

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: May 13, 2021

MEMO TO: Eileen White, Director of Wastewater

THROUGH: Mathew R. Hoeft, Supervisor of Wastewater Planning

FROM: Robin Cort, Woodard & Curran

SUBJECT: Addendum to Main Wastewater Treatment Plant Land Use Master Plan
Environmental Impact Report (EIR) – FirstElement Fuel Hydrogen Refueling
Station

1. BACKGROUND

In 2011, acting as the California Environmental Quality Act (CEQA) lead agency, East Bay Municipal Utility District (EBMUD) prepared the Main Wastewater Treatment Plant (MWWTP) Land Use Master Plan (LUMP) EIR (2011 EIR; SCH No. 2009112073). The 2011 EIR analyzed the MWWTP Land Use Master Plan's thirteen different land use elements for the MWWTP property, including project-level analysis of two elements that were being considered for immediate implementation at the time: leasing of certain EBMUD-owned land within the area known as the West End property to private entities for development of a food waste preprocessing facility and a biodiesel production facility. The 2011 EIR also evaluated the remaining land use elements for the West End property at a program level, including an area between the food waste preprocessing facility and biodiesel production facility that was identified for future revenue-generating land lease. The area originally proposed for future leasing roughly corresponds to the Building 1070 Yard, a portion of the West End property that is currently covered by an engineered cap, a barrier designed to prevent contact with contaminated soil and infiltration of rainwater, that could mobilize existing contaminants in soil at the site. Located to the southeast of the area designated for a food waste preprocessing facility, the Building 1086 location at the West End property was originally proposed for use as employee parking/emergency equipment storage. On June 28, 2011, the EBMUD Board of Directors (Board) certified the 2011 EIR and approved the MWWTP Land Use Master Plan. Figure 1 shows the boundaries of the West End property and shows the locations originally considered in the 2011 EIR for development of a biodiesel facility and food waste preprocessing facility.

Subsequent to the 2011 EIR certification, EBMUD contemplated key modifications to the plans for the West End property. Each of these modifications was evaluated for new or substantially different impacts from those evaluated in the 2011 EIR. Of relevance to the current proposal are the June 2015 Addendum and the March 2019 Addendum. The June 2015 Addendum considered modifications to the food waste preprocessing facility and evaluated the realignments of Wake Avenue and Engineer Road. The Addendum determined that the changes, including the road realignment, would not result in any new impacts as compared to the impacts identified in the 2011 EIR. The Wake Avenue and Engineer Road realignments were completed in 2017;

however, EBMUD never entered into a lease with the food waste facility developer. The developer of the biodiesel facility ended their lease with EBMUD without ever beginning construction of a biodiesel facility. The subsequent March 2019 Addendum evaluated a proposal to use the westernmost portion of the West End property for a shipping container storage, repair, and fabrication facility rather than the previously evaluated biodiesel project. The March 2019 Addendum found that no new significant impacts would occur or change the project in such a way that the severity of previously identified impacts would increase, and container facility is already in operation.

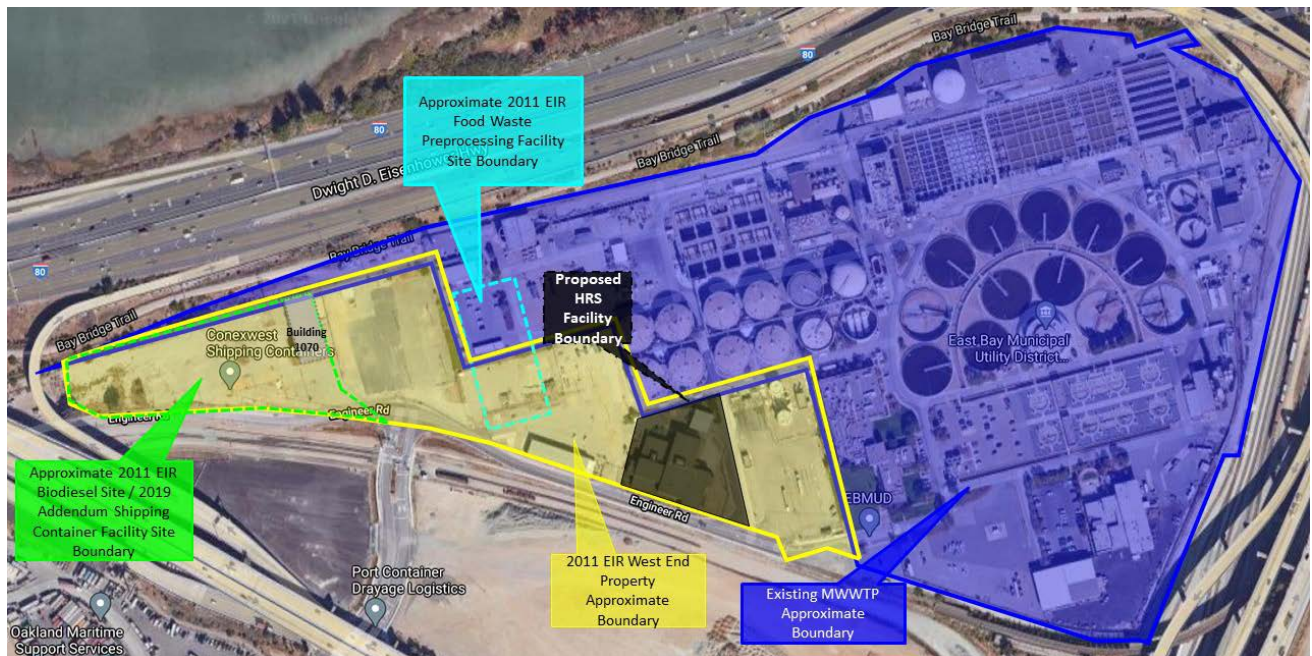


Figure 1 – Hydrogen Refueling Station (HRS) Location

EBMUD is entertaining a proposal to lease the portion of the West End property that roughly corresponds to the Building 1086 location to FirstElement Fuel (FirstElement) as a hydrogen refueling station (HRS). Figure 1 shows the proposed HRS facility boundary at the Building 1086 site. The proposed site was identified in the 2011 EIR as part of an area designated for employee parking/emergency equipment storage, while other nearby locations at the West End property were proposed for future revenue-generating land lease. Emergency equipment storage has already been provided at Building 1084, which is immediately west of Building 1086, and EBMUD has determined that there is sufficient employee parking into the future at existing locations on the MWWTP site. EBMUD is now evaluating the development of a hydrogen refueling station that would serve heavy-duty trucks. If the hydrogen refueling station is implemented, the uses at the West End property would consist of a shipping container facility and hydrogen refueling station instead of a food waste preprocessing facility and biodiesel facility. Although the hydrogen refueling station would be located about 200 feet east of the site within the West End property that was originally considered for the food waste preprocessing facility, the hydrogen refueling station would essentially replace the food preprocessing waste facility, which is no longer proposed to be implemented. This memorandum analyzes whether the change in land use at the West End property – from a food waste preprocessing facility to a

hydrogen refueling station – requires subsequent or supplemental environmental review pursuant to CEQA Guidelines section 15162.

2. PURPOSE OF MEMORANDUM

Pursuant to CEQA, California Public Resources Code sections 21000 et seq. ("CEQA") and the CEQA Guidelines, Title 14, chapter 3 of the California Code of Regulations ("CEQA Guidelines"), this Addendum to the 2011 EIR has been prepared to address the implementation of a hydrogen refueling station at the location identified in the 2011 EIR for employee parking/emergency equipment storage. This memorandum serves as a further Addendum to the 2011 EIR pursuant to CEQA Guidelines section 15164. It describes the proposed new use of the site, specifically operation of a hydrogen refueling station, explains why the proposed hydrogen refueling station falls within the scope of the MWWTP Land Use Master Plan EIR, and explains why these modifications to the Project analyzed in the 2011 EIR would not cause effects that were not analyzed in the LUMP EIR and do not meet the criteria set forth in CEQA Guidelines section 15162 for preparation of a subsequent or supplemental EIR.

3. MODIFICATIONS TO THE PREVIOUS PROJECT

The proposed project would entail implementation of a hydrogen refueling station at the West End property instead of the food waste preprocessing facility that was identified in the 2011 EIR. The hydrogen refueling station would be constructed and operated at the site identified in the 2011 EIR for employee parking/emergency equipment storage. Other nearby areas of the West End property were proposed for future land lease. A comparison between the previously proposed food waste preprocessing facility and the proposed hydrogen refueling station is provided in Table 1.

Table 1 - Comparison of Modified Project to Original Project

| | Original Food Waste Preprocessing Project | Proposed Hydrogen Refueling Station |
|-------------------|---|--|
| Purpose | Enhance EBMUD revenues to maintain reasonable rates by increasing renewable energy production and leasing unused land. | Enhance EBMUD revenues to maintain reasonable rates by leasing unused land. |
| Facilities | 58,000-square-foot enclosed building housing feed hopper, trommel screen, grinder conveyer belts and shredder; office building housing restrooms and scale house; utility connections include water, wastewater and electrical. | Equipment on skid(s) (about 500 square feet each), plus canopy(ies) (about 40 square feet each) covering hydrogen dispenser pumps; electrical equipment and service connections. First phase includes one hydrogen dispenser pump with two fueling positions with second to be constructed later if demand warrants. |
| Demolition | Two buildings have now been demolished since the 2011 EIR, and one will remain (Building 1070). Building 1086 assumed to be demolished. | Consistent with 2011 EIR. Building 1086 demolition required for hydrogen refueling station |

| | Original Food Waste Preprocessing Project | Proposed Hydrogen Refueling Station |
|----------------------------|--|--|
| Operational Traffic | 170 diesel truck trip ends per day at buildout | Initially 18 vehicle trips ends per day including 8 fuel cell electric trucks and 1 diesel delivery truck, ultimately 92 vehicle trip ends per day (45 fuel cell electric trucks and 1 fuel cell electric delivery truck) at buildout with two hydrogen dispenser pumps. |
| Project Area | 1.4 acres of West End property | 1.8 acres of West End property |

A. Description of Modified Facilities

i. Overview

EBMUD would lease land at the West End property to FirstElement to develop a hydrogen refueling station that would serve True Zero hydrogen fuel to zero-emission fuel cell electric trucks. The hydrogen refueling station would require the addition of the following components to the West End property:

- A cryogenic fueling system on an equipment skid that includes liquid hydrogen storage, cryogenic pump, pressurized hydrogen storage, and mechanical and electrical facilities within a containerized enclosure;
- Up to two hydrogen dispenser pumps covered by a canopy (first phase includes one dispenser); and
- New PG&E electrical connection with transformer and meter on a pedestal.

The approximate location of the facilities is illustrated in Figure 1 above, which shows the area for the hydrogen refueling station (HRS). The layout for the station is shown in Figure 2. Equipment would be contained in metal enclosures. The canopy and fueling area would have a finish similar to a typical gas station and would be True Zero branded. Figure 3 shows a typical True Zero hydrogen refueling station with similar equipment and refueling area with a hydrogen dispenser pump with two fueling positions. As shown in Figure 2, the proposed facility would initially have a single cryogenic fueling system and hydrogen dispenser pump with canopy, but if there is sufficient demand a second system would be constructed in the future.

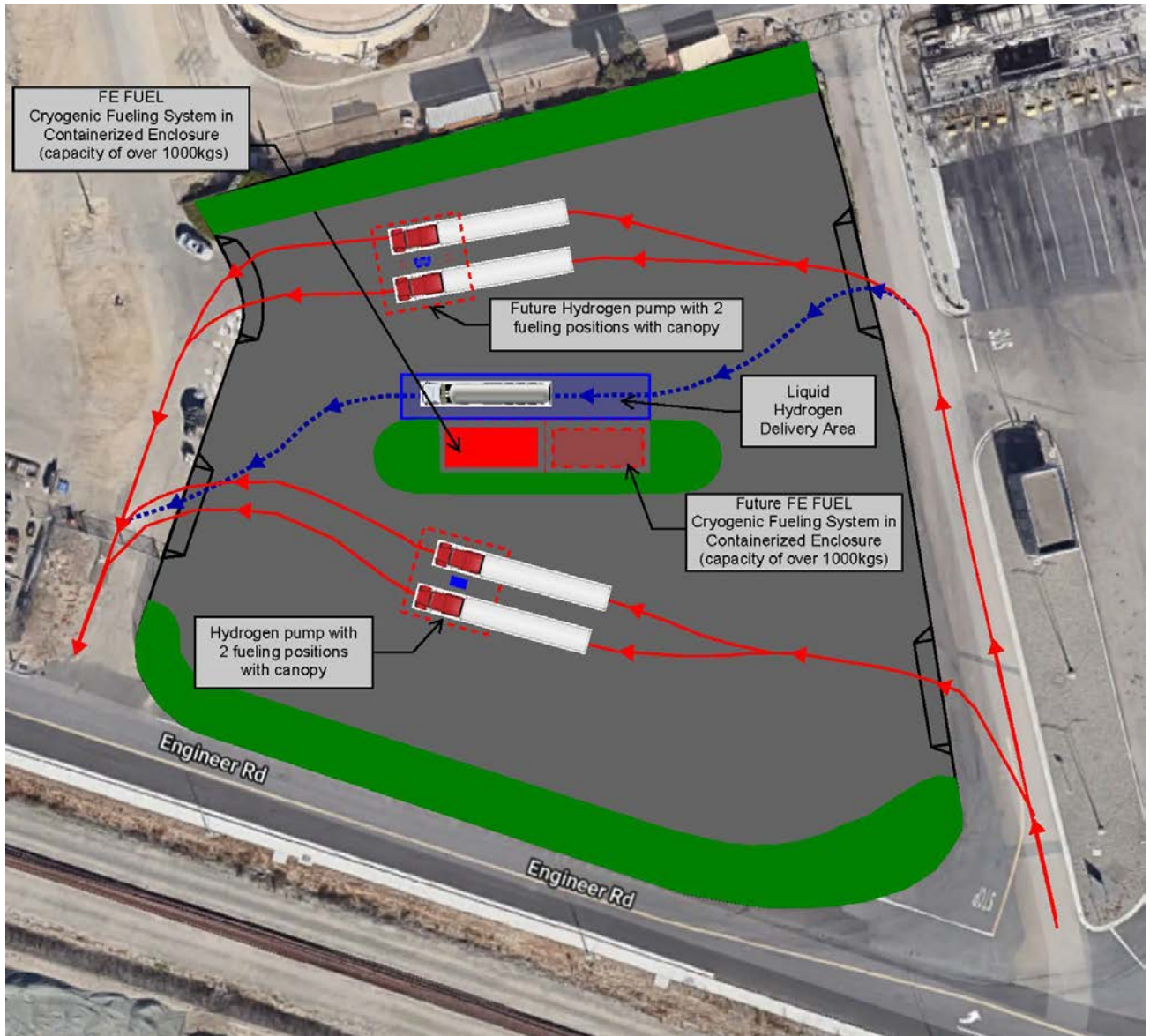


Figure 2 - Proposed Hydrogen Refueling Station Site Layout



Figure 3 – True Zero Hydrogen Refueling Station

ii. Safety Features

The hydrogen refueling station would be designed and built to meet or exceed California Building Code and California Fire Code (CFC) requirements to protect health and safety of the public, EBMUD staff, and first responders and to protect property. Applicable codes that apply to safe operation of hydrogen refueling stations include: CFC 2309 Hydrogen Motor Fuel-Dispensing and Generating Facilities, CFC 53 Compressed Gases, CFC 55 Cryogenic Fluids, CFC 58 Flammable gasses, and Flammable Cryogenic Fluids. California code is augmented by National Fire Protection Association (NFPA) requirements, including the NFPA-2 Hydrogen Technologies code, which has been adopted by the California State Fire Marshal. NFPA-2 establishes basic safety measures for the generation, installation, storage, piping, use and handling of hydrogen in compressed gas or cryogenic liquid form. Furthermore, the operator of the facility would implement standard safety operating procedures used at all its hydrogen refueling facilities in California. As described below, these standard procedures have proven successful at ensuring safe facility operations.

FirstElement Fuels, the operator of the proposed facility, has installed more than 25 facilities throughout California that use the same safety approach. FirstElement has operated these facilities for nearly 6 years and performed more than 730,000 fills to the public with zero safety incidents, accidents, or injuries. To ensure the safety of its hydrogen refueling facilities, FirstElement designs the facilities to eliminate or limit the possibility of hazardous situations before they develop, including the use of passive and active means. Active means include various methods of detection coupled with automatic shut off any hazardous release, as well as

automated systems for user refueling and fuel deliveries. The system's detection systems are continuously self-monitoring to ensure reliability at all times, and the automation behind all the processes eliminates the risk of human error during operations. Passive means include: (1) situating the station at a distance where the unlikely event of a hazardous material release does not affect nearby operations; and (2) protecting the systems from external heat sources (e.g., fire) for a period of time. Furthermore, this system (like all the operator's systems in California) will be constantly monitored telemetrically, and FirstElement has a Bay Area rapid response team with staff located throughout the Bay Area available 24 hours every day. The team would immediately respond to any incident telemetrically and would be deployed to the site within 30 minutes should there be any kind of an event requiring on-site support.

As a condition of grant funding, the California Energy Commission requires that awardees develop a Hydrogen Safety Plan to be reviewed by Pacific Northwest National Laboratory's Hydrogen Safety Panel ("Panel"). FirstElement will also submit early-stage design plans to the Panel for review. Independent third-party review of early-stage design and safety plans is intended to ensure that hydrogen safety has been adequately incorporated into project planning and execution, and that facility design and operations meets applicable codes and standards. FirstElement must successfully complete required safety reviews in order to receive grant funding.

The State of California has stated that "hydrogen stations have not exhibited safety concerns when applying appropriate codes and standards during the development process" (California Governor's Office of Business and Economic Development (GO-Biz). 2020). A number of strategies have been incorporated into the project to ensure safe operations. Metal to metal fittings would be used to minimize the probability and severity of leaks. The design of the facility is expected to virtually eliminate the possibility of leaks, but design features are in place to manage the consequences of leaks in the unlikely event that they occur. Should a leak occur, hydrogen is enclosed in a panel with mechanical ventilation to ensure that hydrogen concentrations do not exceed safe levels. This ensures that, in the event small leaks are detected, the hydrogen is purged from the area prior to reaching the lower flammability limit (the minimum concentration of flammable gas that can continuously propagate flame). If the ventilation system is unsuccessful, gas detection alarms at 25 percent of the lower flammability limit and shuts down all hydrogen source valves, stopping the leak. The mechanical ventilation reduces the hydrogen concentration in the containerized equipment enclosures. In the unlikely event that there is simultaneously a leak, a failure in the gas detection system, a failure in the forced ventilation, and an ignition source that leads to the improbable occurrence of a fire inside any of the containerized enclosures there is both heat and flame detection to shut down the source of the hydrogen, thereby extinguishing it. The system is also fully automated and does not rely on an individual operator for safe dispensing and safe shutdowns. Automated leak prevention and detection is implemented by the following:

- At the fueling connection point on the hydrogen dispenser pump: use of metal compression or cone and thread fittings.
- At the hydrogen dispenser pump: use of two gas detectors in each dispenser and a flame detector at each dispenser. These activate shutoff valves and depressurize the line through

the vent stack. The dispenser also uses software to check the integrity of the fueling hose pre fueling and during the fill.

- At the gaseous storage within the containerized equipment enclosure: use of gas detectors, heat and flame detector at the leak points. These activate the shutoff of the hydrogen source valves.
- At liquid pumping skid within the containerized equipment enclosure: use of gas, flame, and heat detectors inside the equipment to shut off the hydrogen supply and depressurize the high-pressure piping.
- At the delivery point of liquid hydrogen on the containerized equipment enclosure where hydrogen trucks delivered hydrogen to the cryogenic fueling system: automatic controls to ensure that large hydrogen releases are avoided. This includes gas detection at the fill port for the cryogenic fueling system and the delivery truck; fully automated transfer control including integrity checks after hose connection from the delivery truck to the cryogenic fueling system. Should the system detect leaks, all valves are closed and the delivery hose vented. There is also a special feature that auto cools down the hydrogen delivery hose to minimize the amount of hydrogen vented during delivery.

Additional safety measures also include the application of intumescent paint (fire retardant paint that swells up when heated, thus protecting the material underneath) on the liquid and gaseous tanks. This paint maintains the integrity of the pressure vessels for 2 hours after exposure to a fire.

iii. Construction

Construction of the first phase of the facility would take about three months and would require demolition of Building 1086, excavation to install foundations and driveways, construction of concrete rebar reinforced pads for equipment and dispenser areas, trenching for utility lines, and installation of equipment. The pad for the equipment skid would be constructed by removing existing pavement, excavating the footprint for the pad, and then forming and pouring a concrete rebar reinforced pad. The pad for the hydrogen dispenser pump and canopy would be excavated and then a concrete pad with a vault would be formed and poured. Traffic rated plates would be set to cover the vault. Precast pads would be used for the transformer and meter pedestal. Trenching for installation of utilities would be excavated with a backhoe, conduits would be installed, and the trench would be backfilled with slurry or native soil. Cryogenic equipment would be brought in and set in place by a crane. The hydrogen dispenser pump would be set in place by a forklift and the canopy would be delivered and installed using a truck crane. If a second fueling system and fueling position is constructed, a similar construction process would be followed for installation of a second system.

The maximum excavation depth for construction facilities would be expected to be six to eight feet. Any soil removal would be handled in accordance with EBMUD's Operation and Maintenance Plan for the West End property, which was developed to implement requirements for soil management imposed by the Department of Toxic Substances Control (DTSC) as part of

a consent agreement that imposes deed restrictions to ensure safe management of soil and groundwater at the site (DTSC 2009). Implementation of requirements of the Operation and Maintenance Plan would ensure that any excavation is done in a manner so as to avoid adverse effects associated with existing soil contamination on the West End property. The entire site would be paved with asphalt. Construction would require a crew of 3 to 5 workers plus 2 supervisors.

iv. Facility Operation

The hydrogen refueling station would operate 24 hours a day, 7 days per week. Hydrogen delivery would occur daily. The station would be unmanned and would be remotely monitored. Hydrogen dispenser pumps are designed to appear similar to typical fuel pumps. To fuel, a driver removes the nozzle from the hydrogen dispenser pump and connects it to the vehicle. The pump does not start dispensing hydrogen until it recognizes a locked seal. The driver presses the start button on the hydrogen dispenser pump, which communicates to the fuel cell vehicle so that when fueling is complete the charge port shuts off. Once fueling is complete, the driver hears a click and is then able to disengage the nozzle, close the cover to the filling door, and rehang the nozzle. The facility initially would be expected to fuel 8 zero emissions trucks, resulting in a total of 16 inbound and outbound trip ends (trip ends count both the inbound and outbound legs of a trip so one truck fueling at the station would result in two trip ends). As demand increases, the station could ultimately fuel 45 trucks per day resulting in 90 trip ends. There would initially be one hydrogen supply delivery each day, resulting in an additional two trip ends. Deliveries would initially be made by diesel truck, but deliveries would be transitioned to a zero-emission truck within one to two years of the start of operations. The station would be visited periodically by maintenance workers who would perform maintenance activities once or twice per month.

B. Project Consistency with 2011 LUMP EIR

The 2011 EIR evaluated use of a portion of the West End property for revenue-generating leases, and leasing of land for the purpose of developing a hydrogen refueling station is consistent with the intent of the 2011 Land Use Master Plan. The hydrogen refueling station would be developed in lieu of the food waste preprocessing facility that was evaluated in detail in the 2011 EIR, so the intensity of land use at the West End property would be in keeping with the uses that were described in the 2011 EIR. The hydrogen refueling station is thus within the scope of potential future uses that were envisioned in the 2011 EIR. Although the facility is proposed to be located on land that was originally designated for employee parking/emergency equipment storage, those uses have already been accommodated within the West End property and other locations at the MWWTP and excess land is now available for revenue-generating land lease. The discussion below provides an assessment of each environmental resource area and documents that the hydrogen refueling station is within the scope of the 2011 EIR.

4. UPDATE OF IMPACT EVALUATION IN MODIFIED PROJECT ADDENDUM

Construction and operation of a hydrogen refueling station at the West End property would result in the following changes in impacts as compared to the food waste preprocessing project. As documented below, energy use and operational emissions would be reduced. The hydrogen refueling station would have less construction impact because the smaller facility could be constructed with 3 months of limited construction while the food processing facility would have required more extensive construction occurring over a 14- to 16-month period.

Environmental Commitments from the 2011 EIR would be applicable to the construction and operation of the hydrogen refueling station. The details of the changes to impacts are described in the following sections.

Impact changes:

- **Aesthetics** – Hydrogen refueling stations are similar in appearance to a gas station (see Figure 3), with a refueling area covered by a canopy and adjacent ancillary structures for storage of liquid and gaseous hydrogen. EBMUD would require that the station be designed to match the existing visual character of the area. The canopy and equipment for the hydrogen refueling station would be shorter than the nearby digesters, which are 30 to 35 feet tall and would block views of the refueling station from Interstate 80. The canopy would be about 15 feet tall and would be the tallest structure at the refueling station. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. Design and construction of the facility would be completed in accordance with mitigation from the 2011 EIR, including Mitigation Measure AES-2a: Maintenance of Construction Worksite, Mitigation Measure AES-2b: Design of Facilities to Be Aesthetically Consistent with Existing Visual Character, and Mitigation Measure AES-3: Lighting Design and Low Reflective Paint. No new mitigation measures would be required, and impacts would remain less than significant.
- **Air Quality**
 - o Construction – The 2011 EIR documented that construction emissions would be less than significant, even when considering the potential for overlapping construction of both the originally proposed biodiesel facility and food waste preprocessing facility. Construction of the hydrogen refueling station would require far less equipment use than would construction of the originally proposed food waste preprocessing facility. and would require only 3 months of limited construction while the food processing facility would have required more extensive construction occurring over a 14- to 16-month period. Construction emissions would thus be expected to be substantially lower. Additionally, there would be less overlap in construction than was considered in the 2011 EIR, which projected overlap in construction of the food waste facility and biodiesel facility,

along with any other ongoing construction at the MWWTP. The container facility that replaced the biodiesel facility did not require construction of new structures and the facility is already operational. Construction of the hydrogen refueling station may occur when no other construction is ongoing at the West End property. The hydrogen refueling station would not cause construction impacts that were not analyzed in the 2011 EIR. Construction of the facility would be completed in accordance with Mitigation Measure AIR-1: Criteria Air Pollutant and Precursor Reduction Measures, from the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.

- Operations – Emissions would be reduced because there would be fewer operational diesel truck trips (2 diesel truck trip ends per day versus 170 diesel truck trip ends for the food waste preprocessing facility). The majority of the trips would consist of fuel cell electric vehicles that would use the fueling station, which do not emit criteria pollutants. Operation of the hydrogen refueling station would not generate odors. The hydrogen refueling station would not cause operational emissions that were not analyzed in the 2011 EIR. Because the facility would not generate odors, mitigation requiring odor controls for the food waste facility and other odor-generating facilities would not be applicable to the refueling station. No new mitigation measures would be required, and impacts would remain less than significant.
- **Biological Resources** - The hydrogen refueling station would be located in the Building 1086 area of the MWWTP. Because demolition would be required, Mitigation Measure BIO-1: Nesting Bird Protection would be implemented, and nesting bird surveys would be conducted before building demolition to ensure protection of nesting birds. No tree removal is expected and thus mitigation to replace trees would not be applicable to the refueling station. No sensitive native species or habitats are present in this area. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.
- **Cultural Resources** – Construction would take place within the MWWTP site, which has been evaluated for cultural resources. The entire area for the hydrogen refueling station is underlain by artificial fill and all of the area has been previously disturbed as part of construction of Building 1086. Construction of the refueling station would entail a minimal amount of trenching. Mitigation measures CUL-1, CUL-2, and CUL-3, identified in the 2011 EIR for unanticipated discoveries of buried cultural or paleontological resources or human remains, would be implemented if any materials are unearthed during construction, but it is highly unlikely that any materials would be encountered. The hydrogen refueling station would not cause effects that were not

analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.

- **Energy** – Because the hydrogen refueling station requires less construction than the food waste preprocessing facility, energy requirements for construction would be less than those identified in the 2011 EIR. Operational energy use includes electricity to power cryogenic equipment, hydrogen dispenser pumps and lighting; electrical power consumption would initially be 140 MWh per year for the first phase with one dispenser and fueling system; a maximum electrical demand of 500 MWh annually is expected at buildout with two dispensers. This would be less than the energy requirements of the food waste preprocessing facility, which would have required 4,900 MWh of electricity per year to power heavy equipment. The proposed project would provide a convenient location for refueling of heavy-duty fuel cell electric vehicles, which would offset the minor amount of energy required for construction. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.
- **Geology, Soils and Seismicity** – All new facilities would need to be designed and constructed to meet current building codes and EBMUD’s seismic design requirements and would comply with Mitigation Measures GEO-1 and GEO-2 from the 2011 EIR, which specify design of facilities to address potential seismic hazards. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.
- **GHG Emissions** – GHG emissions associated with construction of the hydrogen refueling station would be less than the emissions associated with construction of the food waste preprocessing facility because the refueling station facilities are smaller and construction would require less equipment over a shorter construction period. Mitigation Measure GHG-1, requiring GHG reduction measures during construction, would be applicable to the construction of the hydrogen refueling station. The refueling station would facilitate use of fuel cell electric vehicles at the Port of Oakland and would thus reduce GHG emissions from trucks servicing the Port, which is consistent with Mitigation Measure GHG-2a from the 2011 EIR. Mitigation Measure GHG-2b: Water Conservation Measures, would be implemented as appropriate. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant with implementation of the hydrogen refueling station.

- **Hazards and Hazardous Materials** – All hazardous materials handling would still be required to be conducted in accordance with legal requirements for routine use, transport, and disposal of hazardous materials. Demolition of Building 1086 would be required so Mitigation Measure HAZ-3: Hazardous building materials surveys and abatement, would be implemented. Because the hydrogen refueling station would be located on the West End property, it would be subject to requirements of EBMUD's Operation and Maintenance Plan for the West End property. As noted in the 2011 EIR, construction would have to comply with the following requirements:
 - Placement of any property soil outside of the property boundary is permitted only with prior written approval from DTSC.
 - Excavation or disturbance of any soil deeper than 5 feet below ground surface is permitted only with the prior written approval of DTSC. However, in emergency situations, EBMUD may excavate or disturb soil without prior DTSC approval, provided that the soil management and risk management procedures of the operations and maintenance plan are followed, and that EBMUD notifies DTSC by phone or email of the soil excavation or disturbance within 24 hours of the onset or discovery of the emergency.
 - Excavated soil must be appropriately characterized to determine if it is suitable for on-site reuse, or if it must be disposed of at an appropriately licensed off-site disposal facility. At a minimum, the soil must be analyzed for total petroleum hydrocarbons as gasoline, diesel, and motor oil; volatile organic compounds; and Title 22 metals (including analysis of soluble metals concentrations using the Waste Extraction Test [WET] or Toxic Characteristic Leaching Procedure [TCLP] method, as appropriate). Typically, one composite soil sample would be required for each 1,000 cy of soil excavated. However, individual disposal facilities may require additional samples and/or analyses.
 - On-site reuse of excavated soil is only permitted if the sample results indicate that the material is not a hazardous waste and is suitable for reuse at the site. Soil characterization for reuse can be completed prior to removal (in situ, which involves the installation of soil borings for collection of soil samples) or after excavation as described above, provided that a suitable controlled location is available for stockpiling that anticipated volume of soil. For on-site reuse, the soil should not contain constituents at concentrations greater than federal and state hazardous waste criteria, industrial Preliminary Remediation Goals, or commercial/industrial Environmental Screening Levels (petroleum

hydrocarbons only), whichever is most conservative. To characterize the soil for on-site reuse, 1 sample per 250 cy of excavated soil is required for the first 1,000 cy of soils excavated, and 1 additional sample is required for each additional 500 cy of excavated soil.

- Soil that is unsuitable for on-site reuse and which will not be directly hauled to an off-site disposal facility at the time of excavation must be stockpiled in a manner that limits the potential for generation of dust and/or sediment-laden runoff. Soil shall be stockpiled on a minimum 6-mil plastic sheet of sufficient size to contain the entire stockpile and the entire stockpile shall be covered with a minimum 6-mil plastic sheet secured with sandbags at the close of each workday and at all times during inclement weather. All stockpiled soil shall be properly disposed of within 90 days of generation.
- Workers engaged in activities that will disturb or expose subsurface soil must be appropriately trained in and must follow the standard health and safety procedures described in Appendix A of the Operation and Maintenance Plan. Site and action-specific health and safety plans are required for all activities involving soil removal and/or disturbance.
- Appropriate measures shall be taken to minimize the generation of fugitive dust during soil excavation or disturbance activities in general accordance with the BAAQMD “Basic” and “Optional” PM10 (fugitive dust) control measures (see *Section 3.3, Air Quality*, for a description of the BAAQMD dust control measures).

Because construction of facilities would require excavation, the subsurface soil requirements described above would apply and approval must be obtained from DTSC.

Pursuant to the deed restriction for the West End property, construction at the project site would require written notification to DTSC 15 days in advance, and written approval must be obtained before any soil excavation or disturbance activities. Under the requirements described above, any excavated soil would have to be characterized to determine if it can be reused on site or if it must be disposed of at an appropriately licensed off-site disposal facility. Any soil that is characterized as hazardous waste cannot be reused at the site.

As required by law, FirstElement would develop and file a Hazardous Materials Business Plan for the hydrogen refueling station, which address the storage of liquid hydrogen. The plan would be filed with the Oakland Fire Department, Office of Emergency Services and would include a complete inventory of all hazardous materials on site, demonstration of compliance with the California Fire Code, emergency response plans and procedures, a training plan, and procedures for documenting compliance with training and inspection requirements. Storage of fuel for retail sale is exempt from the California Accidental Release Program (CalARP which is administered by Alameda County Department of Environmental Health) and Process Safety Management program

(PSM, which is administered by CalOSHA). The hydrogen refueling station would thus not be subject to requirements for implementation of a risk management program and FirstElement would not be required to submit a risk management plan to prepare for accidental releases of hazardous substances. Hazardous events associated with hydrogen releases would include fire and vapor cloud explosion; however, the likelihood of this type of accident is extremely low with implementation of the safety measures described above. The U.S. Department of Energy has stated that use of hydrogen fuels is not inherently more dangerous than the use of gasoline:

“By their nature, all fuels have some degree of danger associated with them. The safe use of any fuel focuses on preventing situations where the three combustion factors—ignition source (spark or heat), oxidant (air), and fuel—are present. With a thorough understanding of fuel properties, we can design fuel systems with appropriate engineering controls and establish guidelines to ensure the safe handling and use of a fuel.

A number of hydrogen's properties make it safer to handle and use than the fuels commonly used today. For example, hydrogen is non-toxic. In addition, because hydrogen is much lighter than air, it dissipates rapidly when it is released, allowing for relatively rapid dispersal of the fuel in case of a leak.” (Department of Energy 2021)

As noted above, the hydrogen refueling station would be designed and built to meet the safety requirements of the California Building Code, California Fire Code and National Fire Protection Association Hydrogen Technologies Code. Additionally, the site is about 700 feet from Interstate 80 and almost ½ mile from the nearest residential receptor. With incorporation of standard safety measures in design and operation of the facility (as discussed above), the project is not expected to result in a significant hazard to the workers, the public or the environment, and safety hazards would be less than significant. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.

- **Hydrology and Water Quality** – Construction of the hydrogen refueling station would occur within the West End property and the extent of construction would be less than what would have been required for the construction of the food waste preprocessing facility. Construction-period water quality impacts would be similar to or less than those identified in the 2011 EIR. The hydrogen refueling station would not increase impervious surface area as compared to the proposed level of development envisioned in the 2011 EIR, and thus would not increase the amount of runoff into existing storm drains. The 2011 EIR noted the need for expansion of the stormwater collection system if the stormwater runoff from the West End property would be conveyed to the MWWTP; however, stormwater from the proposed hydrogen refueling station would continue to be conveyed to the existing stormwater collection system as it is now and thus Mitigation

Measure HYD-3: Prepare and Implement a Comprehensive Drainage Plan, is not applicable. No operational changes to stormwater runoff or water quality would be expected. Mitigation Measure HYD-5: Prepare and Implement a Tsunami Response Plan, pertains to the entire MWWTP and would not be affected by construction and operation of the hydrogen refueling station. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.

- **Land Use and Recreation** – The hydrogen refueling station would be within the West End property at the existing MWWTP and would be consistent with existing land use. At the time that the 2011 EIR was certified, the extension of the Bay Trail along the northern portion of the MWWTP had not yet been built. The trail has now been extended along the northern edge of the MWWTP and the “visually attractive educational signs to inform users of the Bay Trail about operations at the MWWTP” have been installed. Short-term construction activities would be screened by the existing digesters, would not be expected to be particularly noticeable to users of the Bay Trail, and would not interfere with any recreational use. Construction of the hydrogen refueling station is a short-term activity that is consistent with existing and planned operations at the MWWTP and would not impair recreational use of the Bay Trail. The 2011 EIR envisioned use of the Building 1070 Yard at the West End property, which is covered by an engineered cap, for revenue-generating land lease. The proposed hydrogen refueling station is consistent with that proposed use, even if the lease location is slightly different from that described in the 2011 EIR. The proposed location for the hydrogen refueling station was originally part of a larger area that was designated for employee parking/emergency equipment storage, but EBMUD has determined that the entire site is not needed for those purposes. Building 1084, which is immediately west of Building 1086, provides emergency equipment storage and will continue to do so into the future. EBMUD has determined that there is sufficient employee parking into the future in the existing locations on the MWWTP site. There is thus additional space available to dedicate to revenue-generating land lease. Use of the Building 1086 site for land lease is consistent with uses proposed at the West End property, and the Building 1086 location does not have the constraints associated with construction of structures on the engineered cap at the Building 1070 Yard. The hydrogen refueling station is thus consistent with overall planned land uses at the MMWTP and would not cause effects that were not analyzed in the 2011 EIR. No new measures would be required, and impacts would remain less than significant.

- **Noise** – The hydrogen refueling station would generate relatively low levels of operational noise, as compared to the projected noise levels associated with the food waste preprocessing facility, which was expected to generate noise levels up to 85 dBA due to use of heavy equipment outside the food waste building. Cryogenic pumps generate noise levels of 74 dBA (Linde Cryopump Data Sheet); this is comparable to the ambient noise level at the site, which is estimated to be 72 to 76 dBA due to the proximity of the freeway to the site and would thus comply with City of Oakland Noise Ordinance limits. Delivery and dispensing of hydrogen fuel are not expected to produce noise levels above the ambient level at the nearest sensitive receptor, which is almost ½ mile from the project site, so Mitigation Measure NOI-3 for operational noise would not be applicable. Construction would take place at the northern edge of the MWWTP almost ½ mile from the closest residential receptors in Oakland. Pile driving is not expected to be necessary for construction of equipment pads, so Mitigation Measure NOI-2 requiring vibration controls for pile driving is not applicable. Mitigation Measure NOI-1, which requires use of best available noise control techniques on construction equipment and specifies limits on construction hours, would be implemented. Noise associated with construction would thus be similar to or less than noise levels projected in the 2011 EIR and would not be expected to be perceptible at the nearest residences. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.
- **Public Services** – Construction and operation of the hydrogen refueling station would not place any additional burden on police and fire protection services. The hydrogen refueling station would be remotely monitored and would not require any full-time staff. The 2011 EIR documents that the Land Use Master Plan would not generate population growth and would thus not generate need for new or altered government facilities. Operation of the hydrogen refueling station would not change this determination. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.
- **Transportation** – The June 2015 Addendum for the Modified Food Waste Facility addressed the realignments of Wake Avenue and Engineer Road, which have since been completed. The Addendum documents that while the road network in the project area has changed since completion of the 2011 EIR, those changes do not result in any new significant impacts. Traffic associated with construction of the hydrogen refueling station would be minor and short term. As noted in the discussion of air quality impacts, there would be less overlap in construction than was considered in the 2011 EIR, which projected overlap in construction of both the food waste facility and biodiesel facility.

Construction traffic is expected to be minimal and would not require implementation of a construction management plan, which was specified as a mitigation measure for the more extensive construction involved in the food waste preprocessing facility. A new rail spur would not be required for the hydrogen refueling station and mitigation regarding rail facilities is thus not applicable.

Overall operational traffic impacts would be reduced as compared to the 2011 EIR. As shown in Table 2, the Program EIR projected a total increase in 388 daily trip ends, which included projected trips associated with the biodiesel facility, food waste preprocessing facility, and assumed a gradual increase in truck deliveries associated with the Resource Recovery program over 30 years. Neither the biodiesel facility nor the food waste facility have been constructed, and a container refurbishing facility now occupies the former biodiesel site. At buildout, total increase in trip ends with implementation of the hydrogen refueling station would now be projected to be 188 trips per day, a reduction of 200 trip ends. Peak hour traffic would also be reduced as compared to levels projected in the 2011 EIR. Access to the hydrogen refueling station would be from Engineer Road and use of the driveway would not be expected to create safety hazards because of the low volume of traffic on Engineer Road. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.

Table 2 - Summary of Vehicle Trip Ends Estimated in Program EIR Compared to Existing and Proposed Facilities

| Facility | Daily Trip Ends ¹ | | AM Peak Hour ² | | PM Peak Hour ³ | |
|---|------------------------------|--------------------|---------------------------|--------------------|---------------------------|--------------------|
| | Program EIR | Updated Facilities | Program EIR | Updated Facilities | Program EIR | Updated Facilities |
| Biodiesel facility site (now container refurbishing facility) | 172 | 50 | | | | |
| Food waste preprocessing (now hydrogen refueling station) | 170 | 92 | | | | |
| Increase in Resource Recover deliveries | 46 | 46 | | | | |
| Total | 388 | 188 | 28 | 14 | 30 | 14 |

¹ Trip ends count both inbound and outbound legs, so one vehicle trip results in two trip ends.

² Assumes morning peak is 7.3 percent of daily trips.

³ Assumes afternoon peak is 7.7 percent of daily trips.

- **Utilities** – The hydrogen refueling station would have no effect on wastewater treatment at the MWWTP, and would not require additional water supplies, storm drainage facilities, or solid waste disposal services or facilities. The 2011 EIR includes Mitigation Measure UTIL-6 Coordinate Relocation and Interruptions of Service with Utility Providers During Construction to ensure that utilities are not disrupted during construction. Implementation of this measure would ensure that construction of the hydrogen refueling station does not disrupt any utilities within the project site. The hydrogen refueling station would not cause effects that were not analyzed in the 2011 EIR. No new mitigation measures would be required, and impacts would remain less than significant.

5. CONCLUSION

This Addendum to the Main Wastewater Treatment Plant Land Use Master Plan Final EIR (2011 EIR) has been prepared to evaluate the potential effects of constructing a hydrogen refueling station at the West End property, which would replace the previously proposed food waste preprocessing facility.

Pursuant to CEQA Guidelines section 15168(c), an agency may rely on a program EIR when approving a later activity in the program provided that (1) the activity in question would not cause effects that were not examined in the program EIR, (2) none of the triggers for subsequent or supplemental CEQA review in CEQA Guidelines section 15162 have been met, and (3) the activity falls within the scope of the program EIR.

CEQA Guidelines section 15162 provides that subsequent or supplemental environmental review is only required if one or more of the following conditions is met:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment.

Pursuant to Section 15164(a) of the CEQA Guidelines:

“A lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.”

This Addendum provides a focused review of the potential environmental impacts of constructing and operating the hydrogen refueling station. This Addendum has been prepared because it has been determined (1) that the project would not create any new or more significant environmental impacts beyond those identified in the 2011 EIR as updated with the June 2015 Addendum for the Modified Food Waste Project and March 2019 Addendum for development of the container refurbishing facility, and (2) that the project would not require any new mitigation measures or alternatives which are considerably different from those analyzed in the 2011 EIR. Specifically,

Implementation of this change in the facilities planned for the West End property does not constitute a substantial change as compared to the full-scale food waste preprocessing facility evaluated in the 2011 EIR. The hydrogen refueling station does not require major revisions to the 2011 EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Environmental effects of the project are discussed above in Section 4 of this memorandum. Impacts in each issue area were characterized and compared to the impacts identified in the 2011 EIR, and there are no new significant impacts or substantially more severe impacts.

There have been no substantial changes in the circumstances under which the hydrogen refueling station is to be undertaken that would require major revisions to the 2011 EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The realignments of Wake Avenue and Engineer Road were considered in the June 2015 Addendum for the Modified Project and the change in use of the site originally proposed for the biodiesel facility was considered in the March 2019 Addendum. Both were determined not to result in any new impacts.

No new information of substantial importance became apparent as a result of the proposal to change the use of land on the West End property to construct a hydrogen refueling station. The change in use of the site will not result in any new significant effects that were not discussed in the 2011 EIR nor will the changed use result in significant effects that were previously examined but would be substantially more severe than those identified in the 2011 EIR. Please refer to the discussion of each issue in Section 4, which documents that there are no new or substantially more severe impacts with construction and operation of the hydrogen refueling station.

The changes in the project as previously described in the 2011 EIR, June 2015 Addendum, and March 2019 Addendum do not make feasible any mitigation measures previously found to be infeasible, and there are no feasible mitigation measures or alternatives that EBMUD has declined to adopt. In approving the Land Use Master Plan, EBMUD adopted all of the mitigation measures included in the Draft EIR and did not find any of the recommended measures to be infeasible. Thus, there are no mitigation measures that were previously found to be infeasible. Project alternatives evaluated in the 2011 EIR all involved different uses of the West End property, including land leases. Implementation of the proposed project change would not affect the feasibility of the various options for implementation of the project.

This addendum also explains that the proposed hydrogen refueling station would not cause effects that were not examined in the LUMP EIR and that the station falls within the scope of the program examined in the LUMP EIR. For these reasons and because the criteria in CEQA Guidelines section 15162 (a) do not apply here, an addendum to the 2011 EIR has been prepared, and will be considered, along with the 2011 EIR and subsequent Addenda, prior to EBMUD making any further approvals of the proposed hydrogen refueling station. No further CEQA review is required.

6. REFERENCES

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