

## Chapter 3

# Project Description

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### 3.1 Project Objectives

The proposed City of Malibu Civic Center Wastewater Treatment Facility Project (the Project) would include the construction of a new centralized wastewater treatment facility that would treat the wastewater flows from properties in the Civic Center area that ~~would~~ no longer be able to discharge wastewater from ~~served by~~ onsite wastewater disposal systems (OWDSs). The Project would recycle the treated effluent and would inject and/or percolate into the groundwater basin only that volume of recycled water that exceeds the local demand for recycled water. Figure 3-1 depicts the location of the Project and the Prohibition Area as defined in the Memorandum of Understanding (MOU). The Project would be implemented in three phases, starting with core Civic Center commercial properties in the central portion of the Prohibition Area. The Project is designed such that the completed Project at the end of Phase 3 would accommodate the buildout conditions in the Prohibition Area. Future phases of the Project could include provision of recycled water to users outside the Prohibition Area. Phasing is described in more detail in Section 5.0 of this document.

The Project aims to:

- Satisfy the City's obligations pursuant to the [LARWQCB MOU](#);
- Improve water quality in areas adjacent to the commercial core area, including Malibu Creek and the Pacific Ocean;
- Maximize reuse of recycled water;
- Minimize saltwater intrusion into the groundwater basin with injection of highly treated effluent to support basin plan designation;
- Ensure sufficient injection and/or percolation capacity into the groundwater basin for any unused recycled water; and
- Minimize cost to property owners.

### 3.2 Project Location

The Project is located within the lower Malibu Creek watershed area and includes the Civic Center area of the City of Malibu and portions of unincorporated Los Angeles County (Figure 3-2). The Project area overlies the Malibu Valley Groundwater Basin (Figure 3-2), which includes a shallow alluvial layer and a lower aquifer called the Civic Center Gravels. A hydraulically-separate alluvial zone contained within Winter Canyon, to the west of and adjacent to the Malibu Valley Groundwater Basin, is also part of the Project area. Groundwater is not used as a municipal drinking water supply in either the groundwater basin or Winter Canyon.

The entire City is located within the Coastal Zone, as defined by the California Coastal Act. On September 13, 2002, the City's Local Coastal Program (LCP) was certified by the California Coastal Commission. The LCP consists of a Land Use Plan (LUP) and a Local Implementation Plan (LIP). The LCP is intended to protect, maintain, and where feasible, enhance and restore the overall quality of the Coastal Zone environment.

**Figure 3-1. Regional Location Map**

Land uses in the Civic Center area generally consist of a mix of commercial, residential, research and development, and institutional uses along with open space/undeveloped public lands. Low-density commercial shopping centers, City and county government buildings, four multi-family condominium developments and schools comprise the central portion of the area. Areas along the coast consist of higher density single-family residential developments, such as the Malibu Colony, and open space/undeveloped land uses such as the Malibu Lagoon State Park, while lower density residential neighborhoods, such as the Malibu Knolls and Serra Retreat communities, are located in the northern and eastern portions of the Area. As shown in Figure 3-2, Malibu Creek and Malibu Lagoon are located in the central portion of the Prohibition Area. The area north and west of the Prohibition Area is predominantly occupied by open space/undeveloped and public land uses. Pepperdine University, located immediately west of and outside the Prohibition Area, is the largest single development in the vicinity.

The service area for the proposed Civic Center wastewater treatment system would match the boundaries of the Prohibition Area (Figure 3-3), which is generally bounded by Malibu Canyon Road to the west, Malibu Creek and Lagoon to the east, the Pacific Ocean to the south, and the southerly

**Figure 3-2. Malibu Valley Groundwater Basin and Lower Malibu Creek Watershed**

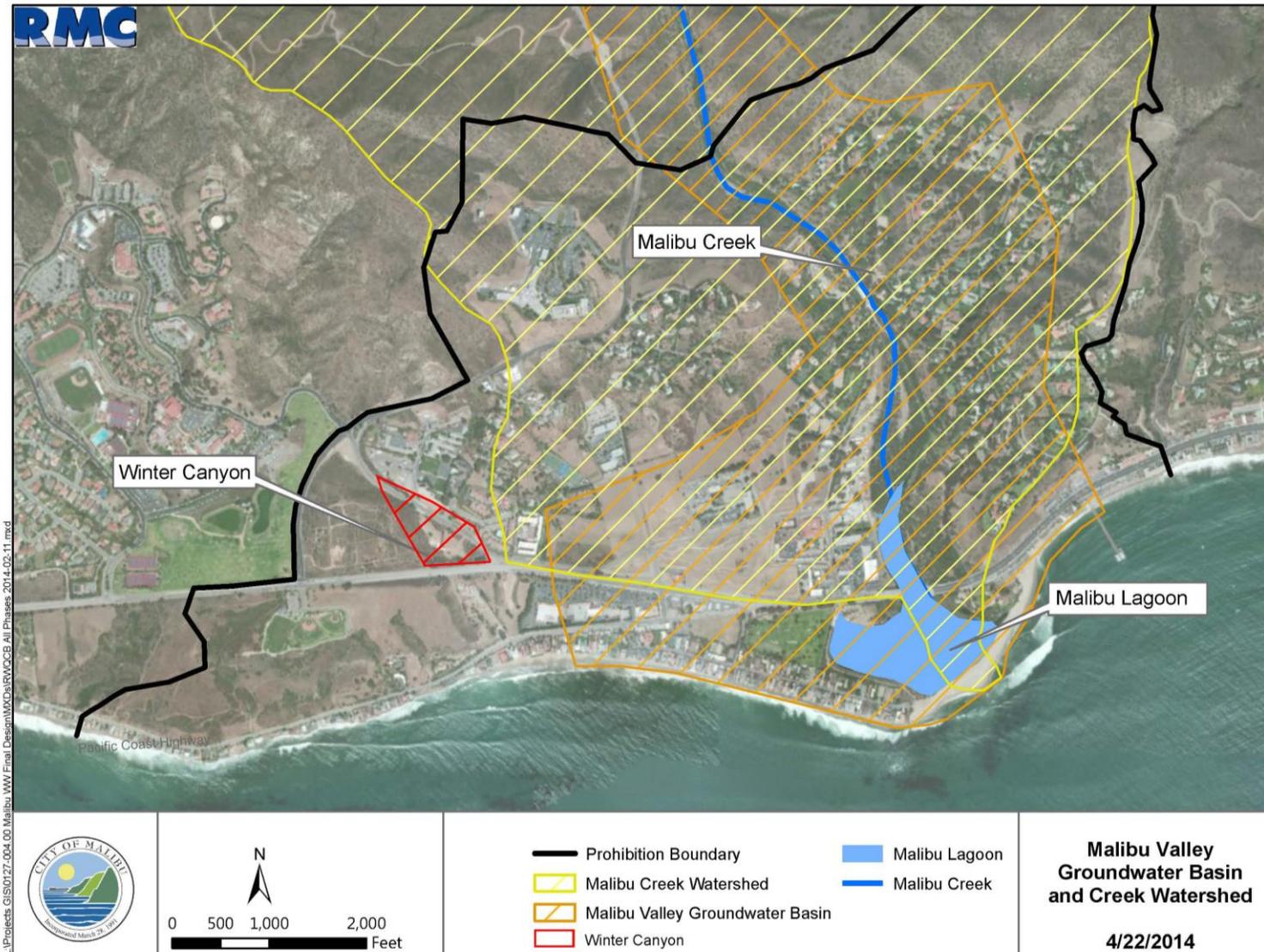


Figure 3-3. Proposed Project



portion of the Santa Monica Mountains to the north. The Prohibition Area also includes a portion of ~~the~~ unincorporated Los Angeles County. The Project area could extend beyond the Prohibition Area if properties outside the area become users of recycled water in the future.

The proposed wastewater treatment facility site is located within the Prohibition Area on an approximately 4.8-acre site at 24000 Civic Center Way, between Civic Center Way on the north, Pacific Coast Highway (PCH) on the south, and vacant land on the west. The site is described in more detail later in Section 4.3, and is currently developed, in part, with ~~at the existing Winter Canyon Wastewater Treatment Facility, a~~ small scale, privately owned and operated wastewater treatment facility serving the Malibu Colony Plaza shopping center (~~located on the south side of PCH~~), ~~the Supercare/Malibu Medical Building, and facilities located at 23661 PCH and 23648 to 23670 PCH.~~ The site also contains a small wetland area and several protected native Black Walnut trees. Notable land uses in the vicinity of the proposed wastewater treatment facility site include Malibu City Hall, located approximately 0.3 mile to the northeast; Webster Elementary School, located just north of the site, across Civic Center Way; Pepperdine University's Alumni Park (a privately-owned recreation area) and Malibu Bluffs Park, located approximately 0.25 mile to the west and southwest of the site, respectively.

### 3.3 Project Description

The Project would be constructed in three phases and has four main elements: 1) wastewater treatment facility; 2) pump stations; 3) wastewater collection and recycled water distribution system pipelines; and 4) a dispersal system, which would include percolation ponds located within the treatment plant site and groundwater injection wells. The pipelines and pump stations are both elements of the collection and distribution system, which is described below. Locations of facilities are shown in Figure 3-3, and Figure 3-4 shows a schematic of how the Project would operate. In addition to these physical facilities, the project would include a Coastal Development Permit, a Local Coastal Program Amendment and zoning text amendment to modify the zoning for the wastewater treatment facility to include an Institutional Overlay District and development standards, and a Conditional Use Permit. A list of Permits and Approvals is included at the end of this chapter.

For the purposes of this document, "Project area" refers to the area that encompasses the extents of the four main elements described above and the area that would be served by these proposed Project facilities, and "Project site" refers specifically to those areas that would be disturbed by construction activities associated with these four main elements.

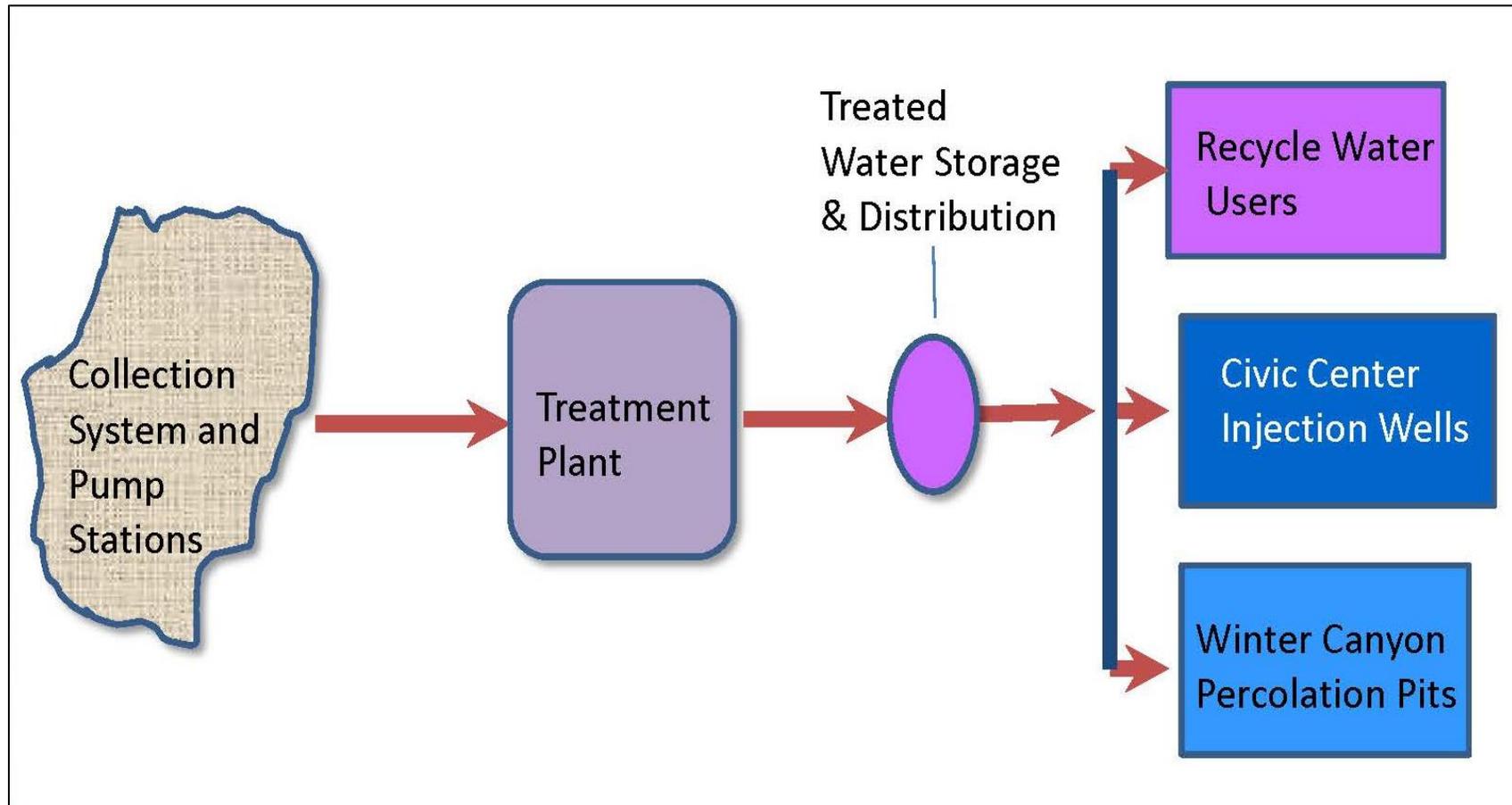
#### 3.3.1 Treatment Objectives

The specific treatment objectives for the proposed treatment facility include, but are not limited to, California Title 22 Regulations for unrestricted<sup>1</sup> reuse of disinfected tertiary recycled water. The Title 22 Water Recycling Criteria provide technical specifications detailing treatment processes that

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<sup>1</sup> Recycled water approved for unrestricted reuse is disinfected tertiary recycled water as defined in the California Code of Regulations, Title 22, Division 4 – Environmental Health, Chapter 3 – Water Recycling Criteria, and this level of treatment allows for unrestricted reuse in virtually all recycled water applications approved in Title 22, including use in areas that have unrestricted public access.

Figure 3-4. Proposed Project Operational Schematic



must be included, and defining the level of pathogen (bacteria and virus) removal that must be achieved to allow unrestricted use of the recycled water. This level of treatment allows the recycled water to be used for virtually all recycled water (non-potable) use applications without restrictions that would be needed for recycled water that did not meet these tertiary treatment standards. Tertiary recycled water is highly engineered for safety and reliability so that the quality of reclaimed water is more predictable than many existing surface and groundwater sources. Reclaimed water is considered safe when appropriately used. Generally, the Title 22 objectives consist of the following standards:

- Recycled water must be oxidized, coagulated, filtered, and disinfected.
- Filter effluent turbidity shall not exceed an average of 2 nephelometric turbidity units (NTU), maximum effluent turbidity of 10 NTU, and never exceeding 5 NTU for more than 5 percent of the time within a 24-hour period. For membrane filtration, requirements are reduced to 0.5 NTU maximum and never exceeding 0.2 NTU more than 5 percent of the time during a 24-hour period.
- Less than 2.2 most probable number (MPN) per 100 milliliters (mL) average total coliform in a seven-day period.
- Removal of 99.999 percent of F-specific bacteriophage MS2, or poliovirus; or cycle threshold (CT) value of at least 450 milligram-minutes per liter and a modal contact time of at least 90 minutes, based on peak dry weather design flow.

The treatment facility would also be designed to meet [water reclamation requirements \(WRRs\)](#) and waste discharge requirements (WDRs) established by the Los Angeles Regional Water Quality Control Board (LARWQCB), which would consider other water quality objectives for the recycled water, including the water quality objectives established in the Basin Plan and Ocean Plan (the statewide water quality control plan that establishes policies and standards involving marine waters), and the Total Maximum Daily Load (TMDL) for nutrients that has been established for Malibu Creek and Malibu Lagoon: 0.65 mg/L Total Nitrogen (TN) and 0.1 mg/L Total Phosphorus (TP) during the summer period (April 15 to November 15) and 1 mg/L TN and 0.2 mg/L TP for the winter period (November 16 to April 14). Setting of treatment standards for the facility would thus be required to consider these objectives, if Malibu Creek and Malibu Lagoon are found by the LARWQCB to be potentially impacted by effluent from the Project.

Hence, in addition to meeting Title 22 standards, it is anticipated that the LARWQCB treatment standards would include requirements to reduce nutrients in the recycled water to a level that protects receiving waters. The recycled water treatment facility would meet Title 22 and LARWQCB regulatory requirements with membrane bioreactor (MBR) and ultraviolet disinfection processes.

In summary, recycled water would be treated to meet applicable public health criteria, and would also include treatment to reduce the level of nutrients so as to protect receiving water quality.

### 3.3.2 Collection and Distribution Systems

A collection system would be constructed to convey wastewater flows within the Civic Center Area to the proposed wastewater treatment facility, and a distribution system would be constructed to distribute the treated effluent (recycled water) from the treatment facility to various land uses for reuse purposes, as well as to groundwater injection wells for injection to inhibit seawater intrusion. The collection and distribution systems would consist of underground pipelines that would

generally run beneath public rights-of-way or within easements. Pump stations for the wastewater collection system and recycled water distribution system would be located along the alignments. For Phase 1, both the collection and recycled water distribution systems would follow along existing street alignments, including Civic Center Way, Stuart Ranch Road, Cross Creek Road, Webb Way, Malibu Road, [Malibu Canyon Road](#), [Winter Canyon](#) and a small portion of PCH.

## Pipelines

Figure 3-3 depicts the expected extent and locations of the wastewater collection and recycled water distribution systems for the Project, and Table 3-1 describes pipeline characteristics for each phase. Pipelines would be designed in accordance with accepted seismic safety standards so as to protect against the possibility of rupture. Note that the two pipeline systems (wastewater collection and recycled water distribution) would be placed in the same trench along much of the pipeline alignment. Phasing is described in more detail in Section 5.0, which explains the plan for phasing and the potential for minor adjustments in how phasing is implemented.

**Table 3-1. Collection and Distribution System**

Project Phase/ Facility	Construction Method	Pipe Length (linear feet)	Pipe Length (miles)	Pipe Diameters (inches)
Phase 1/ Collection System (CS)	Open Cut	15,500	2.9	4-10
	PTGAB <sup>1</sup>	3,500	0.7	8-10
	Jack & Bore <sup>2</sup>	1,400	0.3	4-30 <sup>3</sup>
Phase 2/Recycled Water System (RWS) <sup>4</sup>		14,500	2.7	8
Phase 2/CS and RWS	Open Cut	26,000	4.9	4-8
	PTGAB	2,000	0.4	8
Phase 3/CS and RWS	Open Cut	24,000	4.5	4-8
<b>Total</b>		<b>72,400</b>	<b>13.7</b>	
<sup>1</sup> Pilot Tube Guided Auger Boring, a form of trenchless pipeline construction <sup>2</sup> Jack & Bore is another form of trenchless pipeline construction <sup>3</sup> Includes about 800 feet of 4- to 8-inch pipe and 600 feet of 24- to 30-inch casing. <sup>4</sup> Pipeline for recycled water system would be constructed in the same trench as collection system, and is thus not included in total length of pipeline. Source: RMC Water and Environment				

## Pump Stations

Pump stations for the wastewater collection system and recycled water distribution system would be located along pipeline alignments, below ground and on public rights-of-way and/or easements (see Figure 3-3). Easements would need to be acquired where alignments and/or facilities occur on private lands. Phase 1 pump stations would be located at Legacy Park and Bluffs Park. Phase 2 and Phase 3 wastewater pump stations have been positioned in the general locations where required. These pump stations would have odor control. The only above-ground features of the collection and distribution infrastructure would be air release valves along pipelines at high or low elevation points, vent pipes at the pump stations, and backup generators, transformers, switchboards/meters

and electrical panels, which would be fenced and screened for security and aesthetic reasons. Air release valves would be about three feet tall and 18 inches in diameter. Odors are not anticipated due to the relatively small size of the vents and the limited volume of air to be vented on a daily basis; however, the pump stations would have odor control incorporated into the design. The above-ground structures at each Phase 1 pump station site are described below; these figures would be painted green to blend with existing vegetation. Dimensions are provided as length (L), width (W) and height (H) in feet. Figures 3-5 and 3-6 shows the site plans for the Phase 1 pump stations for Legacy Park and Bluffs Park, respectively. Pump stations for Phases 2 and 3 are expected to be similar in design and construction.

Legacy Park Pump Station above-ground structures:

- Generator: 13.5 feet (L) x 4 feet (W) x 8.5 feet (H)
- Transformer: 4.5 feet (L) x 6 feet (W) x 4.5 feet (H)
- Switchboard/meter: 7.5 feet (L) x 3 feet (W) x 7.5 feet (H)
- Electrical panel: 12 feet (L) x 3 feet (W) x 7.5 feet (H)
- Vent: 4-inch diameter x 3 feet (H)

Bluffs Park Pump Station above-ground structures

- Generator: 9 feet (L) x 4 feet (W) x 7 feet (H)
- Transformer: 4.5 feet (L) x 6 feet (W) x 4.5 feet (H)
- Electrical panel: 2.5 feet (L) x 1 foot (W) x 4.5 feet (H)
- Vent: 4-inch diameter x 3 feet (H)

In addition to wastewater pump stations, the Phase 2 and 3 recycled water distribution systems are also expected to include storage tanks and recycled water booster pump stations, which would be constructed somewhere in the higher elevation area so as to ensure adequate pressure is provided to recycled water users. Precise locations for these Phase 2 and 3 tanks and pump stations have not yet been determined; impacts associated with the tanks and pump station sites would thus be evaluated at a project-level as part of subsequent environmental documentation that would be prepared for the later phases.

### 3.3.3 Wastewater Treatment Facility

Disinfected effluent from this tertiary treatment facility would meet or exceed current Title 22 requirements for unrestricted use. In addition, if required by the LARWQCB, treatment processes would be included for nitrification/denitrification and phosphorus control. The treatment facility would be residentially scaled, visually screened, fully odor-scrubbed, and designed to operate quietly. The facility would be designed to use an aerobic treatment process that produces little to no methane. Aerobic treatment would also minimize the potential for odor production.

The wastewater treatment facility would be designed to accommodate the full buildout wastewater flow projections for all phases of the Prohibition Area. Buildout capacity served by the Project would not exceed development levels allowed by the LCP, General Plan, or Malibu Municipal Code. This description describes the facility at buildout; however, the facility is designed to utilize modular components so that installation can be phased to accommodate capacity as it is needed. At full

Figure 3-5. Typical Pump Station Site Plan – Legacy Park

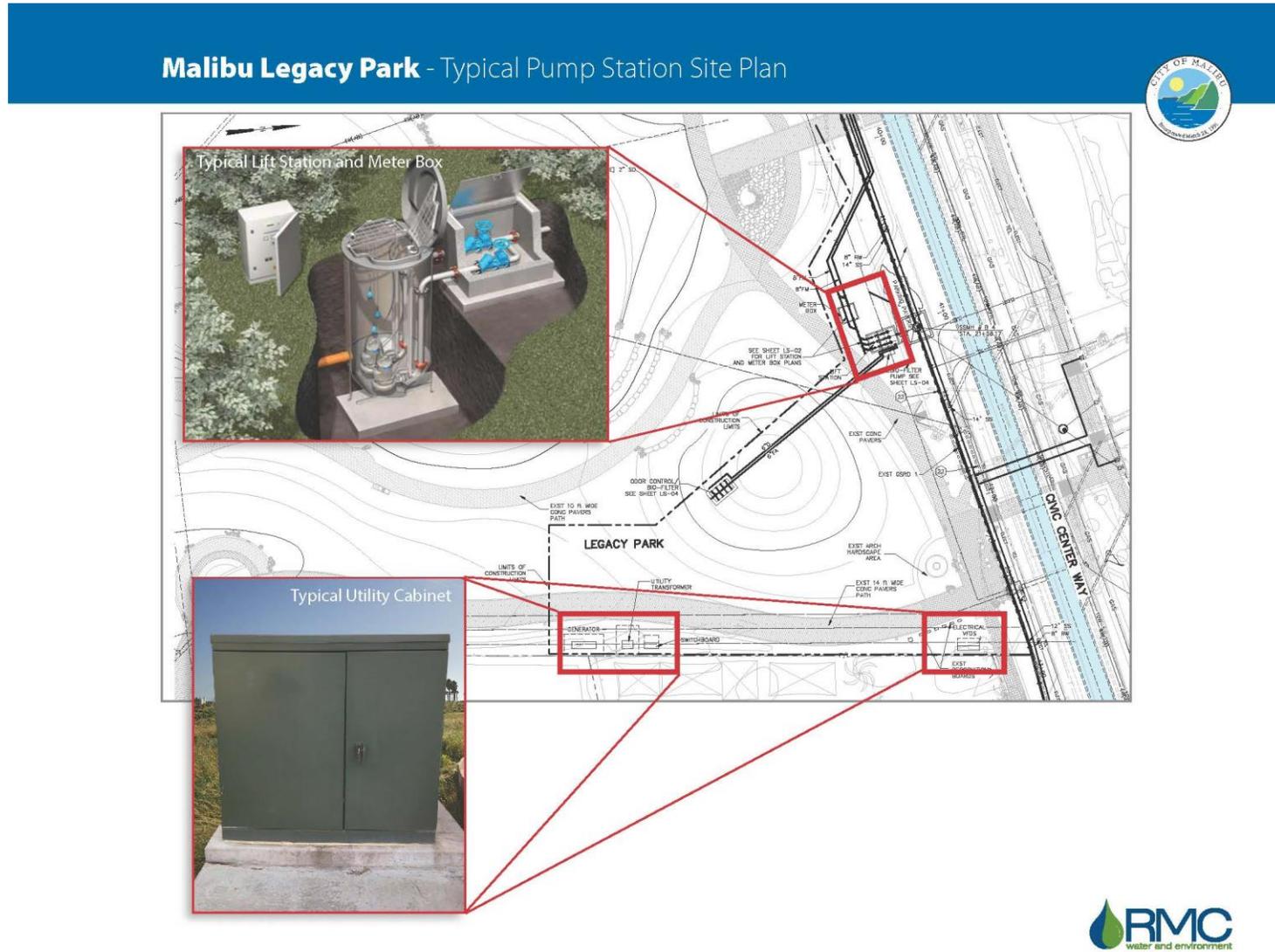
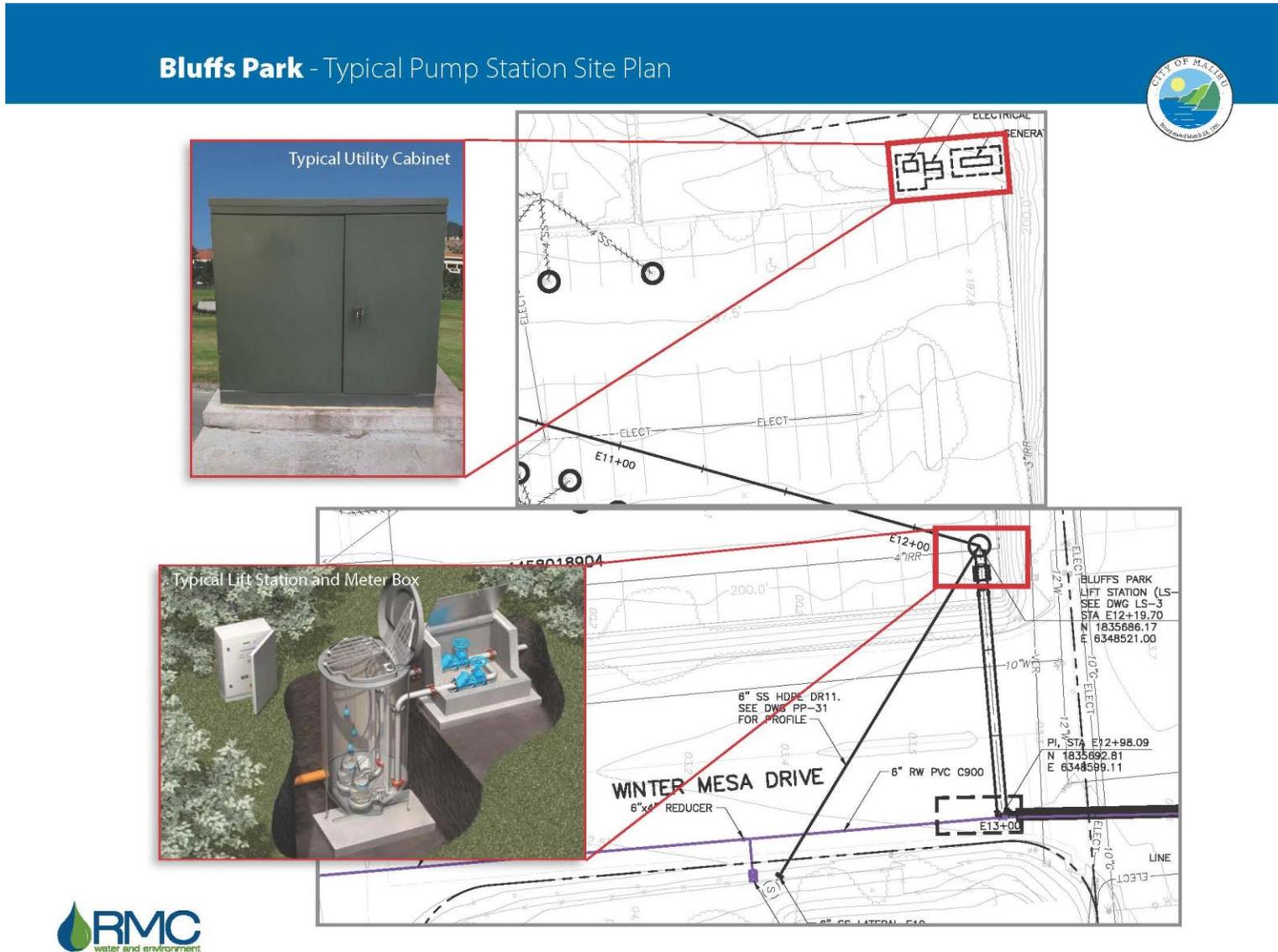


Figure 3-6. Typical Pump Station Site Plan – Bluffs Park



buildout, the proposed wastewater treatment facility would be a 507,000-gallon-per day (gpd) capacity MBR facility. Capacity of the facility was determined based on existing wastewater flow rates for OWDS and package systems, winter water use records<sup>2</sup>, and wastewater projections generated for infill development based on the zoning found in the City of Malibu Local Coastal Program, General Plan and Malibu Municipal Code.

The site selected for development of the proposed treatment facility is 24000 Civic Center Way, which is property bounded by Civic Center Way to the north and PCH to the south (see Figure 3-3). The treatment facility site consists of an upper terrace and a lower terrace, generally descending from northwest to southeast. The site is zoned Commercial Visitor Serving-2 (CV-2) in all City land use documents. A drainage channel connected to Winter Canyon Creek is located along the southeastern edge of the site. Wetland features line the drainage, and the area is considered an environmentally sensitive habitat area (ESHA). Thirty-one native trees (California walnut) are located on the proposed wastewater treatment facility site.

The site is currently developed with ~~a small scale, privately owned and operated wastewater treatment facility serving the existing Winter Canyon Wastewater Treatment Facility, which is privately owned and serves~~ the Malibu Colony Plaza shopping center (located on the south side of PCH), ~~the Supercare/Malibu Medical Building, and facilities located at 23661, 23648-23670 PCH.~~ The site would be acquired by the City upon approval of Project entitlements. Existing facilities on the site include six buried wastewater treatment tanks, including a 48,000-gallon septic tank, four above-grade trickling filters, ~~leach-seepage~~ pits, above-ground electrical facilities, and an effluent distribution header. Access to the site is provided via a gated driveway from Civic Center Way on the southeast side of the site, which would need to be widened to meet current code requirements. ~~Components~~ Some components of the treatment facilities, including a buried 50,000 gallon treatment tank and ~~leach-seepage~~ pits, would be reused as part of the proposed new treatment facility, once the Malibu Colony Plaza shopping center ~~and the other uses are~~ connected to the Project<sup>3</sup>. Other existing facilities that would not be reused, such as ~~seepage pits,~~ septic tanks and various piping and treatment facilities, would be demolished or properly abandoned in place. The plant site will be contoured via grading during construction and pProcess areas within the site ~~would be~~ designed through the use of roofs, gutters and grading so that stormwater runoff would be captured within the site, routed to designated sump locations, and returned to the headworks for treatment. This would minimize the potential for spills of untreated wastewater to leave the site. The treatment processes would also be designed with redundancy to minimize the potential for spills or upsets at the facility, as well as back-up power generation equipment. Reliability is ensured by providing unit redundancy (i.e., more than one unit so that one unit can be operational if maintenance or repair is needed on the other unit) including two biological reactors, dual force mains to the treatment plant, and multiple membrane tanks; in addition, spare equipment ~~will~~ would be kept on site, and flows ~~will-would~~ be managed using an equalization basin and clearwell storage.

<sup>2</sup> Winter water use is typically a good indication of indoor water use, which can be used to estimate expected wastewater flows. Summer use may include extensive use of water for outdoor landscape irrigation, which does not contribute to wastewater flows.

<sup>3</sup> Construction of the new facility and demolition of existing facilities would be sequenced to ensure that Malibu Colony Plaza ~~and the other uses served~~ has no disruption of wastewater treatment. Generally, the existing system would be operational until the new facility is completed.

Figure 3-7 depicts the preliminary site plan design for the wastewater treatment facility. In general, the wastewater facility components can be divided into the following facilities, as described in more detail in the following subheadings: 1) liquid facilities; 2) solids handling facilities; 3) chemical storage facilities; and 4) miscellaneous facilities. A majority of the proposed treatment facilities would be located on the upper terrace to allow for potential use of an existing [50,000 gallon](#) buried tank for recycled water storage. It is expected that the influent pump station complex, headworks, equalization basin, odor control facilities, belowground solids thickening/solids storage tanks and percolation ponds would be located on the lower terrace. Facilities would be constructed below-ground and above-ground. The proposed below-ground elements would include an influent pump station, equalization basin, aeration basins, concrete anoxic basins, post-anoxic basins, solids storage tank, plant drain pump station, and recirculation facilities. The above-ground elements (see Table 3-2) would all be 28 feet or less in height and would include the following enclosed buildings: headworks facility building, operations/lab controls building, solids blower building, and MBR blower and electrical building with [a 2,000-square-foot attached canopy](#) covering the membrane reactors that would be used for filtration treatment. [\(Note, the structure covering the membrane reactors will have a roof but no walls.\)](#) Other above-ground facilities include an ultraviolet (UV) disinfection facility, a secure chemical storage area for storage of chemicals used in the treatment process, a standby generator, a pump station, percolation ponds for dispersal of recycled water, landscape screening, and an access driveway for onsite vehicle circulation. [\(Note, the chemical storage structure is a roofed structure with three solid walls and a gate across the open side.\)](#) Figures 3-8 and 3-9 show preliminary renderings of the buildings at the facility as viewed from across Civic Center Way near the condominium community at 5-years and 20-years post-construction.

**Table 3-2. Approximate Area of Enclosed Buildings at Wastewater Treatment Facility**

Structure Name	Approximate Area (square feet)	Height (feet)
Headworks Facility	2,000	18 to 21
Membrane Bioreactor (MBR) Blower and Electrical Building	900	15 to 16
Solids Blower Building	250	15 to 16
Operations/Laboratory/Controls Building	1,600	15 to 16

The final Project plans would be designed to site facilities so as to avoid the wetland ESHA, provide appropriate buffers, and to protect native trees in accordance with the proposed LCPA standards. Where impacts to these resources are unavoidable, the Project would incorporate measures to minimize impacts consistent with the standards proposed in the LCPA, along with additional mitigation measures. The proposed standards would require measures such as minimizing grading, limiting removal of natural vegetation, and revegetating as appropriate/required. The facility would be designed so as ~~to~~ not ~~to~~ provide habitat for vectors or other nuisance wildlife.

**Figure 3-7. Civic Center Wastewater Treatment Facility**



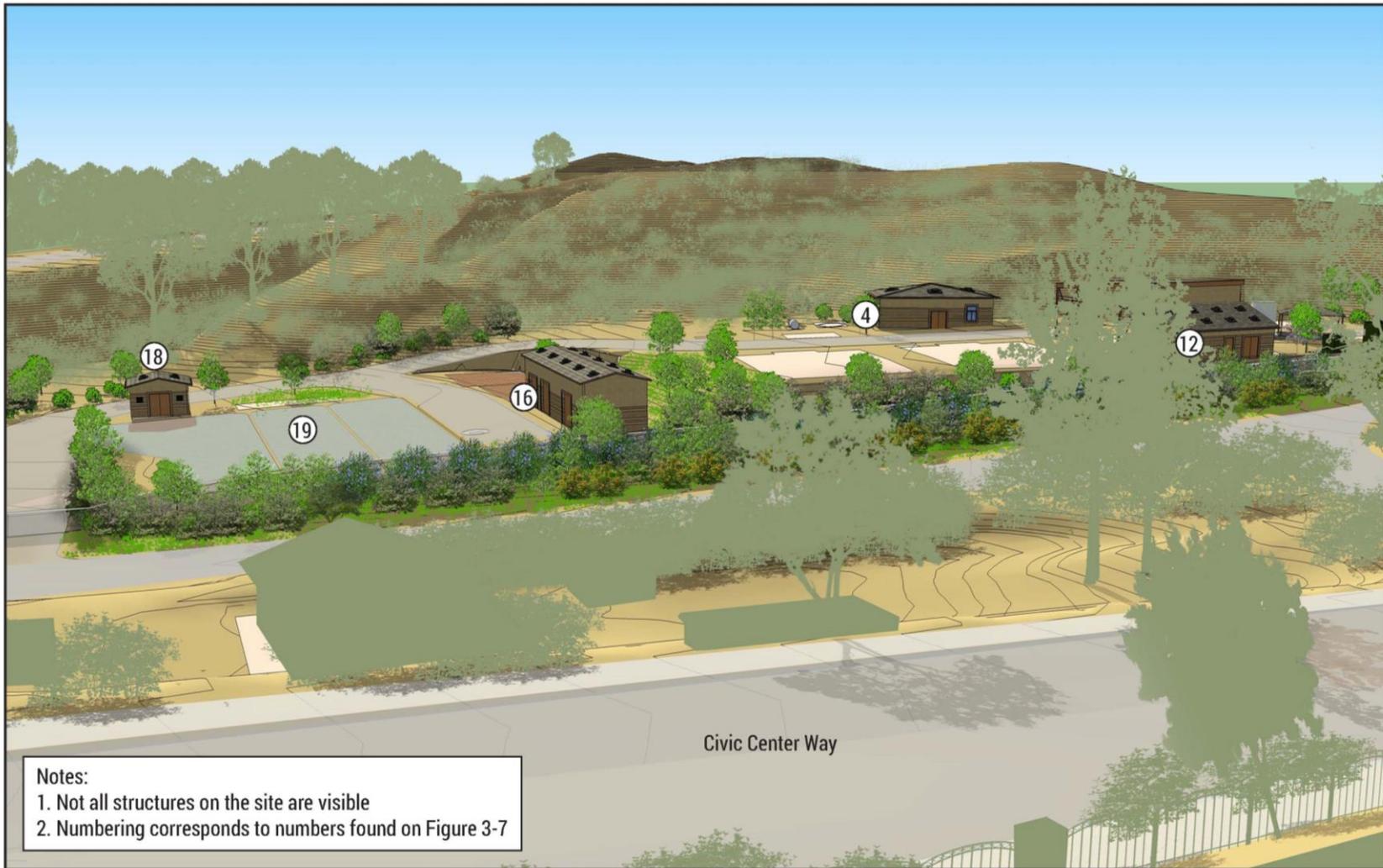
## Liquid Facilities

Wastewater would be conveyed to the treatment facility from new offsite pipelines (described above in Section 3.3.2) that would be constructed as a component of the Project. Wastewater would flow by gravity, where possible, but would be pumped where needed (e.g., from locations that are lower in elevation than the proposed treatment facility). These flows would all be directed to a new influent pump station, which would be housed underground at the northern corner of the lower terrace (see Figure 3-7). From the pump station, new force mains (pressurized pipes) would connect to the headworks facility located just north of the equalization basin. The pipes would be 1,200 feet long, 8 inches in diameter and constructed of high density polyethylene material.

The headworks would consist of a coarse screen, grit removal, and fine screen system to remove solids from the influent wastewater. From the headworks, the wastewater would be piped to the membrane bioreactor (MBR) system, which would consist of hollow-fiber ultrafiltration membranes housed in steel tanks and set in a 20- by 40-foot concrete pit that would be about 11 feet deep. The membrane area would include a canopy and bridge crane to support operations and maintenance activities. The MBR canopy would be up to 25 feet tall, and would be the tallest above-ground facility on the Project site. Membrane modules would be constructed in phases to accommodate the treatment needs as implementation of the Project phasing directs the flows from disconnected OWDSs to the proposed treatment plant. Effluent from the MBR system would then be pumped to a UV facility, located to the south of the MBR system, where the effluent would be disinfected through UV treatment. Sodium hypochlorite would be added to the disinfected effluent prior to it entering the distribution pipeline to prevent pathogen re-growth in the distribution system and to prevent biofouling in the injection wells.

Following disinfection, the effluent would meet Title 22 disinfected tertiary recycled water requirements and would be ready for reuse or disposal. The recycled water would then be piped to a storage tank. Three percolation ponds would be located on the lower terrace of the wastewater treatment facility site, and may be used, if needed, to dispose of a portion of the treated Title 22 effluent by allowing it to percolate into the Winter Canyon groundwater basin as described in Section 4.2. Each pond would be approximately 120 feet long, and 3 to 5 feet deep; two of the ponds would be rectangular, about 20 feet wide, and the third would be a 5-sided irregular polygon, 20 to 40 feet wide. Disposal of the screenings and grit from the headworks process would require approximately two closed container trucks per week during operation at buildout conditions and would be hauled to a landfill permitted to accept such wastes. [While these and other wastes from the treatment plant operations require proper handling, they are not considered hazardous waste.](#)

**Figure 3-8. Rendering of Civic Center Wastewater Treatment Facility, View from Condominiums North of Civic Center Way at 5 years Post-Construction**



**Figure 3-9. Rendering of Civic Center Wastewater Treatment Facility, View from Condominiums North of Civic Center Way at 20 years Post-Construction**



## Solids Handling Facilities

Solids handling facilities consist of solids storage tanks and thickening facilities. Solids thickening and storage tanks would be located on the lower terrace at the southeastern corner of the treatment facility site, to the south of the proposed percolation ponds, and would connect to the membrane modules via a waste sludge pipeline. Similar to the MBR system, the solids storage tanks would consist of two tanks constructed in phases (one tank during Phase 1 and one tank during Phase 2) corresponding to expansion of service under Phase 2. The two tanks would be constructed adjacent to each other with a solids thickening facility to be installed in Phase 1 in the vicinity to remove additional water from the collected sludge. Disposal of the sludge material would be accomplished by tanker truck requiring approximately four to six hauling trucks per week at buildout conditions (on average, one truck per day). Sludge would be vacuum pumped directly from the tanks into a truck and would be hauled to the Sanitation Districts of Los Angeles County Joint Water Pollution Control Plant at 24501 S. Figueroa Street in Carson (37 miles), or other suitable permitted facility.

## Chemical Facilities

The wastewater treatment facility would include a structure to store chemicals used in treatment (alum, sodium hypochlorite, and MicroC™<sup>4</sup>), all of which would be kept in closed industrial containers with appropriate secondary containment, which would prevent any spillage from escaping the storage area. The chemical storage facility would have a roof and would be enclosed by walls on three sides, with a security gate on the fourth side, ensuring that there would be no unauthorized access to the storage area. The storage area would include small pumps to convey chemicals through small double-contained piping to the locations in the treatment process where chemicals would be added.

## Miscellaneous Facilities

Miscellaneous facilities at the treatment facility site would include a storage building for process supplies, a drainage pump station, basic onsite utilities such as potable water, wastewater and storm drains, an operations building, all electrical facilities, and a backup electric power generator. The operations and laboratory building (approximately 1,600 square feet in size) would be located along the western edge of the upper terrace. [Two-Up to three](#) full-time operators would staff the facility [during Phases 1 and 2; a third operator may be added when Phase 3 operations commence](#).

Underground onsite piping would connect the various facilities on the treatment facility site, conveying wastewater to treatment facilities, sludge from treatment facilities to solids handling facilities, or recycled water to recycled water distribution and/or disposal systems. Several facilities would also require drain piping, which would collect drain flows from the solids storage tank, the headworks, sewer connections from the operations building and solids thickening facility, and would redirect these flows back to the MBR system for retreatment. Some minor piping systems would be required for use of potable and utility water onsite, and for the percolation pond and [leachseepage](#) pits.

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<sup>4</sup> Alum is used to aid filtration; sodium hypochlorite is used to chlorinate the water to prevent regrowth of pathogens in the distribution system, and to prevent biofouling (the accumulation of microorganisms) that could clog injection wells; MicroC™ is a carbon compound that is used in the denitrification process.

Other ancillary facilities at the treatment facility site would include a paved driveway **26 feet in width** designed to meet fire department access requirements, which would generally follow the existing dirt driveway that runs through the site, paved parking areas, security fencing, **and** site lighting, **and a sidewalk along Civic Center Way**. The Project would construct an additional gated access from Civic Center Way on the north side of the parcel. The treatment facility site would be enclosed by a new 6-foot tall wire mesh fence, which would accommodate plantings to screen the facility from the road. A new automated steel double-swing security gate and intercom system would be installed to provide improved access and security at the site. While the need for nighttime lighting, other than security lighting, would be rare during operation of the proposed treatment facility, motion-detector lighting is proposed at the entrance gate, and above doorways at the operations building, headworks, MBR modules, and solids storage facility. The light systems would also include manually activated pole-mounted lighting around other process areas. The entrance road would have a photo-sensor-activated bollard lighting system for safety. Lighting would be used only when needed for maintenance and would use zero uplight LEDs, which are dark-sky compliant.

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### 3.3.4 Reuse/Dispersal

To accommodate the projected buildout flow of 507,000 gpd, the City is considering several reuse methods and would move forward with a combination of reusing the treated Title 22 recycled water for landscape irrigation (or any other feasible uses that may be identified) and injecting the remaining recycled water in the lower Civic Center Gravels of the Malibu Valley Groundwater Basin to protect against possible seawater intrusion and support the basin's beneficial use designation. Percolation of recycled water into the Winter Canyon groundwater basin at the treatment plant site would be used for water that is not recycled or directly injected into the lower aquifer of the Civic Center Gravels. This method of disposal would serve as a back-up for recycling and injection and would only be used if needed (typically during periods when other facilities are unavailable because of an emergency or due to scheduled maintenance).

The ultimate combination of methods would depend on annual demand for recycled water. While reuse is the preferred method of disposal, annual demand for recycled water in and around the Prohibition Area is estimated to reach approximately 125,000 gpd. Due to the siting and cost issues of storing excess recycled water during seasons of low demand (i.e., the winter rainy season), it is expected that only a portion of the recycled water produced by the Project could be reused for irrigation. Taken together, a combination of maximized reuse, Malibu Valley groundwater injection and/or Winter Canyon percolation would accommodate the full buildout disposal need of the Project and would provide a total disposal capacity of more than 507,000 gpd. The following details the recycling and dispersal options for the Project.

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<sup>5</sup> Dark sky compliant light fixtures are designed to cast little or no upward light so as to minimize light pollution that limits views of the nighttime sky. Zero uplight LEDs are a type of dark-sky compliant lighting.

## Reuse

The Project will produce recycled water suitable for unrestricted use as defined by Title 22. Approved uses include irrigation (of schools, parks, residential landscaping and golf courses), industrial process water, structural firefighting, decorative fountains, commercial laundries, and dust control. While not proposed by the Project, it should be noted that the recycled water produced by the Project would be treated to a level that is acceptable for use in recreational impoundments where full body contact recreation occurs.

### Landscape Irrigation Within City limits (Phases 1 through 3)

The maximum anticipated potential demand for recycled water to be used for landscape irrigation on properties within the Civic Center area (excluding Pepperdine University and the Hughes Research Laboratory) is estimated to be approximately 125,000 gpd on an average annual basis at Project buildout. In order to use this full amount of recycled water for irrigation, would require that seasonal storage of approximately 10 million gallons would have to be provided during rainy winter months when demand for irrigation is lowest. Storage would not be needed for the recycled water uses that are included in Phase 1. As noted earlier in this chapter, locations for Phase 2 and 3 storage tanks have not yet been determined; impacts associated with the tanks and pump station sites would thus be evaluated at a project-level as part of subsequent environmental documentation that would be prepared for the later phases. While it is expected that some suitable storage locations can be identified, it is likely that the siting and cost issues associated with providing the 10 million gallons of seasonal storage that would be needed to reuse the full buildout amount of 125,000 gpd of recycled water would ultimately be expected to limit the feasibility of this disposal option to only a portion of the potential maximum recycled water demand (i.e., some amount less than 125,000 gpd). Figure 3-3 shows expected phases for construction of pipelines to distribute recycled water.

### Recycled Water Transfer to Hughes Research Laboratory (Phase 3)

The Hughes Research Laboratory located at 3011 Malibu Canyon Road, has an estimated annual average recycled water demand of 26,000 gpd, which could be accommodated by the Project in Phase 3.

## Dispersal

Planned dispersal operations for the Project are aim to reuse as much recycled water for irrigation and non-potable reuse as possible; any unused recycled water would be dispersed underground. Dispersal is anticipated to be accomplished predominantly via injection into the Malibu Valley Groundwater Basin; however, percolation ponds will/would be constructed at the CCWTF treatment facility plant site for use along with existing seepage pits at the site in order to incorporate as redundant dispersal capacity. Use of these percolation facilities (new percolation ponds and existing seepage pits) on a regular basis is not anticipated.

### Groundwater Injection into the Malibu Valley Groundwater Basin

Portions of the Malibu Valley Groundwater Basin in the Civic Center area are underlain by two aquifers - an upper shallow alluvial layer and the lower Civic Center Gravels formation. While both aquifers are designated in the LARWQCB Basin Plan for beneficial use as a potential municipal drinking water supply, neither is currently used for potable water supply. The Malibu Valley Groundwater Basin has not been used as a drinking water source since the 1960s because of

saltwater intrusion from the ocean resulting from basin overdrafting. Because of their hydrogeologic characteristics and the presence of a confining layer that overlies them, the lower Civic Center Gravels represent a potential destination for disposal of tertiary-~~treated~~ effluent using injection wells. Regulatory approval from ~~both~~ the [U.S. Environmental Protection Agency](#), the LARWQCB and the California Department of Public Health (CDPH) would be required for the well injection. To protect the injection system and public health, the City would adopt regulations to restrict the installation of new wells within the Malibu Valley Groundwater Basin. Additionally, the injected water would act as a hydraulic barrier against future seawater intrusion into the lower Civic Center Gravels formation.

To predict potential groundwater injection capacity for the Project, the City is using a MODFLOW 2005 model of the Malibu Valley Groundwater Basin to identify potential injection well locations and to estimate the number of injection wells required and the acceptable amount of groundwater level change at multiple points as a constraint. The model is being calibrated with data from extensive hydraulic testing of the groundwater basin aquifers and by using geologic borings to bedrock throughout the Civic Center area. Based on modeling results, the injection wells are anticipated to have the ability to inject up to 611,000 gpd of recycled water into the lower Civic Center Gravels; the actual amount of recycled water to be injected would depend on the phase of the ~~p~~Project and the amount of effluent that is reused and/or percolated within Winter Canyon.

### Injection Wells

Three injection wells would be located along Malibu Road in Phase 1 of the Project as shown in Figure 3-3. These wells would be located approximately 400 feet from each other and would be placed in close proximity to the proposed recycled water distribution system pipeline on that road. Each injection well would be 14 inches in diameter and approximately 150 feet deep and would inject water in the Civic Center Gravels at depths ranging from 30 to ~~140-160~~ feet below ground surface. Each well would be connected via subsurface and surface piping with the recycled water distribution line and sanitary sewer line planned for Malibu Road. Piping would connect the recycled water distribution pipeline with injection ports at the top of the well; and additional piping would connect a variable-speed submersible pump (to be used for backflushing the well) with the proposed sanitary sewer line.

The wells and associated piping and controls would be placed in above-grade removable steel mesh enclosures, approximately 12 feet wide by 26 feet deep by 6 feet high. Perforated metal cutouts and/or landscaping would be placed on the sides of the enclosures to both screen the enclosures and to provide a visual artistic experience. Well enclosures would be placed such that they face Malibu Road, immediately adjacent to the sidewalk, and extend length-wise towards the wall bordering the adjacent [Malibu Colony Plaza](#) shopping center. If necessary to accommodate the length of the enclosure, bump-outs (also called bulb-outs or curb bulges) would be constructed along Malibu Road adjacent to the well enclosures. These bump-outs would delineate parking spaces, act as traffic calming features, and provide the additional surface footprint that may be needed for the well enclosures. Additionally, the bump-outs would be landscaped to blend with existing landscaping along Malibu Road. It is anticipated that, if required, the bump-outs would reduce the number of parking spaces along Malibu Road by approximately 4 car lengths.

Additional wells may be required in Phases 2 or 3 of the Project, depending on the performance of the three planned wells previously described. The hydrogeological modeling and geochemical evaluation of anticipated injected water quality and existing groundwater quality completed to date

include an antidegradation analysis (RMC 2014) and ocean dilution analysis (see Appendix G1, Ocean Dilution Analysis). These studies indicate that the injection of recycled water into wells screened in the Civic Center Gravels of the Malibu Valley Groundwater Basin is technically feasible. In practice, the behavior of the actual system would be carefully monitored and analyzed during initial injection operations to confirm assumptions and to allow for adjustments to well operations. The installation of additional wells and operation of the injection wells would be revised based on monitoring results and phased along with the rest of the Project. Details regarding future injection wells would be evaluated at a project-level as part of subsequent environmental documentation that would be prepared for the later phases of the Project.

### Winter Canyon Groundwater Dispersal

Based on hydrogeological studies, Winter Canyon has been determined to be a separate groundwater system from the Malibu Valley Groundwater Basin underlying the majority of the Civic Center area. For Winter Canyon groundwater dispersal, the Project would utilize the existing ~~privately owned and operated wastewater treatment facility Winter Canyon Wastewater Treatment Plant~~ seepage pits on the proposed treatment facility site, along with new percolation ponds, as percolation facilities. [Regulatory requirements for current seepage pit operations \(LARWQCB WDR Order No. 00-182\) would be included in the operating permits for the proposed treatment facility.](#) Based on previous work conducted in the area, it is estimated that the Winter Canyon groundwater basin could provide a percolation capacity of up to 100,000 gpd.

### Percolation Ponds

Percolation ponds would be constructed as a back-up method for disposal of recycled water. Water that could not be either reused through irrigation or disposed of through injection wells would be sent to percolation ponds and allowed to percolate into the groundwater. To facilitate pond maintenance, all three ponds would be constructed as part of Phase 1. This would enable two ponds to be in use while another standby pond is undergoing maintenance. Ponds would be maintained to ensure that permeability of the pond bottom is not reduced over time.

## 3.4 Phasing, Implementation, Construction and Operation

### 3.4.1 Phasing

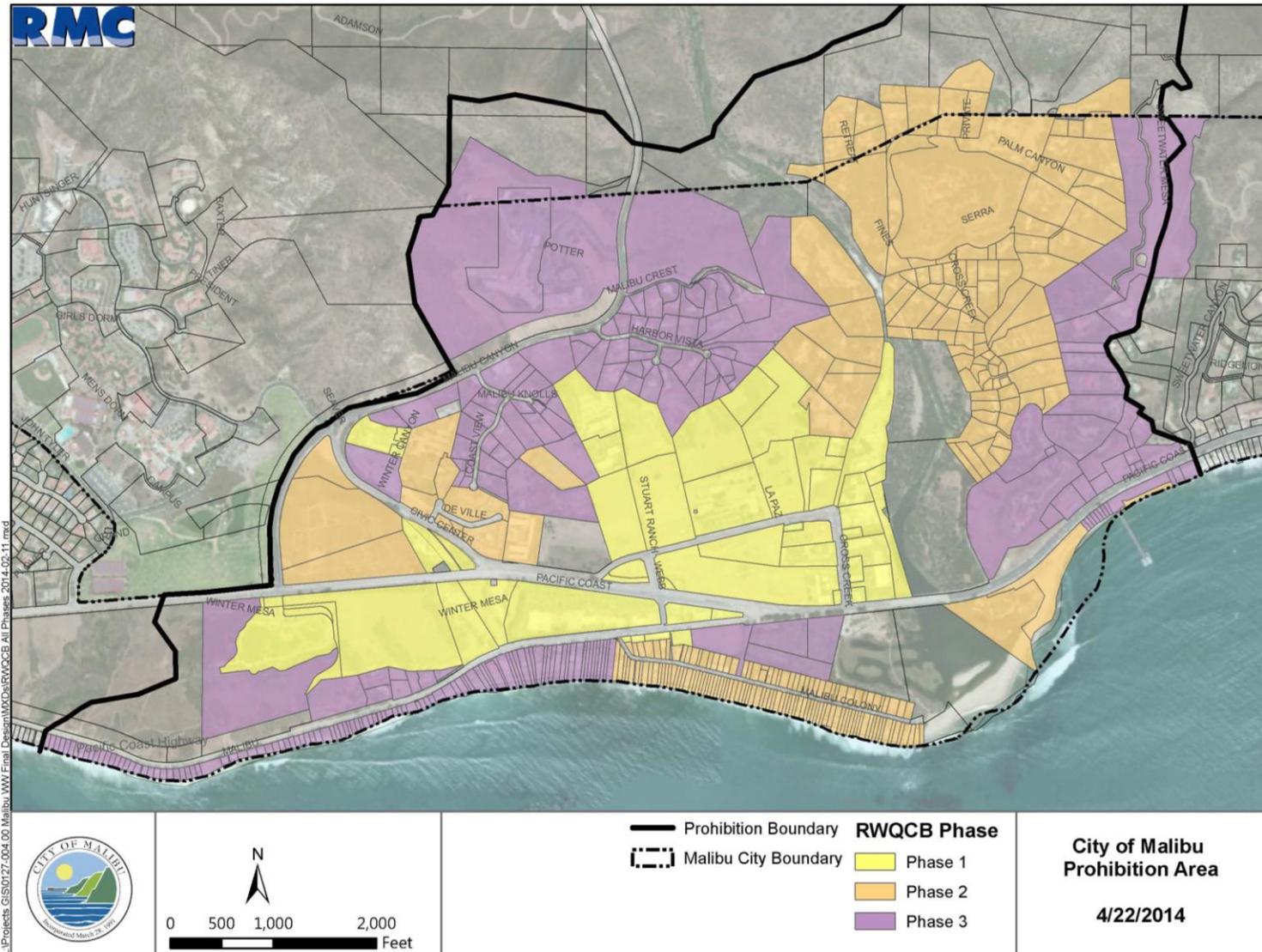
The Project would be implemented in phases with an ultimate treatment goal and buildout wastewater flow rate of 507,000 gpd for the entire Prohibition Area. The projected buildout flows for each phase defined in the [LARWQCB MOU](#) are as follows:

- Phase 1 (2015), Civic Center area: 191,000 gpd
- Phase 2 (2019) 170,000 gpd
- Phase 3 (later date): 146,000 gpd
- Total 507,000 gpd

Phase 1 infrastructure associated with raw wastewater collection and recycled water distribution would be constructed beginning around ~~November-October~~ 2015 and completed by ~~October 2016~~April 2017. The capacity sizing of the first facilities would allow for future expansion to the Phase 2 and Phase 3 connections and would be constructed as needed to meet the requirements of the MOU. While the exact timing of Phase 3 is unknown at this time, modeling, testing and design of the Project has accounted for buildout of Phase 3 properties. Figure 3-10 depicts the Project phasing by parcel within the Prohibition Area. It should be noted that boundaries and buildout flows associated with each phase could change if property owners elect to participate earlier than their designated phase, but not later than the phases specified in the MOU.

Facilities required for implementation of Phase 1 of the Project would include the influent pump station, equalization basin, headworks facility, two MBR units (designated #1 and #2), a UV disinfection facility, a plant drain pump station, blower and electrical rooms, recycled and utility water pump stations, solids thickening, solids storage tank #1, odor control facilities, all miscellaneous facilities described earlier in Section 4.3.3 and the operations building. Phase 2 would require installation of an additional MBR unit (#3), UV disinfection units, solids storage tank #2, and a recycled water pump station upgrade. Phase 3 would require an additional MBR unit, UV disinfection unit, and additional recycled water pump station upgrades. Phases 2 and 3 may also require the design and construction of recycled water storage tank and booster pump stations to accommodate the delivery of recycled water to properties at higher elevations. Tentative locations for Phase 2 and 3 booster pump stations are shown in Figure 3.3; pump stations for future phases are expected to be similar to those proposed for Phase 1.

Figure 3-10. Project Implementation by Phase



### 3.4.2 Implementation

As part of Project implementation, the City would need to address funding through formation of a funding/assessment district [and development of implementing fees](#). The boundary of the Phase 1 assessment district is expected to coincide with the Phase 1 service area boundaries. The City would also need to adopt ordinances to address issues such as, but not limited to, well installation and use in the Prohibition Area, regulations regarding municipal waste discharges (which would likely need to include a prohibition on salt-based water softeners), and requirements for property owners to provide water-tight hook-ups to the collection system that ~~do would~~ not allow [ambient](#) groundwater infiltration into the collection system. It is expected that individual property owners would be responsible for the decommissioning of their existing OWDSs consistent with requirements set forth in the Uniform Plumbing Code and in a new OWDS decommissioning and wastewater connection program to be developed by the City of Malibu consistent with LARWQCB permitting requirements. [Finally, a surface and groundwater quality monitoring program will/would be developed and implemented as part of the Project's permitting requirements to meet Project permits and the conditions set forth in the MOU between the LARWQCB and the City.](#)

### 3.4.3 Construction

Construction of Phase 1 is expected to take approximately 18 months beginning in 2015. Construction of the treatment facility, pump stations, pipelines and injection facilities would occur concurrently according to the phasing plan. Pump station construction would require about nine months, and construction of the treatment facility would require the entire 18-month construction period.

#### [Traffic Control Plan](#)

To minimize traffic impacts and maintain traffic flow during construction, a Traffic Control Plan would be prepared and implemented. The plan would be submitted to Caltrans for review and approval, as required for construction affecting PCH. The Traffic Control Plan would include the following:

- Provisions for maintaining access to all properties along roadways affected by pipeline construction;
- Plans for maintaining two-way traffic flow on roadways where temporary lane closures are necessary;
- Designated haul routes that minimize traffic on local streets;
- Limits on hours of truck deliveries and construction along Civic Center Way and Winter Canyon Road so as to avoid hours when students are arriving and departing from Webster Elementary School and Our Lady of Malibu School;
- Provisions for maintaining pedestrian and bicycle safety, including any special conditions needed to ensure safety at the crosswalk on Civic Center Way just north of the treatment facility site;

- Coordination with facility owners or administrators of sensitive land uses such as schools, churches and condominiums, including advance notification of timing, location and duration of construction activities and locations of any detours or lane closures;
- Requirements for notification of emergency service providers, and provision for emergency access, including access for schools and residences near construction areas; and
- Provision for construction worker parking that would not reduce availability of parking in the project area.

Construction would comply with City of Malibu standard conditions for construction. Hours would typically be weekdays from 7 a.m. to 7 p.m. Construction could also occur Saturday from 8 a.m. to 5 p.m. There would be no construction outside these hours or on Sundays or holidays, unless written permission is obtained from the City Manager.

Construction of each type of facility is described in more detail below.

### **Construction Methods for Wastewater Treatment Facility**

Construction of the wastewater treatment facility would be designed to minimize disturbance to riparian ESHA and native trees. Disturbed areas would be revegetated, and mitigation measures as required by the LCP would be incorporated to minimize any unavoidable impacts. Construction would involve several steps, as follows:

- **Site preparation.** This would involve clearing, grubbing and other site preparation activity, including removal of five California walnut trees at the treatment plant site. Structural demolition would be completed as needed. Protective fencing would be installed around the limits of construction to ensure protection of trees that would remain on the site, and to protect ESHA.
- **Access improvements.** At the treatment plant site, the existing access road, which is located within 100 feet of Winter Canyon Creek, would need to be widened to meet Los Angeles County Fire Department requirements. Winter Canyon Creek is a wetland and is considered an ESHA.
- **Earthwork.** After the site is cleared of underbrush and trees, grading would begin. Earthwork would include excavation of the three percolation ponds to create three- to five-foot deep ponds. The contractor would balance cut and fill quantities within the construction area to the extent feasible in order to minimize the export or import of soils from the site. Material excavated would be used to create screening berms and/or spread across other areas of the site to establish a preliminary grade for forming concrete slabs. Most excavated materials would be used on site, but at buildout about 7,771 cubic yards (CY) of material would be removed from the site, and 3,000 CY of specialized building material (aggregate base) would be imported. For Phase 1 about 270 truck trips would be needed to remove excess material from the site. Following rough grading, additional excavation would bring the site to final grade and allow for preparation for underground piping and structural slabs.
- **Additional site work** would include paving, temporary and permanent security fencing, and site lighting.
- **Structural Improvements.** Prior to pouring concrete, structural forms, rebar, and conduits would be installed for the facility. After the concrete is poured, it would be finished and cured before the forms are removed. For structures, after the concrete footing, slab, and walls are poured, the

overhead structural steel and roof decking would be erected. For tanks, after the foundation is poured, the steel tank is erected over the foundation slab.

- [Component reuse validation. As part of the structural improvements to the site, all existing facilities to be reused as part of the Project will be inspected for soundness. The 50,000 gallon underground tank to be reused as part of the treatment plant facilities will be hydrostatically tested.](#)
- Electrical/Instrumentation. After the structures are erected or retrofitted, electrical equipment (e.g., machinery control consoles, switchboards, and lighting) would be installed. Site work such as installing pull boxes, conduits, and cables would continue. After roofs on the buildings and facilities are secured, flow meters, level probes, pressure meters, process analyzers, and other instrumentation would be installed. Additionally, water quality adjustment, sampling, and monitoring equipment would be installed.
- Startup and Testing. This phase of construction would involve City personnel (i.e., engineers, inspectors, operators, maintenance crews, and instrumentation specialists) working with the equipment vendors to understand how each piece of equipment would operate and function. Under City supervision, the construction contractor would start up and test the equipment on site to guarantee that pumps, motors, monitoring and communication equipment are functional and able to meet design standards.

## Construction Methods for Pump Stations

Construction of the wastewater treatment facility and pump stations would involve similar steps, as follows:

- Site preparation. This would involve clearing, grubbing and other site preparation activity, as needed. Pump stations would be placed in public areas, along the pipeline alignment (e.g. Bluffs Park and Legacy Park) or in existing excavations associated with pipeline installation, as feasible. Additional excavation may be required, and a Traffic Control Plan would be prepared and implemented to minimize impacts on traffic and maintain traffic flow during pump station construction.
- Earthwork. After the site is cleared of underbrush and trees, grading would begin. The contractor would attempt to balance cut and fill quantities within the construction area to the extent feasible, but it is expected that 14 CY of soil would be removed from the Bluffs Park pump station site and 67 CY of soil would be removed for the Legacy Park pump station. Following rough grading, additional excavation would bring the site to final grade, to allow for subsurface pump station construction, and to allow for preparation for underground piping and structural slabs.
- Additional site work would include paving, temporary and permanent security fencing, and screening.
- Structural Improvements. Prior to pouring concrete, structural forms, rebar, and conduits would be installed for the facility. Subsurface structures, such as vaults, would be framed and poured for the below-grade pump stations. After the concrete is poured, it would be finished and cured before the forms are removed. For above-grade structures, after the foundations are poured, the equipment would be installed over the foundation slab.

- **Electrical/Instrumentation.** After the structures are erected and all related equipment installed, electrical equipment (e.g., machinery control consoles) would be installed. Site work such as installing pull boxes, conduits, and cables would continue, followed by the installation of, flow meters, level probes, pressure meters, process analyzers, and other instrumentation.
- **Startup and Testing.** This phase of construction would involve City personnel (i.e., engineers, inspectors, operators, maintenance crews, and instrumentation specialists) working with the equipment vendors to understand how each piece of equipment would operate and function. Under City supervision, the construction contractor would start up and test the equipment on site to guarantee that pumps, motors, monitoring and communication equipment are functional and able to meet design standards.

## **Construction Methods for Collection and Distribution Systems**

Pipelines for collection and distribution systems would generally be constructed in existing roadways using a technique called cut and cover or open cut construction; however, some sections of pipelines would be installed using trenchless technology. The wastewater collection and recycled water distribution pipelines would be installed in the same trench at most locations. Construction methodologies are described below.

### **Cut and Cover or Open Cut Construction**

#### **Staging Areas**

At various locations along the construction route(s), staging areas would be required to store pipe, construction equipment, and other construction-related material. Staging areas would be established along the route where space is available. Pipelines near the wastewater treatment facility would use that site for staging. Certain staging areas may be used for the duration of project construction due to their favorable location in terms of convenient access and lack of sensitive receptors. In other cases, as pipeline construction moves along the route, staging areas may also be moved to minimize hauling distances and avoid disrupting any one area for extended periods of time. Potential staging areas include vacant private and public land, parking lots, roadway turnouts, and segments of closed traffic lanes. The City of Malibu or its contractor would make short-term arrangements for the use of staging areas.

#### **Surface Preparation**

Surface preparation involves removing any structures (such as fences), pavement, and/or vegetation from the trench area. Equipment used for this activity includes jack hammers, pavement saws, graders, bulldozers, loaders, and trucks.

### **Trench Excavation/Shoring**

A backhoe, excavator, or trencher would be used to dig trenches for pipe installation. In general, trenches would have vertical side walls to minimize the amount of soil excavated, and the area needed for the construction easement. Soils excavated from the trenches, if of suitable quality, would be stockpiled alongside the trench or in staging areas for later reuse in backfilling the trench. If not reusable, the soil would be hauled off site for disposal. Disposal options include use as cover material at sanitary landfills and use as “clean fill” at other sites pursuant to LIP Section 8.3. In general, pipe trenches would be 2 to 5 feet wide, and 4 to 10 feet deep; however some excavations will be as wide as 20 feet and/or will have a maximum depth of 20 feet.

Pipeline trenches, in any given location, would be open for two to three days on average. During construction, vertical wall trenches would be temporarily “closed” at the end of each work day, by covering with steel plates or backfill material.

Trenches would be backfilled with either reused excavated soil or imported material. Dump trucks would be used to deliver imported, engineered backfill material to stockpiles near the trenching operation. Native soil would be reused for backfill to the greatest extent possible; however, the soil may not have the properties necessary for compatibility and stability. In addition, following installation of the pipe, there may be a surplus of native soil material requiring off-site export.

For the purposes of this EIR, it is assumed that approximately 38 cubic yards of soil export would be required for each 100-foot segment of pipeline installed.<sup>6</sup> Removal of this soil from trenches would require about two truck trips per day.

### **Surface Restoration**

The final step in the installation process would be to restore the ground surface. When the pipe is installed in a paved roadway, repaving would occur after construction. New asphalt or concrete pavement would be placed to match the surrounding road type. For asphalt repaving, a temporary asphalt material may be installed to allow traffic to use the roadway immediately after pipeline construction. A repaving crew would follow the pipe installation crew and prepare the road surface for repaving. Final repaving would be done after pipe installation was completed for a whole street width, lane width, or trench width.

Using cut and cover construction, approximately 50 to 100 feet of pipeline can be installed each day.

### **Trenchless Construction Techniques**

In locations where major roadways or streams would be crossed, such as Malibu Creek in the Serra neighborhood during Phase 2 construction, some form of trenchless technology would be employed for pipeline installation. For one stream crossing (where PCH crosses Malibu Creek/Lagoon), the pipe would be hung from an existing bridge. As part of the design process, the bridge would be evaluated to ensure that it can support pipelines. The pipeline would be attached to the bridge, would hang above the high water line, and would meet all Caltrans requirements for pipe crossings. Trenchless methods do not require an open trench for installing the pipeline; two different methods are proposed for trenchless pipe installation.

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<sup>6</sup> Average soil export is based on the removal of 0.384 cubic feet of soil material per linear foot of construction. Soil export is based on pipe size and location (paved road or unpaved).

## **Jack and Bore**

This method would be used in Phase 1 for crossings of PCH at Webb Way and Malibu Canyon Road. Jack and bore employs a non-steerable system that drives an open-ended pipe laterally using a percussive hammer, thereby resulting in the displacement of soil limited to the wall thickness of the pipe. For this construction method, pits would be dug on either side of the surface feature to be avoided (e. g. stream crossing or heavily traveled roadway). A “jacking pit” would be excavated at the beginning of a section and a “receiving pit” at the opposite end. Jacking pits would be approximately 35 feet long and 15 feet wide; receiving pits would be smaller, approximately 20 feet long and 13 feet wide. Hydraulic jacking equipment would be placed in the jacking pit. The depth would depend on the feature to be avoided. The boring equipment and pipe would be lowered into the pit and aligned at the appropriate depth and angle to achieve the desired exit location. A compressor would supply air to a pneumatic ramming tool to thrust the pipe forward. A cutting shoe may be welded to the front of the lead pipe to help reduce friction and cut through the soil.

Several options are available for ramming various lengths of pipe. An entire length of pipe could be installed at once or, for longer distances, one section at a time could be installed. In that case the ramming tool would be removed after each section is in place and a new section would be welded on to the end of the newly installed section. The ramming machine would be connected to the new section and ramming would continue. In certain installations, a winch could be connected to the lead end of the pipe to assist in pulling it out. This would require installation of a connection via a pilot hole.

Depending on the size of the installation, spoils from inside the pipe would be removed with an auger, compressed air, water, or a combination of techniques. A seal cap would be installed on the starter pit side of the installation and spoil would be discharged into the receiver pit. Using this technique, ground surface disturbance would not occur, except at the pits.

## **Pilot Tube Guided Auger Boring (PTGAB)**

This method would be used at the following locations:

- Phase 1 pipeline:
  - On Malibu Road (about 0.3 miles of pipeline);
  - On Cross Creek Road for about 50 feet north and 250 feet south of the intersection with Civic Center Way;
  - On Civic Center Way from Cross Creek Road to Webb Way (about 0.35 miles of pipeline)
- Phase 2 pipeline crossing Malibu Creek at the northern end of Cross Creek Road (about 0.4 miles of pipeline)

PTGAB would also use a jacking pit and receiving pit. This method is similar to jack and bore, but a pilot tube is pushed from the jacking pit to receiving pit. Once the pilot tube reaches the receiving pit, a pulling adaptor would be installed and used to pull high density polyethylene pipe from the jacking pit to the receiving pit.

## Construction Methods for Injection Wells

Injection wells would be drilled to an approximate depth of ~~150-160~~ feet below the ground surface (bgs) in order to access the Civic Center Gravels and ~~each~~ would be designed to inject up to 280 gallons per minute (gpm) of recycled water. A 24-inch diameter borehole for the well would be drilled using a sonic drilling rig or similar drilling technology (such as dual rotary). This drilling methodology was developed for drilling in unconsolidated formations (such as sand, gravel and cobbles). The drilling method selected would not require the use of drilling fluid additives (e.g. bentonite mud) or other products typically used during the drilling process. The sonic drilling method is a proven and accepted method for construction of municipal water supply wells, as well as other types of wells (e.g. monitoring wells for environmental projects) that require specialized drilling methodology.

Well drilling would be accomplished using a truck-mounted rig with a crew of several drillers and driller's helpers. Several support trucks would also be onsite during well construction and development. After the ground is broken, the drill rig would remain in place through well completion. Appropriate permits and requests would be filed for any work occurring outside the City's designated construction hours.

Stainless steel wells, 14-inches in diameter, would be constructed in the borehole, with openings for injection to be determined based on field data. A cement 5-foot by 5-foot sanitary seal and well monument would be placed around the top of the well as part of construction. Following completion, the well would be developed using a combination of bailing, swabbing, air-lifting, surging and pumping until the well has been deemed completed by the field geohydrologist or hydrogeologist.

Groundwater produced during drilling, well construction, and the early phases of well development would contain sediment and would be pumped into temporary above-ground tanks located in the work area or staging/temporary cuttings containment area. An estimated total volume of 1,500 gallons of water containing sediment may be produced at each well location. Once pumped into the temporary above-ground tanks, the sediment ~~will~~would be allowed to settle to reduce the turbidity of the water to a level less than 75 NTUs. Once the desired turbidity level is reached, the water ~~would~~will be decanted, treated and drained to existing storm drains or ~~will~~would be hauled for offsite disposal. Sediments that remain in the tanks ~~would~~will be drained and hauled to an approved landfill. Best Management Practices (BMPs) ~~will~~would be employed during all drill cuttings and fluid containment activities to prevent sediment and water runoff to adjacent areas. Details regarding drill cuttings management and BMP deployment ~~will~~would be documented in a Stormwater Pollution Prevention Plan (SWPPP) developed for each site.

Pumping tests would be conducted at the new injection wells following completion and development. Water generated from the pumping tests would be discharged in accordance with a waste discharge permit obtained from the LARWQCB. Pumping tests would require a pump and generator that would be run at intervals and at least one continuous 24-hour period.

Once the wells have been constructed, wellhead facilities would need to be installed. Wellhead facilities ~~will~~would be located in enclosed and/or screened above-grade enclosures. For Phase 1 well head facilities, bump-outs into Malibu Road would be constructed at each well location ~~if~~needed. Bump-outs would take the place of existing street parking and would cover approximately two parking spots at each location. Surface features associated with wellhead facilities would include piping, vent pipes, switchboards/meters and electrical panels. Construction of wellhead

facilities would be similar to the construction of the pump stations, as previously described, with all above-grade facilities secured and screened in enclosures. Additionally, any disturbance of pavement or other surface materials resulting from well and/or wellhead installation would be restored following completion of construction and startup.

### 3.4.4 Operation and Maintenance

The Project would be operated by the City of Malibu, either directly or through a contract with a professional company providing treatment facility operation services. It is expected that the equivalent of ~~up to threetwo~~ full-time staff (equivalent to 40 hours per week per staff member) would be required to operate the treatment facility; ~~all staff involved in plant operations would~~ be required to hold and maintain wastewater treatment plant certifications with the State Water Resources Control Board (SWRCB). In general, elements of the Project's operations and maintenance (O&M) would include proactive, preventive, and corrective maintenance of lift stations, injection wells, percolation ponds, seepage pits, gravity sewers, force mains and the recycled water pressurized system. Overall, the system would be maintained to protect the quality of water in the system, to minimize replacement costs of equipment, minimize the potential for leaks, breaks, overflows, maintain injection/percolation capacity or other situations that would affect the health and safety of the staff, the customers, and the public.

#### Wastewater Treatment Plant

In general, maintenance at the treatment plant site would consist of regular monitoring, sampling and analyses. Plant operations will require that solids be trucked offsite one time per day (at buildout) in a 5,000-gallon (or larger) truck and sent to County Sanitation Districts of Los Angeles County (CSDLAC) Joint Water Pollution Control Plant, and that chemicals be brought onto the site twice a week. Periodic maintenance at the plant includes lifting the membranes using the crane system beneath the canopy every 2 to 3 months for inspection, replacing the membranes every 8 to 10 years, periodically changing out UV lamps (as the bulbs burn out), and maintaining the percolation ponds and seepage pits with annual drying, ripping<sup>7</sup> and solids removal (as needed).

#### Pump Stations

For Phase 1, the City would contract out O&M of its largest pump station at Legacy Park. Typical operational and maintenance activities would include weekly inspections with wet wells<sup>8</sup> cleaned quarterly. Annual performance testing would also be required to verify meter calibration, calibrate pressure gauges, and sequence pumps to operate at various flows. Preventive maintenance for mechanical and electrical equipment would be scheduled annually. Completed work would be recorded using daily logs that are maintained by the contractor.

The City would also contract out operation and maintenance of its smaller lift stations, including the Phase 1 ~~lift-pump~~ station at Bluffs Park. Monthly operational inspections would occur at these facilities with wet wells cleaned quarterly. Preventive maintenance for mechanical and electrical equipment would be scheduled annually, and completed work would be recorded using daily logs that are maintained by the contractor.

<sup>7</sup> Ripping is mechanical turning of the soil ~~e~~ to promote soil infiltration by breaking up water repellent soil layers.

<sup>8</sup> A wet well is a chamber used for collecting liquid sewage, to which the suction pipe of the pump is attached.

Emergency power generators are required to be regularly tested and maintained in conformance with National Fire Protection Association (NFPA) Standard 110: Standard for Emergency and Standby Power Systems and Air Quality Management District regulations. Additional refueling and testing operations of the generator would be as-needed based on inspections by City's contractor.

## Collection System Pipelines

The collection system is comprised of both force (pressurized) mains and gravity lines (in which effluent flows by gravity). Collection system force mains would be inspected weekly by observing the surface over the pipe to detect any leaks or settlement. All air release valves on the force mains would be inspected quarterly with air release valves checked for leaks weekly as part of the pipeline visual inspections. All isolation valves on the force mains would be exercised on an annual basis. Annual performance testing would be required to verify meter calibration, calibrate pressure gauges, and sequence pumps to operate at various flows.

Operation of the sanitary sewer system will be in compliance with the Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems (SWRCB Water Quality Order No. 2006-0003), in addition to project-specific WDRs. This permit includes the requirement for development of a [sanitary sewer system](#) management plan (SSMP) that includes, amongst other things, an emergency response plan to address pipeline breaks and overflows.

All collection gravity pipelines would be placed on a routine cleaning schedule. The City plans to proactively clean every pipe segment in the wastewater collection system at least once over the next 5 years (60 months). As the City begins to collect and analyze maintenance data generated during these activities, the frequency of sewer cleaning would be adjusted to be optimized. As with other O&M activities, the City would contract out these sewer cleaning activities.

Close circuit television (CCTV) inspection would be used to determine the primary causes of any blockages and sanitary sewer overflow (SSO) events. The City's gravity sewer condition assessment program would consist of visually inspecting gravity sewers using CCTV. The City may assess the condition of the manholes and other structures using City field crews and visual inspection methods during its system-wide sewer cleaning.

Re-inspection, repairs, and rehabilitation decisions would be based on the highest structural defect grade observed in initial inspections. Using the industry-standard Pipeline Assessment and Certification Program (PACP), all structural defects would be assigned a condition grade from 1 to 5. The City would use contract CCTV services for condition assessment and for follow-up on SSO and cleaning problem events. CCTV inspection frequency would be 20 years. Manholes and other structures would be inspected using visual inspection methods during system-wide cleaning.

## Recycled Water Distribution Pipelines

The City, or its maintenance contractor, would perform weekly inspections to observe any anomalies, leaks, or unusual circumstances at the connection from the treatment plant to ensure that the connection is operable and functioning properly. The recycled water pipeline would normally be inspected weekly by observing the surface over the pipe to detect any leaks or settlement. Recycled water pipes are designed for a lifetime measured in decades; therefore, very little maintenance of the pipe itself is anticipated. Isolation valves on the system would be exercised and logged on an annual basis. The following table (Table 3-3) is a summary of the general maintenance guidelines for the recycled water pipelines.

Recycled water samples would be collected and analyzed on the following schedule:

- Total Coliform - Monthly at 2 locations in the system; one near the center of the system and one near the end of the system.
- Chlorine Residual - Weekly at 2 locations in the system; one near the center of the system and one near the end of the system.

Meters would be inspected on a regular basis. Reading of meters provides an opportunity to observe the integrity of the valves, connections, and the meter. Meters would be replaced or refurbished according to the manufacturer's recommendations.

## **Injection Wells**

Typical maintenance activities for the injection wells would be to backflush the wells at up to 560 gpm for approximately 30 to 90 minutes once to three times per week for each well. The actual schedule for backflushing and the length of time and backflushing rate would be determined based on initial testing results and operating experience. Wells would be backflushed in sequence during daylight hours to allow an operator physically performing the maintenance to observe and monitor the conditions to determine when the backflushing is complete. All backflush water would be returned to the sanitary sewer system for retreatment and appropriate disposal.

Well performance would be regularly monitored during injection operations. Periodically (approximately once every two to five years), step-drawdown pumping tests would be conducted to monitor well performance to compare performance to baseline (initial) tests performed after well installation. Periodically (approximately once every five to seven years), the wells would be serviced for pump, motor and casing inspection, maintenance and cleaning. For a submersible well

**Table 3-3. Recycled Water Pipeline General Maintenance Schedule**

Item	Frequency	Action
Pipeline	Variable (upon discovery of issues) One Year	Shut down, drain and disinfect pipeline if there are odor, color, or turbidity issues. Flush dead-end pipes. If odor, color or turbidity issues exist, then disinfect pipe.
Isolation Valves (Gate and Butterfly)	One Year	Refer to equipment manufacturer's operation and maintenance manuals for proper maintenance, lubrication and regular exercising of valves. Repair as-necessary. Unless noted otherwise in the Manufacturer's O&M manual, valves shall be inspected and exercised annually.
Control and Pressure Regulating Valves	Six Months One Year	Visually inspect for leakage. Clean, repair or replace according to Manufacturer O&M. Annually remove valve from service; inspect float for leaks, and pins and linkage for corrosion; remove corrosion products; clean orifices.
Blowoffs	One Year	Inspect and test blowoff assemblies. Repair as necessary. Maintenance of the gate valve shall be as described above for isolation valves.
Air Valves	Six Months One Year	Visually inspect for leakage. Clean, repair or replace according to Manufacturer O&M. Annually remove valve from service; inspect float for leaks, and pins and linkage for corrosion; remove corrosion products; clean orifices.
Backflow Preventers	One Year	Clean all parts thoroughly after disassembly. Carefully inspect rubber seal rings and O-rings for damage.
Services	One Year Two Years	Inspect services for leaks, exercise isolation valves. Repair as necessary. Inspect and test/calibrate meters

pump, removal of the well pump would require temporary closure and use of an area up to approximately 100 foot long by 50 foot wide around the well for up to one month. Impacts (such as traffic-related impacts) would be minimized as much as possible during this period. Finally, if biological growth occurs in the well, mechanical brushing would be performed, followed by redevelopment and a step-pumping test to monitor the effects of the brushing.

### 3.5 Related Projects

Section 15130 of the State CEQA Guidelines stipulates that EIRs must consider the significant environmental effects of a proposed project as well as "cumulative impacts." A cumulative impact is defined as an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts (State CEQA Guidelines Section 15355). As stated in the State CEQA Guidelines, Section 15130(a)(1), the cumulative impacts discussion in an EIR need not discuss impacts that do not result in part from the project evaluated in the EIR. Cumulative impacts may be analyzed by considering a list of past, present, and probable future projects producing related or cumulative impacts [State CEQA Guidelines Section 15130(b)(1)(A)].

All projects that are proposed (i.e., with pending applications), recently approved, under construction, or reasonably foreseeable that could produce a cumulative impact on the local environment when considered in combination with the proposed project are included in the EIR. These projects can include, if necessary, projects outside of the control of the lead agency. If a concise list of related projects is not available, cumulative impacts may be analyzed using the regional or area-wide growth projections contained in an adopted or certified general plan or related planning document.

In this ~~Draft~~ EIR, cumulative impact analyses are provided for each environmental issue discussed in Chapter 4 (Environmental Impact Analysis), and can be found in each respective subsection (e.g., Air Quality, Traffic, etc.). Table 3-4, Related Projects List, lists the related projects that were considered in each cumulative impact analysis. The related projects list consists of all potential projects located within an approximately two-mile radius of the ~~p~~Project site. The locations of the related projects are depicted in Figure 3-11, Related Projects Map.

**Table 3-4. List of Related Projects<sup>9</sup>**

Map #	Project Name	Address	Status	Description
1	Puerco Canyon Road Extension	3500 Puerco Canyon Road, Malibu, CA	<del>Planning review</del>	<a href="#">3,500 linear foot road extension to provide access to 7 residentially zoned lots (1 City lot, 6 County lots)</a>
2	Crummer	24120 East Pacific Coast Highway, Malibu, CA	<del>Planning review</del> <a href="#">Pending California Coastal Commission certification</a>	7 lot subdivision for 5 single-family residences; expanded parking for Bluffs Park; 1.74 acre dedication to City for recreation use
3	Hajian	24903 East Pacific Coast Highway, Malibu, CA	Under construction	9,685 square feet of office space, 44 parking spaces.
4	Towing Subdivision	23915 Malibu Road, Malibu, CA	<del>Planning review</del> <del>Under construction</del>	7 lot subdivision for 4 single-family residences
5	Rancho Malibu Hotel	4000 Malibu Canyon Road, Malibu, CA	Planning review	New hotel and spa. 274,775 square-foot (sf) hotel complex with 146 rooms developed on approximately 16.5 acres of a 27.8-acre site. Includes retail, spa, fitness center, lobby, restaurant, bar, banquet, and meeting facilities.
6	SMMC Beach Public Access Improvements	24038 Malibu Road, Malibu, CA	Planning approval and plan check review	Public beach access improvements and stairway
7	La Paz Shopping Center	23465 Civic Center Way, Malibu, CA	Planning approval	112,058 square feet of retail and office space; 20,000 square feet of institutional space and 543 parking spaces

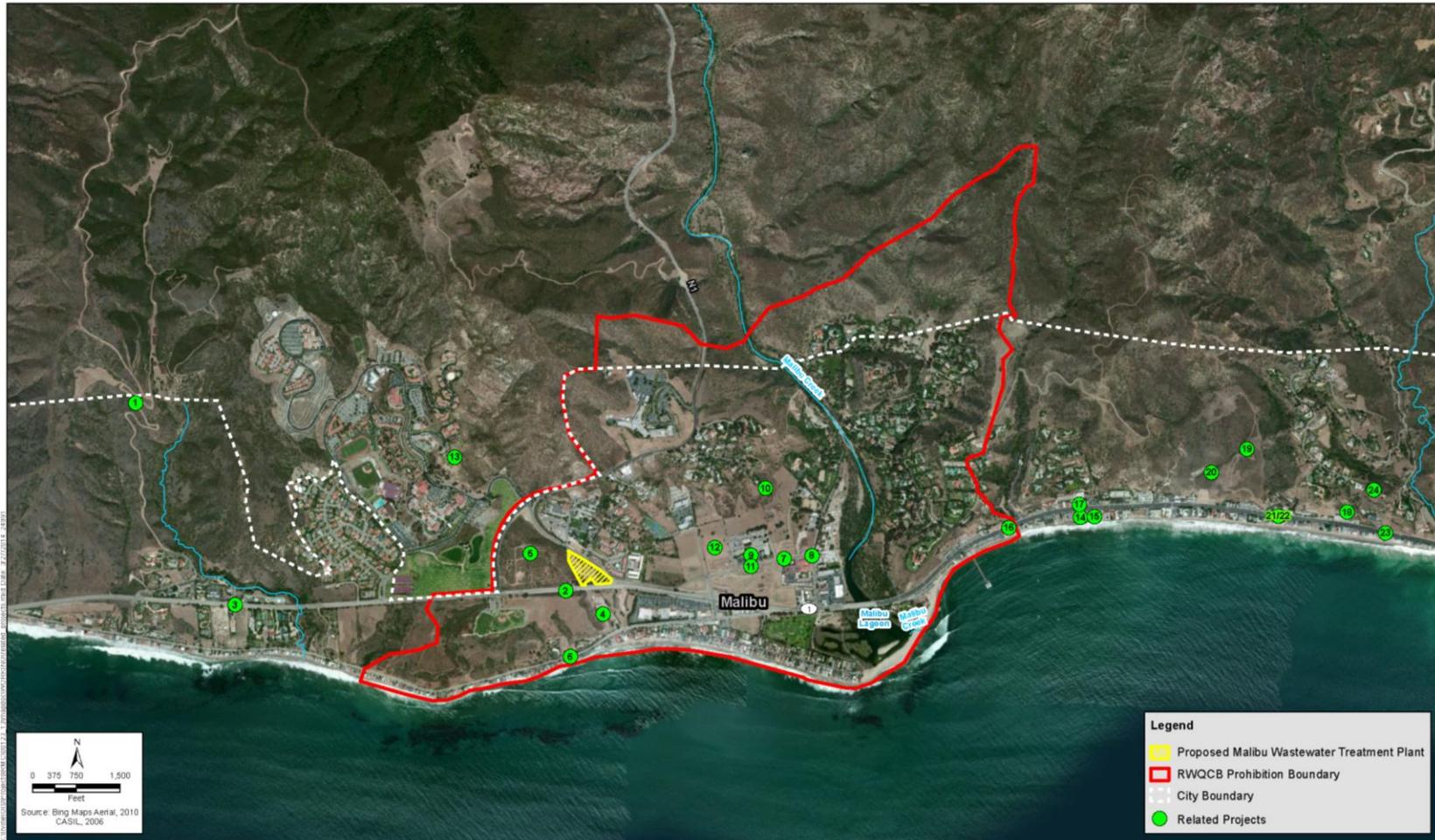
<sup>9</sup> [The status of some related projects has changed between the time of issuance of the Notice of Preparation and completion of the Final EIR.](#)

Map #	Project Name	Address	Status	Description
8	Whole Foods Shopping Center	23401 Civic Center Way, Malibu, CA	Planning review	25,000 square feet of grocery space; 14,893 square feet of retail/commercial with 220 parking spaces
9	Santa Monica College	23525 Civic Center Way, Malibu, CA	Planning review	New satellite campus with 25,000 square feet building replacing vacant County Sheriff facility. In addition to classroom facilities includes 5,700 square feet for sheriff substation
10	Housing Element <a href="#">Update Overlay</a>	<del>3700 La Paz Ln, Malibu, CA</del> <a href="#">Citywide</a>	<a href="#">Pending CCC certification Planning review</a>	Overlay to allow up to 20 dwelling units per acre on three sites
11 and 12	Malibu Sycamore Village	23575 Civic Center Way and 23789 Stuart Ranch Road Malibu, CA	Planning review	Non-residential mixed use commercial space. 60,000 to 76,000 square feet of commercial space with possible urgent care facility
13	Pepperdine Campus Life Project	24255 Pacific Coast Highway, Malibu, CA	<a href="#">Approved Withdrawn</a>	Development and redevelopment of property within an existing approximately 365 acre area on the Pepperdine campus through a two-phase development program over a 12-year period.
14	Pierview/Nikita	22716 East Pacific Coast Highway, Malibu, CA	Complete	7,100 square feet of restaurant space
15	Windsail/Nobu	22706 East Pacific Coast Highway, Malibu, CA	Complete	5,904 square feet of restaurant space
16	N/A	22959 East Pacific Coast Highway, Malibu, CA	Planning review	2,630 square feet of office space, 4,517 square feet of retail, and 31 parking spaces
17	N/A	22729 East Pacific Coast Highway, Malibu, CA	Approved	2,499 square feet of office space
18	Carbon Condominiums	22065 East Pacific Coast Highway, Malibu, CA	<a href="#">Complete Under construction</a>	8 unit condominium development
19	N/A	<a href="#">5012 Carbon Beach Terrace</a> <del>22301 East Pacific Coast Highway, Malibu, CA</del>	Building plan check	Single-family residence
20	N/A	<a href="#">5024 Carbon Beach Terrace</a> <del>22303 East Pacific Coast Highway, Malibu, CA</del>	Building plan check	Single-family residence
21	N/A	<a href="#">5046 Carbon Beach Terrace</a> <del>22305 East Pacific Coast Highway, Malibu, CA</del>	Building plan check	Single-family residence

Map #	Project Name	Address	Status	Description
22	N/A	<a href="#">5068 Carbon Beach Terrace</a> <del>22309 East Pacific Coast Highway</del> , Malibu, CA	Building plan check	Single-family residence
23	N/A	21997 East Pacific Coast Highway, Malibu, CA	<del>Building plan check</del> <a href="#">Planning review</a>	Single-family residence
24	N/A	22003 East Pacific Coast Highway, Malibu, CA	<del>Building plan check</del> <a href="#">Planning Review</a>	Single-family residence

<sup>a</sup> Projects were under construction at the time of issuance of the Notice of Preparation.

Figure 3-11. Related Projects



### 3.6 Project Approvals and Intended Uses of the EIR

According to Section 15121 of the State CEQA Guidelines, an EIR is a public document used by a public agency to analyze the potentially significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid possible environmental damage. As an informational document, an EIR does not recommend for or against approving a project. The main purpose of an EIR is to inform governmental decision makers and the public about potential environmental impacts of the project. Accordingly, this EIR will be used by the City and City Council and the Planning Commission, as the decision-making bodies of the lead agency under CEQA, in making decisions with regard to approval of the proposed Project and implementation of the improvements described herein.

The information in this EIR may also be used by the responsible agencies identified below in deciding whether to grant permits or approvals necessary to construct or operate the proposed Project described in this EIR.

**Table 3-5. Permits and Approvals Needed**

Agency	Permit/Approval	Phase Obtained
City of Malibu	General project entitlement and building permit Roadway Encroachment Permit Local Coastal Program <del>amendment</del> Municipal Code <del>amendment</del> Conditional Use Permit for treatment facility Coastal <del>development</del> <u>Development permit</u> <del>Permit</del>	<a href="#">Phase 1 (all permits and entitlements)</a>
California Coastal Commission	Local Coastal Program Amendment Certification Coastal Development Permit Approval (if appealed)	<a href="#">Phase 1 (certification and approval)</a>
Los Angeles Regional Water Quality Control Board	National Pollutant Discharge Elimination System, Construction General Permit (Order Nos. 2009-0009-DWQ and 2010-0014-DWQ) Discharges of Groundwater from Construction Dewatering to Surface Waters (Order No. R4-2008-0032 (CAG994004)) Discharges of Low Threat Hydrostatic Test Water to Surface Waters (Order No. R4-2009-0068 (CAG674001)) (Potential) <a href="#">Water Reclamation Requirements/Waste Discharge Requirements for <del>P</del>project operations and recycled water distribution and use</a>	<a href="#">All phases</a>  <a href="#">All phases</a>  <a href="#">All Phases</a>  <a href="#">Phase 1</a>
State Water Resources Control Board	General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems (Order No. 2006-0003) <a href="#">General Waste Discharge Requirements (WDRs) for Recycled Water Use (Order No. 2014-0090-DWQ)</a>	<a href="#">Phase 1</a>  <a href="#">Phase 1</a>
California Department of Transportation	Encroachment permit	<a href="#">All phases</a>

<b>Agency</b>	<b>Permit/Approval</b>	<b>Phase Obtained</b>
State Historic Preservation Officer	Concurrence letter	<a href="#">Phase 1</a>
Los Angeles County Waterworks District No. 29	Duplication of Service Agreement Letter confirming water service	<a href="#">Phase 1</a>
Los Angeles County Fire Department	Approval of Fuel Modification Plans Approval of Plans for meeting Fire Code	<a href="#">Phase 1</a> <a href="#">All phases</a>
<a href="#">Los Angeles County Department of Public Health</a>	<a href="#">Well construction permit</a> <a href="#">Cross-Connection Program approval</a>	<a href="#">Phase 1 and 3</a> <a href="#">Phase 1 and 3</a>
Los Angeles County Department of Public Works	Roadway Encroachment Permit	<a href="#">All phases</a>
California Department of Public Health	Letter of Approval of Title 22 Engineers Report	<a href="#">All phases</a>
U. S. Environmental Protection Agency	Underground Injection <del>e</del> Control permit	<a href="#">Phase 1</a>
U.S. Fish and Wildlife Service	Federal Endangered Species Act Compliance (Section 7 Consultation) (Potential)	<a href="#">Phase 2</a>
<a href="#">NOAA National Marine Fisheries Service</a>	<a href="#">Federal Endangered Species Act Compliance (Section 7 Consultation) (Potential)</a>	<a href="#">Phase 2</a>
California Department of Fish and Wildlife	State Endangered Species Act Compliance (Potential)	<a href="#">All phases</a>
South Coast Air Quality Management District	Authority to Operate Rule 403 Fugitive Dust	<a href="#">Phase 1</a> <a href="#">All phases</a>