MEMORANDUM

City Manager's Office

To: Honorable Mayor and City Council

Date: December 23, 2015

Via: Mark Linder, City Manager

From: Todd Capurso, Public Works Director

Subject: Civic Center Master Plan Update

INTRODUCTION AND PURPOSE

The information provided below is intended to update the City Council on the current status of the Civic Center Master Plan (CCMP). Since the Council last discussed this project in March 2015, staff and the various consultants the City has engaged with to assist with this project, have continued work to address the various questions that have been raised since then, such as Tier 1 assessments of City buildings, funding strategies, and design options.

In summary, additional information has been gathered in the following areas:

- Tier 1 Seismic Assessments have been conducted on the Library and City Hall buildings; all buildings pass the Tier 1 Assessment Life Safety standard, required for most City operations.
- A full CCMP build-out is not feasible (all at once) due to the financial magnitude; only a phased approach is feasible due to financial and logistical issues.
- Additional financial analysis has been performed to assess two different financing mechanisms – sales tax and general obligation bonds – as a means to finance a phase 1 project.
- Staff is including in the Resident Satisfaction Survey two questions regarding these financial mechanisms and measuring community support regarding investments in various components of the Civic Center.

Over the last two years, a significant amount of work has been completed regarding the CCMP planning process. Much of the work has involved gathering stakeholder input, which has led to the development of three distinct design scenarios. Many variables can impact the ultimate adoption of a master plan, such as underground parking and expanded meeting space (for community and staff). Given the variety of work and

complexity of a multitude of issues related to the CCMP, staff is presenting the information organized in the following sections:

1. Background

2. Master Plan Process
   - Cost Models
   - Extending Useful Life of Buildings

3. Tier 1 Assessments

4. Funding and Financing Strategies
   - Voter approved measures

5. Design Options and Phasing Impacts
   - Summary Table

6. Next Steps

1. BACKGROUND

The CCMP project was adopted as a Council priority for FY 2013-14. In December 2013, Anderson Brulé Architects (ABA) was awarded the consultant services agreement to conduct work related to master planning services to the Civic Center campus, defined as the city blocks bounded by North First Street, Civic Center Drive, Harrison Street, and Grant Street. The list below summarizes key activities conducted and presented to Council at the four Study Sessions held in May and July 2014, and February and March 2015.

- Adoption of project Vision Statement.
- Needs Assessment and Plan of Service.
- Architectural Space Program.
- Design and Scenario Criteria.
- Establishment of a Core Team to guide the process and provide input at key points.
- Focus groups with Campbell residents and business community members, as well as City and Library employees.
- Community design charrette. Reviewed by the Core Team, Historic Preservation Board and Civic Improvement Commission.
- Input on the facility scenarios.

To review a complete listing of previous Council reports, meeting notes and related documents, please visit the CCMP Project Page at: http://www.cityofcampbell.com/574/Civic-Center-Master-Plan-Project-14QQ.

At the March 25 CCMP Study Session, Council provided input regarding facility scenarios and parking which allowed staff and the consultant to move forward with revising the Design Options. The Council feedback to staff is summarized below:

- Confirmation that all appropriate elements were included in the analysis and that none of the program elements will be considered for off-site relocation.

- An additional parking allocation for downtown should remain in the project, pending a more detailed cost analysis.

- Staff should research the cost of conducting a structural assessment of the Library building to explore re-use opportunities. City Hall assessment will not be conducted, but staff will request a cost estimate. Staff was able to identify resources for the Library Tier 1 assessment and move that forward. The Tier 1 Library assessment has been completed and will be discussed in the paragraph below.

- All scenarios should include a new Library in Phase 1, if feasible.

- Library programs do not need to be re-evaluated at this time.

- Staff will consider and further explore General Obligation Bonds and a Parcel Tax as possible financing tools. Additionally, staff will explore and seek Council discussion at a later time regarding land use and lease alternatives on City-owned property on Civic Center Drive.

In addition, Council provided the following feedback to the consultant's questions regarding elements of the Design Options:

- Site and Sustainability preferences include a maximum of 2-story buildings, 20% open space minimum, LEED Silver minimum goal, keeping utility line in current location, and consideration of both new and existing monopole locations.

- Program Location preferences include creating a Veterans' Memorial on Civic Center Drive, a rooftop garden on the Library, and a Grant Street entrance for Police.

- Parking and Access preferences include maximizing underground parking and avoiding a vehicular entrance on Civic Center Drive.

- Ainsley House and Gardens preferences include preserving the redwood trees and maintaining a setback of approximately 40 feet.

Since that time, ABA has continued its work in developing design options for three distinct facility scenarios and cost model information to provide staff and the City Council with budgetary information. The City Council Finance Committee met on August 17, 2015 to focus on potential financing options and project phasing. The financial consultant for the project, NHA Advisors, was present at that meeting and provided the Finance Committee information regarding the number of properties in Campbell and their assessed value. NHA also discussed a variety of financing mechanisms including General Obligation (GO) bonds and Parcel taxes. Sales Tax information was also mentioned, but was not discussed in great detail. The NHA Advisors presentation to the Finance Committee is included as Attachment A.

2. MASTER PLAN PROCESS

As a policy document, the CCMP is intended to be used as a long-term planning document that establishes the framework and key elements of the City's Civic Center. It is not uncommon for Master Plans to serve as planning documents over a twenty year (or more) horizon and identify phasing and financing strategies as well. The goals and strategies presented in the Master Plan will be used to guide the development of a Civic Center. In July 2014, the following Vision Statement was adopted by the City Council:

"The Civic Center of Campbell will form the heart of downtown providing intuitive and efficient services; a destination to celebrate and preserve our history, integrate interior and exterior activities and enhance the neighborhoods while protecting the environment; a warm inviting place to engage, educate and strengthen the community."

Given the policy planning intent of a Master Plan, this type of document does not imply implementation or construction schedules, nor does it automatically translate into any specific capital project. The intention of a Master Plan is to provide a structured approach and framework for developing an area over a certain period of time. Thus, by adopting the above statement, the Council expressed its vision for the intended uses and elements of the City's future Civic Center.

Cost Models

To assist staff and City Council in understanding the potential cost ranges for a project of this magnitude, ABA developed a "cost model," which provides budgetary numbers, but is not intended to be a construction cost estimate. It includes the "brick and mortar" costs, meaning the direct costs to construct a building or structure, soft costs such as fees and taxes, escalation, and contingencies. Below is an example of the various factors that were considered (or not) in the development of the cost model.

What is included:

- Demolition Costs
- Site Work Costs
- Building Costs
- Allowance for Soft Costs
- Allowance for Escalation
- Allowance for Project and Construction Contingency

What is NOT included:

- Land acquisition
- Feasibility Studies
- Financing Costs
- Site Surveys
- Existing Conditions Reports
- Soils Investigation Reports
- Hazardous Material Abatement
- Utility Company Back Charges
- Deep Foundation System
- Temporary Facilities

As of July 2015, ABA's cost model estimates show a $151 - $164 million cost (for full CCMP build-out) associated with the various design options (Attachment B). Below is the information as provided by ABA. A construction start of 2018 is assumed, and escalates costs from the present, with the corresponding phase. A listing of the various elements included in each of the phases associated with the three design options is also provided. Detailed discussion regarding the elements and phasing will be discussed later on in this memorandum.

	Design Option 1		Design Option 2		Design Option 3	
	Base	With Escalation	Base	With Escalation	Base	With Escalation
Phase 1	$ 39.53 M	$ 42.97 M	$ 62.14 M	$ 69.31 M	$ 61.29 M	$ 68.37 M
Phase 2	$ 25.13 M	$ 29.00 M	$ 52.46 M	$ 60.08 M	$ 72.19 M	$ 83.30 M
Phase 3	$ 70.96 M	$ 83.70 M	$ 29.47 M	$ 34.76 M		
Total Est. Cost	$ 134.62 M	**$ 155.67 M**	$ 143.67 M	**$ 164.15 M**	$ 133.48 M	**$ 151.67 M**
Downtown Parking (100 spaces)	*$ 8.85 M*	*$11.10 M*	*$12.56 M*	*$ 15.75 M*	*$ 9.20 M*	*$ 11.21 M*
	Phase 1 (2018) • New Police & Monopole • New Parking & Site Improvements • New Entry for Police and City Hall Phase 2 (2020) • Renovate Library to be City Hall • New Shared Use • New Veterans' Memorial • New Parking & Site Improvements Phase 3 (2022) • New Library • New Museum & Storage • Orchard City Green Improvements • New Parking & Site Improvements		Phase 1 (2018) • New Library • New Museum & Storage • Orchard City Green Improvements • New Parking & Site Improvements Phase 2 (2020) • New Police • New Shared Use • New Parking & Site Improvements Phase 3 (2022) • New City Hall • New Entry for City Hall • New Veterans' Memorial • New Parking & Site Improvements		Phase 1 (2018) • New Library • New Museum & Storage • Orchard City Green Improvements • New Parking & Site Improvements Phase 2 (2020) • New Police • New City Hall • New Shared Use • New Veterans' Memorial • New Parking & Site Improvements	

Source: Anderson Brulé Architects

Extending the useful life of existing buildings

The significant costs to build new facilities for all of the Civic Center buildings (City Hall, Police Department, and Library) have triggered an interest in re-evaluating the structural condition of existing City Hall and Library buildings, with a focus on identifying the required elements needed to extend the useful life of the buildings.

The Library, City Hall and Police Department were all constructed in the early 1970's. In their current forty-year old state, there are many challenges. The facilities are in need of various repairs and improvements such as: seismic retrofits, replacement of building systems, including Heating, Venting and Air Conditioning (HVAC), lighting, plumbing and a new roof. Staff has performed a variety of short-term fixes to provide aesthetic improvements; however, these may not adequately address the longer term space requirements of the City nor have they addressed infrastructure deficiencies associated with the current structure.

The age and architecture of these buildings do not easily allow for insulation or energy efficiency upgrades which will lower the City's energy use and reduce operating expenses. To accommodate the public and save money, staff has considered various repair needs that would have to be addressed in order to prolong the useful life of the building by the following years:

1 - 5 years

- Improvements to address Americans with Disabilities Act (ADA) compliance
- New HVAC (heating, ventilating, and air conditioning) system
- Install energy efficient lighting
- Roof replacement
- Plumbing repairs
- Develop an employee parking program and install signage to ensure access to City Hall by residents, businesses and employees

6-10 years

- Replace single-pane windows (with energy efficient windows)
- Implement "Life Safety" measures (e.g. fire alarm system)
- Additional lighting and ADA compliance projects

Beyond 10 years

- Building maintenance staff believes a major overhaul of the buildings would have to occur in order to use this facility beyond a 10 year period, such as the replacement of the emergency generator and plumbing system.

Throughout the decades, various discussions have been held by previous City Councils regarding the need for a dedicated Police Department facility. In 2000, architectural plans were prepared for a free-standing Police Department facility, immediately north of the current location. The Civic Center East Master Plan completed in 2008 included recommendations for expansion and upgrades to the Library, Museum, and Ainsley House, as well as a new parking structure. However, inevitable dips in our economic cycle, such as the recent Great Recession, have prevented moving forward with these plans.

3. TIER 1 ASSESSMENTS

In May and November 2015, Biggs Cardoza Associates conducted Tier 1 seismic assessments and conceptual seismic retrofit recommendations for the Campbell Library and City Hall (Attachments C and D). The findings of these assessments presented helpful information regarding the structural condition and seismic vulnerabilities of the building. The performance criteria used to evaluate a building varies based on the occupancy use of the building. The Life Safety performance level is suitable for most buildings, including office buildings. However, if a building houses a facility such as a police station, fire station, hospital, Emergency Operations Center (EOC), etc. the building is classified as an Essential Facility and is required to remain operational in an extreme event such as an earthquake. In order to remain operational under earthquake loads, a more stringent performance criterion is required.

As stated in the attached reports, the analysis methodology includes three levels of analytical procedures for seismic assessment of existing structures: a quick check procedure (Tier 1) intended to serve as an aid in quickly identifying high seismic risk structures; a more intensive deficiency based analysis procedure (Tier 2), and a systematic analysis procedure (Tier 3). The Library and City Hall building assessments utilized the Tier 1 methodology.

Library

The Tier 1 assessment was completed in May 2015 and found that the building may be vulnerable to seismic damage but is likely to maintain its gravity load-carrying system. The preliminary cost estimate for the required seismic retrofit work identified through the Tier 1 evaluation is $320,950, including a small allowance for waterproofing of the masonry walls. Assessment of drainage / waterproofing issues by a specialist firm is recommended. Not included in the estimate were the costs of upgrading or replacing building systems, bringing the building into ADA compliance, or other access issues (these costs have yet to be determined). It must be noted that if the EOC is to remain at its current location, the Library building would then be required to follow Essential Facility requirements, which would likely be significantly more costly.

City Hall

The Tier 1 assessment of City Hall was completed in November 2015. Since this building houses the City of Campbell Police Department, it is therefore, by code, an Essential Facility. For this type of building, the primary structural elements are required to meet the Immediate Occupancy Performance Level. However, staff directed Biggs Cardoza to use the Life Safety seismic performance criteria based on the assumption that the police station is expected to be relocated to a new facility.

Per the report, the assessment indicated that while the building apparently has a complete lateral load resisting system, it may have deficiencies in the required continuity and/or strength for some of its structural elements that are necessary for satisfactory seismic behavior. The building may be vulnerable to seismic damage but is likely to maintain its gravity load carrying system after the design level earthquake. The existing Campbell City Hall, however, does not fully meet the requirements for the Life Safety performance level. The conceptual cost estimate for the required seismic retrofit work identified through this Tier 1 evaluation to meet the Life Safety performance level is $393,575. Although it was beyond the scope of the report, if the building is required to meet Immediate Occupancy performance level, the retrofit costs are expected to be significantly higher. Further evaluation of the structure using ASCE 41 Tier 2 Deficiency Based procedure, as well as field verification of various as built conditions are required and recommended before finalizing the seismic retrofit program for the building.

4. FUNDING AND FINANCING STRATEGIES

To fund the CCMP, a variety, and possibly a combination of funding sources could be utilized. In the absence of an adopted Master Plan, it is difficult to provide a comprehensive financing plan due to the unknown components of the CCMP. The cost model developed by ABA is based on a range of design options. Depending on the design option and construction phasing ultimately chosen by Council, the financing mechanisms can be combined in a manner that is cost effective to the City. At this time, three main funding strategies are under consideration.

Below is a description of the various financing tools that are available and have been historically used to fund City capital projects:

A. ***City funding***: Based on an evaluation of its current and projected revenues, the City could determine how much funding could be budgeted from the General Fund. The FY 2015-16 Adopted Budget is a stronger budget than previous years, mostly due to the strong economic growth of our region. Revenue increases from the City's primary sources such as sales tax, property taxes, and Transit Occupancy Taxes (TOT) have increased reserves in the General Fund. Historically, the City has utilized the Capital Improvement Project Reserves (CIPR) to directly fund capital projects. The City Council could allocate a specific amount of CIP reserves toward this project. This strategy would likely require the investment of a significant portion of the CIPR and could put other important projects at risk of not being funded.

B. ***Certificates of Participation (COPs)***: Another financing tool typically used by many cities to finance capital projects without issuing long-term debt are Certificates of Participation (COPs). COPs are tax-exempt bonds usually secured with revenue from equipment or a facility lease. The bond maturities match the lease term of the assets that are purchased by the bond-issuing entity with the proceeds from the bond issue. The standard source of lease payments is the City's General Fund. Since the City cannot raise taxes to pay these bonds, the lease payments must fit within the operating budget.

   The City's adopted budget shows COP debt service at $1.6 million per year. The COPs mature in 2028 and 2032 respectively, and are payable from a combination of City operating revenues (58%) and property tax increment (42%) provided to the Campbell Redevelopment Successor Agency from the Redevelopment Property Tax Trust Fund (RPTTF). However, per terms of its debt covenants, the City appropriates 100% of the debt service obligation in its annual budget. Staff is exploring the option of refinancing this debt, which may lower debt service payments by $200,000 – $300,000 annually.

COPs have been used by public agencies to pay for various public facilities such as City Halls, office buildings, vehicles, and parks.

C. ***Voter approved measures***: Voter approved measures could also provide a significant source of funding. The City has engaged NHA Advisors, to identify funding alternatives and provide an analysis related to potential voter-approved measures. A memorandum calculating project bonding capacity based on a potential sales tax measure and issuance of General Obligation (GO) bonds is provided as Attachment E. A brief description of both types of voter approved measures is provided below.

i. Sales tax is the largest component of the City's budget, making up about 25% of the City's operating revenues. The City's current sales tax rate is 9.0%. The last increase to the City's sales tax rate was on April 1, 2013, as a result of a 1/8 of a cent increase to sales tax in Santa Clara County (2012 Measure A). Prior to that, Campbell voters approved a ¼ cent sales tax increase in November 2008 (Measure O). For FY 2015, Measure O funds are expected to generate $2.7 million dollars.

A general sales tax increase requires a simple majority. Utilizing current revenue estimates, a ¼ cent sales tax measure is estimated to generate between $2.7 and $3 million annually. NHA Advisors prepared two separate tables outlining estimated project funds resulting from the generation of either $2.7 or $3 million in new annual sales tax revenue. Utilizing the conservative end of the estimated sales tax revenue, the 30-year project bonding capacity (depending on the term and interest rates) results in project funding in the amount of $41-52 million.

ii. A GO bond requires a 2/3 voter-approval which would then authorize an ad valorem property tax to be levied on property owners based on Assessed Valuation (AV). The amount levied is based on the AV of the property and is typically referred to in per $100,000 increments.

Per the analysis provided by NHA, the average residential property in Campbell has an AV of $515,103. Assuming a comparable general obligation bond to the annual sales tax revenue target of $2.7 million, the City could authorize a general obligation bond between $41-$52 million. This would result in the following estimated property tax impacts:

General Obligation Bond – Ad Valorem (AV) Property Tax		
	Average Residential Property	Amount per $100,000 AV
	$515,103 AV	
Average Property Tax	$115	$23
Maximum Annual Property Tax	$160	$30

iii. A parcel tax, which also requires 2/3 voter approval, can be formulated in a variety of ways. The analysis provided by NHA Advisors (Attachment A) illustrates two different approaches to calculating the tax. One based on square footage on all building area, and the other using a flat special tax regardless of parcel or building size. Although not shown in the attachment, different rates can be applied to differing property types – e.g. residential versus all non-residential uses.

As part of the 2015 Community Satisfaction Survey recently conducted (December 5-15), two questions regarding potential local ballot measures were included. One question focused on a ¼ cent sales tax to fund essential City services such as pothole repair, park maintenance, or providing a library and police operations building. A second question asked about a general obligation bond measure, authorizing tax on property owners of $23 per $100,000 in AV. The bond measure would fund improvements to essential city facilities such as streets, a library, and a building for the Police Department.

The polling results received from the 2015 Community Satisfaction Survey, as well as the initial financial analysis conducted by NHA Advisors, provide a starting point for further discussions. Staff and consultants could study additional types of voter approved measures or different revenue estimates should Council want to further research this subject. In order to craft precise language for a ballot measure, more analysis and polling will likely be required.

5. DESIGN OPTIONS AND PHASING IMPACTS

Council input at the March 25 Study Session led to the development of the Design Options outlined below. With each of the Design Options, there will be a need for temporary facilities and associated parking impacts. The various trade-offs associated with each of the Design Options are summarized below by Design Option.

Temporary Facilities

Since each Design Option would require the displacement of certain Civic Center functions at some point, modular buildings would most likely be used to temporarily house these functions. Staff has identified the City-owned parking lot along Civic Center Drive, east of First Street, as a potential site that could house a temporary facility (of up to approximately 6,000 square feet) during construction of the new Civic Center. On-site parking is not possible and would likely need to be provided at the current Civic Center site. The costs associated with the installation are unknown, but would include the costs of leasing the facilities during construction, installation of utilities, and other site improvements as required. The Library and some City Hall functions would be able to utilize this space during construction.

Design Option 1

This Design Option (Attachment F) will provide upon completion:

- New Police building and monopole
- Renovate the existing Library building to be used as a City Hall
- New Veterans' Memorial
- New Library building in a new location
- New Museum and Storage
- Orchard City Green Improvements
- Additional Parking (324 spaces)

This option could be constructed in three separate phases, but must be fully built out to bring all uses back on site. Prior to the start of phase 2 construction, Library services would be relocated off site and remain in a temporary structure for a period of up to four years. Police Department, City Hall, and Museum operations would not be impacted as much since those functions are able to move directly into their new facilities upon completion.

Construction would begin on the east portion of the Civic Center (along Harrison Avenue), eliminating parking currently available on Harrison Avenue. The impact is

anticipated to be minimal to residential areas since the interim available parking (260 spaces) will be more than the amount of currently existing spaces. Selection of Design Option 1 will require full commitment since implementation of the entire plan must continue once construction begins.

Phasing Impacts: **Design Option 1**				
	Library	**Police**	**City Hall**	**Museum**
Phase 1				
Parking	152 during construction; 286 at completion.			
Temporary Facilities	None	None	None	None
Phase 2				
Parking	260 during construction; 284 at completion			
Temporary Facilities	Yes	None	None	None
Phase 3				
Parking	158 during construction; 476 at completion.			
Temporary Facilities	Yes	None, moves into new facility	None, moves into new facility	None, moves into new facility

Design Option 2

This Design Option (Attachment G) will provide upon completion:

- New Library (on current location)
- New Museum
- Orchard City Green Improvements
- New Police building
- New City Hall
- New Veterans' Memorial
- Additional Parking (343)

During the Phase 1, Library services would be required to move off site for a period of approximately two years. This option allows for a stopping point after the construction of the new Library building.

During Phase 2, a new Police building would be constructed northwest of the current City Hall. The Police Department would not require temporary facilities during the construction phase. If desired, construction could be stopped after the completion of the new Police Department facility.

Phase 3 construction can be done in two ways. Phase 3A will require that the departments housed in north City Hall (Community Development and Public Works) move to temporary facilities for two years, while south City Hall (City Manager's Office, City Clerk, Finance, and IT) would remain functioning in place. Alternately, in Phase 3B, both north and south City Hall would be displaced for two years simultaneously.

Phasing Impacts: **Design Option 2**				
	Library	**Police**	**City Hall**	**Museum**
Phase 1				
Parking:	126 during construction; 359 at completion.			
Temporary Facilities:	Yes	None	None	None
Phase 2				
Parking:	249 during construction; 327 at completion.			
Temporary Facilities:	None, moves into new facility	None, moves into new facility	None	None, moves into new facility
Phase 3A				
Parking:	389 during construction; 495 at completion.			
Temporary Facilities:	None	None	Yes, North Hall displaced for 2 years	None
Phase 3B				
Parking:	389 during construction; 495 at completion.			
Temporary Facilities:	None	None	Yes	None

Design Option 3

Design Option 3 (Attachment H) will provide upon completion:

- New Library (on current location)
- New Museum
- Orchard City Green Improvements
- New Police building
- New City Hall
- New Veterans' Memorial
- Additional Parking (369)

This design option would be completed in two phases and includes a new building for every function (Library, City Hall, Police, shared use and Museum). Every function would also be required to temporarily move off site for a period of two years, including

the Police Department. There is an emphasis on building presence along Civic Center Drive in this Design Option.

Phase 1 of this Design Option is similar to Phase 1 of Design Option 2. The existing Library will be demolished in favor of a new structure and Library services will be moved off site during construction. If desired, construction could be stopped after completion of the new Library.

During Phase 2, the current City Hall would be demolished and a new one constructed on approximately the same site. All City Hall functions (including Police) would be displaced for a period of approximately two years. Relocation to temporary facilities (and moving twice within a two year period) would present many challenges for Police operations.

Since this option involves facility displacement that occurs on an alternating basis, the parking impacts will likely be minimal due to the availability of new underground and surface parking in the east portion of the Civic Center upon completion of Phase 1. The final number of parking spaces created upon completion of this Design Option will be 495.

Phasing Impacts: **Design Option 3**				
	Library	**Police**	**City Hall**	**Museum**
Phase 1				
Parking:	126 during construction; 331 at completion.			
Temporary Facilities:	Yes	None	None	None
Phase 2				
Parking:	205 during construction; 495 at completion.			
Temporary Facilities:	None, moves into new facility	Yes	Yes	None, moves into new facility

The scenario analysis described above elaborates on the anticipated impacts during implementation of each Design Phase. Details regarding impacts on parking and use of temporary facilities are considerations that were emphasized in previous discussions with both the Core Team and City Council.

DESIGN OPTIONS – SUMMARY

The chart below is intended to provide a general summary of the CCMP Designs. Depending on which Design Option is selected; there are opportunities to consider partial implementation of the Master Plan. Full commitment of Master Plan construction is required only in Design Option 1. Design Options 2 and 3 include flexibility regarding finance options and do not have to be constructed in full. However, only Design Option 1 proposes the re-use of the existing Library building (to be used as a City Hall). Considering the input received from residents, it is possible to fund a Master Plan design incrementally, constructing one phase at a time.

The parking impact level below was determined based on the shortage of parking spaces during the implementation of Phases throughout each Design Option. For example, the existing 258 spaces at the Civic Center will be lessened to 249 during Design Option 2, Phase 1. Therefore, the total number of displaced parking spaces below determines which Design Option has the least impacts on parking.

Summary Table
Civic Center Master Plan Design Options

	Design 1	Design 2	Design 3
Temporary Facilities	Library	Library, Police & City Hall	Library, Police & City Hall
Parking Impacts (shortage of spaces during construction)	Most (206)	Least (141)	Moderate (185)
Potential Stopping Point to Pause Master Plan Implementation	None	Phase 1 or Phase 2	Phase 1 (build Library & parking only)
Library	4 years displacement	2 years displacement	2 years displacement
Police	Move into new facility on site	Move into new facility on site	2 years displacement
City Hall	Move into new facility on site	2 years displacement	2 years displacement
Museum	Move into new facility on site	Move into new facility on site	Move into new facility on site

6. NEXT STEPS

The City Council has not yet selected a specific Design Scenario. Although ABA has presented and analyzed costs and facility impacts for three design scenarios, the City Council has the opportunity to consider, recommend, and select a different combination of improvements to the various facilities that form the Civic Center. Based on current information provided by NHA Advisors and the City's political consultant (Lew Edwards Group), a sales tax or general obligation bond to fund a project in the range of $41-52 million appears to be feasible.

As proposed, Design Option 1 presents a financial challenge since once construction begins, it must continue until all phases are completed, therefore committing the City to budget for an estimated $156 million dollar project. Design Option 2 includes construction phasing that could accommodate the implementation of the CCMP in separate phases. This type of construction phasing also facilitates the City's ability to finance this project with revenue from a voter approved measure. The displacement of City facilities and departments is done in neat phasing, minimizing disruption to staff and residents. Design Option 3 presents logistical challenges to the Police Department, since they would be required to move staff and services twice. Due to the sensitive nature of their business, this would significantly disrupt the Police Department.

Once a Design Option is selected and the City Council is in agreement with the framework and key elements of the proposed master plan, the City Council would vote to formally adopt the Civic Center Master Plan. If adopted, the Civic Center Master Plan would be used as a long-term planning document.

The City Council could then direct staff to implement a specific phase of the CCMP, such as the building of a new Library or facility to house the Police Department. Staff would then develop and recommend complementary financing and construction phasing strategies. For example, if the financing strategy is anticipated to provide $50 million in project funding, the construction scope of the selected Design Option should result in a $50 million project.

A CCMP discussion will be agendized for a City Council meeting in early 2016. If there are any questions, concerns, or issues that the City Council would like to see addressed at that time, please provide input to the City Manager no later than **January 22, 2016.** Staff will prepare an Addendum answering these questions, and distribute it in advance of the Council meeting. Anderson Brulé Architects and NHA Advisors will be invited to present detailed information regarding design options, financing, and to answer questions.

Attachments:

A – NHA Advisors Presentation to Finance Committee, August 2015
B – ABA Cost Model, July 2015
C – Campbell Library Tier 1 Assessment, prepared by Biggs Cardoza Associates Inc.
D – Campbell City Hall Tier 1 Assessment, prepared by Biggs Cardoza Associates Inc.
E – Civic Center Facility Funding Strategy, prepared by NHA Advisors, November 2015
F – Design Option 1
G – Design Option 2
H – Design Option 3

Funding Strategies Update

- Four **Funding Strategies** being considered:
  - **General Obligation (GO) Bonds:** Tax based on assessed value (AV) of property (requires 2/3rds voter approval)
  - **Parcel Tax:** Can be based on (1) square footage of property OR (2) can be flat (same cost for every property owner) – (requires 2/3rds voter approval)
  - **City General Fund-Backed Financing**: Debt issued to fund projects and paid from City's general fund revenues
  - **Existing Reserves/Fund Balances**: One-time contribution of funds towards identified projects

Design Option 1	Cost	Description	Timing	Assumed Int. Rate
Phase 1	42,970,000	Parking and Site Improvements	2018	5.00%
Phase 2	29,000,000	Library Conversion to City Hall/Shared Use	2020	5.50%
Phase 3	83,700,000	New Library (on old City Hall Site)	2022	6.00%
TOTAL	155,670,000			

Design Option 2	Cost	Description	Timing	Assumed Int. Rate
Phase 1	69,310,000	New Library (on old Library Site)	2018	5.00%
Phase 2	60,080,000	New Police	2020	5.50%
Phase 3	34,760,000	New City Hall	2022	6.00%
TOTAL	164,150,000			

Design Option 3	Cost	Description	Timing	Assumed Int. Rate
Phase 1	68,370,000	New Library (on old Library Site)	2018	5.00%
Phase 2	83,300,000	New Police/City Hall (on old City Hall Site)	2020	5.50%
Phase 3	-	No 3rd Phase		
TOTAL	151,670,000			

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OPTION 1 – GO Bonds

- Estimated average annual tax under GO option is about $83 (per $100K AV)
  - **For the average homeowner ($515K AV), average GO tax is about $430**
- Tax burden similar level under all 3 options
- GO tax highest in year 5 after all bonds issued, gradually decreases over time as AV grows*

OPTION TOTAL COST	Design Option 1 $ 155,670,000	Design Option 2 $ 164,150,000	Design Option 3 $ 151,670,000
GO Tax Per $100,000 AV			
Average	$81.33	$85.03	$83.17
Minimum	$29.92	$14.78	$36.08
Maximum	$121.42	$122.58	$116.12
GO Tax Per $515,103 AV			
Average	$419.49	$438.88	$429.36
Minimum	$163.45	$76.12	$185.86
Maximum	$625.43	$631.43	$598.12

** Analysis assumes 4% annual growth in AV*

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OPTION 2 – Parcel Tax (Overview)

- Parcel Tax can be levied in one of two ways:
  - Based on **size** (sq. footage of property); or
  - Based on **land use** (i.e. flat tax for all residential)

- 12,504 total parcels within City
  - 11,312 residential parcels; average parcel size of 1,979 sq. feet
  - Residential represents 70% of total

City of Campbell Parcel Breakdown

Type	Parcels	Sq. Feet	Avg Parcel Size	% of Total
Residential	**11,312**	**22,388,207**	**1,979**	**70%**
Non-Residential	1,192	9,687,898	8,127	30%
	12,504	**32,076,105**	**10,107**	**100%**

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OPTION 2 – Parcel Tax (Analysis)

- Estimated maximum annual tax under parcel tax option is between **$640 and $710 for average sized home**
  - Similar to GO option, tax burden similar level under all three options
- Can implement based on size or land use
  - Option 2A: By size for both residential and commercial
  - Option 2B: Flat tax for all residential and by size for commercial

OPTION TOTAL COST	Design Option 1 $ 155,670,000	Design Option 2 $ 164,150,000	Design Option 3 $ 151,670,000
Max Parcel Tax - Residential			
2A - By Size			
Average Home (1,979 sq. feet)	$694.51	$709.42	$643.94
2B - By Land Use (Flat for Residential)			
All Homes	$689.27	$704.07	$639.08

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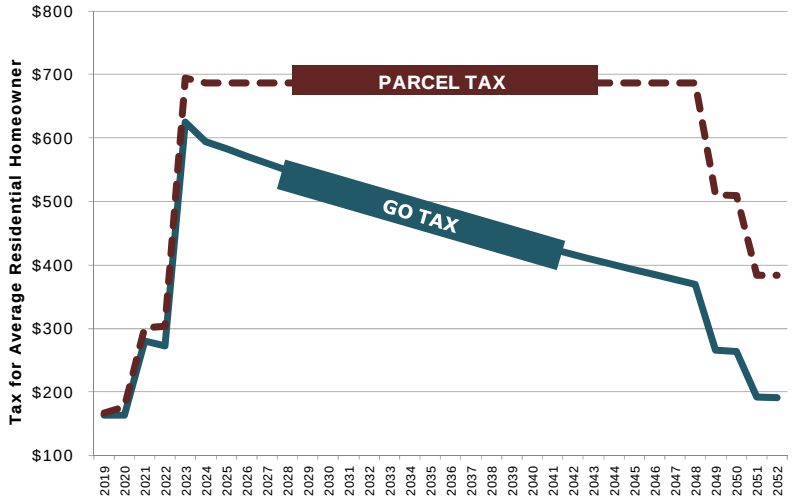
GO Tax vs. Parcel Tax Chart



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Alternative Option – City Contribution

- In an effort to lower the tax burden under the GO or Parcel Tax scenarios, the City can consider funding a portion of project with cash or a General Fund-backed financing
- Example: City issues bonds to fund $25 million of $150 million total project cost
  - $1.63 million annual debt payment requirement for City's General Fund
- GO and Parcel Tax reduced by about ***16.6%***
  - GO Option: Average tax lowered from **$430 to $360**
  - Parcel Tax Option: Average tax lowered from **$690 to $575**

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Key Takeaways

- GO tax provides lower tax burden than parcel tax
- Parcel tax allows for more equitability and flexibility in assessing the tax
- Design option doesn't really affect magnitude of tax
  - If lower tax is desired, options should be modified to target lower overall cost
- City contribution can offset tax burden; but should be weighed against impact to General Fund budget and operations

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Conceptual Cost Model –(Based on Design Options)

	Design Option 1		Design Option 2		Design Option 3	
	Base	With Escalation	Base	With Escalation	Base	With Escalation
Phase 1	$ 38.53 M	$ 42.97 M	$ 62.14 M	$ 69.31 M	$ 61.29 M	$ 68.37 M
Phase 2	$ 25.13 M	$ 29.00 M	$ 52.06 M	$ 60.08 M	$ 72.19 M	$ 83.30 M
Phase 3	$ 70.96 M	$ 83.70 M	$ 29.47 M	$ 34.76 M		
Total Est. Cost	**$ 134.62 M**	**$ 155.67 M**	**$ 143.67 M**	**$ 164.15 M**	**$ 133.48 M**	**$ 151.67 M**
Downtown Parking (100 spaces)	*$ 8.85 M*	***$11.10 M***	*$ 12.56 M*	***$ 15.75 M***	*$ 9.20 M*	***$ 11.21 M***

Design Option 1

Phase 1 (2018)
- New Police & Monopole
- New Parking & Site Improvements
- New Entry for Police and City Hall

Phase 2 (2020)
- Renovate Library to be City Hall
- New Shared Use
- New Veterans' Memorial
- New Parking & Site Improvements

Phase 3 (2022)
- New Library
- New Museum & Storage
- Orchard City Green Improvements
- New Parking & Site Improvements

Design Option 2

Phase 1 (2018)
- New Library
- New Museum & Storage
- Orchard City Green Improvements
- New Parking & Site Improvements

Phase 2 (2020)
- New Police
- New Shared Use
- New Parking & Site Improvements

Phase 3 (2022)
- New City Hall
- New Entry for City Hall
- New Veterans' Memorial
- New Parking & Site Improvements

Design Option 3

Phase 1 (2018)
- New Library
- New Museum & Storage
- Orchard City Green Improvements
- New Parking & Site Improvements

Phase 2 (2020)
- New Police
- New City Hall
- New Shared Use
- New Veterans' Memorial
- New Parking & Site Improvements

ATTACHMENT B

ATTACHMENT C

TIER 1 SEISMIC EVALUATION
Campbell Library
Campbell, California

Draft Report

Prepared For:
City of Campbell
70 North First Street
Campbell, California

Prepared By:
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101 California Street, Suite 875
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May 13, 2015

BCA Job No. 2015098

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EXECUTIVE SUMMARY

Biggs Cardosa Associates has been retained by the City of Campbell to provide a Tier 1 seismic assessment and conceptual seismic retrofit recommendations for the Campbell Library. This report contains the structural and seismic findings based on our Tier 1 assessment as well as our experience with buildings of similar size, age and construction.

The Campbell Library is a 2-story, 24,000 sf structure that was constructed in the early 1970's and opened to the public in 1975. The library consists of wood-framed roof and second floor, with steel columns, and concrete masonry wall at 1st story and wood-framed walls at 2nd story. The rectangular shaped structure is symmetrical in plan. Foundations consist of isolated spread footing below columns and continuous footings below walls. The lateral system comprises of plywood roof and floor diaphragms, plywood shearwalls at 2nd story and masonry walls at 1st story. The first floor is slab-on-grade.

Overall, the building is currently in good structural condition. The Campbell Library contains a complete vertical load-carrying system with no observed evidence of any significant structural damage, distress or deterioration. There were no visible indications that the building has undergone any significant settlement or differential settlement.

The deficiencies identified were based on a review of the available drawings, including drawings of a similar adjacent building (City Hall), a limited walk-through of the building, completion of Tier 1 assessment checklists, and our experience with structures of similar size, age and construction type. No destructive investigation was undertaken to either verify the existing conditions shown in the available documents, to identify unknown conditions, or to ascertain the extent of damage where evidence of potential structural damage was present. No structural drawings were available for review for the building and many details were inferred from the adjacent City Hall building.

The findings of this assessment indicate that while the building apparently has a complete lateral load-resisting system, it may have deficiencies in the required continuity and/or strength for some of its structural elements that are necessary for satisfactory seismic behavior. The building may be vulnerable to seismic damage but is likely to maintain its gravity load-carrying system after the design level earthquake. The existing Campbell Library, however, does not fully meet the requirements for the Life Safety performance level.

The preliminary cost estimate for the required seismic retrofit work identified through this Tier 1 evaluation is $320,950, including a small allowance for waterproofing of the masonry walls. Assessment of drainage/waterproofing issues by a specialist firm is recommended.

Further evaluation of the structure using ASCE 41 Tier 2 Deficiency-Based procedure as well as field verification of various as-built conditions are required and recommended before finalizing the seismic retrofit program for the building.

PROJECT OVERVIEW

Biggs Cardosa Associates has been retained by the City of Campbell to provide a Tier 1 seismic assessment (using ASCE 41-13 methodology) and conceptual seismic retrofit recommendations for the Campbell Library. This report contains the structural/seismic findings based on our Tier 1 assessment, our limited observation of existing field conditions, and our experience with many buildings of similar size, age and construction type. Potential seismic deficiencies are identified and conceptual recommendations are outlined for remedial work. A conceptual cost estimate is provided for the proposed seismic retrofit.

The 24,000 sf, 2-story Campbell Library was constructed in the early 1970's and opened to the public in 1975. The facility houses library functions on both floors as well as the City of Campbell's Emergency Operations Center (EOC) at the first floor (in the northeast corner). Based on our discussion with the City, we understand that the City plans to renovate the existing Library building and convert it into a City Hall. The existing City Hall building will be demolished and replaced with a new building that will house several City functions, including the Police Department and the relocated EOC, among others.

This report outlines the findings and recommendations of our Tier 1 assessment of the existing Library building's primary lateral load-resisting system. This assessment does not cover seismic anchorage and/or bracing of non-structural items such as electrical/mechanical equipment, ceilings, partitions, or other architectural elements. Further, an assessment of other building systems/features such as mechanical, electrical, plumbing, fire protection, accessibility, egress, drainage, waterproofing, etc. is beyond the scope of this report.

The scope of services for the structural/seismic assessment described in this report is summarized below:

1. Review available as-built structural drawings, previous seismic assessment reports, geotechnical reports, etc. for the building.
2. Perform a site visit to observe the existing structura1 conditions of the building, including the nature and layout of the primary lateral load-resisting system, physical condition of structural members and connections, and damage or deterioration of existing structural framing/connections. [Building finishes will not be disturbed during the site visit and our observation will be limited to the readily visible framing elements].
3. Perform a Tier 1 seismic assessment of the building based on the methodology outlined in ASCE41-13.
4. Identify structural/seismic deficiencies in the building's framing system based on our field observations and the Tier 1 seismic assessment.
5. Prepare qualitative conceptual recommendations for the required retrofit work to remedy the identified structural/seismic deficiencies and for the repair/replacement of the

damaged or deteriorated structural framing observed during our site visit.

6. Prepare a conceptual-level construction cost estimate for the proposed structural/seismic retrofit work.
7. Prepare a brief letter report describing the findings of structural/seismic assessment, recommendations for seismic retrofit/repair, and conceptual construction cost estimate for seismic retrofit work.

We understand that Anderson Brule Architects is preparing the conceptual architectural renovation program to convert the existing Library building into a City Hall facility as well as developing the related conceptual cost estimates.

AVAILABLE DOCUMENTS

The City researched its records for available documents – structural drawings, geotechnical reports, previous seismic assessment reports, etc. – and provided us the following drawings to review for this seismic assessment:

- Drawings for "Campbell Library Remodel," prepared by Jensen, Johnson & Associates, dated August 28, 1987. This drawing set was prepared for non-structural remodeling work and included one cover sheet (C), four architectural sheets (A1-A4), four electrical sheets (E1-E4), and two mechanical/plumbing sheets (MP-1 & MP-2). No structural modifications to the building appeared to have been be made as part of this remodeling work.
- Original design drawings (architectural and structural) for "Campbell City Hall." This set included:
    - Six architectural drawings (sheets 7-12), prepared by William W. Hedley, Jr. Architects, dated March 23, 1970, and
    - Thirteen structural drawings (sheets S1-S13), prepared by Donald R. James, Civil Engineer, dated March 13, 1970.

The original as-built structural plans for the Campbell Library building were not available.

The existing City Hall is located on a nearby site, just west of the Library. We understand the two buildings were designed by the same design team, were built during the same period in the early 1970's, and utilize similar construction materials, framing and details.

The findings and conclusions in this report are based on the available drawings and our site visit on April 14, 2015. With no structural drawings available for the Library, we have assumed that the structural framing and detailing of the Library is similar to that shown on the plans for the City Hall. While most of the structural framing and detailing of the Library is covered up by architectural finish materials and cannot be observed directly, areas that

could be observed suggest that this is a reasonable assumption, although this needs to be verified as the project develops.

BUILDING DESCRIPTION

The Campbell Library is a 2-story, 24,000 sf structure of primarily wood-framed construction, with selected structural elements constructed of steel, concrete or masonry. The building is rectangular in plan (approximately 146-ft L x 86-ft W) and has a story height of 12-ft at both levels. It was built in the early 1970's and opened to the public in 1975.

The building is located on a flat site. The first story is partially depressed below grade with the exterior masonry walls retaining soil up to approximately their mid-height. There is a short (2 to 3-ft height) masonry retaining wall approximately 10-ft away from the building footprint enclosing the entire perimeter of the building. The finished grade slopes down several feet from this retaining wall to a level just below the windows in the masonry walls at the building perimeter, resulting in surface runoff draining toward the building. See Photos 1 through 5.

There are three entrances to the building at the first story. Stairways at the north and south ends provide access to finished grade, while a long sloping ramp provides access to both floors near the main entrance located on the east side of the building. The second story is symmetrical in plan with entrances on all four sides of the building. The roof overhangs the perimeter walls by approximately 3-ft (see Photo 6) and is supported by exterior steel columns spaced evenly around the building. The flat roof contains two large mechanical units protected from view by a continuous roof screen.

The first story consists of 8" fully-grouted, reinforced concrete masonry perimeter walls and interior steel columns supporting a wood-framed floor. The masonry wall is essentially continuous along the north end (with just one opening for door leading to the stairs) and has window openings along the other three sides. The wood-framed floor consists of 5/8" plywood sheathing and non-structural concrete topping supported by 2x wood joists at 16" on center that span between glu-laminated wood beams. The beams are supported by the interior 5-in square steel tube columns and perimeter concrete-masonry walls that are continuous to the foundation. The wood framing supported by the masonry walls sits on a continuous sill plate with anchor bolts spaced at 48" on center (or 32" oc where plywood shear walls occur above).

The second story consists of steel columns supporting a wood-framed roof. Exterior wood framed walls are non-load bearing shear walls, sheathed with ½" plywood. The ½" thick plywood roof is supported by 2x wood joists at 16" on center that span between glu-laminated wood beams supported by the interior steel columns and perimeter stud walls. The stud walls are supported by the masonry walls below. The interior steel columns align with the columns below and are continuous to the foundation.

The first floor is a 4” slab-on-grade with welded wire mesh reinforcement. The slab is placed on a prepared subgrade consisting of 2” sand layer, visqueen membrane (vapor barrier) and 4” crushed rock layer. The building foundation system consists of continuous footings below masonry walls and isolated spread footings below steel tube columns.

The building’s lateral load-resisting system consists of plywood roof and second floor diaphragms and the plywood/masonry shear walls at its perimeter – plywood shear walls at the second story and concrete masonry shear walls at the first story. Inferring from the City Hall drawings, the second-story plywood shear walls are anchored into the masonry walls below with Simpson hold-downs at each end (but this needs to be field verified).

Selected recent photos of the building are included in Appendix 1.

EXISTING CONDITIONS

In order to perform a Tier 1 seismic assessment of the Campbell Library, the nature of construction and layout of the current structure had to be determined. The available drawings (noted above) and our site visit on April 14, 2015 provided the basic information to accomplish this task. No specific information on the building’s structural framing system or details has been available.

No destructive investigation or physical testing of existing conditions or materials was performed during the site visit. As most of the structural framing is concealed by architectural finishes, not all structural elements of the building were visible during the site visit and not all of the building components relevant for this assessment were able to be verified. Since the adjacent City Hall building was constructed around the same time as the Library and has very similar visible finishes, materials and layout, the available structural drawings for the City Hall were used to infer the various details, materials and components. A field investigation requiring the removal of finishes in selected areas of the building may be required to verify the existing conditions and materials.

Overall the building appears to be in good physical condition. While signs of minor water intrusion were observed at several locations (see Photos 15 & 16), the wood framing observed at the second floor and roof showed no signs of moisture-related damage or any other type of deterioration. The steel columns and steel connection hardware showed no signs of corrosion. There were no visible indications (cracks in walls, slabs, sidewalks, etc.) that the building has undergone any significant settlement or differential settlement.

The masonry walls appeared to be in good structural condition. No visible cracks were present during the site visit although the masonry wall has been painted and this could obscure small cracks. Signs of previous water seepage through the masonry walls were observed at several locations, suggesting that a waterproofing/drainage system on the soil-side of masonry walls either was not originally installed or may have been compromised if

installed. [The City Hall drawings show that a waterproofing membrane and a gravel backfill with weep holes at wall base were installed on soil-side of masonry walls in that building.]

The presence of steel clips and other details appear to provide an indication that, like the City Hall structure, the Library building was originally designed by considering seismic loads. There was no indication that the building has been modified or seismically retrofitted since its original construction.

SEISMIC EVALUATION AND FINDINGS

Evaluation Basis

The purpose of this evaluation was to determine whether significant seismic deficiencies exist, to determine the potential seismic risk, and to provide general conceptual recommendations for reduction of seismic risk through mitigation. The Tier 1 methodology of ASCE/SEI 41-13 was used for this preliminary assessment; a full ASCE 41 compliance review using more advanced procedures (such as Tier 2 or Tier 3) was neither intended nor performed. The ASCE 41 Basic Configuration and Structural Checklists for Life Safety performance level were completed to help identify the potential seismic deficiencies in the Library building's lateral load-resisting system. See Appendix 4.

The analysis methodology of ASCE 41 includes three levels of analytical procedures for seismic assessment of existing structures: a quick check procedure (Tier 1) intended to serve as an aid in quickly identifying high seismic risk structures; a more intensive deficiency-based analysis procedure (Tier 2), and a systematic analysis procedure (Tier 3).

The Tier 1 quick check employs a set of checklists for each building type, which contain evaluation statements that help identify areas of concern with regard to the structure's ability to adequately transmit earthquake forces to the foundation and supporting grade. This evaluation utilized the Tier 1 checklists, along with the Quick Checks required under this procedure.

It should be noted that with each building code cycle (every three years), building codes for new design are modified to enhance structural performance during seismic events. However, engineering standards developed to evaluate existing buildings have lagged behind in development. Revisions to ASCE 41 Seismic Evaluation and Retrofit of Existing Buildings were recently completed and this document is intended to replace previous evaluation guidelines as the standard of practice for the seismic evaluation of existing buildings. One of the primary goals of this document is to include lessons learned from past earthquakes.

For the Campbell Library, only a structural seismic evaluation was done per ASCE 41. The building was not evaluated for fire protection, egress, accessibility, mechanical, electrical, plumbing, waterproofing or drainage requirements. The Campbell Library may require these

other improvements to meet the code requirements, but an assessment of these systems is beyond the scope of this report.

Lateral Load-Resting System

Lateral loads for buildings result primarily from earthquake inertia forces acting on structural and non-structural elements. Out-of-plane forces acting on interior and exterior walls are transferred to the roof and floor diaphragms, then to seismic system parallel to the direction of the earthquake or wind loads. These elements then transfer the forces to the foundations.

At second story of the Campbell Library, the plywood roof diaphragm transfers forces into the perimeter plywood shearwalls. At the first story, the plywood second floor diaphragm transfers forces into the masonry shearwalls at perimeter of the building. The forces from the second-story plywood shearwalls are transferred directly into the first-story masonry shearwalls, which then transfer the combined lateral forces to the foundations.

Seismic Evaluation Results

Our assessment of Campbell Library was based on ASCE 41 Tier 1 analysis, our field observations, our review of the structural drawings for the adjacent City Hall (which has similar construction), and our experience with buildings of similar size, age and construction type. Our findings indicate that while the building apparently has a complete lateral load-resisting system, it may have deficiencies in the required continuity and/or strength for some of its structural elements that are necessary for satisfactory seismic behavior. The building may be vulnerable to seismic damage but is likely to maintain its gravity load-carrying system after the design level earthquake. The existing Campbell Library building, however, does not fully meet the requirements for the Life Safety performance level.

Inferring from the City Hall drawings, the masonry shearwalls at the first story are presumably fully grouted and reinforced and appear to be adequate for transferring the in-plane seismic loads to the foundations. The in-plane shear connection between the second floor diaphragm and the masonry walls below consists of a wood blocking and steel angle clips attached to a continuous wood sill plate with anchor bolts embedded into the masonry wall at each joist. This connection appears to be sufficient for transferring the seismic loads.

The plywood shearwalls at the second story appear to be adequate for transferring the in-plane seismic loads. Holdowns at the ends of plywood shearwalls, if present, were concealed by architectural finishes and could not be observed during our site visit. The drawings for the adjacent City Hall building indicate holdowns at several wood shearwalls, but unless holdowns are field verified and their strength is adequate, they will need to be added to the existing walls.

The shear capacities of the roof and second floor plywood diaphragms appear to be adequate for transferring the seismic forces to the shear walls; the details and capacities of the roof diaphragm chords/collectors, however, need verification.

Based on the evaluation performed, we believe the Campbell Library may have the following potential seismic deficiencies:

1. At roof level, wood wall-to-roof connections appear to be adequate for out-of-plane wall loads but their details and capacities need verification. If found deficient, new closely-spaced steel straps will need to be added.
2. At roof level, building cross-ties are inadequate for transferring out-of-plane wall loads into the roof diaphragm. Addition of new horizontal steel straps or steel rods with holdowns is required at beam splice locations (typically at columns).
3. At roof level, collectors along shearwall lines are inadequate for transferring the diaphragm load to the shearwalls. Addition of new steel straps with blocking between joists is required.
4. At roof level, diaphragm chords appear to be adequate but their details and capacities need verification.
5. Holdowns at the ends of second story plywood shearwalls, if present, were not visible during the site visit. Holdowns will need to be added to the existing plywood shearwalls unless holdowns are field verified and their strength is found to be adequate.
6. At second floor level, masonry wall-to-floor connections appear to be adequate for out-of-plane wall loads but their details and capacities need verification. If found deficient, new close-spaced steel straps will need to be added.
7. At second floor level, building cross-ties are inadequate for transferring out-of-plane masonry wall loads into the floor diaphragm. Addition of new horizontal steel straps or steel rods with holdowns is required at beam splice locations (typically at columns).

RECOMMENDATIONS

Based on the seismic deficiencies identified through this preliminary assessment, we believe that the Campbell Library requires, at a minimum, the following retrofit work:

1. At roof level, provide building cross-ties by adding new horizontal steel straps at beam splice locations (typically at columns). These straps will be installed over the roof plywood sheathing, directly above the beams below. [See Deficiency 2 above].
2. At roof level, provide new collectors along shearwall lines by adding new steel straps over plywood sheathing, with new blocking between the joists. [See Deficiency 3 above].

3. At second floor level, provide building cross-ties by adding new horizontal steel straps or steel rods with holdowns at beam splice locations (typically at columns). [See Deficiency 7 above].

Refer to Appendix 2 for conceptual seismic retrofit plans showing the extent of this seismic retrofit work.

COST ESTIMATE

As detailed in Appendix 3, the preliminary construction cost estimate for the retrofit work outlined above is $320,950. This amount also includes a small allowance for the installation of a new waterproofing membrane on the interior face of first-story masonry walls, although we believe this item needs to be evaluated by a firm that specializes in drainage and waterproofing.

FURTHER ACTIONS

As indicated by the potential seismic deficiencies in the Campbell Library building outlined above - most of which need further field work, analysis and verification – we recommend the following further steps to fully define the scope of required seismic retrofit:

1. Perform an investigative field verification of existing conditions to determine the necessary information on pertinent structural framing and connection details.
2. Perform a detailed ASCE 41 Tier 2 Deficiency-Based Seismic Evaluation of the building using the deficiencies outlined above to allow a more accurate verification and definition of the building's seismic retrofit needs. Develop retrofit concepts.
3. Review architectural and mechanical plans for other improvements proposed for conversion of the Library building into a City Hall facility. Develop conceptual structural details for proposed building modification required for conversion.

The implementation of these actions will help determine the full extent of structural upgrade required for the building and ensure that the "new" City Hall facility meets the seismic safety requirements.

<u>Masonry Walls – Drainage & Waterproofing</u>

We recommend that the City retain a drainage and waterproofing specialist firm to assess these issues as they pertain to the first-story masonry walls. Potential solutions to preventing water seepage through the walls may include removing all existing finish materials on interior face of wall, epoxy injection of cracks, and applying a coating/membrane to interior face of the wall, or alternatively repairing/installing the drainage and waterproofing system behind the wall.

LIMITATIONS AND DISCLAIMERS

The evaluation, findings, conclusions and recommendations outlined in this report were based on limited information. This report has been prepared using the same degree of care and skill ordinarily exercised for this type of professional service by structural engineers practicing in this area at this time. No other warranty, expressed or implied, is made as to the professional advice in this report.

This report has been prepared for exclusive use of the City of Campbell and may not be used by any other individual or entity without the express written approval of Biggs Cardosa Associates, Inc.

Appendix 1

Photos

Photo 1 – East elevation view

Photo 2 – North elevation view (from northeast corner)

Photo 3 – West elevation view

Photo 4 – South elevation view

Photo 5 – Exterior perimeter retaining wall and first story masonry walls.

Photo 6 – Exterior overhangs and steel columns

Photo 7 – Interior space at first floor with masonry shearwalls beyond

Photo 8 – Interior space at second floor

Photo 9 – Typical glulam beam to steel column connection

Photo 10 – Typical Joist to glulam beam connection

Photo 11 – Joist bridging and glulam beam to column connection beyond

Photo 12 – Bolted wood sill plate at masonry wall

Photo 13 – Bolt and Simpson steel clips at wood sill plate

Photo 14 – Typical floor framing at masonry wall

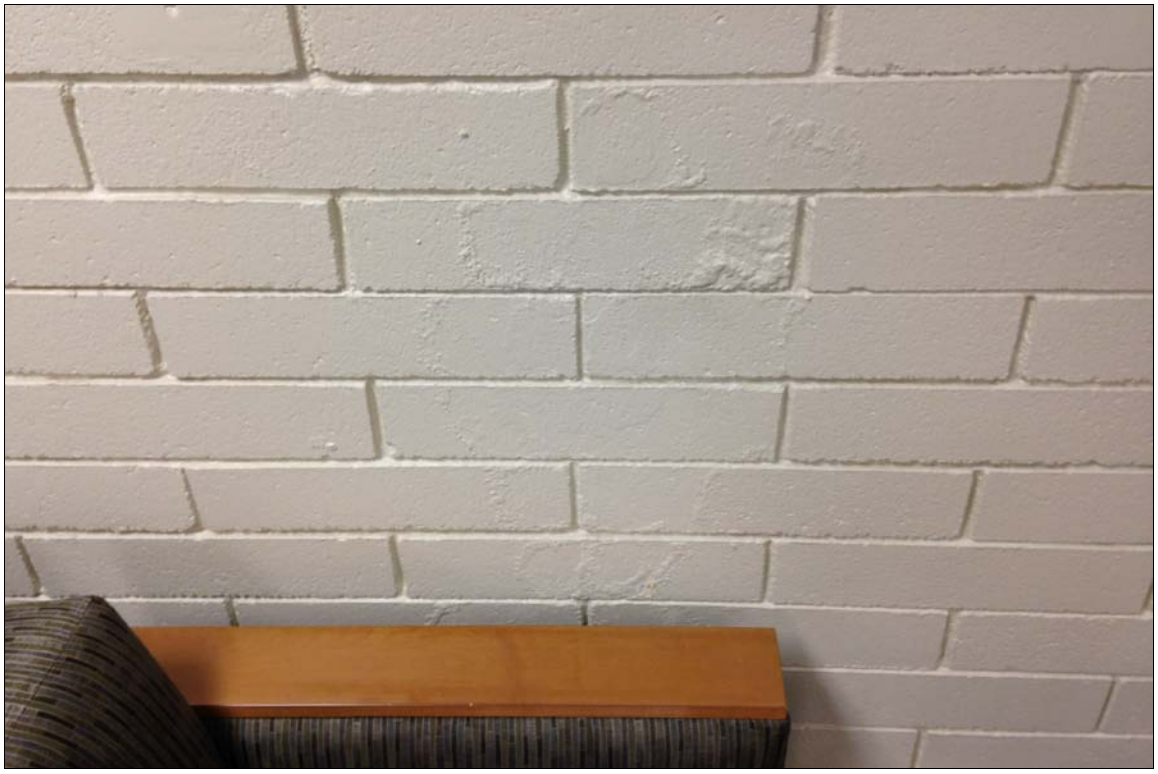
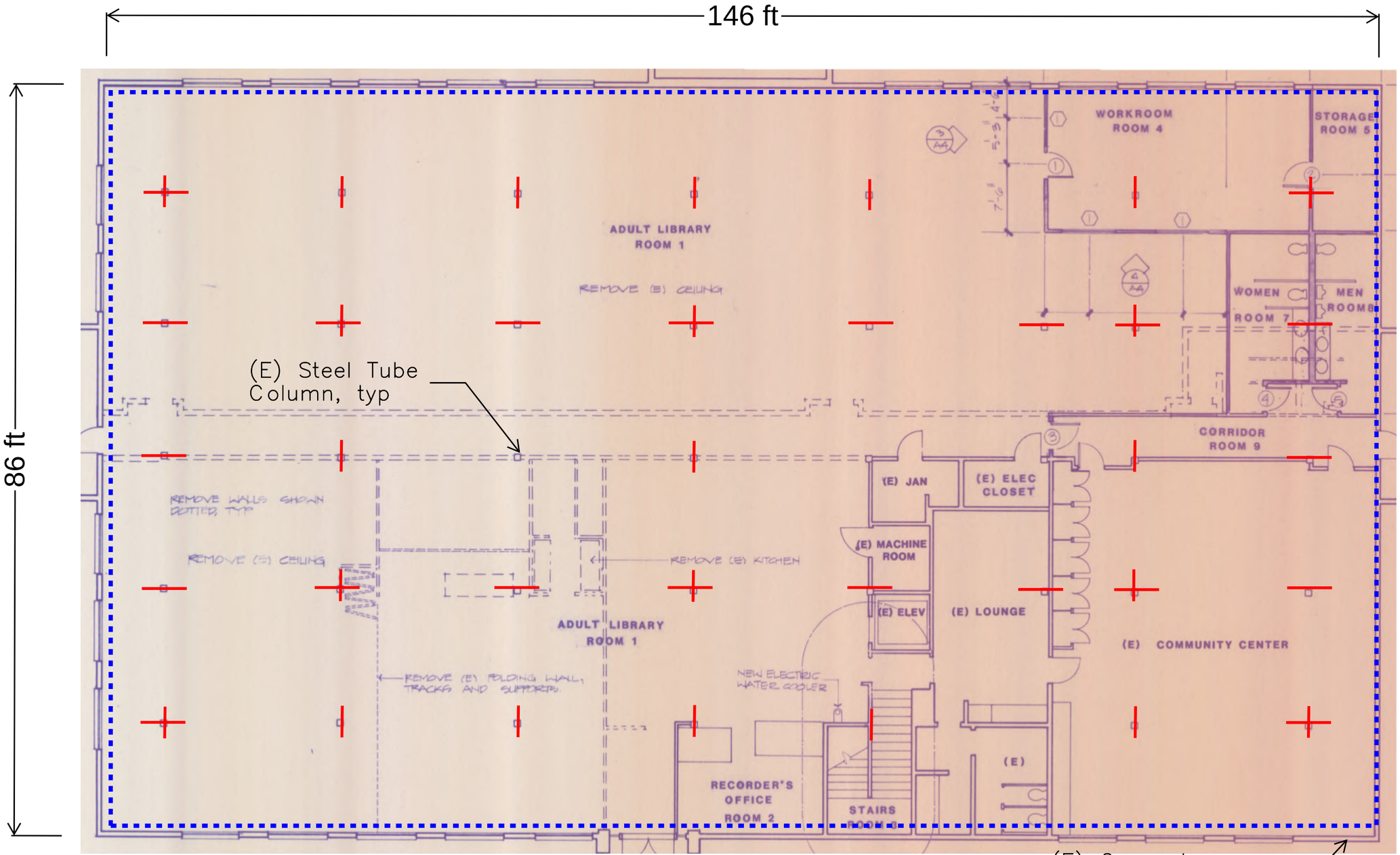


Photo 15 – Signs of water intrusion through masonry wall

Photo 16 – Water damage at ceiling tile

Appendix 2

Conceptual Seismic Retrofit Plans



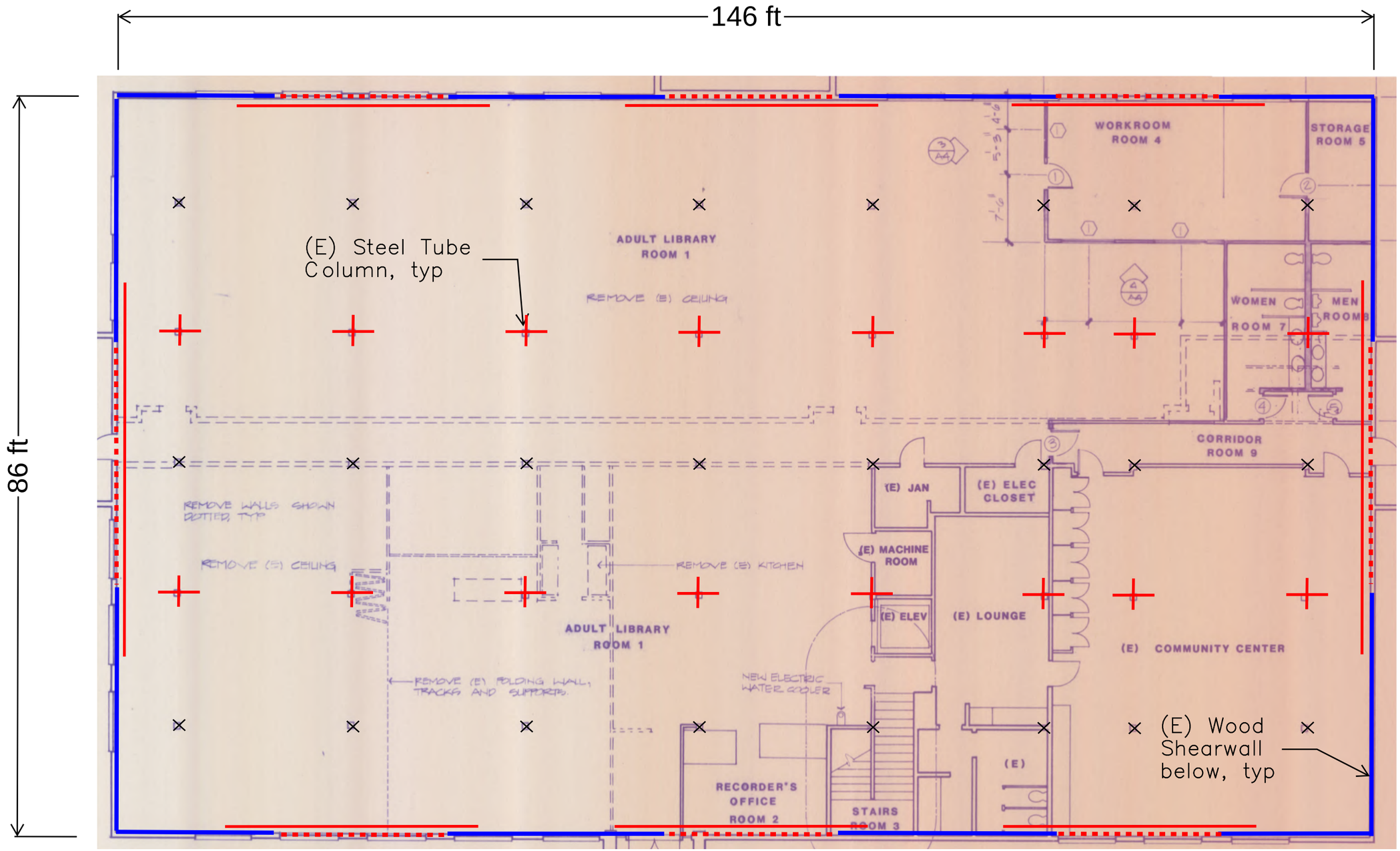
Second Floor Plan

→N

Indicates (N) seismic tie – steel rod or strap on each side of (E) glu–lam beam.

Indicates (N) waterproofing on inside face of first story walls

Campbell Library
77 Harrison Ave, Campbell, CA
May 8, 2015



Indicates (N) steel strap at (E) plywood diaphragm

Indicates (N) wood blocking

Indicates (E) Wood shearwall below

Roof Plan

→ N

Campbell Library
77 Harrison Ave, Campbell, CA
May 8, 2015

Appendix 3

Conceptual Cost Estimate

ATTACHMENT C

Leland Saylor Associates
A Certified DVBE

CONCEPTUAL ESTIMATE

CAMPBELL LIBRARY SEISMIC RETROFIT

CAMPBELL, CA

LSA JOB NUMBER:
15-047A R2

May 12, 2015

PREPARED FOR
BIGGS CARDOSA ASSOCIATES, INC.
BY LELAND SAYLOR ASSOCIATES

101 Montgomery Street, Suite 800 | San Francisco | California | 94104
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Leland Saylor Associates
A Certified DVBE

PROJECT:	**CAMPBELL LIBRARY SEISMIC RETROFIT**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	BID DATE:	
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

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Leland Saylor Associates
A Certified DVBE

PROJECT:	**CAMPBELL LIBRARY SEISMIC RETROFIT**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK, AC**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	CHECKED BY:	**IS**
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

SECTION I

PREFACE AND NOTES TO THE ESTIMATE

Leland Saylor Associates
A Certified DVBE

PROJECT:	**CONCEPTUAL ESTIMATE**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	BID DATE:	
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

PREFACE AND NOTES TO THE ESTIMATE

1.0 PROJECT SYNOPSIS

1.1 TYPE OF STUDY:

CONCEPTUAL ESTIMATE

1.2 PROJECT DESCRIPTION:

Construction Type:	I, II, III, IV, V, N.R., F.R., 1 HR., ETC.
Foundation Type:	NO WORK INCLUDED
Exterior Wall Type:	EXISTING
Roof Type:	BUILT-UP ROOF, REPAIR WORK
Stories Below Grade:	NONE
Stories Above Grade:	TWO
Sitework:	NOT INCLUDED
Plumbing System:	NOT INCLUDED
Mechanical System:	NOT INCLUDED
Fire Protection System:	NOT INCLUDED
Electrical Service:	NOT INCLUDED

Leland Saylor Associates
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PROJECT:	**CONCEPTUAL ESTIMATE**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	BID DATE:	
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

PREFACE AND NOTES TO THE ESTIMATE

1.3 GENERAL NOTES REGARDING PROJECT:

PRE-CONCEPTUAL LEVEL OF ESTIMATING.
NO PLANS & SPECIFICATION.
NO FURNITURE WORK INCLUDED
NO LIBRARY SHELF INCLUDED
NO KITCHEN EQUIPMENT INCLUDED

2.0 DEFINITIONS

2.1 ESTIMATE OF COST:

An Estimate of Cost is prepared from a survey of the quantities of work - items prepared from written or drawn information provided at the design-development, working drawing or bid-documents stage of the design. Historical costs, information provided by contractors and suppliers, plus judgmental evaluation by the Estimator are used as appropriate as the basis for pricing. Allowances as appropriate will be included for items of work which are not indicated on the design documents provided that the Estimator is made aware of them, or which, in the judgment of the Estimator, are required for completion of the work. We cannot, however, be responsible for items or work of an unusual nature of which we have not been informed.

2.2 BID:

An offer to enter a contract to perform work for a fixed sum, to be completed within a limited period of time.

Leland Saylor Associates
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PROJECT:	**CONCEPTUAL ESTIMATE**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	BID DATE:	
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

PREFACE AND NOTES TO THE ESTIMATE

3.0 BIDS & CONTRACTS

3.1 MARKET CONDITIONS:

In the current market conditions for construction, our experience shows the following results on competitive bids, as a differential from Leland Saylor Associates final estimates:

Number of Bids		Percentage Differential
1	.....	+25 to 100%
2 - 3	.....	+10 to 25%
4 - 5	.....	0 to +10%
6 - 7	.....	0 to -10%
8 or more	.....	-10 to -20%

Accordingly, it is extremely important to ensure that a minimum of 4 to 5 valid bids are received. Since LSA has no control over the bid process, there is no guarantee that proposals, bids or construction cost will not vary from our opinions or our estimate.

Leland Saylor Associates
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PROJECT:	**CONCEPTUAL ESTIMATE**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	BID DATE:	
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

PREFACE AND NOTES TO THE ESTIMATE

4.0 ESTIMATE DOCUMENTS

4.1 This Estimate has been compiled from the following documents and information supplied:

DRAWINGS:

Architectural	**Mechanical**	**Landscaping**
None	*None*	*None*
Structural	**Plumbing**	**Accessibility Standards**
None	*None*	*None*
Civil	**Electrical**	**Other**
None	*None*	*PHOTOS*

SPECIFICATIONS / PROJECT MANUAL:

PRE-CONCEPTUAL LEVEL OF ESTIMATING, NO PLANS & SPECIFICATION

COSTS PROVIDED BY OTHERS:

None

4.2 The user is cautioned that significant changes in the scope of the project, or alterations to the project documents after completion of the conceptual estimate can cause major cost changes. In these circumstances, Leland Saylor Associates should be notified and an appropriate adjustment made to the conceptual estimate.

Leland Saylor Associates
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PROJECT:	**CONCEPTUAL ESTIMATE**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	BID DATE:	
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

PREFACE AND NOTES TO THE ESTIMATE

5.0 GROSS SQUARE FEET

BUILDING	GSF
LIBRARY	25,112
TOTAL GROSS SQUARE FEET	25,112

6.0 WAGE RATES

6.1 This Estimate is based on prevailing wage-rates and conditions currently applicable in CAMPBELL, CA.

7.0 PRORATE ADDITIONS TO THE ESTIMATE

7.1 GENERAL CONDITIONS: **10.00%**

An allowance based on 10% of the construction costs subtotal has been included for Contractor's General Conditions.

7.2 CONTINGENCY: **20.00%**

An allowance based on 20% of the construction costs subtotal has been included for Design/Estimating Contingency.

NOTE: This allowance is intended to provide a Design Contingency sum only, for use during the design process. It is not intended to provide for a Construction Contingency sum.

Leland Saylor Associates
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PROJECT:	**CONCEPTUAL ESTIMATE**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	BID DATE:	
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

PREFACE AND NOTES TO THE ESTIMATE

7.3 ESCALATION: NOT INCLUDED

An allowance of 0% has been included in this estimate for construction material & labor cost escalation up to the anticipated mid-point of construction, based on the following assumptions:

Construction start date:
Construction period:
Mid-point of construction:
Annual escalation rate:

Allowance for escalation:

No allowance has been made for Code Escalation or Technological Escalation.

7.4 PHASING ALLOWANCE NONE

The Phasing Allownace has been excluded in the prorates section of the estimate.

7.5 BONDS: 2.00%

An allowance of 2% of the construction cost subtotal is included to provide for the cost of Payment and Performance Bonds, if required.

7.6 CONTRACTOR'S FEE: 10.00%

An allowance based on 10% of the construction cost subtotal is included for Contractor's office Overhead and Profit. Office overhead of the contractor is always included with the fee.

All field overhead of the contractor is included in the General Conditions section of the estimate.

Leland Saylor Associates
A Certified DVBE

PROJECT:	**CONCEPTUAL ESTIMATE**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	BID DATE:	
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

PREFACE AND NOTES TO THE ESTIMATE

8.0 SPECIAL NOTES PERTAINING TO THIS ESTIMATE

8.1 SPECIFIC INCLUSIONS:

The following items are specifically included in this estimate:

NONE

8.2 SPECIFIC EXCLUSIONS:

The following items are specifically excluded from this estimate:

HAZMAT

SOIL REMEDIATION

Leland Saylor Associates
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PROJECT:	**CAMPBELL LIBRARY SEISMIC RETROFIT**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK, AC**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	CHECKED BY:	**IS**
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

SECTION I

SUMMARY OF ESTIMATE

LELAND SAYLOR ASSOCIATES

PROJECT:	**CAMPBELL LIBRARY SEISMIC RETROFIT**	JOB NO:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK, AC**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	CHECKED BY:	**IS**
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	DATE:	**5/12/2015**
		GSF:	**25,112**

CONCEPTUAL ESTIMATE

DIV #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTALS
	SUMMARY OF THE ESTIMATE				
	CITY HALL LIBRARY	25,112	SF		$ 320,950
	TOTAL JOB DIRECT COSTS	**25,112**	**SF**	**12.78**	**$ 320,950**
	PRORATES INCLUDED				
	General Conditions	10.00%			$ -
	Design Contingency	20.00%			$ -
	Escalation	NOT INCLUDED			$ -
	Phasing Allowance	NONE			$ -
	SUB-TOTAL	**25,112**	**SF**	**12.78**	**$ 320,950**
	Bonds / Insurance	2.00%			$ -
	Contractors Fee	10.00%			$ -
	TOTAL PROJECT COSTS	**25,112**	**SF**	**12.78**	**$ 320,950**

Leland Saylor Associates
A Certified DVBE

PROJECT:	**CAMPBELL LIBRARY SEISMIC RETROFIT**	JOB NUMBER:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK, AC**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	CHECKED BY:	**IS**
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	ESTIMATE DATE:	**5/12/2015**

SECTION III

LIBRARY SEISMIC RETROFIT

ATTACHMENT C

LELAND SAYLOR ASSOCIATES

PROJECT:	**CAMPBELL LIBRARY SEISMIC RETROFIT**	JOB NO:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK, AC**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	CHECKED BY:	**IS**
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	DATE:	**5/12/2015**
		GSF:	**25,112**

CONCEPTUAL ESTIMATE

DIV #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTALS
	SUMMARY OF THE ESTIMATE				
2.00	**EXISTING CONDITIONS**			0.39	**$ 9,780**
6.00	**WOOD & PLASTICS**			7.54	**$ 189,225**
7.00	**THERMAL AND MOISTURE PROTECTION**			0.38	**$ 9,576**
9.00	**FINISHES**			0.47	**$ 11,852**
	TOTAL JOB DIRECT COSTS	**25,112**	**SF**	**8.78**	**$ 220,433**
	PRORATES				
	General Conditions	10.00%			**$ 22,043**
	Design Contingency	20.00%			**$ 44,087**
	Escalation	NOT INCLUDED			**$ -**
	Phasing Allowance	NONE			**$ -**
	SUB-TOTAL	**25,112**	**SF**	**11.41**	**$ 286,562**
	Bonds / Insurance	2.00%			**$ 5,731**
	Contractors Fee	10.00%			**$ 28,656**
	TOTAL PROJECT COSTS	**25,112**	**SF**	**12.78**	**$ 320,950**

LELAND SAYLOR ASSOCIATES

PROJECT:	**CAMPBELL LIBRARY SEISMIC RETROFIT**	JOB NO:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK, AC**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	CHECKED BY:	**IS**
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	DATE:	**5/12/2015**
		GSF:	**25,112**

CONCEPTUAL ESTIMATE

ESTIMATE DETAIL

DIV #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTALS
2.0	**EXISTING CONDITIONS**				
	DEMOLITION :				
	1st Floor / 2nd Fl Framing :				
	TEMPORARY REMOVAL OF EXISTING ACT TILES TO ALLOW ACCESS FOR STRAP INSTALL	45	LOC	10.00	**450**
	FINISH FLOOR PROTECTION	12,556	SF	0.25	**3,139**
	2nd Floor / Roof Framing :				
	REMOVE EXISTING ROOFING LOCALLY FOR NEW STRAPS INSTALLATION (ASSUMED 8 FEET LONG BY 6 INCH WIDE AND ADDITIONAL 20% FOR WORKING AREA)	154	SF	6.00	**922**
	REMOVE EXISTING ROOFING LOCALLY FOR NEW STRAPS INSTALLATION AT PERIMETER (300 FEET BY 6 INCHES WIDE WITH AN ADDITIONAL 20% FOR WORKING AREA)	180	SF	6.00	**1,080**
	TEMPORARY REMOVAL OF EXISTING ACT TILES TO ALLOW ACCESS FOR NEW WOOD BLOCKING	105	SF	10.00	**1,050**
	FINISH FLOOR PROTECTION	12,556	SF	0.25	**3,139**
	SUBTOTAL 2.0			**0.39**	**$ 9,780**
6.0	**WOOD & PLASTICS**				
	ROUGH CARPENTRY :				
	1st Floor / 2nd Fl Framing :				
	NEW SEISMIC TIE / STRAPS @ COLUMNS / BEAMS CONNECTIONS; 90 STRAPS TOTAL AS DEFINED BY CLIENT	90	LOC	1,500.00	**135,000**
	2nd Floor / Roof Framing :				
	PROVIDE ADDITIONAL BLOCKING @ EXTERIOR WALL ASSUME 4' OC; LINEAR LENGTH PROVIDED BY THE CLIENT	175	LF	15.00	**2,625**
	NEW SEISMIC STRAPS AT COLUMNS AND BEAMS	32	LOC	1,500.00	**48,000**
	NEW STEEL STRAPS AT PERIMETER	300	LF	12.00	**3,600**
	SUBTOTAL 6.0			**7.54**	**$ 189,225**

LELAND SAYLOR ASSOCIATES

PROJECT:	**CAMPBELL LIBRARY SEISMIC RETROFIT**	JOB NO:	**15-047A R2**
LOCATION:	**CAMPBELL, CA**	PREPARED BY:	**GK, AC**
CLIENT:	**BIGGS CARDOSA ASSOCIATES, INC.**	CHECKED BY:	**IS**
DESCRIPTION:	**LIBRARY SEISMIC RETROFIT**	DATE:	**5/12/2015**
		GSF:	**25,112**

CONCEPTUAL ESTIMATE

DIV #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTALS
7.0	**THERMAL AND MOISTURE PROTECTION**				
	WATERPROOFING :				
	1st Floor :				
	PROVIDE NEW WATERPROOFING MEMBRANE AT INTERIOR ONLY AS DEFINED BY THE CLIENT	5,568	SF	1.00	**5,568**
	ROOFING :				
	NEW ROOFING TO STRAP AFFECTED AREAS	334	SF	12.00	**4,008**
	SUBTOTAL 7.0			**0.38**	**$ 9,576**
8.0	**DOORS & WINDOWS**				
	SUBTOTAL 8.0			**-**	**NONE**
9.0	**FINISHES**				
	WALL FRAMING :				
	1st Floor :	**NONE**			
	2nd Floor :	**NONE**			
	FLOOR FINISH :	**NONE**			
	ACOUSTICAL CEILING :				
	1st Floor :				
	REINSTALL SUSPENDED AC SYSTEM (2' x 4') ALLOW FOR 20% NEW MATERIALS	45	LOC	10.00	**450**
	ALLOWANCE FOR NEW ACT DUE TO DAMAGE DURING REMOVAL	1	SUM	1,000.00	**1,000**
	PAINT FINISH TO WATERPROOFING MEMBRANE AREA	5,568	SF	1.50	**8,352**
	2nd Floor :				
	REINSTALL SUSPENDED AC SYSTEM (2' x 4') ALLOW FOR 20% NEW MATERIALS	105	SF	10.00	**1,050**
	ALLOWANCE FOR NEW ACT DUE TO DAMAGE DURING REMOVAL	1	SUM	1,000.00	**1,000**
	SUBTOTAL 9.0			**0.47**	**$ 11,852**

Appendix 4

ASCE 41 Tier 1 Checklists

APPENDIX C
SUMMARY DATA SHEET

BUILDING DATA

Building Name: Campbell Library Date: 5/8/15

Building Address: 77 Harrison Ave, Campbell, CA

Latitude: 37.288 N Longitude: 121.943 W By:

Year Built: 1975 Year(s) Remodeled: 1987 Original Design Code: UBC 1973

Area (sf): 27,0000 Length (ft): 150 Width (ft): 90

No. of Stories: 2 Story Height: 12 Total Height: 24

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

CONSTRUCTION DATA

Gravity Load Structural System: Plywood roof on glu-lam beams over steel columns

Exterior Transverse Walls: Wood framed / Masonry Openings?

Exterior Longitudinal Walls: Wood framed / Masonry Openings?

Roof Materials/Framing: Plywood / 2x wood joists / Glu-lam beams

Intermediate Floors/Framing: Plywood / 2x wood joists / Glu-lam beams

Ground Floor: Slab on grade

Columns: Steel tubes Foundation: Spread footings

General Condition of Structure: Good

Levels Below Grade? 0

Special Features and Comments:

LATERAL-FORCE-RESISTING SYSTEM

	First Story	Second Story
	~~Longitudinal~~	~~Transverse~~
System:	Concrete-masonry shear walls	Wood shear walls
Vertical Elements:	CMU Walls / Steel Columns	Stud walls / Steel Columns
Diaphragms:	5/8" Plywood	1/2" Plywood
Connections:	Sill plate and anchor bolts	Wood Blkg and nails

EVALUATION DATA

BSE-1N Spectral Response Accelerations: S_{Ds} = 1.057 S_{D1} = 0.601

Soil Factors: Class = D F_a = 1.0 F_v = 1.5

BSE-1E Spectral Response Accelerations: S_{XS} = 1.585 S_{X1} = 0.902

Level of Seismicity: High Performance Level: Life Safety

Building Period: T = 0.91 sec

Spectral Acceleration: S_a = 1.057

Modification Factor: $C_mC_1C_2$ = 1.1 Building Weight: W = 935 kips

Pseudo Lateral Force: V= 1.1 W

$C_mC_1C_2S_aW$= 1085 kips

BUILDING CLASSIFICATION:

REQUIRED TIER 1 CHECKLISTS	Yes	No
Basic Configuration Checklist	☐	☒
Building Type _____ Structural Checklist W2 / RM1	☒	☐
Nonstructural Component Checklist	☐	☒

FURTHER EVALUATION REQUIREMENT:

Project: Campbell Library Location: Campbell, CA

Completed by: GJT Date: 5/8/15

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)

C NC N/A U ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent 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)

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)

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)

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: Campbell Library Location: Campbell, CA

Completed by: GJT Date: 5/8/15

16.3LS LIFE SAFETY STRUCTURAL CHECKLIST FOR BUILDING TYPE W2: WOOD FRAMES, COMMERCIAL AND INDUSTRIAL

Low and Moderate Seismicity

Lateral 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)

C NC N/A U SHEAR STRESS CHECK: The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than the following values (Commentary: Sec. A.3.2.7.1. Tier 2: Sec. 5.5.3.1.1):

Structural panel sheathing	1,000 lb/ft
Diagonal sheathing	700 lb/ft
Straight sheathing	100 lb/ft
All other conditions	100 lb/ft

C NC N/A U STUCCO (EXTERIOR PLASTER) SHEAR WALLS: Multi-story buildings do not rely on exterior stucco walls as the primary seismic-force-resisting system. (Commentary: Sec. A.3.2.7.2. Tier 2: Sec. 5.5.3.6.1)

C NC N/A U GYPSUM WALLBOARD OR PLASTER SHEAR WALLS: Interior plaster or gypsum wallboard is not used as shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building. (Commentary: Sec. A.3.2.7.3. Tier 2: Sec. 5.5.3.6.1)

C NC N/A U NARROW WOOD SHEAR WALLS: Narrow wood shear walls with an aspect ratio greater than 2-to-1 are not used to resist seismic forces. (Commentary: Sec. A.3.2.7.4. Tier 2: Sec. 5.5.3.6.1)

C NC N/A U WALLS CONNECTED THROUGH FLOORS: Shear walls have an interconnection between stories to transfer overturning and shear forces through the floor. (Commentary: Sec. A.3.2.7.5. Tier 2: Sec.5.5.3.6.2)

C NC N/A U HILLSIDE SITE: For structures that are taller on at least one side by more than one-half story because of a sloping site, all shear walls on the downhill slope have an aspect ratio less than 1-to-1. (Commentary: Sec. A.3.2.7.6. Tier 2: Sec. 5.5.3.6.3)

C NC N/A U CRIPPLE WALLS: Cripple walls below first-floor-level shear walls are braced to the foundation with wood structural panels. (Commentary: Sec. A.3.2.7.7. Tier 2: Sec. 5.5.3.6.4)

C NC N/A U OPENINGS: Walls with openings greater than 80% of the length are braced with wood structural panel shear walls with aspect ratios of not more than 1.5-to-1 or are supported by adjacent construction through positive ties capable of transferring the seismic forces. (Commentary: Sec. A.3.2.7.8. Tier 2: Sec. 5.5.3.6.5)

Connections

C NC N/A U WOOD POSTS: There is a positive connection of wood posts to the foundation. (Commentary: Sec. A.5.3.3. Tier 2: Sec. 5.7.3.3)

C NC N/A U WOOD SILLS: All wood sills are bolted to the foundation. (Commentary: Sec. A.5.3.4. Tier 2: Sec. 5.7.3.3)

C NC N/A U GIRDER/COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.4.1)

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

Diaphragms

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 ROOF CHORD CONTINUITY: All chord elements are continuous, regardless of changes in roof elevation. (Commentary: Sec. A.4.1.3. Tier 2: Sec. 5.6.1.1)

C NC N/A U DIAPHRAGM REINFORCEMENT AT OPENINGS: There is reinforcing around all diaphragm openings larger than 50% of the building width in either major plan dimension. (Commentary: Sec. A.4.1.8. Tier 2: Sec. 5.6.1.5)

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. Wood commercial and industrial buildings may have rod-braced systems. (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)

Connections

C NC N/A U WOOD SILL BOLTS: Sill bolts are spaced at 6 ft or less, with proper edge and end distance provided for wood and concrete. (Commentary: A.5.3.7. Tier 2: Sec. 5.7.3.3)

Project: Campbell Library Location: Campbell, CA

Completed by: GJT Date: 5/8/15

16.15LS LIFE SAFETY STRUCTURAL CHECKLIST FOR BUILDING TYPES RM1: REINFORCED MASONRY BEARING WALLS WITH FLEXIBLE DIAPHRAGMS AND RM2: REINFORCED MASONRY BEARING WALLS WITH STIFF 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)

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)

C NC N/A U REINFORCING STEEL: The total vertical and horizontal reinforcing steel ratio in reinforced masonry walls is greater than 0.002 of the wall with the minimum of 0.0007 in either of the two directions; the spacing of reinforcing steel is less than 48 in., and all vertical bars extend to the top of the walls. (Commentary: Sec. A.3.2.4.2. Tier 2: Sec. 5.5.3.1.3)

Stiff Diaphragms

C NC N/A U TOPPING SLAB: Precast concrete diaphragm elements are interconnected by a continuous reinforced concrete topping slab. (Commentary: Sec. A.4.5.1. Tier 2: Sec. 5.6.4)

Connections

C NC N/A U WALL ANCHORAGE: Exterior concrete or masonry walls that are dependent on the diaphragm for lateral support are anchored for out-of-plane forces at each diaphragm level with steel anchors, reinforcing dowels, or straps that are developed into the diaphragm. Connections shall have adequate strength to resist the connection force calculated in the Quick Check procedure of Section 4.5.3.7. (Commentary: Sec. A.5.1.1. Tier 2: Sec. 5.7.1.1)

C NC N/A U WOOD LEDGERS: The connection between the wall panels and the diaphragm does not induce cross-grain bending or tension in the wood ledgers. (Commentary: Sec. A.5.1.2. Tier 2: Sec. 5.7.1.3)

C NC N/A U TRANSFER TO SHEAR WALLS: Diaphragms are connected for transfer of seismic forces to the shear walls. (Commentary: Sec. A.5.2.1. Tier 2: Sec. 5.7.2)

C NC N/A U TOPPING SLAB TO WALLS OR FRAMES: Reinforced concrete topping slabs that interconnect the precast concrete diaphragm elements are doweled for transfer of forces into the shear wall or frame elements. (Commentary: Sec. A.5.2.3. Tier 2: Sec. 5.7.2)

C NC N/A U FOUNDATION DOWELS: Wall reinforcement is doweled into the foundation. (Commentary: Sec. A.5.3.5. Tier 2: Sec. 5.7.3.4)

C NC N/A U GIRDER–COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.4.1)

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

Stiff Diaphragms

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 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)

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 shall 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)

Connections

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)

ATTACHMENT D

TIER 1 SEISMIC EVALUATION
Campbell City Hall
Campbell, California

Draft Report

Prepared For:
City of Campbell
70 North First Street
Campbell, California

Prepared By:
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November 12, 2015

BCA Job No. 2015274

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EXECUTIVE SUMMARY

Biggs Cardosa Associates has been retained by the City of Campbell to provide a Tier 1 seismic assessment and conceptual seismic retrofit recommendations for the Campbell City Hall. This report contains the structural and seismic findings based on our Tier 1 assessment as well as our experience with buildings of similar size, age and construction.

The Campbell City Hall is a 2-story, 32,600 sf structure that was constructed in 1970. The City Hall consists of wood-framed roof and second floor, with steel columns, and concrete masonry wall at the 1st story and wood-framed walls at the 2nd story. The building is constructed with two rectangular wings that are connected with a smaller rectangular lobby. Foundations consist of isolated spread footing below columns and continuous footings below walls. The lateral system comprises of plywood roof and floor diaphragms, plywood shear walls at the 2nd story and masonry walls at the 1st story. The first floor is slab-on-grade.

Overall, the building is currently in good structural condition. The Campbell City Hall contains a complete vertical load-carrying system with no observed evidence of any significant structural damage, distress or deterioration. There were no visible indications that the building has undergone any significant settlement or differential settlement.

The deficiencies identified were based on a review of the available drawings, a limited walk-through of the building, completion of Tier 1 assessment checklists, and our experience with structures of similar size, age and construction type. No destructive investigation was undertaken to either verify the existing conditions shown in the available documents, to identify unknown conditions, or to ascertain the extent of damage where evidence of potential structural damage was present.

Since the building houses the City of Campbell Police Department, it is therefore, by code, an Essential Service Building. For this type of building, the primary structural elements are required to meet the Immediate Occupancy Performance Level as described in ASCE/SEI 41-13. However, as directed by the City of Campbell, this seismic evaluation is performed using the Life Safety seismic performance criteria based on the assumption that the police station is expected to be relocated to a new facility. The Life Safety performance level is suitable for most buildings (including office buildings), is less strict than the Immediate Occupancy performance level, and generally requires relatively less seismic retrofit work to upgrade an existing building to current seismic standards.

The findings of this assessment indicate that while the building apparently has a complete lateral load-resisting system, it may have deficiencies in the required continuity and/or strength for some of its structural elements that are necessary for satisfactory seismic behavior. The building may be vulnerable to seismic damage but is likely to maintain its gravity load-carrying system after the design level earthquake. The existing Campbell City Hall, however, does not fully meet the requirements for the Life Safety performance level.

The order-of-magnitude conceptual cost estimate for the required seismic retrofit work identified through this Tier 1 evaluation to meet the Life Safety performance level is **$393,575**. Although it is beyond the scope of this report, if the building is required to meet the Immediate Occupancy performance level, the retrofit costs are expected to be higher.

Further evaluation of the structure using ASCE 41 Tier 2 Deficiency-Based procedure as well as field verification of various as-built conditions are required and recommended before finalizing the seismic retrofit program for the building.

PROJECT OVERVIEW

Biggs Cardosa Associates has been retained by the City of Campbell to provide a Tier 1 seismic assessment (using ASCE 41-13 methodology) and conceptual seismic retrofit recommendations for the existing Campbell City Hall. This report contains the structural/seismic findings based on our Tier 1 assessment, our limited observation of existing field conditions, and our experience with many buildings of similar size, age and construction type. Potential seismic deficiencies are identified and conceptual recommendations are outlined for remedial work. A conceptual cost estimate is provided for the proposed seismic retrofit.

This report outlines the findings and recommendations of our Tier 1 assessment of the existing City Hall building's primary lateral load-resisting system. This assessment does not cover seismic anchorage and/or bracing of non-structural items such as electrical/mechanical equipment, ceilings, partitions, or other architectural elements. Further, an assessment of other building systems/features such as mechanical, electrical, plumbing, fire protection, accessibility, egress, drainage, waterproofing, etc. is beyond the scope of this report.

The scope of services for the structural/seismic assessment described in this report is summarized below:

1. Review available as-built structural drawings, previous seismic assessment reports, geotechnical reports, etc. for the building.
2. Perform a site visit to observe the existing structural conditions of the building, including the nature and layout of the primary lateral load-resisting system, physical condition of structural members and connections, and damage or deterioration of existing structural framing/connections. [Building finishes will not be disturbed during the site visit and our observation will be limited to the readily visible framing elements].
3. Perform a Tier 1 seismic assessment of the building based on the methodology outlined in ASCE41-13.
4. Identify structural/seismic deficiencies in the building's framing system based on our field observations and the Tier 1 seismic assessment.
5. Prepare qualitative conceptual recommendations for the required retrofit work to remedy the identified structural/seismic deficiencies and for the repair/replacement of the damaged or deteriorated structural framing observed during our site visit.
6. Prepare a conceptual-level construction cost estimate for the proposed structural/seismic retrofit work.
7. Prepare a brief letter report describing the findings of structural/seismic assessment, recommendations for seismic retrofit/repair, and conceptual construction cost estimate for seismic retrofit work.

AVAILABLE DOCUMENTS

The City researched its records for available documents – structural drawings, geotechnical reports, previous seismic assessment reports, etc. – and provided us the following drawings to review for this seismic assessment:

- Accessibility Modifications, S-1 to S-3, Steven Duquette, SE and Starks Miers Scott, Architects, dated Aug. 1, 1994.
- Partial Roofing Framing Details, S1, Duquette Engineering, dated July 2004
- Police Station Renovations, A2.01, A4.01, and A5.01, Stowers Associates Architects, date Aug. 20, 2004
- City Hall Remodel – New Steel Rigid Frame, S1 and S2, Duquette Engineering, dated April 14, 2005
- Original design drawings (architectural and structural) for "Campbell City Hall." This set included:
    - Six architectural drawings (sheets 7-12), prepared by William W. Hedley, Jr. Architects, dated March 23, 1970, and
    - Thirteen structural drawings (sheets S1-S13), prepared by Donald R. James, Civil Engineer, dated March 13, 1970.

The findings and conclusions in this report are based on the available drawings and our site visit on October 22, 2015. While most of the structural framing and detailing of the City Hall is covered up by architectural finish materials and cannot be observed directly, areas that could be observed suggest that the building's construction appears to conform with the original design drawings, although this needs to be verified as the project develops.

BUILDING DESCRIPTION

The 2-story Campbell City Hall was constructed in the early 1970's and houses the following city services and departments:

- Construction Division
- City Clerk
- City Manager
- Code Enforcement
- Finance Department
- Human Resources
- Police Department
- Public Works

The building has administrative offices, meeting rooms, council chambers, staff facilities, and public areas.

Since the building houses the City of Campbell Police Department, it is therefore, by code, an Essential Service Building. For this type of building, the primary structural elements are required to meet the Immediate Occupancy Performance Level as described in ASCE/SEI 41-13. However, as directed by the City of Campbell, this seismic evaluation is performed using the Life Safety seismic performance criteria based on the assumption that the police station is expected to be relocated to a new facility. The Life Safety performance level is suitable for most buildings (including office buildings), is less strict than the Immediate Occupancy performance level, and generally requires relatively less seismic retrofit work to upgrade an existing building to current seismic standards.

The existing Campbell City Hall building is a 2-story, 32,600 sf structure constructed in the early 1970's. The structure is divided in three areas; the North Wing, which is 15,400 sf; the South Wing, which also is 15,400 sf; and the Central Lobby which is located between the two wings and is 1,800 sf.

The building is located on a relatively flat site but has been graded so that the South Wing has full basement walls on south, east and west sides and a partial basement wall on the north side next to the Central Lobby. The North Wing has a full basement wall on the east side and partial basement walls on the south side, next to the Central Lobby, west side and north sides which leads to the fenced in parking lot for police vehicles and equipment.

Access to the building is available on all four elevations with the primary access for the public through the East and West elevations of the Central Lobby.

DESCRIPTION OF STRUCTURE

The building is constructed with two 70-ft x 110-ft rectangular wings that are offset by 30 feet in the east west direction. These two wings are separated by a 30-ft x 30-ft central lobby area. The floor- to-floor height of the basement is 12'-4" while the second level floor-to-roof heights are divided into two heights of either 12'-0" for the lower roof framing and 19'-4"for the upper roof framing.

The roof and second floor of the building are primarily wood-framed construction, with the second floor constructed with wood framed exterior walls and steel tubular columns located at the interior and at the exterior perimeter walls. The basement (and partial basement), which serves as the 1st floor level, is constructed with concrete masonry block walls with some cast-in-place concrete sections and with interior steel tubular columns.

The upper roof which is located over the central lobby and the main corridor, which ties the North and South Wings together, has built up roofing on ½" plywood sheathing supported on 2x6 rafters spaced at 24" oc. The 2x6 rafters are supported on either 4x8 or 6x8 timber

beams. The 4x and 6x beams are supported on 5x5 steel tubular steel columns located along the outside walls of the corridor. These steel corridor columns are supported at the second floor level.

The low roof, which comprises a major portion of the roof, has built-up roofing installed over either ¾" or ½" plywood sheathing. The ¾" sheathing spans a maximum of 48" between fabricated truss-joists while the ½"plywood spans a maximum of 24" between 2x rafters. The truss-joists and rafters are supported on either sawn timber beams, glue-laminated beams or steel wide flange beams. These roof beams are supported on tubular steel columns which are located on the interior of the building and at the exterior perimeter walls.

The second floor framing has a 2-inch cellular concrete topping slab poured over 5/8" T&G (tongue and groove) plywood sheathing supported on 2x floor joists spaced at 16" oc. Depending on the span length of the floor joists, 2x6, 2x8, 2x12 and 2x14 floor joists are used. The floor joists are supported on either interior glue-laminated beams of various sizes, 4x sawn timber beams, built-up 2x beams or on the perimeter basement walls of the North and South wings. The perimeter basement walls are 8 inch fully-grouted reinforced concrete masonry block with, in some locations, a cast-in-place reinforced concrete beam located at the top of the concrete masonry block walls. The various size floor beams are supported on interior 5x5 steel tubular columns located in the basement.

The basement floor is a 4" slab-on-grade with welded wire mesh reinforcement. The slab is placed on a prepared subgrade consisting of 2" sand layer, membrane vapor barrier and 4" crushed rock layer. The building foundation system consists of continuous reinforced concrete footings below basement masonry walls and isolated reinforced concrete spread footings below steel tube columns.

The building was designed to resist both wind and seismic loads using the plywood sheathing at the high and low roof levels and at the second floor as horizontal diaphragms. The high roofs are laterally braced using the flexural strength of the 5x5 steel tubular columns which transfer lateral loads to the larger lower roof. The lower roof is laterally supported with either plywood shear walls, which are located at the perimeter of each wing of the building, interior plywood shear walls, which are located on each side and at each end of the main corridor of the building and one steel rigid frame that replaced one of the corridor shear walls in the North Wing during a remodeling project. The second floor diaphragm is laterally braced with the reinforced masonry block basement walls at the perimeter of each wing of the building and interior plywood shear walls at the same approximate locations as the second floor plywood shear walls.

There are four entrances to the building at the first story. At grade doors at the north and south ends provide access to finished grade, while a long sloping ramp provides access to both floors near the main entrance located on the east and west sides of the building. The second story has two entrances at each wing of the building and as well as access at the

sloping ramps. The roof overhangs the perimeter walls by approximately 3-ft and is supported by exterior steel columns.

Selected recent photos of the building are included in Appendix 1.

EXISTING CONDITIONS

In order to perform a Tier 1 seismic assessment of the Campbell City Hall, the nature of construction and layout of the current structure had to be determined. The available drawings (noted above) and our site visit on October 22, 2015 provided the basic information to accomplish this task.

No destructive investigation or physical testing of existing conditions or materials was performed as part of this assessment. As most of the structural framing is concealed by architectural finishes, not all structural elements of the building were visible during the site visit and not all of the building components relevant for this assessment were able to be verified. The available structural drawings were used to ascertain various details, materials and components. For final design of the retrofit work, a field investigation requiring the removal of finishes in selected areas of the building may be required to verify additional existing conditions and materials.

Overall the building appears to be in good physical condition. The wood framing observed at the second floor and roof showed no signs of moisture-related damage or any other type of deterioration. The steel columns and steel connection hardware showed no signs of corrosion. There were no visible indications (cracks in walls, slabs, sidewalks, etc.) that the building has undergone any significant settlement or differential settlement.

The masonry walls appeared to be in good structural condition. No significant visible cracks were present during the site visit although the masonry wall has been painted and this could obscure small cracks.

The presence of steel clips, wood blocking, and other details indicate that the City Hall building was originally designed considering seismic loads. There have been several modifications to the building since its original construction. An existing wood-framed shear wall was removed at the first floor to modify the interior office space. In order to replace the strength of the removed shear wall a new steel moment frame was constructed in a nearby location. Based on the reviewed structural drawings, the moment frame appears to have adequately detailed and constructed to resist seismic loads. Several other non-seismic modifications were made to the building, including new access doors and roof framing strengthening for new rooftop mechanical equipment.

SEISMIC EVALUATION AND FINDINGS

Evaluation Basis

The purpose of this evaluation was to determine whether significant seismic deficiencies exist, to determine the potential seismic risk, and to provide general conceptual recommendations for reduction of seismic risk through mitigation. The Tier 1 methodology of ASCE/SEI 41-13 was used for this preliminary assessment; a full ASCE 41 compliance review using more advanced procedures (such as Tier 2 or Tier 3) was neither intended nor performed. The ASCE 41 Basic Configuration and Structural Checklists for Life Safety performance level were completed to help identify the potential seismic deficiencies in the City Hall building's lateral load-resisting system. See Appendix 4.

The performance criteria used to evaluate a building varies based on the occupancy use of the building. If a building houses a facility such as a police station, fire station, hospital etc. the building is classified as an essential facility and is required to remain operational in an extreme event such as an earthquake. In order to remain operational under earthquake loads, a more stringent performance criteria is required. For instance, if a new building was designed to meet the current building code as an essential facility, the design seismic loads would be 50% higher than a building designed for standard office use. The evaluation methodology of ASCE41 requires an essential facility to be evaluated to the Immediate Occupancy performance standard. For purposes of this evaluation, as directed by the City of Campbell, the Life Safety performance criteria is used to assess the building's seismic risk since the police station currently housed in the City Hall is expected to be relocated to a new facility.

The analysis methodology of ASCE 41 includes three levels of analytical procedures for seismic assessment of existing structures: a quick check procedure (Tier 1) intended to serve as an aid in quickly identifying high seismic risk structures; a more intensive deficiency-based analysis procedure (Tier 2), and a systematic analysis procedure (Tier 3).

The Tier 1 quick check employs a set of checklists for each building type, which contain evaluation statements that help identify areas of concern with regard to the structure's ability to adequately transmit earthquake forces to the foundation and supporting grade. This evaluation utilized the Tier 1 checklists, along with the Quick Checks required under this procedure.

It should be noted that with each building code cycle (every three years), building codes for new design are modified to enhance structural performance during seismic events. However, engineering standards developed to evaluate existing buildings have lagged behind in development. Revisions to ASCE 41 Seismic Evaluation and Retrofit of Existing Buildings were recently completed and this document is intended to replace previous evaluation guidelines as the standard of practice for the seismic evaluation of existing buildings. One of the primary goals of this document is to include lessons learned from past earthquakes.

For the Campbell City Hall, only a structural seismic evaluation was done per ASCE 41. The building was not evaluated for fire protection, egress, accessibility, mechanical, electrical, plumbing, waterproofing or drainage requirements. The Campbell City Hall may require these other improvements to meet the code requirements, but an assessment of these systems is beyond the scope of this report.

Lateral Load-Resisting System

Lateral loads for buildings result primarily from earthquake inertia forces acting on structural and non-structural elements. Out-of-plane forces acting on interior and exterior walls are transferred to the roof and floor diaphragms, then to seismic system elements (shear walls, braced frames, etc.) parallel to the direction of the earthquake or wind loads. These elements then transfer the forces to the foundations.

At the high roof of the City Hall, the plywood roof diaphragm transfers lateral forces through the steel cantilevered columns into the lower roof diaphragm. At second story the plywood roof diaphragm transfers lateral forces into the perimeter plywood shear walls. At the first story, the plywood second floor diaphragm transfers lateral forces into the masonry shear walls at perimeter of the building. The forces from the second-story plywood shear walls are transferred directly into the first-story masonry shear walls, which then transfer the combined lateral forces to the foundations.

Seismic Evaluation Results

Our assessment of Campbell City Hall was based on ASCE 41 Tier 1 analysis, our field observations, our review of the structural drawings, and our experience with buildings of similar size, age and construction type. Our findings indicate that while the building apparently has a complete lateral load-resisting system, it may have deficiencies in the required continuity and/or strength for some of its structural elements that are necessary for satisfactory seismic behavior. The building may be vulnerable to seismic damage but is likely to maintain its gravity load-carrying system after the design level earthquake. The existing Campbell City Hall building, however, does not fully meet the requirements for the Life Safety performance level.

Based on the original structural drawings, the masonry shear walls at the first story are fully grouted and reinforced and appear to be adequate for transferring the in-plane seismic loads to the foundations. The in-plane shear connection between the second floor diaphragm and the masonry walls below consists of wood blocking and steel angle clips attached to a continuous wood sill plate with anchor bolts embedded into the masonry wall at each joist. This connection appears to be sufficient for transferring the seismic loads.

The plywood shear walls at the second story appear to be inadequate for transferring the in-plane seismic loads at the Life Safety performance level. Additional shear walls or other

seismic resisting elements will be required. Holdowns at the ends of plywood shear walls, while present on the drawings, were concealed by architectural finishes and could not be observed during our site visit.

The shear capacities of the roof and second floor plywood diaphragms appear to be adequate for transferring the seismic forces to the shear walls; the details and capacities of the roof diaphragm chords/collectors, however, need strengthening. The steel cantilever columns supporting the high roof appear to be adequate for transferring the seismic forces into the main roof diaphragm.

Based on the evaluation performed, we believe the Campbell City Hall may have the following potential seismic deficiencies:

1. At low roof level, collectors along shear wall lines are inadequate for transferring the diaphragm load to the shear walls. Addition of new steel straps with blocking between joists is required.
2. At second floor level, building cross-ties are inadequate for transferring out-of-plane masonry wall loads into the floor diaphragm. Addition of new horizontal steel straps or steel rods with holdowns is required at beam splice locations (typically at columns).
3. At the second floor level, the wood shear walls are inadequate to transfer in-plane seismic loads. Addition of new plywood at the existing shear walls along with steel straps, and steel rods with holdowns are required.

RECOMMENDATIONS

Based on the seismic deficiencies identified through this preliminary assessment, we believe that the Campbell City Hall requires, at a minimum, the following retrofit work:

1. At low roof level, provide new collectors along shear wall lines by adding new steel straps over plywood sheathing, with new blocking between the joists. [See Deficiency 1 above].
2. At second floor level, provide building cross-ties by adding new horizontal steel straps or steel rods with holdowns at beam splice locations (typically at columns). [See Deficiency 2 above].
3. At second floor level, provide new plywood at several existing shear walls along with new steel straps and steel rods with holdowns. [See Deficiency 3 above].

Refer to Appendix 2 for conceptual seismic retrofit plans showing the extent of this seismic retrofit work.

CONCEPTUAL COST ESTIMATE

As detailed in Appendix 3, the order-of-magnitude conceptual construction cost estimate for the retrofit work outlined above is **$393,575**. If the police station were to remain at its current location then the Immediate Occupancy criteria will be triggered, requiring additional retrofit work.

FURTHER ACTIONS

As indicated by the potential seismic deficiencies in the Campbell City Hall building outlined above - most of which need further field work, analysis and verification – we recommend the following further steps to fully define the scope of required seismic retrofit:

1. Perform an investigative field verification of existing conditions to determine the necessary information on pertinent structural framing and connection details.
2. Perform a detailed ASCE 41 Tier 2 Deficiency-Based Seismic Evaluation of the building using the deficiencies outlined above to allow a more accurate verification and definition of the building's seismic retrofit needs. Develop retrofit concepts.
3. Review architectural and mechanical plans for other improvements proposed for renovation of the City Hall building. Develop conceptual structural details for proposed building modifications.

The implementation of these actions will help determine the full extent of structural upgrade required for the building and ensure that the City Hall facility meets the seismic safety requirements.

LIMITATIONS AND DISCLAIMERS

The evaluation, findings, conclusions and recommendations outlined in this report were based on limited information. This report has been prepared using the same degree of care and skill ordinarily exercised for this type of professional service by structural engineers practicing in this area at this time. No other warranty, expressed or implied, is made as to the professional advice in this report.

This report has been prepared for exclusive use of the City of Campbell and may not be used by any other individual or entity without the express written approval of Biggs Cardosa Associates, Inc.

Appendix 1

Photos

Photo 1 – West elevation view

Photo 2 – West elevation view (north end)

Photo 3 – South elevation view

Photo 4 – East entrance view

Photo 5 – North elevation view

Photo 6 – Ramp at East entrance

Photo 7 – High roof with steel cantilevered columns

Photo 8 – Broken tiles at upper roof

Photo 9 – Interior steel columns at second floor

Photo 10 – Interior open roof framing below upper roof

Photo 11 – Bolted wood sill plate at masonry wall

Photo 12 – Wood floor joists

Photo 13 – Wood blocking at plywood diaphragm

Photo 14 – Simpson steel clips at floor framing

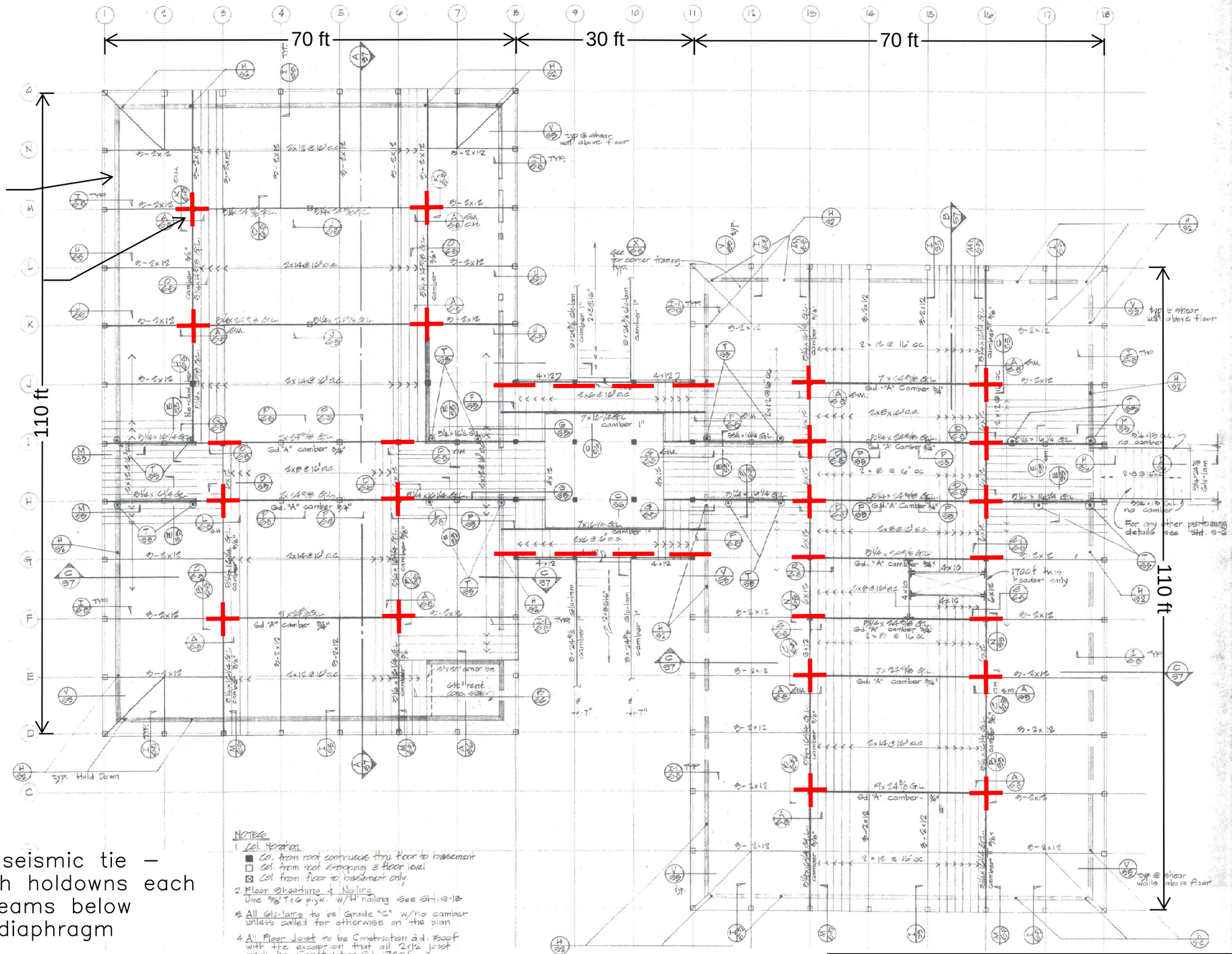
Photo 15 – Ramp at West elevation

Photo 16 – Wood ledger at concrete vault

Appendix 2

Conceptual Seismic Retrofit Plans

ATTACHMENT D



Indicates (N) seismic tie – steel rods with holdowns each side of (E) beams below second floor diaphragm

NOTES

1. Col. Notation
   - ■ Col. from roof continuous thru floor to basement
   - □ Col. from roof stopping @ floor level
   - ⊠ Col. from floor to basement only
2. Floor Sheathing & Nailing
   Use 5/8" T&G ply w. w/ 8d nailing See Sht. S-13
3. All Glu-lams to be Grade "C" w/no camber unless called for otherwise on the plan
4. All Floor Joist to be Construction Gd. Roof with the exception that all 2x12 joist shall be Construction Gd. 1700f

SECOND FLOOR PLAN

Campbell City Hall
70 N. First St, Campbell, CA
November 12, 2015

REVISIONS

JOB: 1-03-
DATE: 1-15-
DRAWN:
CHECKED:
APPROVED:

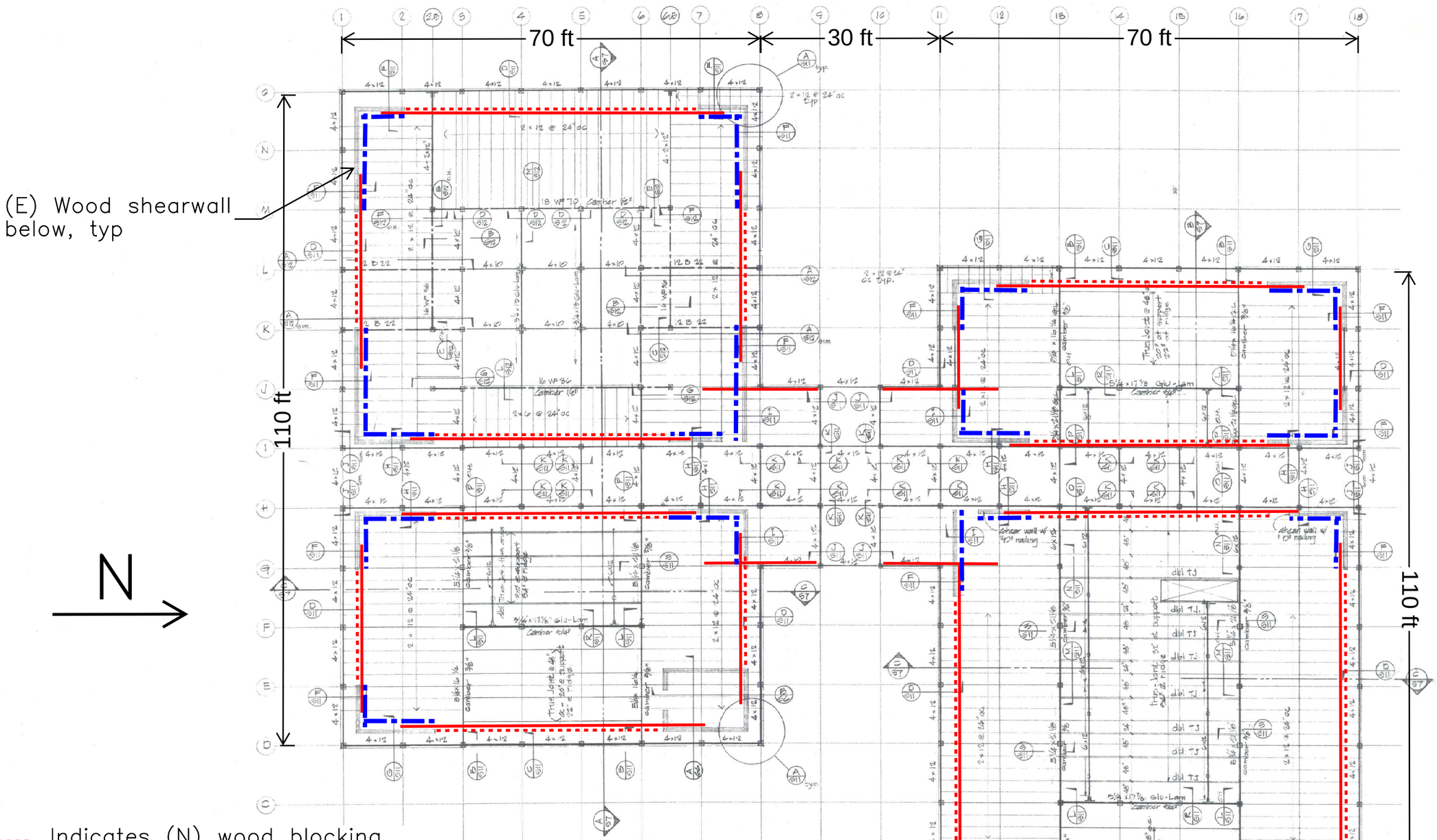
DONALD R. JAMES
CIVIL ENGINEER
447 PARK AVE
SAN JOSE, CALIFORNIA
293-7012

THE OFFICE OF
WILLIAM W. HEDLEY JR.
architect a.i.a.
346 E. CAMPBELL AVE.
CAMPBELL CALIFORNIA
C-2513
378-7464

CAMPBELL CITY HALL
CAMPBELL, CALIFORNIA

SHEET NO.
S4
OF 12

ATTACHMENT D



LOWER ROOF PLAN

Campbell City Hall
70 N. First St, Campbell, CA
November 12, 2015

THE OFFICE OF WILLIAM W. HEDLEY JR. architect
346 E. CAMPBELL AVE. CAMPBELL CALIFORNIA

DONALD R. JAMES CIVIL ENGINEER
481 BOWIE AVE. SAN JOSE, CALIFORNIA 293 7872

CAMPBELL CITY HALL
CAMPBELL, CALIFORNIA

SHEET NO. S8 OF 18

Appendix 3

Conceptual Cost Estimate

ATTACHMENT D

Campbell City Hall

Tier 1 - Seismic Evaluation

Campbell, CA

Rough Order of Magnitude Cost Estimate (DRAFT)

November 12, 2015

Faithful+Gould
332 Pine Street, 5th Floor, San Francisco CA 94104
phone: 415.781 6677 fax: 415.781.0906

INTRODUCTION

This opinion of probable cost has been prepared to reflect the anticipated construction cost for the proposed Tier 1 Seismic Evaluation for Campbell City Hall, Campbell, California.

This document is based on the measurement and pricing of quantities wherever information is provided and/or reasonable assumptions for other works not covered in the drawings and programs as stated in this document. The unit rates reflected herein have been obtained from historical records and discussion with subcontractors and suppliers. All unit rates relevant to subcontractor works include the subcontractors' overheads and profit.

Project Scope

The proposed Tier 1 Seismic Evaluation covers 2 levels that includes seismic ties using steel rods and hold downs at existing glu-lam beams below the second floor diaphragm. The work on the lower roof plan consists of wood blocking, steel straps and new plywood at perimeter walls.

Documentations

Faithful+Gould received the following documents from Biggs Cardosa Associates, Inc. for the preparation of this estimate:

Drawings

Marked-up existing second floor and lower roof plans dated November 12, 2015.
Photographs extracted from Draft Report Tier 1 Seismic Evaluation Campbell City Hall dated November 12, 2015.

Reports

No reports or narratives are available

Additional Documents

Sketches of proposed work

Phasing and Temporary Works

No phasing or temporary works have been included in the cost estimate.

Design Contingency

A design contingency of 20% is included for the development of the design drawings to 100% CD set.

Escalation

No escalation has been included in the cost estimate.

Exclusions

Legal and accounting fees
Relocation of existing owner's furniture, furnishings and equipment
Removal of unforeseen obstructions behind walls
Overtime and weekend work
Hazardous material abatement
Temporary swing space and temporary accommodation for the various functional spaces while under construction.
Design-build procurement delivery
Phased work is excluded.
Escalation
Fire inspection fees
Special inspection fees
Permits, expediting and filing

INTRODUCTION

Items that may affect the cost estimate

Modifications to the scope of work included in this estimate.
Unforeseen sub-surface conditions.
Restrictive technical specifications or excessive contract conditions.
Non-competitive bid/market situations.

Recommendation for Cost Control

Faithful+Gould recommends that the owner, architect and engineers carefully review this document, including line item descriptions, unit prices, clarifications, exclusions, inclusions and assumptions, contingencies, escalation, and markups. If the project is over budget, or if there are unresolved budgeting issues, alternative systems/schemes should be evaluated before proceeding into the Bidding phase.

Requests for modifications of any apparent errors or omissions to this document must be made to Faithful+Gould within ten (10) days of receipt of this estimate. Otherwise, it will be understood that the contents have been concurred with and accepted.

Opinion of Probable Cost

This opinion has been based on a competition open bid situation with a recommended 5 - 7 reputable bids from general contractors and a minimum of 3 bidders for all items of sub-contracted work. Experience indicates that a fewer number of bidders may result in higher bids, conversely an increased number of bidders may result in more competitive bids.

Since Faithful+Gould has no control over the cost of labor, materials, or equipment, or over the contractor's method of determining prices, or over competitive bidding or market conditions, the opinion of probable construction cost provided for herein is made on the basis of professional experience and qualifications. The opinion represents Faithful + Gould's best judgment as a professional construction consultant familiar with the construction industry. However, Faithful+Gould cannot and does not guarantee that proposals, bids, or the construction cost will not vary from opinions of probable cost prepared by them.

Area Tabulation

Location	*Wing (SF)*	*Central Lobby (SF)*	*Total Area (SF)*
First Floor	15,400	900	***16,300***
Second Floor	15,400	900	***16,300***
Total	**30,800**	**1,800**	**32,600**

Campbell City Hall — *Rough Order of Magnitude Cost Estimate (DRAFT)*

Tier 1 - Seismic Evaluation — *12-Nov-15*

Campbell, CA

COST SUMMARY

	Descriptions		$	32,600 SF
1	General Requirements			0.00
2	Existing Conditions		71,179	2.18
3	Concrete			0.00
4	Masonry			0.00
5	Metals		52,082	1.60
6	Woods and Plastics		35,750	1.10
7	Thermal Moisture and Waterproofing		7,500	0.23
8	Doors and Windows			0.00
9	Finishes		92,206	2.83
10	Specialties			0.00
11	Equipment			0.00
12	Furnishings			0.00
13	Special Construction			0.00
14	Conveying Equipment			0.00
21	Fire Suppression			0.00
22	Plumbing			0.00
23	Heating, Ventilating and Air-conditioning (HVAC)		2,500	0.08
25	Integrated Automation			0.00
26	Electrical		5,000	0.15
27	Communications			0.00
28	Electronic Safety and Security			0.00
31	Earthwork			0.00
32	Exterior Improvements			0.00
33	Utilities			0.00
	TOTAL Building and Siteworks		***266,217***	***8.17***
18	Phasing and Temporary Works	*0.00%*	0	0.00
19	General Conditions, Insurance and Bond	*12.00%*	31,946	0.98
20	Overhead and Profit	*10.00%*	29,816	0.91
	BASIC CONSTRUCTION ESTIMATE		***327,979***	***10.06***
21	Design Contingency	*20.0%*	65,596	2.01
	TOTAL CONSTRUCTION COST (Present)		***393,575***	***12.07***
22	Escalation (Excluded)	*0.00%*	0	0.00
	I . TOTAL CONSTRUCTION COST (Future)		**393,575**	**12.07**
A.	Architect and Engineering Fees	*0.00%*	0	0.00
B.	Project Management Fees	*0.00%*	0	0.00
C.	Miscellaneous Consulting Services	*0.00%*	0	0.00
D.	Project/Construction Contingency	*0.00%*	0	0.00
	II. TOTAL SOFT COST		**0**	**0.00**
	GROSS TOTAL (I+II (Future Cost)		***393,575***	***12.07***

Campbell City Hall
Tier 1 - Seismic Evaluation
Campbell, CA

Rough Order of Magnitude Cost Estimate (DRAFT)
12-Nov-15

DETAILED ESTIMATE - B1

	Description	Qty	Unit	Rate	Total
1	**GENERAL REQUIREMENTS**				
	Not Applicable				
	TOTAL GENERAL REQUIREMENTS				
2	**EXISTING CONDITIONS**				
	Selective Demolition				
	Open up ceiling soffits to access work areas				
	- hard ceiling (25% assumption)	608	SF	25.00	15,188
	- suspended ceiling (75% assumption)	1,823	SF	10.00	18,225
	Remove built up roofing tile for new metal strap	750	LF	10.00	7,500
	Remove existing finishes and prepare for new plywood wall lining	3,850	SF	5.00	19,250
	Miscellaneous				
	Miscellaneous demolition	1	LS	6,016.25	6,016
	Haul and dispose	1	LS	5,000.00	5,000
	TOTAL EXISTING CONDITIONS				**71,179**
3	**CONCRETE**				
	Not Applicable				
	TOTAL CONCRETE				
4	**MASONRY**				
	Not Applicable				
	TOTAL MASONRY				
5	**METALS**				
	Seismic tie comprising steel rods with hold-downs each side of glu-lam beams where indicated				
	- intersecting cross beams	18	LOC	649.20	11,686
	- longitudinal beams at interior walls	6	LOC	424.60	2,548
	- longitudinal beams at exterior walls	8	LOC	262.30	2,098
	Prepare existing plywood roof diaphragm and install steel straps	750	LF	21.00	15,750
	Allowances for metal accessories at plywood wall lining	30	LOC	500.00	15,000
	Scaffold allowance	1	LS	5,000.00	5,000
	TOTAL METALS				**52,082**

Campbell City Hall
Tier 1 - Seismic Evaluation
Campbell, CA

Rough Order of Magnitude Cost Estimate (DRAFT)
12-Nov-15

DETAILED ESTIMATE - B1

	Description	Qty	Unit	Rate	Total
6	**WOODS AND PLASTICS**				
	2 x Wood blocking between roof joists	540	LF	25.00	13,500
	1/2" thick plywood wall sheathing	3,850	SF	5.00	19,250
	Miscellaneous rough carpentry etc	1	LS	3,000.00	3,000
	TOTAL WOODS AND PLASTICS				**35,750**
7	**THERMAL MOSITURE AND WATERPROOFING**				
	Patch built up roofing	750	LF	10.00	7,500
	TOTAL THERMAL MOSITURE AND WATERPROOFING				**7,500**
8	**DOORS AND WINDOWS**				
	Not Applicable				
	TOTAL DOORS AND WINDOWS				
9	**FINISHES**				
	Wall Finishes				
	Patch and paint gypsumboard wall sheathing	3,850	SF	10.00	38,500
	Allowance for wall tiles in restroom walls	481	SF	15.00	7,219
	Ceiling Finishes				
	Patch and paint gypsumboard ceiling soffits	608	SF	35.00	21,263
	Replace suspended ceiling tiles	1,823	SF	10.00	18,225
	Miscellaneous				
	Make good adjacent finishes, allowances	1	LS	7,000.00	7,000
	TOTAL FINISHES				**92,206**
10	**SPECIALTIES**				
	Not Applicable				
	TOTAL SPECIALTIES				
11	**EQUIPMENT**				
	Not Applicable				
	TOTAL EQUIPMENT				

Campbell City Hall
Tier 1 - Seismic Evaluation
Campbell, CA

Rough Order of Magnitude Cost Estimate (DRAFT)
12-Nov-15

DETAILED ESTIMATE - B1

	Description	Qty	Unit	Rate	Total
12	**FURNISHINGS**				
	Not Applicable				
	TOTAL FURNISHINGS				
13	**SPECIAL CONSTRUCTION**				
	Not Applicable				
	TOTAL SPECIAL CONSTRUCTION				
14	**CONVEYING EQUIPMENT**				
	Not Applicable				
	TOTAL CONVEYING EQUIPMENT				
21	**FIRE SUPPRESSION**				
	Not Applicable				
	TOTAL FIRE SUPPRESSION				
22	**PLUMBING**				
	Not Applicable				
	TOTAL PLUMBING				
23	**HEATING, VENTILATING AND AIR-CONDITIONING (HVAC)**				
	Allowances for diffuser removal and relocation etc	1	LS	2,500.00	2,500
	TOTAL HEATING, VENTILATING AND AIR-CONDITIONING (HVAC)				**2,500**
25	**INTEGRATED AUTOMATION**				
	Not Applicable				
	TOTAL INTEGRATED AUTOMATION				
26	**ELECTRICAL**				
	Allowances for light fixture removal and relocation etc	1	LS	5,000.00	5,000
	TOTAL ELECTRICAL				**5,000**
27	**COMMUNICATIONS**				
	Not Applicable				
	TOTAL COMMUNICATIONS				

Campbell City Hall
Tier 1 - Seismic Evaluation
Campbell, CA

Rough Order of Magnitude Cost Estimate (DRAFT)
12-Nov-15

DETAILED ESTIMATE - B1

Description	Qty	Unit	Rate	Total
28 ELECTRONICS SAFETY AND SECURITY				
Not Applicable				
TOTAL ELECTRONICS SAFETY AND SECURITY				
31 EARTHWORK				
Not Applicable				
TOTAL EARTHWORK				
32 EXTERIOR IMPROVEMENTS				
Not Applicable				
TOTAL EXTERIOR IMPROVEMENTS				
33 UTILITIES				
Not Applicable				
TOTAL UTILITIES				

Appendix 4

ASCE 41 Tier 1 Checklists

APPENDIX C
SUMMARY DATA SHEET

BUILDING DATA

Building Name: Campbell City Hall Date: 11/6/15

Building Address: 70 N First Street, Campbell, CA

Latitude: 37.288 N Longitude: 121.944 W By:

Year Built: 1970 Year(s) Remodeled: Original Design Code: UBC 1967

Area (sf): 32,600 Length (ft): 170 Width (ft): 140

No. of Stories: 2 Story Height: 12 Total Height: 31.83

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

CONSTRUCTION DATA

Gravity Load Structural System: Plywood roof on glu-lam beams over steel columns

Exterior Transverse Walls: Wood framed / Masonry Openings?

Exterior Longitudinal Walls: Wood framed / Masonry Openings?

Roof Materials/Framing: Plywood / 2x wood joists / Glu-lam beams

Intermediate Floors/Framing: Plywood / 2x wood joists / Glu-lam beams

Ground Floor: Slab on grade

Columns: Steel tubes Foundation: Spread footings

General Condition of Structure: Good

Levels Below Grade? 0

Special Features and Comments:

LATERAL-FORCE-RESISTING SYSTEM

	First Story ~~-Longitudinal-~~	Second Story ~~-Transverse-~~
System:	Concrete-masonry shear walls	Wood shear walls
Vertical Elements:	CMU Walls / Steel Columns	Stud walls / Steel Columns
Diaphragms:	5/8" Plywood	3/4" Plywood
Connections:	Sill plate and anchor bolts	Wood Blkg and nails

EVALUATION DATA

BSE-1N Spectral Response Accelerations: S_{Ds} = 1.059 S_{D1} = 0.602

Soil Factors: Class = D F_a = 1.0 F_v = 1.5

BSE-1E Spectral Response Accelerations: S_{XS} = 1.01 S_{X1} = 0.548

Level of Seismicity: High Performance Level: Life Safety

Building Period: T = 0.254 sec

Spectral Acceleration: S_a = 1.01

Modification Factor: $C_mC_1C_2$ = 1.2 Building Weight: W = 1465 kips

Pseudo Lateral Force: V= 1.21 W

$C_mC_1C_2S_aW$= 1773 kips

BUILDING CLASSIFICATION:

REQUIRED TIER 1 CHECKLISTS	Yes	No
Basic Configuration Checklist	☒	☐
Building Type _____ Structural Checklist W2 / RM1	☒	☐
Nonstructural Component Checklist	☐	☒

FURTHER EVALUATION REQUIREMENT:

Project: Campbell City Hall Location: Campbell, CA

Completed by: GJT Date: 11/15

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)

C NC N/A U ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent 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)

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)

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)

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: Campbell City Hall Location: Campbell, CA

Completed by: GJT Date: 11/15

16.3LS LIFE SAFETY STRUCTURAL CHECKLIST FOR BUILDING TYPE W2: WOOD FRAMES, COMMERCIAL AND INDUSTRIAL

Low and Moderate Seismicity

Lateral 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)

C NC N/A U SHEAR STRESS CHECK: The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.5.3.3, is less than the following values (Commentary: Sec. A.3.2.7.1. Tier 2: Sec. 5.5.3.1.1):

Structural panel sheathing	1,000 lb/ft
Diagonal sheathing	700 lb/ft
Straight sheathing	100 lb/ft
All other conditions	100 lb/ft

C NC N/A U STUCCO (EXTERIOR PLASTER) SHEAR WALLS: Multi-story buildings do not rely on exterior stucco walls as the primary seismic-force-resisting system. (Commentary: Sec. A.3.2.7.2. Tier 2: Sec. 5.5.3.6.1)

C NC N/A U GYPSUM WALLBOARD OR PLASTER SHEAR WALLS: Interior plaster or gypsum wallboard is not used as shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building. (Commentary: Sec. A.3.2.7.3. Tier 2: Sec. 5.5.3.6.1)

C NC N/A U NARROW WOOD SHEAR WALLS: Narrow wood shear walls with an aspect ratio greater than 2-to-1 are not used to resist seismic forces. (Commentary: Sec. A.3.2.7.4. Tier 2: Sec. 5.5.3.6.1)

C NC N/A U WALLS CONNECTED THROUGH FLOORS: Shear walls have an interconnection between stories to transfer overturning and shear forces through the floor. (Commentary: Sec. A.3.2.7.5. Tier 2: Sec.5.5.3.6.2)

C NC N/A U HILLSIDE SITE: For structures that are taller on at least one side by more than one-half story because of a sloping site, all shear walls on the downhill slope have an aspect ratio less than 1-to-1. (Commentary: Sec. A.3.2.7.6. Tier 2: Sec. 5.5.3.6.3)

C NC N/A U CRIPPLE WALLS: Cripple walls below first-floor-level shear walls are braced to the foundation with wood structural panels. (Commentary: Sec. A.3.2.7.7. Tier 2: Sec. 5.5.3.6.4)

C NC N/A U OPENINGS: Walls with openings greater than 80% of the length are braced with wood structural panel shear walls with aspect ratios of not more than 1.5-to-1 or are supported by adjacent construction through positive ties capable of transferring the seismic forces. (Commentary: Sec. A.3.2.7.8. Tier 2: Sec. 5.5.3.6.5)

Connections

C NC N/A U WOOD POSTS: There is a positive connection of wood posts to the foundation. (Commentary: Sec. A.5.3.3. Tier 2: Sec. 5.7.3.3)

C NC N/A U WOOD SILLS: All wood sills are bolted to the foundation. (Commentary: Sec. A.5.3.4. Tier 2: Sec. 5.7.3.3)

C NC N/A U GIRDER/COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.4.1)

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

Diaphragms

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 ROOF CHORD CONTINUITY: All chord elements are continuous, regardless of changes in roof elevation. (Commentary: Sec. A.4.1.3. Tier 2: Sec. 5.6.1.1)

C NC N/A U DIAPHRAGM REINFORCEMENT AT OPENINGS: There is reinforcing around all diaphragm openings larger than 50% of the building width in either major plan dimension. (Commentary: Sec. A.4.1.8. Tier 2: Sec. 5.6.1.5)

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. Wood commercial and industrial buildings may have rod-braced systems. (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)

Connections

C NC N/A U WOOD SILL BOLTS: Sill bolts are spaced at 6 ft or less, with proper edge and end distance provided for wood and concrete. (Commentary: A.5.3.7. Tier 2: Sec. 5.7.3.3)

Project: Campbell City Hall

Location: Campbell, CA

Completed by: GJT

Date: 11/15

16.15LS LIFE SAFETY STRUCTURAL CHECKLIST FOR BUILDING TYPES RM1: REINFORCED MASONRY BEARING WALLS WITH FLEXIBLE DIAPHRAGMS AND RM2: REINFORCED MASONRY BEARING WALLS WITH STIFF 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)

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)

C NC N/A U REINFORCING STEEL: The total vertical and horizontal reinforcing steel ratio in reinforced masonry walls is greater than 0.002 of the wall with the minimum of 0.0007 in either of the two directions; the spacing of reinforcing steel is less than 48 in., and all vertical bars extend to the top of the walls. (Commentary: Sec. A.3.2.4.2. Tier 2: Sec. 5.5.3.1.3)

Stiff Diaphragms

C NC N/A U TOPPING SLAB: Precast concrete diaphragm elements are interconnected by a continuous reinforced concrete topping slab. (Commentary: Sec. A.4.5.1. Tier 2: Sec. 5.6.4)

Connections

C NC N/A U WALL ANCHORAGE: Exterior concrete or masonry walls that are dependent on the diaphragm for lateral support are anchored for out-of-plane forces at each diaphragm level with steel anchors, reinforcing dowels, or straps that are developed into the diaphragm. Connections shall have adequate strength to resist the connection force calculated in the Quick Check procedure of Section 4.5.3.7. (Commentary: Sec. A.5.1.1. Tier 2: Sec. 5.7.1.1)

C NC N/A U WOOD LEDGERS: The connection between the wall panels and the diaphragm does not induce cross-grain bending or tension in the wood ledgers. (Commentary: Sec. A.5.1.2. Tier 2: Sec. 5.7.1.3)

C NC N/A U TRANSFER TO SHEAR WALLS: Diaphragms are connected for transfer of seismic forces to the shear walls. (Commentary: Sec. A.5.2.1. Tier 2: Sec. 5.7.2)

C NC N/A U TOPPING SLAB TO WALLS OR FRAMES: Reinforced concrete topping slabs that interconnect the precast concrete diaphragm elements are doweled for transfer of forces into the shear wall or frame elements. (Commentary: Sec. A.5.2.3. Tier 2: Sec. 5.7.2)

C NC N/A U FOUNDATION DOWELS: Wall reinforcement is doweled into the foundation. (Commentary: Sec. A.5.3.5. Tier 2: Sec. 5.7.3.4)

C NC N/A U GIRDER–COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.4.1)

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

Stiff Diaphragms

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 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)

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 shall 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)

Connections

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)

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MEMORANDUM

Date: November 30, 2015

To: Todd Capurso, Public Works Director
Jesse Takahashi, Finance Director

From: Craig Hill

RE: City of Campbell – Civic Center Facility Funding Strategy

Background

NHA Advisors, LLC, the City of Campbell's (the "City") municipal advisor, has worked with the City's CORE team and staff over the last ten months to develop funding alternatives and provide quantitative analysis related to the City's property tax base and the potential impact of a voter-approved bond. The options have included both general obligation and bonds backed by a potential sales tax measure.

Latest Project Concept

Based on information provided by City staff, NHA has prepared an analysis calculating the project bonding capacity based on a potential sales tax measure generating between $2,700,000 and $3,000,000 for 30 years. A similarly sized general obligation bond analysis was also created to compare the impact of an ad valorem tax to a sales tax.

City Sales Tax Base

A ½ cent sales tax measure is estimated to generate between $2,700,000 and $3,000,000 per year to the City if approved by the voters. The approval threshold for a general sales tax measure not dedicated to the repayment of a financing requires a simple majority. Any financing would be a City General Fund obligation with a pledge of all general fund revenues (which would include the new sales tax revenue stream). Assuming a 30-year revenue stream, the City could expect to generate one-time project funds as shown below:

Annual Sales Tax Target	1/4 Cent Increase ($2,700,000)			
Term	30 Years	30 Years	30 Years	30 Years
Interest Rate	3.00%	3.75%	4.00%	5.00%
Par Amount	$53,310,000	$48,590,000	$47,145,000	$42,010,000
Project Fund	**$52,820,000**	**$48,122,000**	**$46,685,000**	**$41,575,000**
Annual Debt Service	$2,700,000	$2,700,000	$2,700,000	$2,700,000
Total Debt Service	$81,000,825	$81,014,656	$81,002,350	$81,006,875

A $3,000,000 annual sales tax revenue target will generate financing capacity as shown below:

Annual Sales Tax Target	1/4 Cent Increase ($3,000,000)			
Term	30 Years	30 Years	30 Years	30 Years
Interest Rate	3.00%	3.75%	4.00%	5.00%
Par Amount	$59,240,000	$53,970,000	$52,365,000	$46,665,000
Project Fund	**$58,718,000**	**$53,475,000**	**$51,878,000**	**$46,206,000**
Annual Debt Service	$3,000,000	$3,000,000	$3,000,000	$3,000,000
Total Debt Service	$90,011,450	$89,987,531	$89,981,550	$89,983,188

Comparison of General Obligation Bond and Sales Tax

As previously discussed in prior NHA memorandums, the City has the option to seek voter approval to potentially fund the proposed project (or a portion of the project) through the issuance of general obligation bonds.

A general obligation bond requires 2/3rds voter approval but have different tax characteristics. A summary of those characteristics is shown in the following table.

	General Obligation Bond	General Sales Tax Measure
Voter Approval Required	Yes – 2/3rds	Yes – Simple Majority
Tax Formula	Based on % of Assessed Value	Based on taxable sales
Use of Bond Proceeds	Capital Improvements Only	Any General Fund Expense
Use of Tax Revenue	Debt Service Only	Capital, Debt Service or Operations
Key Benefit	Typically lowest tax to established voters Voters asked to only approve total bond amount	Unrestricted New Revenue Source
Key Negative	Tax based on Assessed Value and may not be equitable	Bonding Capacity based on General Fund Pledge (no direct pledge of new revenue stream only)

General Obligation Bond Analysis

Assuming a comparable general obligation bond to the sales tax capacity as shown above, the City would be looking at a general obligation bond authorization between $42,000,000 and $60,000,000 (depending on the interest rate assumption). We have summarized the property tax impact of two scenarios below for comparison purposes between a sales tax measure and general obligation bond.

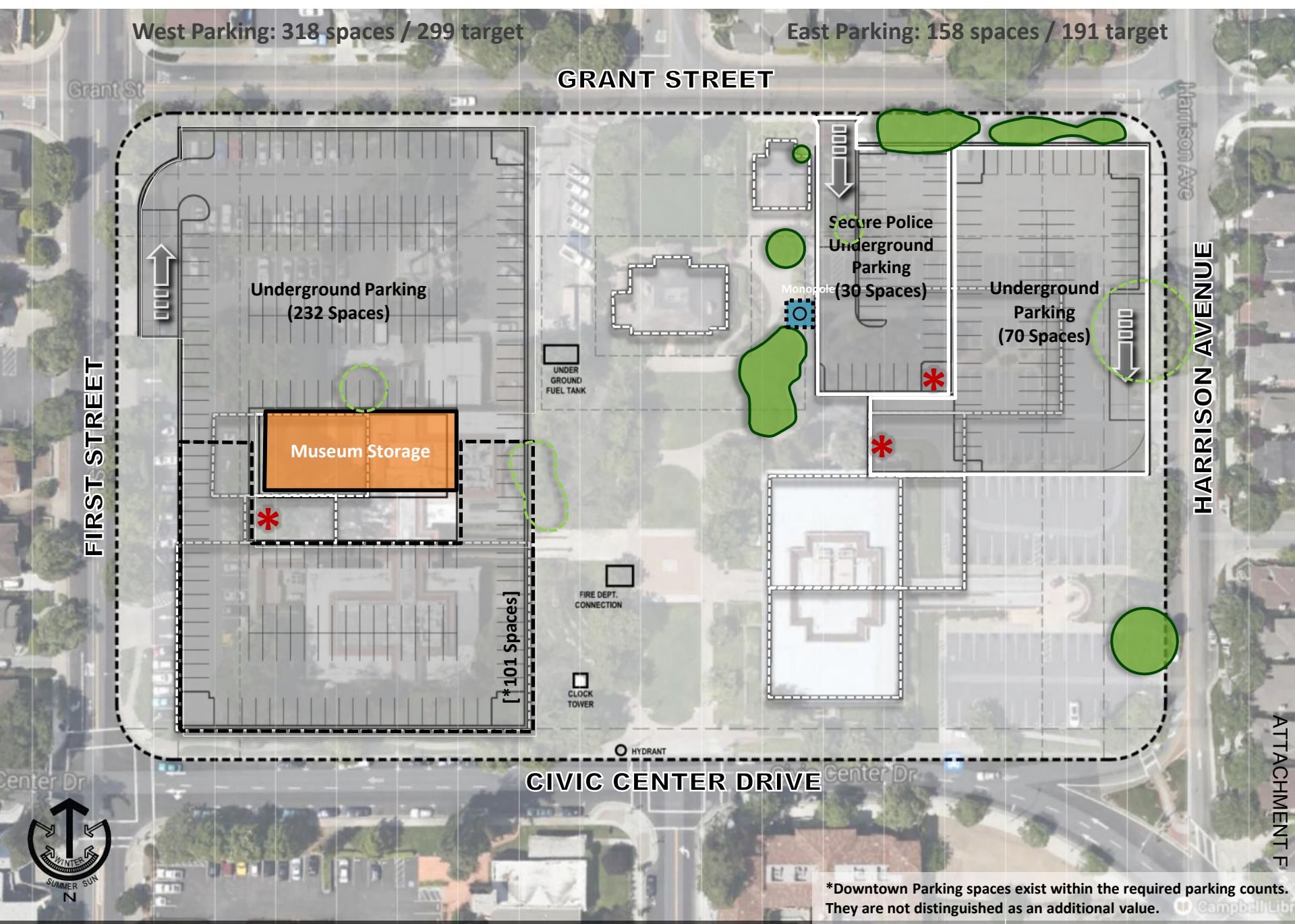
	General Obligation Bond – Ad Valorem Property Tax			
Average Residential Property	**$515,103 A.V.**	**$515,103 A.V.**	**$100,000 A.V.**	**$100,000 A.V.**
Annual Debt Service	$3,000,000	$2,700,000	$3,000,000	$2,700,000
Maximum Annual Property Tax	$179	$160	$33	$30
Average Annual Property Tax	$128	$115	$25	$22

Design Option 1 | At Grade

Parking Summary

Required: 490 spaces
Provided: 476 spaces

ATTACHMENT F



*Downtown Parking spaces exist within the required parking counts. They are not distinguished as an additional value.

Design Option 1 | Below Grade

Parking Summary

Required: 490 spaces
Provided: 476 spaces

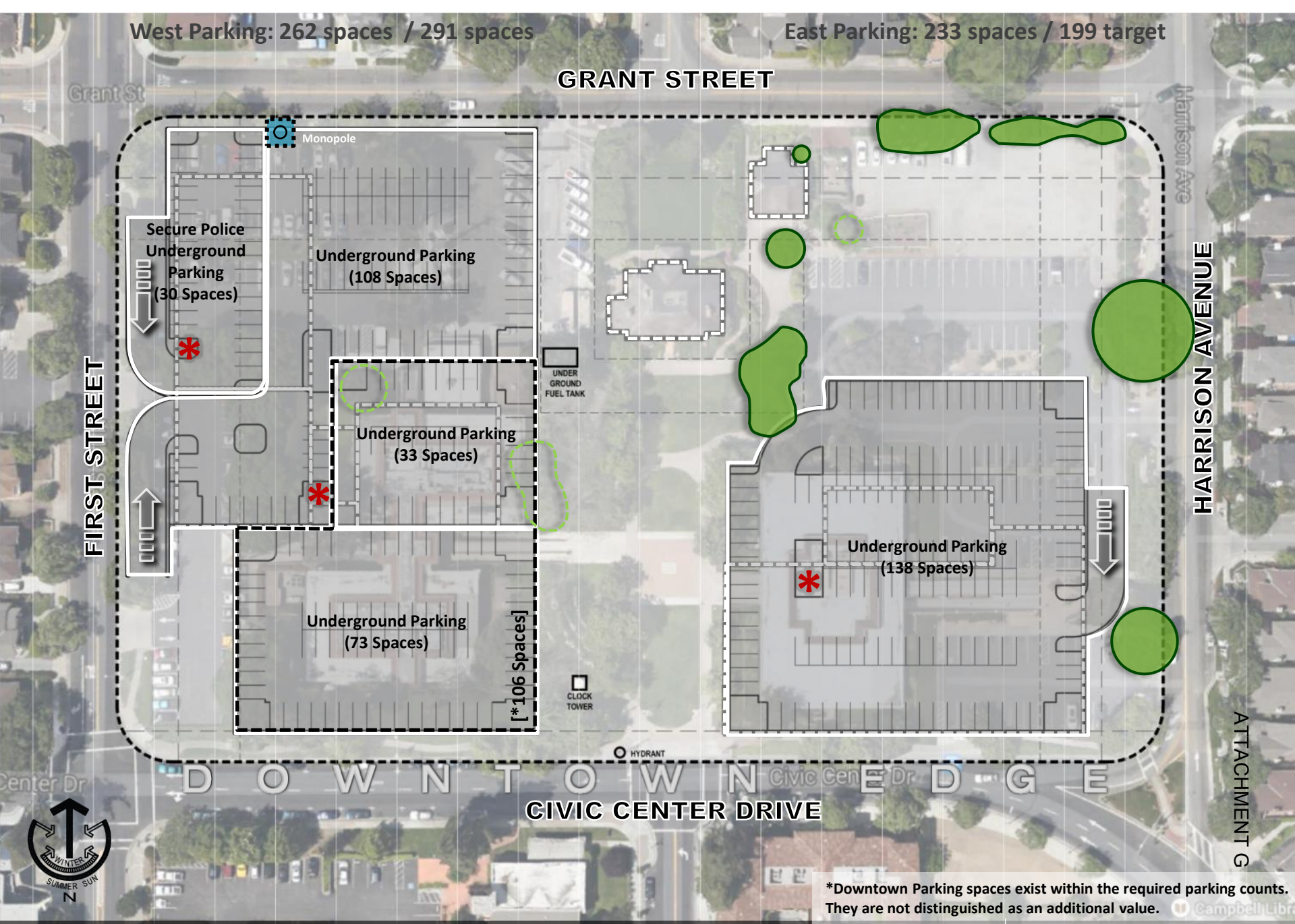
ATTACHMENT F

Design Option 2 | At Grade

Parking Summary

Required: 490 spaces
Provided: 495 spaces

ATTACHMENT G



ATTACHMENT G

Design Option 2 | Below Grade

Parking Summary

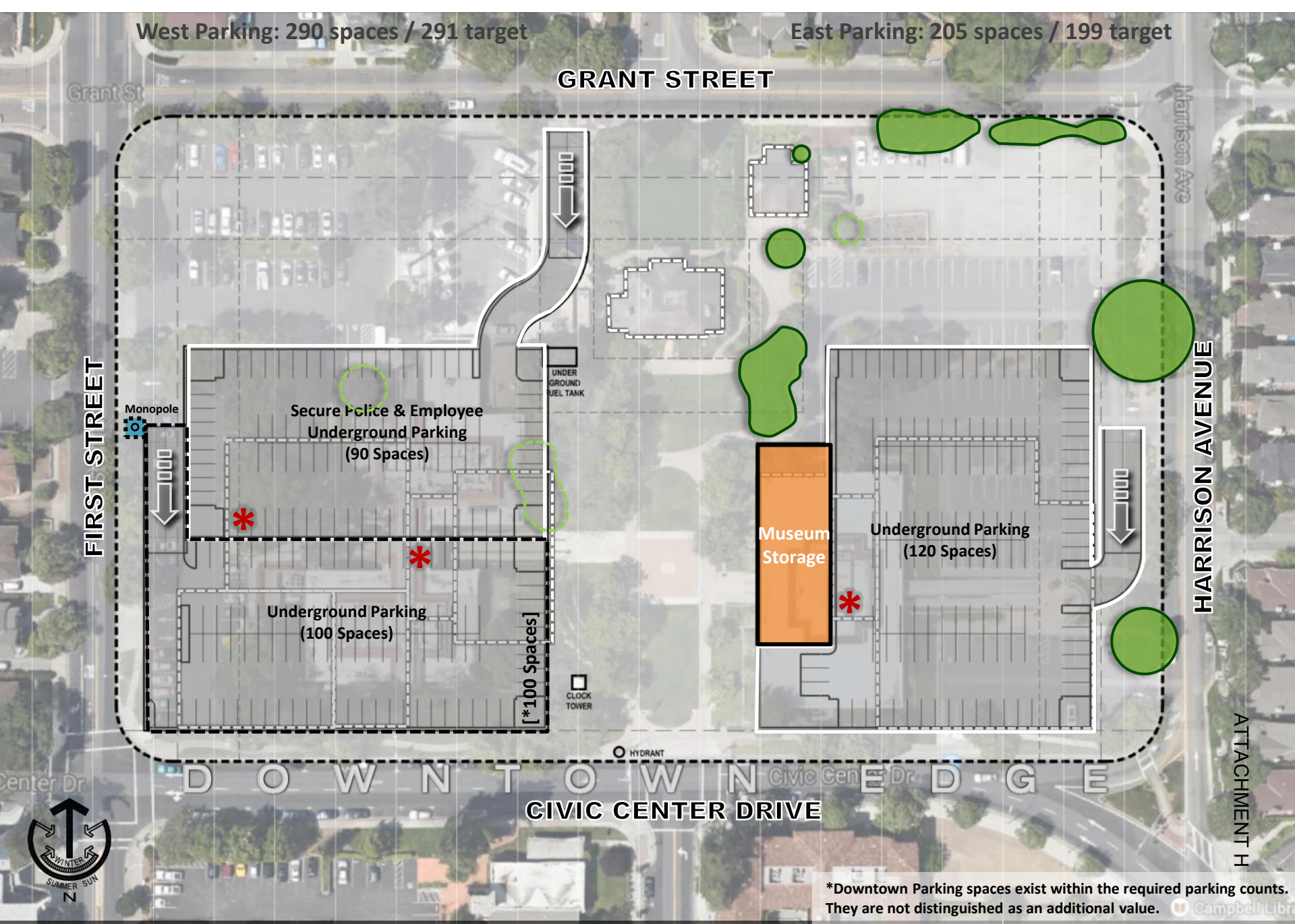
Required: 490 spaces
Provided: 495 spaces

Design Option 3 | At Grade

Parking Summary

Required: 490 spaces
Provided: 495 spaces

ATTACHMENT H



*Downtown Parking spaces exist within the required parking counts. They are not distinguished as an additional value.

Design Option 3 | Below Grade

Parking Summary

Required: 490 spaces
Provided: 495 spaces

ATTACHMENT H