



CITY OF
**PALO
ALTO**

CITY OF PALO ALTO
Planning & Transportation Commission
Regular Meeting
Wednesday, February 28, 2024
6:00 PM

Agenda Item

4. 2501 Embarcadero Way [22PLN-00367]: Recommendation to Council for Approval of a Site and Design Application and a Variance to Allow the Construction of a Local Advanced Water Purification System at the Regional Water Quality Control Plant (RWQCP). The Proposed Project Includes the Construction and Operation of a Membrane Filtration Recycled Water Facility and a Permeate Storage Tank at the City's RWQCP to Improve Recycled Water Quality and Increase its Use. A Variance to Allow for a Taller Screening Wall is Also Requested. Environmental Assessment: Council Previously Adopted an Addendum to the 2015 Environmental Impact Report (EIR) for the City of Palo Alto Recycled Water Project Which Evaluated the Environmental Impacts of the Proposed Project. Zone District: PF (D) (Public Facility with Site and Design Combining District). For More Information Contact the Project Planner, Claire Raybould, at Claire.Raybould@Cityofpaloalto.org.
8:00 PM – 9:00 PM

ACTION NO. 2024-_____

**RECORD OF THE COUNCIL OF THE CITY OF PALO ALTO LAND USE ACTION
FOR 2501 EMBARCADERO WAY: SITE AND DESIGN REVIEW AND
VARIANCE (22PLN-00367)**

On _____ 2024, the City Council of the City of Palo Alto approved a Site and Design Review and Variance Application to Allow the Construction of a Local Advanced Water Purification System at the Regional Water Quality Control Plant (RWQCP). The Proposed Project Includes the Construction and Operation of a Membrane Filtration Recycled Water Facility and a Permeate Storage Tank at the City’s RWQCP to Improve Recycled Water Quality and Increase its Use. The Variance Would Allow for a Taller Wall Within a Required Setback to Provide Screening and Reduce Noise. In approving the application, Council makes the following findings, determinations, and declarations:

SECTION 1. Background. The City Council of the City of Palo Alto (“City Council”) finds, determines, and declares as follows:

A. The City of Palo Alto Water Quality Division requests approval of a development project that includes Site and Design Review and a Variance to allow the Construction of a Local Advanced Water Purification System (AWPS) at the Regional Water Quality Control Plant (RWQCP). (“The Project”).

B. The project site area currently includes an approximately 10,000 sf area located across two parcels (APNs 008-05-005 and 008-06-001). The project is located within the boundaries of the Regional Water Quality Control Plant. The site is designated on the Comprehensive Plan land use map as Major Institution Special Facilities and is located within the Public Facility (PF) zone district, and Site and Design (D) Combining District.

C. The Planning and Transportation Commission (Commission) reviewed and recommended approval of the Project on _____, 2024. The Commission’s recommendations are contained in Staff Report ID# _____ and the attachments to it.

The Architectural Review Board (ARB) reviewed and recommended approval of the Project on _____, 2024. The ARB’s recommendations are contained in Staff Report ID# _____ and the attachments to it.

D. On _____, 2024, the City Council held a duly noticed public hearing, at which evidence was presented and all persons were afforded an opportunity to be heard in accordance with the Palo Alto Municipal Code and the Council’s Policies and Procedures.

SECTION 2. Environmental Review. The City, as the lead agency for the Project, has determined that the project is subject to environmental review under provisions of the California Environmental Quality Act. Council Previously Adopted an Addendum to the 2015 Environmental Impact Report for the City of Palo Alto Recycled Water Project Which Evaluated the Environmental Impacts of the Proposed Project. It was determined that the current project (22PLN-00367) does not

present the circumstances pursuant to CEQA Guidelines 15162 to warrant the completion of a subsequent Mitigated Negative Declaration or an Environmental Impact Report, and therefore, an Addendum to the previously adopted EIR suffices. Pursuant to CEQA Guidelines 15164 the addendum need not be circulated. However, the addendum shall be considered with the adopted EIR. The City Council considered the Addendum to the EIR at a public hearing on November 18, 2019. The Mitigation and Monitoring Report is attached as Exhibit 1 into the Record of Land Use.

SECTION 3. Site and Design Review objectives.

The design and architecture of the proposed improvements, as conditioned, comply with the Site and Design Objectives as required in Chapter 18.30.060(G) of the PAMC.

A. *Objective (a): To ensure construction and operation of the use in a manner that will be orderly, harmonious, and compatible with existing or potential uses of adjoining or nearby sites.*

The proposed project is located within the boundaries of the existing Regional Water Quality Control Plant and includes the necessary equipment and facilities to treat recycled water. The facilities are designed in a manner that is orderly, harmonious and compatible with the existing RWQCP and surrounding uses. The project would not conflict with the City's airport operations across Embarcadero Road and is consistent with the Airport Land Use Plan. The colors and design of the facilities are consistent with the Baylands Design Guidelines, such as using muted colors. The new screening/sound wall protects surrounding uses for visual and noise impacts from the proposed facilities. The proposed vegetation planting will provide additional long-term visual screening. Light is directed downward, primarily below the canopy, and is expected to be no greater than street lighting. Therefore, the project is consistent with this objective.

B. *Objective (b): To ensure the desirability of investment, or the conduct of business, research, or educational activities, or other authorized occupations in the same or adjacent areas.*

The project is a public facility, consistent with the land use designation and zoning, and provides treatment of recycled water to the city and surrounding communities. The project would not affect existing or potential future uses within the surrounding area including the plant operations, the adjacent airport, nearby office uses, and/or recreational use of the Baylands. The project is within the boundaries of the existing RWQCP. A component of the project includes repaving and re-landscaping the walking path leading out to the Baylands along Embarcadero Road.

C. *Objective (c): To ensure that sound principles of environmental design and ecological balance shall be observed.*

The project is consistent with the Baylands design guidelines in that it utilizes muted colors and the equipment/facilities are consistent with the height of the existing RWQCP buildings and equipment. Lighting is designed and conditioned to not shine onto the adjacent properties. The project will implement green building measures as required by the Palo Alto Municipal Code and, in itself, allows for the increased reuse of recycled water within the City of Palo Alto and surrounding communities.

D. *Objective (d): To ensure that the use will be in accord with the Palo Alto Comprehensive Plan.*

The project is consistent with the following Comprehensive Plan land use designation, goals, and policies:

<p>Land Use Designation: Major Institution/Special Facility</p>	<p>This land use designation includes governmental and community service uses and lands that are publicly owned such as the subject property. The proposed advanced water purification system within the area of the RWQCP boundaries is consistent with the Comprehensive Plan Land Use.</p>
<p>Natural Element</p>	
<p>Policy N-4.17: Improve source control, treatment, and distribution of recycled water, including reducing the salinity of recycled water, to maximize its use.</p>	<p>This project is specifically intended to implement this policy in order to reduce the salinity of recycled water in order to maximize its use.</p>
<p>Policy N-2.2: Use the UFMP, as periodically amended, to guide City decisions related to all elements of Palo Alto’s urban forest, from its understory habitat to canopy cover.</p> <p>Policy N-2.3: Enhance the ecological resilience of the urban forest by increasing and diversifying native species in the public right-of-way, protecting the health of soils and understory vegetation, encouraging property owners to do the same and discouraging the planting of invasive species.</p> <p>Program N2.7.3: Actively pursue funding for tree planting to increase canopy cover significantly across the city, avoid a net loss of canopy at the neighborhood level and attain canopy size targets in parks, open space, parking lots and City rights-of-way.</p>	<p>The project includes removal of 35 trees that are primarily non-native, invasive species, and their replacement with 36 trees that are native as well as the addition of understory vegetation for landscape screening along the public ROW.</p>
<p>Policy N-4.1: Maintain a safe, clean and reliable long-term supply of water for Palo Alto</p>	<p>The project improves the reuse of recycled water, improving the City’s long-term supply of water for Palo Alto.</p>
<p>Policy N-4.4: Manage water supply and water quality to reflect not only human use but also the water needed to sustain plant and animal life.</p>	<p>The project improves the ability to use recycled water to sustain plant life by reducing the salinity so that the water is more suitable for commercial and public facility use, consistent with this policy.</p>
<p>Policy N-6.12: Ensure compliance with the airport related land use compatibility standards for community noise environments, shown in Table N-1, by prohibiting incompatible land use development within the 60 dBA CNEL noise contours of the Palo Alto airport.</p>	<p>The project is a compatible land use with the airport.</p>
<p>Policy N-7.5: Encourage energy efficient lighting that protects dark skies and promotes energy conservation by minimizing light and glare from</p>	<p>The lighting for this project is shielded and directed downward, providing the minimum required lighting necessary for operation of this</p>

development while ensuring public health and safety.	facility. The project does not include windows that would create glare.
Land Use Element	
Policy L-1.2: Limit future urban development to currently developed lands within the urban service area. The boundary of the urban service area is otherwise known as the urban growth boundary. Retain undeveloped land west of Foothill Expressway and Junipero Serra as open space, with allowances made for very low-intensity development consistent with the open space character of the area. Retain undeveloped land northeast of Highway 101 as open space.	The project includes development within the boundaries of the existing RWQCP consistent with this policy.
Policy L-1.3: Infill development in the urban service area should be compatible with its surroundings and the overall scale and character of the city to ensure a compact, efficient development pattern.	The project is compatible with its surroundings in that it's similar in height to other buildings/equipment within the RWQCP and meets the applicable height restrictions within the Airport influence area.
Policy L-1.6: Encourage land uses that address the needs of the community and manage change and development to benefit the community	The need for improved recycled water has been previously identified by Council and in the City's Comprehensive Plan. The project addresses the need to improve recycled water quality to allow for increased reuse, benefiting the community.
Policy L-6.2: Use the Zoning Ordinance, design review process, design guidelines and Coordinated Area Plans to ensure high quality residential and commercial design and architectural compatibility.	The project utilizes the design review process to ensure high quality design and architectural compatibility.
Policy L-10.2: Regulate land uses in the Airport Influence Area to ensure consistency with the Palo Alto Airport Comprehensive Land Use Plan and the Baylands Master Plan.	The project complies with the Airport Comprehensive Land Use Plan and the Baylands design guidelines and Master Plan.

SECTION 4. Architectural Review Findings.

1. *The design is consistent with applicable provisions of the Palo Alto Comprehensive Plan, Zoning Code, coordinated area plans (including compatibility requirements), and any relevant design guides.*

This finding can be made in the affirmative because the project is consistent with applicable Comprehensive Plan goals and policies as summarized above in Section 3, Site and Design Findings. The requested variance is allowed in accordance with Chapter 18. XX of the municipal code and the relevant findings can be made in the affirmative. The project is consistent with the Baylands Design Guidelines, as applicable to the proposed project, in that the project uses muted colors and the height of the new AWPS facility is consistent with the surrounding buildings at the RWQCP and would not be visible from the Baylands or otherwise create new obstructions to views of the Baylands.

2. *The project has a unified and coherent design, that:*

- a. *creates an internal sense of order and desirable environment for occupants, visitors, and the general community,*
- b. *preserves, respects and integrates existing natural features that contribute positively to the site and the historic character including historic resources of the area when relevant,*
- c. *is consistent with the context-based design criteria of the applicable zone district,*
- d. *provides harmonious transitions in scale, mass and character to adjacent land uses and land use designations,*
- e. *enhances living conditions on the site (if it includes residential uses) and in adjacent residential areas.*

The project is located within the boundaries of the RWQCP which is not accessible to visitors/the general community, as is appropriate for the proposed type facility. The project is designed in a manner that allows for maximum efficiency and future planned needs of the RWQCP. Although the project includes the removal of a number of trees, including protected trees, these trees are primarily non-native, invasive species. Replacement landscaping perimeter planting is proposed to provide long-term screening of the AWPS and existing RWQCP. The project complies with the contextual design criteria set forth in PAMC 18.24, which applies to most zone districts, including the Public Facility Zone District, as detailed below. The project is consistent with the mass and scale of the RWQCP facilities, which generally has 2 and 3-story equivalent buildings and equipment. There are no residential areas on or near the facility.

The project is consistent with the following context-based design criteria:

1. Public Realm/Sidewalk Character (18.24.020)

To create an attractive and safe public realm and sidewalk space for pedestrians and cyclists through the implementation of design, landscaping, and infrastructure.

The project is a public facility located wholly within the boundaries of the existing RWQCP. Due to the nature of this facility as critical infrastructure, protective fencing is required along the boundaries of the facility. However, the project screening wall, which protects the facility, provides screening from equipment, and serves as a sound wall for the project, is designed to provide an attractive and safe public realm along the adjacent sidewalk, creating a desirable place to walk. Landscaping is also provided along the public ROW to provide screening and shade, enabling comfortable pedestrian passage. Therefore the project is consistent with this design criteria.

2. Site Access (18.24.030)

To provide facilities and accommodations for pedestrians, vehicles, cyclists, and transit users to safely and efficiently access and circulate both within individual sites and in the site's surrounding context.

The project is located within the existing RWQCP in a location that does not affect the current circulation within the plant. The system would be maintained by existing plant personnel; no additional parking is proposed for this self-operating system. The project maintains and improves the existing walking path along Embarcadero Road, and does not include any changes to the existing bicycle path or roadway. Therefore, the project is consistent with this design criteria. The project meets the required setbacks or seeks relief from the setbacks to comply with easement requirements and to be consistent with the surrounding properties. Relief is sought for the "build-

to-line” setback along Embarcadero Road and given the opportunities and constraints of the site, adherence to the requirement does not create a better project layout. Additionally, the project includes varied materials such as metal, stucco, glass with contrasting colors providing visual interest. The two-story building is horizontally oriented consistent with the Baylands design guidelines.

3. Building Orientation and Setbacks (18.24.040)

To create a coherent and active interface between private development and the public realm that contributes to the sense of place and structure of the neighborhood and enhances the public's experience. Site design that responds to the orientation of adjacent uses and creates opportunities for landscaping and usable open space.

The project includes setbacks from Embarcadero Road to allow a buffer between the roadway and pedestrian path, landscape screening between the pedestrian path and the screening wall, and further setbacks to the buildings. These setbacks and the provided screening create a separation between the public realm and RWQCP facilities as is appropriate for this type of use and consistent with this requirement.

4. Building Massing (18.24.050)

To create buildings that are compatible with and enhance the surrounding area through the consideration of building scale, massing, and bulk. Massing should create a human-scale environment that is of high aesthetic quality and accommodates a variety of uses and design features.

The project includes equipment for the purification of recycled water and is not intended to have a human-scale to the design that is inviting/interfacing with the public realm. However, the project meets this requirement by providing appropriate setbacks and screening from the public realm and providing high quality materials for the sound wall that will be visible from the pedestrian perspective.

5. Façade Design (18.24.060)

To create cohesive and well-crafted building façades with human-scaled details that incorporate textures, colors, and other details that are compatible with and enhance the surrounding area.

The proposed equipment is set back from the public ROW and is screened from view, as is appropriate for equipment versus a traditional building façade. The proposed colors of the canopy cover on the equipment and the reverse osmosis tank, which would be visible from public ROW, are compatible with the Baylands Design Guidelines and enhance the surrounding area. The screening wall will be the primary feature viewed by the public. The wall has been designed to provide variation through stepbacks as well as through color. Therefore, the project is consistent with this criterion.

6. Residential Entries (18.24.070)

Private entries into ground floor residential units shall be designed to provide (1) human-scaled detailing; (2) enhanced pedestrian experience; (3) transition between public and private space; (4) spaces for residents to gather and spend time outdoors; (5) resident privacy

The project does not include a residential use; therefore this design criteria does not apply.

7. Open Space (18.24.080)

To ensure that residents and visitors have access to usable open space and common facilities that provide recreational opportunities, promote a healthy environment, and enhance the experience of living in Palo Alto.

The project maintains or otherwise improves the public ROW. The project is located within the RWQCP boundaries which is not accessible to the public and does not include open space or common facilities. Therefore, this criteria does not apply to the project.

8. Materials (18.24.090)

To promote the use of high quality, durable, sustainable, and attractive materials that exhibit a sense of permanence and contribute to the aesthetic quality of the development and to the urban design fabric of the community.

The proposed materials for the buildings are pre-fabricated and include primarily non-reflective metal or steel, as is appropriate for a tank and equipment cover. Therefore, the project is consistent with this design criteria.

9. Sustainability and Green Building Design (18.24.100)

To incorporate sustainability, green building, and environmental considerations into the project design and construction. Green building design aims for compatibility with the local environment: to protect, respect and benefit from it. In general, sustainable buildings are energy efficient, water conserving, durable and nontoxic, with high-quality spaces and high recycled content materials.

The project provides increased opportunities for use of recycled water and therefore is inherently a project to increase sustainability initiatives set forth by the City. The project also provides low water use, native plantings for landscape screening areas, replacing primarily non-native, invasive species.

3. *The design is of high aesthetic quality, using high quality, integrated materials and appropriate construction techniques, and incorporating textures, colors, and other details that are compatible with and enhance the surrounding area.*

The project includes muted colors that complement the surroundings and are appropriate to the proposed equipment/use. The project proposes a high-quality screening/sound wall that provides variation in colors and depth as well as quality, native, landscaping that maintain the high-quality experience along Embarcadero Road for all modes of transportation.

4. *The design is functional, allowing for ease and safety of pedestrian and bicycle traffic and providing for elements that support the building's necessary operations (e.g. convenient vehicle access to property and utilities, appropriate arrangement and amount of open space and integrated signage, if applicable, etc.).*

The project is designed to maintain the same private access to the plant and maintains the existing pedestrian path connecting Embarcadero Road out to the baylands. The AWPS would be operated by existing employees at the plant and no additional parking is proposed.

5. *The landscape design complements and enhances the building design and its surroundings, is appropriate to the site's functions, and utilizes to the extent practical, regional indigenous drought resistant plant material capable of providing desirable habitat that can be appropriately maintained.*

Landscaping is provided along the perimeter of the site. The landscape palette uses drought tolerant, native species.

6. *The project incorporates design principles that achieve sustainability in areas related to energy efficiency, water conservation, building materials, landscaping, and site planning.*

The project itself is designed to improve the reuse of recycled water within the City of Palo Alto and neighboring jurisdictions, primarily Mountain View, and creates opportunities for future phase expansion to maximize recycled water use. The project provides lighting only to the degree necessary to provide for safe operation of the facility. Landscaping includes low-water use, native landscaping that is consistent with the Baylands.

SECTION 5. Variance Findings

1. *Because of special circumstances applicable to the subject property, including (but not limited to) size, shape, topography, location, or surroundings, the strict application of the requirements and regulations prescribed in this title substantially deprives such property of privileges enjoyed by other property in the vicinity and in the same zoning district as the subject property. Special circumstances that are expressly excluded from consideration are:*

A. *The personal circumstances of the property owner, and*

B. *Any changes in the size or shape of the subject property made by the property owner or his predecessors in interest while the property was subject to the same zoning designation.*

The applicant requests a variance from PAMC 16.24 (fences) to allow for a screening wall that varies from 9.5 to 10 feet tall, where an 8-foot fence/wall is allowed in accordance with 16.24.030 (security fences). The project site is located adjacent to dissimilar land uses that do not perform similar functions. The RWQCP is a public facility serving the region in a unique environment that provides important habitat and recreational opportunities. In this sense, the RWQCP is a unique land use that is inherently different from its neighbors and is of more critical importance for the services it provides. The proposed sound/screening wall will protect the quality of surrounding uses will allowing for the site to continue to serve the needs of the region.

2. *The granting of the application shall not affect substantial compliance with the regulations or constitute a grant of special privileges inconsistent with the limitations upon other properties in the vicinity and in the same zoning district as the subject property, and*

The project will comply with other development standards except for the wall height requirements. The granting of the variance would not be considered a grant of special privileges inconsistent with the limitations upon other properties within the PF Zone District given the unique use of the proposed facility. A variance was also previously granted for the airport fence height in order to comply with FAA regulations for security.

3. *The granting of the application is consistent with the Palo Alto Comprehensive Plan and the purposes of this title (Zoning), and*

The project is consistent with the Palo Alto Comprehensive Plan as discussed in Section 3 of this record of land use action and the use is consistent with the purposes of the zoning code.

4. *The granting of the application will not be detrimental or injurious to property or improvements in the vicinity, will not be detrimental to the public health, safety, general welfare, or convenience.*

The granting of the variance would not negatively affect public health, safety, general welfare, or convenience or be detrimental to the property or improvements in the vicinity in that the project proposes to construct an advanced water purification system within the boundaries of the existing RWQCP and provides information to support the conclusion that the project would not result in impacts on noise or lighting in the area that could affect the natural or built environment. A condition of approval has been added to require a County Airport Land Use Commission Consistency Analysis to ensure compatibility with the airport. The project is consistent with the Airport Land Use Plan as incorporated into the City's Comprehensive Plan.

SECTION 6. Conditions of approval

PLANNING DIVISION

1. CONFORMANCE WITH PLANS. Construction and development shall conform to the approved plans entitled, "City of Palo Alto Regional Water Quality Control Plant Advanced Water Purification System Architectural Review Submittal" stamped as received by the City on February 6, 2024, on file with the Planning Department, 250 Hamilton Avenue, Palo Alto, California except as modified by these conditions of approval.
2. BUILDING PERMIT. Apply for a building permit and meet any and all conditions of the Planning, Fire, Public Works, and Building Departments.
3. BUILDING PERMIT PLAN SET. All Department conditions of approval for the project shall be printed on the plans submitted for building permit.
4. PROJECT MODIFICATIONS. All modifications to the approved project shall be submitted for review and approval prior to construction. If during the Building Permit review and construction phase, the project is modified by the applicant, it is the responsibility of the applicant to contact the Planning Division/project planner directly to obtain approval of the project modification. It is the applicant's responsibility to highlight any proposed changes to the project and to bring it to the project planner's attention.
5. INDEMNITY. To the extent permitted by law, the Applicant shall indemnify and hold harmless the City, its City Council, its officers, employees and agents (the "indemnified parties") from and against any claim, action, or proceeding brought by a third party against the indemnified parties and the applicant to attack, set aside or void, any permit or approval authorized hereby for the Project, including (without limitation) reimbursing the City for its actual attorneys' fees and costs incurred in defense of the litigation. The City may, in its sole discretion, elect to defend any such action with attorneys of its own choice.
6. LIGHTING. The owner or designee shall ensure that lighting is the minimum necessary and shielded downward to avoid light spillover as shown in the approved plan set.

7. NOISE THRESHOLDS ON COMMERCIAL PROPERTY. In accordance with PAMC Section 9.10.040, No person shall produce, suffer or allow to be produced by any machine or device, or any combination of same, on commercial or industrial property, a noise level more than eight dB above the local ambient at any point outside of the property plane.
8. NOISE REPORT AT BUILDING STAGE. At the time of building permit issuance for new construction or for installation of any such interior or exterior mechanical equipment, the applicant shall submit an acoustical analysis by an acoustical engineer demonstrating projected compliance with the Noise Ordinance. The analysis shall be based on acoustical readings, equipment specifications and any proposed sound reduction measures, such as equipment enclosures or insulation, which demonstrate a sufficient degree of sound attenuation to assure that the prescribed noise levels will not be exceeded.
9. NOISE REPORT PRIOR TO INSPECTION. Where the acoustical analysis projected noise levels at or within 5 dB less than the Noise Ordinance limits, the applicant shall demonstrate the installed equipment complies with the anticipated noise levels and the Noise Ordinance prior to final Planning inspection approval.
10. MITIGATION MONITORING AND REPORTING PROGRAM. To the extent applicable, the project shall comply with mitigation measures set forth in the 2015 EIR for the City of Palo Alto Recycled Water Project.
11. FINAL INSPECTION. A Planning Division Final inspection will be required to determine substantial compliance with the approved plans prior to the scheduling of a Building Division final. Any revisions during the building process must be approved by Planning, including but not limited to; materials, landscaping and hard surface locations. Contact your Project Planner, Claire Raybould Claire.Raybould@cityofpaloalto.org to schedule this inspection.

BUILDING DEPARTMENT

12. A building permit is required for this project. Submit all plans listed on sheet G-00-002. Include a soil report and supporting structural calculations for the new building and non-building elements (i.e., tank, pipes and their supports, equipment, etc.). Include all MEPs plans, grading and drainage, and complete construction documentation.

PUBLIC WORKS ENGINEERING DEPARTMENT

13. PUBLIC WORKS APPLICATIONS, FORMS, AND DOCUMENTS. Applicant shall be advised that most forms, applications, and informational documents related to Public Works Engineering conditions can be found at the following link: <https://www.cityofpaloalto.org/Departments/Public-Works/Engineering-Services/Forms-and-Permits>
14. STREETWORK PERMIT. The applicant shall obtain a Streetwork Permit from the Department of Public Works for all public improvements.
15. FLOOD ZONE. This project is in a FEMA Special Flood Hazard Area and shall comply with the requirements in Palo Alto Municipal Code Chapter 16.52
16. ENCROACHMENT PERMIT: Prior to any work in the public right-of-way, the applicant shall obtain an encroachment permit from the Public Works Department for any work that encroaches onto the City right-of-way.
17. GRADING PERMIT. A Grading Permit may be required per PAMC Chapter 16.28. The permit application and all applicable documents (see Section H of application) shall be submitted to Public

Works Engineering if required.

WATER QUALITY

18. Include the Storm Water Pollution Prevention plan sheet (Public Works)
 - <http://bit.ly/PASstormWaterPollution>
19. All Bay Area Municipal Regional Stormwater Permit requirements shall be followed. Refer to the Santa Clara Valley Urban Runoff Pollution Prevention Program C.3 Handbook (download here: http://scvurppp-w2k.com/c3_handbook.shtml) for details.
20. Stormwater quality protection:
 - o Temporary and permanent waste, compost and recycling containers shall be covered to prohibit fly-away trash and having rainwater enter the containers.
 - o Drain downspouts to landscaping (outward from building as needed).
 - o Offsite downgrade storm drain inlets shall also be identified on this plan set and protected. If City staff removes protection from an inlet in the ROW during a rain event, the contractor shall replace the inlet protection by the end of the following business day.

ZERO WASTE

21. SALVAGE SURVEY. A Salvage Survey for reuse is not required. However, the highest source separation of any materials removed is still required.

PUBLIC WORKS URBAN FORESTRY

The following conditions and/or standard Municipal Code requirements are provided for supplemental guidance, recommendation and/or best practices. Any applicable items shall be addressed in any permit application such as a Building Permit, Excavation and Grading Permit, Certificate of Compliance, Street Work Permit, Encroachment Permit, etc.

22. TREE PROTECTION COMPLIANCE. The owner and contractor shall implement all protection and inspection schedule measures, design recommendations and construction scheduling as stated in the Sheet T-1 and is subject to code compliance action pursuant to PAMC 8.10.080. The required protective fencing shall remain in place until final landscaping and inspection of the project.
23. PLAN CHANGES. Revisions and/or changes to plans before or during construction shall be reviewed and responded to by the (a) project site arborist, or (b) landscape architect with written letter of acceptance before submitting the revision to the Development Services Department for review by Planning, PW or Urban Forestry.
24. TREE DAMAGE. Tree Damage, Injury Mitigation and Inspections apply to the Contractor. Reporting, injury mitigation measures and tree protection inspection schedule apply. Contractor shall be responsible for the repair or replacement of any publicly owned or protected trees that are damaged during the course of construction, pursuant to Title 8 of the Palo Alto Municipal Code.
25. URBAN FORESTRY GENERAL. The following general tree preservation measures apply to all trees to be retained: No storage of material, topsoil, vehicles or equipment shall be permitted within the tree enclosure area. The ground under and around the tree canopy area shall not be altered. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

26. EXCAVATION RESTRICTIONS APPLY. Any approved grading, digging or trenching beneath a tree canopy shall be performed using 'air-spade' method as a preference, with manual hand shovel as a backup. For utility trenching, including sewer line, roots exposed with diameter of 1.5 inches and greater shall remain intact and not be damaged. If directional boring method is used to tunnel beneath roots, then CPA Standard Detail #504 shall be printed on the final plans to be implemented by Contractor.

27. PLAN SET REQUIREMENTS. The final Plans submitted for a building permit shall include the following information and notes on relevant plan sheets:

- a. SHEET T-1, The building permit plan set will include the City's full-sized, Sheet T-1 (Tree Protection-it's Part of the Plan!), available on the Development Center website. A certified arborist shall complete and sign the Tree Disclosure Statement.
- b. TREE PROTECTION FENCING, The Plan Set (esp. site, demolition, grading & drainage, foundation, irrigation, tree disposition, utility sheets, etc.) must delineate/show the correct configuration of Type I, Type II or Type III fencing around each Protected Tree, using a bold dashed line enclosing the Tree Protection Zone (CPA Standard Detail #605).

SECTION 7. Term of Approval.

1. Site and Design Approval. In the event actual construction of the project is not commenced within two years of the date of council approval, the approval shall expire and be of no further force or effect, pursuant to Palo Alto Municipal Code Section 18.82.080.

2. Variance. The time limits for any Variance shall be the same as the time limits for the accompanying design review approval.

PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

APPROVED:

City Clerk

Mayor

APPROVED AS TO FORM:

City Manager

Assistant City Attorney

Director of Planning and Development Services

ATTACHMENT C
ZONING COMPARISON TABLE
2501 Embarcadero Way, 22PLN-00367

Table 1: COMPARISON WITH CHAPTER 18.28 (PF DISTRICT)

Regulation	Required	Existing	Proposed
Minimum Site Area, width and depth	None	44,566,185 (1023 ac)	44,802,715 (~1023 ac) ¹
Minimum Front Yard (Embarcadero Road)	20 feet	More than 50 feet	24 feet
Rear Yard	10 feet	More than 115 feet	Unclear (more than 100 ft)
Interior Side Yard	10 feet	More than 80 feet	Varies; 96 to 118 ft
Special Setback	24 feet – see Chapter 20.08 & zoning maps	Not applicable	Not applicable
Max. Site Coverage	30% (24,691 sf)	0.87%	0.89%
Max. Total Floor Area Ratio	1:1 (44,566.185 sf)	.0082: 1.0 (366,108 sf)	.0091: 1.0 (406,378 sf)
Max. Building Height	50 ft or 35 ft when located within 150 ft of residentially zoned property	Unknown	38 feet (permeate tank) 32.5 feet (canopy) 15 feet (electrical building)
Daylight Plane	None	Not Applicable	Not Applicable
Employee Showers	0 required for new square footage greater than 9,999 sf	Unclear	0 (facilities will be unmanned and maintained by existing RWQCP staff)

1. The project plans do not reflect a proposal to change the parcels; however, in staff's review it appears that a lot line adjustment may be necessary which ultimately would increase the square footage of the parcel on which the project is located.

**Table 2: CONFORMANCE WITH CHAPTER 18.52 (Off-Street Parking and Loading)
for Public Facilities***

Type	Required	Existing	Proposed
Vehicle Parking	To be determined by Director	Unclear	0 (facilities will be unmanned and maintained by existing RWQCP staff)
Bicycle Parking	To be determined by Director	Unclear	0
Loading Space	To be determined by Director	0	0

Local Advanced Water Purification System

ARB Major Submittal

Prepared by
City of Palo Alto

September 2022





MEMORANDUM

FROM: Diego Martinez Garcia, Associate Engineer, City of Palo Alto
Tom Kapushinski, Senior Engineer, City of Palo Alto

TO: Architectural Review Board/ City of Palo Alto

PROJECT: Local Advanced Water Purification System (AWPS)

DATE: September 2022

SUBJECT: Project Written Description

This project description summary is prepared for the City of Palo Alto (City) Architectural Review Board (ARB) site and design review of the Local Advanced Water Purification System (AWPS, proposed project) at the Regional Water Quality Control Plant (RWQCP), Palo Alto, California. The proposed project will include the construction and operation of a membrane filtration recycled water facility and a permeate storage tank at the City's RWQCP.

Introduction and Background of the Project

The City of Palo Alto owns and operates the RWQCP, which is an advanced treatment facility that provides wastewater treatment for the cities of Palo Alto, Mountain View, Los Altos, Los Altos Hills, Stanford and East Palo Alto Sanitary District. Currently, the RWQCP treats an average of 17 million gallons per day (MGD), much of the treated effluent is discharged into the Lower South Bay. The RWQCP produces and distributes approximately 230 million gallons per year of tertiary-treated recycled water to the City of Mountain View, several City-owned facilities and a commercial truck fill standpipe at the RWQCP.

Following public concerns regarding the irrigation of redwood trees and other salt-sensitive species with recycled water, the City prepared an Environmental Impact Report (EIR) focused on water quality issues and salinity impacts. On January 25, 2010, Council approved the Recycled Water Salinity Reduction Policy including a goal of reducing the recycled water total dissolved solids level to 600 parts per million. In 2017, Valley Water, Palo Alto, and Mountain View finalized a feasibility study and the preliminary design report for a local Advanced Water Purification System (Project). Currently, the Project is in design and construction is expected to begin in 2023.

The Project will improve the recycled water quality by reducing its average concentration of total dissolved solids (TDS) from 800 milligrams per liter (mg/L) to 450 +/- 50 mg/L through the blending of reverse osmosis permeate with tertiary-treated recycled water. Highly treated water produced by the Project would benefit landscapes currently irrigated with recycled water in Palo Alto, enable Palo Alto to expand its non-potable distribution system, and provide a first step toward small-scale potable water production for direct or indirect potable reuse in Palo Alto.

Scope of Work

The Project will consist of the following elements: membrane filtration (microfiltration or ultrafiltration), reverse osmosis, chemical storage/feed systems, a permeate storage tank and ancillary components. The Project will be located outside the current fence on the northwest side of the RWQCP.

The new facility will be a one-story concrete deck approximately 116 ft by 134 ft in area and will house membrane filtration, the reverse osmosis system, a majority of the chemical feed system, and other ancillary components. The facility would have a building footprint of approximately 15,544 square feet. The concrete deck foundation will consist of 258 piles for the main deck with a pile tip elevation of -30 ft. The Project includes an electrical building located on the western side of the main structure. For this building, an additional concrete deck 80 ft by 20 ft will be installed. The foundation of this smaller deck will consist of 48 piles with a pile tip elevation of -30 ft. The main structure will be partially covered by a roof. The roof dimensions are 112 ft by 66 ft with a height of 32 ft.

The Project also includes a reverse osmosis permeate tank that will be located northeast of the main structure and west of the former chlorine contact tank. The storage tank will be a 50 ft diameter circular tank with a nominal sidewall height of 30 ft. The storage tank capacity will be 350,000 gals. The tank will be erected on a reinforced concrete mat type foundation supported by deep pile foundation as designed by the tank supplier and installed by the Contractor

The Project will also include a blending station located in the basement of the RWQCP Administration Building and installation of yard piping inside the RWQCP.

Existing and Proposed Uses

The local AWPS will be located on currently undeveloped land in the western portion of the RWQCP area. The site includes a soil bed filter that removes odors from the Influent Pumping Station. The soil bed filter will be removed, and an odor control system will be installed next to the Influent Pumping Station. Several water and wastewater mains are in the site. The main structure was designed to consider an East Palo Alto Sanitary District easement. The Project includes the relocation of one 8-inch sewer line located onsite.

The proposed local AWPS will be part of the RWQCP Recycled Water production system. Tertiary-treated recycled water will be conveyed from the current Chlorine Contact Tank into the membrane filtration. Reverse osmosis permeate will be pumped to a permeate storage tank. Permeate will be mixed with tertiary-treated recycled water and then sent to the recycled water system.

The facility will not be permanently occupied and will have space for one operator to access as needed for routine operations and maintenance.

Purpose of the Proposed Changes

The purpose of the changes to the site is to construct an AWPS to improve the recycled water quality by reducing its average concentration of total dissolved solids (TDS) from 800 milligrams per liter (mg/L) to 450 +/- 50 mg/L through the blending of reverse osmosis permeate with tertiary-treated recycled water.

Design Intent

The basis of design for the Project is to meet a maximum, instantaneous permeate production capacity of 1.125 MGD during the current first phase, expandable to 2.25 MGD in a future second phase. The Project is being designed to accommodate the future expansion with minimal civil/mechanical/electrical work by adding equipment to housekeeping pads.

To account for future sea level rise in accordance with the City of Palo Alto Sea Level Rise Policy, the finished grade elevation will be raised at the location of the Project. The top of concrete of the main Project structure will be set at 11.5 ft. To make up for the remainder of the required elevation to keep rotating mechanical, electrical and instrumentation out of the flood plain and future sea level elevation, equipment will be placed on equipment pads as required to an elevation of 13.5 ft. The top of the new chemical containment wall will be at 13.5 ft.

The main structure will sit approximately 3 to 4 feet higher than the surrounding terrain. The on-site grading is being designed to maintain a 2% or less slope in building access areas and 4% or less slope in operational maneuvering areas.

Electrical, potable water and fire services supply will be independent from the existing RWQCP services and new connections will be needed from City of Palo Alto Utilities.

The proposed architectural design addresses the City's desire for a facility that blends into the surrounding environment but at the same time provides treatment for recycled water in an efficient way. The Project emphasizes functional and operation requirements needed for a facility such as the RWQCP, but also takes into consideration the existing pedestrian walkway and landscaping outside the RWQCP. The Project is being designed to address public views from outside the RWQCP perimeter by maintaining screening as much as possible given the severe space limitations on-site. Buildings, screen fencing/walls and canopies at the Project site will use materials, colors and design standards consistent with existing facilities.

The following strategies have been implemented to define the inward facing and outward facing architectural solutions:

- a) Optimize the comfort and safety of the working environment beyond the minimum space requirements to achieve practical and functional solutions
- b) Use practical architectural forms, features, materials, finishes and colors to blend into the environment and be consistent with the existing RWQCP structures and in scale with surrounding area
- c) Utilize building materials that promote durability, longevity and ease of maintenance
- d) Consider material availability and sourcing to keep project costs and schedules in check

Materials, Colors and Construction Methods

The Project building, canopy, fencing/walls and materials are selected to meet the RWQCP operational and safety requirements outlined in the project, governing CEQA documents, design criteria, and compliance with building codes and standards. Building forms, materials and colors are selected to meet Palo Alto Baylands Master Plan and the RWQCP CEQA document requirements for screening in Embarcadero Road, the adjacent business park and the pedestrian path.

Canopy – The canopy will be over the microfiltration and reverse osmosis equipment, compressors, cartridge filters and blowers. The canopy will be approximately 66 ft wide, 116 ft long with a clearance of 25 ft and a maximum height of 32 ft. The canopy will be a pre-engineered metal building with purlin supports and a standing seam roof. The roof color will be colonial red, and the purlins will be painted cool zinc gray.



BUILDING ROOF COLOR
COOL COLONIAL RED



PURLIN COLOR
COOL ZINC GRAY

Electrical building – The electrical building will be a pre-fabricated building that houses motor control centers (MCCs) and variable frequency drives (VFDs) as well as a small control room for SCADA equipment. The building is located west of the main structure and is 80 ft long by 20 ft wide with a height of 12.5 ft. The building is a prefabricated unit painted ANSI 70 Gray #5049.



ELECTRICAL BUILDING COLOR
ANSI 70 GRAY #5049

RO Permeate Tank – A 50 ft diameter tank, 30 ft tall tank made of glass-lined bolted steel painted forest green. The color was selected based on the manufacturer's catalogue and provides continuity with the existing and new tree canopy around the RWQCP



RO PERMEATE TANK COLOR
FOREST GREEN

Chainlink security fence – An 8 feet high galvanized steel chain-link to meet RWQCP security specifications. Additionally, perimeter fencing solutions are developed to meet the project criteria of aesthetically screening the local AWPS from exterior public view.

Concrete soundwall – To reduce sound coming from the pumping equipment inside the facility, a 10 feet high, precast concrete wall with precast concrete pilasters will be installed in certain sections of the perimeter. The wall's exterior surface will have a wood plank texture with a horizontal board staggered pattern. The wall will be stained and will be coated with an anti-graffiti sealer. Colors and materials were selected to blend into the adjacent landscape plant screening material.



CONCRETE FORMLINER



CONCRETE STAIN



Asphalt pedestrian path – A 5 feet wide asphalt pedestrian path with wood headerboard

Construction Methods

The Project will be constructed over a period of 18 months beginning in 2023 and continuing through 2024. Project construction will consist of soil bed filter removal, tree removal, sewer line relocation, excavation, pile installation, building construction, equipment installation, startup and testing. In parallel, pile excavation and site preparation for the permeate storage tank will take place. On the exterior, the perimeter wall foundation will be excavated and constructed. The Project will include new landscaping and tree replacement onsite. Inside the RWQCP, yard piping excavation, installation and fill will occur as well as work in the chemical storage tanks and basement of the Administration Building. Construction access will be from Embarcadero Way. The Project will be designed to be constructed without interruption to the current treatment operations, except during special circumstances such as piping and utility tie-ins.

Landscaping Plan

The landscape design follows the requirements of the Palo Alto Baylands Master Plan and the requirements for the RWQCP to install and maintain landscaping around the facility to provide visual screening for visitors to the surrounding Baylands. The landscape solution is designed to:

- Blend into the existing site and the existing Baylands planting layout and palette,

creating an aesthetically pleasing facility.

- Take advantage of existing healthy mature screening, transition to denser shrubs along the fenceline and move to smaller shrubs and native grasses towards the road.
- Combine perimeter fencing solutions and layered plant materials to screen the Project and ancillary structures
- Maintain safety and site security. The planting design considers the right balance of plant material and path alignment to provide vehicles, cyclists and pedestrian traffic adequate visibility to each other and safe sight distance.
- Provide a plant palette that will be low-maintenance, low water use, visually interesting in foliage color, texture and blooms, and locally adapted to the climate.

Lighting Design Criteria

Lighting levels will be provided following the recommended levels suggested by the Illumination Engineering Society (IES) handbook. Lighting fixtures types are to be suitable for the environments where installed and will be installed in a serviceable and accessible location for routine maintenance. Light sources for the entire project will be LED.

Indoor location will be provided with lighting fixtures that ensure all passages and exits remain illuminated in the event of power failure. Under the canopy ceiling mounted and pendant mounted fixtures will be installed. For outdoor locations but inside the RWQCP, pole mounted fixtures will be installed with heights as required to maintain lighting illumination levels in the area similar to other structures at the RWQCP. Pole heights and locations are considered to address maintenance issues for the City to replace or repair fixtures. The project does not include any modification to the lighting located outside the perimeter wall along Embarcadero Road.

Egress and emergency lighting systems are provided in conformance with NFPA 101 (Life Safety Code). LED type exit signs will be placed inside the facilities as well.

Attachment E

Project Plans

Project plans are available to the public online. Hardcopies of the plans have been provided to Board members.

Environmental Review

Council previously adopted an Addendum to the 2015 Environmental Impact Report which evaluated the specific details of the proposed project. The Addendum is available on the project webpage.

Directions to review Project plans online:

1. Go to: bit.ly/PApendingprojects
2. Scroll down to find “2501 Embarcadero Way” and click the address link
3. On this project specific webpage you will find a link to the project plans and other important information

Direct Link to Project Webpage:

<https://www.cityofpaloalto.org/Departments/Planning-Development-Services/Current-Planning/Projects/2501-Embarcadero-Way>



2501 Embarcadero Road
Advanced Water Purification
System Project
Site and Design Review

February 28, 2024

www.cityofpaloalto.org

PROJECT LOCATION

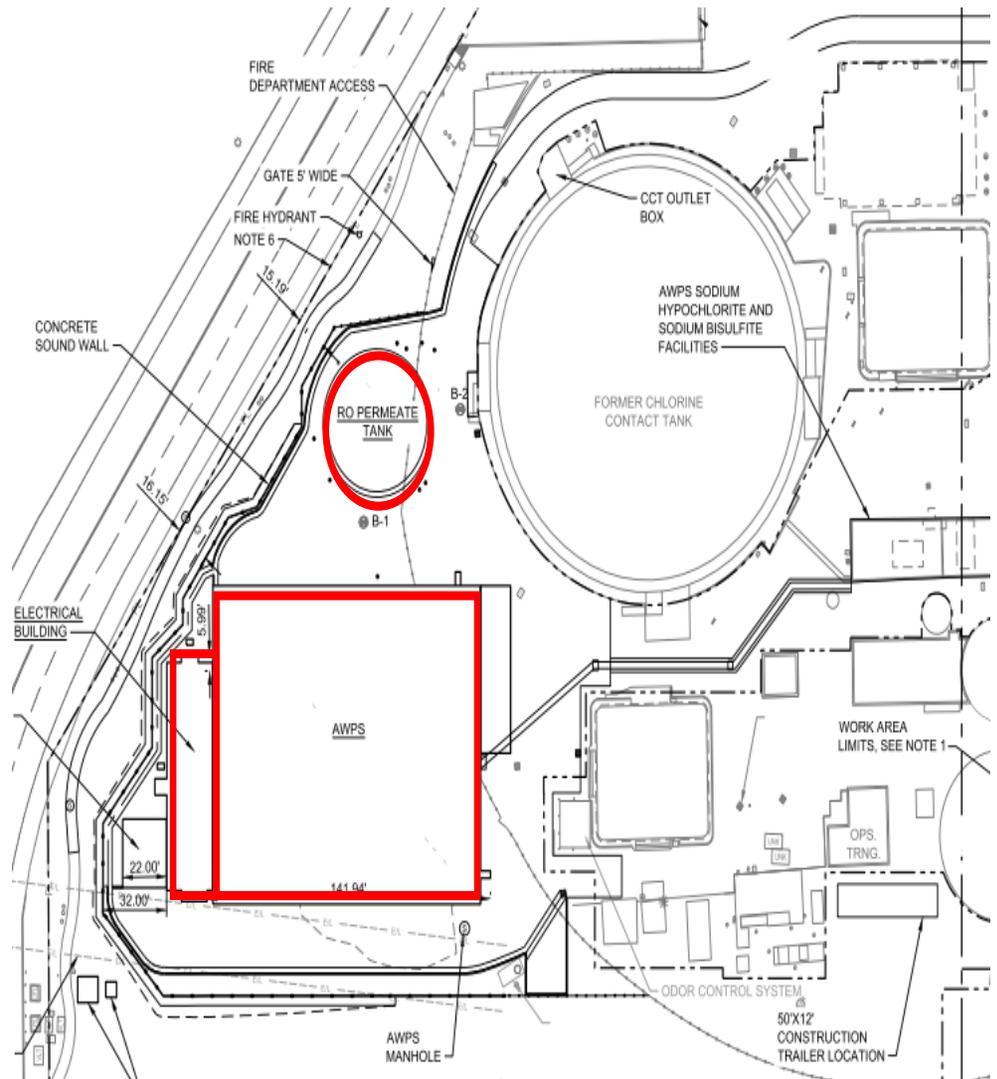


PROJECT OVERVIEW

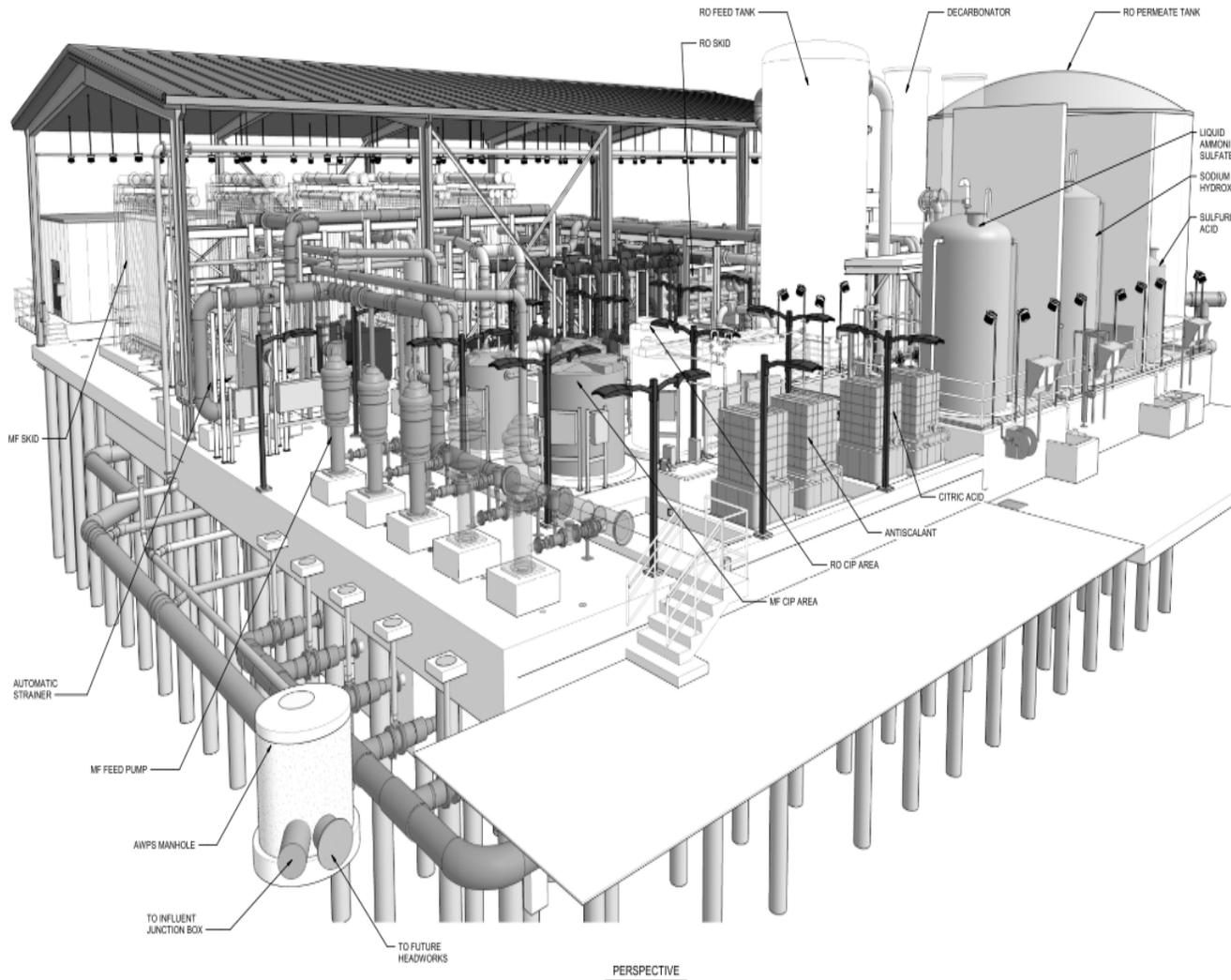
Construct:

- Reverse osmosis permeate storage tank
- pre-engineered open-air building covering a membrane filtration system, chemical storage/feed system components, and other ancillary components essential to the purification system
- A small prefabricated electric building

The facility would have a building footprint of approximately 15,544 sf.



PROJECT OVERVIEW



SITE AND DESIGN FINDINGS

(a) To ensure construction and operation of the use in a manner that will be orderly, harmonious, and compatible with existing or potential uses of adjoining or nearby sites.

(b) To ensure the desirability of investment, or the conduct of business, research, or educational activities, or other authorized occupations, in the same or adjacent areas.

(c) To ensure that sound principles of environmental design and ecological balance shall be observed.

(d) To ensure that the use will be in accord with the Palo Alto Comprehensive Plan.



KEY CONSIDERATIONS

- Baylands Design Guidelines
- Noise
- Lighting
- Trees
- Airport



KEY CONSIDERATIONS-BAYLANDS DESIGN GUIDELINES, NOISE, LIGHTING

- The project is not located within dedicated parkland area, but is located within the boundaries of the Baylands Nature Preserve and is therefore subject to the Baylands Design Guidelines
- The project was redesigned based on staff and ARB feedback for consistency with the guidelines
- Wall and low noise level equipment ensure that noise levels at property line are below 49 dB
- Lighting has been minimized for safe operations (automatic on switch provided for operators in order to minimize timing that light needs to be on). Lighting that is provided is certified as “nighttime friendly” and code compliant (intensity and shielding).



KEY CONSIDERATION-TREES

- 35 Trees to be removed, mostly non-native, invasive species
- 36 native trees to be planted
- Although the design was modified based on PRC feedback to reduce the tree removals, preserving 11 more trees than originally proposed, five of those trees have died/fallen. Therefore, six total trees were identified for preservation based on PRC feedback
- Coordinating with Midpen Open Space on best management practice to stop the spread of invasives per their comments (in terms of treatment of area following removal)



KEY CONSIDERATION-AIRPORT

- Located across from the airport, within the Airport Influence Area
- Project complies with the ALUP; further discussion of the project's consistency is provided in the CEQA analysis and in the staff report



CEQA ANALYSIS

- In 2015 Council adopted an EIR for the City of Palo Alto Recycled Water Project. The EIR included mitigation Measure MM HYD-3d, which required the City to consider treatment options, such as reverse osmosis, to reduce the salinity of its recycled water and thus make its recycled water useable for irrigation of salt-sensitive species.
- On November 18, 2019, in taking discretionary actions to further pursue this project, council adopted an EIR addendum that included more site-specific details associated with the proposed development.



RECOMMENDATION AND NEXT STEPS

- Consider the previously adopted addendum and recommend that the PTC recommend approval of the proposed project to Council based on the provided findings and subject to conditions of approval
- Following a recommendation from the PTC, the project will be reviewed by the ARB. The ARB will also make a recommendation to Council
- Council would issue a final decision on the proposed project



CITY OF
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