthouse Location: Susanville

Completed by: Darron Huntingdale Date: 01/05/16

16.11LS LIFE SAFETY STRUCTURAL CHECKLIST FOR BUILDING TYPES C3: CONCRETE FRAMES WITH INFILL MASONRY SHEAR WALLS AND C3A: CONCRETE FRAMES WITH INFILL MASONRY SHEAR WALLS AND FLEXIBLE DIAPHRAGMS

Low and Moderate Seismicity

Seismic-Force-Resisting System

C NC N/A (U) REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2. (Commentary: Sec. A.3.2.1.1. Tier 2: Sec. 5.5.1.1)
This appears to be the case based on the original documents. We need all infill walls confirmed.

C NC N/A (U) SHEAR STRESS CHECK: The shear stress in the reinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 70 lb/in.^{2}. (Commentary: Sec. A.3.2.4.1. Tier 2: Sec. 5.5.3.1.1)
Could not be confirmed or denied during our site observation, not shown in the documents. We need all infill walls confirmed.

C NC N/A (U) SHEAR STRESS CHECK: The shear stress in the unreinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than 30 lb/in.^{2} for clay units and 70 lb/in.^{2} for concrete units. Bays with openings greater than 25% of the wall area shall not be included in A_w of Eq. (4-9). (Commentary: Sec. A.3.2.5.1. Tier 2: Sec. 5.5.3.1.1)
Could not be confirmed or denied during our site observation, not shown in the documents. We need all infill walls confirmed.

C NC N/A (U) INFILL WALL CONNECTIONS: Masonry is in full contact with frame. (Commentary: A.3.2.6.1. Tier 2: Sec. 5.5.3.5.1 and 5.5.3.5.3)
Could not be confirmed or denied during our site observation, not shown in the documents.This would need to be confirmed during destructive testing.

Connections

C NC N/A (U) TRANSFER TO SHEAR WALLS: Diaphragms are connected for transfer of loads to the shear walls. (Commentary: Sec. A.5.2.1. Tier 2: Sec. 5.7.2)
Could not be confirmed or denied during our site observation, not shown in the documents.

(C) NC N/A U CONCRETE COLUMNS: All concrete columns are doweled into the foundation with a minimum of four bars. (Commentary: Sec. A.5.3.2. Tier 2: Sec. 5.7.3.1)

High Seismicity: Complete the Following Items in Addition to the Items for Low and Moderate Seismicity.

Seismic-Force-Resisting System

C NC N/A (U) DEFLECTION COMPATIBILITY: Secondary components have the shear capacity to develop the flexural strength of the components. (Commentary: Sec. A.3.1.6.2. Tier 2: Sec. 5.5.2.5.2)
This requires a linear static or dynamic analysis procedure per 7.4.1 or 7.4.2 that is more appropriate during Tier 3.

(C) NC N/A U FLAT SLABS: Flat slabs or plates not part of the seismic-force-resisting system have continuous bottom steel through the column joints. (Commentary: Sec. A.3.1.6.3. Tier 2: Sec. 5.5.2.5.3)

C (NC) N/A U PROPORTIONS: The height-to-thickness ratio of the unreinforced infill walls at each story is less than 9. (Commentary: A.3.2.6.2. Tier 2: Sec. 5.5.3.1.2) This would assumes 4" infill walls where originally used.

C NC N/A (U) CAVITY WALLS: The infill walls are not of cavity construction. (Commentary: Sec. A.3.2.6.3. Tier 2: Sec. 5.5.3.5.2)
We don't believe this project has cavity construction and therefor does not apply. This would need to be confirmed during destructive testing.

C NC N/A (U) INFILL WALLS: The infill walls are continuous to the soffits of the frame beams and to the columns to either side. (Commentary: Sec. A.3.2.6.4. Tier 2: Sec. 5.5.3.5.3)

Connections

Could not be confirmed or denied during our site observation, not shown in the documents. This would need to be confirmed during destructive testing.

C NC (N/A) U UPLIFT AT PILE CAPS: Pile caps have top reinforcement, and piles are anchored to the pile caps. (Commentary: Sec. A.5.3.8. Tier 2: Sec. 5.7.3.5)

C NC (N/A) U STIFFNESS OF WALL ANCHORS: Anchors of concrete or masonry walls to wood structural elements are installed taut and are stiff enough to limit the relative movement between the wall and the diaphragm to no greater than 1/8 in. before engagement of the anchors. (Commentary: Sec. A.5.1.4. Tier 2: Sec. 5.7.1.2)

Diaphragms (Flexible or Stiff)

(C) NC N/A U DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level floors and do not have expansion joints. (Commentary: Sec. A.4.1.1. Tier 2: Sec. 5.6.1.1)

(C) NC N/A U OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls are less than 25% of the wall length. (Commentary: Sec. A.4.1.4. Tier 2: Sec. 5.6.1.3)

(C) NC N/A U OPENINGS AT EXTERIOR MASONRY SHEAR WALLS: Diaphragm openings immediately adjacent to exterior masonry shear walls are not greater than 8 ft long. (Commentary: Sec. A.4.1.6. Tier 2: Sec. 5.6.1.3)

Flexible Diaphragms

C NC N/A U CROSS TIES: There are continuous cross ties between diaphragm chords. (Commentary: Sec. A.4.1.2. Tier 2: Sec. 5.6.1.2)

C NC N/A U STRAIGHT SHEATHING: All straight sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered. (Commentary: Sec. A.4.2.1. Tier 2: Sec. 5.6.2)

C NC N/A U SPANS: All wood diaphragms with spans greater than 24 ft consist of wood structural panels or diagonal sheathing. (Commentary: Sec. A.4.2.2. Tier 2: Sec. 5.6.2)

C NC N/A U DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 ft and aspect ratios less than or equal to 4-to-1. (Commentary: Sec. A.4.2.3. Tier 2: Sec. 5.6.2)

C NC N/A U OTHER DIAPHRAGMS: The diaphragm does not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Commentary: Sec. A.4.7.1. Tier 2: Sec. 5.6.5)

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FLOORPLAN AREA LEGEND

- ADMINISTRATION
- ASSESSOR
- BOARD OF SUPERVISORS SHARED OFFICES AND MEETING ROOMS
- COUNTY COUNSEL
- ELECTIONS / CLERK RECORDER
- PERSONNEL
- TREASURER/ TAX COLLECTOR
- SHARED TRAINING ROOM
- RESTROOM
- EQUIPMENT ROOM
- CIRCULATION

1 BUILDING A - FLOOR PLAN - LEVEL B

SCALE 1/4" = 1'-0"

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220 S Lassen St
Susanville, CA 96130

CLIENT

LASSEN COUNTY

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FLOOR PLAN - LEVEL B

SHEET

A.A-110

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FLOORPLAN AREA LEGEND

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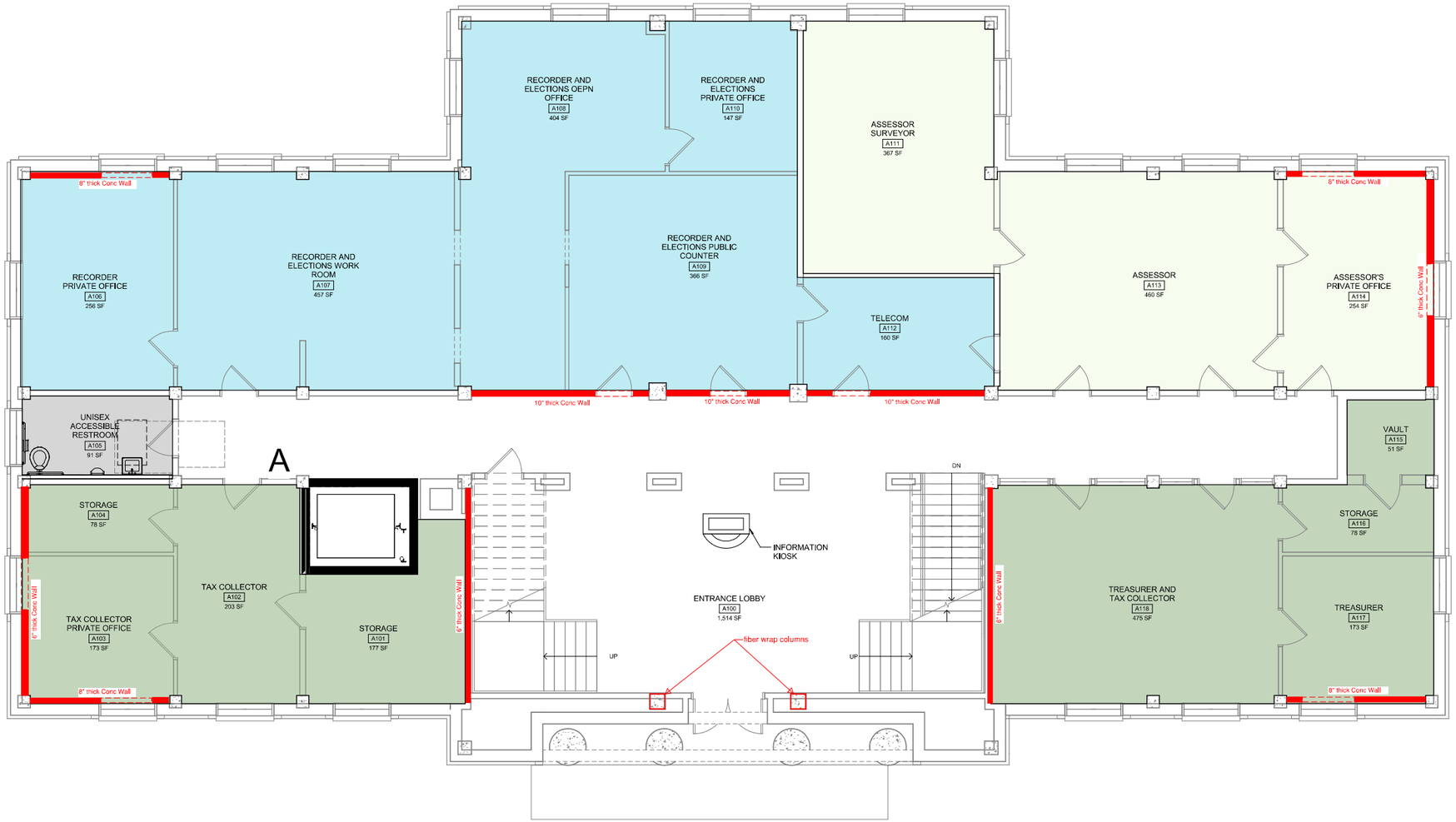
- TREASURER TAX COLLECTOR
- ASSESSOR
- RESTROOM
- CIRCULATION



1 BUILDING A - FLOOR PLAN - LEVEL 1

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FLOOR PLAN - LEVEL 1

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FLOORPLAN AREA LEGEND

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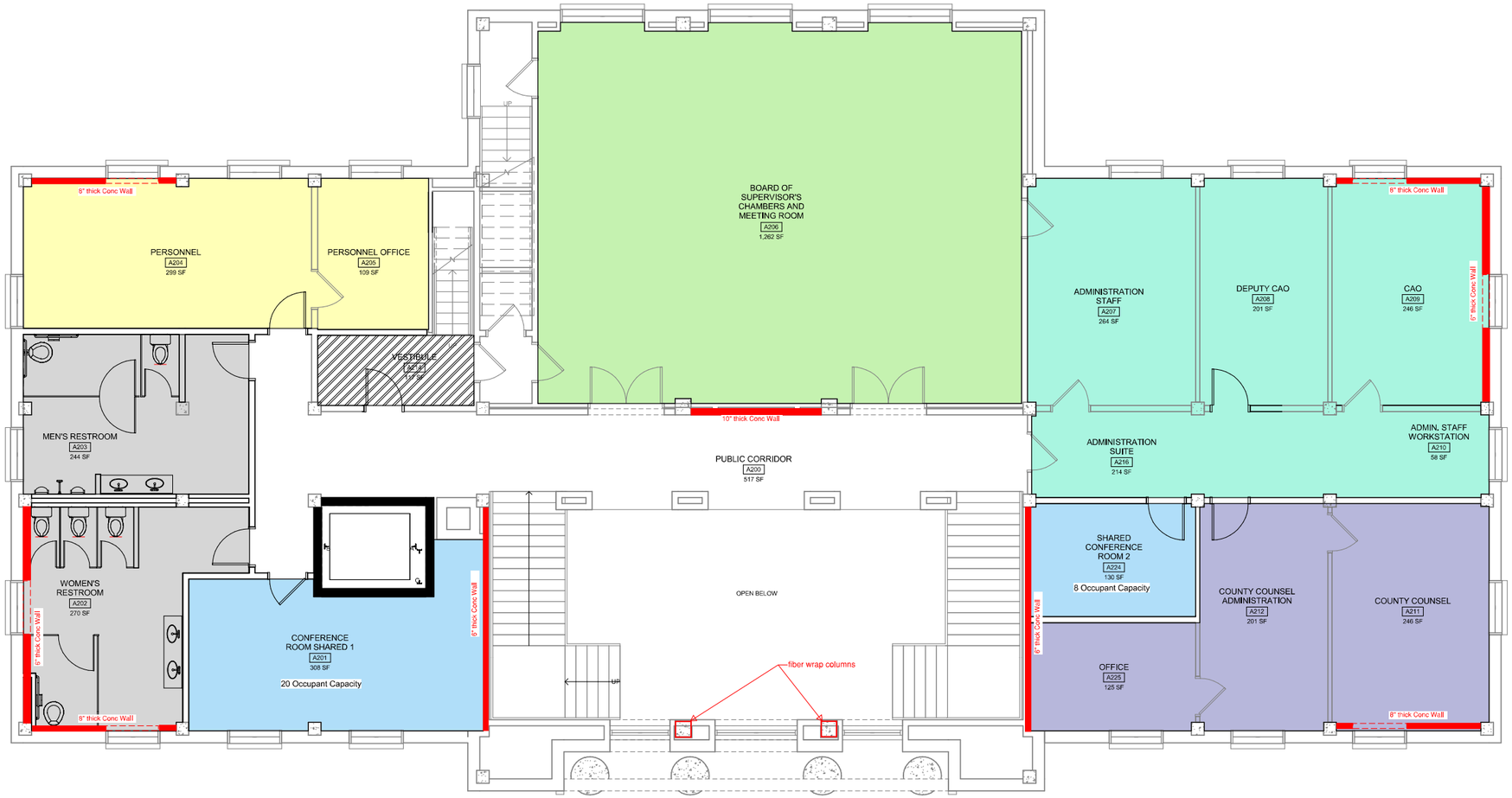
- COUNTY COUNSEL
- PERSONNEL
- SHARED CONFERENCE ROOM
- RESTROOM
- CIRCULATION
- VESTIBULE - THIRD FLOOR ACCESS



1 BUILDING A - FLOOR PLAN - LEVEL 2

SCALE 1/4" = 1'-0"

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TITLE

FLOOR PLAN -
LEVEL 2

SHEET

A.A-112

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FLOORPLAN AREA LEGEND

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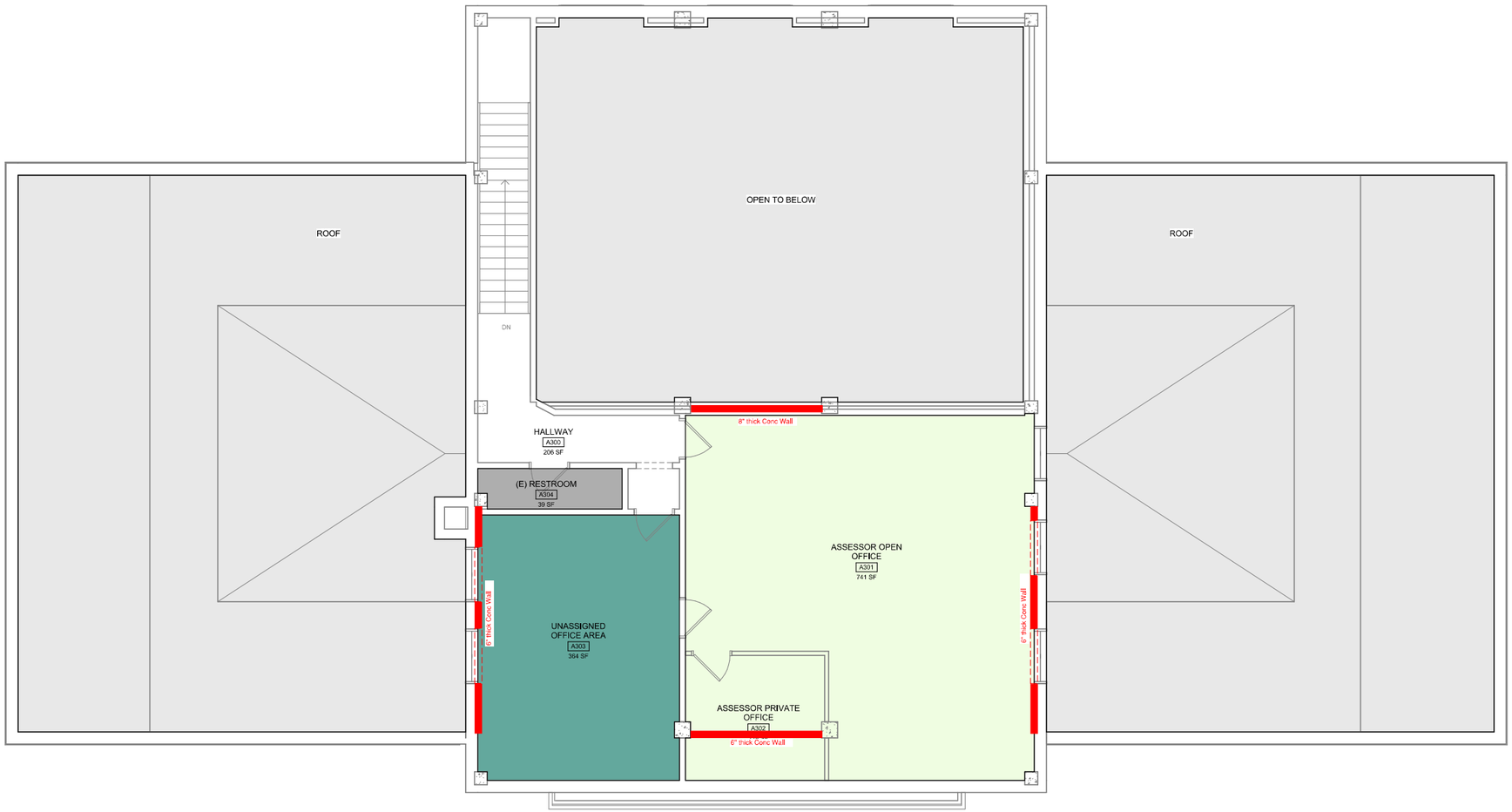
- RESTROOM
- CIRCULATION
- BUILDING AREAS



1 BUILDING A - FLOOR PLAN - LEVEL 3
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FLOOR PLAN - LEVEL 3

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APPENDIX C – 2019 STRUCTURAL ASSESSMENT EXHIBITS

Seismic Options
Lassen Historic Courthouse
November 16, 2018

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Budget Model
Summary

Front Elevation (Grid E & F)	165,315.06
Back Elevation (Grid A& B)	230,648.40
Side Elevation (Grid 1)	71,413.33
Side Elevation (Grid 10)	71,413.33
Interior Elevation (Grid 4)	63,643.80
Interior Elevation (Grid 7)	63,643.80
Interior & Exterior Nonstructural	254,200.00
Hard Costs	920,277.73

General Conditions and Requirements	12%	110,433.33
Bonds & Insurance	2%	18,405.55
General Contractors Profit	5%	46,013.89
Contractor Mark-Up Allowances		174,852.77

Unforeseen Conditions and Contingency	30%	276,083.32

	1,371,213.82
say	**$ 1,375,000.00**

Seismic Options
Lassen Historic Courthouse
November 16, 2018

LIONAKIS

Budget Model
Detail

Front Elevation (Grid E & F)

Element	Quantity	Unit	Unit Cost	Total
Demo	3596	sf	$ 10.00	$ 35,960.00
Gypboard & Studs	3596	sf	$ 15.00	$ 53,940.00
6" conc wall ($800/yd)	294.5	sf	$ 14.81	$ 4,362.96
10" conc wall ($800/yd)	919.75	sf	$ 24.69	$ 22,709.88
4" conc wall ($800/yd)	396	sf	$ 9.88	$ 3,911.11
6" conc wall ($1000/yd)	468	sf	$ 21.60	$ 10,111.11
Veneer Ties (Helical ties @ 48" oc)	194		$ 40.00	$ 7,760.00
FRP beams (4) locations	112	sf	$ 100.00	$ 11,200.00
FRP Collector at roof	80	lf	$ 100.00	$ 8,000.00
HSS5x5x5/16 Strongbacking ($4/lb)	92	Lf	$ 80.00	$ 7,360.00
				$ 165,315.06

Back Elevation (Grid A& B)

Element	Quantity	Unit	Unit Cost	Total
Demo	3860	sf	$ 10.00	$ 38,600.00
Gypboard & Studs	3860	sf	$ 15.00	$ 57,900.00
6" conc wall ($800/yd)	294.5	sf	$ 14.81	$ 4,362.96
10" conc wall ($800/yd)	1234.75	sf	$ 24.69	$ 30,487.65
6" conc wall ($800/yd)	120	sf	$ 14.81	$ 1,777.78
Veneer Ties (Helical ties @ 48" oc)	219		$ 40.00	$ 8,760.00
FRP beams (6) locations	182	sf	$ 100.00	$ 18,200.00
FRP Collector at roof	80	lf	$ 100.00	$ 8,000.00
HSS5x5x5/16 Strongbacking ($4/lb)	92	Lf	$ 80.00	$ 7,360.00
HSS8x6x1/4 Strongbacking ($8/lb)	216	Lf	$ 200.00	$ 43,200.00
Drilling, grouting, and reroofing at HSS	8		$ 1,500.00	$ 12,000.00
				$ 230,648.40

Side Elevation (Grid 1)

Element	Quantity	Unit	Unit Cost	Total
Demo	1440	sf	$ 10.00	$ 14,400.00
Gypboard & Studs	1440	sf	$ 15.00	$ 21,600.00
6" conc wall ($800/yd)	1440	sf	$ 14.81	$ 21,333.33
Veneer Ties (Helical ties @ 48" oc)	72		$ 40.00	$ 2,880.00
FRP beams (4) locations	112	sf	$ 100.00	$ 11,200.00
				$ 71,413.33

Seismic Options
Lassen Historic Courthouse
November 16, 2018

LIONAKIS

Budget Model
Detail
Side Elevation (Grid 10)

Element	Quantity	Unit	Unit Cost	Total
Demo	1440	sf	$ 10.00	$ 14,400.00
Gypboard & Studs	1440	sf	$ 15.00	$ 21,600.00
6" conc wall ($800/yd)	1440	sf	$ 14.81	$ 21,333.33
Veneer Ties (Helical ties @ 48" oc)	72		$ 40.00	$ 2,880.00
FRP beams (4) locations	112	sf	$ 100.00	$ 11,200.00
				$ 71,413.33

Interior Elevation (Grid 4)

Element	Quantity	Unit	Unit Cost	Total
Demo	1104	sf	$ 10.00	$ 11,040.00
Gypboard & Studs	1104	sf	$ 15.00	$ 16,560.00
4" conc wall ($800/yd)	75.79	sf	$ 9.88	$ 748.54
6" conc wall ($800/yd)	692.23	sf	$ 14.81	$ 10,255.26
Veneer Ties (Helical ties @ 48" oc)	102		$ 40.00	$ 4,080.00
HSS5x5x5/16 stong back ($8/lb)	36	lf	$ 160.00	$ 5,760.00
FRP collectors (4) locations	152	lf	$ 100.00	$ 15,200.00
				$ 63,643.80

Interior Elevation (Grid 7)

Element	Quantity	Unit	Unit Cost	Total
Demo	1104	sf	$ 10.00	$ 11,040.00
Gypboard & Studs	1104	sf	$ 15.00	$ 16,560.00
4" conc wall ($800/yd)	75.79	sf	$ 9.88	$ 748.54
6" conc wall ($800/yd)	692.23	sf	$ 14.81	$ 10,255.26
Veneer Ties (Helical ties @ 48" oc)	102		$ 40.00	$ 4,080.00
HSS5x5x5/16 stong back ($8/lb)	36	lf	$ 160.00	$ 5,760.00
FRP collectors (4) locations	152	lf	$ 100.00	$ 15,200.00
				$ 63,643.80

Interior & Exterior Nonstructural

Element	Quantity	Unit	Unit Cost	Total
Foam between interior canity walls @ 4'-0" oc	424		$ 100.00	$ 42,400.00
FRP inside of plant Urns	2		$ 1,000.00	$ 2,000.00
Balustrad	66	lf	$ 500.00	$ 33,000.00
Front column retrofit	80	lf	$ 500.00	$ 40,000.00
Terracotta anchorage at entry	300	sf	$ 200.00	$ 60,000.00
Repointing parapet	1536	sf	$ 50.00	$ 76,800.00
				$ 254,200.00

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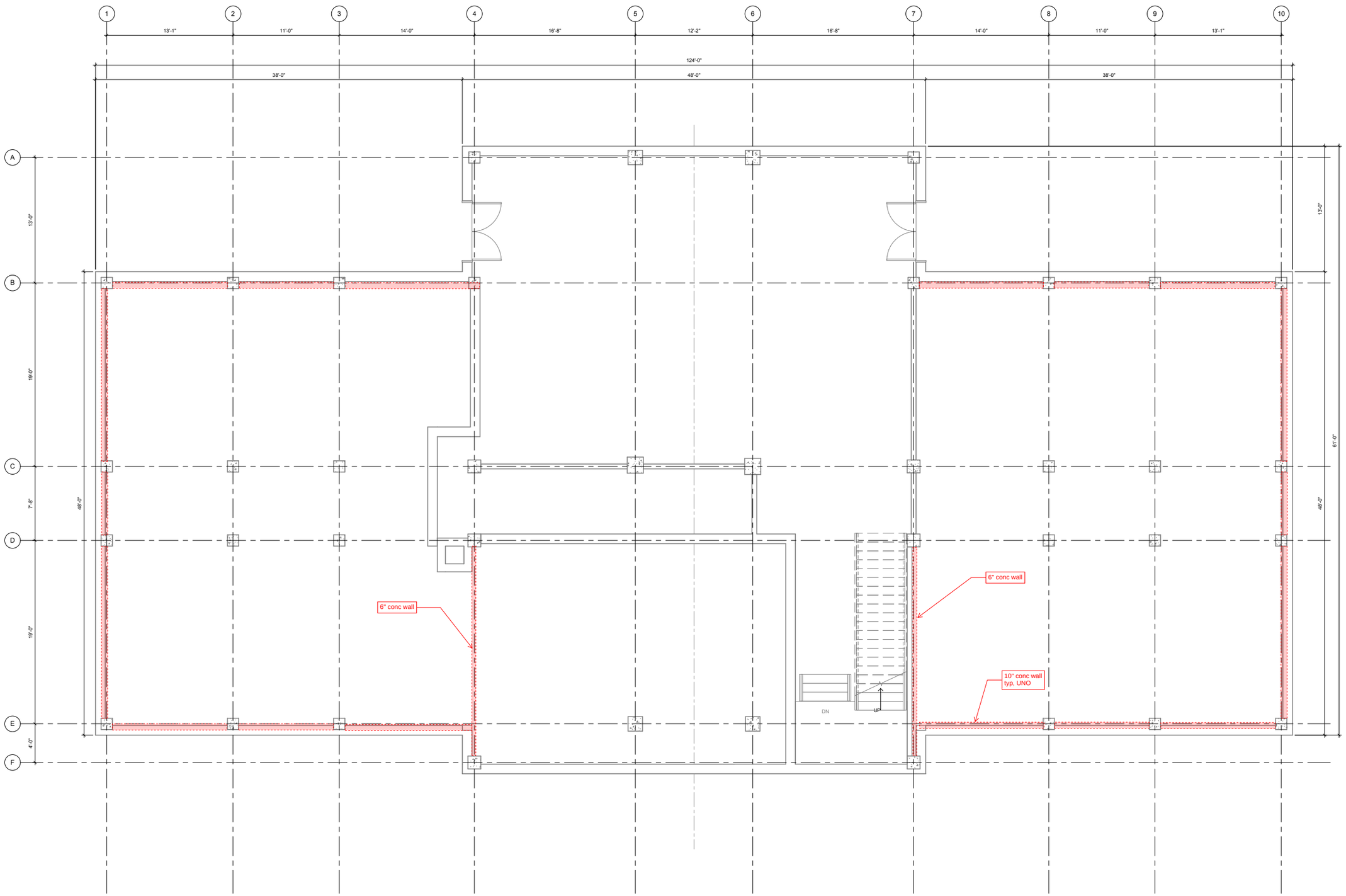

1 BUILDING A - FLOOR PLAN - LEVEL B

SCALE 1/4" = 1'-0"

LIONAKIS

1919 Nineteenth Street
Sacramento CA 95811
P 916.558.1900 F 916.558.1919
www.lionakis.com

CONSULTANT

SEAL

FOR REVIEW ONLY - NOT FOR CONSTRUCTION

FOR REVIEW ONLY - NOT FOR CONSTRUCTION

PROJECT

LASSEN COUNTY COURTHOUSE SQUARE

220 S Lassen St
Susanville, CA 96130

CLIENT

JUDICIAL COUNCIL OF CALIFORNIA

?CLIENT ADDRESS?

ISSUED

MARK	DATE	DESCRIPTION

MANAGEMENT

LIONAKIS PROJECT NO:	015437
CLIENT PROJECT NO:	700.00.007
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AGENCY

TITLE

FLOOR PLAN - LEVEL B

SHEET

A.A-110

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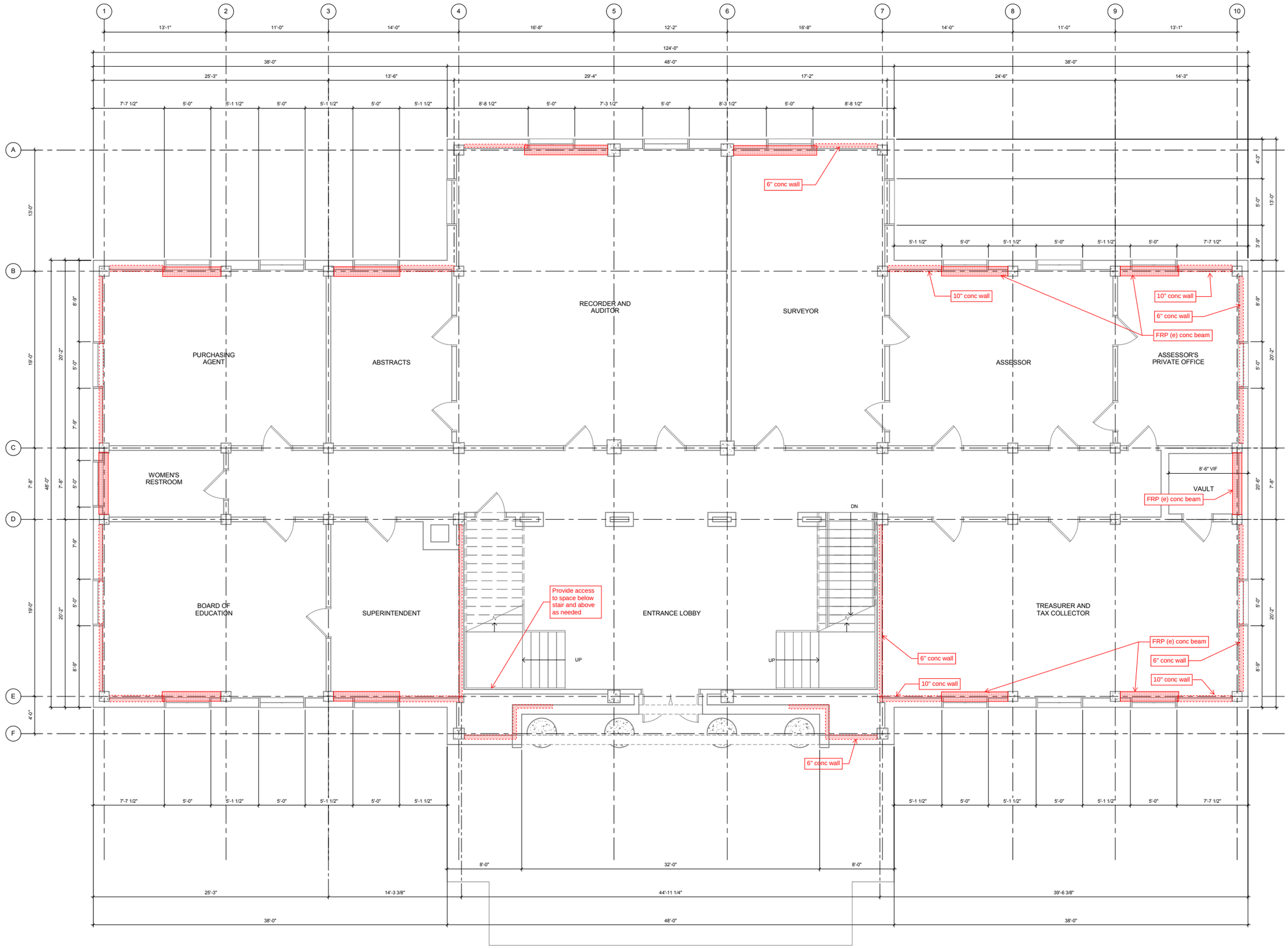

1 BUILDING A - FLOOR PLAN - LEVEL 1

SCALE 1/4" = 1'-0"

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PROJECT

LASSEN COUNTY COURTHOUSE SQUARE

220 S Lassen St
Susanville, CA 96130

CLIENT

JUDICIAL COUNCIL OF CALIFORNIA

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ISSUED

MARK	DATE	DESCRIPTION

MANAGEMENT

LIONAKIS PROJECT NO:	015437
CLIENT PROJECT NO:	?00.00.00?
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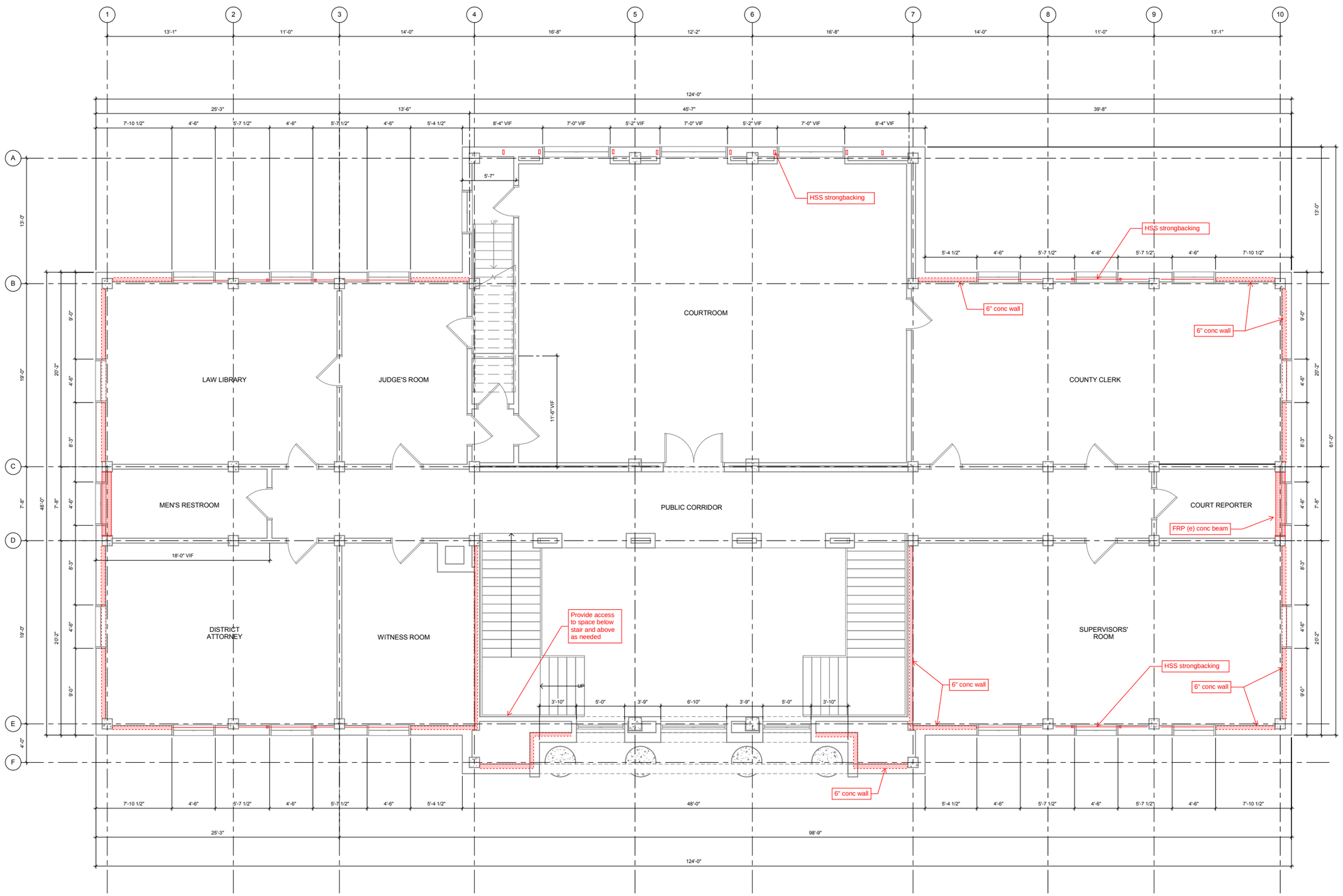
AGENCY

TITLE

FLOOR PLAN - LEVEL 1

SHEET

A.A-111



1 BUILDING A - FLOOR PLAN - LEVEL 2
SCALE 1/4" = 1'-0"

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CONSULTANT

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PROJECT
LASSEN COUNTY COURTHOUSE SQUARE

220 S Lassen St
Susanville, CA 96130

CLIENT
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TITLE
FLOOR PLAN - LEVEL 2

SHEET
A.A-112

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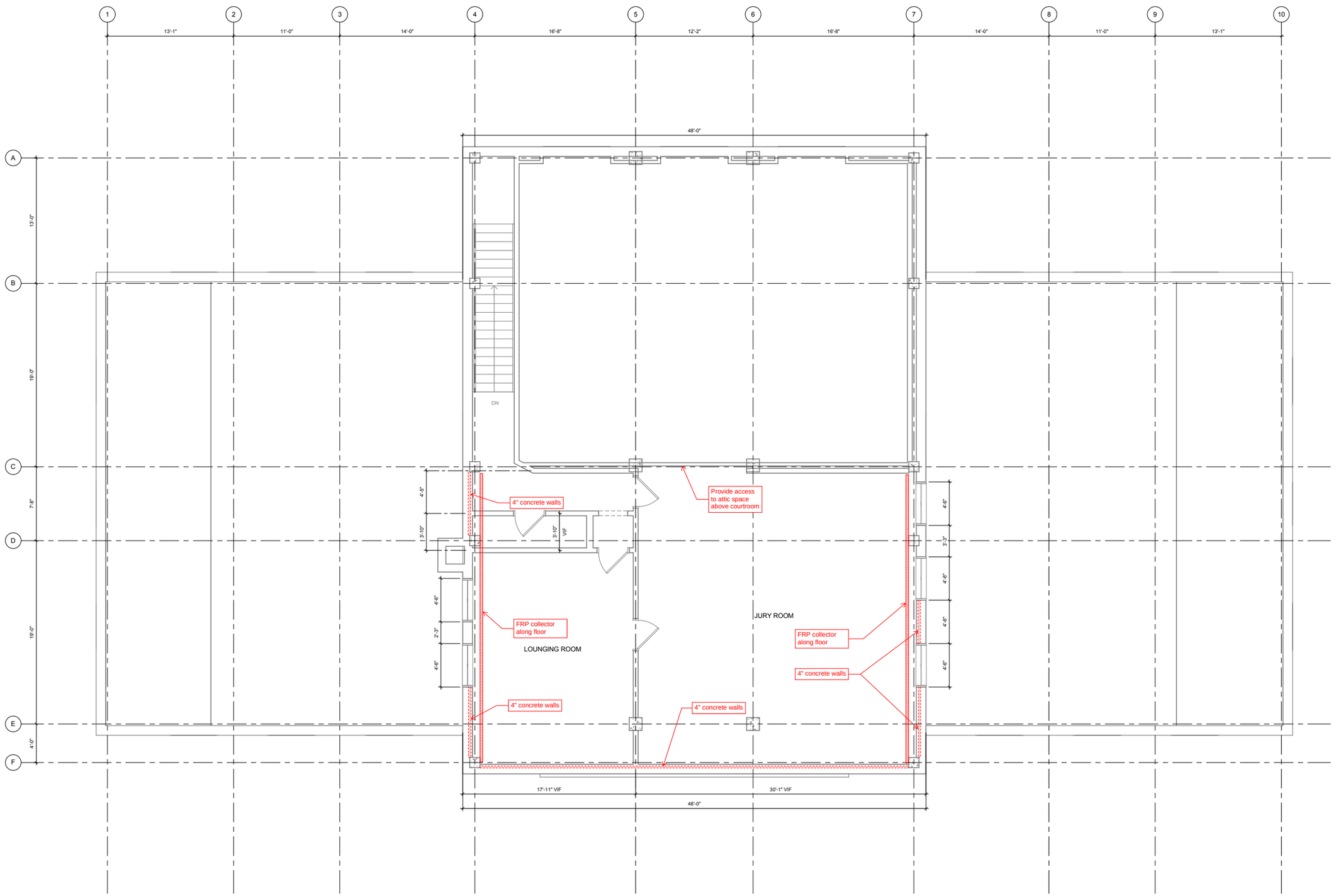

1 BUILDING A - FLOOR PLAN - LEVEL 3

SCALE 1/4" = 1'-0"

LIONAKIS

1919 Nineteenth Street
Sacramento CA 95811
P 916.558.1900 F 916.558.1919
www.lionakis.com

CONSULTANT

SEAL

PROJECT

LASSEN COUNTY
COURTHOUSE SQUARE

220 S Lassen St
Susanville, CA 96130

CLIENT

JUDICIAL COUNCIL OF CALIFORNIA

?CLIENT ADDRESS?

ISSUED

MARK	DATE	DESCRIPTION

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AGENCY

TITLE

FLOOR PLAN - LEVEL 3

SHEET

A.A-113

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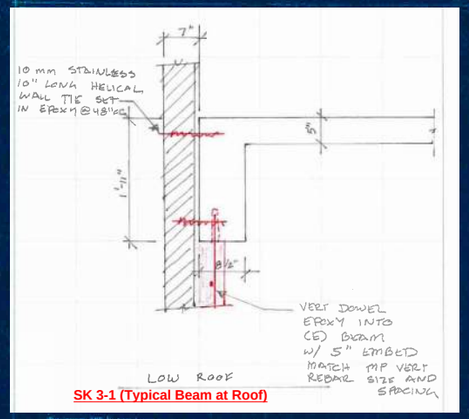
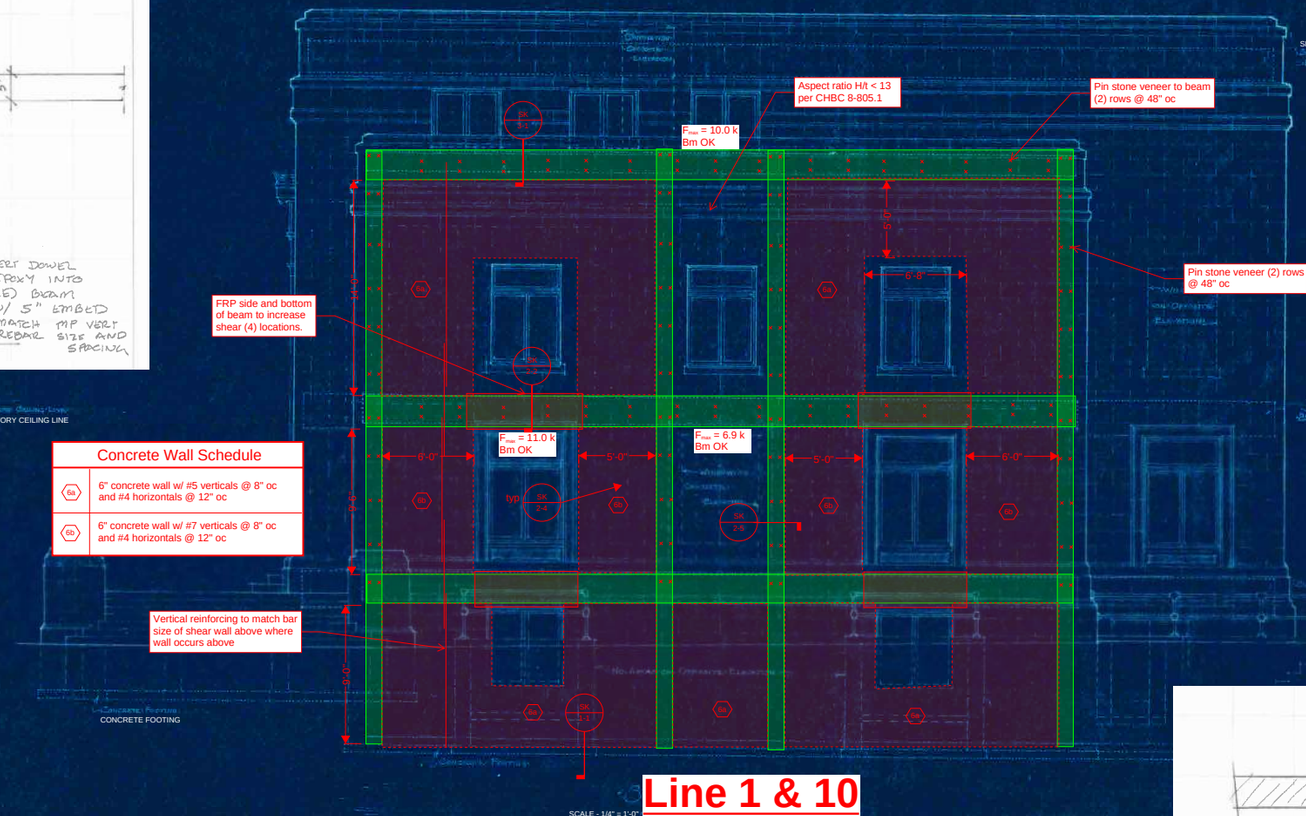
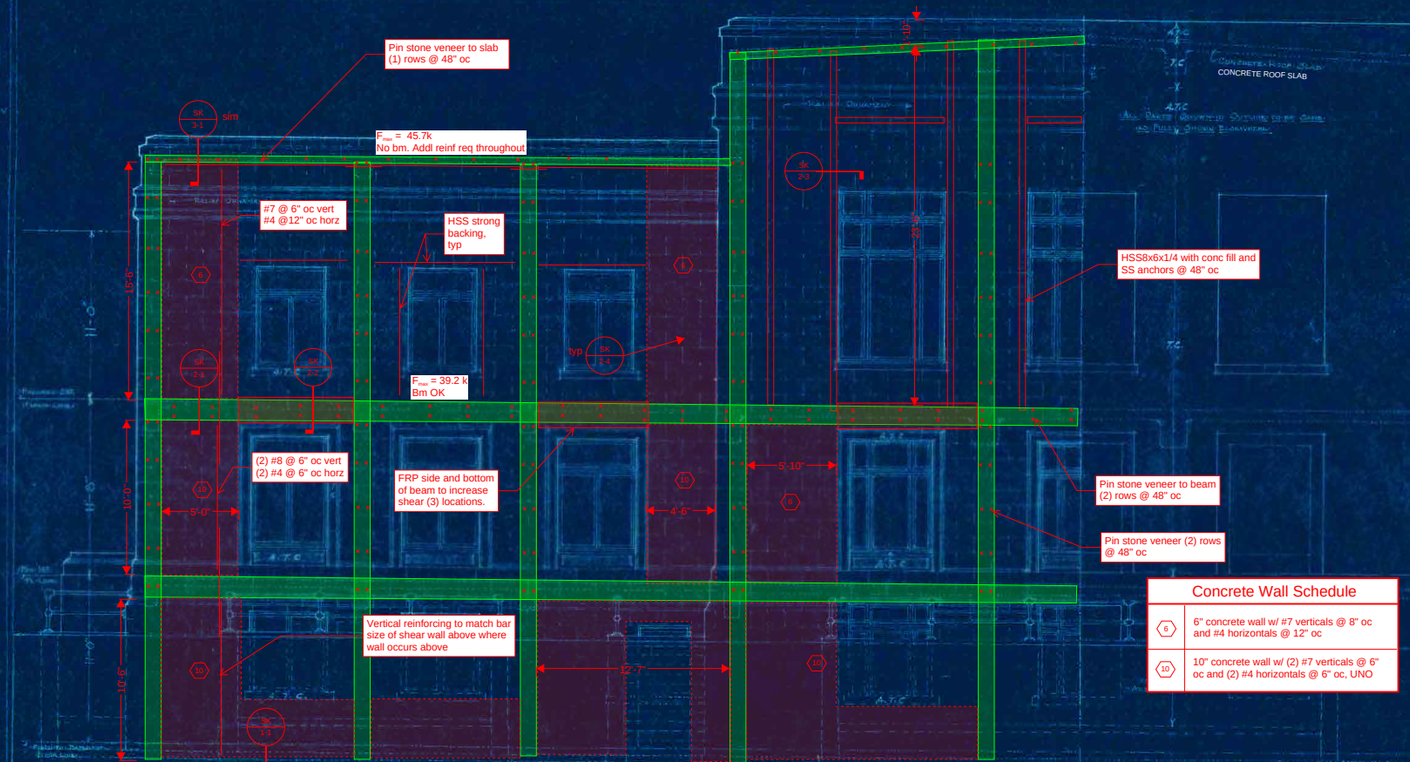


SK 3-1 (Typical Beam at Roof)



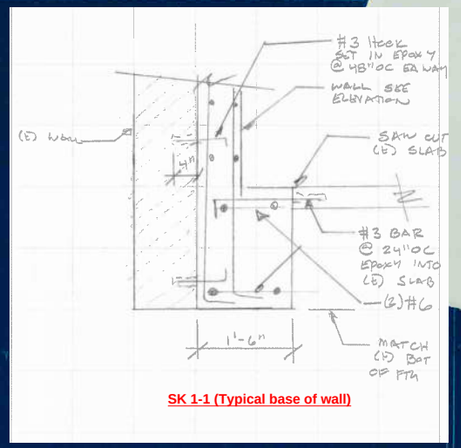
Concrete Wall Schedule	
6a	6" concrete wall w/ #5 verticals @ 8" oc and #4 horizontals @ 12" oc
6b	6" concrete wall w/ #7 verticals @ 8" oc and #4 horizontals @ 12" oc

Line 1 & 10

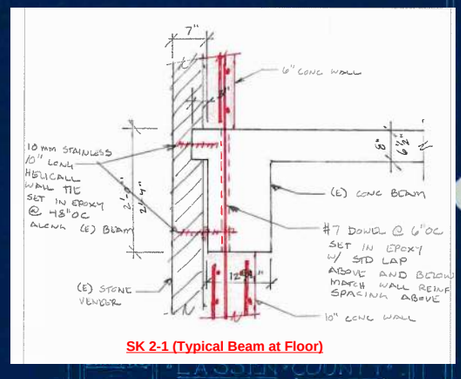


Concrete Wall Schedule	
6	6" concrete wall w/ #7 verticals @ 8" oc and #4 horizontals @ 12" oc
10	10" concrete wall w/ (2) #7 verticals @ 6" oc and (2) #4 horizontals @ 6" oc, UNO

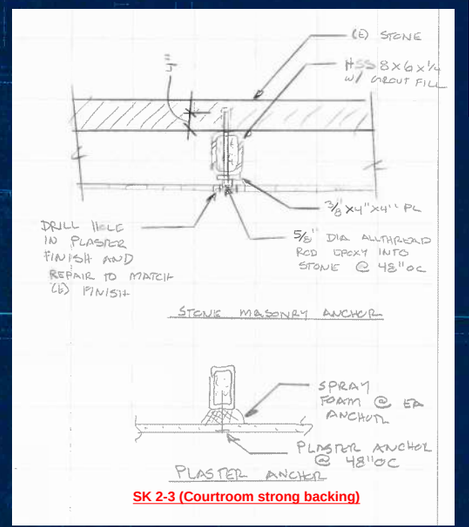
Line A



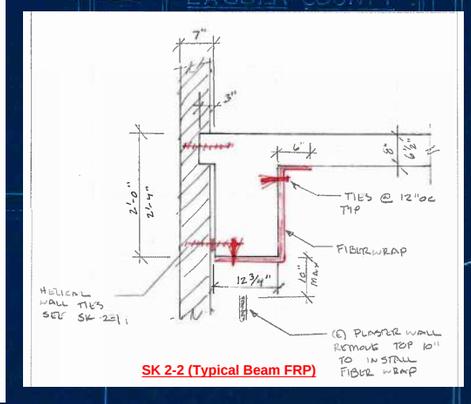
SK 1-1 (Typical base of wall)



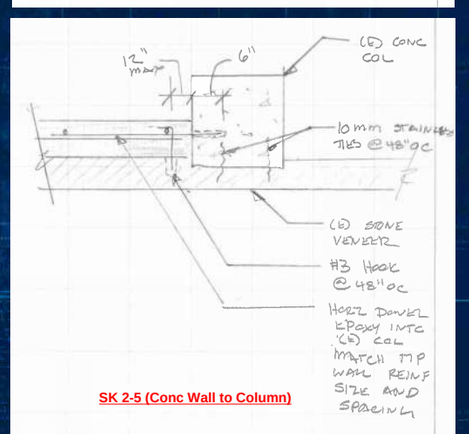
SK 2-1 (Typical Beam at Floor)



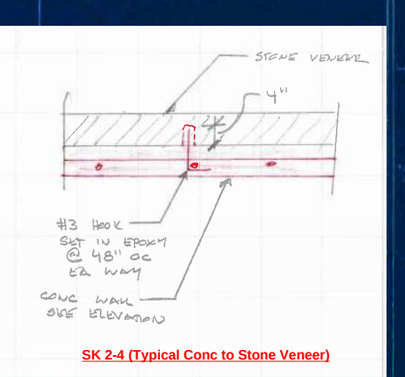
SK 2-3 (Courtroom strong backing)



SK 2-2 (Typical Beam FRP)



SK 2-5 (Conc Wall to Column)



SK 2-4 (Typical Conc to Stone Veneer)

Concrete Wall Schedule

4	4" concrete wall w/ #4 verticals @12" oc and #4 horizontals @ 12" oc
6	6" concrete wall w/ #5 verticals @12" oc and #5 horizontals @ 12" oc

FRP Collector along beam

Aspect ratio H/t < 13 per CHBC 8-805.1

Pin stone veneer to beam (2) rows @ 48" oc

HSS5x5x5/16 strong back

F_{max} = 58.8 k
32.7 k addl reinf req

SIDE OF CONCRETE ROOF BEAM

typ 5X 3-4

7'-4"

4'-4"

6'-6"

22'

12'-6"

9'-6"

9'-0"

F_{max} = 75.1 k
49 k addl reinf req

FRP Collector above floor

Beam may run through

F_{max} = 72.7 k
46.6 k addl reinf req

SIDE OF CONCRETE 2ND FLOOR BEAM

Window

Pin stone veneer (2) rows @ 48" oc

ATTIC FLOOR LINE

2ND STORY CEILING LINE

FINISHED 2ND FLOOR LINE

1ST STORY CEILING LINE

1ST FLOOR LINE

FINISHED BASEMENT FLOOR LINE

CONCRETE FOOTING

SIDE ELEVATION
SCALE — 1/4"=1'-0" DIFFERENCES NOTED

Line 4 & 7

CONCRETE ROOF SLAB

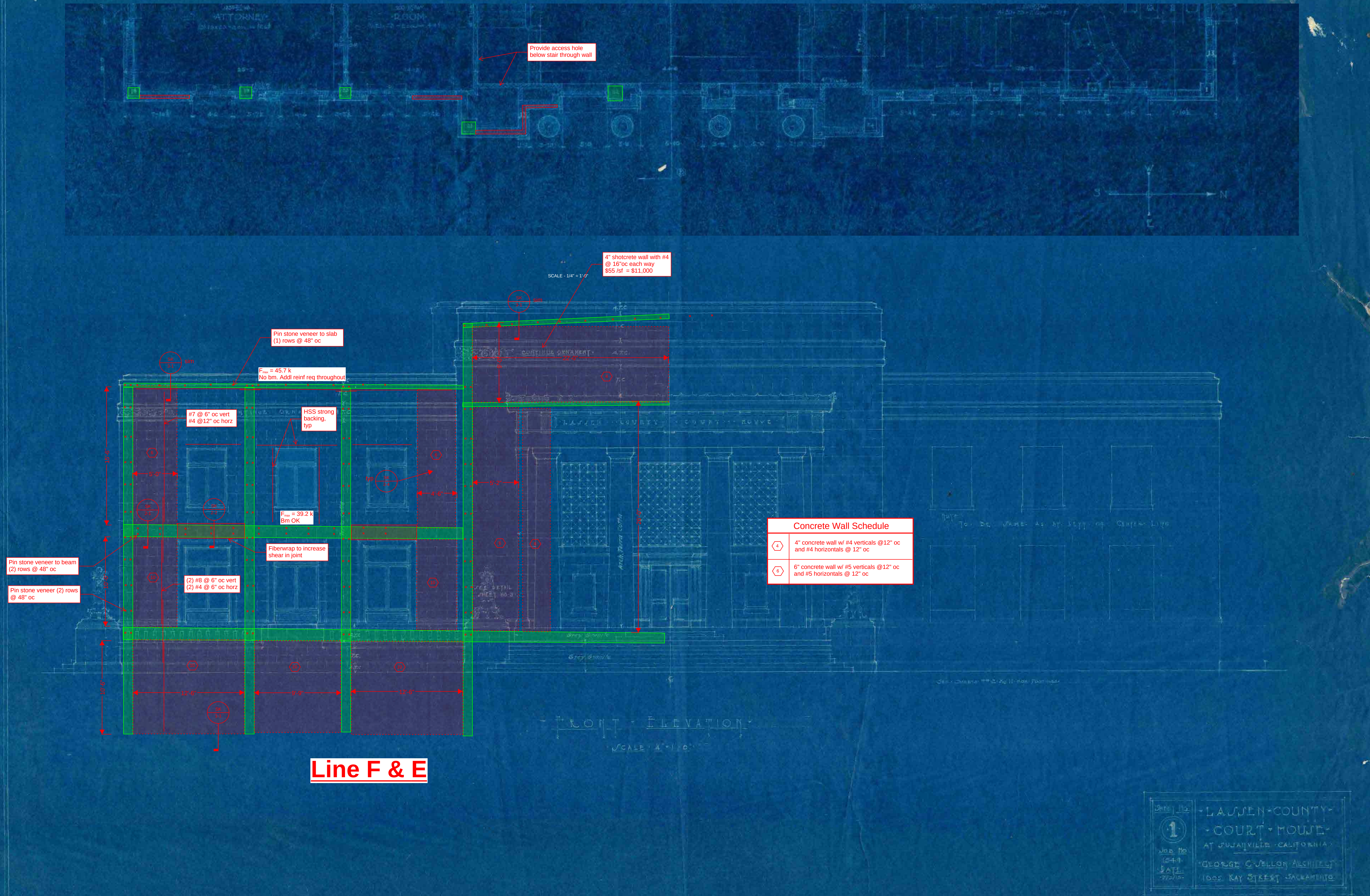
CONCRETE ROOF SLAB

CONCRETE 2ND FLOOR SLAB

CONCRETE 1ST FLOOR SLAB

REAR ELEVATION
SCALE 1/4"=1'-0"

SHEET NO.	LASSEN COUNTY
2	COURT HOUSE
JOB NO. 1544	AT SUSANVILLE CALIFORNIA
DATE 7/3/15	GEORGE C. BELLON ARCHITECT
	1005 K ST. SACRAMENTO



Concrete Wall Schedule

4	4" concrete wall w/ #4 verticals @12" oc and #4 horizontals @ 12" oc
6	6" concrete wall w/ #5 verticals @12" oc and #5 horizontals @ 12" oc

Line F & E

WILLDAN Engineering
2240 Douglas Blvd., Suite 270
Roseville, CA 95661
916.924-7000

December 10, 2018

Gaylon F. Norwood
Assistant Director of Planning and Building Services
Lassen County
707 Nevada Street Suite 5
Susanville, CA 96130

COUNTY OF LASSEN STRUCTURAL REVIEW REPORT

Description:	Lassen County Historic Courthouse Seismic Options Memo by LIONAKIS Dated November 16, 2018
Willdan Project No:	101572-3000

Willdan has completed a structural review for the above referenced document and the corresponding structural calculations.

Main Conclusions

- Based on the information provided, the proposed structural rehabilitation scheme by LIONAKIS appears very close to optimum for improving the life safety performance of the Lassen County Historic Courthouse according to the 2018 CHBC,
- The proposed system of concrete shear walls (SWs) represents the best type of retrofit to minimize the potential for non-structural damage because it leads to considerably reduced lateral displacements of the floor and roof levels at a minimum price,
- The SWs to be added will reduce considerably the potential for damage to the exterior stone masonry façade and the existing interior non-structural walls, ceilings and finishes of the building for in-plane and out-of-plane forces.
- The HSS strong backing are appropriate and effective for out-of-plane forces acting on the exterior stone masonry façade.
- The FRP applications to beams and collectors appear appropriate and effective.

Secondary Comments

- It appears that the new concrete walls along grids E.2 and 4.3 & 6.7 may not be fully effective because they do not appear to reach the foundation level.
- Some of the calculations are not totally explicit but the results are sufficiently approximate for the purposes of the referenced Memo.

WILLDAN Engineering
2240 Douglas Blvd., Suite 270
Roseville, CA 95661

If you have any questions, please contact Ricardo Guzman, SE at (951) 764-6099 or rguzman@willdan.com.

If you have any questions regarding the re-submittal process, please contact the Willdan office at (916) 924-7000 extension 1601.

Cc: Gaylon F. Norwood, Email: GNorwood@co.lassen.ca.us

APPENDIX D – 2013 CBC CHAPTER 34 CHECKLIST - HISTORIC COURTHOUSE

MINIMUM SAFETY SCORE EVALUATION

The 2013 California Building Code provides compliance alternatives in Chapter 34 section 3412 title Compliance Alternatives. Within that section is a 19 point Safety Feature scoring approach providing a pathway in assessing an older building relative to modern safety requirements. These base minimum scores are called the Minimum Safety

Scores and they are split between three categories:

- Fire Safety
- Means of Egress
- General Safety

The same 19 Safety Features are scored but weighted differently in the three categories. Fire example, Fire Safety does not count Smoke Control, Means of Egress Capacity and Number, Dead-End Values and Maximum Travel Distance. This is to provide a category focused on structural fire resistance, alarm and fire suppression.

The code section recommends different occupancies be scored separately to find the specific low scoring areas of the building. We evaluated the A-3 occupancies of the Historic Courtroom and Training room and the B occupancies found in the rest of the building.

In the Historic Courthouse's case, the Fire Safety Minimum Safety Score in the B occupancy was the critical passing score for the building, shown in yellow. The simplest improvement available to achieving the passing score is a higher performance Fire Alarm system with Fire Command and PA. This is a low voltage and relatively easily added feature. Alternative points included installing fire sprinklers which is very destructive and expensive to install. Another approach would have been to divide the lobby and corridors in a way that protects level 1 from level 2 in the event of a fire. This is also expensive and destroys the historic lobby which is a primary historic character defining feature of the building.

A-3 OCCUPANCY

SECTION	SAFETY FEATURES	FIRE SAFETY	MEANS OF EGRESS	GENERAL SAFETY
3412.6.1	BUILDING HEIGHT	1.3	1.3	1.3
	HV = 65 FT ALLOWABLE - 48.25 FT ACTUAL / 12.5 X 1 = 1.3 POINTS			
3412.6.2	AREA FORMULA	9	14.5	14.5
	TYPE IIIA - A-3 OCCUPANCY ALLOWS 3 STORIES AND 14,000 SQUARE FEET PER STORY. TOTAL AREA VALUE = 14,000 SF X 3 STORIES - 2,400 SF / 1,200 SF = 33 POINTS Max Score is 50% of Safety Score			
3412.6.3	COMPARTMENTATION	18	18	18
	Rating Doors and walls between Historic Courtroom and adjoining B occupancies and hallway, creates a Smoke Compartment of 1,300 Sf. Mechanical is already independent and dedicated.			
3412.6.4	SEPARATION VALUES	2	2	2
	1 Hour rated separation walls between A-3 and B occupancies at Historic Courtroom and Training room. Floor are 2 hour rated due to concrete thickness. Penetrations must be fire sealed per moden UL details.			
3412.6.5	CORRIDOR WALL VALUES	0	0	0
	Per above, 1 hour rated walls and penetrations protected brings this to Category C for 0 points.			
3412.6.6	VERTICAL OPENING FORMULA	2.5	2.5	2.5
	Per above, by rating the A-3 spaces it ensures no two spaces are connected through floors.			
3412.6.7	HVAC SYSTEMS	5	5	5
	Systems already separated and do not distribute smoke around the building. Will continue to be in the future improvements			
3412.6.8	AUTOMATIC FIRE DETECTION	6	6	6
	Ensure smoke detectors are installed throughout the facility			
3412.6.9	FIRE ALARMS SYSTEMS	5	5	5
	New Fire Alarm system with Fire command and PA			
3412.6.10	SMOKE CONTROL	-	3	3
	Enclosed stair			
3412.6.11	MEANS OF EGRESS CAPACITY AND NUMBER	-	2	2
	Stair tower added from Second and Third floor			
3412.6.12	DEAD-END VALUES	-	-2	-2
	35' dead end corridors will not change			
3412.6.13	MAXIMUM ACCESS TRAVEL DISTANCE	-	4.7	4.7
	20 X (200 - 153/200) = +4.7 POINTS			
3412.6.14	ELEVATOR CONTROLS	2	2	2
	New elevator complying with new construction requirements			
3412.6.15	MEANS OF EGRESS LIGHTING	-	0	0
	Battery backup lighting and exit signage			
3412.6.16	MIXED OCCUPANCY VALUES	-5	-	-5
	1 hour separation, but not the code required 2 hour separation.			
3412.6.17	AUTOMATIC SPRINKLERS	-3	-1.5	-3
	No sprinklers. Only required at Historic Courtroom.			
3412.6.18	STANDPIPE	6	6	6
	Standpipe required due to third floor height. Added to new stairwell			
3412.6.19	INCIDENTAL ACCESSORY OCCUPANCY	0	0	0
	TOTAL	**48.8**	**68.5**	**62**
	MINIMUM SAFETY VALUES	**18**	**29**	**29**
		OK	OK	OK

B OCCUPANCY

SECTION	SAFETY FEATURES	FIRE SAFETY	MEANS OF EGRESS	GENERAL SAFETY
3412.6.1	BUILDING HEIGHT	1.3	1.3	1.3
	HV = 65 FT ALLOWABLE - 48.25 FT ACTUAL / 12.5 X 1 = 1.3 POINTS			
3412.6.2	AREA FORMULA	9	14.5	14.5
	TYPE IIIA - B OCCUPANCY ALLOWS 5 STORIES AND 28,500 SQUARE FEET PER STORY. TOTAL AREA VALUE = [(28,500 SF X 3 STORIES) - 18,480 SF] / 1,200 SF = 55.8 POINTS Max score is 50% of Safety Score			
3412.6.3	COMPARTMENTATION	1	1	1
	Rated seaparation at Basement landing creates a smoke compartment of 14,000 SF for upper three floors. Per Linear interpolation bewteen areas, that qualifies for 1 point.			
3412.6.4	SEPARATION VALUES	0	0	0
	1 Hour rated separation walls between A-3 and B occupancies at Historic Courtroom and Training room. Floor are 2 hour rated due to concrete thickness. Penetrations must be fire sealed per moden UL details.			
3412.6.5	CORRIDOR WALL VALUES	0	0	0
	Per above, 1 hour rated walls and penetrations protected brings this to Category C for 0 points.			
3412.6.6	VERTICAL OPENING FORMULA	-10	-10	-10
	Provide rated separation at Basement landing. Also ensure the third floor is upgraded to a 1 hour wall by sealing penetrations per UL designs. This leaves only 2 floors connected.			
3412.6.7	HVAC SYSTEMS	5	5	5
	Systems already separated and do not distribute smoke around the building. Will continue to be in the future improvements			
3412.6.8	AUTOMATIC FIRE DETECTION	8	8	8
	Ensure smoke detectors are installed throughout the facility			
3412.6.9	FIRE ALARMS SYSTEMS	5	5	5
	New Fire Alarm System with Fire command and PA			
3412.6.10	SMOKE CONTROL	-	3	3
	Addition of enclosed exit stair provides 3 points			
3412.6.11	MEANS OF EGRESS CAPACITY AND NUMBER	-	2	2
	Stair tower added from Second and Third floor			
3412.6.12	DEAD-END VALUES	-	-2	-2
	35' dead end corridors will not change			
3412.6.13	MAXIMUM ACCESS TRAVEL DISTANCE	-	4.7	4.7
	20 X (200 - 153/200) = +4.7 POINTS			
3412.6.14	ELEVATOR CONTROLS	2	2	2
	New elevator complying with new construction requirements			
3412.6.15	MEANS OF EGRESS LIGHTING	-	0	0
	Battery backup lighting and exit signage			
3412.6.16	MIXED OCCUPANCY VALUES	-5	-	-5
	1 hour separation, but not the code required 2 hour separation.			
3412.6.17	AUTOMATIC SPRINKLERS	-3	-1.5	-3
	No sprinklers. Only required at Historic Courtroom.			
3412.6.18	STANDPIPE	6	6	6
	Standpipe required due to third floor height. Added to new stairwell			
3412.6.19	INCIDENTAL ACCESSORY OCCUPANCY	0	0	0
	TOTAL	**19.3**	**39**	**32.5**
	MINIMUM SAFETY VALUES	**18**	**29**	**29**
		OK	OK	OK

LEGEND:

	MEETS POINTS AS-IS
	NEW SCOPE REQUIRED TO MEET POINTS
	CRITICAL POINTS FOR ACHIEVING MINIMUM SAFETY SCORE

APPENDIX D – 2013 CBC CHAPTER 34 CHECKLIST - ANNEX

B OCCUPANCY				
SECTION	**SAFETY FEATURES**	**FIRE SAFETY**	**MEANS OF EGRESS**	**GENERAL SAFETY**
3412.6.1	BUILDING HEIGHT	2.4	2.4	2.4
	HV = 65 FT ALLOWABLE - 35 FT ACTUAL / 12.5 X 1 = 2.4 POINTS			
3412.6.2	AREA FORMULA	9	14.5	14.5
	TYPE IIIA - B OCCUPANCY ALLOWS 5 STORIES AND 28,500 SQUARE FEET PER STORY. TOTAL AREA VALUE = [(28,500 SF X 2 STORIES) - 14,500 SF] / 1,200 SF = 35.3 POINTS Max score is 50% of Safety Score			
3412.6.3	COMPARTMENTATION	10	10	10
	Rated floor and stairwell, creates a Smoke Compartment of 7,500 Sf. Mechanical and shaft separation provided, but consistency must be confirmed.			
3412.6.4	SEPARATION VALUES	0	0	0
	Single tenant, single occupancy.			
3412.6.5	CORRIDOR WALL VALUES	-2	-2	-2
	Confirm corridor is not rated			
3412.6.6	VERTICAL OPENING FORMULA	2.5	2.5	2.5
	Stair connecting floor is 1 hour rated.			
3412.6.7	HVAC SYSTEMS	0	0	0
	Confirm HVAC system complies with section 1018.5 and 602 of the California Mechanical Code.			
3412.6.8	AUTOMATIC FIRE DETECTION	8	8	8
	Ensure smoke detectors are installed throughout the facility			
3412.6.9	FIRE ALARMS SYSTEMS	-5	-5	-5
	Existing fire alarm has pull stations and horn strobes and appears to meet the minimums set forth in 907.4 and 907.5.2. It appears unlikely it complies fully with section 907.			
3412.6.10	SMOKE CONTROL	-	3	3
	Enclosed stair and operable windows in stair and building.			
3412.6.11	MEANS OF EGRESS CAPACITY AND NUMBER	-	0	0
	Meets minimum number and capacity. Confirm doors open in direction of exit.			
3412.6.12	DEAD-END VALUES	-	0	0
	Dead Ends in accordance with 1018.4, exception 2.			
3412.6.13	MAXIMUM ACCESS TRAVEL DISTANCE	-	10.5	10.5
	20 X (200 - 95/200) = +12.5 POINTS			
3412.6.14	ELEVATOR CONTROLS	-2	-2	-2
	No elevator			
3412.6.15	MEANS OF EGRESS LIGHTING	-	4	4
	Battery backup lighting and exit signage			
3412.6.16	MIXED OCCUPANCY VALUES	0	-	0
	Separations per 508.4			
3412.6.17	AUTOMATIC SPRINKLERS	0	0	0
	No sprinklers. None required.			
3412.6.18	STANDPIPE	0	0	0
	No standpipe, none required.			
3412.6.19	INCIDENTAL ACCESSORY OCCUPANCY	0	0	0
	TOTAL	**22.9**	**45.9**	**45.9**
	MINIMUM SAFETY VALUES	**18**	**29**	**29**
		OK	OK	OK

LEGEND:

	MEETS POINTS AS-IS
	NEW SCOPE REQUIRED TO MEET POINTS
	CRITICAL POINTS FOR ACHIEVING MINIMUM SAFETY SCORE

Lassen County Courthouse Square

220 S. Lassen St and 201 S. Roop St., Susanville, CA

Facility Accessibility Compliance Review January 5, 2016

Client: County of Lassen

707 Nevada Street, Suite 4; Susanville, CA 96130

CASp Inspection completed by:
Michelle V. Davis, AIA, CASp, CASI

LIONAKIS

Facility Accessibility Compliance Review
220 S. Lassen St and 201 S. Roop St., Susanville, CA

Table of Contents

1.0 Introduction:

The Owner, the County of Lassen, retained the architectural firm of Lionakis Architects (hereinafter referenced as “Consultant”) to complete an accessibility review of the Public Accommodations at 220 S. Lassen St and 201 S. Roop St., Susanville, CA (Property), and for Consultant’s professional opinion as to the property’s conformance with applicable state and federal accessibility requirements.

Public entities are required to operate each program, service, or activity so that they are readily accessible to, and usable by, individuals with disabilities, when that program, service, or activity is viewed in its entirety. Public entities are not necessarily required to make each of its existing facilities accessible, nor are they required to threaten or destroy a property with historic significance, or take any action that would result in a fundamental alteration of the nature of a program, service, or activity. Because of these caveats, this report is best used in conjunction with an Americans with Disabilities Act (ADA) Self Evaluation and Transition Plan, which takes into consideration the overall accessibility of the public entity. An ADA Transition Plan was not a part of the scope of this work.

When undertaking new construction or alterations, State and Local Government facilities must follow the requirements in the 2010 ADA Standards (ADA-S), including both the Title II regulations at 28 CFR 35.151; and the 2004 ADAAG at 36 CFR part 1191, appendices B and D. In the few places where the requirements between the two differ, the Department of Justice requires that the requirements of 28 CFR 35.151 prevail. This report is intended to be a helpful planning tool for future alterations, and may allow the Owner to prioritize issues or combine solutions efficiently.

The survey work does not include any review of access to information or communication technologies as required under Section 508 of the Rehabilitation Act and Section 255 of the Communications Act. It also does not include any review of access to public transportation systems beyond physical features that may already be provided on site.

When planning future alterations, the ADA Standards and the California Building Code (CBC) both require that any alterations be done so that they are accessible. Additionally, both regulations require that path of travel upgrades be undertaken where required to provide the following:

1. Provide access from public sidewalks, parking and/or public transportation,
2. Provide access to those areas where goods and services are made available to the public,
3. Provide access to (public) restroom facilities,
4. Provide access to other publicly available features such as drinking fountains and telephones.

The deficiencies noted in the following report are organized in the same four sections noted above. These four sections are organized in order of priority according to the ADA Standards and CBC, but the information within each section is not organized by priority but may be organized in other ways, such as severity of issue or location within site or building.

2.0 Methodology:

The accessibility review was undertaken using the following devices and based on the following information sources:

- 2' Smart Level (published instrument tolerance is +/- 0.1%).
- Digital camera.
- Standard 25' long rigid tape measure.
- Electronic Laser measuring device.
- Light Meter on iPhone.
- Stop watch function on iPhone.
- Digital Pressure Gage.
- Sign Proportion and CA. Contracted Grade 2 Braille template guide by Access Communications.
- Google Earth Site Photographic Image.

3.0 Property and Construction History:

The property is located at 220 S. Lassen St and 201 S. Roop St., Susanville, CA. The building located at 220 S. Lassen St. is the Courthouse, and it is a registered historic property. The building located at 201 S. Roop St. is not a historic property.

4.0 Executive Summary:

After completing the inspection, and in the Consultant's professional opinion as both Architect and Certified Access Specialist, the Lassen County Courthouse (Title II State or Local Government facility) is considered non-compliant, due to the list of accessibility deficiencies noted in this report (Section 5.0: CASp Inspection Notes Summary Matrix). The scope of this CASp report did not include any specific analysis of "Unreasonable Hardship", "Technical Infeasibility", or "Readily Achievable" elements or deficiencies. This report also does not include any analysis of features that may be require alternate accommodations due to the historic fabric or elements in the building.

Upon completion of the recommended work to remediate the deficiencies identified in this report, the Client may elect to contact the Consultant for a follow-up CASp inspection. At such time, if the subject property is determined to be in compliance with applicable state and federal accessibility requirements, then the Consultant may issue an updated CASp Inspection Summary Matrix report as additional service.

This report shall identify the Barriers to Access in the areas of inspection that are in violation of the Construction-Related Accessibility Standards. If any Barriers to Access exist, then it is up to the Responsible Party to remove such barriers in a timely fashion. Various court rulings have established a generally accepted time frame for removal of barriers in new construction, which is approximately 90 to 120 days. Existing buildings have no specific timeframe, but removal is expected to be based on the resources of the owner(s).

The detailed list of specific architectural barriers to remove and accessibility upgrades required is contained in the attached **CASp Inspection Notes and Photos Matrix, Section 5.0** of this report. Note that each deficiency has the 2013 California Building Code (CBC) Section noted in the Code Sections box. The 2013 CBC is used for ease in working with the local Authority Having Jurisdiction (AHJ), and for planning purposes for remediation upgrades. Applicable sections of previous code years may be noted where necessary or applicable. Unless noted otherwise, the 2010 Americans with Disabilities Act Standards (ADA-S) section is the same number as the 2013 CBC, without the prefix "11B-". Where differences between the ADA-S and the CBC exist, it is noted in the comments.

The Client should review each item contained in **Section 5.0** and determine if the deficiency interferes with the public entity's delivery of programs and services in a manner that is accessible to all. Public entities are required to operate their programs and services so that each program or service, when viewed in its entirety, is accessible to persons with disabilities. For this reason, this report should not be considered a stand-alone document, but should be used in conjunction with the ADA Transition Plan required for all state or local government agencies. These entities are also required to upgrade elements to be accessible when undertaking construction or alterations for other reasons, and this report may be used for planning purposes for required path of travel upgrades during alteration projects.

Sincerely,

By: Michelle V. Davis, AIA, Founding Member CASI
Architect C-29357; CASp-0187

Limitations: Lionakis (referenced as "Consultant") discloses that this CASp accessibility related inspection was conducted to determine the general nature of the site and evaluate the existing conditions relative to the current accessibility standards contained in the 2013 CBC and 2010 ADA-S. The Client acknowledges that the ADA (ADAAG and 2010 ADA-S), CBC, other federal, state and local accessibility laws may be subject to various and possibly contradictory interpretations. The Consultant utilized its reasonable professional efforts, diligence, skill and judgment to interpret applicable federal, state and local laws as they apply to this Project. The Consultant, however, cannot and does not warrant or guarantee that the Client's facilities will fully comply with interpretations of these requirements by regulatory bodies or court decisions.

Consultant acknowledges that architectural barriers to accessibility for individuals with disabilities have been inventoried and recommendations on methods for removing barriers identified in are included in this report. Consultant did not evaluate whether or not the removal of any particular barrier is necessary for the Title II Local Government requirement to provide access to their programs and services, when viewed in its entirety.

The standard of care for all professional services performed or furnished by Consultant in preparation of this report is consistent with the skill and care used by members of Consultant's profession practicing under similar circumstances at the same time and in the same locality. Consultant makes no warranties, express or implied, under this Agreement or otherwise, in connection with Consultant's services.

5.0 Physical Deficiencies Noted:

The following abbreviations may be used in this report**:**

AA - Access Aisle ADAAG - Americans with Disabilities Act Accessibility Guidelines, also known as the 1994 ADA Standards ADA-S - 2010 ADA Standards published on July 15, 2010, effective and mandatory on March 15, 2012 AE - Accessible Entrance AFF - Above Finish Floor AR - Accessible Route AP - Accessible Parking CBC - California Building Code (2013, current edition) CFR – Code of Federal Regulations CVC - California Vehicle Code CR - Curb Ramp D - Door DW - Driveways F - Faded GB - Grab Bar GPT - Grasping, Pinching or Twisting of the wrist HDWR - Hardware ISA - International Symbol of Accessibility Lav - Lavatory Min. - Minimum Max. - Maximum N/A - Not Applicable NC - Non-Compliant O.C. - On Center	O.D. - Outside Diameter POS - Point of Sale POT - Path of Travel PRID - Permanent Room Identification PRoW – Public Right of Way PTD - Paper Towel Dispenser R&R - Remove and Replace, according to the current Code Standards SD - Soap Dispenser SND - Sanitary Napkin Disposal container TD - Truncated Domes or Detectable Warning domes TSCD - Toilet Seat Cover Dispenser WC - Water Closet 8.33% - 1:12 slope (max. ramp slope) 5% - 1:20 slope (max. walk slope) 2% - 1:50 (max. cross slope of any clear area, landing, walk or ramp) ¼" /ft. - Compliant cross slope in 2013 CBC (2.1% approximately) actual measurement 2.08333% √ - Compliant ** - ** California Health and Safety code 18944.15 excerpt: (a) Upon the publication date of the 2013 California Building Standards Code as adopted by the commission as part of the 2012 triennial code adoption cycle, for the purpose of any claim brought under Section 51, 54, 54.1, or 55 of the Civil Code based in whole, or in part, on an alleged violation of a construction-related accessibility standard, compliance with the building standards for disabled accessibility as provided in Chapter 11B of Part 2 of Title 24 of the 2013 California Building Standards Code shall be authorized as an alternative method of compliance.

Section 5.0: Physical Deficiencies Noted:

1. Provide Access from Public Sidewalks, Parking, and Transportation:

Parking Area Deficiencies Noted:

<table>
<tr><td rowspan="3">1.</td><td>Issue: The existing parking sign at Driveway 1 (DW-1) is missing the word “special” as proscribed in the CBC. This is not a violation of the ADA but, the sign may be required to be replaced as part of path of travel upgrades required under the CBC for future alterations. See CBC Section 11B-202.4.

Code Section(s): CBC 11B-202.4 and 11B-502.8.2</td><td colspan="2"> 
</td></tr>
<tr><td>Remedy: Replace the existing sign with one that complies with the required wording in 11B-502.8.2.</td><td>Action Plan:</td><td>Completed:</td></tr>
<tr><td rowspan="3">2.</td><td>Issue: The striping of the parking space and access aisles is faded, not in the CBC proscribed blue and white colors. Accessible features are required to be maintained in a useable condition.

The overall condition of the parking spaces could not be verified due to the continuing accumulation of snow during the site visit. Some of the asphalt appeared to be cracked and deteriorating. Accessible stalls should be free of cracks or holes exceeding ½” across or ¼” deep.

Code Section(s): CBC 11B-502.6.4 and 11B-502.3.3</td><td colspan="2">  </td></tr>
<tr><td>Remedy: Repaint the parking spaces and access aisles with blue and white markings complying with 11B-502.6.4 and 11B-502.3.3.</td><td>Action Plan:</td><td>Completed:</td></tr>
</table>

3.	**Issue:** Signs at accessible parking spaces are too low. They may not be visible when a vehicle is parked in the space. **Code Section(s):** 11B-502.6 **Remedy:** Replace the sign posts and raise the signs to at least 60" AFF.		 ***Completed:***
4.	**Issue:** The pedestrian route from accessible parking spaces AP1 through AP3 lacks the required warning between the pedestrian walking surface and the hazardous vehicular way. This warning can be truncated domes, curbs or rails, depending on location. **Code Section(s):** 11B-247.1.2.5 **Remedy:** Provide the required separation between pedestrians and vehicle routes.	 ***Action Plan:***	 ***Completed:***

5.	**Issue:** The light well near the accessible parking spaces had only a very low curb, with a large gap between the curb and the lowest rail. Abrupt changes in level exceeding 4” are required to have either a 6” high curb or a guard with a guide rail centered 2 to 4” above the walking surface. **Code Section(s):** 11B-303.5		
	Remedy: It is recommended that an additional rail or safety bar be added to the guard.	***Action Plan:***	***Completed:***
6.	**Issue:** Accessible parking space AP-4, located on S. Roop St., in front of Building B, is not compliant. The space is required to be van accessible, since it is the only designated space in this location, but the access aisle is on the wrong side for a van space, and it is missing the van accessible sign. The parking space and access aisle both have excessive slopes, exceeding 2.0% in any direction. It is unclear if this space is part of the subject property or part of the PRoW but, it appears to be the only accessible designated parking space that serves the public entrance to Building B, BE-2. **Code Section(s):** 11B-208.3.1; 11B-502.3.4; 11B-502.6; 11B-502.8; 11B-502.4		
	Remedy: Either regrade the street and area for the accessible space or provide an accessible space around the corner, near BE-3, and provide an accessible route to the public entry door (BE-2).	***Action Plan:***	***Completed:***

Accessible Route Deficiencies Noted:

The pedestrian walks have been divided into five separate routes, designated AR-1 through AR-5. For locations, see provided site plan, with notations.

<table>
<tr><td rowspan="3">7.</td><td>Issue: Exterior Stair 1 (EST-1) lacks a visible ramp nearby and directional signage indicating the location of the nearest accessible route. The stairs also lack the required visual striping on every tread.</td><td colspan="2" rowspan="2">  </td></tr>
<tr><td>Code Section(s): 11B-206.2.1; 11B-206.2.2; 11B-216.6; 11B-402.2; 11B-403; 11B-504.4.1; 11B-216.6</td></tr>
<tr><td>Remedy: Either provide an accessible route with a ramp near this stair or provide directional signs indicating the location of the nearest accessible route. Add additional visual stripes to the treads.</td><td>Action Plan:</td><td>Completed:</td></tr>
</table>

8.	**Issue:** The curb ramp (CR-1) at the corner of S. Lassen and Mill streets is an older style diagonal curb ramp located within the public right of way. It is missing truncated domes, although it has warning grooves along the sloped surface. The lip at the street was clogged with ice at the time of survey but appeared to be over ½" vertical. The counter slope at the street was excessive at 8.3% (5.0% is the max. allowed). This curb ramp is included in this report because it is on the route to the nearest public transportation (bus) stop, and access from public transportation routes must be provided. It was unknown at the time of the survey if the curb ramp is part of the subject property or under the Owner's control.		
	Code Section(s): 11B-206.2.1; 11B-247.1.2.2; 11B-406.5.4; 11B-406.5.8		
	Remedy: Responsibility for the curb ramp is unknown. This curb ramp is on the shortest route to the nearest bus stop and may need to be replaced as part of the accessible route from/to public transportation. Coordinate with the County's ADA Transition Plan.	***Action Plan:***	***Completed:***
9.	**Issue:** Exterior Stair (EST-3) lacks a visible ramp nearby and directional signage indicating the location of the nearest accessible route. The stairs also lack the required visual striping on every tread and handrail extensions.		
	Code Section(s): 11B-206.2.1; 11B-206.2.2; 11B-216.6; 11B-402.2; 11B-403; 11B-504.4.1; 11B-216.6		
	Remedy: Either provide an accessible route with a ramp near this stair or provide directional signs indicating the location of the nearest accessible route. Add additional visual stripes to the treads. Replace the handrails with compliant rails.	***Action Plan:***	***Completed:***

10.	**Issue:** Accessible Route 3 (AR-3), the route between the accessible parking spaces and Ramp 1 (R-1) has some cracks and holes that exceed ¼" across. The transition between the asphalt and concrete surfaces is rough and exceeds ¼" vertical. AR-3 was also noted to be less than the CBC required 44" width, but did meet the ADA requirement of 36" min. wide. The width of this route may need to be changed as upgrades for future work under the CBC, but is compliant for the purposes of providing access under the ADA.		
	Code Section(s): 11B-206.2.1; 11B-206.2.2; 11B-403.2; 11B-403.4; 11B-403.5; 11B-302; 11B-303		
	Remedy: Grind down humped up asphalt. Fill holes and cracks as needed.	***Action Plan:***	***Completed:***
11.	**Issue:** The landing at the bottom of Ramp 1 (R-1) has standing water and does not drain well.		
	Code Section(s): 11B-405.10		
	Remedy: Either re-grade the surrounding landscape area to provide better drainage or install a drain with compliant grate.	***Action Plan:***	***Completed:***

12.	**Issue:** Ramp 1 (R-1) has an excessive running slope, measuring up to 10%. It is 44 feet long with no intermediate landing, and has non-compliant rails. The bottom landing is not long enough (72" long, min.)		
	Code Section(s): 11B-405, especially 11B-405..2, 11B-405.6, 11B-405.7, and 11B-405.8; 11B-505		
	Remedy: Replace the ramp, rails, and landings with a compliant ramp that does not exceed 8.33% with a 30" max. rise and has intermediate landings as required for the length, and compliant handrails.	***Action Plan:***	***Completed:***
13.	**Issue:** Accessible Route 4 (AR-4) includes the top landing of R-1 and continues to the entrance. The cross slope in this area is excessive, measuring from 3.0 to 3.4% (2.0% is the max. allowed).		
	Code Section(s): 11B-405.3, 11B-403.3		
	Remedy: Replace all or portions of the walking surface as needed to provide a route with a cross slope that does not exceed 2.0%.	***Action Plan:***	***Completed:***

14.	**Issue:** There is no accessible route (AR-5) between the designated accessible parking space AP-4 and the entrances to either Building A or Building B.		
	Code Section(s): 11B-206.2.1		
	Remedy: Install a curb ramp at the corner of S. Roop and Mill Streets. See also AP-4, item number 6 in this report, for additional information.	***Action Plan:***	***Completed:***
15.	**Issue:** Ramp 2 (R-2) is not compliant. It has excessive running slopes measuring from 8.2 to 11.5%; the handrails lack the required extensions, and the bottom landing is less than the required 72” min. length.		
	Code Section(s): 11B-405, especially 11B-405.2, 11B-405.6, 11B-405.7, and 11B-405.8; 11B-505		
	Remedy: Remove and replace the existing ramp and handrails with one that is compliant and has compliant landings.	***Action Plan:***	***Completed:***

16.	**Issue:** Exterior Stair 6 (EST-6) is missing the guard and handrail on one side. The steps lack the required visual stripes on the intermediate steps.		
	Code Section(s): 11B-210; 11B-505.2, 11B-504.4.1		
	Remedy: Install a compliant guard and handrail, install a visual stripe on each stair tread and the top approach.	***Action Plan:***	***Completed:***

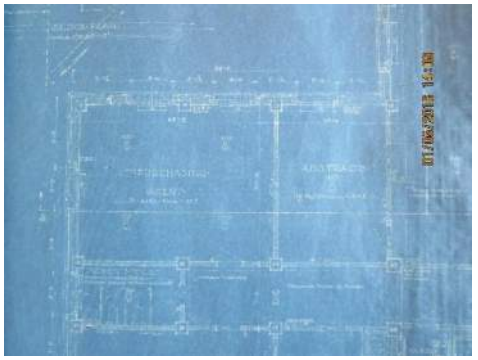
17.	**Issue:** Building Entrance 1 (BE-1) is the main entrance to the building and has multiple access issues. The doors are a double set of doors that are less than 48” clear apart. There is a ½” vertical marble threshold. The interior pair of doors has a 4” high bottom stile. There is a flip down style hold open at the bottom of the push side of the door. The walk off mats on the interior side of the door are not permanently affixed to the floor. This is the door nearest the exterior ramp, and is presumed to be the accessible door. There is no directional signage pointing to another door as the accessible door and no ISA on this door indicating that it is the accessible entry. **Code Section(s):** 11B-206.4; 11B-404.2.6, 11B-303, 11B-404.2.10, 11B-302.2, 11B-206.2.4		
	Remedy: Remove one set of doors, remodel the entry to provide the required clear distance between doors, or install automatic door openers that open both sets of doors together as an alternate method of compliance. Remove the walk off mats or replace the mats with permanently affixed mats. Add a kick plate with top closure to the doors to provide a 10” bottom stile on the push side of the door. Remove the flip down hold opens. Replace the threshold or provide additional transition pieces to ramp on each side at a max. of 1:2. If this is to be the accessible entry, add an ISA to the active door leaf.	***Action Plan:***	***Completed:***

18.	**Issue:** It is unclear if Exterior Stair 4 (EST-4) and Exterior Stair 5 (EST-5) at the corner of S. Roop and Mill streets are a part of the subject property or are in the Public Right of Way (PRoW). There are no adjacent ramps and no directional signs indicating that location of the accessible route. The stairs lack the required visual stripes and compliant handrails. **Code Section(s):** 11B-206.2; 11B-505.2, 11B-504.4.1		
	Remedy: Remove the steps and replace with ramps or sloped walking surfaces. If the steps are in the PRoW, then provide an alternate route within the subject site. See also the comments on the Building Entrances for Building B.	***Action Plan:***	***Completed:***
19.	**Issue:** Building B Lower Level lacks an accessible entrance. • BE-3 has a step up and is not on an accessible route from parking and the PRoW. • BE-4 is not on an accessible route from parking and the PRoW. • BE-5 and BE-6 are not on accessible routes from parking and the PRoW. Note: The lower level of Building B is not currently open to the public or used. This information is provided for future planning purposes. **Code Section(s):** 11B-206.2.3		
	Remedy: Since this level is not currently used, this is not a violation. When the area is eventually reopened, at least one accessible entrance on an accessible route should be provided.	***Action Plan:***	***Completed:***

20.	**Issue:** Building B Upper Level public entrance (BE-2) is not on an accessible route from parking and public transportation stops. It lacks the required ISA to be used at accessible doors when not all building doors are accessible.		
	Code Section(s): 11B-206.2.1; 11B-216.6		
	Remedy: Provide ISA on door after route has been fixed, if this is to be the accessible entrance.	***Action Plan:***	***Completed:***
21.	**Issue:** No accessible route connects the accessible entrance of Building A (Courthouse) to the accessible entrance of Building B.		
	Code Section(s): 11B-206.2.2		
	Remedy: Several solutions are possible, including providing additional accessible entrances, and including work described in other items in this report. Care should be taken to provide a cohesive solution that provides an accessible route from door to door.	***Action Plan:***	***Completed:***

2. Access to Goods and Services:

Deficiencies Noted:

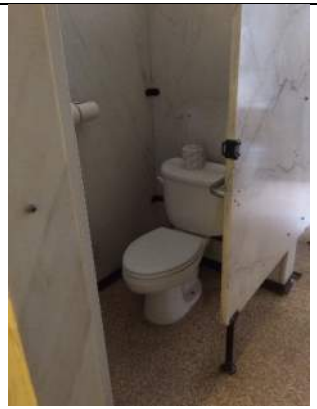
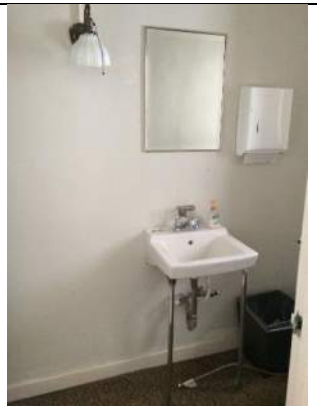
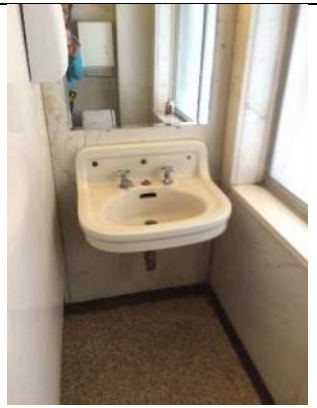
<table>
<tr><td rowspan="3">1.</td><td>Issue: Building A, the Courthouse, is an existing, multi-story building owned by a Title II entity and it lacks an elevator. Note that Title II entities are not eligible for the elevator exception found at CFR 36.404. The building does not have an accessible exterior entrance at each level, which might provide an alternate method of compliance.</td><td colspan="2" rowspan="2">  </td></tr>
<tr><td>Code Section(s): 28 CFR part 35.151; 206.2.3; 11B-206.2.3</td></tr>
<tr><td>Remedy: Install an elevator to the floors that require an accessible route. (Note: It is unclear from this survey if the basement level requires access).</td><td>Action Plan:</td><td>Completed:</td></tr>
<tr><td rowspan="3">2.</td><td>Issue: Building A - The doors to various departments and spaces lack compliant tactile and braille signage, to allow visually impaired persons to navigate the building.</td><td rowspan="2">  </td><td rowspan="2">  </td></tr>
<tr><td>Code Section(s): 11B-216, 11B-703</td></tr>
<tr><td>Remedy: Install signs that include visual, tactile, and braille characters, as required.</td><td>Action Plan:</td><td>Completed:</td></tr>
</table>

3.	**Issue:** Building A - The elections counter in the basement level is too high to be accessible, and is a protruding hazard. The service window at the Recorder and Auditor, the Treasurer and Tax Collector, and County Clerk, all on the first floor, are also not accessible. They are too high and lack a knee space for a work surface.		
	Code Section(s): 11B-227; 11B-904.4		
	Remedy: Either relocate the functions to an accessible area or reconfigure the counters so that they provide an accessible surface and are not a hazard to visually impaired persons.	***Action Plan:***	***Completed:***
4.	**Issue:** Building A - The basement level has numerous pipes and ducts crossing overhead. Some of these are less than the required 80” AFF, creating a hazard.		
	Code Section(s): 11B-307.2		
	Remedy: It is unclear if the public is allowed in the basement level. If they are, limit access to areas that do not have low hanging objects. The mechanical engineer on site the day of the inspection indicated that additional study would be needed to either raise the pipes or determine that such modifications are technically infeasible, as they are part of the building’s original construction. Until such a determination is made, it is recommended that these areas be off limits to the public.	***Action Plan:***	***Completed:***

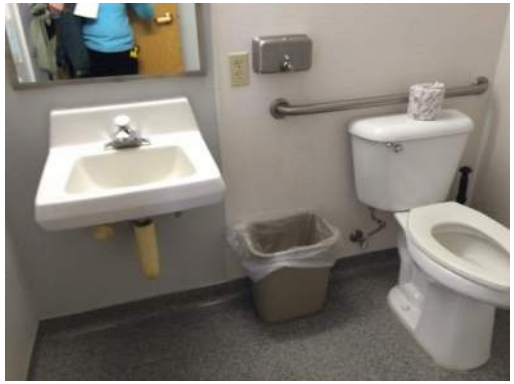
5.	**Issue:** Building B, the Annex, is an existing, multi-story building owned by a Title II entity and it lacks an elevator. Note that Title II entities are not eligible for the elevator exception found at CFR 36.404. The building also does not have an accessible exterior entrance at each level, which might provide an alternate method of compliance.		
	Code Section(s): 28 CFR part 35.151; 206.2.3; 11B-206.2.3		
	Remedy: Either install an elevator to the floors that require an accessible route or provide accessible entrances on accessible routes to both levels. If no elevator is provided, have the alternate accommodation that is provided verified with the local AHJ that the alternate means is acceptable and provides equivalent access.	***Action Plan:***	***Completed:***
6.	**Issue:** Building B Auditor's office public counter is 42" high without a knee space on the public side. Additionally, the counter extends into the required 18" pull side door clearance for the Auditor's office door. It is unclear if Auditor's office door is used by the public. If used by the public, it should be made accessible. If used by staff only, it is subject to Title I Employee Accommodations as needed.		
	Code Section(s): 11B-227; 11B-904.4; 11B-404.2.4		
	Remedy: Either lower the counter or provide an additional low work surface with required depth and knee space. If door needs to be accessible, cut back counter to provide maneuvering space.	***Action Plan:***	***Completed:***

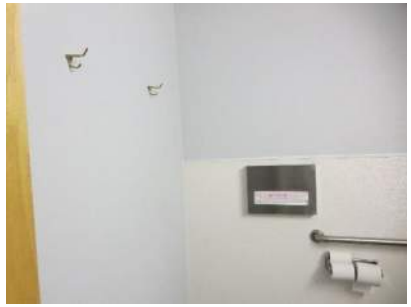
3. Access to Sanitary Facilities:

Deficiencies Noted:

1.	**Issue:** Building A - The existing toilet rooms on all four levels of this building are not accessible. No accessible toilet room for the public is provided.		
			
	Code Section(s): 11B-213; 11B-603		
	Remedy: Either remodel existing toilet rooms on levels open to the public so they are accessible, or provide additional accessible toilet rooms and directional signs at inaccessible ones indicating the location(s) of the nearest accessible toilet room(s).	***Action Plan:***	***Completed:***

2.	**Issue:** Building B, Upper Level Women's Toilet Room (public) is compliant in size for 1991 ADA and 2010 CBC regulations. However, future building alterations may trigger upgrades to the 2010 ADA/current CBC, which requires more than the provided 28" clear space between the water closet and the lavatory.		
	Code Section(s): 11B-202.4 exception 2		
	Remedy: No action needed at this time. Item is for future planning purposes.	***Action Plan:***	***Completed:***
3.	**Issue:** Building B, both Men's and Women's upper level toilet rooms lack the required tactile room identification signage with accompanying braille characters. Geometric door signs contain pictograms which are required by code to have accompanying braille characters, and braille is not allowed on door signs.		
	Code Section(s): 11B-216.8; 11B-703.7.2.6		
	Remedy: Provide compliant visual and tactile signs at the latch side of each door. Provide compliant geometric signs on the door panels.	***Action Plan:***	***Completed:***

4.	**Issue:** Building B, Upper Level Women's Toilet Room (public) has only 17 ½" clear from side wall to the centerline of the lavatory. This is compliant under the ADA, which requires only 15" but, not under the CBC, which requires 18" min. clear. Additionally, the lavatory knee space at the front apron is only 28 ¾" high, and 29" min. is required. The supply and drain pipes are not all insulated or protected against contact. **Code Section(s):** 11B-213; 11B-603; 11B-606.2; 11B-606.5; 11B-606.6; 11B-306		
	Remedy: Install a smaller lavatory that maintains the 28" clear between the toilet and lavatory but increases the distance to the side wall. Raise the lavatory as needed to provide required knee space clear height. Insulate all supply and drain pipes.	***Action Plan:***	***Completed:***
5.	**Issue:** Building B, Upper Level Women's Toilet Room (public) has some accessories that are mounted too high: the mirror is at 41" from the finished floor to the edge of the reflective surface (40" max. allowed); the soap dispenser is 41" high to the operable parts (40" max allowed); and the coat hooks are above the max. allowable 48" AFF. The freestanding trash can is in the required clear floor area for the water closet. The seat cover dispenser is located too low over the grab bar. **Code Section(s):** 11B-603.5; 11B-609.3		
	Remedy: Lower the mirror and soap dispensers; provide additional coat hooks at a compliant height. It is recommended that a wall mounted trash can be installed outside all required clear floor areas and maneuvering spaces for fixtures, room, or door. If a fixed trash can is not provided, instruct cleaning and maintenance staff on the allowable locations for a free standing trash can and have them maintain that configuration. Relocate the seat cover dispenser.	***Action Plan:***	***Completed:***

6.	**Issue:** Building B, Upper Level Men's Toilet Room (public), has the water closet located 18 ½" from the side wall to the centerline. At the time of construction, 18" absolute was required under both the ADA and the CBC, and a ½" tolerance was often considered acceptable. However the 2010 ADA changed the requirement to a range of 16 to 18", and the 2013 CBC allows 17 to 18". The dimension is outside the current allowed ranges for both, and may need to be modified in the future.		
	Code Section(s): 11B-202.4 exc. 2; 11B-604.2		
	Remedy: If the floor is of wood construction, it is usually possible to move the toilet flange over into acceptable range. If the flange can't be moved, then the wall can be furred out so it is closer to the toilet.	***Action Plan:***	***Completed:***
7.	**Issue:** Building B, Upper Level Men's Toilet Room (public) has some accessories that are mounted too high: the mirror is at 40 ¾" from the finished floor to the edge of the reflective surface (40" max. allowed); the soap dispenser is 40 ½" high to the operable parts (40" max allowed); and the coat hooks are above the maximum allowable 48" AFF.		
	Code Section(s): 11B-603.3; 11B-603.5		
	Remedy: Lower the mirror and soap dispenser; provide additional coat hooks at a compliant height.	***Action Plan:***	***Completed:***

8.	**Issue:** Building B, Upper Level Men's Toilet Room (public) lavatory is slightly too low at the front apron. The bottom of the apron measures 28 7/8", and 29" minimum is required. The lavatory also lacks the required supply and drain insulation at all pipes. **Code Section(s):** 11B-606.2; 11B-606.5		
	Remedy: Raise the lavatory to provide the minimum required knee space; insulate all supply and drain pipes.	***Action Plan:***	***Completed:***
9.	**Issue:** Building B, Upper Level Men's Toilet Room (public), has a toilet paper dispenser that is not 7 to 9" from the front edge of the toilet to the center of the dispenser. **Code Section(s):** 11B-604.7		
	Remedy: Relocate the toilet paper dispenser.	***Action Plan:***	***Completed:***

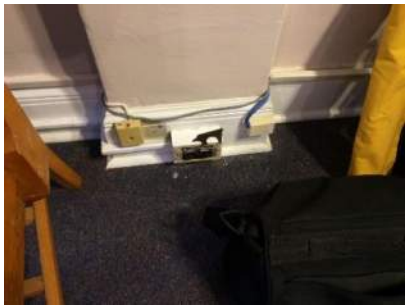
10.	**Issue:** Building B, Upper Level Men's Toilet Room (public) the rear grab bar at the water closet is not 12" from the water closet centerline one side and 24" on the other side (minimum).		
	Code Section(s): 11B-604.5 (especially 11B-604.5.2); 11B-609;		
	Remedy: Relocate the rear grab bar. Note that a 36" long rear grab bar requires exact placement to be compliant. It is recommended that a 42" grab bar be installed where possible, to allow tolerance.	***Action Plan:***	***Completed:***
11.	**Issue:** Building B, both Upper Level Men's and Women's Toilet Rooms (public) have the seat cover dispensers mounted less than 12" above the rear grab bar.		
	Code Section(s): 11B-609.3		
	Remedy: Relocate the sear cover dispensers so that they are not over the top of the grab bar.	***Action Plan:***	***Completed:***

4. Access to All Other Features:

Deficiencies Noted:

1.	**Issue:** Building A - The drinking fountains on both the first and second floors are not accessible. They do not provide knee space for a wheelchair user and are too low for persons who have difficulty bending. The operable parts also require grasping, pinching, or twisting of the wrist. **Code Section(s):** 11B-205; 11B-211; 11B-602		
	Remedy: Either remove and replace with compliant high/low drinking fountains; install additional units and directional signs indicating their location; or adjust the water flow to at least 4" high and provide a cup dispenser at each fountain.	***Action Plan:***	***Completed:***
2.	**Issue:** The telephone (TE-1) on the exterior of the building, located in a booth on the west side of Building A, is not accessible. **Code Section(s):** 11B-217		
	Remedy: Provide an accessible telephone in this location or provide directional signs indicating the location of the nearest accessible phone. Alternately, the existing phone could be removed.	***Action Plan:***	***Completed:***

3.	**Issue:** The picnic table on the exterior of Building B does not have an accessible route to it and does not provide a seat that accommodates a wheelchair user. It is unclear if this table is for public use or is intended for employee use but, as it is clearly visible and can be accessed from the PRoW, it is assumed that it is available for the public. **Code Section(s):** 11B-246.5; 11B-206.2.2		
	Remedy: Provide an accessible table with accessible route leading to it, or remove the table.	***Action Plan:***	***Completed:***
4.	**Issue:** Building A - While stairs are not considered a part of an accessible route, they do have access requirements for persons with ambulatory disabilities and vision impairments. All of the stairs in the building have deficiencies. Some of the interior stairs lack the required visual stripes at the top and bottom treads. The handrails of the main lobby stairs are constructed of 2" outside diameter pipe with connectors that exceed the maximum allowed 2" diameter and do not provide a smooth, uninterrupted surface. Other stairs lack handrail extensions, or the rails are too low. **Code Section(s):** 11B-504; 11B-505	 *Main Lobby Stairs, left lower*	 *Main Lobby Stairs, right upper*
	Remedy: Add additional visual striping as needed to the top and bottom treads of stairs. Replace handrails and/or install rails that are fully compliant.	***Action Plan:***	***Completed:***

5.	**Issue:** Building A, the Courthouse, has multiple locations with switches, electrical receptacle outlets, and other building controls that are not within the allowable reach ranges of 15” minimum AFF and 48” maximum AFF. **Code Section(s):** 11B-205; 11B-308		
	Remedy: Operable parts should be brought into required reach ranges, with priority given to rooms and spaces that are open to the public, and elements that the public may utilize.	***Action Plan:***	***Completed:***
6.	**Issue:** Building A, 2nd Floor Supervisor’s Room, it is unclear if this area is open to the public but, the room has a noticeably sloping floor. **Code Section(s):** 11B-302		
	Remedy: Remedy would depend on cause of floor slope. Additional structural investigation is needed. Interim accommodation would be to make all public services available elsewhere.	***Action Plan:***	***Completed:***

7.	**Issue:** Building A, the fire extinguisher located at the 2nd floor corridor, outside the right Courtroom door, is mounted too high.		
	Code Section(s): 11B-205; 11B-308		
	Remedy: Lower the extinguisher so that all operable parts are within 48" AFF. Care should be taken to ensure that the FE is not a protruding hazard if relocated.	***Action Plan:***	***Completed:***
8.	**Issue:** The Courtroom / Board of Supervisor's Room does not have signage indicating that assistive listening devices are available.		
	Code Section(s): 11B-219; 11B-216.10		
	Remedy: If no assistive listening devices are available, sets should be purchased, and employees trained on procedures for public use requests and operation. If assistive listening devices are already available, then signage should be installed.	***Action Plan:***	***Completed:***

<table>
<tr><td rowspan="4">9.</td><td>Issue: Building A, the Courthouse, Level 3 is not currently open to the public but has the following noted deficiencies that are included in this report for future planning purposes:
Light fixture in corridor is less than 80” AFF and is a protruding hazard.
Corridor is only 43 ½” clear and may not be wide enough for an accessible route, depending on use and occupancy.
Law Library carpet has a pad, and large holes which prevent wheelchair users from accessing the room.
The toilet room is not accessible and would require a complete remodel.
The stairs up from the 2nd floor do not have compliant head clearance and there is no accessible route to this level.</td><td>  </td><td>  </td></tr>
<tr><td>Code Section(s): 11B-307; 11B-403.5.1 exc. 2; 11B-302.2; 11B-206.2.3</td><td colspan="2">  </td></tr>
<tr><td>Remedy: Addition of an accessible route, accessible toilet rooms, and replacement or modification of protruding hazards, floor materials, operable parts, and stairs should be made before this level is open to the public. This information is provided for planning purposes only.</td><td>Action Plan:</td><td>Completed:</td></tr>
</table>

APPENDIX F – ACCESS PRIORITY IMPROVEMENTS

Lassen Courthouse Square
Priority A Improvements

LIONAKIS
3/17/17

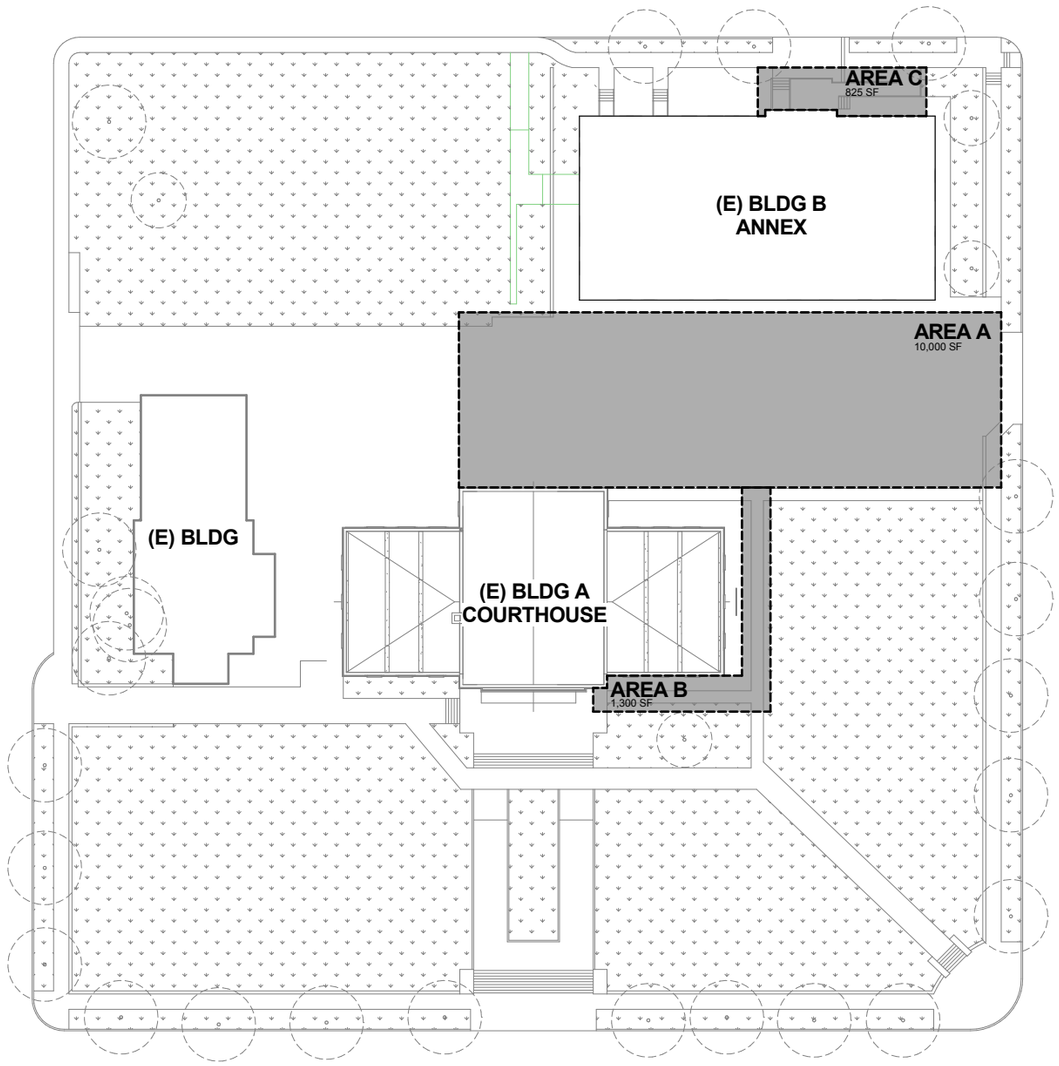
Access from On-Site Parking to Courthouse and Annex		
Item	Location	Description
1-2	Accessible On-site Parking Spaces	Existing paving is cracked and in a deteriorated state of condition. Design new concrete paved accessible parking spaces including signage and path of travel to accessible routes to Courthouse and Annex.
1-4	On-Site Accessible Parking	Transition from parking stall to walkway requires detectable warning pad. Separation of pedestrian and vehical routes is also required. This will be integrated with the redesign of the accessible on-site parking spaces.
1-5	Lightwell to Basement	Lack of curb at lightwell at north end of Courthouse is a safety hazard. Curbing will be required.
~~1-6~~	Public RoW ~~Roop Street Accessible Parking~~	~~The non-compliant street parking could be a safety hazard.~~
1-7	Main Site Stair on So. Lassen Street	Accessible route information, signage and visual cues to the nearest accesible route is required. Stair treads require contrasting striping for the visually impaired.
1-9	Site Stair at corner of So. Lassen & Mill Streets	Accessible route information, signage and visual cues to the nearest accesible route is required. Stair treads require contrasting striping for the visually impaired. Handrail extensions are required.
1-11	Landing at Bottom of Main Access Ramp to Courthouse	Water pools at this landing. It will need to be redesigned to shed water properly. This may include redesign of the walkways leading to the landing.
1-12	Main Access Ramp to Courthouse	Excessive ramp slopes are non-compliant; no intermediate landing, non-compliant handrails. Ramp will need to be redesigned.
1-13	Landing at Top of Main Access Ramp to Courthouse	Cross slopes at the landing at the top of Main Access Ramp and along main entry are not in compliance. These areas will need to be included in the redesign of the Main Access Ramp.
~~1-14~~	Public RoW ~~Corner Roop & Mill~~	~~Lack of accessible route is a barrier, see also item 1-6.~~
1-15	Main Access Ramp to Annex	Excessive ramp slopes are non-compliant; non-compliant handrails. Ramp will need to be redesigned.
1-16	Stair to Annex Entry	Stair requires compliant guard and handrails, and striping for the visually impaired.
1-17	Courthouse Entry Doors	Courthouse entry doors are non-compliant and constitute an access barrier. Doors will need to be redesigned to provide compliance, including a built-in, cleanable walkoff mat, and automatic door openers.
1-19	Annex Entry @ Lower Level	Entry not currently used. As such it is not a violation. However, if long range plan is to provide access to lower level, this enry will need to be designed to be compliant.
1-20	Annex Entry Doors on Roop Street	Annex upper level entrance not accessible. This entry will need to be redesigned for compliance along with the Main Access Ramp (Item 1-15).

Access to Goods and Services		
2-2	Annex Interior Accessibility Signage	Lack of tactile and braille signs make building impossible for visually impaired persons to navigate independantly. Compliant signage with visual, tactile, and braille characters is required.
2-3		Counters that are protruding hazards pose a safety risk, counters that are too high may be lower priority or not required if the same service is offered in an accessible manner. Coordinate with Transition Plan.
2-4	Overhead Hazards lower than 80" (Annex)	Protruding hazards are a safety risk, although this item may be a lower priority if the public is not allowed in the lower level. Coordinate with Transition Plan and planned use for the lower level.

Access to Sanitary Facilities		
3-1	Courthouse Accessible Restroom (Main Level) is Required	Provide at least one accessible toilet room, and directional signs at the non-accessible toilet rooms. Locations dependant on use of building, coordinate with Transition Plan and planned use for the main level.
3-3	Annex Accessible Restrooms	Accessible restrooms require tactile and braille signage.

Access to All Other Features		
4-1	Courthouse Accessible Drinking Fountain (Main Level) is Required	No accessible drinking fountain, or alternate, is provided. A compliant, accessible drinking fountain is required.
4-2	Phone Booth at north end of Courthouse	Public coin operated phone is not accessible. Provide an accessible phone booth or remove the existing booth.
4-3	Picnic Table	Picnic table is not accessible, has no accessible route to it. Provide compliant table and access or remove it.
4-4	Stairs in Courthouse	Stairs do not have compliant handrails, striping for the visually impaired. Provide striping, as well as compliant handrails unless existing handrails are historically significant.
~~4-7~~	Courthouse Second Level ~~Fire Extinguisher outside Historic Courtroom~~	~~Lower the fire extinguisher so that all operable parts are within 48" A.F.F.~~ This is work that would be done at such time as an elevator is installed to provide access to the second level of the Courthouse.
~~4-8~~	Courthouse Second Level ~~Historic Courtroom~~	~~If the Courtroom / Board of Supervisors room is in use, assistive listening devices are required.~~ This is work that would be done at such time as an elevator is installed to provide access to the second level of the Courthouse.

APPENDIX G – ACCESSIBILITY PROJECT SCOPE



1 SITE PLAN
SCALE 1" = 20'-0"

ACCESSIBILITY IMPROVEMENTS:

CONDITIONS /PRESUMPTIONS FOR DESIGN
- NO WORK IN PUBLIC RIGHT OF WAY - CITY'S REQUIREMENT
- VERIFY THAT PROPERTY LIKE STARTS (OR IS) AT BACK OF WALKWAY
- DESIGN-BID-BUILT DELIVER METHOD

AREA A
1-2; EXISTING PVING IS CRACKED AND IN A DETERIORATED STATE OF CONDITION. dESIGN NEW CONCRETE PAVED ACCESSIBLE PARKING SPACES INCLUDING SIGNAGE AND PATH OF TRAVEL TO ACCESSIBLE ROUTES TO COURTHOUSE AND ANNEX
1-4; TRANSITION FROM PARKING STALL TO WALKWAY REQUIRES DETECTABLE WARNING PAD. SEPARATION OF PEDESTRIAN AND VEHICLE ROUTES IS ALSO REQUIRED. THIS WILL BE INTEGRATED WITH THE REDESIGN OF THE ACCESSIBLE ON-SITE PARKING SPACES.

- THIS IS STRICKLY A MAINTENANCE PROJECT WITH ADJUSTMENT FOR SLOPES AS NEEDED TO PROVIDE ACCESSIBILE PARKING SPACES AND REDIRECT RUNOFF TO (E) STORM DRAIN INFRASTRUCTURE
- DOES NOT INCLUDE PARKING LOT LIGHTING
- DOES NOT INCLUDE MODIFICATION OF (E) STORM DRAINAGE
- DOES NOT INCLUDE LIGHTING SCOPE TO IDENTIFY EGRESS LIGHT LEVELS

AREA B
1-11; WATER POOLS AT THIS LANDING. IT WILL NEED TO BE REDESIGNED TO SHED WATER PROPERLY. THIS MAY INCLUDE REDESIGN OF THE WALKWAYS LEADING TO THE LANDING.
1-12; EXCESSIVE RAMP SLOPES ARE NON-COMPLIANT; NO INTERMEDIATE LANDING, NON-COMPLIANT HANDRAILS. RAMP WILL NEED TO BE REDESIGNED.
1-13; CROSS SLOPES AT THE LANDING AT THE TOPP OF MAIN ACCESS RAMP AND ALONG MAIN ENTRY ARE NOT IN COMPLIANCE. THESE AREAS WILL NEED TO BE INCLUDED IN THE REDESIGN OF THE MAIN ACCESS RAMP.

- ALTERNATIVE ENTRANCES WERE EXPLORED. BUT THERE ARE NO VIABLE ALTERNATIVES THAT WOULD MAINTAIN THE FUNCTIONALITY OF THE FLOOR PLAN
- DOES NOT INCLUDE REDESIGN OR REPLACEMENT OF ANY LANDSCAPING OR IRRIGATION
- DOES NOT INCLUDE LIGHTING SCOPE TO IDENTIFY EGRESS LIGHT LEVELS

AREA C
1-15; EXCESSIVE RAMP SLOPES ARE NON-COMPLIANT; NON-COMPLIANT HANDRAILS. RAMP WILL NEED TO BE REDESIGNED.
1-16; STAIR REQUIRES COMPLIANT GUARD AND HANDRAILS, AND STRIPING FOR THE VISUALLY IMPAIRED.

- ALTERNATIVE ENTRANCES WERE EXPLORED, BUT THERE ARE NO VIABLE ALTERNATIVES THAT WOULD MAINTAIN THE FUNCTIONALITY OF THE FLOOR PLAN
- DOES NOT INCLUDE REDESIGN OR REPLACEMENT OF ANY LANDSCAPING OR IRRIGATION
- DOES NOT INCLUDE LIGHTING SCOPE TO IDENTIFY EGRESS LIGHT LEVELS

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CONSULTANT

SEAL


PROJECT
LASSEN COUNTY COURTHOUSE SQUARE

220 S Lassen St
Susanville, CA 96130

ISSUED

MARK	DATE	DESCRIPTION

MANAGEMENT
LIONAKIS PROJECT NO: 015437

AGENCY

TITLE
SITE PLAN

SHEET
AS101

APPENDIX G – ACCESSIBILITY PROJECT BUDGET MODEL

Lassen County Courthouse Square Accessibility Improvements Project

Budget Model / Pro Forma

LIONAKIS

6/1/2017

Hardcosts	Quantity	Unit	$/Unit	Total
Accessible Parking				
Remove & Replace Parking (4" AC over 6" AB)	10,000	sf	10.00	100,000
Allowance for Striping & Signage	1	ls	5,000.00	5,000
Contingency for Backfill/Compaction of Soft Spots	1	ls	10,000.00	10,000
				115,000
Courthouse Ramp				
Demo (e) Ramp	1,300	sf	10.00	13,000
Construct (n) Ramp incl. Railings, Signage & Walk from Acc. Pkg	1,300	sf	55.00	71,500
Contingency	1	ls	10,000.00	10,000
				94,500
Annex Ramp				
Demo (e) Ramp	850	sf	10.00	8,500
Construct (n) Ramp incl. Railings, Signage	850	sf	75.00	63,750
Contingency	1	ls	10,000.00	10,000
				82,250
			Subtotal - Hardcosts	291,750

Fees & Overhead	%	
General Conditions	5%	14,588
General Requirements	2%	5,835
Bonds & Insurance	2%	5,835
General Contractor Profit	5%	14,588
Design Contingency	5%	14,588
	Subtotal - Fees & Overhead	55,434
	Total Construction Cost	347,184

Softcosts	%	
Topo Survey (contracted/provided by County)		6,000
AE Fees *		52,000
Testing & Inspection Fees	5%	14,588
	Subtotal - Softcosts	72,588
	Total Project Cost	419,772

* A/E Fees	
Survey Coordination	3,000
Schematic Design	11,000
Construction Documents (incl. Specs & Plan Approval)	26,000
Bidding	4,000
Construction	8,000
	52,000

APPENDIX H

HISTORIC REPORT & ARCHITECTURAL EVALUATION

LASSEN COUNTY COURTHOUSE

SUMMARY STATEMENT OF SIGNIFICANCE

The Lassen County Courthouse is listed on the National Register of Historic Places (#97001659 January 23, 1998) and the California Register of Historical Resources, under Criteria A and C, in the areas of government and architecture. Located in Susanville, CA, the Courthouse is situated in a two-acre Courthouse square bounded by Court, Mill, South Roop and South Lassen Streets. The period of significance extends from 1917 to 1947. Under Criterion A, the Courthouse is significant as the principal seat of government for Lassen County and as a powerful symbol of local authority in a sparsely-populated county. Under Criterion C, the Courthouse is significant in two respects: as an excellent example of the Classical Revival courthouse from the early 20th century; and as an important example of the work of a master designer, George C. Sellon, an active and important architect who practiced throughout Northern California in the first half of the 20th century. The building retains a very high degree of integrity to its appearance in 1917. Although some modifications have been made since 1917, many of these were made during the period of significance. On balance, the Courthouse retains a sufficiently high degree of integrity of location, setting, design, materials, workmanship, feeling, and association to warrant its listing in the National Register.[1]

The Courthouse is a two-story reinforced concrete building faced in stone masonry with a full basement and partial third story. Understood as a Beaux Arts Classical Revival civic building, its most notable exterior feature is a Doric order entry pavilion and flanking wings. The entry pavilion was originally accessed via a wide terrace and grand stair bordered by a terra cotta balustrade. The building is richly detailed with terra cotta ornamentation on the exterior as well as the interior. The color and texture of the building are defined by three visible materials: first, a gray-tan native stone, believed to be quarried a few miles north of the building[2], is used as a veneer on all exterior walls.

[1] Summarized from JRP Historical Consulting Services, "National Register of Historic Places Registration Form" (1997)
[2] Local source (Hat Creek Construction) and JRP Historical Consulting Services documentation confirm evidence of a local quarry and the likelihood of material obtained there.

Second, architectural terra-cotta, most of which is natural tan or terra cotta color; and third, the concrete foundation which has been covered in terra cotta-colored cement plaster.
The building interior features four areas of primary historical significance. 1) The entrance lobby with original marble staircases, terrazzo flooring and other details, offers a grand two story volume leading upward to a richly detailed wood-clad beam system and ceiling. 2 and 3) The upper and lower public corridors similarly include terrazzo flooring and plaster walls and ceilings. The lower corridor has been altered to include a non-historic dropped T-bar ceiling which may be obscuring the original ceiling. 4) The second floor court room is replete with original details that equal and some cases exceed the richness of the lobby ceiling and includes some original furniture. The building interior contains roughly twelve different styles of interior and exterior doors. Nearly all original windows have been removed and replaced with aluminum windows with the exception of the "Clathrie" (diagonal metal grill windows) at the entry and some steel windows at the attic level.

ARCHITECT

The Lassen County Courthouse was designed by George C. Sellon, an important Northern California architect from the turn of the century through his death in the early 1950s. Best-known as the first State Architect, Sellon was also a highly successful private architect who designed numerous well-known buildings in his hometown of Sacramento and in cities throughout Northern California. Some of his notable works in Sacramento include the California Almond Growers Exchange, the Bank of America Building and the California Life insurance Company Building at Plaza Park. Buildings attributed to the Sellon-led State Bureau of Architecture include: San Quentin Prison, the first buildings at the Normal School in San Jose (San Jose State University), Agnews State Hospital and Napa State Hospital. Sellon's private civic works include the Nevada (City) City Hall and the Nevada County Courthouse.[3]

SIGNIFICANCE IN GOVERNMENT

Each county Courthouse in each county in the United States has played a role in the development of governmental institutions in that jurisdiction, in the legislative, administrative, and judicial branches alike. In a sense, historic significance may be assigned to practically any county Courthouse in this respect. The Courthouse has had disproportionate impact, however, in those chiefly rural counties in which there are few municipalities and the county is the dominant governmental institution. This has

[3] Summarized from JRP Historical Consulting Services, "National Register of Historic Places Registration Form" (1997)

been the case in the relationship between the Lassen County Courthouse and the people of Lassen County, California, since construction of this building in 1917. Indeed, the Lassen County Courthouse has great functional importance, beyond what is the case in the more densely-settled part of the state. At the time this building was constructed, for example, the voting population of the county was only a few thousand people; the vote for the bonds to pay for this building was 944 to approve, 366 not to approve.

The importance of the building in the area of government is also symbolic as well as functional. This symbolic value was identified in an editorial of the Lassen Advocate, which called upon the "truly loyal and progressive citizen" to approve a building that "presents a substantial and attractive appearance, and one that any citizen may well feel proud of." The county succeeded in this respect; the Lassen County Courthouse is an extraordinarily handsome Courthouse, particularly within the context of small counties in California. This symbolic value has been maintained through the years.[4]

SIGNIFICANCE IN ARCHITECTURE

The Lassen County Courthouse is a Beaux Arts Classical Revival building, drawing upon the popular forms and traditions of the Classical Revival of the early 20th century. The Beaux Arts movement was part of what has been called the American Architectural Renaissance, and the style is sometimes called Beaux Arts Classicism because so many practitioners, in California and elsewhere, were trained at the Ecole de Beaux Arts in Paris. Beaux Arts Classicism would affect all types of buildings in California and elsewhere. The University of California campus in Berkeley, for example, as were countless commercial buildings throughout the state. The style was best adapted to civic architecture, however, and it is there that its impact was most felt.

The Lassen County Courthouse is a significant example of the early 20th century Classical Revival Courthouse. It is obviously important within the context of Lassen County; it is the only historic courthouse in the county and the only substantial Classical Revival building in the county. There are relatively few Beaux Arts Classical Revival Courthouses in California and the best examples are small buildings in rural counties: this building (1917); the Yolo County Courthouse in Woodland, also built in 1917, on plans by William Weeks; and the Solano County Courthouse in Fairfield, built in 1911 on plans by E.C. Cummings and W.A. Jones.

[4] Summarized from JRP Historical Consulting Services, “National Register of Historic Places Registration Form” (1997)

In addition to being one of a small group of such buildings, the Lassen County Courthouse is significant in its own merit, as an important example of the Beaux Arts Classical Revival style. The building succeeds in the goals of the advocates of the style: to achieve the calming effect of Classical architecture while retaining the inspiring qualities of a civic building. In its exterior proportions and subdued use of architectural detail, the building is an excellent example of a civic building from the early 20th century; it is obviously inspired by Classical models but with a tasteful use of applied ornament. On the other hand, it would be a mistake to judge the building as plain or lacking in decorative detail. In its exterior and particularly in its interior, it is one of the more richly detailed Courthouse buildings in California. The fact that virtually all of the applied decoration was made of terra cotta is itself representative of 20th century civic building design in California; terra cotta ornamentation was perhaps the most common architectural embellishment for civic buildings in the period in which this Courthouse was built.[5]

[5] Summarized from JRP Historical Consulting Services, "National Register of Historic Places Registration Form" (1997)

SIGNIFICANCE CATEGORIES DEFINED

The significance categories are defined as follows, for the purposes of this concept narrative;

Primary Significant:

The most important and prominent historic features and spaces in the building. These features retain their original historic fabric and appearance, and are critical in defining the historic character of the property.

Primary Significant features and spaces should be protected and preserved in place. Repair, cleaning and restoration of features to comply with the Secretary of the Interior's Standards. Non-historic features within these spaces may be altered or removed.

Secondary Significant:

Features of lesser prominence, yet historically significant and important character defining elements. These elements are original to the building, and contribute to the historic character of the whole building, but do not hold equal value to the primary significant elements.

Secondary Significant features and spaces may be rehabilitated to enable continued use of the building per the Secretary of the Interior's Standards. Non-historic features within these spaces may be altered or removed. Historic features of high quality should be retained, and may be disassembled, salvaged and reinstalled in the rehabilitation.

Non-Contributing:

Non-historic features or spaces that have neem altered to the extent their original character is absent. These features and spaces, although contained within a historic building, do not contribute to the significance of the property.

Alterations and upgrades to the building to enable continued functionality may occur in non-contributing spaces. Work within these spaces should avoid negatively affecting adjacent historic areas.

TABLE 1: SIGNIFICANCE AND CHARACTER-DEFINING FEATURES

Basement Level

Room Name	Significance of Room	Character-Defining Features
Justice Court	Secondary	Unknown; represented on original plans
Vault Door	Primary	• Double steel door vault entry (main door of double door system missing) • Door frame features plaster head and volutes at door head, plaster frame
Grand Jury Room	Non-Contributing	• Limited painted sheet metal baseboards • Limited painted wood wide board door/window trim • Historic and non-historic records in storage • [Contemporary non-historic finishes include: • Concrete, carpet, vinyl sheet, paint and linoleum floors • Contemporary gypsum board and unfinished walls Dropped T-bar and painted flat plaster ceilings]
Storage 1	Non-Contributing	
Storage 2	Non-Contributing	
Toilet Room	Non-Contributing	
Stair Hall	Non-Contributing	
Boiler Room	Non-Contributing	

First Floor / Entry Level

Room Name	Significance of Room	Character-Defining Features
Purchasing Agent	Secondary	[First floor offices retain few of the original features; these may exist behind partitions and dropped ceilings]
Public Corridor	Primary	• Floor: Two-toned Terrazzo (light pink and beige stone), white marble wall base • Walls: Scored painted plaster, Ashlar pattern • Details: Three arched openings provide access from the lobby to the first floor offices at the Corridor; [arches interrupted by dropped T-bar ceiling] • Metal-clad wood doors and frames, inset panel door • [Dropped T-bar ceiling for mechanical systems; obscuring a possibly intact original ceiling.] • [Carved wooden bench likely acquired from alternate location and not original]

Entrance Lobby	Primary	• Floor: Two-toned Terrazzo (light pink and beige stone), white marble wall base • Walls: Scored painted plaster, Ashlar pattern • Ceiling: Plaster with finely finished wood-clad beams resting on carved wooden wall brackets. Ceiling molding includes wide terra-cotta cornice in a cartouche and scrollwork pattern, dentil course and egg-and-dart patterns. • One large original chandelier fixture [wall sconces not historic] • Entry Doors: framed by elaborate surround, with pilasters built around urn forms and entablature with frieze in the classic Greek honeysuckle pattern. Cornice appears to be painted cast stone and includes acanthus pattern surmounted by elaborate details [light fixtures not historic]; vestibule with terrazzo flooring pattern; [aluminum doors not historic]. • Windows: tall windows with metal Clathri (crossed lattice) - primary to exterior façade, wood frame and trim, sash missing [replaced with aluminum windows, not historic] • Symmetrical staircases: (2) flanking staircases with white marble treads and risers, decorative terra cotta balustrade [metal railing not historic] Details: • Newel posts serve as bases for planters • Balconettes: (3) openings from second floor corridor with decorative terra cotta balustrades [metal replica Seal of the State of California not original] • Drinking fountain at South Stair under landing at niche [fountain fixture within bowl not-historic] • Two steam radiators

Abstracts	Secondary	[No character-defining features visible; likely obscured by dropped T-bar ceiling, new gypsum board and modern carpet.] • Some entry doors (from corridor) are metal clad with metal jambs.
Recorder and Auditor	Secondary	
Surveyor	Secondary	
Assessor	Secondary	
Assessor's Private Office	Secondary	
Vault	Secondary	
Treasurer and Tax Collector	Secondary	
Superintendent	Secondary	
Board of Education	Secondary	
Women's Restroom	Secondary	• Terrazzo flooring; marble wall base • Marble wall cladding and toilet enclosures • Lavatory • [Water closet fixtures and accessories not historic]

Second Floor

Room Name	Significance of Room	Character-Defining Features
Courtroom	Primary	• Floor: [carpet, not historic] with white marble wall base • Walls: Scored plaster, wood wainscot. [(8) new bullet wall sconces] • Ceiling: Coffered painted plaster. Molding, pilaster and beam details include dentil course and egg-and-dart motif. • Entry Doors: Cast stone door heads and frieze; marble threshold at entry [composite doors not historic] • Windows: (west) 6 over 2 hoppers, inward swing: [non-historic aluminum replacement windows.] Details: • Pilasters along walls, cornice ceiling moldings, carved ceiling beams, door surrounds and large cast tablet behind judge's chair. • Large chandelier appears to be original. • Old wood furniture present in room: 6 rows of benches and jury box, wood bench and 2 lamps • [Bronze/brass grills (age unknown)] • 3 large radiators

Public Corridor	Primary	• Floor: Two-toned Terrazzo (light pink and beige stone), white marble wall base • Walls: Scored painted plaster, Ashlar pattern • Ceiling: Painted plaster with crown molding, original. Details: • Drinking fountain niche at entry to Courtroom • Public Corridor is open to lobby, creating a loggia with 3 openings (in entrance lobby) • Balconies over look lobby • Courtroom is connected to the Corridor by highly decorative entry door surrounds. • Wood chair rail
County Clerk	Secondary	
Court Reporter	Secondary	
Supervisor's Room	Secondary	Some original plaster ceiling intact; other areas include dropped T-bar ceiling. Some marble wall bases intact. • Walls: Scored painted plaster, Ashlar pattern • Floors: [Carpet, not historic] with painted metal base • Ceiling: Painted plaster with molding
Witness Room	Secondary	
District Attorney	Secondary	
Men's Restroom	Secondary	• Terrazzo flooring; marble wall base • Marble wall cladding and toilet enclosures • Lavatory [Water closet fixtures and accessories not historic]
Law Library	Secondary	• Walls: Scored painted plaster, Ashlar pattern • Floors: [Carpet, not historic] with painted metal base • Ceiling: Painted plaster with molding
Judge's Room	Secondary	• Original marble threshold • Door and door jamb at entry; some baseboards intact
Courtroom Stair	Secondary	

Third Floor / Attic

Room Name	Significance of Room	Character-Defining Features
Mechanical	Non-Contributing	Currently used as Law Library
Jury Room	Secondary	Doors, jambs and wall bases intact
Lounging Room	Secondary	Original filing cabinet
Toilet Room	Non-Contributing	• Floor: Painted metal base, [non-historic carpet] • Walls: Painted flat plaster • Ceiling: assumed flat plaster • Windows: original metal windows with [supplemental non-historic aluminum windows] Details: • Steam Radiators • Historic records and original filing cabinet located in room
Toilet Room	Non-Contributing	
Stair	Non-Contributing	

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

The *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Secretary's Standards) provide guidance for working with historic properties. The Secretary of the Interior's Standards for Rehabilitation, specifically, are the benchmark by which federal agencies, the California Environmental Quality Act (CEQA), and many local government bodies, evaluate rehabilitative work on historic properties. The Standards are a useful analytic tool for understanding and avoiding the potential impacts of substantial changes to historic resources under CEQA. Compliance with the Standards does not determine whether a project would cause a substantial adverse change in the significance of an historic resource. Rather, projects that comply with the Standards benefit from a regulatory presumption that they would have a less-than-significant adverse impact on an historic resource. Projects that do not comply with the Standards may or may not cause a substantial adverse change in the significance of an historic resource.

The Standards acknowledge that some changes are typically necessary to ensure the continued use of a historic property. Regarding alterations and additions for the new use of a historic property, the guidelines for Rehabilitation state:

> Some exterior and interior alterations to a historic building are generally needed to assure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes. Alterations may include providing additional parking space on an existing historic building site; cutting new entrances or windows on secondary elevations; inserting an additional floor; installing an entirely new mechanical system; or creating an atrium or light well. Alteration may also include the selective removal of buildings or other features of the environment or building site that are intrusive and therefore detract from the overall historic character. The construction of an exterior addition to a historic building may seem to be essential for the new use, but it is emphasized in the Rehabilitation guidelines that such new additions should be avoided, if possible, and considered only after it is determined that those needs cannot be met by altering secondary, i.e., non- character-defining interior spaces. If, after a thorough evaluation of interior solutions, an exterior addition is still judged to be the only viable alternative, it should be designed and constructed to be clearly differentiated from the historic building and so that the character-defining features are not radically changed, obscured, damaged, or destroyed.

The 10 Rehabilitation Standards are listed below:

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

The Rehabilitation Standards apply to the exterior and interior of historic buildings, and to related site, landscape, and environmental features. They are to be applied in a reasonable manner, taking into consideration economic and technical feasibility.

Projects undertaken meet the Rehabilitation Standards when “the overall effect of the work is one of consistency with the property’s historic character,” and historic integrity, necessary for listing of a

property on the National Register, is maintained.6 There are seven variables or aspects that define integrity—location, design, setting, materials, workmanship, feeling and association. According to the National Register Bulletin: How to Apply the National Register Criteria for Evaluation, these seven characteristics are defined as follows:

- **Location** is the place where the historic property was constructed.
- **Design** is the combination of elements that create the form, plans, space, structure and style of the property.
- **Setting** addresses the physical environment of the historic property inclusive of the landscape and spatial relationships of the building/s.
- **Materials** refer to the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form the historic property.
- **Workmanship** is the physical evidence of the crafts of a particular culture or people during any given period in history.
- **Feeling** is the property's expression of the aesthetic or historic sense of a particular period of time.
- **Association** is the direct link between an important historic event or person and a historic property.

To implement work in compliance with the Rehabilitation Standards a proposed project must be consistent with the ten Rehabilitation Standards and recommended planning / design decisions and technical methodologies outlined by the National Park Service (NPS). First and foremost, the aim is to protect the building's historic character. The significance tables and significance diagrams in this document outline the most important historic elements and aspects of the buildings, structures and objects within the applicable zone. Proposed activities to historic buildings should avoid damage or alteration of the most significant elements, and concentrate work activities that require alteration or removal of fabric to areas of less or no significance, to the full extent possible.

[6] The National Park Service and the U.S. Department of the Interior, Technical Preservation Services, *The Standards - Cumulative Effect and Historic Character*; http://www.nps.gov/tps/standards/applying-rehabilitation/cumulative-effect.htm and http://www.nps.gov/history/hps/TPS/standguide/

APPLICABILITY OF THE CALIFORNIA HISTORICAL BUILDING CODE

In order to preserve their significant features and contributions to our history, qualified historical buildings and properties are granted special exception under the California Building Code. Indeed, several sections of the California Historical Building Code (CHBC) may have specific applicability to the Lassen County Courthouse. Specifically, with respect to upgrading fire protection, egress, accessibility and energy efficiency, in most instances functional spaces that maintain their historical integrity do not need to be upgraded or modified when such systems do not constitute a safety hazard. Below are summaries of CHBC sections with applicability to this project:

Fire Protection

- One-hour Fire-resistive reconstruction is not required if specific criteria are met (8-402.2). Wood lath and plaster walls may qualify as 1-hour construction when filled with mineral fiber or glass fiber. (8-404)
- Qualified historical buildings which cannot be made to conform to fire-safe construction requirements can be deemed in compliance if provided with an automatic sprinkler system, as specified. (8-410.1)

Egress

- Existing stairs with non-conforming risers, treads, and/or handrail grip size/extension are allowed if determined by the enforcing agency to be non-hazardous. (8-502.3)
- The heights of railings and guard railings and the spacing of balusters may continue in their historical height and spacing unless a distinct hazard has been identified or created by a change in use or occupancy. (8-504)

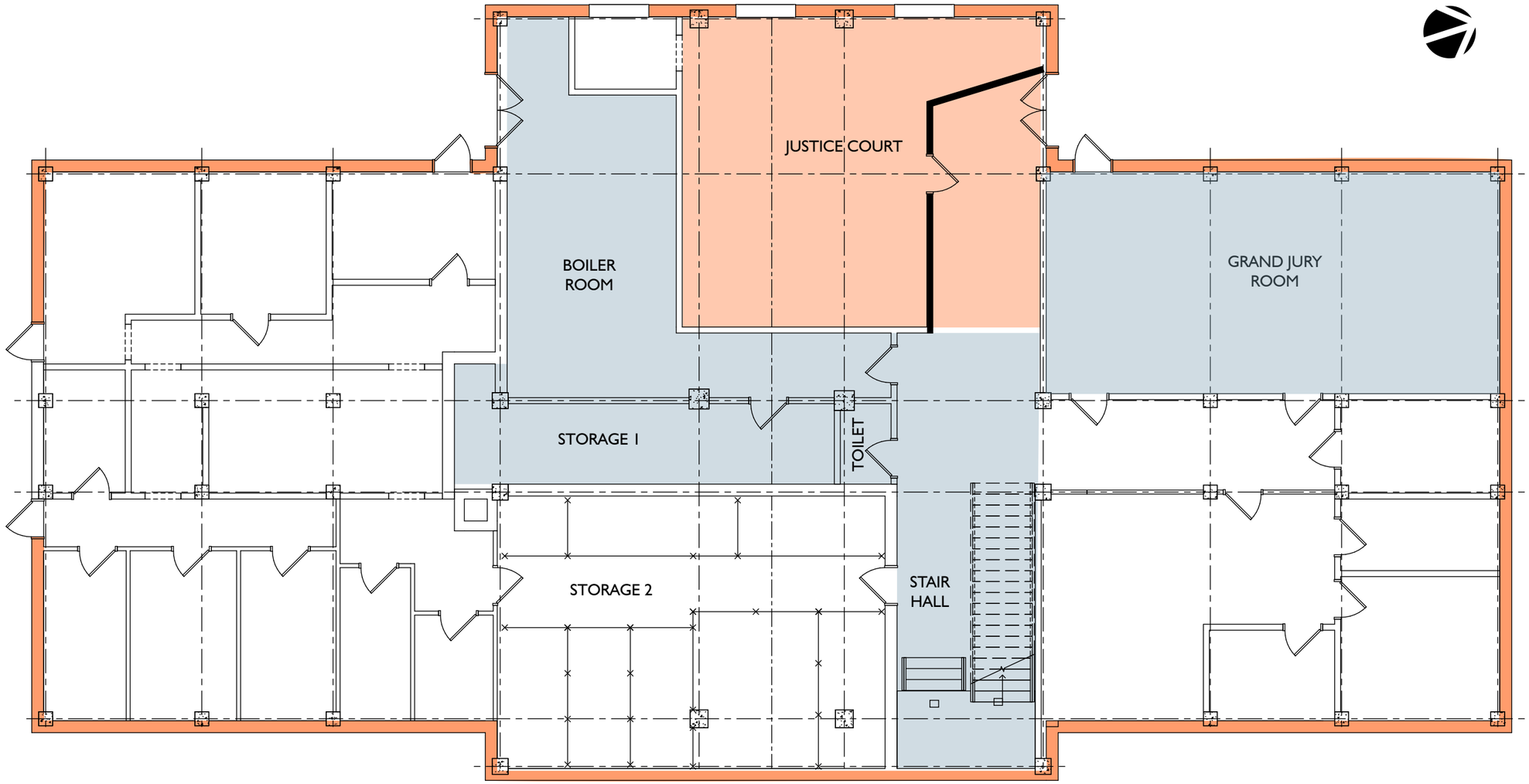
Accessibility

Accessibility for people with disabilities will be required unless the compliance will threaten or destroy the historical significance or character-defining features of the building (8-602.1). In these instances, alternative standards will apply (8-603.1). For example, alternative standards may allow the use of the existing main door entry opening if it complies with CHBC required widths.

Mechanical, Plumbing and Electrical Systems and Lighting Fixtures

Qualified historical buildings are exempted from compliance with energy conservations standards. New non-historical lighting and space conditioning system components must comply with energy

conservation standards (8-901.5). Existing systems may remain in place when such systems do not constitute a safety hazard. (8-904.1.2)



PRIMARY

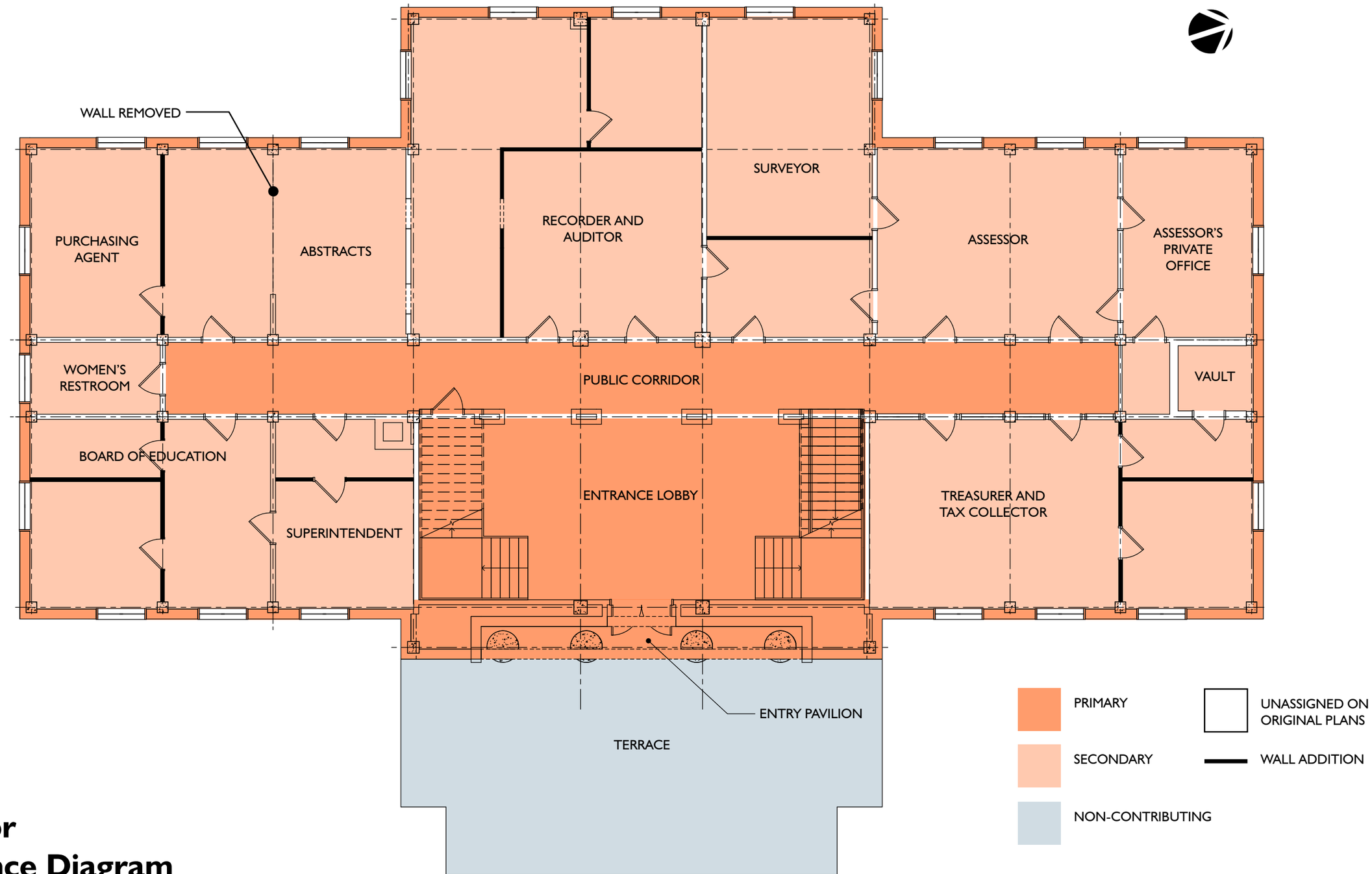
SECONDARY

NON-CONTRIBUTING

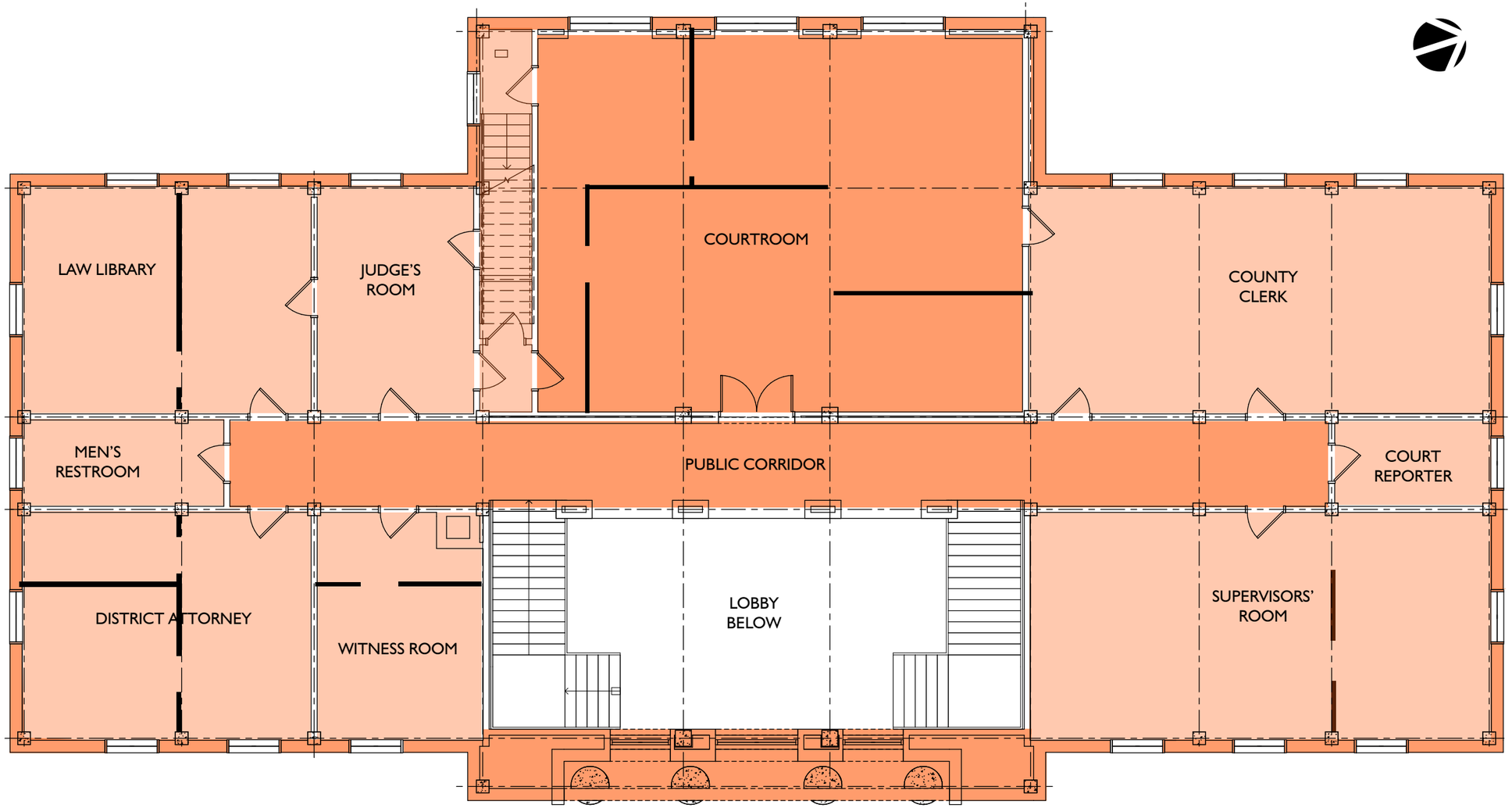
UNASSIGNED ON ORIGINAL PLANS

WALL ADDITION

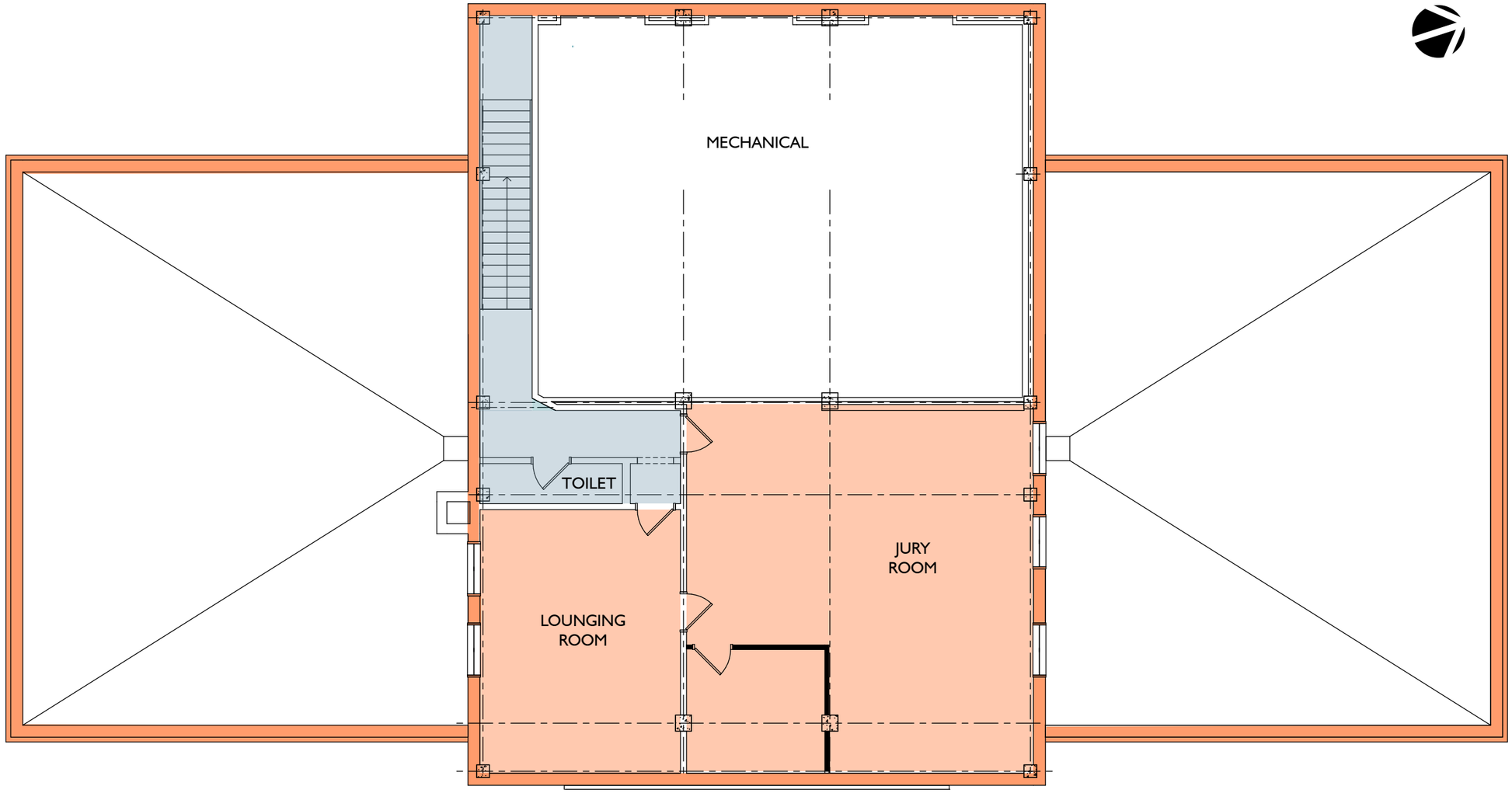
Basement Floor Significance Diagram



First Floor Significance Diagram



Second Floor Significance Diagram



PRIMARY

SECONDARY

NON-CONTRIBUTING

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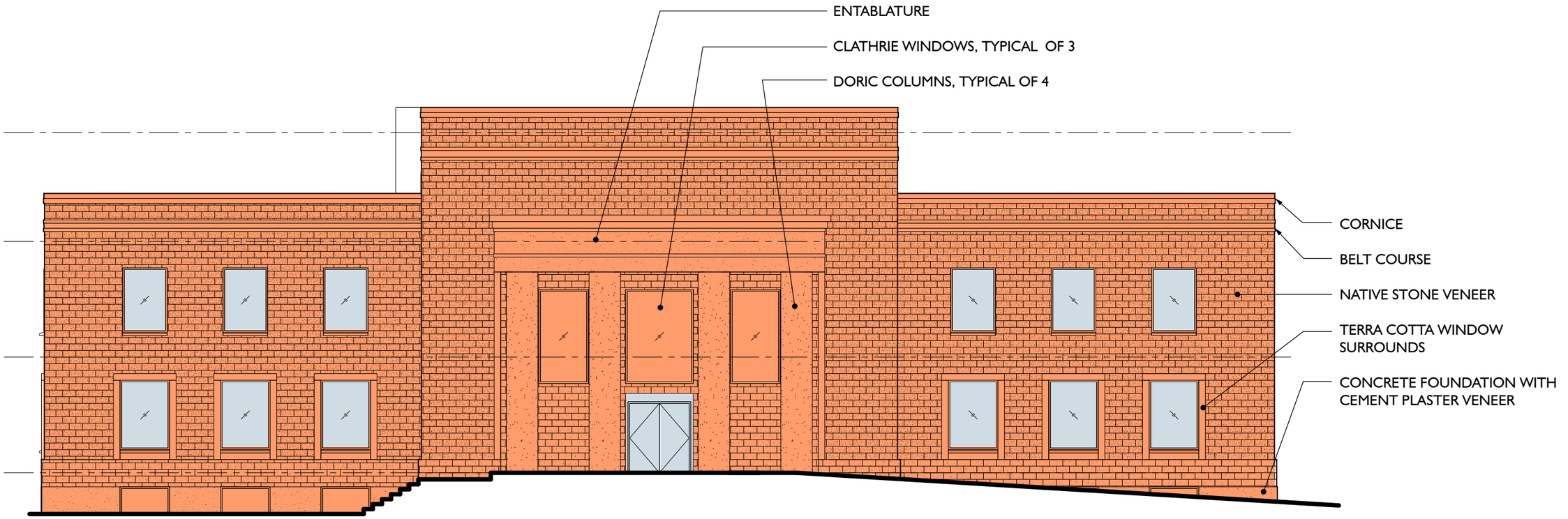
WALL ADDITION

Attic Floor
Significance Diagram



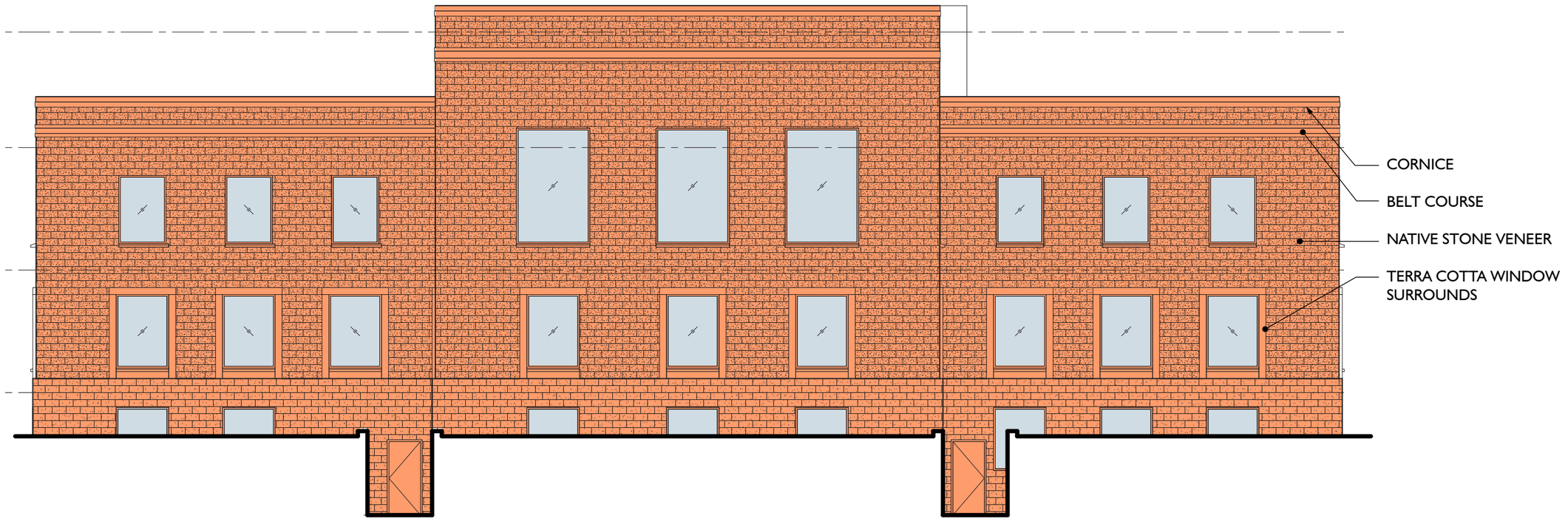
PRIMARY

SECONDARY

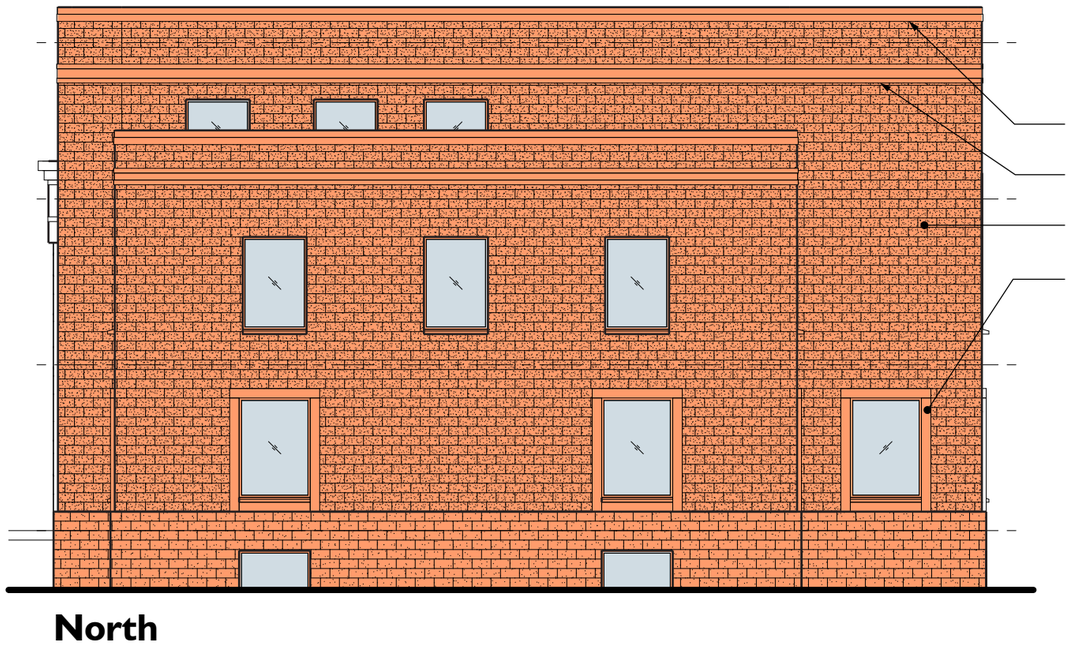
NON-CONTRIBUTING

UNASSIGNED ON ORIGINAL PLANS

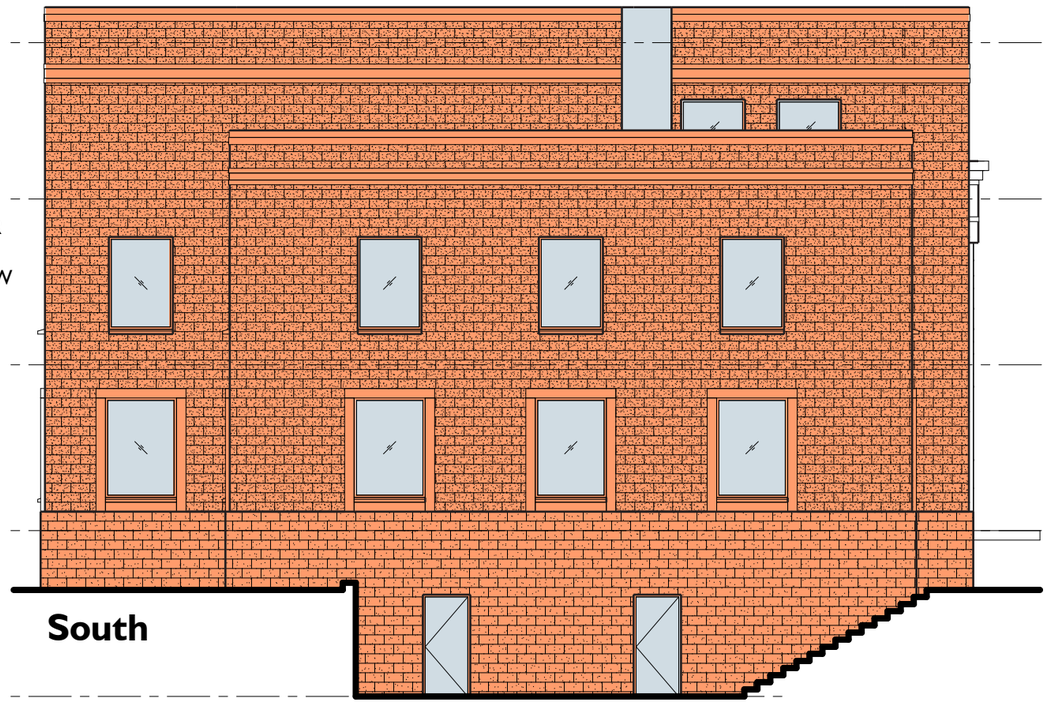
East Elevation Significance Diagram



West Elevation
Significance Diagram



North



South

PRIMARY

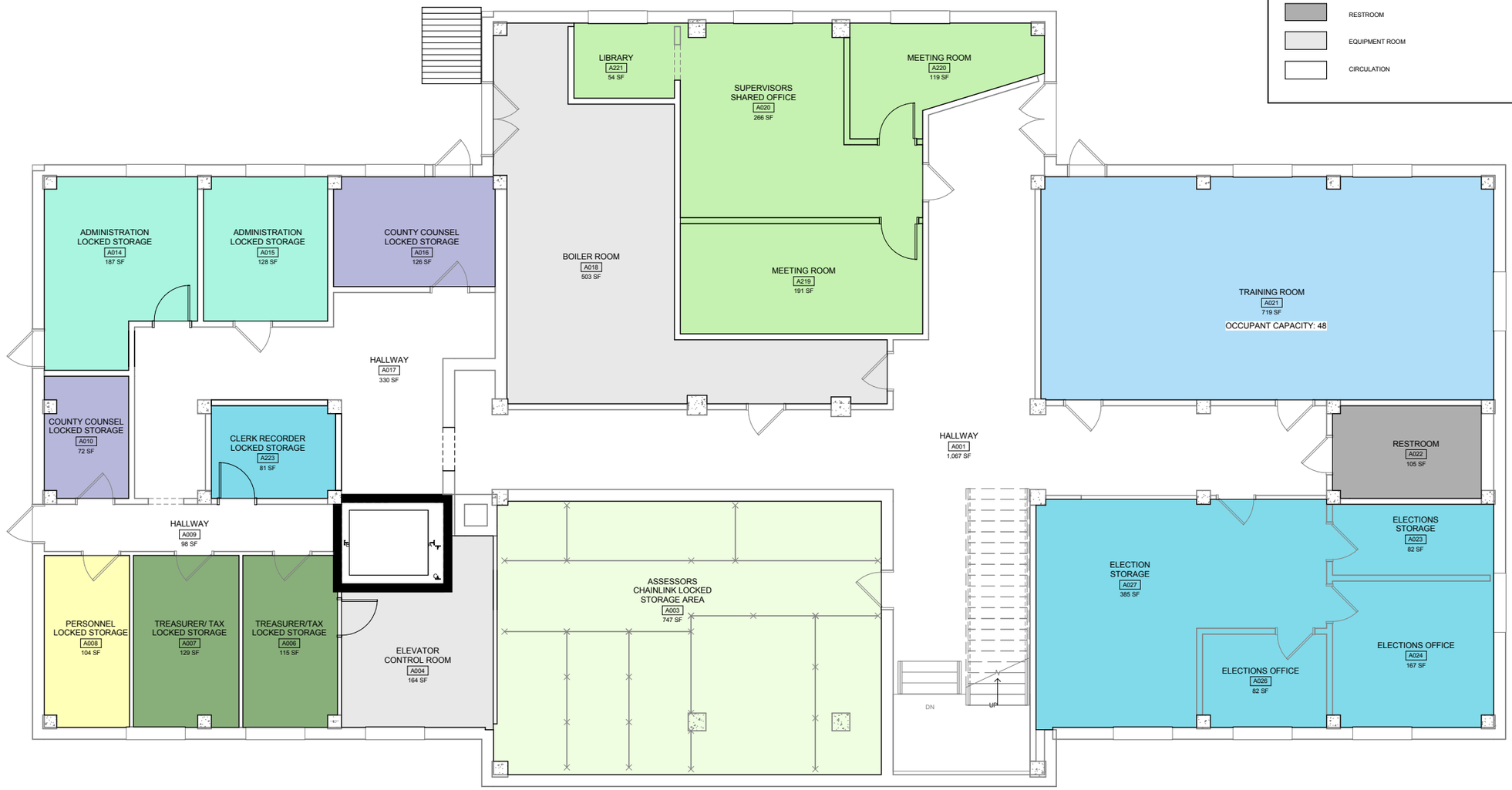
SECONDARY

NON-CONTRIBUTING

UNASSIGNED ON ORIGINAL PLANS

North and South Elevation Significance Diagrams

APPENDIX I – CONCEPTUAL SPACE PLANS



1 BUILDING A - FLOOR PLAN - LEVEL B
SCALE 1/4" = 1'-0"

FLOORPLAN AREA LEGEND

- ADMINISTRATION
- ASSESSOR
- BOARD OF SUPERVISORS SHARED OFFICES AND MEETING ROOMS
- COUNTY COUNSEL
- ELECTIONS / CLERK RECORDER
- PERSONNEL
- TREASURER/ TAX COLLECTOR
- SHARED TRAINING ROOM
- RESTROOM
- EQUIPMENT ROOM
- CIRCULATION

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COURTHOUSE SQUARE

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LEVEL B

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A.A-110

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FLOORPLAN AREA LEGEND

- RECORDER AND ELECTIONS
- TREASURER TAX COLLECTOR
- ASSESSOR
- RESTROOM
- CIRCULATION

1 BUILDING A - FLOOR PLAN - LEVEL 1

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TITLE

FLOOR PLAN - LEVEL 1

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FLOORPLAN AREA LEGEND

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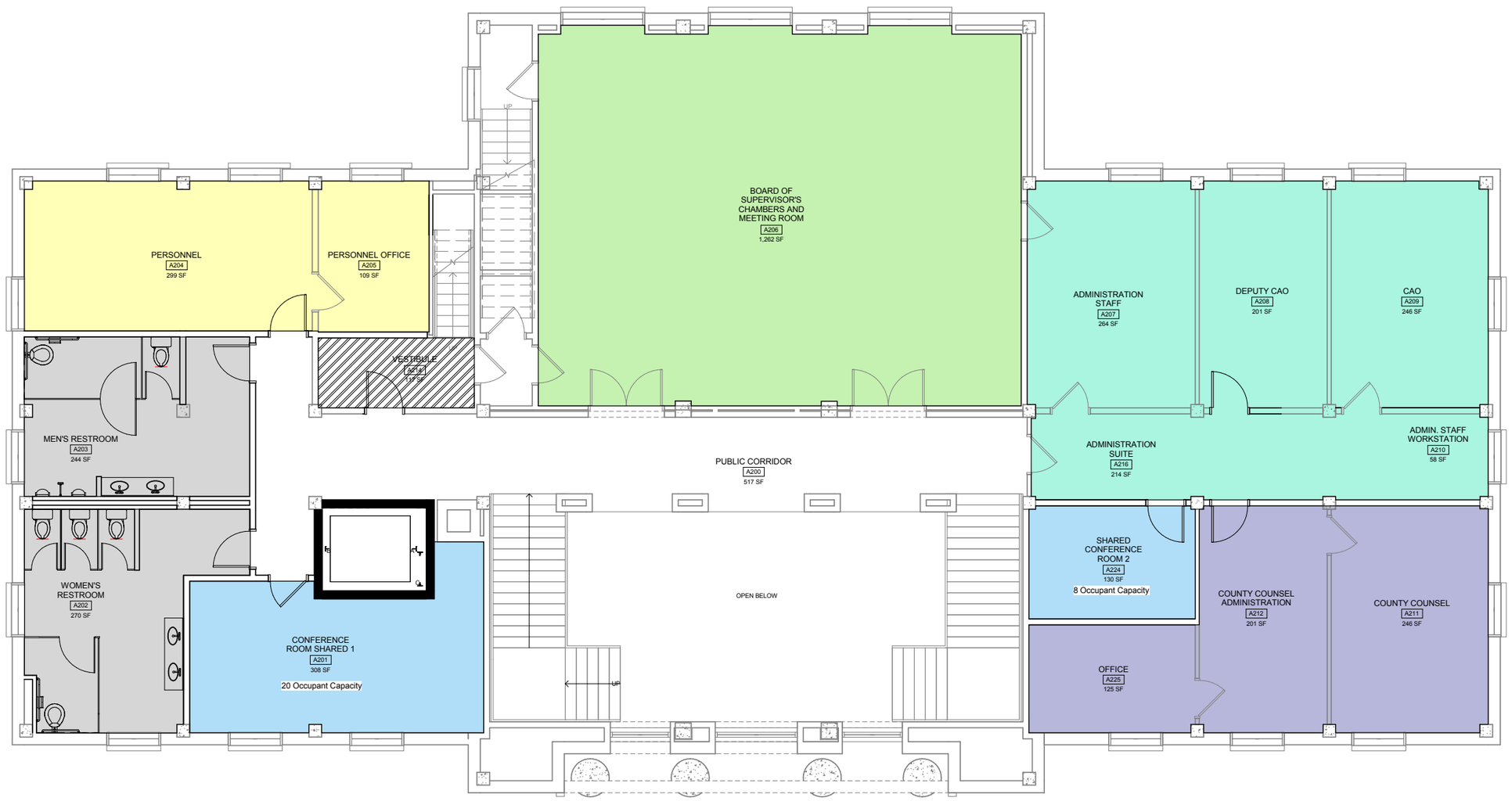
- AMINISTRATION
- COUNTY COUNSEL
- PERSONNEL
- SHARED CONFERENCE ROOM
- RESTROOM
- CIRCULATION
- VESTIBULE - THIRD FLOOR ACCESS



1 BUILDING A - FLOOR PLAN - LEVEL 2

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TITLE

FLOOR PLAN - LEVEL 2

SHEET

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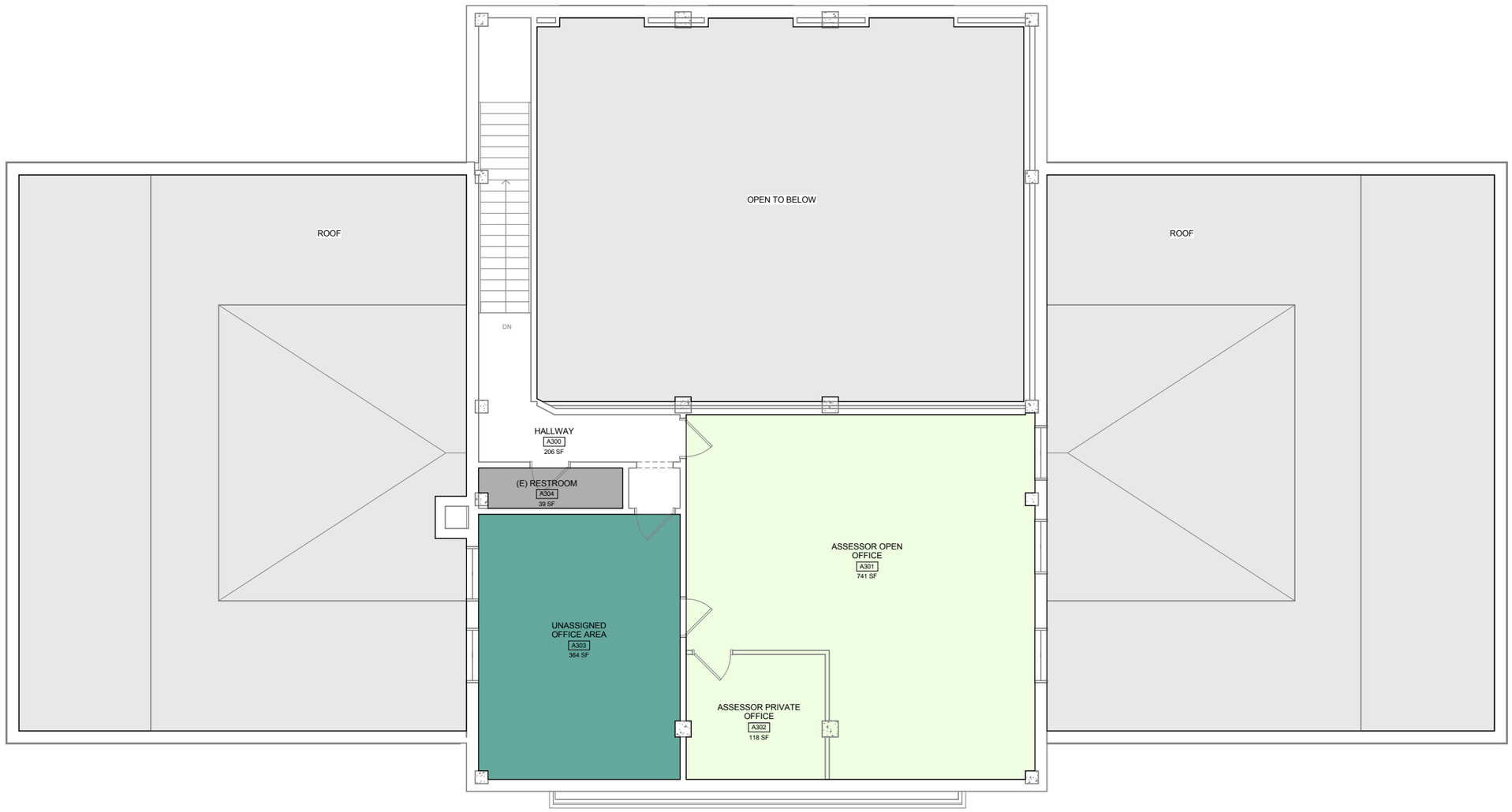
FLOORPLAN AREA LEGEND

- UNASSIGNED OFFICE AREA
- ASSESSOR
- RESTROOM
- CIRCULATION
- BUIIDING AREAS



1 BUILDING A - FLOOR PLAN - LEVEL 3
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COURTHOUSE SQUARE

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CLIENT

LASSEN COUNTY

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AGENCY

TITLE

FLOOR PLAN -
LEVEL 3

SHEET

A.A-113

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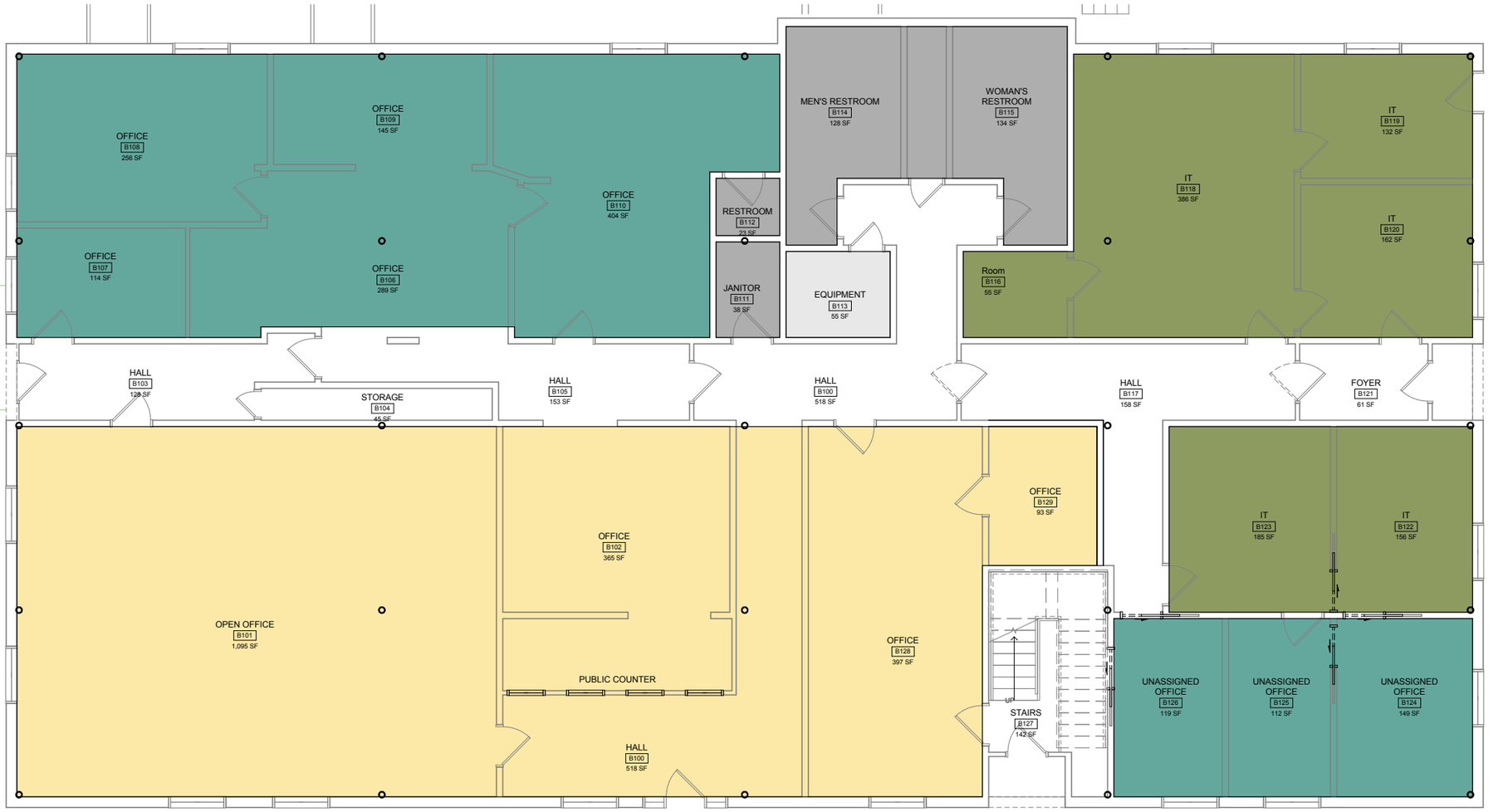
FLOORPLAN AREA LEGEND

- IT
- UNASSIGNED OFFICE SPACE
- AUDITOR
- RESTROOM OR JANITOR CLOSET
- EQUIPMENT ROOM
- CIRCULATION



1 BUILDING B - FLOOR PLAN - LEVEL 1

SCALE 1/4" = 1'-0"

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LASSEN COUNTY

?CLIENT ADDRESS?

ISSUED

MARK	DATE	DESCRIPTION

MANAGEMENT

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AGENCY

TITLE

FLOOR PLAN - LEVEL 1

SHEET

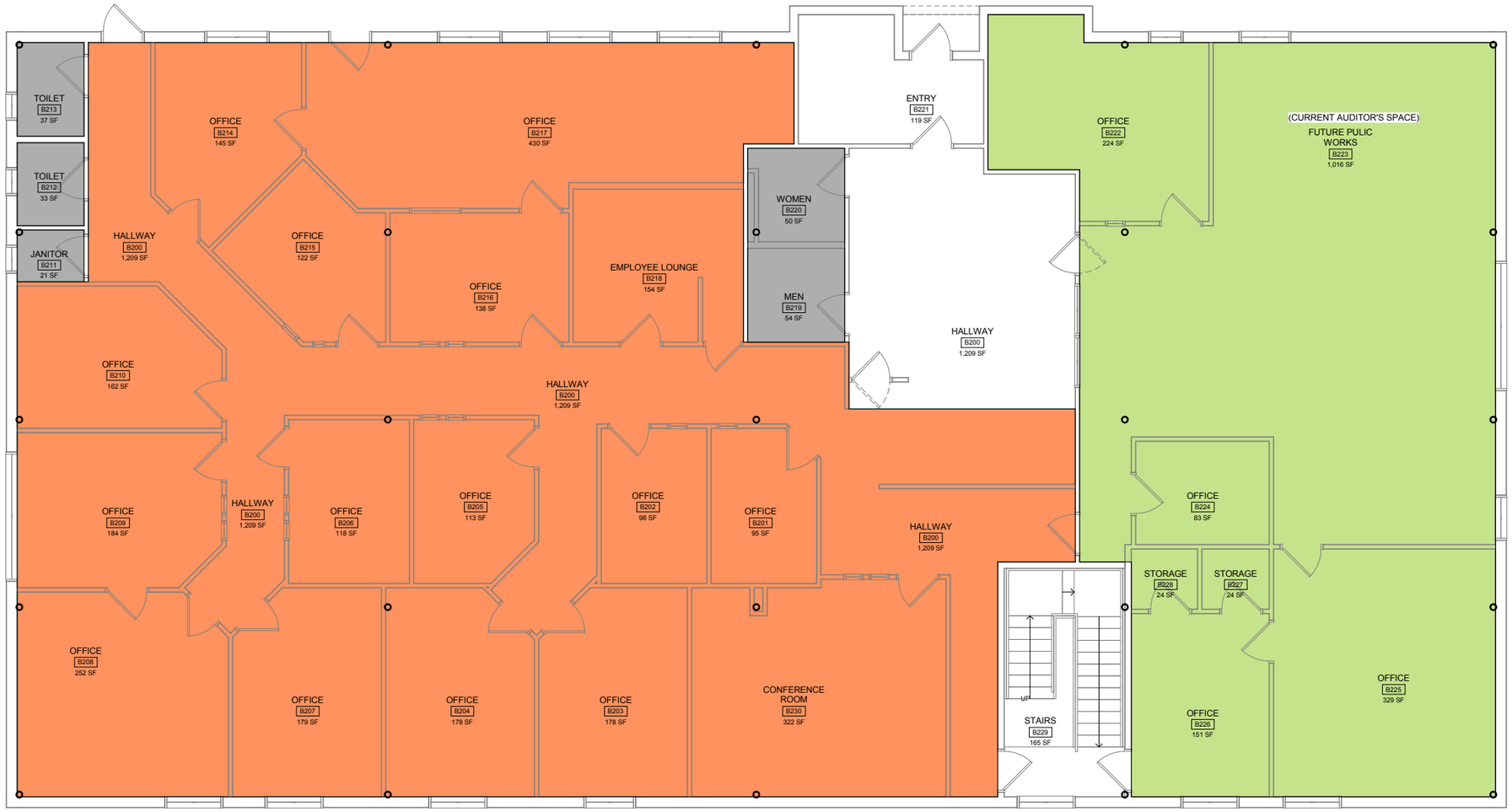
B.A-111

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

0 1/4" 1/2" 1"

FLOORPLAN AREA LEGEND

- FUTURE PUBLIC WORKS/ CURRENT AUDITOR
- BUILDING AND PLANNING
- RESTROOM OR JANITOR CLOSET
- CIRCULATION



1 BUILDING B - FLOOR PLAN - LEVEL 2
SCALE 1/4" = 1'-0"

LIONAKIS
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CONSULTANT

SEAL

PROJECT

LASSEN COUNTY COURTHOUSE SQUARE

220 S Lassen St
Susanville, CA 96130

CLIENT

LASSEN COUNTY

?CLIENT ADDRESS?

ISSUED

MARK	DATE	DESCRIPTION

MANAGEMENT

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AGENCY

TITLE

FLOOR PLAN - LEVEL 2

SHEET

B.A-112

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APPENDIX I – DEPARTMENTAL AREA TABLES

Lassen County Historic Courthouse Square (015437)
Departmental Space Allocation Chart

Date: April 11th, 2016

Department Name	Current Area	Requested Area	Proposed Area	Proposed Building Location	Proposed Floor Location	Area is Accessible	Comments
Administration		700 SF Plus storage	1, 329 SF	Historic Courthouse (HC)	Level 2 & Level B	Yes	Square footage includes 315 SF of locked storage on Level B for document retention.
Assessor	1,719 SF		2,684 SF	HC	Level B, Level 1 & Level 3	Yes/ No on Level 3	Since there was not adequate room for the Assessors' Office to be wholly located on Level 1, the Department representative opted to relocate the staff from the basement to Level 3 and maintain its existing partial office on Level 1 due to the importance of the department's adjacency to the Clerk Recorder and Treasurer/ Tax Offices. A new dedicated locked storage room remains on Level B.
Auditor	1,889 SF		2,304 SF	Annex	Level 1	Yes	Relocating from Level 2 to Level 1.
Board of Supervisors Chamber			1,262 SF	HC	Level 2	Yes	Can be used for meetings and training sessions by staff when not in use for Board functions.
Board of Supervisors Offices		600 SF	650 SF	HC	Level B	Yes	
Building & Planning	3,680 SF		3,909	Annex	Level 2	Yes	
Clerk Recorder/ Elections	2,542 SF		2,623 SF	HC	Level 1 & Level B	Yes	Will remain existing locations and locked storage on Level B.
County Counsel		650 SF	779 SF	HC	Level 2 & Level B	Yes	Square footage includes 198 SF of locked storage on Level B. Plans to relocate long term records storage to the HC.
IT	756 SF		1,104 SF	Annex	Level 1	Yes	Additional area near existing location added.

Department Name	Current Area	Requested Area	Proposed Area	Proposed Building Location	Proposed Floor Location	Area is Accessible	Comments
Personnel	500 SF		525 SF	HC	Level 2 & Level B	Yes	Square footage includes 104 SF of locked storage on Level B.
Public Works			1,889 SF	Annex	Level 2	Yes	
Treasurer/ Tax Collector	1,406 SF		1,650 SF	HC	Level 1 & Level B	Yes	Square footage includes 244 SF of locked storage on Level B.
Shared Training Room			719 SF	HC	Level B	Yes	Has a 48 occupant capacity. Space can double as a conference room.
Shared Conference Room 1			308 SF	HC	Level 2	Yes	Has a 20 occupant capacity.
Shared Conference Room 2			158 SF	HC	Level 2	Yes	Has an 8 occupant capacity.
Unassigned Space 1			364 SF	HC	Level 3	No	
Unassigned Space 2			394 SF	Annex	Level 1	Yes	
Unassigned Space 3			1,245 SF	Annex	Level 1	Yes	

Notes:
1.) Chart data is compiled based on the March 22nd site visit and meetings with Lassen County Department Leaders, the 2014 Space Planning report by TRG Consulting and the subsequently created space plans for the buildings in Courthouse Square.
2.) It is not feasible to have an elevator go to Level 3 therefore 3rd Level spaces are not considered accessible.