BAY AREA WATER SUPPLY AND CONSERVATION AGENCY
BOARD OF DIRECTORS MEETING

March 13, 2026

Correspondence and media coverage of interest between January 28, 2026 and March 11, 2026

From:	Tom Smegal, BAWSCA CEO/General Manager
To:	Senator Padilla, Senator Schiff, Representative Mullin
Date:	March 5, 2026
Subject:	Support letter for City of Burlingame's East Burlingame Terrace Subdivision Water Main Replacement Project

From:	Tom Smegal, BAWSCA CEO/General Manager
To:	Senator Padilla, Senator Schiff, Representative Mullin
Date:	March 5, 2026
Subject:	Support letter for MPWD's Request for FY 2027 Congressionally Directed Spending for their Emergency Intertie Project

From:	Tom Smegal, BAWSCA CEO/General Manager
To:	Senator Padilla, Senator Schiff, Representative Mullin
Date:	March 5, 2026
Subject:	Support letter for MPWD's Request for FY 2027 Congressionally Directed Spending for their Hallmark Water Tanks Replacement Project

From:	Tom Smegal, BAWSCA CEO/General Manager
To:	Senator Padilla, Senator Schiff, Representative Liccardo
Date:	March 4, 2026
Subject:	Support letter for CCWD's Request for FY 2027 Congressionally Directed Spending for their Carter Hill Prestressed Concrete Tank and Seismic Upgrades Project – Phase 2

From:	Steven R. Ritchie, SFPUC Assistant General Manager, Water
To:	Tom Smegal, BAWSCA CEO/General Manager
Date:	February 9, 2026
Subject:	Response to BAWSCA's January 28, 2026 Comment Letter on SFPUC's Draft 10-year Capital Improvement Plan

From:	Tom Smegal, BAWSCA CEO/General Manager
To:	The Hon. Joshua Arce, SFPUC President and Members of the Commission
Date:	January 28, 2026
Subject:	General Comments and Observation – SFPUC's Draft 10-year Capital Improvement Plan for their Water Enterprise and Hetch Hetchy Enterprise

Water Supply Conditions:

Date:	March 11, 2026
Source:	Department of Water Resources
Article:	DWR Continues to Improve Forecasting as Spring Heats up in California

Water Supply Conditions, cont'd.:

Date: March 5, 2026
Source: LA Times
Article: Satellite photos show California's sudden snowpack meltdown: Now you see it, now you don't

Date: March 1, 2026
Source: Wildfire Today
Article: 'Unprecedented' snow drought sets up extreme wildfire for Western US in 2026

Water Supply Management:

Date: March 11, 2026
Source: Pacific Institute
Article: 5 Ways Water Efficiency Builds Resilience in Your Community

Date: March 3, 2026
Source: Maven
Article: How are water managers adapting to a smaller Sierra snowpack?

Water Infrastructure:

Date: March 10, 2026
Source: Smart Water Magazine
Article: Study warns data centers may require billions for water infrastructure upgrades

March 5, 2026

The Honorable Alex Padilla
United States Senator
331 Hart Senate Office Building
Washington, DC 20510

The Honorable Adam Schiff
United States Senator
112 Hart Senate Office Building
Washington, DC 20510

The Honorable Kevin Mullin
United States Representative
1404 Longworth House Building
Washington, DC 20515

Subject: The Bay Area Water Supply and Conservation Agency (BAWSCA) Supports the City of Burlingame's East Burlingame Terrace Subdivision Water Main Replacement Project

Dear Senator Padilla, Senator Schiff, and Representative Mullin,

On behalf of the Bay Area Water Supply and Conservation Agency (BAWSCA), I write to express BAWSCA's strong support for the City of Burlingame's application for FY 2027 Community Project Funding for their East Burlingame Terrace Subdivision Water Main Replacement Project.

BAWSCA is a Special District that provides regional water supply planning, water resource development, and conservation program services to enhance the water supply reliability of the 16 cities, 8 water districts, a university and an investor-owned utility company that serve water to over 1.8 million people and 40,000 commercial, industrial, and institutional accounts in Alameda, Santa Clara, and San Mateo Counties. The City of Burlingame is a BAWSCA member agency located in San Mateo County, lying within Representative Mullin's Congressional District.

The City of Burlingame identified the East Burlingame Terrace Water Main Replacement Project as a high-priority need through the City's Water System Master Plan due to the age and deteriorating condition of the existing cast-iron water mains that serve that portion of the City. Much of the water system in this area was installed nearly 100 years ago and consists of deteriorated 2-, 4- and 6-inch cast-iron mains that have reached the end of their useful life. These aging pipelines pose increasing risks of leaks, service interruptions, and reduced fire protection capability. Although there are no lead service lines in the City, the neighborhood was also included in the California State Water Resources Control Board's Lead Service Line Replacement Plan due to unknown

service line material and the potential presence of lead goosenecks, increasing the urgency to replace older service components and protect public health.

The project will install approximately 3,635 linear feet of new 6-inch Ductile Iron Pipe; replace or install 96 1-inch and 2-inch water service lines and install 8 fire hydrants to improve fire flow and emergency response capacity.

This investment will improve water quality, increase flow and pressure for residents, strengthen system resiliency, and support long-term public health and safety. The project is fully shovel-ready, included in the City's adopted Capital Improvement Program, and can begin construction immediately upon receipt of funding, ensuring rapid and efficient deployment of federal resources.

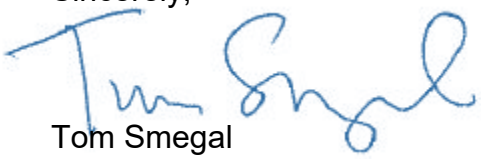
The project aligns with BAWSCA's goal for the broader region, which is to ensure a reliable supply of high-quality supply water at a fair price is available to its 26 member agencies.

BAWSCA strongly supports the City of Burlingame's FY 2027 Community Project Funding request to cover the cost of their East Burlingame Terrace Subdivision Water Main Replacement Project. An award of these funds will help enable the City of Burlingame to meet the water supply reliability needs of that portion of their community.

Thank you for your consideration and support of this important project.

TS/TF/le

Sincerely,



Tom Smegal
CEO/General Manager

March 5, 2026

The Honorable Alex Padilla
United States Senator
331 Hart Senate Office Building
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The Honorable Adam Schiff
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112 Hart Senate Office Building
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The Honorable Kevin Mullin
United States Representative
1404 Longworth House Building
Washington, DC 20515

Subject: The Bay Area Water Supply and Conservation Agency (BAWSCA) Supports Mid-Peninsula Water District's Request for FY 2027 Congressionally Directed Spending for their Emergency Intertie Project

Dear Senator Padilla, Senator Schiff, and Representative Mullin,

On behalf of the Bay Area Water Supply and Conservation Agency (BAWSCA), I write to express BAWSCA's strong support of Mid-Peninsula Water District's (MPWD) application for FY 2027 Congressionally Directed Spending/Community Project Funding for their Emergency Interties Project.

BAWSCA is a Special District that provides regional water supply planning, water resource development, and conservation program services to enhance the water supply reliability of the 16 cities, 8 water districts, a university and an investor-owned utility company that serve water to over 1.8 million people and 40,000 commercial, industrial, and institutional accounts in Alameda, Santa Clara, and San Mateo Counties. MPWD is a BAWSCA member agency located in San Mateo County, lying within Representative Mullin's Congressional District.

MPWD maintains 8 system interconnections, or interties, at 7 locations with neighboring water systems, each allowing water to be transferred from one agency to another in times of need. Interties are an important resiliency resource that can be used by water agencies following an emergency, such as a main break, pump station failure, or wildfire event, among others, to prevent a loss of service or pressure losses necessitating boil-water notices. These connections support system redundancy and regional cooperation, providing clean and safe water to MPWD's service area as well as to neighboring water agencies to support hospitals, schools, and critical care facilities during an emergency. Neighboring water agencies are also members of BAWSCA.

Securing federal funding for this project will go toward the rebuilding of 6 of the existing intertie locations. Those improvements will enhance the functionality of each agency's water system and increase water meter accuracy. Its completion will help address water supply reliability, emergency preparedness, and long-term community resilience needs of the Peninsula. Moreover, it will help assure uninterrupted access to safe and reliable water for customers.

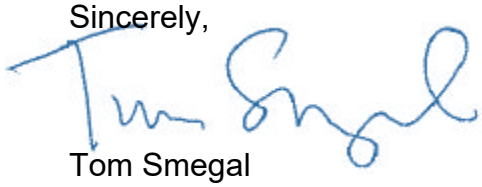
The project aligns with BAWSCA's goal for the broader region, which is to ensure a reliable supply of high-quality water at a fair price is available to its 26 member agencies.

BAWSCA strongly supports MPWD's FY 2027 Community Project Funding request of $960,000 to cover the costs of their Emergency Interties Project. An award of these funds will enable the MPWD to continue fulfilling its mission to deliver a safe, high-quality, reliable supply of water for current and future generations in a cost-effective, environmentally sensitive, and efficient manner.

Thank you for your consideration and support of this important project.

TS/TF/le

Sincerely,



Tom Smegal
CEO/General Manager

BAWSCA
Bay Area Water Supply & Conservation Agency

March 5, 2026

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331 Hart Senate Office Building
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112 Hart Senate Office Building
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The Honorable Kevin Mullin
United States Representative
1404 Longworth House Building
Washington, DC 20515

Subject: The Bay Area Water Supply and Conservation Agency (BAWSCA) Supports Mid-Peninsula Water District's Request for FY 2027 Congressionally Directed Spending for their Hallmark Water Tanks Replacement Project

Dear Senator Padilla, Senator Schiff, and Representative Mullin,

On behalf of the Bay Area Water Supply and Conservation Agency (BAWSCA), I write to express BAWSCA's strong support for Mid-Peninsula Water District's (MPWD) application for FY 2027 Congressionally Directed Spending/Community Project Funding for their Hallmark Water Tanks Project.

BAWSCA is a Special District that provides regional water supply planning, water resource development, and conservation program services to enhance the water supply reliability of the 16 cities, 8 water districts, a university and an investor-owned utility company that serve water to over 1.8 million people and 40,000 commercial, industrial, and institutional accounts in Alameda, Santa Clara, and San Mateo Counties. MPWD is a BAWSCA member agency located in San Mateo County, lying within Representative Mullin's Congressional District.

MPWD receives treated water from the San Francisco Regional Water System via connection points, also referred to as "turnouts". The primary turnout that connects to MPWD serves to meet their customer's water supply needs. It is operated by MPWD in a manner to help manage water pressure in MPWD's distribution lines and meet water quality standards within MPWD's nine pressure zones. A key component of MPWD's distribution system is their treated water storage tanks. Storage tanks help maintain consistent water pressure, balance fluctuating water supply and demand, and ensure water availability during emergencies (e.g., power outages, fires, etc.). Tanks also

enable pumps to operate efficiently without constant, high-power cycling and provide reserve capacity during peak hours.

MPWD's Hallmark Water Tanks are the most important treated water storage tanks in MPWD's distribution system. The tanks have a direct impact on MPWD's entire water system, providing potable and emergency water to the 30,000 customers MPWD serves. However, the Hallmark Water Tanks do not meet current seismic resiliency standards and are presently being operated at a reduced capacity to prevent failure from a large seismic event. This reduced capacity is especially problematic during high summer demands. Because of MPWD's location on the Peninsula and in particular its distribution system interties with other neighboring water agencies, projects that increase the resiliency of MPWD's system increase the resiliency of the other interconnected systems in this economically vital region. The risk of tank failure would threaten the surrounding area as well as impact fire protection and water service systemwide.

Securing federal funding for this project will go toward the replacement of the existing tanks with two 2.5 million-gallon steel tanks that would be built to current seismic standards and could be filled to capacity without danger of failure during a seismic event. These replaced tanks would provide a more reliable water supply for MPWD, which will be especially important during summer months and emergency situations.

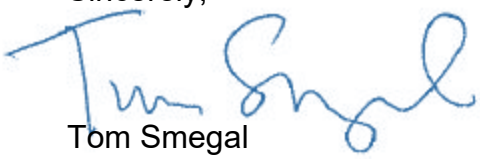
The project aligns with BAWSCA's goal for the broader region, which is to ensure a reliable supply of high-quality water at a fair price is available to its 26 member agencies.

BAWSCA strongly supports the MPWD's FY 2027 Community Project Funding request of $$6,640,000 to cover the costs of their Hallmark Water Tanks Replacement Project. An award of these funds will enable MPWD to continue fulfilling its mission to deliver a safe, high-quality, reliable supply of water for current and future generations in a cost-effective, environmentally sensitive, and efficient manner.

Thank you for your consideration and support of this important project.

TS/TF/le

Sincerely,



Tom Smegal
CEO/General Manager

Bay Area Water Supply & Conservation Agency

March 4, 2026

The Honorable Alex Padilla
United States Senator
331 Hart Senate Office Building
Washington, DC 20510

The Honorable Adam Schiff
United States Senator
112 Hart Senate Office Building
Washington, DC 20510

The Honorable Sam Liccardo
c/o Eric Henshall
Office of Sam Liccardo (CA-16)
1117 Longworth House
Office Building
Washington, DC 20515

Subject: The Bay Area Water Supply and Conservation Agency (BAWSCA) Supports Coastside County Water District's Request for FY 2027 Congressionally Directed Spending for their Carter Hill Prestressed Concrete Tank and Seismic Upgrades Project–Phase 2

Dear Senator Padilla, Senator Schiff, and Representative Liccardo,

On behalf of the Bay Area Water Supply and Conservation Agency (BAWSCA), I write to express my strong support for the Coastside County Water District's (CCWD) application for FY 2027 Community Project Funding for their Carter Hill Prestressed Concrete Tank and Seismic Upgrades Project–Phase 2.

BAWSCA is a Special District that provides regional water supply planning, water resource development, and conservation program services to enhance the reliability of the 16 cities, 8 water districts, a university and an investor-owned utility company that provide water to over 1.8 million people and 40,000 commercial, industrial, and institutional accounts in Alameda, Santa Clara, and San Mateo Counties. CCWD is a BAWSCA Member Agency located in San Mateo County, lying within Representative Liccardo's Congressional District.

This critical infrastructure project will replace an existing 1.5-million-gallon steel water storage tank, originally constructed in 1963, with a new 3-million-gallon prestressed concrete tank. The project will significantly enhance drinking water storage capacity for approximately 19,000 residents in the City of Half Moon Bay and the unincorporated San Mateo County Coastside communities of Moonridge, El Granada, Princeton, and Miramar.

Key benefits of this project include:

- **Enhanced fire protection and water supply reliability** for the San Mateo Coastside, which can become geographically isolated during emergencies due to limited access routes;

- **Improved seismic resilience** through replacement of aging 1960s-era infrastructure with a modern, seismically robust facility;

- **Strategically located, gravity-fed storage capacity** capable of serving most District customers without water age concerns, ensuring dependable service during emergencies, power outages, and other disruptions; and

- **Long-term cost efficiency**, as the new tank is expected to require minimal maintenance over an anticipated service life of more than 80 years.

Securing federal funding for this project will help limit water rate increases associated with necessary infrastructure investment and maintain affordability for CCWD customers.

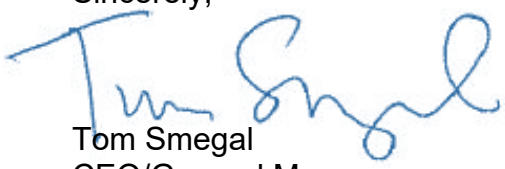
The project aligns with BAWSCA's goal for the broader region, which is to ensure a reliable supply of high-quality water at a fair price is available to its 26 member agencies.

BAWSCA strongly supports CCWD's FY 2027 Community Project Funding request of $625,000 to cover engineering design, environmental review, and permitting for the Carter Hill Prestressed Concrete Tank and Seismic Upgrades Project – Phase 2. An award of these funds will enable the CCWD to continue fulfilling its mission of providing high-quality water service at the lowest possible cost while ensuring long-term reliability and sustainability of its infrastructure.

Thank you for your consideration and support of this important project.

TS/TF/le

Sincerely,



Tom Smegal
CEO/General Manager

Hetch Hetchy
Regional Water System
Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 13th Floor
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T 415.554.3155
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February 9, 2026

Tom Smegal, CEO/ General Manager
Bay Area Water Supply and Conservation Agency
155 Bovet Road, Suite 650
San Mateo, CA 94402
Via email to TSmegal@bawsca.org

Dear Mr. Smegal,

Thank you for your January 28th letter regarding BAWSCA's comments on the SFPUC's proposed FY 2027-2036 Water Enterprise and Hetch Hetchy Enterprise 10-Year Capital Plans. We appreciate BAWSCA's focus on our capital planning process, and we welcome the opportunity to respond to your questions and comments. Please see our responses below.

First, the SFPUC values BAWSCA's support of our priorities and project drivers which have guided development of our 10-Year Capital Plan. BAWSCA's recognition of the necessary balance between capital needs and financial constraints, most notably ratepayer affordability, confirms the SFPUC's capital and financial planning approach.

Engagement and Coordination with the State of California Division of Safety of Dams

The SFPUC agrees with BAWSCA's recognition that critical coordination with the Division of Safety of Dams (DSOD) is essential when planning work related to our regional water supply dams. The SFPUC has engaged in, and plans to continue, regular coordination with DSOD related to the 10-Year Capital Plan. The current plan was developed following discussions with the Division in October 2025, and we expect to continue those discussions in 2026 as the Capital Plan moves through the approval process. Attached is a copy of the letter we recently sent to DSOD detailing our approach.

Regional Prioritization and Deferred Projects

The SFPUC again appreciates BAWSCA's recognition of the challenge of proposing a balanced Capital Improvement Plan while maintaining the flexibility to respond to evolving needs. As with prior Plans, the SFPUC is poised to

adjust our efforts if and when Regional Water System conditions require reprioritization.

Millbrae Operations Center Project

The SFPUC is committed to engaging with the City of Millbrae and BAWSCA to address their various questions related to the Millbrae Operations Center Project. As has been our practice, we will continue to ensure BAWSCA is provided all communications with the City of Millbrae.

As with all projects included in our 10 Year Capital Improvement Plan, the Millbrae Operations Center is the culmination of many years of analysis aimed at the most efficient, cost effective and prudent plan for improved facilities necessary to the Regional Water System. The utilization of existing SFPUC owned property, rehabilitation of existing buildings, and co-location of Regional Water System services and technical expertise provide a demonstrated and significant cost savings. The cost of this project has been constrained to address critical system needs; the search for and/or purchase or lease of alternative sites would add cost and duration to the project timeline which would additionally escalate construction costs. The SFPUC will provide BAWSCA the Rollins Road facility analysis, in addition to materials already provided during BAWSCA's CIP review process and those related to the Construction Management/General Contractor (CM/GC) construction contract approved in March 2025. Finally, for clarity, the Wellness Center previously identified in early conceptual designs for the Millbrae Operations Center, is no longer part of the project design in order to save cost.

Hetch Hetchy Water CIP, including Moccasin Penstocks and Moccasin Facilities

The SFPUC is committed to continuing our practice of engaging BAWSCA as we advance planning for critical projects and infrastructure. We will continue to engage BAWSCA on the Moccasin Penstocks and Moccasin Facilities projects during and in addition to our quarterly meetings on the Water Enterprise and Hetch Hetchy Capital Improvement Programs.

Alternative Water Supply Projects

SFPUC appreciates BAWSCA acknowledgement of our previous public commitments to plan for Regional Water System obligations but build for System demands. Both Capital Improvement Plan development and regional demands have modified our Alternative Water Supply projects that contribute to new supplies, representing only $122M (4%) of the $3.1B Regional Water System costs in the 10-year Capital Plan. The $122M includes development of one project through design and additional funding for planning. We continue to

monitor changes in demand and dry year water supply planning and will adjust as System needs require.

Responses to your questions regarding specific Project Datasheets have been included in Attachment A.

We appreciate your review and comment on the 10-year CIP for both the Water Enterprise and the Hetch Hetchy Enterprise. Thank you for acknowledging our robust plans and our consideration of affordability goals. We look forward to your participation in the upcoming Commission meeting on the 10-Year CIP.

Sincerely,

Steven R. Ritchie

Steven R. Ritchie
Assistant General Manager, Water

cc: Dennis Herrera, SFPUC, General Manager
Stephen Robinson, SFPUC, Assistant General Manager of Infrastructure
Katie Miller, SFPUC, Director Water Capital Programs
Alison Kastama, SFPUC, BAWSCA Liaison
BAWSCA Water Management Representatives
Allison Schutte, Hanson Bridgett, LLP, Legal Counsel
Tom Williams, Millbrae City Manager

Encl.
Attachment A – Response to Questions Regarding Projects as Detailed on Project Data Sheets

Attachment B – Letter to DSOD

Attachment C – Rollins Road Seismic Evaluation

Attachment D – Millbrae Operations Center FAQ

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Attachment A: Responses to BAWSCA Attachment 1

Hetch Hetchy Enterprise

1. *Mountain Tunnel Improvement Project – The project description section should be revised to exclude the South Fork Siphon from the project. That siphon work has now been moved into a new project, separate from the Mountain Tunnel Improvement Project.*

   SFPUC Response:
   The project description has been updated to show this scope of work has been removed, and a new project has been created in the CIP. Please see attached revised data sheet.

2. *R&R Dam and Reservoir Conditions Assessment – This project does not appear in the FY 24-25 Water Enterprise Managed Capital Project Report. The SFPUC should include regular reporting on this ongoing capital project moving forward.*

   SFPUC Response:
   There are three separate R&R Dam-related projects in the Capital Plan; one under each of the Water, Power, and Joint authorities. The R&R Dams and Reservoirs Condition Assessment and Rehabilitation Project – Power (HHWP Activity Level Code: 15364; Project ID 100041003) appears on Page 81, and the R&R Dams and Reservoirs Condition Assessment and Rehabilitation Project - Joint (HHWP Activity Level Code: 15365; Project ID 14096) appears on page 104, of the Annual Report on Water Enterprise-Managed Capital Improvement Projects Fiscal Year 2024-2025. These projects were also reported in the FY23-24 Report in this section. This response assumes the question is related to the Water project. There have been no actuals spent yet under the R&R Dam/Reservoir Condition Assessment & Rehabilitation Project - Water, therefore it has not yet been included in the Water Enterprise-Managed Capital Project Report. Previous appropriations for this project were re-prioritized. We expect expenditures and project reporting to occur in Fiscal Year 2026-2027 and appear in the Water Enterprise-Managed Capital Improvement Projects Fiscal Year 2026-2027 Report.

3. *Mountain Tunnel South Fork Siphon Extension – This is a new project created because scope was dropped from the Mountain Tunnel Improvement Project. BAWSCA recommends that the SFPUC create a*

new NAR/AAR specific to this facility once work on the Mountain Tunnel Improvement Project is completed.

SFPUC Response:
The first few years of the Mountain Tunnel South Fork Siphon Extension Project include planning and design phases, which will consider information gained during the Mountain Tunnel Improvement Project.

4. *R&R Roads and Bridge Improvements – The project data sheet does not identify the specific details of why annual funding should be up to ten times the current annual expenditure rate. Additional discussion is warranted.*

   SFPUC Response:
   The proposed budget now includes a 10-year plan to replace high risk, large continuous pavement sections along Cherry Lake Road and Hetch Hetchy Road, which provide critical access to our upcountry assets. There is a total of 21 miles and 5 miles, respectively, where new asphalt overlay is planned. These roads have exceeded their expected useful life and are in need of replacement. This road work has been newly prioritized and not included in previous Capital Plans.

5. *R&R Communications System Upgrades – BAWSCA observes that this line-item proposes about $20M more appropriation than the current CIP. This appears to be a very expensive ongoing cost, and BAWSCA requests additional details as to why that is.*

   SFPUC Response:
   Asset lifecycle replacements and consolidation and upgrades to HHWPs SCADA systems have increased capital budget for R&R Communications Systems:
   - Communication/radio site battery banks consist of “smart” charging systems with integral monitoring systems and batteries. These systems need to be replaced in 10-year intervals. The capital spending plan considers replacing approximately three battery systems per year.
   - HHWP uses the Operations Technologies/SCADA asset to monitor and control water and power assets. The planned lifecycle is seven years and includes new firmware license acquisitions, hardware replacements, and commissioning. Software upgrades will be necessary every 2-3 years to maintain the system.

The Operations Technologies/SCADA rides on the digital microwave radio system and fiber optic system. Combined, these two systems provide secure primary and backup communication super-highways. Fiber currently connects Kirkwood Powerhouse with Moccasin Control Center. The 10-year capital spending plan includes extending the existing fiber optic system from Moccasin to Warnerville Substation. The current digital microwave system is comprised of 20-year old equipment, resulting in maintenance and repair to be a risk to reliability. The 10-year capital spending plan includes the Microwave System Upgrade Project that will replace existing equipment and acquire spare parts and improve maintenance and repair reliability.

6. *Cherry Dam Spillway Short-Term – The budget for this project increased due to added scope for upper spill channel armoring. Its completion date has been extended to 2028 to enable a 6-month close out phase. Funding now covers through FY27, yet the most recent Hetch Hetchy Quarterly Report has the work extending into FY28. This seems inconsistent, and additional discussion is warranted.*

   SFPUC Response:
   As correctly indicated in the comment, the project completion date was extended to 2028 (specifically, January 2028). Construction is currently forecast to complete in July 2027, followed by a 6-month closeout process. The current appropriations for the project will fund the construction contract encumbrance and construction management in FY25/26, with additional funds requested in FY26/27 to complete the project. There should be sufficient remaining funds after FY26/27 to complete closeout activities in FY27/28.

7. *R&R Power Distribution Implementation – There is a substantial increase in funding proposed in this 10-Year CIP (compared with the prior), going from a budget of $5M to a budget of $18.5M. BAWSCA needs additional information to justify the significant Increase.*

   SFPUC Response:
   The proposed budget assumes a base budget of $1.5M per year for various distribution life extension improvements (including project cost escalation), with increased budget requests in the first half of the CIP for specific projects. These planned projects include upgrading the Moccasin Administration Building’s connection to the distribution system, replacing various electric distribution transformers, and an assessment of potential renewable energy improvements.

Water Enterprise

1. *Millbrae Operations Center – This project is a primary component of the 10-year CIP, and it has generated concerns from the City of Millbrae. As noted in this comment letter, BAWSCA requests documentation and description of the conclusion to move the Rollins Road operations to the Millbrae Yard including reasons other alternatives were not preferred. Furthermore, there are several changes in the preferred alternative between what was presented in the January 21, 2020 Alternatives Analysis and the plans depicted in the August 2024 conceptual design, including the deletion of a new south shops building and the redesignation of an existing retail building as "new south shops" instead of a storage warehouse. BAWSCA would like to understand these changes and the rationale behind them. It would also be helpful for BAWSCA to understand the need for a wellness facility and SFPUC's planned uses for the facility.*

   SFPUC Response:
   The Rollins Road facility houses several Regional Water System services displaced in 1998 from the Millbrae Operations Center site due to lack of space. The SFPUC purchased the Rollins Road building after it was slated for sale during our lease tenancy.

   The Rollins Road facility was analyzed for long-term SFPUC use after purchase and analysis indicated it was not adequate to withstand seismic loading, a critical facility limitation considering our Regional Water System operations housed there (notably the Water Quality sampling staff, fleet vehicles and sampling materials necessary for routine, regulatory, and emergency water quality sampling in the Regional Water System). Upgrades to the building to address this issue would have required vacation of the site and relocation of staff for the construction duration. The cost of this upgrade and relocation activity eliminated the site from further consideration. These analyses will be made available to BAWSCA staff for review. Further information regarding the Millbrae Operations Center Project is included in the attached FAQ document.

   As mentioned, the Wellness Center depicted in early conceptual drawings has been removed from the scope and is no longer a component of the project.

2. *Sunol Valley Water Treatment Plant R&R – The appropriations for this line-item proposed for the coming 10 years is $3.3M, which is less than half of the level budgeted during the last 10-year CIP cycle. Annual R&R expenditures trend higher as well. Should additional money be allocated for this line-item?*

   SFPUC Response:
   The appropriation was adjusted downward as scope was moved to the Sunol Valley WTP Long Term Improvements Project. The contingency budget for unexpected repairs was also reduced to support other Water Enterprise projects.

3. *West Bay Field R&R – The appropriations for this line-item proposed for the coming 10 years is $3.8M, which is approximately 75% of the level budgeted during the last 10-year CIP cycle. Annual R&R expenditures trend higher as well. Should additional money be budgeted for this line-item?*

   SFPUC Response:
   The contingency budget for unexpected repairs in West Bay Field R&R was reduced to support other Water Enterprise projects. For any shortfalls, HTWTP R&R can be used as an alternative funding source. This appropriation will be reevaluated during the next budget cycle.

4. *Bay Division Pipeline 4 PCCP Repair – The budget for this work was adjusted such that only planned activities can be performed over the coming 10-year cycle. The project's completion date has been extended as well. The SFPUC notes that the budget will be revisited in the next 10-year CIP update cycle. BAWSCA believes that it is entirely possible additional money may be required to address PCCP repair issues.*

   SFPUC Response:
   The BDPL4 PCCP Project is only budgeted for planning at this time since alternatives being studied include abandoning the 1.3-mile segment up to full replacement of the segment. When the alternative is selected and moves forward to conceptual engineering, we will have a better estimate of the project costs.

5. *San Bruno Jail Waterline Replacement – No appropriations have been requested, even if the project's budget is $22.3M and the project's completion date is December 2030. Why was this project budget left out of the CIP budget? Will this project move forward in the coming years?*

SFPUC Response:
The funding for this project is coming from the San Francisco Sheriff's Department, hence the budget is left out of the SFPUC CIP budget. The work will move forward once the Sheriff's Department secures funding.

6. *Sunol Valley Water Treatment Plant WQD Trailer – Were there cost overruns on this project since the budget apparently has increased (and perhaps budget reallocation took place)?*

   SFPUC Response:
   Sunol Valley Water Treatment Plant WQD Trailer was completed in 2022. There were no cost overruns on the project as it was completed under budget. Correction will be made to show surplus funds instead of a budget increase.

7. *Regional Conveyance Via South Bay Aqueduct – There are no funds requested in the 10-Year CIP for this project. It appears that it has been deferred. Should the details have been taken out of the CIP?*

   SFPUC Response:
   This Regional Conveyance Project was deferred and defunded, however, we continue to communicate with the CA Department of Water Resources about completing a cost estimate and South Bay Aqueduct condition assessment. Funds are available under Purified Water & Other Supplies to initiate this planning work should discussions progress.

Attachment B

San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
T 415.554.3155
F 415.554.3161
TTY 415.554.3488

February 2, 2026

Mr. Erik Malvik, Ph.D., P.E., G.E.,
Division Manager
Division of Safety of Dams
2720 Gateway Drive, Suite 300
Sacramento, CA 95833

Reference: Regional Dam Capital Improvement Program
Proposed Implementation Plan

Dear Mr. Malvik,

In a meeting with DSOD on October 9, 2025, we presented a proposed strategy and timeline for completion of long-term capital improvement projects at San Andreas Dam, James H. Turner Dam (Turner Dam), and Pilarcitos Dam. The key discussions from the meeting are included as an attachment to this letter. Based on the outcome of the meeting, we have modified the implementation schedule for these three dam projects and prioritized the schedule for the outlet works component. This letter presents our updated implementation strategy for the three Bay Area Regional dams.

Considering DSOD's suggestions, we are initiating an Outlet Works Improvements Program focusing on improving the reliability of the existing outlet works at the three regional dams. Under this program, we propose to prioritize improvements at Pilarcitos Dam to facilitate reliable means to draw down the reservoir in an emergency, while simultaneously also planning to construct interim outlet works for San Andreas Dam. This Program aims to prioritize and complete the outlet work improvements for the regional dams in the near term as suggested by DSOD.

Construction for interim outlet works at San Andreas Dam is currently proposed to begin in 2029 followed by construction for retrofitted outlet works at Pilarcitos Dam in 2033. Evaluating performance of existing outlet works at Turner Dam under this program will continue with additional studies, including geotechnical investigations around the sloping intake structure for the outlet works. Table 1 below lays out the proposed timeline for the Outlet Works Improvement Program.

In addition to the Outlet Works Improvements Program, we will also continue to advance the planning of the long-term capital improvements of the three regional dams. Planning phase activities for all three dams will continue simultaneously with construction for San Andreas Dam prioritized to start in 2039, followed by Pilarcitos Dam in 2042 and lastly Turner Dam in 2052. Table 1 below presents the proposed timeline for the Long-Term Capital Improvement Projects.

Table 1: Bay Area Regional Dams - Proposed Implementation Strategy

	Facility/Project Name	Proposed Start Date	
		Planning	Construction
Outlet Works Improvements Program	San Andreas Dam Interim Blow-Off	7/1/2026	4/1/2029
	Pilarcitos Dam Outlet Works Retrofit Project	7/1/2026	5/1/2033
	Turner Dam Outlet Works Additional Studies	7/1/2026	TBD
Long-Term Capital Improvement Projects	San Andreas Dam Facility Improvements	On-Going	3/1/2039
	Pilarcitos Dam Facility Improvements	On-Going	10/1/2042
	Turner Dam Facility Improvements	On-Going	10/1/2052

We anticipate that the proposed strategy aligns with DSOD's recommendations. Please feel free to contact me at sritchie@sfwater.org should you have any additional questions or concerns. We can also discuss this during DSOD's upcoming visit to the regional dams in March 2026.

Respectfully,

Steven R. Ritchie

Steven R. Ritchie
Assistant General Manager, Water

Attachment: Regional Dam Implementation Strategy Discussion with DSOD, October 9, 2025

cc: Katie Miller, Infrastructure Division
Susan Hou, Infrastructure Division
Ryan Gabriel, Water Supply and Treatment Division
Tim Ramirez, Natural Resources and Lands Management Division

Attachment C

ASCE 41 Tier 1 Evaluation
for
1657 Rollins Road, Burlingame, CA

Prepared for:

San Francisco Public Utilities Commission
San Francisco, California.

Prepared By:
STRUCTUS, Inc.

September 27, 2019

ASCE 41 Tier 1 Evaluation for 1657 Rollins Road, Burlingame, CA

Table of Contents

Executive Summary

Executive Summary

The existing 1657 Rollins Road Building is essentially an one-story timber framed structure, except for a partial second floor located in the middle of building's west side which is constructed of concrete slabs supported by structural steel framing and concrete walls. The construction of the second floor walls as well as the roof over the second floor consist of light timber framing.

SFPUC has requested the building be evaluated for seismic adequacy.

1657 Rollins Road is classified as a non-essential facility with Risk Category of II and thus evaluated to the Life Safety Structural Performance Level for a BSE-1E level earthquake per ASCE 41-17 (a national standard for seismic evaluation and retrofit), Table 2-1.

A BSE-1E level earthquake is defined as one with a 20% probability of being exceeded by a larger earthquake over a period of 50 years.

Life Safety Structural Performance is defined by ASCE 2.3.1.3 as:

"Structural Performance Level S-3, Life Safety, is defined as the post-earthquake damage state in which a structure has damaged components but retains a margin of safety against the onset of partial or total collapse. A structure in compliance with the acceptance criteria specified in this standard for this Structural Performance Level is expected to achieve this state."

Since there is no record drawings, and selective demolition to exposed structural framing is not allowed, conservative assumptions will need to be made for the existing structure based on structural framing practices that were common in the 1950s and 1960s for similar type of industrial buildings.

The following is a summary of assumptions for ASCE-41 Tier 1 screening process:

1. Roof sheathing – 2X straight sheathing (based on partially exposed areas and 5 ft. spacing of roof beams supporting pop-up sheathing).
2. Exterior wall sheathing – 1X straight sheathing.
3. Floor sheathing at framing over crawl space – 1X straight sheathing.

The existing 1657 Rollins Road Building has significant deficiencies in its seismic resisting system. Notable deficiencies include incomplete load paths for seismic forces, inadequate roof diaphragms, and inadequate shear walls in shear resistance and in overturning…etc.

The existing building is deemed incapable of meeting Life Safety Performance Goal for BSE-1 level earthquake forces and therefore should be seismically retrofitted to ensure life safety of its occupants.

Section A:

Description of the Tier 1 Screening

Tier 1 Screening Procedure

SFPUC (San Francisco Public Utilities Commission) has directed that the existing building at 1657 Rollins Road receives a Tier 1 screening.

Tier 1 screening involves review of existing drawings and completion of check lists of evaluation statements that identify potential seismic force resisting deficiencies in a building, based on and on the performance of similar buildings in past earthquakes.

To this end, as there is no available record structural drawings for review, STRUCTUS personnel reviewed drawings derived from a Revit model provided by SFPUC, made a site visit to observe the current conditions, and performed Quick Check analyses per ASCE 41-17 procedure for1657 Rollins Road based on the assumption that the existing wall and roof sheathing consist of straight sheathing.

1657 Rollins Road is classified as a non-essential facility with Risk Category of II and thus evaluated to the Life Safety Structural Performance Level for a BSE-1E level earthquake per ASCE 41-17 Table 2-1.

A BSE-1E level earthquake is one with a 20% probability of being exceeded by a larger earthquake over a period of 50 years.

Life Safety Structural Performance is defined by ASCE 2.3.1.3 as:

“Structural Performance Level S-3, Life Safety, is defined as the post-earthquake damage state in which a structure has damaged components but retains a margin of safety against the onset of partial or total collapse. A structure in compliance with the acceptance criteria specified in this standard for this Structural Performance Level is expected to achieve this state.”

Section B:

Summary of the Tier 1 Screening Results

1657 Rollins Road, Burlingame, CA.

Plan View
1657 Rollins Road, Burlingame, CA

Brief Description of Structure:

General

1657 Rollins Road is located south west of Rollins Road in Burlingame, CA. Rollins Road runs southeast to northwest. For ease of reference, the side of the building facing Rollins Road is assumed to be the north side.

The existing 1657 Rollins Road Building is essentially an one-story timber framed structure, except for a partial second floor located in the middle of building's west side which is constructed of concrete slabs supported by structural steel framing and concrete walls. The construction of the second floor walls as well as the roof over the second floor consist of light timber framing.

Under the lower main roof of the south wing, and south of the partial second floor, there is also a concrete vault with concrete walls on four sides.

The age of the structure is unknown. Based on the appearance and construction, it appears to be constructed around 1950s or 1960s. The façade appears to have been modified after the original construction.

The building is irregular, resembling the letter “P”, in plan, with overall dimensions of 190’ X 200’ (excluding the single story garage structure at the northwest corner). There is a courtyard located within the P shaped footprint, flanked by single story wings on three sides and the two story wing described above.

The roofs are essentially flat. In the middle of the single story wings at the north and at the south there are pop-up roofs slightly higher than the lower main roofs. The pop-up roofs are supported by framing beams at approximately 5 ft. on center and resting on top of curbs of the lower main roof. Curbs are expected to provide roof flashing against rain run off.

Judging from the presence of sprinkler heads under alternating beams, the framing beams could be consisted of two-2X14 sawn lumber or micro-lams sistered together with spacers to provide a space for horizontal sprinker runs.

The main low roof-to-floor height is approximately 12 ft., while the pop-up roofs are approximately 15 ft. high above finished floor. The partial second floor and the high roof (over the two-story wing) are approximately 11.5 ft. and 24 ft., respectively, above the finish floor.

Except for the single story wing in the east side, where the main entrance, offices and the conference room are located, (which has timber framing over crawl spaces), the ground floor is typically constructed of slabs on grade.

The finished grades at the north, east and west sides of the building are approximately 2 ft. lower than the finished floor level. The south side, portions of the grades are sloped for a concrete ramp leading to the main entrance.

Vertical Load Carrying System

The structural framing of 1657 Rollins Road is not exposed to view except at very limited locations. Based on the limited exposed areas observed, the typical structural framing system consists of sawn lumber joists, beams and posts and studs, except for the concrete vault and the structural steel girders supporting the pop-up roof at the south wing, and structural steel framing under the partial second floor’s concrete slabs. Based on the limited observation above the acoustic ceiling tiles, the interior walls for single story wings typically do not extend to the roofs and are typically non-bearing, and only the exterior walls are bearing walls.

Foundation system is most likely consisting of shallow concrete spread footings, continuous footings for exterior bearing walls and under concrete bearing walls for the partial two-story wing and the vault, and isolated (discrete) footings under interior bearing posts/columns.

Lateral Force Resisting System

Since there is no record drawings, and selective demolition to exposed structural framing is not allowed, conservative assumptions will need to be made for the existing structure based on

structural framing practices that were common in the 1950s and 1960s for similar type of industrial buildings.
The following is a summary of assumptions for Tier 1 screening process:

1. Roof sheathing – 2X straight sheathing (based on partially exposed areas and 5 ft. spacing of roof beams supporting pop-up sheathing).
2. Exterior wall sheathing – 1X straight sheathing.
3. Floor sheathing at framing over crawl space – 1X straight sheathing.

The perimeter walls, roof and floor diaphragms are subjected to in-plane seismic forces and are the primary components of the lateral force resistance system against wind or seismic forces.

Entrance view 1657 Rollins Road

Inside 1657 Rollins Road

Summary of Screening Results:

1. The structure does not contain a complete load path to transfer lateral forces from the pop-up roofs to the lower main roofs at the north and the south wings.
2. There is a significant geometrical irregularity due to a change of horizontal dimension of over 30% in the main low roof diaphragm.
3. At the partial second floor, there is a torsional irregularity due to estimated distance between the center of mass and the story center of rigidity exceeding 20% of the concrete floor slab width.
4. Roof diaphragms do not meet the Tier 1 requirement for diaphragm continuity as there are split level roofs.
5. Based on the assumption that there is only straight sheathing at the roofs, the building does not meet Tier 1 requirement for diaphragm aspect ratio of 2 to 1.
6. Based on the assumption that there is only straight sheathing at the roofs, the building does not meet Tier 1 requirement for diaphragm maximum span of 24 ft..
7. Even if diagonal sheathing is provided at roof diaphragms, they do not meet the requirements for 40 ft. maximum span, and aspect ratio of 4 to 1 or less. (The north wing low roof has a span of 86 ft. and aspect ratio larger than 6.
8. The building is deficient for shear stress check as each wing is deficient for Quick Checks. The deficiencies are significant for most of the shear walls. The DCR (demand to capacity ratio) ranges from 2.5 to more than 10.
9. Due to the lack of record drawings, many evaluation statements could not be completed. However, based on our knowledge of buildings of similar age, type and construction, it is reasonable to expect that non-compliance items could include: lack of braced cripple walls (at interior bearing walls, if any), positive connections of wood posts to foundation (especially interior posts), and positive girder/column connections.
10. The concrete slab at the partial second floor has a large stair opening (in excess of 25% of the shear wall length) immediately adjacent to the shear walls.

11. There is a lack of diaphragm continuity due to a vertical offset between the floor slab and the vault roof slab.
12. There is a lack of redundancy for shear walls in the N-S direction under the second floor slab as there is no N-S shear walls. More than 2 lines of walls required.
13. Based on the stated assumptions and the above listed findings of significant Tier 1 deficiencies, Tier 2 is unlikely to show that the building is adequate for seismic demands, and seismic retrofit is required.

Section C:

ASCE 41- 17 Tier 1 Evaluation Statements

Section C:

ASCE 41- 17 Tier 1 Evaluation Statements

Table 17-1. Very Low Seismicity Checklist

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
Structural Components			
C NC N/A U	LOAD PATH: The structure contains 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.	5.4.1.1	A.2.1.1
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 have adequate strength to resist the connection force calculated in the Quick Check procedure of Section 4.4.3.7.	5.7.1.1	A.5.1.1

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Table 17-2. Collapse Prevention Basic Configuration Checklist

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
Low Seismicity			
Building System—General			
C NC N/A U	LOAD PATH: The structure contains 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.	5.4.1.1	A.2.1.1
C NC N/A U	ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 0.25% of the height of the shorter building in low seismicity, 0.5% in moderate seismicity, and 1.5% in high seismicity.	5.4.1.2	A.2.1.2
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.	5.4.1.3	A.2.1.3
Building System—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.	5.4.2.1	A.2.2.2
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.	5.4.2.2	A.2.2.3
C NC N/A U	VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation.	5.4.2.3	A.2.2.4
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.	5.4.2.4	A.2.2.5
C NC N/A U	MASS: There is no change in effective mass of more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered.	5.4.2.5	A.2.2.6
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.	5.4.2.6	A.2.2.7

continues

Table 17-2 *(Continued)*. Collapse Prevention Basic Configuration Checklist

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
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 do not exist in the foundation soils at depths within 50 ft (15.2 m) under the building.	5.4.3.1	A.6.1.1
C NC N/A U	SLOPE FAILURE: The building site is located away from potential earthquake-induced slope failures or rockfalls so that it is unaffected by such failures or is capable of accommodating any predicted movements without failure.	5.4.3.1	A.6.1.2
C NC N/A U	SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated.	5.4.3.1	A.6.1.3
High Seismicity (Complete the Following Items in Addition to the Items for 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 $0.6S_a$.	5.4.3.3	A.6.2.1
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.	5.4.3.4	A.6.2.2

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Table 17-3. Immediate Occupancy Basic Configuration Checklist

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
Very Low Seismicity			
Building System—General			
C NC N/A U	LOAD PATH: The structure contains 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.	5.4.1.1	A.2.1.1
C NC N/A U	ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 0.5% of the height of the shorter building in low seismicity, 1.0% in moderate seismicity, and 3.0% in high seismicity.	5.4.1.2	A.2.1.2
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.	5.4.1.3	A.2.1.3
Building System—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.	5.4.2.1	A.2.2.2
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.	5.4.2.2	A.2.2.3
C NC N/A U	VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation.	5.4.2.3	A.2.2.4
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.	5.4.2.4	A.2.2.5
C NC N/A U	MASS: There is no change in effective mass of more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered.	5.4.2.5	A.2.2.6

continues

Table 17-3 *(Continued)*. Immediate Occupancy Basic Configuration Checklist

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
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.	5.4.2.6	A.2.2.7
Low Seismicity (Complete the Following Items in Addition to the Items for Very 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 do not exist in the foundation soils at depths within 50 ft (15.2 m) under the building.	5.4.3.1	A.6.1.1
C NC N/A U	SLOPE FAILURE: The building site is located away from potential earthquake-induced slope failures or rockfalls so that it is unaffected by such failures or is capable of accommodating any predicted movements without failure.	5.4.3.1	A.6.1.2
C NC N/A U	SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated.	5.4.3.1	A.6.1.3
Moderate and High Seismicity (Complete the Following Items in Addition to the Items for Low 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 $0.6S_a$.	5.4.3.3	A.6.2.1
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.	5.4.3.4	A.6.2.2

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Table 17-4. Collapse Prevention Structural Checklist for Building Types W1 and W1a

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
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.	5.5.1.1	A.3.2.1.1
C NC N/A U	SHEAR STRESS CHECK: The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than the following values: Structural panel sheathing — 1,000 lb/ft (14.6 kN/m) Diagonal sheathing — 700 lb/ft (10.2 kN/m) Straight sheathing — 100 lb/ft (1.5 kN/m) All other conditions — 100 lb/ft (1.5 kN/m)	5.5.3.1.1	A.3.2.7.1
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.	5.5.3.6.1	A.3.2.7.2
C NC N/A U	GYPSUM WALLBOARD OR PLASTER SHEAR WALLS: Interior plaster or gypsum wallboard is not used for shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building.	5.5.3.6.1	A.3.2.7.3
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.	5.5.3.6.1	A.3.2.7.4
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.	5.5.3.6.2	A.3.2.7.5
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.	5.5.3.6.3	A.3.2.7.6

continues

Table 17-6. Collapse Prevention Structural Checklist for Building Type W2

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
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.	5.5.1.1	A.3.2.1.1
C NC N/A U	SHEAR STRESS CHECK: The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than the following values: Structural panel sheathing 1,000 lb/ft Diagonal sheathing 700 lb/ft Straight sheathing 100 lb/ft All other conditions 100 lb/ft	5.5.3.1.1	A.3.2.7.1
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.	5.5.3.6.1	A.3.2.7.2
C NC N/A U	GYPSUM WALLBOARD OR PLASTER SHEAR WALLS: Interior plaster or gypsum wallboard is not used for shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building.	5.5.3.6.1	A.3.2.7.3
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.	5.5.3.6.1	A.3.2.7.4
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.	5.5.3.6.2	A.3.2.7.5
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.	5.5.3.6.3	A.3.2.7.6
C NC N/A U	CRIPPLE WALLS: Cripple walls below first-floor-level shear walls are braced to the foundation with wood structural panels.	5.5.3.6.4	A.3.2.7.7
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.	5.5.3.6.5	A.3.2.7.8
Connections			
C NC N/A U	WOOD POSTS: There is a positive connection of wood posts to the foundation.	5.7.3.3	A.5.3.3
C NC N/A U	WOOD SILLS: All wood sills are bolted to the foundation.	5.7.3.3	A.5.3.4
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.	5.7.4.1	A.5.4.1
High Seismicity (Complete the Following Items in Addition to the Items for Low and Moderate Seismicity)			
Connections			
C NC N/A U	WOOD SILL BOLTS: Sill bolts are spaced at 6 ft (1.8 m) or less with acceptable edge and end distance provided for wood and concrete.	5.7.3.3	A.5.3.7
Diaphragms			
C NC N/A U	DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level floors and do not have expansion joints.	5.6.1.1	A.4.1.1
C NC N/A U	ROOF CHORD CONTINUITY: All chord elements are continuous, regardless of changes in roof elevation.	5.6.1.1	A.4.1.3
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.	5.6.1.5	A.4.1.8
C NC N/A U	STRAIGHT SHEATHING: All straight-sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered.	5.6.2	A.4.2.1
C NC N/A U	SPANS: All wood diaphragms with spans greater than 24 ft (7.3 m) consist of wood structural panels or diagonal sheathing.	5.6.2	A.4.2.2

continues

Table 17-6 *(Continued)*. Collapse Prevention Structural Checklist for Building Type W2

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
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 (12.2 m) and have aspect ratios less than or equal to 4-to-1.	5.6.2	A.4.2.3
C NC N/A U	OTHER DIAPHRAGMS: The diaphragms do not consist of a system other than wood, metal deck, concrete, or horizontal bracing.	5.6.5	A.4.7.1

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Table 17-7. Immediate Occupancy Checklist for Building Type W2

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
Very Low 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.	5.5.1.1	A.3.2.1.1
C NC N/A U	SHEAR STRESS CHECK: The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than the following values: Structural panel sheathing — 1,000 lb/ft (14.6 kN/m) Diagonal sheathing — 700 lb/ft (10.2 kN/m) Straight sheathing — 100 lb/ft (1.5 kN/m) All other conditions — 100 lb/ft (1.5 kN/m)	5.5.3.1.1	A.3.2.7.1
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.	5.5.3.6.1	A.3.2.7.2
C NC N/A U	GYPSUM WALLBOARD OR PLASTER SHEAR WALLS: Interior plaster or gypsum wallboard is not used for shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building.	5.5.3.6.1	A.3.2.7.3
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.	5.5.3.6.1	A.3.2.7.4
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.	5.5.3.6.2	A.3.2.7.5
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-2.	5.5.3.6.3	A.3.2.7.6
C NC N/A U	CRIPPLE WALLS: Cripple walls below first-floor-level shear walls are braced to the foundation with wood structural panels.	5.5.3.6.4	A.3.2.7.7
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.	5.5.3.6.5	A.3.2.7.8
C NC N/A U	HOLD-DOWN ANCHORS: All shear walls have hold-down anchors attached to the end studs constructed in accordance with acceptable construction practices.	5.5.3.6.6	A.3.2.7.9
Connections			
C NC N/A U	WOOD POSTS: There is a positive connection of wood posts to the foundation.	5.7.3.3	A.5.3.3
C NC N/A U	WOOD SILLS: All wood sills are bolted to the foundation.	5.7.3.3	A.5.3.4
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.	5.7.4.1	A.5.4.1

continues

Table 17-7 *(Continued)*. Immediate Occupancy Checklist for Building Type W2

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
Foundation System			
C NC N/A U	DEEP FOUNDATIONS: Piles and piers are capable of transferring the lateral forces between the structure and the soil.		A.6.2.3
C NC N/A U	SLOPING SITES: The difference in foundation embedment depth from one side of the building to another does not exceed one story high.		A.6.2.4
Low, Moderate, and High Seismicity (Complete the Following Items in Addition to the Items for Very Low Seismicity)			
Seismic-Force-Resisting System			
C NC N/A U	NARROW WOOD SHEAR WALLS: Narrow wood shear walls with an aspect ratio greater than 1.5-to-1 are not used to resist seismic forces.	5.5.3.6.1	A.3.2.7.4
Diaphragms			
C NC N/A U	DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level floors and do not have expansion joints.	5.6.1.1	A.4.1.1
C NC N/A U	ROOF CHORD CONTINUITY: All chord elements are continuous, regardless of changes in roof elevation.	5.6.1.1	A.4.1.3
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.	5.6.1.5	A.4.1.8
C NC N/A U	STRAIGHT SHEATHING: All straight-sheathed diaphragms have aspect ratios less than 1-to-1 in the direction being considered.	5.6.2	A.4.2.1
C NC N/A U	SPANS: All wood diaphragms with spans greater than 12 ft (3.6 m) consist of wood structural panels or diagonal sheathing.	5.6.2	A.4.2.2
C NC N/A U	DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 30 ft (9.2 m) and have aspect ratios less than or equal to 3-to-1.	5.6.2	A.4.2.3
C NC N/A U	OTHER DIAPHRAGMS: The diaphragms do not consist of a system other than wood, metal deck, concrete, or horizontal bracing.	5.6.5	A.4.7.1
Connections			
C NC N/A U	WOOD SILL BOLTS: Sill bolts are spaced at 4 ft or less with acceptable edge and end distance provided for wood and concrete.	5.7.3.3	A.5.3.7

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

professional to require further investigation shall be categorized as Noncompliant or Unknown. For evaluation statements classified as Noncompliant or Unknown, the design professional is permitted to choose to conduct further investigation using the corresponding Tier 2 evaluation procedure listed next to each evaluation statement.

17.4 STRUCTURAL CHECKLISTS FOR BUILDING TYPES S1: STEEL MOMENT FRAMES WITH STIFF DIAPHRAGMS AND S1A: STEEL MOMENT FRAMES WITH FLEXIBLE DIAPHRAGMS

For building systems and configurations that comply with the S1 or S1a building type description in Table 3-1, the Collapse Prevention Structural Checklist in Table 17-8 shall be completed where required by Table 4-6 for Collapse Prevention Structural Performance, and the Immediate Occupancy Structural Checklist in Table 17-9 shall be completed where required by Table 4-6 for Immediate Occupancy Structural Performance. Tier 1 screening shall include on-site investigation and condition assessment as required by Section 4.2.1.

Where applicable, each of the evaluation statements listed in this checklist shall be marked Compliant (C), Noncompliant (NC), Not Applicable (N/A), or Unknown (U) for a Tier 1 screening. Items that are deemed acceptable to the design professional in accordance with the evaluation statement shall be categorized as Compliant, whereas items that are determined by the design professional to require further investigation shall be categorized as Noncompliant or Unknown. For evaluation statements classified as Noncompliant or Unknown, the design professional is permitted to choose to conduct further investigation using the corresponding Tier 2 evaluation procedure listed next to each evaluation statement.

17.5 STRUCTURAL CHECKLIST FOR BUILDING TYPES S2: STEEL BRACED FRAMES WITH STIFF DIAPHRAGMS AND S2A: STEEL BRACED FRAMES WITH FLEXIBLE DIAPHRAGMS

For building systems and configurations that comply with the S2 or S2a building type description in Table 3-1, the Collapse Prevention Structural Checklist in Table 17-10 shall be completed where required by Table 4-6 for Collapse Prevention Structural Performance, and the Immediate Occupancy Structural Checklist in Table 17-11 shall be completed where required by Table 4-6 for Immediate Occupancy Structural Performance.

Table 17-24. Collapse Prevention Structural Checklist for Building Types C2 and C2a

Status	Evaluation Statement	Tier 2 Reference	Commentary Reference
Low and Moderate Seismicity			
Seismic-Force-Resisting System			
C NC N/A U	COMPLETE FRAMES: Steel or concrete frames classified as secondary components form a complete vertical-load-carrying system.	5.5.2.5.1	A.3.1.6.1
C NC N/A U	REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2.	5.5.1.1	A.3.2.1.1
C NC N/A U	SHEAR STRESS CHECK: The shear stress in the concrete shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than the greater of 100 lb/in.^{2} (0.69 MPa) or $2\sqrt{f'_c}$.	5.5.3.1.1	A.3.2.2.1
C NC N/A U	REINFORCING STEEL: The ratio of reinforcing steel area to gross concrete area is not less than 0.0012 in the vertical direction and 0.0020 in the horizontal direction.	5.5.3.1.3	A.3.2.2.2
Connections			
C NC N/A U	WALL ANCHORAGE AT FLEXIBLE DIAPHRAGMS: Exterior concrete or masonry walls that are dependent on flexible diaphragms 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 have strength to resist the connection force calculated in the Quick Check procedure of Section 4.4.3.7.	5.7.1.1	A.5.1.1
C NC N/A U	TRANSFER TO SHEAR WALLS: Diaphragms are connected for transfer of seismic forces to the shear walls.	5.7.2	A.5.2.1
C NC N/A U	FOUNDATION DOWELS: Wall reinforcement is doweled into the foundation with vertical bars equal in size and spacing to the vertical wall reinforcing directly above the foundation.	5.7.3.4	A.5.3.5
High Seismicity (Complete the Following Items in Addition to the Items for Low and Moderate Seismicity)			
Seismic-Force-Resisting System			
C NC N/A U	DEFLECTION COMPATIBILITY: Secondary components have the shear capacity to develop the flexural strength of the components.	5.5.2.5.2	A.3.1.6.2
C NC N/A U	FLAT SLABS: Flat slabs or plates not part of the seismic-force-resisting system have continuous bottom steel through the column joints.	5.5.2.5.3	A.3.1.6.3
C NC N/A U	COUPLING BEAMS: The ends of both walls to which the coupling beam is attached are supported at each end to resist vertical loads caused by overturning.	5.5.3.2.1	A.3.2.2.3
Diaphragms (Stiff or Flexible)			
C NC N/A U	DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level floors and do not have expansion joints.	5.6.1.1	A.4.1.1
C NC N/A U	OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls are less than 25% of the wall length.	5.6.1.3	A.4.1.4
Flexible Diaphragms			
C NC N/A U	CROSS TIES: There are continuous cross ties between diaphragm chords.	5.6.1.2	A.4.1.2
C NC N/A U	STRAIGHT SHEATHING: All straight-sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered.	5.6.2	A.4.2.1
C NC N/A U	SPANS: All wood diaphragms with spans greater than 24 ft (7.3 m) consist of wood structural panels or diagonal sheathing.	5.6.2	A.4.2.2
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 (12.2 m) and aspect ratios less than or equal to 4-to-1.	5.6.2	A.4.2.3
C NC N/A U	OTHER DIAPHRAGMS: Diaphragms do not consist of a system other than wood, metal deck, concrete, or horizontal bracing.	5.6.5	A.4.7.1
Connections			
C NC N/A U	UPLIFT AT PILE CAPS: Pile caps have top reinforcement, and piles are anchored to the pile caps.	5.7.3.5	A.5.3.8

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Section D:

Quick Check Calculations

STRUCTUS

Project: 1657 Rollins Rd. Improvement | Job No. 1907-2
Subject: Building Evaluation - Tier-1 | Date: Sept 19
Engeneer: BS | Checker: HC | Sheet:

Building Type: W2 Comercial and Industrial Wood Frame

Number of story: 1 (At Zone A, B, D, F & G)

Pseudo Lateral Force

$T = C_t h_n^{\beta} =$ 0.145 s where: $h_n =$ 14 ft $\beta =$ 0.75
$C_t =$ 0.02 (for all other framing system)

Site Class = E

$S_{D1} = 2/3\ F_v S_1 =$ 1.467 g where: $S_1 =$ 0.917 g, (BSE-1E ARS 5% Damping)
$F_v =$ 2.4 Table 3-5 ASCE-31

$S_{Ds} = 2/3\ F_a S_s =$ 0.734 g where: $S_s =$ 0.917 g, (BSE-1E ARS 5% Damping)
$F_a =$ 1.2 Table 3-6 ASCE-31

$S_a = S_{D1}/T =$ 0.734 g ,but $S_a < S_{Ds}$

$V = C S_a W =$ 1.027 W where: C = 1.4 See Table 3-4 ASCE-31

Foundation depth = 2.5 ± ft < 3 ft
V = 0.75 W (Govern) V for building in which the bott. of the found. is less than 3 feet below exterior grade

Table 11.4-2 ASCE 7, Value of F_v

	Mapped Spectral Acceleration at One-Second Period				
Site	S_1<0.1	S_1=0.2	S_1=0.3	S_1=0.4	S_1>0.5
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.7	1.6	1.5	1.4	1.3
D	2.4	2.0	1.8	1.6	1.5
E	3.5	3.2	2.8	2.4	2.4
F	*	*	*	*	*

Table 11.4-1 ASCE 7, Value of F_a

	Mapped Spectral Acceleration at Short Period				
Site	S_s<0.25	S_s=0.5	S_s=0.75	S_s=1.0	S_s>1.25
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	*	*	*	*	*

Table 4-7 ASCE 41-17, Modification Factor C

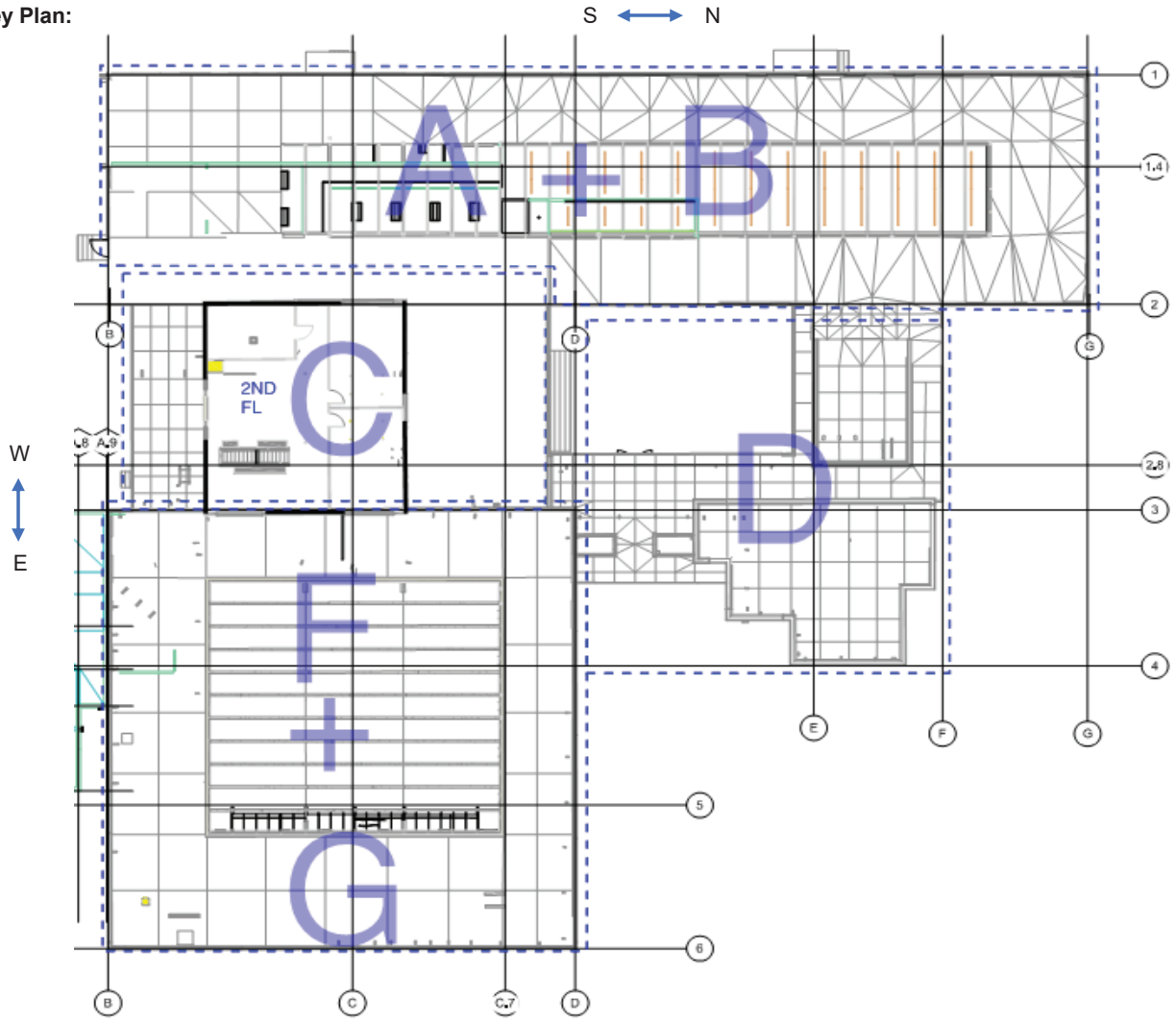
	Number of stories			
Buildingg Type	1	2	3	≥ 4
W1, W1a, W2, CFS1 S1,S3, C1, PC2a	1.3	1.1	1.0	1.0
S4, S5, C2, C3, PC1a, PC2, RM2, URMa, S2, CFS2	1.4	1.2	1.1	1.0
S1a, S2a, S5a, C2a, C3a, PC1, RM1	1.0	1.0	1.0	1.0

Note:
Existing structural drawings is not available, assumed structural system as wood shear wall and with straight sheathing and wood diaphragm with straight sheathing, except at second floor of penthouse as concrete slab.
This Tier 1 quick calculations will be checked per zones as shown below.

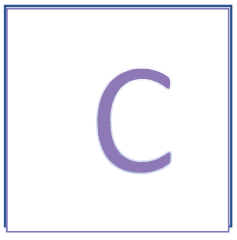
STRUCTUS

Project:	1657 Rollins Rd. Improvement	Job No.	1907-2	
Subject:	Building Evaluation - Tier-1	Date:	Sept 19	
Engeneer:	BS	Checker:	HC	Sheet:

Key Plan:

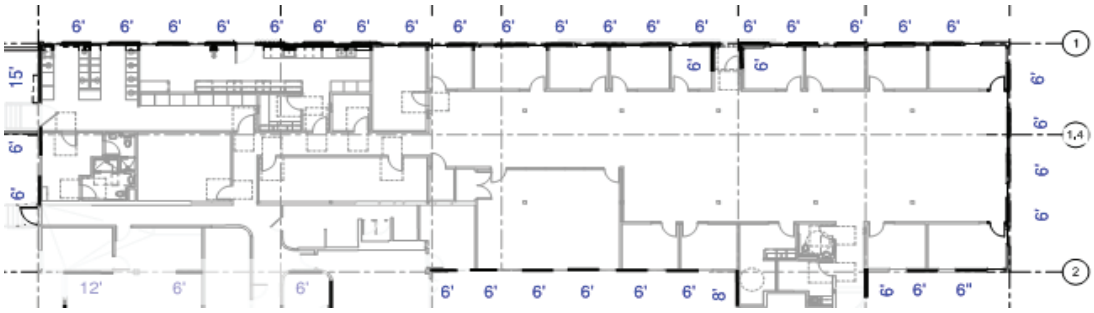


LOW ROOF PLAN

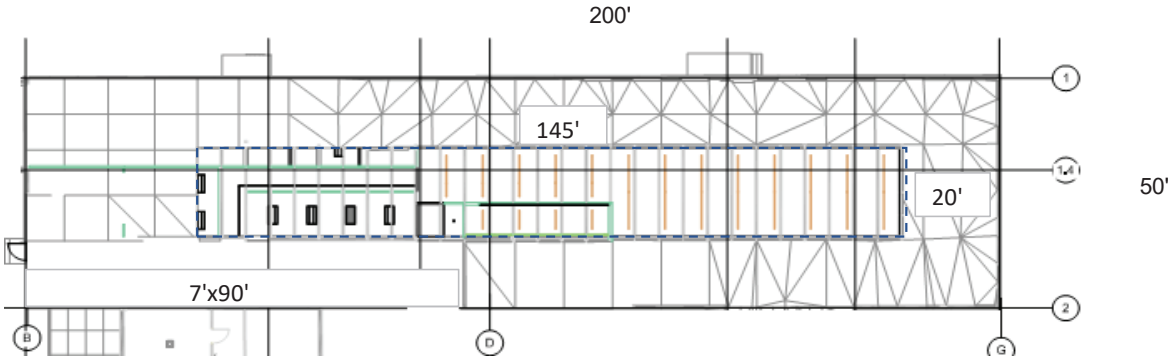


HIGH ROOF PLAN

Zone A + B



1ST FLOOR SHEAR WALL PLAN



ROOF FRAMING PLAN

Roof 3:

Roofing (built-up Tar & gravel)	=	7.0 Psf
Sheating 2x diag	=	4.0 Psf
Joist 2x	=	2.0 Psf
Beam 2-2x14 /144*36/5'	=	2.8 Psf
Ceiling & ME	=	4.0 Psf
Ins + misc.	=	1.5 Psf
	w6 =	21.3 Psf
	Area, A6 = 145*20 =	2900 ft^2
	W6 = w6 A6 =	61770 Lbs

Roof 2:

Roofing (built-up Tar & gravel)	=	7.0 Psf
Sheating 2x diag	=	4.0 Psf
Joist 2x	=	2.0 Psf
Beams	=	2.0 Psf
Ceiling & ME	=	4.0 Psf
Ins + misc.	=	1.5 Psf
	w7 =	20.5 Psf
	Area, A7 = 200*50-7*90-A6 =	6470 ft^2
	W7 = w7 A7 =	132635 Lbs

Exterior wall wt (avg. incl door/ window):	w8 =	16.0	Psf	
	h =	12.0	ft	
Ext Wall wt: (200+50)*2*h/2*w8	W8 =	48000	Lbs	
	W = W6+W7+W8 =	242405	Lbs	

N-S Wood Shear wall :

Pseudo Lateral Force, V_{E-W} =	0.750 W =	181804	Lbs			
	Vj = V =	181804	Lbs			
Wall length, L =	19*6'+8*6' =	162	ft	(Wall aspect ratio less than 2 to 1)		
	M_s =	4.5	Table 4-8 ASCE-41-16 for CP			
Shear wall force, vj = (1/Ms) * (Vj/L) =		249	Plf	>	100 Plf for	Straight sheathing …NG (Table 17-6, ASCE 41-17)

E-W Wood Shear wall :

Pseudo Lateral Force, V_{E-W} =	0.750 W =	181804	Lbs			
	Vj = V =	181804	Lbs			
Wall length, L =	15'+2*6'+4*6' =	51	ft	(Wall aspect ratio less than 2 to 1)		
	M_s =	4.5	Table 4-8 ASCE-41-16 for CP			
Shear wall force, vj = (1/Ms) * (Vj/L) =		792	Plf	>	100 Plf for	Straight sheathing …NG (Table 17-6, ASCE 41-17)

(E) Diaphragm shear, at line G, v = 20.5*25 = 513 plf > 100 Plf. (NG)

STRUCTUS

Project:	1657 Rollins Rd. Improvement	Job No.	1907-2
Subject:	Building Evaluation - Tier-1	Date:	Sept 19
Engeneer:	BS	Checker: HC	Sheet:

Zone C

Building Type: W2 Comercial and Industrial Wood Frame

Number of story: 2 (At Zone C)

Pseudo Lateral Force

$T = C_t h_n^{\beta} =$ 0.210 s where: $h_n =$ 23 ft $\beta =$ 0.75

$C_t =$ 0.02 (for all other framing system)

Site Class = E

$S_{D1} = 2/3\ F_v S_1 =$ 1.467 g where: $S_1 =$ 0.917 g, (BSE-1E ARS 5% Damping)

$F_v =$ 2.4 Table 3-5 ASCE-31

$S_{Ds} = 2/3\ F_a S_s =$ 0.734 g where: $S_s =$ 0.917 g, (BSE-1E ARS 5% Damping)

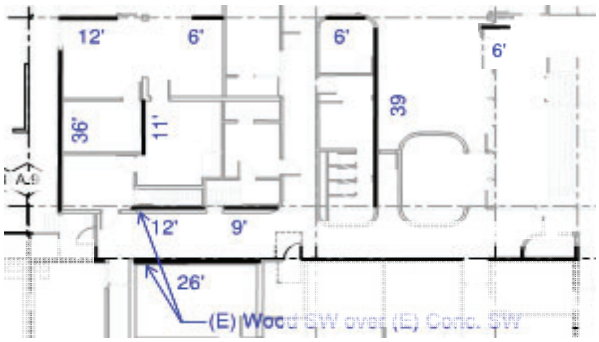
$F_a =$ 1.2 Table 3-6 ASCE-31

$S_a = S_{D1}/T =$ 0.734 g ,but $S_a < S_{Ds}$

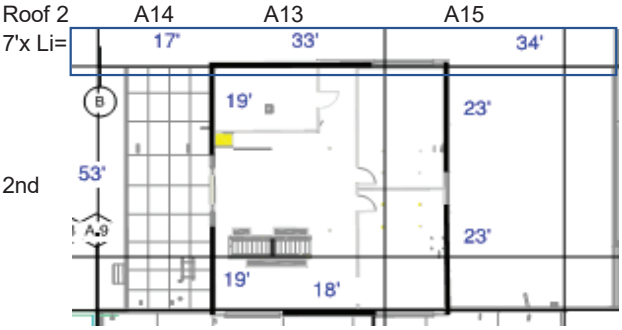
$V = C S_a W =$ 0.880 W where: C = 1.2 See Table 3-4 ASCE-31

Foundation depth = 2.5 ± ft < 3 ft

V = 0.75 W (Govern) V for building in which the bott. of the found. is less than 3 feet below exterior grade



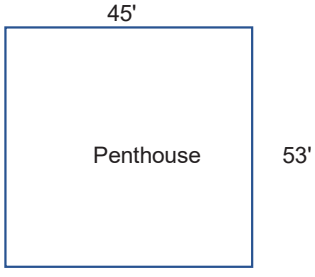
1ST FLOOR SHEAR WALL PLAN



2ND FLOOR SHEAR WALL PLAN

Roof 2:

Roofing (built-up Tar & gravel)	=	7.0 Psf
Sheating 2x diag	=	4.0 Psf
Joist 2x	=	2.0 Psf
Beams	=	2.0 Psf
Ceiling & ME	=	4.0 Psf
Ins + misc.	=	1.5 Psf
	w10 =	20.5 Psf
Area, A10 = 53*45 =		2385 ft^2
W10 = w10 A10 =		48893 Lbs



ROOF PLAN

Exterior wall wt (avg. incl. window): w11 = 16.0 Psf

h = 12.0 ft

W11 = W11*2(53+45)*h/2 = 18816 Lbs

W roof = W10+W11 = 67709 Lbs

2nd Floor:

6" Conc.slab	=	75.0	Psf
Stl beams	=	5.0	Psf
Partition, curbs, pad, etc.	=	10.0	Psf
Ceiling & ME	=	4.0	Psf
Ins + misc.	=	2.0	Psf
	w13 =	96.0	Psf

W13 = w13 (53*L13)+ w10 (7*L13) = 172640 Lbs where: L14 = 33 ft
W14 = w10 (53*L14)+ w10 (7*L14) = 88936 Lbs L15 = 17 ft
W15 = w10 (53*L15)+ w10 (7*L15) = 177871 Lbs L16 = 34 ft
W13+W14+W15 = 439446 Lbs

Wood SW wt w16 = 10.0 Psf
h = 11.0 ft
W16 = W11+(12+3*6+36+11+39)*w16*h/2 = 25196 Lbs
W 2nd Floor = W13+W14+W15+W16 = 464642 Lbs

Story Shear Forces Distribution

T (sec.) = 0.210 k = 1.00 V = 0.75 W = 399263 Lbs

Level	height h_x (ft)	Weight W_x (k)	$W_x h_x^k$ (k-ft)	C_{vx}= $W_x h_x^k$ / $\Sigma W_i h_i^k$	F_x= V* $W_x h_x^k$ / $\Sigma W_i h_i^k$	V_j=ΣF_x
Roof	23	67709	1557296	0.234	93242	93242
2nd Floor	11	464642	5111062	0.766	306021	399263
Σ		532351 = W	6668358	1.00	399263	

ROOF

N-S Wood Shear wall :

Pseudo Lateral Force, V = Vj = V = 93242 Lbs
Wall length, L = 33'+18' = 51 ft (Wall aspect ratio less than 2 to 1)
M_s = 4.5 Table 4-8 ASCE-41-16 for CP
Shear wall force, vj = (1/Ms) * (Vj/L) = 406 Plf > 100 Plf for Straight sheathing
…NG (Table 17-6, ASCE 41-17)

E-W Wood Shear wall :

Vj = V = 93242 Lbs
Wall length, L = 2(19'+23') = 84 ft (Wall aspect ratio less than 2 to 1)
M_s = 4.5 Table 4-8 ASCE-41-16 for CP
Shear wall force, vj = (1/Ms) * (Vj/L) = 247 Plf > 100 Plf for Straight sheathing
…NG (Table 17-6, ASCE 41-17)

2ND FLOOR

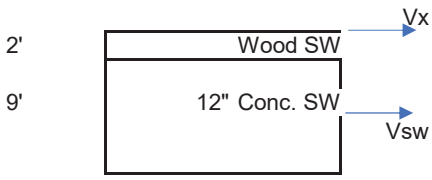
N-S Wood Shear wall :

Pseudo Lateral Force, V = Vj = V = 399263 Lbs
Wall length, L = 12'+3*6'+15'+11'+26' = 82 ft (Wall aspect ratio less than 2 to 1)
M_s = 4.5 Table 4-8 ASCE-41-16 for CP
Shear wall force, vj = (1/Ms) * (Vj/L) = 1082 Plf > 100 Plf for Straight sheathing
…NG (Table 17-6, ASCE 41-17)

E-W Wood Shear wall :

Pseudo Lateral Force, V = Vj = V = 399263 Lbs
Wall length, L = 36'+11'+39' = 86 ft (Wall aspect ratio less than 2 to 1)
M_s = 4.5 Table 4-8 ASCE-41-16 for CP
Shear wall force, vj = (1/Ms) * (Vj/L) = 1032 Plf > 100 Plf for Straight sheathing
…NG (Table 17-6, ASCE 41-17)

N-S Concrete Shear wall under wood wall:



Vx = (12'+9'+26') / 82 * Vj 2nd E-W 228846 Lbs

Vsw = 0.75 Wsw
= 0.75 *(12'+9'+26')*1'*9/2*150
= 23794 Lbs

Pseudo Lateral Force, V = Vj = Vx+ Vsw = 252640 Lbs
Wall length, L = 12'+9'+26'' = 47 ft (Wall aspect ratio less than 2 to 1)
12" Conc. SW area, Aw = L*12*1 = 6768 in^2
M_s = 4.5 Table 4-8 ASCE-41-16 for CP
Shear wall force, vj = (1/Ms) * (Vj/Aw) = 8 Psi < 100 Psi for Conc. Shear Wall
…NG (Table 17-24, ASCE 41-17)

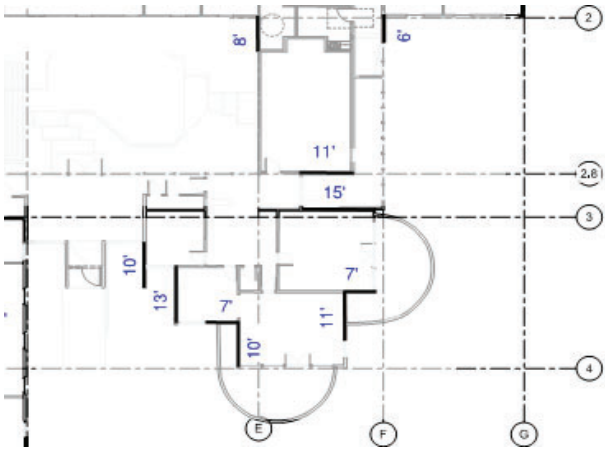
Note: No conc SW in E-W direction

STRUCTUS

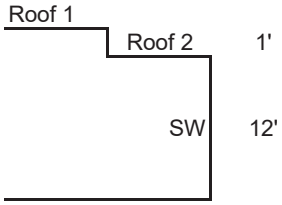
Project:	1657 Rollins Rd. Improvement	Job No.	1907-2
Subject:	Building Evaluation - Tier-1	Date:	Sept 19
Engeneer:	BS	Checker:	HC

Sheet:

Zone D



1ST FLOOR SHEAR WALL PLAN - ZONE-B

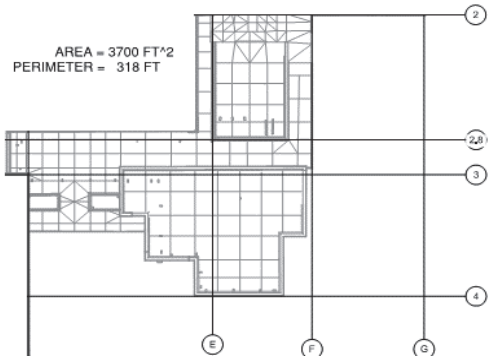


ELEVATION

Seismic Weight

Roof 2:

Roofing (built-up Tar & gravel)	=	7.0	Psf
Sheating 2x diag	=	4.0	Psf
Joist 2x	=	2.0	Psf
Beams	=	2.0	Psf
Ceiling & ME	=	4.0	Psf
Ins + misc.	=	1.5	Psf
w4 =		20.5	Psf



Area, A4 =		3700	ft^2
W4 = w4 A4 =		75850	Lbs
Exterior wall wt (avg. incl door/ window):	w5 =	16.0	Psf
	h =	12.0	ft
Ext. wall wt (at perimeter wall):	W5 = 318*h/2*w5 =	30528	Lbs
	W = W4+W5 =	106378	Lbs
Pseudo Lateral Force, V = 0.750 W	=	79784	Lbs

N-S Wood Shear wall :

	Vj = V =	79784	Lbs	
Wall length,	L = 2*7'+15'+11' =	40	ft	(Wall aspect ratio less than 2 to 1)
	M_s =	4.5	Table 4-8 ASCE-41-16 for CP	
Shear wall force, vj = (1/Ms) * (Vj/L) =		443	Plf	> 100 Plf for Straight sheathing …NG (Table 17-6, ASCE 41-17)

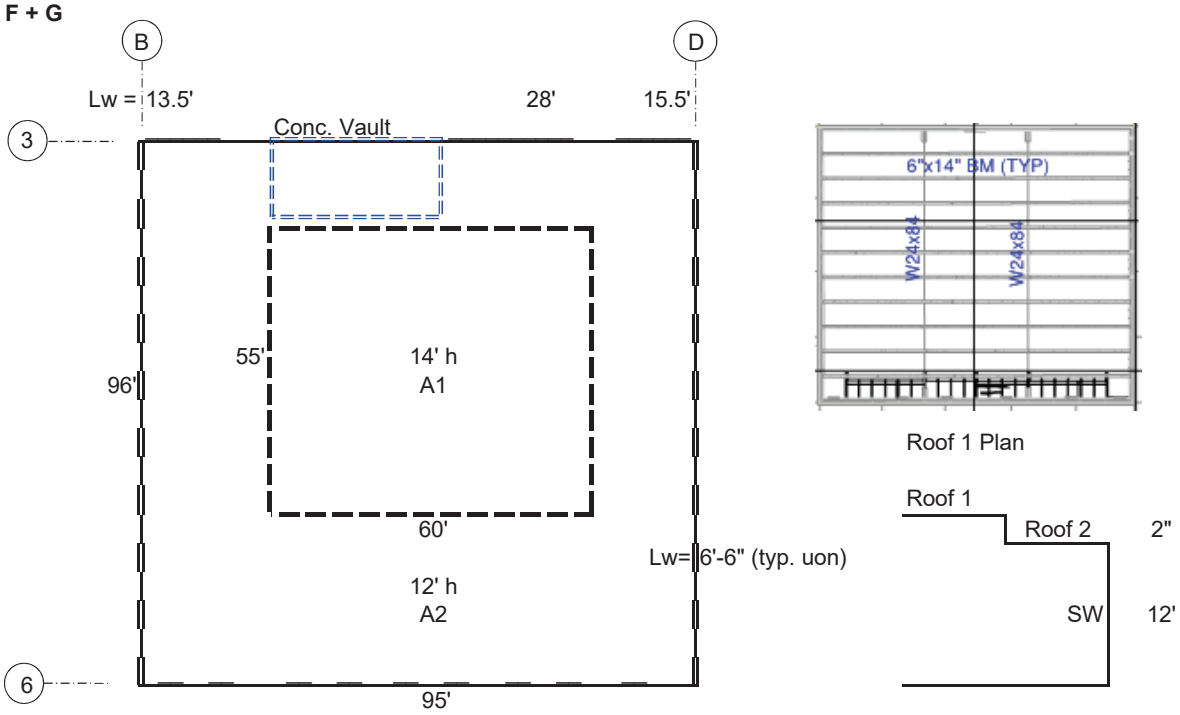
E-W Wood Shear wall:

	Vj = V =	79784	Lbs	
Wall length, L =	10'+13'+10'+11'+8'+6' =	58	ft	(Wall aspect ratio less than 2 to 1)
	M_s =	4.5	Table 4-8 ASCE-41-16 for CP	
Shear wall force, vj = (1/Ms) * (Vj/L) =		306	Plf	> 100 Plf for Straight sheathing …NG (Table 17-6, ASCE 41-17)

STRUCTUS

Project:	1657 Rollins Rd. Improvement	Job No.	1907-2
Subject:	Building Evaluation - Tier-1	Date:	Sept 19
Engeneer:	BS	Checker: HC	Sheet:

Zone F + G



1ST FLOOR SHEAR WALL PLAN - ZONE-A **ELEVATION**

Roof 1:

Roofing (built-up Tar & gravel)	=	7.0	Psf
Sheating 2x diag	=	4.0	Psf
Joist 2x	=	2.0	Psf
Beam 2-2x16 /144*36/5'	=	3.2	Psf
Steel Girder W24x84 /30'	=	2.8	Psf
Ceiling & ME	=	4.0	Psf
Ins + misc.	=	1.5	Psf
	w1 =	24.5	Psf
Area, A1 = 60*55 =		3300	ft^2
W1 = w1 A1 =		80850	Lbs

Roof 2:

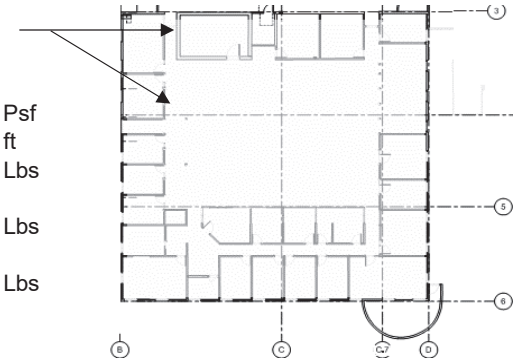
Roofing (built-up Tar & gravel)	=	7.0	Psf
Sheating 2x diag	=	4.0	Psf
Joist 2x	=	2.0	Psf
Beams 3.5*11.25/144*36/5'	=	2.0	Psf
Ceiling & ME	=	4.0	Psf
Ins + misc.	=	1.5	Psf
	w2 =	20.5	Psf
Area, A2 = 95*96-A1 =		5820	ft^2
W2 = w2 A2 =		119310	Lbs

STRUCTUS

Project:	1657 Rollins Rd. Improvement	Job No.	1907-2
Subject:	Building Evaluation - Tier-1	Date:	Sept 19
Engeneer:	BS	Checker:	HC

Sheet:

Interior wall (partition) are about 8'-0" ht.
(Interior wall seismic wt. is ignored at Low-Roof)



Exterior wall wt (avg. incl door/ window):	w3 =	16.0	Psf
	h =	12.0	ft
Ext. wall wt: 2*(95+96)*w3*h/2 =	W3 =	36672	Lbs
W = W1+W2+W3 =		236832	Lbs
Pseudo Lateral Force, V = 0.750 W =		177624	Lbs

N-S Wood Shear wall (line 3+6):

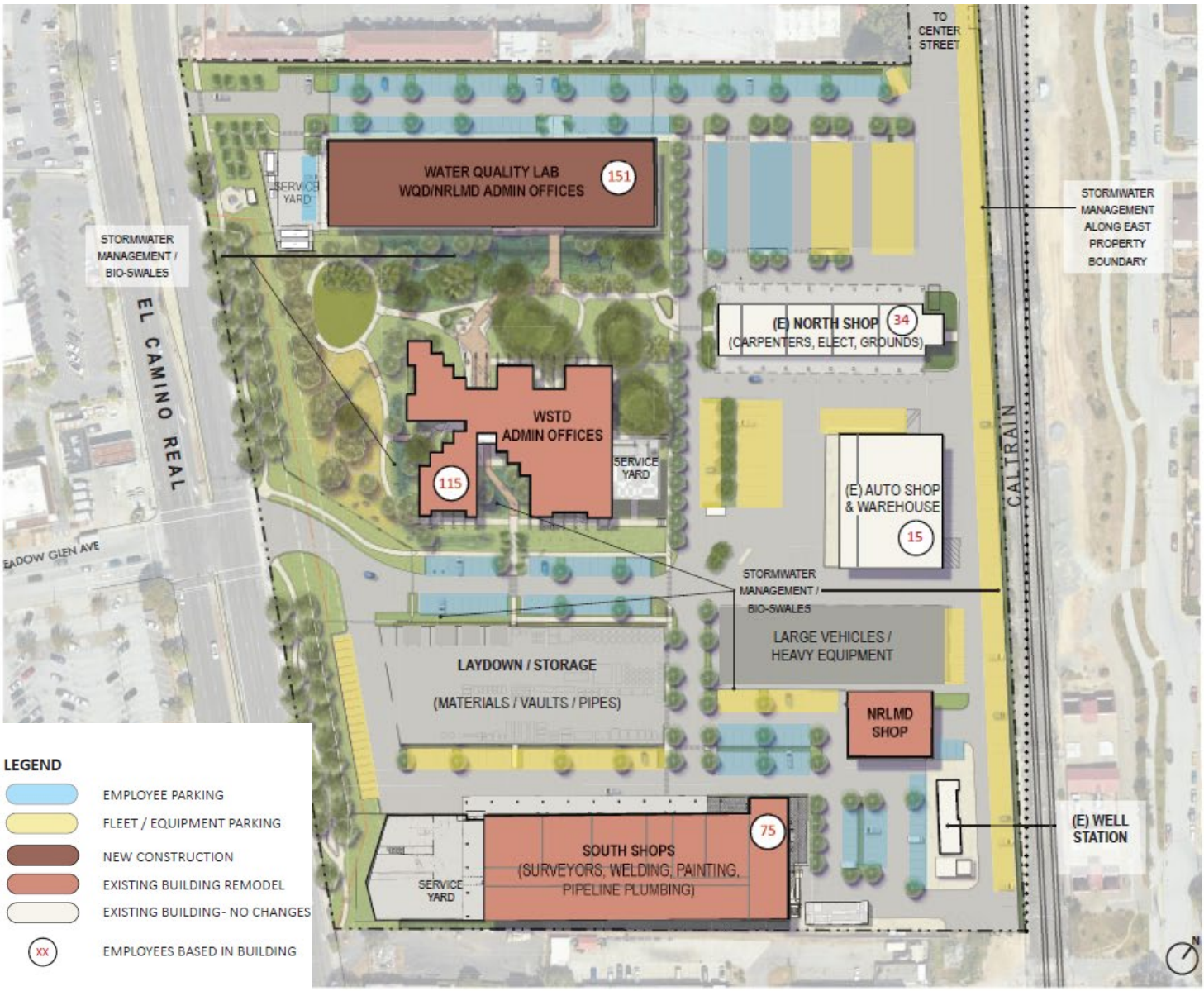
	Vj =	177624	Lbs		
Wall length line 3 =	13.5'+28'+15.5' =	57	ft	(Wall aspect ratio less than 2 to 1)	
Wall length line 6 =	9 x 6'-6" =	58.5	ft		
	L=	115.5	ft		
	M_s =	4.5	Table 4-8 ASCE-41-16 for CP		
Shear wall force, vj = (1/Ms) * (Vj/L) =		342	Plf	>	100 Plf for Straight sheathing …NG (Table 17-6, ASCE 41-17)

E-W Wood Shear wall (lines B+D):

	Vj = V =	177624	Lbs		
Wall length, L =	20 x 6'-6" =	130	ft	(Wall aspect ratio less than 2 to 1)	
	M_s =	4.5	Table 4-8 ASCE-41-16 for CP		
Shear wall force, vj = (1/Ms) * (Vj/L) =		304	Plf	>	100 Plf for Straight sheathing …NG (Table 17-6, ASCE 41-17)

Hetch Hetchy Regional Water System

Millbrae Operations Center Improvements
Proposed Plan
and Frequently Asked Questions



The Millbrae Operations Center is one of 4 Operations Centers for the Hetch Hetchy Regional Water System. Operations, maintenance and emergency response for all of the system's water deliveries in the Bay Area are based in Millbrae, as they have been for the past decades. The Millbrae Operations Center has existed in its current location since prior to 1906.

Current Regional Water System Activities at Millbrae Operations Center:
Millbrae is the largest of the 4 Operations Centers in the Hetch Hetchy Regional Water System. These centers manage 24 hour-per-day operation of the Regional Water System. The Millbrae Operations Center houses these operations/activities:

- Dispatch, Radio Communications
- Regional Water System Engineering
- System Operations
- Administration
- Plumbing
- Carpentry
- Materials Warehouse
- Paint shop
- Fleet Automotive Shop
- Materials and Fleet Storage, including emergency mobile water quality and operations center, and water tanker vehicles.
- Regional Water Quality Laboratory

Current Regional Water System Activities Displaced from the Millbrae Operations Center in 1998 due to Space Constraints (Operating out of Rollins Road facility 1.6 miles away in Burlingame):

- Water Quality:
  - Testing Staff
  - Testing Supplies/Warehouse
  - Fleet Vehicles
  - Complaint Response
  - Management, Administration, Finance
- Regional Water System:
  - Surveying
  - Right of Way Management
- Natural Resources and Lands Management Administration, Fleet Vehicles

<u>Frequently Asked Questions</u>

How many employees will operate out of the Millbrae Operations Center?
The Millbrae Operations Center serves as the base of operations for 3 divisions of the SFPUC's Water Enterprise: Water Supply and Treatment, Water Quality, and Natural Resources and Lands Management which total about 500 staff. After improvements, the Millbrae Operations Center will be the work location for 390 of these staff, as shown by building in the Proposed Plan above.

Why are you relocating staff from the Rollins Rd location to the Millbrae Operations Center? Can't you simply use any locally available office space?
Our Rollins Road staff were originally housed at Millbrae, but water quality laboratory space, staffing and other growth dictated the need for additional space, primarily for the Water Quality Division, and also for some Water Supply and Treatment, and Natural Resources staff. This relocation of staff to Rollins Road in Burlingame took place in 1998 and has separated Water Quality management, records, financial, regulatory reporting, sample monitoring and material storage, as well as Water Quality staff who respond to fires and emergencies from the Water Quality laboratory and water operations teams. It has further separated our surveying, Right of Way and regional Natural Resources staff from the teams they work with.

Water Enterprise staff were originally in leased space at Rollins Road, but the SFPUC acquired the property in 2017. When the Rollins Road site was evaluated for long-term use it was found to be incapable of handling seismic loads. When looking into the long-term needs of the Regional Water System, it was clear that the need for inter-divisional coordination, collaboration, and efficiencies was essential.

The Water Quality Division staff at Rollins Road are responsible for sampling throughout the Regional Water System. All of those samples are transported to the Millbrae Operations Center laboratory for analysis. Having the sampling staff and materials housed at Millbrae will reduce the amount of daily traffic trips between Rollins Road and Millbrae. In addition to the sampling staff, other staff at Rollins Road are responders to water quality complaints, concerns, and incidents along the Regional Water System pipelines, which require their frequent travel to the Millbrae Operations Center. All fleet vehicles housed at the Rollins Road site are serviced and fueled at the Millbrae Operations Center. The final Millbrae Operations Center buildout will transfer 40 City vehicles and the need for associated parking spaces. Parking is also needed for relocated employees' personal vehicles.

The need for staff coordination, collaboration and efficiencies combined with the need for City fleet and equipment space is the rationale for the selection of the Millbrae Operations Center as the most appropriate location. The option of complete relocation of the Millbrae Operations Center to one or more other locations was not considered since there are very few, if any, locations with adequate space, and complete relocation would add considerable cost and disruption over consolidating services at the existing Millbrae location.

Once the Improvements Project is completed, the SFPUC anticipates selling the Rollins Road property.

Why not use space at the Harry Tracy Water Treatment Plant (WTP) on Crystal Springs Road and Highway 280?

The Harry Tracy WTP is a critical regional water system facility that ensures water from the Crystal Springs and San Andreas Reservoirs can be accessed, treated and distributed to regional water system customers San Mateo and San Francisco Counties. This facility and the various pipelines that serve the system, fully occupy the facility parcels. There is not sufficient space for other Regional Water System needs at the Harry Tracy WTP.

Why is so much parking needed?
All of the staff based at Millbrae and Rollins Road have duties that take them throughout the Bay Area segments of the water system. SFPUC vehicles (both sedans as well as larger operating equipment) are needed to carry out their duties, as well as parking spaces for staff to work at Millbrae. These operations can occur during regular work hours and during 24/7 operations and emergencies. The Proposed Plan (above) shows with two different colors the amount of employee parking as well as the City Fleet parking.

Why not build a parking garage?
A parking garage has been considered but is not included in the current plan. If there is future growth in staffing, an additional building may be constructed, and a parking garage will become necessary. In addition, the need for clearance space to accommodate internal traffic and for large vehicles to safely turn requires additional space that appears to be needed for parking.

How many 'Shops' and trades are there, and how many staff work in the 'Shops'?
Regional Water System operations require plumbers, electricians, electrical maintenance technicians, carpenters, painters, and automotive mechanics. Additionally, we have surveyors, biologists, and water sampling technicians and their associated materials. Each of these work groups require their own shop space and equipment storage. The number of staff occupying the Shops in the Proposed Plan is 124.

Currently, our system plumbers, electricians, electrical maintenance technicians, carpenters, and painters are compressed into the existing North Shops building. This building is inadequate to fit all these trades, equipment and staff. The building was previously modified with mezzanines that are not adequate nor appropriate for the staff and work.

An existing building previously served as additional shop space, however that building is not safe and is no longer used. Further, some staff and services are located at Rollins Road 1.6 miles away. To improve efficiency and effective use of publicly owned land, the Proposed Plan will consolidate these services. The new South Shops will relieve overcrowding in the North Shops building and allow space to bring dislocated services together on one site.

Why is so much materials storage space needed?
The Regional Water System consists of large-scale pipelines and appurtenances. The pipelines average 36 to 60 inches (3 to 5 feet) in diameter and are constructed of steel with cement mortar linings. Work on the system requires the use of large equipment (excavators, backhoes, etc.), the means to transport both equipment and materials, and materials to safely access, trench, backfill, and temporarily pave road surfaces. The materials and equipment laydown and storage area just north of the proposed South Shops building will consolidate current storage that is scattered around the existing site, particularly where the new laboratory and administration building will be located.

What long-term traffic impacts are expected?
The long-term traffic impacts should be negligible. There will be fewer trips between Rollins Road and Millbrae, and the additional traffic due to the Rollins Road staff moving will be similar to or less than the existing OSH retail and employee traffic.

What will be the lost revenue from the elimination of the OSH lease?
OSH lease annual base rent is now $233,284.20. The anticipated sale of the Rollins Road site will offset this lost revenue to the SFPUC to a degree. The amount of sales tax generated at the OSH site for Millbrae is unknown, but the transfer of 100 additional staff from Burlingame to Millbrae will likely have a positive impact on local Millbrae businesses and sales tax revenues.

What benefits will Millbrae gain from the Project?
There will be continued and increased local retail benefits from the 100 additional employees relocating to Millbrae.

What commitments has SFPUC made to Millbrae related to the Project?

- Financial support of Millbrae's proposed Downtown and El Camino Real Community Benefit District.
- Commitment that San Francisco's 2% for Art obligation for the project would be fulfilled in Millbrae, not in San Francisco.
- Millbrae representative on the Advisory Committee to advise public art elements.
- Coordination through a designated Millbrae staff person as the point of contact for Project details, particularly in how the future facilities will fit into and enhance the frontage on El Camino Real.
- Extension of the OSH lease to October 2027.

When did Project planning begin?
Planning for upgrades to Regional Water System operation centers has been ongoing since the Water System Improvement Program (WSIP) was initiated in 2004. Due to financial and prioritization constraints, improvements to the Millbrae Operations Center were not included in the WSIP. Funding for planning work was thus first proposed in our 2010 Capital Improvement Plans. Focused Millbrae Operations Center planning began in 2019, assuming no expansion, but recognized it was a possibility. In 2019 the Orchard Supply Hardware stores were closed. We understood OSH's importance, so we issued an RFP in 2020 for a 5-year lease to keep our Millbrae Operations Center options open. Outdoor Supply Hardware signed a 5-year lease in October 2020. We have extended this lease twice, now extended through October 2027.

What is the Project schedule?

- Clark Construction was selected as a Construction Manager/General Contractor for the project in March 2025
- March 2026 – 35% design complete
- Summer 2026 – CEQA documents released
- Early 2027 – 100% design complete
- Early 2027 – Commission approval of construction
- November 2027 – Start of Construction: First of three phases
    1. Adaptive Reuse of OSH Building
    2. Construction of New Laboratory/Office Building
    3. Adaptive Reuse of Existing Administration Building
- Late 2031 – Construction complete

Bay Area Water Supply & Conservation Agency

January 28, 2026

Via email

The Hon. Joshua Arce, President
and Members of the Commission
San Francisco Public Utilities Commission
525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102

RE: General Comments and Observation – SFPUC's Draft 10-Year Capital Improvement Plan for their Water Enterprise and Hetch Hetchy Enterprise

Dear President Arce,

BAWSCA has reviewed the draft materials developed for the SFPUC's 10-Year CIP for the Water Enterprise and the Hetch Hetchy System FY 2027-2036. This letter presents BAWSCA's comments and questions prior to the Commission's 10-Year CIP hearing on January 29, 2026, and the Commission's consideration for adoption at the February 10, 2026 regular Commission meeting. BAWSCA's intent is to provide this letter to the SFPUC sufficiently in advance of the February 10, 2026 adoption such that a written reply can be crafted in advance of that meeting.

Engagement Background and Timeline

Water Supply Agreement Requirements

The Amended and Restated Water Supply Agreement (WSA) between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County includes the following provision regarding BAWSCA's review of CIP materials:

- 6.09. SFPUC Adoption of Regional Water System 10-Year Capital Improvement Program. E. BAWSCA and Wholesale Customer Notice and Review.
  "Beginning in 2020, at least 30 days before the first budget meeting, the SFPUC shall provide BAWSCA and the Wholesale Customers with written notice of the dates of the two budget meetings. At least 30 days before the first budget meeting, the SFPUC shall also provide BAWSCA and the Wholesale Customers with a draft of the 10-Year CIP and meet with those same parties to review potential candidate projects that it is considering for inclusion in the 10-Year CIP. Final materials for the first budget meeting will be made available to BAWSCA and the Wholesale Customers no less than 14 days prior to that budget meeting. Final materials for the second budget meeting will be made available to BAWSCA and the Wholesale Customers on the same date that they are made available to the Commission. Prior to the Commission's adoption of the 10-Year CIP at the second budget meeting, San Francisco shall respond, in writing, to all written comments by BAWSCA and the Wholesale Customers on the 10-Year CIP that were submitted prior to the date of the first budget meeting."

Timeline of BAWSCA's Receipt of CIP Materials

BAWSCA was provided draft line-item budget information for projects within the Hetch Hetchy CIP and Water Enterprise CIP on Dec 12, 2025. A virtual meeting with SFPUC staff took place on December 29, 2025, where questions were posed by BAWSCA staff and answers were provided by SFPUC staff. SFPUC noted that work was still taking place to finalize the proposed CIP prior to presenting it to the Commission. Data sheets that provide additional CIP project information were provided to BAWSCA on January 12, 2026. The remainder of the proposed CIP presentation materials were provided to BAWSCA on January 15, 2026.

General Observations

BAWSCA has the following general observations regarding the 10-Year CIPs for the Hetch Hetchy Enterprise and the Water Enterprise

- For both Enterprise CIPs, the revenue equals the requested appropriations, indicating that they are balanced CIPs.

- In the Water Enterprise CIP, there is a total of 62 projects. 16 projects were removed from the prior CIP. 8 new projects were added.

- In the Hetch Hetchy CIP, there is a total of 9 water division projects and 25 joint water/power division projects. 3 water division projects and 8 joint water/power division projects were removed from the prior CIP. 2 new water division projects and 3 new joint water/power division projects have been added

Review of CIP Materials

Presentation Slides

BAWSCA has reviewed the proposed presentation slides that will be used by the SFPUC to guide the discussion at the Commission's January 29, 2026, meeting. Our comments are as follows:

- Priorities and Project Drivers – BAWSCA notes that the SPFUC's approach is designed to meet Level of Service (LOS) goals and objectives, meet regulatory obligations, manage risk to water deliveries, and maintain financial sustainability (keep rates affordable, maintain a strong credit rating, and balance risk). BAWSCA supports that approach.

- Planning for the Long Term – SFPUC notes that the WSIP debt load now constrains water system capital spending. The regional and local water systems have capital needs totaling $10.1B ($6.8B in Local/Regional + $3.3B in HHW), including addressing regulatory requirements for all reservoirs and dams. The approach SFPUC has taken proposes to spread necessary projects over a 30-year period while prioritizing the most critical for inclusion in the 10-year CIP. BAWSCA understands the need to prioritize the most critical projects to address financial constraints. BAWSCA is also aware that due to regulatory requirements or unforeseen circumstances, new and existing projects may need to move into or out of a future 10-year CIP. The ability to defer identified work on dams and reservoirs requires ongoing engagement between the SFPUC and the State of California officials charged with dam safety. There is the risk that the State will require that work be performed sooner than planned. That work is significant in cost.

- Regional Water Prioritization Strategy - To constrain the CIP, the SFPUC has deferred transmission pipeline, water treatment, dam, and watershed projects. R&R funding was also reduced. The SFPUC notes that deferrals and funding reductions were strategically applied to allow continued insight into needed work, while constraining current spending (e.g. three major dam safety projects are deferred and smaller interim safety measure projects were developed as stop-gaps and prioritized for implementation). BAWSCA approves of such an approach, but cautions that interim measures, particularly those proposed for dams, must be agreed to by the State as an acceptable means to defer the work needed. Lowering the budget for R&R activities may also prove unachievable if projects that are deferred require additional attention.

- Hetch Hetchy Water Prioritization Strategy – The SFPUC contends that the proposed CIP is expected to result in significant overall operational risk reduction. BAWSCA supports that contention.

- Regional Water 10-Year Capital Plan: Appropriations Schedule – The SFPUC presented a bar graph that indicates the level of appropriations necessary for each year of the coming ten years. Levels in years 3,4 and 5 are significantly greater than those years that precede and follow. BAWSCA is aware that this higher level is primarily due to the cost of the work associated with the proposed Millbrae Operations Center construction.

- Millbrae Operations Center: BAWSCA understands that significant facility upgrades are necessary, and BAWSCA staff have recently been provided with added documentation that helps illuminate the decision-making process and proposed work to be done. While BAWSCA agrees that upgrades to the Millbrae Operations Center are important to enhance water supply reliability, water quality, and emergency response, it is imperative that the scope and timing of the project clearly represent the most cost-effective solution. As requested in Attachment 1 to this letter, there is additional information BAWSCA seeks to enable it to better understand how this project has evolved over time. Specifically, BAWSCA seeks to know more clearly how changes in design, implemented in response to structural problems that were identified at the Rollins Road satellite facility, progressed. The SFPUC's January 21, 2020 Alternatives Report for the Millbrae Operations Center included a preferred alternative that differs from that currently proposed by the SFPUC. Detail as to how that evolved – the cost estimate, the project's schedule, and scope/layout of work to be performed - is essential for BAWSCA's understanding of the current proposed scope. As part of that information package, BAWSCA also seeks a deeper description of the use and need for the wellness facility component of the Millbrae Operations Center Project. SFPUC's response, and added documentation, will help BAWSCA and other stakeholders draw a conclusion as to whether the final proposed project is in the interests of regional customers.

- BAWSCA is also aware that there are significant concerns that have been expressed by the City of Millbrae staff and elected officials regarding the impact of certain elements of the proposed work on their community. It is BAWSCA's understanding that SFPUC staff is preparing additional responses to Millbrae's questions and engaging in substantial dialog with Millbrae. BAWSCA asks that it be provided with copies of all relevant documents and information provided to Millbrae and timely updates on the status of

discussions with that city, including but not limited to any changes to the project that result in significant cost increases or schedule delays.

- Hetch Hetchy Water 10-Year Capital Plan: Appropriation Schedule – The SFPUC presented bar graphs showing the level of appropriation needed for each of the ten fiscal years, by project type (e.g., water, power or joint water/power). BAWSCA's role does not include oversight over power projects; therefore, BAWSCA's focus is on the water and water/power project types. It is clear from the bar charts that starting in year 5 and beyond that joint projects form the bulk of the expenditures. BAWSCA understands that the highest project cost in that mix will be work associated with the full replacement of the Moccasin Penstocks since repair is not feasible. BAWSCA supports the need to replace the penstocks yet will need to be engaged as replacement concepts are moved forward and a final approach selected. Such an expensive project must be approached in a careful and cost sensitive manner. In addition, over the coming ten years, several new buildings are proposed for construction at the SFPUC's Moccasin facilities (a new engineering and records building, a new warehouse, and a new water quality laboratory). While BAWSCA has asked SFPUC staff to schedule a meeting with our key staff to provide additional details regarding that set of proposed work, BAWSCA does not ask that it be removed from the CIP. Finally, and as the SFPUC shared earlier in their presentation, there is dam safety work that is being deferred beyond this 10-year CIP. It is critical that the SFPUC gain the concurrence from the State that such deferral is acceptable.

10-Year CIP Budget Spreadsheets for the Water Enterprise and the Hetch Hetchy Enterprise

BAWSCA's review of the 10-Year CIP for the Water Enterprise and the Hetch Hetchy Enterprise indicate that the SFPUC has worked to prioritize projects and keep the overall CIP budget from rising above the budget amount adopted by the SFPUC during the prior 10-year CIP cycle. Holding costs help to address rate affordability concerns that have also been expressed by BAWSCA's member agencies. From our recent discussions with SFPUC staff, BAWSCA better understands the SFPUC's approach to project deferrals. While BAWSCA staff is of the opinion that project deferrals will not place the reliability of the water system at undue risk, BAWSCA recommends that the SFPUC be ready to make CIP adjustments as required when and if the need for a particular project to be implemented sooner becomes evident. The construction of new buildings, both in Moccasin as well as in Millbrae, are significant CIP line-items. BAWSCA has detailed our comments on those in the above section of this letter and again expresses BAWSCA's interest in the progress and outcome of stakeholder engagement.

BAWSCA offers the following additional observations:

- Alternative Water Supply Projects – Unlike in prior budget cycles, the SFPUC does not propose to spend significant funds on the development of regional alternative water supply projects other than an expenditure in year 10 that would go toward a potential potable reuse project in partnership with other agencies on the Peninsula. This is a point which BAWSCA believes may need to be raised to members of the public that contend the SFPUC is budgeting too much money to develop alternative water supply projects. BAWSCA cautiously supports this budgeting approach, since until regulatory issues associated with the Bay-Delta Plan are sorted out, there remains some uncertainty as to what level of additional supply may be necessary to address the region's supply needs in times of drought. A key concern in years beyond this 10-year period is that

affordability goals may be hard to maintain when the expense of deferred dam work is coupled with the possible need to develop alternative water supply projects.

- Regional Water Treatment – BAWSCA is pleased to see that projects at the Sunol Valley Water Treatment Plant, the Tesla UV Treatment Facility, and at the Harry Tracy Water Treatment Plant have been included in the 10-year CIP.

- Moccasin Reservoir Long Term Dam and Reservoir Improvements – BAWSCA is pleased to see that this project has been included in the 10-year CIP.

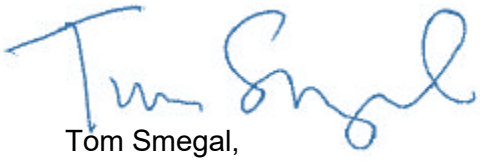
- O'Shaughnessy Dam Outlet Works Phase II – BAWSCA is pleased to see that significant construction will take place during the 10-year CIP and is supportive of the fact that additional work will extend beyond the 10-year cycle.

Project Data Sheets - Specific Questions for SFPUC Staff

BAWSCA has reviewed project data sheets in combination with the line-item budget worksheets developed for both the Water Enterprise as well as the Hetch Hetchy Enterprise. Questions are provided as Attachment 1 to this letter. The questions are primarily directed at SFPUC staff and their purpose is to provide clarification.

BAWSCA appreciates our ability to review the 10-year CIP for both the Water Enterprise and the Hetch Hetchy Enterprise. BAWSCA finds that the 10-Year CIP for FY 2027-36 for both enterprises are robust, even though some accommodations have been made to consider such important concepts as rate affordability goals. BAWSCA's approach to the review has been to ensure that key projects continue to be funded in coming years, particularly over the next two years, so that progress on identified asset needs are addressed, for example the continued inclusion of ongoing work at the Sunol Valley Water Treatment Plant. BAWSCA looks forward to attending the upcoming Commission meetings on the 10-Year CIP.

Sincerely,



Tom Smegal,
CEO / General Manager

cc: Dennis Herrera, SFPUC, General Manager
Steven Ritchie, SFPUC Assistant General Manager of Water Enterprise
Stephen Robinson, SFPUC, Assistant General Manager of Infrastructure
Katie Miller, SFPUC, Director Water Capital Programs
Alison Kastama, SFPUC, BAWSCA Liaison
BAWSCA Water Management Representatives
Allison Schutte, Hanson Bridgett, LLP, Legal Counsel

Encl.
Attachment 1 – Questions Regarding Projects as Detailed on Project Data Sheets

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Attachment 1

Questions Regarding Projects as Detailed on Project Data Sheets as Prepared for the 10-Year CIPs for the Water Enterprise and the Hetch Hetchy Enterprise

Hetch Hetchy Enterprise

1. Mountain Tunnel Improvement Project – The project description section should be revised to exclude the South Fork Siphon from the project. That siphon work has now been moved into a new project, separate from the Mountain Tunnel Improvement Project.
2. R&R Dam and Reservoir Conditions Assessment – This project does not appear in the FY 24-25 Water Enterprise Managed Capital Project Report. The SFPUC should include regular reporting on this ongoing capital project moving forward.
3. Mountain Tunnel South Fork Siphon Extension – This is a new project created because scope was dropped from the Mountain Tunnel Improvement Project. BAWSCA recommends that the SFPUC create a new NAR/AAR specific to this facility once work on the Mountain Tunnel Improvement Project is completed.
4. R&R Roads and Bridge Improvements – The project data sheet does not identify the specific details of why annual funding should be up to ten times the current annual expenditure rate. Additional discussion is warranted.
5. R&R Communications System Upgrades – BAWSCA observes that this line-item proposes about $20M more appropriation than the current CIP. This appears to be a very expensive ongoing cost, and BAWSCA requests additional details as to why that is.
6. Cherry Dam Spillway Short-Term – The budget for this project increased due to added scope for upper spill channel armoring. Its completion date has been extended to 2028 to enable a 6-month close out phase. Funding now covers through FY27, yet the most recent Hetch Hetchy Quarterly Report has the work extending into FY28. This seems inconsistent, and additional discussion is warranted.
7. R&R Power Distribution Implementation – There is a substantial increase in funding proposed in this 10-Year CIP (compared with the prior), going from a budget of $5M to a budget of $18.5M. BAWSCA needs additional information to justify the significant increase.

Water Enterprise

1. Millbrae Operations Center – This project is a primary component of the 10-year CIP, and it has generated concerns from the City of Millbrae. As noted in this comment letter, BAWSCA requests documentation and description of the conclusion to move the Rollins Road operations to the Millbrae Yard including reasons other alternatives were not preferred. Furthermore, there are several changes in the preferred alternative between what was presented in the January 21, 2020 Alternatives Analysis and the plans depicted in the August 2024 conceptual design, including the deletion of a new south shops building and the redesignation of an existing retail building as “new south shops” instead of a storage warehouse. BAWSCA would like to understand these changes and the rationale behind them. It would also be helpful for BAWSCA to understand the need for a wellness facility and SFPUC’s planned uses for the facility.

2. Sunol Valley Water Treatment Plant R&R – The appropriations for this line-item proposed for the coming 10 years is $3.3M, which is less than half of the level budgeted during the last 10-year CIP cycle. Annual R&R expenditures trend higher as well. Should additional money be allocated for this line-item?
3. West Bay Field R&R – The appropriations for this line-item proposed for the coming 10 years is $3.8M, which is approximately 75% of the level budgeted during the last 10-year CIP cycle. Annual R&R expenditures trend higher as well. Should additional money be budgeted for this line-item?
4. Bay Division Pipeline 4 PCCP Repair – The budget for this work was adjusted such that only planned activities can be performed over the coming 10-year cycle. The project's completion date has been extended as well. The SFPUC notes that the budget will be revisited in the next 10-year CIP update cycle. BAWSCA believes that it is entirely possible additional money may be required to address PCCP repair issues.
5. San Bruno Jail Waterline Replacement – No appropriations have been requested, even if the project's budget is $22.3M and the project's completion date is December 2030. Why was this project budget left out of the CIP budget? Will this project move forward in the coming years?
6. Sunol Valley Water Treatment Plant WQD Trailer – Were there cost overruns on this project since the budget apparently has increased (and perhaps budget reallocation took place)?
7. Regional Conveyance Via South Bay Aqueduct – There are no funds requested in the 10-Year CIP for this project. It appears that it has been deferred. Should the details have been taken out of the CIP?

DWR Continues to Improve Forecasting as Spring Heats up in California

Department of Water Resources | March 11, 2026 | Karla Nemeth, DWR Director

Snow blankets the Phillips Station meadow where DWR conducts the first media snow survey of the 2026 season at Phillips Station in the Sierra Nevada. Photo taken December 30, 2026.

For California water managers, the painfully sunny skies of March 2026 bear striking resemblance to March 2021.

In the spring of 2021, the snowpack was, like now, about half of average. Temperatures were breaking records. Then the news got worse. The snowmelt DWR forecasters expected to drain into reservoirs failed to appear. Unexpectedly, the mountain runoff disappeared into dry soils and a thirsty atmosphere. Caught off guard by this reality, DWR heeded this new climate signal.

The work done at DWR over the last five years to understand and track how snowpack translates into water supply means we know a great deal more about what to expect this dry, warm spring.

We do not control what, if any, rain and snow will fall in the next month and a half. But we will know a lot more about what water supply to anticipate, thanks to these forecasting improvements since 2021:

- DWR now factors six-to-10-day weather outlooks into its forecast models so that short-term events like extreme rain or heat are better reflected.
- DWR uses a new snow hydrology model (called iSnobal) in key watersheds that gives more explicit information on the changing physical parameters of the snowpack, including if and when the snow has become warm enough to melt and where.
- As funds allow, DWR contracts Airborne Snow Observatories, Inc. to fly over mountain snowpack to inventory water content and improve the accuracy of iSnobal.
- With UC Berkeley's Central Sierra Snow Lab near Donner Summit, DWR funds an experimental way to measure the temperature of the snowpack at various depths. Sometimes the layer of snow closer to the ground is warmer than the top, and snow is melting where we cannot see it. This, too, informs the iSnobal model.
- DWR has developed a soil moisture tool (see it here) that uses the limited number of soil-moisture sensors in the Sierra to estimate current conditions.
- DWR has developed a multi-source runoff forecast dashboard that includes runoff forecasts from federal, private, and academic partners such as the California-Nevada

River Forecasting Center. The dashboard makes it easier to see snow-water equivalent information, giving DWR forecasters more information and perspective.

For 100 years, melting of the snowpack provided a key component of California water supply and typically occurred from April through July. But that historical pattern no longer holds true, and it makes water management a lot more complicated. It also reinforces the need to bolster overall state water supplies to compensate for a hotter, drier world. Thanks to Governor Newsom's 2022 Water Supply Strategy and newly-adopted Senate Bill 72, California is working to make up for a climate-driven loss of supplies.

The latest DWR runoff forecast, as of March 1, shows that snowmelt is well underway – more akin to what used to happen in May. Already 20 percent of the peak statewide snowpack is gone, and temperatures are stubbornly, unseasonably warm – even overnight in the Sierra Nevada mountains. Rivers are running higher than average now as the mountain snow melts. But big reservoirs like Shasta and Oroville cannot store much of that runoff, because this early in spring, the reservoirs must maintain enough space to protect people from flooding in case of a big late spring storm. California also lacks the right infrastructure to convey this early season runoff into underground aquifers.

The early loss of snowpack means that later in the summer, with limited cool water from melting snow, rivers could run lower than usual and create difficult conditions for native fish species including salmon.

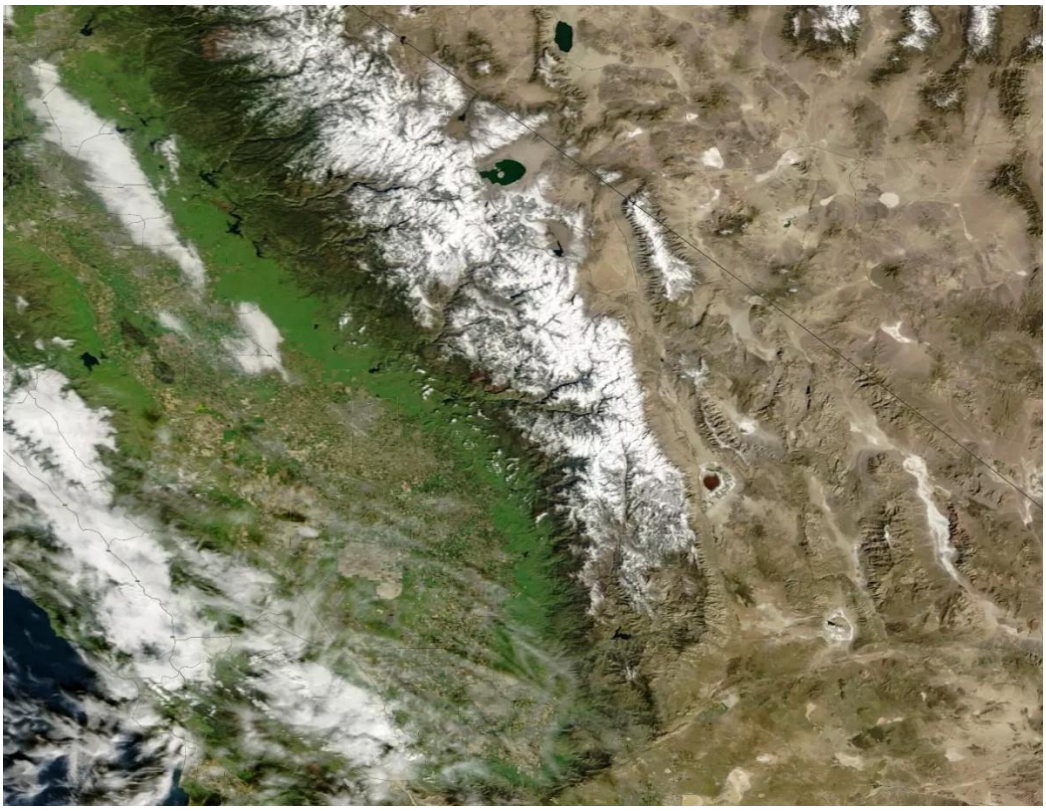
All of this means that we must continue to restore floodplain and spawning habitat for native fish species. It means water providers like the State Water Project and Central Valley Project, which together supply 30 million Californians and 4 million acres of farmland, must be conservative about forecasting how much water supply they will be able to deliver to farms and cities this year.

It also means that local, state, and federal water agencies must keep investing in infrastructure that captures and conveys water to expanded and new reservoirs, such as San Luis and Sites, and to depleted aquifers throughout the state. To adequately meet the challenge of our hotter and drier climate, we must use water as efficiently as possible, recycle it where feasible, and capture and store it when the big storms arrive.

# # #

Satellite photos show California's sudden snowpack meltdown: Now you see it, now you don't

LA Times | March 5, 2026 | Terry Castleman



The Sierra snowpack was significantly reduced by a recent heat wave. (NASA Terra /MODIS)

Just weeks after major storms brought snow to the Sierra Nevada, a winter heat wave has all but eliminated California's snowpack gains.

Satellite photos from NASA show the extent of the major melting event, which took place in late February and early March.

"The extremely rapid loss of the snow that fell during the late Feb storm cycle, which in many cases dropped multiple feet of snow in the Sierra Nevada over just a couple of days, is genuinely remarkable," Daniel Swain, a climate scientist with UC Agriculture and Natural Resources, said in an email to The Times.

In less than 10 days, the snow receded significantly amid a heat wave that sent temperatures 15 to 20 degrees above normal in much of the state.

As forecasters expect above-average temperatures for the next several weeks, Swain said, snowpack losses are likely to continue.

California relies on the Sierra snowpack for about 30% of its water.

But extreme warmth across the West this winter has meant more precipitation falling as rain, not snow — a symptom of global warming, experts say, which in recent years has been pushing average snow lines higher in the mountains and changing the timing of runoff.

There are 130 monitoring stations across the Sierra Nevada that provide electronic readings of the snowpack. The northern Sierra is currently at 38% of average and the southern Sierra 83% of average. In the image above from Feb. 22, the southern Sierra was at 98% of normal.

The heavy snow that blanketed the mountains in between the photos was barely noticeable, as snow levels had retreated back to early-February levels.

Swain noted that there is still significant moisture in California's mountains, but the diminished snowpack will likely affect the state's water supply and wildfire risk later this summer.

"The very early loss of snowpack will effectively make the long, dry summer that much longer in the mountains," he said.

# # #

‘Unprecedented’ snow drought sets up extreme wildfires for Western US in 2026
Wildfire Today | March, 1, 2026 | Hunter Bassler

It’s been 40 years since the United States’ western region has experienced this low of snowpack near winter’s end, setting the stage for what many fear will be an early and extreme peak wildfire season.

Much of the mountainous West is experiencing a snow drought due to drier-than-normal and warmer-than-normal winter weather, according to the United States Department of Agriculture’s National Water and Climate Center. Recent heavy precipitation in the western states did little to reduce the deficit, as large amounts of snow fell in areas that were either not experiencing drought or were already far behind their usual snowpack levels.

“Below-average snow-water equivalency remains a concern in much of the West, even in drought-free areas such as the Sierra Nevada,” the Center said in its most recent weekly report. “According to the California Department of Water Resources, the Sierra Nevada snowpack contained an average snow-water equivalency of 16 inches—up about 6 inches from earlier in the month, but less than three-quarters of normal for late February. In much of Arizona, New Mexico, and Oregon, snow-water equivalency values were less than 50 percent of normal.”

The widespread snow drought increases the likelihood for extreme wildfires in numerous ways, according to Desert Research Institute Director Tim Brown. He and other fire weather experts

expect much of the West to have significantly high wildland fire potential as we near the summer months.

“The snowpack can definitely drought-stress the vegetation from the reduced soil moisture,” Brown said during a water supply briefing for the National Integrated Drought Information System. “There may also be a feedback process where that drought stress also increases the atmospheric drying…that exacerbates what the fire outcome might look like.”

The only thing that could lessen the chance of extreme fires would be a “major switch” in circulation patterns that keeps things cool and moist, but there’s nothing in seasonal forecasts or weather models that would indicate that.

Not only does low snowpack worsen environmental conditions and increase the possibility of extreme fires, but it also limits the window to safely set prescribed burns during the spring.

“If the underlying conditions are much drier than usual, and then it’s also warm on top of that…that’s going to reduce the amount of prescribed fire activity and then that, in turn, could also increase the fire potential as we get more into the summer season,” Brown said.

Recent research backs up officials’ claims of wildfire severity being tied to low snowpack. A study out of the University of Toronto published in December found that longer snow-free durations increase the severity of extreme wildfires, with earlier snow disappearance correlating to increased wildfire ignitions and longer fire seasons, specifically in boreal forests.

“Although the consequences of climate change on snow cover have not been a major focus of wildfire research, our work highlights the importance of incorporating snow cover dynamics into future models of wildfire burn severity,” the researchers said. “Improved understanding of how snow dynamics affect burn severity will help inform resource allocation (e.g., funding, monitoring, personnel), fuel reduction, and forest management strategies to reduce the risk of high-severity wildfire and maintain forest ecosystem health and function.”

# # #

5 Ways Water Efficiency Builds Resilience in Your Community

Pacific Institute | March 11, 2026 | Chris Hancock and Heather Cooley

Communities across the United States are facing growing pressures on water systems, including climate change, population growth, aging infrastructure, and rising energy and treatment costs. Water efficiency offers significant and often underutilized opportunities to strengthen resilience across all regions and sectors. Here are five ways efficiency strengthens your community:

1. Delivers multiple benefits while using less water
Water efficiency measures reduce water use without affecting the services and benefits water provides, while also saving energy, lowering utility costs, and protecting the environment.

2. Reduces energy use and treatment costs
Saving water also saves the energy needed for pumping and treatment, lowering water and wastewater treatment costs.

3. Defers or eliminates costly new infrastructure
By reducing overall demand, efficiency can help avoid the need for expensive new supply projects.

4. Supports affordability
Efficiency can help mitigate rising water, wastewater, and energy bills, particularly for lower-income households.

5. Protects natural systems
Efficiency strengthens environmental resilience by protecting rivers, wetlands, and groundwater systems stressed by overuse.

Water efficiency is a proven strategy for sustaining communities when supplies are constrained and for building long-term water resilience. Learn more in the Pacific Institute report, "Untapped Potential: An Assessment of Municipal and Industrial Water Efficiency Potential in the United States."

# # #

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How are water managers adapting to a smaller Sierra snowpack?

Warming winters are reshaping runoff. With less snow to rely on, water managers are navigating a future defined by rain, risk, and uncertainty.

Maven | March 3, 2026 | Claire Carlson, Sierra Nevada Ally

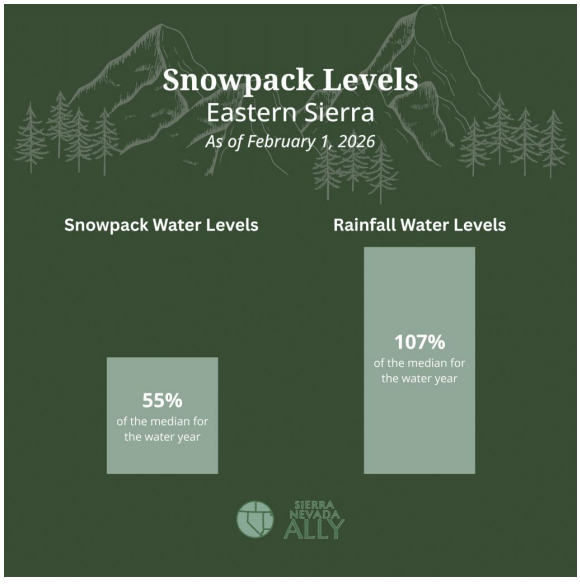
As average temperatures rise across the western United States, snowpack in the Sierra Nevada is dwindling. This year, Reno recorded its latest-ever frost date on November 19. When snow does fall, climate change has increased the likelihood of more extreme storms. This winter provided an example: in mid-February, a heavy snowstorm hit the Donner Pass region, triggering the deadliest avalanche in California's modern history.

For the most part, however, warming temperatures mean precipitation falls as rain instead of snow, changing the decisions water managers make about storing runoff from the Sierras, which supplies drinking water to millions in both California and Nevada.

Reservoirs—the manmade lakes that store water—were originally designed with snowpack in mind. Snow would accumulate throughout the winter and melt slowly in spring and summer, filling reservoirs during the dry season. Each reservoir has flood space that water managers keep empty during winter in case a heavy storm fills the reservoir quickly.

Now, with more rain running off the mountains than snow, this flood space is filling earlier in the season. That requires water managers to release more water during winter, without the promise of snowmelt to replenish it in spring and summer.

"The challenge a lot of water managers are facing is how to change their operations to deal with runoff coming out of the mountains in the middle of winter, as opposed to most of it coming out in spring and summer at a slower rate," said Dan McEvoy, a climatologist at the non-profit Desert Research Institute.



Source: Nevada Drought Report / Graphic by Sierra Nevada Ally

As of February 1, snowpack water levels in the eastern Sierra were 55% of the median for the water year to date, which runs from October 1 to September 30. Rainfall, by contrast, was higher than average, at 107% of the median, according to the most recent Nevada Drought Report.

To adapt to shrinking snowpack, some water managers are using a new strategy called Forecast-Informed Reservoir Operations. Rather than waiting for real-time runoff data that shows how much water is flowing into a reservoir, this new approach relies on weather forecasting to make water management decisions. Forecasts give water managers more flexibility and can help prevent flooding.

“If you have enough lead time [ahead of a storm], you can reposition that resource from the reservoir to another location,” said California State Climatologist Michael Anderson.

He said moving water downstream can help keep reservoirs full through the summer–but space is just one consideration.

“There’s a lot of work to sort through all the legal elements that go with water management to make that happen, but they’re at least exploring the space and having the conversations, and that’s a really good thing,” Anderson said.

He said navigating the downstream water rights of various users can complicate water management decisions, but collaborative conversations with stakeholders are a vital piece to the puzzle.

Ecosystem restoration in the Sierras could also solve these challenges and help offset a smaller snowpack. Scientists are focusing on wet meadows—meadows that remain wet for at least one month each year. Once abundant in the Sierras, many have dried out due to the way water has been managed in the region.

“[Water managers] once thought it was better to get the water out of the basin as quickly as possible, and so the meadows dried out,” Anderson said. “Now we recognize, boy, that’s another great storage place.”

Wet meadows are excellent at holding water in the soil, releasing it slowly like snowpack, rather than all at once as with heavy rain. While restoring these meadows could help make up for lost snowpack, Anderson said it must be paired with other strategies, like Forecast-Informed Reservoir Operations, to adequately prepare California and Nevada for a changing water future.

“It’s going to be a multi-pronged approach to fully offset what we expect to happen as the snowpack evolves through the rest of the century,” he said.

Climate models predict more variability in precipitation and temperature in coming decades, which could mean large year-to-year swings in how much rain or snow the Sierra receives. Anderson hopes water managers can use forecasting knowledge—knowing when it’s a dry year versus a wet year—when making water management decisions.

For this year, water supplies look strong: California’s reservoirs are at 120% of average levels, according to California Water Watch. Most of Nevada’s reservoirs are also above average, except for Lake Mead and Prosser Reservoir, per the Nevada Drought Report.

But warmer-than-normal temperatures at the start of 2026 (Nevada’s statewide January temperatures were 3.3°F above average) could signal a particularly dry summer, even if reservoirs remain full.

“The good news, of course, is that we still have some winter left and a lot of spring left, and the pattern can change very quickly, as we saw at the end of December,” said Nevada State Climatologist Baker Perry.

Perry and other climatologists and water managers will continue to monitor those ever-changing conditions, particularly as temperatures warm.

“But if we continue to have dry spells and above-normal temperatures, especially across northern Nevada in lower-elevation basins that typically have multiple feet of snow on the ground right now, that’s going to be a very concerning storyline moving into summer and especially the fire season,” he said.

# # #

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Study warns data centers may require billions for water infrastructure upgrades

Smart Water Magazine | March 10, 2026 | Olivia Tempest

A research team from the University of California, Riverside, in collaboration with scientists at the California Institute of Technology, has found that the rapid expansion of data processing centers may create large spikes in water demand that many local water systems cannot currently supply. The research paper is titled: Small bottle, big pipe: Quantifying and addressing the impact of data centers on public water systems."

The study has found that as artificial intelligence and cloud computing grow, facilities that house servers will draw much more water to cool equipment during the hottest days of the year than they do now. These peak demands can be several times higher than average use, placing stress on municipal water supplies designed for everyday needs.

According to the research, if current water use patterns continue, data centers in the United States could require between 697 million and 1.45 billion gallons of new peak water capacity per day by 2030. Researchers noted that this level of demand is roughly equivalent to the typical daily water supply used by New York City. Even with improvements that reduce water intensity, peak needs may still equal about half of that supply for most of the year.

The estimated cost of building sufficient water infrastructure, including treatment plants, storage and pipelines, depends on how quickly data centers expand. The study's authors said these costs could range from about $10 billion to as much as $58 billion nationwide.

During February 2026, three major technology firms secured agreements for multi-million-gallon-per-day water supplies in Virginia, Louisiana and Indiana, with commitments approaching $1 billion in total infrastructure spending.

Shaolei Ren, the lead researcher and an associate professor at UC Riverside's Bourns College of Engineering, said that water availability itself can be a constraint. He explained that even with funding, natural sources such as reservoirs and snowpack may not supply enough water during peak demand.

"Even if you have money, the water source is another challenge," Ren said. "In many cases, the water is naturally replenished by snowpack and reservoirs. But reservoirs and snowpack are limited. You may have money to build treatment plants and pipes, but money can't buy more snowpack."

The study highlights that most corporate reporting focuses on annual water use, which may obscure short-term peak demand that communities must be prepared to meet. It also points out that many local water systems may not have existing capacity to handle sudden large withdrawals, forcing utilities to build new facilities or upgrade ageing infrastructure.

"People recognize power as a constraint for data center growth," Ren said, "but most of them haven't realized water is a hidden and even more binding constraint in many communities.

Research recommendations include requiring data center developers to report peak water needs, encouraging partnerships with local utilities to fund infrastructure improvements, and considering alternative cooling methods. For example, facilities could switch between water-based cooling and dry cooling based on water system stress and power grid conditions.

# # #