City of Malibu

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Phone (310) 456-2489 ♦ Fax (310) 456-3356 ♦ www.malibucity.org

December 31, 2013

Sent via Email to SUnger@waterboards.ca.gov

Mr. Sam Unger, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

RE: Memorandum of Understanding (MOU) Quarterly Progress Report
Malibu Civic Center Wastewater Treatment Plan

Dear Sam:

The following is the quarterly progress report for the Malibu Civic Center Wastewater Treatment Plan, which covers work activities performed on this project during the period between October 1, 2013 and December 31, 2013. To date, the City continues to make progress on all MOU Milestone requirements.

Below is a list of the work performed during the last quarter:

- Continued groundwater modeling work using the MODFLOW hydraulic modeling program.
- Performed work for development of a Salt and Nutrient Management Plan (SNMP) and a Groundwater Management Plan (GWMP). These plans are necessary for recycled water use, management of the groundwater basin, and funding purposes. Each Plan's concept, requirements, goals, and development processes were presented to Malibu Civic Center Stakeholders at the November/December Stakeholders Meeting (Attachment 1).
- Performed mapping of slope stabilities in project area for use in the Coastal Development Permit (CDP) application.
- Prepared the required documents and continue to work with the California Coastal Commission staff regarding the amendment to the city's Local Coastal Program (LCP).
- Prepared and published the Notice of Preparation (NOP) and Scoping Meeting for the Draft Environmental Impact Report (Attachment 2).

- Conducted a Scoping Meeting for the Draft Environmental Impact Report on December 11, 2013 (Attachment 3). The meeting was attended by community residents, public officials and regional board staff.

- Conducted the Civic Center Wastewater Treatment Facility Technical Advisory Committee (TAC) Meeting on December 12, 2013 (Attachment 4). Committee members, which included independent experts and regional board staff, were updated on the treatment plant design and processes.

- Performed preparatory work necessary for the creation of an Assessment District (AD) such as benefits analysis which includes defining loads and flows from each parcel, capital cost estimates, operation and maintenance cost estimates, and initial modeling of alternative cost allocation methodologies. The Assessment Engineering Consultant presented a preliminary assessment analysis at the November/December Stakeholders Meeting (Attachment 5).

- Conducted regular monthly coordination meetings with RWQCB staff to discuss project progress, areas of regulatory concern, and basis of permitting the project.

- Continue with work to refine the wastewater flow projections by RWQCB phase.

- Continue with development of site plans, flow schematics, and hydraulic profiles for designing the wastewater treatment plant at Winter Canyon location.

- Continue refinement of flow routing and alignments, hydraulic and pipe size analysis, and developed design plans and profile diagrams to identify utility conflicts for the wastewater collection system.

- Continue analysis of commercial and residential tie-in locations and hookup points along the wastewater collection system.

- Continue hydraulic analysis and developed pipeline alignments and routes and hookup points for the project's reclaimed water system.

- Continue site analysis and sizing for collection system pumping stations.

- Continue preforming independent expert review of the project's design concept, treatment processes, sizing, and site configuration of the wastewater treatment plant facility to ensure plant design and processes are effective and efficient.

- The design consultant submitted 50% design plans to the City for review and comments. The submittal included detailed designs of the treatment plant, the wastewater collection system, and the recycled water distribution system (Attachment 6).

- City staff met with officials from Pepperdine University and Las Virgenes Water District to discuss future recycled water use opportunities (Attachment 7). Also, continue to work with

Los Angeles County Water District 29 to seek possible recycled water demand opportunities further west of the Civic Center Area of Malibu.

Currently, the design of the wastewater treatment plant, the wastewater collection system, and the recycled water system is more than 50% complete. The City's continued approach of performing tasks simultaneously, and on parallel tracks, has kept this project moving forward.

Since our last quarterly report, our design consultants began performing hydraulic calibration work for the groundwater model and commenced groundwater scenarios using the results from the groundwater injection testing program. Preliminary data from this groundwater modeling work has shown favorable results. With that known, and although additional groundwater modeling work is required, in an effort to keep our project on the shortest possible time frame, our design consultants have started the final design work for the project. It is still our continued belief that during this period of time, additional time may be recaptured in order to reduce the overall critical path schedule for the completion of this project.

Our design consultant and city staff continue to meet on a monthly basis with Dr. Eric Wu and Dr. T. Don Tsai of the Board's Groundwater & Permitting Unit (Attachment 8) to discuss the status and details of the project including the groundwater well injection and testing program, status of the City's regulatory requirements (CDP, CEQA, EIR), WDR permit limits and requirements, water balance and recycled water use, groundwater basin, Malibu Creek Nutrient TMDL, and local Agency Management Plan. Dr. Wu has also found time to attend our Wastewater Technical Advisory Committee (TAC) Meeting and the project's Notice of Preparation and Scoping Meeting. Dr. Wu and his staff continues to be very helpful to our staff and has provided our team with clarity and guidance where we continue to look forward to his and the Board's continued support throughout this project.

As mentioned above, our Assessment Engineering Consultant, David Taussig & Associates, has been performing the required work necessary for the formation of the Civic Center Wastewater Treatment Facility Assessment District. They also presented their preliminary assessment analysis at the November/December Malibu Civic Center Stakeholders Meeting (Attachment 5). As you are aware, commercial property owners approved establishment of a Community Facilities District (CFD) to fund the project's remaining field, design, and permitting work. Formation of an Assessment District (AD) will provide the funding necessary to construct and operate the wastewater treatment facility.

Finally, the City continues to have monthly meetings with stakeholders about the CCWTF (Attachments 1, 5, & 9). For several years, the City has met on a monthly basis with stakeholder groups comprised of commercial property owners, residential homeowners' association (HOA) representatives and other interested community members. The City also makes presentations to HOA organizations within the prohibition boundary area when requested. There appears to be continued support from the commercial property owners for the wastewater treatment plan moving forward. There is however much greater concern from residential property owners with regards to cost and overall impacts.

As you can see, the City is committed to working with the community and the Board in a diligent effort towards the design and completion of the wastewater treatment facility for the Civic Center area. The Board and MOU have set out a very aggressive schedule that allowed for virtually no delays at all. Therefore, with the delay caused by funding and formation of the CFD, the City will diligently pursue trying to comply with the deadlines. However, please realize that the MOU allows very little room for time to be recouped and the City will need cooperation from the Board if additional time is needed to complete the project.

If you have any questions, or require additional clarification, please do not hesitate to contact me at (310) 456-2489, extension 226, or jthorsen@malibucity.org.

Sincerely,

Bob Brager for:

Jim Thorsen

City Manager

Attachments:

1. Power Point Presentation of the Salt Nutrient (SNMP) and Groundwater Management Plans (GWMP) to the Malibu Civic Center Stakeholders Novermber/December 2013 Meeting.
2. Notice of Preparation and Scoping Meeting for the MCCWTF Project Draft EIR.
3. Power Point Presentation for the MCCWTF Project Scoping Meeting.
4. Agenda/Power Point Presentation for the MCCWTF Project TAC Meeting.
5. Power Point Presentation of the Assessment Engineers Preliminary Assessment Analysis to the Malibu Civic Center Stakeholders November/December 2013 Meeting.
6. 50% Design Plans for the MCCWTF Project.
7. Correspondence from Pepperdine University and Las Virgenes Water District Officials regarding future recycled water use opportunities.
8. Agenda/Meeting Minutes for monthly meetings held with the RWQCB staff for the MCCWTF Project.
9. Power Point Presentation to the Malibu Civic Center Stakeholders October 2013 Meeting.

cc: Mayor Joan House and Honorable Members of the Malibu City Council
Vic Peterson, Environmental Sustainability Director
Bob Brager, Public Works Director/City Engineer
Joyce Parker-Bozylinski, Planning Director
Craig George, Environmental Sustainability Manager / Deputy Building Official
Eric Wu, Ph.D., P.E., RWQCB
T. Don Tsai, Ph.D., RWQCB

Recycled Paper

Stakeholder Meeting

Civic Center Wastewater Treatment Facility
Salt and Nutrient Management Plan (SNMP)
– Groundwater Management Plan (GWMP)

December 11, 2013

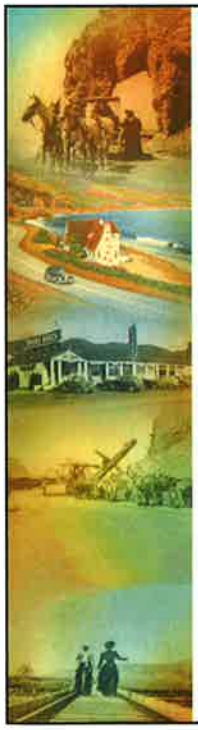
RMC

Meeting Agenda

I. Introduction and Participant Roles
II. SNMP & GWMP Drivers and Requirements
III. Plan Development Process
IV. Goal Development
V. Technical Analyses
VI. Next Steps

Introductions

- Craig George – City of Malibu
- Steve Clary and Leslie Dumas – RMC Water and Environment



California's Recycled Water Policy

- Adopted by State Water Resources Control Board (SWRCB) in May 2009
- Requires development of SNMPs
- Provides for statewide regulatory consistency
- Goals are to promote recycled water use while protecting groundwater basins
- Stakeholder-driven development

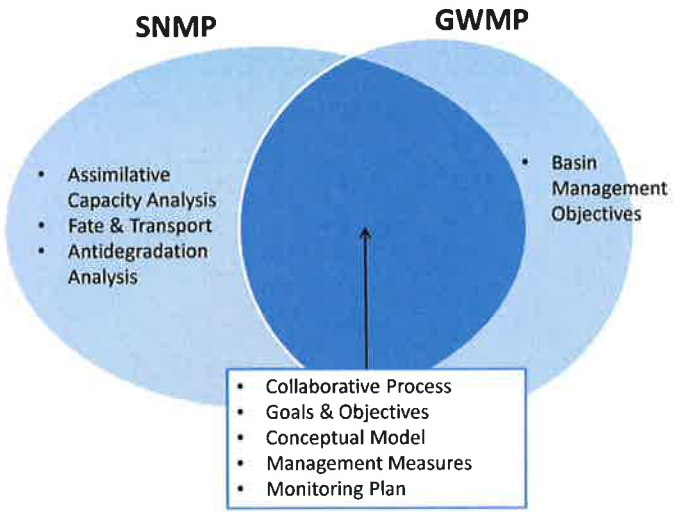
Salt & Nutrient Management Plan is a Regulatory Document

- Characterizes various sources of salts & nutrients
- Helps understand effects of salts and nutrient loading within the basin
- Used to proactively manage the basin in coordination with the Basin Plan
- RWQCB required to adopt SNMP into Basin Plan

A Groundwater Management Plan is a Voluntary Effort

- Required for state funding
- Voluntary development under AB 3030 and SB 1938
- Identifies:
  - groundwater conditions
  - basin management goals & objectives
  - monitoring objectives
- Used to proactively manage the basin

There is Significant Overlap between SNMP and GWMP



Salt & Nutrient Management Plan Required Elements

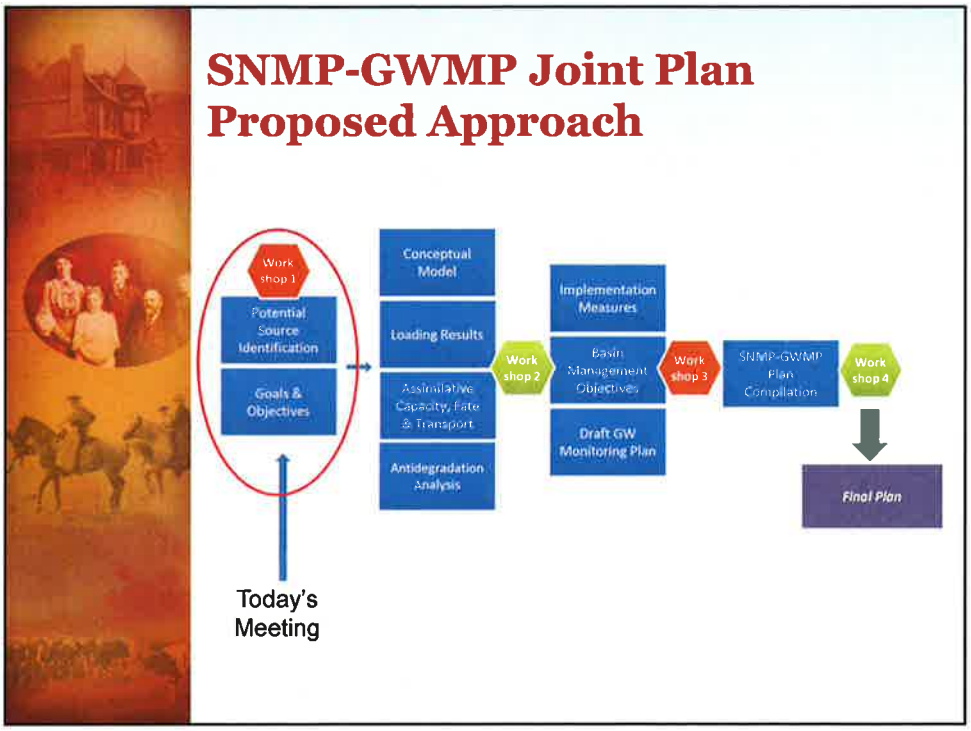
- Goals and objectives for water recycling and stormwater recharge
- Salt and nutrient source characterization
- Assimilative capacity analysis
- Anti-degradation analysis
- Basin management strategies
- Groundwater monitoring plan

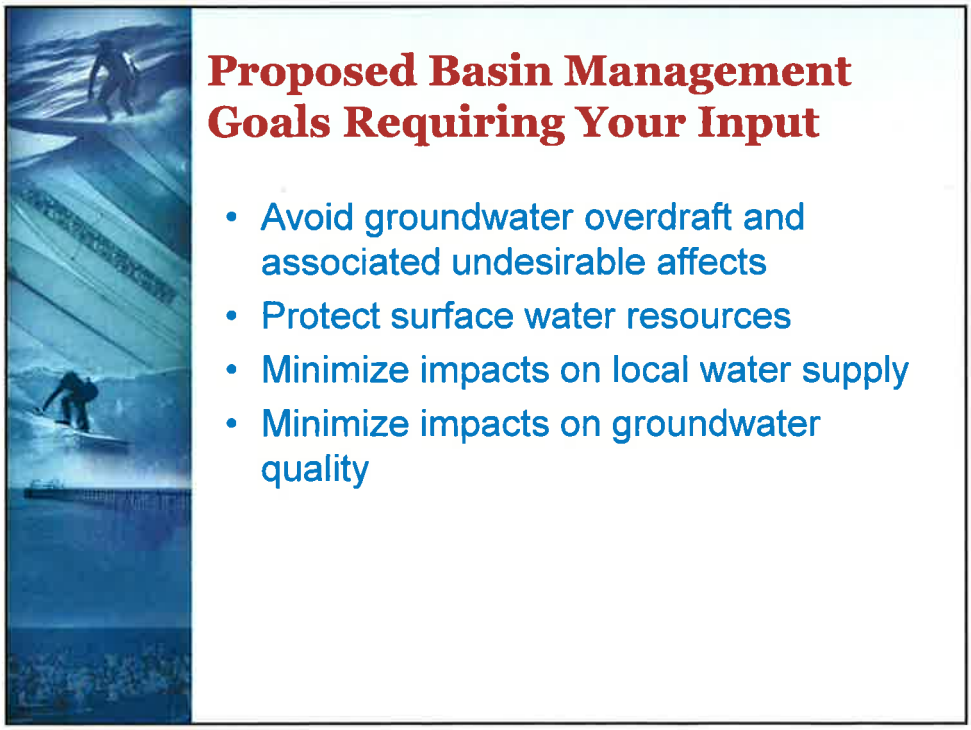
Groundwater Management Plan Mandatory Components, Water Code §10750 et seq.

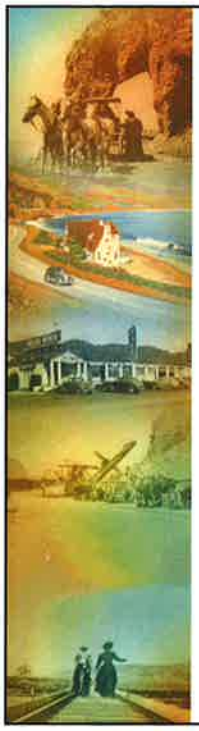
- Public and agency involvement
- Map of groundwater basin
- Basin management objectives (BMOs)
- Monitoring program and protocols

Groundwater Management Plan Voluntary Components, Water Code §10750 et seq.

- Control of saline intrusion
- Wellhead protection areas and recharge areas
- Mitigation of overdraft
- Groundwater replenishment
- Monitoring of groundwater levels and storage
- Implementation of groundwater programs
- Develop relationships with state and federal agencies
- Land use plan review


SNMP-GWMP Joint Plan
Proposed Approach
Work shop 1
Potential Source Identification
Goals & Objectives
Conceptual Model
Loading Results
Assimilative Capacity, Fate & Transport
Antidegradation Analysis
Work shop 2
Implementation Measures
Basin Management Objectives
Draft GW Monitoring Plan
Work shop 3
SNMP-GWMP Plan Compilation
Work shop 4
Final Plan
Today's Meeting


Proposed Basin Management Goals Requiring Your Input
• Avoid groundwater overdraft and associated undesirable affects
• Protect surface water resources
• Minimize impacts on local water supply
• Minimize impacts on groundwater quality



Proposed Quantitative Water Recycling Goals

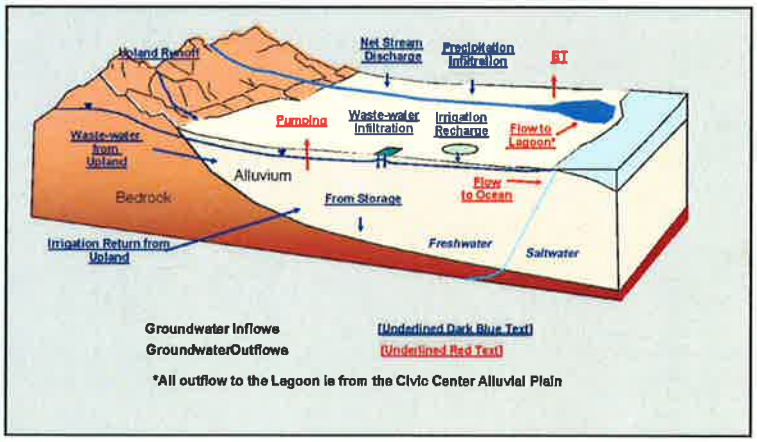
	Current RW Use in GW Basin	Future RW Use in GW Basin (2035)
Water District 29 – (2010 UWMP)	0 AFY	0 AFY
City of Malibu (Irrigation)	0 AFY	140 AFY
City of Malibu (Recharge)	30 AFY	428 AFY

Based on UWMP and existing planning studies

Proposed Stormwater Recharge/Use Goals for Your Input

- Low Impact Development (LID) requirements
- Land area set-aside for recharge zones
- Drainage management areas
- Bioretention required in new development

Source Characterization – Conceptual Model

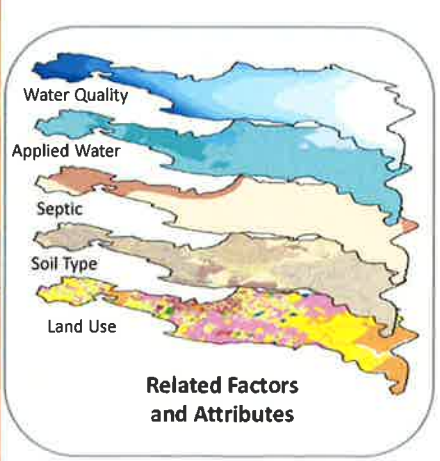


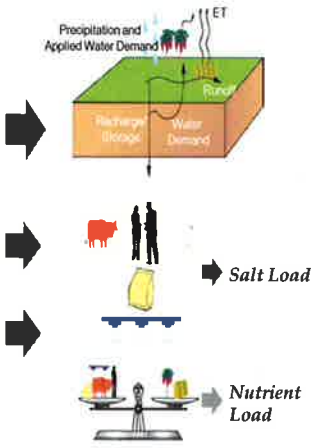
Groundwater Inflows [Underlined Dark Blue Text]
GroundwaterOutflows [Underlined Red Text]

*All outflow to the Lagoon is from the Civic Center Alluvial Plain

Source: Malibu15_PEST

Basin Characteristics Are Analyzed to Yield Load Estimates

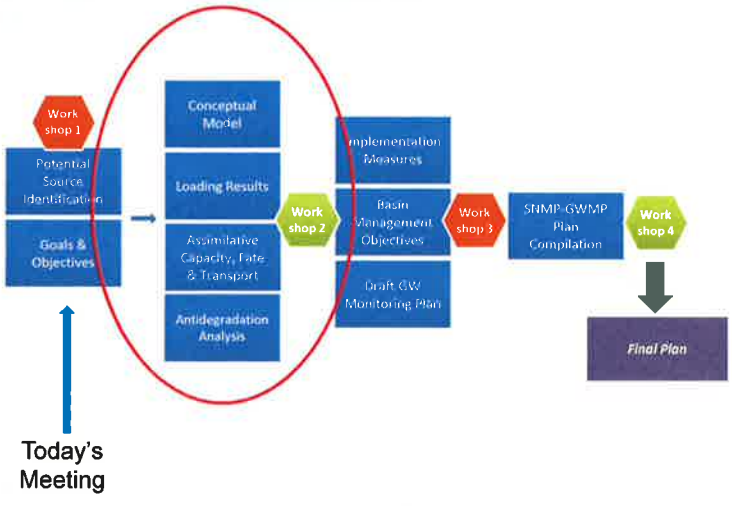


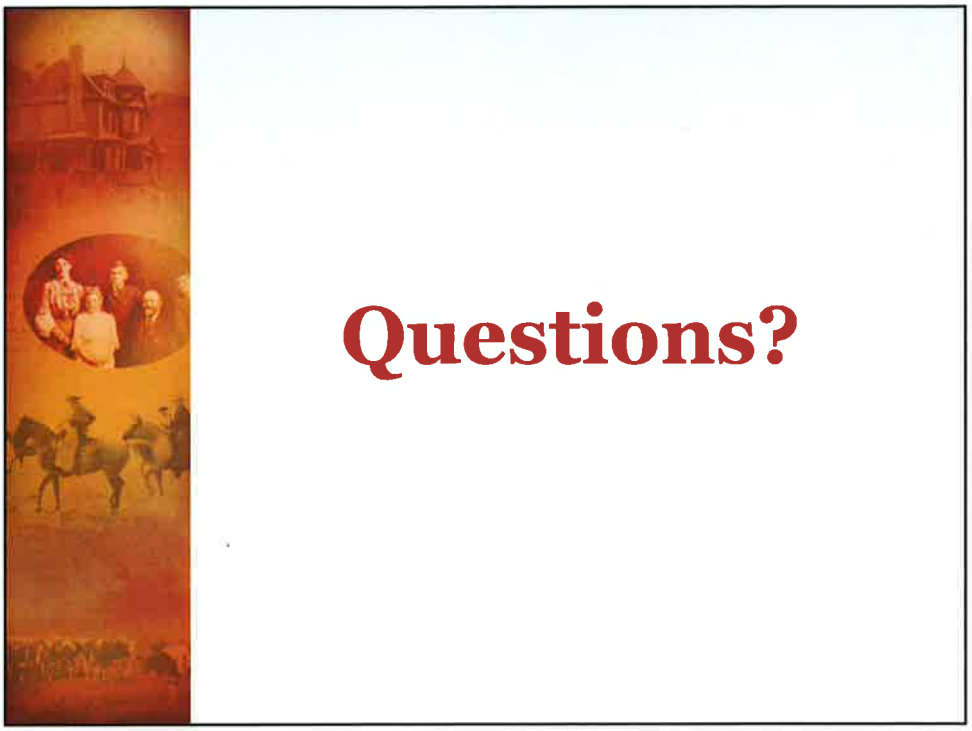


Loading Analysis will Focus on TDS and Nitrate (as N)

- Properly represent salts and nutrients entering basin
- Commonly used as indicator constituents in other SNMPs
- CECs addressed qualitatively

SNMP-GWMP Joint Plan Proposed Approach




Questions?

MALIBU
Stakeholder Meeting
Civic Center Wastewater Treatment Facility
Salt and Nutrient Management Plan (SNMP)
– Groundwater Management Plan (GWMP)
December 11, 2013
RMC

CITY OF MALIBU
NOTICE OF PREPARATION OF AND SCOPING MEETING FOR A DRAFT ENVIRONMENTAL IMPACT REPORT

Pursuant to the California Environmental Quality Act (CEQA), the City of Malibu (City) will be the Lead Agency and will prepare an environmental impact report (EIR) for the project identified below. In accordance with Section 15082 of the CEQA Guidelines, the City has prepared this Notice of Preparation (NOP) to provide Responsible Agencies and other interested parties with information describing the proposed project and its potential environmental effects.

Name of Project:	City of Malibu Civic Center Wastewater Treatment Facility Project EIR No. 13-001 and Coastal Development Permit No. 13-057
Public Scoping Meeting:	December 11, 2013
Time:	6:30 p.m.
Location:	City Hall – Council Chambers 23825 Stuart Ranch Road, Malibu CA 90265
30-day Review Period:	Begins: November 21, 2013 Ends: December 23, 2013
Deadline to Submit Comments:	December 23, 2013
Lead Agency:	City of Malibu
Contact Person:	Bonnie Blue, AICP, Senior Planner (310) 456-2489, extension 258 bblue@malibucity.org
Project Applicant:	City of Malibu
Project Address:	24000 Civic Center Way
Project Location:	Civic Center Area, City of Malibu and adjacent unincorporated Los Angeles County

Public Scoping Meeting: The City is scheduled to hold a Public Scoping Meeting for the EIR to describe the proposed project, the environmental process, and to receive your input on the information to be included in the EIR. The Public Scoping Meeting is scheduled for 6:30 p.m. on December 11, 2013 in the City Council Chambers, Malibu City Hall, 23825 Stuart Ranch Road, Malibu, CA. The City encourages all interested individuals, organizations and agencies to attend the meeting.

Purpose of the NOP: The City has prepared this NOP in accordance with Section 15082 of the CEQA Guidelines (14 CCR 15082) to inform responsible and trustee agencies and interested parties that an EIR will be prepared for the project described herein. The purpose of an NOP is to provide sufficient information about the proposed project and its potential environmental impacts to allow the Governor's Office of Planning and Research (OPR), responsible and trustee agencies, federal agencies involved in approving or funding a project, and interested parties the opportunity to provide a meaningful response regarding the scope and content of the EIR, including significant environmental issues, reasonable alternatives, and mitigation measures the responsible or trustee agency or OPR will need to have explored in the Draft EIR.

The City of Malibu welcomes input from agencies and interested parties during the 30-day review period regarding the scope and content of environmental information to be included and analyzed in the Draft EIR. Agencies should comment on the elements of the environmental information that are relevant to their statutory responsibility in connection with the project.

Where to Send Comments: Comments must be submitted, in writing, by **5:30 p.m. on December 23, 2013**. Comments should reference EIR No. 13-001 and should be addressed to **Bonnie Blue, Senior Planner**, at the address above. Agency responses to this NOP should include the name address, email address and telephone number of the person serving as the primary point of contact for this project within the commenting agency.

Address Where Documents are Available for Review:	City of Malibu 23825 Stuart Ranch Road Malibu, CA 90265

Project Description and Setting:

The City of Malibu Civic Center Wastewater Treatment Facility Project (Project) would include development of a centralized wastewater treatment facility in the Civic Center area of the City of Malibu that would treat, reuse and/or dispose of wastewater flows from properties in the Civic Center.

On December 23, 2010, an amendment to the "Water Quality Control Plan for the Coastal Watersheds of Ventura and Los Angeles Counties," also known as the Basin Plan, went into effect for the Malibu Civic Center Area. The amendment (Resolution No. R4-2009-007) was adopted by the Los Angeles County Regional Water Quality Control Board (RWQCB) and ratified by the State Water Resources Control Board (SWRCB) (Resolution No. 2010-0045) to institute a prohibition on new and existing discharges from onsite wastewater disposal systems (OWDS) in the Malibu Civic Center Area (Prohibition). The City of Malibu is not served by a public sewer system, so individual properties currently provide for their own wastewater disposal through use of OWDSs, commonly known as septic systems. The Prohibition applies to the "Malibu Civic Center area," defined as portions of the lower Winter Canyon watershed, Malibu Valley watershed and adjacent coastal strips between and including Amarillo Beach and Surfrider Beach, and also known as the Prohibition Zone. The Prohibition calls for discharges from OWDSs in the commercial core of the Civic Center area to cease by November 2015, and for residential properties to cease discharge by November 2019. The Prohibition specifically noted that it "does not preclude a publicly owned, community-based, solution that includes specific wastewater disposal sites subject to waste discharge requirements to be prescribed by the Regional Board." Copies of all Prohibition documents and maps can be found on the City's website at http://www.malibucity.org/Index.aspx?NID=261.

To address the Prohibition, the City entered into a memorandum of understanding (MOU) with the RWQCB and SWRCB to develop a wastewater treatment plan for the Civic Center Area. The MOU, which was signed by all parties in August 2011, sets forth certain milestones to be met by the City to accommodate the wastewater treatment needs of existing and new development in the Prohibition Zone. The Prohibition Zone 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 portion of the Santa Monica Mountains to the north. The Prohibition Zone also includes a portion of unincorporated Los Angeles County. The MOU allows for phased

implementation of the Prohibition through construction of "one or more state-of-the-art centralized municipal wastewater treatment facilities in the Malibu Civic Center area and a comprehensive regulatory program with respect to OWDSs." The MOU calls for the City to design and construct a centralized wastewater treatment facility and to fund it by way of an assessment district. The MOU states that the facility may utilize deep well injection without the use of reverse osmosis, and sets forth a specific schedule and phasing map for properties to cease discharge (i.e., stop use of OWDSs) and to connect to the system as follows: Phase 1 – for the Civic Center commercial core, by November 2015; and Phase 2 – including the surrounding commercial, institutional, residential and multifamily properties, by November 2019. A third phase of properties may have to cease discharge at a later date, depending on the water quality monitoring results from instituting the first two phases as prescribed in the MOU.

Since the signing of the MOU, the City has worked to develop plans for the collection and treatment of wastewater, and for reuse and/or disposal of the treated wastewater effluent based on an extensive program of hydrogeological testing and modeling conducted within the Civic Center area. The testing has investigated the feasibility of using direct deep well injection of highly treated effluent for disposal of any treated water that is not otherwise recycled, such as for irrigation. At this time, preliminary plans have been developed for a treatment plant utilizing membrane bioreactor modules and disinfection for treating wastewater and for a series of injection wells for direct injection of disinfected treated effluent into the lower aquifer underlying the Malibu Valley Groundwater Basin (MVGB), known as the Civic Center Gravels formation. However, it is the City's intent to maximize the amount of treated effluent that is recycled.

At full build-out (i.e., all phases of the Prohibition), the Project would include construction of a centralized wastewater treatment plant, six pump stations, approximately 13.3 miles of pipeline for collection of wastewater and distribution of treated effluent (recycled water) for reuse and/or disposal, disposal facilities such as injection wells and percolation ponds, and associated ancillary facilities. Based on flow projections, modeling and testing results available at this time, the treatment capacity is expected to be 507,000 gallons per day. The service area for the Project would match the boundaries of the Prohibition Zone. The Project area could extend beyond the Prohibition Zone if properties outside the Zone were to become users of the recycled water produced by the treatment plant in the future. Phasing of the Project would comply with MOU's time requirements described above. Properties may be able to hook up to the treatment plant sooner but not later than the phase prescribed by the MOU. Among other things, the Draft EIR will address the hydrogeologic testing, modeling, capacity analyses and results, as well as the treatment objectives, and anticipated number and siting of injection wells and anticipated recycled water demand.

The Project area overlies the MVGB and a hydraulically-separate alluvial zone contained within Winter Canyon, adjacent to the west side of the MVGB. The MVGB includes a shallow alluvial layer and the lower Civic Center Gravels aquifer. Although "potential municipal drinking water supply" is a designated beneficial use for the MVGB in the Basin Plan, groundwater in the MVGB and in Winter Canyon is not used as a municipal drinking water supply. Nevertheless, one benefit of deep well injection into the Civic Center Gravels is expected to be the prevention of seawater intrusion that contributes to the aquifer being unfit for drinking water use.

The site selected for the proposed treatment plant is 24000 Civic Center Way, a 4.8-acre site bounded by Civic Center Way to the north and PCH to the south, across the street from Vista Pacifica Drive. The site, which consists of several parcels and an unimproved right-of-way that would need to be vacated or abandoned, would be acquired by the City after Project

entitlements are approved. The plant site is zoned Commercial Visitor Serving-2 (CV-2) in all City land use documents.

The treatment plant site consists of an upper terrace and a lower terrace, generally descending from west to east, and is not substantially visible from PCH. The site is currently developed, in part, with the existing Winter Canyon wastewater treatment plant, a small scale, privately owned and operated wastewater treatment facility serving the Malibu Colony Plaza shopping center located on the south side of Pacific Coast Highway (PCH). Existing facilities include six buried wastewater treatment tanks, leach pits, four above-grade trickling filters, electrical facilities, an effluent distribution header and a gated, unpaved access driveway from Civic Center Way. The buried treatment tanks and leach pits would be reused as part of the proposed new treatment plant, once the Malibu Colony Plaza shopping center is connected to the Project. A portion of Winter Canyon Creek (a jurisdictional drainage) and an area of associated riparian habitat are located along the eastern edge of the site and are considered an environmentally sensitive habitat area (ESHA). Thirty-one native trees (California walnut) are located on the proposed treatment plant site, and 15 of these meet the measurement requirements to be considered protected under the City's Native Tree Protection Ordinance of the Malibu Local Coastal Program (LCP). The Project is expected to require removal of two of the protected trees, and may temporarily impact three other protected trees.

Most of the proposed treatment facilities would be located on the upper terrace to allow for reuse of some onsite facilities, while only percolation ponds and a solids thickening/storage tank are expected to be sited on the lower terrace. Elements to be constructed below-ground 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. Above-ground elements would include a approximately 700-square foot operations building, approximately 920-square foot blower and electrical building, approximately 2,115-square foot headworks facility, membrane equipment and canopy for filtration treatment, an ultraviolet (UV) disinfection facility, two chemical areas for storage of chemicals used in the treatment process, a standby generator, a pump station, the percolation ponds for dispersal of treated effluent, landscape screening, a 26-foot wide access driveway for onsite vehicle circulation, and security fencing and lighting. One building would be up to 28 feet in height, while heights of the other approximately three to four buildings would range from about 12 to 18 feet. Landscaping and other screening would be incorporated to soften and substantially screen the site from view, and all structures would incorporate architectural styles, colors and materials compatible with the surrounding natural and built environment.

The pipeline system would include a collection system to convey wastewater flows from within the Prohibition Zone to the proposed wastewater treatment plant, and a distribution system to distribute the treated effluent (recycled water) from the treatment plant to various land uses for reuse purposes, as well as to groundwater injection wells or other disposal sites, such as the percolation ponds. The pipelines would be installed underground and would generally run beneath public rights-of-way or within easements. Easements would need to be acquired where facilities would occur on private lands). For Phase 1, both the collection and distribution systems would follow along existing street alignments, including Civic Center Way, Stuart Ranch Road, Cross Creek Road, Webb Way, Malibu Road, and a small portion of PCH. The collection and distribution pipeline systems are expected to be placed in the same trench along the same pipeline alignment, except where a distribution line may have to run independently in order to reach a potential recycled water use site. Pump stations would be located along the pipelines, mostly below ground. For Phase 1, the pump stations would be located at Legacy Park and Bluffs Park, and for future phases, they would be located in public rights-of-way and/or

easements. The above-ground portions for each of the Phase 1 pump stations at Legacy Park and Bluffs Park would include equipment such as a generator, transformer, electrical panel and switchboard meter. None of the equipment is expected to exceed 8.5 feet in height. The only above-ground features of the collection and distribution infrastructure would be air release valves along pipelines at high or low elevation points (+/- 3 feet tall and 18 inches in diameter), 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.

The entire City is located within the Coastal Zone, as defined by the California Coastal Act, and is subject to the certified Malibu Local Coastal Program (LCP). The LCP consists of a Land Use Plan and a Local Implementation Plan and sets forth policies and standards intended to protect, maintain, and where feasible, enhance and restore the overall quality of the Coastal Zone environment. Pursuant to LCP water quality policies, the City is currently processing an LCP amendment in order to create an overlay district for the treatment plant site and to establish development standards for the Civic Center wastewater treatment facility. The LCP amendment will incorporate standards to ensure the treatment plant would be designed for a treatment capacity that would not exceed the development limits allowed by the LCP, and that facilities would be sited so as to avoid the riparian ESHA, provide appropriate buffers, and to protect native trees. Where impacts to these resources are unavoidable, the LCP amendment would require measures to minimize impacts consistent with LCP standards. Such measures may include, but would not be limited to, minimizing grading, limiting removal of natural vegetation, avoiding work during the rainy season, and revegetating as appropriate/required. The LCP amendment will also require incorporation of measures to protect scenic resources, including but not limited to siting facilities underground as much as possible, configuring facilities to minimize above-ground bulk, limiting building height to no more than 28 feet, utilizing landscape screening, incorporating architectural styles, colors and materials compatible with the surrounding natural and built environment. The LCP amendment must be certified by the California Coastal Commission (CCC) in order to take effect. CEQA analysis for the LCP amendment will be undertaken pursuant to the CCC's certified regulatory program.

The Project is considered a "major public works project," as defined in the LCP (Local Implementation Plan Section 2.1). Furthermore, portions of the Project would occur within the appealable jurisdiction of the CCC pursuant to the Post-LCP Certification Permit Appeal Jurisdiction Map. As such, the coastal development permit is appealable to the CCC.

Land uses in the Civic Center area generally consist of a mix of commercial (mixed retail, commercial and office uses), residential (single-family and multi-family) and institutional uses (including City and county government buildings and schools), along with open space/ undeveloped and public lands. The areas north and west of the Prohibition Zone are predominantly occupied by open space/undeveloped and public land uses. Pepperdine University, located immediately west of and outside the Prohibition Zone and approximately 2,000 feet to the west of the proposed treatment plant site, is the largest single development in the vicinity. Land uses immediately surrounding the plant site include: vacant property to the west where an application is under review for the proposed Rancho Malibu Hotel project and west of that, Pepperdine University; to the northwest and northeast across Civic Center Way are Webster Elementary School, Our Lady of Malibu School, four condominium complexes and the package wastewater treatment plant that serves the residential units; to the south is PCH and a vacant residential property where an application for the Crummer Site Subdivision Project is under review, another vacant parcel, and the Malibu Colony Shopping Center; and to the east is vacant commercial property and Legacy Park.

Entitlements Requested

The following Planning entitlements are proposed for the Project:

a. Certification of the EIR for all phases of the Project; and
b. Approval of a coastal development permit (CDP) for construction of Phase 1 of the Project (future phases will require a separate CDP) and associated discretionary applications; and
c. Approval of a conditional use permit for public utility facility use.

An assessment district or other special district would be formed for each individual Project phase by a majority vote of the property owners within that phase and approval by City Council. District formation would occur following approval of the entitlements for each respective Project phase.

It is anticipated that additional permits and/or approvals would be required for the Project from the following agencies:

a. RWQCB
b. Los Angeles County Water Works District No. 29
c. Los Angeles County Fire Department
d. California Department of Health
e. California Department of Transportation (Caltrans)
f. United States Army Corps of Engineers
g. United States Environmental Protection Agency
h. California Department of Fish and Wildlife
i. South Coast Air Quality Management District

Possible Environmental Effects of the Project

The City intends to prepare an EIR for all phases of the Project. Environmental factors that would be potentially affected by the Project and will be addressed in the EIR include:

a. Aesthetics: Potential visual impacts of the treatment plant-portion of the Project to be constructed on a partially vacant site, including the construction of above-ground facilities, with at least one building up to 28 feet in height.
b. Air Quality: Potential impacts of the Project related to increased vehicular traffic (predominantly during Project construction), construction truck trips, construction dust emissions, and operational emissions/odors.
c. Biological Resources: Potential impacts the Project may have on biological resources, including potential impacts to riparian ESHA and removal of protected native trees.
d. Cultural Resources/Paleontological Resources: Potential impacts the Project may have on cultural resources and paleontological resources.
e. Geology/Soils: Potential impacts associated with the Project related to geological conditions at the treatment plant site and within the Project service area.
f. Greenhouse Gas Emissions: Potential impacts of the Project related to temporary construction emissions and ongoing plant operations and vehicular traffic emissions.
g. Hazards & Hazardous Materials: Potential impacts of the Project construction and operation related to hazards and hazardous materials.

h. Hydrology/Water Quality: Potential impacts of the Project on hydrology, including groundwater and surface water quality resources of the plant site and Project service area.
i. Land Use/Planning: Review for consistency with the General Plan, Malibu Municipal Code and LCP goals and polices, and compatibility of the Project with surrounding uses.
j. Noise: Potential increase in ambient noise levels due to the Project construction and operation and associated traffic.
k. Public Services: Review for adequacy of public facilities and services for the Project.
l. Recreation: Potential impacts to recreational uses in the Project service area associated with Project construction.
m. Transportation/Traffic: Potential impact of the Project on roadway and intersection facilities, and levels of service primarily during construction.
n. Utilities and Service Systems: Review for adequacy of utilities and public service systems for the Project.

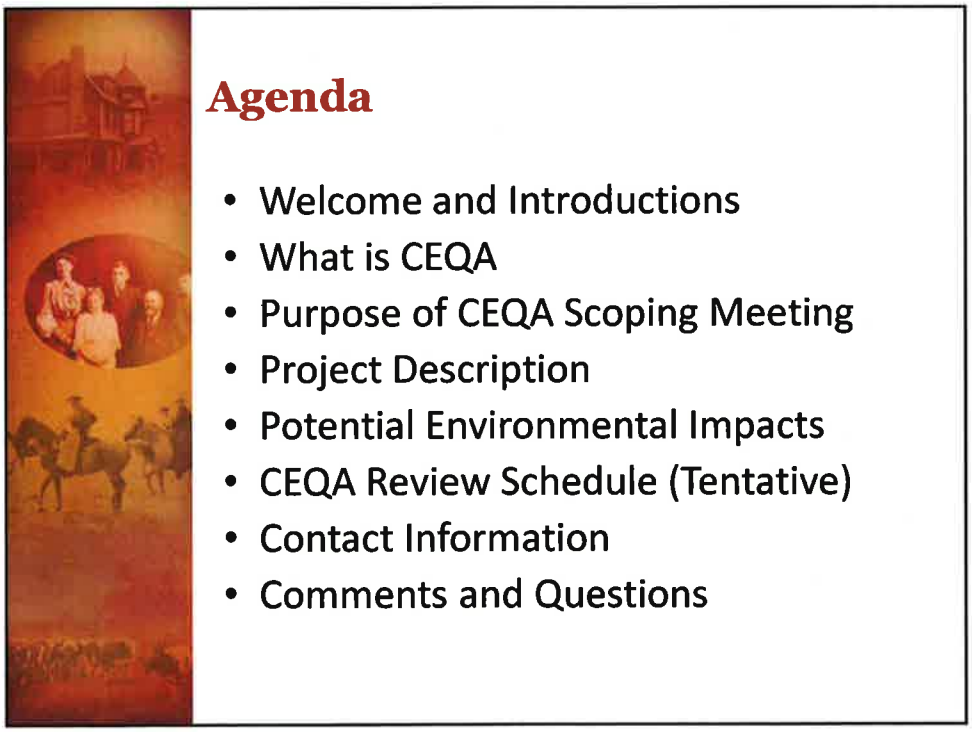
No agricultural resources are present on the treatment plant site, and while there is the potential for agricultural soils and/or uses to occur within the project service area, construction of the collection and distribution systems is not expected to affect these resources. Additionally, according to the Malibu General Plan, no mineral resources are known to exist on the plant site or in the Project service area. Potential impacts to population and housing are not expected to be significant as the Project would not increase population and housing demand or displace residents. These topics will be addressed briefly in an Effects Found Not to be Significant section contained in the EIR.

If there are any questions regarding this notice, please contact Bonnie Blue, Senior Planner, at (310) 456-2489, extension 258.

Joyce Parker-Bozylinski, AICP, Planning Director

Publish Date: November 21, 2013

MALIBU
Scoping Meeting
Environmental Impact Report for
Civic Center Wastewater Treatment Facility
December 11, 2013
RMC


Agenda
• Welcome and Introductions
• What is CEQA
• Purpose of CEQA Scoping Meeting
• Project Description
• Potential Environmental Impacts
• CEQA Review Schedule (Tentative)
• Contact Information
• Comments and Questions

Welcome and Introductions

- City of Malibu
  - Joyce Parker-Bozylinski, Planning Director
  - Bonnie Blue, Senior Planner
- RMC Water and Environment
  - Steve Clary, Project Manager
  - Leslie Dumas, EIR Team Lead
- ICF Jones and Stokes
  - Lee Liescki, EIR Project Manager
  - Peter Feldman, EIR Lead Planner

What is CEQA?
California Environmental Quality Act

- 1970 State of California environmental law
- Purpose of CEQA
  - Provide information about environmental consequences of actions
  - Evaluate the project's anticipated physical environmental effects
  - Provide opportunity to comment on environmental issues
  - Obligation to avoid or reduce harm to the environment when feasible ("mitigation")

Purpose of the Notice of Preparation (NOP)

- Formally begins environmental review process
- Indicates to community that an Environmental Impact Report (EIR) will be prepared
- Solicits community input regarding issues and concerns to be discussed in the EIR

Purpose of CEQA Scoping Meeting

- Receive additional input from public and interested agencies on the environmental issues that the Draft EIR should address
- Enhance public participation as part of the project's review under CEQA
- Today's meeting is NOT intended as a forum to discuss the merits of the proposed project
  - Merits of the project have and continue to be discussed at other public forums

What is an Environmental Impact Report (EIR)?

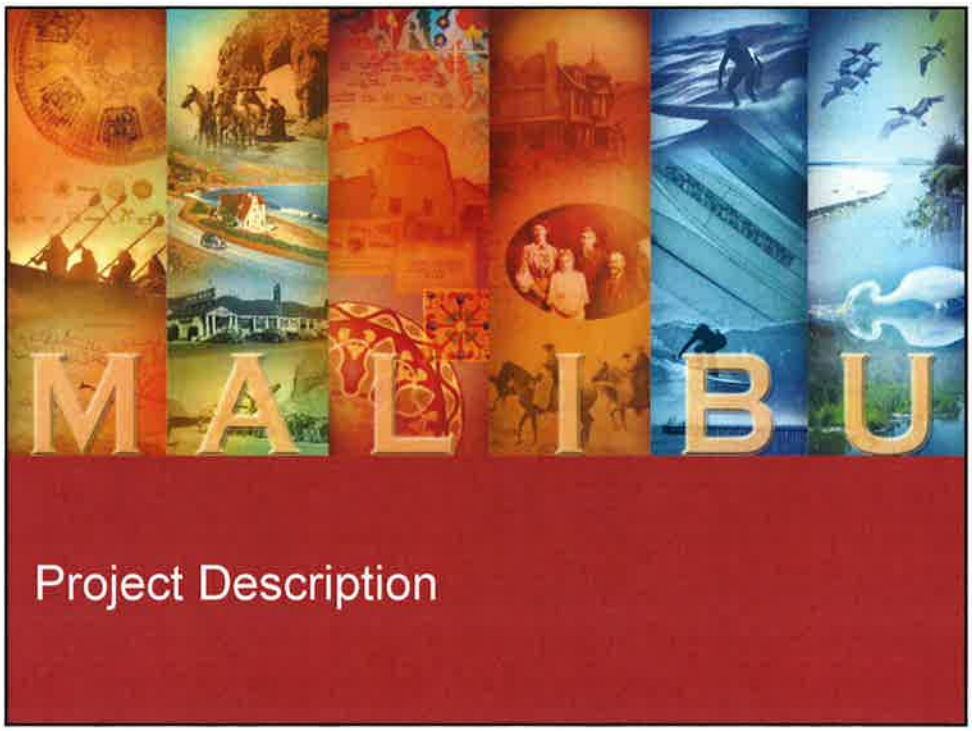
- Informational document based on facts
- Studies are prepared and conclusions of significance made in accordance with CEQA Guidelines
- Non-biased approach that neither supports nor opposes project

EIR Steps

- ☑ Notice of Preparation
- ☑ 30-Day Notice of Preparation Comment Period
- ☑ Public Scoping Meeting
- ☐ Preparation of Draft EIR
- ☐ 45-Day Public Comment Period
- ☐ Preparation of Response to Comments & Final EIR
- ☐ 10-Day Final EIR Review
- ☐ Public Hearing Process
- ☐ Certification of Final EIR
- ☐ Adoption of Findings of Fact
- ☐ Adoption of Mitigation Monitoring & Reporting Program

Project Roles and Responsibilities

- CEQA Lead Agency: City of Malibu
- EIR Consultant: RMC Water and Environment and ICF-Jones & Stokes



CCWTF Project Developed in Response to Regulatory Orders

- Resolution R4-2009-007 by LA RWQCB
- Resolution 2010-0045 by SWRCB
- Memorandum of Understanding (MOU) between City and LA RWQCB

Phasing of Service Areas Will Match MOU

Civic Center Wastewater Treatment Plan
Phasing Options

Project at Build-Out

Project Elements

- Wastewater Treatment Plant
  - Headworks
  - Membrane Bioreactors
  - Disinfection Treatment Facilities
- 6 Below-Grade Pump Stations
- 13.7 miles of Collection System and Recycled Water Distribution Pipeline
- Onsite Percolation Ponds
- Injection Wells (number to be determined)
- Assessment District

Project at Build-Out

Existing Site Conditions

Civic Center Wastewater Treatment Plant at Build-Out

Phase 1 Pipelines

Phase 1 & 2 Pipelines

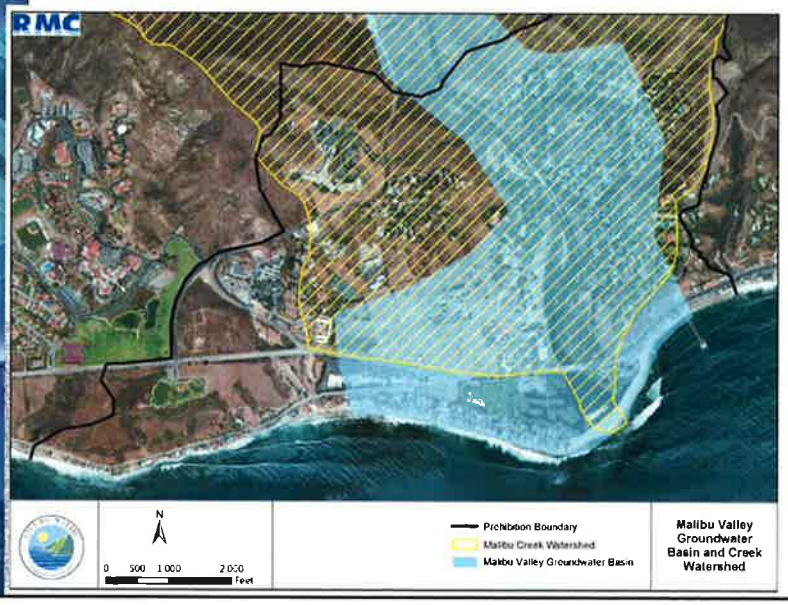
Pipelines at Build-Out

Construction Techniques

Cut and Cover

Jack and Bore

Malibu Valley Groundwater Basin



Reuse, Injection, Percolation Areas

Malibu Reuse/Recycling	125,000 gpd
Groundwater Injection	282,000 gpd
Percolation	100,000 gpd

Potential Environmental Impacts

Based on potential significant environmental impacts, EIR will be prepared to further evaluate identified issues:

- Aesthetics
- Biological Resources
- Cultural Resources
- Soils & Geologic Hazards
- Hazards & Hazardous Materials
- Hydrology & Water Quality
- Air Quality
- Land Use & Planning
- Noise
- Population & Housing
- Public Services & Fiscal Impact
- Transportation & Traffic
- Utilities & Service Systems

Analysis of Draft EIR

- Thresholds-based analysis
  - CEQA significance thresholds
- Short-term Impacts
  - Construction
- Long-term Impacts
  - Operational
- Cumulative Impacts
- Project Alternatives

How Do I Make Comments on this EIR?

Comment Period Extended Now ends January 7th

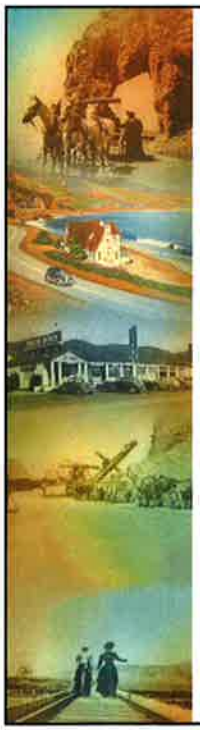
- Participate in the discussion this evening
- Please limit comments to environmental issues to be analyzed in the EIR
- Send in written comments – no later than ~~***December 23, 2013 at 5:30 PM***~~
- Review Draft EIR when published and provide comments during 45-day review period (estimated March 31, 2014 – May 17, 2014)
- Comment at Planning Commission and City Council Meetings (estimated September 2014)

Contact Information

- Please mail or email comments to:

  City of Malibu
  Bonnie Blue, Senior Planner
  23825 Stuart Ranch Road
  Malibu, CA 90265
  bblue@malibucity.org

- Include:
  - Commenter name
  - Address
  - Email or contact number
  - Reference EIR 13-001



Thank you

AGENDA
TECHNICAL ADVISORY COMMITTEE MEETING
CIVIC CENTER WASTEWATER TREATMENT FACILITY
12 DECEMBER 2013, 9:30am – 1pm
MULTI – PURPOSE ROOM, MALIBU CITY HALL

I. **Introductions**

II. **Groundwater Injection Studies and Findings**
   a. Presentation of current studies and findings
      i. Geology and geophysics
      ii. Pump testing and injection testing tentative results
         1. Indications regarding injection capacity
         2. Indications regarding flow direction of injected water
      iii. Groundwater modeling
         1. Anticipated quantitative results delayed until Christmas
         2. Model update status

III. **Wastewater collection system design**
   a. Design status
   b. Configuration of collection system, pump stations
   c. Use of trenchless construction techniques

IV. **Wastewater treatment plant**
   a. Design status
   b. Revised site layout
   c. Flows, loads, and tentative effluent quality targets
   d. Treatment process, equipment types, sizing

V. **Treated effluent reuse and disposal**
   a. Revised reuse potential
   b. Use of percolation within Winter Canyon basin
   c. Use of groundwater injection within Civic Center area/basin

VI. **Permitting and CEQA documentation**
   a. EIR status
   b. Salt & Nutrient Management Plan (SNMP) – Groundwater Management Plan (GWMP)
      i. Why a SNMP is needed & its schedule
      ii. Why do a GWMP too (funding)
      iii. Formation of Groundwater TAC (as required by State Recycled Water Policy)
      iv. Establish SNMP-GWMP goals and objectives
      v. Selection of indicator constituents (Total N vs NO_3 and TDS)

VII. **Next Steps/Future Meetings**

Technical Advisory Committee Meeting

Civic Center Wastewater Treatment Facility

December 12, 2013

RMC

Meeting Agenda

I. Introductions
II. Groundwater Injection Studies and Findings
III. Wastewater Collection System Design
IV. Wastewater Treatment Plant
V. Permitting and CEQA Documentation
VI. Next Steps/Future Meetings

Introductions

Person	Role
Jim Thorsen Bob Brager Rob Duboux Craig George Bonnie Blue Barbara Cameron	City of Malibu
Eric Wu Don Tsai Rebecca Chou	RWQCB
Patricia Leary	SWRCB
Jack Topel	SMBRC
Kirsten James	Heal the Bay
Ric Vardel	Integrated Performance Consultants
Jeff Bouse	LADPW

Person	Role
Michael Stenstrom	UCLA
Steve Clary Leslie Dumas Marc Nakamoto Richard Laton	RMC Design Team

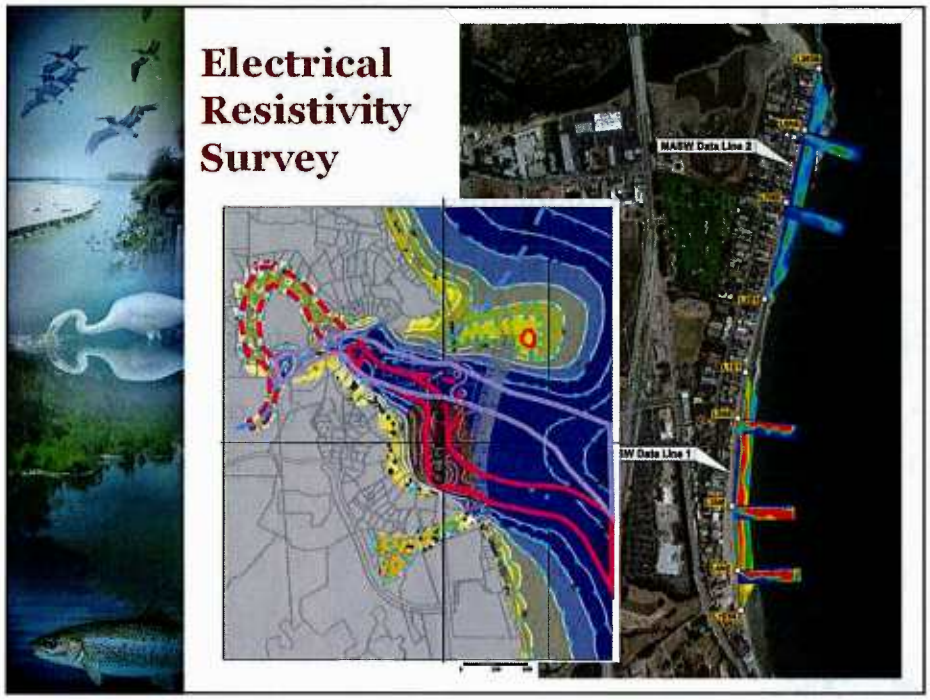
Meeting Agenda

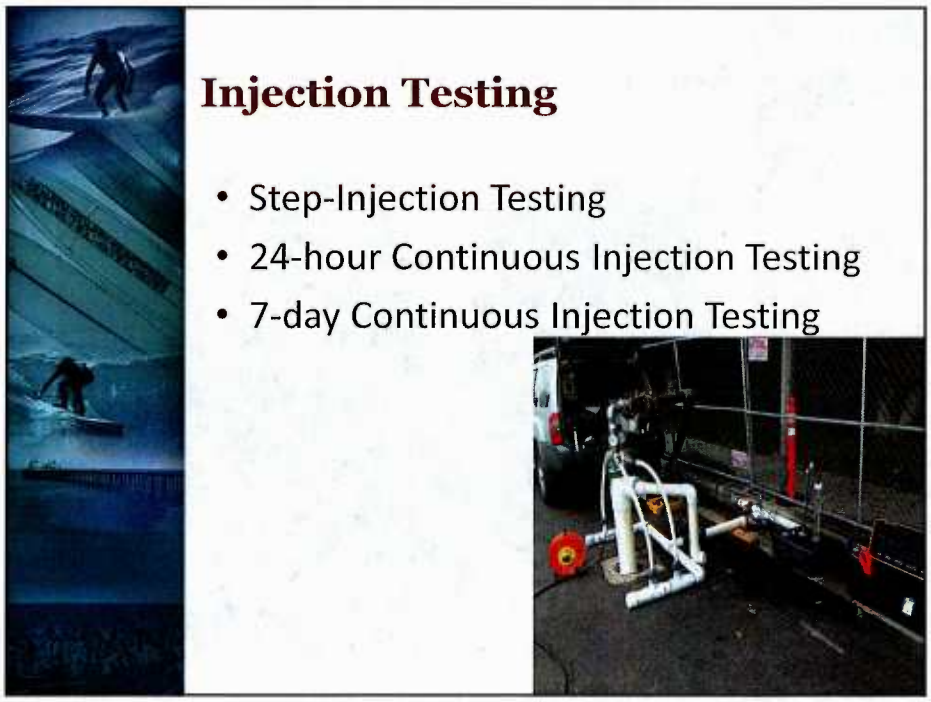
I. Introductions
II. Groundwater Injection Studies and Findings
III. Wastewater Collection System Design
IV. Wastewater Treatment Plant
V. Permitting and CEQA Documentation
VI. Next Steps/Future Meetings

2013 Field Program

- 9 new monitoring wells
- Shoreline Resistivity Survey
- Pumping and Injection Testing
- Numerical Model Update (in progress)

Additional Monitoring Wells

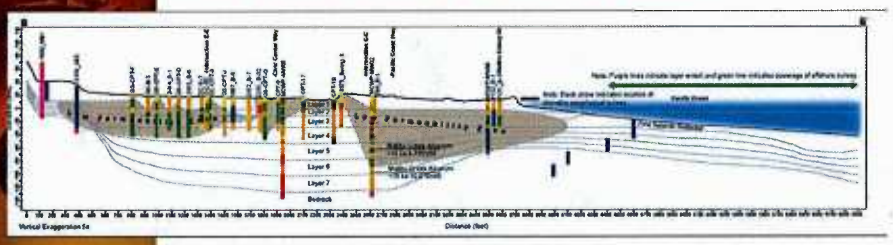

Electrical Resistivity Survey
MASW Data Line 2

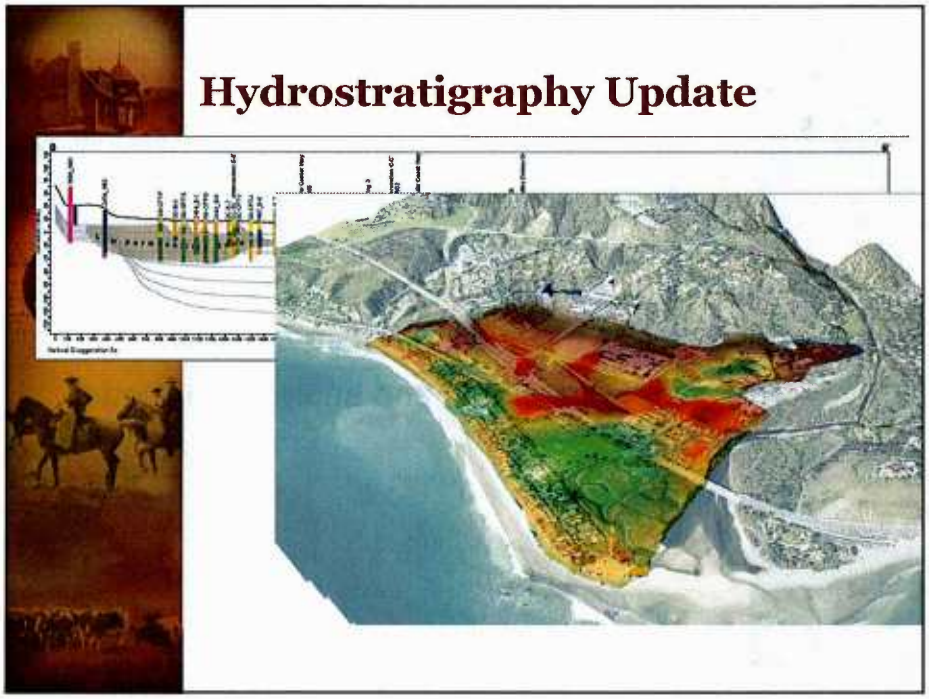

Injection Testing
• Step-Injection Testing
• 24-hour Continuous Injection Testing
• 7-day Continuous Injection Testing

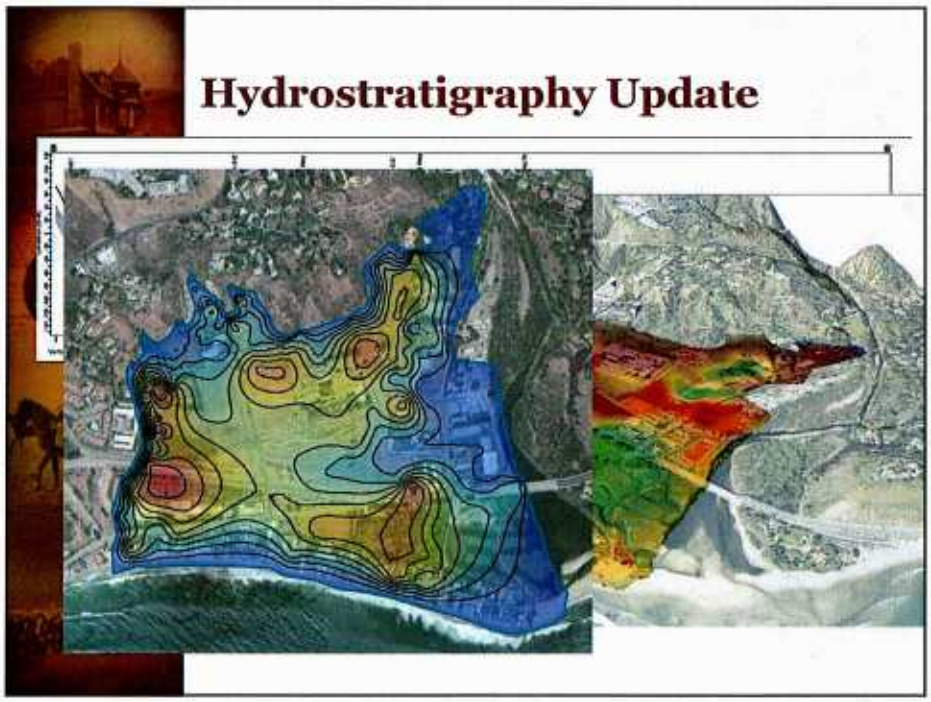
Data Analysis Activities

- Hydrostratigraphy analysis
- Groundwater level data compilation and analysis
- Hydraulic testing data evaluation
- Data collection and analysis for model input

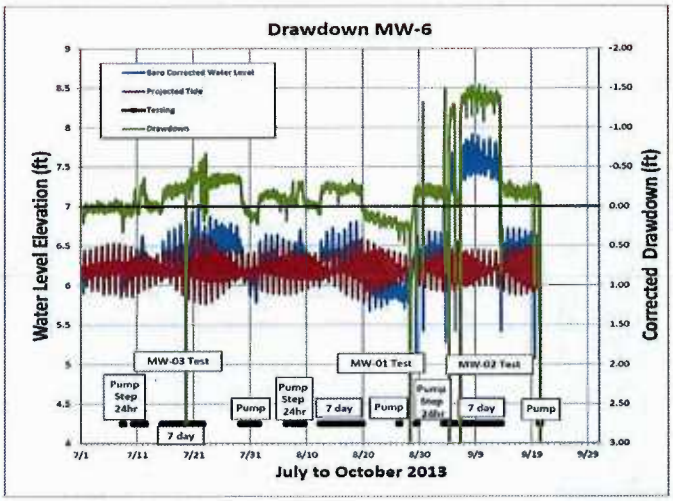
Hydrostratigraphy Update




Hydrostratigraphy Update

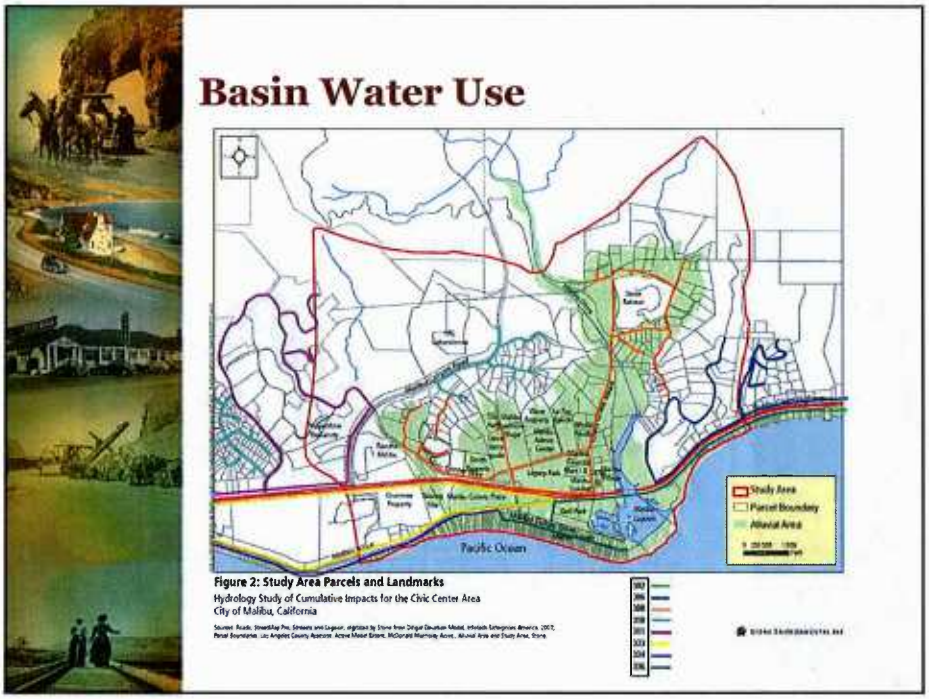

Hydrostratigraphy Update

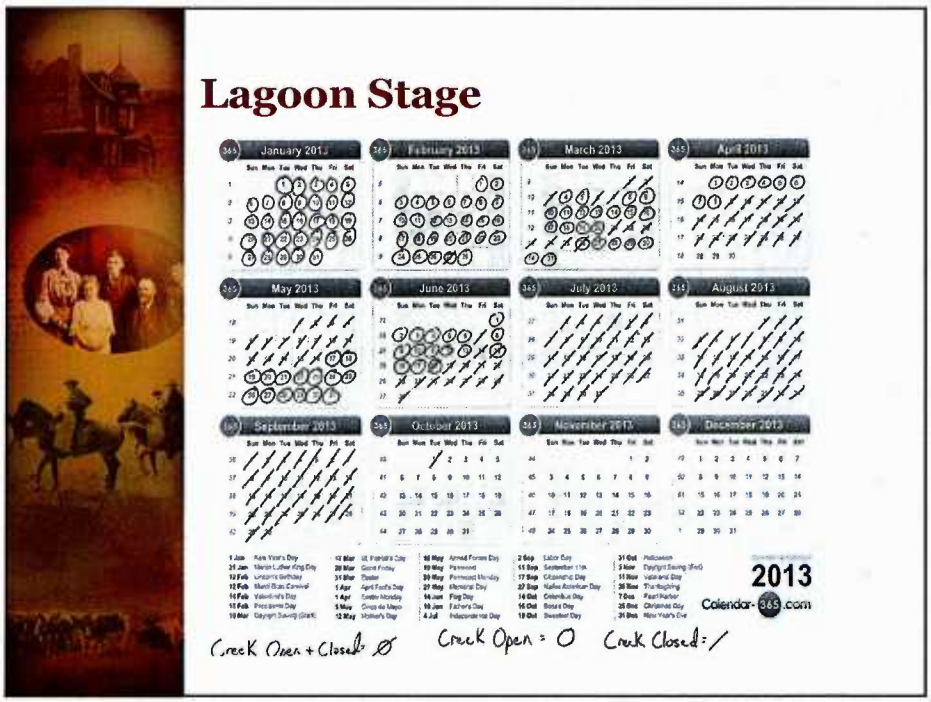
Groundwater Level Data Analysis



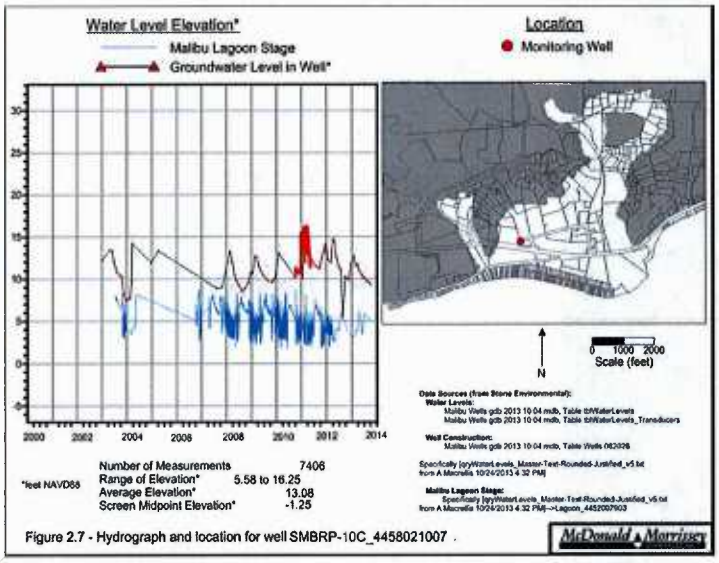
Model File Update

- Water Use
- Lagoon Stage and Creek Flows
- Groundwater Elevation
- Bedrock Depth and Stratigraphy
- Other (ET, precipitation, etc.)


Basin Water Use
Study Area
Parcel Boundary
Alluvial Area
Pacific Ocean
Figure 2: Study Area Parcels and Landmarks
Hydrology Study of Cumulative Impacts for the Civic Center Area
City of Malibu, California


Lagoon Stage
January 2013
February 2013
March 2013
April 2013
May 2013
June 2013
July 2013
August 2013
September 2013
October 2013
November 2013
December 2013
2013
Calendar-365.com
Creek Open + Closed: Ø
Creek Open = O
Creek Closed: /

Groundwater Elevation

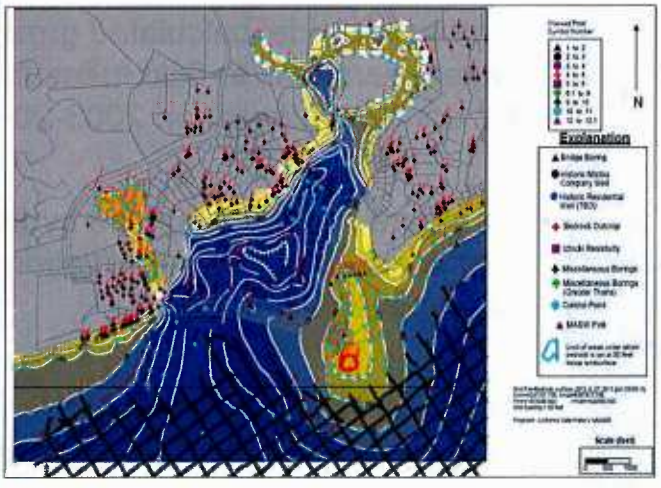


	Number of Measurements	7406
*feet NAVD88	Range of Elevation*	5.58 to 16.25
	Average Elevation*	13.08
	Screen Midpoint Elevation*	-1.25

Figure 2.7 - Hydrograph and location for well SMBRP-10C_4458021007 .

McDonald Morrissey

Bedrock and Hydrostratigraphic Mapping

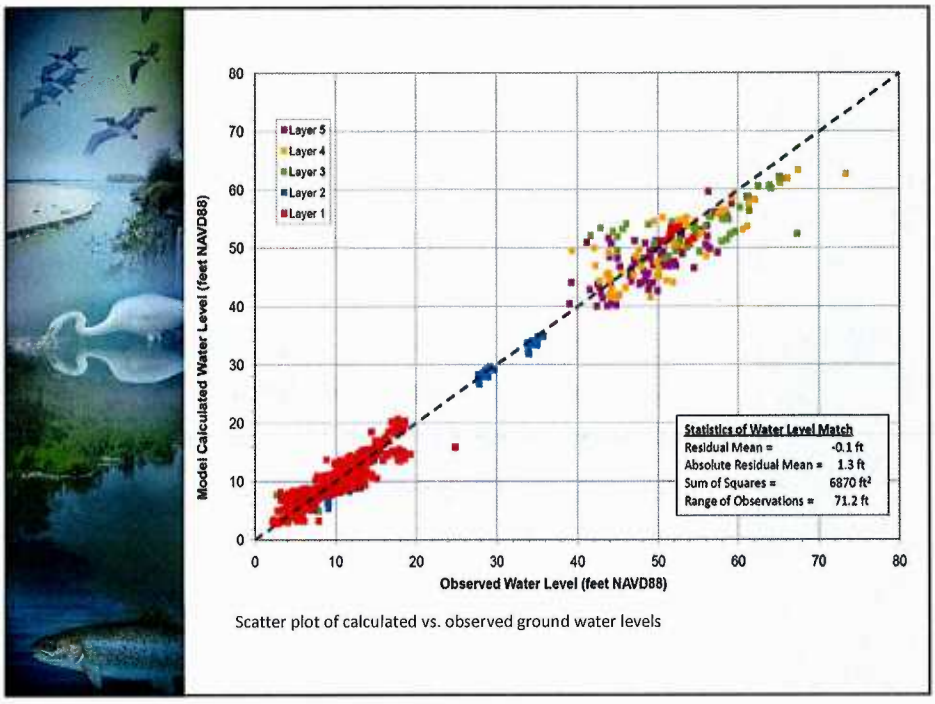


Following File Updates

- Calibration
- Scenario Planning
- Sensitivity Analyses

Model Calibration Strategy

- Compare model calculated ground water elevations to field measurements for transient simulation 2003-2012
- Compare model calculated hydraulic responses with field observations during injection testing
- Trial and error and automated parameter estimation techniques



Scatter plot of calculated vs. observed ground water levels

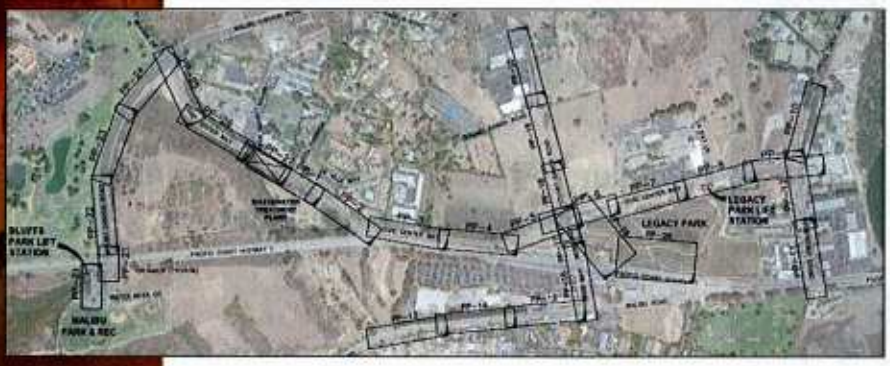
Model Application Runs

- Evaluate effects of proposed percolation in Winter Canyon
- Evaluate effects of proposed treated effluent injection on groundwater elevations
- Estimate maximum injection rates using optimization technique

Meeting Agenda

I. Introductions
II. Groundwater Injection Studies and Findings
III. Wastewater Collection System Design
IV. Wastewater Treatment Plant
V. Permitting and CEQA Documentation
VI. Next Steps/Future Meetings

Collection & Distribution System



Meeting Agenda

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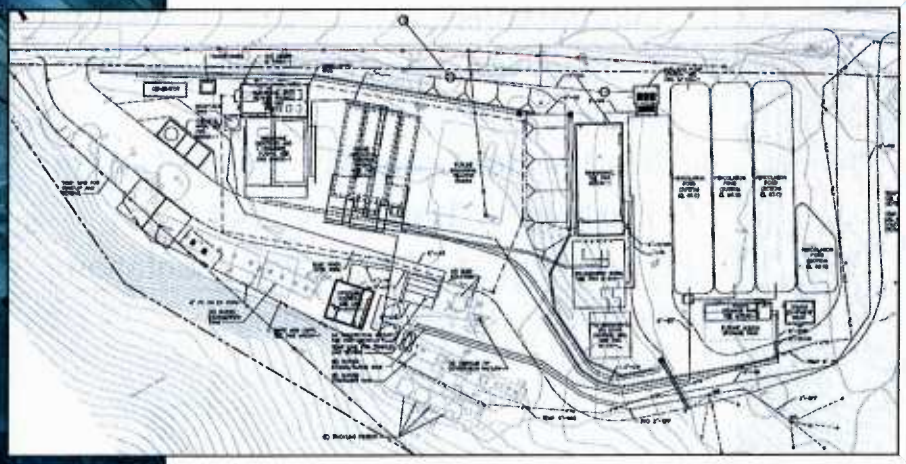
Treatment Plant Layout



Estimated Capital Costs – Phase 1

Facility Component	Gross Costs
Treatment Plant	$13,900,000
Treatment Plant Land	$1,000,000
Collection/Distribution System	$7,200,000
Recycled Water Injection System	$800,000
Design	
Advanced by City	$2,000,000
Funded by CFD 2012-1	$6,076,551
CM/Engineering Services	$3,800,000
Total	**$34,776,551**

Meeting Agenda

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Permits and Approvals – Federal and State

Agency	Type of Approval
FEDERAL	
U.S. Fish and Wildlife Service	Federal Endangered Species Act Compliance (Section 7 Consultation) (Potential)
U.S. Environmental Protection Agency	Underground injection permit
U.S. Army Corps of Engineers	Clean Water Act, Section 404, Nationwide Permit(s) (Potential)
STATE	
California Department of Fish & Wildlife (Region 3)	State Endangered Species Act Compliance (Potential) Section 1600 Streambed Alteration Agreement (Potential)
Los Angles Regional Water Quality Control Board (Region 4)	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) Clean Water Act, Section 401, Water Quality Certification (Potential) Landscape Irrigation Uses of Municipal Recycled Water General Permit (Order No. 2009-0006-DWQ)
California Department of Public Health	Letter of Approval of Title 22 Engineers Report
California Department of Transportation	Highway Encroachment Permit
California Coastal Commission	Local Coastal Program Amendment Coastal Development Permit Approval Appeals

Permits and Approvals – Local

Agency	Type of Approval
LOCAL	
South Coast Air Quality Management District	Authority to Operate Rule 403 Fugitive Dust
City of Malibu	Coastal Development Permit, including lot line adjustment, conditional use permit, tree removal, variance for setbacks and site plan review Roadway Encroachment Permit Conditional Use Permit for treatment plant use
Los Angeles County	Roadway Encroachment Permit
Los Angeles County Fire Department	Approval of Fuel Modification Plans Approval of Plans for meeting Fire Code
Los Angeles County Water District No. 29	Duplication of Service Agreement

Primary Permits

- Coastal Development Permit (CDP)
- Water Reclamation Requirements (WRR)/Waste Discharge Requirements (WDR)
- Salt-Nutrient Management Plan (SNMP)

Coastal Development Permit

- Required under California Coastal Act
- City is certified Local Coastal Program
- Land Use Plan
- Local Implementation Plan
- Requires preparation and approval of Coastal Development Permit

Water Reclamation Requirements/ Waste Discharge Requirements

- Issued by Regional Water Quality Control Board
- Permit to incorporate California Department of Public Health requests
- Water Reclamation Requirements permit production of Title 22-level recycled water
- Waste Discharge Requirements permit distribution and reuse of recycled water

Salt-Nutrient Management Plan

- Required as part of State's Recycled Water Policy
- Characterizes various sources of salts & nutrients
- Helps understand effects of salts and nutrient loading within the basin
- Used to proactively manage the basin in coordination with the Basin Plan

Groundwater Management Plan

- Voluntary development under AB 3030 and SB 1938
- Identifies
- groundwater conditions
- basin management goals & objectives
- monitoring objectives
- Used to proactively manage the basin
- Required for state funding

CEQA Plus

- CEQA Plus required for federal funding
- California Environmental Quality Act
- 1970 State of California environmental law
  - Purpose of CEQA
  - Provide information to decision makers and public about environmental consequences of actions
  - Evaluate the project's anticipated physical environmental effects
  - Provide the public with an opportunity to comment on the environmental issues
  - Obligation to avoid or reduce harm to the environment when feasible ("mitigation")
- Requires evaluation of certain impacts (cultural, biology, air) to federal levels

Potential Environmental Impacts

Based on potential significant environmental impacts, EIR will be prepared to further evaluate identified issues:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Soils & Geologic Hazards
- Hazards & Hazardous Materials
- Hydrology & Water Quality
- Land Use & Planning
- Noise
- Air Quality
- Population & Housing
- Public Services & Fiscal Impact
- Transportation & Traffic
- Utilities & Service Systems

Analysis of Draft EIR

- Thresholds-based analysis
  - CEQA significance thresholds
- Short-term Impacts
  - Construction
- Long-term Impacts
  - Operational
- Cumulative Impacts
- Project Alternatives

Alternatives to be Analyzed

- No Project
- Ocean Outfall
- Transport to Hyperion for Treatment
- Alternative Plant Site

Meeting Agenda

I. Introductions
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III. Wastewater Collection System Design
IV. Wastewater Treatment Plant
V. Permitting and CEQA Documentation
VI. Next Steps/Future Meetings

Questions?

Technical Advisory Committee Meeting
Civic Center Wastewater Treatment Facility

December 12, 2013

RMC

12/11/13

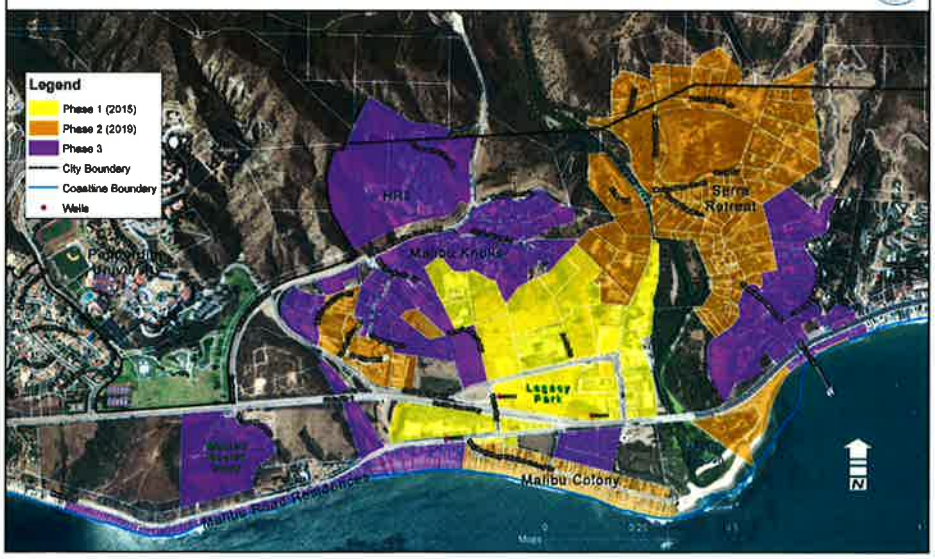
Attachment 5

CITY OF MALIBU

PRELIMINARY PHASE I WASTEWATER TREATMENT PLANT ASSESSMENT ANALYSIS

DECEMBER 11, 2013

Civic Center Wastewater Treatment Facility Phases



Estimated Phase I Wastewater Treatment Plant One-Time Capital Costs[1,2]

Facility Component	Gross Costs	Oversizing Adjustment	Net Assessable Costs
Treatment Plant	$13,900,000		$13,900,000
Treatment Plant Land	$1,000,000		$1,000,000
Collection/Distribution System	$7,200,000	($600,000)	$6,600,000
Recycled Water Injection System	$800,000		$800,000
Design			
Advanced by City	$2,000,000		$2,000,000
Funded by CFD 2012-1	$6,076,551		$6,076,551
CM/Engineering Services	$3,800,000		$3,800,000
Total	$34,776,551	($600,000)	$34,176,551

[1] Includes construction contingency of 20% and an allowance for inflation through 2014.
[2] Excludes connection to the wastewater treatment system, disposition of existing wastewater treatment system.

Estimated Phase I Wastewater Treatment Plant Operation & Maintenance Costs

Facility Component	Annual Costs
Treatment Plant	$672,000
Collection/Distribution System	$216,000
Recycled Water Injection System	$24,000
Total	$912,000

Estimated Phase I Assessment District Bonded Indebtedness

Bond Component	Bond Principal	Percent of Total
Treatment Plant	$14,900,000	36.2530%
Collection/Distribution System	$7,400,000	18.0049%
Design/CM/Engineering Services	$11,876,551	28.8967%
Bond Reserve[3]	$3,347,540	8.1449%
Capitalized Interest[4]	$2,877,000	7.0000%
Bond Issuance Costs	$634,919	1.5448%
Assessment District Formation	$63,990	0.1557%
Total	$41,100,000	100.0000%

[3] Applied to final year of Phase I Assessment District debt service.
[4] Applied to first year of Phase I Assessment District debt service until assessments can be enrolled on property tax bills.

Assessment Methodology

- Treatment Plant Costs
  - Allocated based on estimated BOD (biochemical oxygen demand) load
- Collection and Distribution Systems Costs
  - Allocated based on estimated wastewater flow

BOD Load Assumptions

- Formula
  - BOD Concentration x Flow x 8.345/1,000,000
- BOD Concentration
  - Non-Residential
    - 80%/20% Retail/Restaurant: 435 milligrams/litre
    - 100% Retail: 313 milligrams/litre

Wastewater Flow Assumptions Non-Residential

• Floor Area Ratio (Ratio of building square footage to parcel square footage)	0.15 (Or actual or submitted plans if greater)
• Restaurant/Retail Ratio	Retail: 80% Restaurant: 20% (Or actual or submitted plans if more restaurant)
• Gallons Per Day Per Building Square Foot	Retail: 0.020 Restaurant: 0.675 Average: 0.150

Hypothetical Assessment Calculation for a Phase I Non-Residential Parcel Step 1 – Load and Flow Calculations

Estimated System Total	1 Acre Non-Residential Parcel
BOD Load: 600 Pounds / Day	BOD Load • 3.5578 Pounds / Day (435 x 980.1 x 8.345 / 1,000,000) • 0.5930% of Total (3.5578 / 600)
Flow: 195,000 Gallons / Day	Flow: • 980.1 Gallons / Day (43,560 x 0.15 x 0.15) • 0.5026% of Total (980.1 / 195,000)

Hypothetical Assessment Calculation for a Phase I Non-Residential Parcel Step 2 – Assessment Apportionment

Component	Total	Parcel Assessment[6,7]	% of Subtotal	% of Total
Treatment Plant	$14,900,000	$88,357.00		0.5930%
Collection/Distribution System	$7,400,000	$37,192.40		0.5026%
Subtotal Construction	$22,300,000	$125,549.40	0.5630%	
Design/CM/Engineering Services	$11,876,551	$66,864.98		0.5630%
Bond Reserve	$3,347,540	$18,846.65		0.5630%
Capitalized Interest	$2,877,000	$16,197.51		0.5630%
Bond Issuance Costs	$634,919	$3,574.59		0.5630%
Assessment District Formation	$63,990	$360.26		0.5630%
Total	$41,100,000	$231,393.39		0.5630%

[6] Excludes connection to the wastewater treatment system, disposition of existing wastewater treatment system.
[7] Excludes annual Phase I assessment district administrative costs.

PAYMENT OF ASSESSMENTS

- Phase I assessments may be paid in cash 30 days following establishment of the Phase I assessment district[8]
- If not paid in cash, Phase I assessments will be financed by the issuance of bonds
  - 30 year term
  - Interest subject to market conditions (currently 7.00%)

[8] Assessments paid in cash will be less bond reserve , capitalized interest, and bond issuance costs.

Attachment 6

City of Malibu
Public Works Department

DRAFT

CONTRACT DRAWINGS

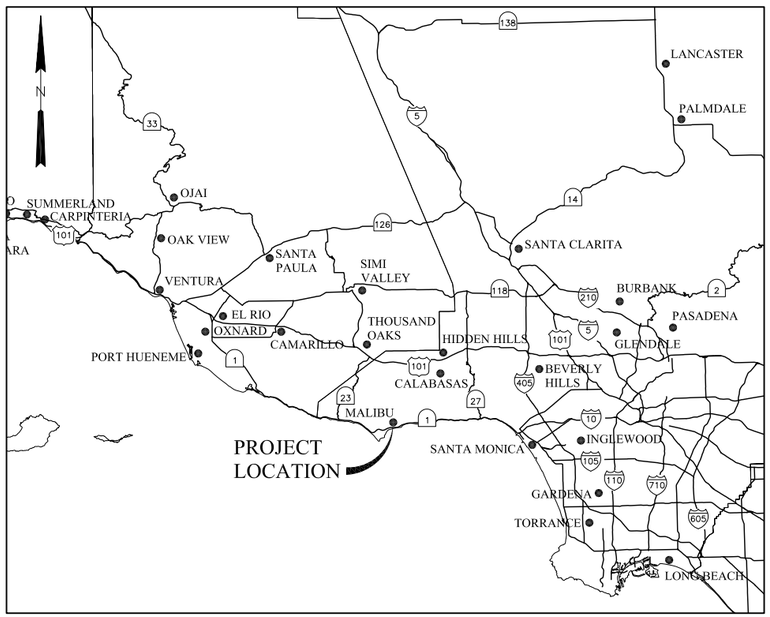
CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

City Project No. _____

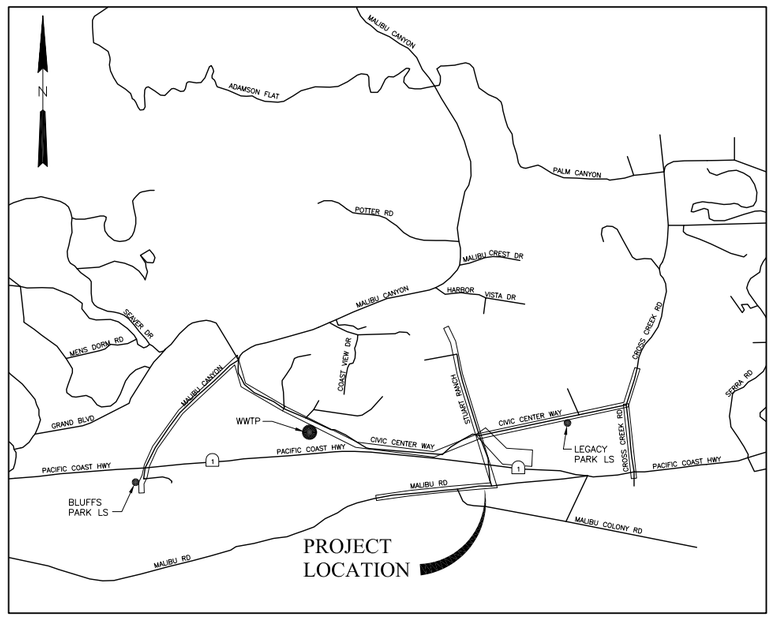
50% DESIGN SUBMITTAL
NOT FOR CONSTRUCTION

October 2013

DRAFT



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

TITLE SHEET

DESIGNED BY: M. Hoeft	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
DRAWN BY: M.Foyle	DATE 06/2013		DATE XX-XX-13
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. G-1

Sheet _____ of XXX Sheets

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

FILENAME: 0127-006-C-001 10-22-13 02:28pm mfoyle || XREFS|| X-Border |<--

Last Saved By: mfoyle 10-22-13 02:25pm

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5	G-5	WWTP PROCESS FLOW SCHEMATIC
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* INDICATES DRAWING NOT INCLUDED IN THIS SUBMITTAL

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

INDEX OF DRAWINGS

DESIGNED BY: M. Hoeft	DATE 06/2013	SCALE NONE	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. G-2

Sheet _____ of XXX Sheets

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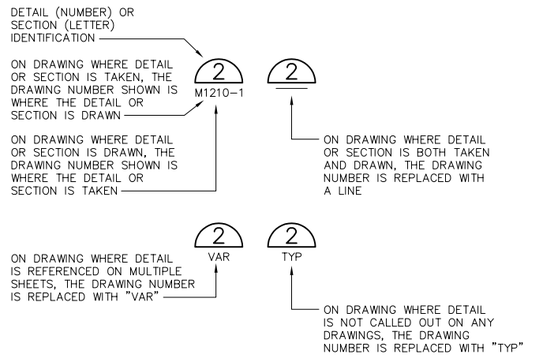
ABBREVIATIONS

@	AT
AA	AERATION AIR
AB	ANCHOR BOLT, AGGREGATE BASE
ABC	AGGREGATE BASE COURSE (CALTRANS CLASS 2 AGGREGATE BASE)
ABS	ACRYLONITRILE–BUTADIENE– STYRENE
AC	ASBESTOS CEMENT, ASPHALTIC CONCRETE
ACI	AMERICAN CONCRETE INSTITUTE
ADH AB	ADHESIVE ANCHOR BOLT
ADJ	ADJACENT, ADJUSTABLE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL	ALUMINUM
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
ARCH.	ARCHITECTURAL
ARV	AIR RELEASE VALVE
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
AWT	ADVANCED WASTE TREATMENT
BC	BOLT CIRCLE, BEGIN CURVE
BD	BOARD
BF	BLIND FLANGE, BOTTOM FLAT
BFV	BUTTERFLY VALVE
BGS	BELOW GROUND SURFACE
BLDG	BUILDING
BM	BENCH MARK, BEAM
BO	BLOWOFF
BOT	BOTTOM
BRG	BEARING
BS	BUTT STRAP
BV	BALL VALVE
BVC	BEGINNING OF VERTICAL CURVE
C	CHANNEL (BEAM)
CAV	COMBINATION AIR AND VACUUM VALVE
CB	CATCH BASIN
CDF	CONTROLLED DENSITY FILL
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHEM	CHEMICAL
CIP	CAST IRON PIPE
CIRC	CIRCUMFERENTIAL
CJ	CONSTRUCTION JOINT
CLR	CLEAR
CLS	CHLORINE SOLUTION HYPOCHLORITE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
℄	CENTERLINE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
COMP	COMPRESSOR(S)
CONC	CONCRETE, CONCENTRIC
COND	CONDUIT
CONN	CONNECTION
CONT	CONTINUOUS
COORD	COORDINATE
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CT	CERAMIC TILE
CTD	CENTERED
CTJ	CONTROL JOINT
CTR	CENTER
CTS	CORROSION TEST STATION
C TO C	CENTER TO CENTER
CU	CUBIC
CU FT	CUBIC FOOT
CU IN.	CUBIC INCH
CU YD	CUBIC YARD
CV	CHECK VALVE
°C	DEGREE CELSIUS
d	PENNY (NAIL SIZE)
D	DRAIN
DBL	DOUBLE
DET	DETAIL
DFT	DRY FILM THICKNESS
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL
DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DN	DOWN
DWG	DRAWING
E	EAST
EA	EACH
EC	END CURVE
ECC	ECCENTRIC
EF	EACH FACE, EXHAUST FAN
EL, ELEV	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
ELL	ELBOW
ENGR	ENGINEER
EO	EMERGENCY OVERFLOW
EP	EDGE OF PAVEMENT
EQ	EQUAL
EQPT	EQUIPMENT
EQ SP	EQUALLY SPACED, EQUAL SPACES
ESMT	EASEMENT
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EWEF	EACH WAY, EACH FACE
EXC	EXCAVATE
EXH	EXHAUST
EXP	EXPOSED
EXP JT	EXPANSION JOINT
EXST	EXISTING
FA	FOUL AIR
FAB	FABRICATION
FC	FLEXIBLE COUPLING
FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FDS	FINAL DIGESTED SLUDGE
FDN	FOUNDATION
FE	FLANGED END, FINAL EFFLUENT
FEXT	FIRE EXTINGUISHER
FF	FINISH FLOOR
FG	FINISH GRADE
FHY	FIRE HYDRANT
FIG.	FIGURE
FL	FLOOR
℄	FLOW LINE
FLG	FLANGE
FLH	FLAT HEAD
FLTR	FILTER
FM	FORCE MAIN
FO	FIBER OPTIC
FOC	FACE OF CONCRETE, FIBER OPTIC CABLE
FOCC	FIBER OPTIC CABLE CONDUIT
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT OR FEET
FTG	FOOTING
FUT	FUTURE
FWD	FORWARD
°F	DEGREE FAHRENHEIT
GA	GAGE
GAL	GALLON
GALV	GALVANIZED
GC	GROOVED COUPLING
GCO	GRADE CLEAN OUT
GE	GROOVED END
GL	GLASS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
GVL	GRAVEL
HD	HUB DRAIN
HDG	HOT DIP GALVANIZED
HDPE	HIGH DENSITY POLYETHYLENE, HDPE PIPE
HDR	HEADER
HDW	HARDWARE
HGT	HEIGHT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HORSEPOWER
HR	HOSE RACK, HANDRAIL, HOUR
HV	HOSE VALVE
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
H2E	HOOK TWO ENDS
ID	INSIDE DIAMETER
IF.	INSIDE FACE
IJTS	INSULATING JOINT TEST STATION
IN.	INCH
INFL	INFLUENT
INSTM	INSTRUMENTATION
INSUL	INSULATE
INVT	INVERT
IRR, IRRIG	IRRIGATION
IE	INVERT ELEVATION
JT	JOINT
KIP	THOUSAND POUNDS
KW	KILOWATT
L	ANGLE, LENGTH
LAB	LABORATORY
LAV	LAVATORY
LB	POUNDS
LB/CU FT	POUNDS PER CUBIC FOOT
LF	LINEAR FEET
LONG.	LONGITUDINAL
LP	LOW PRESSURE
LR	LONG RADIUS
LT	LEFT
MAG	MAGNETIC
MATL	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MIXED LIQUOR
MLCSP	MORTAR LINED AND COATED STEEL PIPE
MSNRY	MASONRY
MO	MASONRY OPENING
MT	MITER
MTR	METER
MTS	MILL TYPE STEEL PIPE
MWS	MAXIMUM WATER SURFACE
N	NORTH
NIC	NOT IN CONTRACT
NO.	NUMBER
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF.	OUTSIDE FACE, OVERFLOW
OSD	OPEN SITE DRAIN
OPNG	OPENING
OZ	OUNCE
PC	POINT OF CURVE
PCC	PORTLAND CEMENT CONCRETE, POINT OF COMPOUND CURVATURE
PCO	PRESSURE CLEANOUT
PD	PUMPED DRAIN
PE	PLAIN END
PH	POTHOLE
PI	POINT OF INTERSECTION
PL	PLASTIC, PROPERTY LINE, PLATE
℗	PLATE (STEEL)
PLYWD	PLYWOOD
PRC	POINT OF REVERSE CURVE
PREFAB	PREFABRICATED
PRESS.	PRESSURE
PRI.	PRIMARY
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PS	PUMP STATION
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PT	POINT, POINT OF TANGENCY
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE PLASTIC, PVC PIPE
PVMT	PAVEMENT
R	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN, ROAD
RDCR	REDUCER
RDW	REDWOOD
RECIRC	RECIRCULATION
REF	REFER OR REFERENCE
REINF	REINFORCED, REINFORCING, REINFORCE
REQD	REQUIRED
RM	ROOM
RO	ROUGH OPENING
RPVC	REINFORCED POLYVINYL CHLORIDE
RSFM	RAW SEWAGE FORCE MAIN
RSU	RETURN SUPERNATANT
RT	RIGHT
RTN	RETURN
RV	ROOF VENT
RW	RECYCLED WATER
R/W	RIGHT–OF–WAY
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SD	STORM DRAIN, SOAP DISPENSER
SE	SECONDARY EFFLUENT
SEC	SECONDARY
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL, SLP	SLOPE
SOLN	SOLUTION
SP	SPACE OR SPACES
SPEC	SPECIFICATIONS
SPLY	SUPPLY
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SS	SANITARY SEWER
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL, STEEL PIPE
STR	STRAIGHT
STRL	STRUCTURAL
STRUCT	STRUCTURE
SUSP	SUSPEND
SWD	STORM WATER DRAIN
SYMM	SYMMETRICAL
T	TANGENT LENGTH
TAN.	TANGENT
TBG	TUBING
TBM	TEMPORARY BENCH MARK
T&B	TOP AND BOTTOM
TC	TOP OF CURB
TDH	TOTAL DYNAMIC HEAD
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE
TF	TOP FACE, TOP FLAT
T&G	TONGUE AND GROOVE
THD	THREAD
THK	THICK
THRU	THROUGH
TOS	TOP OF SLOPE, TOP OF STEEL
TP	TURNING POINT
TRANSF	TRANSFORMER
TRANSV	TRANSVERSE
TW	TOP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UD	UNDERDRAIN
UNO	UNLESS NOTED OTHERWISE
USA	UNDERGROUND SERVICES ALERT
V	VENT, VOLT, VALVE
VAC	VACUUM
VAR	VARIOUS
VC	VERTICAL CURVE
VERT	VERTICAL
VPI	VERTICAL POINT OF INTERSECTION
VTR	VENT THRU ROOF
W	WIDE FLANGE (BEAM), WEST, WATER
W/	WITH
WAS	WASTE ACTIVATED SLUDGE
WC	WATER CLOSET
WH	WATER HEATER
WM	WATER METER
WP	WORK POINT
WS	WATER SURFACE, WATER STOP
W SH ST	WEATHERING SHEET STEEL
WSP	WELDED STEEL PIPE
WT	WEIGHT
WTR	WATER
WW	WASHWATER
WWF	WELDED WIRE FABRIC
YD	YARD

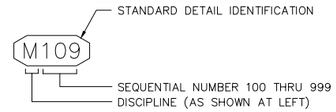
NOTES:

1. THIS IS A STANDARD ABBREVIATION SHEET. SOME ABBREVIATIONS THAT APPEAR ON THIS SHEET ARE NOT USED ON THIS PROJECT.

SECTION AND DETAIL IDENTIFICATION



STANDARD DETAIL IDENTIFICATION



DISCIPLINES:

A	ARCHITECTURAL
C	CIVIL
CP	CATHODIC PROTECTION
D	DEMOLITION
E	ELECTRICAL
G	GENERAL
I	INSTRUMENTATION AND CONTROL
LS	LIFT STATION
M	MECHANICAL
PP	PIPELINE PLAN AND PROFILE
S	STRUCTURAL

NOTE:

STANDARD DETAIL IDENTIFICATIONS ARE SHOWN ON THE PLANS AND ON THE STANDARD DETAIL DRAWINGS. THERE IS NO SPECIFIC CROSS REFERENCING OF DRAWINGS. STANDARD DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO ALL SIMILAR SITUATIONS OCCURRING ON THIS PROJECT, WHETHER OR NOT THEY ARE REFERENCED TO IN EACH APPLICABLE LOCATION. CONSULT THE ENGINEER FOR REVIEW OF THE USE OF STANDARD DETAILS PRIOR TO BIDDING.

FACILITY AREA IDENTIFICATION

1XXX	INFLUENT PUMP STATION
2XXX	HEADWORKS
3XXX	BIOLOGICAL REACTORS
4XXX	MEMBRANE FILTRATION/BLOWER ROOM/ELECTRICAL ROOM
5XXX	UV FILTRATION
6XXX	RECYCLED WATER/UTILITY WATER/EFFLUENT PUMPING STATION
7XXX	SOLIDS HANDLING
8XXX	CHEMICAL AREAS
9XXX	OPERATIONS BUILDING

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0" ——— 1" — VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

ABBREVIATIONS AND SYMBOLS

DESIGNED BY: M. Hoeft	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. G-3 Sheet _____ of XXX Sheets

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PROCESS FLUID PIPE SCHEDULE

		PIPE TYPE		PIPE TESTING		
FLUID ABBREV	PROCESS FLUID	BURIED	EXPOSED	PRESSURE (PSI)	FLUID	NOTES
1W	NO. 1 WATER (POTABLE)	11,41,91,96	11,41,91	150	WATER	
AA	AERATION AIR	45	21,45	50	AIR	ACOUSTICAL WRAPPING
AL	ALUM	91	91	100	WATER	
BP	BYPASS	SAME AS MAIN PROCESS FLUID				
CA	CITRIC ACID	98	91,98	100	WATER	
D	DRAIN	93,97	11,21,92	20	WATER	
DFM	DRAIN FORCE MAIN	96	11,21,92	150	WATER	
EFF	EFFLUENT	91,92,96	91,92	100	WATER	
FA	FOUL AIR	61,96,97	61	15	AIR	
GR	GRIT	12,26	12,26	NA	WATER	
MC	MICROC	98	91,98	150	WATER	
MLR	MIXED LIQUIOR RECYCLE	11,25,92,96	21,46	50	WATER	
MLT	MIXED LIQUIOR TRANSFER	11,25,92,96	21,46	50	WATER	
OF	OVERFLOW	11,25,92	21,46	20	WATER	SAME AS MAIN PROCESS FLUID
PRM	PERMEATE	92,97	21,92	50	WATER	
RAS	RECYCLED ACTIVATED SLUDGE	11,25,92,96	21	50	WATER	
RW	RECYCLED WATER	11,96	21,92	150	WATER	
SB	SODIUM BICARBONATE	98	91,98	100	WATER	
SC	SCREENINGS	11,25	21	20	WATER	
SCWW	SCREENED WW	93	NA	20	WATER	
SCUM	SCUM	12,26	12,26	20	WATER	
SD	STORM DRAIN	93,97	NA	20	WATER	
SH	SODIUM HYPOCHLORITE	98	91,98	100	WATER	
SM	SAMPLE	91	91	20	WATER	
SN	SUPERNATANT	11,93	NA	20	WATER	
TS	THICKENED SLUDGE	NA	45,92	20	WATER	
UVE	UV EFFLUENT	92,97	21	50	WATER	
UVI	UV INFLUENT	92,97	21	50	WATER	
UW	PLANT UTILITY WATER	11,25,91,92,96	22,42,91	150	WATER	
V	VENT	NA	21,91	20	AIR	
WW	WASTEWATER	93	11,21	20	WATER	
WWFM	WASTEWATER FORCEMAIN	NA	21,46	50	WATER	
WAS	WASTE ACTIVATED SLUDGE	11,25,92,96	21	50	WATER	

JOINT TYPES

BF	BUTT FUSION
BLO	BUTT LAMINATED OVERLAY
BSG	BELL SPIGOT, GASKET
BSW	BELL SPIGOT WELD
BW	BUTT WELD
CJ	COMPRESSION JOINTS
CW	SOCKET WELDED
F	FLANGED
FJ	FLARED JOINTS
GC	GROOVED COUPLING
GTG	GROUTED TONGUE AND GROOVE
MJ	MECHANAL JOINT
SC	SLEEVE COUPLING
SE	SCREWED ENDS
SJ	SOLDERED JOINTS
SW	SOLVENT WELDED
THD	THREADED

NOTES:

(1) A PIPE MATERIAL SPECIFICALLY DESIGNATED ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER OPTIONAL MATERIALS SHOWN IN THE TABLE. THIS SYMBOL ◆— INDICATES A PIPE MATERIAL CHANGE.

(2) REFER TO SPECIFICATION SECTION 02640 – PIPELINE TESTING AND DISINFECTION FOR HYDRAULIC TESTING REQUIREMENTS AND LEAKAGE ALLOWANCES.

(3) INSPECTION AND TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE PLUMBING CODE.

(4) INSTALL ALL EXPOSED OUTDOOR PIPES 2" AND SMALLER CARRYING WATER IN ACCORDANCE WITH SPECIFICATION SECTION 15080.

PIPE MATERIAL SCHEDULE

Pipe Mtl Number	PIPE MATERIAL	Specification Section	Type/ Rating	Joint Type (a) Buried	Joint Type (a) Exposed	SPECIAL THRUST RESTRAINT REQUIREMENTS	CORROSION PROTECTION REQUIREMENTS
	DUCTILE IRON PIPE						
11	DIP, C-151, CML	02565	250	BSG	BSG,F	MECH. RESTRAINTS OR ANCHOR BLOCKS AT BENDS	SEE PIPE SPEC
12	DIP, C-151, GLASS LINED	02565, 15000	250	BSG	BSG,F	MECH. RESTRAINTS OR ANCHOR BLOCKS AT BENDS	SEE PIPE SPEC
	STEEL PIPE						
21	STEEL, ASTM A53 (<3 INCH)	15025	SCH 40	SC,BW,CW	SC,F,BW,CW		SEE PIPE SPEC
	STEEL, ASTM A53 (3 - 12 INCH)	15025	SCH 40	GC,SC	F,GC,SC		SEE PIPE SPEC
	STEEL, ASTM A53 (> 12 INCH)	15025	1/4" Wall	GC,SC	F,GC,SC		SEE PIPE SPEC
22	GALV STEEL, ASTM A106	15025	SCH 40	GC,SC	GC,SC		
23	STEEL, ASTM A106	15025	SCH 80	CW	CW		
25	STEEL, AWWA C200, CML&C	02570	1/4" Wall	BSW	BSW,F		SEE PIPE SPEC
26	STEEL, ASTM A106, GLASS LINED	15025, 15000	SCH 80	CW	CW		
	ALLOY PIPE						
41	COPPER	15036	Type K	SJ,FJ,CJ,SE	SJ,F,,CJ,SE		
42	BRASS						
45	STAINLESS STEEL - 316		SCH 10	BW,SC,F	BW,SC,F		
46	STAINLESS STEEL - 316 (UP TO 2.5 INCH	15030	SCH 40	SE	SE		
	STAINLESS STEEL - 316 (>3 INCH)	15030	SCH 40	BW,CW	BW,CW,F		
47	STAINLESS STEEL - 304		SCH 10				
48	STAINLESS STEEL TUBING	15030					
	FRP						
61	FRP DUCTING	02510		BLO	BLO		
	PLASTIC						
91	PVC (1)	15060	SCH 80	SW	SW		
92	PVC C-900,905	02597	DR-18	BSG	BSG	MECH. RESTRAINTS OR ANCHOR BLOCKS AT BENDS	SEE PIPE SPEC
93	PVC GRAVITY SEWER PIPE	02595	SDR-35	BSG	BSG		SEE PIPE SPEC
96	HDPE, SOLID WALL, C-906 (5)	02590	DR-11	BF	BF,F		SEE PIPE SPEC
97	HDPE, PROFILE WALL	02591	RSC-63	BSW	BSW		SEE PIPE SPEC
98	PVC TUBING IN PVC CONTAINMENT PIP	15061	900	SW	SW		

NOTES:
(1) SCH 80 PVC MAY ONLY BE USED FOR PIPE DIAMETERS 4 INCHES AND SMALLER.
(2) THIS SCHEDULE IDENTIFIES CERTAIN THRUST RESTRAINT AND CORROSION PROTECTION. REQUIREMENTS, FOR CLARITY. NOT ALL REQUIREMENTS ARE IDENTIFIED. CONTRACTOR SHALL FULLY COMPLY WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.
(3) MECHANICAL RESTRAINTS PER PIPE SPECIFICATIONS. ANCHOR BLOCKS PER DETAIL C252.
(4) SEE SPECIFICATIONS FOR CORROSION PROTECTION REQUIREMENTS. INSULATED FLANGES SHALL BE PROVIDED ON METALLIC PIPES PER THE REQUIREMENTS OF THE CONTRACT DOCUMENTS (SEE DETAIL 4 ON DRAWING C200-4).
(5) UNLESS OTHERWISE NOTED HDPE PIPE SIZES SHOWN ON THE DRAWINGS ARE NOMINAL IRON PIPE SIZE (IPS). SEE SPECIFICATIONS.

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AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

PLAN AND PROFILE PIPING LEGEND

- 24" FM — FORCEMAIN
- BO — BLOWOFF (PLAN)
- AIR RELEASE VALVE
- 12" SD — STORM DRAIN MAIN
- 8" SS — SANITARY SEWER MAIN
- 8" W — WATER MAIN
- E — ELEC CONDUIT (UNDERGROUND)
- E (O/H) — ELEC CABLES (OVERHEAD)
- T — TELECOM (POSSIBLY FIBRE OPTIC) CONDUIT
- FO — TELECOM/FIBRE OPTIC CONDUIT
- 8" GAS — GAS PIPELINE
- 18" SD?? — EXISTENCE OR SIZE OF UTILITY NOT CONFIRMED (??)
- STORM DRAIN INLET
- MANHOLE
- WATER METER
- FIRE HYDRANT
- WATER VALVE

YARD PIPING LEGEND

- NEW PIPE
- FUTURE PIPE
- TEMPORARY PIPE
- DUCT BANK

VALVES

- GATE
- KG — KNIFE GATE
- BALL
- GLOBE
- BUTTERFLY
- V — VEE BALL
- ECCENTRIC PLUG
- NEEDLE
- PLUG OR COCK
- BALL CHECK
- SWING OR SILENT CHECK
- DOUBLE DOOR CHECK
- PINCH
- DIAPHRAGM
- HOSE VALVE
- PRESSURE RELIEF
- REGULATED SIDE
- PRESSURE CONTROL
- AIR RELIEF VALVE
- AIR AND VACUUM RELIEF VALVE

MISCELLANEOUS PIPING COMPONENTS

- FLEXIBLE (ELASTOMER) PIPE CONNECTION
- WYE-STRAINER
- BASKET STRAINER
- QUICK DISCONNECT COUPLING
- HOSE RACK
- SAFETY SHOWER/EYEWASH
- CO — CLEANOUT
- HD — HUB DRAIN
- FD — FLOOR DRAIN
- F — FLUSHING CONNECTION

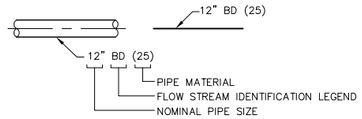
MECHANICAL PIPING LEGEND

DOUBLE LINE	SINGLE LINE	
		EXISTING PIPE (FUTURE PIPE IF DESIGNATED AS FUTURE)
		NEW PIPE
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		BUTT WELDED JOINT
		FLANGED JOINT
		GROOVED END JOINT
		HUB & SPIGOT JOINT
		FLEXIBLE COUPLING
		FLANGED COUPLING ADAPTER
		MECHANICAL JOINT
		ELASTOMER BELLOWS EXP JOINT
		ELBOW DOWN
		ELBOW UP
		TEE DOWN
		TEE UP
		LATERAL DOWN
		LATERAL UP
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		CAP (BUTT WELDED)
		CAP (SCREWED OR SOCKET WELDED)
		ELBOW, 90 DEGREE
		CROSS
		TEE
		ELBOW, 45 DEGREE
		LATERAL
		CHANGE IN PIPE MATERIAL
COUPLING MAY VARY		
		BLIND FLANGE

GENERAL PIPING NOTES

1. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE SHOWN WITH SOCKET TYPE ENDS. END CONNECTIONS SHALL BE PER SPECIFICATIONS.
2. THIS IS A STANDARD LEGEND SHEET. NOT ALL ITEMS SHOWN ARE USED ON THIS PROJECT.
3. SOME SYMBOLS MAY BE SHOWN DIFFERENTLY ON DRAWINGS AND LABELED ACCORDINGLY.
4. NOT ALL PIPING AND VALVES ARE SHOWN ON THE MECHANICAL DRAWINGS. SEE INSTRUMENTATION AND CONTROL DRAWINGS FOR ADDITIONAL PIPING AND VALVES.

PIPING DESIGNATION



NOTE:
FLOW STREAM IDENTIFICATION LEGEND SHALL BE USED FOR PIPING SCHEDULE SELECTION. ADDITIONAL DESCRIPTION IS USED ONLY TO DESCRIBE THE PROCESS FUNCTION OF THE PIPE. ADDITIONAL DESCRIPTIONS ARE FROM THE STANDARD ABBREVIATIONS DRAWING.

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0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PIPE SCHEDULE AND LEGENDS

DESIGNED BY: M. Hoeft	DATE 06/2013	SCALE NONE	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. G-4 Sheet ____ of XXX Sheets

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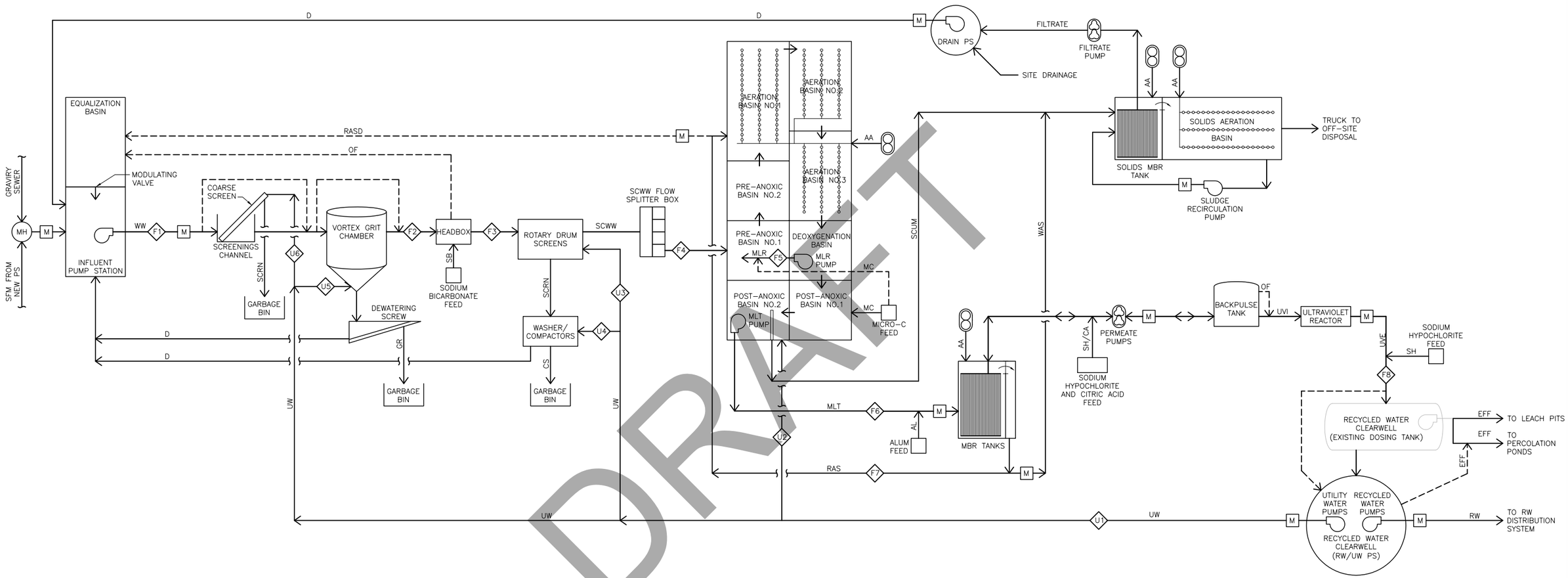

DRAFT

LIST OF ABBREVIATIONS	
AA	AIR
AL	ALUM
CA	CITRIC ACID
CS	COMPACTED SCREENINGS
D	DRAIN
GR	GRIT
MC	MICRO-C
MLR	MIXED LIQUOR RECYCLE
MLT	MIXED LIQUOR TRANSFER
OF	OVERFLOW
RAS	RETURN ACTIVATED SLUDGE
RW	RECYCLED WATER
SB	SODIUM BICARBONATE
SCRN	SCREENINGS
SCWW	SCREENED WASTEWATER
SFM	SEWER FORCEMAIN
SH	SODIUM HYPOCHLORITE
UVE	ULTRAVIOLET EFFLUENT
UVI	ULTRAVIOLET INFLUENT
UW	UTILITY WATER
WAS	WASTE ACTIVATED SLUDGE
WW	WASTEWATER

LEGEND:

- PRIMARY PROCESS FLOW
- SECONDARY PROCESS FLOW
- ALTERNATE FLOW ROUTE
- F# PRIMARY WASTEWATER FLOW (SEE PLANT FOW RATE TABLE)
- U# UTILITY WATER FLOW (SEE PLANT FOW RATE TABLE)
- PUMP
- LOBE PUMP
- M FLOW METER
- BLOWER

PLANT FLOW RATES	
FLOW STREAM ID	PEAK FLOW RATE
F1	0.334 MGD
F2	0.334 MGD
F3	0.188 MGD
F4	0.188 MGD
F5	1.150 MGD
F6	1.000 MGD
F7	0.810 MGD
F8	0.190 MGD
U1	85 GPM*
U2	20 GPM*
U3	56 GPM*
U4	8 GPM
U5	15 GPM
U6	15 GPM*

* INTERMITTENT FLOW

NOTES ON FACILITIES:

1. TWO INFLUENT PUMPS.
2. TWO FINE SCREENS AND TWO WASHER/COMPACTORS.
3. TWO TRAINS OF BIOLOGICAL REACTORS AND ASSOCIATED MIXERS, PUMPS AND BLOWERS.
4. TWO TRAINS OF MEMBRANE TANKS, BLOWERS, PERMEATE PUMPS, AND ASSOCIATED APPURTENANCES.
5. TWO RW PUMPS AND TWO UW PUMPS.
6. THREE UV REACTORS AND APPURTENANCES.
7. TWO DRAIN PUMPS.

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

WWTP PROCESS FLOW SCHEMATIC

DESIGNED BY: M.Hoeft DATE 06/2013
DRAWN BY: M.Foyle DATE 06/2013
CHECKED BY: M.Nakamoto DATE 06/2013
SCALE: AS SHOWN
PROJECT NUMBER: XXXX
APPROVED BY: DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. G-5

Sheet _____ of XXX Sheets

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WATER TREATMENT PLANT DESIGN CRITERIA – BY PHASE

FLOWS & LOADS	VALUE	UNITS	VALUE	VALUE	VALUE
	PHASE 1A		**PHASE 1 (FULL)**	**PHASE 2**	**PHASE 3**
AVERAGE ANNUAL FLOW	95,900	GPD	190,900	361,000	506,600
MAX DAY FLOW	142,500	GPD	276,000	534,000	754,000
PEAK HOUR	333,000	GPD	644,000	1,247,000	1,758,000
PLANT RECYCLE FLOW(ADD TO DESIGN FLOWS)		GPD			
AVERAGE BOD LOADING	308	LBS/DAY	595	1150	1373
MAX DAY BOD LOADING	461	LBS/DAY	668	1291	1495
AVERAGE TSS LOADING	210	LBS/DAY	405	784	1098
MAX DAY TSS LOADING	314	LBS/DAY	523	1011	1295
AVERAGE TKN LOADING	51	LBS/DAY	98	190	231
MAX DAY TKN LOADING	76	LBS/DAY	111	214	251
AVERAGE AMMONIA LOADING	42	LBS/DAY	82	159	181
MAX DAY AMMONIA LOADING	64	LBS/DAY	93	179	199
AVERAGE PHOSPHOROUS LOADING	10	LBS/DAY	20	39	51
MAX DAY PHOSPHOROUS LOADING	16	LBS/DAY	23	45	56

WATER TREATMENT PLANT DESIGN CRITERIA – BY EQUIPMENT

FLOWS & LOADS	VALUE	UNITS
INFLUENT PUMP STATION		
TYPE	NON-CLOG SUBMERSIBLE	
NUMBER	1 DUTY & 1 STANDBY	
CAPACITY (EACH)	608	GPM
TDH	25	FT
MOTOR SIZE	10	HP
EQUALIZATION BASIN		
WIDTH XLENGTH	30 x 40	FT X FT
OPERATING WATER RANGE	12	FT
EQUALIZATION VOLUME	108,000	GALS
INFLUENT METER		
TYPE	PALMER BOWLUS	
SIZE	8 IN (NESTED WITHING A 12 IN)	
HEADWORKS FLOW METER		
TYPE	MAGNETIC	
SIZE	6-INCH	
COARSE SCREEN		
TYPE	SPIRAL SCREEN	
NUMBER	1 DUTY WITH BYPASS	
OPENING SIZE	6	MM
WASH WATER FLOW	8	GPM
WASH WATER PRESSURE	40	PSI
WASH WATER RUNTIME	15	MINS/HOUR
CAPACITY (EACH)	2.0	MGD
CONVEYOR TYPE	SHAFTLESS SCREW	
COMPACTOR TYPE	SCREW COMPACTOR	
MOTOR SIZE	2	HP
GRIT REMOVAL		
TYPE	MECHANICAL VORTEX	
NUMBER	1 DUTY WITH BYPASS	
DIAMETER	7	FT
CAPACITY (EACH)	2.0	MGD
PADDLE MOTOR SIZE	0.5	HP
CONVEYOR TYPE	SCREW PRESS	
MOTOR SIZE	1	HP
FINE SCREENS		
TYPE	INTERNALLY-FED ROTARY DRUM	
NUMBER	1 DUTY & 1 STANDBY	
OPENING SIZE	2	MM
INTERNAL WASH WATER FLOW (PEAK)	26	GPM
INTERNAL WASH WATER PRESSURE	80	PSI
INTERNAL WASH WATER RUNTIME	5.5	MINS/HOUR
EXTERNAL WASH WATER FLOW (PEAK)	26	GPM
EXTERNAL WASH WATER PRESSURE	80	PSI
EXTERNAL WASH WATER RUNTIME	20	MINS/HOUR
CAPACITY (EACH)	1.5	MGD
CONVEYOR TYPE	LAUNDER	
MOTOR SIZE	0.5	HP
SCREENING WASHER/COMPACTOR		
TYPE		
NUMBER	1 DUTY & 1 STANDBY	
WASH WATER FLOW	8	GPM
WASH WATER PRESSURE	60	PSI
WASH WATER RUNTIME	20	MINS/HOUR
CAPACITY (EACH)	35	CF/HR
CONVEYOR TYPE	SCREW PRESS	
MOTOR SIZE	3	HP
BIOREACTORS		
MLSS	8000	MG/L
MCRT AT AVERAGE FLOW	22.3	DAYS
HRT AT AVERAGE FLOW	35.8	HRS
AERATION TYPE	FINE BUBBLE	
MIXING TYPE	SUBMERSIBLE	
NUMBER OF TRAINS	2	
NUMBER OF PRE-ANOXIC BASINS (PER TRAIN)	2	
VOLUME, TOTAL	24,500	GALS
WIDTH x LENGTH	10 x 10	FT X FT
BASIN #1 WATER DEPTH	16.5	FT
BASIN #2 WATER DEPTH	16.25	FT
NUMBER OF AERATION BASINS Number (PER TRAIN)	3	
VOLUME, TOTAL	65,000	GALS
WIDTH	10	FT
BASIN #1 LENGTH	23.0	FT
BASIN #2 LENGTH	16.5	FT
BASIN #3 LENGTH	16.5	FT
BASIN #1 WATER DEPTH	15.75	FT
BASIN #2 WATER DEPTH	15.5	FT
BASIN #3 WATER DEPTH	15.25	FT
NUMBER OF DE-OXYGENATION BASINS (PER TRAIN)	1	
VOLUME, EACH BASIN	11,000	GALS
WIDTH x LENGTH	10 x 10	FT X FT
BASIN WATER DEPTH	14.75	FT
NUMBER OF POST-ANOXIC BASINS (PER TRAIN)	2	
VOLUME, TOTAL	21,100	GALS
WIDTH x LENGTH	10 x 10	FT X FT
BASIN #1 WATER DEPTH	14.25	FT
BASIN #2 WATER DEPTH	14	FT

FLOWS & LOADS	VALUE	UNITS
AERATION BLOWERS		
TYPE	PD BLOWER	
NUMBER	1 DUTY + 1 STANDBY	
SCFM (EACH)	495	
ACFM (EACH)		
TDH		PSI
MOTOR SIZE	30	HP
MIXERS		
TYPE	SUBMERSIBLE	
NUMBER	10 DUTY + 1 SHELF SPARE	
MOTOR SIZE	1.2	HP
CARBON SOURCE (MICRO C)		
TYPE	MICROC	
NUMBER OF TOTES	1	
TANK VOLUME	250	GAL
AVERAGE USE	300	GAL/MONTH
TYPE OF PUMP	PERISTALTIC	
NUMBER OF PUMPS	2 DUTY + 1 SHELF SPARE	
CAPACITY	0.5	GAL/HR
MINIMUM TURNDOWN RATIO	20:01	
MINIMUN PRESSURE RATING	20	PSI
MOTOR SIZE	0.5	HP
MIXED LIQUOR RECYCLE PUMPS		
TYPE	NON-CLOG PROPELLER PUMP	
NUMBER	2 DUTY + 1 SHELF SPARE	
MOTOR SIZE	2.5	HP
MIXED LIQUOR TRANSFER PUMPS		
TYPE	NON-CLOG SUBMERSIBLE	
NUMBER	2 DUTY + 1 SHELF SPARE	
CAPACITY (EACH)	660	GPM
TDH	11	GT
MOTOR SIZE	10	HP
MEMBRANE REACTOR		
MLSS	8000	MG/L
AERATION TYPE	COARSE BUBBLE	
MEMBRANE TYPE	HOLLOW FIBER	
MANUFACTURERS	GE	
MODEL	500D	
MODULES PER CASSETTE	48	
CASETTES PER TRAIN	1	
DESIGN FLUX AT AVERAGE FLOW (PHASE 1A)	7.2	
DESIGN FLUX AT MAX DAY FLOW (PHASE 1A)	14.1	
DESIGN FLUX AT MAX DAY FLOW WITH 1 UNIT OUT OF SERVICE (PHASE 1A)	14.1	
DESIGN FLUX AT AVERAGE FLOW (PHASE 1)	8.3	
DESIGN FLUX AT MAX DAY FLOW (PHASE 1)	9.7	
DESIGN FLUX AT MAX DAY FLOW WITH 1 UNIT OUT OF SERVICE (PHASE 1)	14.5	
DESIGN FLUX AT AVERAGE FLOW (BUILDOUT)	9.4	
DESIGN FLUX AT MAX DAY FLOW (BUILDOUT)	11.7	
DESIGN FLUX AT MAX DAY FLOW WITH 1 UNIT OUT OF SERVICE (BUILDOUT)	15.6	
MEMBRANE PERMEATE PUMPS		
TYPE	ROTARY LOBE	
NUMBER	1 DUTY + 1 STANDBY	
CAPACITY (EACH)	460	GPM
TDH	11	GT
MOTOR SIZE	15	HP
MEMBRANE BLOWERS		
TYPE	POSITIVE DISPLACEMENT BLOWER	
NUMBER	1 DUTY + 1 STANDBY	
SCFM (EACH)	320	SCFM
ACFM (EACH)	350	
TDH	4	PSI
MOTOR SIZE	10	HP
CITRIC ACID FEED SYSTEM		
TYPE	CITRIC ACID	
NUMBER OF TOTES	1	
TANK VOLUME	250	GAL
AVERAGE USE	20	GAL/MONTH
TYPE OF PUMP	PERISTALTIC	
NUMBER OF PUMPS	1	
CAPACITY	20	GAL/HR
MINIMUM TURNDOWN RATIO	20:1	
MINIMUM PRESSURE RATING	50	PSI
MOTOR SIZE	0.5	HP
ALUM FEED SYSTEM		
TYPE	48% ALUM	
NUMBER OF TOTES	1	
TANK VOLUME	250	GAL
AVERAGE USE	72	GAL/DAY
TYPE OF PUMP	PERISTALTIC	
NUMBER OF PUMPS	1	
CAPACITY	1	GAL/HR
MINIMUM TURNDOWN RATIO	20:1	
MINIMUM PRESSURE RATING	100	PSI
MOTOR SIZE	0.5	HP

FLOWS & LOADS	VALUE	UNITS
UV DISINFECTION		
TYPE	CLOSED CONDUIT	
LAMP TYPE	LOW PRESSURE HIGH OUTPUT	
NUMBER OF TRAINS	2 DUTY + 1 STANDBY	
NUMBER OF REACTORS PER TRAIN	1	
LAMPS PER REACTOR	8	
CAPACITY (EACH REACTOR)	0.1	MGD
RECYCLED WATER PUMP STATION		
TYPE	SUBMERSIBLE TURBINE PUMP	
NUMBER	1 DUTY + 1 STANDBY	
CAPACITY (EACH)	300	GMP
TDH	200	FT
MOTOR SIZE	20	HP
EXISTING RECYCLED WATER STORAGE TANK		
TYPE	BURIED FRP TANK	
NUMBER	1	
VOLUME	50,000	GALS
UTILITY WATER PUMP STATION		
TYPE	SUBMERSIBLE TURBINE PUMPS	
NUMBER	1 DUTY + 1 STANDBY	
CAPACITY (EACH)	35	GPM
TDH	200	FT
MOTOR SIZE	7.5	HP
SODIUM HYPOCHLORITE (LTILITY WATER, MEMBRANE CLEANING, RECYCLED WATER)		
TYPE	12.5% SODIUM HYPOCHLORITE	
NUMBER OF TOTES	1	
TANK VOLUME	250	GAL
AVERAGE USE		GAL/DAY
TYPE OF PUMP	PERISTALTIC	
NUMBER OF PUMPS	3	
PUMP #1 CAPACITY	0.3	GAL/HOUR
PUMP #2 CAPACITY	2	GAL/HOUR
PUMP #3 CAPACITY	20	GAL/HOUR
MINIMUM TURNDOWN CAPACITY	20:01	
MINIMUM PRESSURE RATING	20	PSI
MOTOR SIZE	0.5	HP
SODIUM BICARBONATE		
TYPE	SODIUM BICARBONATE	
NUMBER OF TOTES	1	
TANK VOLUME	250	GAL
AVERAGE USE	530	LBS/DAY
TYPE OF PUMP	PERISTALTIC	
NUMBER OF PUMPS	1 DUTY + 1 STANDBY	
CAPACITY	1	GAL/HOUR
MINIMUM TURNDOWN RATIO	20:01	
MINIMUM PRESSURE RATING	10	PSI
MOTOR SIZE	0.5	HP
SOLIDS STORAGE TANK		
TOTAL VOLUME	40,400	GALS
DAYS OF STORAGE @ 8,000 MG/L	3.5	DAYS
DAYS OF STORAGE @ 27,000 MG/L	11.8	DAYS
WIDTH	12	FEET
LENGTH	25	FEET
TOTAL DEPTH	10	FEET
AERATION TYPE	COARSE BUBBLE	
BLOWER TYPE	POSITIVE DISPLACEMENT	
NUMBER	1	
CAPACITY		SCFM
MOTOR SIZE	15	HP
MEMBRANE THICKENING TRANSFER PUMP		
TYPE	AIRLIFT	
NUMBER	1	
CAPACITY (EACH)	11	GPM
TDH	4	GT
MOTOR SIZE	5	HP
MEMBRANE SOLIDS THICKENING		
MLSS INFLUENT	8,000	MG/L
THICKENED WAS	27,000	MG/L
AERATION TYPE	COARSE BUBBLE	
MEMBRANE TYPE	FLAT PLATE	
MANUFACTURERS	OVIVO	
NUMBER OF CASSETTES	2	
DESIGN FLUX AT AVERAGE FLOW		GFD

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

WWTP DESIGN CRITERIA

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING.
IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

DESIGNED BY: M. Hoeft — DATE: 06/2013	SCALE: NONE
DRAWN BY: M.Foyle — DATE: 06/2013	
CHECKED BY: M.Nakamoto — DATE: 06/2013	PROJECT NUMBER: XXXX

Plan No. G-6

APPROVED BY: DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

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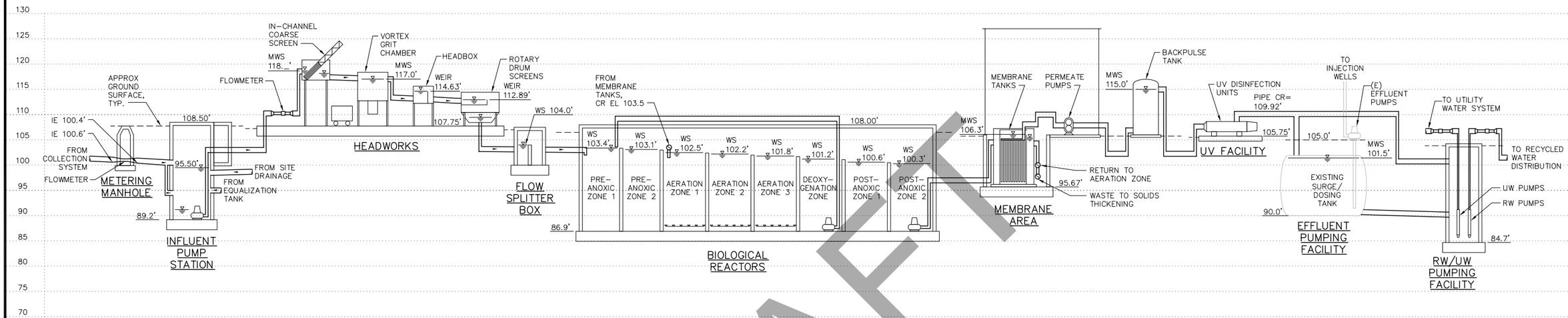

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

WWTP HYDRAULIC PROFILE

DESIGNED BY: M. Hoeft	DATE 06/2013	SCALE NONE	APPROVED BY: DATE XX-XX-13
DRAWN BY: M. Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. G-7

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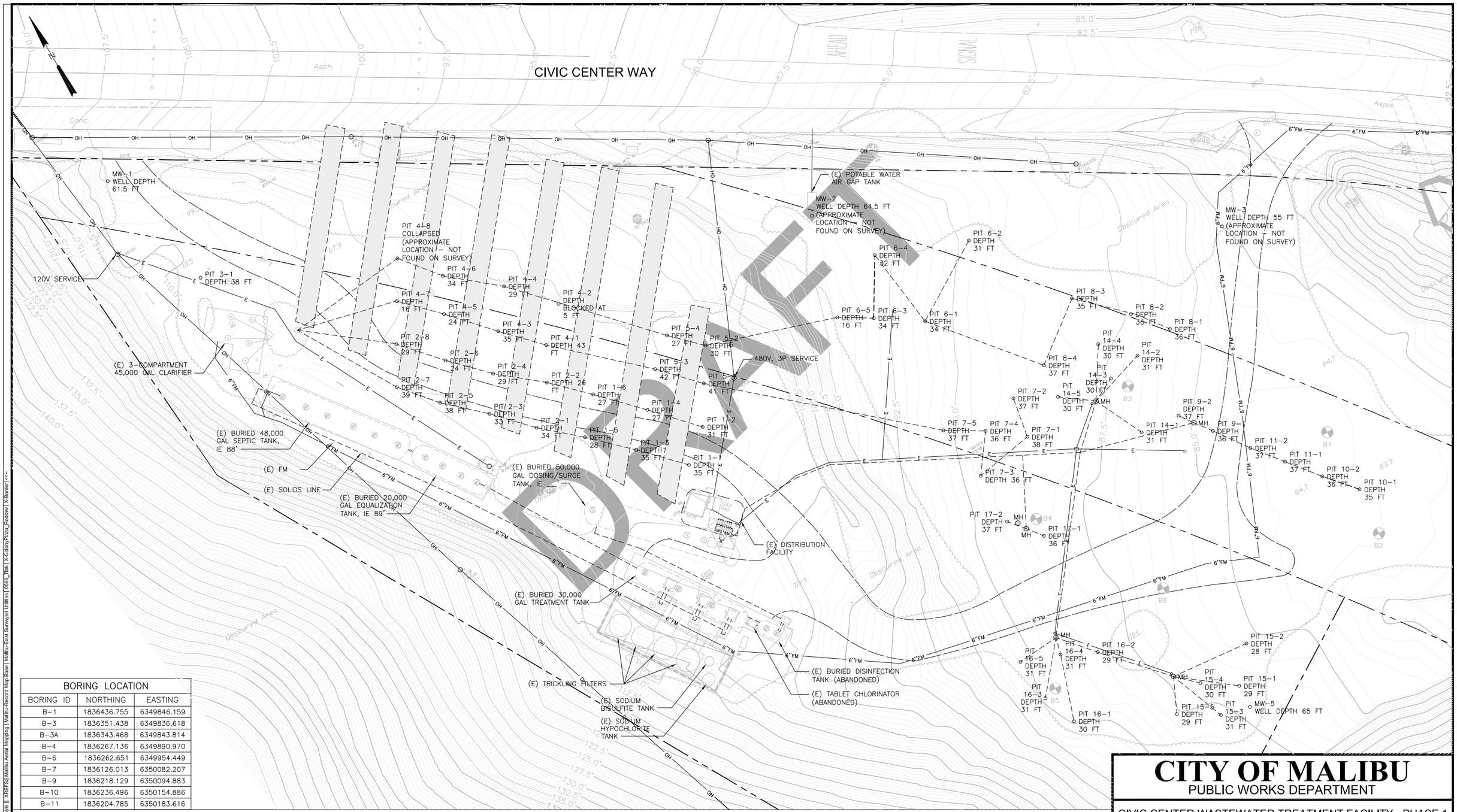

BORING LOCATION		
BORING ID	NORTHING	EASTING
B-1	1836436.755	6349846.159
B-3	1836351.438	6349836.618
B-3A	1836343.468	6349843.814
B-4	1836267.136	6349890.970
B-6	1836262.651	6349954.449
B-7	1836126.013	6350082.207
B-9	1836218.129	6350094.883
B-10	1836236.496	6350154.886
B-11	1836204.785	6350183.616

NOTES:

1. EXACT LOCATION OF BURIED UTILITIES ARE UNKNOWN. CONTRACTOR SHALL FIELD VERIFY LOCATION AND RELOCATE LINES AS NECESSARY FOR CONTINUED OPERATION OF EXISTING FACILITY PRIOR TO CONSTRUCTION OF NEW FACILITIES.

SCALE: 1"=20'

0 20 40 60

SCALE IN FEET

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE, DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

OVERALL SITE PLAN AND EXISTING CONDITIONS

DESIGNED BY: M. Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M. Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. G-8

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FILENAME: 0127-006-G-8 10-18-13 1122am mfoyle || XREFs: Malibu Aerial Mapping | Malibu-Record Map Base | Malibu-Exist Surveyed Utilities | 0586_Tbls | X-ColonyPlaza_Redraw | X-Border |<--

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LEGEND

- PROPERTY LINE
- 105 — CONTOUR LINE
- + 101.3 — SPOT ELEVATION
- X — X — FENCE
- FLOW LINE
- ABANDONED
- TO BE REMOVED
- DEMOLITION
- VEGETATION
- (1) — PHOTO POINT WITH DIRECTION (NUMBER CORRESPONDS TO PHOTO NUMBER LOCATED ON FOLLOWING DRAWINGS)

NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL ELEVATIONS, DIMENSIONS AND PIPE AND EQUIPMENT LOCATIONS.
2. DEMOLITION SHALL BE IN ACCORDANCE WITH SECTION 02050 RECONSTRUCTION AND SEQUENCING AND CONSTRAINTS IN SECTION 01010.
3. FOR PIPELINES TO BE CUT AND CAP, CONTACTOR SHALL INSTALL THRUST RESTRAINT AS NECESSARY TO PREVENT CAPPED PIPELINES FROM DISCONNECTION AND LEAKAGE DURING OPERATION.
4. ALL MATERIALS/ITEMS IDENTIFIED "TO BE REMOVED" AND/OR "REMOVE" SHALL BE DISPOSED OF OFFSITE BY THE CONTRACTOR IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ALL MATERIALS/ITEMS IDENTIFIED TO BE "SALVAGED" AND/OR "SALVAGE" SHALL BE REMOVED AND STORED FOR OWNER TO PICK UP IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. TRENCHES FOR DEMOLITION SHALL BE BACKFILLED, COMPACTED AND FINISHED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

DEMOLITION LEGEND AND NOTES

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. D-1

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DRAFT

DEMO EXST ACCESS GATE

EXST MONITORING WELL TO REMAIN

DEMO EXST UTILITY POLE AND EQUIPMENT

DEMO EXST MH

DEMO EXST ELECTRICAL DUCT BANK

DEMO EXST MH

ALL EXST SEEPAGE PITS, MANHOLES, DISTRIBUTION PIPING AND ELEC DUCT BANKS AND CONDUITS IN THIS AREA TO BE ABANDONED IN PLACE

DEMO ALL EXST SEEPAGE PITS, MANHOLES, DISTRIBUTION PIPING AND ELEC DUCT BANKS AND CONDUITS IN THIS AREA

DEMO EXST 30"ø TREE

RELOCATE EXST POTABLE WATER AIR GAP TANK

DEMO ALL EXST SEEPAGE PITS, MANHOLES, DISTRIBUTION PIPING AND ELEC DUCT BANKS AND CONDUITS IN THIS AREA

DEMO EXST ACCESS GATE

CUT AND CAP EXST 6"–WWFM AT PROPERTY LINE

DEMO EXST SOLIDS STORAGE TANK

DEMO EXST POWER POLE

DEMO EXST ELECTRICAL DUCT BANK

DEMO EXST ELECTRICAL EQUIPMENT

DEMO EXST BURIED SEPTIC TANK

FOR EXST SEEPAGE PITS IN THIS AREA, SEE NOTE 2

INSTALL PLUG IN PIPE

EXST BURIED EQUALIZATION TANK TO BE ABANDONED IN PLACE

DEMO EXST SCE METER AFTER WORK IS COMPLETED

DEMO TWO EXST 18"ø TREES

TANK INFLUENT PIPE, SEE NOTE 3

DEMO EXST WELL DISTRIBUTION PIPE

EXST WELL DISTRIBUTION FACILITY TO REMAIN

EXST DOSING/SURGE TANK TO REMAIN, SEE DWG C200–1

DEMO EXST BURIED TREATMENT TANK

DEMO EXST TABLET CHLORINATOR

DEMO EXST TRICKLING FILTERS

EXST DISINFECTION TANK TO BE ABANDONED IN PLACE

ABANDON EXST SODIUM HYPOCHORITE AND SODIUM BISULFITE TANKS AFTER WORK IS COMPLETED

ALL EXST SEEPAGE PITS, MANHOLES, DISTRIBUTION PIPING AND ELEC DUCT BANKS AND CONDUITS IN THIS AREA TO REMAIN

DEMO EXST ELEC DUCT BANK

DEMO EXST WELL DISTRIBUTION PIPE

EXST 6"–WWFM TO BE ABANDONED IN PLACE AFTER WORK IS COMPLETED

ALL EXST SEEPAGE PITS, MANHOLES, DISTRIBUTION PIPING AND ELEC DUCT BANKS AND CONDUITS IN THIS AREA TO REMAIN

MH

MH

NOTES:

1. FOR DEPTH OF EXISTING SEEPAGE PITS, REFER TO DWG G–8, OVERALL SITE PLAN AND EXISTING CONDITIONS.
2. FOR SEEPAGE PITS IN NEW ROAD AREAS, REMOVE TOP FIVE FEET OF PIT, REMOVE PIPING, AND FILL LOWER PORTION OF PITS WITH SAND.
3. CUT TANK INFLUENT PIPE AND CONNECT NEW PIPE IN ACCORDANCE WITH C200–1.

PLAN
1" = 20'–0"

SCALE: 1"=20'
0 20 40 60
SCALE IN FEET

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE, DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" ——— 1"
— VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

DEMOLITION SITE PLAN

DESIGNED BY: M. Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. D-100-1

Sheet _____ of XXX Sheets

FILENAME: 0127-006-C100 10-18-13 05:18pm mfoyle || XREFS: Malibu Aerial Mapping | Malibu-Record Map Base | Malibu-Exist Surveyed Utilities | X-ColonyPlaza_Redraw | X-Headworks | X-UV-Disinfection | X-Bio-Reactor | X-Border | X-IPS_EQ-Basin | X-MBRTank-PermeateArea_BlowerElecBldg | X-OperationsBldg | X-SplitterBox-SCVWI | X-ChemicalArea-Big | X-ChemicalArea-Small | X-MalibuWWTP | Civil-StruP

Last Saved By: mfoyle 10-18-13 05:17pm

CIVIL LEGEND

B-11	SOIL BORING
103	BENCHMARK/CONTROL POINT
PH10	POTHOLE
	RIGHT OF WAY LINE
105	CONTOUR LINE
	STREET LIGHT (SINGLE ARM)
	STREET LIGHT (DOUBLE ARM)
	STREET SIGN
+ 101.3	SPOT ELEVATION
	SLOPE DIRECTION
X X	FENCE
	FLOW LINE
	EXISTING ABANDONED
	ABANDONED
	TO BE REMOVED
	STAGING AREA
	ELECTRICAL AND CONTROL DUCT BANKS
	GRAVEL
	GRAVEL (SECTION)
	CALTRANS CLASS 2 AGGREGATE BASE
	CONCRETE PAVING (PLAN)
	NATIVE FILL OR GROUT IN STRUCTURES
	GRASS OR LANDSCAPING AREA (TOP SOIL)
	EARTH
	CATCH BASIN
E C	ELECTRICAL OR CONTROL DUCT BANK, JUNCTION BOX
MH	MANHOLE (MH)
	REMOVAL GUARD POST C142

GENERAL GRADING NOTES:

GG1 ALL SPOT ELEVATIONS, SLOPES AND CONTOURS SHOWN ARE APPROXIMATE LOCATION AND CAN BE SCALED FROM THE DRAWING LOCATIONS. SPOT ELEVATIONS SHOWN JUST OUTSIDE BUILDINGS ARE TO BE LOCATED AT THE EXTERIOR ABOVE GROUND FACE OF WALL. SPOT ELEVATION SLOPES AND CONTOURS LOCATED BY DIMENSIONS, STATIONING OR IN PROFILE ARE TO BE ESTABLISHED AS SHOWN.

GG2 TRANSITIONS BETWEEN SLOPES SHALL BE SMOOTH AND UTILIZE VERTICAL CURVES UNLESS NOTED OTHERWISE.

GG3 FINISHED GRADING SHALL DRAIN TO CATCH BASINS. NO PONDING OR STANDING WATER SHALL BE ALLOWED.

GG4 GRADING AND PAVING DRAWINGS SHOW RIM ELEVATIONS FOR CATCH BASINS AND AREA DRAINS. FOR DRAIN PIPE SIZES AND INVERTS SEE YARD PIPING DRAWINGS.

GG5 RIM ELEVATIONS FOR CATCH BASINS ARE ALONG THE FLOWLINE OF GUTTER.

GENERAL PAVING NOTES:

GP1 FOR PAVING LOCATIONS SEE GRADING AND PAVING DRAWINGS. FOR ADDITIONAL PAVING SEE ELECTRICAL, MECHANICAL, AND YARD PIPING DRAWINGS FOR UTILITY TRENCHING.

GP2 ALL PAVED AREA SHALL DRAIN TO EXISTING OR NEW CATCH BASIN UNLESS NOTED OTHERWISE.

GP3 WHERE AREAS ARE TO BE REPAVED UTILITY BOXES AND VAULTS SHALL BE PROTECTED IN PLACE. PAVED AREAS SHALL BE GRADED TO DRAIN TO CATCH BASINS UNLESS OTHERWISE NOTED.

GP4 STRIPING SHALL BE IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATION SECTION 84.

GENERAL YARD PIPING NOTES:

GYP1 ALL YARD PIPING SHALL BE AS IDENTIFIED ON YARD PIPING AND MECHANICAL DRAWINGS AND SPECIFICATION SECTION 02500 – PIPE INSTALATION AND 15000 – PIPING GENERAL.

GYP2 NEW ELECTRICAL MANHOLES SHOWN ON ELECTRICAL YARD DRAWINGS ARE SHOWN ON THE YARD PIPING DRAWINGS. THE YARD PIPING AND YARD ELECTRICAL UTILITIES SHALL BE COORDINATED AND SEQUENCED TO MINIMIZE INTERFERENCE DURING CONSTRUCTION. WHERE UTILITIES MUST CROSS UNDER EXISTING OR NEW CONCRETE DUCT BANKS, CONCRETE PIPE, OR OTHER RIGID UTILITIES, UTILITY SUPPORT DETAIL (C248) SHALL BE USED TO FACILITATE INSTALLATION.

GYP3 YARD PIPING SHALL BE INSTALLED WITH MINIMUM 3 FT COVER UNLESS OTHERWISE NOTED.

GENERAL SURVEY NOTES:

CONTROL POINT LIST SEE DRAWINGS G-7, G-8, G-9

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION

SURVEY NOTES

THE HORIZONTAL DISTANCES AND BASIS OF BEARINGS FOR THIS SURVEY ARE NAD '83, CALIFORNIA COORDINATES, ZONE FOUR.

VERTICAL CONTROL IS BASED ON NAVD '88.

PROPERTY COORDINATE DATA:

POINT NO.	NORTHING	EASTING

EASEMENT COORDINATE DATA:

POINT NO.	NORTHING	EASTING

STRUCTURE LOCATIONS:

POINT NO.	NORTHING	EASTING

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIL LEGENDS, ABBREVIATIONS, AND NOTES

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. GC-1

Sheet _____ of XXX Sheets

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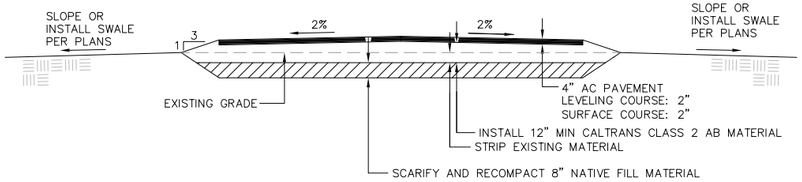
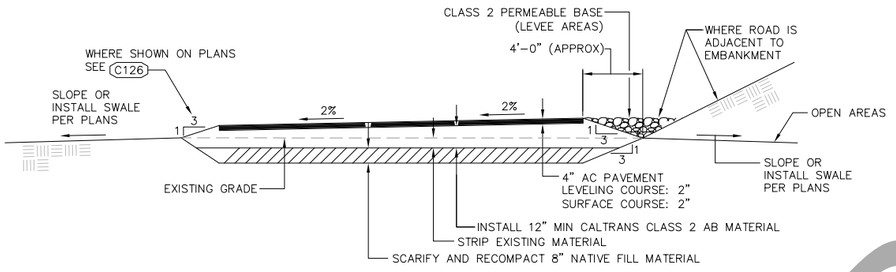


TYPICAL ROAD SECTION – CROWNED – NO CURBS C102

NTS



TYPICAL ROAD SECTION – UNIFORM SLOPE – NO CURBS C103

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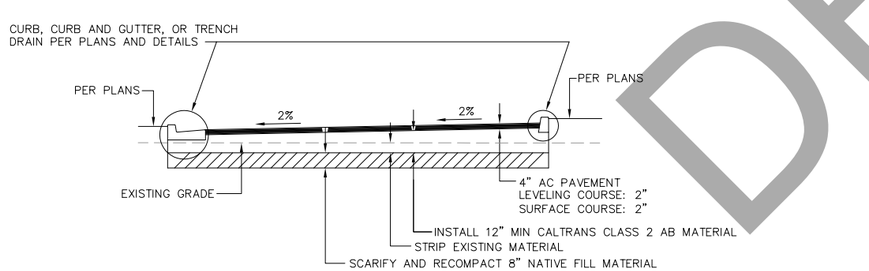
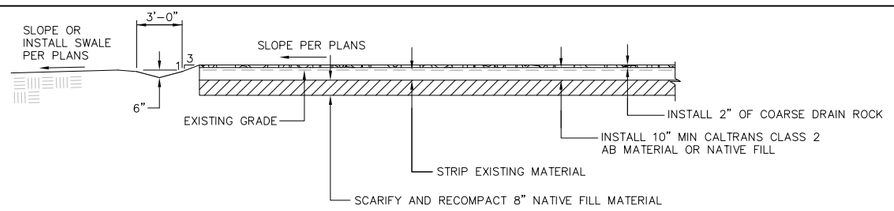


TYPICAL ROAD SECTION – UNIFORM SLOPE – CURBED C104

NTS

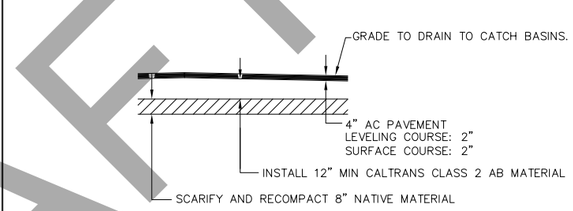


NOTES:

1. FOR CONSTRUCTION STAGING, INSTALL FIRST 8" OF CLASS 2 AB OR NATIVE FILL TOPPED WITH 2" GRAVEL. AFTER CONSTRUCTION TRAILERS, EQUIPMENT AND MATERIALS ARE DEMOBILIZED FROM THIS AREA, REPAIR ALL DAMAGE, THEN SCARIFY AND RECOMPACT TOP 4" OF MATERIAL, AND TOP WITH 2" OF ADDITIONAL COARSE DRAIN ROCK. SLOPE PER PLANS.

GRAVEL AREA C105

NTS

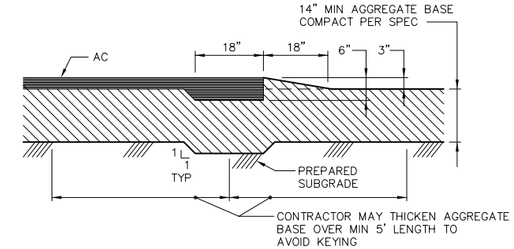


NOTES:

1. EXISTING GRADES SHALL BE CUT OR FILLED AS REQUIRED.
2. EXISTING PAVED AREAS SHALL BE SAW CUT AND PAVEMENT AND UNSUITABLE MATERIAL SHALL BE REMOVED.

TYPICAL PAVED AREA C107

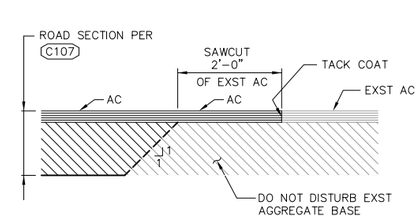
NTS



ELEVATION

AC ROAD/GRAVEL ROAD TRANSITION C108

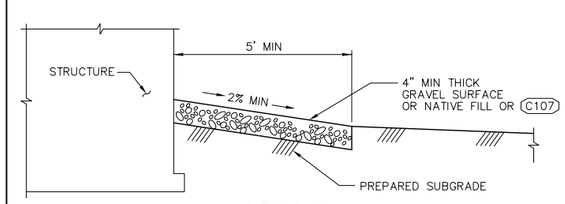
NTS



ELEVATION

NEW/ EXST AC ROAD TRANSITION C109

NTS



ELEVATION

NOTES:

1. SUBGRADE BENEATH GRAVEL SHALL BE SLOPED SAME AS SURFACE.

TYPICAL GRADING AT STRUCTURES C110

NTS

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE, DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIL STANDARD DETAILS - 1

DESIGNED BY:	DATE	SCALE	APPROVED BY:	DATE
M.Hoeft	06/2013	AS SHOWN		XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.	
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER	
			RCE NO. 52102 EXP. 12/31/2014	

Plan No. GC-2

Sheet _____ of XXX Sheets

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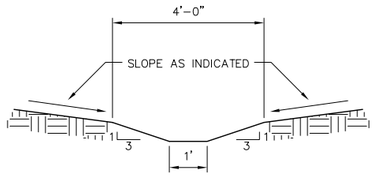
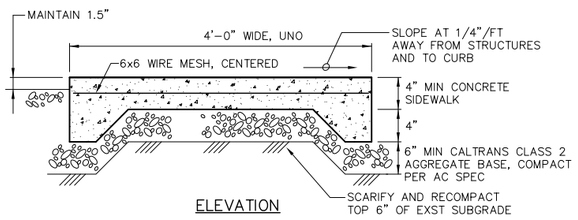


TYPICAL SWALE SECTION

TYPICAL SWALE ELEVATIONS C114

NTS



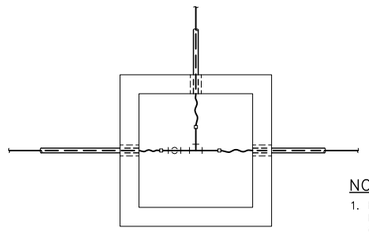
ELEVATION

NOTES:

1. PROVIDE CONTROL JOINTS AT 4' MAX CENTERS.
2. PROVIDE PREMOLDED EXPANSION JOINTS AT 20'-0" MAX ON OC AND AT ALL CORNERS.

SIDEWALK C122

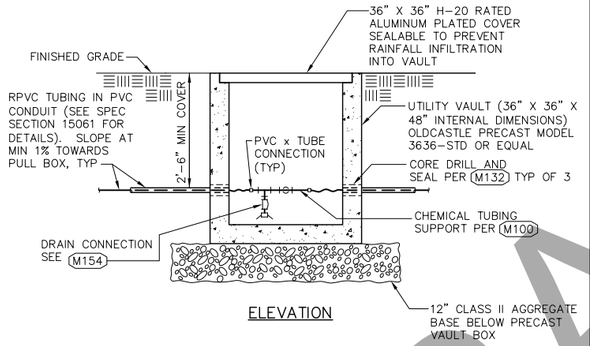
NTS



PLAN

NOTES:

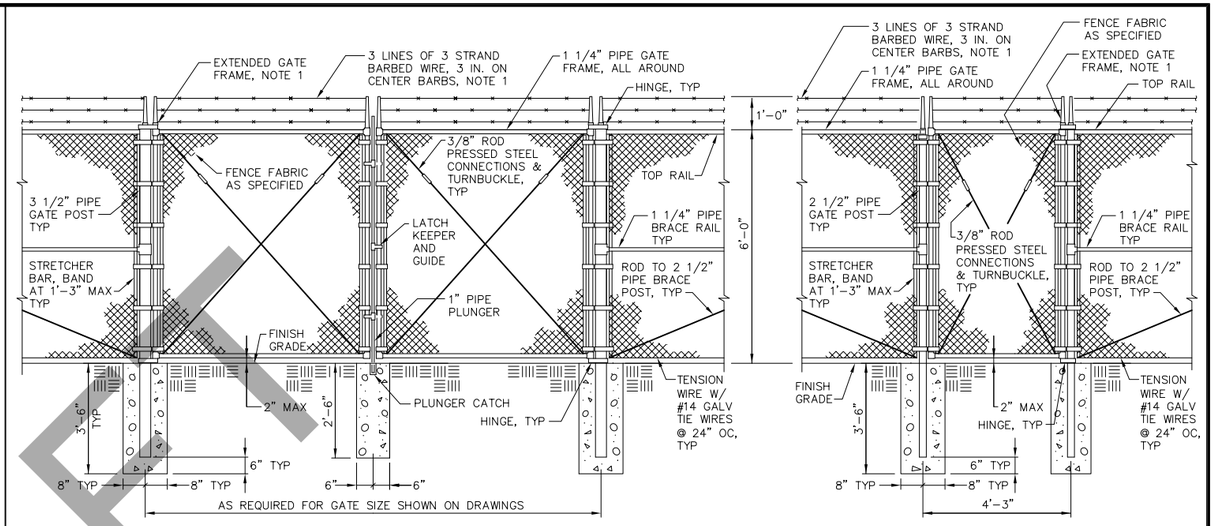
1. FOR ORIENTATION OF BOX AND PIPING SEE CIVIL DRAWINGS.



ELEVATION

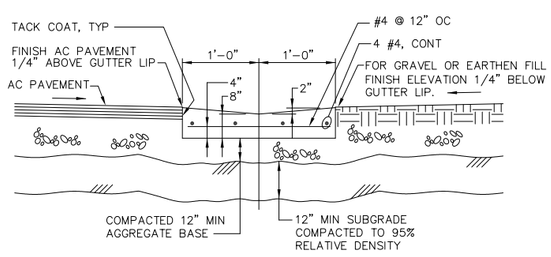
CHEMICAL TUBING PULL BOX C128

NTS



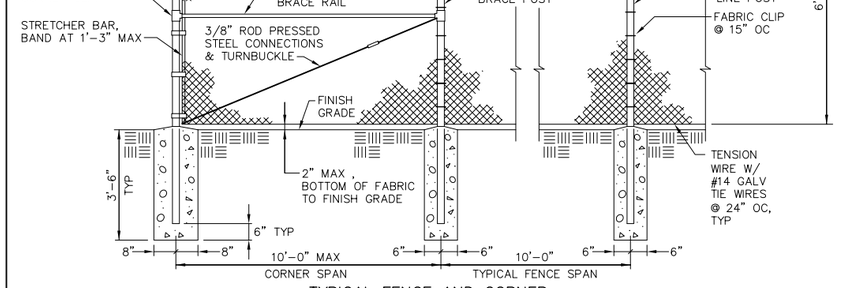
DOUBLE SWING SECURITY GATE

PERSONNEL GATE

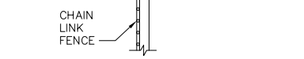


CONCRETE VALLEY GUTTER C126

NTS



TYPICAL FENCE AND CORNER



BARB WIRE ARM

NOTES:

1. PROVIDE EXTENSION ARMS AND EXTENDED GATE FRAME WHEN BARBED WIRE TOP SECTION IS REQUIRED. IF BARBED WIRE IS NOT REQUIRED, PROVIDE POST CAPS.

CHAIN LINK FENCE AND GATES C140

NTS

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIL STANDARD DETAILS - 2

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. GC-3 Sheet ____ of XXX Sheets

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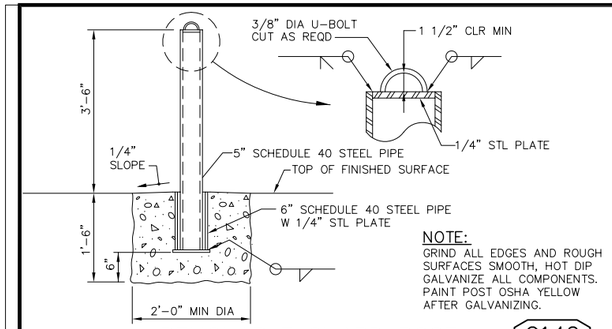
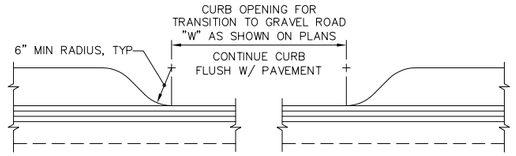
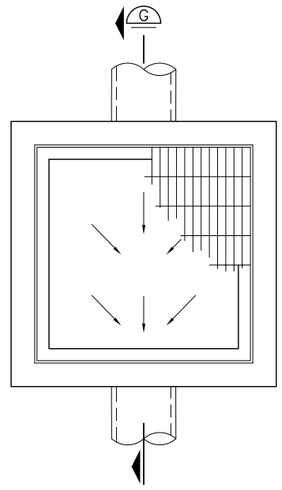


NOTE:
GRIND ALL EDGES AND ROUGH SURFACES SMOOTH, HOT DIP GALVANIZE ALL COMPONENTS. PAINT POST OSHA YELLOW AFTER GALVANIZING.

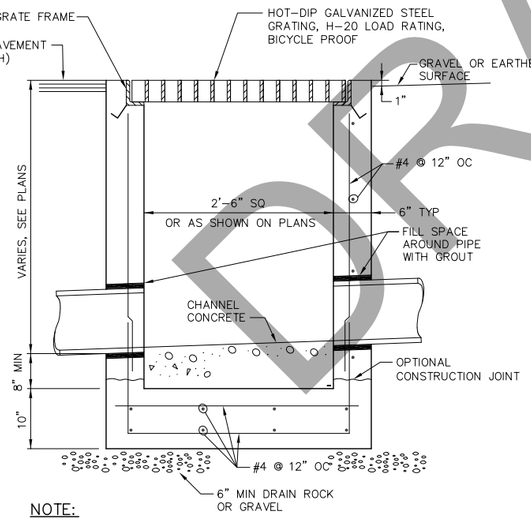
REMOVABLE GUARD POST C142
NTS



CONCRETE CURB OPENING C143
NTS



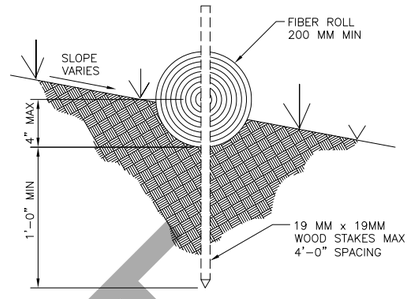
PLAN



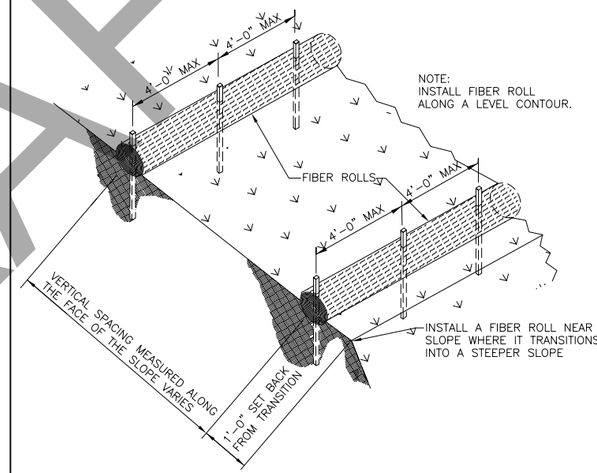
NOTE:
1. PRECAST CATCH BASIN IS ACCEPTABLE ALTERNATIVE WITH ENGINEER APPROVAL. DIMENSION MAY BE MODIFIED FOR STANDARD PRECAST PRODUCTS.
2. PRECAST CATCH BASIN SHALL BE H-20 LOAD.
3. APPLY DETAIL C184 FOR CATCH BASINS CONNECTED TO SS MANHOLES.

SECTION G
NTS

TYPICAL CATCH BASIN C182
NTS



ENTRENCHMENT DETAIL
N.T.S.



TYPICAL FIBER ROLL INSTALLATION
N.T.S.

TYPICAL FIBER ROLL INSTALLATION C183
NTS

DRAFT

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PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIL STANDARD DETAILS - 3

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. GC-4

Sheet _____ of XXX Sheets

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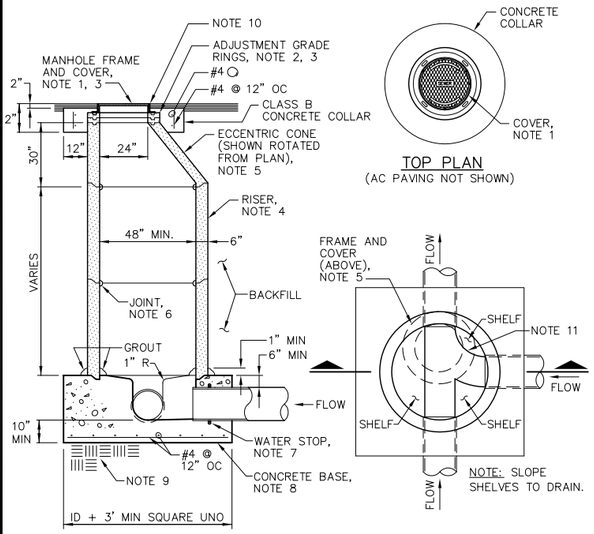


SECTION

TOP PLAN
(AC PAVING NOT SHOWN)

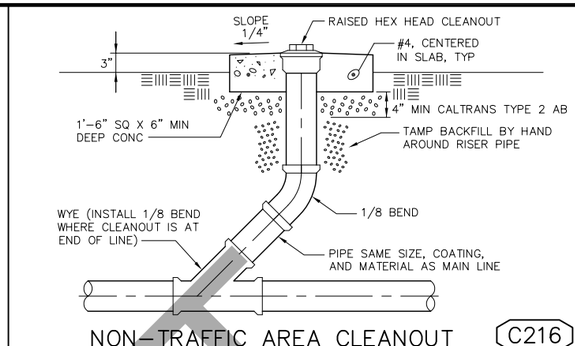
LOWER PLAN

NOTES:

1. MANHOLE FRAME AND COVER SHALL HAVE 30" MIN CLEAR OPENING AND SEALED BLIND PICK HOLE. COVER SHALL BE LABELED "SEWER" AND SHALL BE RATTLE FREE WITHOUT USE OF SEALANT.
2. TOP OF CONE TO TOP OF FRAME SHALL NOT EXCEED 15". ADJUSTMENT GRADE RINGS SHALL BE 3" OR 6" DEEP.
3. GRADE RINGS AND MANHOLE FRAME SHALL BE SEALED AT EACH JOINT WITH BUTYL RUBBER (CONSEAL CS-102 OR EQUAL) AND GROUTED ON THE INSIDE.
4. UNLESS OTHERWISE NOTED, MANHOLE RISERS SHALL BE 48" MIN. INSIDE DIAMETER, PRECAST CONCRETE CONFORMING TO ASTM C478-94 FOR PRECAST REINFORCED MANHOLE SECTIONS.
5. ECCENTRIC CONE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478-94 FOR PRECAST REINFORCED MANHOLE SECTIONS. STRAIGHT SIDE OF CONE SHALL BE POSITIONED OVER MANHOLE OUTLET. CONCENTRIC CONES MAY ONLY BE USED IN SPECIAL CASES WITH WRITTEN CONSENT OF ENGINEER.
6. JOINTS SHALL BE SET WITH PREFORMED MASTIC SEALANT (HENRY COMPANY RAM-NEK, KENT SEAL, OR EQUAL). INSIDE OF JOINTS SHALL BE GROUTED WITH NON-SHRINK GROUT.
7. PROVIDE WATER STOPS FOR ENCASED PIPE.
8. CONCRETE POUR SHALL NOT FALL OVER 6 FEET UNLESS AN "ELEPHANT'S TRUNK" OR AN "ADJUSTABLE PIPE" IS USED. CONCRETE WORK IN FLOW CHANNEL SHALL BE STEEL TROWEL FINISHED. SHELVES SHALL BE BROOM FINISHED. BASE SHALL BE MONOLITHICALLY PLACED. A STEEL IMPRESSION RING SHALL BE USED TO FORM GROOVE FOR FIRST RISER SECTION.
9. WHEN IN GROUNDWATER, PROVIDE 6" DEEP CRUSHED ROCK WRAPPED IN GEOTEXTILE BENEATH MANHOLE BASE. OTHERWISE, SCARIFY AND RECOMPACT NATIVE MATERIAL TO 90%.
10. PROVIDE 1/4" LIP AT NEW PAVEMENT AND NO LIP FOR EXISTING PAVEMENT.
11. ALL DIRECTION CHANGES TO BE SMOOTH WIDE SWEEPS.

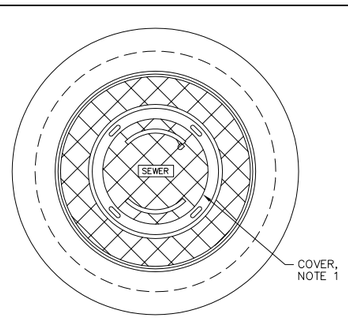
STANDARD SEWER MANHOLE C200

NTS

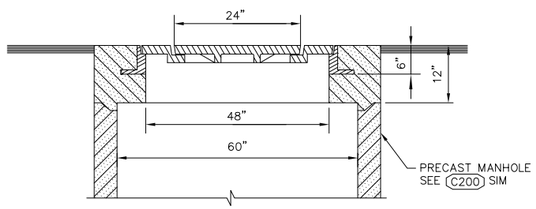


NON-TRAFFIC AREA CLEANOUT C216

NTS



TOP PLAN
(AC PAVING NOT SHOWN)



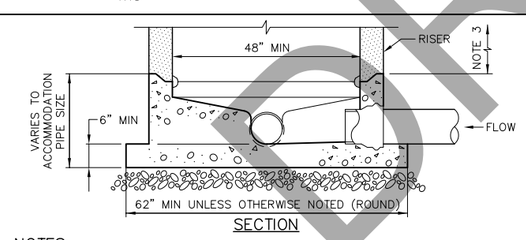
ELEVATION

NOTES:

1. MANHOLE FRAME AND COVER SHALL HAVE 48" MIN CLEAR OPENING AND SEALED BLIND PICK HOLE. COVER SHALL BE LABELED "SEWER" AND SHALL BE RATTLE FREE WITHOUT USE OF SEALANT.

PRECAST MANHOLE SLAB TOP C201

NTS



SECTION

NOTES:

1. MANHOLE BASE SHALL BE PLACED ON A MINIMUM 6" CLEAN SAND OR GRAVEL OVER NATIVE MATERIAL THAT IS UNDISTURBED OR COMPACTED TO 95%.
2. SEE DETAIL C200 FOR DETAILS AND NOTES OF CONSTRUCTION ABOVE PRECAST BASE.

PRECAST SEWER MANHOLE BASE C202

NTS

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DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIL STANDARD DETAILS - 4

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. GC-5

Sheet _____ of XXX Sheets

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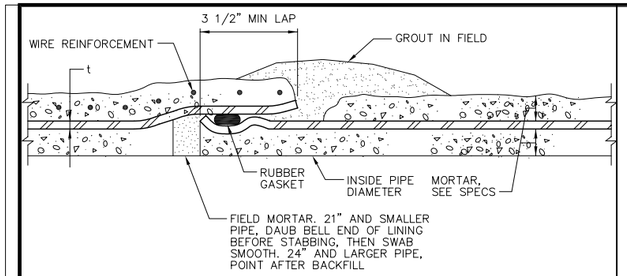
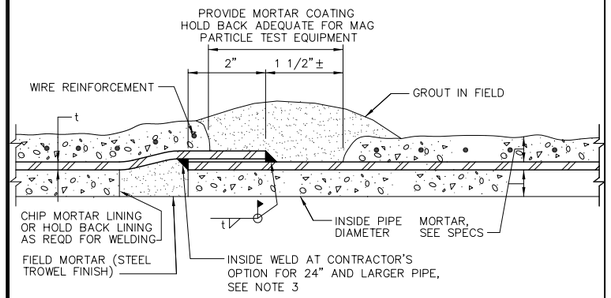
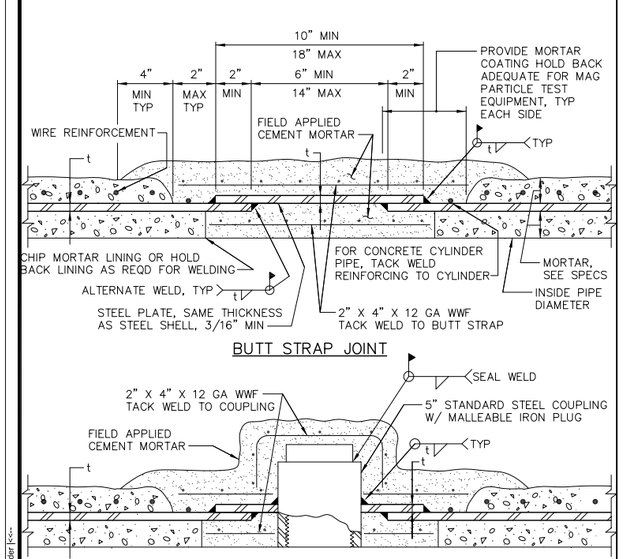


BELL AND SPIGOT RUBBER GASKET JOINT



LAP WELDED SLIP JOINT



BUTT STRAP JOINT

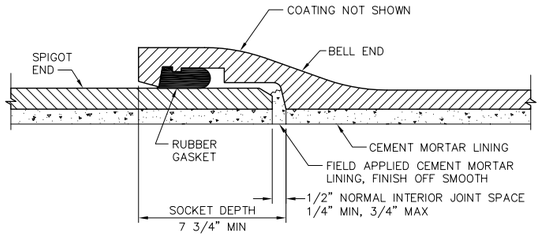
TYPICAL HANDHOLE FOR BUTT STRAP JOINT

NOTES:

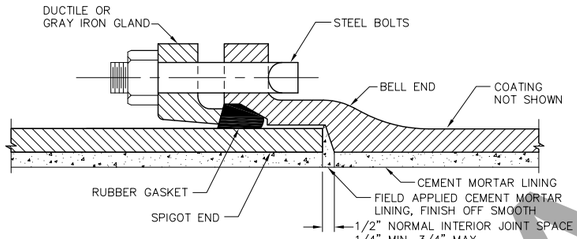
1. HANDHOLE REQUIRED ON PIPE SMALLER THAN 24" DIAMETER.
2. PROVIDE ADEQUATE HOLDBACK OF CEMENT MORTAR LINING AND COATING FOR WELDING AND TESTING OF WELDS.
3. WHERE DOUBLE LAP WELD IS SHOWN ON THE DRAWINGS, WELD INSIDE AND OUTSIDE.
4. FIELD WELDS SHALL NOT BE MORTARED UNTIL APPROVED BY OWNER

MORTAR LINED & COATED STEEL PIPE C220

NTS

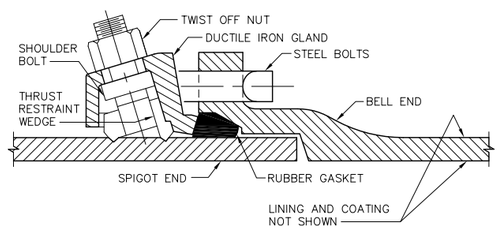


PUSH-ON JOINT



MECHANICAL JOINT

PUSH-ON JOINT W/ THRUST RESTRAINT



MECHANICAL JT W/ THRUST RESTRAINT

NOTES:

1. FIELD APPLIED COATING AND LINING AT JOINTS SHALL BE APPLIED ONLY AFTER EACH JOINT IS ASSEMBLED AND INSPECTED.

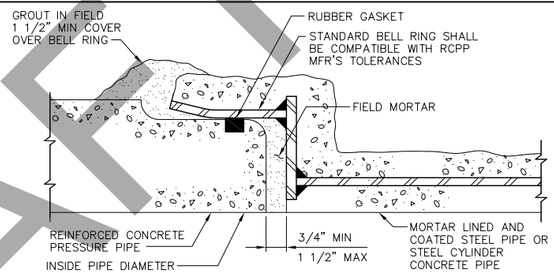
CEMENT MORTAR LINED – POLYETHYLENE ENCAPSULATED DUCTILE IRON PIPE C221

NTS

NOTE: BUTT WELDS SHALL BE FULL PENETRATION, TYP.

WELDED STEEL PIPE BUTT WELDS C222

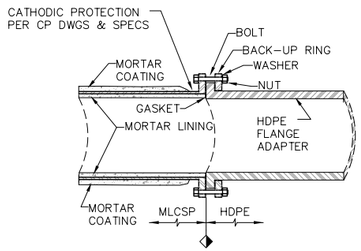
NTS



NOTE: SEE C226 FOR ADAPTER REINFORCED CONCRETE PRESSURE PIPE TO STEEL PIPE.

ADAPTER STEEL PIPE TO RCPP C224

NTS

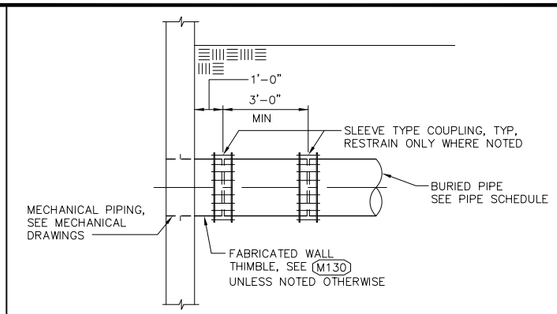


NOTES:

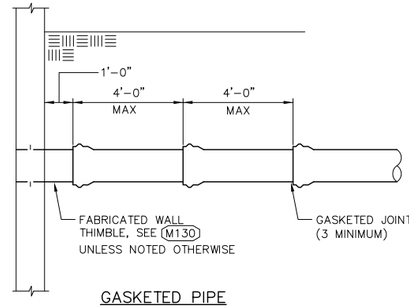
1. CONTRACTOR SHALL ENSURE FLANGE BOLT HOLE PATTERN FOR HDPE AND MLCSP MATCH UP.
2. SEE HDPE SPEC FOR MORE INFORMATION.

STEEL PIPE TO HDPE TRANSITION C231

NTS



WELDED OR FUSED PIPE

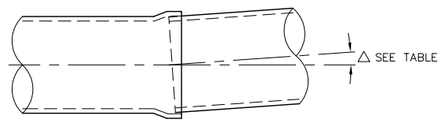


GASKETED PIPE

BURIED PIPE AT STRUCTURE C234

NTS

PIPE SIZE (INCHES)	MAXIMUM PULLED ANGLE (DEGREES-MINUTES)	
	PUSH-ON JOINT	MECHANICAL JOINT
6	5-00	7-07
8-12	5-00	5-21
14-16	3-00	3-35
18-20	3-00	3-00
24	3-00	2-23
30	3-00	2-23



PULLED JOINT FOR DUCTILE IRON PIPE C235

NTS

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NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIL STANDARD DETAILS - 5

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. GC-6

Sheet _____ of XXX Sheets

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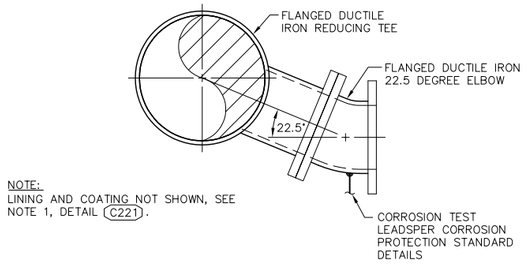
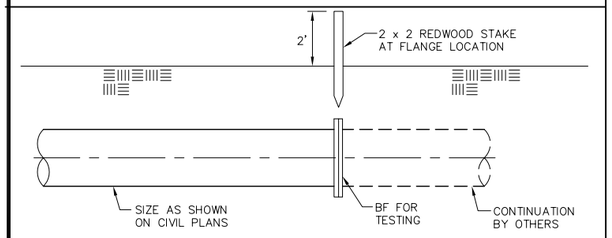


NOTE:
LINING AND COATING NOT SHOWN, SEE NOTE 1, DETAIL C221.

ALTERNATIVE TO TANGENT NOZZLE

DUCTILE IRON BLOWOFF TEE C236

NTS

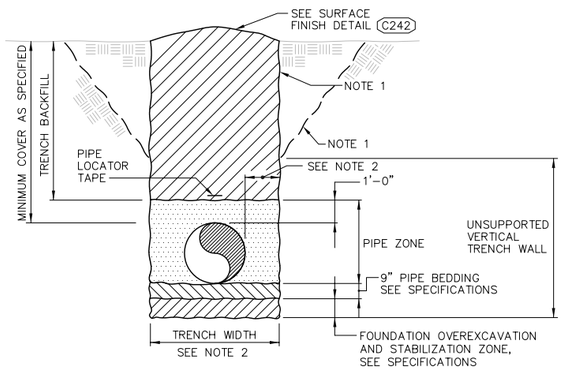


NOTES:

1. CONTRACTOR SHALL PROVIDE SUFFICIENT TEMPORARY THRUST RESTRAINT FOR TESTING.

TYPICAL PIPE END OF CONTRACT DETAIL C238

NTS

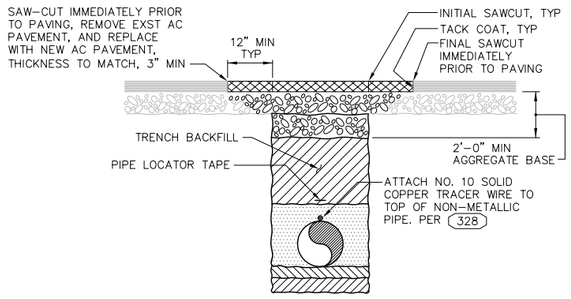


NOTES:

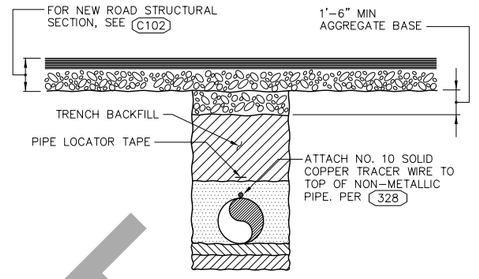
1. ALTERNATE TRENCH SECTIONS SHOWN ARE FOR USE WHERE COMPACT, STABLE SOIL CONDITIONS EXIST. WHERE LARGE ROCKS OR STRUCTURES ARE ENCOUNTERED, TRENCH SECTIONS MAY BE DEEPER AND WIDER THAN THOSE SHOWN. COMBINATION OF SLOPING AND VERTICAL TRENCH WALLS:
   a. TRENCH DEPTHS NOT EXCEEDING 5'–0" SHALL HAVE VERTICAL WALLS IN PIPE ZONE UNLESS NOTED OTHERWISE.
   b. FOR TRENCH DEPTHS EXCEEDING 5'–0" SEE SPECIFICATION 2200.
2. TRENCH WIDTH SHALL BE A MINIMUM OF THE PIPE OD PLUS 24". THE MAXIMUM SHALL BE THE PIPE OD PLUS 36".
3. WHERE WET AND UNSTABLE SOIL IS ENCOUNTERED, SOLID SHEATHING IS REQUIRED FOR ALL VERTICAL TRENCH WALLS.
4. SEE SPECIFICATION 02200 FOR BACKFILL REQUIREMENTS.

PIPE TRENCH SECTION C240

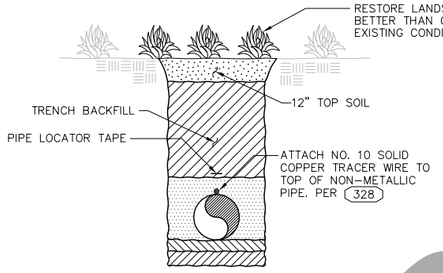
NTS



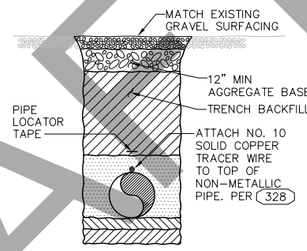
EXISTING AC PAVEMENT



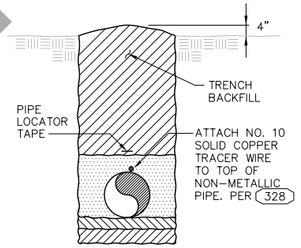
NEW AC PAVEMENT



LANDSCAPED AREAS



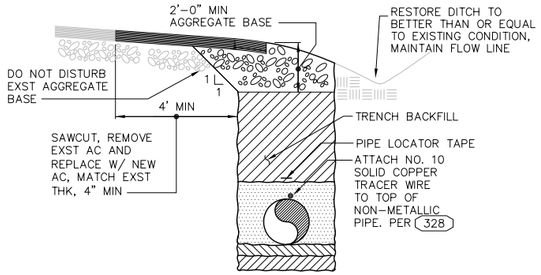
GRAVELLED AREAS



UNSURFACED AREAS

NOTES:

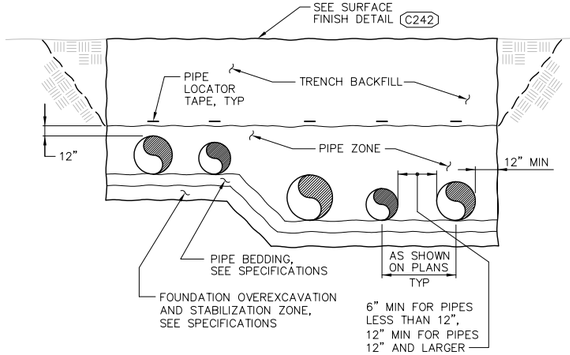
1. VERTICAL WALL TRENCH IS SHOWN. COMBINED SLOPING AND VERTICAL WALL TRENCH IS SIMILAR. ADJUST SURFACE WIDTHS AND SAW–CUT LINES FROM EDGE OF SLOPING WALLS.
2. SEE SPECIFICATIONS FOR BACKFILL MATERIAL AND COMPACTION REQUIREMENTS.
3. PIPE LOCATOR TAPE AND/OR TRACING WIRE SHALL BE BROUGHT TO SURFACE AT STRUCTURE CONNECTIONS. PRECAST CONCRETE HANDHOLE SHALL BE PROVIDED TO TERMINATE LOCATOR TAPE AND/OR TRACING WIRE. PER C328.



EXISTING ADJACENT ROADWAY

TRENCH SURFACE FINISH C242

NTS



NOTES:

1. PIPES LOCATED WITHIN MULTIPLE PIPE TRENCHES SHALL BE DESIGNED FOR POSITIVE PROJECTING EMBANKMENT CONDITION. SEE SPECS.
2. DESIGN OF PIPE SHALL BE CARRIED OUT FOR EACH INSTANCE OF MULTIPLE PIPE TRENCHES, ACCOUNTING FOR THE GEOMETRY OF THE PIPE TRENCH.

MULTIPLE PIPE TRENCH SECTION C244

NTS

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIL STANDARD DETAILS - 6

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: XX-XX-13 DATE
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. GC-7

Sheet _____ of XXX Sheets

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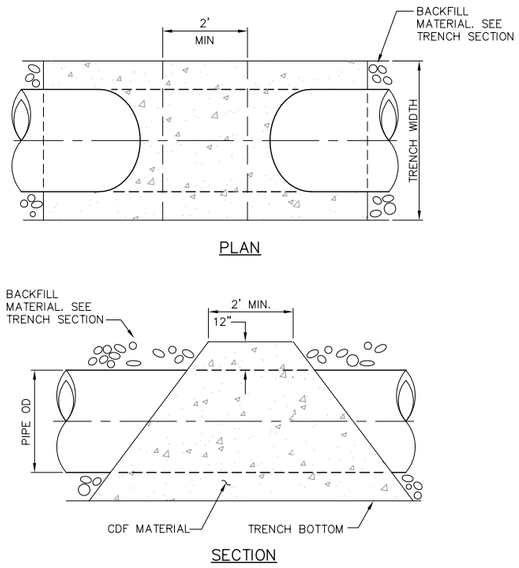
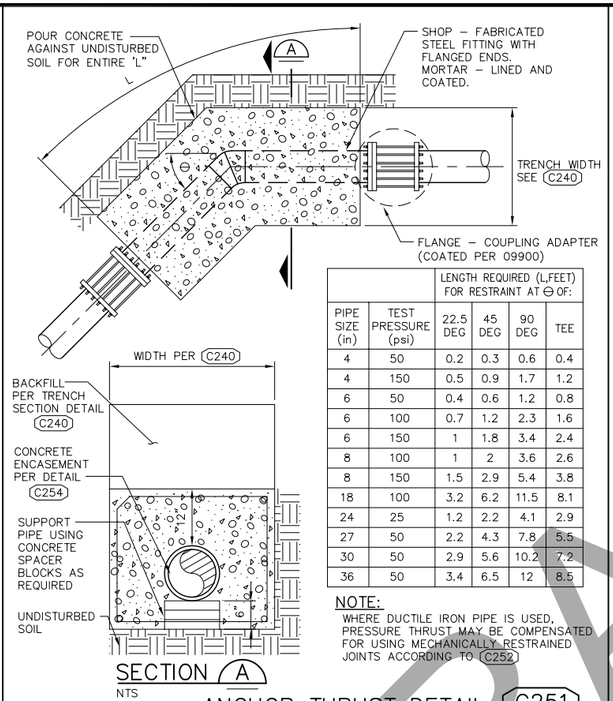


TRENCH PLUG C246

NTS



SECTION A

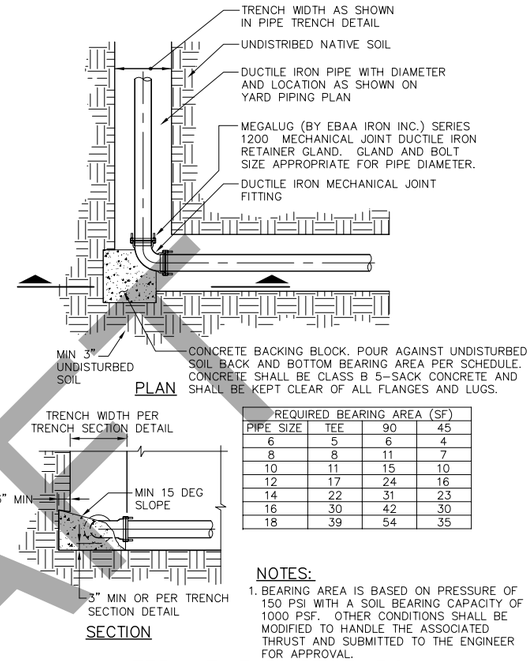
NTS

PIPE SIZE (in)	TEST PRESSURE (psi)	LENGTH REQUIRED (L,FEET) FOR RESTRAINT AT ⊖ OF: 22.5 DEG	45 DEG	90 DEG	TEE
4	50	0.2	0.3	0.6	0.4
4	150	0.5	0.9	1.7	1.2
6	50	0.4	0.6	1.2	0.8
6	100	0.7	1.2	2.3	1.6
6	150	1	1.8	3.4	2.4
8	100	1	2	3.6	2.6
8	150	1.5	2.9	5.4	3.8
18	100	3.2	6.2	11.5	8.1
24	25	1.2	2.2	4.1	2.9
27	50	2.2	4.3	7.8	5.5
30	50	2.9	5.6	10.2	7.2
36	50	3.4	6.5	12	8.5

NOTE:
WHERE DUCTILE IRON PIPE IS USED, PRESSURE THRUST MAY BE COMPENSATED FOR USING MECHANICALLY RESTRAINED JOINTS ACCORDING TO C252

ANCHOR THRUST DETAIL C251

NTS

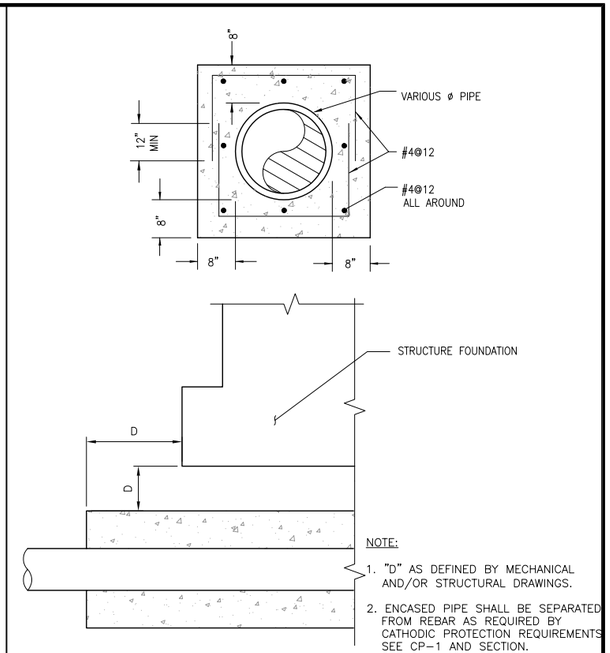


REQUIRED BEARING AREA (SF) PIPE SIZE	TEE	90	45
6	5	6	4
8	8	11	7
10	11	15	10
12	17	24	16
14	22	31	23
16	30	42	30
18	39	54	35

NOTES:
1. BEARING AREA IS BASED ON PRESSURE OF 150 PSI WITH A SOIL BEARING CAPACITY OF 1000 PSF. OTHER CONDITIONS SHALL BE MODIFIED TO HANDLE THE ASSOCIATED THRUST AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

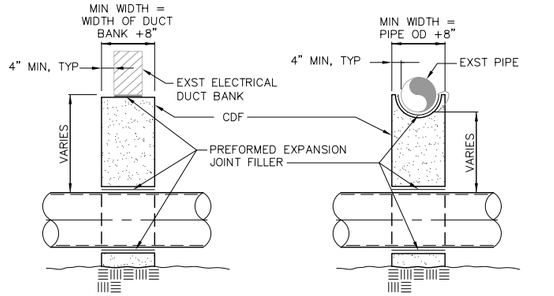
ALTERNATIVE DUCTILE IRON PIPE THRUST RESTRAINT C252

NTS



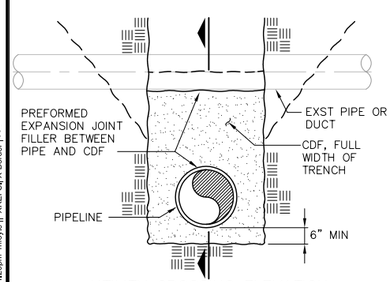
CONCRETE ENCASEMENT C254

NTS



SECTION OF DUCT BANK CROSSING

SECTION OF PIPE CROSSING



UTILITY CROSSING ELEVATION

NOTES:
1. SUBMIT SHOP DRAWING ON EXPANSION JOINT FILLER MATERIAL.
2. BACKFILL TO BE BROUGHT UP UNIFORMLY ON BOTH SIDES OF UTILITY SUPPORT.
3. EXISTING PIPE OR DUCT SHALL BE FIRMLY SUPPORTED DURING INSTALLATION OF NEW PIPE AND UTILITY SUPPORT.
4. FORM THE SIDES OF UTILITY SUPPORT WHICH CROSS TRENCH.

UNDERGROUND UTILITY SUPPORT DETAILS C248

NTS

DRAFT

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIL STANDARD DETAILS - 7

DESIGNED BY: M.Hoeft DATE 06/2013
DRAWN BY: M.Foyle DATE 06/2013
CHECKED BY: M.Nakamoto DATE 06/2013
SCALE AS SHOWN
PROJECT NUMBER XXXX

APPROVED BY: DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. GC-8

Sheet _____ of XXX Sheets

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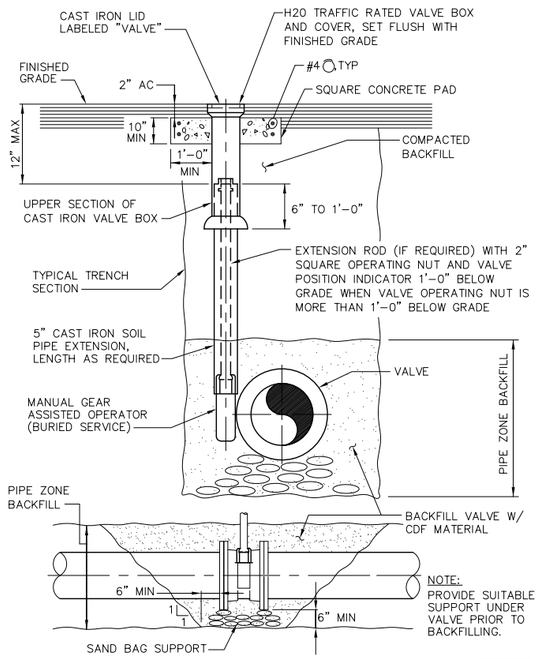
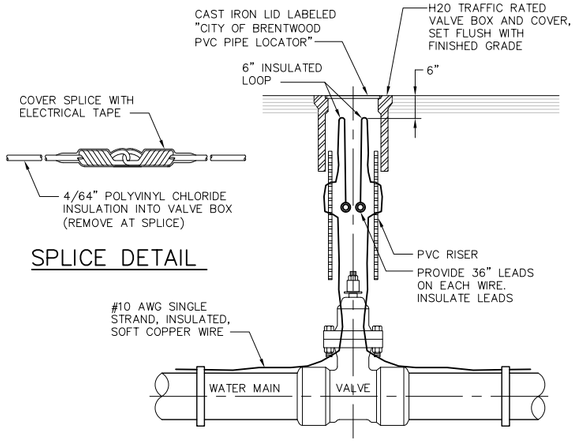


BURIED BUTTERFLY OR PLUG VALVE BOX C282

NTS



SPLICE DETAIL

NOTES:

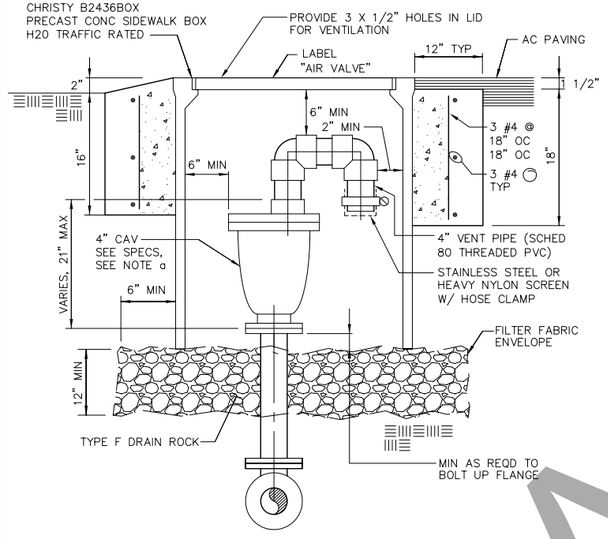
1. WIRE SHALL BE CONTINUOUS BETWEEN VALVE BOXES. UNLESS APPROVED OTHERWISE BY OWNER, A WESTERN UNION SPLICE CONNECTION SHALL BE CONSTRUCTED, PER SPLICE DETAIL.
2. WIRE SHALL BE PLACED ON TOP OF THE WATER MAIN, AND SECURED WITH TAPE WRAPPED COMPLETELY AROUND THE MAIN AT 48" O.C.
3. LOCATING WIRE NOT REQUIRED FOR FIRE HYDRANTS.

LOCATING WIRE FOR PLASTIC MAINS C286

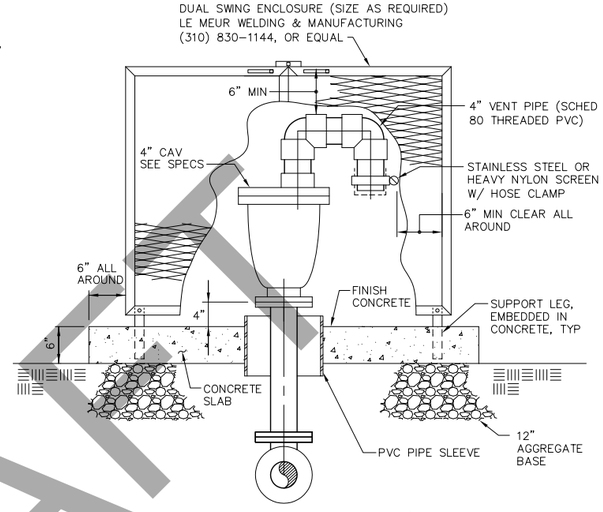
NTS

UNPAVED AREAS

AC PAVED AREAS



SECTION (BELOW GROUND CAV)



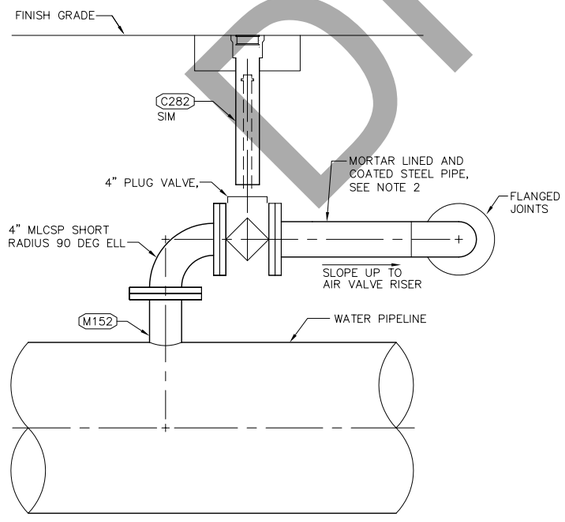
SECTION (ABOVE GROUND CAV)

NOTES:

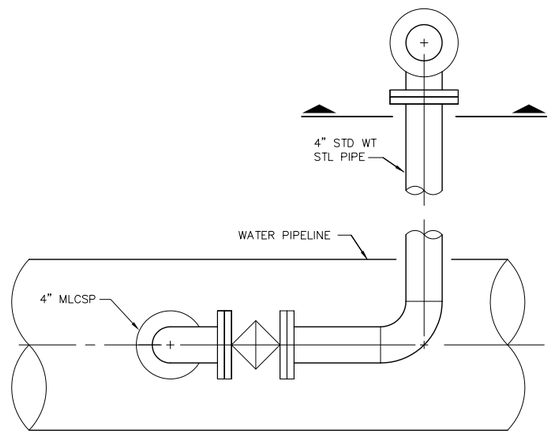
1. PROVIDE BONDING CABLE ACROSS ALL NON-WELDED JOINTS. CABLE SHALL BE TYPE CP, HMWPE INSULATED PER ASTM D1248, TYPE 1, CLASS C, GRADE 5 AND ICEA NEMA S 61 402.
2. FIELD MORTAR COAT BURIED VALVE AND PIPING TO MATCH MORTAR-COATED MAINLINE PIPE.

CAV NOTES:

a. FIELD COAT CAV W/ 12 MILS DFT AMINE CURED EPOXY, AMERCOAT 395 OR EQUAL. COLOR: PURPLE PANTONE 512. SEE SPECS.



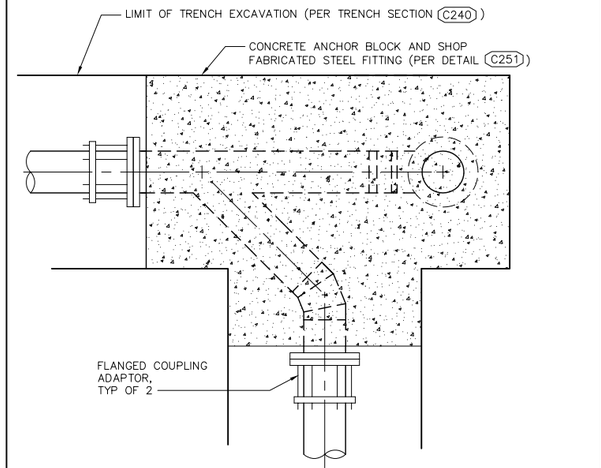
ELEVATION



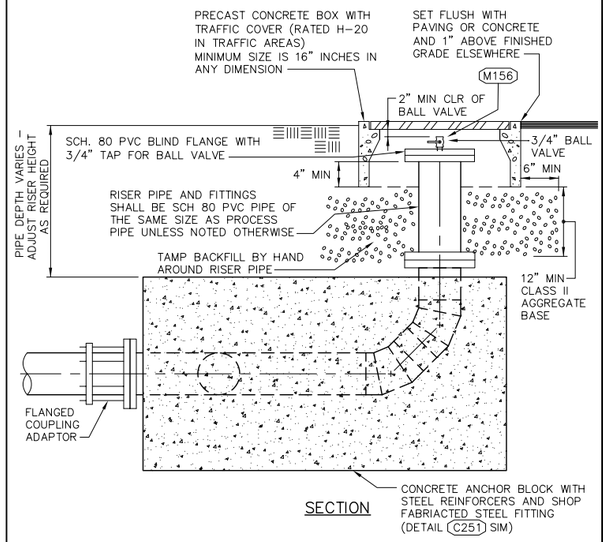
PLAN

COMBINATION AIR VALVE C300

NTS



PLAN



SECTION

SLUDGE PIPE AIR RELEASE/CLEANOUT C301

NTS

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" ——— 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIL STANDARD DETAILS - 8

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE	AS SHOWN
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER	XXXX

APPROVED BY: DATE XX-XX-13

ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. GC-9

Sheet _____ of XXX Sheets

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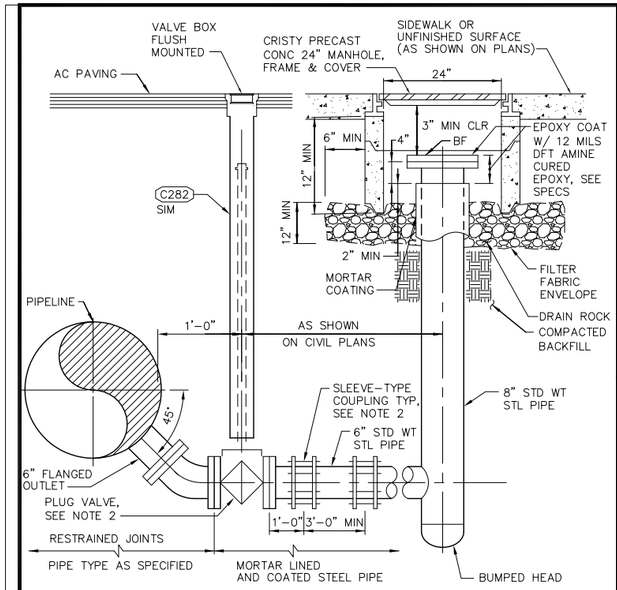
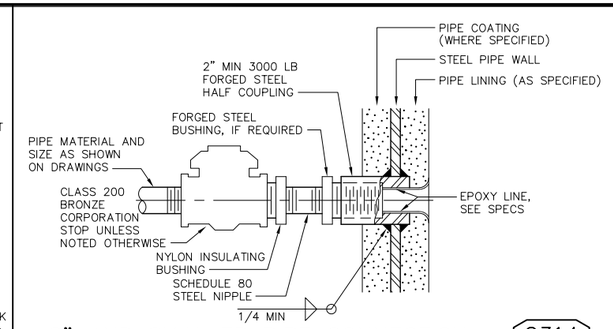


NOTES:

1. PROVIDE BONDING CABLE ACROSS ALL NON-WELDED JOINTS. CABLE SHALL BE TYPE CP, HMWPE INSULATED PER ASTM D1248, TYPE 1, CLASS C, GRADE 5 AND ICEA NEMA S 61 402.
2. FIELD COAT BURIED VALVE AND COUPLINGS TO MATCH COATING ON MAINLINE PIPE.

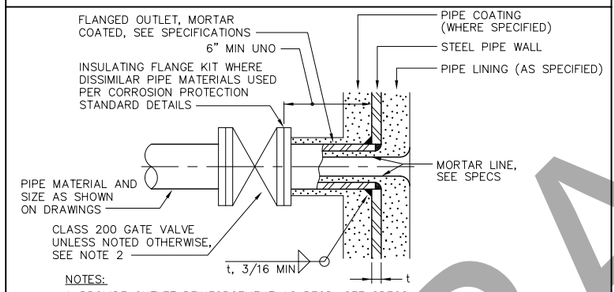
BLOWOFF DETAIL C304

NTS



2" AND SMALLER PIPE CONNECTION C314

NTS

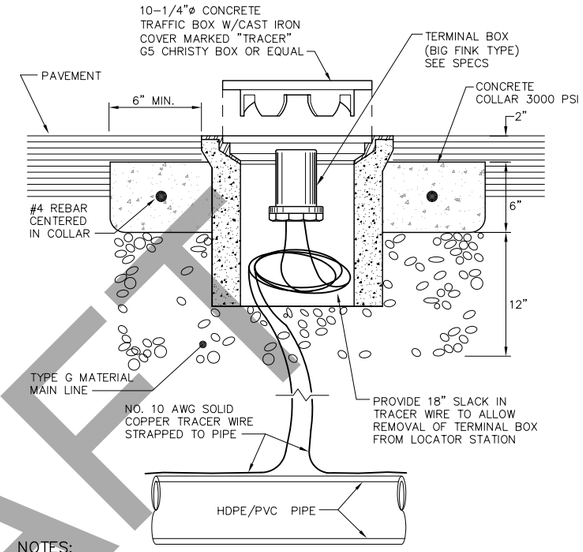


NOTES:

1. PROVIDE OUTLET REINFORCEMENT AS REQD. SEE SPECS.
2. WHERE BLIND FLG CALLED FOR, COAT PER SPEC SECTION 09800.

3" AND LARGER PIPE CONNECTION C316

NTS

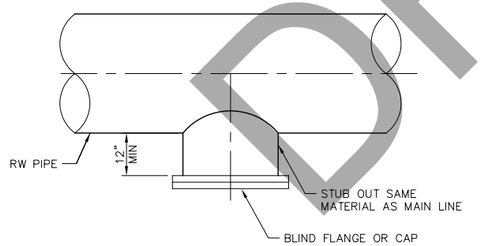


NOTES:

1. FLUSH MOUNTED LOCATOR STATION SHALL BE AT 500' MAXIMUM INTERVALS.

FLUSH MOUNTED LOCATOR STATION CONCRETE BOX C328

NTS



STUB OUT FOR FUTURE CONNECTION C327

NTS

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIL STANDARD DETAILS - 9

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. GC-10

Sheet _____ of XXX Sheets

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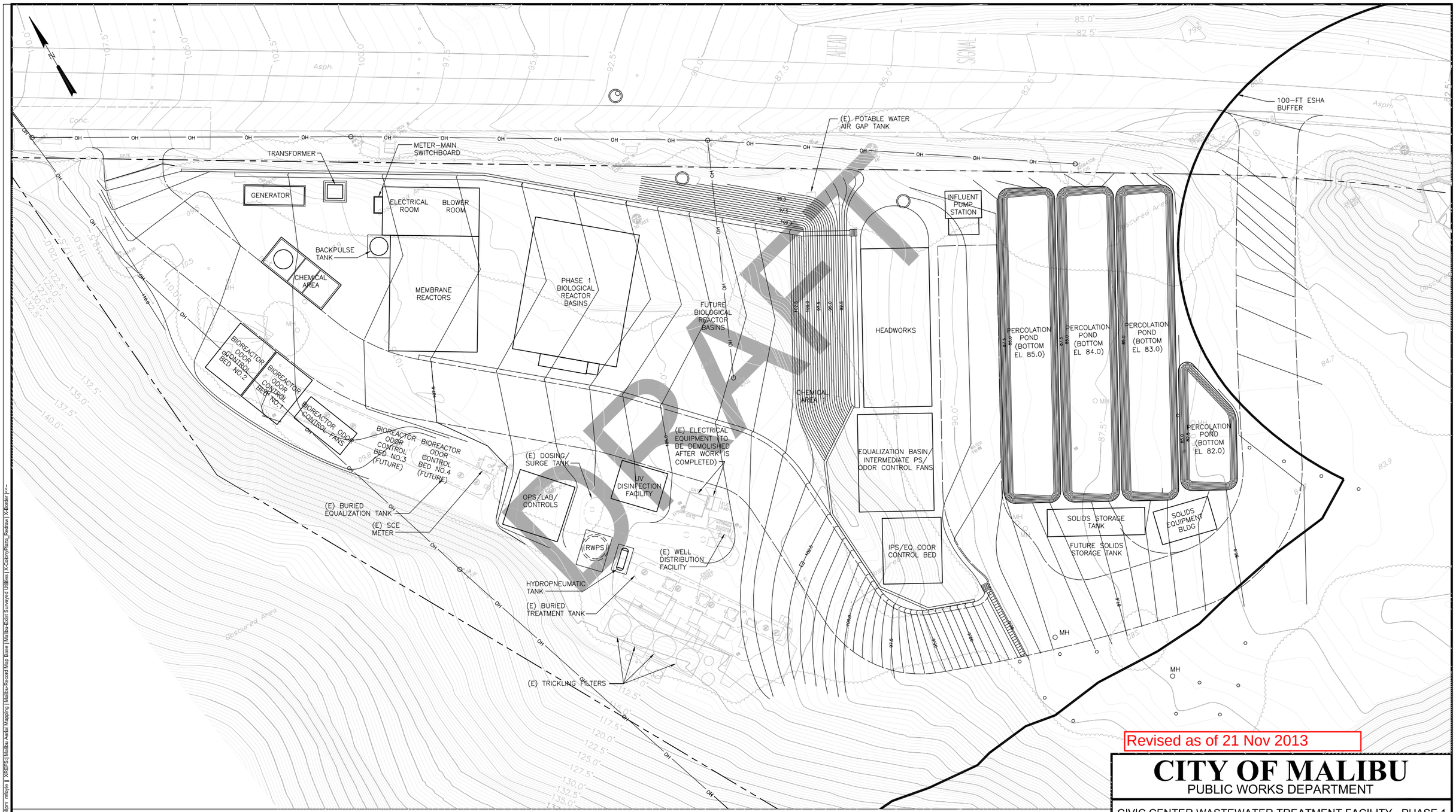

PLAN
1" = 20'–0"

SCALE: 1"=20'
0 20 40 60
SCALE IN FEET

Revised as of 21 Nov 2013

DRAFT

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PAVING AND GRADING PLAN

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

DESIGNED BY: M. Hoeft	DATE 06/2013	SCALE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
DRAWN BY: M.Foyle	DATE 06/2013	AS SHOWN	DATE XX-XX-13
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. C100-1

Sheet _____ of XXX Sheets

[FILENAME 0127-006-C100 SitePlan 11-20-13 03:38pm mfoyle || XREFS:] Malibu Aerial Mapping | Malibu-Record Map Base | Malibu-Exist Surveyed Utilities | X-Colony Plaza_Redraw | X-Border |<--

Last Saved By: mfoyle 11-20-13 03:38pm

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INFLUENT PUMP STATION, SEE DWG M1000-1
EQUALIZATION BASIN, SEE DWG M1000-1
METERING MANHOLE, SEE DWG C200-_
TEMP LINE FOR STARTUP AND VESTING
HEADWORKS, SEE DWG M2000-1
FLOW SPLITTER BOX, SEE DWG M2000-6
TEMP 6"-SSFM
6" PV ON EX SSFM
(E) BURIED EQUALIZATION TANK
CHEMICAL AREA 2, SEE DWG M8000-2
FUTURE BIOLOGICAL REACTOR BASINS
PHASE 1A BIOLOGICAL REACTOR BASINS, SEE DWGS M3100 AND M3200-1
ELECTRICAL AND BLOWER ROOMS, SEE DWG 4600-1
MEMBRANE REACTORS AND PERMEATE PUMPS, SEE DWG M4000-1
OPS/LAB CONTROLS, SEE DWG M-9000-1
ELEC FIBER OPTIC RING
FIBER OPTIC RING
(E) ELEC EQUIPMENT
UV DISINFECTION FACILITY, SEE DWG M5000-1
TEMP LINE FOR STARTUP AND TESTING
(E) BURIED DOSING/SURGE TANK
(E) BURIED TREATMENT TANK
(E) SEEPAGE PIT DISTRIBUTION FACILITY
(E) TRICKLING FILTERS
SCE METER & SWBD-1
GENERATOR
TRANSFORMER
BACKPULSE TANK
CHEMICAL AREA 1, SEE DWG M8000-1
BIOREACTOR ODOR CONTROL BED NO.4 (FUTURE)
BIOREACTOR ODOR CONTROL BED NO.3 (FUTURE)
BIOREACTOR ODOR CONTROL BED NO.2, SEE DWG M9200-1
BIOREACTOR ODOR CONTROL BED NO.1, SEE DWG M9200-1
BIOREACTOR ODOR CONTROL FANS, SEE DWG M9200-1
PERCOLATION POND (BOTTOM EL 85.0)
PERCOLATION POND (BOTTOM EL 84.0)
PERCOLATION POND (BOTTOM EL 83.0)
PERCOLATION POND (BOTTOM EL 82.0)
TEMP 21,000 GAL CLOSED SEPTIC TANK
TEMP 5,000 GAL CLOSED SOLIDS STORAGE TANK
SOLIDS STORAGE TANK, SEE M7000-1
PLANT DRAIN PS, SEE M7100-1
RWPS AND UWPS, SEE DWG M6000-1
TEMP PUMP TO CONVEY FLOW TO EX EQ TANK
TEMP 6"-SS
TEMP 6" PV
TEMP 4"-WAS
TWO 2"-EFF
2"-EFF
8"-RW
Obscured Area

PLAN
1" = 20'-0"

SCALE: 1"=20'
0 20 40 60
SCALE IN FEET

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

YARD PIPING PLAN

DESIGNED BY: M. Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. C200-1

Sheet _____ of XXX Sheets

Last Saved By: mfoyle 10-18-13 01:01pm

GENERAL NOTES:

1. VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER STRUCTURAL NOTES.
3. JOINTS IN STRUCTURES SHALL BE LOCATED WHERE INDICATED ON THE DRAWINGS. CONSTRUCTION JOINTS NOT INDICATED ON THE DRAWINGS, BUT REQUIRED FOR CONSTRUCTION SHALL BE KEYED, DOWELLED, AND WATERSTOPPED. WATERSTOPS SHALL BE PLACED AT CONSTRUCTION AND EXPANSION JOINTS AS SHOWN.
4. PROVIDE 1" CHAMFER AT ALL EXPOSED CONCRETE EDGES AND CORNERS.
5. STANDARD DETAILING DIMENSIONS TO BE IN ACCORDANCE WITH ACI DETAILS AND DETAILING OF CONCRETE REINFORCEMENT 315.
6. PROTECT IN-PLACE ALL EXISTING STRUCTURES, PIPING, AND EQUIPMENT THAT ARE NOT REMOVED OR RELOCATED BY THESE DRAWINGS.
7. ALL REINFORCING STEEL, SNAP TIES, AND OTHER METALLIC COMPONENTS SHALL MATINTAIN A MINIMUM CLEARANCE OF 2" FROM THE PIPE.
8. ALL ANCHORS AND HARDWARE SHALL BE TYPE 316SS, UNLESS OTHERWISE NOTED.
9. ALL EQUIPMENT ANCHORAGE NOT SPECIFIED ON THE PLAN SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

REINFORCING NOTES:

1. ALL REINFORCING STEEL SHALL BE PLACED IN CONFORMANCE WITH THE I.B.C., AND THE "MANUAL OF STANDARD PRACTICE" BY THE C.R.S.I. OR AS MODIFIED BY THE CONSTRUCTION DOCUMENTS.
2. REINFORCING BARS SHALL CONFORM TO A.S.T.M. A-615, DEFORMED GRADE 60, EXCEPT #3 BARS MAY BE GRADE 40. REINFORCING BARS THAT ARE TO BE WELDED SHALL CONFORM TO A.S.T.M. A-706, DEFORMED GRADE 60.
3. WELDING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH A.S.T.M. A-706 WITH LOW HYDROGEN ELECTRODES AND SHALL CONFORM TO I.B.C. STANDARD 19-1 AND STRUCTURAL WELDING CODE REINFORCING STEEL BY A.N.S.I. / A.W.S. D1.4. MINIMUM TENSILE STRENGTH OF WELD METAL SHALL BE 90 K.S.I. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
4. ALL REINFORCING BAR BENDS SHALL BE MADE COLD, UNLESS OTHERWISE PERMITTED BY THE BUILDING OFFICIAL.
5. WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. A-185, AND SHALL BE LAPPED 1 SPACES AND 12" MINIMUM.
6. REINFORCING SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS.
7. SLAB ON GRADE REINFORCING SHALL BE POSITION AT MID-DEPTH, UNLESS NOTED OTHERWISE.
8. PROVIDE #3 SPACER TIES AT 2'-6" ON CENTER IN ALL BEAMS AND FOOTINGS TO SECURE REINFORCING BARS IN PLACE, U.O.N.
9. ALL REBAR SIZES ON THESE DRAWINGS ARE IN POUND - INCH UNITS. SEE TABLE FOR METRIC EQUIVALENT.
10. PIPING AND CONDUIT SHALL BE SO FABRICATED AND INSTALLED THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS PROPER LOCATION WILL NOT BE REQUIRED. A.C.I. #6.3.12
11. START AND END REINFORCING BARS IN WALLS, ROOFS, AND FLOORS AT 6" MAXIMUM.
12. PROVIDE 1/4" SPACER BARS OR TIES AT 24 INCHES ON CENTER IN SLABS, BEAMS, GIRDERS, AND FOOTINGS TO KEEP MAIN REINFORCING IN PLACE.
13. BARS SPECIFIED AS "CONTINUOUS" SHALL EXTEND THE FULL LENGTH OF THE MEMBER CONTAINING THEM.
14. CLEARANCE BETWEEN STEEL REINFORCING BARS AND HATCHWAY FRAME SHALL BE 1 1/2"±.

CONCRETE:

1. CONCRETE SHALL BE CLASS A, F'c = 4,500 PSI @ 28 DAYS AND PER SPECIFICATIONS.
2. AGGREGATES FOR CONCRETE SHALL CONFORM TO A.S.T.M. C-33.
3. CEMENT FOR CONCRETE SHALL BE TYPE V PORTLAND CEMENT CONFORMING TO A.S.T.M. C-150. MAX. WATER/CEMENT RATIO = 0.45 (BY WEIGHT)
4. CLEAR CONCRETE COVER: (UNLESS NOTED OTHERWISE.)

ALL WALL & ROOF	2 INCHES
BOTTOM LAYER @ FLOOR	3 INCHES
BARS PARALLEL TO C.J.	2 INCHES
BARS @ WATERSTOP	2 INCHES

5. CONCRETE FINISHING PER SPECIFICATIONS AND THE FOLLOWING:

U-4	TOP OF FLOOR AND ROOF
F-1	EXTERIOR WALL SURFACES
F-2	INTERIOR WALL SURFACES
F-3	UNDERSIDE OF ROOF

6. DRYPACK SHALL BE 1 PART CEMENT AND 3 PARTS SAND (BY VOLUME)
7. NO PIPES OR DUCTS SHALL BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION PIPES AND CONDUITS THROUGH WALL AND FLOORS.
8. SLOPE SLABS AS SHOWN ON DRAWINGS OR TO DRAIN.
9. THE LOCATION OF ALL CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY ENGINEER.
10. SEE SPECIFICATIONS FOR PREPARING EXISTING CONCRETE SURFACES THAT ARE TO COME IN CONTACT WITH NEW CONCRETE. APPLY EPOXY BONDING COMPOUND PER SPECIFICATIONS.
11. EXCEPT AS OTHERWISE REQUIRED, EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS.

STEEL:

1. FABRICATION AND ERECTION TO CONFORM TO A.I.S.C. LATEST EDITION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS" AND "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" EXCEPT AS OTHERWISE SHOWN OR SPECIFIED.
2. QUALIFIED AND CERTIFIED WELDERS SHALL BE USED FOR ALL WELDING. WELDING TO BE PERFORMED IN THE SHOP OF A STATE LICENSED FABRICATOR. ALL WELDING TO CONFORM TO THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE A.W.S. D1.1.
3. MATERIALS:

STRUCTURAL STEEL SHAPES	A.S.T.M. A992 or A-572 (Fy = 50 K.S.I.)
STRUCTURAL STEEL CHANNEL & ANGLES	A.S.T.M. A-36
STRUCTURAL STEEL PLATES	A.S.T.M. A-36
STRUCTURAL STEEL PIPES	A.S.T.M. A53 TYPE E OR S, GRADE B
WELDING ELECTRODES	A.W.S. A-5.1 OR A-5.5.
ANCHOR BOLTS	A.S.T.M. A-307
TYPICAL STEEL CONNECTION BOLTS	A.S.T.M. A-307
MISCELLANEOUS BOLTS	A.S.T.M. A-307
GALVANIZING	A.S.T.M. A-123
RUST-INHIBITING PRIMER	TT-P-645 A.S.T.M.
HSS-STEEL TUBING	A.S.T.M. A-500, GRADE B (Fy = 46 K.S.I.)

4. HOT-DIPPED GALVANIZE AFTER FABRICATION ALL STRUCTURAL STEEL AND CONNECTORS EXPOSED TO WEATHER. TOUCH UP DAMAGED GALVANIZING WITH GALVALLOY AFTER ERECTION IS COMPLETE.
5. CONNECTED MEMBERS SHALL BEAR ONLY UPON UNTHREADED PORTIONS OF BOLTS.
6. BURNING OF HOLES IS NOT ALLOWED.
7. INSPECTION OF WELDING SHALL CONFORM TO C.B.C. REQUIREMENTS (CHAPTER 17A).
8. THE STRUCTURAL STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
9. BOLT HOLES SHALL BE 1/16" LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED, UNLESS NOTED OTHERWISE.
10. ALL STRUCTURAL STEEL SURFACES TO RECEIVE SPRAY-APPLIED FIREPROOFING OR TO BE ENCASED IN CONCRETE OR MASONRY SHALL BE LEFT UNPAINTED.
11. STRUCTURAL STEEL SHALL BE DELIVERED TO THE JOB SITE FREE OF EXCESSIVE RUST, MILL SCALE, GREASE, ETC.
12. OPENING SHALL NOT BE PLACED IN STEEL MEMBERS UNLESS SPECIFICALLY DETAILED.

STAIRS AND LADDERS:

1. STAIRS AND LADDERS SHALL BE DESIGNED BY THE CONTRACTOR BASED ON STAIR AND LADDER LAYOUTS SHOWN ON THE PLANS. SUBMIT ALL DESIGNS TO ENGINEER FOR APPROVAL.
2. STAIR AND LADDER DESIGNS SHALL BE SIGNED BY A CALIFORNIA REGISTERED ENGINEER.
3. STAIR TREADS AND LANDINGS SHALL HAVE AN ALUMINUM GRATING WALKING SURFACE. TREADS TO BE TYPE A ALUMINUM STAIR TREADS BY McNICHOLS OR APPROVED EQUAL. BEARING BARS SHALL HAVE A MINIMUM DEPTH OF 1-3/4" INCH.
4. STAIR STRINGERS, LANDING FRAMING AND LADDERS SHALL BE A36 STEEL. PAINT PER SPECIFICATION 0900.
5. THE TOPS OF STAIR HANDRAILS SHALL BE A MINIMUM OF 42" ABOVE LANDINGS.
6. STAIRS SHALL BE DESIGNED FOR A LIVE LOAD OF 100 PSF AND A CONCENTRATED LOAD OF 400 LBS. HANDRAILS SHALL CONFORM WITH THE REQUIREMENTS OF SECTION 1607.7.1 OF THE CALIFORNIA BUILDING CODE.
7. CONTRACTOR TO VERIFY ELEVATIONS SHOWN ON PLANS.
8. LADDERS SHALL BE BY HALLIDAY PRODUCTS OR APPROVED EQUAL.
9. ALL DISSIMILAR METAL ISOLATIONS SHALL BE PROVIDED BY CONTRACTOR.
10. ALL STAIRS AND LADDERS SHALL CONFORM, AT A MINIMUM, TO ALL OSHA REQUIREMENTS.

NOTE:
REFER TO MECH. DRAWINGS FOR STRUCTURAL ELEVATIONS

SOILS CLASSIFICATION:

1. THE SOILS INVESTIGATION FOR THE SITE WAS PREPARED BY: EARTH SYSTEMS SOUTHWEST, DATED DECEMBER 3 2010, FILE NUMBER 08409-15, DOCUMENT NUMBER 10-12-710.
2. CHARACTER OF FOUNDATION SOILS: ALLUVIAL AND CONSIST OF INTERBEDDED SANDS AND SILTY SANDS. THE SOILS APPEAR TO BE LOOSE TO MEDIUM DENSE.
3. FOOTINGS SHOULD BE EMBEDDED A MINIMUM OF 18 INCHES BELOW THE BUILDING SUPPORT PAD OR LOWEST ADJACENT FINAL GRADE, WHICHEVER IS DEEPER.
4. CONTINUOUS FOOTINGS SHOULD HAVE A MINIMUM WIDTH OF 12 INCHES AND SPREAD FOOTINGS SHOULD HAVE A MINIMUM LENGTH AND WIDTH OF 24 INCHES X 24 INCHES.
5. THE SOILS SHALL BE REMOVED AND RE-COMPACTED IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS
6. FOR COMPACTED NATIVE SOILS, AN ALLOWABLE SOIL BEARING PRESSURE OF:
   CONTINUOUS WALL FOUNDATIONS: 1,500 PSF
   ISOLATED PAD FOUNDATIONS: 2,000 PSF
7. SEE CIVIL DRAWINGS FOR ALL SITE SOIL PREPARATION REQUIREMENTS.
8. SITE PREPARATION AND BUILDING SUBGRADE PREPARATION SHALL BE IN ACCORDANCE WITH GEOTECHNICAL REPORT RECOMMENDATIONS.

MASONRY:

1. MASONRY UNITS SHALL BE MEDIUM WEIGHT, SPLIT-FACE BLOCK IN ACCORDANCE WITH A.S.T.M. SPECIFICATION C-90, F'm = 2,000 P.S.I., USE OPEN END UNITS AT VERTICAL REINFORCING.
2. ALL VERTICAL CELLS SHALL BE GROUTED SOLID. LIFT HEIGHT SHALL BE IN ACCORDANCE WITH CBC SECTION 2104A.6.1.1 FOR HIGH LIFT GROUTING, LIFT NOT TO EXCEED 4'-0".
3. VERTICAL BARS IN MASONRY UNITS SHALL BE TIED OR OTHERWISE FIXED IN POSITION AT INTERVALS OF NOT LESS THAN 4'-0" AND AT TOP AND BOTTOM.
4. PROVIDE INSPECTION AND CLEANOUT HOLES AT BOTTOM COURSE OF MASONRY WHEN THE GROUT POURS EXCEED 5'-0" IN HEIGHT.
5. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR OF GROUT 1 1/2" BELOW THE TOP OF THE UPPERMOST MASONRY UNITS.
6. MORTAR SHALL BE TYPE S PER CALIFORNIA BUILDING CODE TABLE 2103.8 WITH A 28 DAYS COMPRESSIVE STRENGTH OF 2,800 P.S.I. MINIMUM.
7. REINFORCEMENT WELDING SHALL COMPLY WITH A.W.S. D1.4 (LATEST EDITION). NO FIELD WELDING OF REINFORCING BARS, U.N.O.
8. ALL HEAD JOINTS SHALL BE FULL BUTTERED OR OPEN END MASONRY UNITS SHALL BE USED.
9. GROUT SHALL CONFORM TO TABLE 2103.12. A MIXTURE OF CEMENT, SAND, PEA GRAVEL AND WATER WHICH WILL COMPLETELY FILL ALL VOIDS IN THE WALL AND DEVELOP A 28 DAY COMPRESSIVE STRENGTH OF 2,500 P.S.I.
10. REINFORCING STEEL A.S.T.M. A-615, GRADE 60. SPLICE IN REINFORCEMENT SHALL BE LAPPED 48 DIAMETERS MIN.
11. ALL VERTICAL WALL REINFORCEMENT SHALL BE DOWELED TO THE FOUNDATION WITH THE SAME SIZE AND NUMBER OF BARS AS SHOWN IN THE WALLS.
12. PROVIDE ONE INCH MINIMUM GROUT COVER ON ALL BOLTS AND PLATES
13. HORIZONTAL REINFORCING SHALL BE PLACED IN BOND BEAM UNITS.
14. NO PIPES OR DUCTS SHALL BE PLACED IN MASONRY WALLS UNLESS SPECIFICALLY NOTED OR DETAILED.
15. IF NO REINFORCING IS SHOWN IN DETAILS FOR CMU WALLS, THEN USE A MINIMUM OF #4 @ 32" O.C. HORIZONTAL AND #5 @ 24" O.C. VERTICAL REINFORCING BARS.

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — VERIFY SCALES — 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering Structural and Bridge Engineers
9755 Hibert Road, Suite 310
San Diego, CA 92131
Fax: (858) 560-4911

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

STRUCTURAL ABBREVIATIONS, LEGEND AND NOTES

DESIGNED BY: J. Orie	DATE 06/2013	SCALE	AS SHOWN
DRAWN BY: CADD	DATE 06/2013		
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER	XXXX

APPROVED BY: DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. GS-1

Sheet _____ of XXX Sheets

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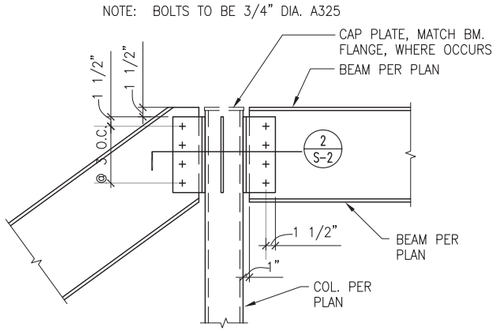
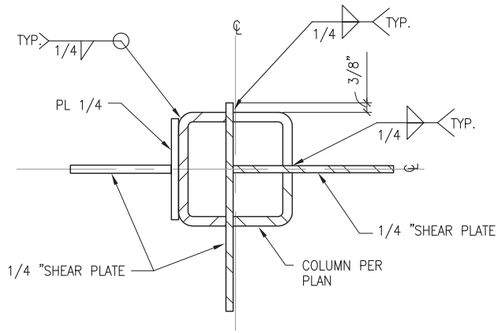


TYP. BM.–TO–COL. CONN. DETAIL 1

N.T.S.



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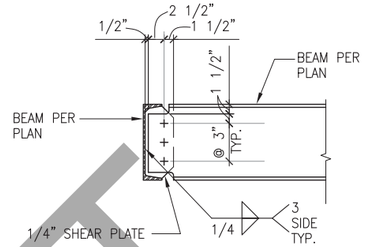
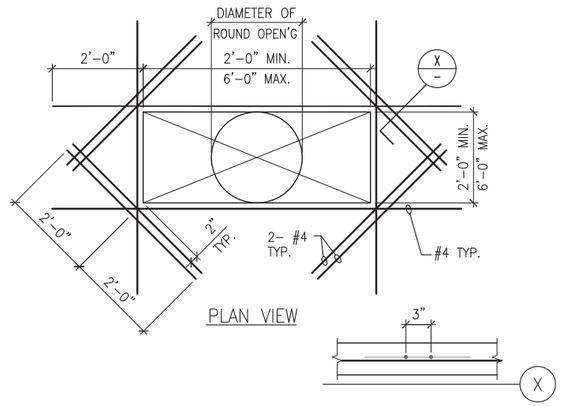


TYP. CHNL.–TO–CHNL CONN. DETAIL 3

1" = 1'–0"

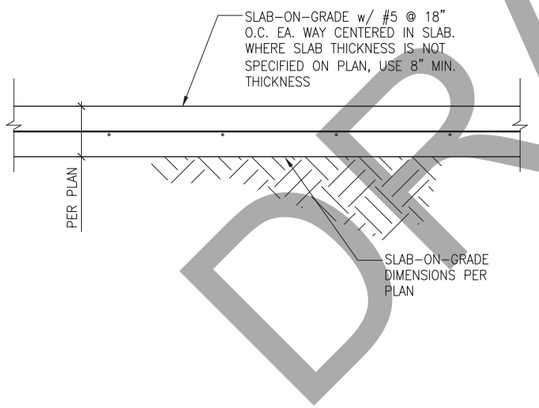
NOT USED 4

N.T.S.



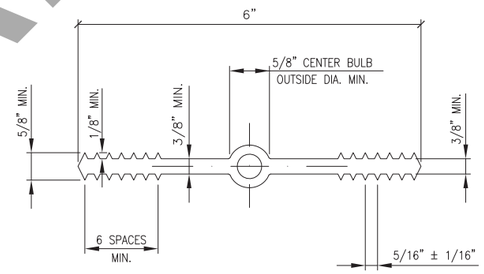
TYP. REINF. AT CONC. WALL/SLAB OPENINGS 5

N.T.S.

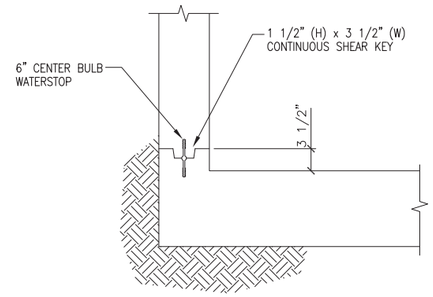


TYP. SLAB–ON–GRADE DETAIL 6

1" = 1'–0"



6" CENTER-BULB WATERSTOP



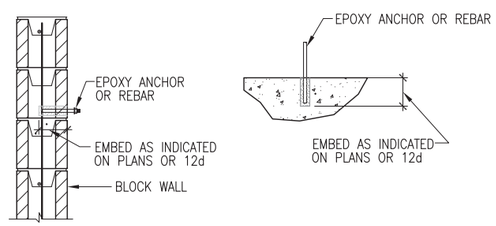
TYPICAL CONCRETE WALL/JOINT/WATERSTOP DETAIL 7

N.T.S.

EPOXY ANCHORS

1. ADHESIVE ANCHORS SHALL CONSIST OF "ALL THREAD" OR DEFORMED REBAR WITH NUT, WASHER AND ADHESIVE.
2. THREADED ANCHOR RODS SHALL BE MANUFACTURED FROM: SAE 1018 MEETING THE MECHANICAL REQUIREMENTS OF ASTM A307, GRADE A APPLICATION
3. REBAR SHALL BE GRADE 60 OR OTHER APPROVED MATERIAL. REBAR SHALL BE DEFORMED AND CAN BE COATED OR UNCOATED.
4. ANCHORING ADHESIVE SHALL BE A TWO–COMPONENT 100% SOLIDS EPOXY BASED SYSTEM SUPPLIED IN MANUFACTURER'S STANDARD CARTRIDGE AND DISPENSED THROUGH A STATIC–MIXING NOZZLE SUPPLIED BY THE MANUFACTURER. ADHESIVE SHALL BE SET–XP™ EPOXY–TIE ADHESIVE FROM SIMPSON STRONG–TIE, PLEASANTON, CA. ANCHORS SHALL BE INSTALLED PER SIMPSON STRONG–TIE'S INSTRUCTIONS FOR SET–XP EPOXY–TIE. (ICC–ESR–2508)

INSTALLATION:
ADHESIVE ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH CARBIDE BITS CONFORMING TO ANSI B94.12–1977. ANCHORS SHALL BE INSTALLED PER SPECIFICATIONS AND THE MANUFACTURERS PROCEDURES.



TYP. EPOXY REBAR/BOLT DETAIL 8

N.T.S.

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE, DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment; Orie² Engineering Structural and Bridge Engineers, 5750 Ekwill Road, Suite 310, Santa Barbara, CA 93111, Fax (805) 560-6611

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

STRUCTURAL STANDARD DETAILS - 2

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: XX-XX-13 DATE
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. GS-2

Sheet _____ of XXX Sheets

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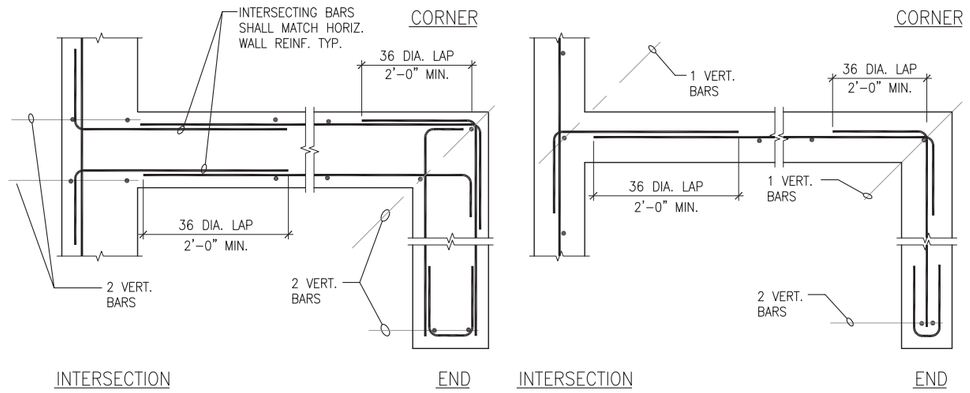
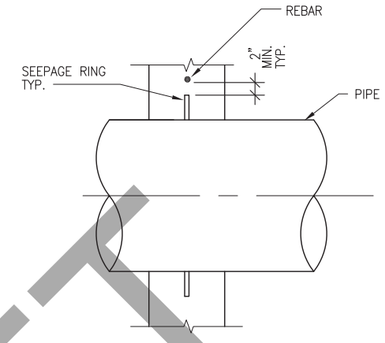


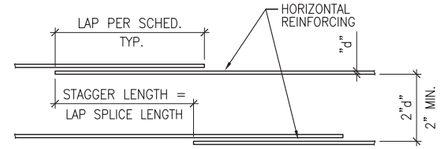
TYP. REINFORCING AT INTERSECTIONS OF WALLS OR FOOTINGS DETAIL 1

N.T.S.



TYP. REBAR CLEARANCE TO PIPES DETAIL 2

1" = 1'-0"



CONC. F'c P.S.I.	BAR SIZE									
	#3	#4	#5	#6	#7	#8	#9	#10		
	TENSION LAP SPLICES, INCHES									
4,000	24	24	30	36	42	51	64	81		

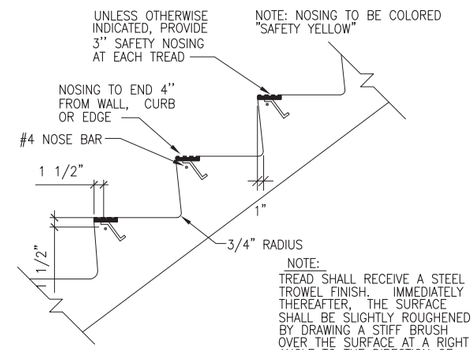
HARDROCK CONCRETE
F'y = 60,000 P.S.I. (CLASS "B")

NOTES:

1. SPLICE LENGTH SHALL BE DETERMINED FROM THE SIZE OF THE SMALLER BAR SPLICED.
2. DIVIDE BY 1.3 FOR NON-TOP BAR (LESS THAN 12" OF CONCRETE CAST BELOW)
3. CONCRETE MASONRY UNITS LAP 48d MIN. HORIZ & VERT. REINF.

TYP. HORIZONTA REBAR LAP SPLICE DETAIL 3

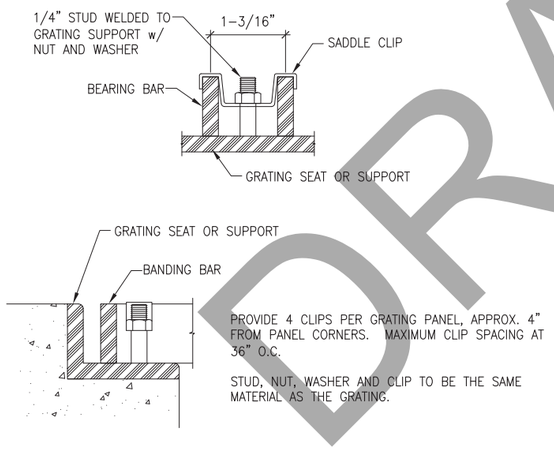
N.T.S.



NOTE:
TREAD SHALL RECEIVE A STEEL TROWEL FINISH. IMMEDIATELY THEREAFTER, THE SURFACE SHALL BE SLIGHTLY ROUGHENED BY DRAWING A STIFF BRUSH OVER THE SURFACE AT A RIGHT ANGLE TO THE DIRECTION OF TRAFFIC TO PRODUCE A NON-SKID SURFACE

TYP. STAIR NOSINIG DETAIL 4

N.T.S.

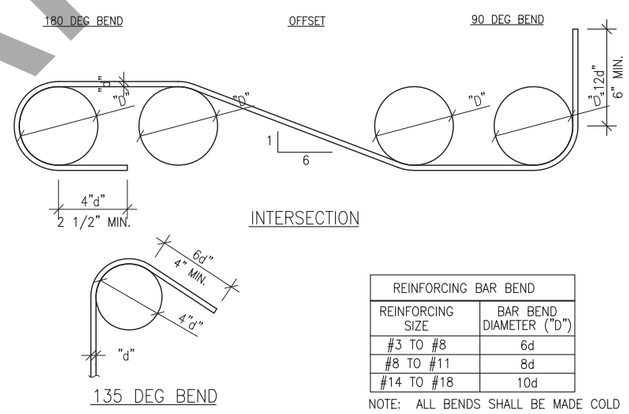


PROVIDE 4 CLIPS PER GRATING PANEL, APPROX. 4" FROM PANEL CORNERS. MAXIMUM CLIP SPACING AT 36" O.C.

STUD, NUT, WASHER AND CLIP TO BE THE SAME MATERIAL AS THE GRATING.

TYP. GRATING ANCHOR DETAIL 5

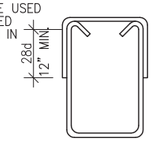
1" = 1'-0"



REINFORCING BAR BEND	
REINFORCING SIZE	BAR BEND DIAMETER ("D")
#3 TO #8	6d
#8 TO #11	8d
#14 TO #18	10d

NOTE: ALL BENDS SHALL BE MADE COLD

NOTE:
CAP STIRRUPS MAY BE USED WHENEVER 135° CLOSED STIRRUPS ARE SHOWN IN GRADE BEAM ONLY



CAP STIRRUP

BAR CLEARANCE

TYPICAL REINFORCING BAR BENDS DETAIL 6

N.T.S.

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
9701 Monitor Road, Suite 310
San Diego, CA 92126
Fax: (858) 560-4911

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

STRUCTURAL STANDARD DETAILS - 3

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
DRAWN BY: CADD	DATE 06/2013		DATE XX-XX-13
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. GS-3

Sheet _____ of XXX Sheets

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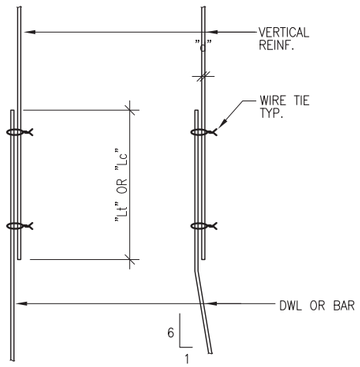


BAR SIZE	LAP LENGTH F'c=4,000 P.S.I.
#3	24
#4	24
#5	24
#6	28
#7	32
#8	39
#9	49
#10	63
#11	77

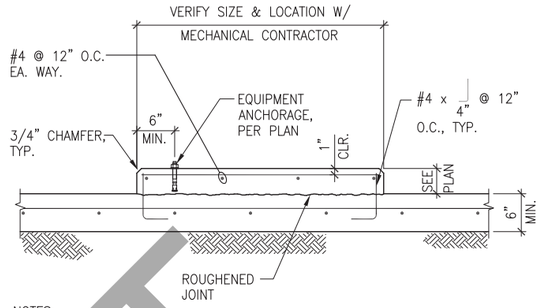
F'y = 60 K.S.I.

NOTES:

1. ALL VERTICAL REINFORCING FOR COLUMN, PIERS AND WALLS SHALL BE DOWELED AS SHOWN, UNLESS NOTED OTHERWISE.
2. DOWELS SHALL BE THE SAME GRADE, SIZE, QUANTITY AND/OR SPACING AS VERTICAL REINFORCING.
3. WHEN "Lc" OR "Lt" IS NOT SPECIFIED ON DRAWING, USE TENSION LAP "Lt"

TYP. TENSION REINFORCING – LAP SPLICE DETAIL 1

N.T.S.

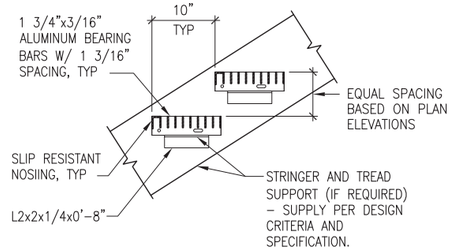


NOTES:

1. CONTRACTOR SHALL POUR PADS SEPARATELY FROM FLOOR SLAB AT PADS ON STRUCTURAL FLOOR.
2. EQUIPMENT ANCHORAGE EMBEDIMENTS ARE UNIQUE TO EACH PIECE OF EQUIPMENT, AND ARE NOT SHOWN IN DETAIL ABOVE.
3. AT (E) SLAB USE #4 EPOXY DOWELS @ 12" O.C. PER DETAIL 4/S-2 IN LIEU OF | BARS

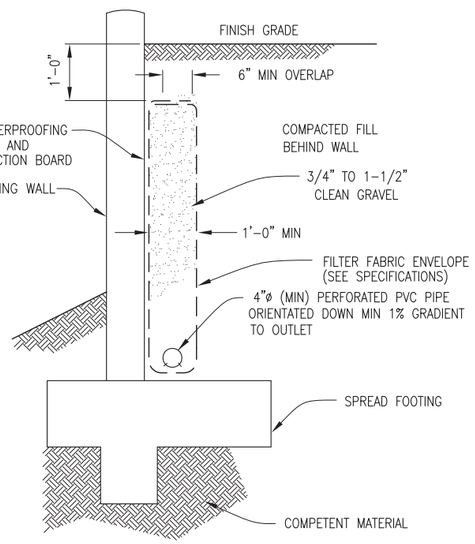
TYP. CONC. EQUIP. PAD ON GRADE DETAIL 2

1" = 1'-0"



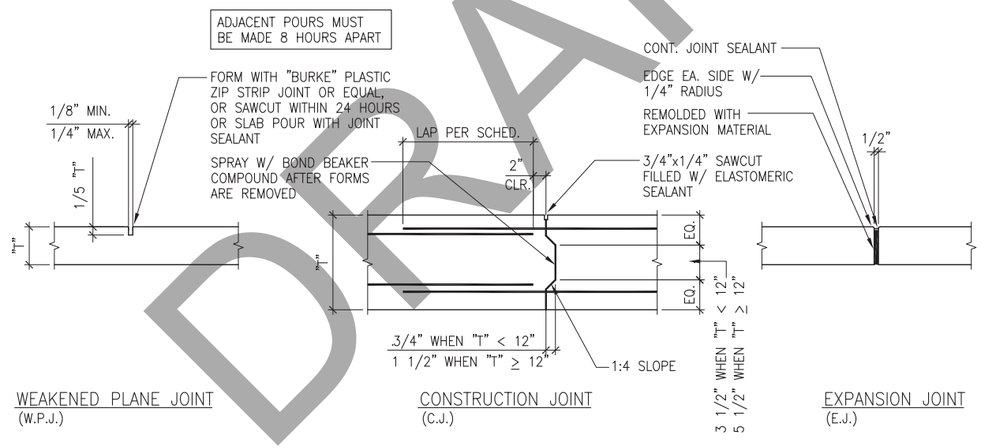
TYP. STAIR TREAD DETAIL 3

N.T.S.



TYP. RETAINING WALL DRAINAGE 6

N.T.S.



WEAKENED PLANE JOINT (W.P.J.)

CONSTRUCTION JOINT (C.J.)

EXPANSION JOINT (E.J.)

TYPICAL SLAB JOINTS DETAIL 4

N.T.S.

NOT USED 5

N.T.S.

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment; Orie² Engineering Structural and Bridge Engineers, 9755 Miramar Road, Suite 319, San Diego, CA 92126, Fax: (858) 586-0911

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

STRUCTURAL STANDARD DETAILS - 3

DESIGNED BY: J. Orie	DATE 06/2013	SCALE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013	AS SHOWN	
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. GS-4

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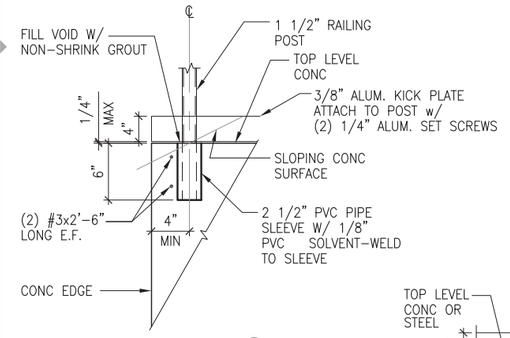

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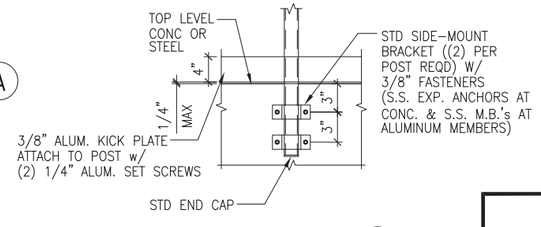
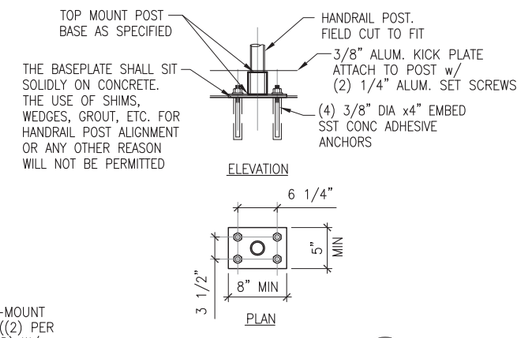


SIDE MOUNTING BRACKET (B)



ALUM HANDRIL POST ANCHORAGE (C)

NOTE:
PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE PER SPECIFICATIONS.

TYPICAL RAILING/GUARDRAIL POST BASE DETAIL (1)

1" = 1'-0"

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

STRUCTURAL STANDARD DETAILS - 5

DESIGNED BY: J. Orie	DATE 06/2013	SCALE	AS SHOWN
DRAWN BY: CADD	DATE 06/2013		
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER	XXXX

APPROVED BY: DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. GS-4

Sheet _____ of XXX Sheets

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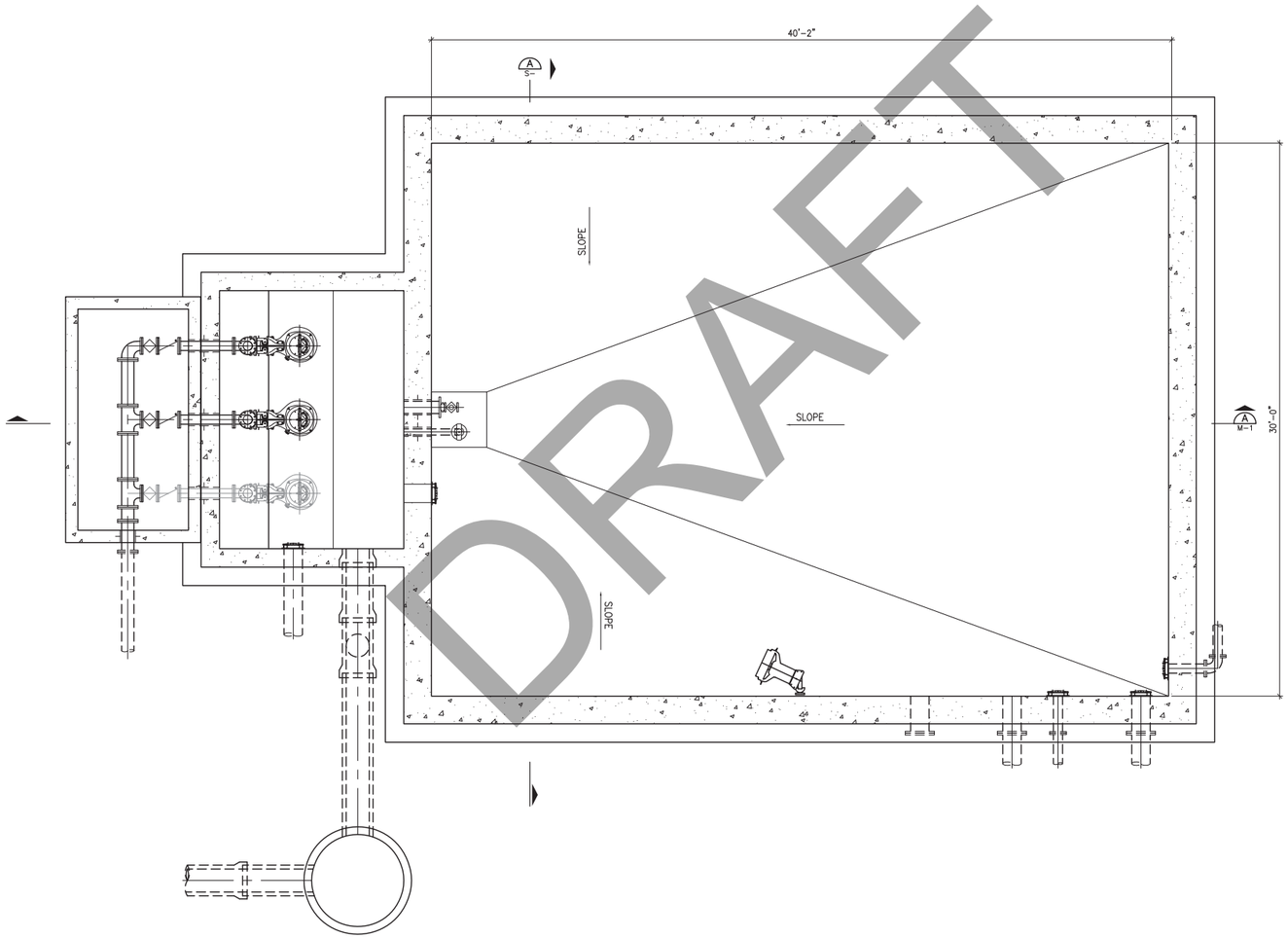

DRAFT

INFLUENT PUMP STATION AND EQUALIZATION BASIN

FOUNDATION PLAN

1/4" = 1'-0"

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
3750 Mentor Road, Suite 310
San Diego, CA 92130
Fax (858) 5804911

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

INFLUENT PUMP STATION AND EQUALIZATION BASIN - FOUNDATION PLAN

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S1000-1

Sheet _____ of XXX Sheets

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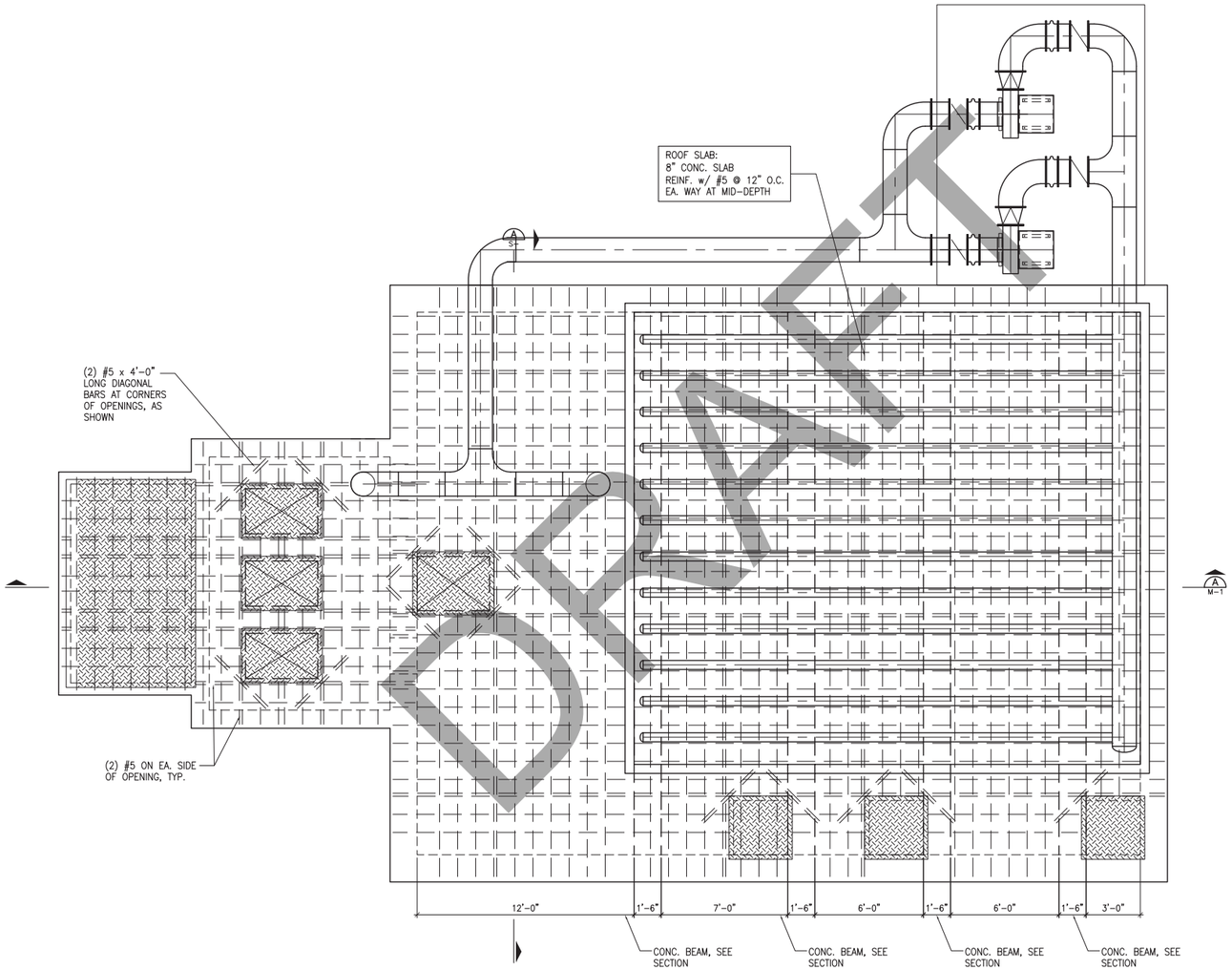

INFLUENT PUMP STATION AND EQUALIZATION BASIN
ROOF FRAMING PLAN
1/4" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
9755 Monroe Road, Suite 310
San Diego, CA 92126
Fax: (858) 560-6011

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

INFLUENT PUMP STATION AND EQUALIZATION BASIN - ROOF FRAMING PLAN

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE
DRAWN BY: CADD	DATE 06/2013		XX-XX-13
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. S1000-2

Sheet _____ of XXX Sheets

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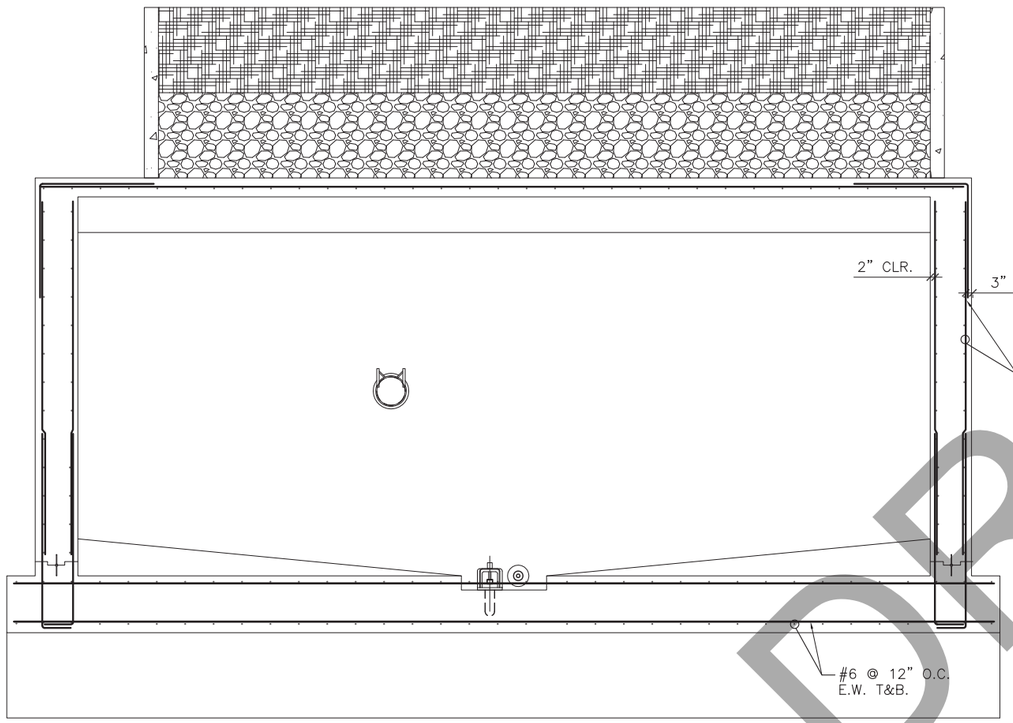
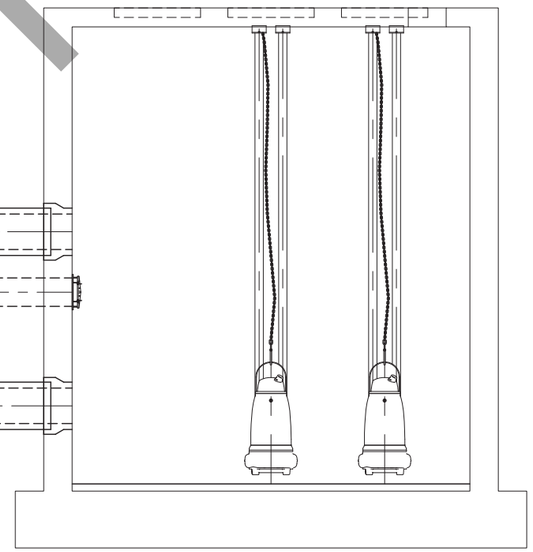


SECTION A
3/8" = 1'-0" M1000-1,2



SECTION B
3/8" = 1'-0" M1000-1,2

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE, DIAL BEFORE YOU DIG!
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

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RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
9750 Miramar Road, Suite 310
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CITY OF MALIBU
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CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

INFLUENT PUMP STATION AND
EQUALIZATION BASIN - STRUCTRUAL SECTIONS

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S1000-3

Sheet _____ of XXX Sheets

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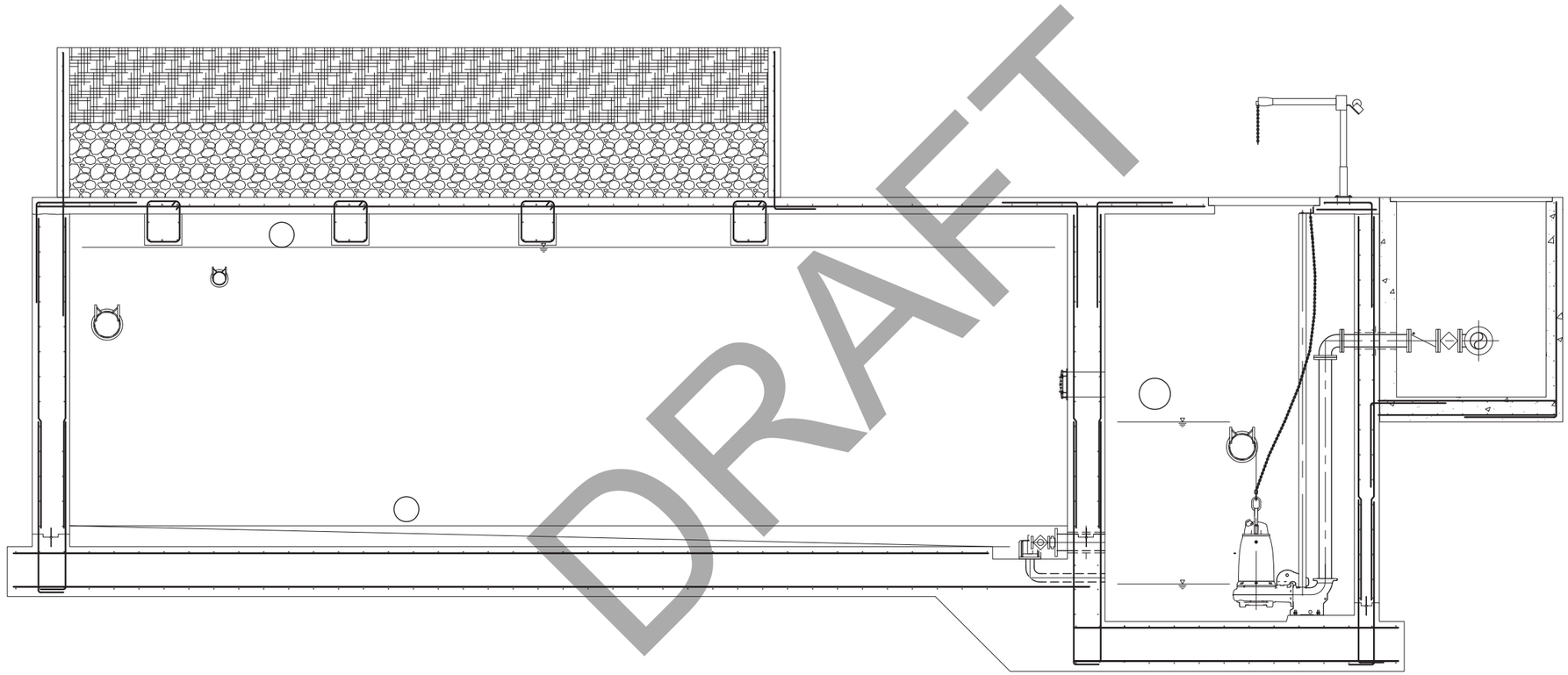

SECTION C
3/8" = 1'-0" M1000-1,2

DRAFT

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1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
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PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
9755 Monitor Road, Suite 310
San Diego, CA 92126
Fax: (858) 560-4911

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

INFLUENT PUMP STATION AND
EQUALIZATION BASIN - STRUCTRUAL SECTIONS

DESIGNED BY: J. Orie — DATE 06/2013	SCALE	APPROVED BY: — DATE XX-XX-13
DRAWN BY: CADD — DATE 06/2013	AS SHOWN	ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie — DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
		RCE NO. 52102 EXP. 12/31/2014

Plan No. S1000-4

Sheet _____ of XXX Sheets

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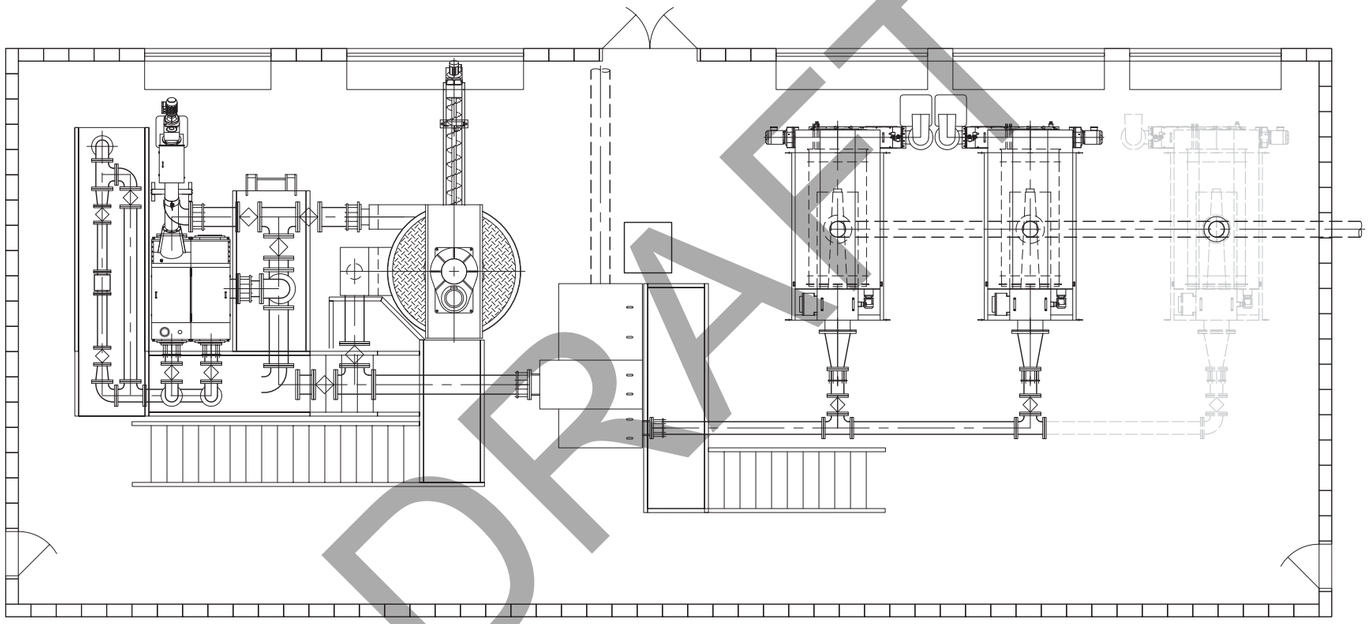

DRAFT

HEADWORKS
FOUNDATION PLAN
1/4" = 1'-0"

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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San Diego, CA 92126
Fax: (858) 560-4911

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

HEADWORKS
FOUNDATION PLAN

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. S2000-1

Sheet _____ of XXX Sheets

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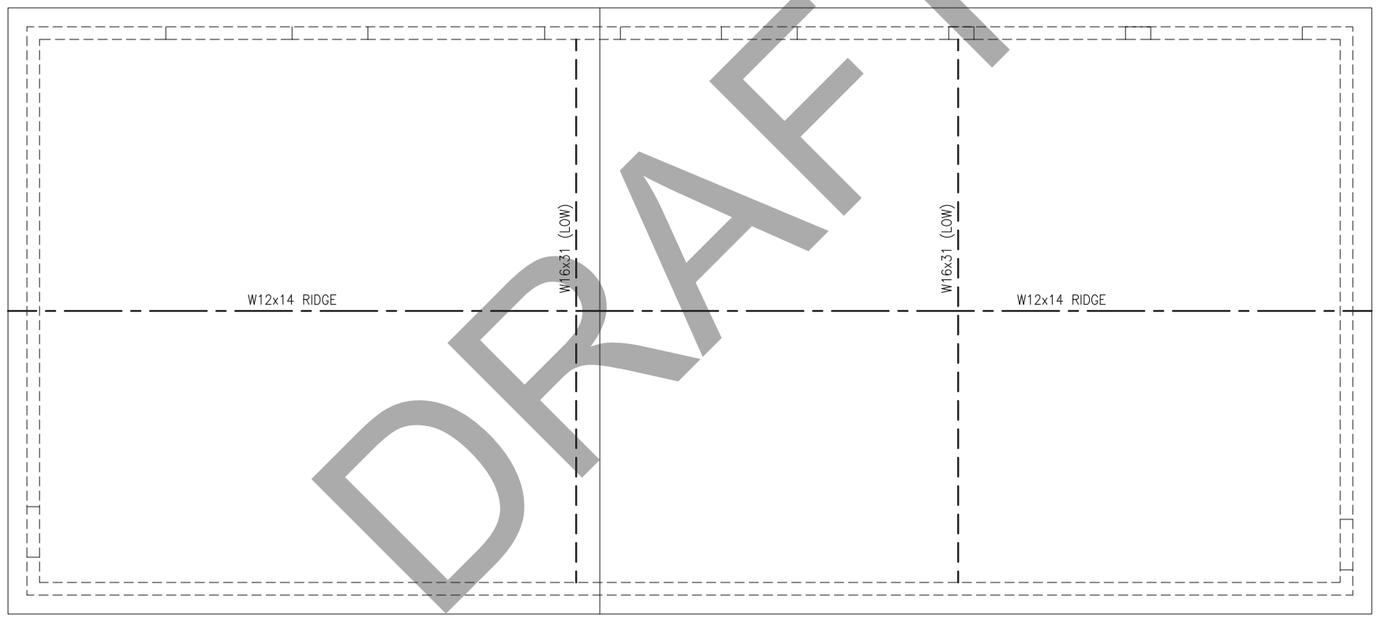

DRAFT

HEADWORKS
FOUNDATION PLAN
1/4" = 1'-0"

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
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Orie² Engineering
Structural and Bridge Engineers
9755 Monroe Road, Suite 310
San Diego, CA 92126
Fax: (858) 560-4911

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

HEADWORKS
ROOF FRAMING PLAN

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S2000-2

Sheet _____ of XXX Sheets

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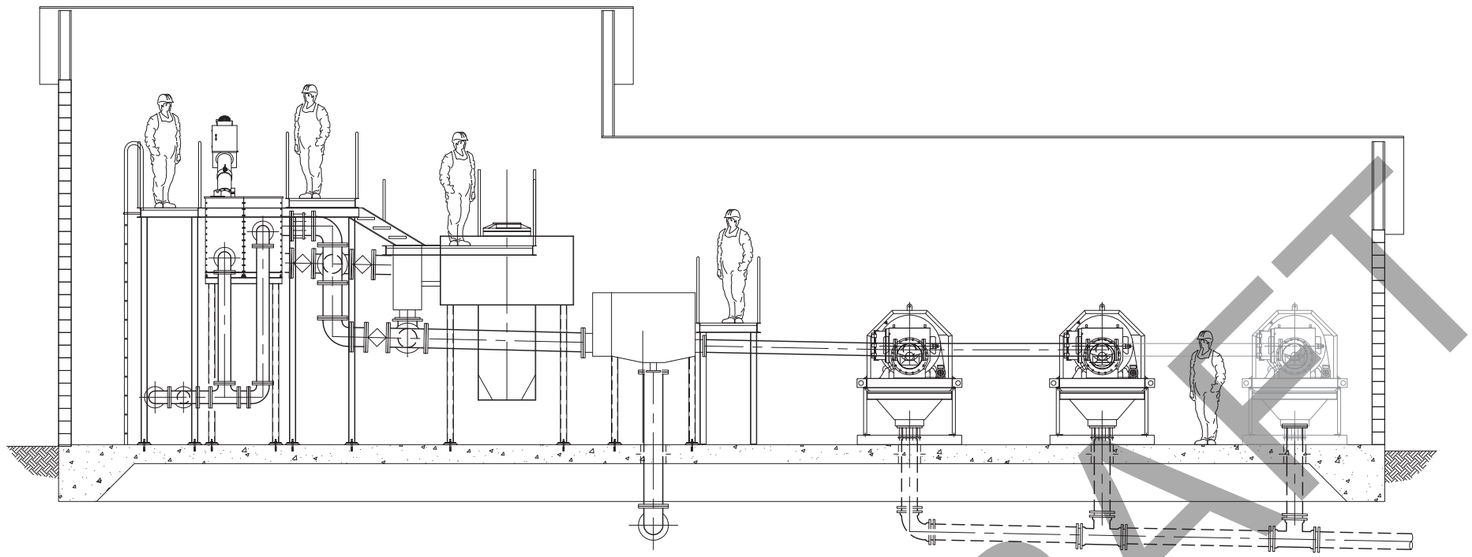
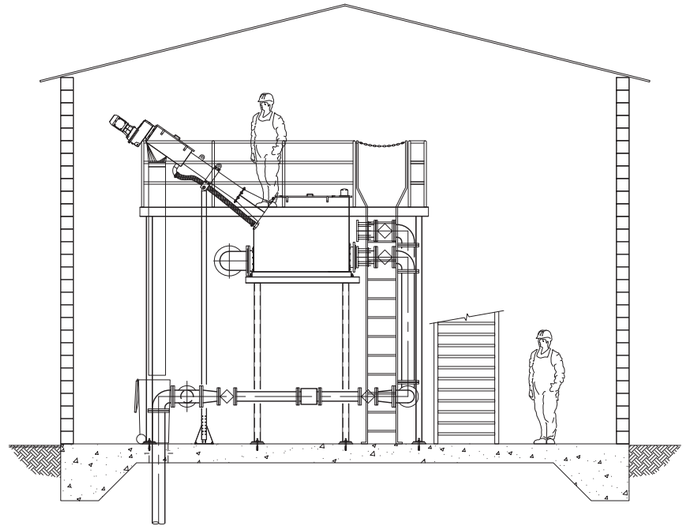
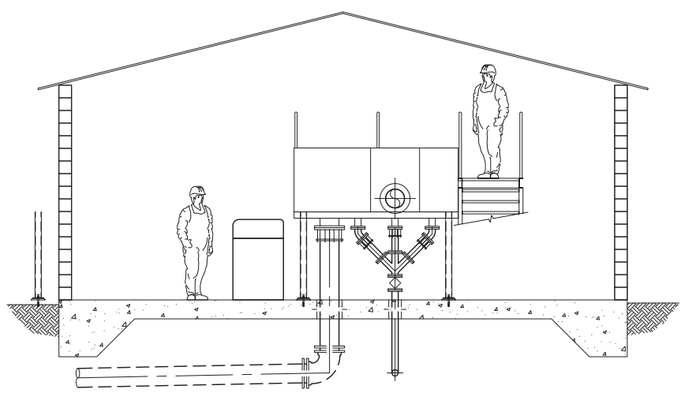


SECTION A
1/4" = 1'-0" S2000-1



SECTION B
1/4" = 1'-0" S2000-1



SECTION C
1/4" = 1'-0" S2000-1

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
9755 Monitor Road, Suite 310
San Diego, CA 92126
Fax: (858) 560-6911

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

HEADWORKS
STRUCTURAL SECTIONS

DESIGNED BY: J. Orie	DATE 06/2013	SCALE	APPROVED BY: DATE
DRAWN BY: CADD	DATE 06/2013	AS SHOWN	XX-XX-13
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. S2100-1

Sheet _____ of XXX Sheets

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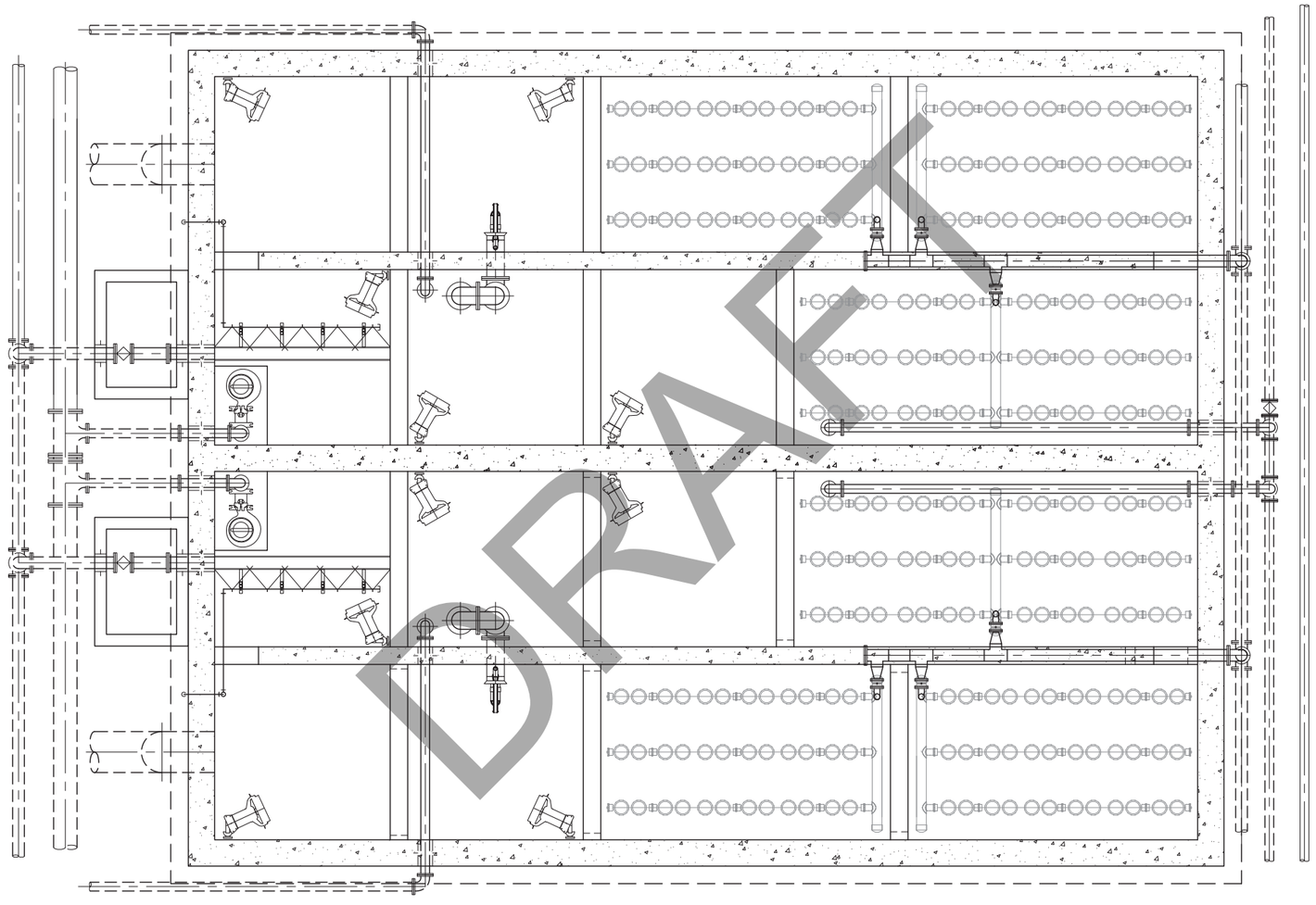

BIOLOGICAL REACTOR NO. 1
FOUNDATION PLAN
1/4" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
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PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
8700 Warner Road, Suite 210
San Diego, CA 92126
Fax: (858) 560-4911

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BIOLOGICAL REACTOR NO. 1
FOUNDATION PLAN

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S3000-1

Sheet _____ of XXX Sheets

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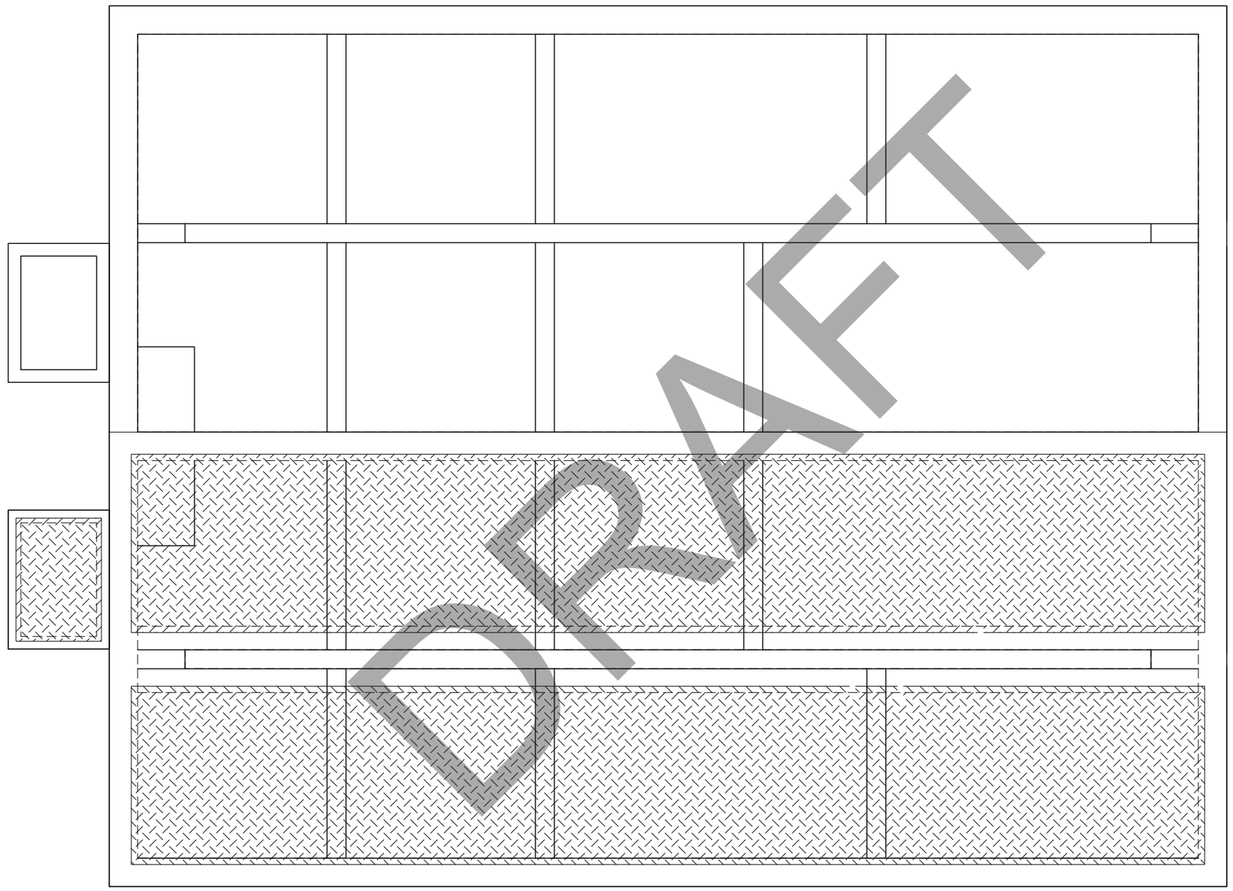

DRAFT

BIOLOGICAL REACTOR NO. 1
ROOF FRAMING PLAN
1/4" = 1'-0"

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
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PLANS PREPARED BY:
RMC
Water and Environment
Orie² Engineering
Structural and Bridge Engineers
9700 Miramar Road, Suite 310
San Diego, CA 92126
Fax: (858) 564-0511

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BIOLOGICAL REACTOR NO. 1
ROOF FRAMING PLAN

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S3000-2

Sheet _____ of XXX Sheets

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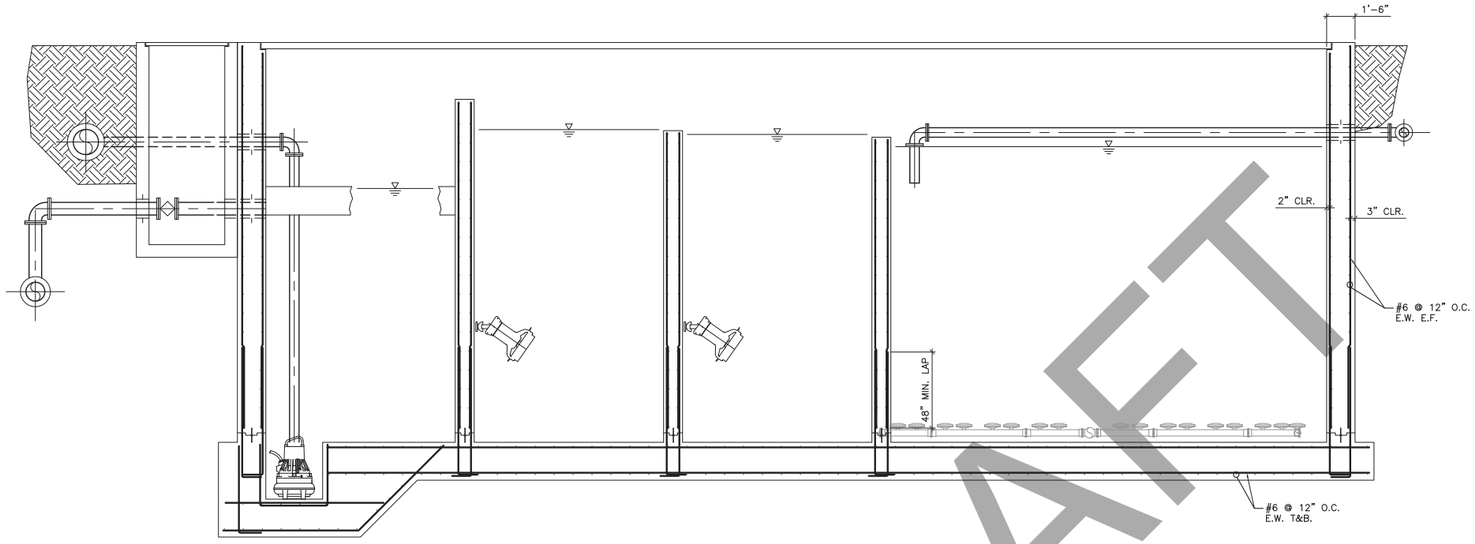
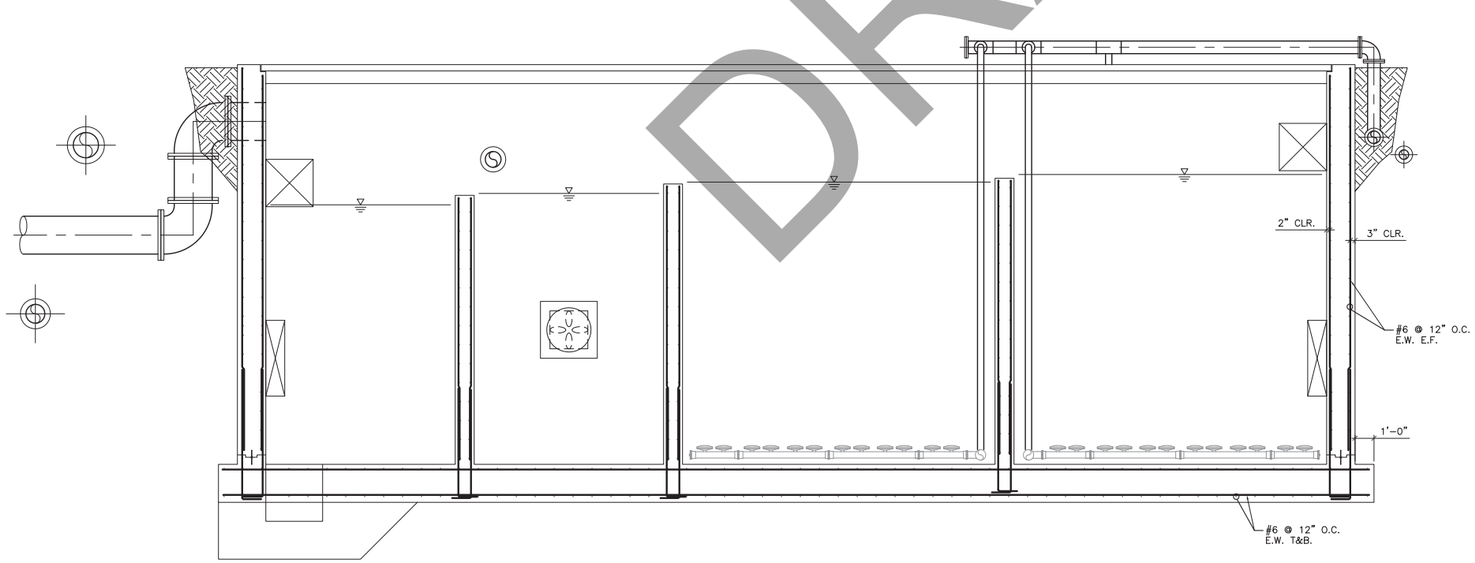


SECTION A
1/4" = 1'-0" S3100-1,2



SECTION B
1/4" = 1'-0" S3100-1,2

DRAFT

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RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
9755 Clairemont Mesa, Suite 310
San Diego, CA 92124
Fax: (858) 560-4311

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BIOLOGICAL REACTOR NO. 1
SECTIONS-1

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. S3000-3

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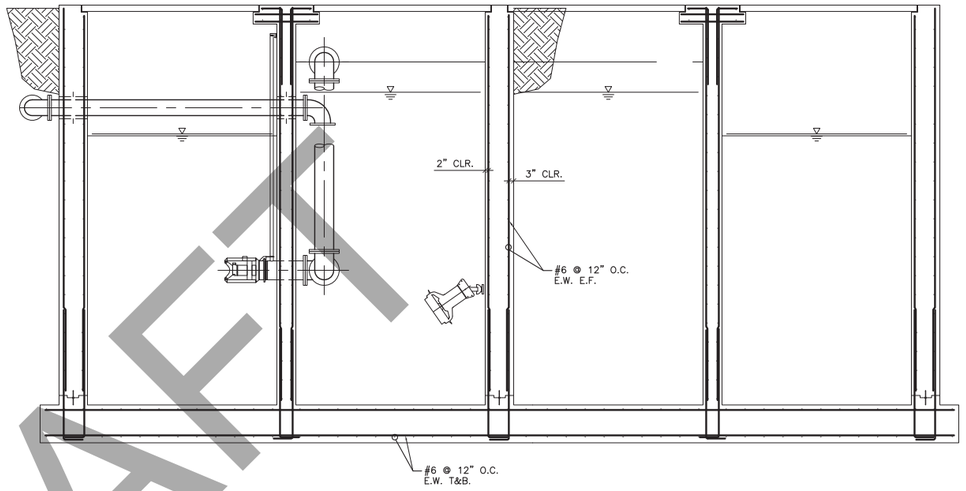

SECTION C
1/4" = 1'-0" S3100-1,2

DRAFT

DIAL BEFORE YOU DIG
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San Diego, CA 92126
Fax: (858) 560-6911

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BIOLOGICAL REACTOR NO. 1
SECTIONS-2

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S3000-4

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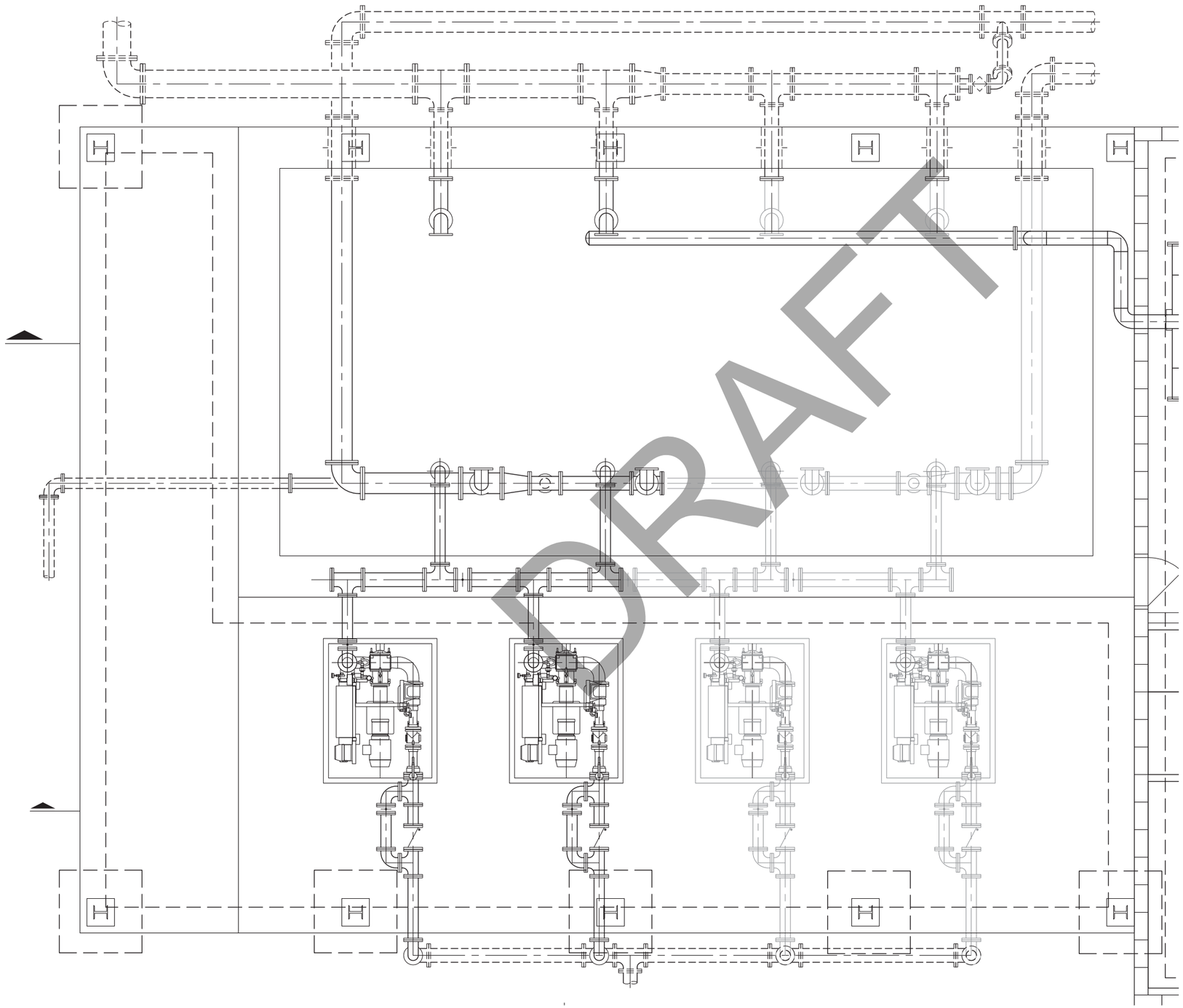

MEMBRANE TANK AREA
FOUNDATION PLAN
3/8" = 1'-0"

DIAL BEFORE YOU DIG
1-800-422-4133
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VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
9755 Mentor Road, Suite 310
San Diego, CA 92126
Fax: (858) 560-6911

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NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MEMBRANE TANK AREA
FOUNDATION PLAN

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. S4000-1

Sheet _____ of XXX Sheets

DRAFT

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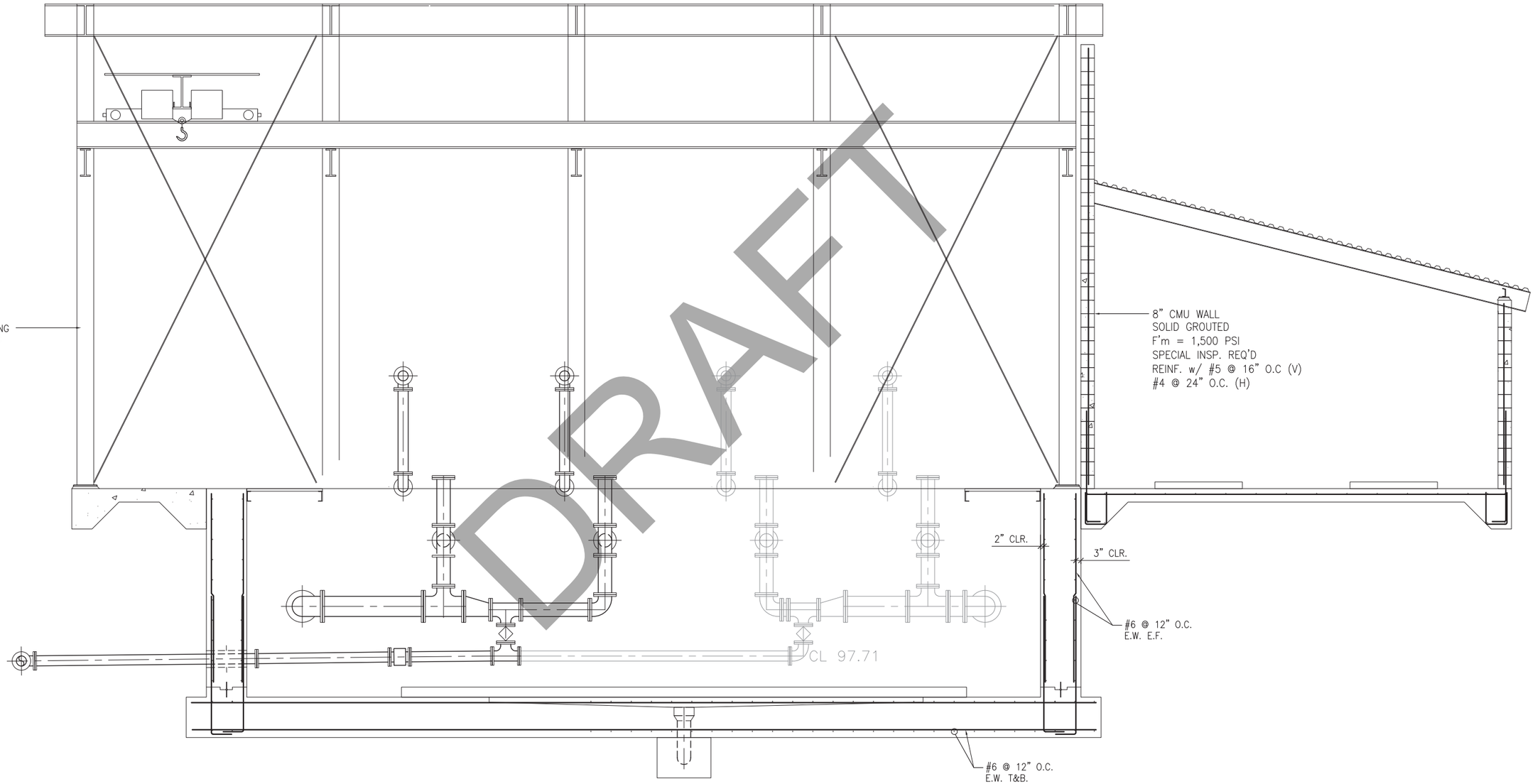

SECTION A
3/8" = 1'-0" M1000-1,2

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
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Structural and Bridge Engineers
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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MEMBRANE AREA & BLOWER AND ELECTRICAL STRUCTRUAL SECTIONS

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S4000-2

Sheet _____ of XXX Sheets

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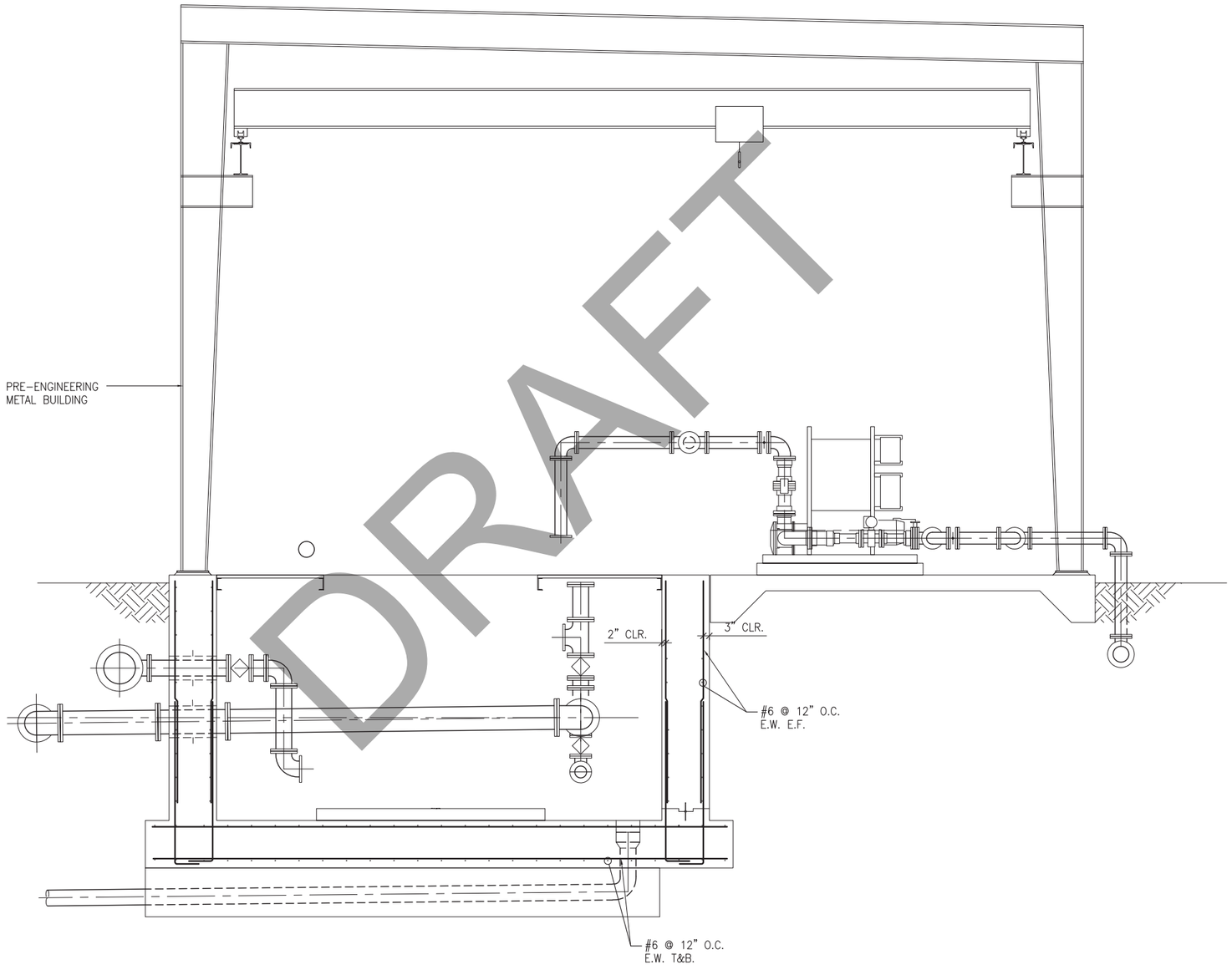

SECTION B
3/8" = 1'-0" M4000-1

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE, DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

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Orie² Engineering
Structural and Bridge Engineers
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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

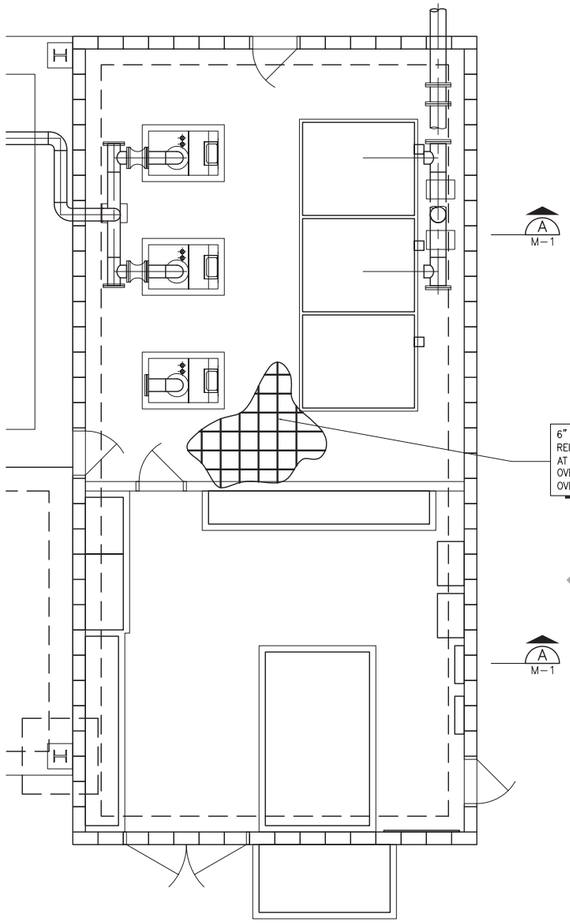
CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MEMBRANE AREA
STRUCTURAL SECTIONS

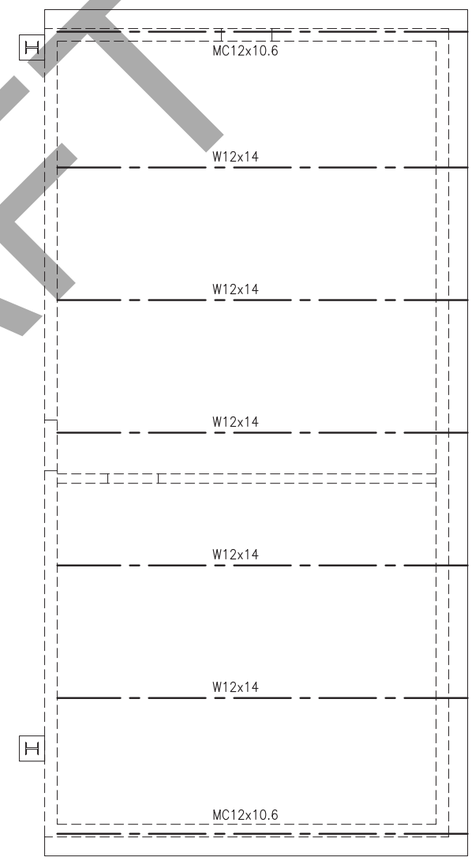
DESIGNED BY: J. Orie — DATE: 06/2013	SCALE: AS SHOWN	APPROVED BY: — DATE: XX-XX-13
DRAWN BY: CADD — DATE: 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie — DATE: 06/2013	PROJECT NUMBER: XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
		RCE NO. 52102 EXP. 12/31/2014
Plan No. S4000-3		Sheet ____ of XXX Sheets

[FILENAME] 0127-006-S4000-3 10-17-13 0841am Donald || XREFS|| X-Border_S| X-MBRTank-PermeateArea_Blower-ElecBldg_S| X-MBRTank-PermeateArea_Blower-ElecBldg_Section_S| X-MBR-Tank_Single_Plan-View | X-Cassette laydown | X-MBR-Tank_Single_End-View | X-MBR-Tank_Single_Side-View |<<-

DRAFT



ELECTRICAL AND BLOWER BUILDING
FOUNDATION PLAN
1/4" = 1'-0"



ELECTRICAL AND BLOWER BUILDING
ROOF FRAMING PLAN
1/4" = 1'-0"

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
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PLANS PREPARED BY:
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Orie² Engineering
Structural and Bridge Engineers
9755 Monitor Road, Suite 310
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Fax: (858) 560-4911

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BLOWER AND ELECTRICAL BUILDING
FOUNDATION AND ROOF FRAMING PLAN

DESIGNED BY: J. Orie	DATE 06/2013	SCALE	APPROVED BY: DATE
DRAWN BY: CADD	DATE 06/2013	AS SHOWN	XX-XX-13
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. S4100-1

Sheet _____ of XXX Sheets

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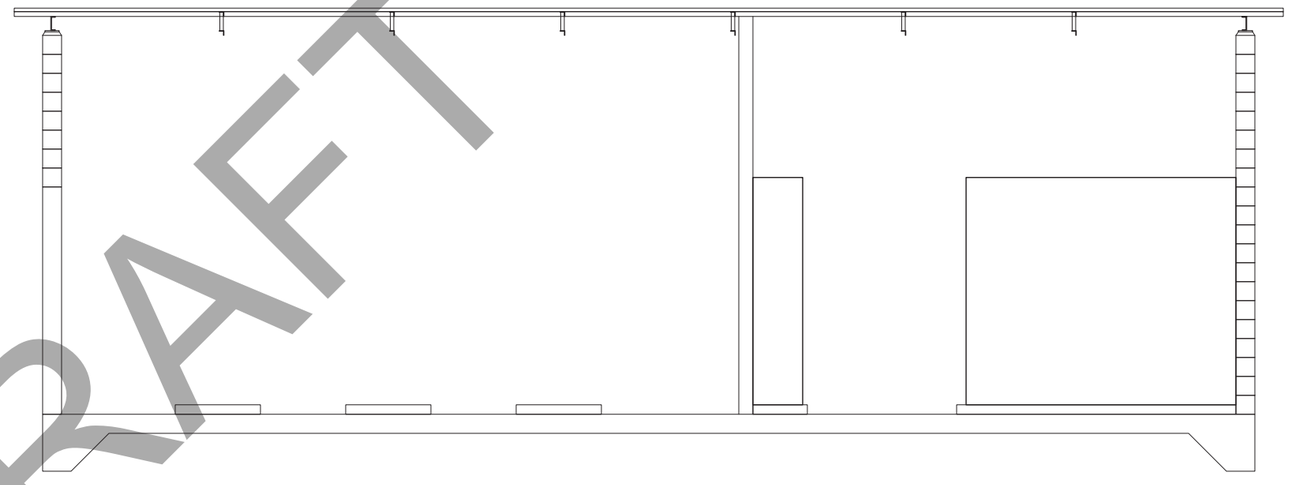

SECTION A
3/8" = 1'-0" M1000-1,2

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
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Structural and Bridge Engineers
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San Diego, CA 92126
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CITY OF MALIBU
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CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BLOWER AND ELECTRICAL BUILDING
STRUCTURAL SECTIONS

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S4100-2

Sheet _____ of XXX Sheets

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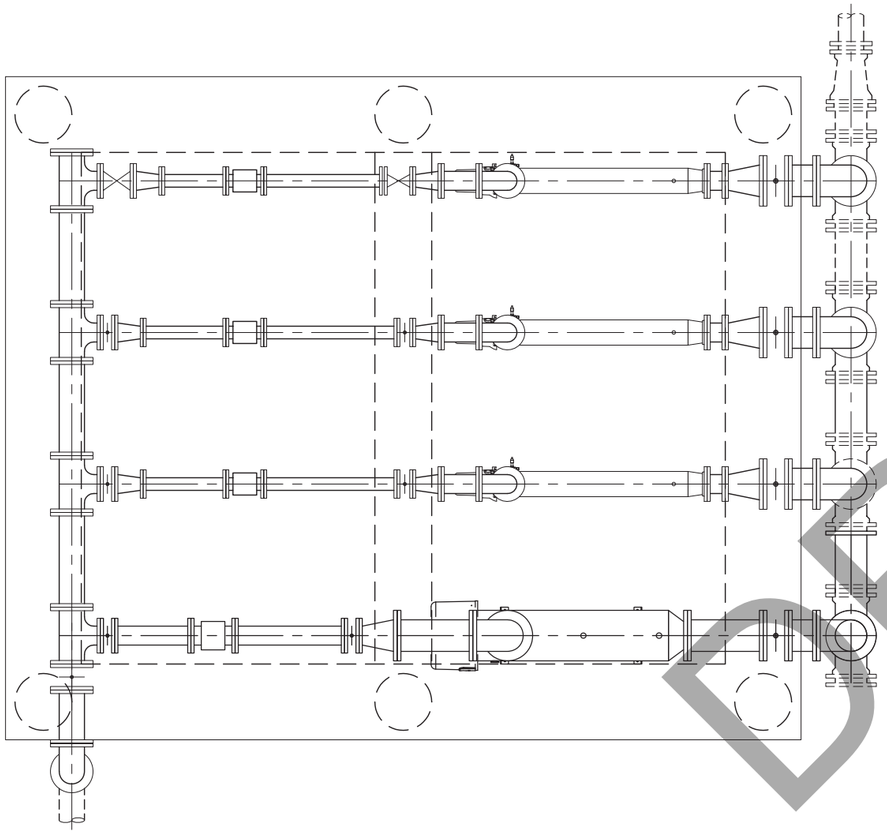
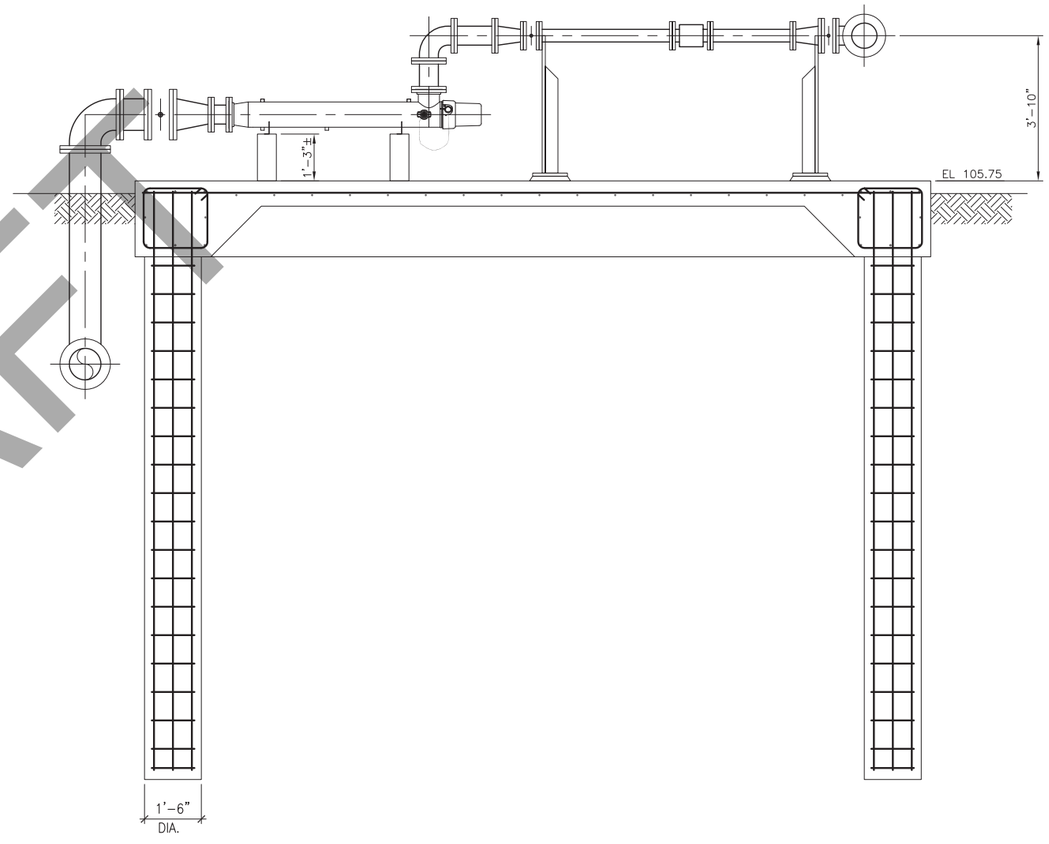


UV DISINFECTION AREA
FOUNDATION PLAN
1/2" = 1'-0"



SECTION A
1/2" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
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PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
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CITY OF MALIBU
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CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

UV DISINFECTION AREA
FOUNDATION PLAN AND STRUCTURAL SECTION

DESIGNED BY: J. Orie	DATE 06/2013	SCALE	APPROVED BY: DATE
DRAWN BY: CADD	DATE 06/2013	AS SHOWN	XX-XX-13
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. S5000-1

Sheet _____ of XXX Sheets

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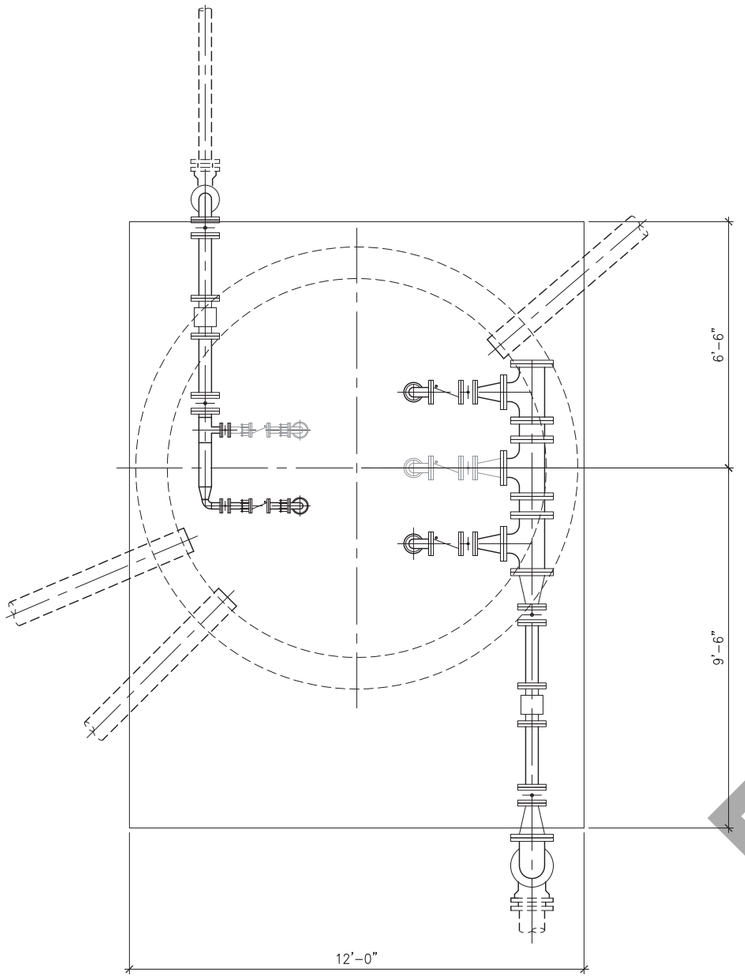
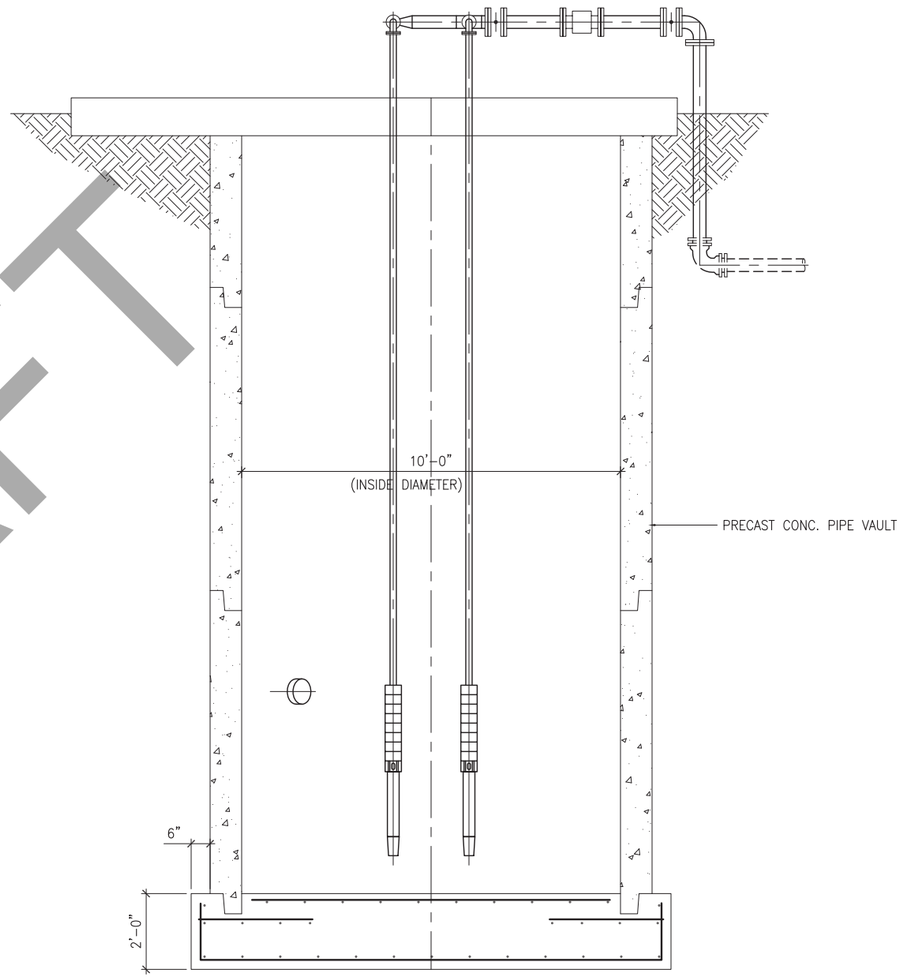


RWPS AND UWPS
TOP PLAN
1/2" = 1'-0"



SECTION A
1/2" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
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Orie² Engineering
Structural and Bridge Engineers
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San Diego, CA 92124
Fax: (858) 560-6911

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

RWPS AND UWPS
TOP PLAN AND STRUCTURAL SECTION

DESIGNED BY: J. Orie	DATE 06/2013	SCALE	APPROVED BY: DATE
DRAWN BY: CADD	DATE 06/2013	AS SHOWN	XX-XX-13
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. S6000-1

Sheet _____ of XXX Sheets

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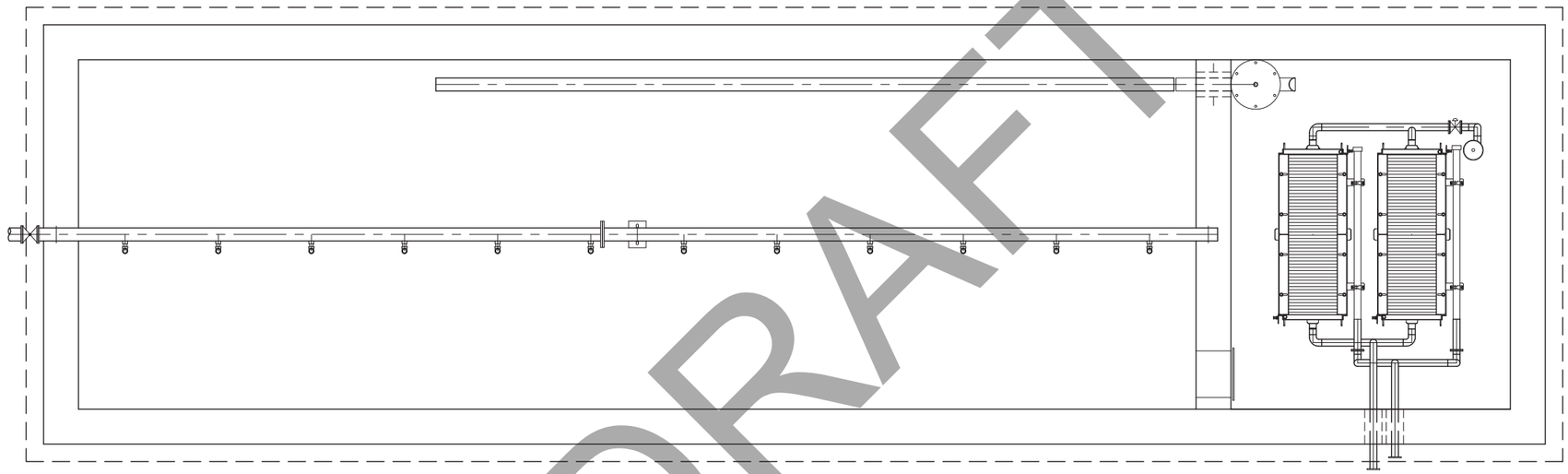

SOLIDS STORAGE TANK
FOUNDATION PLAN
1/2" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
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PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
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San Diego, CA 92126
Fax: (858) 560-6911

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

SOLIDS STORAGE TANK
FOUNDATION PLAN

DESIGNED BY: J. Orie	DATE 06/2013	SCALE	APPROVED BY: DATE
DRAWN BY: CADD	DATE 06/2013	AS SHOWN	XX-XX-13
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. S7000-1

Sheet _____ of XXX Sheets

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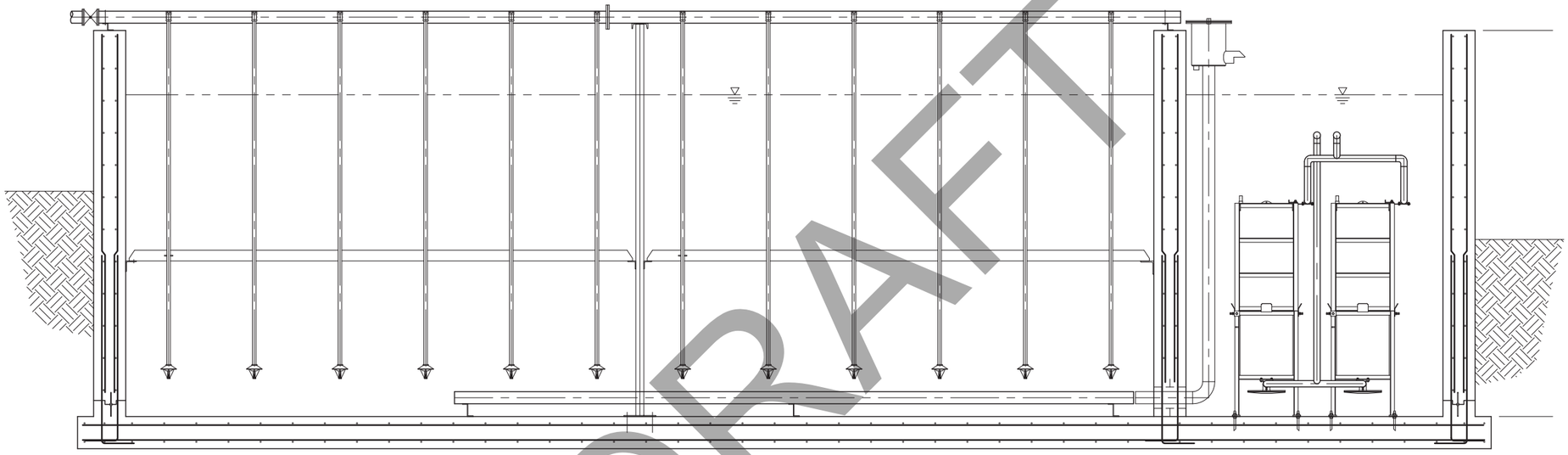

SECTION A
1/2" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
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Structural and Bridge Engineers
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Fax: (858) 549-0311

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

SOLIDS STORAGE TANK
STRUCTURAL SECTIONS

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S7000-2

Sheet _____ of XXX Sheets

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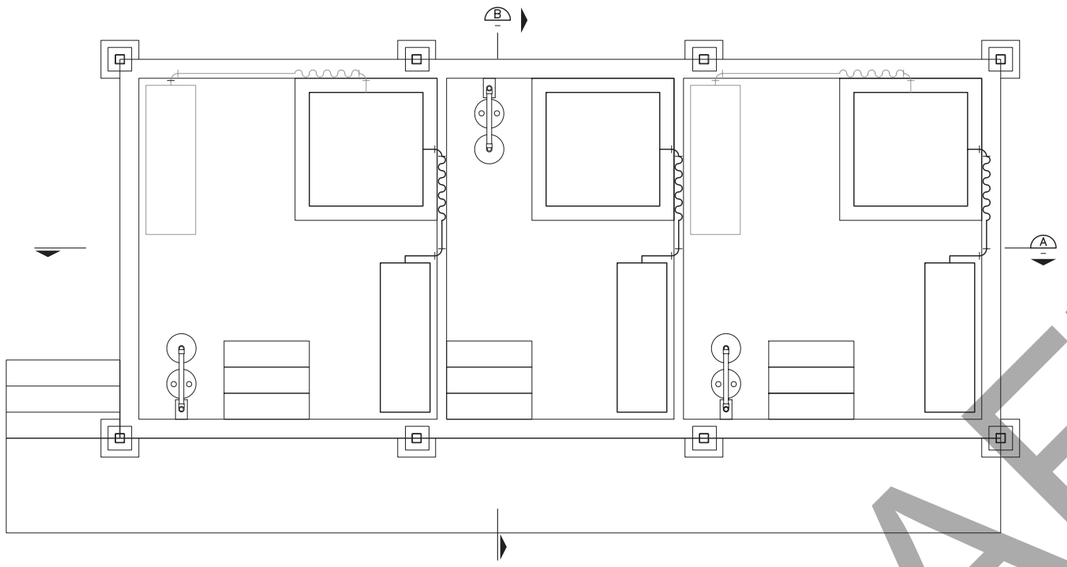
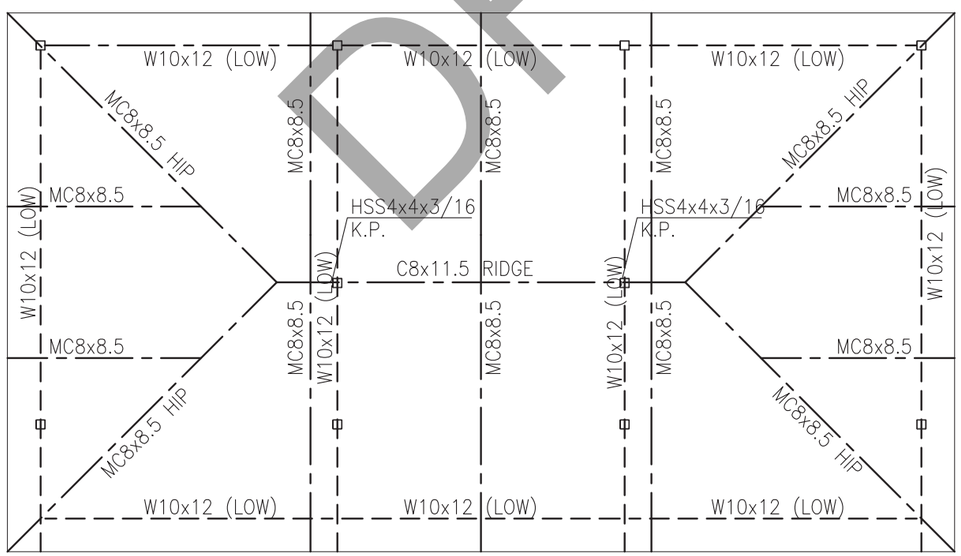


CHEMICAL AREA 1
FOUNDATION PLAN
3/8" = 1'-0"



CHEMICAL AREA 1
FOUNDATION PLAN
3/8" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
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DIGALERT
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0" — 1"
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RMC Water and Environment
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Structural and Bridge Engineers
9750 Miramar Road, Suite 310
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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CHEMCIAL AREA 1
FOUNDATION AND ROOF FRAMING PLANS

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: XX-XX-13 — DATE
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S8100-1

Sheet _____ of XXX Sheets

FILENAME:01127-006-S8100-1 10-17-13 08:21am Donald || XREFs|| X-Border_S || X-ChemicalArea-Bldg_S || X-ChemicalArea-Bldg_Section_S ||<--

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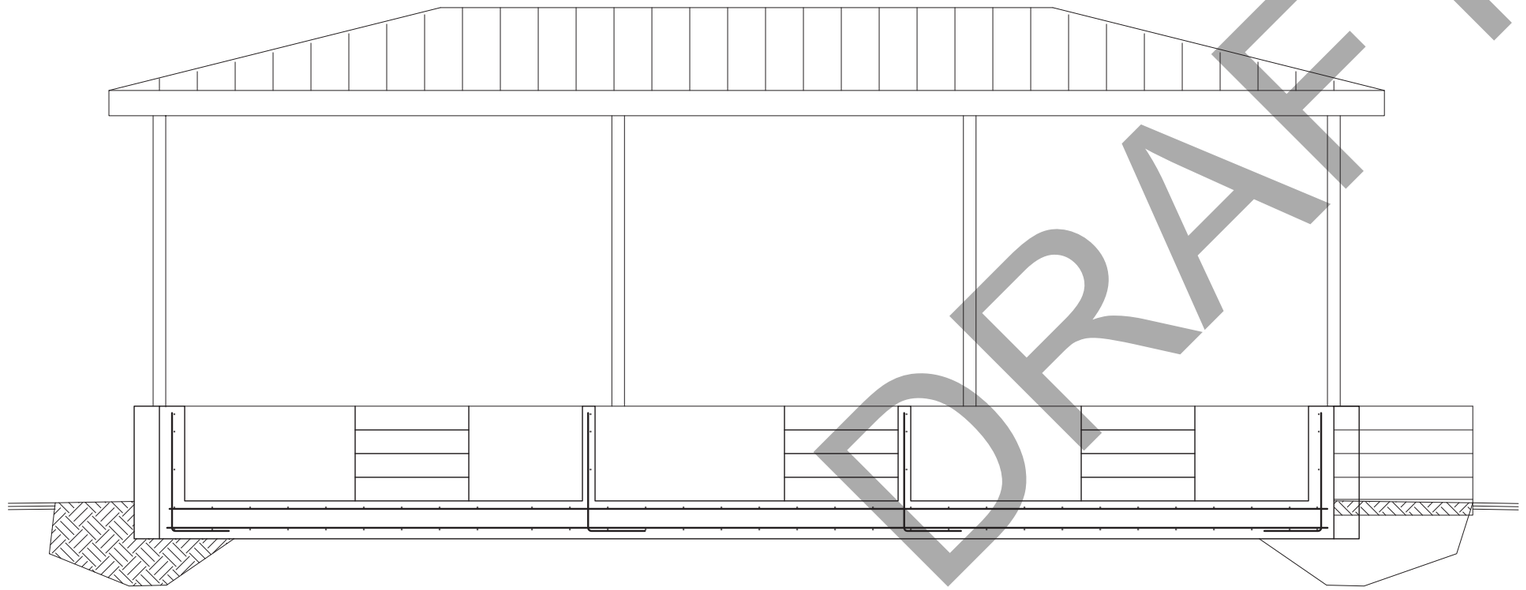
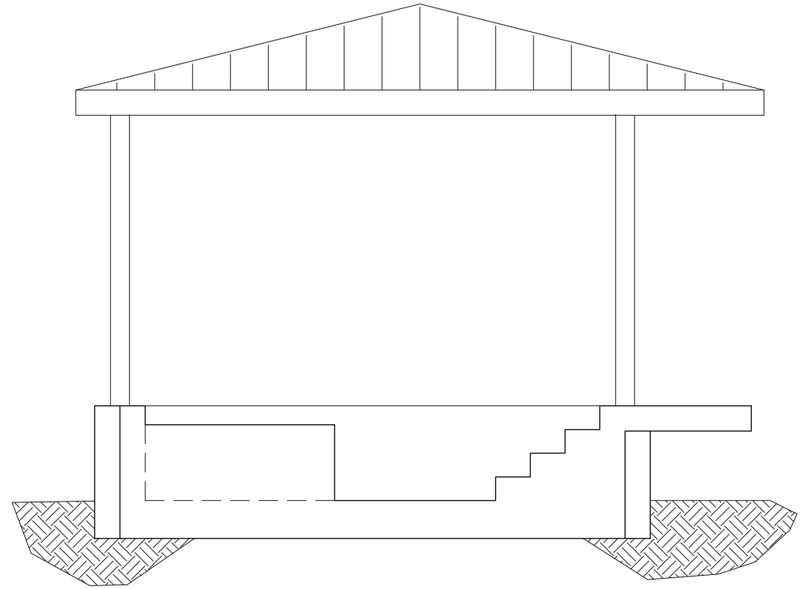
DRAFT



SECTION A
1/2" = 1'-0"



SECTION B
1/2" = 1'-0"

DIAL BEFORE YOU DIG
1-800-422-4133
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PLANS PREPARED BY:
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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CHEMCIAL AREA 1
STRUCTURAL SECTIONS

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S8100-2

Sheet _____ of XXX Sheets

[[FILENAME: 0127-006-S8100-2 10-17-13 0821am Donald]] [XREFS: X-Border_S] [X-ChemicalArea-Blg_Section_S] [<<--

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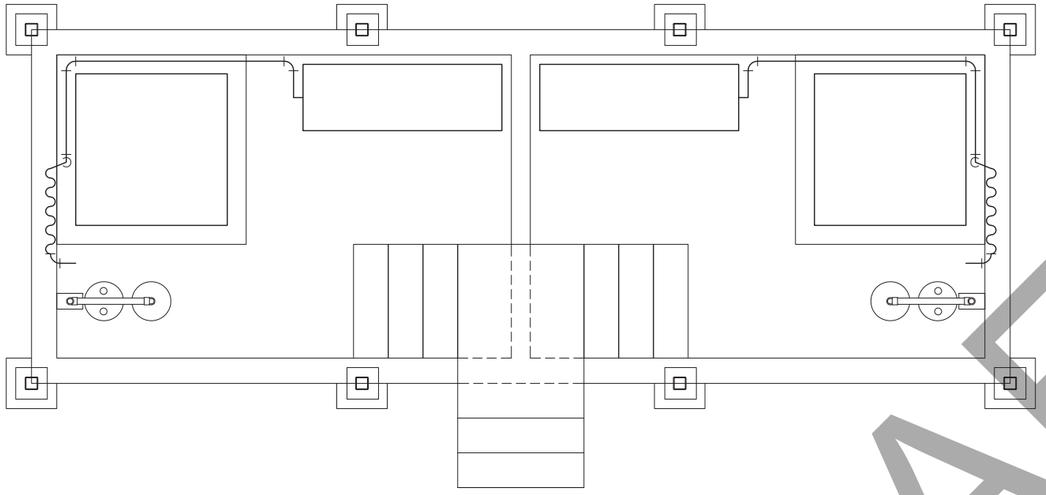
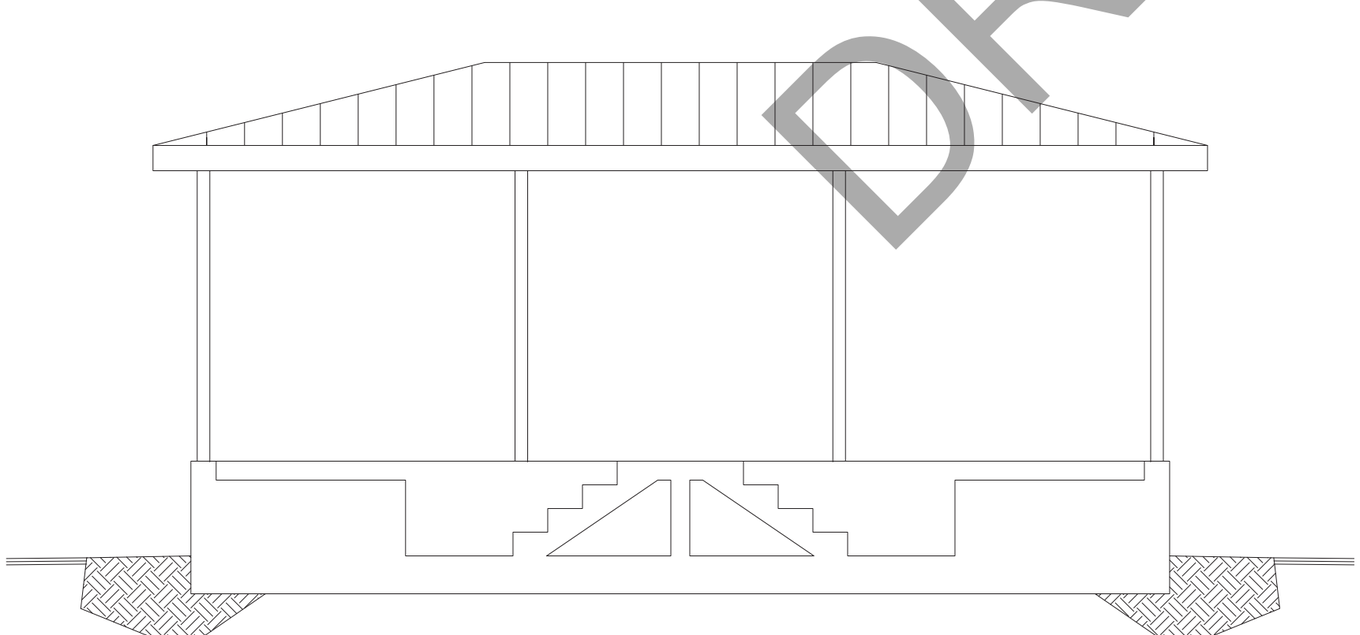
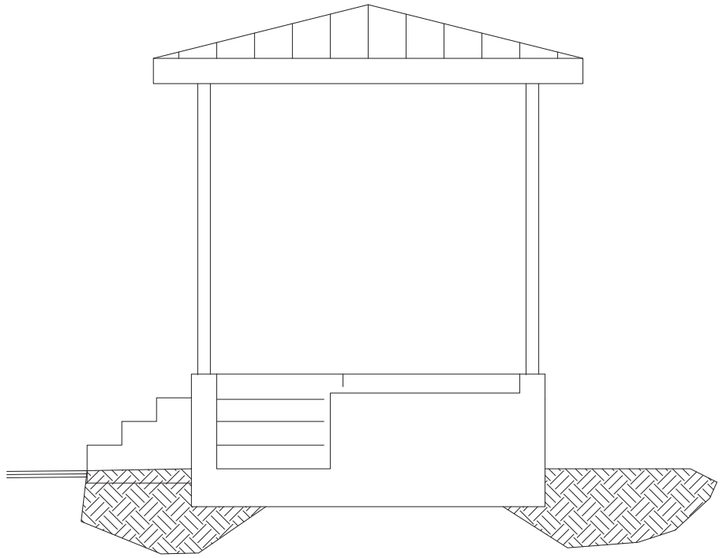


CHEMICAL AREA 2
FOUNDATION PLAN
1/2" = 1'-0"



SECTION A
1/2" = 1'-0"



SECTION B
1/2" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING.
IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
9755 Monitor Road, Suite 310
San Diego, CA 92126
Fax (858) 560-6911

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CHEMCIAL AREA 2
FOUNDATION PLAN AND STRUCTURAL SECTION

DESIGNED BY: J. Orie	DATE 06/2013	SCALE	APPROVED BY: DATE
DRAWN BY: CADD	DATE 06/2013	AS SHOWN	XX-XX-13
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. S8200-1

Sheet _____ of XXX Sheets

|| FILENAME:0127-006-S8200-1 10-17-13 08:22am Donald || XREFS|| X-Border_S || X-ChemicalArea-Small_S || X-ChemicalArea-Small_Section_S ||<--

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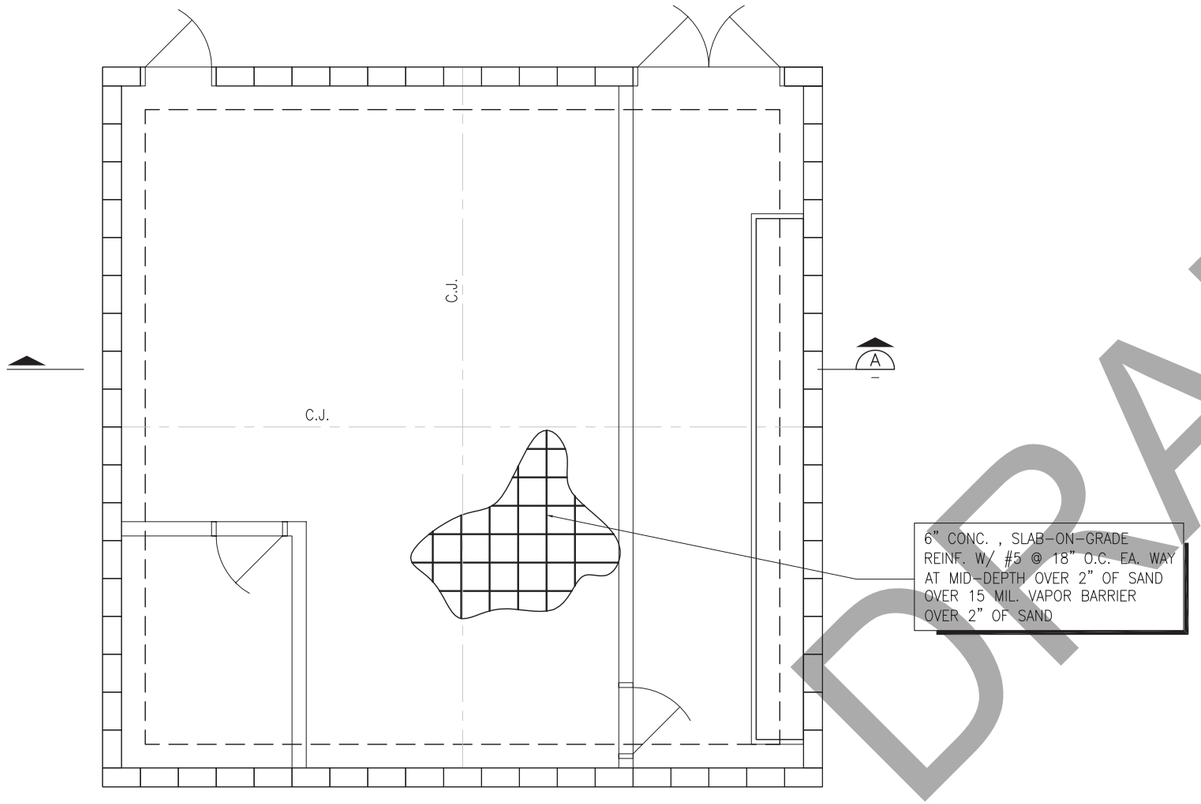
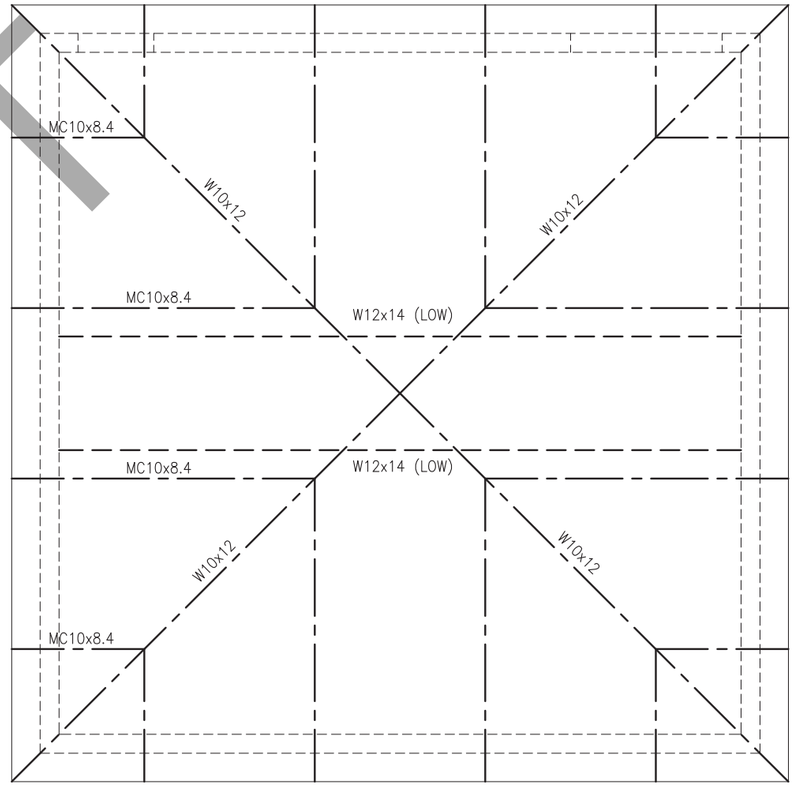


OPERATIONS BUILDING
FOUNDATION PLAN
3/8" = 1'-0"



OPERATIONS BUILDING
ROOF FRAMING PLAN
3/8" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
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9755 Monitor Road, Suite 310
San Diego, CA 92126
Fax: (858) 560-4911

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NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

OPERATIONS BUILDING
FOUNDATION AND ROOF FRAMING PLANS

DESIGNED BY: J. Orie	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: CADD	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. S9000-1 Sheet _____ of XXX Sheets

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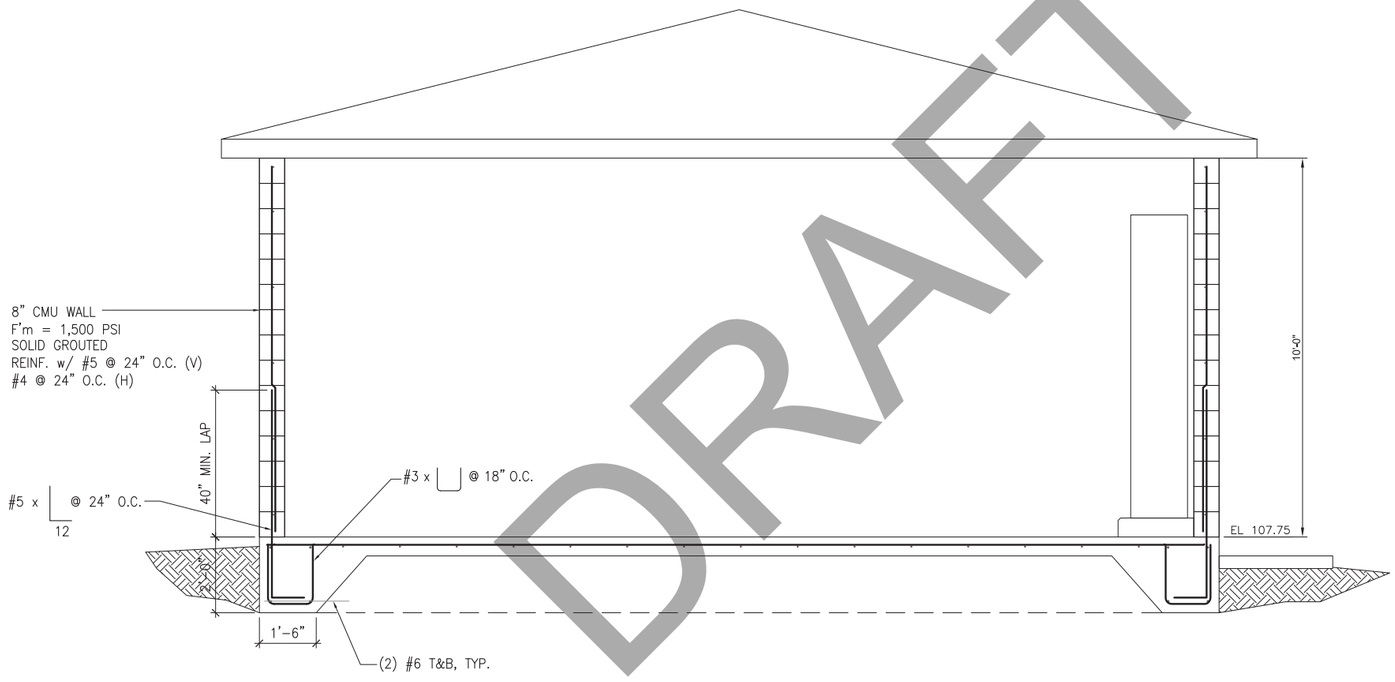

SECTION A
1/2" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING.
IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment
Orie² Engineering
Structural and Bridge Engineers
9700 Miramar Road, Suite 310
San Diego, CA 92126
Fax: (858) 560-4911

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

OPERATIONS BUILDING
STRUCTURAL SECTION

DESIGNED BY: J. Orie	DATE 06/2013	SCALE	APPROVED BY: DATE
DRAWN BY: CADD	DATE 06/2013	AS SHOWN	XX-XX-13
CHECKED BY: D. Orie	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. S9000-2

Sheet _____ of XXX Sheets

FILENAME: 0127-006-S9000-2 10-17-13 08:24am Donald || XREFS: X-Border_S | X-OperationsBldg_S | X-OperationsBldg-section_S |<--

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VENTILATION SYMBOLS

- SUPPLY DUCT (SECTION)
- INTAKE, RETURN, OR EXHAUST DUCT (SECTION)
- WALL REGISTER OR GRILLE (SUPPLY)
- WALL REGISTER OR GRILLE (RETURN AND EXHAUST)
- TURNING VANES
- SOUND ATTENUATED DUCT
- FLEXIBLE CONNECTION

MECHANICAL EQUIPMENT LEGEND

P	PUMP
CP	CENTRIFUGAL PUMP
TP	TURBINE PUMP
PP	PROGRESSIVE CAVITY PUMP
SP	SAMPLE PUMP
V	VALVE
CV	CHECK VALVE
BV	BUTTERFLY VALVE
GV	GATE VALVE
PV	PLUG VALVE
DV	DIAPHRAM VALVE
OV	SOLENOID VALVE
MX	MIXER
ME	PROCESS EQUIPMENT
FE	FLOW ELEMENT (METER)
LE	LEVEL ELEMENT
G	GATE
T	TANK
B	BLOWER
SC	SCREEN
H	HOIST/CRANE
AH	AIR HANDLER
AC	AIR CONDITIONER
EF	EXHAUST FAN
SF	SUPPLY FAN
LCP	LOCAL CONTROL PANEL
MCC	MOTOR CONTOL CENTER
LP	LIGHTING PANEL
UV	ULTRA VIOLET EQUIPMENT

EQUIPMENT NUMBERING CONVENTION

P–1201 EQUIPMENT NUMBER TAG

FLOW STREAM IDENTIFICATION

SEE DWG G–4 FOR PROCESS FLOWS

PIPING SCHEDULE

SEE PIPING SCHEDULE ON DWG G–4.

VALVE SCHEDULE

SEE SPEC SECTION 15200 FOR VALVE SCHEDULE.

PUMP SCHEDULE

SEE SPEC SECTION 11100 FOR PUMP SCHEDULE.

GATE SCHEDULE

SEE SPEC SECTION 15250 FOR GATE SCHEDULE.

TANK SCHEDULE

SEE SPEC SECTION 13675 FOR TANK SCHEDULE.

GATE SYMBOLS

- SLUICE GATE
- SLIDE GATE
- STOP GATE

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MECHANICAL LEGENDS, ABBREVIATIONS, AND NOTES

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. GM-1

Sheet _____ of XXX Sheets

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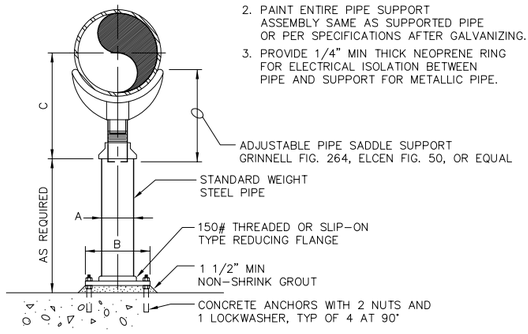
Last Saved By: mfoyle 10-17-13 12:13pm

ADJUSTABLE PIPE SUPPORT

NOTES:
1. HOT-DIP GALVANIZE ALL PARTS AFTER FABRICATION.
2. PAINT ENTIRE PIPE SUPPORT ASSEMBLY SAME AS SUPPORTED PIPE OR PER SPECIFICATIONS AFTER GALVANIZING.
3. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.

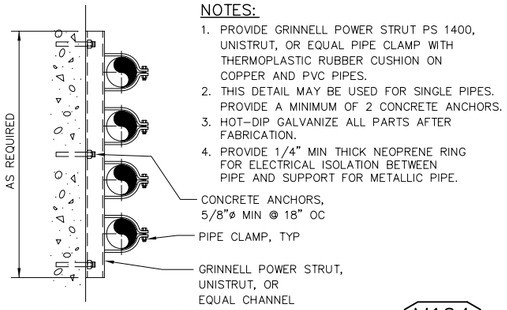


DIMENSIONS IN INCHES				
PIPE SIZE	A	B	C MIN	C MAX
2 1/2	2 7/8	9	8	13
3	2 7/8	9	8 1/4	13 1/4
3 1/2	2 7/8	9	8 1/2	13 1/2
4	3 1/2	9	9 1/4	14
5	3 1/2	9	10	14 3/4
6	3 1/2	9	10 1/2	15 1/4
8	3 1/2	9	11 3/4	16 1/2
10	3 1/2	9	13 1/2	18 1/4
12	3 1/2	9	15	19 3/4
14	4 1/2	11	16 1/4	20 3/4
16	4 1/2	11	17 3/4	22 1/4

M100
NTS

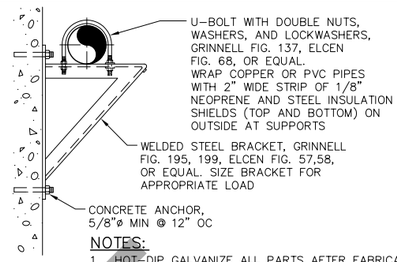
WALL TYPE PIPE SUPPORT

NOTES:
1. PROVIDE GRINNELL POWER STRUT PS 1400, UNISTRUT, OR EQUAL PIPE CLAMP WITH THERMOPLASTIC RUBBER CUSHION ON COPPER AND PVC PIPES.
2. THIS DETAIL MAY BE USED FOR SINGLE PIPES. PROVIDE A MINIMUM OF 2 CONCRETE ANCHORS.
3. HOT-DIP GALVANIZE ALL PARTS AFTER FABRICATION.
4. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.



M104
NTS

PIPE BRACKET

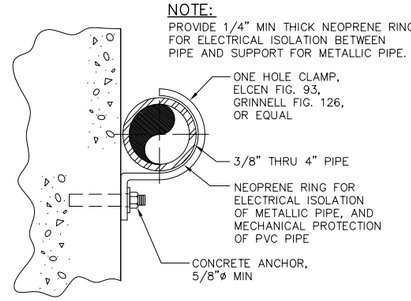


NOTES:
1. HOT-DIP GALVANIZE ALL PARTS AFTER FABRICATION.
2. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.

M110
NTS

PIPE SUPPORT

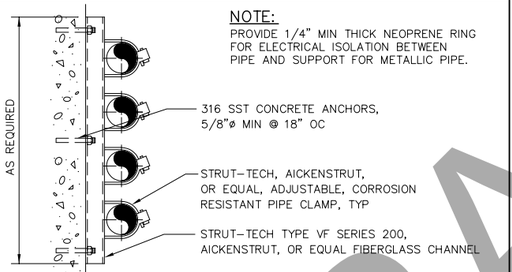
NOTE:
PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.



M114
NTS

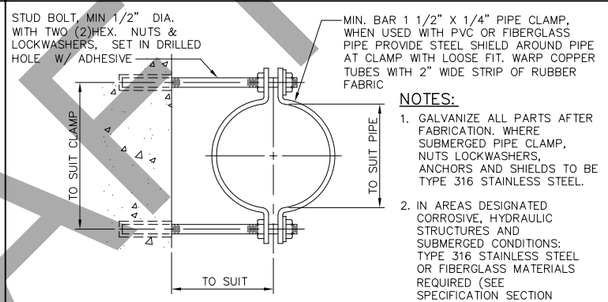
CORROSION RESISTANT WALL TYPE PIPE SUPPORT

NOTE:
PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.



M106
NTS

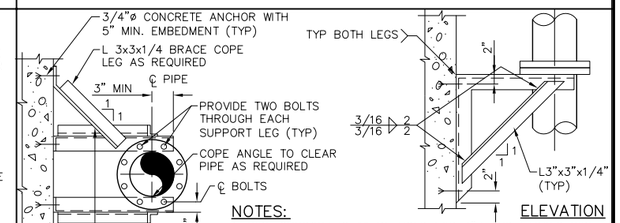
PIPE CLAMP DETAIL



NOTES:
1. GALVANIZE ALL PARTS AFTER FABRICATION. WHERE SUBMERGED PIPE CLAMP, NUTS LOCKWASHERS, ANCHORS AND SHIELDS TO BE TYPE 316 STAINLESS STEEL.
2. IN AREAS DESIGNATED CORROSIVE, HYDRAULIC STRUCTURES AND SUBMERGED CONDITIONS: TYPE 316 STAINLESS STEEL OR FIBERGLASS MATERIALS REQUIRED (SEE SPECIFICATION SECTION 15020).

M111
NTS

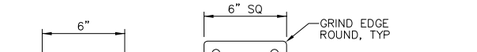
PIPE SUPPORT



NOTES:
1. PIPE SUPPORT IS TO BE USED FOR 4"ø AND LARGER PIPE.
2. MAX. ALLOWABLE VERTICAL LOAD=900 LBS.
3. ALL MAT'L SHALL BE STAINLESS STEEL IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN A WATER BEARING STRUCTURE. IN ALL OTHER AREAS, THE MAT'L SHALL BE HOT-DIP GAL. STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
4. FIELD PAINT GALVANIZED STEEL PER THE SPECIFICATIONS.

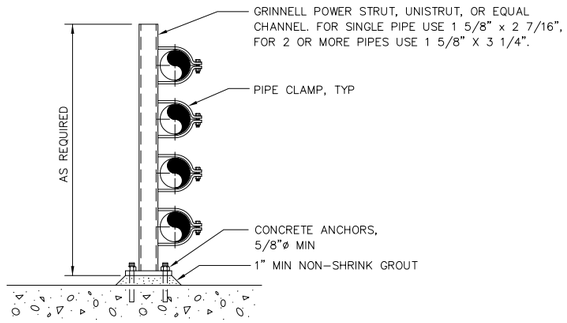
M115
NTS

PIPE STANCHION



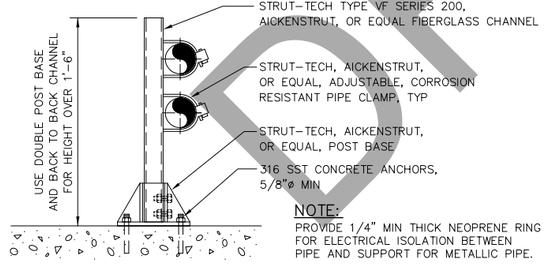
ONE PIPE TWO OR MORE PIPES

NOTES:
1. PROVIDE GRINNELL POWER STRUT PS 1400, UNISTRUT, OR EQUAL PIPE CLAMP WITH THERMOPLASTIC RUBBER CUSHION ON COPPER AND PVC PIPES.
2. MAXIMUM PIPE SIZE IS 4".
3. HOT-DIP GALVANIZE ALL PARTS AFTER FABRICATION.
4. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.



M102
NTS

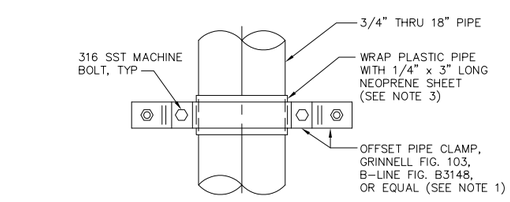
CORROSION RESISTANT PIPE STANCHION

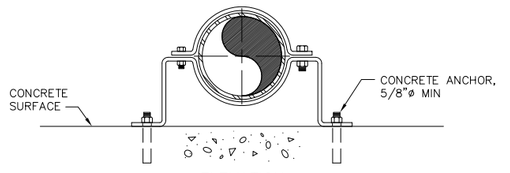


NOTE:
PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.

M108
NTS

PIPE SUPPORT





NOTES:
1. HOT-DIP GALVANIZE ALL PARTS AFTER FABRICATION. WHERE PIPE SUPPORT IS SUBMERGED, LOCATED BELOW THE TOP OF WALL IN A WATER BEARING STRUCTURE. PIPE CLAMP SHALL BE 316 STAINLESS STEEL.
2. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.
3. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.

M112
NTS

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MECHANICAL STANDARD DETAILS - 1

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. GM-2 Sheet ____ of XXX Sheets

DRAFT

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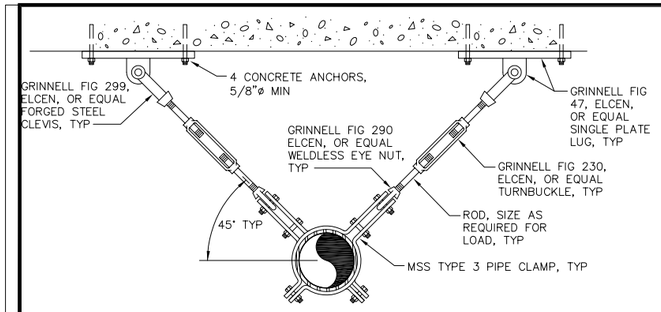
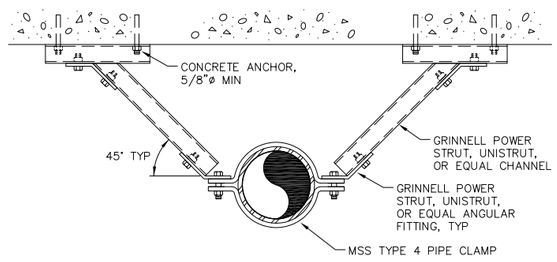
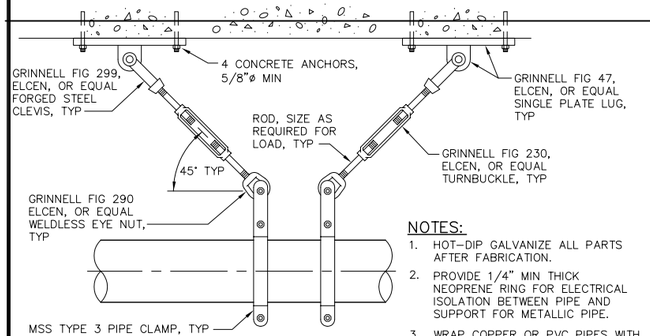


TRANSVERSE ROD BRACE



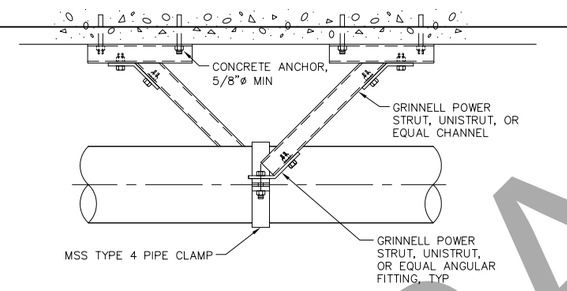
TRANSVERSE CHANNEL BRACE



LONGITUDINAL ROD BRACE

NOTES:

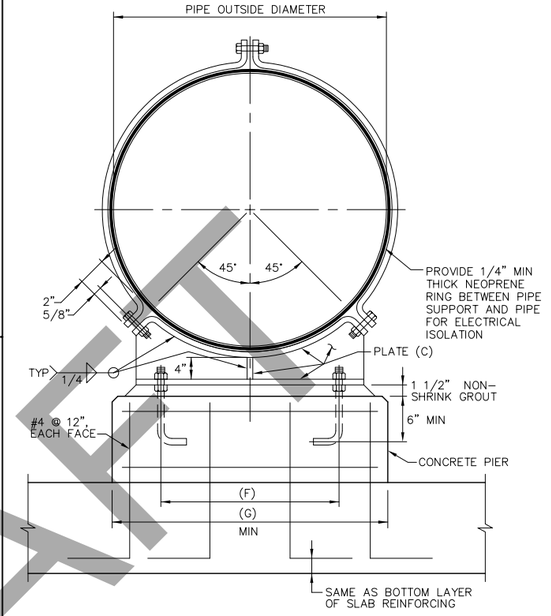
1. HOT-DIP GALVANIZE ALL PARTS AFTER FABRICATION.
2. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.
3. WRAP COPPER OR PVC PIPES WITH 2" WIDE STRIP OF 1/8" NEOPRENE.

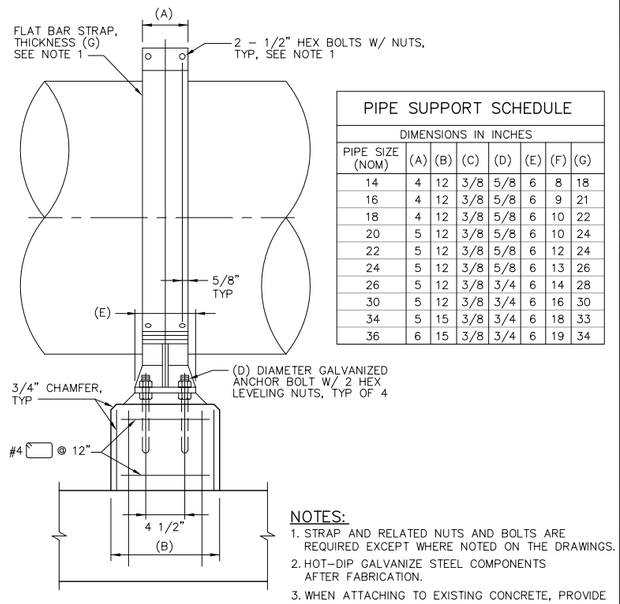


LONGITUDINAL CHANNEL BRACE

SEISMIC BRACING (ELEVATIONS) M116

NTS





PIPE SUPPORT SCHEDULE

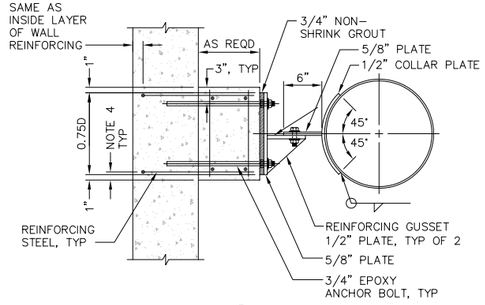
DIMENSIONS IN INCHES							
PIPE SIZE (NOM)	(A)	(B)	(C)	(D)	(E)	(F)	(G)
14	4	12	3/8	5/8	6	8	18
16	4	12	3/8	5/8	6	9	21
18	4	12	3/8	5/8	6	10	22
20	5	12	3/8	5/8	6	10	24
22	5	12	3/8	5/8	6	12	24
24	5	12	3/8	5/8	6	13	26
26	5	12	3/8	3/4	6	14	28
30	5	12	3/8	3/4	6	16	30
34	5	15	3/8	3/4	6	18	33
36	6	15	3/8	3/4	6	19	34

NOTES:

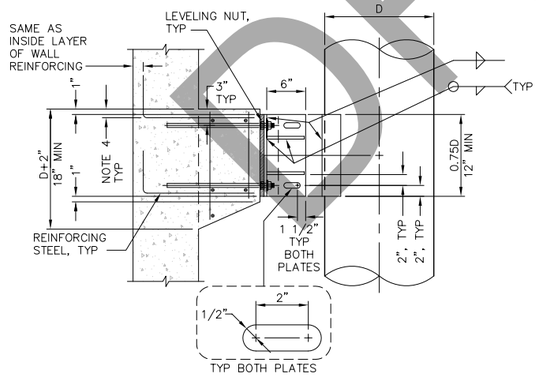
1. STRAP AND RELATED NUTS AND BOLTS ARE REQUIRED EXCEPT WHERE NOTED ON THE DRAWINGS.
2. HOT-DIP GALVANIZE STEEL COMPONENTS AFTER FABRICATION.
3. WHEN ATTACHING TO EXISTING CONCRETE, PROVIDE EQUIVALENT SIZE ADHESIVE ANCHORS.
4. VERIFY PIPE OD PRIOR TO FABRICATION.

PIPE SUPPORT M118

NTS



PLAN



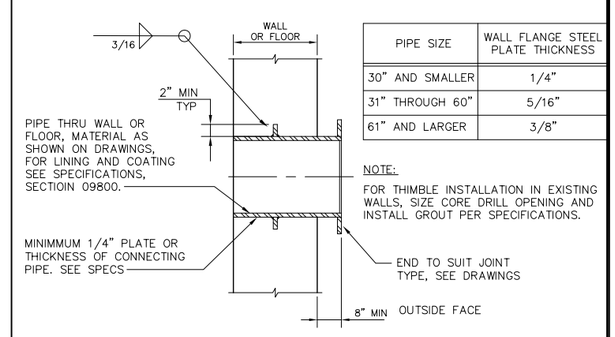
ELEVATION

NOTES:

1. ADJUST THICKNESS OF CONRETE BASE ACCORDINGLY TO MAINTAIN SIZE OF STEEL PLATE PIECES AND SPACING FROM WALL AS SHOWN ON PLANS.
2. ALL BOLTS SHALL BE 0.75" DIAMETER.
3. ALL REINFORCING SHALL BE #4 BARS.
4. ALL REINFORCING SHALL HAVE 2" OF CONCRETE COVER.
5. VERIFY PIPE OD PRIOR TO FABRICATION.
6. HOT DIP GALVANIZE STEEL COMPONENTS AFTER FABRICATION.

VERTICAL PIPE SUPPORT M117

NTS



PIPE SIZE	WALL FLANGE STEEL PLATE THICKNESS
30" AND SMALLER	1/4"
31" THROUGH 60"	5/16"
61" AND LARGER	3/8"

NOTE:

FOR THIMBLE INSTALLATION IN EXISTING WALLS, SIZE CORE DRILL OPENING AND INSTALL GROUT PER SPECIFICATIONS.

FABRICATED PIPE THIMBLE M119

NTS

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DIGALERT
PLAY IT SAFE, DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY 1"

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MECHANICAL STANDARD DETAILS - 2

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. GM-3

Sheet _____ of XXX Sheets

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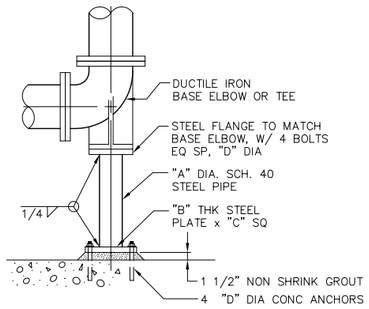
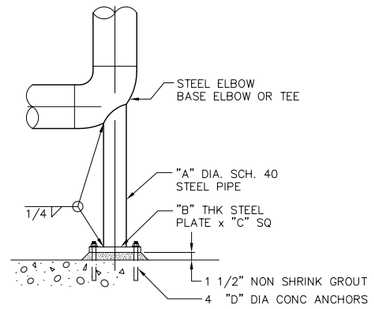


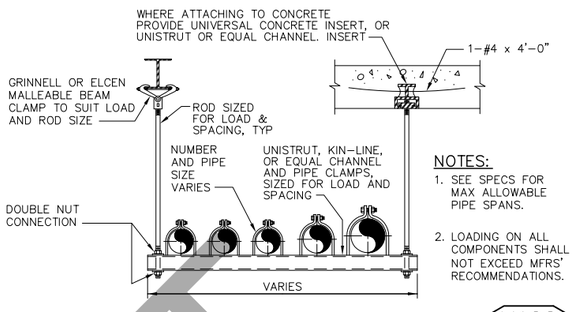
CAST IRON ELBOW



STEEL ELBOW

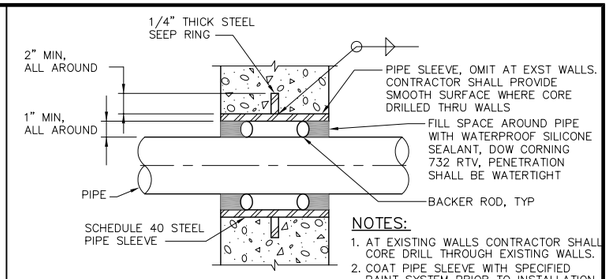
ELBOW/TEE SIZE (IN)	DIMENSIONS IN INCHES "A"	"B"	"C"	"D"
4	2	3/8	6	5/8
6	2 1/2	3/8	7	5/8
8	4	1/2	9	5/8
10	4	1/2	9	5/8
12	6	1/2	11	3/4
14	6	1/2	11	3/4
16	6	1/2	11	3/4
18	8	1/2	13 1/2	3/4
20	8	1/2	13 1/2	3/4
24	8	1/2	13 1/2	3/4
30	10	3/4	16	7/8
36	12	3/4	19	7/8
42	16	3/4	23 1/2	1
48	18	3/4	25	1 1/16

BASE ELBOW SUPPORT M120
NTS



NOTES:
1. SEE SPECS FOR MAX ALLOWABLE PIPE SPANS.
2. LOADING ON ALL COMPONENTS SHALL NOT EXCEED MFRS' RECOMMENDATIONS.

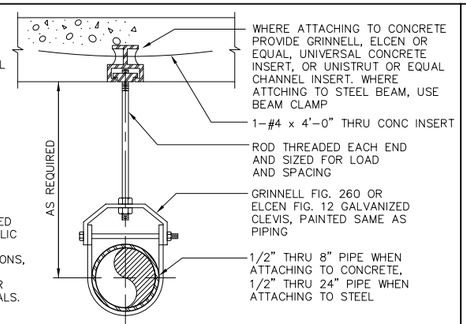
TRAPEZE SUPPORT M128
NTS



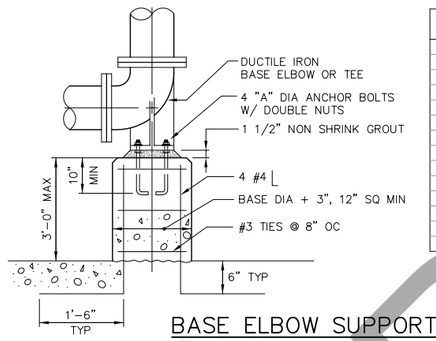
NOTES:
1. AT EXISTING WALLS CONTRACTOR SHALL CORE DRILL THROUGH EXISTING WALLS.
2. COAT PIPE SLEEVE WITH SPECIFIED PAINT SYSTEM PRIOR TO INSTALLATION.
3. DO NOT USE WHERE ASSEMBLY IS SUBJECT TO HYDROSTATIC PRESSURES.

PIPE SLEEVE M134
NTS

NOTES:
1. FOR INSULATED PIPES, USE GRINNELL FIG. 167 OR ELCEN FIG. 219 INSULATION PROTECTION SHIELD. SIZE CLEVIS FOR SHIELD DIAMETER.
2. TOTAL LOADING ON EACH COMPONENT SHALL NOT EXCEED MFR'S RECOMMENDATIONS.
3. IN AREAS DESIGNATED CORROSIVE, HYDRAULIC STRUCTURES AND SUBMERGED CONDITIONS, PROVIDE TYPE 316 STAINLESS STEEL OR FIBERGLASS MATERIALS.

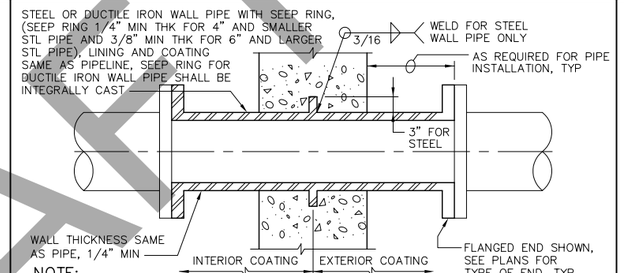


TYPE 1



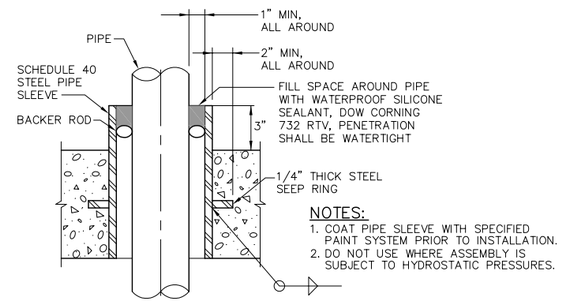
ELBOW/TEE SIZE (IN)	'A' (IN)
4	5/8
6	5/8
8	5/8
10	5/8
12	3/4
14	3/4
16	3/4
18	3/4
20	3/4
24	3/4
30	7/8
36	7/8
42	1
48	1 1/16

BASE ELBOW SUPPORT M122
NTS



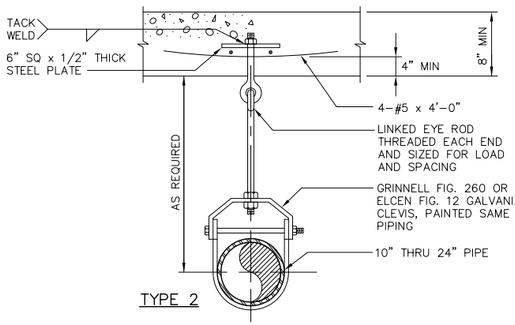
NOTE:
COAT WALL PIPE WITH SPECIFIED PAINT SYSTEM PRIOR TO INSTALLATION.

PIPE WALL THIMBLE M130
NTS

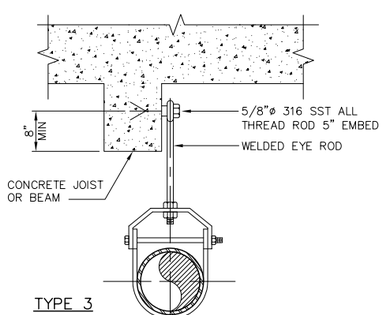


NOTES:
1. COAT PIPE SLEEVE WITH SPECIFIED PAINT SYSTEM PRIOR TO INSTALLATION.
2. DO NOT USE WHERE ASSEMBLY IS SUBJECT TO HYDROSTATIC PRESSURES.

FLOOR SLEEVE M136
NTS

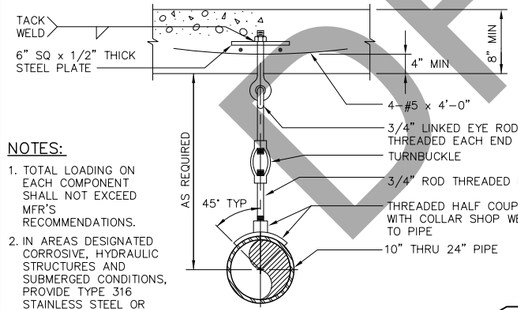


TYPE 2



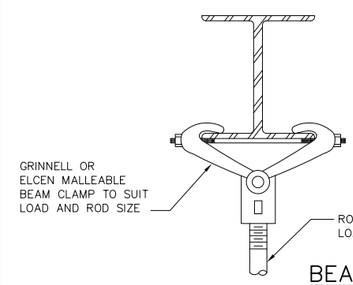
TYPE 3

PIPE HANGER M125
NTS



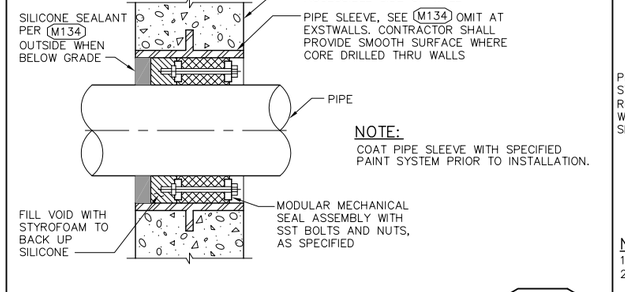
NOTES:
1. TOTAL LOADING ON EACH COMPONENT SHALL NOT EXCEED MFR'S RECOMMENDATIONS.
2. IN AREAS DESIGNATED CORROSIVE, HYDRAULIC STRUCTURES AND SUBMERGED CONDITIONS, PROVIDE TYPE 316 STAINLESS STEEL OR FIBERGLASS MATERIALS.

PIPE HANGER M126
NTS



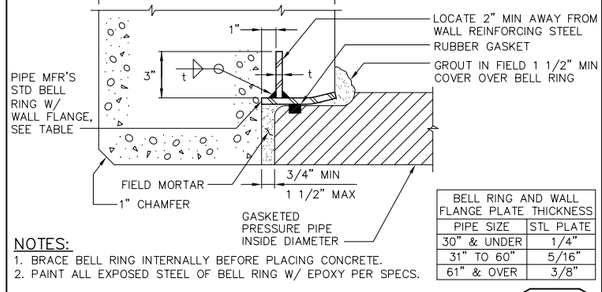
NOTE:
TOTAL LOADING OF EACH BEAM CLAMP SHALL NOT EXCEED MFR'S RECOMMENDED LOADINGS.

BEAM CLAMP M127
NTS



NOTE:
COAT PIPE SLEEVE WITH SPECIFIED PAINT SYSTEM PRIOR TO INSTALLATION.

MODULAR MECHANICAL SEAL M132
NTS



BELL RING AND WALL FLANGE PLATE THICKNESS	
PIPE SIZE	STL PLATE
30" & UNDER	1/4"
31" TO 60"	5/16"
61" & OVER	3/8"

NOTES:
1. BRACE BELL RING INTERNALLY BEFORE PLACING CONCRETE.
2. PAINT ALL EXPOSED STEEL OF BELL RING W/ EPOXY PER SPECS.

GASKET PIPE TERMINATION AT STRUCTURE M138
NTS

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DIGALERT
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MECHANICAL STANDARD DETAILS - 3

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE: AS SHOWN
DRAWN BY: M.Foyle	DATE 06/2013	
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER: XXXX

APPROVED BY: DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. GM-4

Sheet ____ of XXX Sheets

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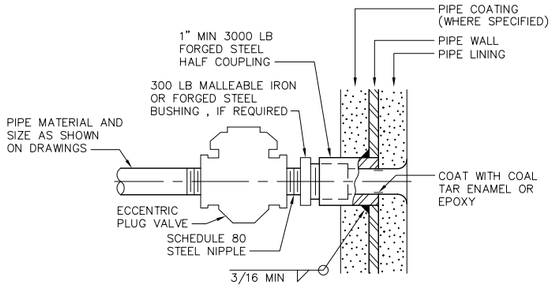
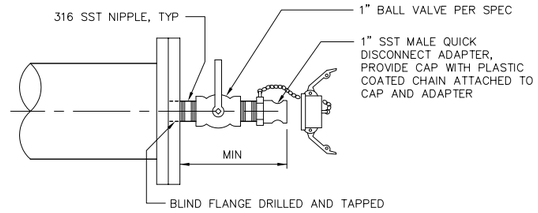


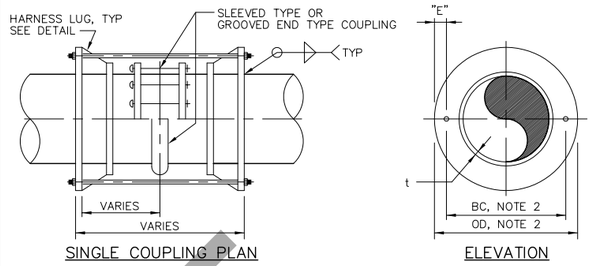
2" AND SMALLER PIPE CONNECTION (M150)

NTS



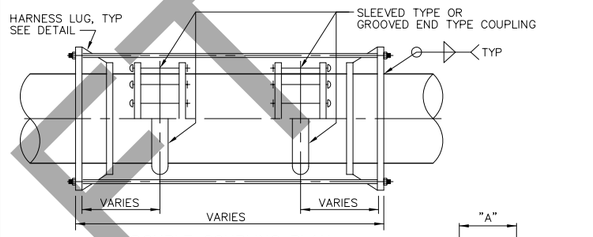
FLUSHING CONNECTION (M156)

NTS



SINGLE COUPLING PLAN

ELEVATION



DOUBLE COUPLING PLAN

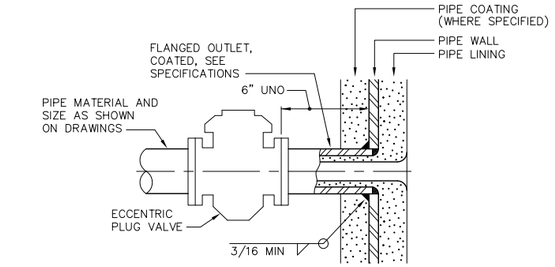
STEEL PIPE HARNESS SET SCHEDULE										
PIPE DESCRIPTION	MAX TEST PRESSURE (PSIG)	DIMENSIONS IN INCHES								
		PIPE CYLINDER OD (SEE NOTE 6)	T	A	W	E	D	BACK PLATE OD	FRONT PLATE OD	NO. TIE RODS
< 12"	160	–	0.38	5.00	1.38	3.00	0.63	–	–	4
12–18"	35	–	0.38	5.00	1.38	3.00	0.63	–	–	2
24"	25	35.13	0.38	5.00	1.50	3.13	0.63	–	–	4
30"	35	31.13	0.38	5.00	1.38	3.00	0.63	–	–	4
36"	10	37.13	0.38	5.00	1.38	3.00	0.63	–	–	4
42"	10	–	0.38	5.00	1.38	3.00	0.63	–	–	4
48"	10	–	0.38	5.00	1.38	3.00	0.63	–	–	4
48"	35	–	0.38	5.00	1.38	3.00	0.63	–	–	4

NOTES:

1. WELD SIZE SHALL BE MINIMUM REQUIRED BY AMERICAN WELDING SOCIETY, MINIMUM TO MATCH PIPE WALL.
2. BOLT CIRCLE AND OD SHALL BE SIZED TO ENSURE 1/2" MIN AND 1" MAX CLEARANCE TO COUPLING.
3. SMALLER STIFFENER PLATE SHALL BE 2" HIGH EXCEPT WHEN BOLT DIAMETER EXCEEDS 1", THEN PLATE SHALL BE 2 1/2" HIGH.
4. USE THIS DETAIL FOR ONE END OF TIE RODS WHERE THE OPPOSITE END OF TIE RODS IS ATTACHED TO A FLANGE OR A RESTRAINED FLANGE COUPLING ADAPTER.
5. PROVIDE INSULATING SLEEVE AND WASHERS WHERE ELECTRICAL ISOLATION IS REQUIRED. REFER TO CATHODIC PROTECTION, YARD PIPING, AND MECHANICAL DRAWINGS.
6. CONTRACTOR SHALL VERIFY PIPE OD PRIOR TO HARNESS FABRICATION.
7. HARNESS SHALL SPAN PAIRS OF MECHANICAL SLEEVE COUPLINGS WHERE INDICATED.
8. FOR PIPE MATERIAL OTHER THAN STEEL, CONTRACTOR SHALL PROVIDE EQUIVALENT HARNESSING ACCEPTABLE TO THE ENGINEER.
9. WHERE 4 TIE RODS ARE REQUIRED, STRADDLE HORIZONTAL AND VERTICAL CENTERLINES UNLESS OTHERWISE REQUIRED.

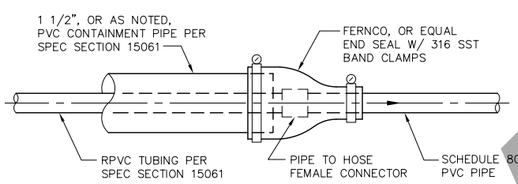
THRUST RESTRAINT HARNESS (M160)

NTS



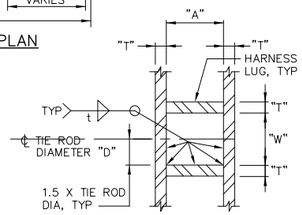
3" AND LARGER PIPE CONNECTION (M152)

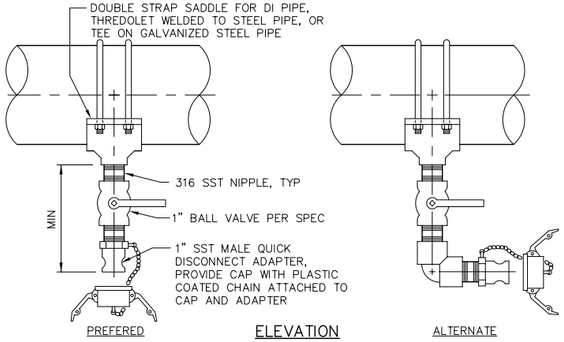
NTS



DOUBLE/SINGLE WALL PIPE TRANSITION (M158)

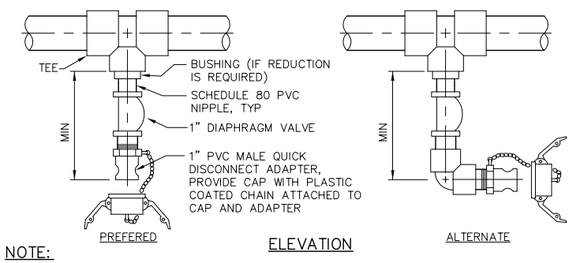
NTS





ELEVATION

FOR FERROUS METAL PIPING



ELEVATION

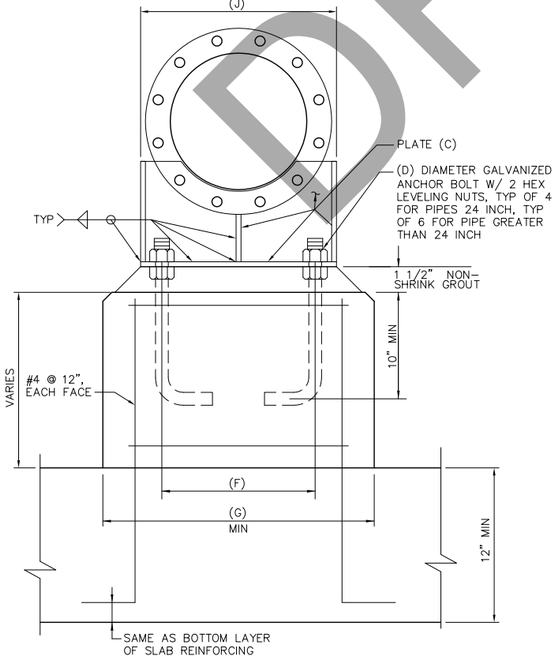
FOR PVC PIPING

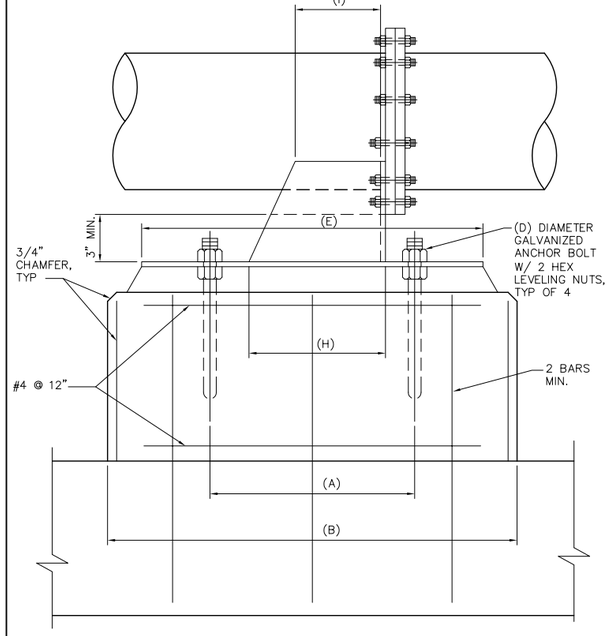
NOTE:

FOR LINE SIZES SMALLER THAN 1", VALVE AND ADAPTER SIZES SHALL MATCH LINE SIZE.

FLUSHING/DRAIN CONNECTION (M154)

NTS





PIPE SUPPORT SCHEDULE									
DIMENSIONS IN INCHES									
PIPE SIZE (NOM)	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
8	12	24	1/2	3/4	20	9	16	8	5	12
16	16	24	1/2	3/4	20	21	25	12	4	21
18	19	30	1/2	3/4	26	23	26	15	5	22
30	24	40	3/4	1 1/4	36	36	40	20	6	36

NOTES:

1. HOT–DIP GALVANIZE STEEL COMPONENTS AFTER FABRICATION.
2. WHEN ATTACHING TO EXISTING CONCRETE, PROVIDE EQUIVALENT SIZE ADHESIVE ANCHORS.
3. VERIFY PIPE OD PRIOR TO FABRICATION.

EXPOSED PIPE THRUST RESTRAINT (M161)

NTS

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE, DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — VERIFY SCALES — 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MECHANICAL STANDARD DETAILS - 4

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. GM-5

Sheet _____ of XXX Sheets

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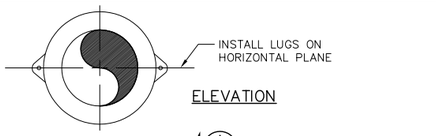
TIE ROD SCHEDULE							
PIPE SIZE (NOM IN)	MINIMUM STEEL PIPE WALL THICKNESS (IN) (NOTE 5)	MAXIMUM TEST PRESSURE					
		25 PSIG		50 PSIG		100 PSIG	
		NUMBER REQUIRED	DIAMETER (IN)	NUMBER REQUIRED	DIAMETER (IN)	NUMBER REQUIRED	DIAMETER (IN)
6	3/16	2	5/8	2	5/8	2	5/8
8	3/16	2	5/8	2	5/8	2	5/8
10	3/16	2	5/8	2	5/8	2	5/8
12	3/16	2	5/8	2	5/8	2	5/8
14	3/16	2	5/8	2	5/8	2	3/4
16	3/16	2	5/8	2	5/8	2	3/4
18	1/4	2	5/8	2	5/8	2	7/8
20	1/4	2	5/8	2	3/4	2	7/8



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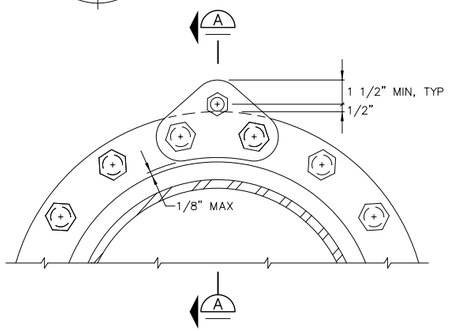
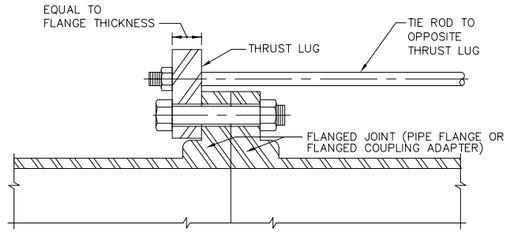




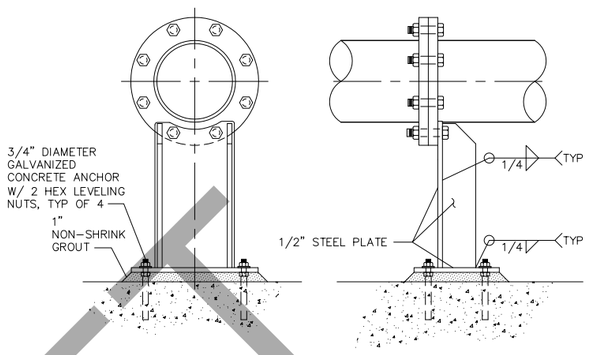
SECTION A
NTS

NOTES:

1. PLATE: ASTM A283 GRADE D.
2. TIE RODS: ASTM A193 GRADE B7.
3. NUTS: ASTM A194 GRADE 2H.
4. INSTALL TIE RODS IN HORIZONTAL PLANE.
5. INCREASE STEEL PIPE WALL THICKNESS TO TIE ROD SCHEDULE MINIMUM THICKNESS IF SPECIFIED PIPE WALL THICKNESS IS LESS. IF INCREASING IS REQUIRED, INCREASE FROM FLANGE TO 2'-0" MINIMUM FROM FLANGE.
6. THIS DETAIL SHALL BE USED WHERE FCA IS ADJACENT TO OTHER FCA OR FLANGES. CONNECT TIE RODS FROM LUGS AT FCA TO LUGS AT ADJACENT FCA OR FLANGES. WHERE ADJACENT FCA OR FLANGE IS NOT PRESENT, INSTALL THRUST HARNESS PER DETAIL (M160).
7. TIGHTEN TIE ROD NUTS ALTERNATELY AND EQUALLY TO ALIGN EVENLY AND TO PROVIDE EQUAL STRESS ON ALL TIE RODS WHEN SUBJECT TO OPERATING PRESSURES. NUTS SHALL BE TIGHTENED SNUG. THREADS SHALL PROTRUDE 1/2" MINIMUM FROM NUTS AFTER TIGHTENING. PEEN THREADS AFTER TIGHTENING TO LOCK NUTS IN PLACE.

THRUST RESTRAINT FOR FLEXIBLE COUPLING OR FLANGE COUPLING ADAPTER (M162)

NTS

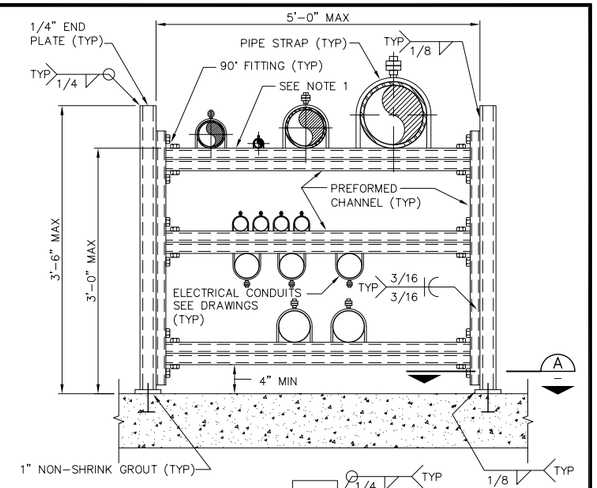


NOTES:

1. HOT-DIP GALVANIZE STEEL COMPONENTS AFTER FABRICATION.
2. WHEN ATTACHING TO EXISTING CONCRETE, PROVIDE EQUIVALENT SIZE ADHESIVE ANCHORS.
3. VERIFY PIPE OD PRIOR TO FABRICATION.

PIPE SUPPORT 4" THRU 8" (M163)

NTS



NOTES:

1. MAX TOTAL ALLOWABLE LOAD 400 LBS.
2. SUPPORTS SHALL BE 5'-0" MAXIMUM SPACING.
3. HOT-DIP GALV SUPPORT COLUMN ASSEMBLIES AFTER FABRICATION.

SECTION A
NTS

PIPE RACK (M164)

NTS

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MECHANICAL STANDARD DETAILS - 5

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. GM-6

Sheet _____ of XXX Sheets

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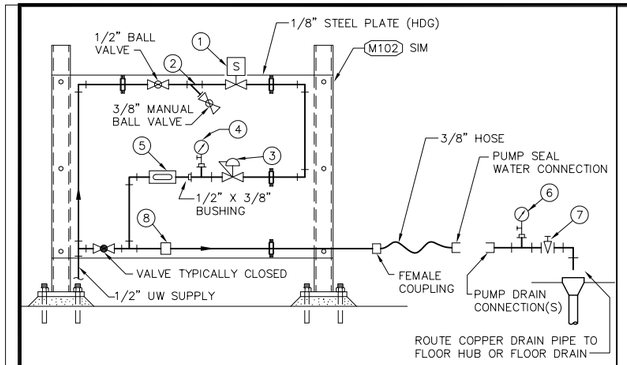


1. SOLENOID VALVE, SEE P&ID
2. WYE STRAINER
3. 1/2" PRESSURE REGULATOR SET OUTLET PRESSURE AS RECOMMENDED BY PUMP MFR.
4. PRESSURE GAUGE, RANGE AS REQUIRED BY PUMP MFR (REQUIRED ONLY FOR SINGLE MECHANICAL SEAL AND PACKING TYPE PUMP SEALS)
5. 3/8" SIGHT GLASS (REQUIRED FOR MECHANICAL SEAL ONLY)
6. PRESSURE GAUGE, RANGE AS REQUIRED BY PUMP MFR (REQUIRED FOR DOUBLE MECHANICAL PUMP SEALS ONLY)
7. 1/2" NEEDLE VALVE (REQUIRED FOR DOUBLE MECHANICAL PUMP SEALS ONLY)
8. FLOW SWITCH (FSL)

NOTES:

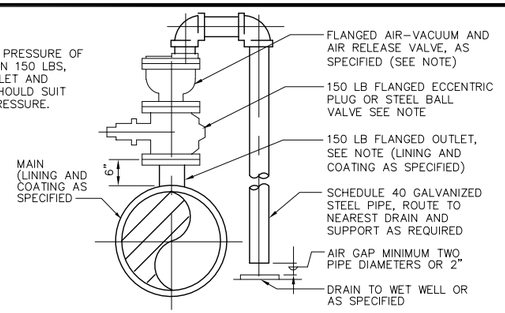
1. PIPING CONFIGURATION IS SHOWN SCHEMATICALLY. CONTRACTOR SHALL CONFIGURE AS REQUIRED.
2. ALTERNATE CONFIGURATION. ASSEMBLY SHALL BE WALL MOUNTED, IF SPECIFIED.

SEAL WATER ASSEMBLY — M170

NTS

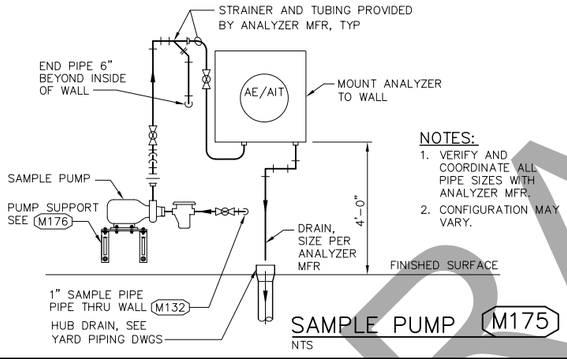
NOTES:

1. FOR MAIN PRESSURE OF MORE THAN 150 LBS, FLANGOUTLET AND VALVES SHOULD SUIT HIGHER PRESSURE.



AIR-VACUUM AND AIR-RELEASE VALVE ASSEMBLY 4" AND LARGER — M173

NTS

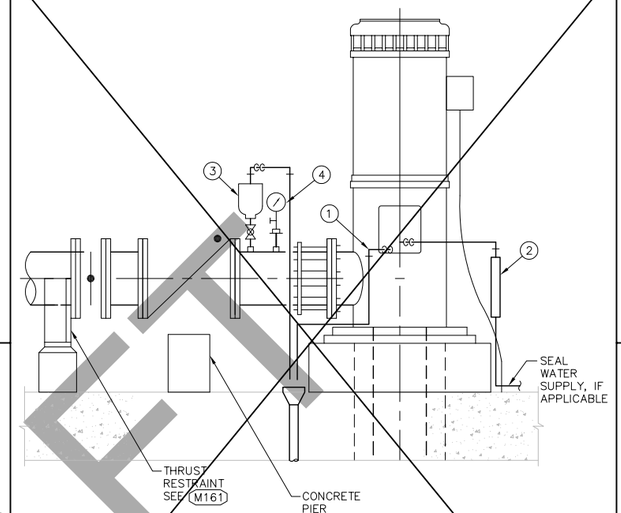


NOTES:

1. VERIFY AND COORDINATE ALL PIPE SIZES WITH ANALYZER MFR.
2. CONFIGURATION MAY VARY.

SAMPLE PUMP — M175

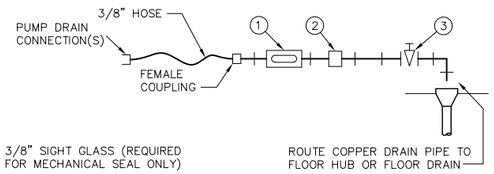
NTS



1. SEAL WATER DRAIN, SEE P&ID AND DETAIL M170 OR M171.
2. SEAL WATER APPURTENANCES, SEE P&ID AND DETAIL M170 IF APPLICABLE.
3. ARV, SEE P&ID OR DETAIL M172 AND M173.
4. PRESSURE GAUGE, SEE DETAIL M218.

GENERAL VERTICAL TURBINE PUMP APPURTENANCES — M179

NTS



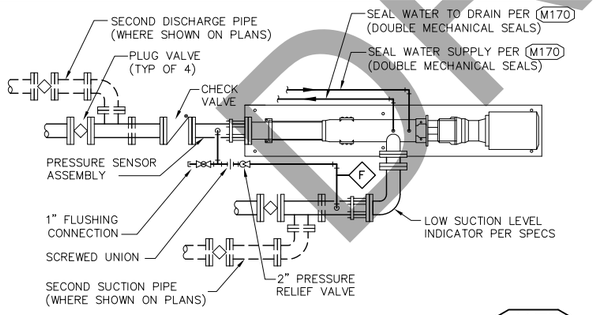
1. 3/8" SIGHT GLASS (REQUIRED FOR MECHANICAL SEAL ONLY)
2. FLOW SWITCH (FSL)
3. 1/2" NEEDLE VALVE

NOTES:

1. PIPING CONFIGURATION IS SHOWN SCHEMATICALLY. CONTRACTOR SHALL CONFIGURE AS REQUIRED.
2. FOR PRODUCT WATER SEAL APPLICATIONS.

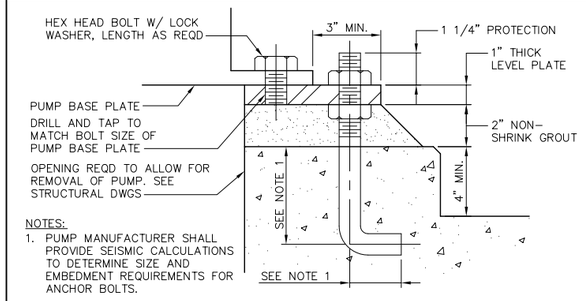
SEAL WATER PRODUCT LUBRICATED — M171

NTS



PROGRESSIVE CAVITY PUMP — M177

NTS

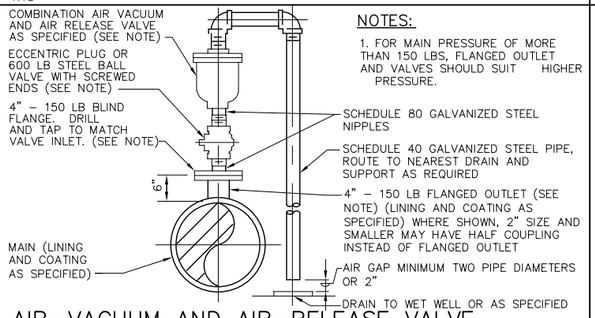


NOTES:

1. PUMP MANUFACTURER SHALL PROVIDE SEISMIC CALCULATIONS TO DETERMINE SIZE AND EMBEDMENT REQUIREMENTS FOR ANCHOR BOLTS.

VERTICAL PUMP MOUNTING BASE — M181

NTS



NOTES:

1. FOR MAIN PRESSURE OF MORE THAN 150 LBS, FLANGED OUTLET AND VALVES SHOULD SUIT HIGHER PRESSURE.

SCHEDULE 80 GALVANIZED STEEL NIPPLES

SCHEDULE 40 GALVANIZED STEEL PIPE, ROUTE TO NEAREST DRAIN AND SUPPORT AS REQUIRED

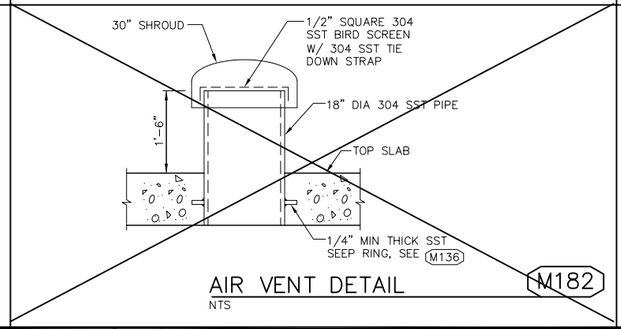
4" - 150 LB FLANGED OUTLET (SEE NOTE) (LINING AND COATING AS SPECIFIED) WHERE SHOWN, 2" SIZE AND SMALLER MAY HAVE HALF COUPLING INSTEAD OF FLANGED OUTLET

AIR GAP MINIMUM TWO PIPE DIAMETERS OR 2"

DRAIN TO WET WELL OR AS SPECIFIED

AIR-VACUUM AND AIR-RELEASE VALVE ASSEMBLY 3" AND SMALLER — M172

NTS



AIR VENT DETAIL — M182

NTS

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MECHANICAL STANDARD DETAILS - 6

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE	APPROVED BY: ROBERT BRAGER, P.E., J.D. — DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013	AS SHOWN	PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. GM-7

Sheet _____ of XXX Sheets

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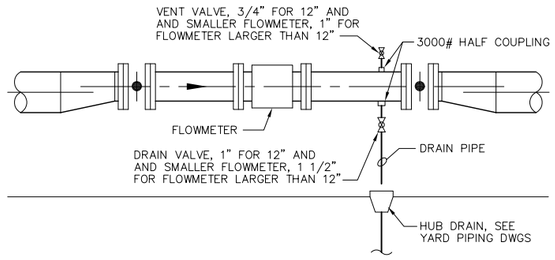
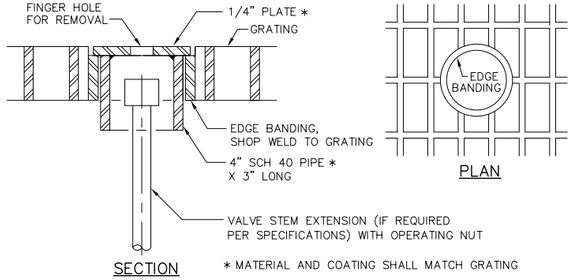
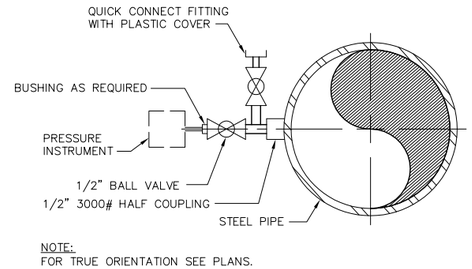


FLOWMETER VENT/DRAIN M214
NTS

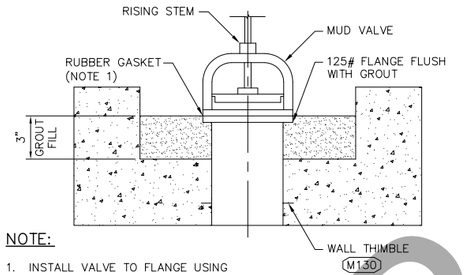


OPERATING NUT ACCESS OPENING M232
NTS



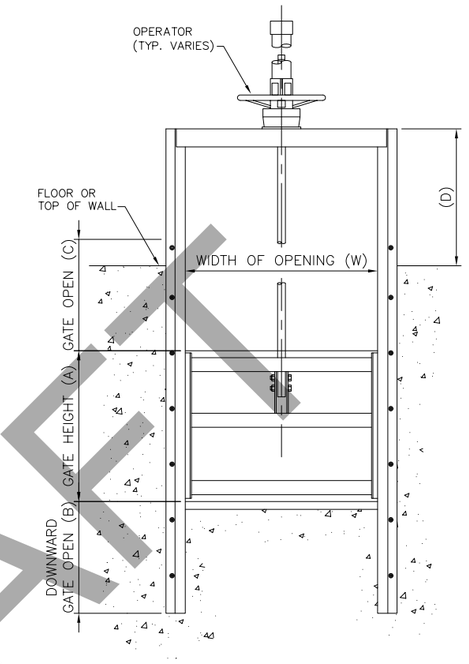
NOTE:
FOR TRUE ORIENTATION SEE PLANS.

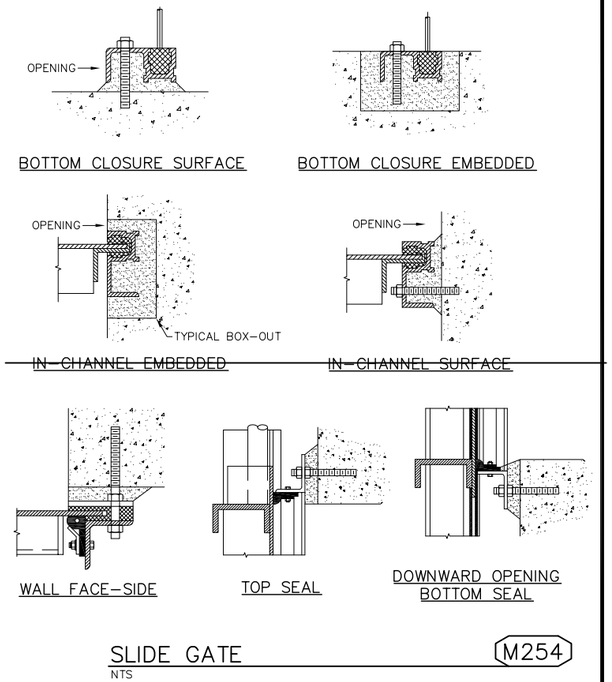
PRESSURE INSTRUMENT CONNECTION M218
NTS



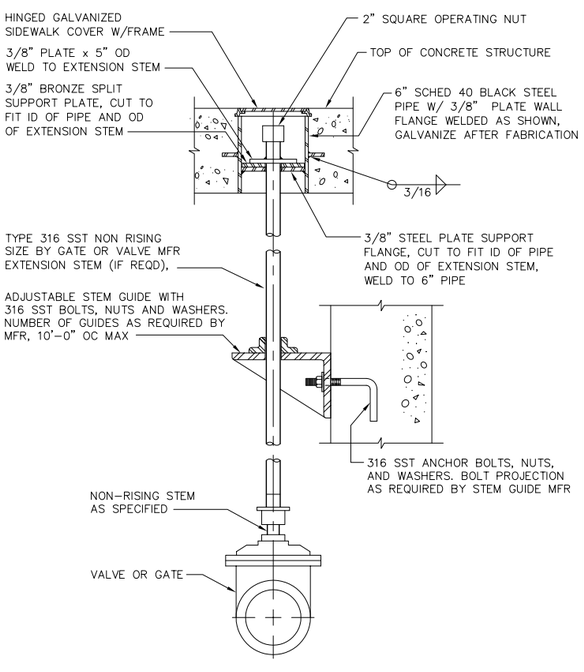
NOTE:
1. INSTALL VALVE TO FLANGE USING SOFT RUBBER FLANGE GASKET.

MUD VALVE M233
NTS

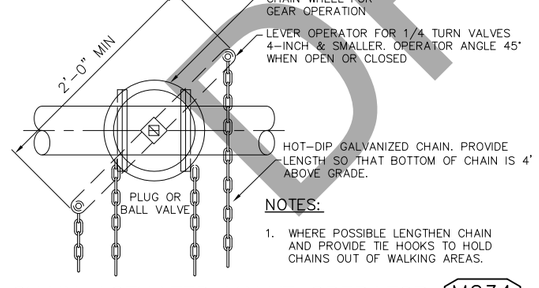




SLIDE GATE M254
NTS

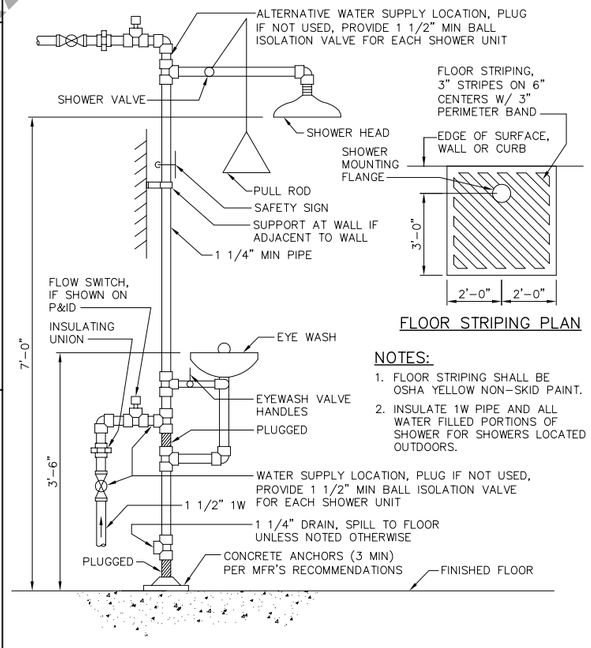


FLOOR BOX OPERATOR M230
NTS



NOTES:
1. WHERE POSSIBLE LENGTHEN CHAIN AND PROVIDE TIE HOOKS TO HOLD CHAINS OUT OF WALKING AREAS.

CHAIN ACTUATED VALVE OPERATOR M234
NTS



FLOOR STRIPING PLAN

NOTES:
1. FLOOR STRIPING SHALL BE OSHA YELLOW NON-SKID PAINT.
2. INSULATE 1W PIPE AND ALL WATER FILLED PORTIONS OF SHOWER FOR SHOWERS LOCATED OUTDOORS.

DRENCH SHOWER AND EYEWASH M259
NTS

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MECHANICAL STANDARD DETAILS - 7

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. GM-8 — Sheet ____ of XXX Sheets

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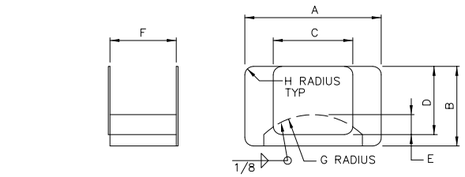
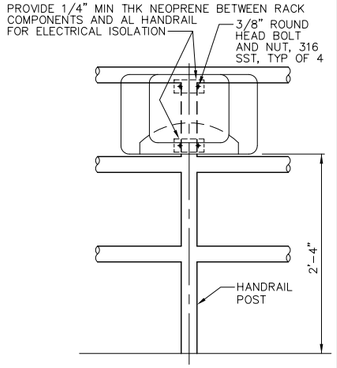


RACK TYPE	DIMENSIONS IN INCHES							
	A	B	C	D	E	F	G	H
TYPE 1 (3/4" & 1" HOSE)	18	11	10	9 1/2	3	7 1/2	9	1 1/4
TYPE 2 (1 1/2" HOSE)	24	14	14	12	3 1/2	10	12 1/2	1 1/2

HOSE RACK

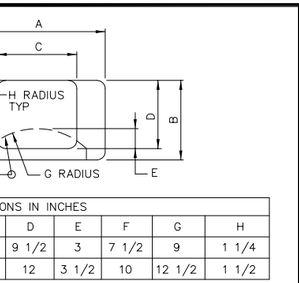
ELEVATION

WALL MOUNTED

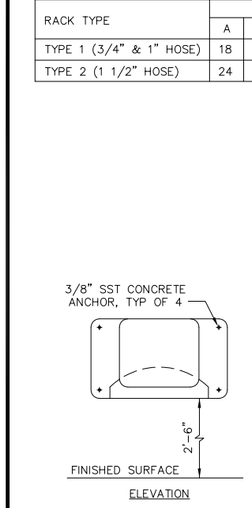


HANDRAIL MOUNTED

PLAN



STRUCTURE MOUNTED POST



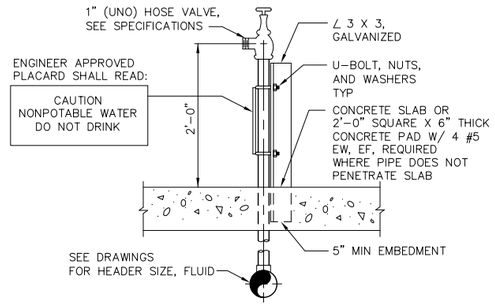
ELEVATION

POST MOUNTED

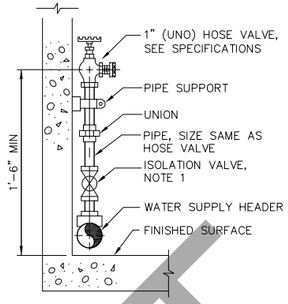
NOTES:

1. CONSTRUCT HOSE RACK FROM 1/8" MIN A-36 STEEL PLATE. HOT DIP GALVANIZE HOSE RACK AFTER FABRICATION.
2. ATTACH A WARNING SIGN TO EACH HOSE RACK OR ADJACENT HOSE VALVE. SIGN SHALL READ:
   CAUTION
   NONPOTABLE WATER
   DO NOT DRINK
3. PROVIDE MINIMUM 75 FT OF HOSE AT EACH HOSE RACK. SIZE SHALL MATCH HOSE VALVE.
4. CONSTRUCT BASEPLATE FOR STRUCTURE MOUNTED POST FROM 1/2" MIN A-36 STEEL PLATE. HOT DIP GALVANIZE BASE AND POST AFTER FABRICATION.

HOSE RACK M270
NTS



EXTERIOR HOSE VALVE TYPE 1



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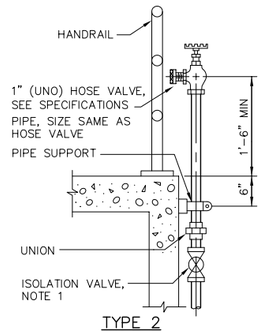

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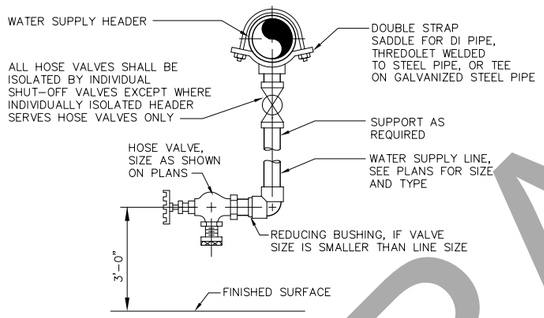

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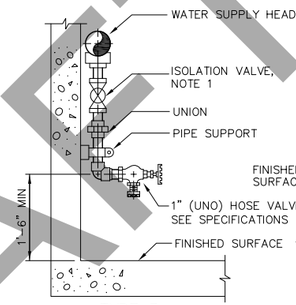

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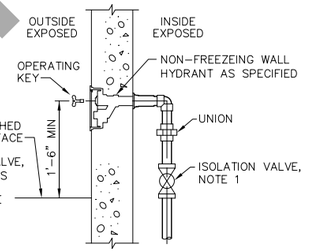

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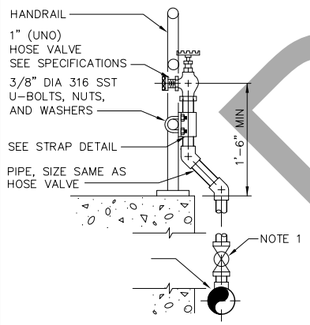
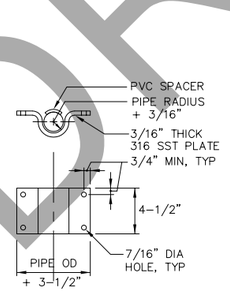
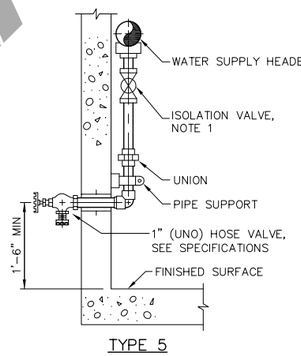


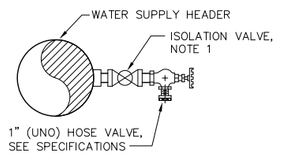
EXTERIOR HOSE VALVE TYPE 3



STRAP DETAIL



TYPE 5



NOTE:
TAP ORIENTATION MAY VARY, SEE PLANS.

TYPE 6

NOTES:

1. ALL HOSE VALVES RAISERS OUTSIDE BUILDINGS LESS THEN 1 1/2" INCHES IN DIAMETER SHALL HAVE INSULATION FOR FREEZE PROTECTION.

HOSE VALVES M275
NTS

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MECHANICAL STANDARD DETAILS - 8

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. GM-9

Sheet _____ of XXX Sheets

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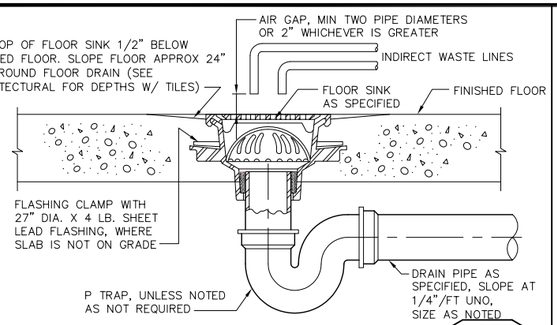
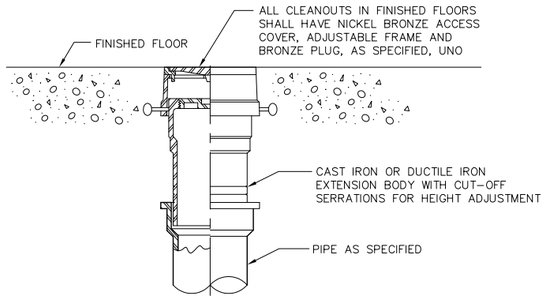


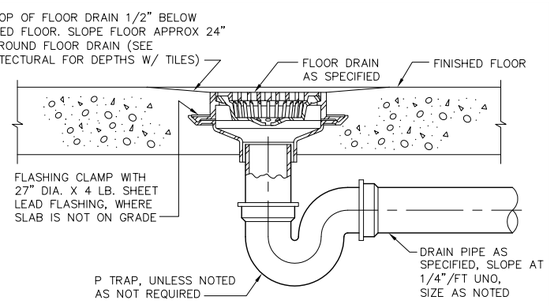
FLOOR SINK M280

NTS



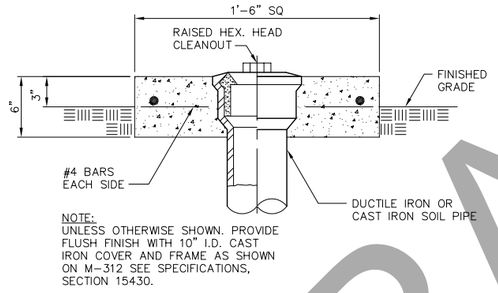
CLEANOUT IN FINISHED FLOOR M286

NTS



FLOOR DRAIN M282

NTS



CLEANOUT TO GRADE M288

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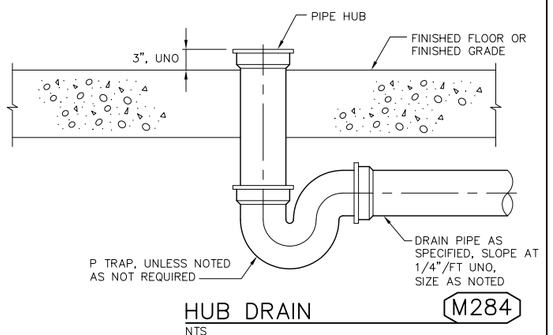

HUB DRAIN M284

NTS

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MECHANICAL STANDARD DETAILS - 9

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. GM-10

Sheet _____ of XXX Sheets

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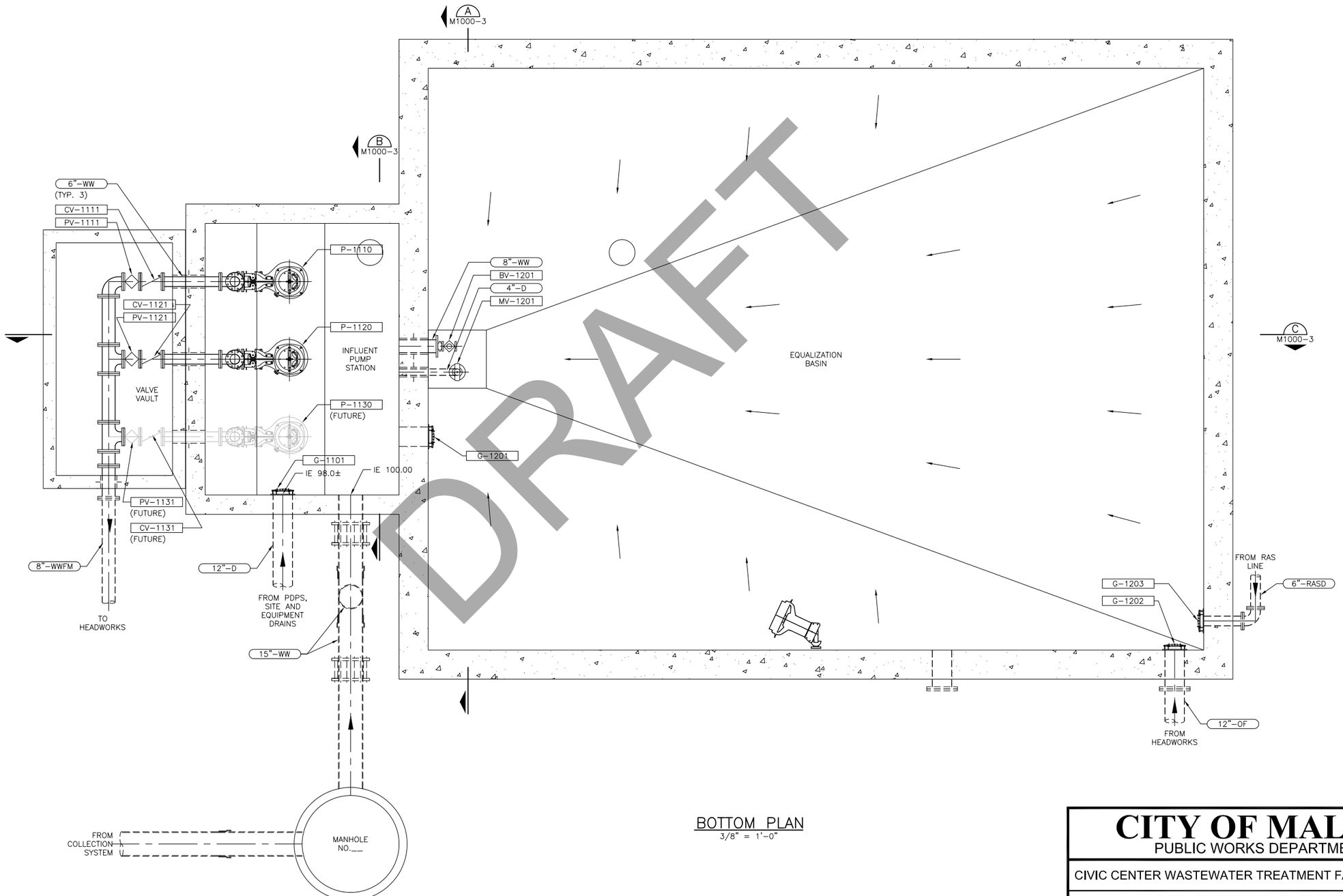

BOTTOM PLAN
3/8" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

INFLUENT PUMP STATION AND
EQUALIZATION BASIN BOTTOM PLAN

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. M1000-1

Sheet _____ of XXX Sheets

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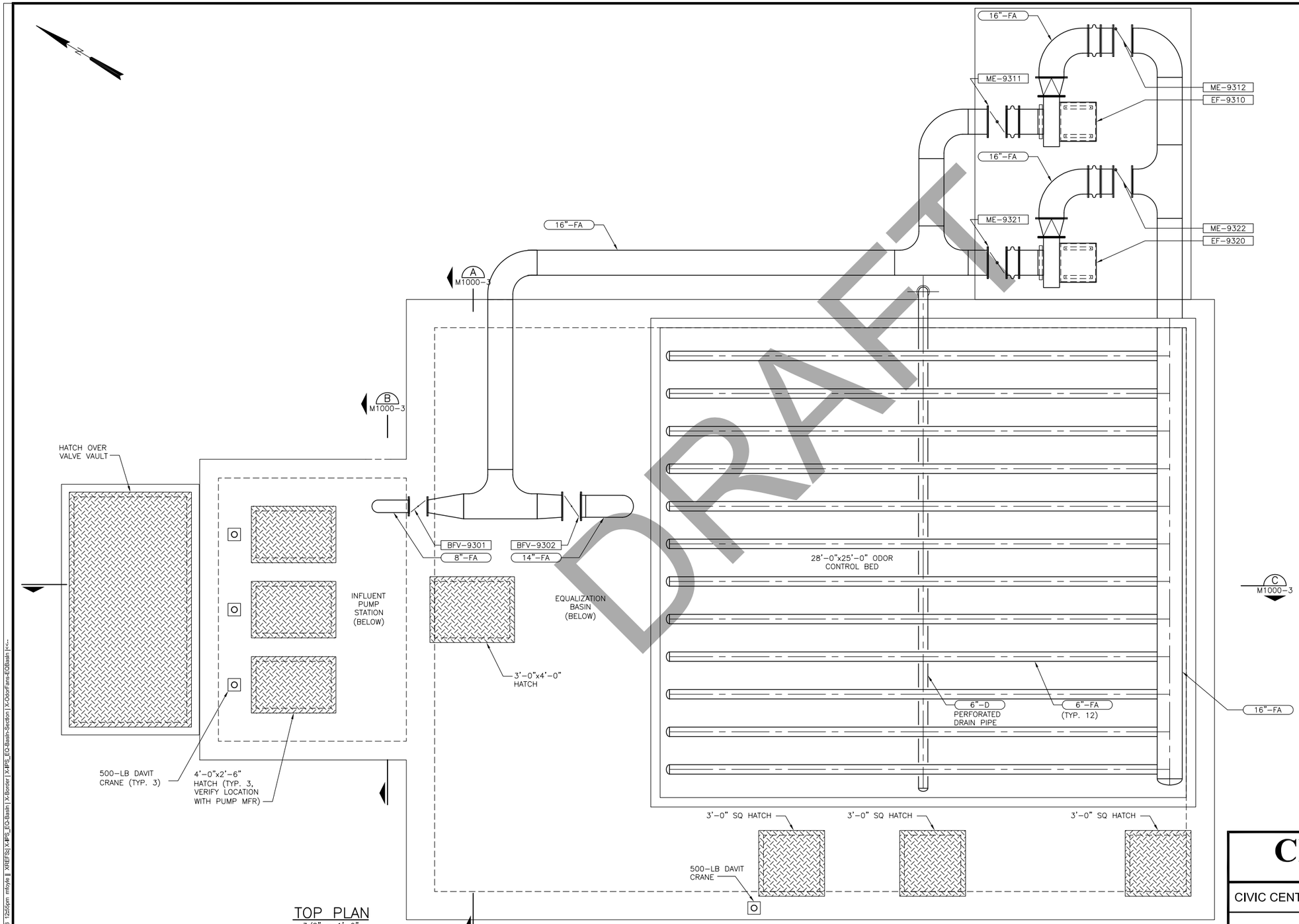

TOP PLAN
3/8" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

INFLUENT PUMP STATION AND
EQUALIZATION BASIN TOP PLAN

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE: AS SHOWN
DRAWN BY: M.Foyle	DATE 06/2013	
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER: XXXX

APPROVED BY: DATE
XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. M1000-2

Sheet _____ of XXX Sheets

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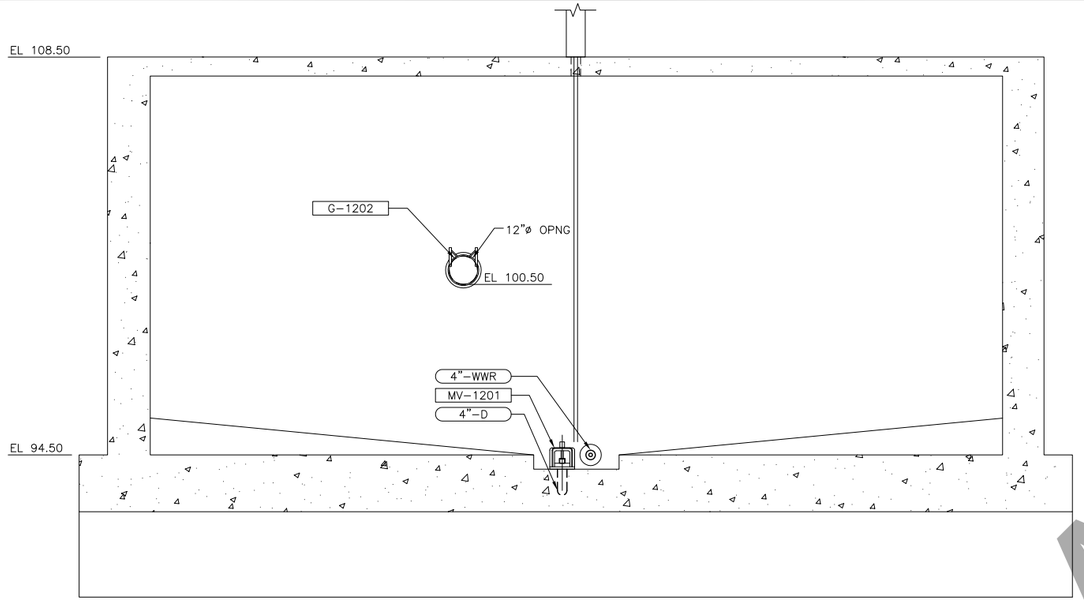
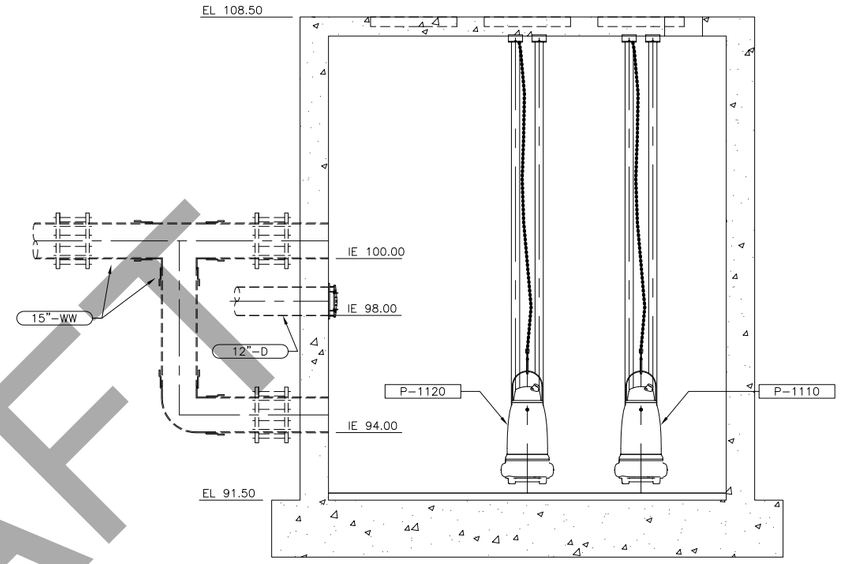
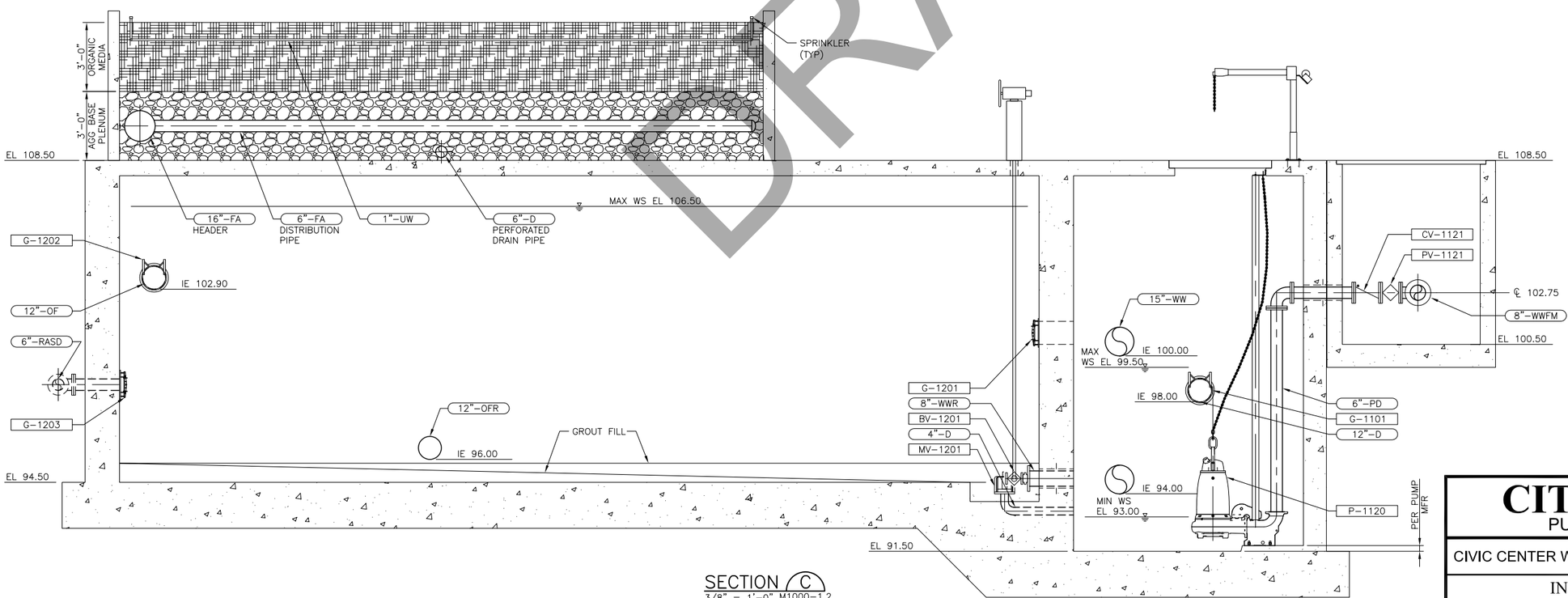


SECTION A
3/8" = 1'-0" M1000-1,2



SECTION B
3/8" = 1'-0" M1000-1,2



SECTION C
3/8" = 1'-0" M1000-1,2

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

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NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

INFLUENT PUMP STATION AND EQUALIZATION BASIN SECTIONS - 1

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. M1000-3

Sheet _____ of XXX Sheets

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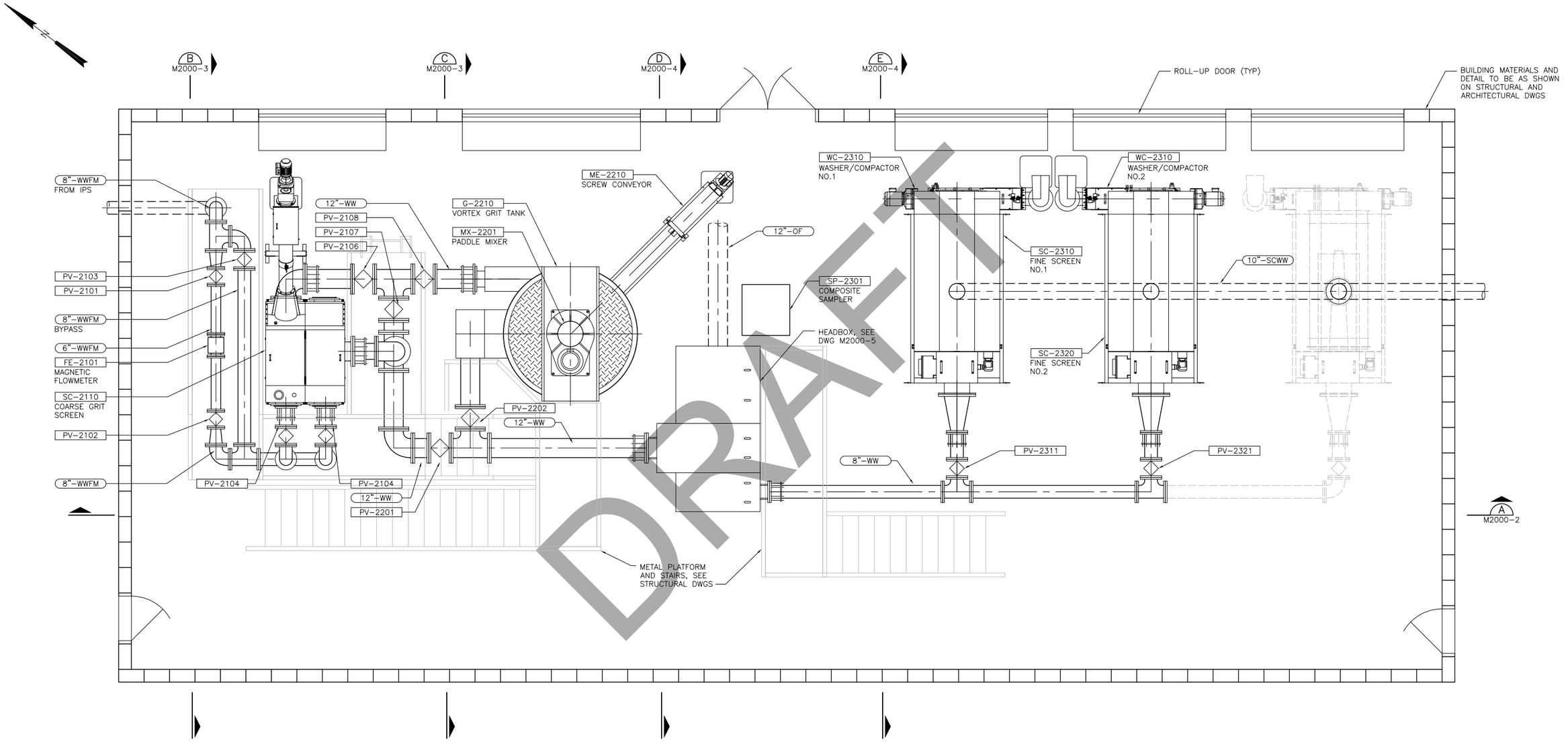

DRAFT

PLAN
3/8" = 1'-0"

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

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NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

HEADWORKS
PLAN

DESIGNED BY: M,Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M,Foyle	DATE 06/2013		
CHECKED BY: M,Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. M2000-1

Sheet _____ of XXX Sheets

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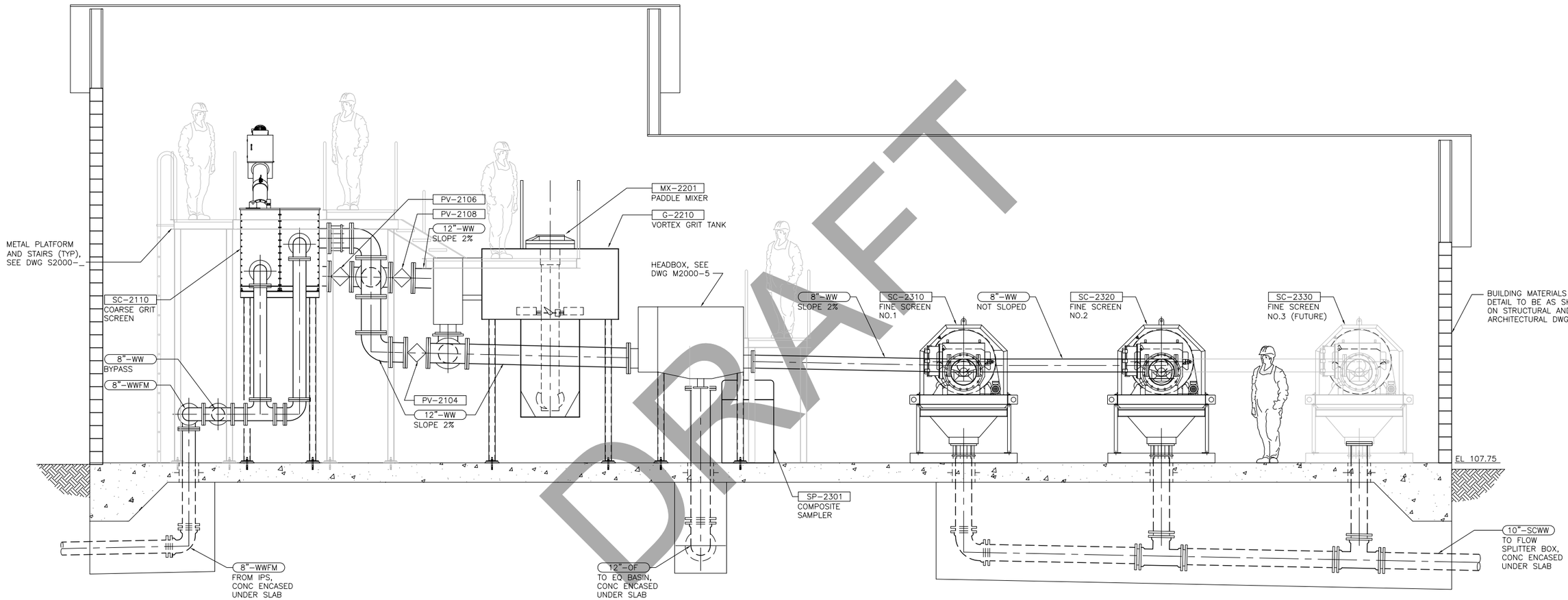

SECTION A
3/8" = 1'-0" M2000-1

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

HEADWORKS
SECTIONS - 1

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. M2000-2

Sheet _____ of XXX Sheets

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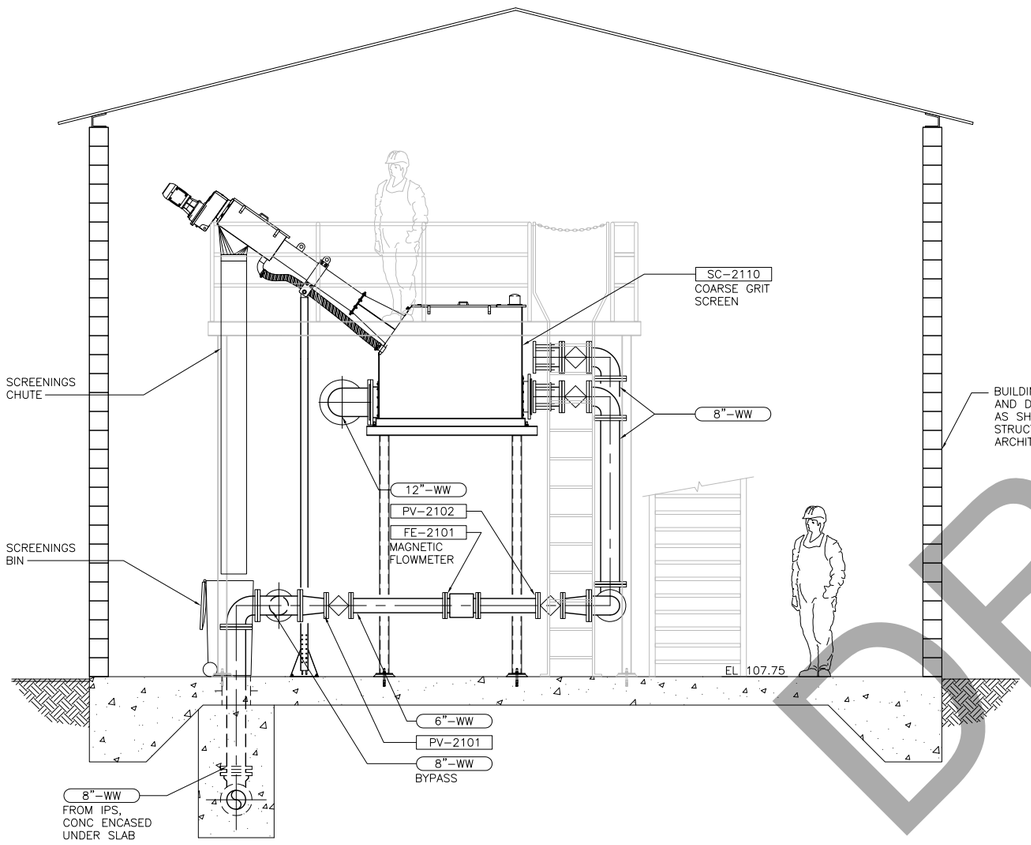
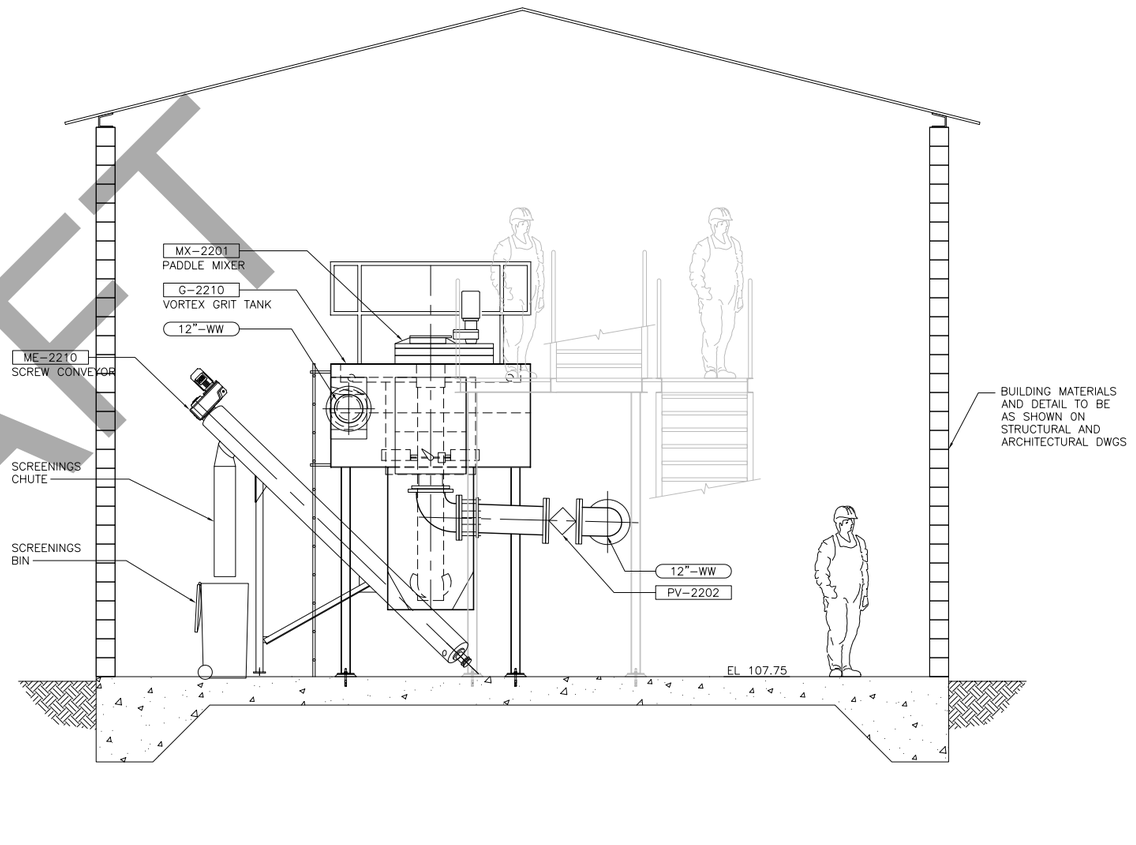


SECTION B
3/8" = 1'-0" M2000-1



SECTION C
3/8" = 1'-0" M2000-1

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50%
Submittal
Not for
Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

HEADWORKS
SECTIONS - 2

DESIGNED BY: M,Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M,Foyle	DATE 06/2013		
CHECKED BY: M,Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. M2000-3

Sheet _____ of XXX Sheets

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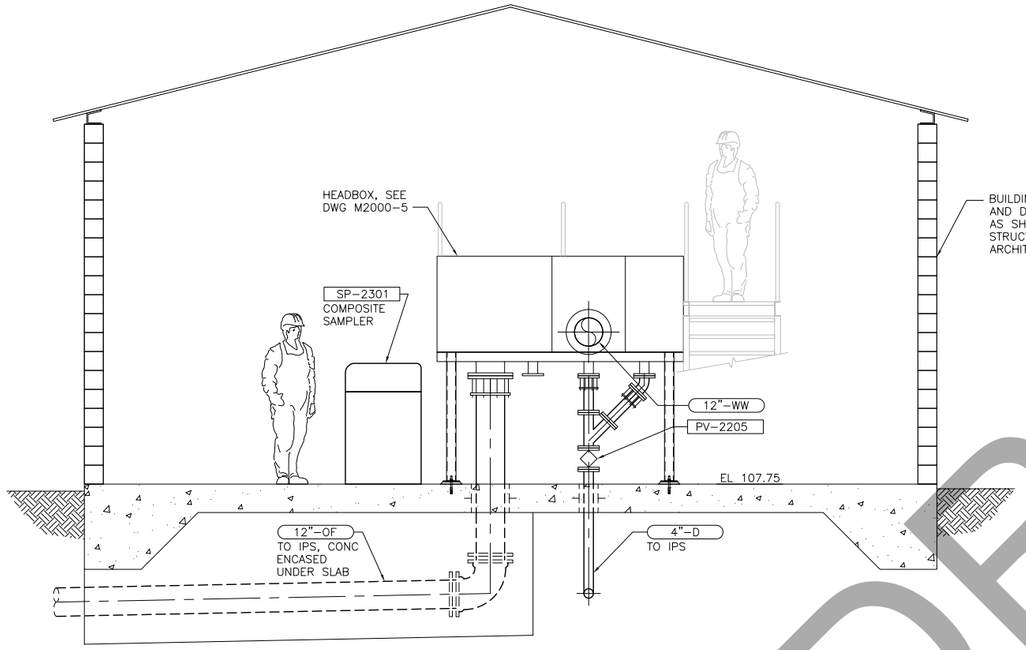

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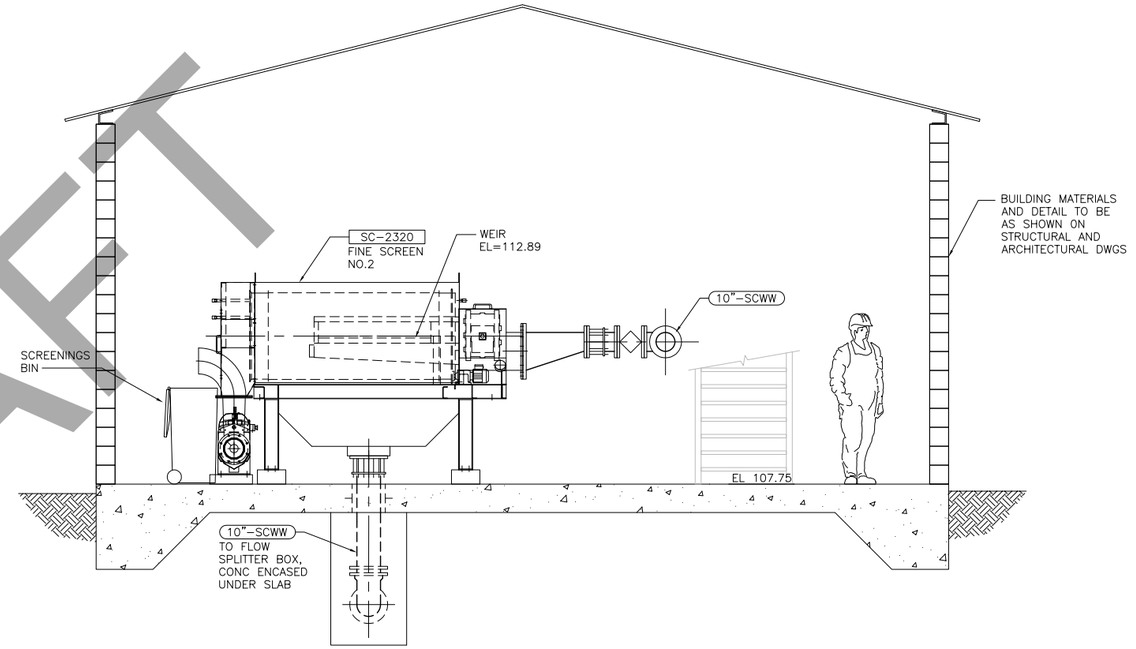

SECTION E
3/8" = 1'-0" M2000-1

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

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NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

HEADWORKS
SECTIONS - 3

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. M2000-4

Sheet _____ of XXX Sheets

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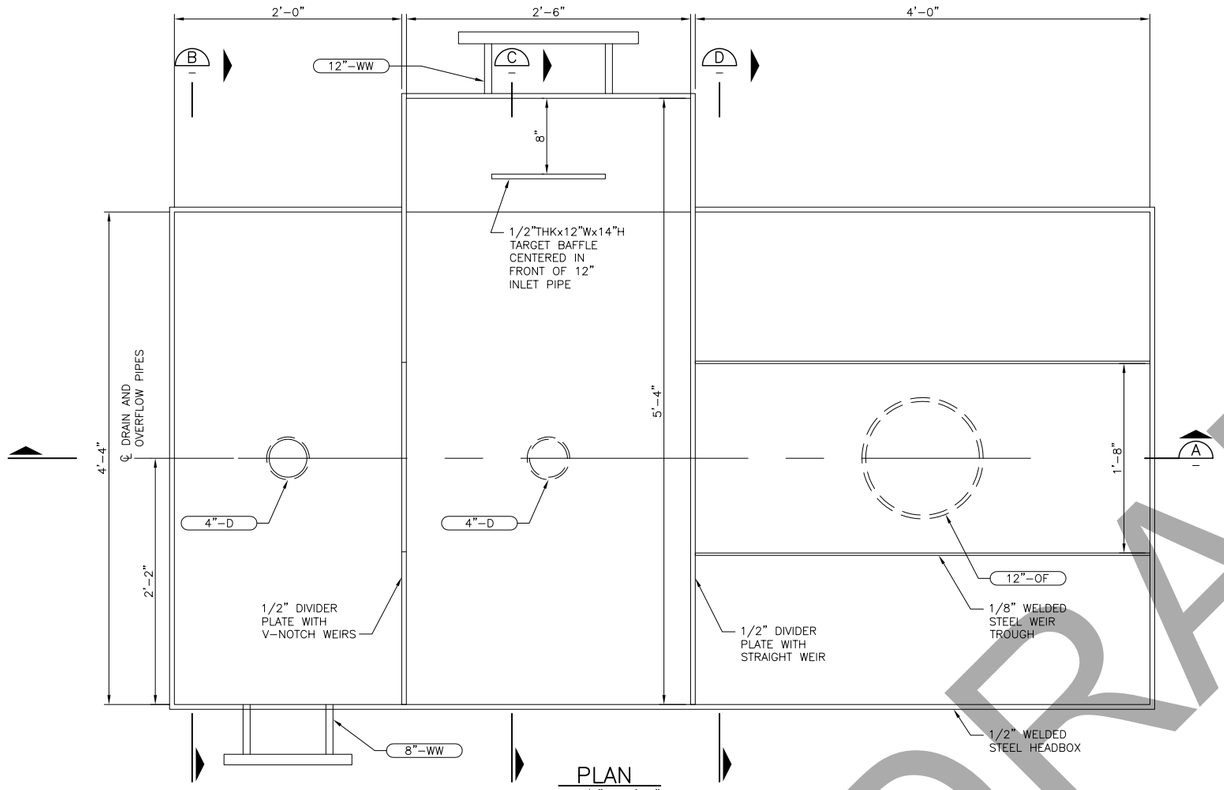
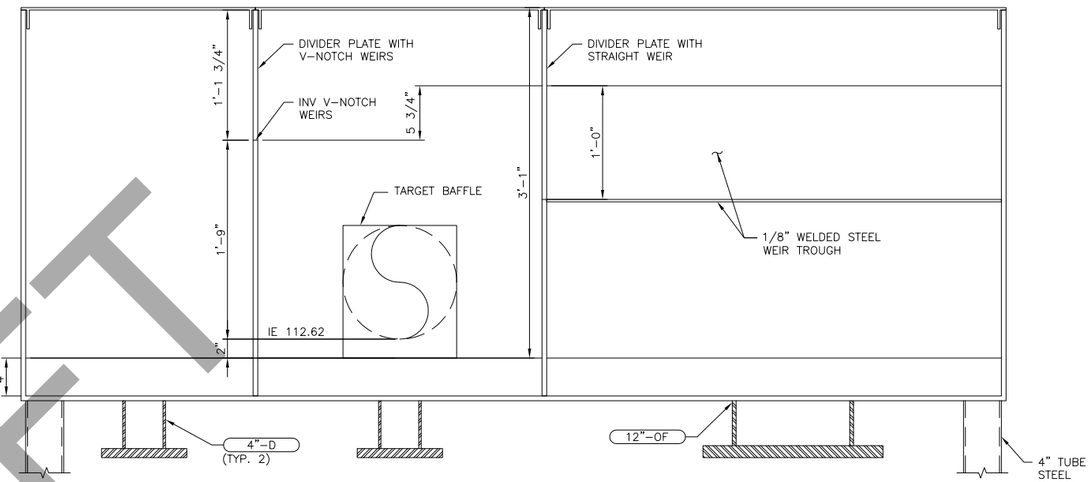
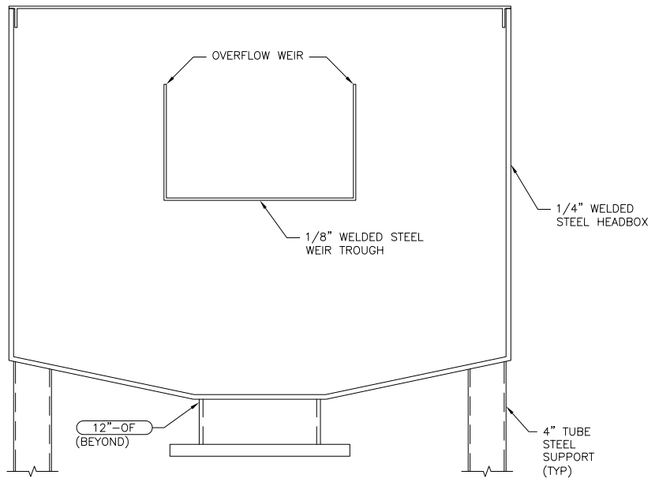


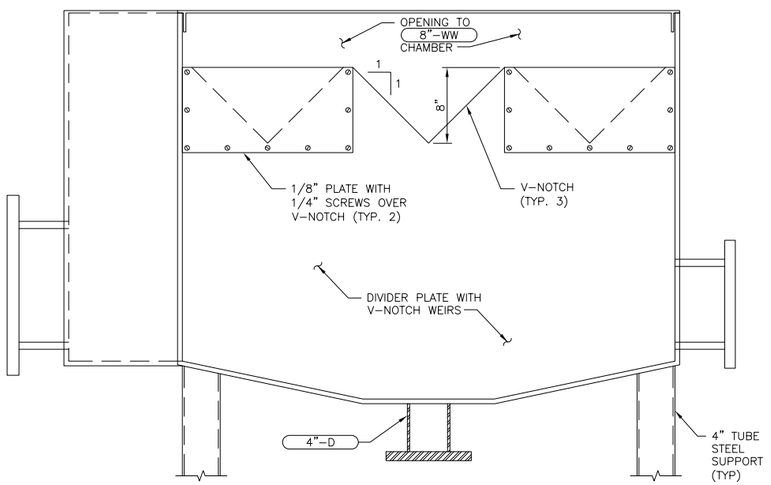
PLAN
1 1/2" = 1'-0"



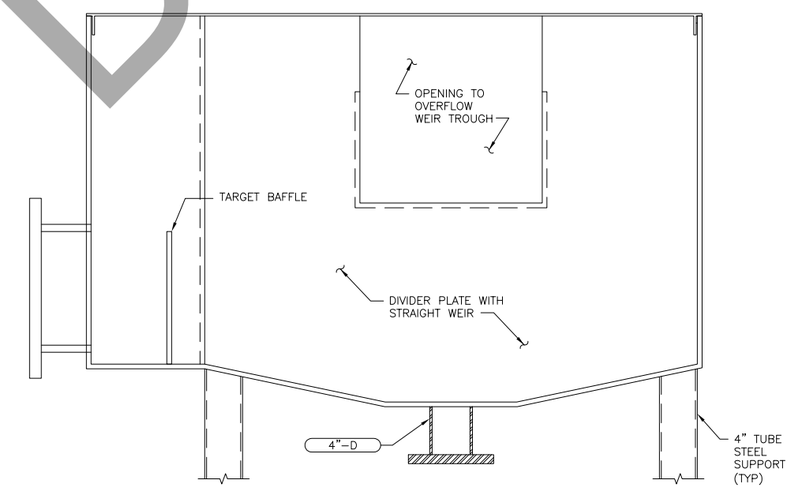
SECTION A
1 1/2" = 1'-0"



SECTION D
1 1/2" = 1'-0"



SECTION B
1 1/2" = 1'-0"



SECTION C
1 1/2" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE, DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

HEADWORKS
HEADBOX PLAN AND SECTIONS

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. M2000-5

Sheet _____ of XXX Sheets

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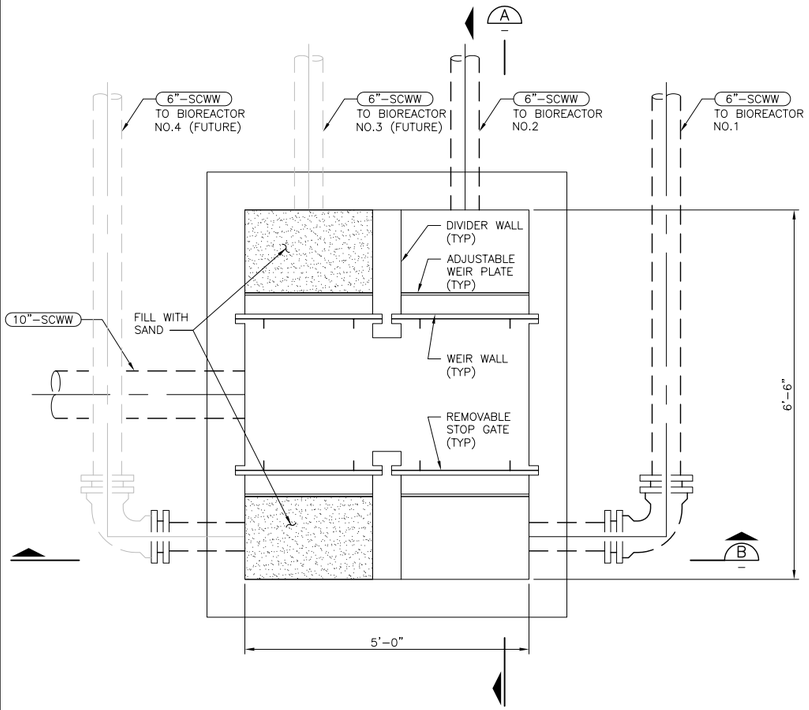
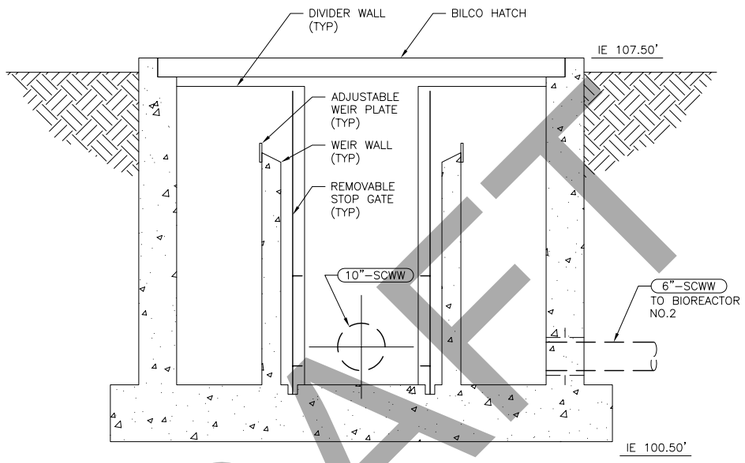
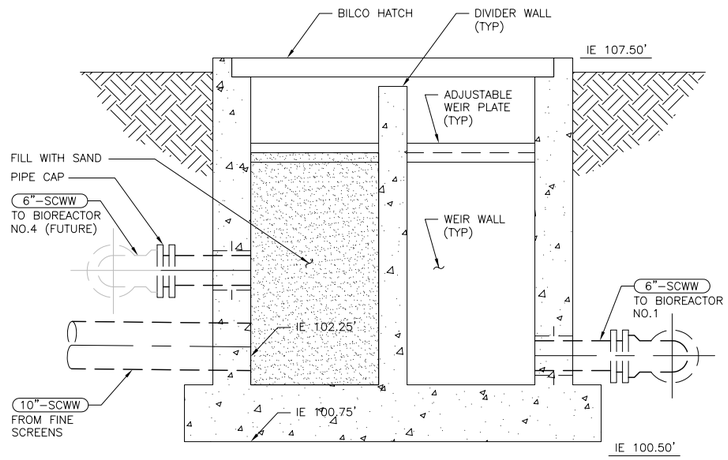


PLAN
3/4" = 1'-0"



SECTION A
3/4" = 1'-0"



SECTION B
3/4" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50%
Submittal
Not for
Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

HEADWORKS
FLOW SPLITTTER BOX PLAN AND SECTIONS

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013	AS SHOWN	
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. M2000-6

Sheet _____ of XXX Sheets

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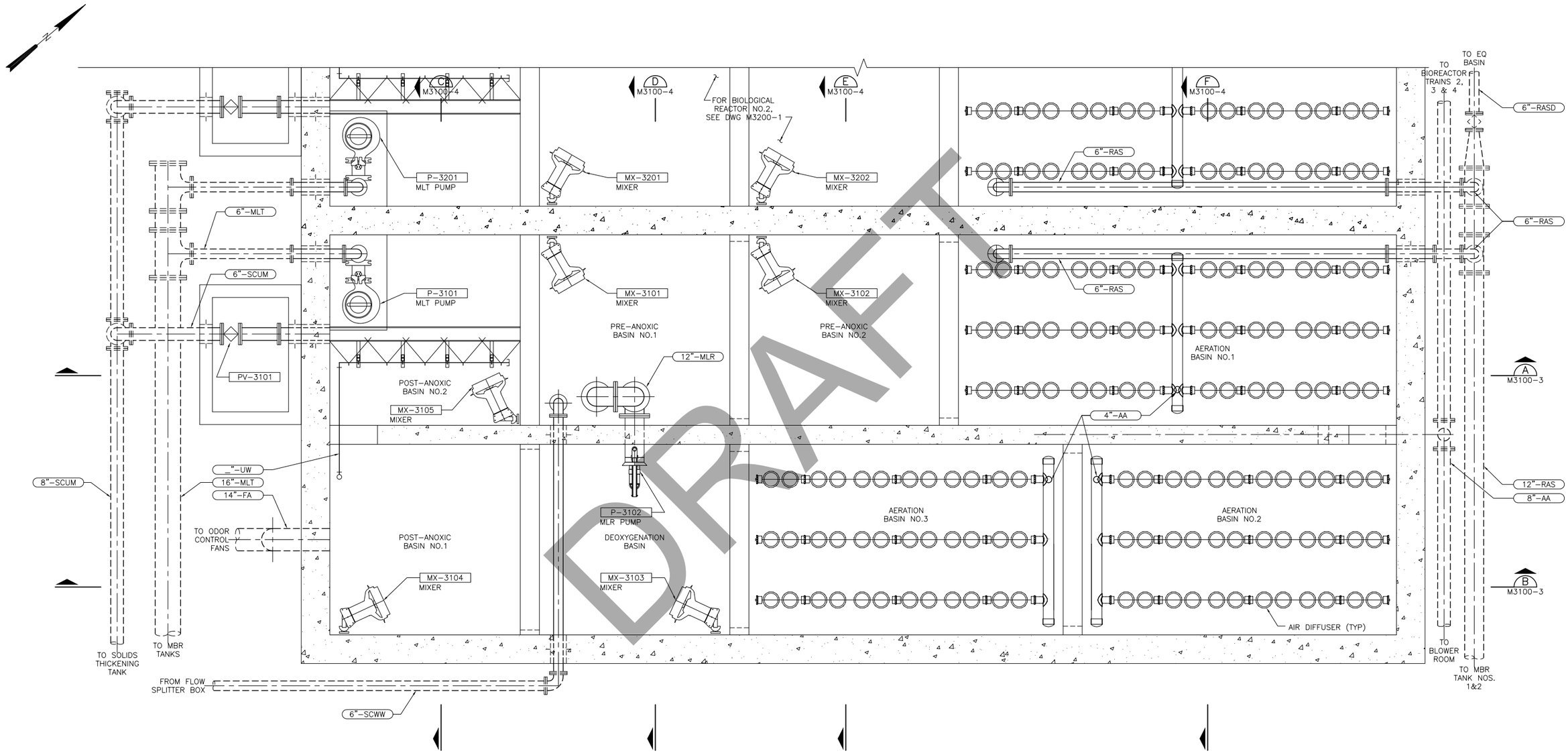

BOTTOM PLAN
3/8" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BIOLOGICAL REACTOR NO.1
BOTTOM PLAN

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. M3100-1

Sheet _____ of XXX Sheets

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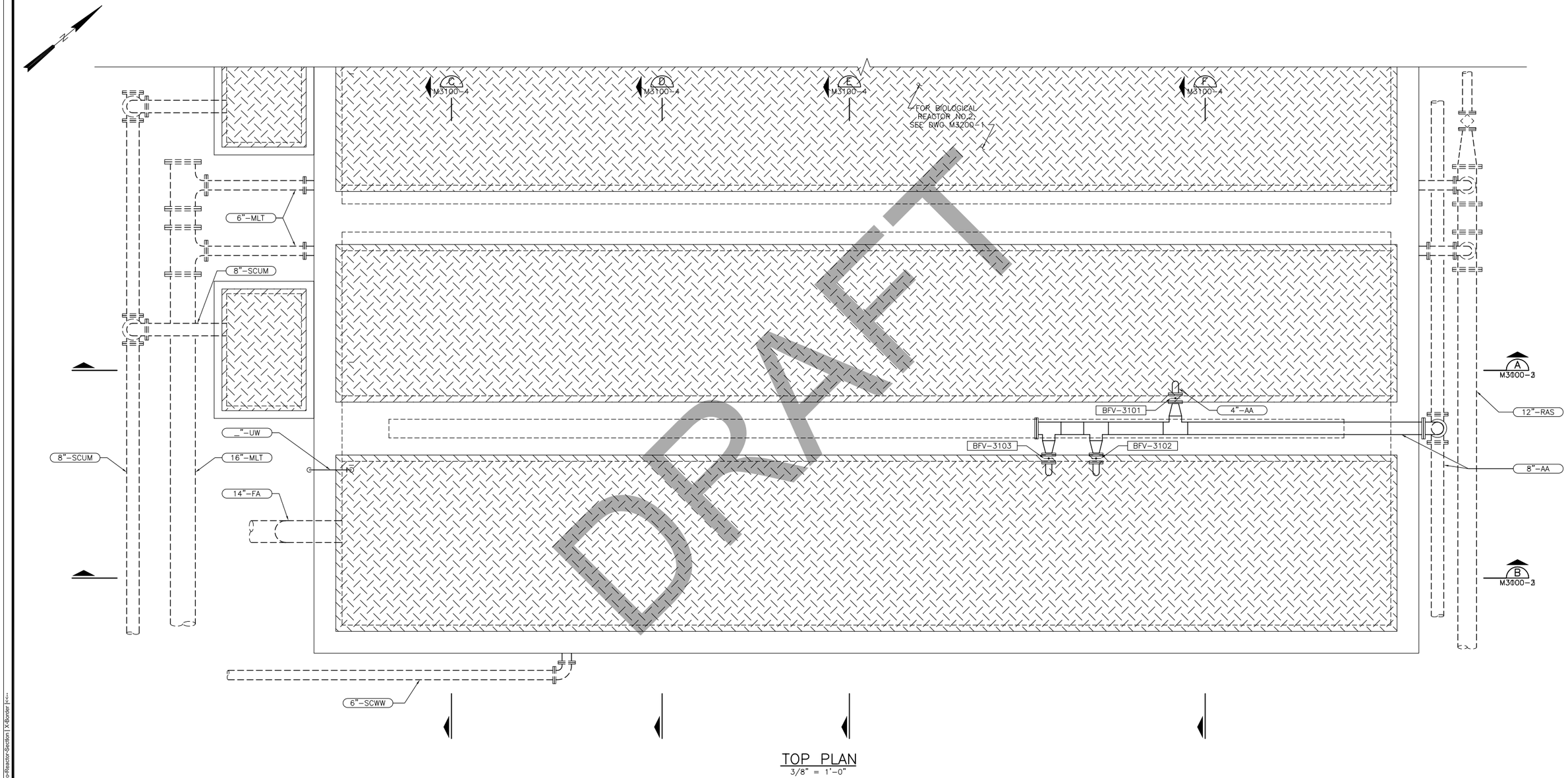

TOP PLAN
3/8" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — VERIFY SCALES — 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BIOLOGICAL REACTOR NO.1
TOP PLAN

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. M3100-2

Sheet _____ of XXX Sheets

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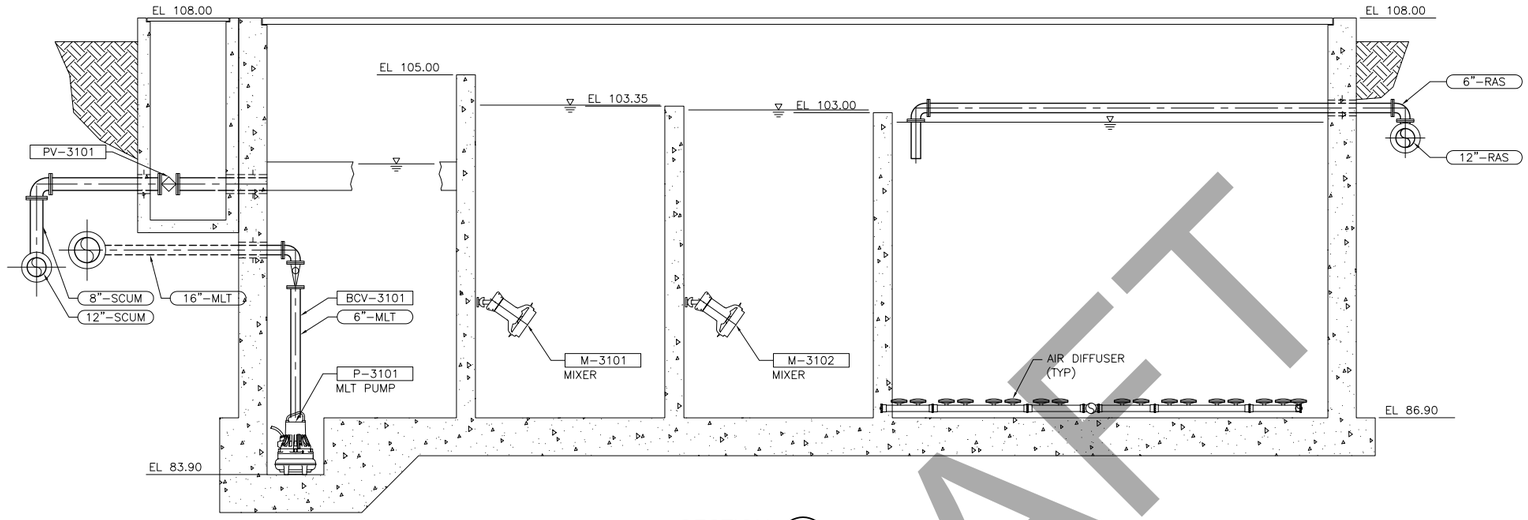
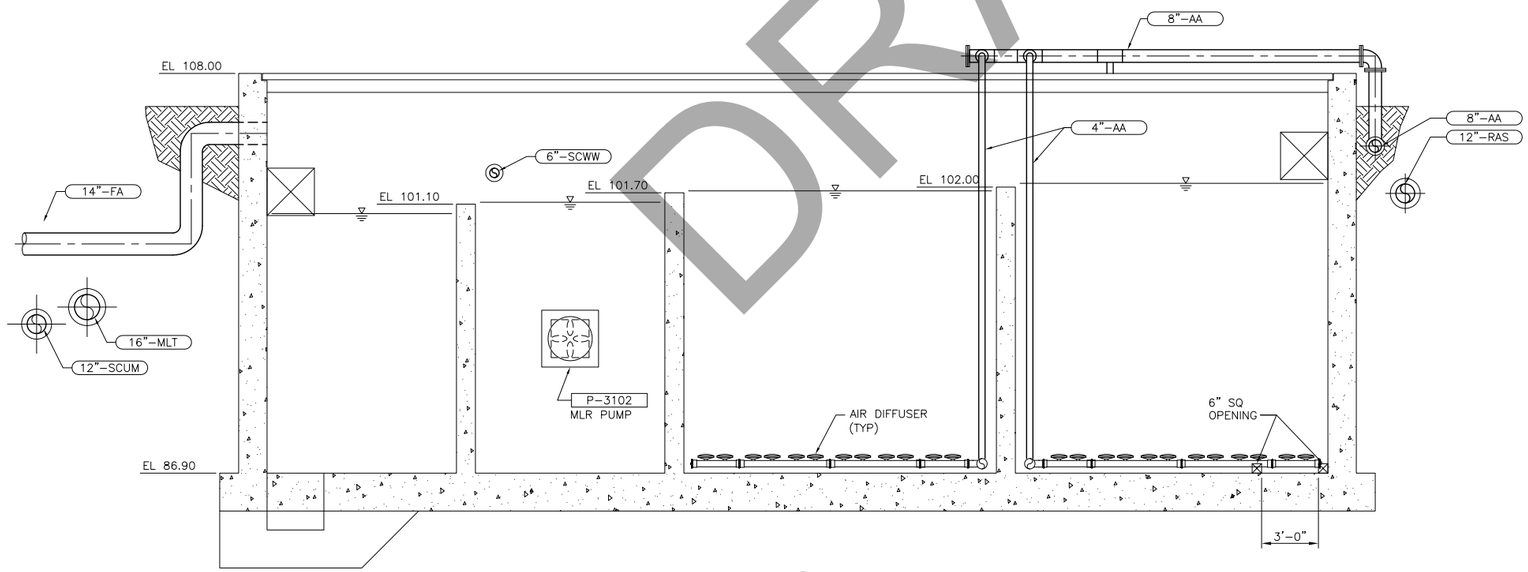


SECTION A
1/4" = 1'-0" M3100-1



SECTION B
1/4" = 1'-0" M3100-1

DRAFT

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BIOLOGICAL REACTOR NO.1
SECTIONS - 1

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE	APPROVED BY:	DATE
DRAWN BY: M.Foyle	DATE 06/2013	AS SHOWN		XX-XX-13
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014	

Plan No. M3100-3

Sheet _____ of XXX Sheets

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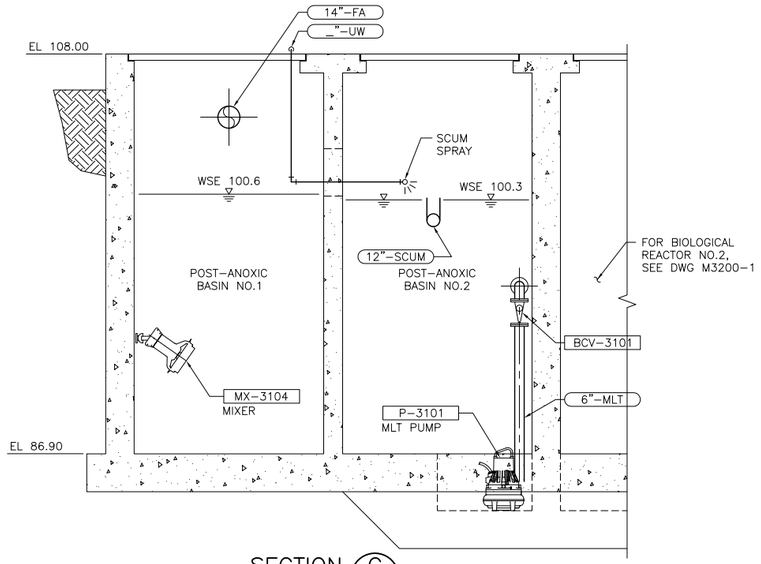
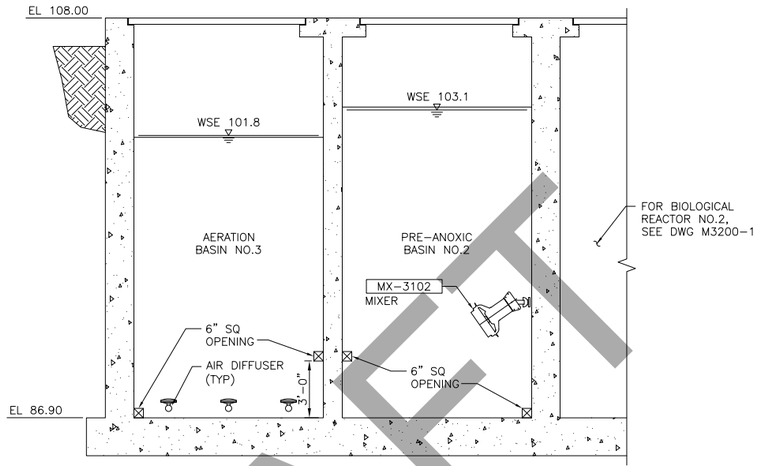
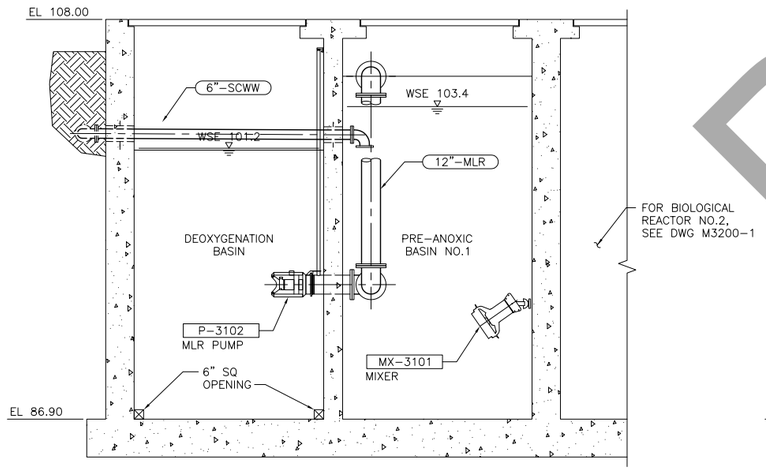


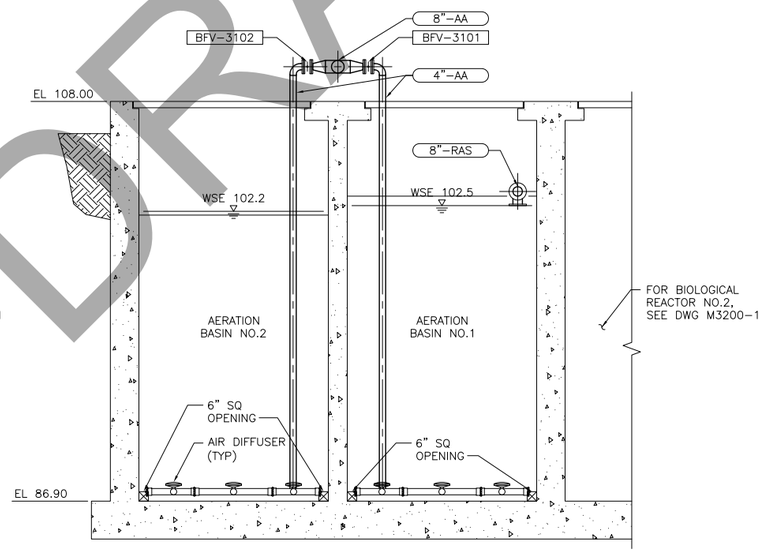
SECTION C
1/4" = 1'-0" M3100-1



SECTION E
1/4" = 1'-0" M3100-1



SECTION D
1/4" = 1'-0" M3100-1



SECTION F
1/4" = 1'-0" M3100-1

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BIOLOGICAL REACTOR NO.1
SECTIONS - 2

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. M3100-4

Sheet _____ of XXX Sheets

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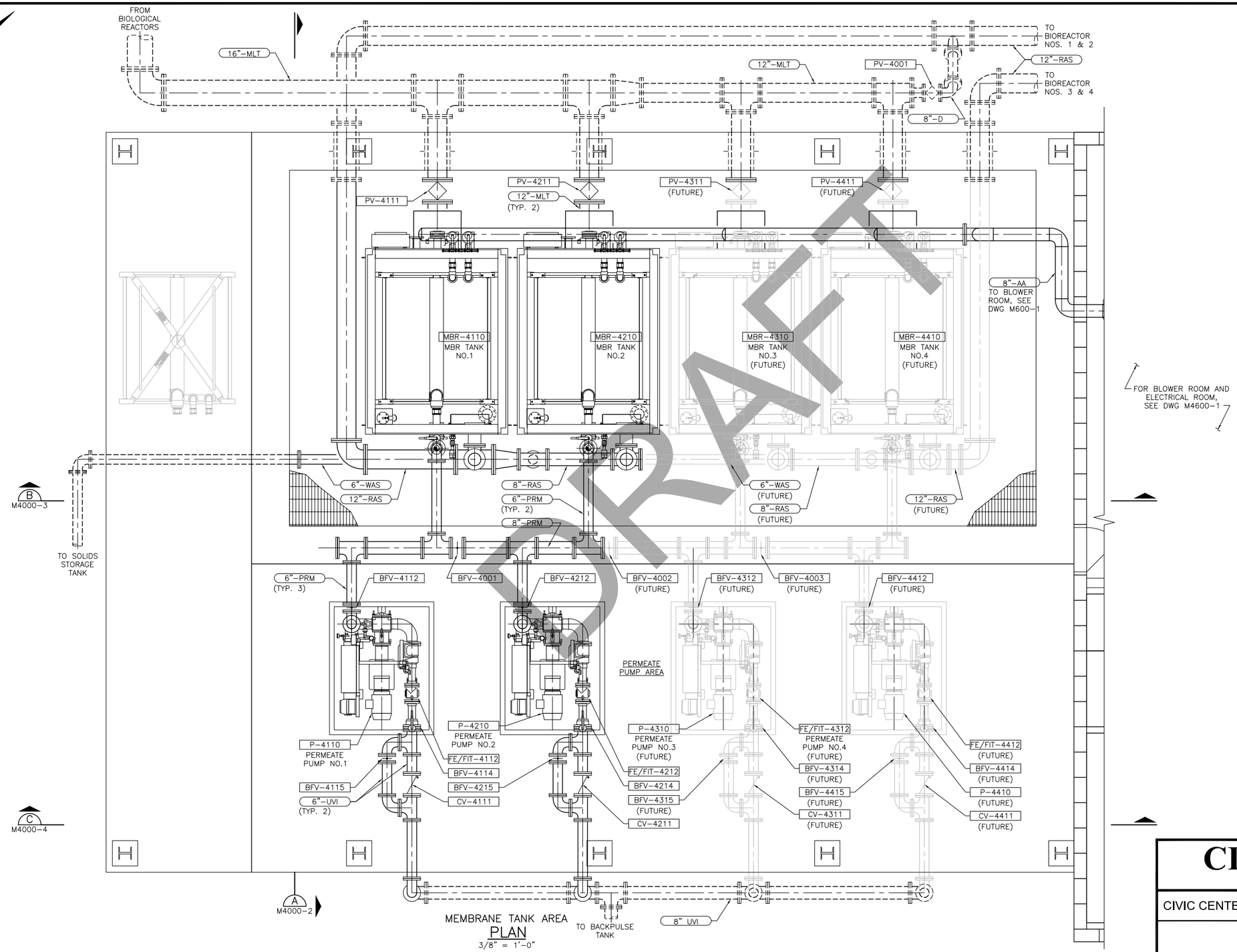
DRAFT



DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MEMBRANE TANK AREA PLAN

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. M4000-1 — Sheet ____ of XXX Sheets

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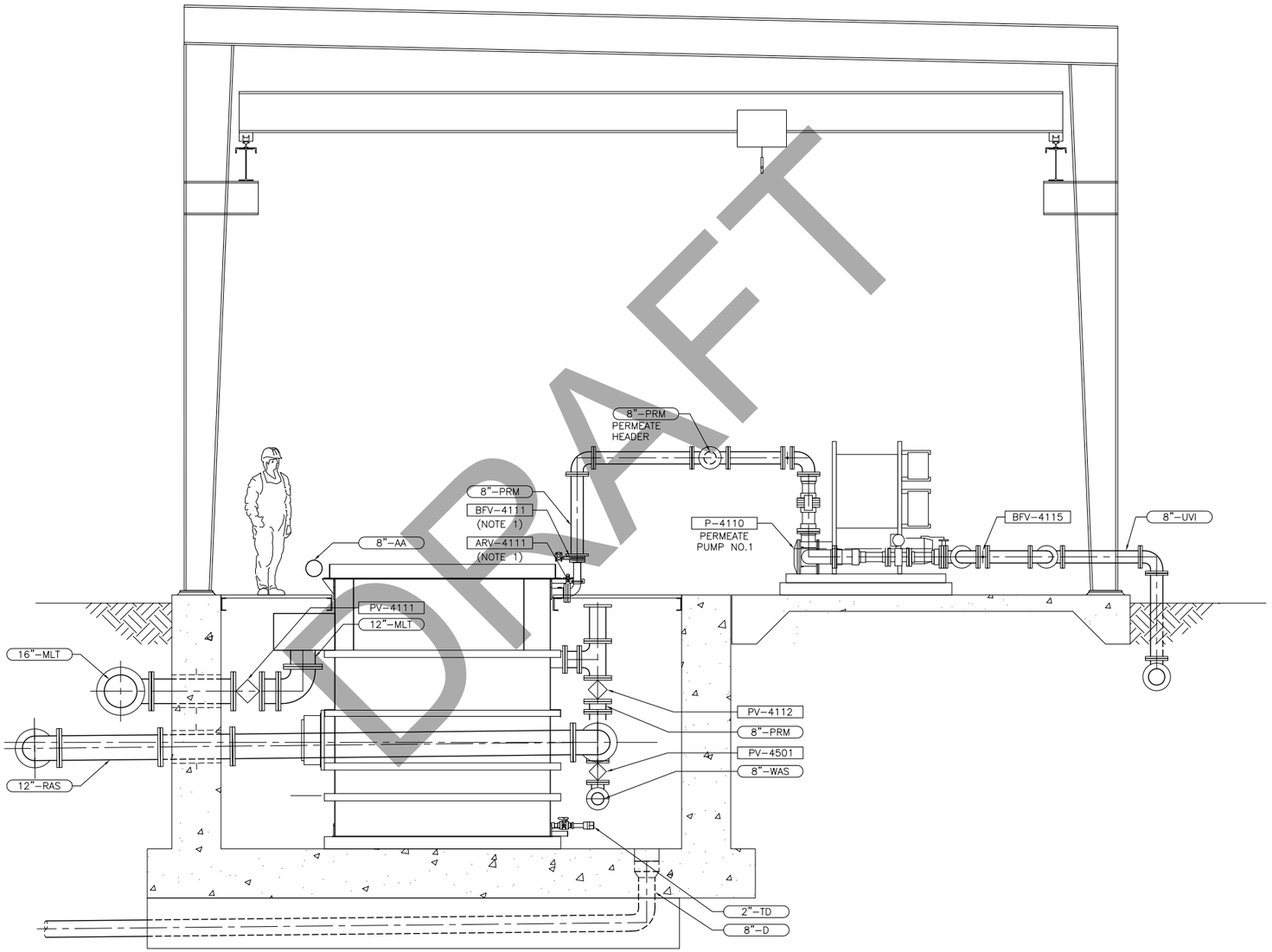

SECTION A
3/8" = 1'–0" M4000–1

DRAFT

NOTES:

1. THIS VALVE TO BE PROVIDED BY THE MEMBRANE TANK MANUFACTURER.

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MEMBRANE TANK AREA
SECTIONS - 1

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. M4000-2

Sheet _____ of XXX Sheets

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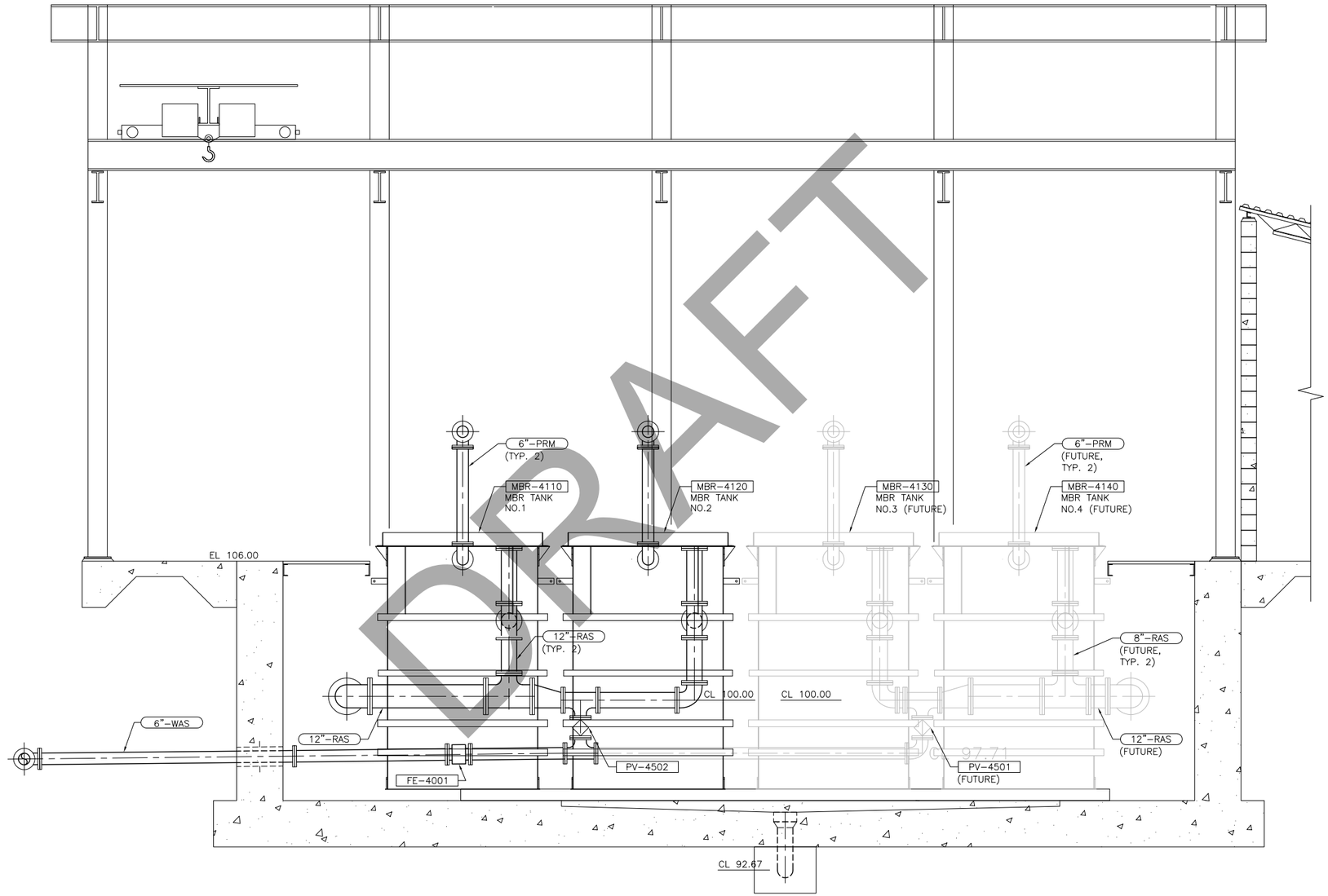
Last Saved By: mfoyle 10-16-13 03:51pm

DRAFT



SECTION B
3/8" = 1'-0" M4000-1

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MEMBRANE TANK AREA
SECTIONS - 2

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

DESIGNED BY: M,Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M,Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M,Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. M4000-3

Sheet _____ of XXX Sheets

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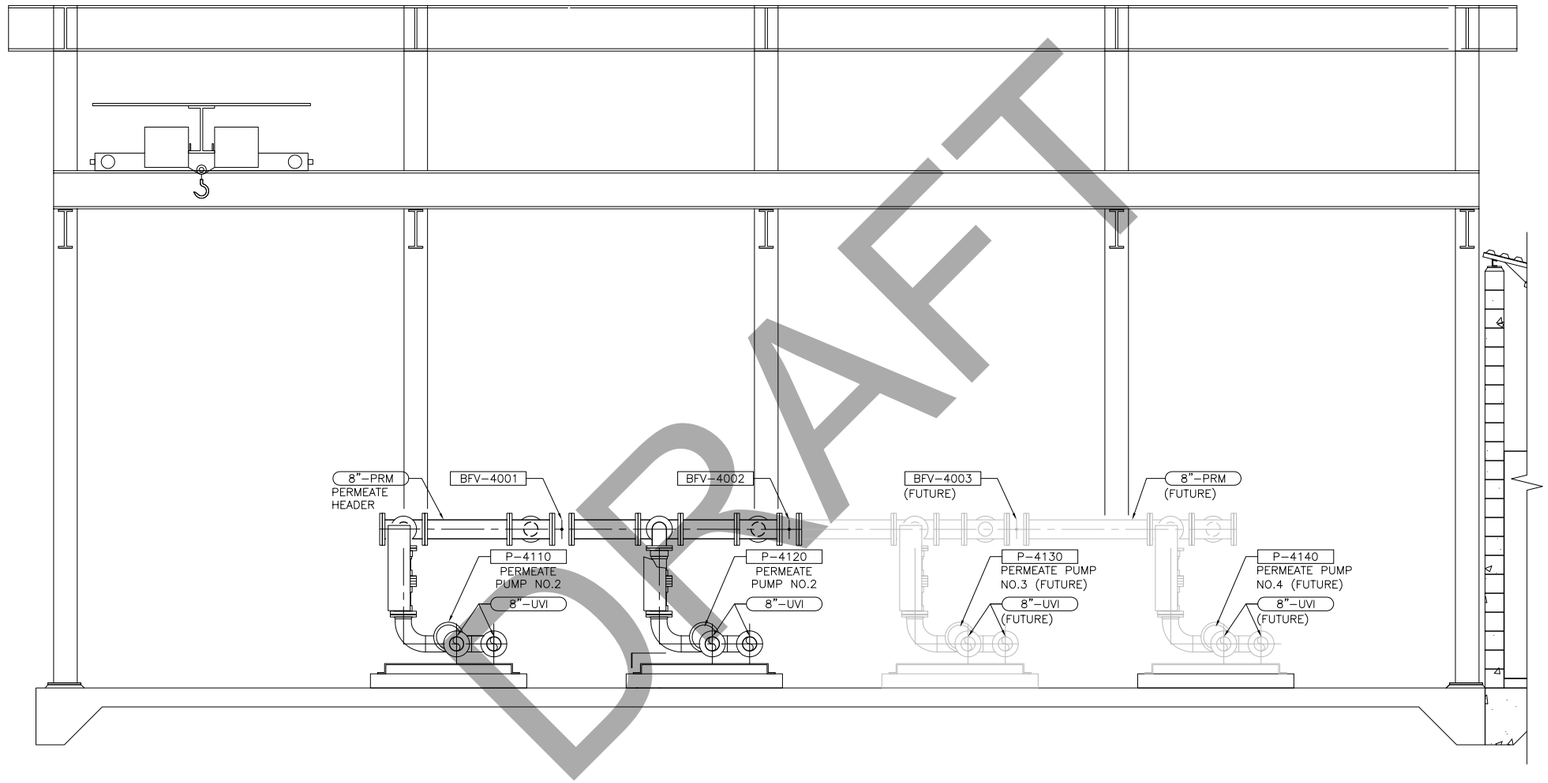
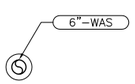
DRAFT





SECTION C
3/8" = 1'-0" M4000-1

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MEMBRANE TANK AREA
SECTIONS - 3

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE	APPROVED BY: DATE
DRAWN BY: M.Foyle	DATE 06/2013	AS SHOWN	XX-XX-13
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. M4000-4

Sheet _____ of XXX Sheets

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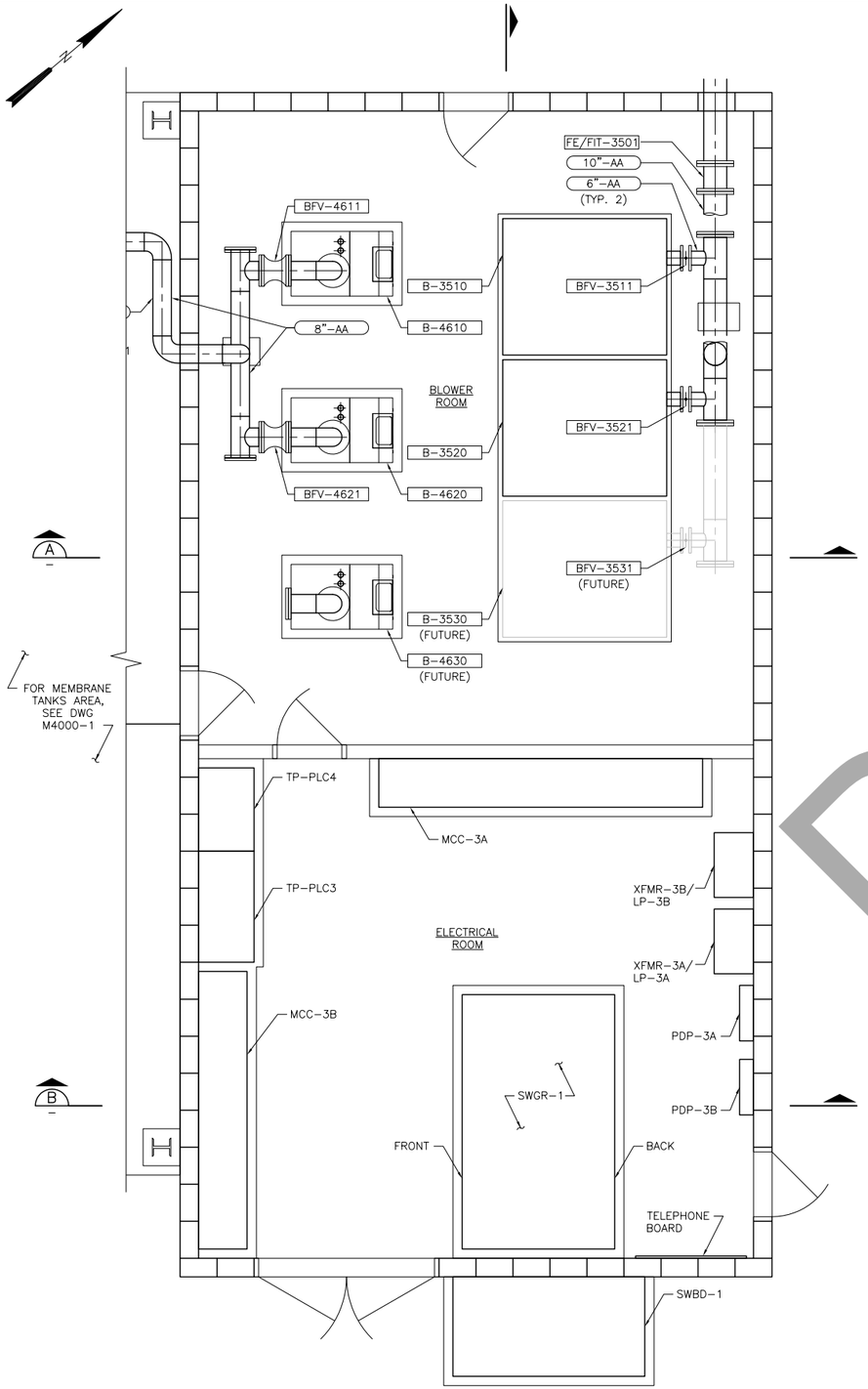
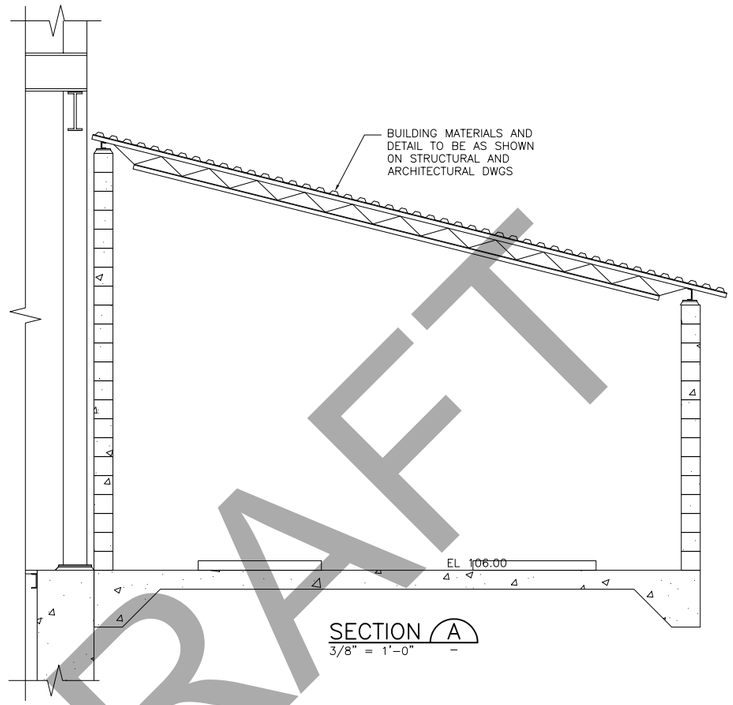
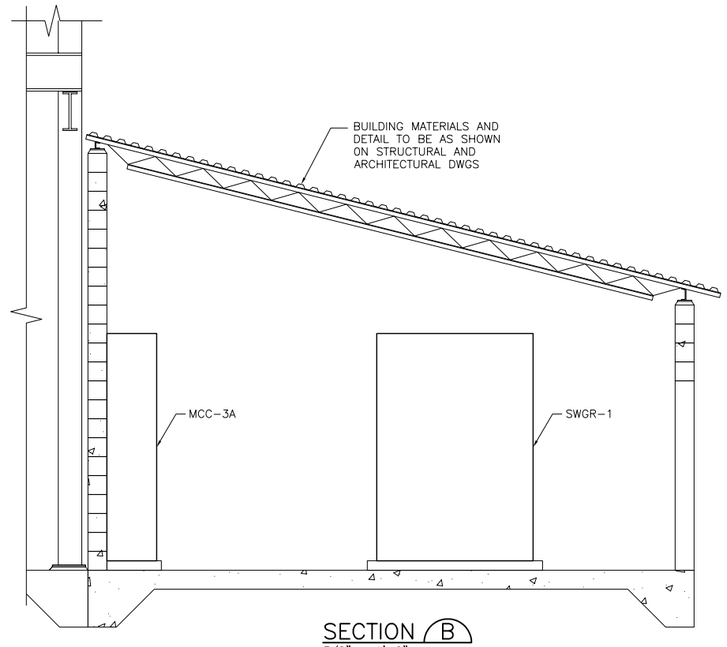
Last Saved By: mfoyle 10-16-13 03:49pm



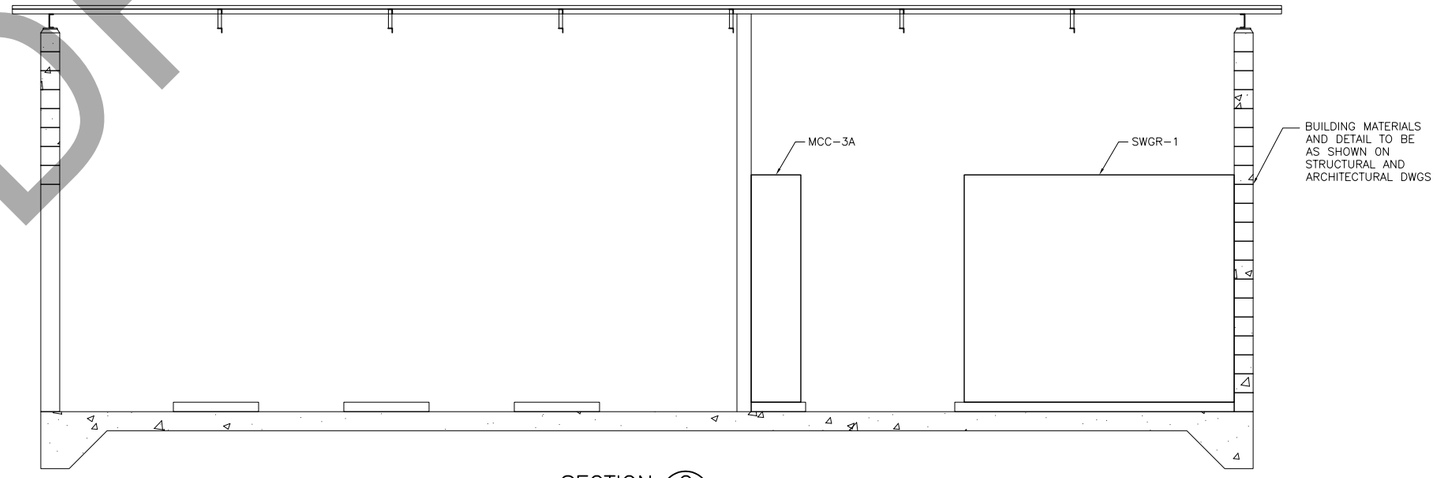
PLAN
3/8" = 1'-0"



SECTION A
3/8" = 1'-0"



SECTION B
3/8" = 1'-0"



SECTION C
3/8" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE, DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

ELECTRICAL AND BLOWER BLDG
PLAN AND SECTIONS

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: XX-XX-13 — DATE
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. M4600-1

Sheet _____ of XXX Sheets

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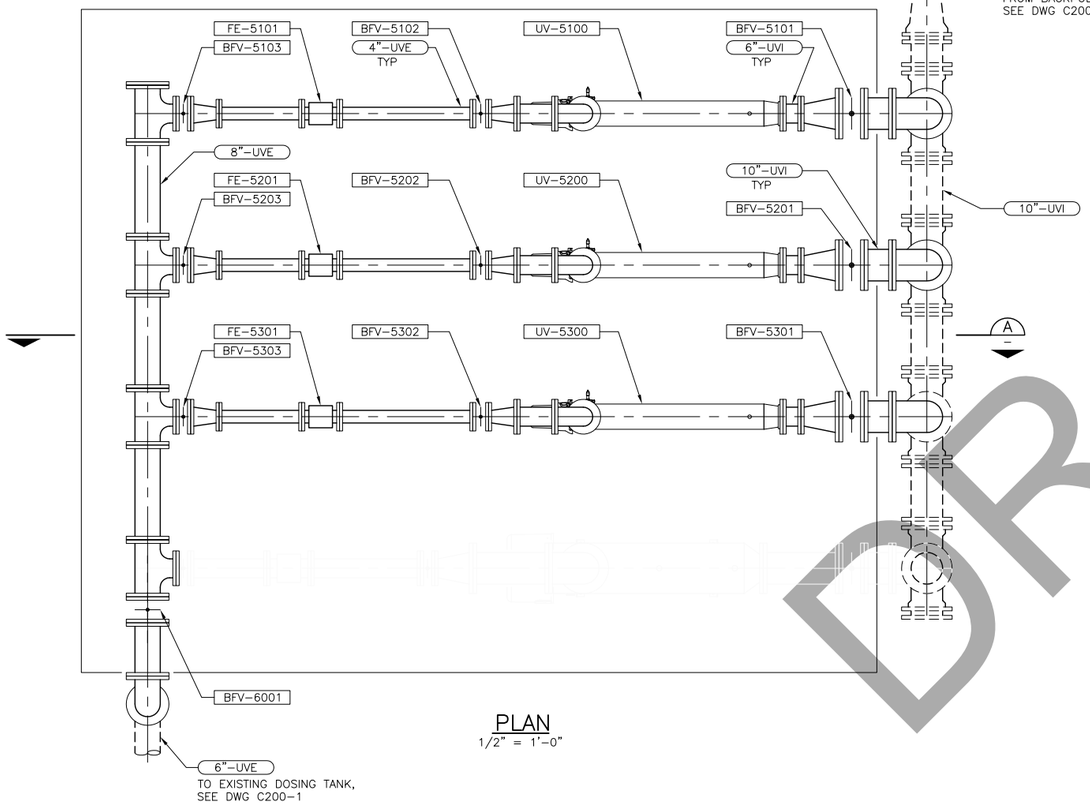
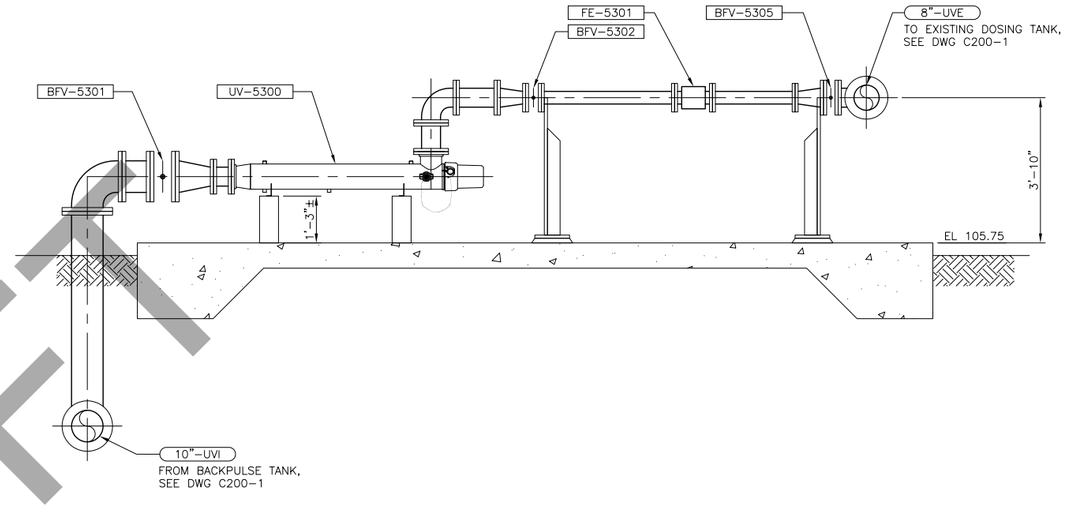
Last Saved By: mfoyle 10-16-13 03:49pm



PLAN
1/2" = 1'-0"



SECTION A
1/2" = 1'-0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING.
IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

UV DISINFECTION AREA
PLAN AND SECTION

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. M5000-1

Sheet _____ of XXX Sheets

|| FILENAME 0127-006-M5000-1 10-17-13 1622 tam mfoyle || XREFS| XUV-Disinfection |X-Border| X-UV-Disinfection-section |<<

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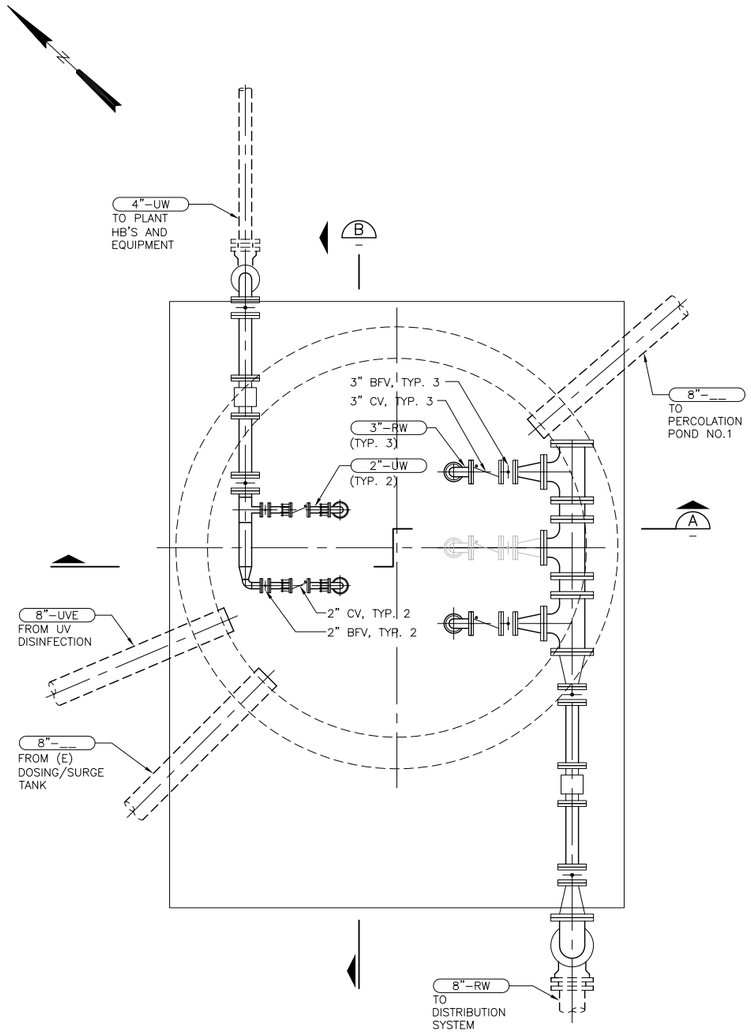
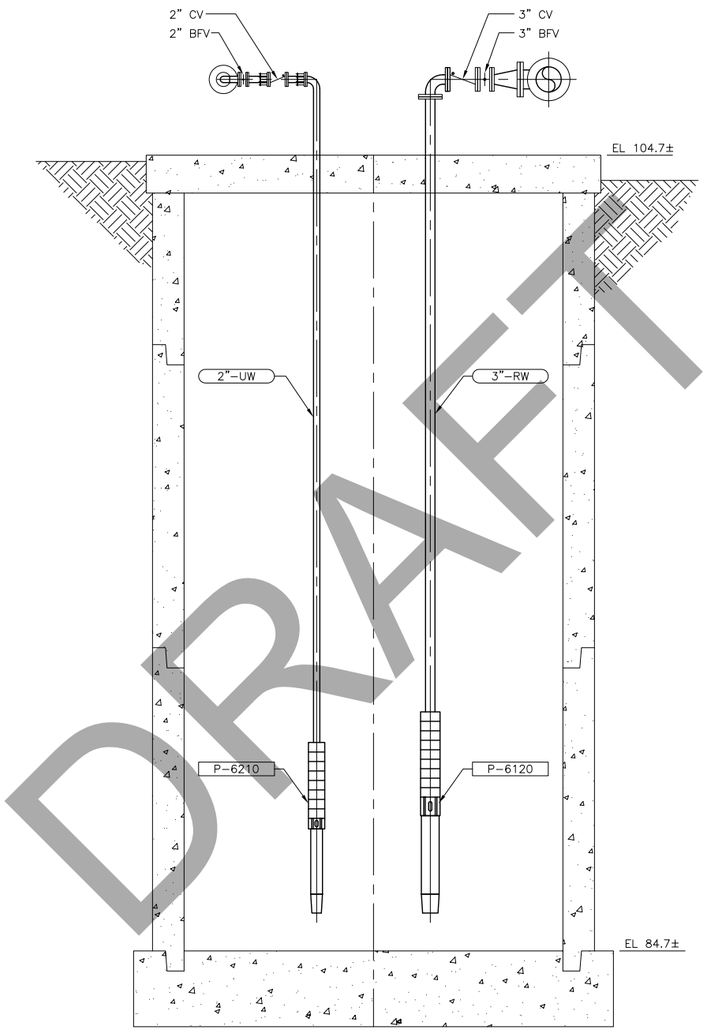
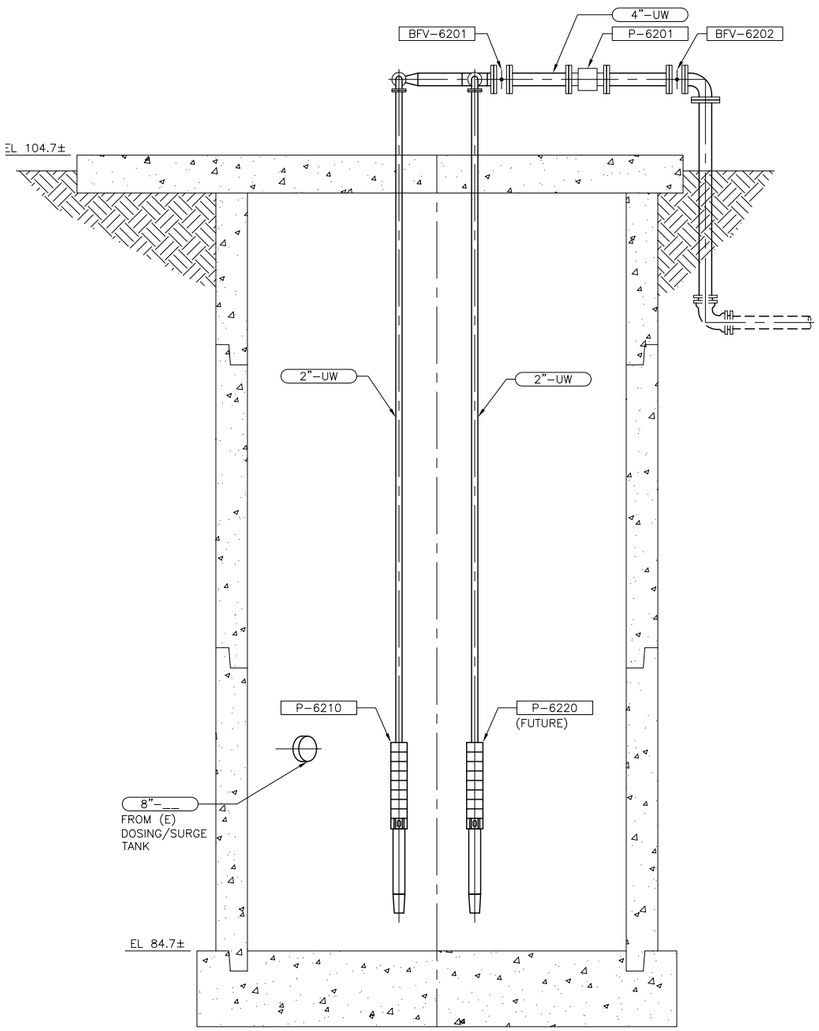


PLAN
1/2" = 1'–0"



SECTION A
1/2" = 1'–0"



SECTION B
1/2" = 1'–0"

DRAFT

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

RECYCLED WATER/UTILITY WATER/EFFLUENT PS
PLAN AND SECTION

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. M6000-1

Sheet _____ of XXX Sheets

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" _____ 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

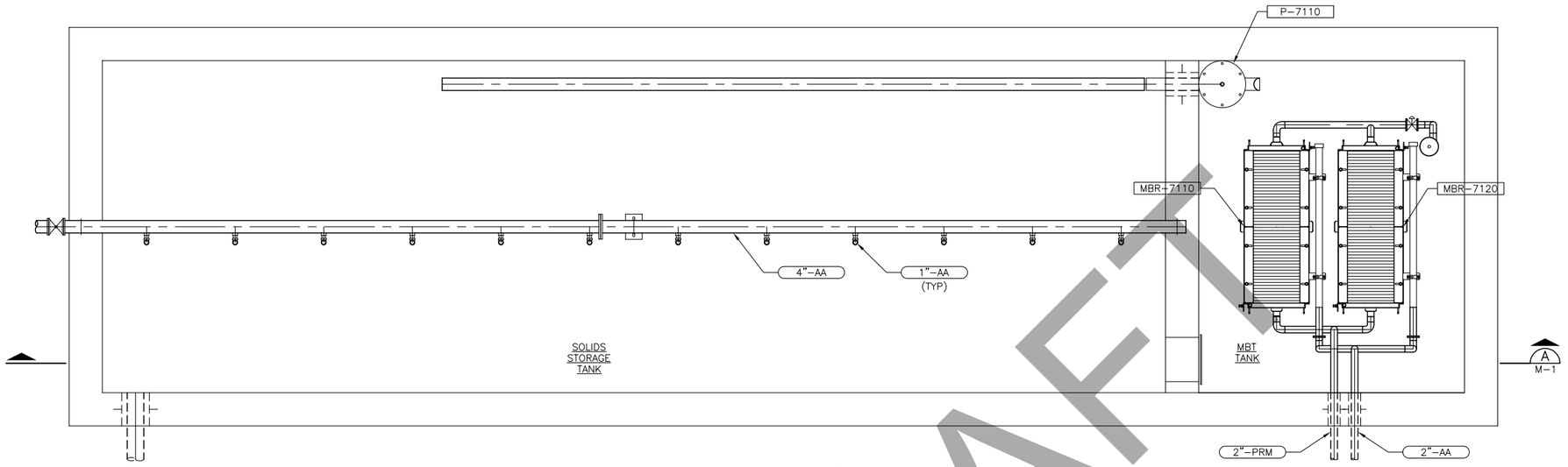
PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

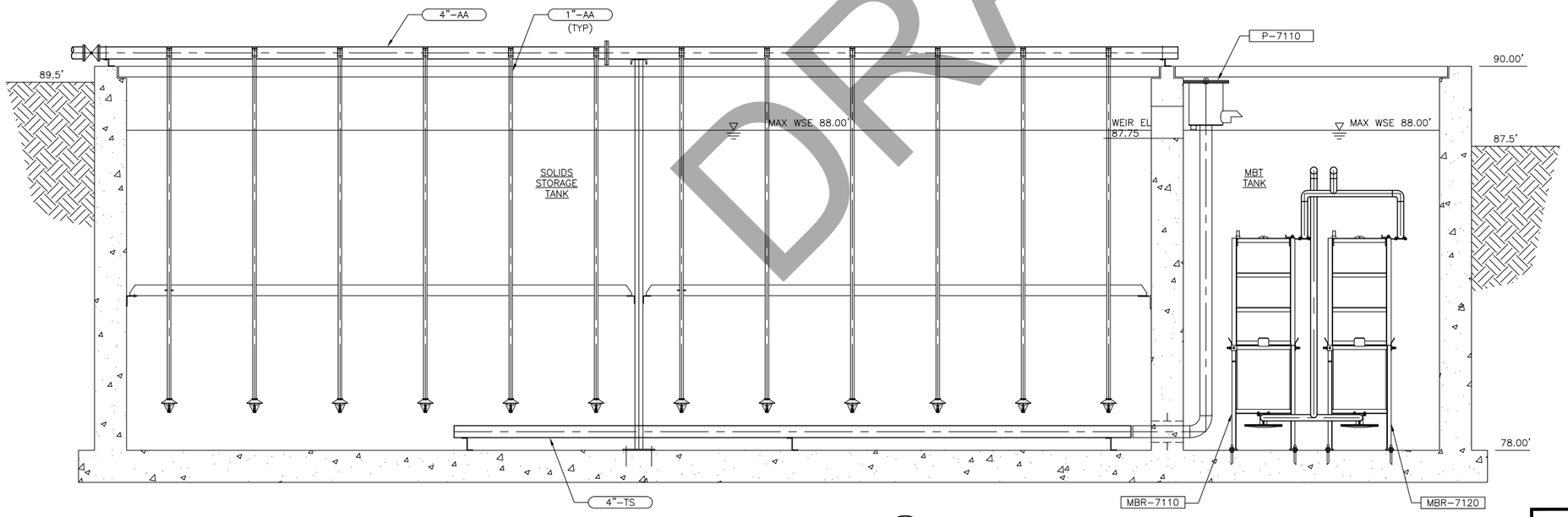
NO.	REVISION	BY	CHKD.	DATE

[FILENAME] 0127-006-M6000-1 10-17-13 10:20am mfoyle || XREFS|| X-Border1 X-RW-UW [<--

Last Saved By: mfoyle 9-24-13 06:31pm



PLAN
1/2" = 1'-0"



SECTION A
1/4" = 1'-0" M7000-1

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
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PLANS PREPARED BY:
RMC Water and Environment

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NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

SOLIDS STORAGE TANK
PLAN AND SECTION

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE	APPROVED BY: DATE
DRAWN BY: M.Foyle	DATE 06/2013	AS SHOWN	XX-XX-13
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. M7000-1

Sheet ____ of XXX Sheets

|| FILENAME: 0127-006-M7000-1 10-17-13 12:09pm mfoyle || XREFS: | X-Border | X-Solids-Basin | X-Solids-Basin-Section |<--

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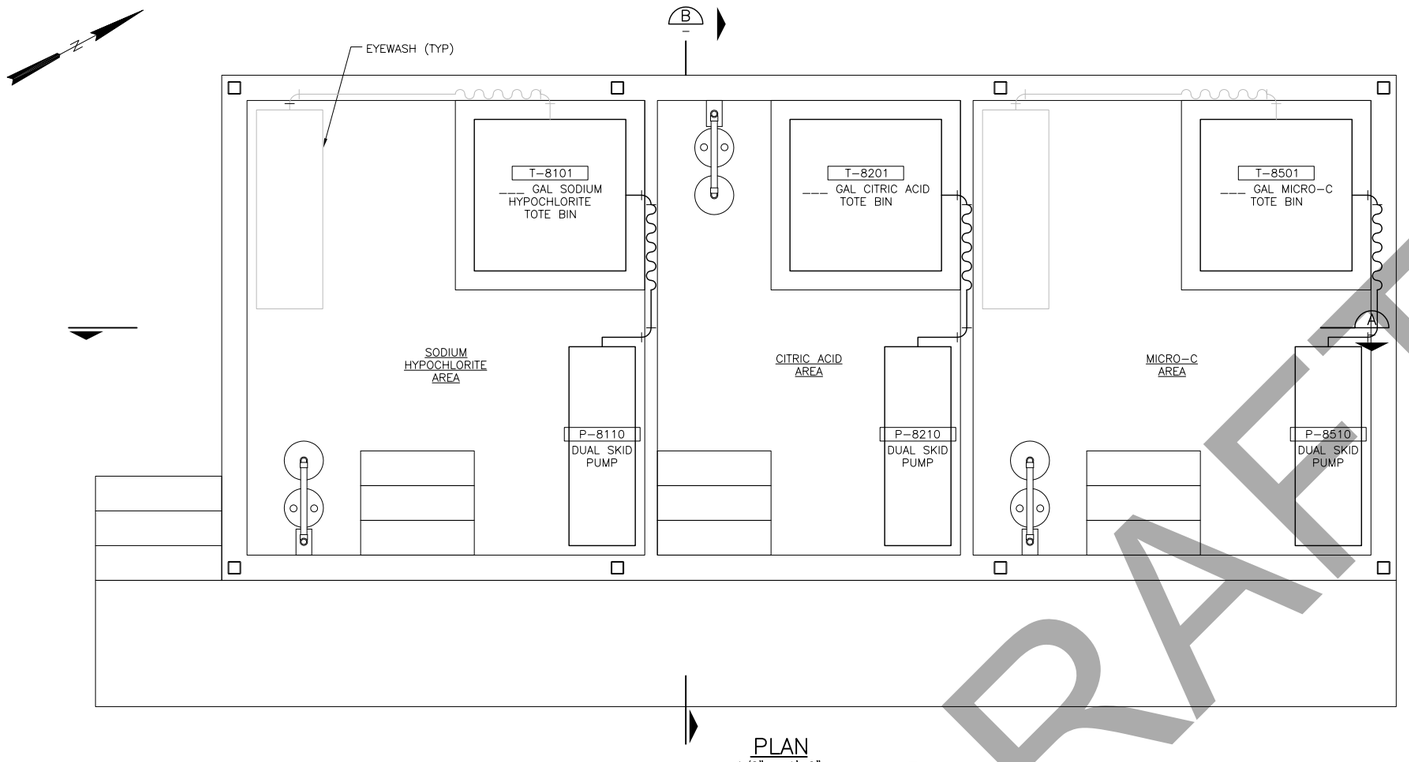
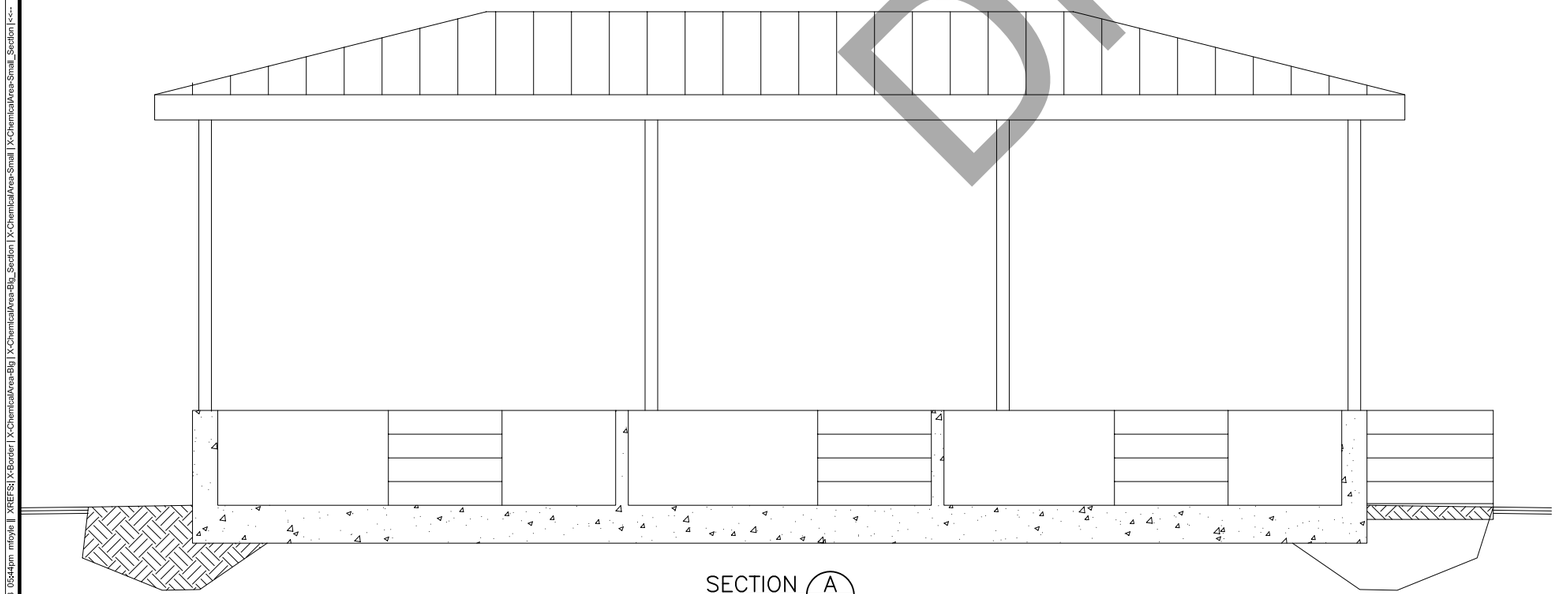
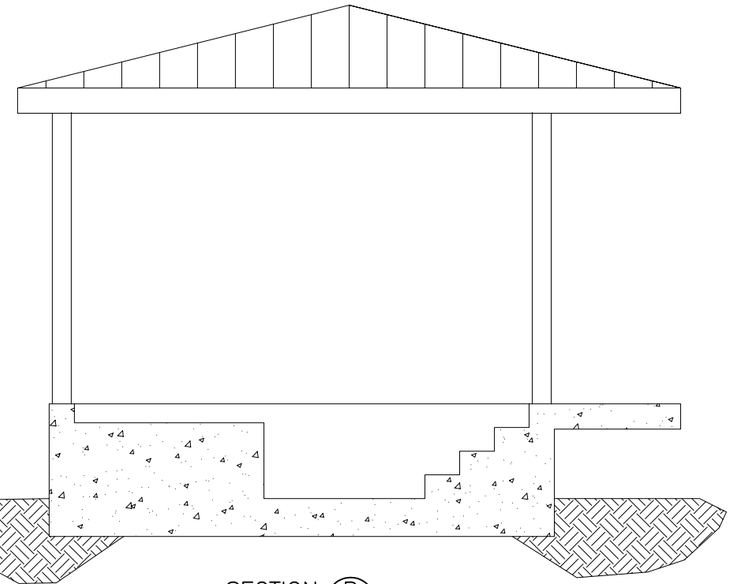


PLAN
1/2" = 1'-0"



SECTION A
1/2" = 1'-0"



SECTION B
1/2" = 1'-0"

DRAFT

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1-800-422-4133
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0" 1"
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PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CHEMICAL AREA 1
PLAN AND SECTIONS

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
DRAWN BY: M.Foyle	DATE 06/2013		DATE XX-XX-13
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. M8100-1

Sheet _____ of XXX Sheets

[FILENAME] 0127-006-M8000-1 10-18-13 0844pm mfoyle || XREFS|| X-Border | X-ChemicalArea-Big | X-ChemicalArea-Big_Section | X-ChemicalArea-Small | X-ChemicalArea-Small_Section |<<-

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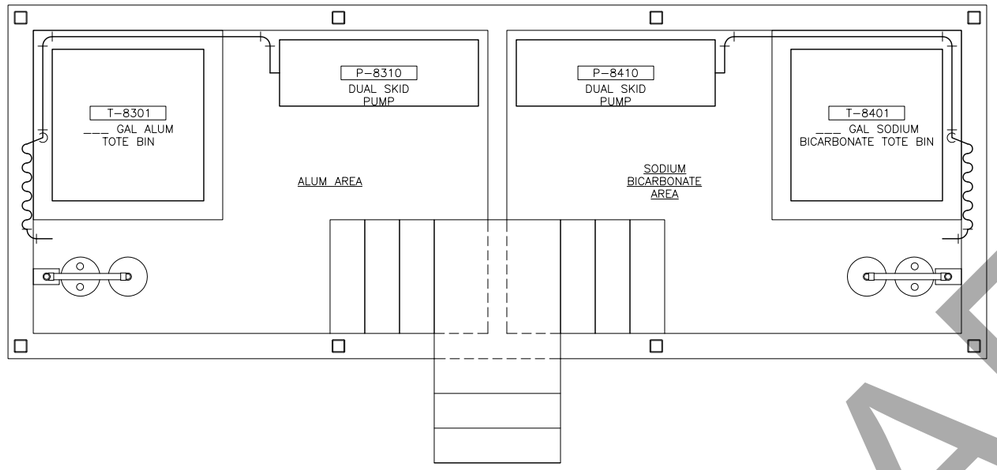
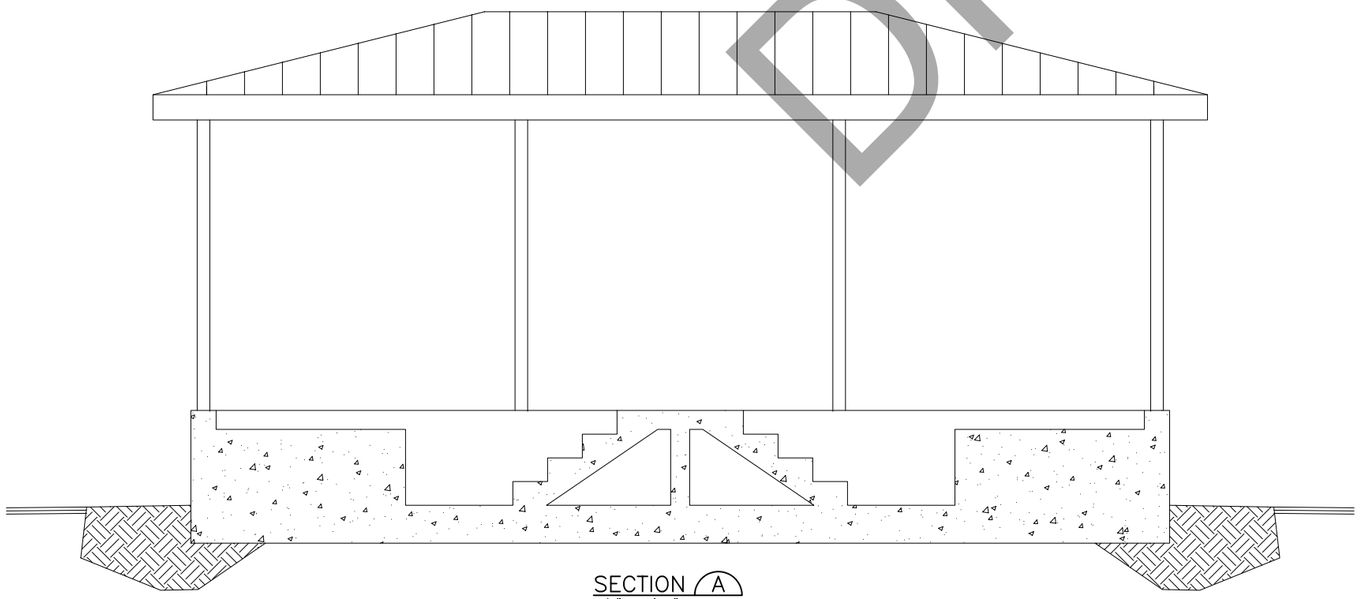
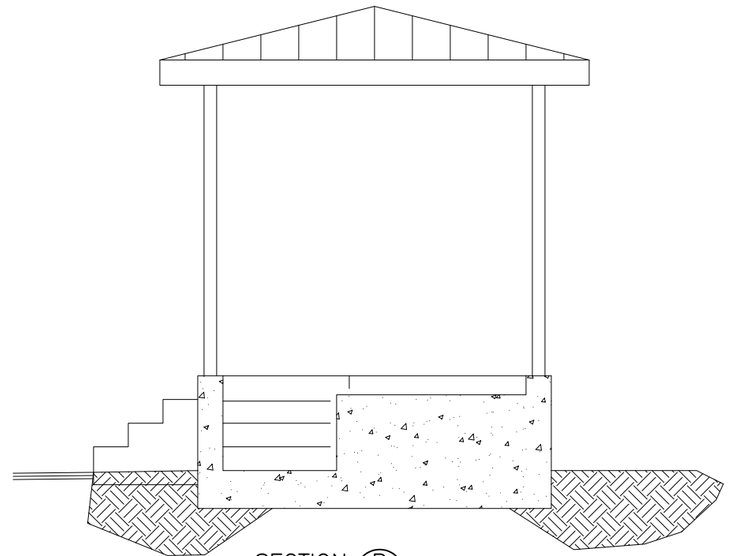


PLAN
1/2" = 1'-0"



SECTION A
1/2" = 1'-0"



SECTION B
1/2" = 1'-0"

DRAFT

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0" _____ 1"
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PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CHEMICAL AREA 2
PLAN AND SECTIONS

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: XX-XX-13 DATE
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. M8200-1

Sheet _____ of XXX Sheets

[FILENAME] 0127-006-M8000-1 10-18-13 0545pm mfoyle || XREFS|| X-Border | X-ChemicalArea-Big | X-ChemicalArea-Big_Section | X-ChemicalArea-Small | X-ChemicalArea-Small_Section |<<-

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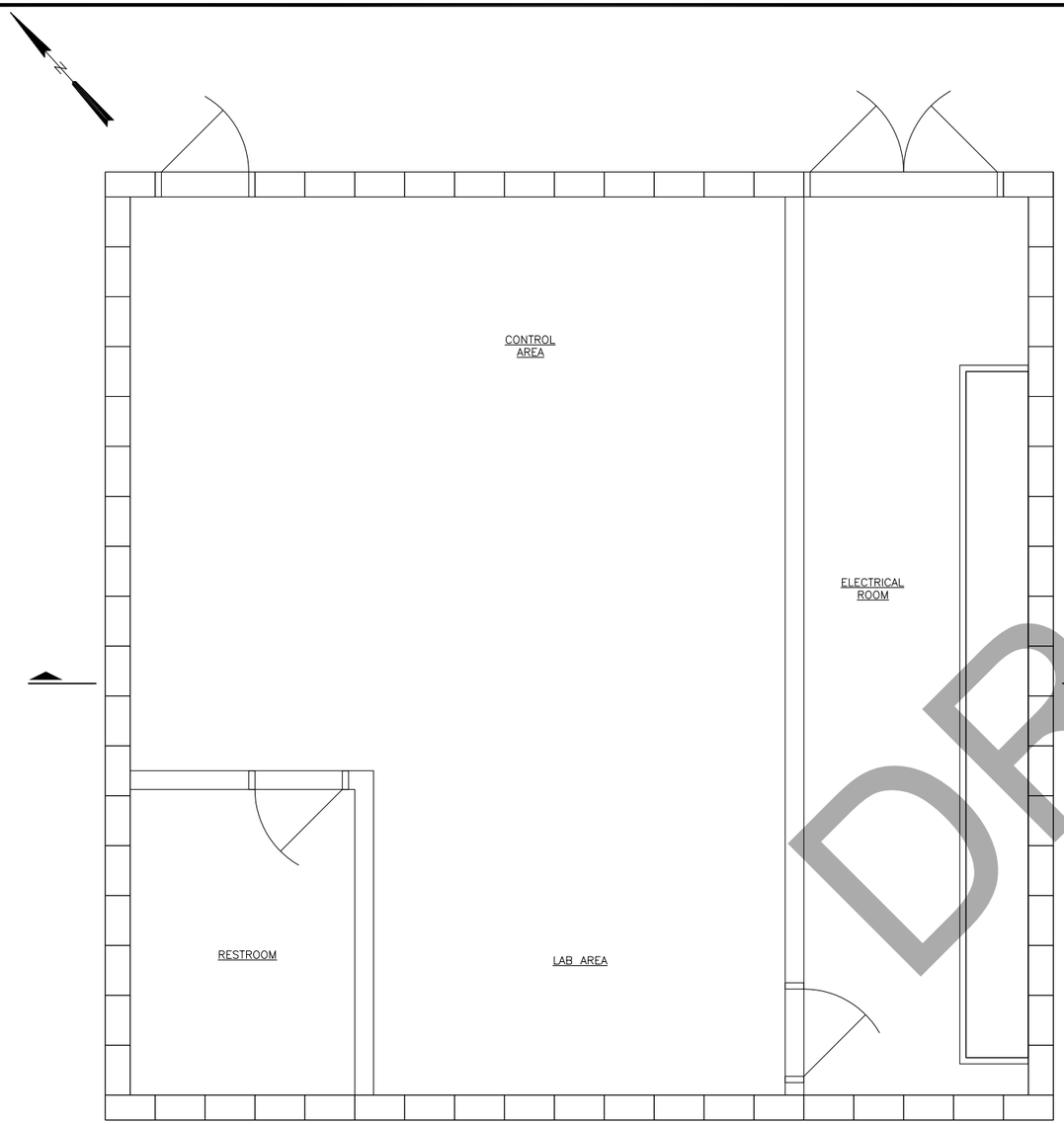
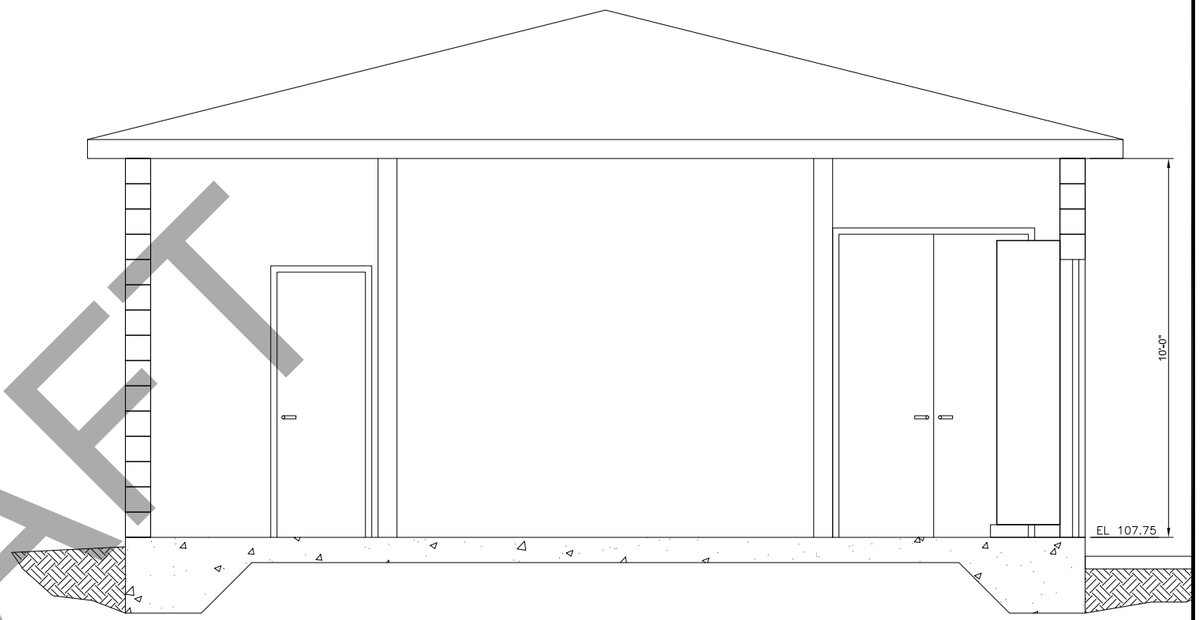


PLAN
1/2" = 1'-0"



SECTION A
1/2" = 1'-0"

DRAFT

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PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

OPERATIONS BUILDING
PLAN AND SECTION

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. M9000-1

Sheet _____ of XXX Sheets

[FILENAME: 0127-006-M9000-1 10-18-13 11:11am mfoyle][XREFS:][X-Border][X-OperationsBldg][X-OperationsBldg-section]<--

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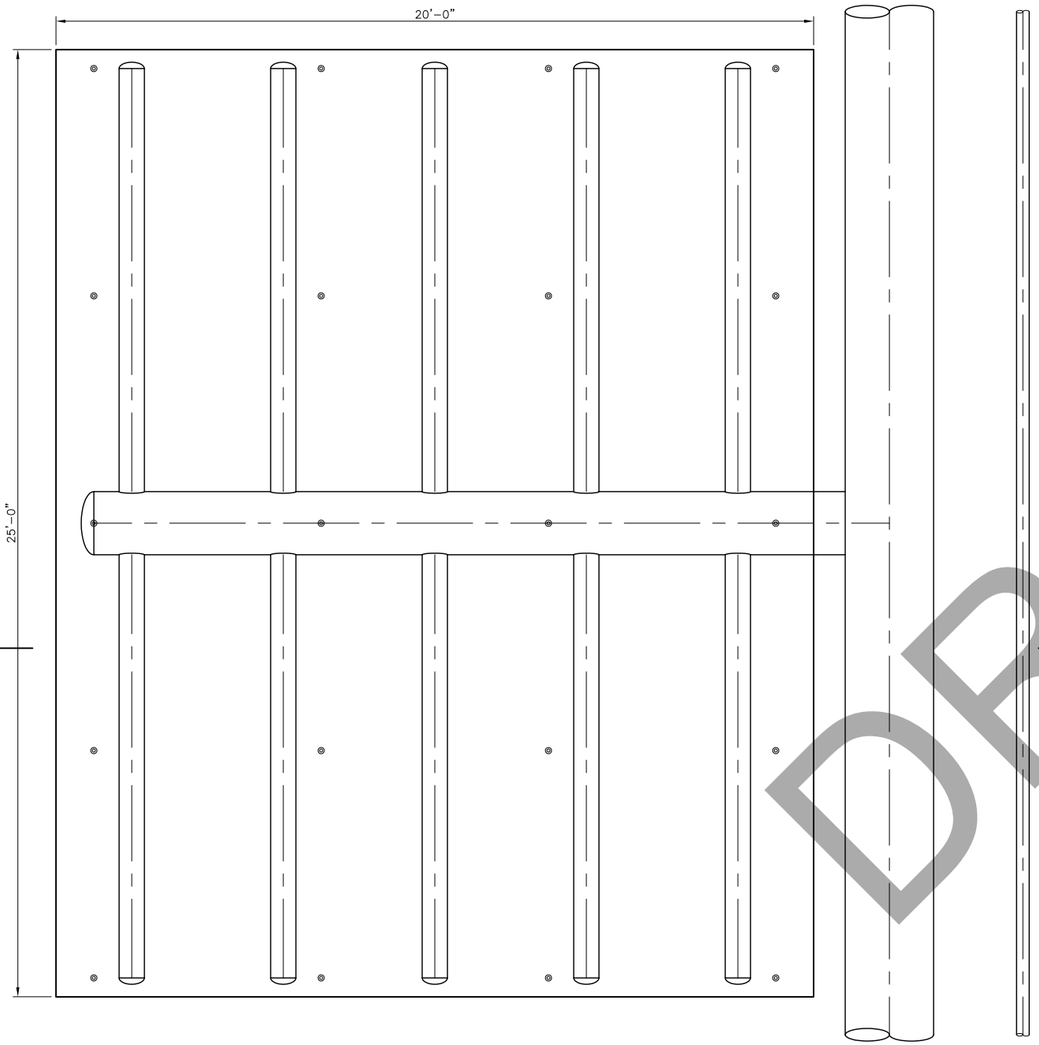
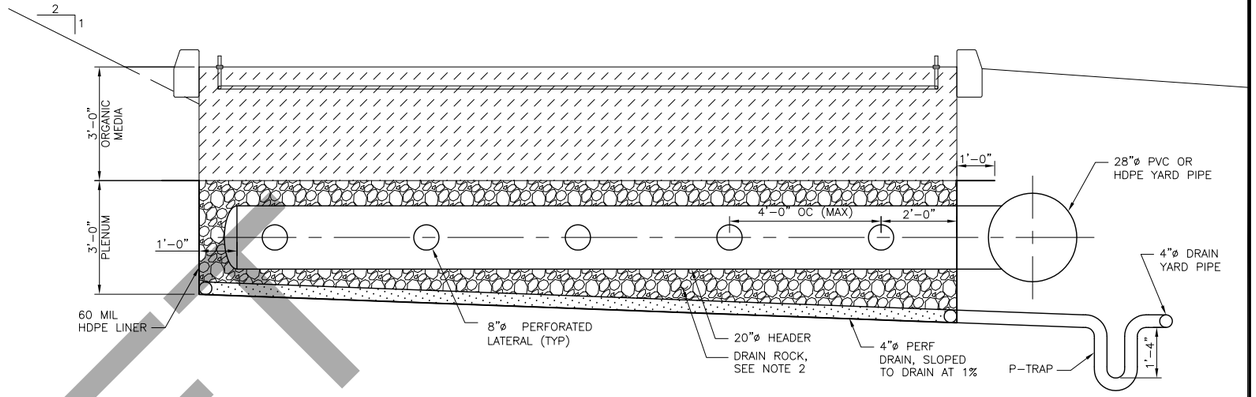


PLAN
1/2" = 1'-0"



SECTION A
1/2" = 1'-0"

NOTES:

1. HEADER DUCTS AND LATERALS SHALL HAVE 1/2" HOLES ALONG FLOW LINE AT THREE FOOT INTERVALS WITHIN ODOR CONTROL BED.
2. DRAIN ROCK SHALL BE RESISTANT TO SULPHURIC ACID.
3. INSTALL 1"ø IRRIGATION LINE AROUND PERIMETER OF ODOR CONTROL BED AT A DEPTH OF 6". PROVIDE SPRINKLER RISERS WHERE INDICATED ON PLAN.

DRAFT

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DIGALERT
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0" 1"
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PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BIOLOGICAL REACTOR ODOR CONTROL
ODOR CONTROL BEDS PLAN, SECTIONS, AND DETAILS

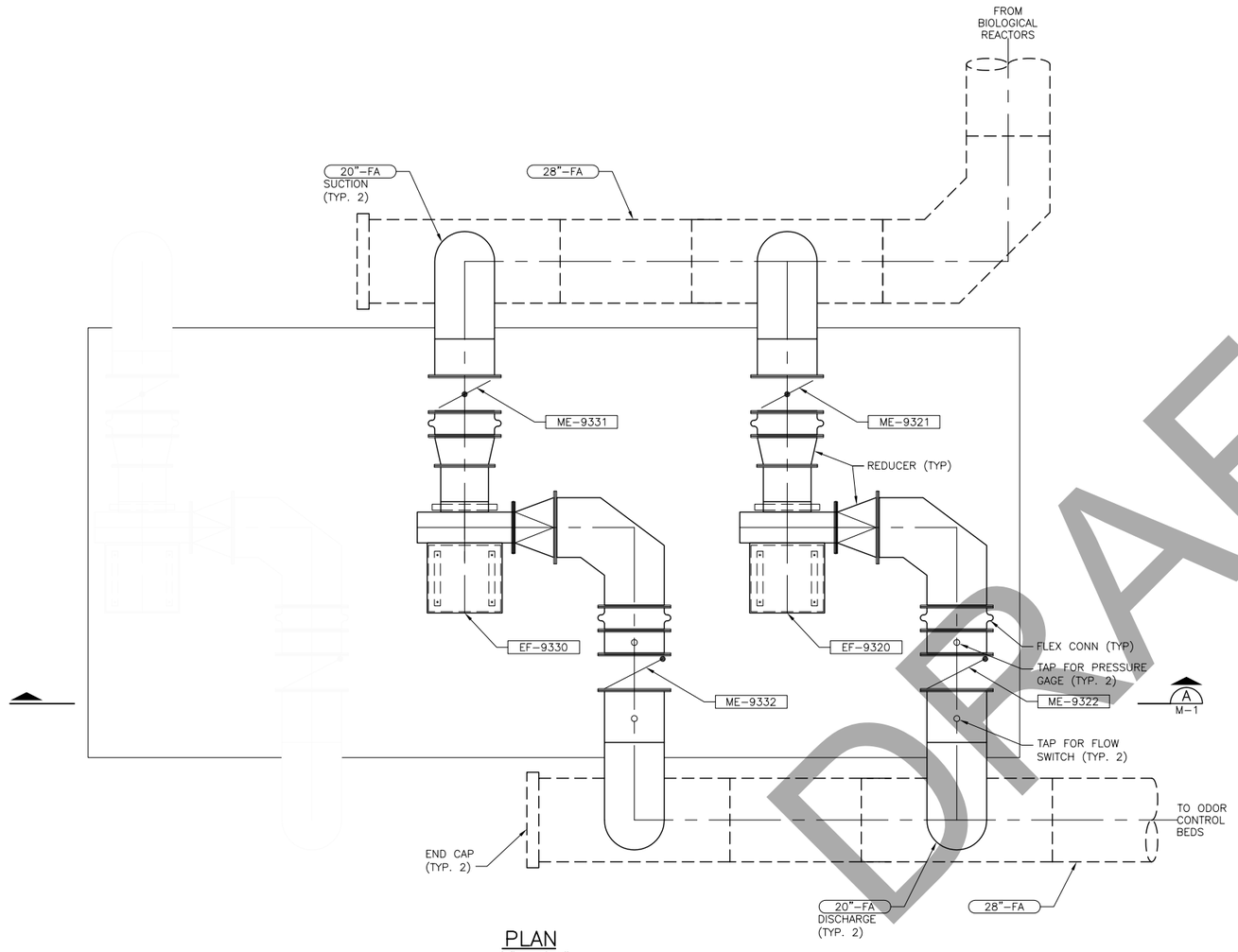
DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. M9100-1

Sheet _____ of XXX Sheets

[FILENAME 0127-006-M9100-1 10-18-13 1:58am mfoyle][XREFS] X-Border [X-OdorFans-Aeration]<--

Last Saved By: mfoyle 10-03-13 03:28pm



PLAN
3/4" = 1'–0"

SECTION A
3/4" = 1'–0"

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
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PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

BIOLOGICAL REACTOR ODOR CONTROL
FAN PLAN, SECTIONS, AND DETAILS

DESIGNED BY: M.Hoeft	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: M.Foyle	DATE 06/2013		
CHECKED BY: M.Nakamoto	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. M9100-2

Sheet ____ of XXX Sheets

FILENAME: 0127-006-M9100-1 10-18-13 12:50pm mfoyle || XREFS: | X-Border | X-OdorFans-Aeration |<--

Last Saved By: mfoyle 10-18-13 12:50pm

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
XXXXXXXX	XXXXXXXX	EQUIPMENT IDENTIFIER AS DEFINED BY THE PROCESS
ZXXX	ZXXX	CONDUIT ID: Z = CONDUIT TYPE (AS NOTED OR SCHEDULED) XXX = NUMBER PER SCHEDULE (NOTE 3)
MOV	MOV	MOTOR OPERATED VALVE
	G	GENERATOR, RATINGS AND CONNECTIONS AS NOTED
#	M	MOTOR, NUMERAL INDICATES HORSEPOWER
UTILITY METER	N/A	UTILITY METER
DMM	N/A	DIGITAL MULTIMETER
TRIP FRAME TRIP FRAME	CB	LOW VOLTAGE AIR OR MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED; STABS INDICATE DRAWOUT TYPE
52 CS TRIP FRAME	CB	MEDIUM VOLTAGE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED; STABS INDICATE DRAWOUT TYPE
*	*	SOLID STATE MOTOR CONTROL * D.C. = D.C. DRIVE CONTROLLER SCR = SILICON CONTROLLED RECTIFIER VFD = VARIABLE FREQUENCY DRIVE RVSS = REDUCED VOLTAGE SOLID STATE
TVSS	N/A	TRANSIENT VOLTAGE SURGE SUPPRESSION
MCP * #		COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE NOTED: * FVR FULL VOLTAGE REVERSING 2S2W TWO SPEED, TWO WINDING RVAT REDUCED VOLTAGE, AUTO TRANSFORMER # NUMERAL INDICATES NEMA SIZE
*/		NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE * AMPERE RATING NOTED IF OTHER THAN 30A
*/#	F	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE, AMPERE RATING AND FUSE SIZE AS NOTED * AMPERE RATING NOTED IF OTHER THAN 30A # FUSE RATING EXAMPLE 15
	P 2	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER "P" INDICATES WITH PILOT LIGHT "2" INDICATES TWO POLE
*	T	POWER TRANSFORMER, * RATINGS AND CONNECTIONS AS SHOWN ON THE SINGLE LINE DIAGRAM
*	T	CONTROL TRANSFORMER, * RATINGS AND CONNECTIONS AS SHOWN ON THE SINGLE LINE DIAGRAM
100A ATS-1 N S	N/A	AUTOMATIC TRANSFER SWITCH NO. 1 (ATS-1) "N" INDICATES NORMAL SOURCE "S" INDICATES STANDBY SOURCE 100A INDICATES CONTINUOUS CURRENT RATING
*	N/A	ARRESTOR, TYPE AS INDICATED * LA = LIGHTNING SURGE ARRESTOR SA = SURGE ARRESTOR
		GROUND OR GROUND ROD
		TERMINAL LUG, TERMINATION POINT, OR GROUNDING BOND POINT
30A	N/A	FUSE, AMPERE RATING AS NOTED
	N/A	CONTACT, NORMALLY OPEN (NO)
	N/A	CONTACT, NORMALLY CLOSED (NC)
MS #	N/A	MOTOR STARTER COIL, NUMBER AS INDICATED
CR #	N/A	CONTROL RELAY COIL, NUMBER AS INDICATED
	N/A	TERMINAL TO EXTERNAL DEVICE (FIELD OR OTHER PANEL)

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
N/A	*- ## CS	CONTROL STATION, TAG NO. AS INDICATED * DEVICE TYPE DEFINED ON P&ID SHEETS OR CONTROL DIAGRAMS ## LOOP NO.
	CS	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED
	CS	PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY OPEN
	CS	PUSHBUTTON WITH RED MUSHROOM HEAD OPERATOR (MAINTAINED CONTACT)
A B	CS	SELECTOR SWITCH A ON LOCAL B OFF REMOTE
O H A (XOO) (OXO) (OOX)	CS	3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT O–OPEN X–CLOSED NAMEPLATE (A/B/C) * HOA – HAND/OFF/AUTO HOR – HAND/OFF/REMOTE LOR – LOCAL/OFF/REMOTE OSC – OPEN/STOP/CLOSE

POSITION	TOP CONTACT	MIDDLE CONTACT	BOTTOM CONTACT
A	X	0	0
B	0	X	0
C	0	0	X

TD	N/A	TIME DELAY RELAY, NUMBER AS INDICATED RANGE AS NOTED SETPOINT AS NOTED
	N/A	NOTC–NORMALLY OPEN, TIMED CLOSING WHEN ENERGIZED (ON DELAY)
	N/A	NCTO–NORMALLY CLOSED, TIMED OPENING WHEN ENERGIZED (ON DELAY)
	N/A	NOTO–NORMALLY OPEN, TIMED OPENING WHEN DE–ENERGIZED (OFF DELAY)
	N/A	NCTC–NORMALLY CLOSED, TIMED CLOSING WHEN DE–ENERGIZED (OFF DELAY)
N/A	*- ##	FIELD INSTRUMENT, TAG NO. AS INDICATED * INSTRUMENT TYPE DEFINED ON P&ID SHEETS, CONTROL DIAGRAMS, AND DIVISION 13 ## LOOP NO.
		LIQUID LEVEL SWITCH
		NORMALLY OPEN, CLOSES ON RISING LEVEL
		NORMALLY CLOSED, OPENS ON RISING LEVEL
		PRESSURE SWITCH
		NORMALLY OPEN, CLOSES ON RISING PRESSURE
		NORMALLY CLOSED, OPENS ON RISING PRESSURE
		NORMALLY OPEN, CLOSES ON DROPPING PRESSURE
		NORMALLY CLOSED, OPENS ON DROPPING PRESSURE
		FLOW SWITCH (AIR, WATER, ETC.)
		NORMALLY OPEN, CLOSES ON INCREASED FLOW
		NORMALLY CLOSED, OPENS ON INCREASED FLOW
		POSITION (LIMIT) SWITCH
		NORMALLY OPEN
		NORMALLY OPEN – HELD CLOSED
		NORMALLY CLOSED
		NORMALLY CLOSED – HELD OPEN
		TORQUE SWITCH NORMALLY CLOSED, OPENS ON HIGH TORQUE
	T	TEMPERATURE SWITCH OR ROOM THERMOSTAT
		NORMALLY OPEN, CLOSES ON RISING TEMPERATURE
		NORMALLY OPEN, CLOSES ON DROPPING TEMPERATURE
		NORMALLY CLOSED, OPENS ON RISING TEMPERATURE
		NORMALLY CLOSED, OPENS ON DROPPING TEMPERATURE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	HTR	STRIP HEATER OR HEATING ELEMENT
	SV	SOLENOID VALVE
ETM	N/A	ELAPSED TIME METER
K	N/A	KEY INTERLOCK
RTD		RESISTANCE TEMPERATURE DETECTOR
VE		VIBRATION DETECTOR
*	N/A	PILOT LIGHT AND PILOT LIGHT PUSH–TO–TEST TYPE COLOR AS NOTED * R – RED G – GREEN B – BLUE W – WHITE A – AMBER
ISR #	N/A	INTRINSICALLY SAFE RELAY; RELAY NUMBER AS INDICATED
# OR #	N/A	RELAY, NUMBER AS INDICATED 15 SPEED OR FREQUENCY MATCHING DEVICE 25 SYNCHRONISM CHECK RELAY 27 UNDERVOLTAGE RELAY 32 DIRECTIONAL POWER RELAY 38 BEARING PROTECTIVE DEVICE 40 LOSS OF EXCITIATION RELAY 42 RUNNING CONTACTOR/PILOT RELAY 46 REVERSE PHASE/PHASE BALANCE/CURRENT RELAY 47 PHASE SEQUENCE VOLTAGE RELAY 49 MACHINE OR TRANSFORMER THERMAL RELAY 50 INSTANTANEOUS OVERCURRENT RELAY 50G INSTANTANEOUS GROUND 51 TIME OVERCURRENT RELAY 51G TIME OVERCURRENT RELAY, GROUNDING RESISTOR TYPE 51N TIME OVERCURRENT RELAY, RESIDUAL TYPE 51V TIME OVERCURRENT RELAY WITH VOLTAGE RESTRAINT 59 OVERVOLTAGE RELAY 60 NEGATIVE SEQUENCE VOLTAGE RELAY 62 TIME DELAY RELAY 63 OVERPRESSURE RELAY 65 GOVERNOR 67 AC DIRECTIONAL OVERCURRENT RELAY 75 POSITION CHANGING MECHANISM 81O OVER FREQUENCY RELAY 81U UNDER FREQUENCY RELAY 83 AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY 86 LOCKING–OUT RELAY 86U LOCKING–OUT RELAY, "UP" POSITION SWITCH 87 DIFFERENTIAL PROTECTIVE RELAY 90 VOLTAGE AND POWER DIRECTIONAL RELAY AFD ARC FLASH DETECTOR B SUFFIX INDICATES "BUS" G SUFFIX INDICATES "GENERATOR" GF GROUND FAULT ST SHUNT TRIP PAF PHASE ARC FLASH T SUFFIX INDICATES "TRANSFORMER" X SUFFIX INDICATES "AUXILIARY" # NUMBER OF PHASE
	N/A	DRAWOUT TYPE EQUIPMENT OR DEVICE
	N/A	MEDIUM VOLTAGE CABLE TERMINATION
	N/A	MEDIUM VOLTAGE AIR INTERRUPTER SWITCH
	N/A	MEDIUM VOLTAGE FUSED AIR INTERRUPTER SWITCH
	N/A	MEDIUM VOLTAGE FUSED MOTOR CONTROLLER
* # –120	N/A	POTENTIAL TRANSFORMER * QUANTITY # PRIMARY VOLTS
* #	N/A	CURRENT TRANSFORMER * TURNS RATIO # QUANTITY
5KW	E	UNIT HEATER – ELECTRIC HEATING COIL AND FAN
5KW	E	UNIT HEATER – GAS HEATING COIL AND FAN
	N/A	CAPACITOR

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
	N/A	CONDUCTORS ELECTRICALLY CONNECTED
		INDICATES LIMITS OR EQUIPMENT OR WIRING ENCLOSURE
	N/A	INDUCTOR
	N/A	OVERLOAD HEATER
DM	DM	DAMPER MOTOR
		CONDUIT, CIRCUIT, OR EQUIPMENT TO BE DEMOLISHED

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

ELECTRICAL LEGENDS AND ABBREVIATIONS
SHEET 1

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: DATE XX-XX-13
DRAWN BY: B. VUE	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. E-1 Sheet _____ of XXX Sheets

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Last Saved By: andria 10-17-13 01:06pm

PLAN	DESCRIPTION
NEMA X	NEMA AREA: "X" INDICATES REQUIRED NEMA RATING OF EQUIPMENT IN THE AREA
———	EXPOSED CONDUIT (SEE NOTE 4)
– – – – –	CONCEALED CONDUIT (SEE NOTE 4)
A E–10	UNDERGROUND DUCT BANK, CONCRETE ENCASED UNLESS OTHERWISE NOTED. CONDUIT ARRAY SHOWN IN SECTION A ON SHEET E–10.
G 1,3,LP–1	HOMERUN TO PANEL AND CIRCUIT SHOWN WITH TICK MARK INDICATES NUMBER OF CONDUCTORS: SHORT TICK = HOT LONG TICK = NEUTRAL LONG TICK WITH "G"= GROUND EXAMPLE SHOWN: CIRCUITS 1 AND 3 TO PANEL LP–1 (HOT, HOT, NEUTRAL, AND GROUND). (SEE NOTE 3)
	CONDUIT STUBBED OUT AND CAPPED
	FLEXIBLE METAL CONDUIT "WHIP" FOR RECESSED LIGHTING FIXTURES AND LIQUID TIGHT MOTOR CONNECTIONS (SEE NOTE 4)
WW	WIREWAY
	EXPOSED CONDUIT TURNING UP
	EXPOSED CONDUIT TURNING DOWN
TD	HOMERUN TO TELEPHONE BACKBOARD
LP–XXX	LIGHTING PANELBOARD (120, 208, 240V)
UPS	UNINTERRUPTIBLE POWER SUPPLY
	DISTRIBUTION PANELBOARD (277/480V)
A 3 b	CEILING MOUNTED INCANDESCENT, COMPACT FLUORESCENT OR H.I.D. TYPE LIGHTING FIXTURE "A" – FIXTURE TYPE (SEE LIGHTING FIXTURE SCHEDULE) "b" – CONTROLLED BY SWITCH "b" "3" – CIRCUIT NUMBER
A 3 b	FLUORESCENT TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3 b	WALL OUTLET AND INCANDESCENT, COMPACT FLUORESCENT OR H.I.D. TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3 b	POLE MOUNTED H.I.D. TYPE LIGHTING FIXTURE, NOTATIONS SAME AS ABOVE
A 3 b OR A 3 b	CROSS HATCH INDICATES LIGHTING FIXTURE FOR EMERGENCY EGRESS LIGHTING
A 3	EMERGENCY LIGHTING FIXTURE. NOTATIONS SAME AS ABOVE (NO SWITCHING REQUIRED).
E	EXIT SIGN. ARROW INDICATES DIRECTION OF EGRESS
$ b	SINGLE POLE SWITCH "b" INDICATES SWITCHLEG SHALL CONTROL LIGHT FIXTURES WITH "b" DESIGNATION
$ 2 a	DOUBLE POLE SWITCH "a" INDICATES SWITCHLEG SHALL CONTROL LIGHT FIXTURES WITH "a" DESIGNATION
$ 3 c	THREE WAY SWITCH "c" INDICATES SWITCHLEG SHALL CONTROL LIGHT FIXTURES WITH "c" DESIGNATION
$ 4 d	FOUR WAY SWITCH "d" INDICATES SWITCHLEG SHALL CONTROL LIGHT FIXTURES WITH "d" DESIGNATION
$ M	SINGLE POLE, DOUBLE THROW MOMENTARY CONTACT SWITCH, CENTER OFF
$ P	SINGLE POLE SWITCH AND PILOT LIGHT

PLAN	DESCRIPTION
* 4	DUPLEX RECEPTACLE, 20A, 120V, 2P, 3W, NUMBER INDICATES CIRCUIT * GF GROUND FAULT INTERRUPTER TYPE WP WEATHERPROOF T TRANSIENT VOLTAGE SURGE SUPPRESSOR
#	MULTIPLEX RECEPTACLE, 20A, 120V, 2P, 3W # INDICATES NUMBER OF RECEPTACLES
	SPECIALTY POWER RECEPTACLE, FUNCTION AS NOTED
	SPECIAL SYSTEM JACK, TELEPHONE / DATA
TD	TELEPHONE DEMARCATION (CABINET OR BACKBOARD)
J OR (J)	JUNCTION BOX
P	PULL BOX
TB	TERMINAL BOX
* *–XXX	UNDERGROUND STRUCTURE (MANHOLE OR HANDHOLE) * STRUCTURE TYPE (MH OR HH) XXX ID NUMBER PER PLANS, SCHEDULE, OR AS SPECIFIED
D	DIMMER LIGHTING CONTROL SWITCH
C	LIGHTING CONTACTOR WITH NUMBER OF POLES AS INDICATED
TM	TIME SWITCH
	THREE CELL UNDERFLOOR DUCT SYSTEM JUNCTION BOX
OS	OCCUPANCY SENSOR
PC	PHOTOCELL
#	PHOTO VANTAGE POINT AND DIRECTION # PHOTO NUMBER

CONTROL SYSTEM INPUT/OUTPUT DEVICES

DI	DIGITAL INPUT
	DIGITAL OUTPUT NORMALLY OPEN MOMENTARY CONTROL OUTPUT
	DIGITAL OUTPUT NORMALLY CLOSED MOMENTARY CONTROL OUTPUT
M	DIGITAL OUTPUT NORMALLY OPEN MAINTAINED CONTROL OUTPUT
M	DIGITAL OUTPUT NORMALLY CLOSED MAINTAINED CONTROL OUTPUT
+ AI –	ANALOG INPUT 4–20ma UNLESS NOTED
+ AO –	ANALOG OUTPUT 4–20MA UNLESS NOTED
PI	PULSE INPUT

ABBREVIATIONS

A, AMP	AMPERE
AC	ALTERNATING CURRENT
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
AI	ANALOG INPUT
AIC	AMPERE INTERRUPTING CAPACITY
AO	ANALOG OUTPUT
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BCG	BARE COPPER GROUND
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT, CONTACTOR
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CL	CONTINUOUS LOAD
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL STATION
CT	CURRENT TRANSFORMER
CU	COPPER
CWS	CONDUIT WALL SEAL
DC	DIRECT CURRENT
DI	DIGITAL/DISCRETE INPUT
DIA	DIAMETER
DMM	DIGITAL MULTIMETER
DO	DIGITAL/DISCRETE OUTPUT
(E)	EXISTING
ELEC	ELECTRICAL
EL	ELEVATION
ENCL	ENCLOSURE OR ENCLOSED
EQUIP	EQUIPMENT
ETM	ELAPSED TIME METER
(F)	FUTURE
FO	FIBER OPTIC
FU	FUSE
GCP	GENERATOR CONTROL PANEL
GEN	GENERATOR
GB	GROUND BAR
GRD	GROUND
GFI	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
HID	HIGH INTENSITY DISCHARGE
HH	HANDHOLE
HP	HORSEPOWER
HT	HEIGHT
HTR	HEATER
HVAC	HEATING VENTILATION AIR CONDITIONING
HZ	HERTZ
INST	INSTANTANEOUS
INSTR	INSTRUMENT
IS	INTRINSICALLY SAFE
K	KILO (PREFIX)
KCMIL	1000 CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATTS
LA	LIGHTNING ARRESTER
LES	LOCAL EMERGENCY STOP
LGTS	LIGHTS
LTG	LIGHTING
LP	LIGHTING PANEL
LV	LOW VOLTAGE
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
ML	MOTOR LOAD
MLO	MAN LUGS ONLY
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
N	NEUTRAL
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NCL	NON–CONTINUOUS LOAD
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE
OH	OVERHEAD
OL	OVERLOAD
OS	OCCUPANCY SENSOR
P	POLE
PB	PULL BOX
PC	PHOTOCELL
PCC	PUMP CONTROL CONSOLE
PCP	PUMP CONTROL PANEL
PH	PHASE
PI	PULSE INPUT
PNL	PANEL OR PANELBOARD
PR	PAIR
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RECPT	RECEPTACLE
REQD	REQUIRED
RTD	RESISTANCE TEMPERATURE DETECTOR
SA	SURGE ARRESTER
SC	SURGE CAPACITOR
SEC	SECONDS OR SECONDARY
SH	SHIELDED OR SHEET
SHT	SHEET
SS	STAINLESS STEEL
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITHBOARD
SWGR	SWITCHGEAR
TC	TIME DELAY ON CLOSING
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY
TD	TELEPHONE DEMARCATION POINT
TM	TIME SWITCH
TO	TIME DELAY ON OPENING
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPRESSOR
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPS
VAR	VOLT AMPS REACTIVE
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE, WATTS, WITH, WIDTH
WP	WEATHERPROOF
XP	EXPLOSION PROOF
XFMR	TRANSFORMER

NOTES:

1. THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS MAY NOT APPEAR WITHIN THE DRAWING SET FOR THIS PROJECT.
2. DETAILS REPRESENT TYPICAL INSTALLATION REQUIREMENTS TO BE USED ON THIS PROJECT FOR THE CONDITION SHOWN. DETAILS ARE NOT SPECIFICALLY CALLED OUT AT EVERY APPLICATION POINT FOR CLARITY AND SIMPLICITY. THE INDICATED DETAIL REQUIREMENTS SHALL APPLY FOR ALL APPLICABLE LOCATIONS.
3. PLANS DO NOT SHOW ROUTES OR SIZING OF RACEWAYS AND CONDUCTORS FOR RECEPTACLES, LIGHTING FIXTURES, LIGHTING SWITCHES, OR OTHER LOADS. PROVIDE RACEWAYS AND CONDUCTORS AS REQUIRED PER THE DEVICE LOCATION, SWITCH DESIGNATION, PANEL/CIRCUIT NUMBER, AND PROTECTIVE DEVICE RATING SHOWN ON THE DRAWINGS. HOMERUNS SHOWN CONCEALED OR EXPOSED SHALL BE INDICATIVE OF THE ENTIRE CIRCUIT INSTALLATION.
4. IF NOT SHOWN, PROVIDE MINIMUM CONDUIT AND WIRE CIRCUIT RUN CONSISTING OF 3/4" CONDUIT WITH 2#12, 1#12 GROUND.

SHEET NO. WHERE SECTION IS DRAWN — 3 / E–5

SYMBOL WHERE THERE IS A SECTION

SECTION 3 — SUBTITLE — SECTION NUMBER
NTS — E–4 — SHEET NO. WHERE SECTION IS DRAWN

SYMBOL WHERE SECTION IS DRAWN

DETAIL SYMBOL

SHEET NO. WHERE DETAIL IS DRAWN — 16410 / GE–2

SYMBOL WHERE THERE IS A DETAIL

ASSOCIATED SPECIFICATION DIVISION NUMBER
SUBTITLE — DETAIL NUMBER
DETAIL 16110
NTS — VAR

SYMBOL WHERE DETAIL IS DRAWN

DETAIL SYMBOL
(NOTE 2)

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG. — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Envlronment — TJC

50% Submittal Not for Construction — MICHAEL J. ERWIN No. E 14767 — EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

ELECTRICAL LEGENDS AND ABBREVIATIONS
SHEET 2

DESIGNED BY: W. OUYANG	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: B. VUE	DATE: 06/2013		
CHECKED BY: –	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. E-2 — Sheet _____ of XXX Sheets

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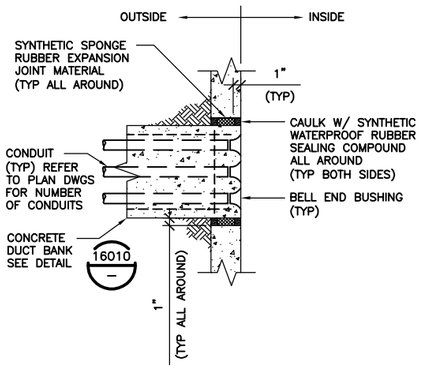
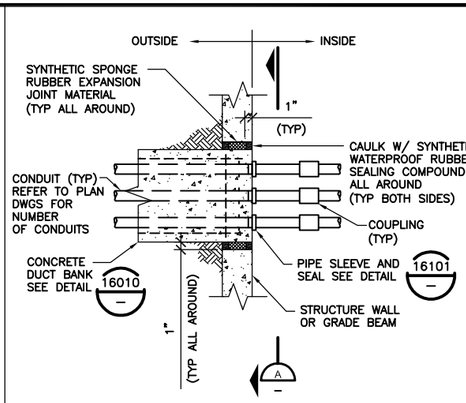


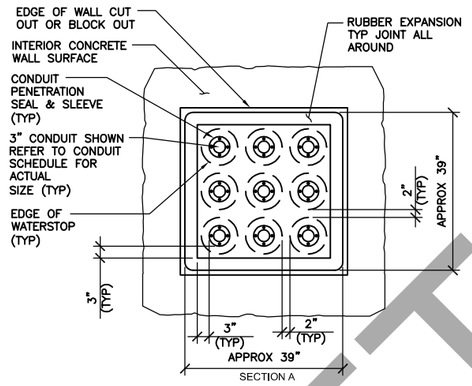
CONCRETE ENCASED ELECTRICAL CONDUITS AT PRECAST MANHOLE OR HANDHOLE WITHOUT WATERSTOP

DETAIL 16000 VAR NTS

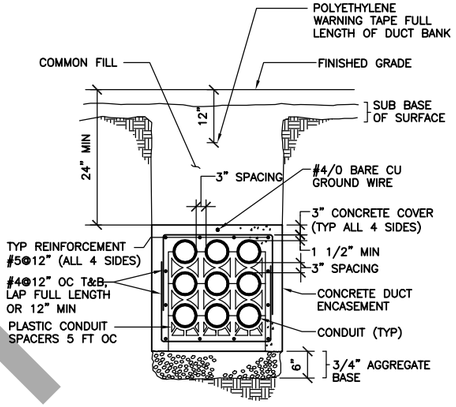


CONCRETE ENCASED ELECTRICAL CONDUITS AT STRUCTURES

DETAIL 16003 VAR NTS



NOTE:
SECTION SHOWN IS TYPICAL FOR NINE (9) 3" CONDUITS IN A DUCTBANK. SIZE OF CONDUITS PER THE CONDUIT SCHEDULE AND CONFIGURATION OF DUCTBANK WILL DETERMINE ACTUAL SIZE OF WALL CUT OUT.

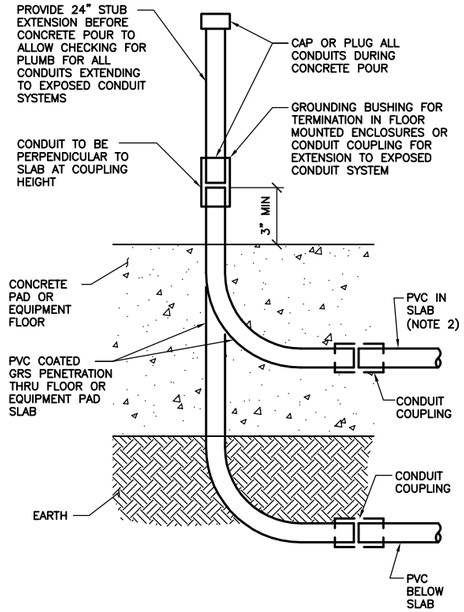


NOTES:

1. MAINTAIN A MINIMUM OF 12" SEPARATION BETWEEN INSTRUMENTATION AND POWER DUCT BANKS.
2. DETAIL IS APPLICABLE TO ALL UNDERGROUND CONDUIT RUNS.
3. DETAIL IS SHOWN WITH 9 CONDUITS AS A TYPICAL ONLY. REFER TO THE DETAILED PLAN DRAWINGS FOR THE QUANTITY AND SIZE OF CONDUITS REQUIRED FOR EACH DUCT BANK.
4. CONCRETE AND SOILS SHALL BE COMPACTED PER PROJECT SPECIFICATIONS.

REINFORCED CONCRETE DUCT BANK

DETAIL 16010 VAR NTS

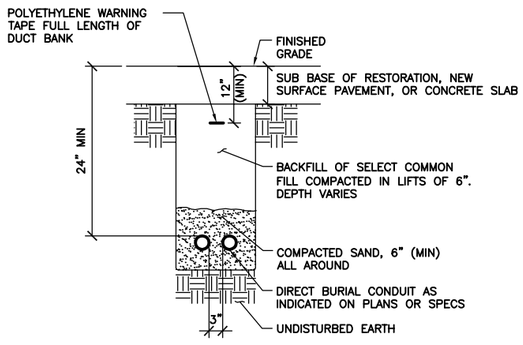


NOTE:

1. APPLICABLE IN ALL AREAS UNLESS NOTED OTHERWISE.
2. CONDUITS MAY BE ENCASED IN SLAB ONLY WHERE SPECIFICALLY SHOWN ON THE PLAN DRAWINGS. COORDINATE ENCASED CONDUIT WITH SLAB REINFORCEMENT.

CONDUIT STUB UP / FLOOR PENETRATION

DETAIL 16107 VAR NTS

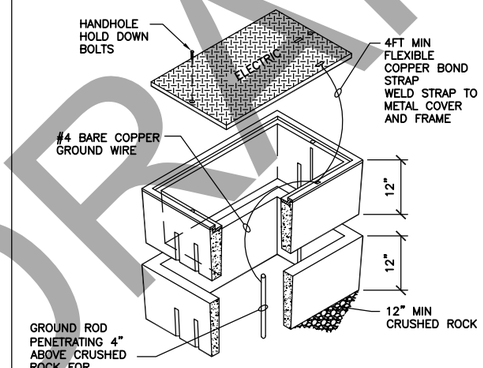


NOTES:

1. FIELD CONDITIONS MAY REQUIRE A MINIMUM DEPTH GREATER THAN SHOWN.
2. SHARP TURNS OR BENDS OR OTHER IRREGULARITIES IN THE CONDUIT MUST BE AVOIDED.
3. IF BOTTOM OF TRENCH IS ROCKY AND PLASTIC CONDUITS ARE USED, USE ROCK FREE BACKFILL AND TAMP TO AFFORD A SMOOTH BEDDING FOR THE CONDUIT. BEFORE TAMPING IN AREA OF PLASTIC CONDUIT, APPLY AT LEAST SIX INCHES OF BACKFILL OVER TOP OF CONDUIT TO AVOID BREAKAGE. FINAL BACKFILL MAY THEN BE PLACED IN THE TRENCH AND TAMPING EMPLOYED TO FINISH GRADE. IN ORDER TO REDUCE COSTS, THE SOIL ORIGINALLY REMOVED FROM THE TRENCH SHOULD BE USED AS BACKFILL WHEREVER POSSIBLE.
4. DO NOT USE SALT WATER SAND BACKFILL WITH STEEL CONDUIT.

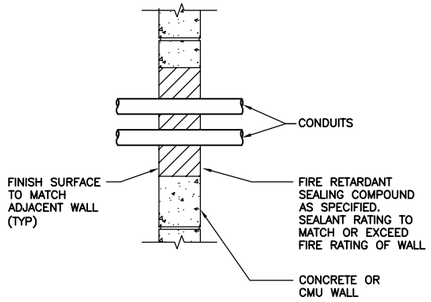
DIRECT BURIAL CONDUIT OR CABLE

DETAIL 16020 VAR NTS



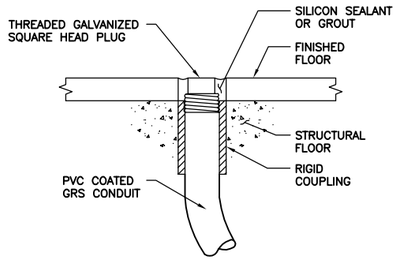
SITE LIGHTING HANDHOLE 10"x17" NOM I.D.

DETAIL 16060 VAR NTS



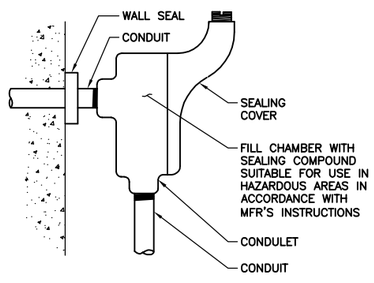
ABOVE GRADE WALL CONDUIT PENETRATION

DETAIL 16104 VAR NTS



FUTURE CONDUIT TERMINATION IN FLOOR

DETAIL 16111 VAR NTS



CONDUIT SEALOFF FITTING

DETAIL 16114 VAR NTS

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" ——— 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

ELECTRICAL STANDARD DETAILS
SHEET 1

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY: --	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. E-3 Sheet ____ of XXX Sheets

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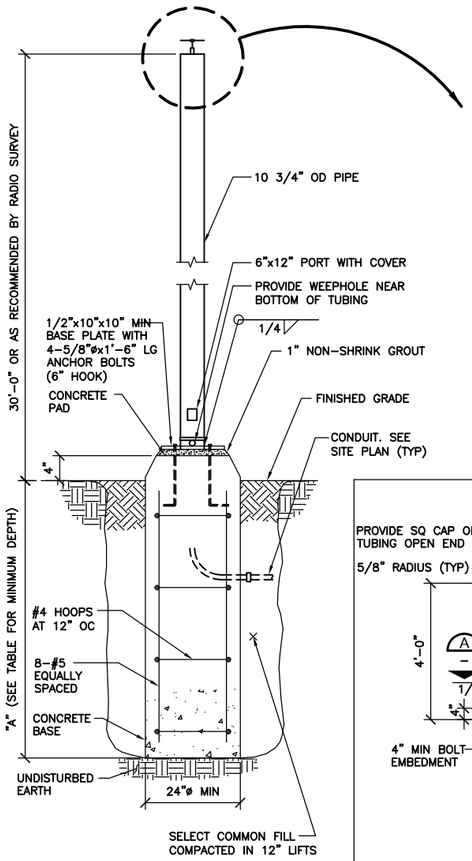
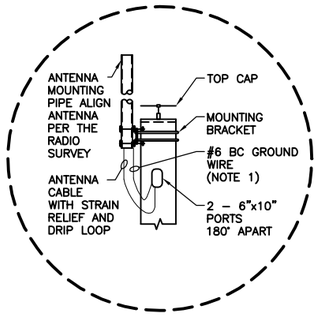


ANTENNA MAST

DETAIL 16121 VAR

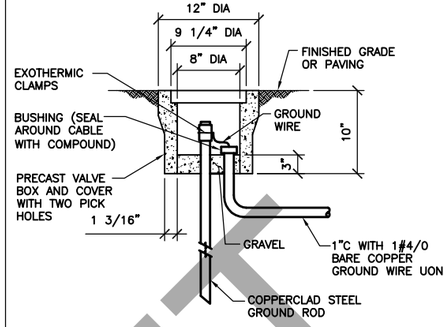
NTS



MAXIMUM POLE HEIGHT	DIMENSION"A"
20'-0"	4'-6"
30'-0"	6'-6"

DETAIL NOTE:

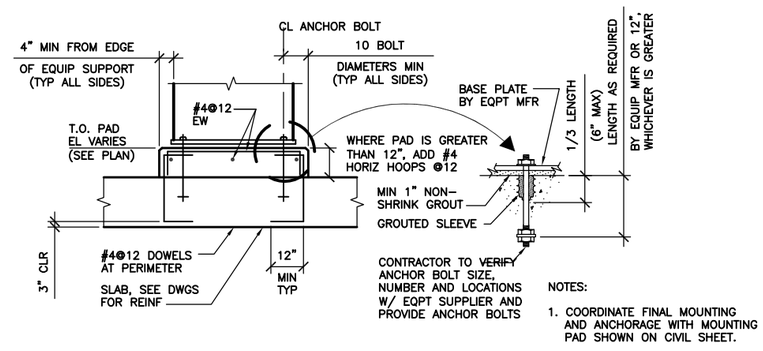
1. ANTENNA GROUND WIRE SHALL BE BONDED TO THE ANTENNA TOWER 3' TO 5' BELOW ANTENNA AND GROUND ROD IN NEARBY GROUND WELL. SEE GROUND ROD AND WELL INSTALLATION DETAIL. GROUND WIRE ROUTED TO GROUNDING JUNCTION BOX PRIOR TO CONNECTION TO GROUND GRID. SEE DETAIL 16200 -



GROUND ROD

DETAIL 16200 VAR

NTS



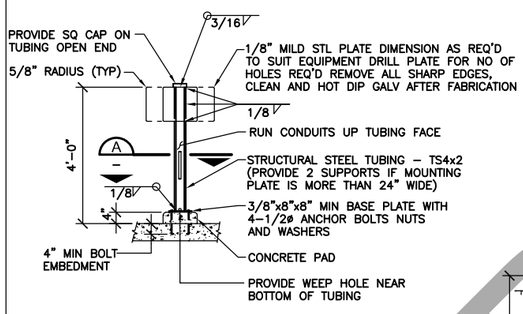
NOTES:

1. COORDINATE FINAL MOUNTING AND ANCHORAGE WITH MOUNTING PAD SHOWN ON CIVIL SHEET.

FREESTANDING EQUIPMENT MOUNTING

DETAIL 16400 VAR

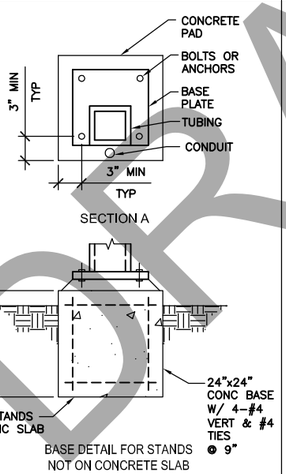
NTS

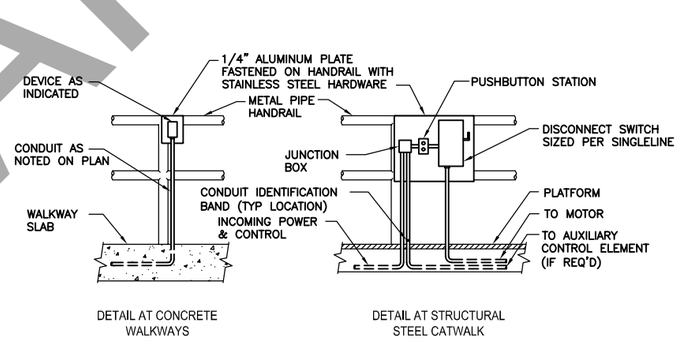


CONTROL STATION MOUNTING STAND

DETAIL 16410 VAR

NTS

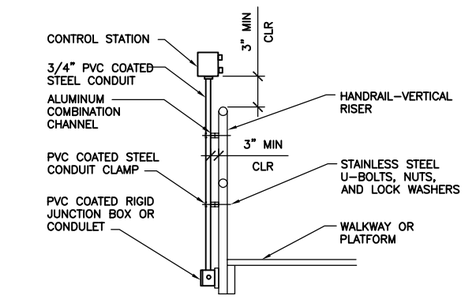




INSTALLATION OF EQUIPMENT ON GUARDRAIL

DETAIL 16412 VAR

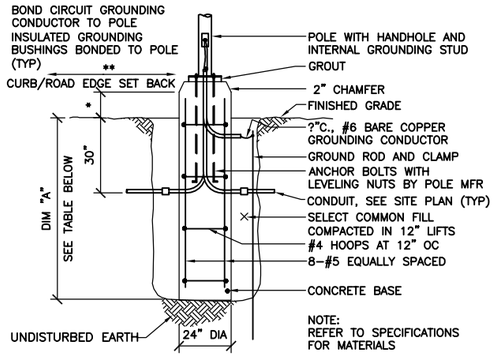
NTS



GUARDRAIL MOUNTED CONTROL STATION

DETAIL 16413 VAR

NTS



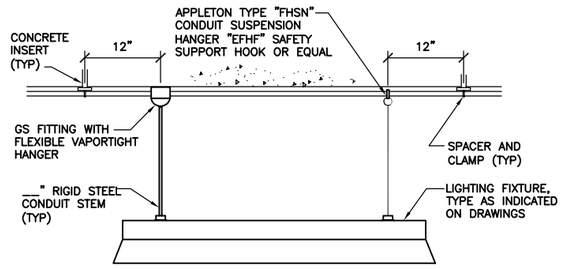
POLE HEIGHT	DIMENSION"A"
10'-0"	4'-6"
20'-0"	4'-6"
30'-0"	6'-6"
40'-0"	6'-6"

* = 2" AT WALKWAYS;* = 48" AT 18" AT ROADWAYS & WALKWAYS; 24" AT PARKING AREAS ROADWAYS

STANDARD LIGHTING BASE

DETAIL 16500 VAR

NTS



PENDANT MOUNTED LIGHTING FIXTURE

DETAIL 16522 VAR

NTS

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

ELECTRICAL STANDARD DETAILS SHEET 2

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. E-4 Sheet ____ of XXX Sheets

DRAFT

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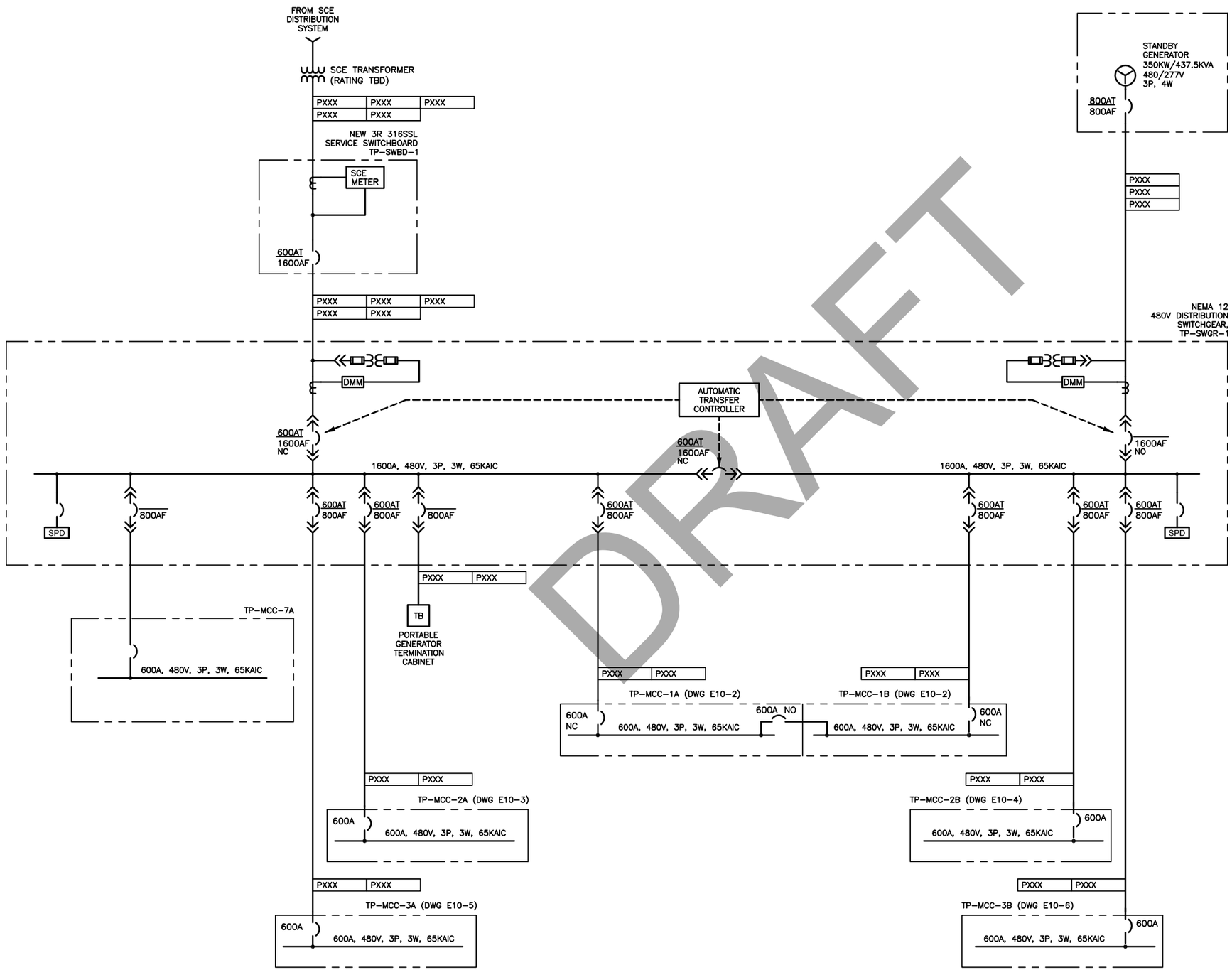

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

SINGLE LINE DIAGRAM - MAIN SWGR POWER DISTRIBUTION

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
DRAWN BY: A. PRIOR	DATE 06/2013		DATE XX-XX-13
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. E10-1 Sheet ____ of XXX Sheets

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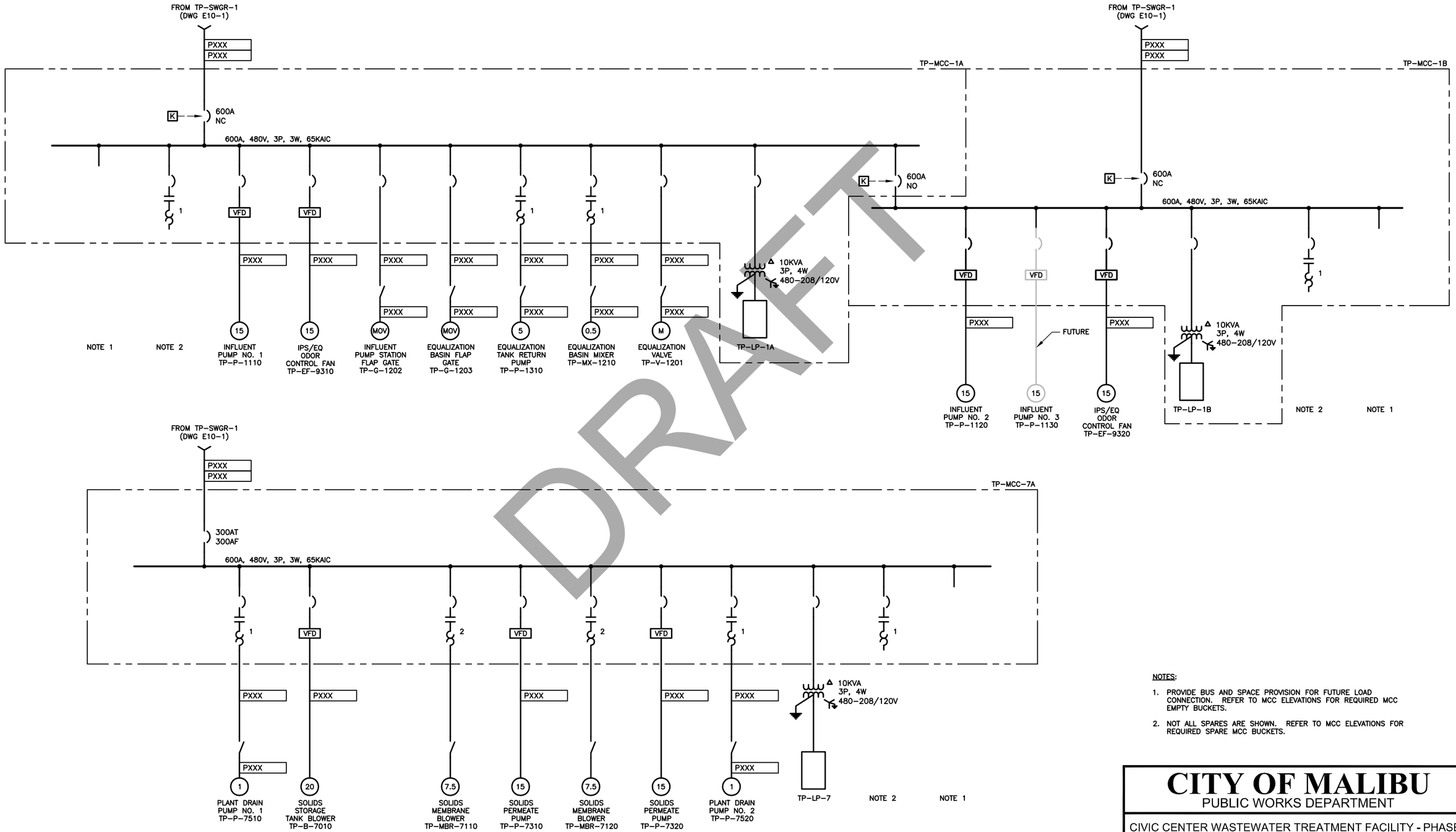

DRAFT

NOTES:

1. PROVIDE BUS AND SPACE PROVISION FOR FUTURE LOAD CONNECTION. REFER TO MCC ELEVATIONS FOR REQUIRED MCC EMPTY BUCKETS.
2. NOT ALL SPARES ARE SHOWN. REFER TO MCC ELEVATIONS FOR REQUIRED SPARE MCC BUCKETS.

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

SINGLE LINE DIAGRAM
TP-MCC-1A, TP-MCC-1B AND TP-MCC-7A

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. E10-2 Sheet _____ of XXX Sheets

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — VERIFY SCALES — 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

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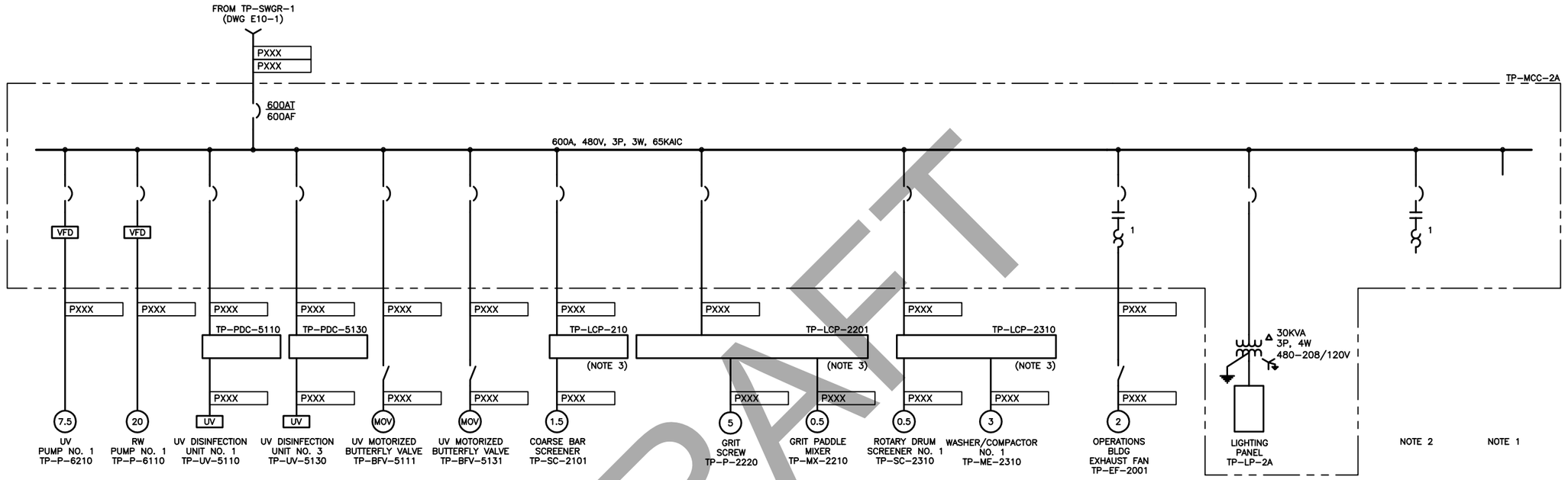

DRAFT

NOTES:

1. PROVIDE BUS AND SPACE PROVISION FOR FUTURE LOAD CONNECTION. REFER TO MCC ELEVATIONS FOR REQUIRED MCC EMPTY BUCKETS.
2. NOT ALL SPARES ARE SHOWN. REFER TO MCC ELEVATIONS FOR REQUIRED SPARE MCC BUCKETS.
3. EQUIPMENT IS FURNISHED BY PROCESS EQUIPMENT SUPPLIER AND IS INSTALLED BY THE CONTRACTOR.

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Envlronment
TJC

50% Submittal Not for Construction
MICHAEL J. ERWIN
No. E 14767
EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

SINGLE LINE DIAGRAM - TP-MCC-2A

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. E10-3

Sheet _____ of XXX Sheets

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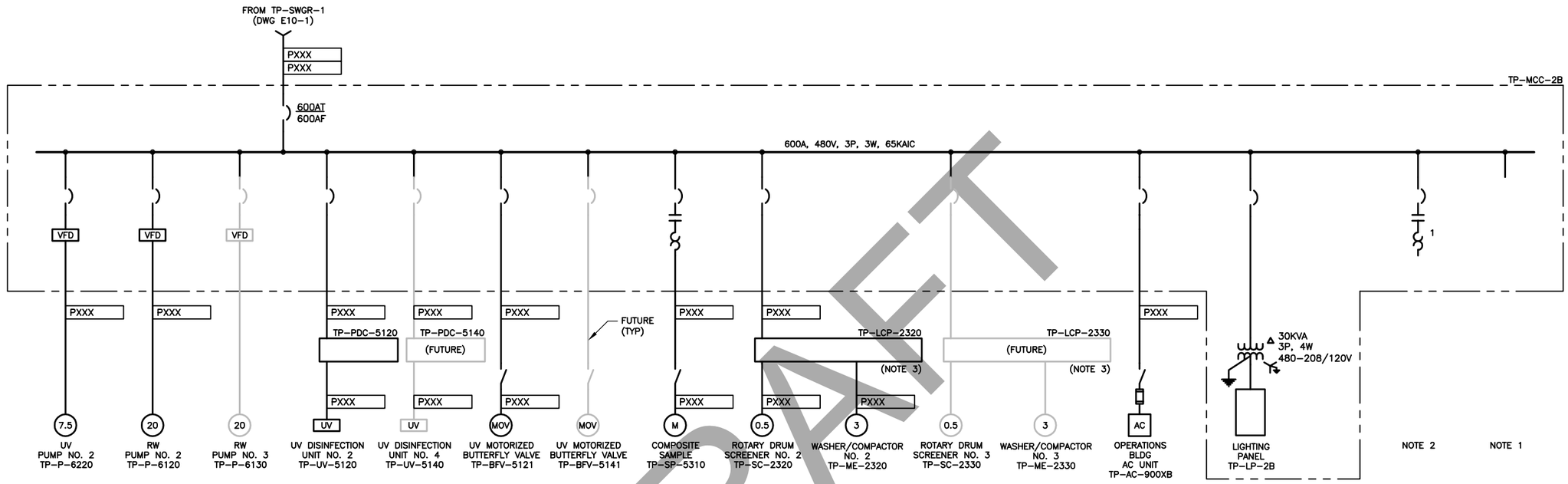

DRAFT

NOTES:

1. PROVIDE BUS AND SPACE PROVISION FOR FUTURE LOAD CONNECTION. REFER TO MCC ELEVATIONS FOR REQUIRED MCC EMPTY BUCKETS.
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3. EQUIPMENT IS FURNISHED BY PROCESS EQUIPMENT SUPPLIER AND IS INSTALLED BY THE CONTRACTOR.

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

SINGLE LINE DIAGRAM - TP-MCC-2B

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Envlronment
TJC

50% Submittal Not for Construction
MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. E10-4

Sheet _____ of XXX Sheets

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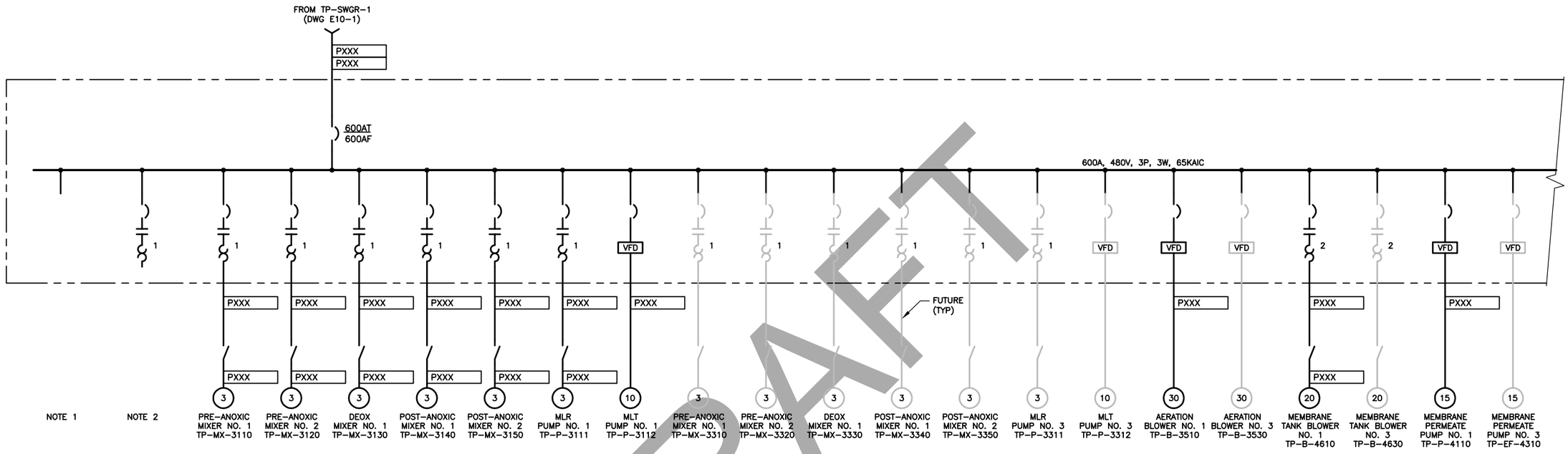

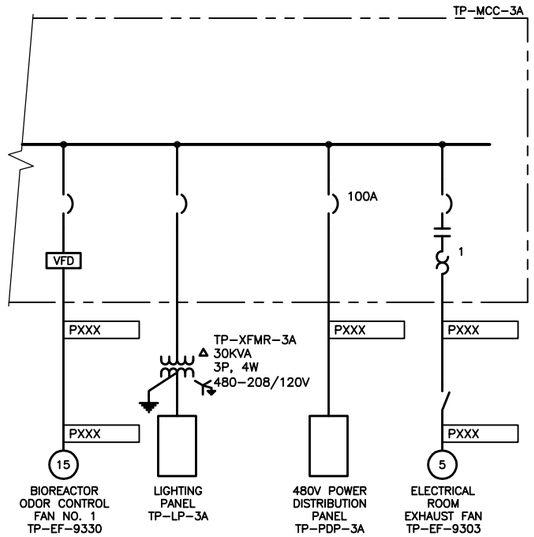

DRAFT

NOTES:

1. PROVIDE BUS AND SPACE PROVISION FOR FUTURE LOAD CONNECTION. REFER TO MCC ELEVATIONS FOR REQUIRED MCC EMPTY BUCKETS.
2. NOT ALL SPARES ARE SHOWN. REFER TO MCC ELEVATIONS FOR REQUIRED SPARE MCC BUCKETS.

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG. AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING. SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment; TJC

50% Submittal Not for Construction — MICHAEL J. ERWIN No. E 14767 — EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

SINGLE LINE DIAGRAM - TP-MCC-3A

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. E10-5 — Sheet _____ of XXX Sheets

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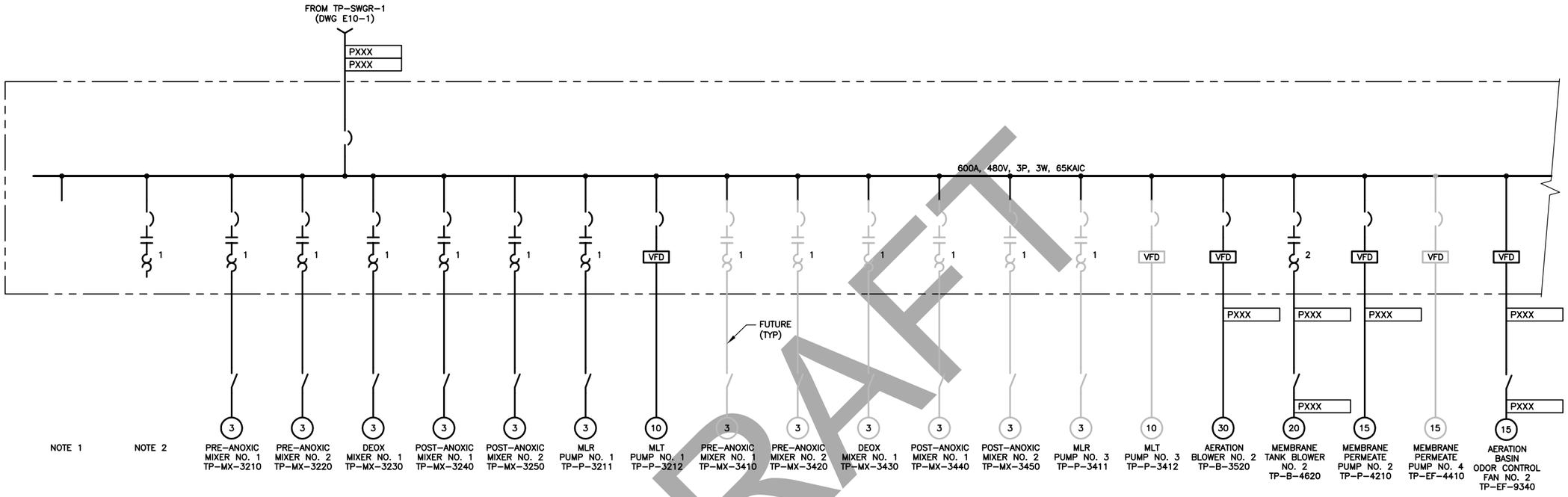

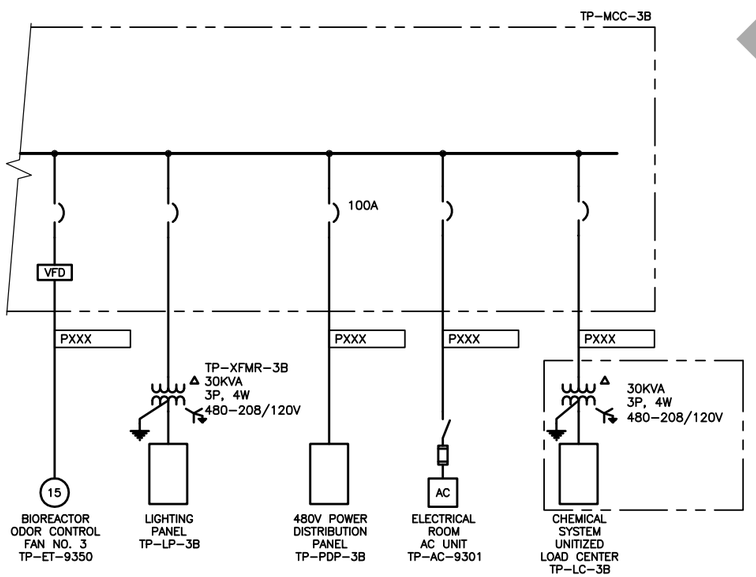

DRAFT

NOTES:

1. PROVIDE BUS AND SPACE PROVISION FOR FUTURE LOAD CONNECTION. REFER TO MCC ELEVATIONS FOR REQUIRED MCC EMPTY BUCKETS.
2. NOT ALL SPARES ARE SHOWN. REFER TO MCC ELEVATIONS FOR REQUIRED SPARE MCC BUCKETS.

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG. — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment; TJC

50% Submittal Not for Construction — MICHAEL J. ERWIN No. E 14767 "END 6/30/14"

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

SINGLE LINE DIAGRAM - TP-MCC-3B

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. E10-6 — Sheet _____ of XXX Sheets

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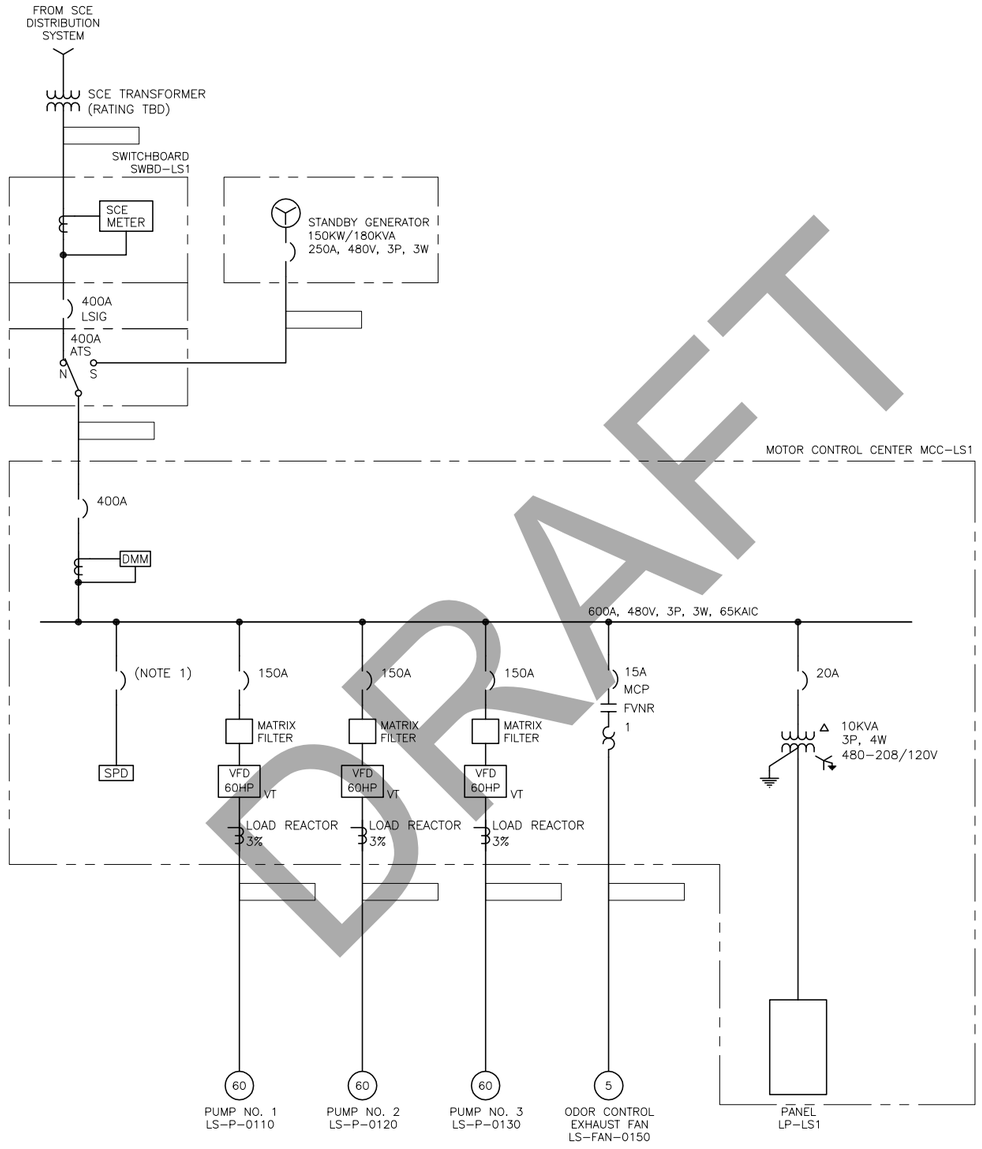

DRAFT

NOTES:

1. SIZE AS REQUIRED BY MANUFACTURER.

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment
TJC

50% Submittal Not for Construction
MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

LEGACY PARK LIFT STATION
SINGLE LINE DIAGRAM

DESIGNED BY: W. OUYANG	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		
CHECKED BY: –	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. E10-8

Sheet _____ of XXX Sheets

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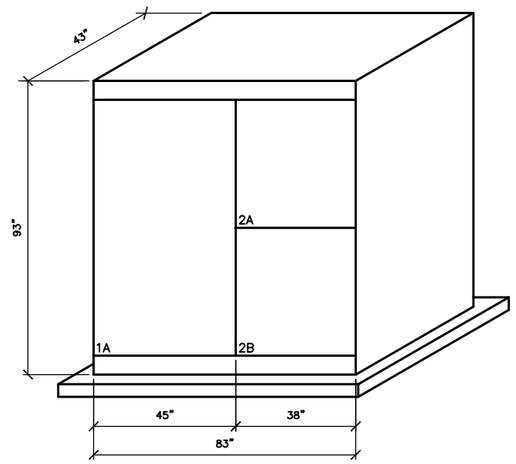
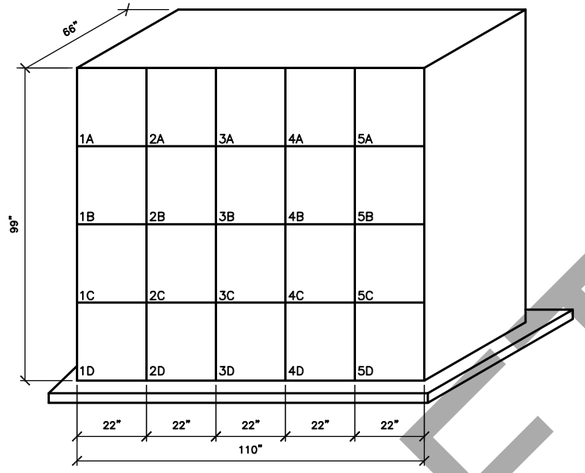


SWITCHBOARD (TP-SWBD-1)

NTS

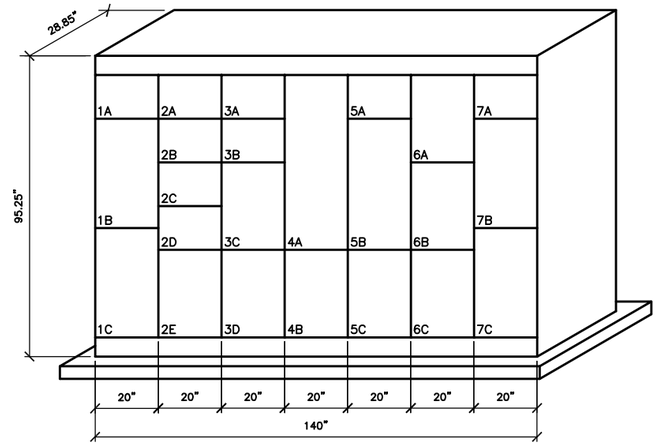
SWITCHBOARD (SWBD-1) NAMEPLATE SCHEDULE			
NO.	LINE 1 – EQUIPMENT ID	LINE 2 – EQUIPMENT DESCRIPTIONS	CHAR. SIZE
1A		UTILITY PULL SECTION	1/4"
2A		UTILITY METERING SECTION	1/4"
2B		MAIN BREAKER	1/4"



DISTRIBUTION SWITCHGEAR (TP-SWGR-1)

NTS

DISTRIBUTION SWITCHGEAR (TP-SWGR-1) NAMEPLATE SCHEDULE			
NO.	LINE 1 – EQUIPMENT ID	LINE 2 – EQUIPMENT DESCRIPTIONS	CHAR. SIZE
1A		INCOMING METERINGS, CTS, PTS	1/4"
1B		MAIN BREAKER	1/4"
1C		TVSS	1/4"
1D	TP-MCC-1A	FEEDER BREAKER (MCC-1A)	1/4"
2A	TP-MCC-2A	FEEDER BREAKER (MCC-2A)	1/4"
2B	TP-MCC-3A	FEEDER BREAKER (MCC-3A)	1/4"
2C	TP-MCC-7A	FEEDER BREAKER (MCC-7A)	1/4"
2D		FEEDER BREAKER – PORTABLE GEN.	1/4"
3A		SPACE	1/4"
3B		TIE BREAKER	1/4"
3C		FEEDER BREAKER (SPARE)	1/4"
3D		SPACE	1/4"
4A	TP-MCC-2B	FEEDER BREAKER (MCC-2B)	1/4"
4B	TP-MCC-3B	FEEDER BREAKER (MCC-3B)	1/4"
4C		FEEDER BREAKER (SPARE)	1/4"
4D		SPACE	1/4"
5A		INCOMING METERINGS, CTS, PTS	1/4"
5B		GENERATOR BREAKER	1/4"
5C		TVSS	1/4"
5D	TP-MCC-1B	FEEDER BREAKER (MCC-1B)	1/4"



MOTOR CONTROL CENTER (TP-MCC-1)

NTS

MOTOR CONTROL CENTER (TP-MCC-1A & TP-MCC-1B) NAMEPLATE SCHEDULE			
NO.	LINE 1 – EQUIPMENT ID	LINE 2 – EQUIPMENT DESCRIPTIONS	CHAR. SIZE
1A		SPARE	1/4"
1B	TP-LP-1A	208/120V LIGHTING PANEL	1/4"
1C	TP-XFMR-1A	480-208/120V XFMR	1/4"
2A	TP-G-1202	INFLUENT PUMP STATION FLAP GATE	1/4"
2B	TP-G-1203	EQUAILIZATION BASIN FLAP GATE	1/4"
2C	TP-P-1310	EQUALIZATION TANK RETURN PUMP NO. 1	1/4"
2D	TP-MX-1210	EQUALIZATION BASIN MIXER	1/4"
2E	TP-P-1110	INFLUENT PUMP NO. 1	1/4"
3A		SPARE	1/4"
3B	TP-V-1201	EQUALIZATION VALVE	1/4"
3C	TP-EF-9330	IPS/EQ ODOR CONTROL FAN	1/4"
3D		INCOMING MAIN BREAKER	1/4"
4A		BUS TIE BREAKER	1/4"
4B		SPACE AND BUS PROVISION FOR FUTURE LOAD	1/4"
5A		SPARE	1/4"
5B		SPACE AND BUS PROVISION FOR FUTURE LOAD	1/4"
5C		INCOMING MAIN BREAKER	1/4"
6A	TP-EF-9340	IPS/EQ ODOR CONTROL FAN	1/4"
6B	TP-P-1120	INFLUENT PUMP NO. 2	1/4"
6C	TP-P-1130	INFLUENT PUMP NO. 3 (FUTURE)	1/4"
7A		SPARE	1/4"
7B	TP-LP-1B	208/120V LIGHTING PANEL	1/4"
7C	TP-XFMR-2A	480-208/120V XFMR	1/4"

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0" VERIFY SCALES 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

ELECTRICAL EQUIPMENT ELEVATIONS AND NAMEPLATE SCHEDULE SHEET 1

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: DATE XX-XX-13
DRAWN BY: B. VUE	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. E20-1 Sheet _____ of XXX Sheets

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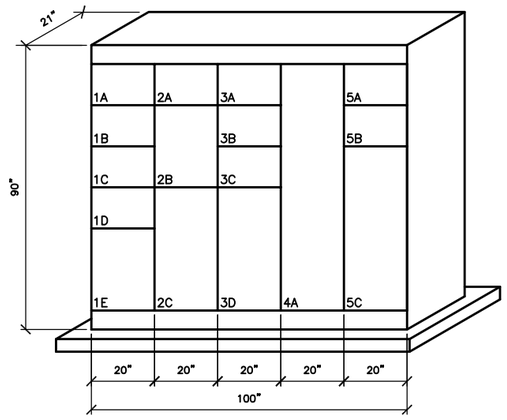
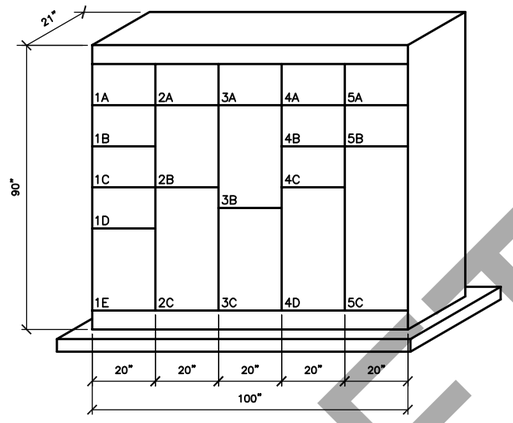


MOTOR CONTROL CENTER (TP-MCC-2A)

NTS

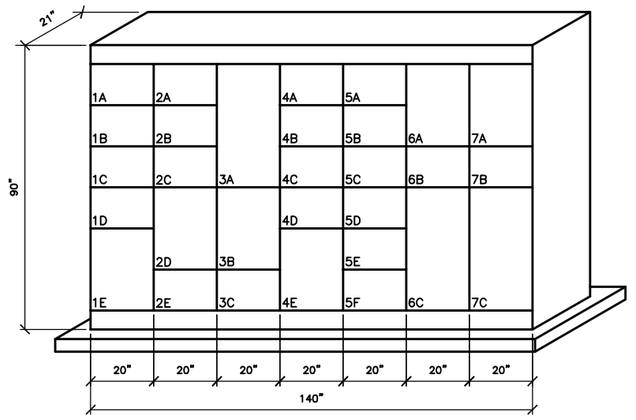
MOTOR CONTROL CENTER (TP-MCC-2A) NAMEPLATE SCHEDULE			
NO.	LINE 1 – EQUIPMENT ID	LINE 2 – EQUIPMENT DESCRIPTIONS	CHAR. SIZE
1A		SPARE	1/4"
1B	TP-BFV-5111	MOTORIZED BUTTERFLY VALVE	1/4"
1C	TP-BFV-5131	MOTORIZED BUTTERFLY VALVE	1/4"
1D	TP-EF-2001	OPERATIONS BLDG EXHAUST FAN	1/4"
1E		INCOMING MAIN BREAKER	1/4"
2A		SPARE	1/4"
2B	TP-P-6210	UW PUMP NO. 1	1/4"
2C	TP-P-6110	RW PUMP NO. 1	1/4"
3A	TP-UV-5110	UV DISINFECTION UNIT NO. 1	1/4"
3B	TP-UV-5130	UV DISINFECTION UNIT NO. 3	1/4"
3C	TP-LCP-2101	COARSE SCREEN CONTROL PANEL	1/4"
3D		SPACE AND BUS PROVISION FOR FUTURE LOAD	1/4"
4A	TP-LP-2A	XFMR – 208/120V LIGHTING PANEL	1/4"
5A	TP-LCP-2201	GRIT SYSTEM CONTROL PANEL	1/4"
5B	TP-LCP-2310	DRUM SCREEN CONTROL PANEL NO.1	1/4"
5C		SPACE AND BUS PROVISION FOR FUTURE LOAD	1/4"



MOTOR CONTROL CENTER (TP-MCC-2B)

NTS

MOTOR CONTROL CENTER (TP-MCC-2B) NAMEPLATE SCHEDULE			
NO.	LINE 1 – EQUIPMENT ID	LINE 2 – EQUIPMENT DESCRIPTIONS	CHAR. SIZE
1A		SPARE	1/4"
1B	TP-BFV-5121	MOTORIZED BUTTERFLY VALVE	1/4"
1C	TP-BFV-5141	MOTORIZED BUTTERFLY VALVE (FUTURE)	1/4"
1D	TP-AC-900XB	OPERATIONS BLDG AC UNIT	1/4"
1E		INCOMING MAIN BREAKER	1/4"
2A	TP-UV-5120	UV DISINFECTION UNIT NO. 2	1/4"
2B	TP-P-6220	UW PUMP NO. 2	1/4"
2C	TP-P-6120	RW PUMP NO. 2	1/4"
3A		SPARE	1/4"
3B	TP-LP-2B	208/120V LIGHTING PANEL	1/4"
3C	TP-XFMR-2B	480-208/120V XFMR	1/4"
4A	TP-SP-5310	COMPOSITE SAMPLER	1/4"
4B	TP-LCP-2320	DRUM SCREEN CONTROL PANEL NO.2	1/4"
4C	TP-LCP-2330	DRUM SCREEN CONTROL PANEL NO.3 (FUTURE)	1/4"
4D	TP-P-6130	RW PUMP NO. 3 (FUTURE)	1/4"
5A	TP-UV-5140	UV DISINFECTION UNIT NO. 4 (FUTURE)	1/4"
5B		SPARE	1/4"
5C		SPACE AND BUS PROVISION FOR FUTURE LOAD	1/4"



MOTOR CONTROL CENTER (TP-MCC-3A)

NTS

MOTOR CONTROL CENTER (TP-MCC-3A) NAMEPLATE SCHEDULE			
NO.	LINE 1 – EQUIPMENT ID	LINE 2 – EQUIPMENT DESCRIPTIONS	CHAR. SIZE
1A		SPARE	1/4"
1B	TP-MX-3110	PRE-ANOXIC MIXER NO. 1	1/4"
1C	TP-MX-3120	PRE-ANOXIC MIXER NO. 2	1/4"
1D	TP-MX-3130	DEOX MIXER NO. 1	1/4"
1E		INCOMING MAIN BREAKER	1/4"
2A	TP-MX-3140	POST-ANOXIC MIXER NO. 1	1/4"
2B	TP-MX-3150	POST-ANOXIC MIXER NO. 2	1/4"
2C	TP-P-3111	MLR PUMP #1	1/4"
2D	TP-P-3112	MLT PUMP #1	1/4"
2E	TP-LP-3B	XFMR – 208/120V LIGHTING PANEL	1/4"
3A	TP-B-3510	AERATION BLOWER NO. 1	1/4"
3B	TP-P-4110	MEMBRANE PERMEATE PUMP NO. 1	1/4"
3C	TP-B-4610	MEMBRANE TANK BLOWER NO. 1	1/4"
4A		SPACE AND BUS PROVISION FOR FUTURE LOAD	1/4"
4B	TP-EF-9303	ELECTRICAL ROOM EXHAUST FAN	1/4"
4C	TP-PDP-3A	480V POWER DISTRIBUTION PANEL	1/4"
4D		SPARE	1/4"
4E	TP-EF-9330	BIOREACTOR ODOR CONTROL FAN NO. 1	1/4"
5A	TP-MX-3310	PRE-ANOXIC MIXER NO. 1 (FUTURE)	1/4"
5B	TP-MX-3320	PRE-ANOXIC MIXER NO. 2 (FUTURE)	1/4"
5C	TP-MX-3330	DEOX MIXER NO. 1 (FUTURE)	1/4"
5D	TP-MX-3340	POST-ANOXIC MIXER NO. 1 (FUTURE)	1/4"
5E	TP-MX-3350	POST-ANOXIC MIXER NO. 2 (FUTURE)	1/4"
5F	TP-P-3311	MLR PUMP #3 (FUTURE)	1/4"
6A	TP-P-3312	MLT PUMP #3 (FUTURE)	1/4"
6B		SPARE	1/4"
6C	TP-B-3530	AERATION BLOWER NO. 3 (FUTURE)	1/4"
7A	TP-P-4310	MEMBRANE PERMEATE PUMP NO. 3 (FUTURE)	1/4"
7B	TP-B-4630	MEMBRANE TANK BLOWER NO. 3 (FUTURE)	1/4"
7C		SPACE AND BUS PROVISION FOR FUTURE LOAD	1/4"

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MICHAEL J. ERWIN
No. E 14767
EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

ELECTRICAL EQUIPMENT ELEVATIONS AND NAMEPLATE SCHEDULE SHEET 2

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: B. VUE	DATE 06/2013		
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. E20-2

Sheet _____ of XXX Sheets

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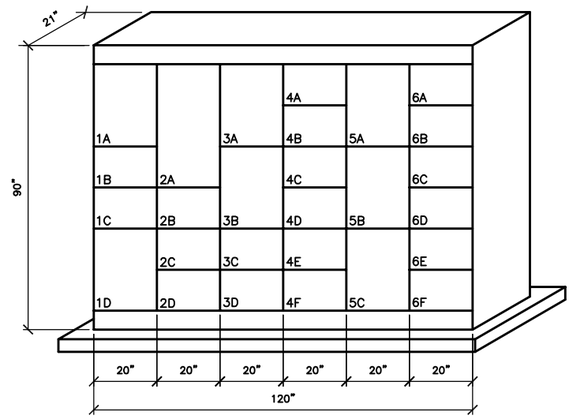
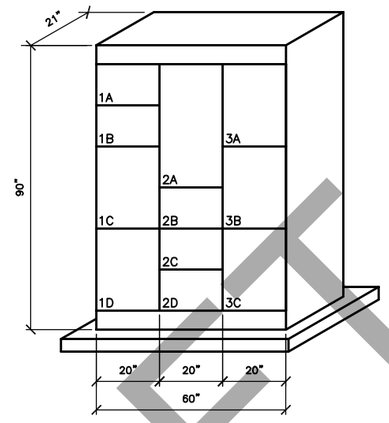


MOTOR CONTROL CENTER (TP-MCC-3B)

NTS

MOTOR CONTROL CENTER (TP-MCC-3B) NAMEPLATE SCHEDULE			
NO.	LINE 1 – EQUIPMENT ID	LINE 2 – EQUIPMENT DESCRIPTIONS	CHAR. SIZE
1A	TP-EF-9340	BIOREACTOR ODOR CONTROL FAN NO. 2	1/4"
1B	TP-AC-9301	ELECTRICAL ROOM AC UNIT	1/4"
1C		SPARE	1/4"
1D		INCOMING MAIN BREAKER	1/4"
2A	TP-B-3520	AERATION BLOWER NO. 2	1/4"
2B	TP-B-4620	MEMBRANE TANK BLOWER NO. 2	1/4"
2C	TP-LP-3B	XFMR – 208/120V LIGHTING PANEL	1/4"
2D	TP-LC-8B	UNITIZED LOAD CENTER (LC-1) – CHEMICAL SYSTEM	1/4"
3A	TP-P-4210	MEMBRANE PERMEATE PUMP NO. 2	1/4"
3B	TP-P-3212	MLT PUMP #2	1/4"
3C		SPACE AND BUS PROVISION FOR FUTURE LOAD	1/4"
3D	TP-PDP-3B	480V POWER DISTRIBUTION PANEL	1/4"
4A	TP-MX-3210	PRE-ANOXIC MIXER NO. 1	1/4"
4B	TP-MX-3220	PRE-ANOXIC MIXER NO. 2	1/4"
4C	TP-MX-3230	DEOX MIXER NO. 1	1/4"
4D	TP-MX-3240	POST-ANOXIC MIXER NO. 1	1/4"
4E	TP-MX-3250	POST-ANOXIC MIXER NO. 2	1/4"
4F	TP-P-3211	MLR PUMP #2	1/4"
5A	TP-EF-9350	BIOREACTOR ODOR CONTROL FAN NO. 3 (FUTURE)	1/4"
5B	TP-P-3412	MLT PUMP #4 (FUTURE)	1/4"
5C	TP-P-4410	MEMBRANE PERMEATE PUMP NO. 4 (FUTURE)	1/4"
6A	TP-MX-3410	PRE-ANOXIC MIXER NO. 1 (FUTURE)	1/4"
6B	TP-MX-3440	POST-ANOXIC MIXER NO. 1 (FUTURE)	1/4"
6C	TP-MX-3430	DEOX MIXER NO. 1 (FUTURE)	1/4"
6D	TP-MX-3420	PRE-ANOXIC MIXER NO. 2 (FUTURE)	1/4"
6E	TP-MX-3450	POST-ANOXIC MIXER NO. 2 (FUTURE)	1/4"
6F	TP-P-3411	MLR PUMP #4 (FUTURE)	1/4"



MOTOR CONTROL CENTER (TP-MCC-7A)

NTS

MOTOR CONTROL CENTER (TP-MCC-7A) NAMEPLATE SCHEDULE			
NO.	LINE 1 – EQUIPMENT ID	LINE 2 – EQUIPMENT DESCRIPTIONS	CHAR. SIZE
1A	TP-P-7310	PLANT DRAIN PUMP NO. 1	1/4"
1B	TP-P-7320	PLANT DRAIN PUMP NO. 2	1/4"
1C	TP-P-7110	SOLIDS PERMEATE PUMP	1/4"
1D		INCOMING MAIN BREAKER	1/4"
2A	TP-B-7110	SOLIDS STORAGE TANK BLOWER	1/4"
2B	TP-PP-7110	SOLIDS PUMP NO. 1	1/4"
2C	TP-MBR-7121	SOLIDS MEMBRANE BLOWER (FUTURE)	1/4"
2D		SPARE	
3A		SPACE AND BUS PROVISION FOR FUTURE LOAD	
3B		XFMR – 480V-208/120V	
3C	TP-LP-7A	LIGHTING PANEL	

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PLANS PREPARED BY:
RMC Water and Environment
TJC

50% Submittal Not for Construction
MICHAEL J. ERWIN
No. E 14767
EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

ELECTRICAL EQUIPMENT ELEVATIONS AND NAMEPLATE SCHEDULE SHEET 3

DESIGNED BY: W. OUYANG	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: B. VUE	DATE 06/2013		
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. E20-3

Sheet ____ of XXX Sheets

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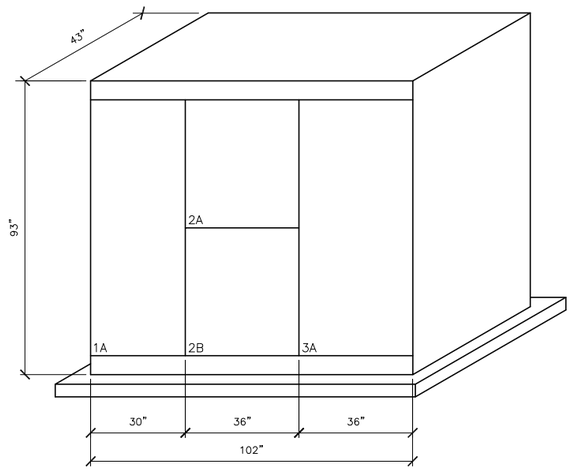
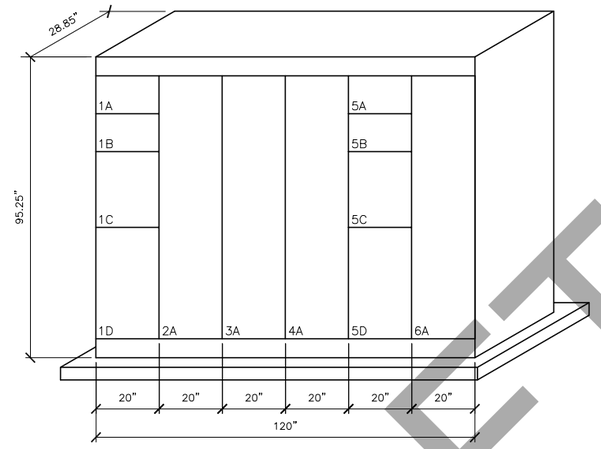


SWITCHBOARD (SWBD–LS1)

NTS

SWITCHBOARD (SWBD–1) NAMEPLATE SCHEDULE			
NO.	LINE 1 – EQUIPMENT ID	LINE 2 – EQUIPMENT DESCRIPTIONS	CHAR. SIZE
1A		UTILITY PULL SECTION	1/4"
2A		UTILITY METERING SECTION	1/4"
2B		MAIN BREAKER	1/4"
3A	LS–ATS–01XX	AUTOMATIC TRANSFER SWITCH	1/4"



MOTOR CONTROL CENTER (LS–MCC–LS1)

NTS

MOTOR CONTROL CENTER (MCC–LS1) NAMEPLATE SCHEDULE			
NO.	LINE 1 – EQUIPMENT ID	LINE 2 – EQUIPMENT DESCRIPTIONS	CHAR. SIZE
1A	LS–SPD–01XX	SURGE PROTECTIVE DEVICE	1/4"
1B	LS–PWM–01XX	POWER MONITOR	1/4"
1C	SPACE		1/4"
1D	LS–MCC–1	MAIN BREAKER	1/4"
2A	LS–VFD–0110	LIFT PUMP 1	1/4"
3A	LS–VFD–0120	LIFT PUMP 2	1/4"
4A	LS–VFD–0130	LIFT PUMP 3	1/4"
5A	LS–FAN–0150	ODOR CONTROL FAN	1/4"
5B	SPACE		1/4"
5C	LS–LP–1	PANELBOARD	1/4"
5D	LS–TFR–1	TRANSFORMER (10kVA)	1/4"
6A	LS–CP–0190	LEGACY PARK LS CONTROL PANEL	1/4"

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MICHAEL J. ERWIN
No. E 14767
EXP. 6/30/14

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

LEGACY PARK LIFT STATION ELECTRICAL
EQUIPMENT ELEVATIONS AND NAMEPLATE SCHEDULE

DESIGNED BY: W. OUYANG	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: B. VUE	DATE: 06/2013		
CHECKED BY: –	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. E20-8

Sheet _____ of XXX Sheets

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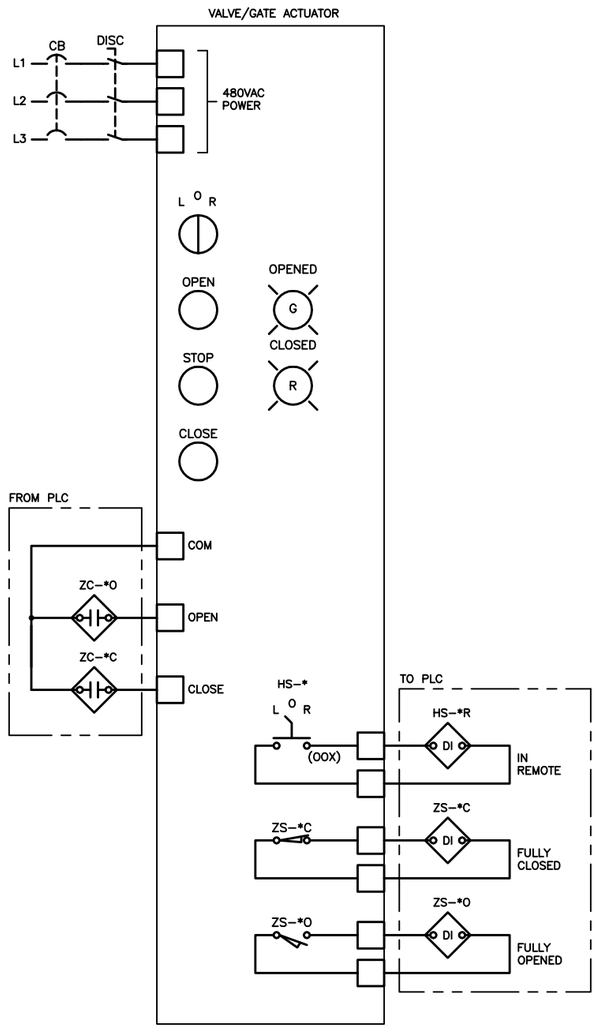
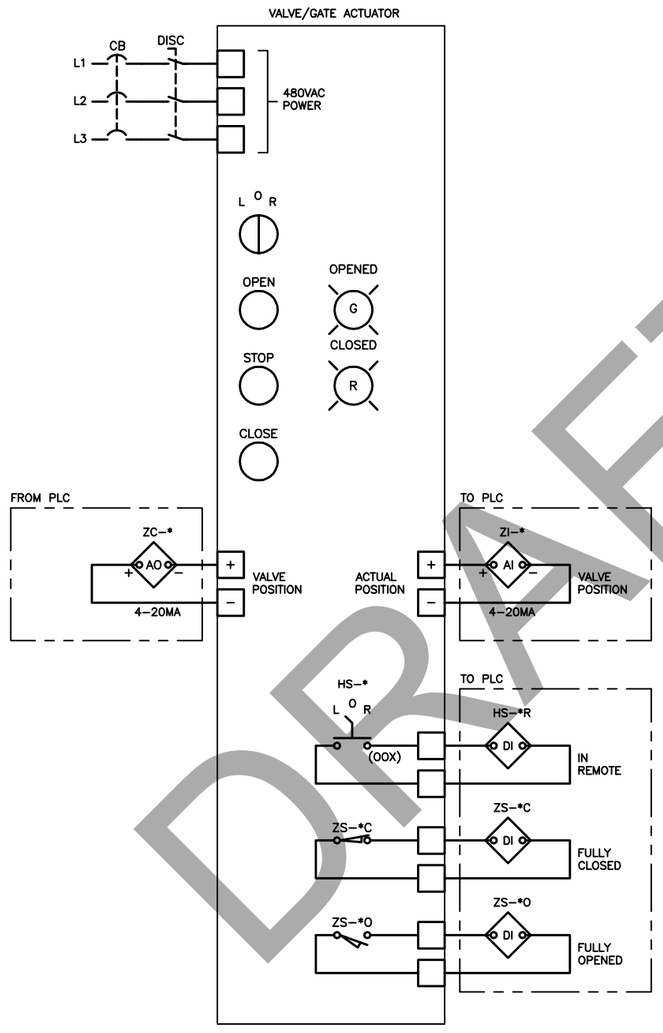


OPEN/CLOSE TYPE ACTUATOR SCHEMATIC

SCALE: NTS



MODULATING TYPE ACTUATOR SCHEMATIC

SCALE: NTS

Tag Table A – Open/Close Type Actuators

EQUIPMENT NO.	DESCRIPTION	* LOOP (NOTE 1)	CB LOCATION	PLC/CONTROL PANEL NO.	P&ID
TP-PV-3101	BIOLOGICAL REACTOR 1 SCUM VALVE	3101	MCC-3A	TP-PLC-3	I3000-2
TP-BV-3531	AERATION BASIN BLOWERS BLOW OFF VALVE	3531	MCC-3A	TP-PLC-3	I3000-3
TP-PV-4100	MBR TANK 1 INFLUENT VALVE	4100	MCC-3A	TP-PLC-4	I4000-1
TP-BFV-4651	MBR TANK 1 AIR VALVE	4651	MCC-3A	TP-PLC-4	I4000-1
TP-PV-4119	MBR TANK 1 DRAIN VALVE	4119	MCC-3A	TP-PLC-4	I4000-1
TP-BFV-4113	PERMEATE PUMP 1 INLET VALVE	4113	MCC-3A	TP-PLC-4	I4000-2
TP-BFV-4115	PERMEATE PUMP 1 BACKPULSE VALVE	4115	MCC-3A	TP-PLC-4	I4000-2
TP-PV-4200	MBR TANK 2 INFLUENT VALVE	4200	MCC-3B	TP-PLC-4	I4000-3
TP-BFV-4652	MBR TANK 2 AIR VALVE	4652	MCC-3B	TP-PLC-4	I4000-3
TP-PV-4219	MBR TANK 2 DRAIN VALVE	4219	MCC-3B	TP-PLC-4	I4000-3
TP-BFV-4213	PERMEATE PUMP 2 INLET VALVE	4213	MCC-3B	TP-PLC-4	I4000-4
TP-BFV-4215	PERMEATE PUMP 2 BACKPULSE VALVE	4215	MCC-3B	TP-PLC-4	I4000-4
TP-BFV-5111	UV DISINFECTION UNIT 1 INLET VALVE	5111	MCC-2A	TP-PLC-5	I5000-1
TP-BFV-5121	UV DISINFECTION UNIT 2 INLET VALVE	5121	MCC-2B	TP-PLC-5	I5000-1
TP-BFV-5131	UV DISINFECTION UNIT 3 INLET VALVE	5131	MCC-2A	TP-PLC-5	I5000-1

Tag Table B – Modulating Type Actuators

EQUIPMENT NO.	DESCRIPTION	* LOOP (NOTE 1)	CB LOCATION	PLC/CONTROL PANEL NO.	P&ID
TP-V-1201	EQUALIZATION BASIN TO INFLUENT WETWELL VALVE	1201	MCC-1A	TP-PLC-1	I1000-1
TP-PV-4720	THICKENED SLUDGE FLOW CONTROL VALVE	4720	MCC-3A	TP-PLC-4	I4000-1

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PLANS PREPARED BY: RMC Water and Envlronment; TJC

50% Submittal Not for Construction — MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CONTROL SCHEMATICS - 1

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 — DATE: XX-XX-13
DRAWN BY: B. VUE	DATE: 06/2013		
CHECKED BY: –	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. E30-1

Sheet _____ of XXX Sheets

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DRAWING SYMBOLS

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

	PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	PRIMARY AUXILIARY LOCATION NORMALLY NOT ACCESSIBLE TO OPERATOR	SECONDARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	SECONDARY AUXILIARY LOCATION NORMALLY NOT ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS	XX / ZZ	XX / ZZ	XX / ZZ	XX / ZZ	XX / ZZ
COMPUTER FUNCTION, SHARED DISPLAY, OR CONTROL (NOTE 5)	XX / ZZ	N/A	XX / ZZ	XX / ZZ	XX / ZZ
PROGRAMMABLE LOGIC CONTROLLER	XX / ZZ	N/A	XX / ZZ	XX / ZZ	XX / ZZ
PILOT LIGHT	XX / ZZ	XX / ZZ	N/A	XX / ZZ	N/A

INDICATES HAVING A SINGLE INSTRUMENT OR OTHER COMPONENT HAVING MULTIPLE FUNCTIONS IN COMMON DEVICE

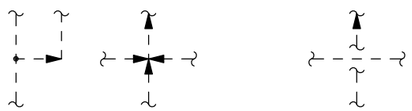
MCC XXXX — INDICATES MOTOR STARTER, INTERLOCK, OR LOGIC AT MOTOR CONTROL CENTER;
XXXX – MCC DESIGNATION

I XXXX — INDICATES MOTOR STARTER, INTERLOCK, OR LOGIC IN LOCAL CONTROL PANEL (REFER TO CONTROL DESCRIPTIONS AND/OR CONTROL SCHEMATICS);
XXXX – PANEL DESIGNATION

VFD XXXX — INDICATES VARIABLE FREQUENCY DRIVE IN LOCAL CONTROL PANEL, MOTOR CONTROL CENTER, OR DRIVE ENCLOSURE;
XXXX – VFD DESIGNATION OR LOCATION

INSTRUMENT LINE SYMBOLS

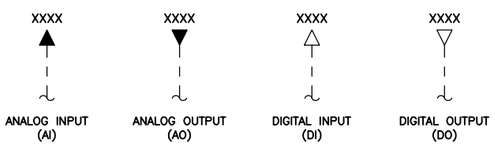
- – – – – – – – – – ELECTRICAL SIGNAL
- —— o —— o —— o —— LOGICAL SIGNAL PATH (ETHERNET SOFTWARE LINK)
- —— F —— F —— F —— FIBER OPTIC SIGNAL
- ———————— INSTRUMENT SENSING LINE OR CONNECTION TO PROCESS
- – – – – – – – – – EXISTING LINES TO REMAIN IN PLACE (ELECTRICAL SIGNAL SHOWN – TYPICAL FOR OTHER SIGNALS)



CONNECTING LINES

NON–CONNECTING LINES

CONTROLLER INPUT/OUTPUT (I/O) SYMBOLS

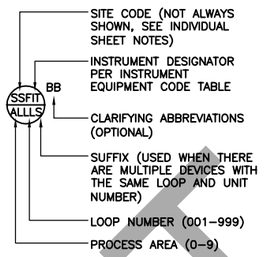


ANALOG INPUT (AI) — ANALOG OUTPUT (AO) — DIGITAL INPUT (DI) — DIGITAL OUTPUT (DO)

INSTRUMENT EQUIPMENT CODE TABLE

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE			CONTROL	CLOSE
D	USER'S CHOICE	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO			
G	USER'S CHOICE		SIGHT GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT		INDICATOR		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME, RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, OR PRESENCE	Y AXIS		RELAY, COMPUTE, OR CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

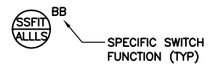
TYPICAL INSTRUMENTATION TAGGING



PROCESS AREAS

0	OPERATIONS 1 SITE
1	INFLUENT PS
2	HEADWORKS
3	BIO REACTORS/ELECTRICAL
4	MBR
5	UV SYSTEM
6	RECYCLED WATER
7	SOLIDS
8	CHEMICALS
9	ODOR CONTROL

HAND SWITCHES



SELECTOR SWITCH

CLARIFYING ABBREVIATIONS

ACK	ACKNOWLEDGE
C	CLOSE
FSOA	FAST – SLOW – OFF – AUTO
FSOR	FAST – SLOW – OFF – REMOTE
HOA	HAND – OFF – AUTOMATIC
HOR	HAND – OFF – REMOTE
LES	LOCAL EMERGENCY STOP
LOR	LOCAL – OFF – REMOTE
LR	LOCAL – REMOTE
MA	MANUAL – AUTO
O/C	OPEN / CLOSE
O/O	ON / OFF
O	OPEN
OOA	ON – OFF – AUTO
OOR	ON – OFF – REMOTE
RST	RESET
S/F	SLOW / FAST
S/S	START / STOP
SIL	SILENCE
STRT	START
STOP	STOP
TEST	TEST

GENERAL SHEET NOTES

1. THIS IS A GENERAL P&ID LEGEND SHEET. SOME SYMBOLS OR NOTATIONS SHOWN MAY NOT BE USED ON THIS PROJECT.
2. EXISTING EQUIPMENT AND PROCESS PIPING AND STRUCTURES ARE SHOWN SCREENED BACK.
3. ALL NECESSARY VALVES ARE NOT SHOWN ON THE P&ID'S FOR CLARITY. PROVIDE ISOLATION VALVES ON ALL SAMPLE LINES TO SENSORS, THREE–VALVE MANIFOLDS FOR ALL ABSOLUTE AND GAUGE PRESSURE TRANSMITTERS, AND FIVE–VALVE MANIFOLDS FOR ALL DIFFERENTIAL PRESSURE TRANSMITTERS.

ABBREVIATIONS AND LETTER SYMBOLS

AC	ALTERNATING CURRENT
AI	ANALOG INPUT
ANN	ANNUNCIATOR
AO	ANALOG OUTPUT
AVG	AVERAGE
CLG	CHLORINE GAS
CL2	CHLORINE (TYP – USE STANDARD CHEMICAL ELEMENT ABBREV.)
CP	CONTROL PANEL
CR	CONTROL RELAY
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DI	DISCRETE INPUT
DO	DISCRETE OUTPUT OR DISSOLVED OXYGEN
DS	PUMP ROOM SUMP DRAIN
FCL	FREE CHLORINE RESIDUAL
FD	FLOOR DRAIN
FM	FORCE MAIN
HMI	HUMAN MACHINE INTERFACE
I	INTERLOCK
I/O	INPUT/OUTPUT
ISB	INTRINSICALLY SAFE BARRIER
ISR	INTRINSICALLY SAFE RELAY
LAN	LOCAL AREA NETWORK
LEL	LOWER EXPLOSIVE LIMIT
LOP	LOCAL OPERATION PANEL
MCC	MOTOR CONTROL CENTER
MLC	MULTILOOP CONTROLLER
MOD	MODULATING
MTD	MOUNTED
MUX	MULTIPLEXER
NO3	NITRATES
O/C	OPEN/CLOSE
OIP	OPERATOR INTERFACE PANEL
OIT	OPERATOR INTERFACE TERMINAL
ORP	OXIDATION REDUCTION POTENTIAL
OL	OVERLOAD
pH	HYDROGEN ION CONCENTRATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
RIO	REMOTE PLC INPUT/OUTPUT RACK
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	REMOTE TELEMETRY UNIT
RW	RAW WATER; RECYCLED WATER
S	SEWER
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCD	STREAMING CURRENT DETECTOR
TD	TIME DELAY
TDOD	TIME DELAY ON DE–ENERGIZATION
TDOE	TIME DELAY ON ENERGIZATION
TURB	TURBIDIMETER
TVSS	TRANSIENT VOLTAGE SUREGE SUPPRESSOR
UPS	UNINTERRUPTIBLE POWER SUPPLY
VFD	VARIABLE FREQUENCY DRIVE
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
VOC	VOLATILE ORGANIC COMPOUNDS
WAN	WIDE AREA NETWORK
Δ	DIFFERENCE
Σ	SUM
×	MULTIPLY
÷	DIVIDE
	SQUARE ROOT
>	SELECT HIGHEST SIGNAL
<	SELECT LOWEST SIGNAL

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

— VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment / TJC

50% Submittal Not for Construction — MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS & INSTRUMENTATION DIAGRAMS & ABBREVIATIONS 1

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: XX-XX-13 — DATE
DRAWN BY: A. PRIOR	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. I-1 — Sheet _____ of XXX Sheets

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PROCESS SYMBOLS

PAGE REFERENCE ARROW

PRIMARY PROCESS

PRIMARY PROCESS BYPASS

SECONDARY PROCESS

FLOW DIRECTION ARROW

PACKAGE SYSTEM BOUNDARY

VALVES

AIR RELEASE VALVE

AIR/VACUUM RELIEVE VALVE

BALL CHECK VALVE

BALL VALVE

BUTTERFLY VALVE

CHECK VALVE

DIAPHRAGM VALVE

PLUG VALVE

PRESSURE REDUCING VALVE

PRESSURE RELIEF VALVE

SOLENOID VALVE (TWO-WAY)

SOLENOID VALVE (THREE-WAY)

TELESCOPING VALVE

MISCELLANEOUS

BLIND FLANGE

QUICK CONNECT

REDUCER

STRAINER

SPRAY NOZZLE

EQUIPMENT OR FLOOR DRAIN

VENT

CALIBRATION COLUMN

FILTER

PULSATION DAMPENER

FLUSHING CONNECTION

SILENCER

WATER SURFACE ELEVATION

PRESSURE GUAGE (SHOWN WITH BALL VALVE AND DIAPHRAGM SEAL)

MECHANICAL EQUIPMENT

MOTOR

BLOWER

FAN

DAMPER

MIXER

MAGNETIC FLOWMETER

PARSHALL FLUME

WEIR

FLAP GATE

STOP GATE

PUMPS

TURBO PUMP

ROTARY LOBE PUMP

MIX PUMP

PERISTALTIC PUMP

PUMP (UNCLASSIFIED)

SUBMERSIBLE CENTRIFUGAL PUMP

SUBMERSIBLE VERTICAL TURBINE PUMP

PIPING IDENTIFICATION

16"-RAS

- FLOW STREAM IDENTIFICATION (SEE BELOW)
- NOMINAL PIPE SIZE

FLOW STREAM ABBREVIATIONS

AA	AERATION AIR
AL	ALUM SOLUTION
CA	CALCIUM SOLUTION
D	DRAIN
DFM	DRAIN FORCEMAIN
EFF	EFFLUENT
FA	FOUL AIR
MC	MICRO-C SOLUTION
MLR	MIXED LIQUOR RETURN
MLT	MIXED LIQUOR TRANSFER
OF	OVERFLOW
PRM	PERMEATE
RAS	RETURN ACTIVATED SLUDGE
RW	RECYCLED WATER
SB	SODIUM BICARBONATE SOLUTION
SCUM	SCUM
SCWW	SCREENED WATEWATER
UVE	ULTRAVIOLET EFFLUENT
UVI	ULTRAVIOLET INFLUENT
UW	UTILITY WATER
WAS	WASTE ACTIVATED SLUDGE
WW	WASTEWATER

EQUIPMENT ABBREVIATIONS

ARV	AIR RELIEF VALVE
AVRV	AIR/VACUUM RELIEF VALVE
B	BLOWER
BCV	BALL-CHECK VALVE
BFV	BUTTERFLY VALVE
BV	BALL VALVE
CP	CENTRIFUGAL PUMP
CV	CHECK VALVE
DV	DIAPHRAGM VALVE
EF	EXHAUST FAN
FE	FLOW ELEMENT
G	GATE
H	HOIST
M	MOTOR
MBR	MEMBRANE REACTOR
ME	MECHANICAL EQUIPMENT
MX	MIXER
P	PUMP
PRV	PRESSURE REDUCING VALVE
PV	PLUG VALVE
RV	RELIEF VALVE
SC	SCREEN
SP	COMPOSITE SAMPLER
SV	SOLENOID VALVE
T	TANK
TV	TELESCOPING VALVE
UV	ULTRAVIOLET UNIT
WC	WASHER/COMPACTOR

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE, DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — VERIFY SCALES — 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

INSTRUMENATION LEGENDS AND ABBREVIATIONS 2

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. I-2

Sheet _____ of XXX Sheets

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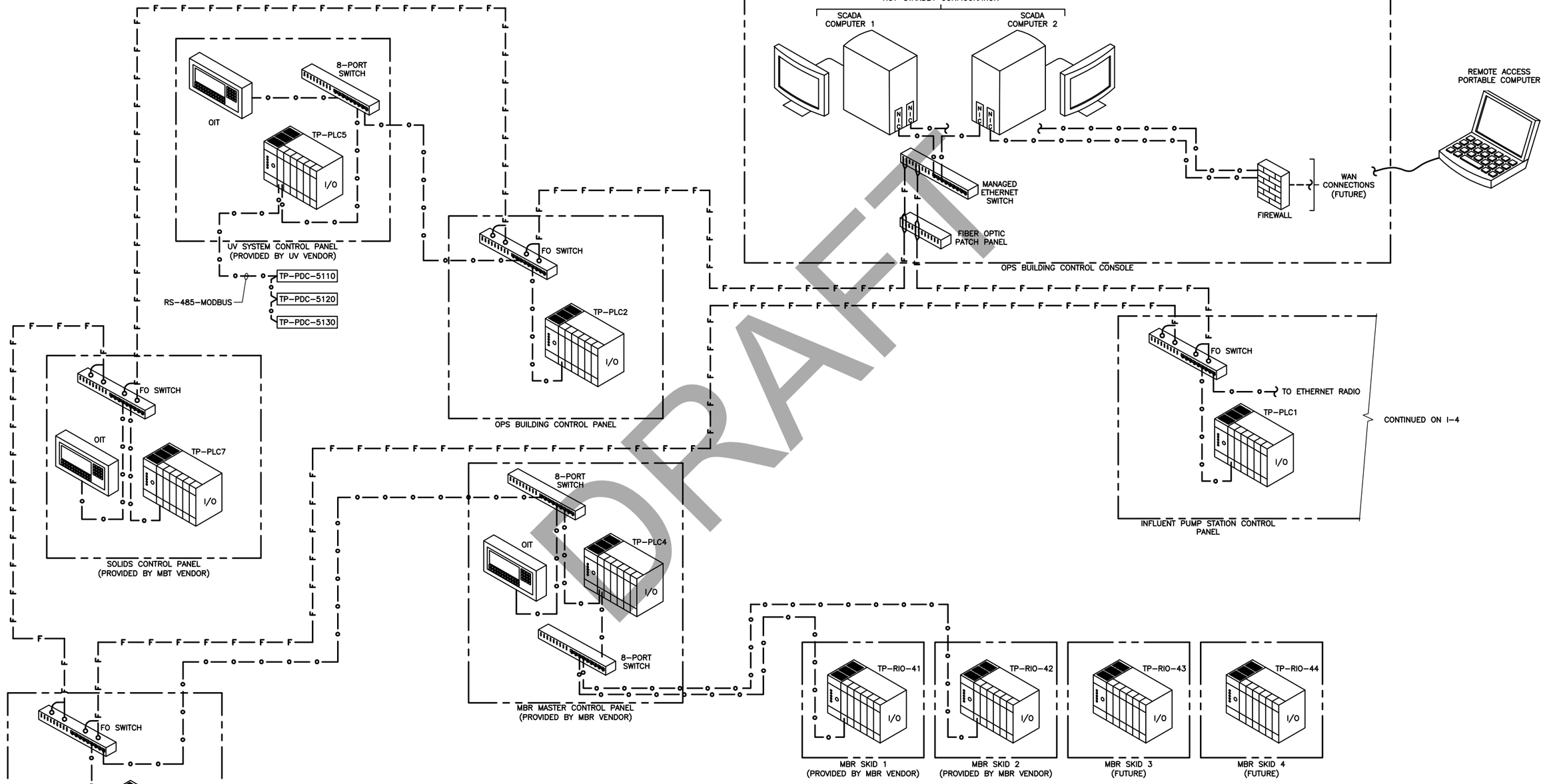

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

SYSTEM ARCHITECTURE AND NETWORK DIAGRAM - WWTP

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: –	DATE: 06/2013	PROJECT NUMBER: XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. I-3 Sheet _____ of XXX Sheets

NO.	REVISION	BY	CHKD.	DATE

PLANS PREPARED BY: RMC Water and Environment; TJC

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0" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY 1"

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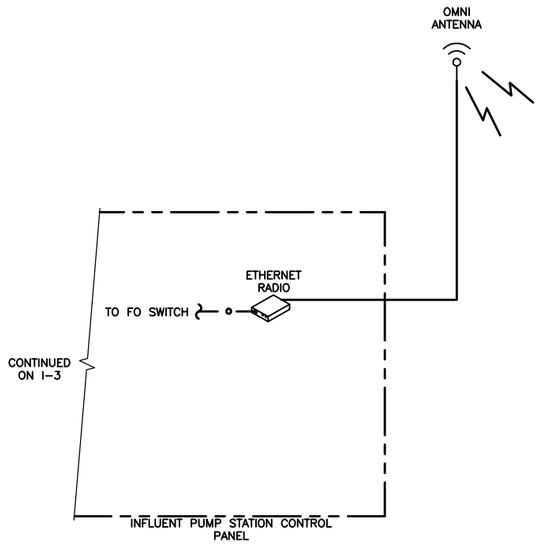

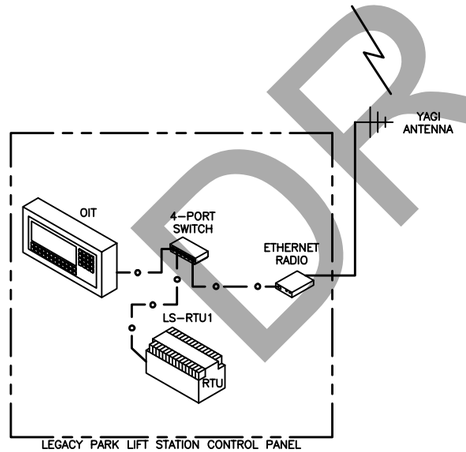

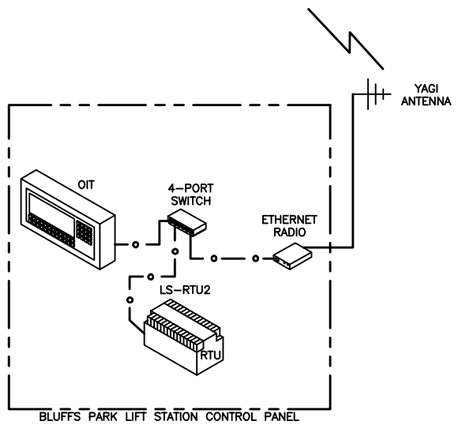

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DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Envlronment
TJC

50% Submittal Not for Construction
MICHAEL J. ERWIN
No. E 14767
EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CONTROL SYSTEM ARCHITECTURE & NETWORK
DRAWING - LIFT STATIONS/INJECTION WELLS

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY: –	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. I-4

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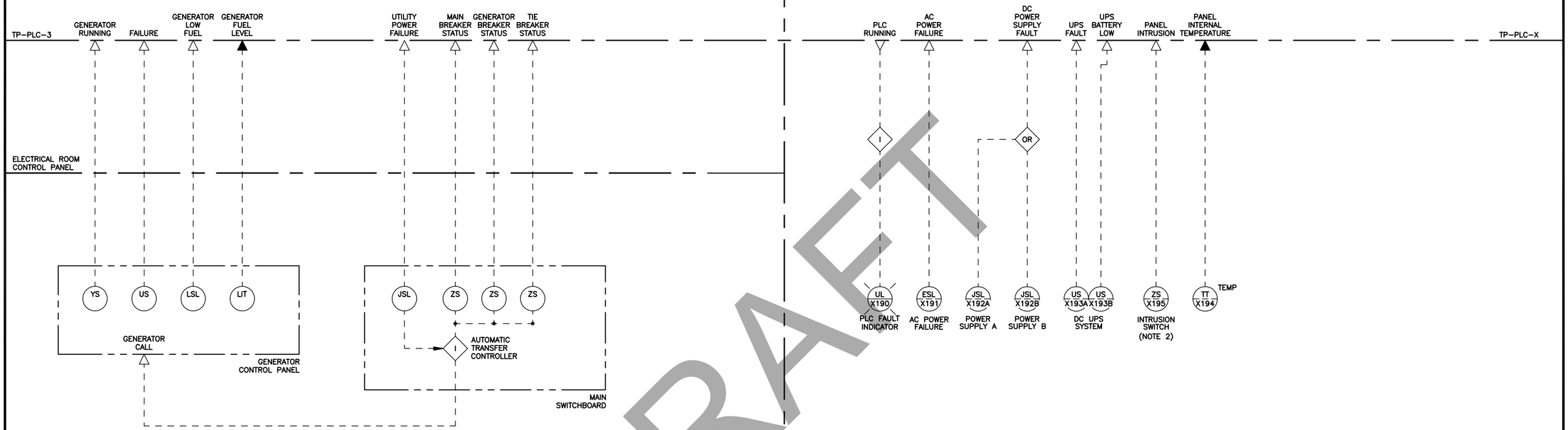

DRAFT

NOTES:

1. TYPICAL FOR ALL PLC AND RTU CONTROL PANELS. "X" INDICATES PLC OR RTU NUMBER.
2. PROVIDE ONE INTRUSION SWITCH FOR EACH CONTROL PANEL ACCESS DOOR. WIRE NC CONTACTS IN SERIES TO A SINGLE INPUT.
3. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
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PLANS PREPARED BY:
RMC Water and Envlronment
TJC

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MICHAEL J. ERWIN
No. E 14767
EXP. 6/30/14

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CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS & INSTRUMENTATION DIAGRAM
MISCELLANEOUS PLANT SYSTEMS

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. 1100-1

Sheet _____ of XXX Sheets

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DRAFT

TYPICAL FOR 3 INFLUENT PUMPS
LOOPS 1110, 1120 & 1130

TP-PLC-1

INFLUENT FLOW — FIT 1001

EQ BASIN LEVEL — LIT 1202 — LE 1202

IN REMOTE — MOV 1201 MOD

OPEN — CLOSED — VALVE POSITION — POSITION CONTROL

EQ BASIN MIXER RUNNING — EQ BASIN MIXER FAULT — EQ BASIN MIXER CALL — EQ BASIN MIXER IN REMOTE

IPS BASIN LEVEL — LIT 1102 — LE 1102

INFLUENT PUMP 1 MOTOR SPEED — INFLUENT PUMP 1 SPEED CONTROL — INFLUENT PUMP 1 RUNNING — INFLUENT PUMP 1 VFD FAULT — INFLUENT PUMP 1 CALL — INFLUENT PUMP 1 IN REMOTE — INFLUENT PUMP 1 LOW FLOW ALARM

IPS WETWELL HIGH-HIGH — LYHH 1102 ISR

IPS WETWELL LOW-LOW — LYLL 1102 ISR

INFLUENT PS CONTROL PANEL

LOR — START — STOP — HS 1210A — HS 1210B — HS 1210C — I — YL 1210 RUNNING — UL 1210 FAULT — YQ 1210 ETM — MCC

TYP OF 2

LOR — RESET — HS 1110A — HS 1110D — HMI 1110 — VFD — YL 1110 RUNNING — UL 1110 FAULT — YQ 1110 ETM — MAH 1110 — TAH 1110 — FAL 1110 — MCC

EQUALIZATION BASIN

G-1202

M — MX-1210 MIXER

V-1201

MV-1204

INFLUENT PUMP STATION

LSHH 1102

SIMILAR TO P-1110

LSLL 1102

TSH 1110 — MSH 1110 — M — P-1110

TSH 1120 — MSH 1120 — M — P-1120

_"-WW

IPS VALVE VAULT

FSL 1110 — PI 1110 — CV-1111 — PV-1111 — 8"-WW — TO HEADWORKS

FSL 1120 — PI 1120 — CV-1121 — PV-1121

FUTURE P-1130 CONNECTION

FROM COLLECTION SYSTEM — _"-WW

LE 1001 — FE-1001 — METERING MANHOLE

MANHOLE

_"-D — FROM UPPER SITE DRAINAGE

_"-D — FROM HEADWORKS EQUIPMENT DRAINS

_"-D — FROM PLANT DRAIN PUMP STATION

12"-OF — FROM HEADBOX OVERFLOW WEIR

6"-D — FROM RAS SPLITTER BOX

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment — TJC

50% Submittal Not for Construction — MICHAEL J. ERWIN No. E 14767 — EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
INFLUENT PS AND EQUALIZATION TANKS

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. 11000-1 — Sheet _____ of XXX Sheets

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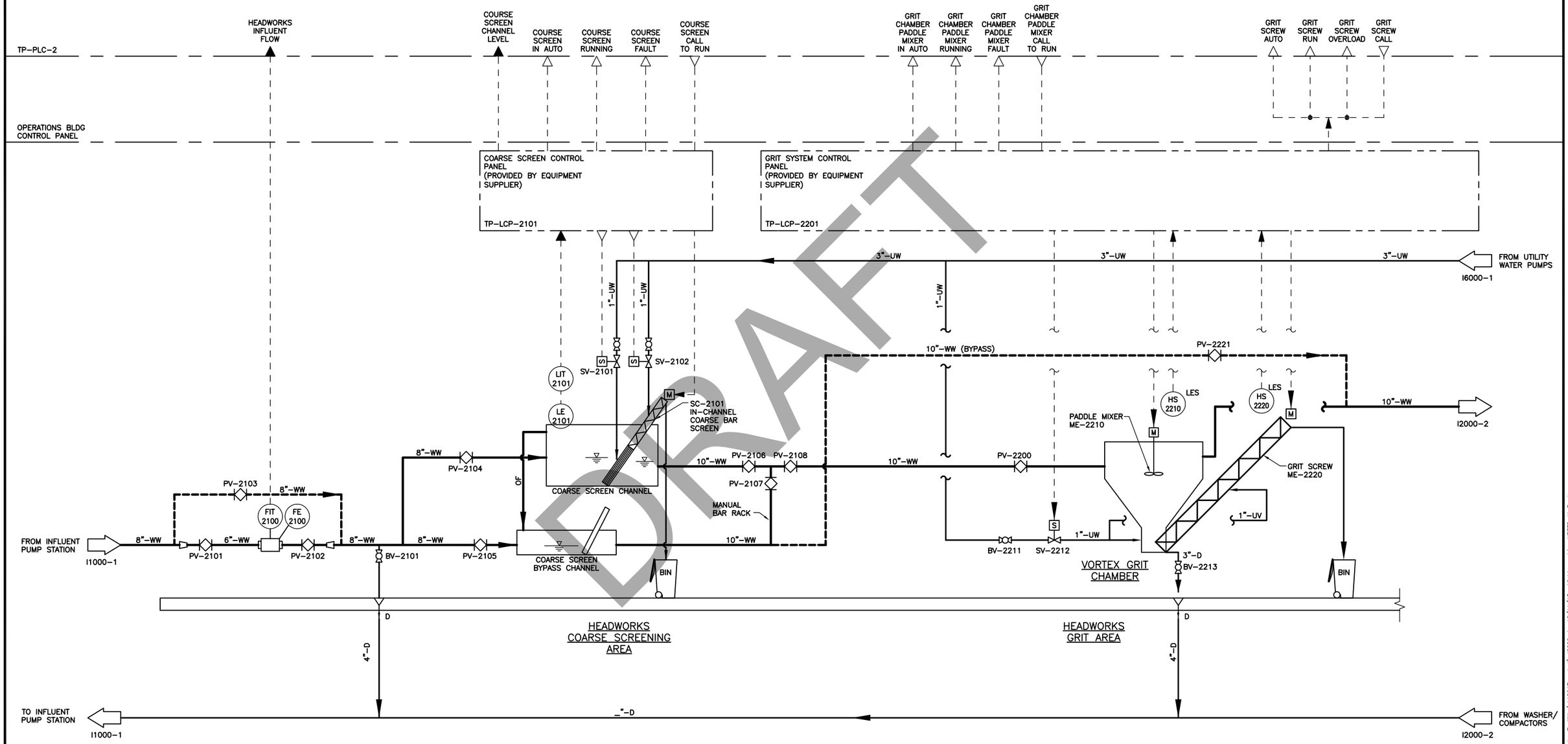

DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG. — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — VERIFY SCALES — 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment — TJC

50% Submittal Not for Construction — MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
HEADWORKS - COARSE SCREENS & GRIT AREA

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. 12000-1 — Sheet _____ of XXX Sheets

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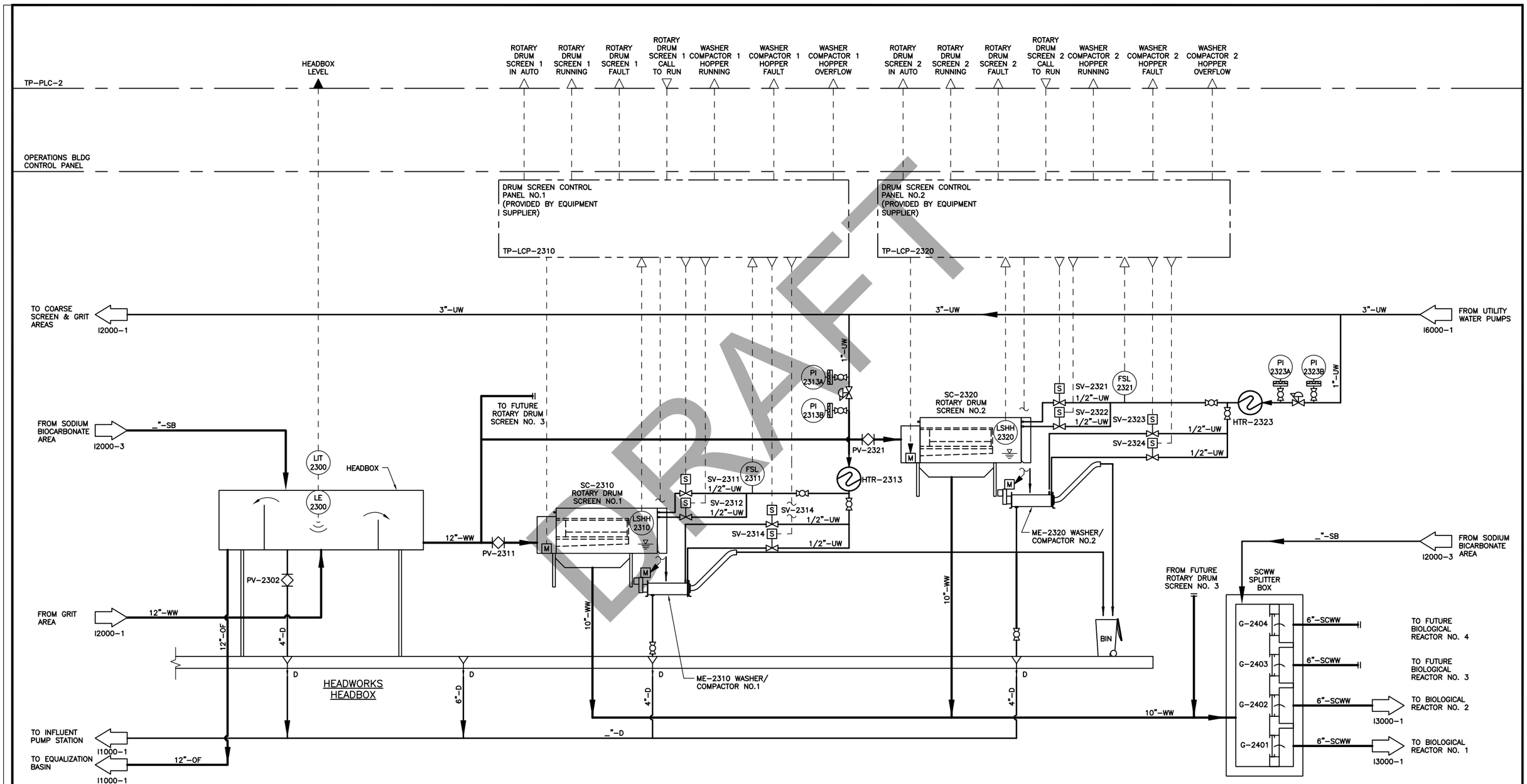

DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment; TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
HEADWORKS - FINE SCREEN & FLOW SPLITS

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
DRAWN BY: A. PRIOR	DATE: 06/2013		DATE: XX-XX-13
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. 12000-2 Sheet _____ of XXX Sheets

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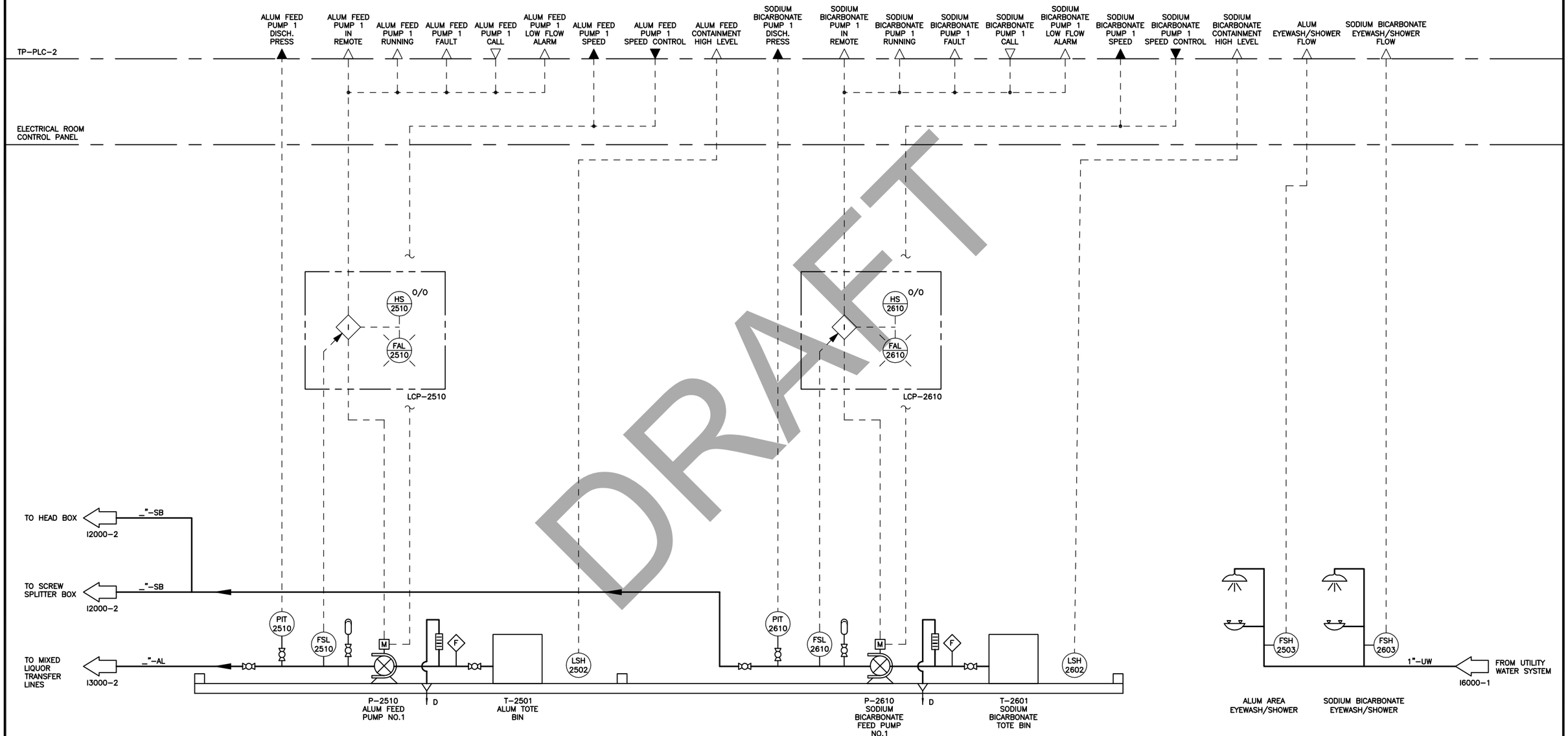

CHEMICAL AREA

DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG. AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

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PLANS PREPARED BY: RMC Water and Envlronment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 [illegible]

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
ALUM AND SODIUM BICARBONATE SYSTEMS

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. 12000-3 Sheet _____ of XXX Sheets

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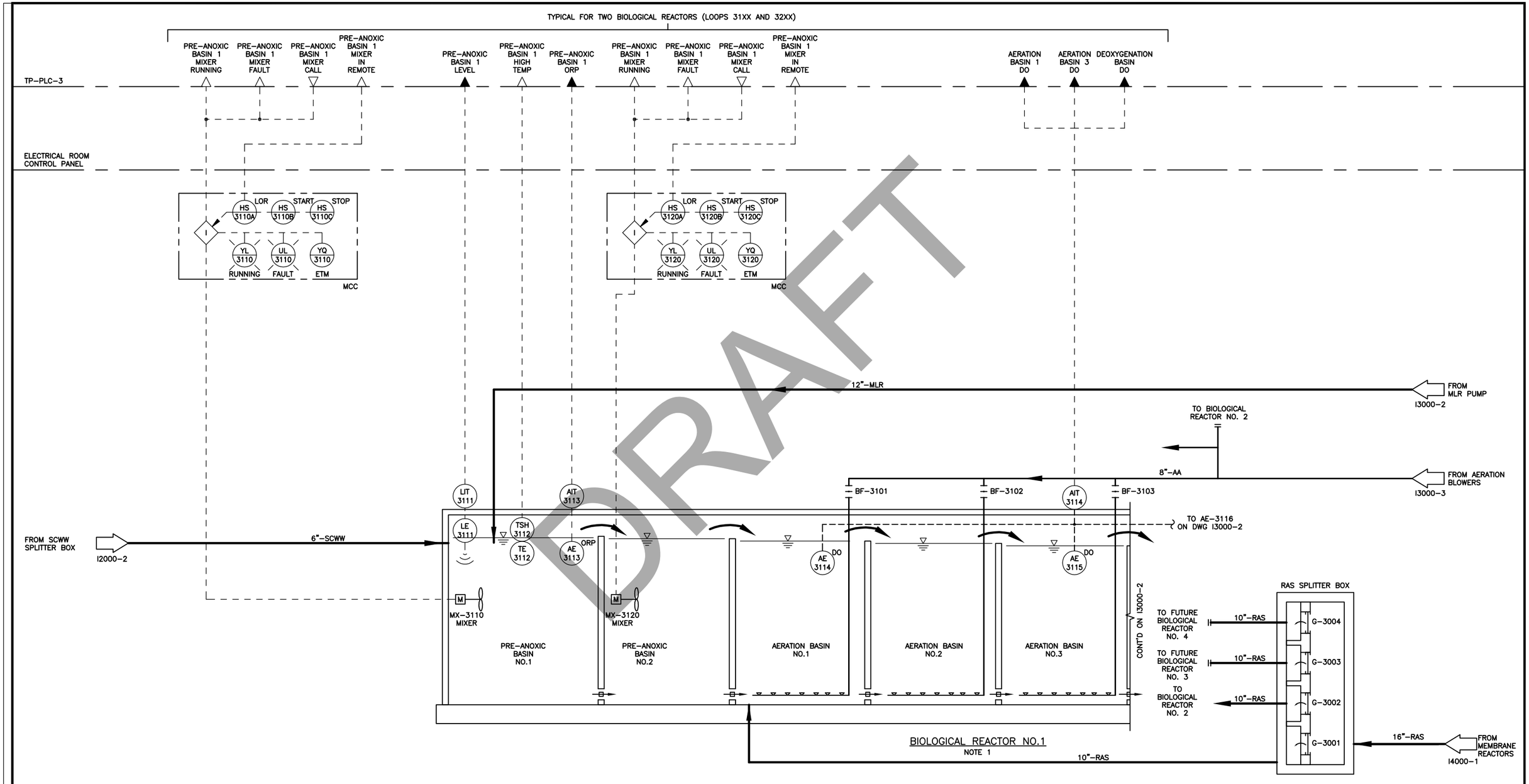

DRAFT

NOTES:

1. THIS DRAWING IS TYPICAL FOR BIOLOGICAL REACTORS NO. 1 AND NO. 2. BOTH BIOLOGICAL REACTORS NO. 1 AND NO. 2 SHALL BE INSTALLED AS PART OF PHASE 1 CONSTRUCTION. LOOP NUMBERS FOR REACTORS NO. 1 BEGIN WITH 31, LOOP NUMBERS FOR REACTOR NO. 2 BEGIN WITH 32.
2. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-4224133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Envlronment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
BIOLOGICAL REACTORS - 1

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. 13000-1 Sheet _____ of XXX Sheets

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TYPICAL FOR TWO BILOGICAL REACTORS (LOOPS 31XX & 32XX)

TP–PLC–3

DEOXIGENATION BASIN MIXER RUNNING
DEOXIGENATION BASIN MIXER FAULT
DEOXIGENATION BASIN MIXER CALL
DEOXIGENATION BASIN MIXER IN REMOTE
MLR PUMP RUNNING
MLR PUMP FAULT
MLR PUMP CALL
MLR PUMP IN REMOTE
POST ANOXIC BASIN 1 MIXER RUNNING
POST ANOXIC BASIN 1 MIXER FAULT
POST ANOXIC BASIN 1 MIXER CALL
POST ANOXIC BASIN 1 MIXER IN REMOTE
POST ANOXIC BASIN 2 LEVEL
SCUM VALVE IN REMOTE
SCUM VALVE OPEN
SCUM VALVE CLOSED
SCUM VALVE OPEN
SCUM VALVE CLOSE
SCUM TROUGH SPRAY SOLENOID
POST ANOXIC BASIN 2 NITRATES
POST ANOXIC BASIN 2 MIXER RUNNING
POST ANOXIC BASIN 2 MIXER FAULT
POST ANOXIC BASIN 2 MIXER CALL
POST ANOXIC BASIN 2 MIXER IN REMOTE
MLT PUMP MOTOR SPEED
MLT PUMP SPEED CONTROL
MLT PUMP RUNNING
MLT PUMP VFD FAULT
MLT PUMP CALL
MLT PUMP IN REMOTE

ELECTRICAL ROOM CONTROL PANEL

LOR START STOP
HS 3130A HS 3130B HS 3130C
YL 3130 RUNNING
UL 3130 FAULT
YQ 3130 ETM
MCC

LOR START STOP
HS 3111A HS 3111B HS 3111C
YL 3111 RUNNING
UL 3111 FAULT
YQ 3111 ETM
MCC

LOR START STOP
HS 3140A HS 3140B HS 3140C
YL 3140 RUNNING
UL 3140 FAULT
YQ 3140 ETM
MCC

LOR START STOP
HS 3150A HS 3150B HS 3150C
YL 3150 RUNNING
UL 3150 FAULT
YQ 3150 ETM
MCC

LOR RESET
HS 3112A HS 3112D
HMI 3112
VFD
YL 3112 RUNNING
UL 3112 FAULT
YQ 3112 ETM
MAH 3112
TAH 3112
MCC

TO PRE–ANOXIC BASIN 1
I3000–1

12"–MLR

TO AIT–3114 ON DWG I3000–1

AE 3116 DO

M P–3111 MLR PUMP

M MX–3130 MIXER

M MX–3140 MIXER

M MX–3150 MIXER

CONTD ON I3000–1

DEOXYGENATION BASIN

POST–ANOXIC BASIN NO.1

POST–ANOXIC BASIN NO.2

G–3102

OC MOV 3101

M PV–3101

S SV–3101

LIT 3151

LE 3151

SCUM TROUGH

AIT 3152

AE 3152 NO_3

CV–3111

TSH 3112 MSH 3112 M P–3112 MLT PUMP

BIOLOGICAL REACTOR NO.1
NOTE 1

_"–FA → TO ODOR CONTROL I9000–1

_"–MC ← FROM CHEMICAL AREA I8000–2

FROM FUTURE BIOLOGICAL REACTORS
FROM BIOLOGICAL REACTOR NO. 2
6"–SCUM
8"–SCUM → TO SLUDGE STORAGE TANK I7000–1

TO FUTURE BIOLOGICAL REACTORS
TO BIOLOGICAL REACTOR NO. 2
_"–UW
_"–UW ← FROM UTILITY WATER PUMPS I6000–1

FROM FUTURE BIOLOGICAL REACTORS
FROM BIOLOGICAL REACTOR NO. 2
8"–MLT
16"–MLT

FROM ALUM SYSTEM I2000–3

TO MEMBRANE REACTOR I4000–1

NOTES:

1. THIS DRAWING IS TYPICAL FOR BIOLOGICAL REACTORS NO. 1 AND NO. 2. BOTH BIOLOGICAL REACTORS NO. 1 AND NO. 2 SHALL BE INSTALLED AS PART OF PHASE 1 CONSTRUCTION. LOOP NUMBERS FOR REACTORS NO. 1 BEGIN WITH 31, LOOP NUMBERS FOR REACTOR NO. 2 BEGIN WITH 32.
2. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP–" PREFIX.

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT SERVING NINE SOUTHERN CALIFORNIA COUNTIES
PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Envlronment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
BIOLOGICAL REACTORS - 2

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. 13000-2 Sheet _____ of XXX Sheets

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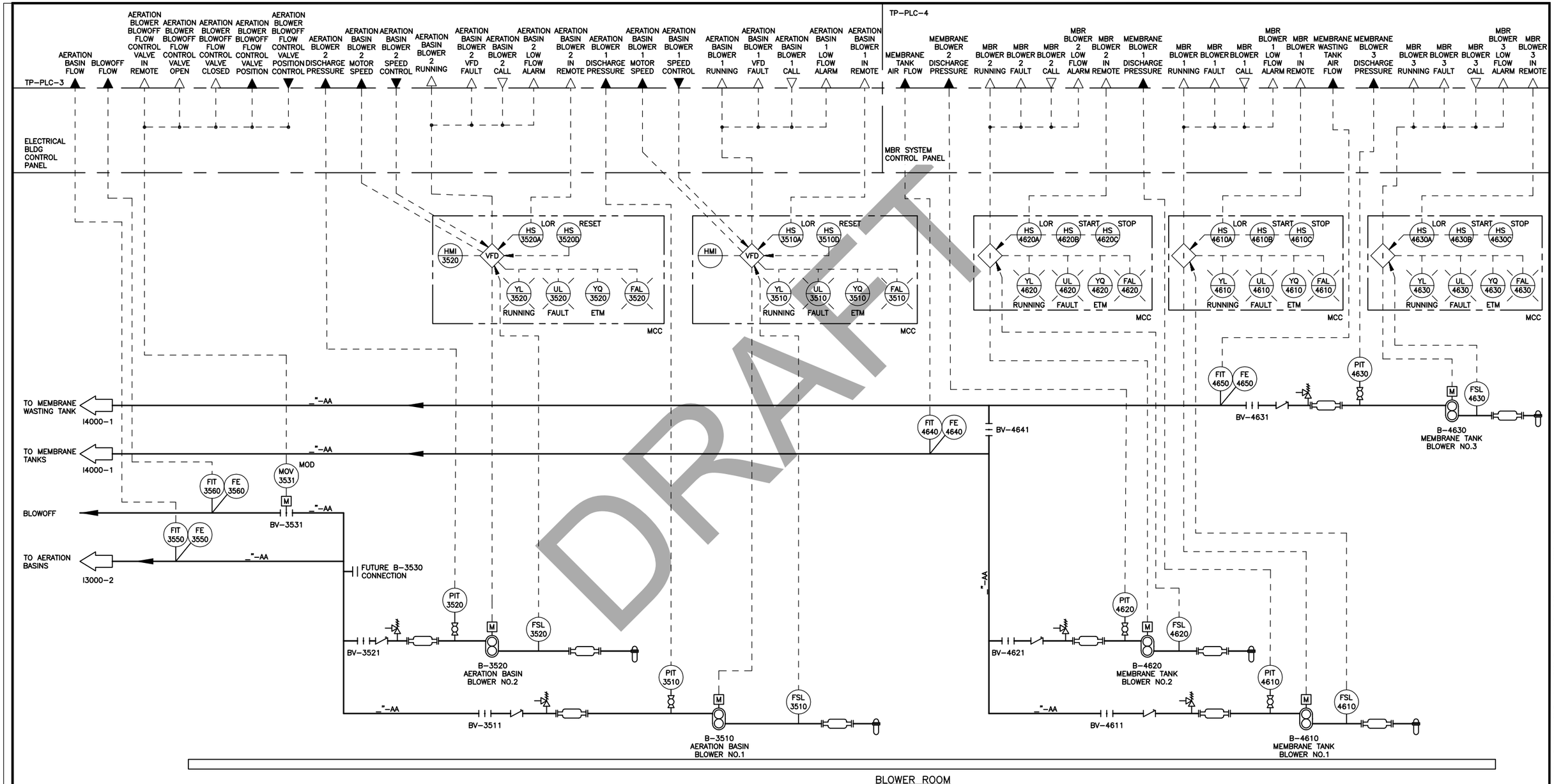

DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT SERVING NINE SOUTHERN CALIFORNIA COUNTIES

PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING

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PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 ISSUE: 6/2014

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
BLOWER ROOM

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. 13000-3 Sheet _____ of XXX Sheets

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Last Saved By: andria 10-17-13 01:29pm

TYPICAL FOR 4 MBR TANKS (LOOPS 41XX, 42XX, 43XX, 44XX)

TYPICAL FOR 4 MBR TANKS (LOOPS 4651, 4652, 4653, 4654)

TYPICAL FOR 4 MBR TANKS (LOOPS 4119, 4219, 4319, 4419)

MBR TANK 1 INFLUENT FLOW CONTROL VALVE IN REMOTE

MBR TANK 1 INFLUENT FLOW CONTROL VALVE OPEN

MBR TANK 1 INFLUENT FLOW CONTROL VALVE CLOSED

MBR TANK 1 INFLUENT FLOW CONTROL VALVE OPEN

MBR TANK 1 INFLUENT FLOW CONTROL VALVE CLOSE

MBR TANK 1 LEVEL

MBR TANK 1 AIR VALVE IN REMOTE

MBR TANK 1 AIR VALVE OPEN

MBR TANK 1 AIR VALVE CLOSED

MBR TANK 1 AIR VALVE OPEN

MBR TANK 1 AIR VALVE CLOSE

MBR TANK 1 DRAIN VALVE IN REMOTE

MBR TANK 1 DRAIN VALVE OPEN

MBR TANK 1 DRAIN VALVE CLOSED

MBR TANK 1 DRAIN VALVE OPEN

MBR TANK 1 DRAIN VALVE CLOSE

THICKENED SLUDGE FLOW CONTROL VALVE POSITION CONTROL

THICKENED SLUDGE FLOW CONTROL VALVE POSITION

THICKENED SLUDGE FLOW CONTROL VALVE IN REMOTE

THICKENED SLUDGE FLOW CONTROL VALVE OPEN

THICKENED SLUDGE FLOW CONTROL VALVE CLOSED

TP-PLC-4

MBR SYSTEM CONTROL PANEL

3"-AA FROM BLOWERS I3000-3

_"-UW FROM UTILITY WATER PUMPS I6000-1

8"-MLT TO MBR TANK NO.4 (NOT SHOWN - FUTURE USE)

8"-MLT TO MBR TANK NO.3 (NOT SHOWN - FUTURE USE)

8"-MLT TO MBR TANK NO.2

3"-AA

"-UW

O/C MOV 4651

M

MBR TANK PACKAGE BY MFR

AIR-VAC VALVE

BFV-4111

6"-PRM

6"-PRM BFV-4112

TO PERMEATE PUMP I4000-2

LIT 4110

LE 4110

FROM FUTURE MBR TANK 4

FROM FUTURE MBR TANK 3

FROM MBR TANK 2

8"-RAS PV-4114

16"-RAS

8"-RAS

MBR-4110 MBR TANK NO.1

O/C MOV 4100

PV-4100

M

FROM POST-ANOXIC BASIN NO.2 I3000-2

16"-MLT

8"-MLT

O/C MOV 4119

MOD MOV 4700

6"-WAS TO SOLIDS STORAGE TANK I7000-1

M PV-4119

6"-WAS

PV-4001

PV-4700

8"-D

D

MBR TANK NO.1
(TYPICAL FOR MBR TANK NO. 2 AND FUTURE TANKS 3 & 4)
NOTE 1

TO AERATION BASIN NO.1 VIA RAS SPLITTER BOX I3000-1

16"-RAS

TO INFLUENT PUMP STATION I1000-1

_"-D

NOTES:

1. THIS DRAWING IS TYPICAL FOR MBR TANKS NO. 1 AND NO. 2. BOTH MBR TANKS NO. 1 AND NO. 2 SHALL BE INSTALLED AS PART OF PHASE 1 CONSTRUCTION. LOOP NUMBERS FOR MBR TANK TANK NO. 1 BEGIN WITH 41, LOOP NUMBERS FOR MBR TANK NO. 2 BEING WITH 42.

2. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

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PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
MBR TANK TRAIN 1 & 2

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: XX-XX-13 DATE
DRAWN BY: A. PRIOR	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. I4000-1

Sheet _____ of XXX Sheets

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Last Saved By: andria 10-11-13 02:15pm

TYPICAL FOR 4 MBR TRAINS (LOOPS 41XX, 42XX, 43XX, AND, 44XX)

TP–PLC–4

MBR SYSTEM CONTROL PANEL

MBR 1 HYPOCHLORITE INJECTION SOLENOID
MBR 1 CITRIC ACID INJECTION SOLENOID
PERMEATE PUMP 1 INLET VALVE IN REMOTE
PERMEATE PUMP 1 INLET VALVE OPEN
PERMEATE PUMP 1 INLET VALVE CLOSED
PERMEATE PUMP 1 INLET VALVE OPEN
PERMEATE PUMP 1 INLET VALVE CLOSE
PERMEATE PUMP 1 MOTOR SPEED
PERMEATE PUMP 1 SPEED CONTROL
PERMEATE PUMP 1 RUNNING FOWARD
PERMEATE PUMP 1 RUNNING REVERSE
PERMEATE PUMP 1 VFD FAULT
PERMEATE PUMP 1 CALL FORWARD
PERMEATE PUMP 1 CALL REVERSE
PERMEATE PUMP 1 IN REMOTE
HIGH BACK PULSE PRESSURE
HIGH DISCH PRESSURE
PERMEATE PUMP 1 FLOW
PERMEATE PUMP 1 BACK PULSE VALVE IN REMOTE
PERMEATE PUMP 1 BACK PULSE VALVE OPEN
PERMEATE PUMP 1 BACK PULSE VALVE CLOSED
PERMEATE PUMP 1 BACK PULSE VALVE OPEN
PERMEATE PUMP 1 BACK PULSE VALVE CLOSE
PERMEATE TURBIDITY
BACK PULSE TANK LEVEL

HMI 4110
VFD
LOR
HS 4110A
RESET
HS 4110D
YL 4110F RUNNING FORWARD
YL 4110B RUNNING REVERSE
UL 4110 FAULT
YQ 4110 ETM
PAH 4110A HIGH BACK PULSE PRESSURE
PAH 4110B HIGH DISCH PRESSURE
MCC

TO PERMEATE PUMP NO.4
TO PERMEATE PUMP NO.3
TO PERMEATE PUMP NO.2
TO PERMEATE PUMP NO.4
TO PERMEATE PUMP NO.3
TO PERMEATE PUMP NO.2

_"–SH
FROM HYPOCHLORITE PUMP NO. 1
I8000–1
_"–CA
FROM CITRIC ACID PUMP
I8000–2

FROM MBR TANK NO.4 (FUTURE)
BFV–4003
TO PERMEATE PUMP NO.4 (FUTURE)
FROM MBR TANK NO.3 (FUTURE)
BFV–4002
TO PERMEATE PUMP NO.3 (FUTURE)
FROM MBR TANK NO. 2
6"–PRM
I4000–1
BFV–4001
6"–PRM
PERMEATE PUMP NO.2 CONNECTION
FROM MBR TANK NO. 1
I4000–1
6"–PRM
BFV–4112

SKID–MOUNTED PUMP PACKAGE BY MFR

S SV–4111
S SV–4112
MOV 4113 O/C
M
BFV–4113

PSH 4110A
PI 4110A
PSH 4110B
PI 4110B
M
P–4110 PERMEATE PUMP NO.1
FIT 4112
FE 4112
BFV–4114

FROM PERMEATE PUMP NO.4 (FUTURE)
MOV 4115 O/C
FROM PERMEATE PUMP NO.3 (FUTURE)
FROM PERMEATE PUMP NO.2
M
6"–MLT
BFV–4115
CV–4111
6"–PRM

8"–PRM

LIT 4001
LE 4001
T–4001 BACKPULSE TANK
AIT 4002
AE 4002
TURB
BFV–4004
BFV–4006
8"–UVI
TO UV DISINFECTION
I5000–1
8"–PRM
BFV–4005

PERMEATE PUMP NO. 1
(TYP FOR PUMP 2 AND FUTURE PUMPS 3 & 4)

BACKPULSE TANK

DRAFT

NOTES:

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2. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP–" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING. SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — VERIFY SCALES — 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment; TJC

50% Submittal Not for Construction — MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
MBR TRAIN 1&2 PERMEATE PUMPS & BACK PULSE TANK

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. I4000-2 — Sheet _____ of XXX Sheets

FILENAME: I4000-2 10-17-13 01:30pm andria || XREFS: X-Border |<--

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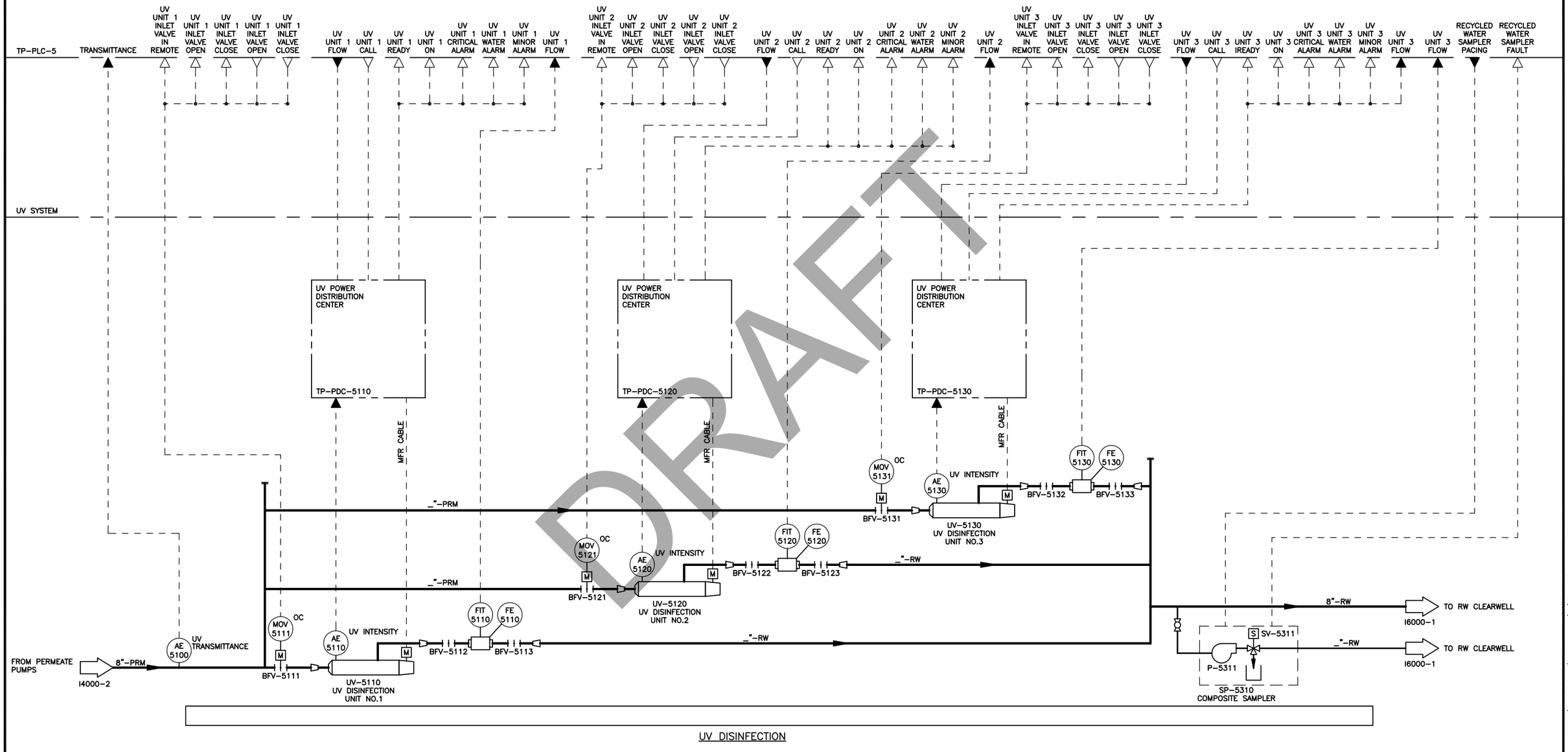

UV DISINFECTION

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT SERVING NINE SOUTHERN CALIFORNIA COUNTIES PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Envlronment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
UV DISINFECTION

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. 15000-1 Sheet _____ of XXX Sheets

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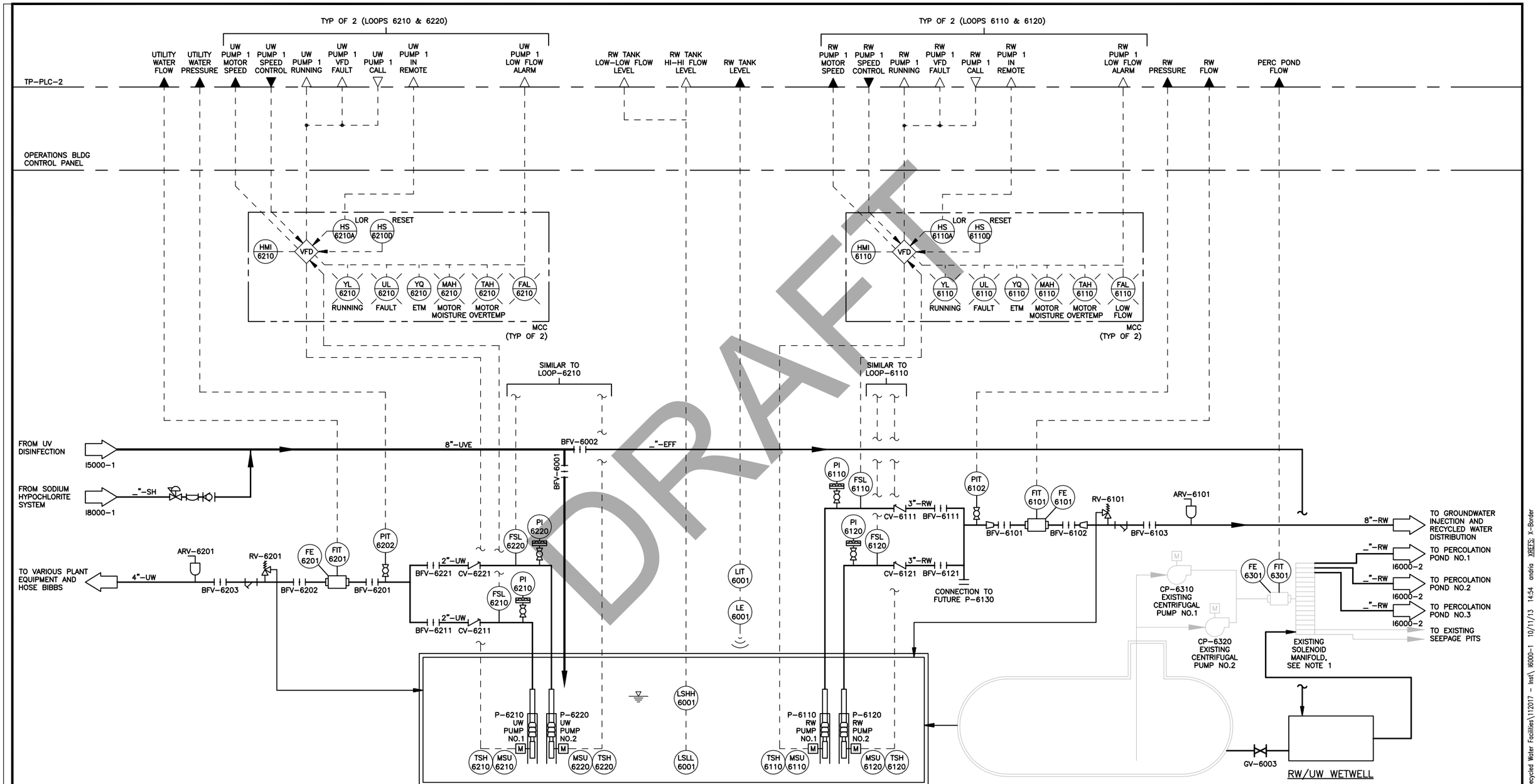

DRAFT

NOTES:

1. TWO EFFLUENT PUMPS CURRENTLY PUMP INTO A MANIFOLD WITH 16 SOLENOID VALVES. TWO OF THE SOLENOID VALVES WILL BE KEPT IN SERVICE TO EXISTING SEEPAGE PITS, AND THREE WILL BE RE-PURPOSED FOR DISCHARGE TO PERCOLATION PONDS.
2. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE, DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
RWPS, UWPS, EXISTING EFFLUENT PS AND RW TANK

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. I6000-1 Sheet _____ of XXX Sheets

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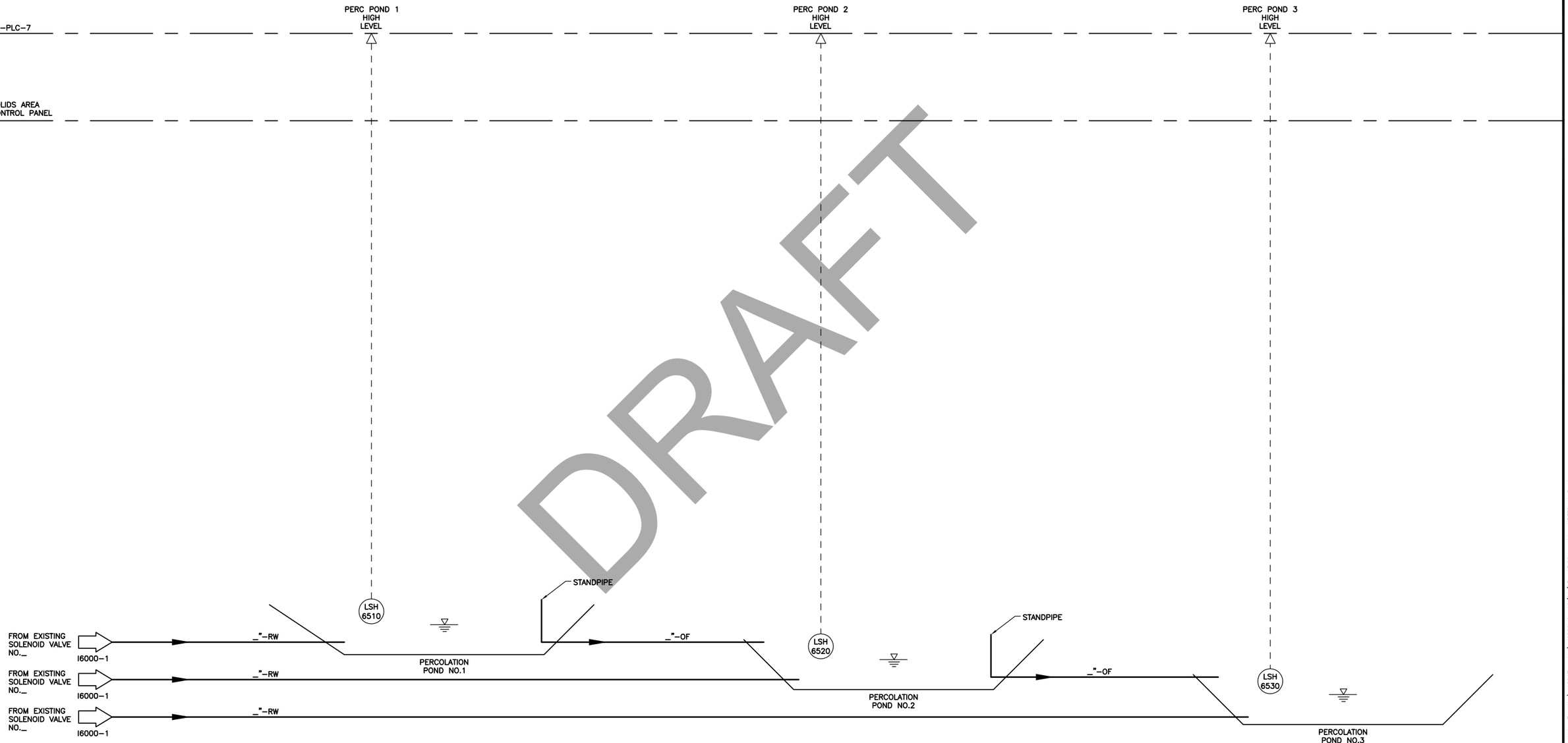
MBR TANKS, PERMEATE PUMPS & BACKPULSE TANK



DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG. AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
PERCOLATION PONDS

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. 16000-2 Sheet _____ of XXX Sheets

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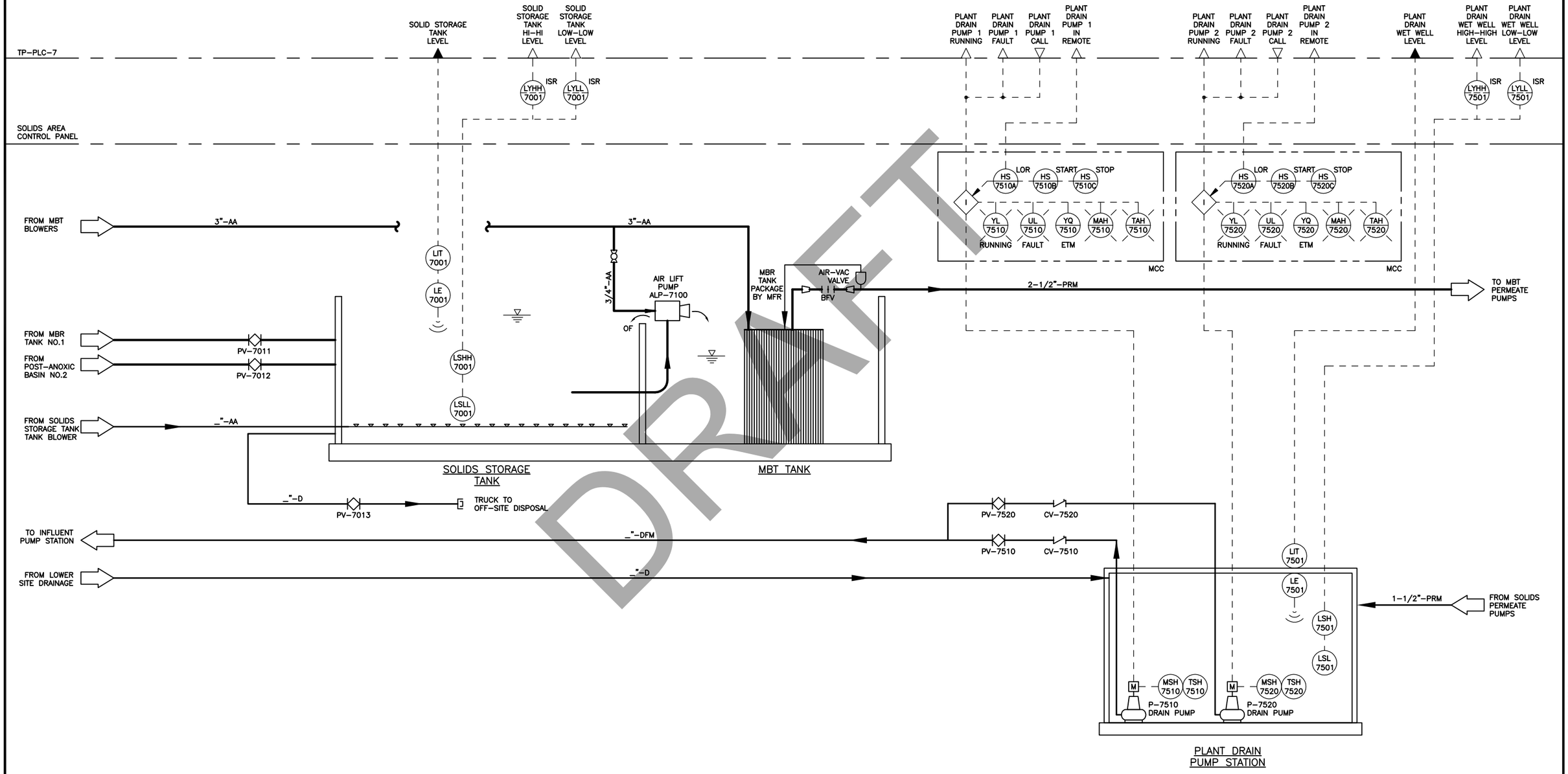

DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES 1" — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment — TJC

50% Submittal Not for Construction — MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM SOLIDS STORAGE TANK, MEMBRANE THICKENER & PLANT DRAIN PS

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. 17000-1 — Sheet _____ of XXX Sheets

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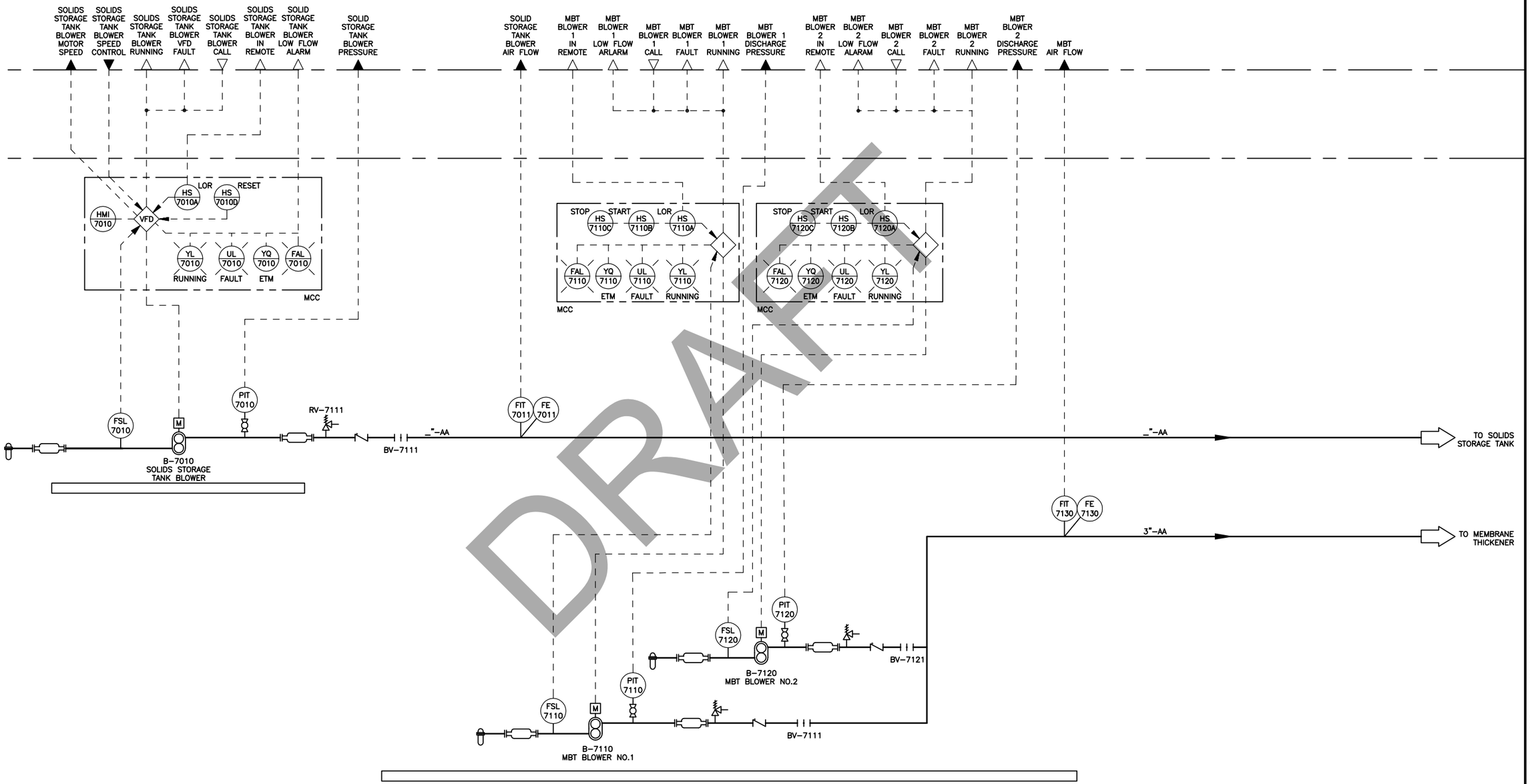

DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 [illegible]

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
SOLIDS AREA BLOWERS

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
DRAWN BY: A. PRIOR	DATE: 06/2013		DATE: XX-XX-13
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. 17000-2 Sheet _____ of XXX Sheets

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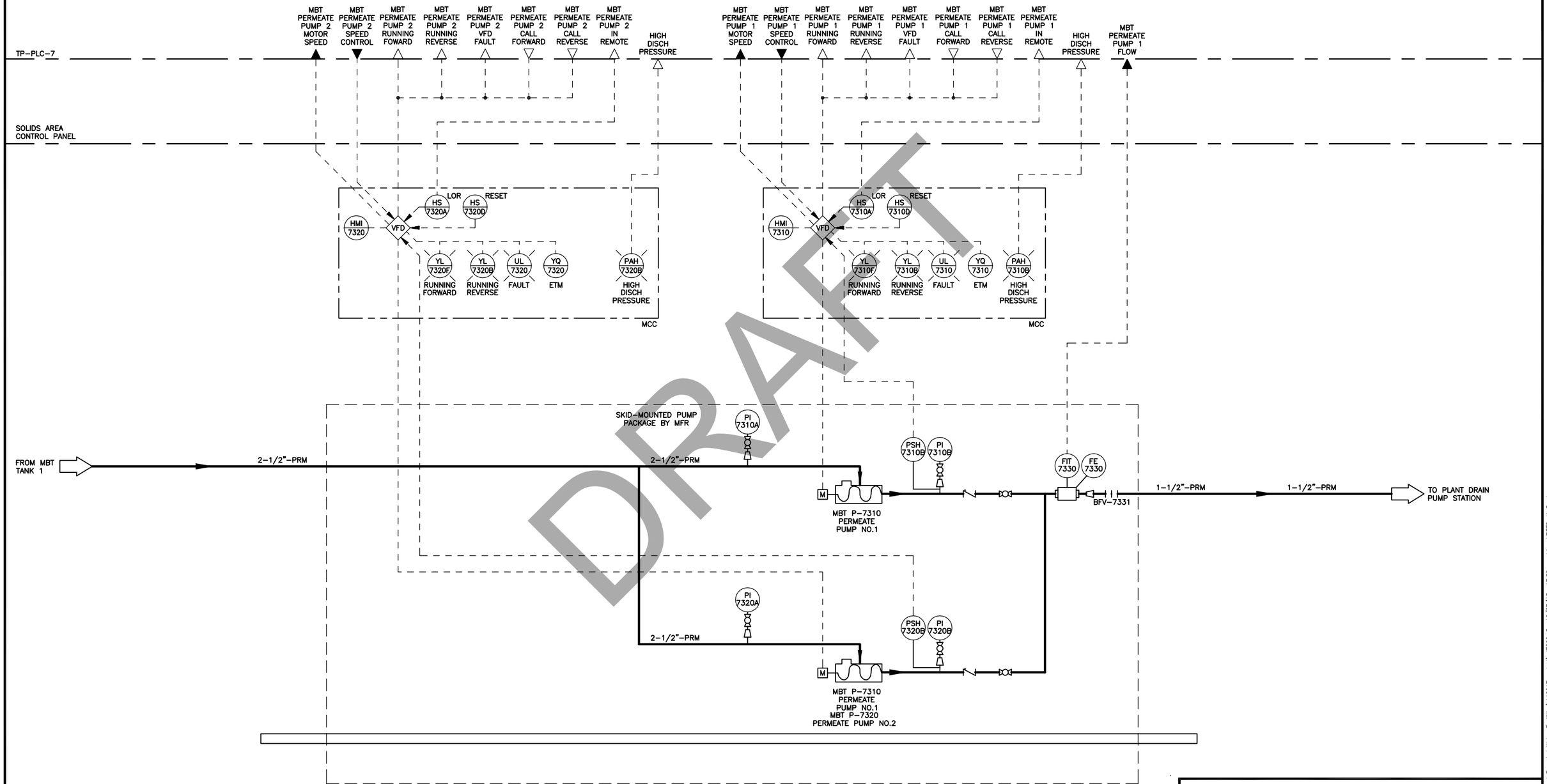

MBT SYSTEM PERMEATE PUMP SKID

DRAFT

NOTES:

1. MBR TANK NO.1 (MBR-4110) AND PERMEATE PUMP NO.1 (P-4110) WILL BE USED FOR SOLIDS THICKENING AT STARTUP, WITH THE PROVISION FOR FUTURE USE AS A REGULAR MBR TANK.
2. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment — TJC

50% Submittal Not for Construction — MICHAEL J. ERWIN No. E 14767 EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
MBT PERMEATE PUMPS

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. 17000-3

Sheet _____ of XXX Sheets

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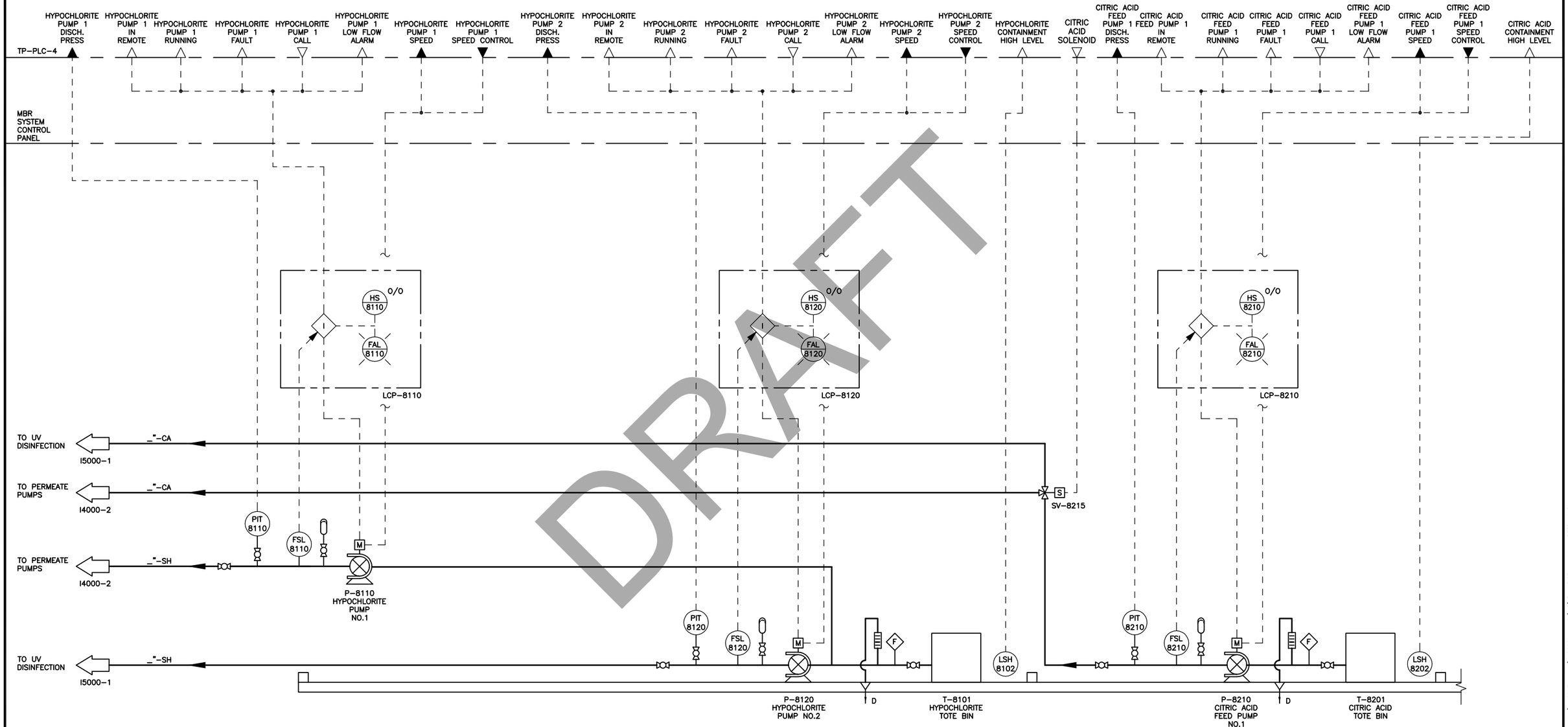

CHEMICAL AREA

DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment
TJC

50% Submittal Not for Construction
MICHAEL J. ERWIN
No. E 14767
EXP. 6/30/15

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DRAWING
HYPOCHLORITE AND CITRIC ACID SYSTEMS

DESIGNED BY: M. ERWIN	DATE 06/2013	SCALE NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: A. PRIOR	DATE 06/2013		
CHECKED BY:	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. 18000-1

Sheet _____ of XXX Sheets

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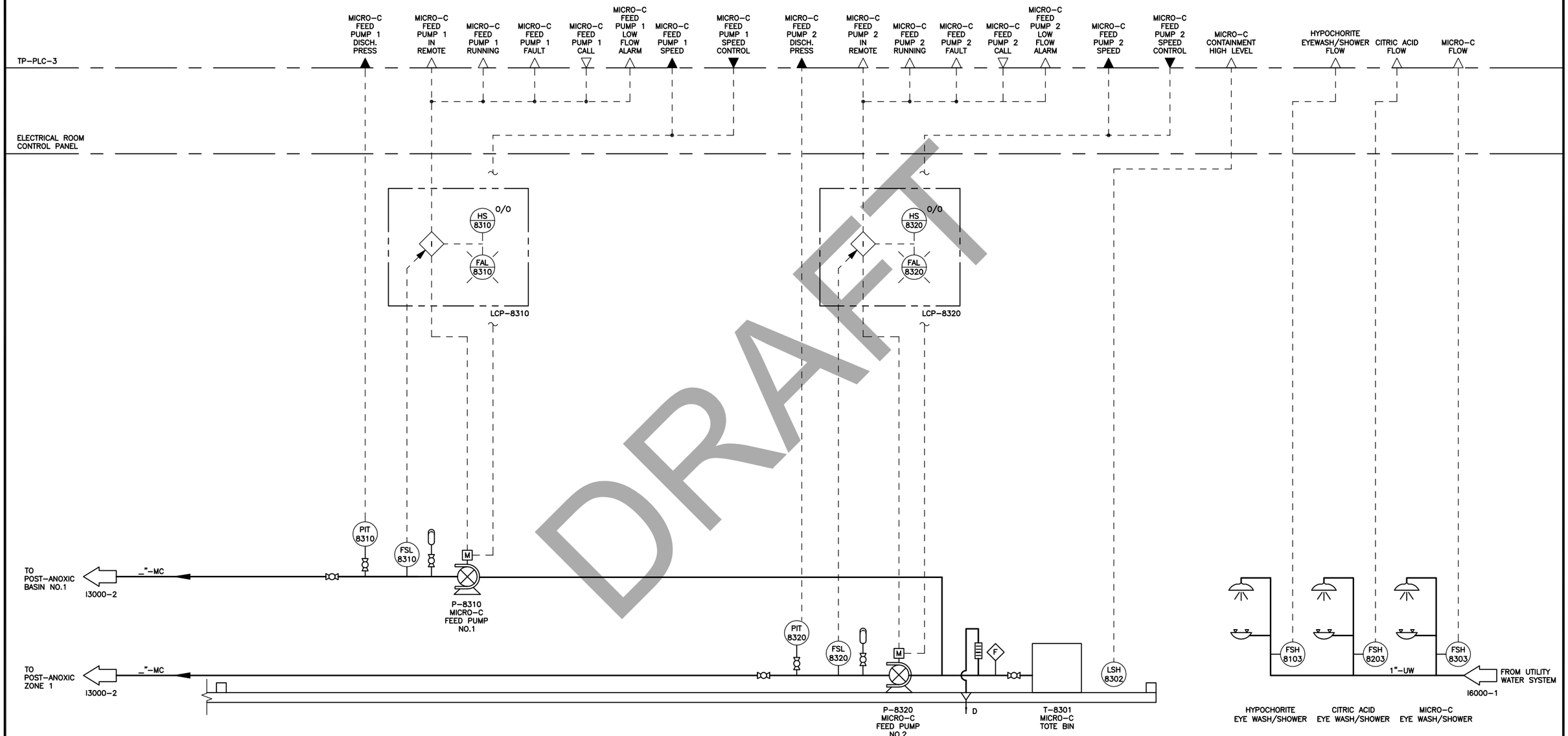

DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 REG. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
MICRO-C SYSTEM & EYEWASH/SHOWER STATIONS

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. 18000-2 Sheet _____ of XXX Sheets

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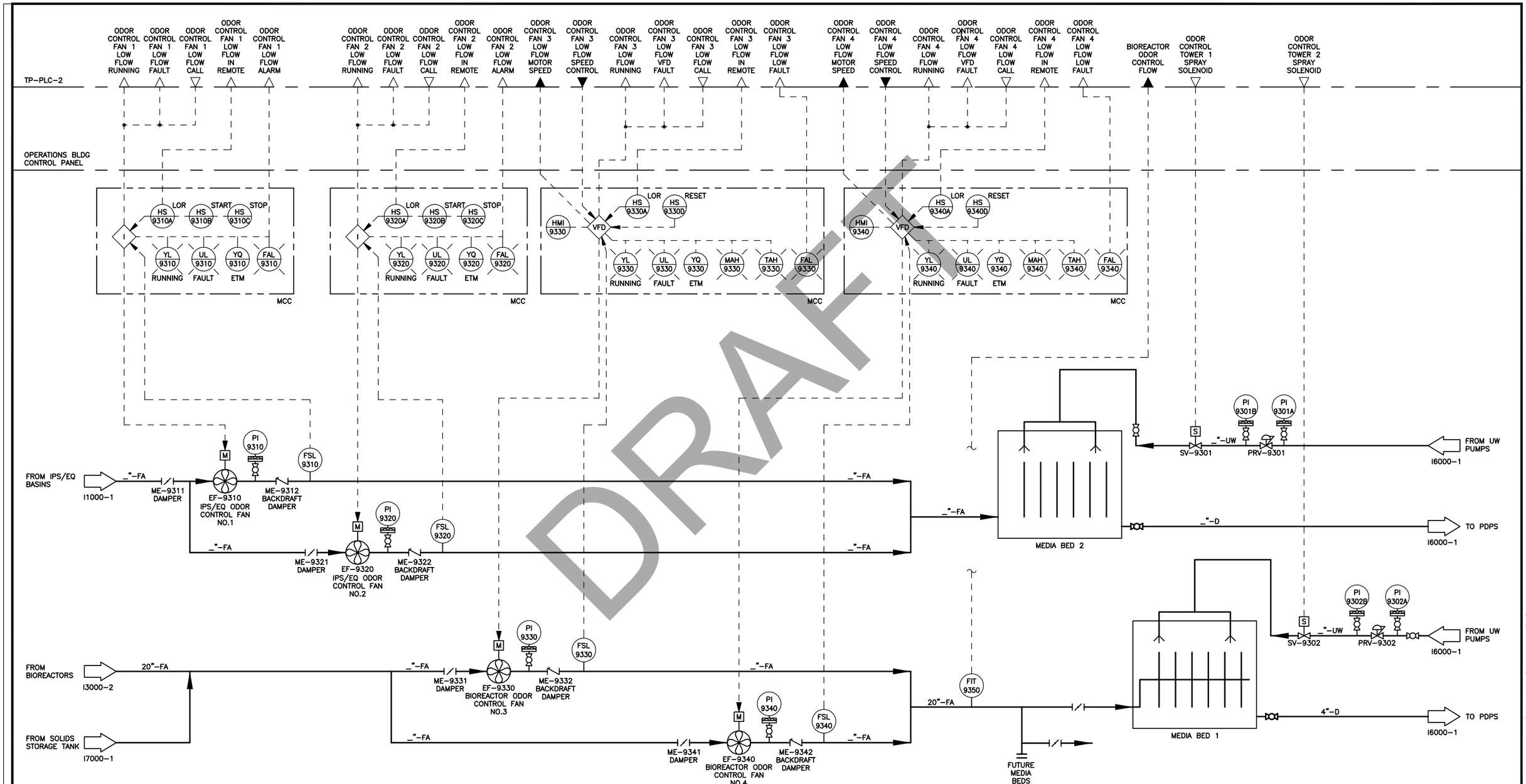

DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "TP-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
ODOR CONTROL

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. 19000-1 Sheet _____ of XXX Sheets

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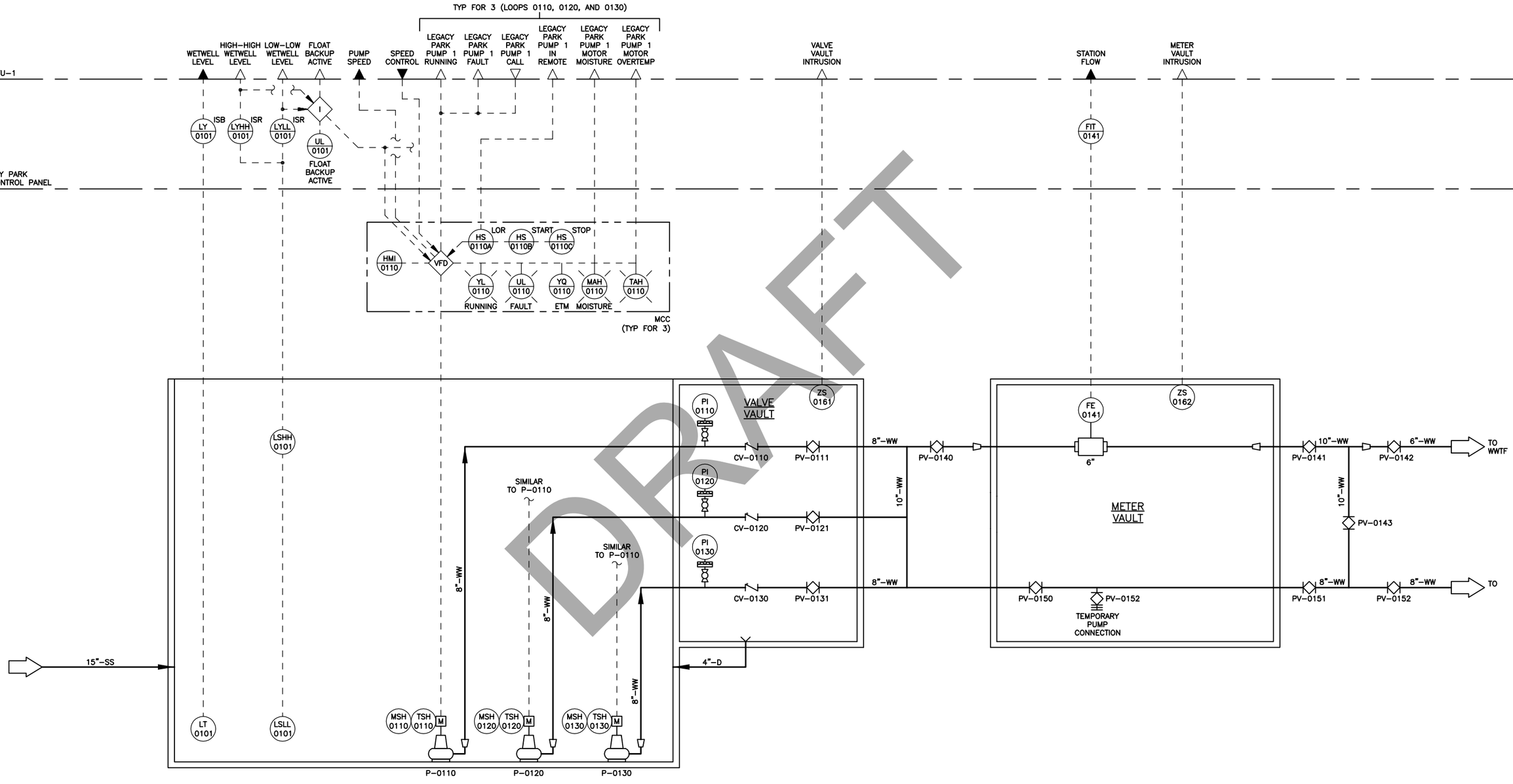

DRAFT

NOTES:

1. COMPLETE TAG NAMES FOR ALL DEVICES SHOWN INCLUDE "LS-" PREFIX.

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment TJC

50% Submittal Not for Construction MICHAEL J. ERWIN No. E 14767 EXP. 6/30/14

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

PROCESS AND INSTRUMENTATION DIAGRAM
LEGACY PARK LIFT STATION

DESIGNED BY: M. ERWIN	DATE: 06/2013	SCALE: NONE	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE: XX-XX-13
DRAWN BY: A. PRIOR	DATE: 06/2013		
CHECKED BY:	DATE: 06/2013	PROJECT NUMBER: XXXX	

Plan No. IX000-1 Sheet ____ of XXX Sheets

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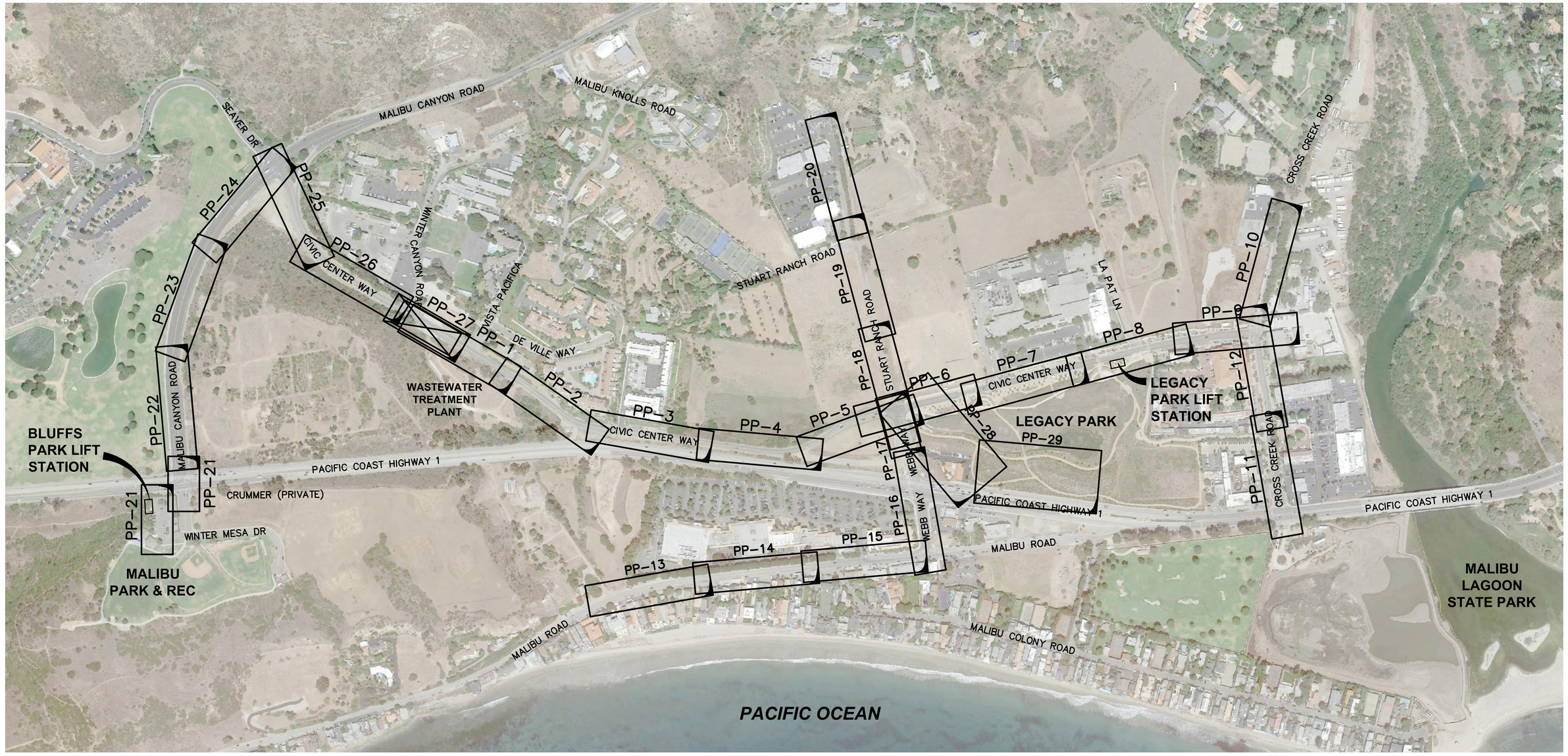


KEY PLAN
1"=250'

DRAWING NUMBER — PP-1 — PLAN WINDOW, ON SHEET

INDICATES LOWER RIGHT CORNER OF PLAN WINDOW

N

0 250 500 750
SCALE IN FEET

BASIS OF COORDINATES
NAD 83 (1991.35 EPOCH)

NGS CONTROL
MAILBU EW9594
N 1835201.779'
E 6349016.800'

STAINLESS STEEL ROD IN MONUMENT WELL 59.0 FEET SOUTHWESTERLY OF THE SOUTHWEST CORNER OF THE MAINTENANCE BUILDING AND 56.0 FEET SOUTHEASTERLY OF THE SOUTHEASTERN ANGLE POINT OF THE BASEBALL FIELD FENCE IN MALIBU BLUFFS STATE BEACH, STAMPED "MAILBU 1992 LS 6172", STAMP IS ON UNDERSIDE OF MONUMENT WELL LID.

NGS CONTROL
P 99 RESET EW4014
N 1837107.330'
E 6385054.838'

BENCHMARK DISK SET IN THE TOP AND 1.9 FOOT WEST OF THE EAST END OF THE SOUTH CONCRETE RETAINING WALL FOR THE EAST ABUTMENT OF BRIDGE 53-35 OVER TOPANGA CREEK, 35 FEET SOUTH OF THE CENTERLINE OF THE SOUTH LANES OF PACIFIC COAST HIGHWAY, STAMPED "P 99 1933".

BENCHMARK
BM 5395
ELEV 58.645'
COUNTY OF LOS ANGELES DATUM

IN CENTER ISLAND OF PACIFIC COAST HIGHWAY 1,246.71 FEET WEST OF WEBB WAY AND 52.49 FEET SOUTHWEST OF LIGHT STANDARD #2081389E, MARKED "LAS FLORES A-8 1950".

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAN IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

KEY PLAN

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

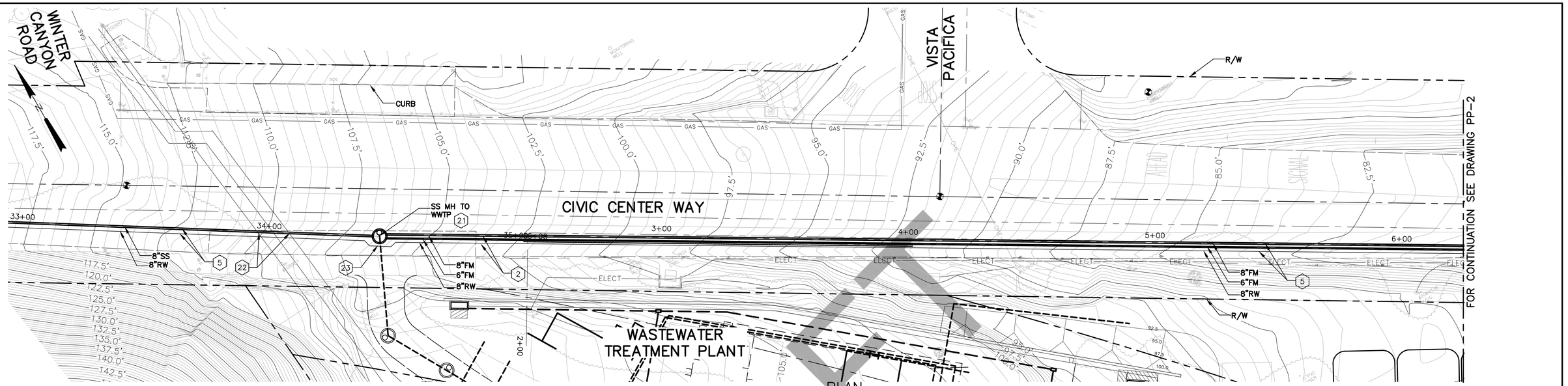
Plan No. GP-1

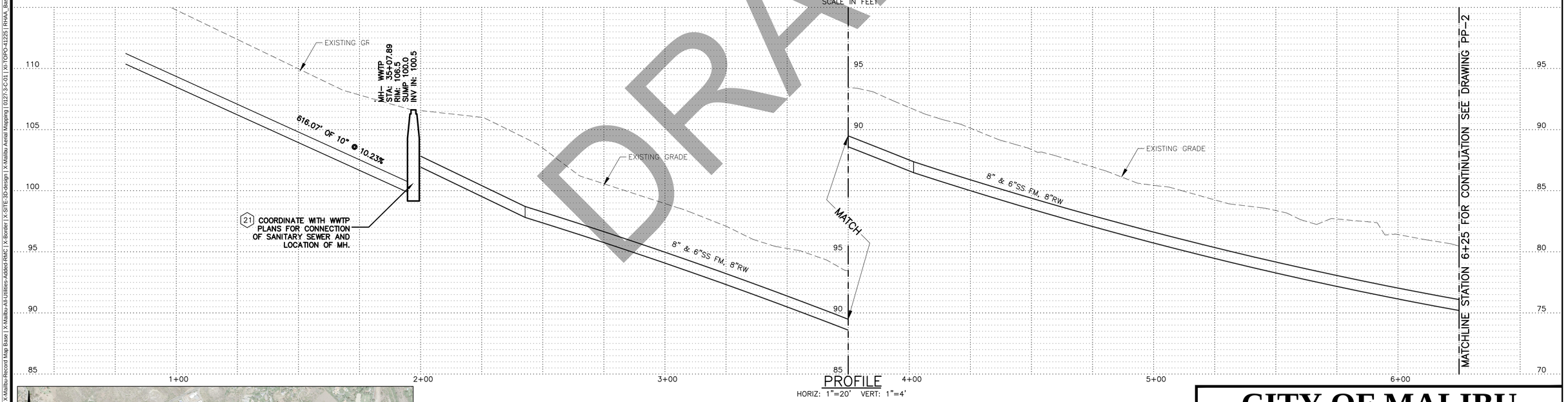
Sheet _____ of XXX Sheets

FILENAME: 0127-006-GP-1 10-22-13 08:40am rmartinez || XREFS: || X-Border || X-Malibu-Record Map Base ||<<--

Last Saved By: rmartinez 10-22-13 08:39am

DRAFT





PROFILE
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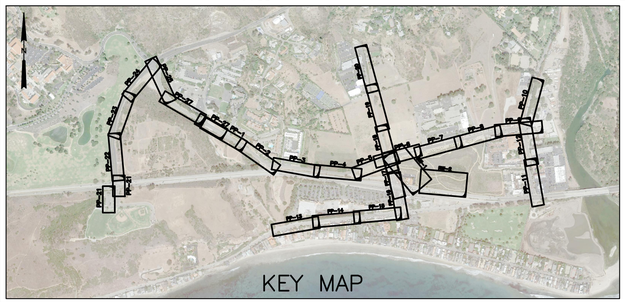


SANITARY SEWER CONSTRUCTION NOTES:

2 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 2/UC-3

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

21 COORDINATE WITH WWTP PLANS FOR CONNECTION OF SANITARY SEWER AND LOCATION OF MH.

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_

23 FOR CONNECTION/ROUTING OF RW, SEE SHEET GC-_ DETAIL GC-_

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY 1"

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 1

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

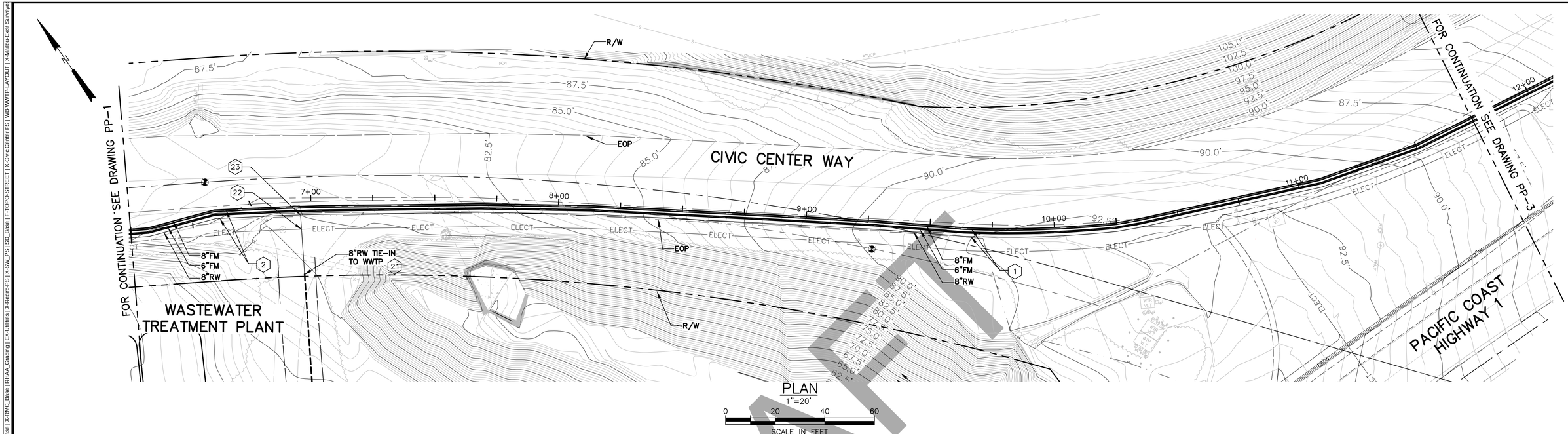
Plan No. PP-1

Sheet _____ of XXX Sheets

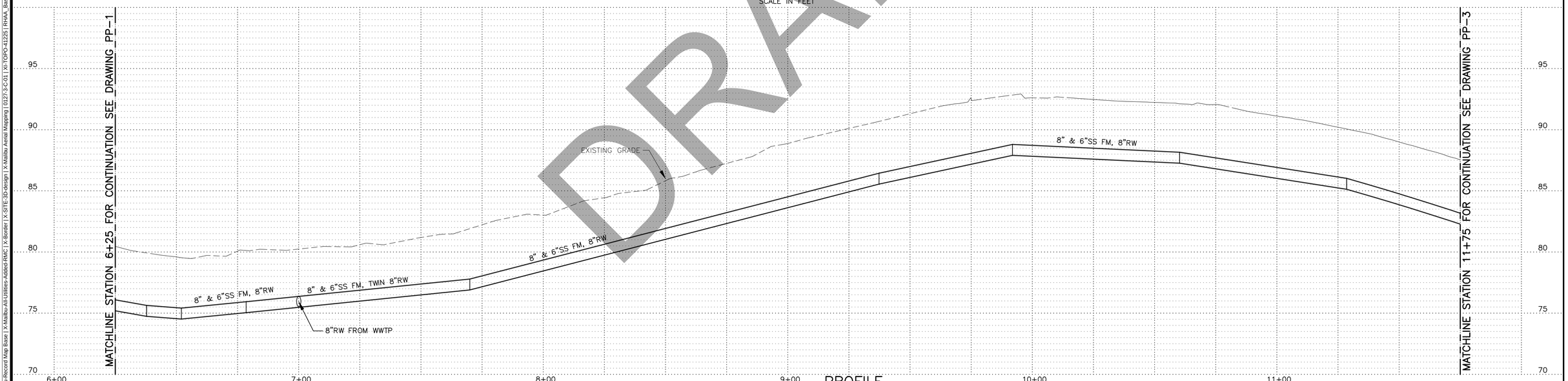
[FILENAME: 0127-006-PP-01 10-22-13 05:22pm rmartinez][XREFS:] X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | X:\TOPO-41225\ RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey

Last Saved By: rmartinez 10-22-13 05:22pm

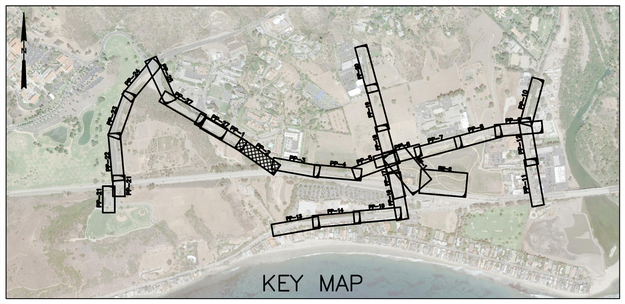
[FILENAME: 0127-006-PP-01 10-22-13 11:28am rmartinez][XREFs:] X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | X:\TOPO-41225\ RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey



PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

1. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 1/UC-3
2. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 2/UC-3
21. COORDINATE WITH WWTP PLANS FOR CONNECTION OF SANITARY SEWER AND LOCATION OF MH. OR RW CONNECTION
22. EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_
23. FOR CONNECTION/ROUTING OF RW, SEE SHEET GC-_ DETAIL GC-_

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — VERIFY SCALES — 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 2

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE: AS SHOWN
DRAWN BY: R. Martinez	DATE 06/2013	
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER: XXXX

APPROVED BY: _____ DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-2

Sheet _____ of XXX Sheets

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Last Saved By: rmartinez 10-22-13 11:28am

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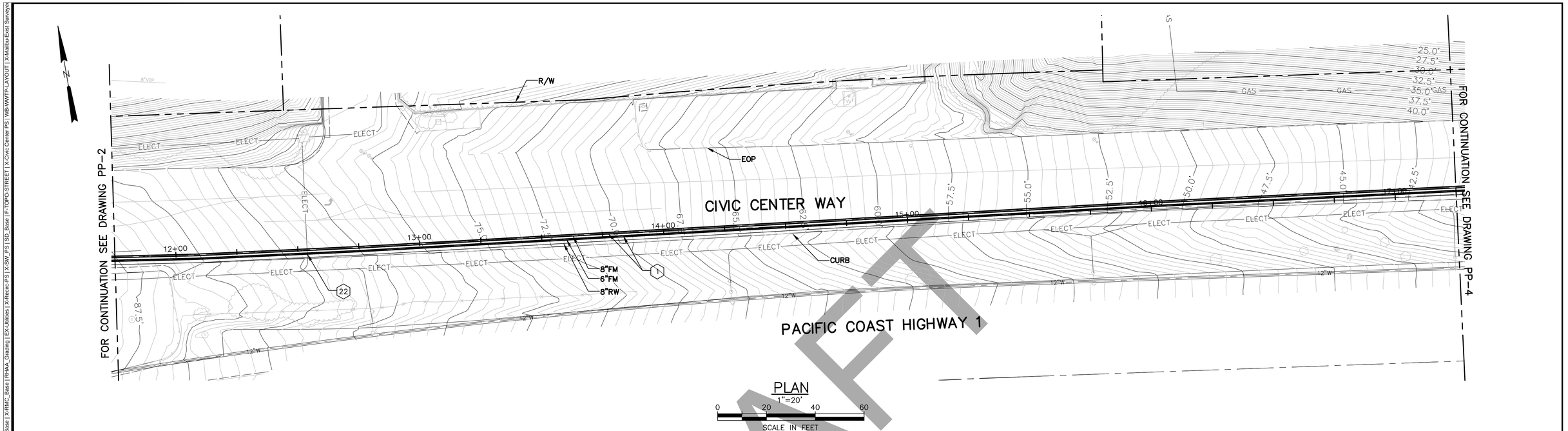
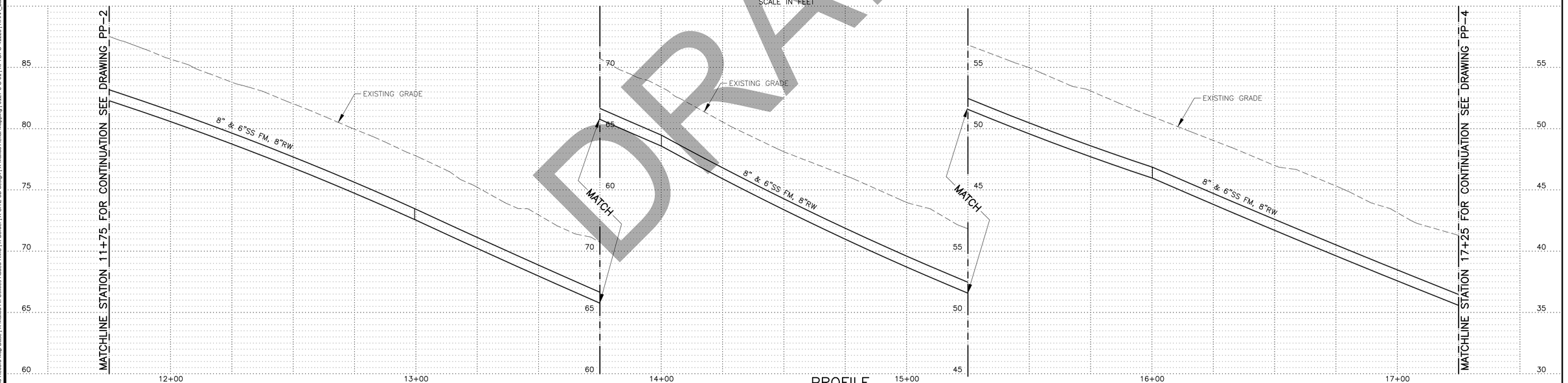
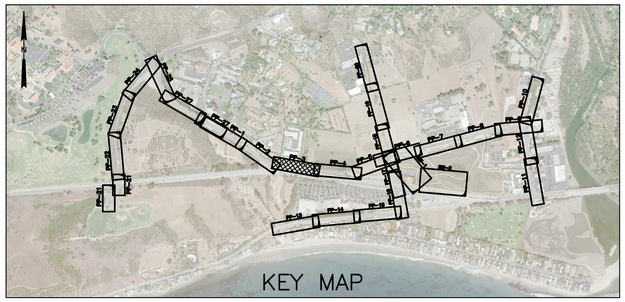


PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

1. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__ TO STA. __+__ USE DETAIL 1/UC-3

22. EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" _____ 1"
VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 3

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE: AS SHOWN
DRAWN BY: R. Martinez	DATE 06/2013	
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER: XXXX

APPROVED BY: DATE
XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-3

Sheet _____ of XXX Sheets

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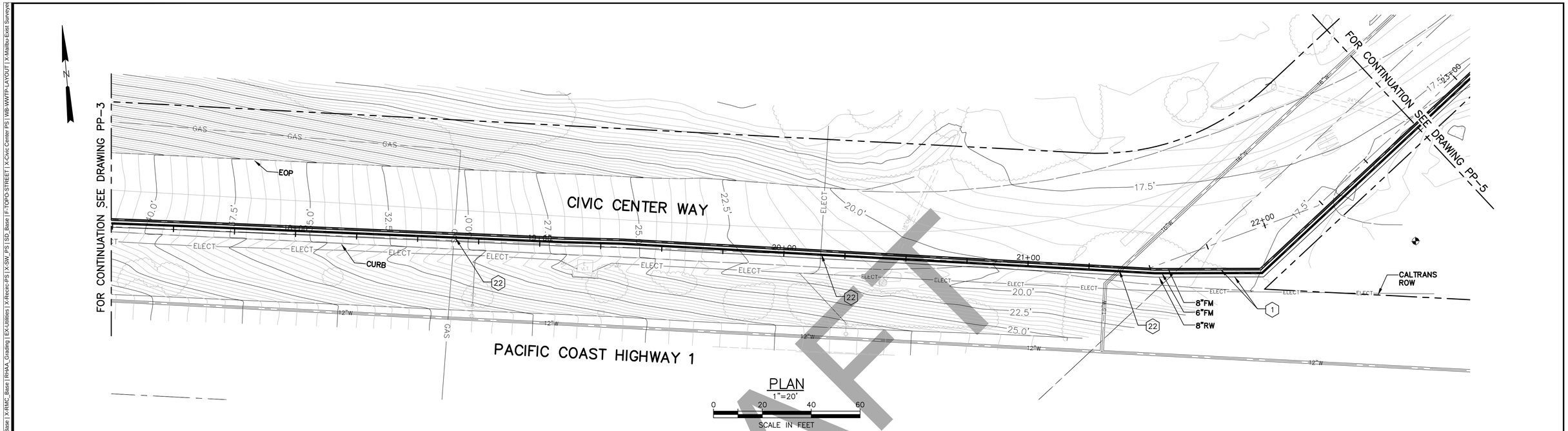
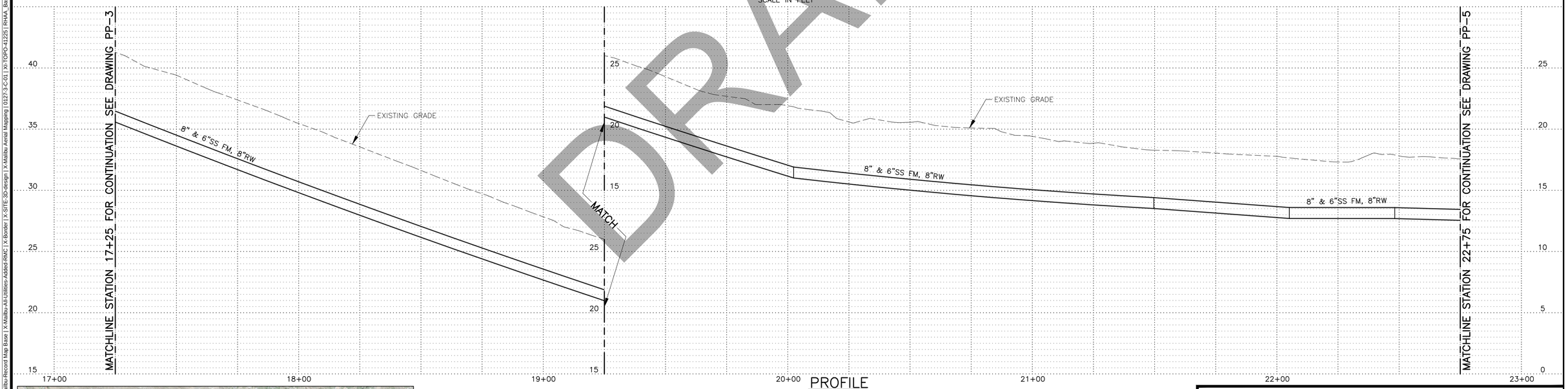
Last Saved By: rmartinez 10-22-13 11:28am

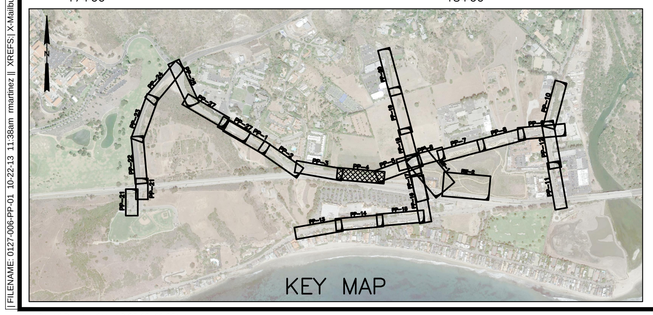
DRAFT



PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

(2) FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 1/UC-3

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 4

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: C. To	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-4

Sheet _____ of XXX Sheets

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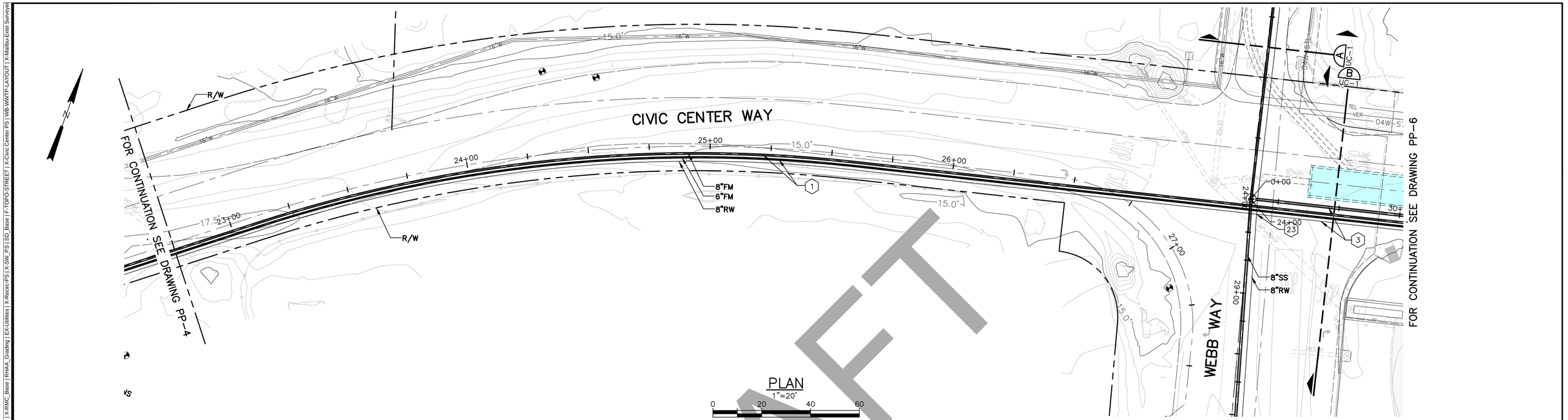
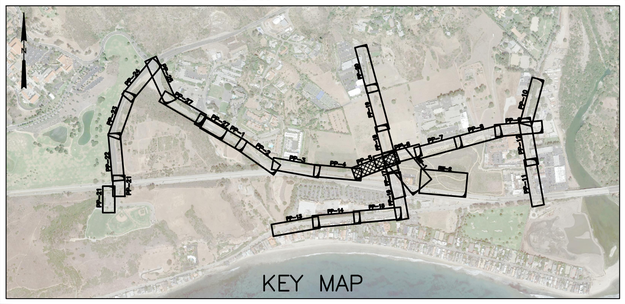
Last Saved By: rmartinez 10-22-13 11:28am



PLAN
1"=20'
0 20 40 60
SCALE IN FEET

PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

2. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 1/UC-3
3. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 3/UC-3
23. FOR CONNECTION OF RW, SEE DETAIL GC-_

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 5

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: C. To	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-5

Sheet _____ of XXX Sheets

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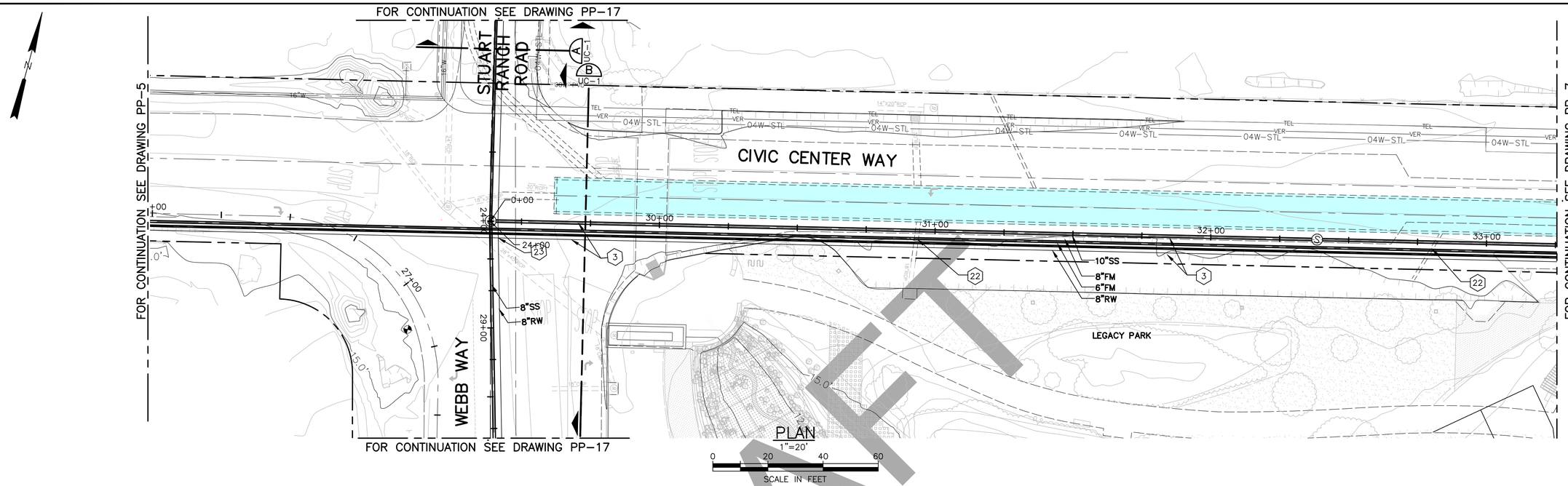
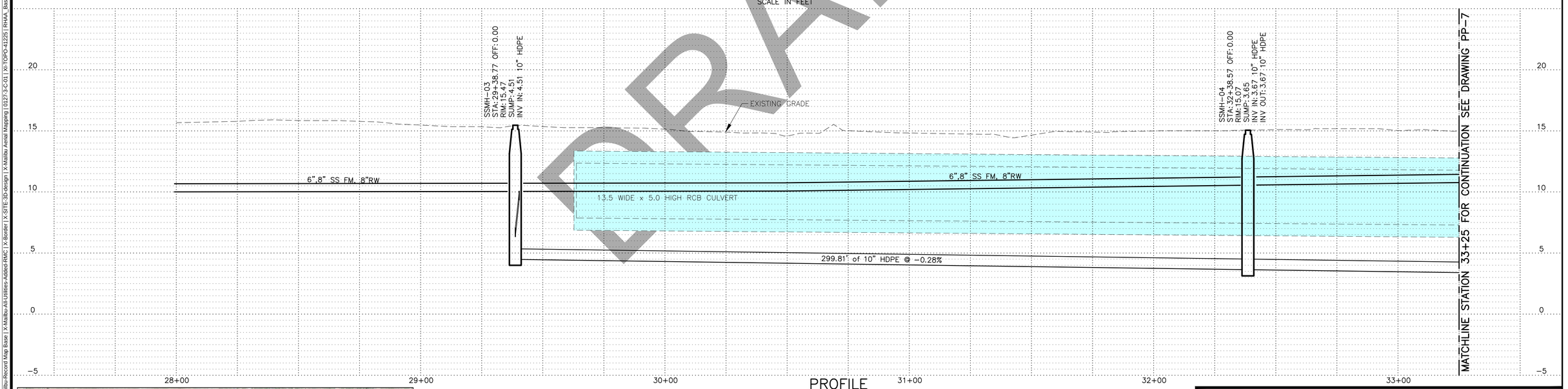
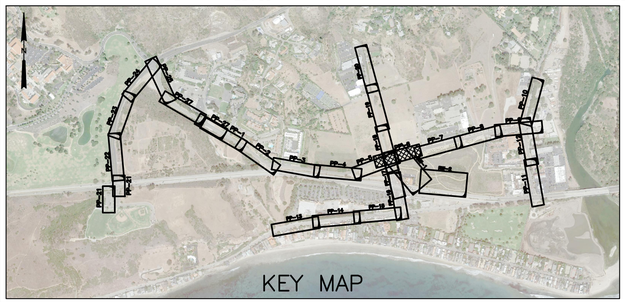
[FILENAME: 0127-006-PP-01 10-22-13 11:41am rmartinez][XREFS:] X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | Xr-TOPO-41225 | RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recptc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey
Last Saved By: rmartinez 10-22-13 11:41am

[FILENAME: 0127-006-PP-01 10-22-13 11:47am rmartinez][XREFS:] X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping [0127-3-C-01 | Xr-TOPO-41225] RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey







CONSTRUCTION NOTES:

3. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 3/UC-3
22. EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_
23. FOR CONNECTION OF RW, SEE DETAIL GC-_

DIAL BEFORE YOU DIG 1-800-422-4133 — DIGALERT — PLAY IT SAFE. DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 6

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-6

Sheet _____ of XXX Sheets

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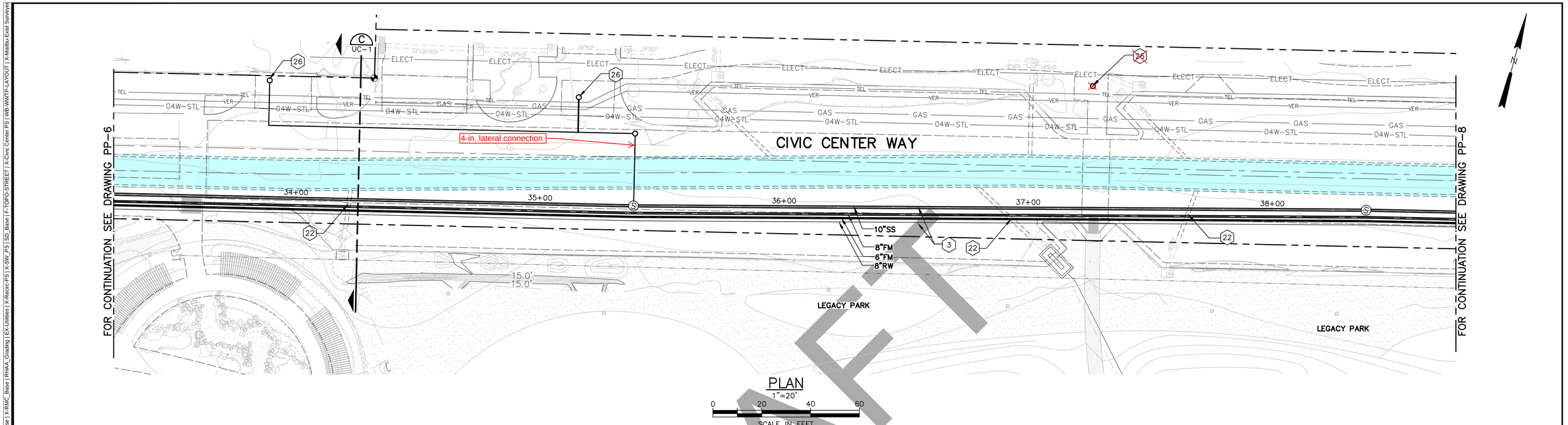
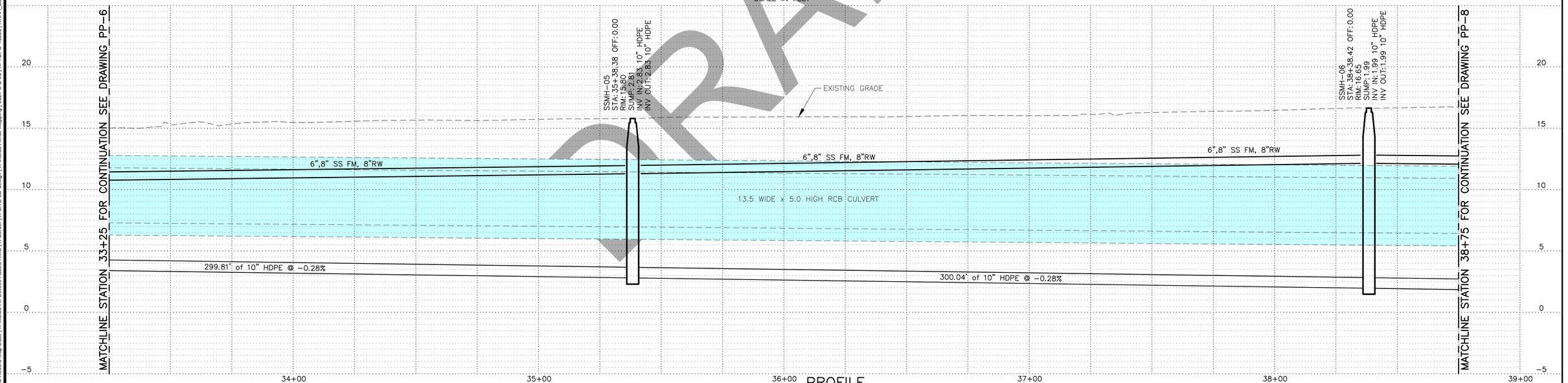
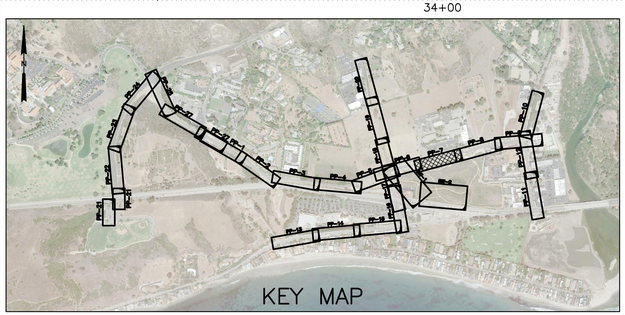
Last Saved By: rmartinez 10-22-13 11:41am



PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

1. FOR GENERAL CONSTRUCTION NOTES SEE SHEET _____
2. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 3 / UC-3
22. EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_
26. CONSTRUCT 2'-0" CUSTOMER SERVICE CONNECTION MH PER DETAIL GC-_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" —— 1"
VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 7

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-7

Sheet _____ of XXX Sheets

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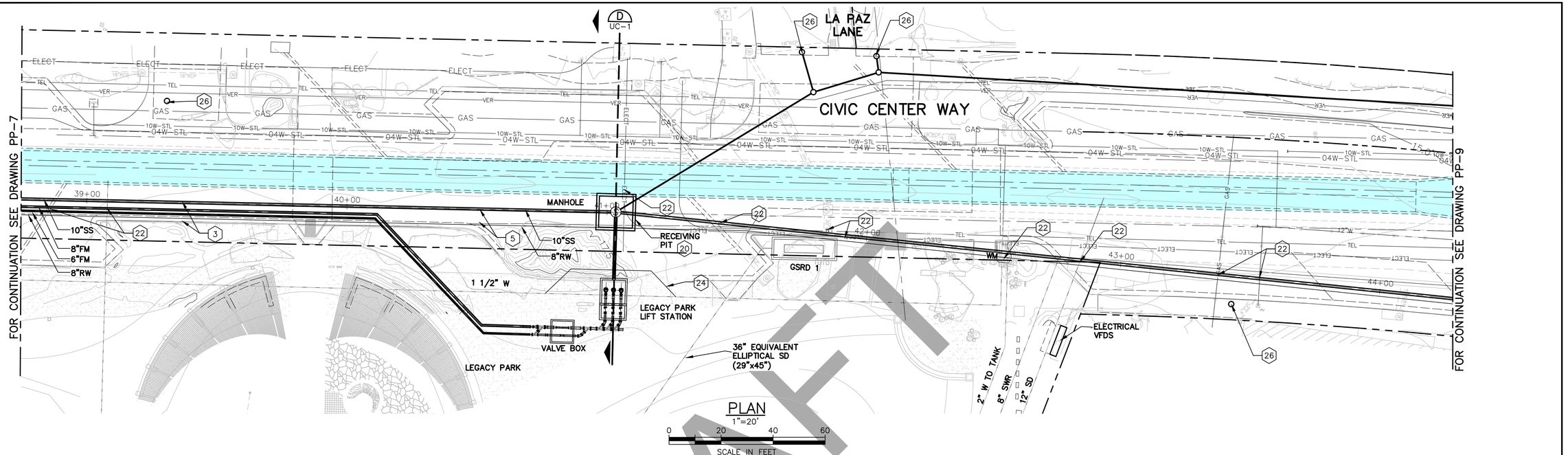
[FILENAME: 0127-006-PP-01 10-22-13 06:08pm rmartinez][XREFS:] X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | Xr-TOPO-41225 | RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey

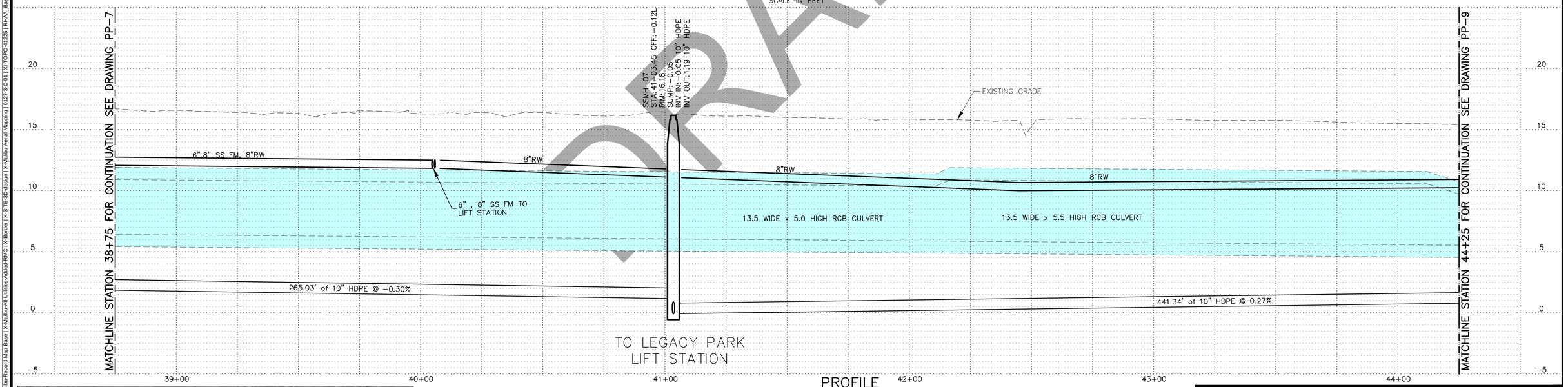
Last Saved By: rmartinez 10-22-13 05:45pm

DRAFT

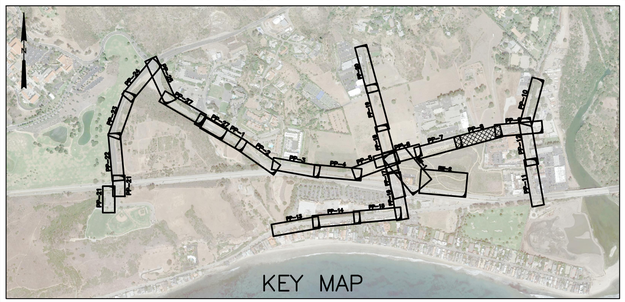


PLAN
1"=20'

0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

3. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 3/UC-3
5. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3
20. LOCATION, SIZE AND MATERIALS OF PIT SHOULD BE ACCORDING TO CONTRACTOR'S SHOP DRAWINGS AND MUST BE APPROVED BY THE ENGINEER.
22. EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_
24. RE-ROUTE EXIST. UTILITY. SEE DETAIL GC-_
26. CONSTRUCT 2'-0" CUSTOMER SERVICE CONNECTION MH PER DETAIL GC-_

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — — — — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 8

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-8

Sheet _____ of XXX Sheets

[FILENAME: 0127-006-PP-01 10-22-13 06:41pm rmartinez][XREFS:] X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | X:\TOPO-41225\ RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey

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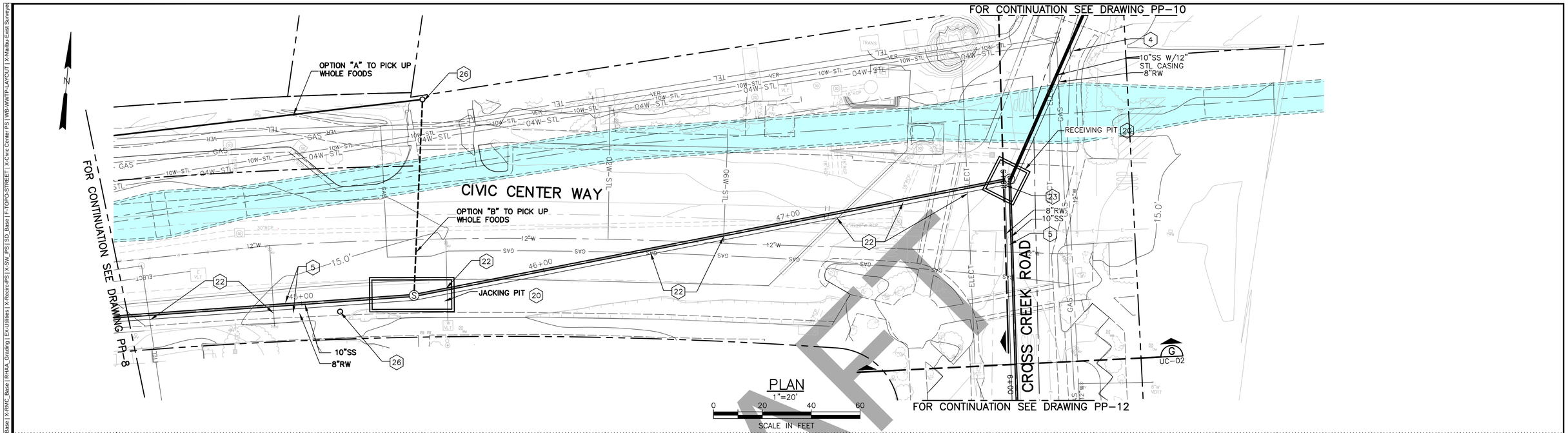

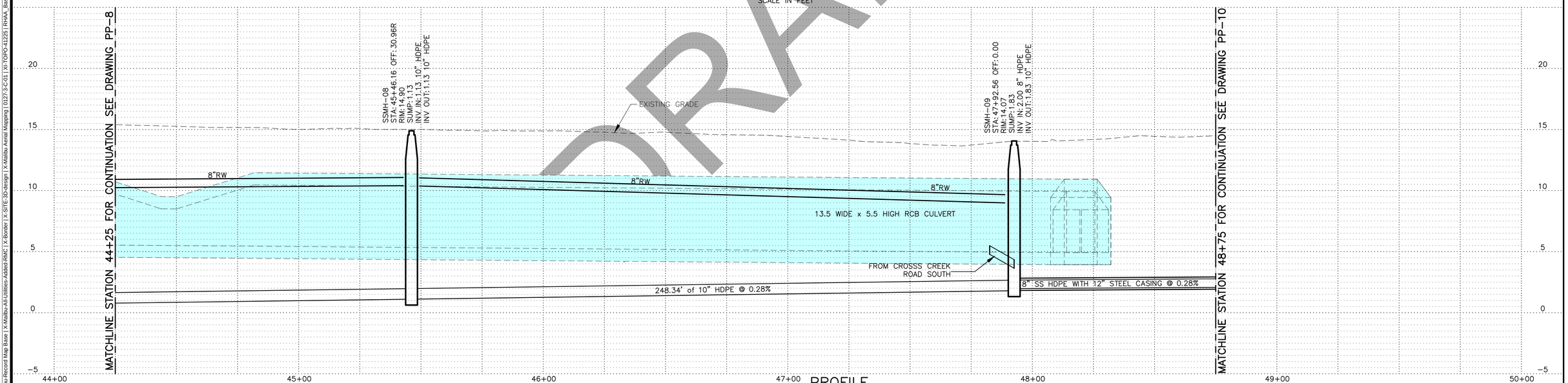

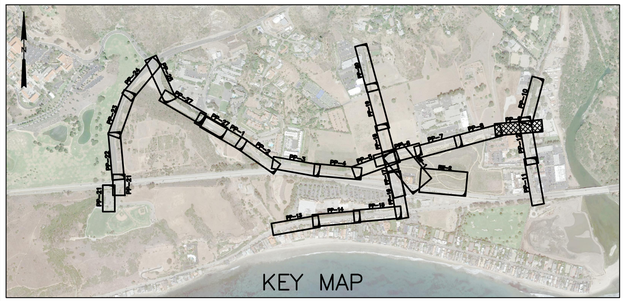

CONSTRUCTION NOTES:

4. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 4/UC-3
5. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3
20. LOCATION, SIZE AND MATERIALS OF PIT SHOULD BE ACCORDING TO CONTRACTOR'S SHOP DRAWINGS AND MUST BE APPROVED BY THE ENGINEER.
22. EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_
23. FOR CONNECTION OF RW, SEE DETAIL GC-_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 9

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE: AS SHOWN
DRAWN BY: R. Martinez	DATE 06/2013	
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER: XXXX

APPROVED BY: DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-9

Sheet _____ of XXX Sheets

DRAFT

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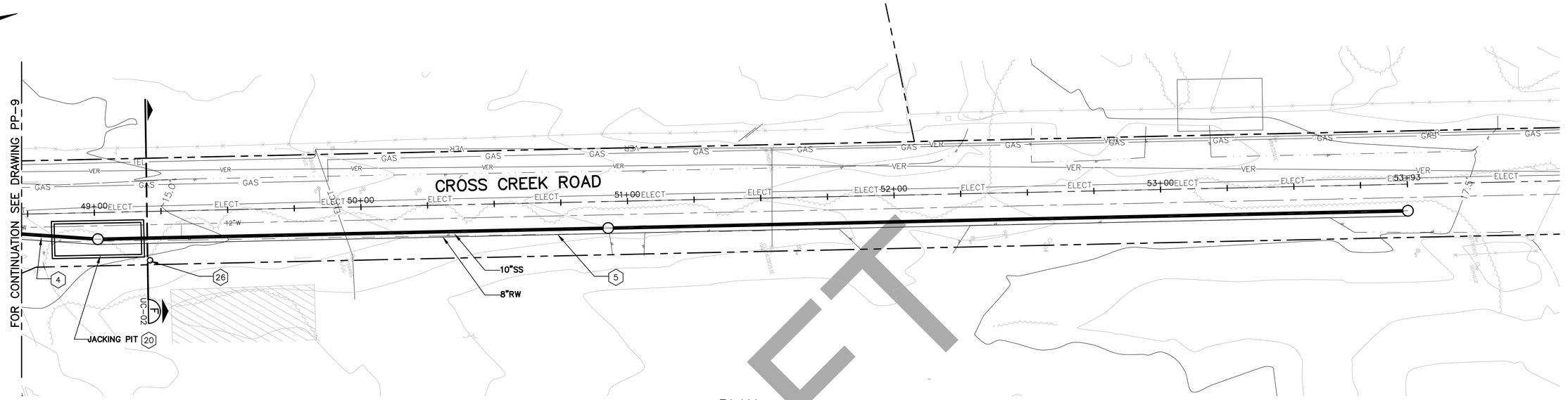
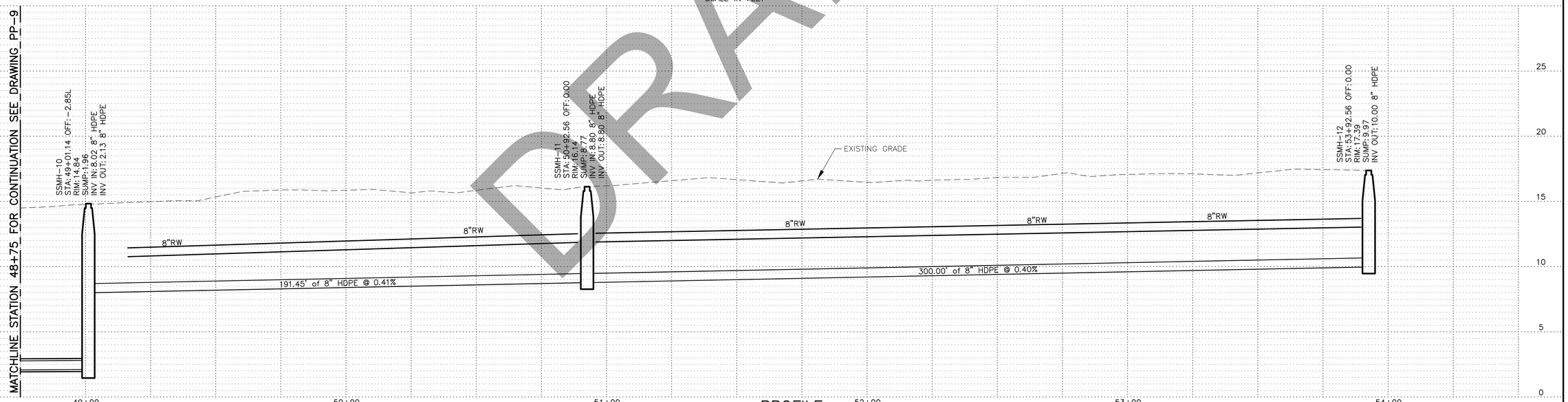


PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
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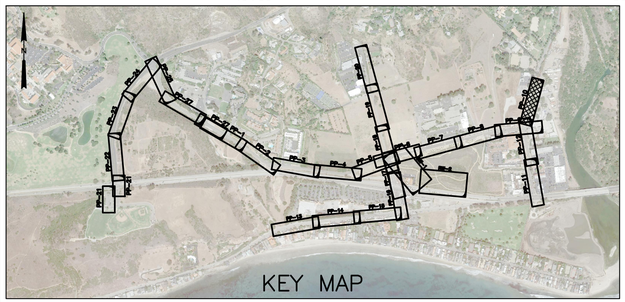

CONSTRUCTION NOTES:

4 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 4/UC-3

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

20 LOCATION, SIZE AND MATERIALS OF PIT SHOULD BE ACCORDING TO CONTRACTOR'S SHOP DRAWINGS AND MUST BE APPROVED BY THE ENGINEER.

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_

26 CONSTRUCT 2'-0" ø SERVICE CONNECTION PER DETAIL GC-_

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
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AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY 1"

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CROSS CREEK ROAD - 1

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE: AS SHOWN
DRAWN BY: R. Martinez	DATE 06/2013	
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER: XXXX

APPROVED BY: DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

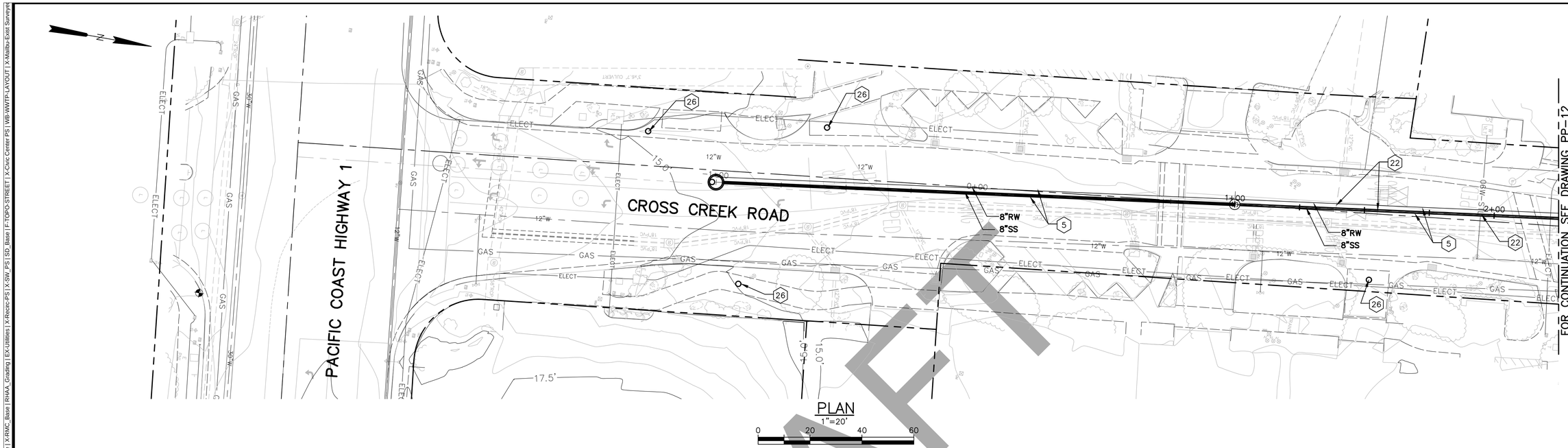
Plan No. PP-10

Sheet _____ of XXX Sheets

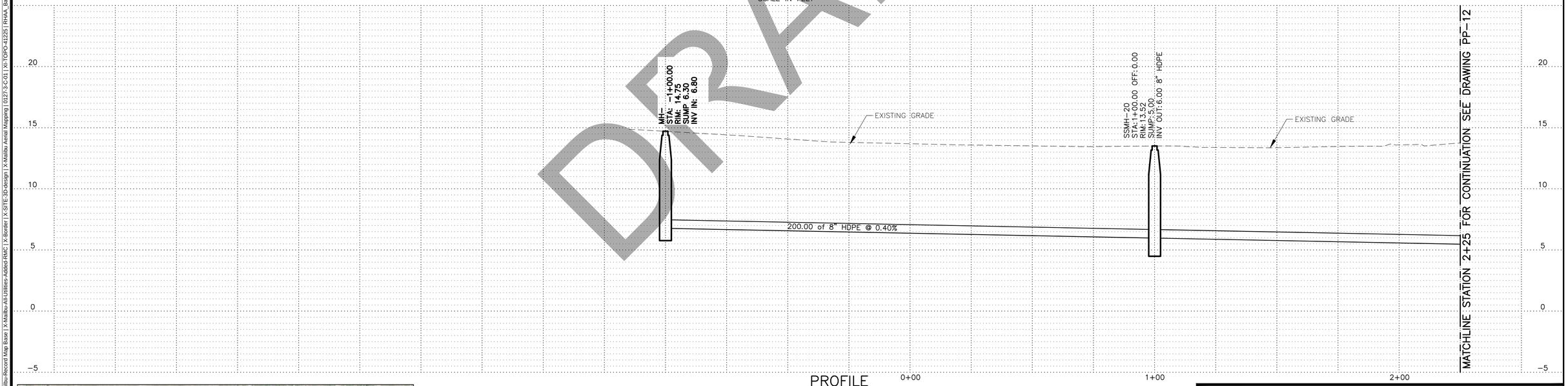
FILENAME: 0127-006-PP-01 10-22-13 11:59am rmartinez || XREFS| X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design| X-Malibu Aerial Mapping| 0127-3-C-01| X-TOPO-41225| RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey

Last Saved By: rmartinez 10-22-13 11:50am

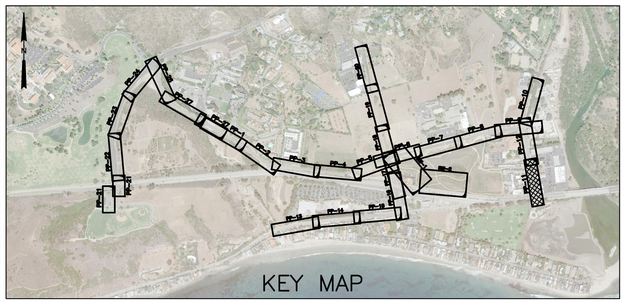
DRAFT



PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5 / LPC-3

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL — / GC—_

26 CONSTRUCT 2'–0" CUSTOMER SERVICE CONNECTION MH PER DETAIL — / GC—_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" _____ 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CROSS CREEK ROAD - 2

DESIGNED BY:	DATE
K. Erickson	06/2013
DRAWN BY:	DATE
C. To	06/2013
CHECKED BY:	DATE
T. Butler	06/2013

SCALE
AS SHOWN

PROJECT NUMBER
XXXX

APPROVED BY: DATE
XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-11

Sheet _____ of XXX Sheets

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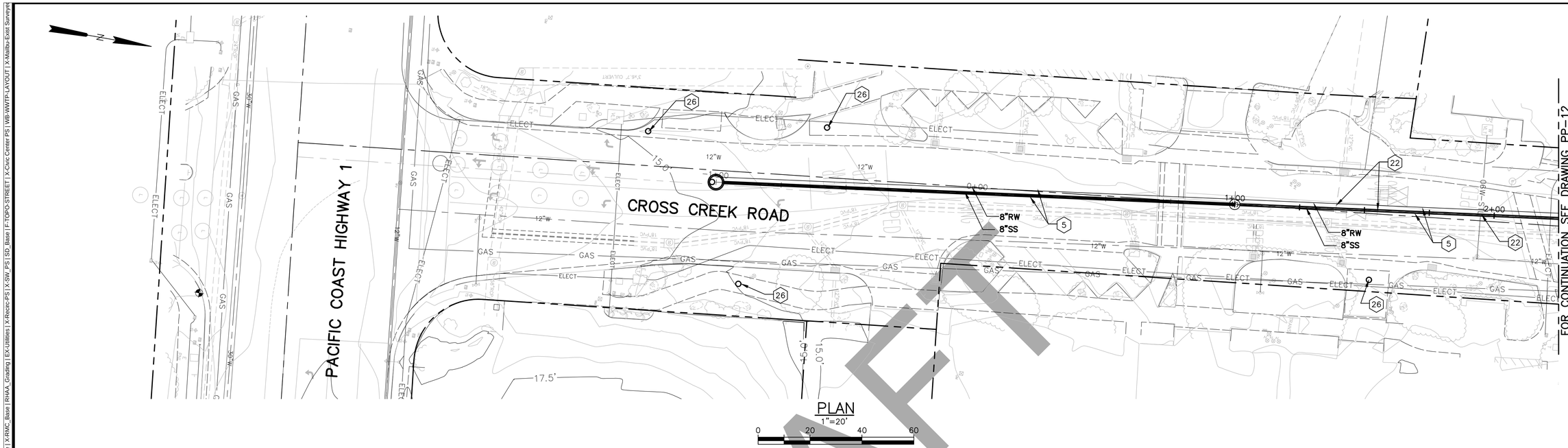
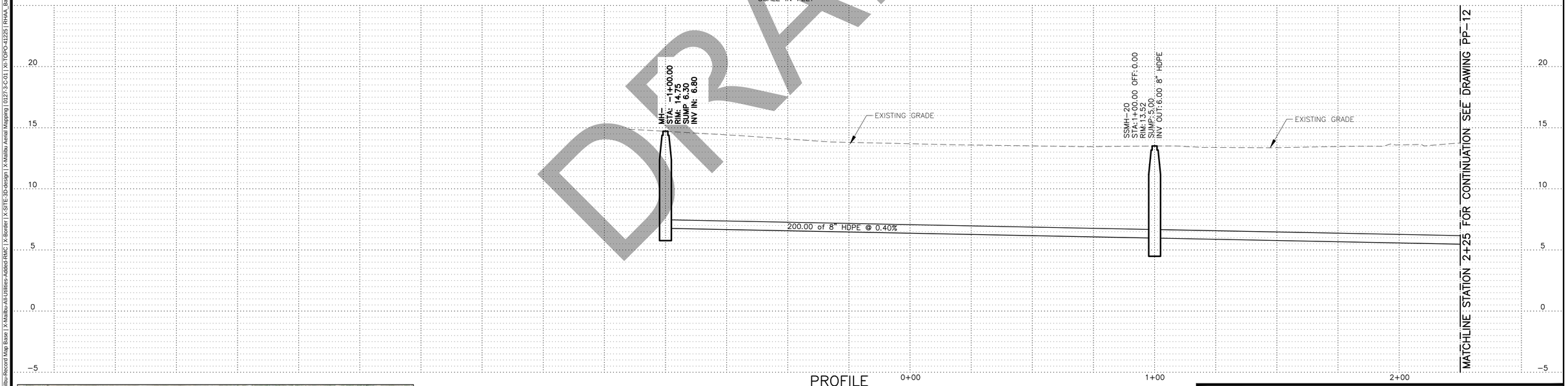
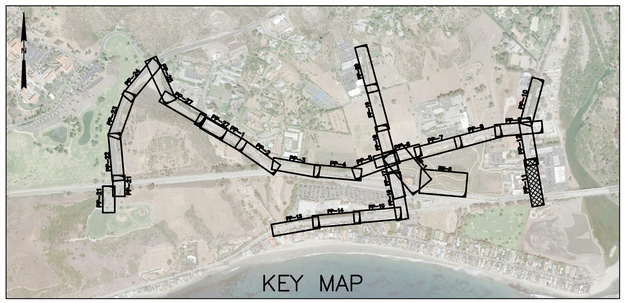


PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5 / LPC-3

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL — / GC—_

26 CONSTRUCT 2'–0" CUSTOMER SERVICE CONNECTION MH PER DETAIL — / GC—_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" _____ 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CROSS CREEK ROAD - 2

DESIGNED BY:	DATE
K. Erickson	06/2013
DRAWN BY:	DATE
C. To	06/2013
CHECKED BY:	DATE
T. Butler	06/2013

SCALE
AS SHOWN

PROJECT NUMBER
XXXX

APPROVED BY: DATE
XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-11

Sheet _____ of XXX Sheets

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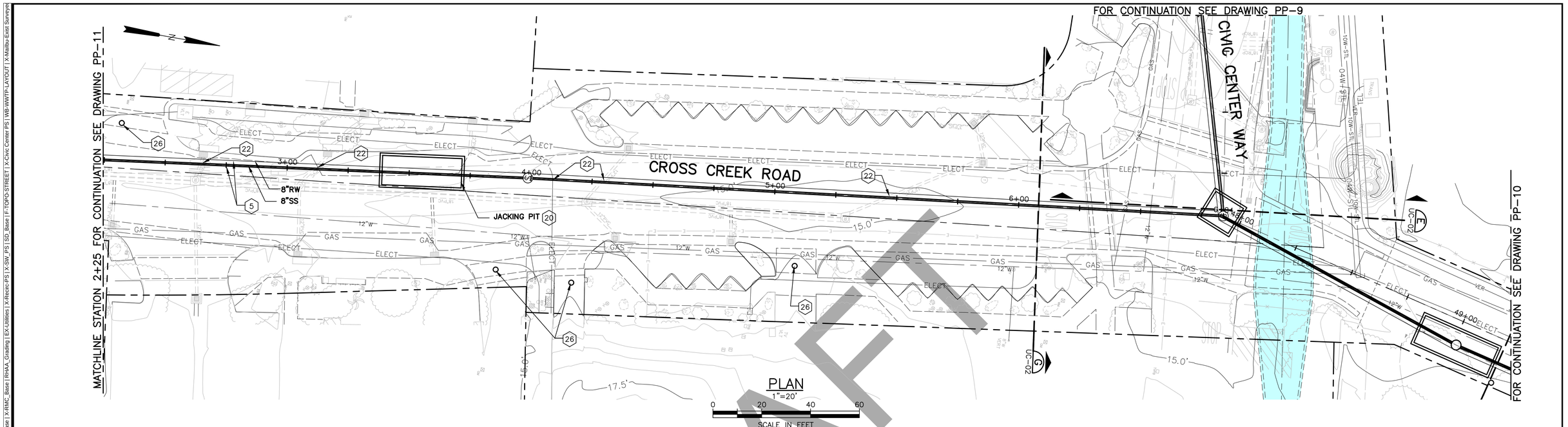

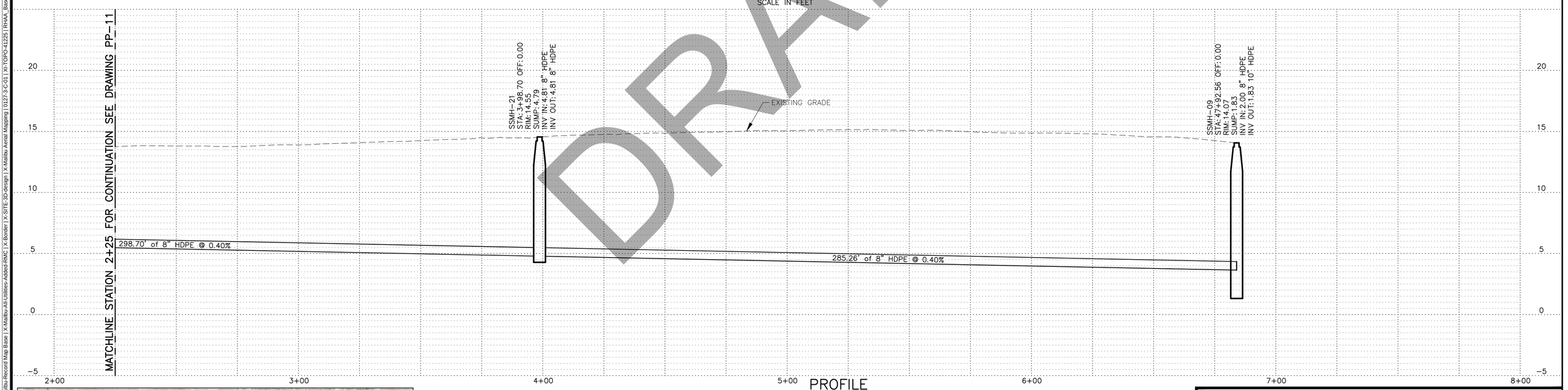

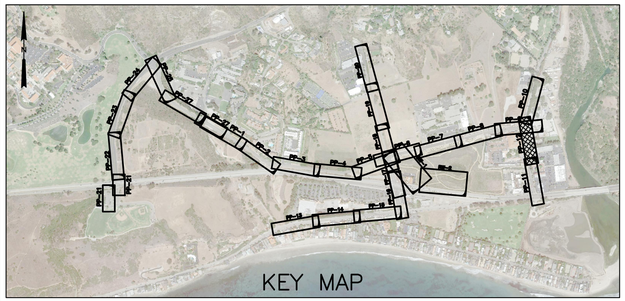

CONSTRUCTION NOTES:

(5) FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5 / UC-3

(20) LOCATION, SIZE AND MATERIALS OF PIT SHOULD BE ACCORDING TO CONTRACTOR'S SHOP DRAWINGS AND MUST BE APPROVED BY THE ENGINEER.

(22) EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL __ / GC-__

(26) CONSTRUCT 2'-0" ø SERVICE CONNECTION PER DETAIL __ / GC-__

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT — PLAY IT SAFE DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" ——— 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CROSS CREEK ROAD - 3

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 — DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-12

Sheet _____ of XXX Sheets

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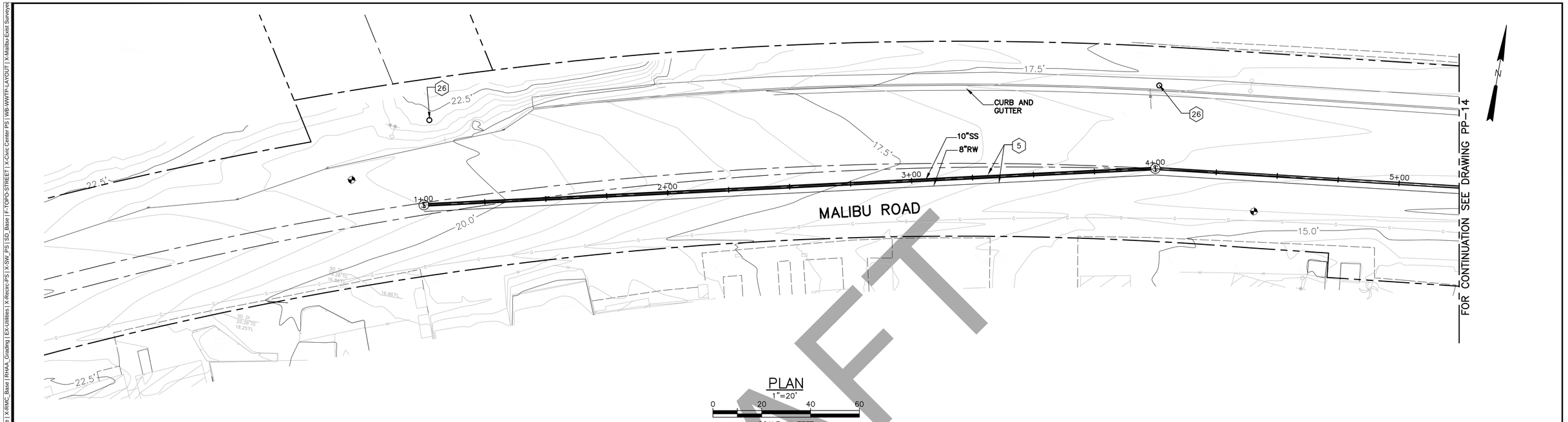
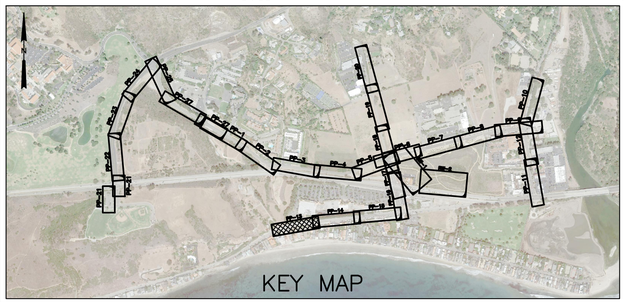
Last Saved By: rmartinez 10-22-13 12:00pm

DRAFT



PLAN
1"=20'
0 20 40 60
SCALE IN FEET

PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

26 CONSTRUCT 2'-0" CUSTOMER SERVICE CONNECTION MH PER DETAIL GC-_

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — — — — 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MALIBU ROAD - 1

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE: AS SHOWN
DRAWN BY: C. To	DATE 06/2013	
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER: XXXX

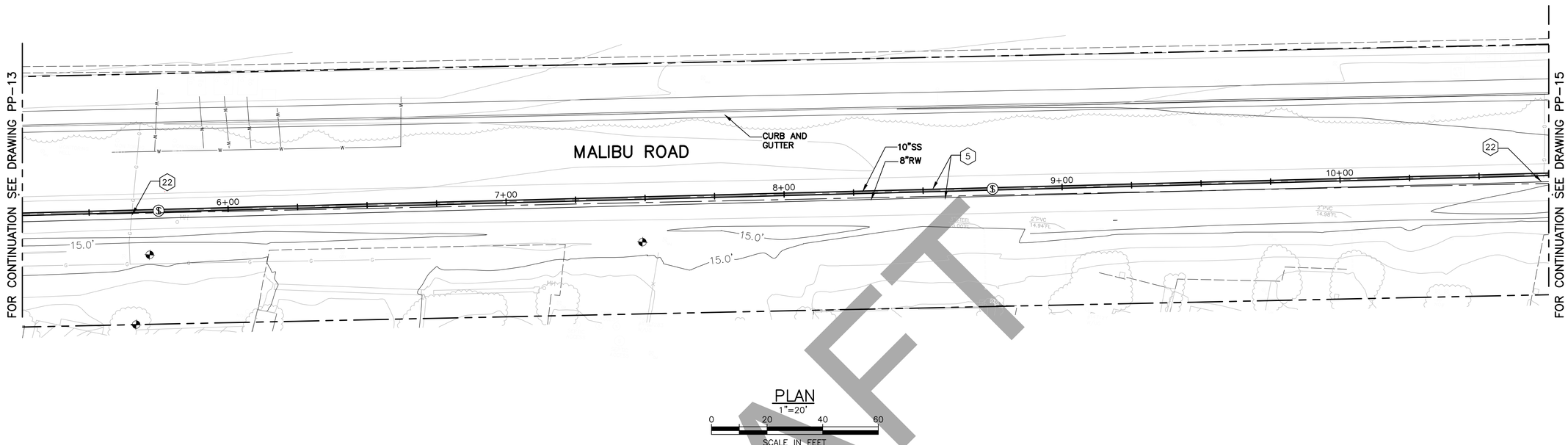
APPROVED BY: _____ DATE
XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-13

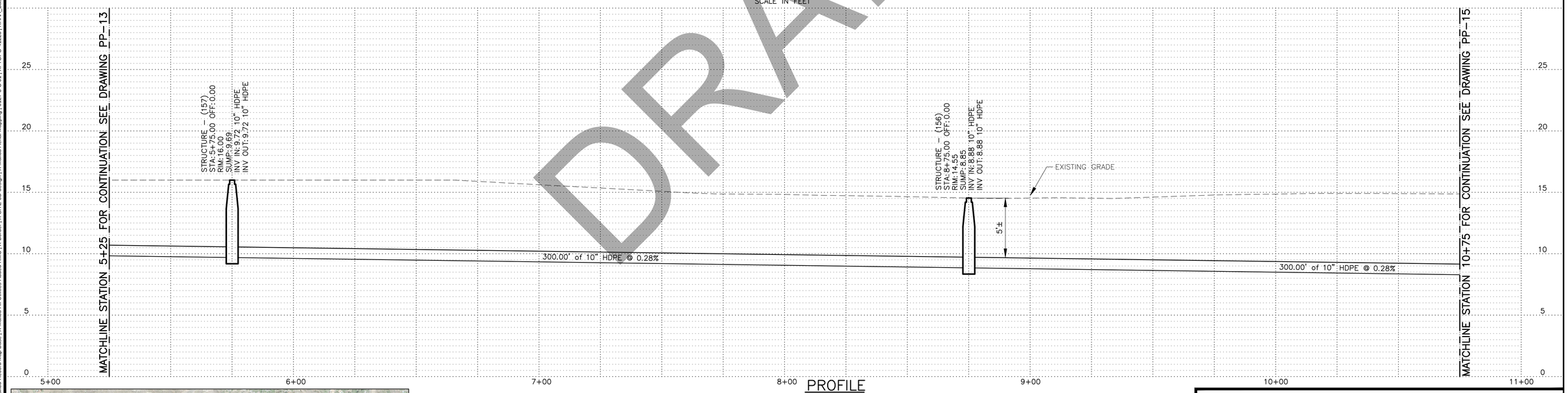
Sheet _____ of XXX Sheets

FILENAME: 0127-006-PP-01 10-22-13 06:54pm rmartinez || XREFS| X-Malibu-Record Map Base| X-Malibu-All-Utilities-Added-RMC| X-Border| X-SITE-3D-design| X-Malibu Aerial Mapping| 0127-3-C-01| X-TOPO-41225| RHAA_Base| X-RMC_Base| RHAA_Grading| EX-Utilities| X-Recirc-PS| X-SW_PS| SD_Base| F-TOPO-STREET| X-Civic Center PS| WB-WWTP-LAYOUT| X-Malibu-Exist Survey

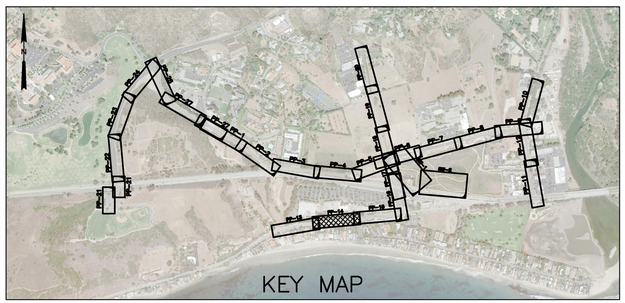
Last Saved By: rmartinez 10-22-13 06:53pm



PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__ TO STA. __+__ USE DETAIL 5/UC-3

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FW, RW, PER DETAIL GC-_

DIAL BEFORE YOU DIG 1-800-422-4133
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" ——— 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MALIBU ROAD - 2

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
DRAWN BY: R. Martinez	DATE 06/2013		DATE XX-XX-13
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-14

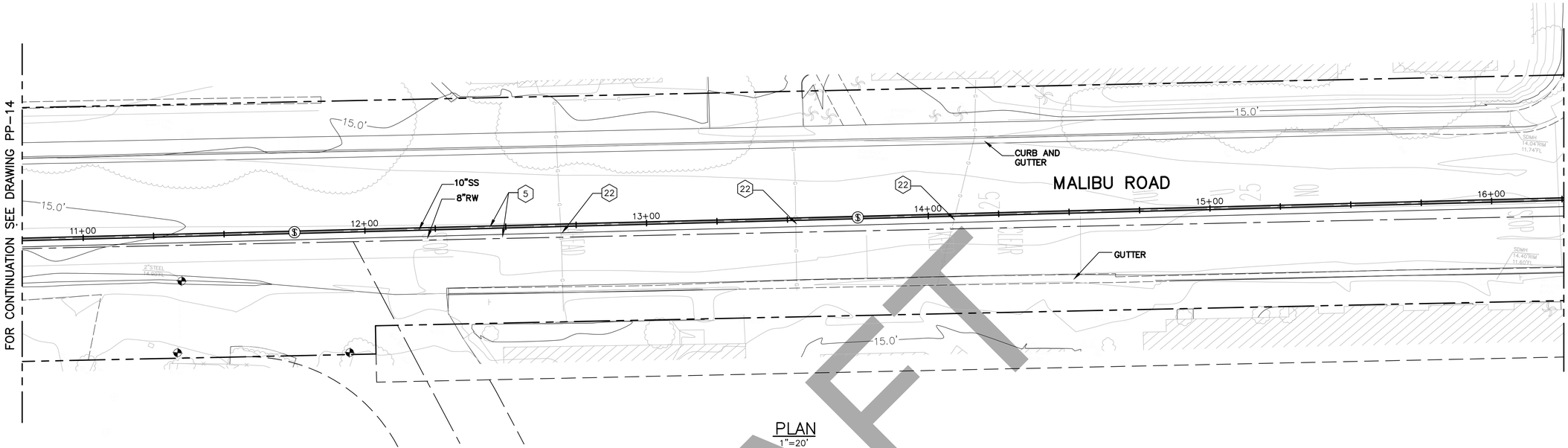
Sheet _____ of XXX Sheets

DRAFT

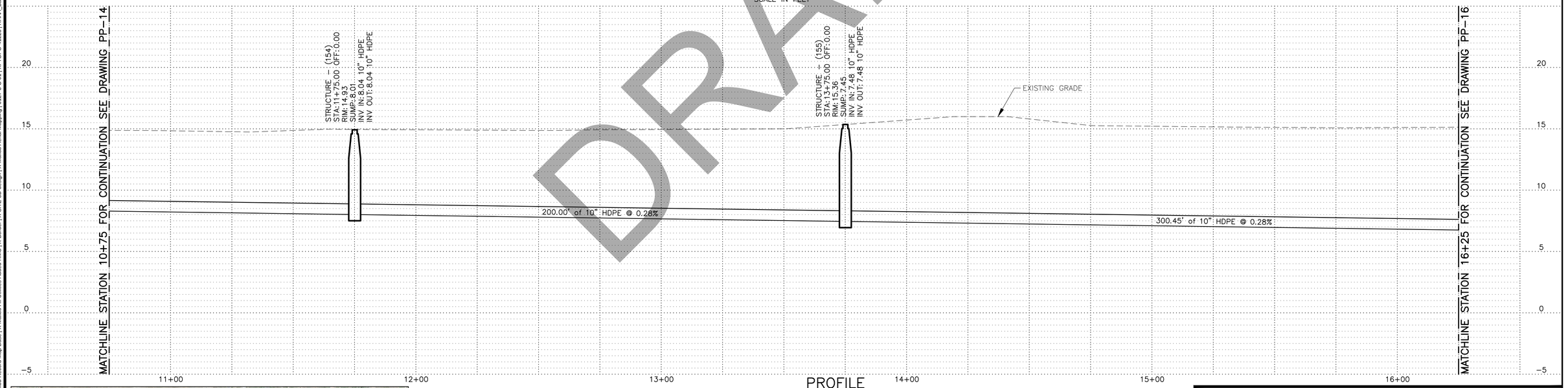
FILENAME: 0127-006-PP-01 10-22-13 01:16pm rmartinez || XREFS: | X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | X:-TOPO-41225| RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey

Last Saved By: rmartinez 10-22-13 12:56pm

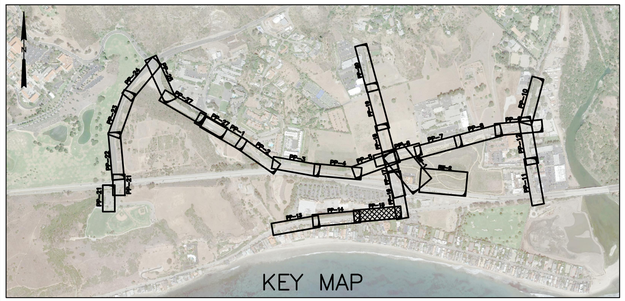
DRAFT



PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" ——— 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MALIBU ROAD - 3

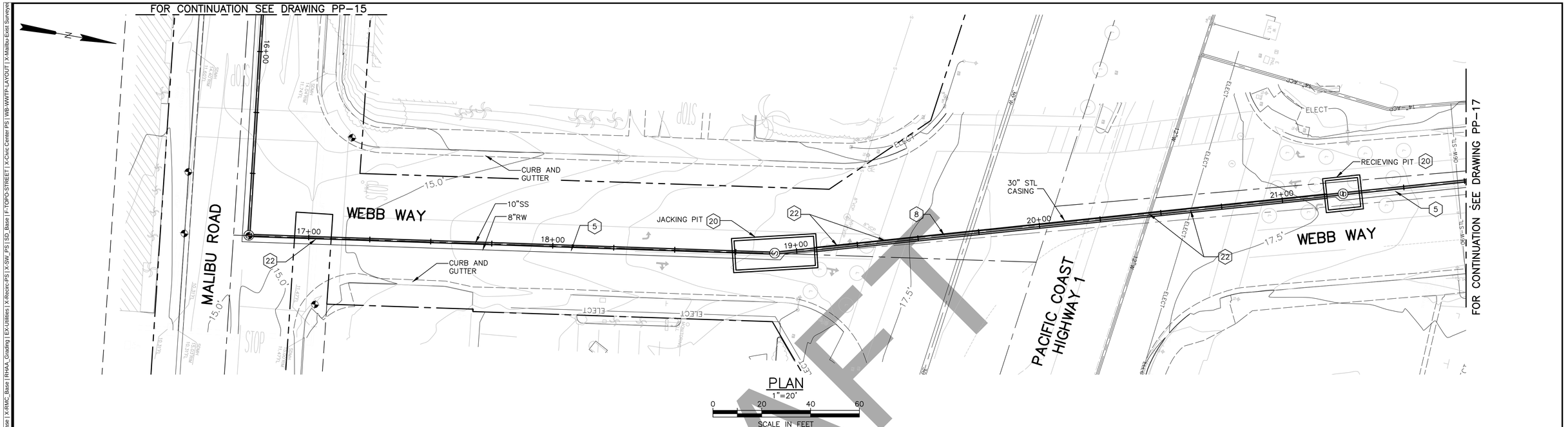
DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-15

Sheet _____ of XXX Sheets

FILENAME: 0127-006-PP-01 10-22-13 01:17pm rmartinez || XREFS: | X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | X:\TOPO-41225\ | RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey

Last Saved By: rmartinez 10-22-13 12:56pm

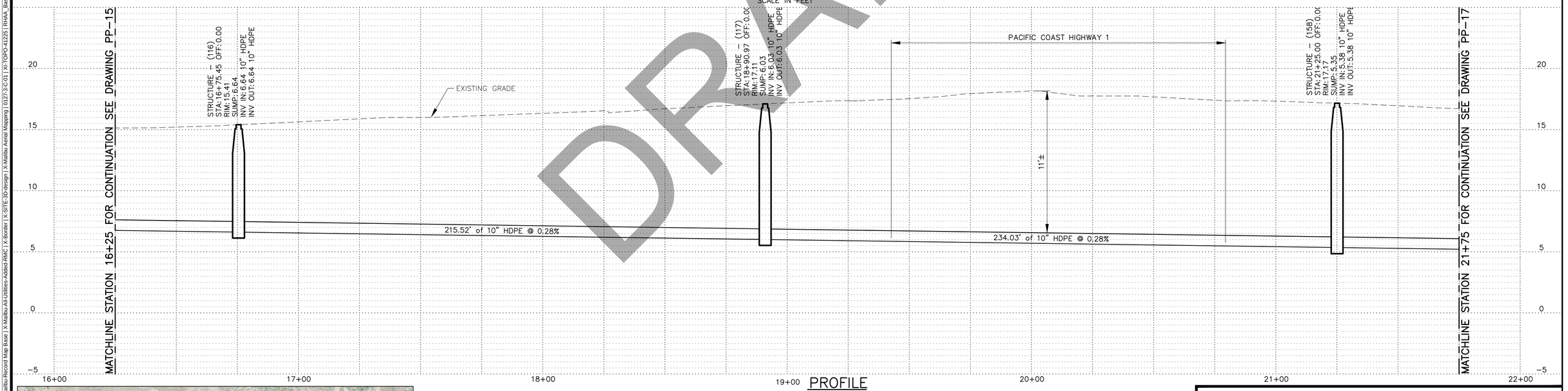


PLAN

1"=20'

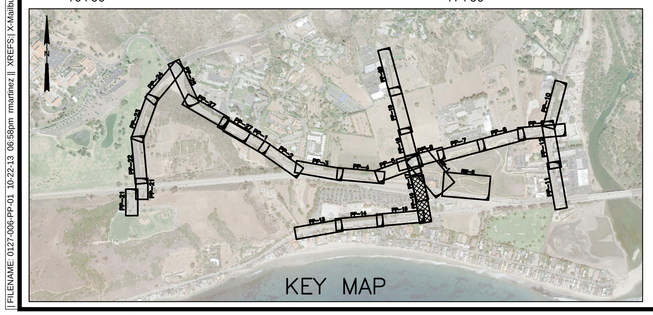
0 20 40 60

SCALE IN FEET



PROFILE

HORIZ: 1"=20' VERT: 1"=4'



SANITARY SEWER CONSTRUCTION NOTES:

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

8 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 8/UC-3

20 LOCATION, SIZE AND MATERIALS OF PIT SHOULD BE ACCORDING TO CONTRACTOR'S SHOP DRAWINGS AND MUST BE APPROVED BY THE ENGINEER. LOCATIONS SUBJECT TO CHANGE TO BE OUT OF TRAFFIC AREAS.

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — VERIFY SCALES — 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

WEBB WAY - 1

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: C. To	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-16

Sheet _____ of XXX Sheets

DRAFT

[FILENAME: 0127-006-PP-01 10-22-13 06:58pm rmartinez][XREFS:] X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping [0127-3-C-01 | Xr-TOPO-41225] RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey

Last Saved By: rmartinez 10-22-13 06:58pm

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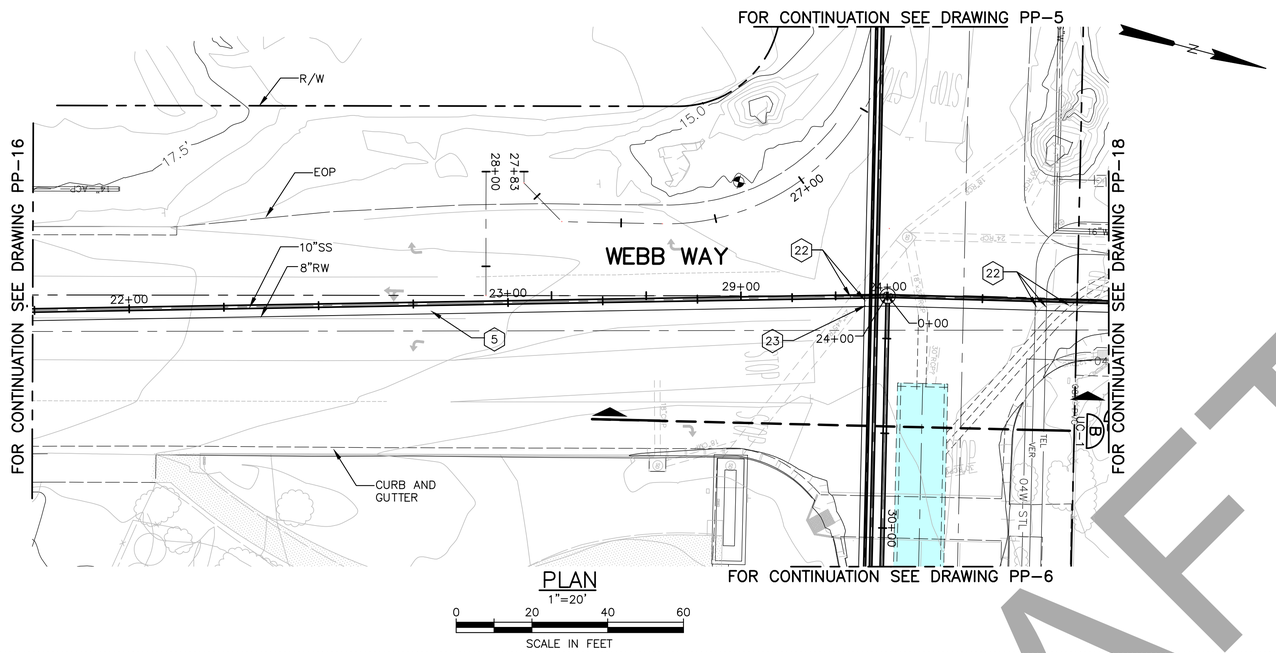
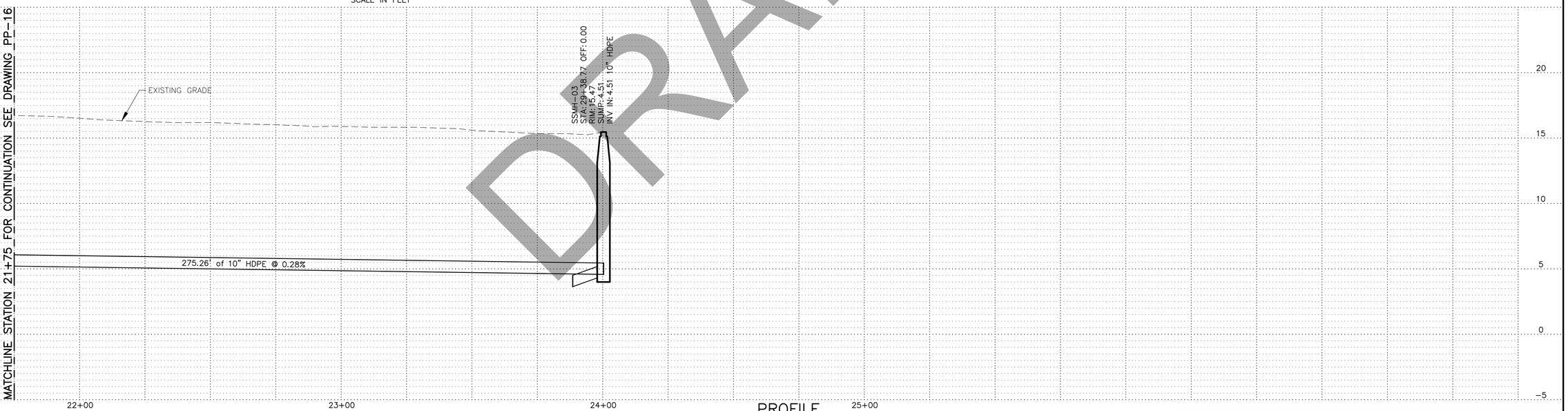
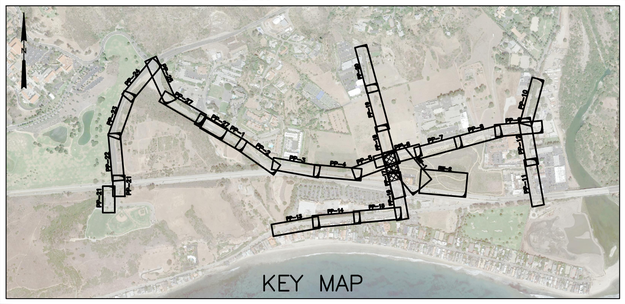


PLAN
1"=20'

0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5 / UC-3

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, SD PER DETAIL GC-_

23 FOR CONNECTION OF RW, SEE DETAIL GC-_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

WEBB WAY - 2

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE: AS SHOWN
DRAWN BY: R. Martinez	DATE 06/2013	
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER: XXXX

APPROVED BY: _____ DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-17

Sheet _____ of XXX Sheets

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Last Saved By: rmartinez 10-22-13 01:21pm

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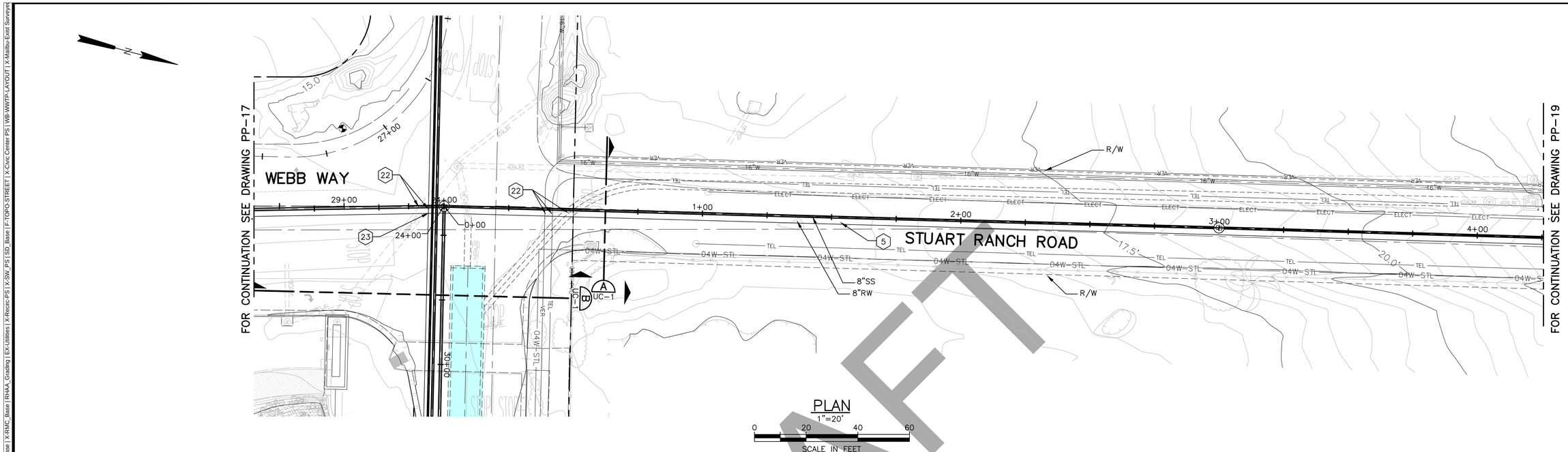
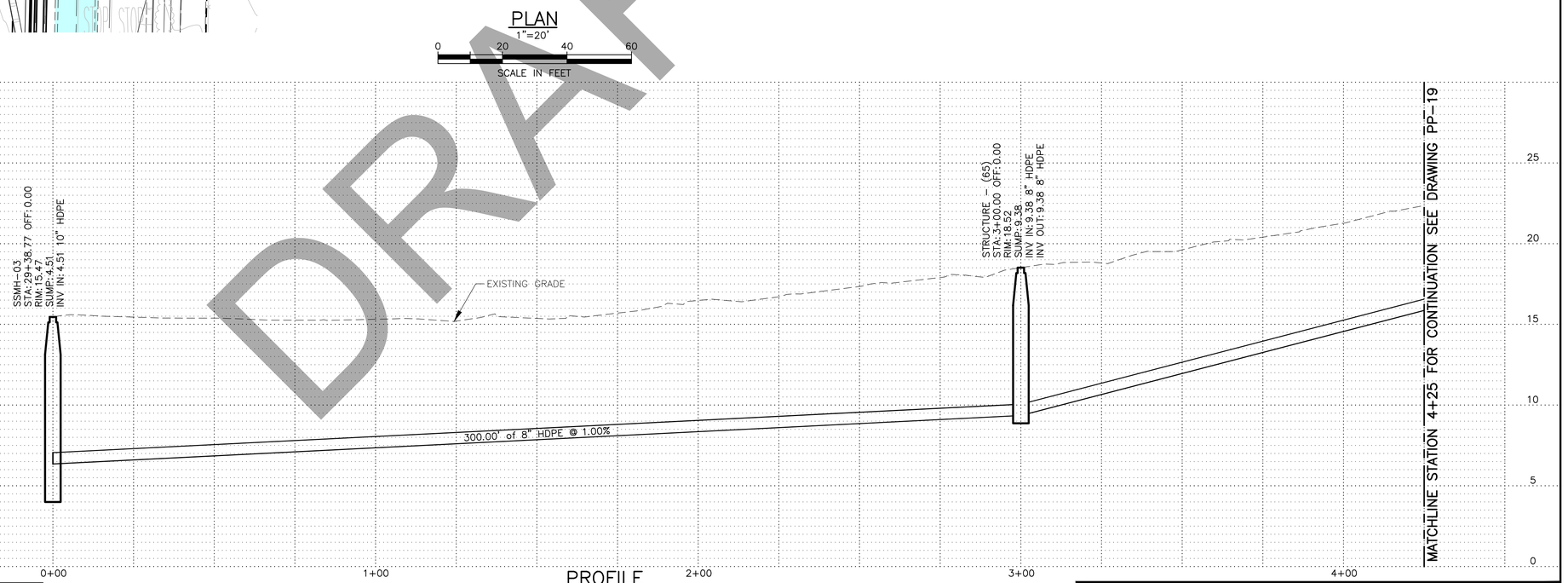
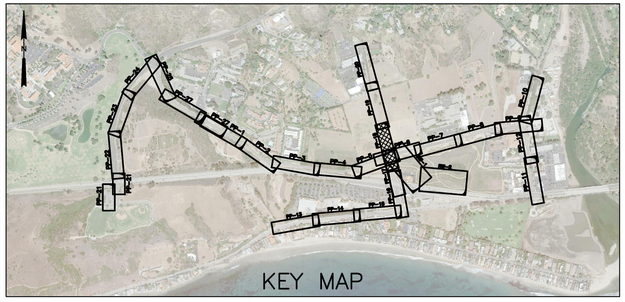


PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, SD PER DETAIL GC-_

23 FOR CONNECTION OF RW, SEE DETAIL GC-_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — VERIFY SCALES — 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

STUART RANCH ROAD - 1

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-18

Sheet _____ of XXX Sheets

[FILENAME: 0127-006-PP-01 10-22-13 01:27pm rmartinez][XREFS:] X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | Xr-TOPO-41225 | RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recpc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey

Last Saved By: rmartinez 10-22-13 01:22pm

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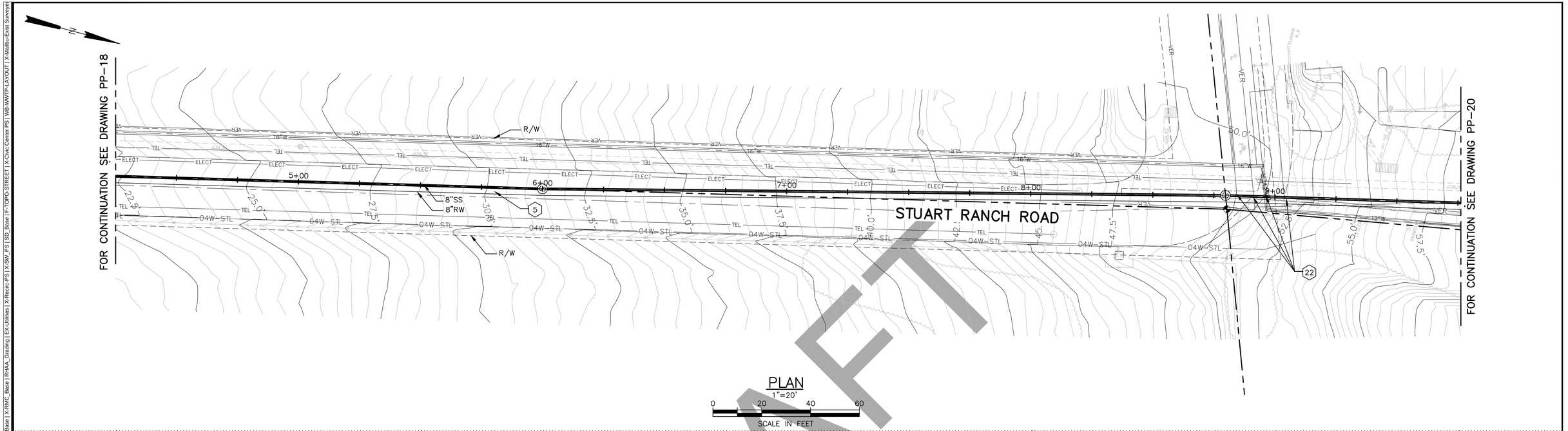
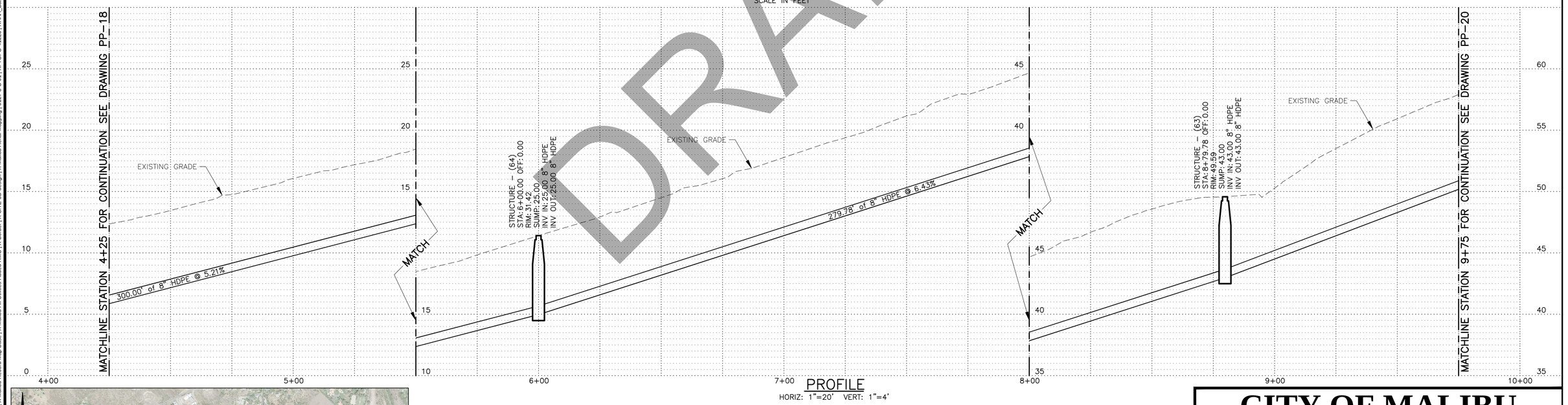
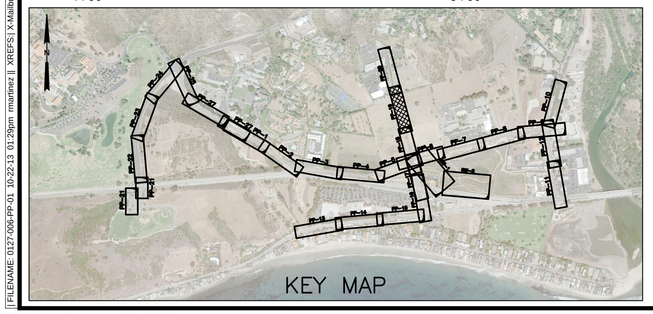


PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

(5) FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

(22) EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

STUART RANCH ROAD - 2

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE: AS SHOWN
DRAWN BY: R. Martinez	DATE 06/2013	
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER: XXXX

APPROVED BY: DATE
XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-19

Sheet _____ of XXX Sheets

[FILENAME: 0127-006-PP-01 10-22-13 01:29pm rmartinez] [XREFS:] [X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | X:\TOPO-41225] [RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey]

Last Saved By: rmartinez 10-22-13 01:22pm

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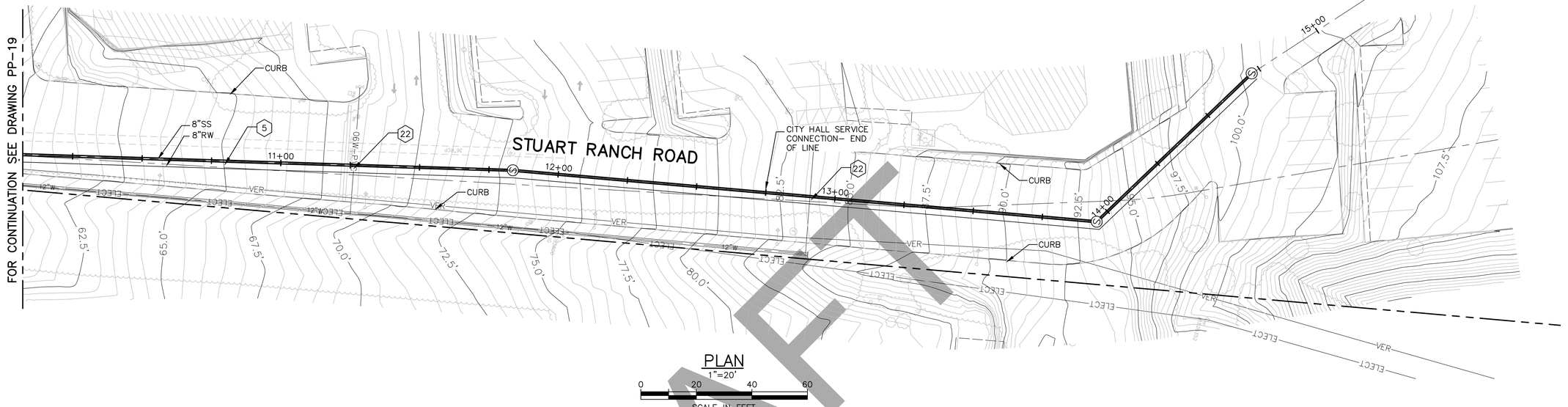
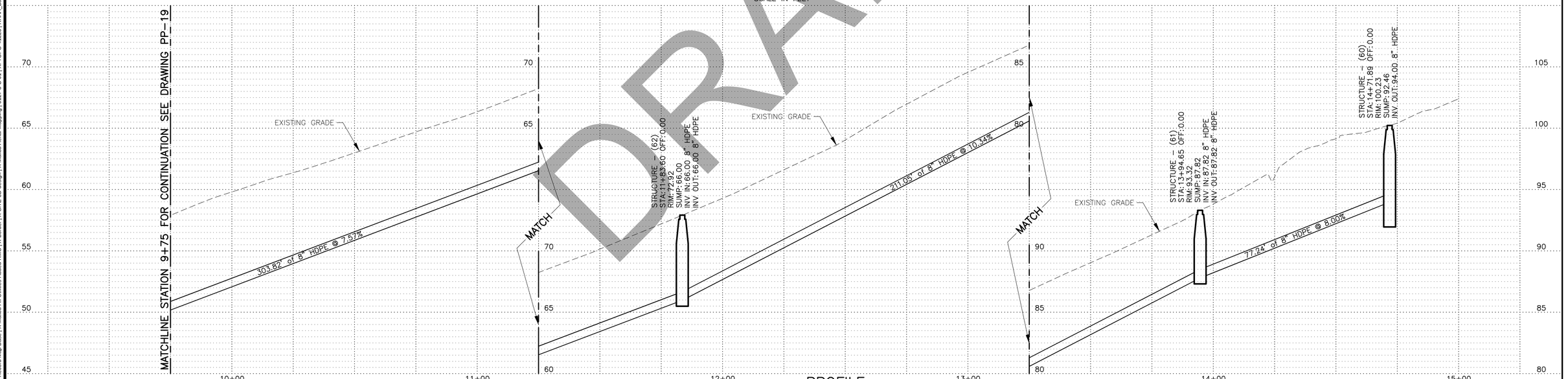
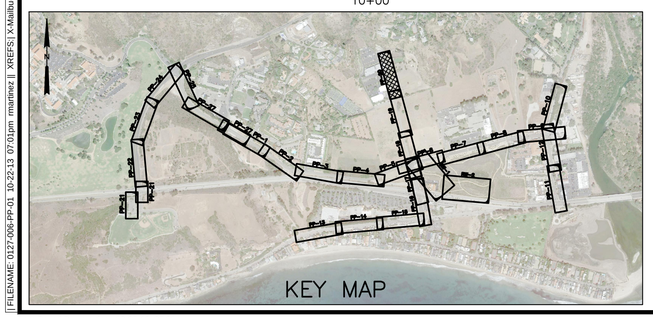


PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

STUART RANCH ROAD - 3

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-20

Sheet _____ of XXX Sheets

FILENAME: 0127-006-PP-01 10-22-13 07:01pm rmartinez || XREFS| X-Malibu-Record Map Base | X-MalibuJAH-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | X:\TOPO-41225| RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey

Last Saved By: rmartinez 10-22-13 07:01pm

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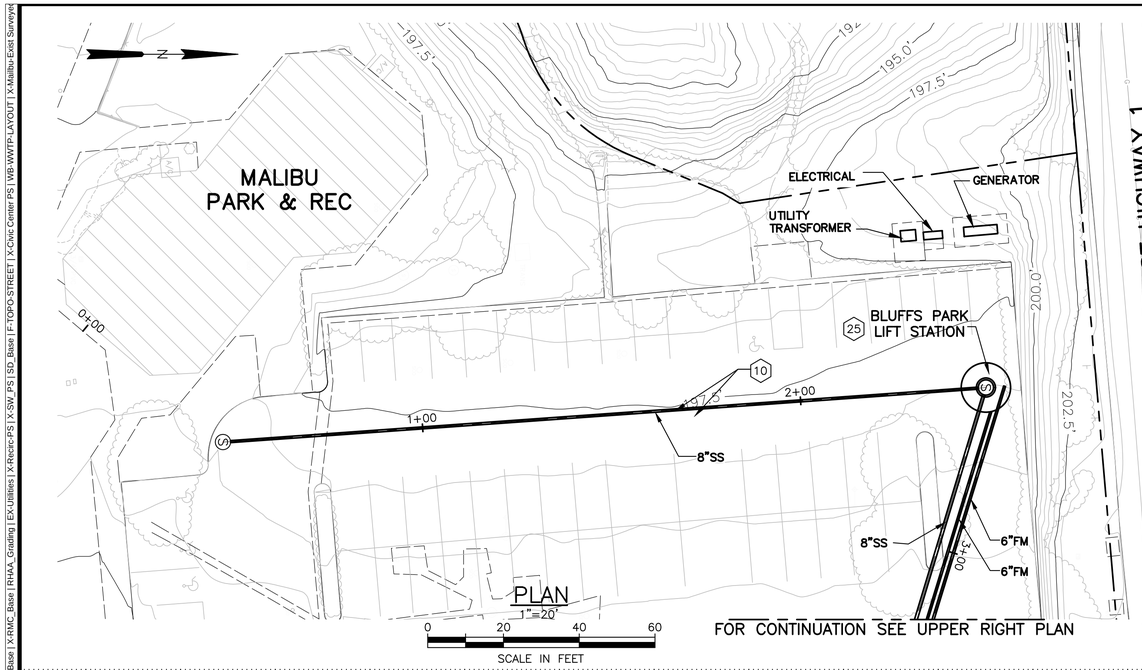
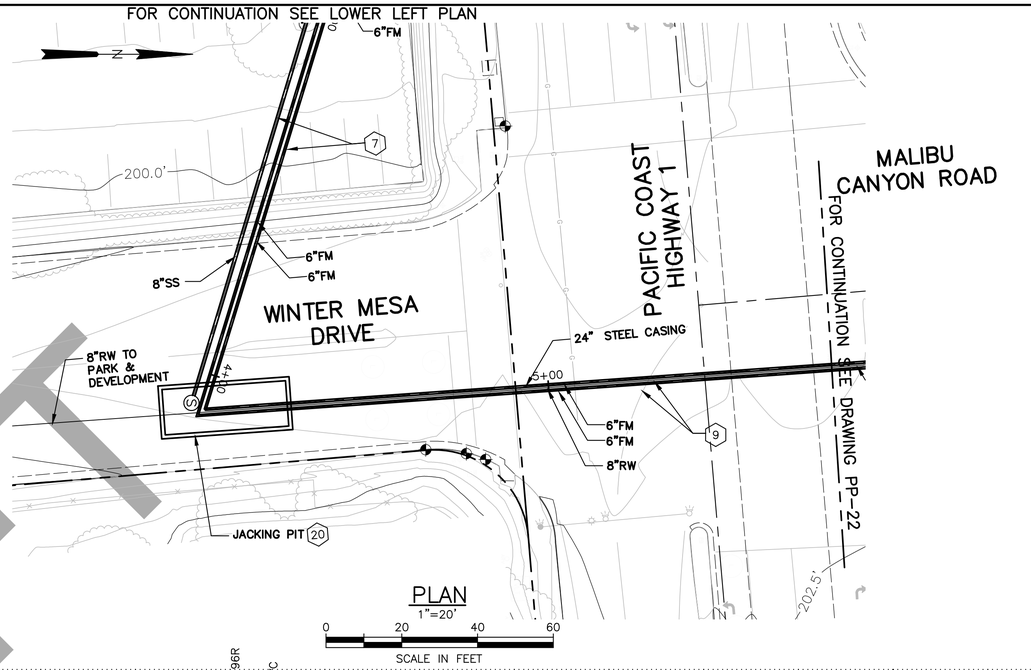
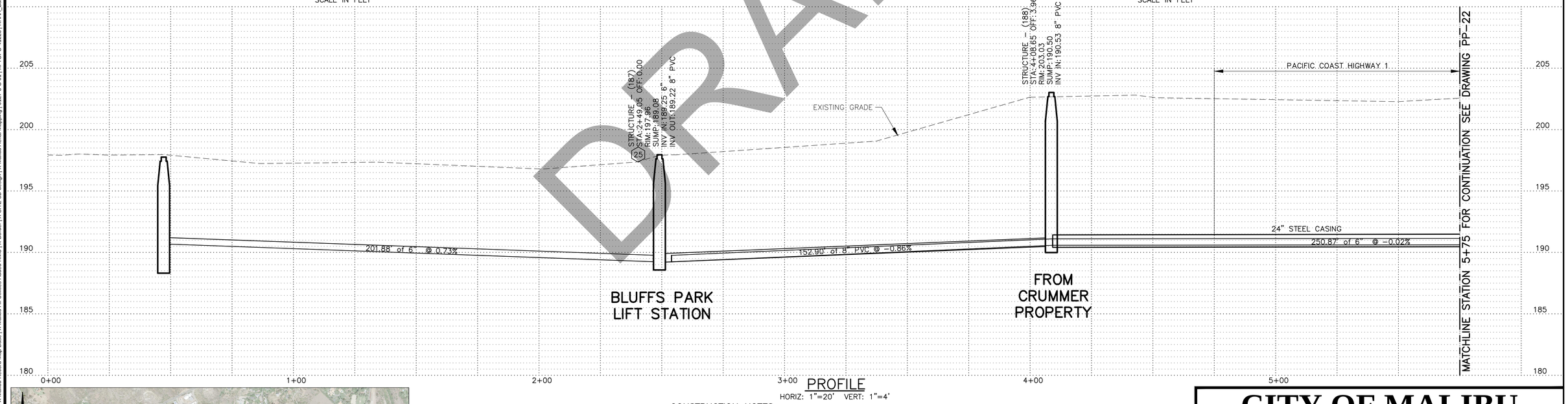


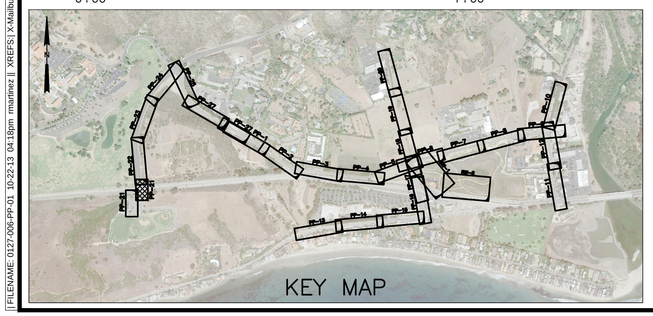
PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

7. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 7/UC-3
9. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 9/UC-3
10. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 10/UC-3
20. LOCATION, SIZE AND MATERIALS OF PIT SHOULD BE ACCORDING TO CONTRACTOR'S SHOP DRAWINGS AND MUST BE APPROVED BY THE ENGINEER.
25. CONSTRUCT BLUFF PARK LIFT STATION PER DETAIL GC-_

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
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SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" ——— 1"
— VERIFY SCALES —
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

WINTER MESA DRIVE - 1

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

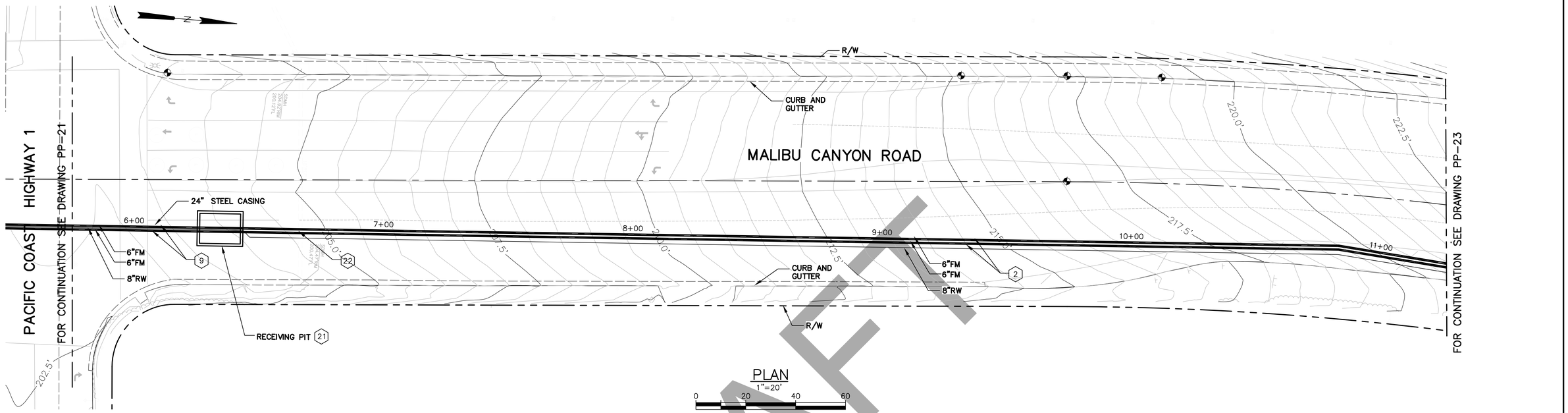
Plan No. PP-21

Sheet _____ of XXX Sheets

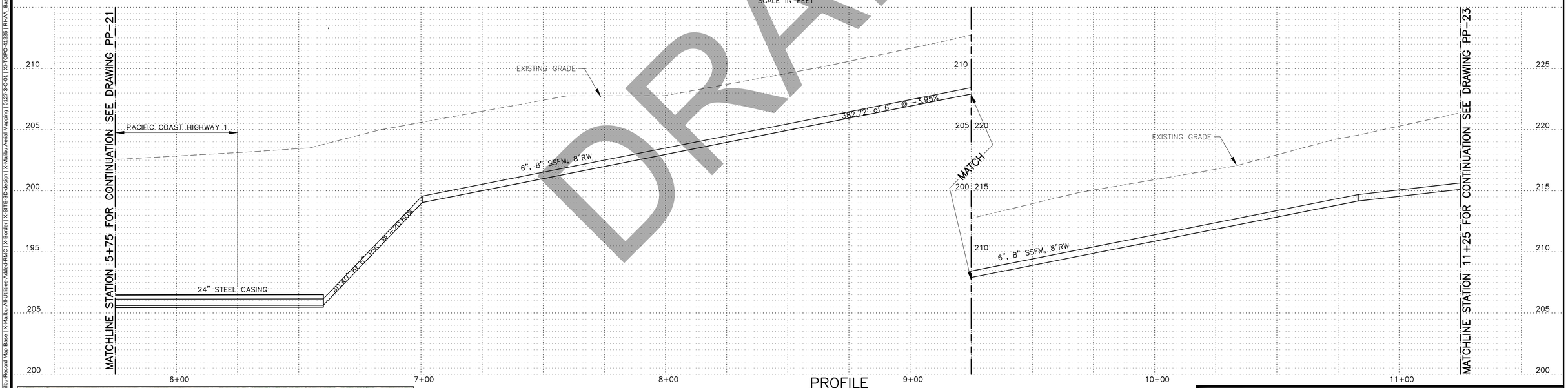
[FILENAME: 0127-006-PP-01 10-22-13 04:18pm rmartinez][XREFS:] X-Malibu-Record Map Base | X-Malibu_All-Utilities-Added-RMC | X-Border | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | Xr:TOPO-41225| RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-LAYOUT | X-Malibu-Exist Survey#

Last Saved By: rmartinez 10-22-13 04:14pm

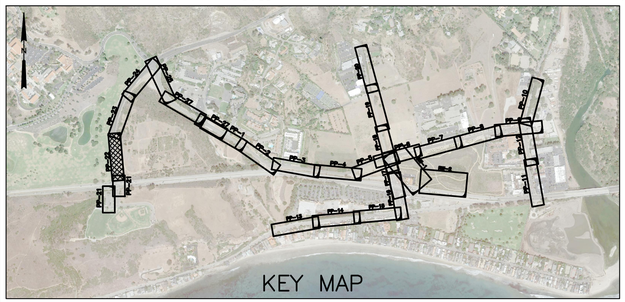
DRAFT



PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

7 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 7/UC-3

9 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 9/UC-3

10 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 10/UC-3

20 LOCATION, SIZE AND MATERIALS OF PIT SHOULD BE ACCORDING TO CONTRACTOR'S SHOP DRAWINGS AND MUST BE APPROVED BY THE ENGINEER.

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-__

25 CONSTRUCT BLUFF PARK LIFT STATION PER DETAIL GC-__

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MALIBU CANYON DRIVE - 1

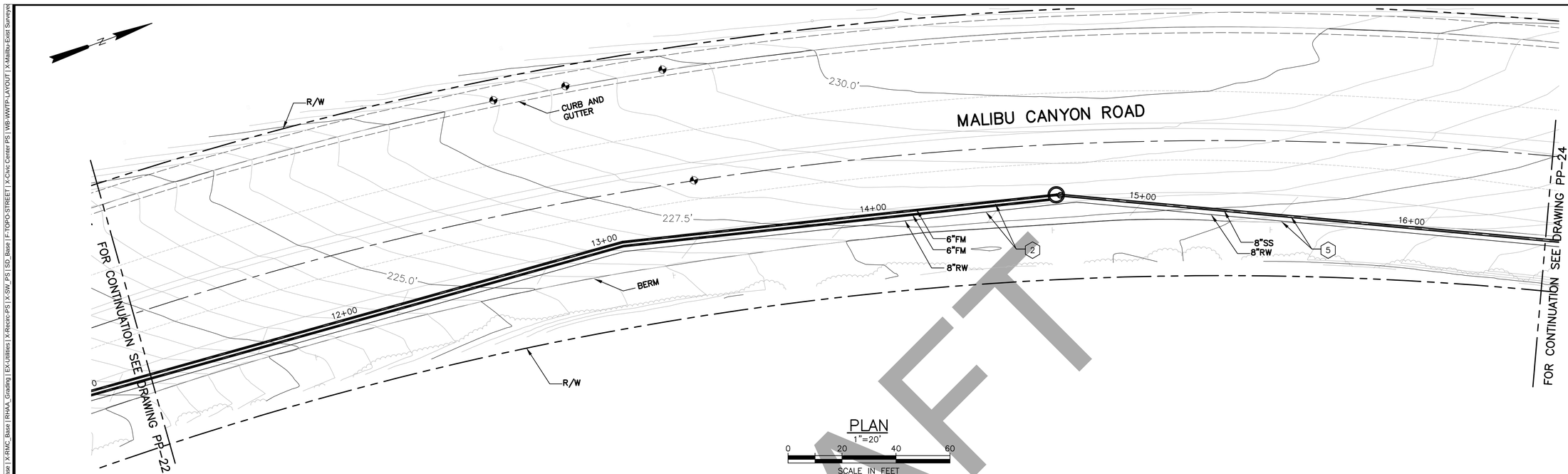
DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: XX-XX-13 DATE
DRAWN BY: C. To	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-22

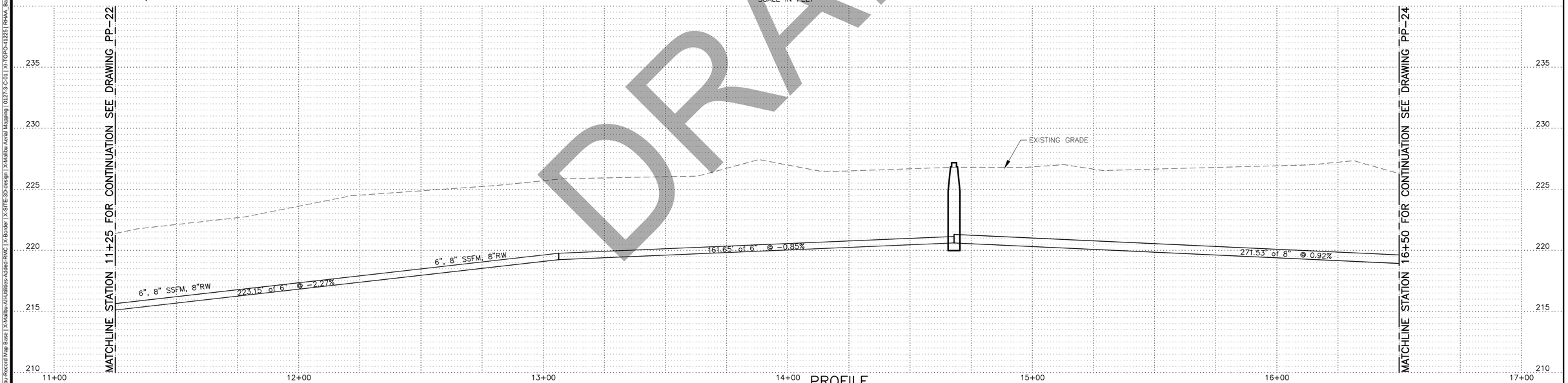
Sheet ____ of XXX Sheets

FILENAME: 0127-006-PP-01 10-22-13 04:30pm rmartinez [] XREFs: [X:\Malibu-Record Map Base] [X:\Malibu-All-Utilities-Added-RMC] [X-Border] [X-SITE-3D-design] [X-Malibu Aerial Mapping] [0127-3-C-01] [X:\TOPO-41225] RHAA_Base] [X-RMC_Base] RHAA_Grading] [EX-Utilities] [X-Recirc-PS] [X-SW_PS] SD_Base] [F-TOPO-STREET] [X-Civic Center PS] WB-WWTP-LAYOUT] [X-Malibu-Exist Survey

Last Saved By: rmartinez 10-22-13 04:24pm



PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
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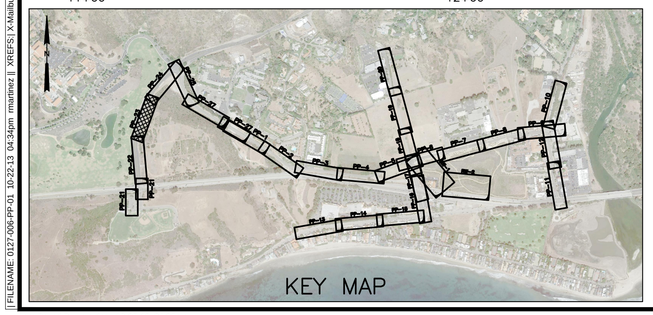


CONSTRUCTION NOTES:

(2) FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 2/UC-3

(5) FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MAILBU CANYON ROAD - 2

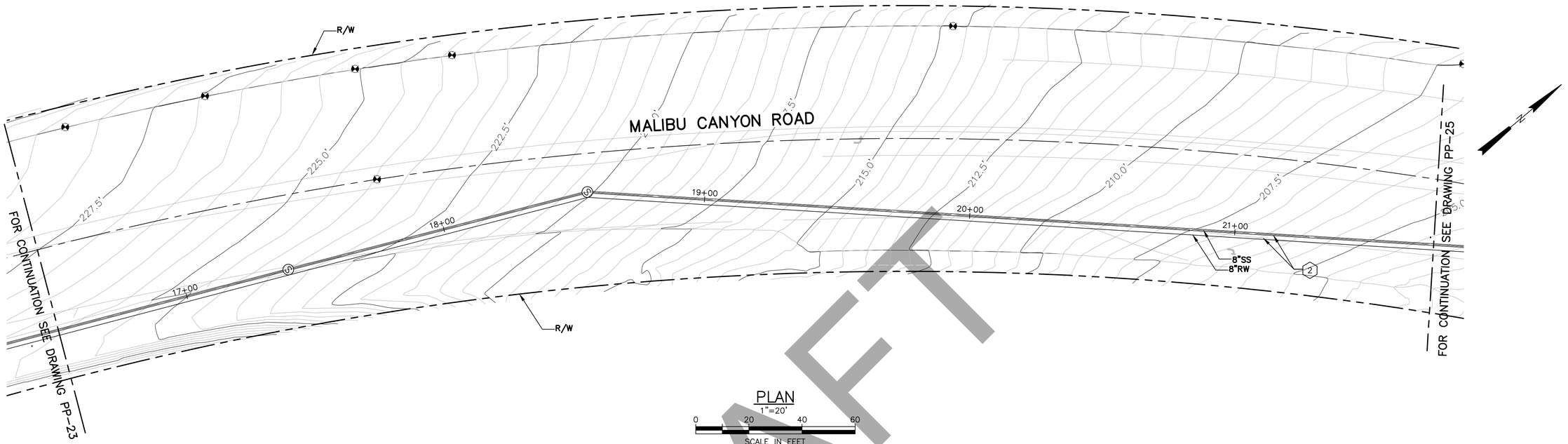
DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-23

Sheet _____ of XXX Sheets

[FILENAME: 0127-006-PP-01 10-22-13 04:34pm rmartinez][XREFS:] X:\Malibu-Record Map Base\ | X:\Malibu-All-Utilities-Added-RMC\ | X-Border\ | X-SITE-3D-design\ | X-Malibu Aerial Mapping\ [0127-3-C-01] X:\TOPO-41225\ | RHAA_Base\ | X-RMC_Base\ | RHAA_Grading\ | EX-Utilities\ | X-Recirc-PS\ | X-SW_PS\ | SD_Base\ | F-TOPO-STREET\ | X-Civic Center PS\ | WB-WWTP-LAYOUT\ | X-Malibu-Exist Survey\

Last Saved By: rmartinez 10-22-13 04:30pm

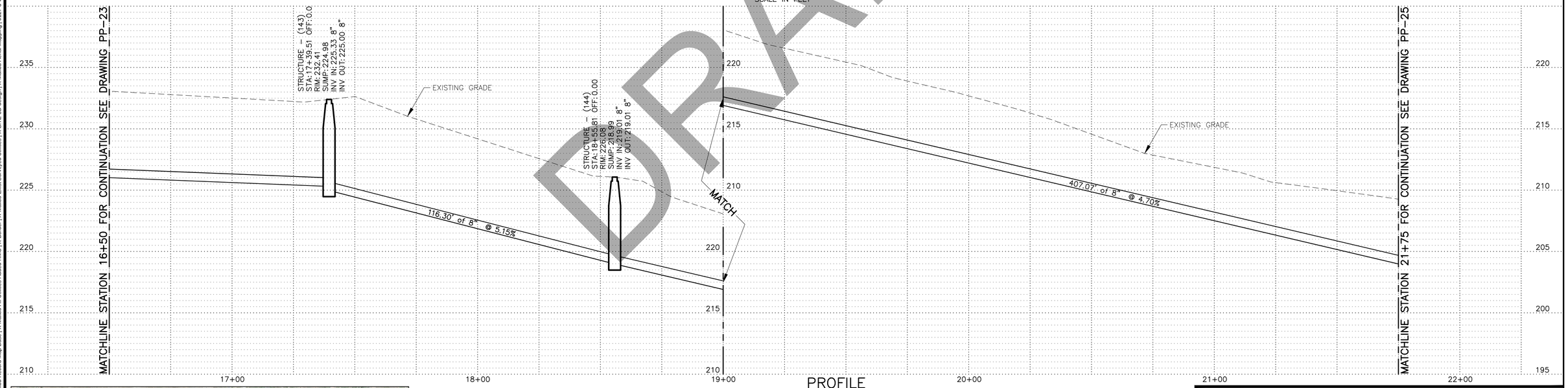


PLAN

1"=20'

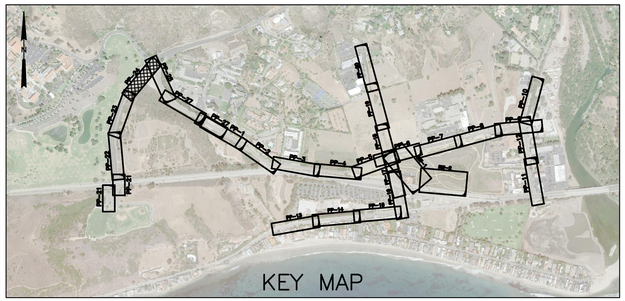
0 20 40 60

SCALE IN FEET



PROFILE

HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

1. FOR GENERAL CONSTRUCTION NOTES SEE SHEET ____
2. FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" ——— 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

MAILBU CANYON ROAD - 3

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
DRAWN BY: R. Martinez	DATE 06/2013		DATE XX-XX-13
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-24

Sheet ____ of XXX Sheets

DRAFT

FILENAME: 0127-006-PP-01 10-15-13 04:34pm rmartinez || XREFS: | X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-Malibu-Exist Surveyed Utilities | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | X1-TOPO-41225 | RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Recirc-PS | X-SW_PS | SD_Base | F-TOPO-STREET | X-Civic Center PS | WB-WWTP-1
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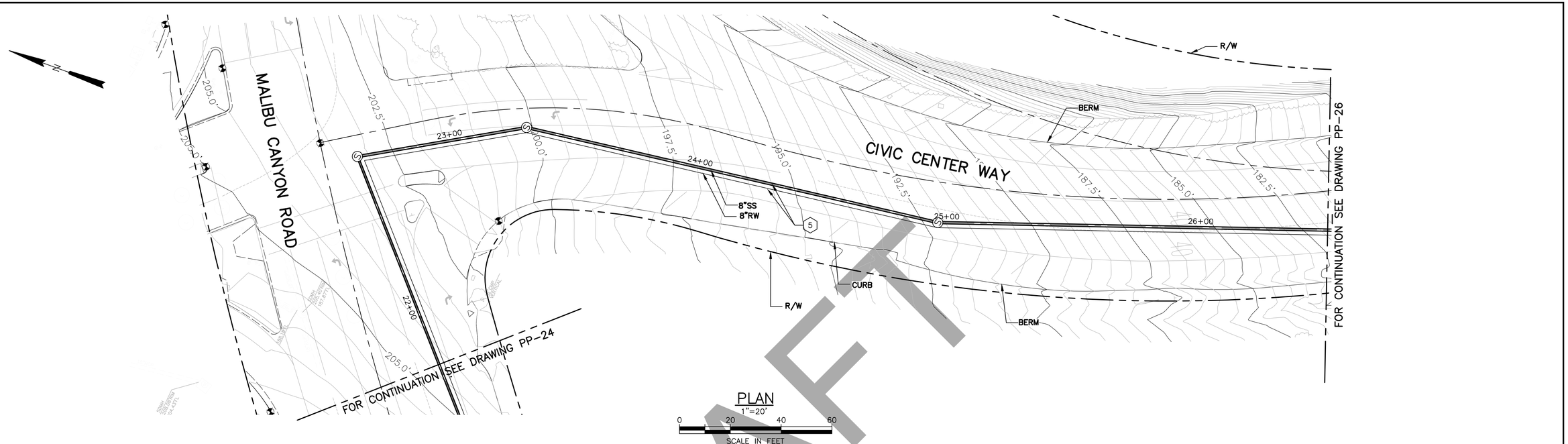
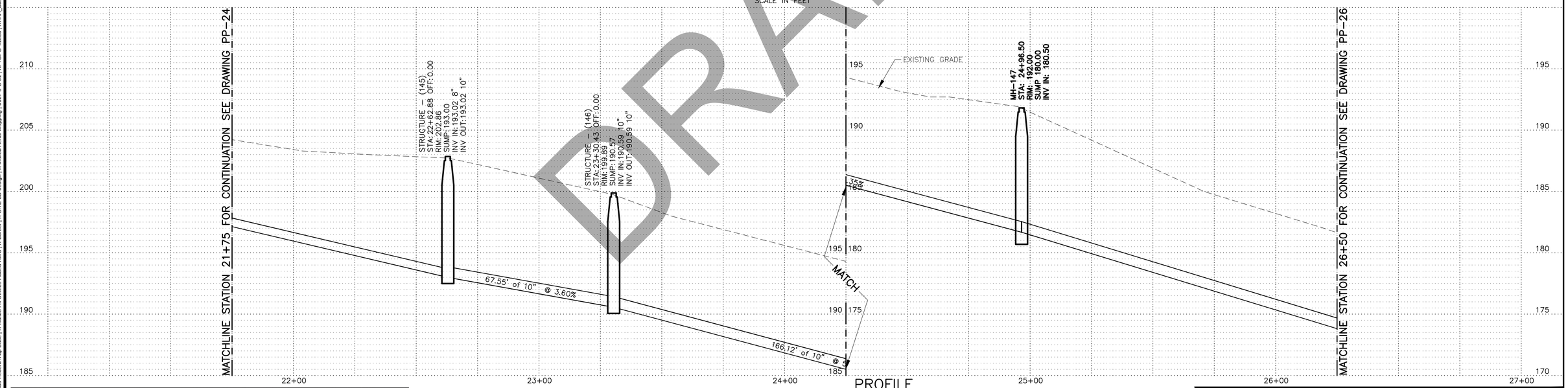
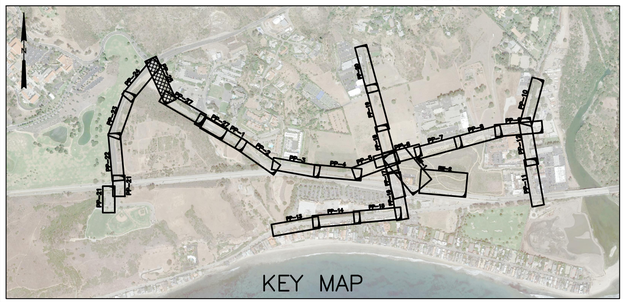
DRAFT



PLAN
1"=20'
0 20 40 60
SCALE IN FEET



PROFILE
HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

5 FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" — 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 1

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-25

Sheet ____ of XXX Sheets

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Last Saved By: rmartinez 10-22-13 04:42pm

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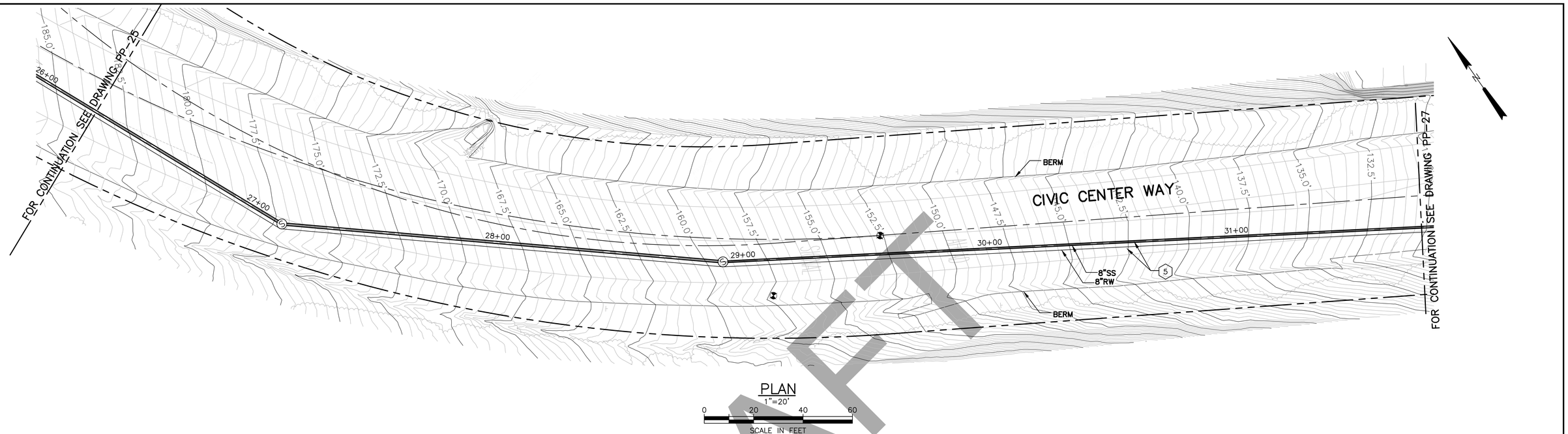
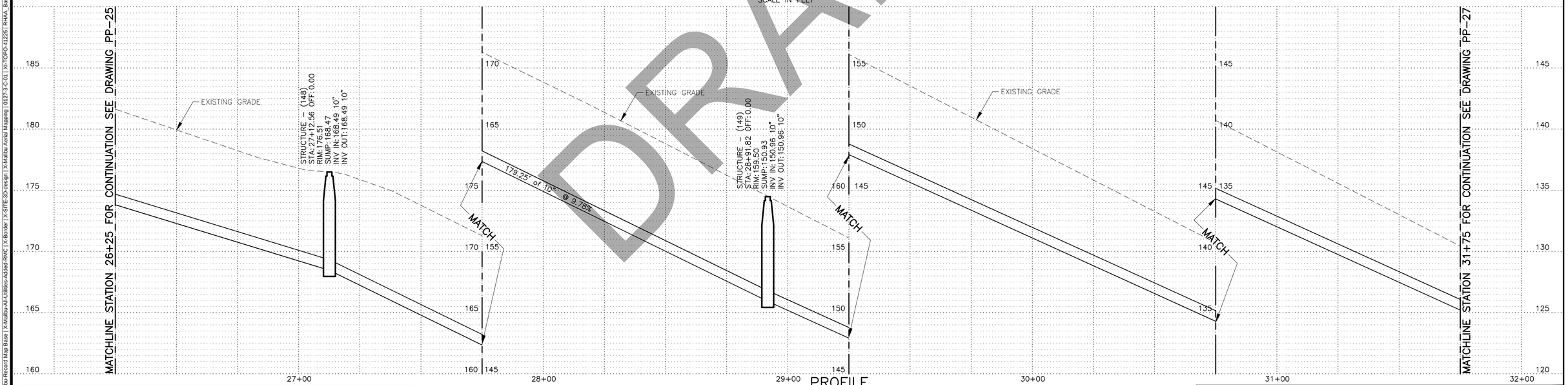


PLAN

1"=20'

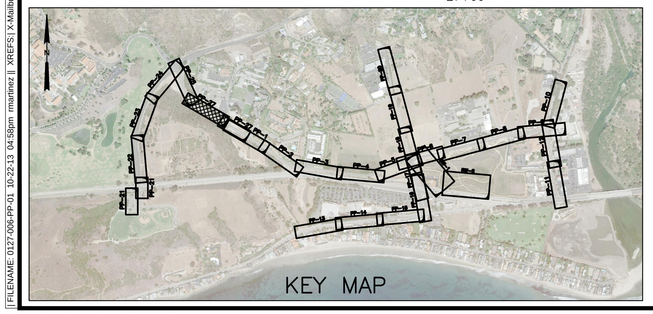
0 20 40 60

SCALE IN FEET



PROFILE

HORIZ: 1"=20' VERT: 1"=4'



CONSTRUCTION NOTES:

(5) FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" VERIFY SCALES 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 2

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE	APPROVED BY: DATE
DRAWN BY: R. Martinez	DATE 06/2013	AS SHOWN	XX-XX-13
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014

Plan No. PP-26

Sheet _____ of XXX Sheets

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Last Saved By: rmartinez 10-22-13 04:57pm

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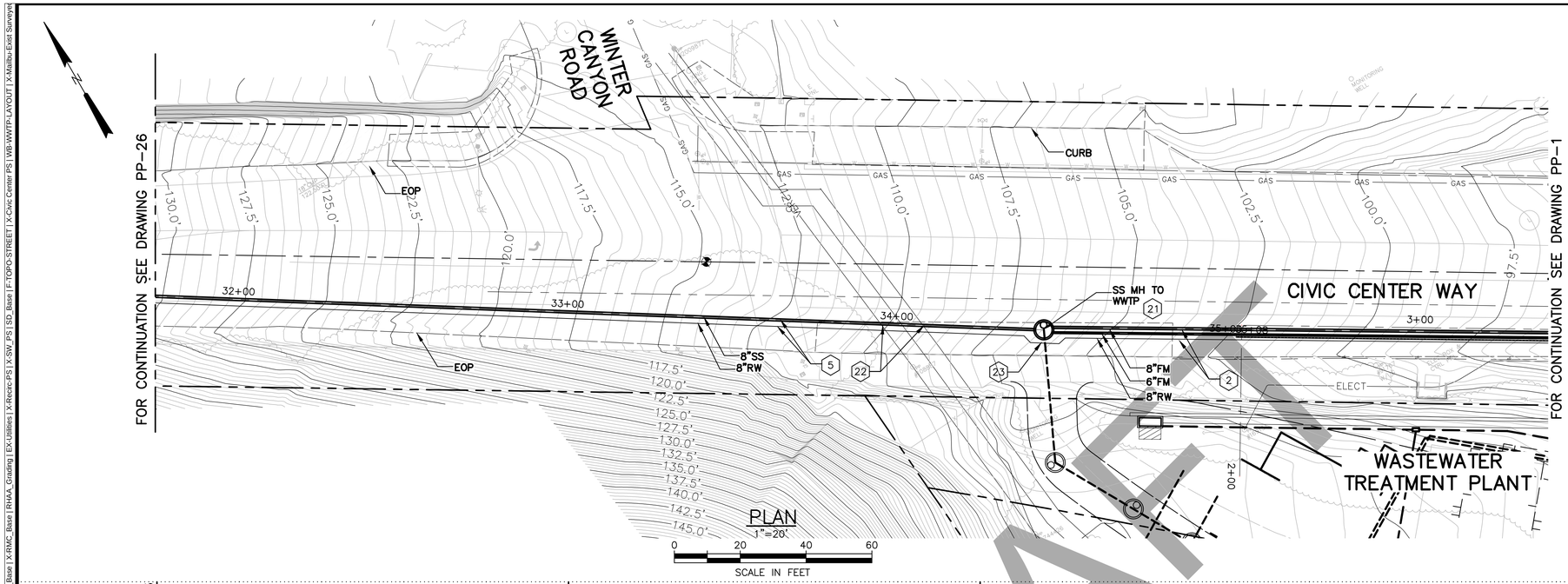

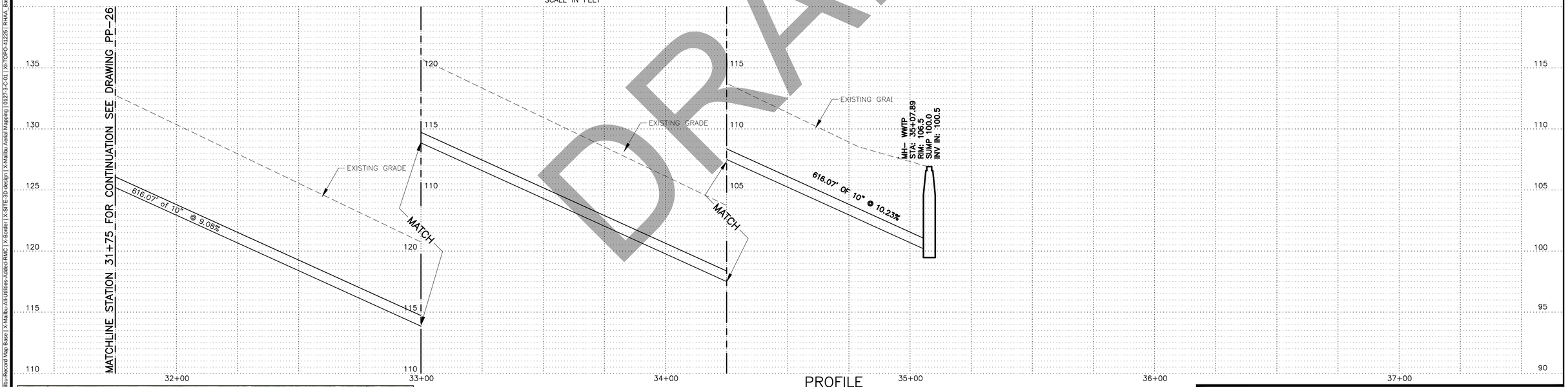

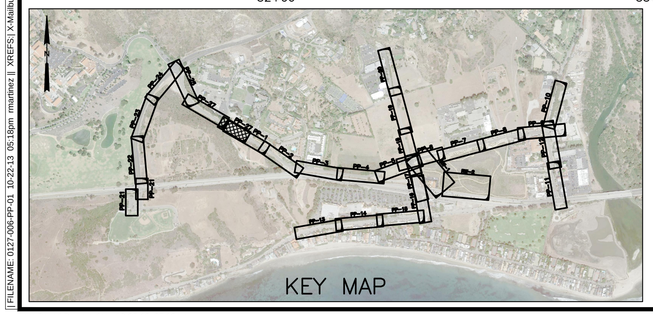

CONSTRUCTION NOTES:

(2) FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 2/UC-3

(5) FOR PIPE SEPARATION AND TRENCH DETAIL FROM STA __+__.__ TO STA. __+__.__ USE DETAIL 5/UC-3

(21) COORDINATE WITH WWTP PLANS FOR CONNECTION OF SANITARY SEWER AND LOCATION OF MH.

(22) EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL __/GC-__

(23) FOR CONNECTION OF RW, SEE DETAIL __/GC-__

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE. DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY - 3

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014 DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. PP-27

Sheet ____ of XXX Sheets

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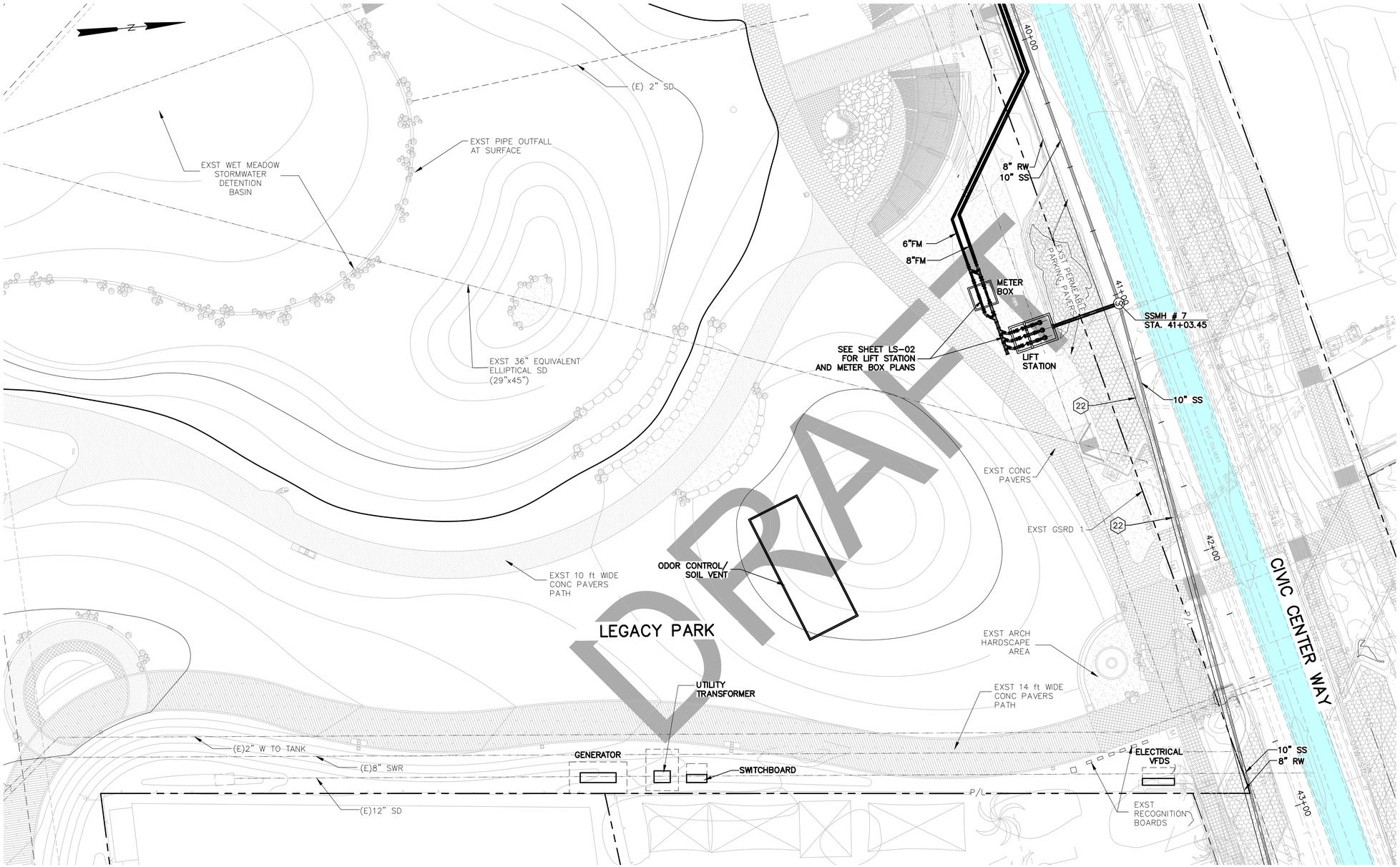
Last Saved By: rmartinez 10-22-13 05:16pm

DRAFT



SCALE 1"= 20'

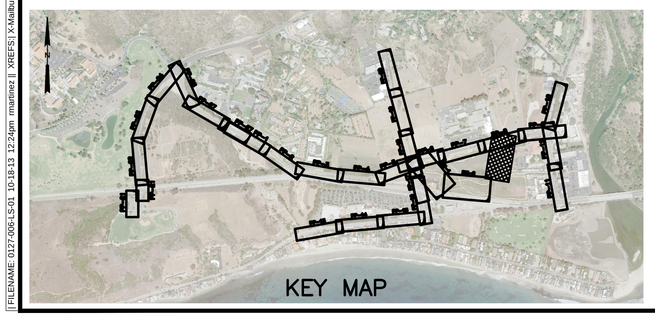
0 20' 40' 60'

SCALE IN FEET

SANITARY SEWER CONSTRUCTION NOTES:

22 EXIST. UTILITY CROSSING WITH PROPOSED SS, FM, RW, PER DETAIL GC-_

23 FOR CONNECTION OF RW, SEE DETAIL GC-_



DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE, DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

LEGACY PARK
LIFT STATION SITE PLAN

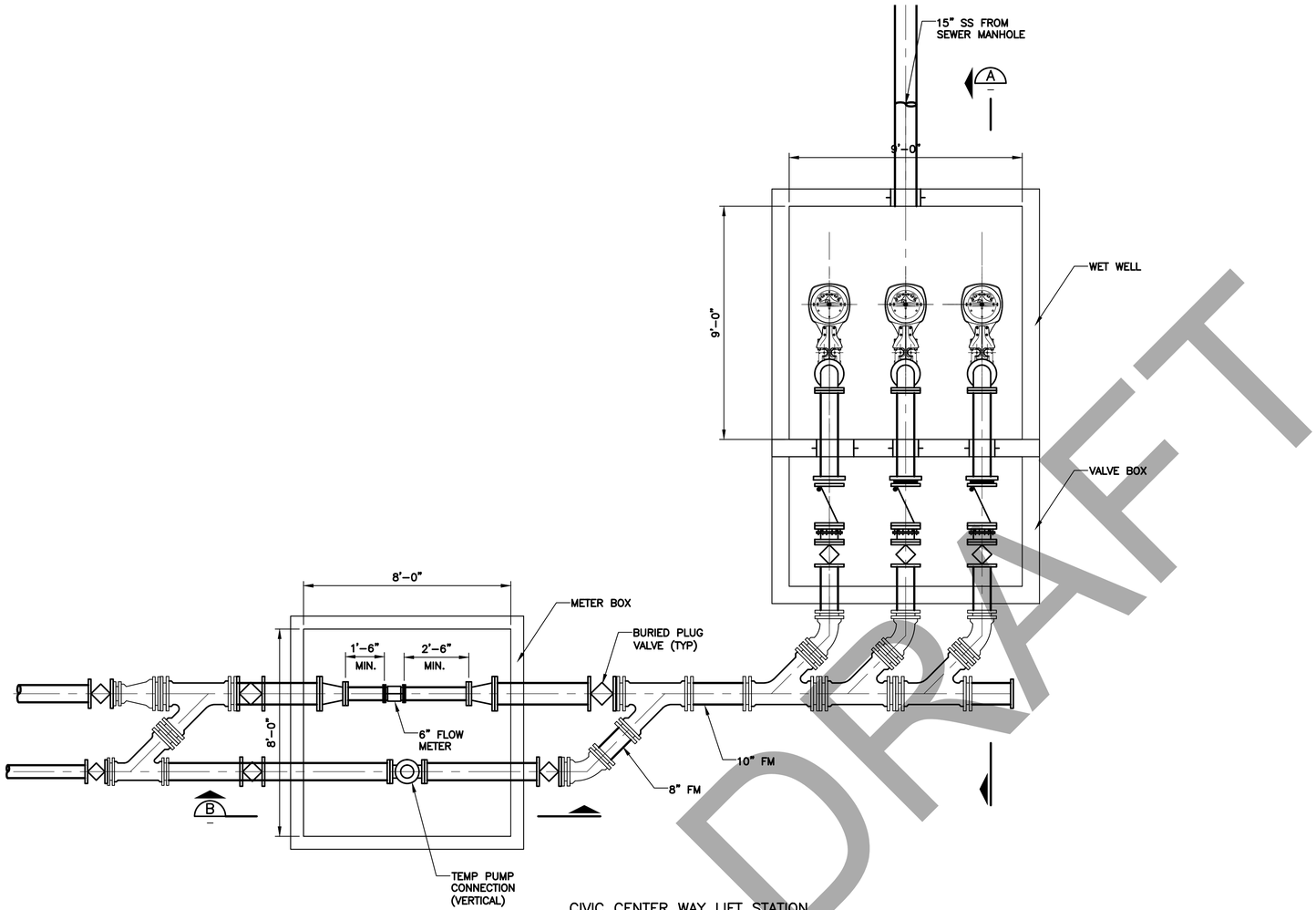
DESIGNED BY: K. Erickson DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: R. Martinez DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY: T. Butler DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. LS-1

Sheet _____ of XXX Sheets

FILENAME: 0127-006-LS-01 10-18-13 12:24pm rmartinez || XREFS: | X-Malibu-Record Map Base | X-Malibu-All-Utilities-Added-RMC | X-Border | X-Malibu-Exist Surveyed Utilities | X-SITE-3D-design | X-Malibu Aerial Mapping | 0127-3-C-01 | X-TOPO-4125 | RHAA_Base | X-RMC_Base | RHAA_Grading | EX-Utilities | X-Reche-PS | X-SW_PS | SD_Base | E-TOPO-STREET | X-Civic Center PS | WB-SS-CONST-NOTES |<-

Last Saved By: rmartinez 10-18-13 12:21pm



CIVIC CENTER WAY LIFT STATION

PLAN

SCALE 3/8" = 1'-0"

CONSTRUCTION NOTES:

1. .
2. .

DRAFT

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE. DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

CIVIC CENTER WAY LIFT STATION
PLAN AND SECTIONS

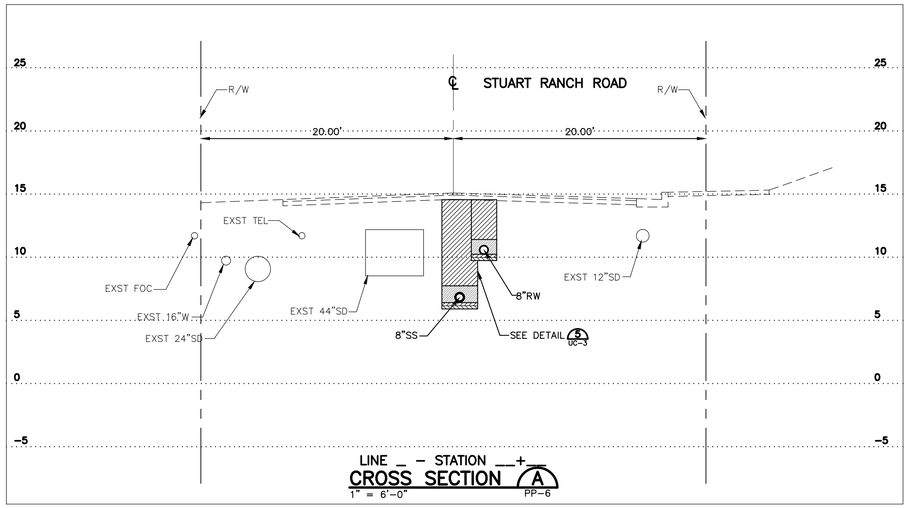
DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHWON	APPROVED BY: DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		ROBERT BRAGER, P.E., J.D. PUBLIC WORKS DIRECTOR/CITY ENGINEER RCE NO. 52102 EXP. 12/31/2014
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	

Plan No. LS-02

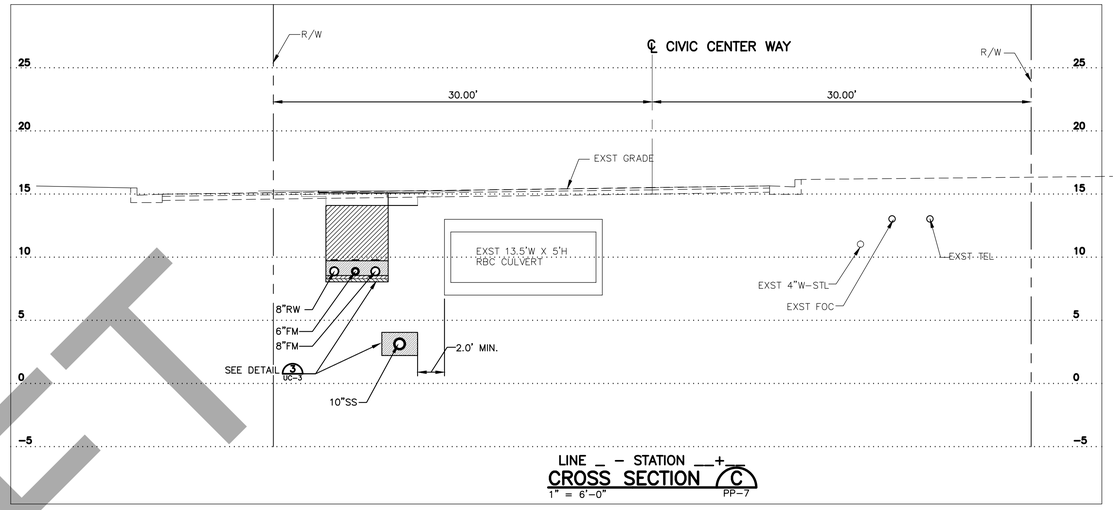
Sheet _____ of XXX Sheets

FILENAME: 0127-006-LS-02 10-22-13 01:45pm rmartinez || XREFS: | X-Border | X-Civic Center PS | X-SITE-3D-design |<--

Last Saved By: rmartinez 10-22-13 01:45pm



LINE _ – STATION __+__
CROSS SECTION (A)
1" = 6'-0" PP-6



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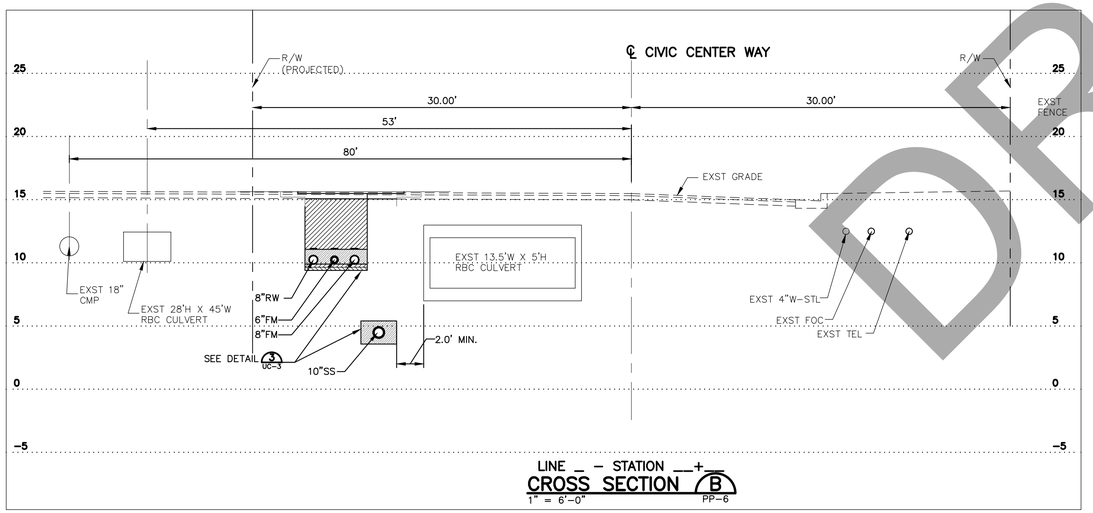

LINE _ – STATION __+__
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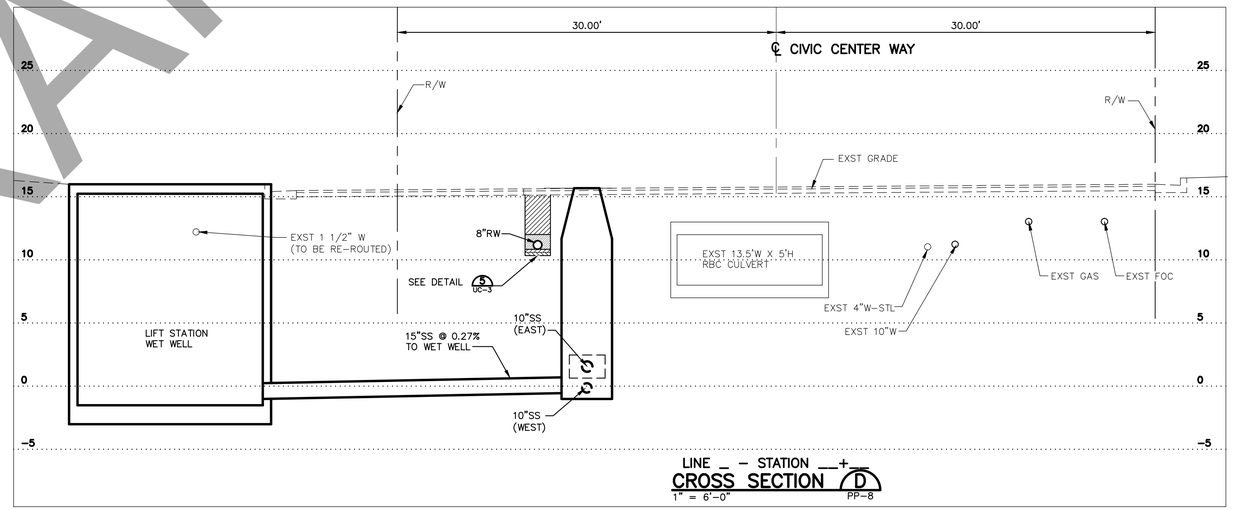
1" = 6'-0" PP-6



LINE _ – STATION __+__
CROSS SECTION (D)
1" = 6'-0" PP-8

SCALE 1"= 6'

0 6' 12' 18'

SCALE IN FEET

DRAFT

DIAL BEFORE YOU DIG
1-800-422-4133
DIGALERT
PLAY IT SAFE, DIAL BEFORE YOU DIG!
AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING
SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" —— 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY:
RMC
Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

UTILITIES CROSS SECTION - 1

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN
DRAWN BY: R. Martinez	DATE 06/2013	
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX

APPROVED BY: DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Plan No. UC-1

Sheet _____ of XXX Sheets

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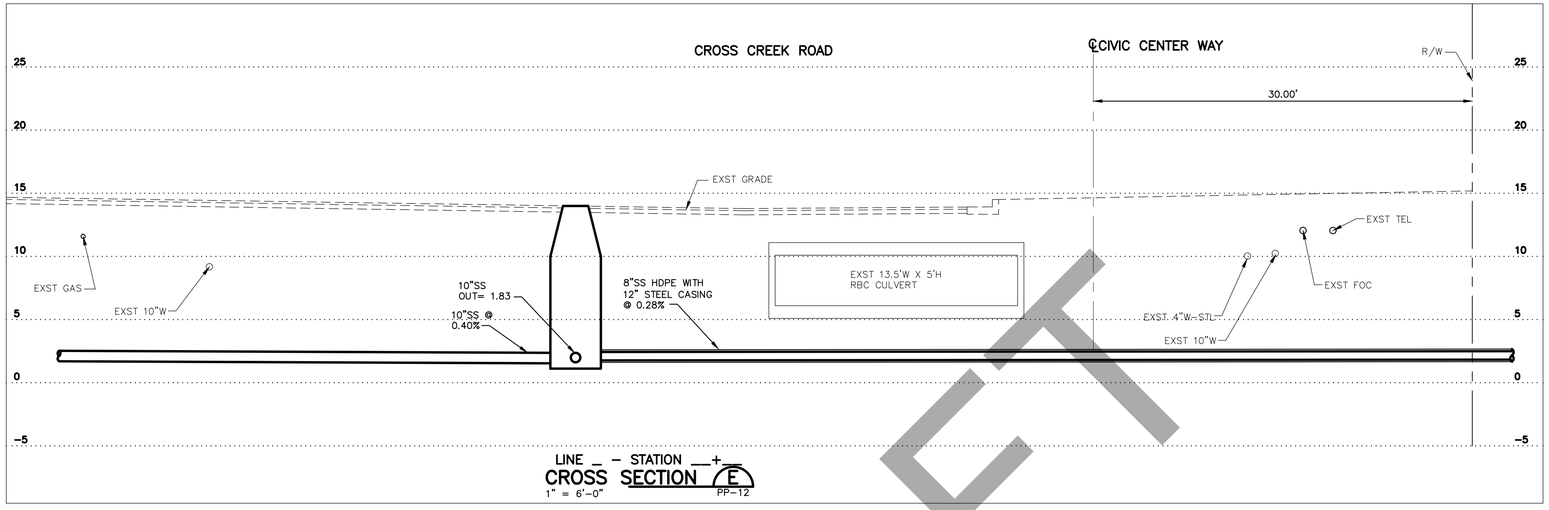
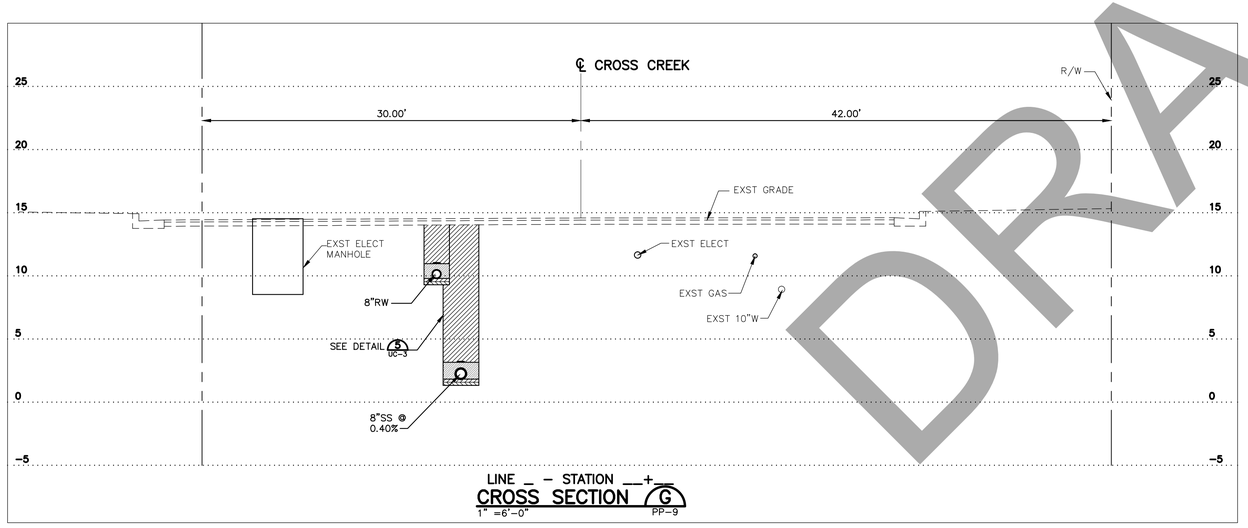


LINE _ – STATION __+__
CROSS SECTION E
1" = 6'–0" PP–12



LINE _ – STATION __+__
CROSS SECTION G
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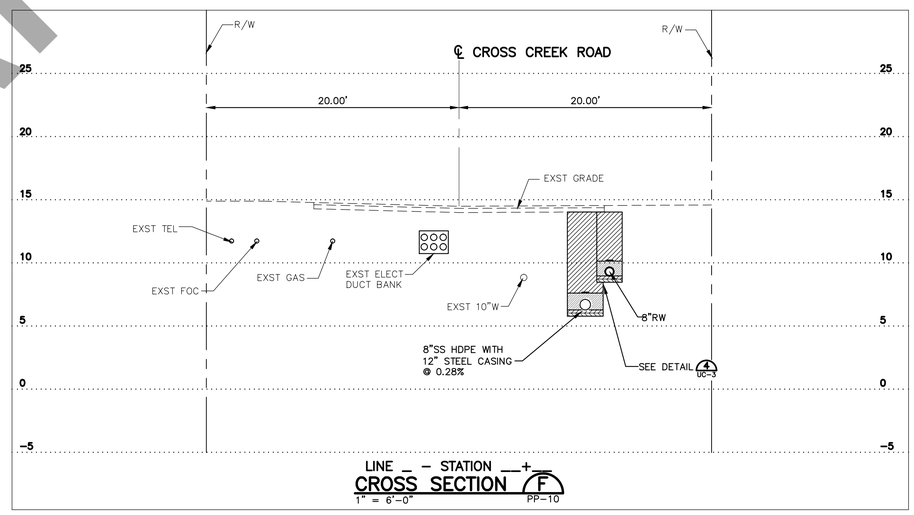

LINE _ – STATION __+__
CROSS SECTION F
1" = 6'–0" PP–10

SCALE 1"= 6'
0 6' 12' 18'
SCALE IN FEET

DRAFT

CITY OF MALIBU
PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

UTILITIES CROSS SECTION - 2

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT PLAY IT SAFE, DIAL BEFORE YOU DIG! AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN
DRAWN BY: R. Martinez	DATE 06/2013	
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX

Plan No. UC-2

APPROVED BY: DATE XX-XX-13
ROBERT BRAGER, P.E., J.D.
PUBLIC WORKS DIRECTOR/CITY ENGINEER
RCE NO. 52102 EXP. 12/31/2014

Sheet _____ of XXX Sheets

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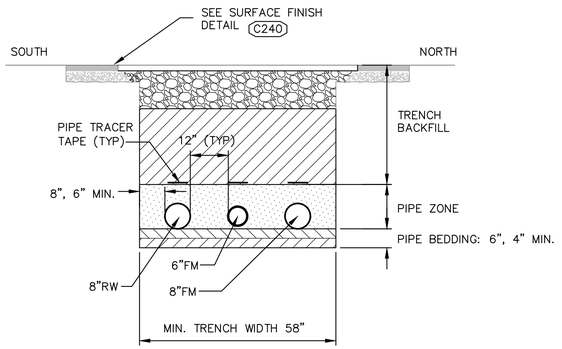
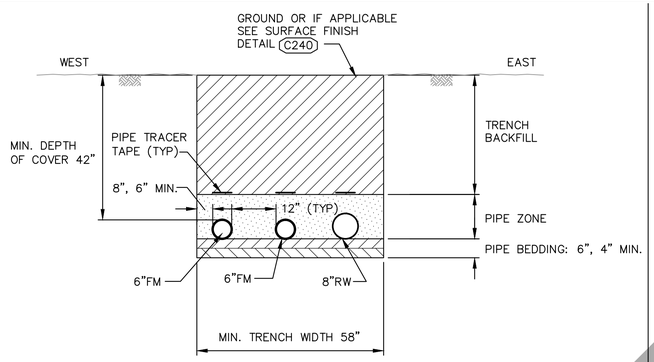


6" FM, 8" FM, TWIN 8" RW–CIVIC CENTER WAY (WEST)

DETAIL 1

1" = 2'

NOTE:
SEE PLANS FOR SIZES
AND ORIENTATION OF PIPES

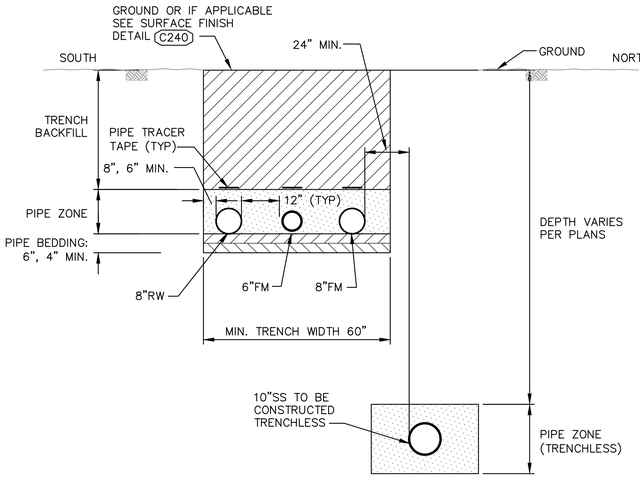


TWIN 6" FMs, 8" RW – MALIBU CANYON ROAD

DETAIL 2

1" = 2'

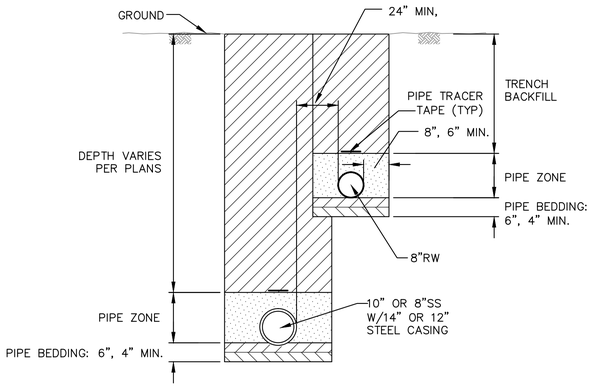
NOTE:
SEE PLANS FOR SIZES
AND ORIENTATION OF PIPES



8"/6" FM, 8" RW – CIVIC CENTER WAY (EAST)

DETAIL 3

1" = 2'

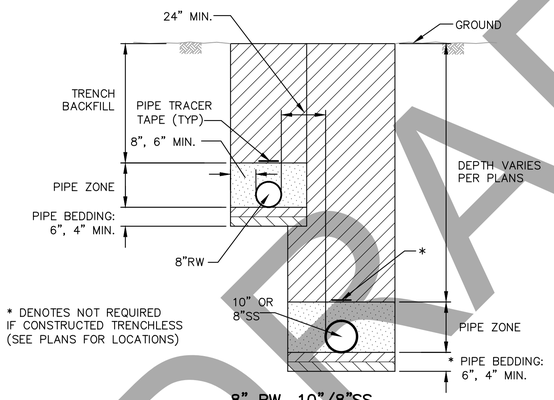


10"/8"SS W/12" STL CASING, 8" RW

DETAIL 4

1" = 2'

NOTE:
SEE PLANS FOR SIZES
AND ORIENTATION OF PIPES



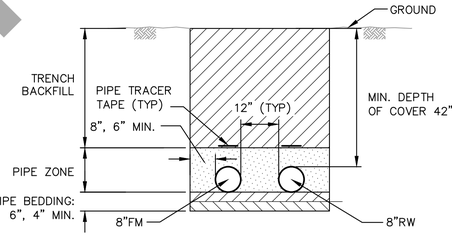
* DENOTES NOT REQUIRED IF CONSTRUCTED TRENCHLESS (SEE PLANS FOR LOCATIONS)

8" RW, 10"/8"SS

DETAIL 5

1" = 2'

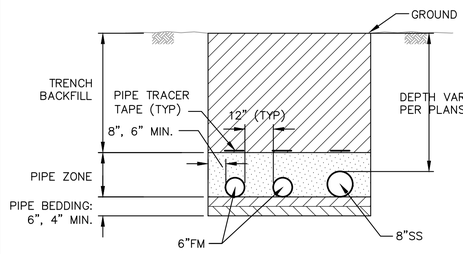
NOTE:
SEE PLANS FOR SIZES,
ORIENTATION OF PIPES
AND PORTIONS TO BE
CONSTRUCTED TRENCHLESS



8" FM, 8" RW

DETAIL 6

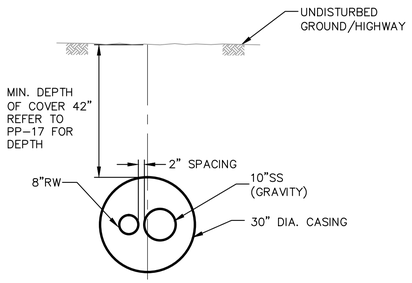
1" = 2'



TWIN 6"FM, 8"SS

DETAIL 7

1" = 2'



SEE CALTRANS DIST 7 SPECIAL PROVISION E FOR BORING, JACKING, TIE–BACKS AND TUNNELING.

MIN. CASING DIA: 25.375" I.D.

CASING: STL 1/4" THICK

MIN. DOC: 42"

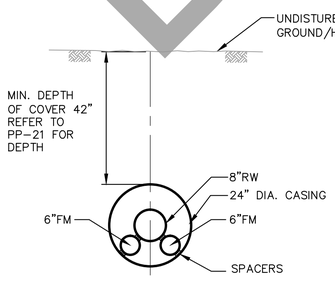
CASING SPACERS: 8' MAX.

PRESSURE GROUT VOIDS

JACK AND BORE DETAIL – 8" RW, 10" SS– WEBB WAY

DETAIL 8

1" = 2'



SEE CALTRANS DIST 7 SPECIAL PROVISION E FOR BORING, JACKING, TIE–BACKS AND TUNNELING.

MIN. CASING DIA: 21.25" I.D.

CASING: STL 1/4" THICK

MIN. DOC: 42"

CASING SPACERS: 8' MAX.

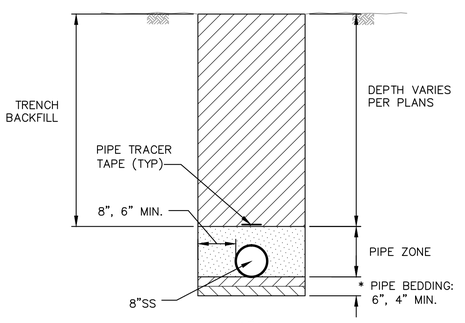
PRESSURE GROUT VOIDS

DISTANCE BETWEEN PIPES: 2"

JACK AND BORE DETAIL–8" RW, TWIN 6" FMs MALIBU CANYON RD.

DETAIL 9

1" = 2'



NOTE:
SEE PLANS FOR SIZES,
ORIENTATION OF PIPES
AND PORTIONS TO BE
CONSTRUCTED TRENCHLESS

8"SS

DETAIL 10

1" = 2'

NOTES:

1. ALTERNATE TRENCH SECTIONS SHOWN ARE FOR USE WHERE COMPACT, STABLE SOIL CONDITIONS EXISTING DIRECTIONAL DRILLING AND TRENCHLESS TECHNOLOGIES SHALL BE IMPLEMENTED AS SHOWN ON THE PLANS. WHERE LARGE ROCKS OR STRUCTURES ARE ENCOUNTERED, TRENCH SECTIONS MAY BE DEEPER AND WIDER THAN THOSE SHOWN. COMBINATION OF SLOPING AND VERTICAL TRENCH WALLS:

   (A) TRENCH DEPTHS < 5'–0" SHALL HAVE VERTICAL WALLS IN PIPE ZONE UNLESS NOTED OTHERWISE.
   (B) TRENCH DEPTHS > 5'–0" SEE SPEC 2200.

2. WHERE NET AND UNSTABLE SOIL IS ENCOUNTERED, SOLID SHEATHING IS REQUIRED FOR ALL VERTICAL TRENCH WALLS.

3. SEE SPEC SECTION 02200 FOR BACKFILL REQUIREMENTS.

4. SEE STD. DETAIL C240 FOR SURFACE FINISH.

CITY OF MALIBU

PUBLIC WORKS DEPARTMENT

CIVIC CENTER WASTEWATER TREATMENT FACILITY - PHASE 1

UTILITIES CROSS SECTION - 3

DIAL BEFORE YOU DIG 1-800-422-4133 DIGALERT — PLAY IT SAFE, DIAL BEFORE YOU DIG! — AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATING — SERVING NINE SOUTHERN CALIFORNIA COUNTIES

0" 1" — VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

PLANS PREPARED BY: RMC Water and Environment

50% Submittal Not for Construction

NO.	REVISION	BY	CHKD.	DATE

DESIGNED BY: K. Erickson	DATE 06/2013	SCALE AS SHOWN	APPROVED BY: DATE XX-XX-13
DRAWN BY: R. Martinez	DATE 06/2013		ROBERT BRAGER, P.E., J.D.
CHECKED BY: T. Butler	DATE 06/2013	PROJECT NUMBER XXXX	PUBLIC WORKS DIRECTOR/CITY ENGINEER
			RCE NO. 52102 EXP. 12/31/2014

Plan No. UC-3

Sheet _____ of XXX Sheets

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PEPPERDINE UNIVERSITY

GOVERNMENTAL AND REGULATORY AFFAIRS

RECEIVED
CITY OF MALIBU
NOV 18 2013
Public Works
Department

October 18, 2013

Robert Brager
Public Works Director
City of Malibu
23825 Stuart Ranch Road
Malibu, CA 90265

Re: Pepperdine's Role in the Civic Center Wastewater Treatment System

Dear Mr. Brager:

The City of Malibu initiated an inquiry into Pepperdine University's ability to accept reclaimed water generated by the City of Malibu's proposed Civic Center Wastewater Treatment Facility ("Civic Center"). Pepperdine University applauds the City of Malibu's efforts to responsibly treat and reuse all wastewater generated in the Civic Center area. As a leader in reclaimed water use, we certainly understand the challenges in achieving an appropriate water balance and we remain committed to continuing to provide counsel on reuse of reclaimed water. However, for the reasons outlined below, Pepperdine University is not in a position to commit to receiving additional reclaimed water supply for reuse or storage from the City of Malibu as an additional purveyor.

Lack of Capacity at Pepperdine's Retention Ponds

Pepperdine has achieved a careful balance of the University's wastewater treatment system by selecting campus vegetation based upon evapotranspiration rates. The relatively high evapotranspiration rate of turf grass, which is used on Alumni Park, maximizes reuse of reclaimed water. Beyond the specific selection of vegetation types, the University utilizes a hydrogeological monitoring system to carefully monitor irrigation and to ensure that we apply only that amount of water necessary to maintain the vegetation. This is beneficial as it reduces water discharged to groundwater or to the ocean, which remains industry practice for many wastewater treatment plants. This careful water balance requires the receipt of reclaimed water equal to what plants can use. The issue arises in winter when precipitation reduces irrigation; yet the University continues to generate and receive reclaimed water, resulting in no excess storage capacity. As a result, the University has no capacity to receive additional reclaimed water, including from the Civic Center System. You have also asked about the potential expansion of the storage reservoirs. It's unclear whether we could get the necessary approvals to expand the storage reservoirs. Even if we did, there are multiple reasons we would need to retain that additional capacity for the University and to maintain our current operational system. Thus, even were we to expand the storage reservoirs, we would be unable to receive additional reclaimed water supply from the Civic Center Wastewater System for reuse or storage.

Key Partnerships with the County of Los Angeles and Las Virgenes Municipal Water District

Pepperdine University wants to honor and maintain our key partnerships with both the County of Los Angeles and the Las Virgenes Municipal Water District, which have allowed Pepperdine to treat and reuse the campus' wastewater since the 1970s. There was not a regional wastewater system when Pepperdine University moved to Malibu in 1972. Pepperdine undertook significant time and expense, with partnership and collaboration from the County of Los Angeles Department of Public Works and the Las Virgenes Municipal Water District, to create a wastewater system for the campus. Investments in infrastructure, service, and connection fees have resulted in a very reliable system that is appropriately sized for the University's current and future development through a comprehensive water balance program. Relatedly, both Los Angeles County Department of Public Works and Las Virgenes Municipal Water District have come to rely upon Pepperdine's reuse of the reclaimed water generated at Malibu Mesa and Tapia Wastewater Treatment Facilities. Pepperdine is not in a position to jeopardize these long-standing relationships or to discount the significant investments made by all entities involved.

Increased Complexity in the System

The careful coordination between these entities has resulted in a balanced, albeit already complex wastewater treatment and reclaimed water recovery system, which would become increasingly more complex by the addition of a fourth entity. Receipt of reclaimed water from two sources is already quite challenging. Adding a third source for reclaimed water would create significant regulatory and operational challenges. Pepperdine therefore desires to maintain the current status and the functionality of our wastewater treatment and recycled water system.

At this time, Pepperdine University is unable to assist the City of Malibu by receiving reclaimed water from the Civic Center system for reuse or storage. Nevertheless, and as stated above, we remain committed to supporting the City of Malibu in your good work to achieve an appropriate water balance. Please let us know if there is anything else we can do to support this great effort.

Very truly yours,

Rhiannon L. Bailard
Associate Vice President

Cc: Jim Thorsen, City Manager, City of Malibu
Craig George, Environmental Sustainability Manager, City of Malibu
Phil Phillips, Vice President for Administration, Pepperdine University
Dennis Torres, Real Estate Operations, Pepperdine University

Las Virgenes – Triunfo Joint Powers Authority
4232 Las Virgenes Road, Calabasas, CA 91302
818.251.2100

October 29, 2013

RECEIVED
CITY OF MALIBU
NOV 01 2013
Public Works
Department

Mr. Robert Brager
Public Works Director
City of Malibu
23825 Stuart Ranch Road
Malibu, California 90265

RE: Proposed Malibu Civic Center Wastewater Treatment Facility

Dear Mr. Brager,

It was a pleasure to recently meet with Barbara Cameron and Craig George of your staff to discuss the City's plans related to wastewater treatment options for the Civic Center. As you are aware, Las Virgenes-Triunfo Joint Powers Authority (JPA) treats sewage generated in a large portion of the Malibu Creek Watershed. The JPA owns and operates the Tapia Water Reclamation Facility (Tapia), the Rancho Las Virgenes Composting Facility (Rancho) and 60 miles of trunk sewers. Tapia operates under an NPDES permit that restricts discharge to Malibu Creek from April 15 to November 15.

We understand that there may be interest in considering the transfer of recycled water in excess of the City's reuse demands to the JPA system and/or possible consideration of the JPA treating raw sewage from the City's service area. Although the JPA would like to support your effort, there are a number of difficulties and uncertainties associated with either approach, as described in more detail below.

Additionally, we understand that you have recently met with Pepperdine University representatives to explore opportunities for potential additional recycled water use on the campus. The JPA and Pepperdine University have a long-standing and mutually beneficial partnership whereby a portion of the wastewater produced by the campus is treated at Tapia with recycled water returned for beneficial reuse. The JPA is committed to maintaining this partnership and supplying recycled water to meet Pepperdine's demands in excess of its existing supplies.

Capacity Limitations:

Tapia's nominal capacity rating is 16 MGD, but this rating was based on water quality requirements prior to 2005. More stringent water quality requirements placed on the JPA in 2005 and 2010 have required the use of excess capacity, reducing Tapia's capacity to our anticipated build out of 12 MGD. Rancho also has capacity limitations, particularly related to the centrate treatment process that is vital in meeting our discharge requirements. As a result,

Michael McReynolds
Chair, Las Virgenes-Triunfo
Joint Powers Authority
Chair, Triunfo Sanitation District
Board of Directors

Charles Caspary
Vice Chair, Las Virgenes-Triunfo
Joint Powers Authority
President, Las Virgenes Municipal Water District
Board of Directors

there is currently no excess capacity available for sewage generated outside the JPA service area.

Discharge Prohibition:

During the prohibition period of April 15 to November 15, the JPA must dispose of recycled water in excess of demand. Three disposal options are used: discharge to the Los Angeles River, spray fields at Rancho and diversion of a small amount of sewage to the City of Los Angeles. All of these options have limitations with little to no excess capacity considering build out of the JPA service area.

Pending Regulations:

With the establishment of the EPA's Malibu Creek & Lagoon TMDL for Sedimentation and Nutrients to Address Benthic Community Impairments, the JPA faces even more stringent water quality requirements in the future. These regulations will have a significant impact on rates, require major capital improvements and cause further loss of capacity at both Tapia and Rancho. Tapia's NPDES permit is scheduled to be renewed in early 2015 and, as with many of our permit renewals, there is uncertainty with the requirements for both our Malibu Creek discharge and Los Angeles River discharge.

Other Practical Difficulties:

There are several other practical difficulties associated with receiving either excess recycled water or raw sewage from the City. The least of these is installing the necessary conveyance facilities between the City and Tapia in Malibu Canyon Road. Other practical difficulties would include water quality compatibility, governance and cost.

All of these difficulties and uncertainty make considering acceptance of any additional recycled water or sewage generated outside the JPA service area untenable at this time. However, we are committed to maintain a dialogue on the issue and to explore any opportunities that may arise in the future due to changing conditions.

Please do not hesitate to contact myself or David Lippman, Director of Facilities and Operations, with any questions.

Sincerely,

David W. Pedersen
Administering Agent/General Manager

MEETING AGENDA
WWTF

Monday, October 30, 2013, 9:00 AM
City Hall – Westward Conference Room
23825 Stuart Ranch Road

1. Status of the Injection Program & Modeling - Leslie
2. Status of the City's Regulatory Obligations – CDP, CEQA, EIR – Craig/Leslie
3. Design Update - Steve
4. Recycled Water Opportunities Update – Barbara/Craig
5. WDR Discharge Limits – Leslie/Eric
6. WDR – Project Permit for Injection Program– Craig/Leslie
7. Workshop meetings with Prohibition residents – Craig/Barbara
8. Form 200 Status – Craig/Leslie
9. Questions and Answers
10. Next Meeting Date and Time

Draft Meeting Minutes

RMC Water and Environment

City of Malibu Civic Center Wastewater Treatment Facility Project

Subject:	**Project Status**
Prepared For:	Craig George/City of Malibu
Prepared By:	Leslie Dumas/RMC
Date/Time:	October 30, 2013 at 9:00 AM
Project Number:	0127-006

Attendees: Craig George, Andrew Sheldon, Barbara Cameron, Bob Brager, Bonnie Blue/City of Malibu; Leslie Dumas, Steve Clary/RMC Water and Environment; Eric Wu, Don Tsai/LA RWQCB

1. Purpose of Meeting

The purpose of the meeting was to provide a project status update for the City of Malibu's Civic Center Wastewater Treatment Facility Project.

2. Discussion Summary

2.1 Status of Injection Program & Modeling

- All field work has been completed and all equipment removed from the field.
- Presently working on data analysis and modeling. Modeling status is as follows:

1. Work completed to date includes:
   - Completed corrections to ground water levels to remove effects of tide and lagoon stage change at all wells equipped with transducers during the aquifer testing done during July-September, 2013.
   - Completed analysis and compilation of water use data provided by LA County.
   - Complied lagoon stage data, tidal records and lagoon breaching data for the transient simulation period 2003-2012.
   - Compiled groundwater level data for the transient simulation period and created hydrographs for all observations wells in the study area.
   - Revised bedrock contour map for the study area based upon new data from the Phase 3 drilling program.
   - Developed a process to incorporate low permeability zones into the model based upon analysis of stratigraphic logs done by Earth Forensics.
2. Presently working on updating the model as follows:
   - Revised model geometry and layering based upon Phase 3 drilling data.
   - Revised model time stepping to add the 2010-2012 time period into the transient model simulation.
   - Imported water use based recharge values into the model for septic dispersal and irrigation for the entire transient simulations period. (WEL package for septic dispersal recharge and RIV package for irrigation recharge)
   - Imported precipitation and upland runoff recharge data into the transient model. (RCH package).
   - Imported tidal data into model to allow for tidal variation during transient simulation. (CHD package).
   - Imported lagoon stage data into model to allow for variation in lagoon stage for the transient simulation period. (GHB package).

3. Next up on the modeling is the following:
    - Simulate saltwater interface in steady-state model simulation.
    - Refine transient model boundaries based upon the above simulation.
    - Incorporate drawdown from injection/pumping test as model calibration targets
    - Incorporate all recent 2010-2012 groundwater level data into transient model as calibration targets.
    - Revise model time stepping to accommodate injection testing period.
    - Develop parameter estimation approach based upon available calibration data.
    - Apply model to evaluate injection capacity.
    - Prepare model report.

- We have agreed to use the terminology 'low permeability zone' rather than aquitard as it is more descriptive
- Also, next item on the To Do list is to write up a conceptual model of the groundwater basin.
- Schedule-wise, the modeling has been delayed by a month, with results available mid-December. This is the result of (1) a transducer failure which made it take longer to identify lagoon stage data (had to find another source for the data) and (2) the field work changed our conceptual model of the groundwater basin (in a good/positive way) and now the model itself needs to be updated to reflect that new information.
- Proposed having the RWQCB modeling team start meeting with the City's modeling team to review/discuss the base model (i.e. setup, parameters used, boundary conditions and so forth) so that changes can be made to the model if needed and to facilitate the review of the model results at the end. Proposed 3-part meeting process as follows:
    1. Initial conference call/webinar to present conceptual model information and discuss how to approach RWQCB review and how to facilitate information transfer and when.
    2. In-person meeting between the two modeling teams to review the base model and calibration in detail.
    3. Post-calibration conference call/webinar to discuss scenario modeling results.

2.2 Status of City's Regulatory Obligations

2.2.1 Notice of Preparation (NOP) and EIR

- The NOP and associated project description have been completed and are in review.
- Current plan is to release the NOP on November 22nd and to hold a scoping meeting at the City's multi-purpose room on December 11th.
- The draft habitat, tree and cultural surveys have been completed and are also currently in review.
- The project team is moving forward with the various impact analyses.
- The City will post the NOP and project description on its website and will mail hard copies to all interested parties.
- The scoping meeting/NOP review period is also the time when public agencies/permitting entities will describe their concerns.
- We will need to look at past public comments on the earlier technical memoranda to address in the EIR.

- The general scoping meeting format will be a short presentation (introducing the project, covering its highlights, presenting an overview of CEQA and describing how to submit comments), followed by a period for public comment using 'typical' meeting protocols.
- We could have a short (30 minute) open house preceding the scoping meeting to allow for one-on-one discussions regarding the project.

2.2.2 Coastal Development Permit (CDP) Application

- The City is presently preparing the draft CDP application and has opened a file in the City for the application. To be included in the file/application are the 50% plans, all survey reports, the geotech report and the draft application.
- The draft application should be completed by mid-November.
- The City (either Jim or Bob) will sign the CDP application.

2.2.3 Local Coastal Program Amendment (LCPA)

- The City is presently working on an amendment to the LCP.
- The LCP requires that they process an amendment for the sanitary system.
- The City is in regular communication with the California Coastal Commission regarding the LCPA.
- The plan is to bring the LCPA to the planning commission in December or January, and then to City Council after that.

2.3 Design Update

- The 50% design is completed
- The RWQCB would like to get copies of the design documents. They recognize that the work is preliminary and can keep the draft documents confidential.
- The City needs to provide input to the design team on the pump station in Legacy Park. There will be some above-grade elements behind the recognition panels and we need to ensure that the plans are ok.
- The City is still working on sizing the laboratory and continues to pursue a certified lab.
- RMC still needs to know what other functionalities the City would like to have incorporated into the plant buildings.
- The City would like to know what the square foot size of the existing proposed lab (dimensions) in addition to any ideas of where the public amenities would go if you added to them to the site. Two options are to just add onto the operations building (expand its size) or to put an outdoor classroom in front of the operations building.
- The fire road at the plant will be 26-feet wide. It needs to be all-weather, but can be a combination of paved road and graveled shoulders.
- There are three fire hydrants across the street from the plant site. Craig will check with the fire department to see if that's sufficient to meet code.
- The plant site will have north and south entrances. The south entrance will be at the current location. We need to identify the location of the north entrance, but have limited ability to move it around. The City and the design team needs to discuss traffic impacts around the proposed exit location relative to traffic patterns, street lights and so forth.

- There is a proposed extension of the trail along Civic Center way from Legacy Park to Malibu Canyon Road. The hotel on the hill will be putting in some amenities, such as sidewalks, and all this needs to get coordinated. In general, the City is looking to connect Stuart Ranch Road to Webb Way to Malibu Canyon Road.
- The City will send a figure with the conceptual model of the proposed trail to RMC.

2.4 Recycled Water Opportunities Update

- There are some additional recycled water opportunities for residential and commercial reuse in the area from Malibu Canyon Road to the west (to Puerco Canyon). Possibly 25,000 gpd can be used in that area.
- Barbara has a place holder in the Round 3 IRWM grant program to fund a pump and pipe system to get recycled water to Malibu Country Estates. That area could take up to 25,000 gpd.
- With respects to Pepperdine University, the City met with Las Virgenes Water District (LVWD). LVWD cannot facilitate any recycled water use as they are dealing with Tapia capacity and discharges. They will need to upgrade their facility to meet the new TMDLS, which will reduce their capacity to take/distribute recycled water. They also have contractual and regulatory obligations that they will need to meet between now and 2016.
- The City also met with Pepperdine about increasing the size of their ponds and recycled water use. There are the same problems at Pepperdine. They are planning to expand their campus which will expand sewage generation, and they anticipate that they will generate and reuse all their own recycled water (including using increased storage pond capacity) in the near future.
- LVWD supplied a letter stating the situation to the City; Pepperdine is going to do the same.
- The results from the meeting with Pepperdine and LVWD will put more pressure on the ability to inject/percolate unused water.
- Jim Thorsen just approved a contract to re-evaluate Legacy Park for increasing recycled water use onsite (new water tolerant plantings) and to re-evaluate increasing the evapotranspiration capacity of the park. It is estimated that Legacy Park could use between 15,000 and 17,000 gpd in peak irrigation periods.
- Recycled water use is already planned for the Towing and Plummer sites.
- Steve will provide an update on recycled water use at the next TAC meeting.
- The RWQCB could like to see the most recent estimate of recycled water use versus the amount of water to be injected.
- Malibu Country Estates is the next place to look at for reuse.
- The RWQCB recommends that we discuss a Plan B (ocean outfall) at the next TAC meeting.

2.5 WDR Permitting

- The self-monitoring report (SMR) for the injection permit was submitted last month; the two SMRs for the treatment discharge permits will be submitted this week.
- All agreed to keep the permits open until after the public draft EIR is completed just in case additional field work needs to be done.

- In terms of the overall WDR for the project, Eric thinks that it's too early to open/discuss this permit. We need to have the modeling results to really move forward. He recommends that we wait until January to bring up the WDR with the RWQCB TMDL staff.
- Barbara reminded everyone that we are going to prepare two technical memoranda – the first to address assimilative capacity in the groundwater basin and to present an anti-degradation analysis, and the second to address meeting the TMDLs.
- RWQCB management, due to the groundwater status, they will require that a Salt and Nutrient Management Plan (SNMP) be in place before the City could get their permit. This is per Debra Smith, Deputy Executive Officer, who also agreed to review the SNMP.
- Without an SNMP, the City would be help to the State Recycled Water Policy requirements and limited to using 10% of the basin's assimilative capacity. The RWQCB gave the West Basin/Central Basin SNMP as an example of how the SNMP gives the RWQCB the rationale necessary for allowing flexibility to work within the site.
- By the end of March, the CCWWTF will be designed to 'almost completion'. The City will need the WDR to 'turn-on' the plant, but will need to know what's in the WDR to do the final plant design.
- An SNMP will be needed for any water recycling to occur in the groundwater basin.
- Per the RWQCB, at the earliest, we could have a WDR by the end of 2014.
- Based on this schedule, with the notice to proceed for construction occurring in December of 2014, the City would realistically have to go to bid at the end of October 2014. If we hold to the end date in the MOU (for construction and operation), this could give us more time to get the WDR completed while still meeting the end dates.
- Per Bob, RMC Should begin work on the SNMP
- At present, there are two other recycled water projects in the groundwater basin – the La Paz project and Malibu Lumber. Both have WDRs that state that a SNMP has to be done for the groundwater basin.
- The project proponent for La Paz supposedly has his consultant, Pio Lombardo, preparing a SNMP.
- The WDR that La Paz has only requires them to connect to the CCWWTF for off-spec water. The permit was issued in 2009, and at present, La Paz is not part of the CFD.
- In the MOU, the Phase 1 covers only commercial properties. By November 5, 2015, all commercial properties must cease discharges to the OWTS.
- La Paz has a zero-discharge system (all wastes are evaporated), but the RWQCB still sees this as a discharge as, even if the water evaporates, the nitrates are left behind.
- It will take 18 months to construction the plant plus another 90 days to optimize it. The question is, does La Paz (and others) know that the RWQCB expects them to get off their existing OWTS systems an onto the centralized system?
- Tomorrow (October 31st) is the stakeholder meeting. Don Schmidt (the representative for La Paz) will be there. Craig will confirm their understanding of the MOU requirements and get an ok from Don for RMC to contact Pio about the work he's done to date on the SNMP.
- Country Mart is in the CFD as is Whole Foods
- RMC is designing for the part of the Prohibition Zone that is outside the City's jurisdiction.

- The RWQCB will talk with the County about how to coordinate with the City to connect these properties to the centralized system. The county properties are scheduled to come into the project in Phase 2.
- Jeff Bouse/LA County recommended that they (the county properties) connect to the centralized system.
- At present, the City is working with an assessment engineer to get the Phase 1 area covered first. Then they will capture future areas.

2.6 Workshops with Prohibition Residents

- The City is planning to hold workshops with the neighborhood associations/group to discuss formation of the assessment district.
- These workshops have been postponed.

2.7 Form 200

- A draft Form 200 (including report of waste characterization) has been prepared.
- There is no specific deadline for submittal of the Form 200.
- Craig will give the RWQCB a draft copy of the Form 200 application package for them to do an 'informal' review.

3. Other

- The next meeting will be held on December 3, 2013 at 9 AM

4. Action Items

Action Item Summary Table

Responsible Party		Task/Action Item
Organization	**Name**	
RMC	Leslie Dumas	RMC will prepare a written conceptual model of the Malibu Valley Groundwater Basin
RMC	Leslie Dumas	RMC will look at past public comments on the TMs for addressing issues in the EIR
City of Malibu	Craig George and others	Provide RMC with input on the pump station at Legacy Park
City of Malibu	Craig George and others	Provide RMC with input on other functionalities for the plant building
RMC	Steve Clary/Marc Nakamoto	Provide the City with information as to the dimensions of the proposed lab and recommendations for making it into a certified lab
City of Malibu	Craig George	Confirm with Fire Department that the three hydrants across Civic Center will be acceptable.
RMC/City of Malibu	All	Evaluate north entrance at CCWWTF site relative to traffic constraints
City of Malibu	Craig George	Provide RMC with figure showing proposed trail
RMC	Steve Clary	Provide RWQCB and TAC with update on estimated recycled water use versus volume of water to be injected/percolated
RMC/City of Malibu	All	Address Plan B (ocean outfall) at next TAC meeting
City of Malibu	Craig George	Provide RWQCB with draft Form 200 for 'informal' review
City of Malibu	Craig George	Talk with La Paz representative at next stakeholder meeting regarding understanding of MOU and approval to contact Pio Lombardo re: SNMP work to date
LA RWQCB	Eric Wu	Talk with LA County regarding how to coordinate with City to connect residents with centralized system

MEETING AGENDA
CCWTF

Tuesday, December 3, 2013, 9:00 AM
City Hall – Westward Conference Room
23825 Stuart Ranch Road

1. Status of the Injection Program – Leslie
2. Status of the City's Regulatory Obligations – CDP, CEQA, EIR – Craig/Leslie
3. Design Update – Steve
4. Recycled Water Use – Barbara/Steve
5. WDR – Project Permit– Eric/Leslie
6. WDR – Permit Project Permit – Craig/Leslie
7. Questions and Answers
8. Next Meeting Date and Time

Draft Meeting Minutes

City of Malibu Civic Center Wastewater Treatment Facility Project

Subject:	**Project Status**
Prepared For:	Craig George/City of Malibu
Prepared By:	Leslie Dumas/RMC
Date/Time:	December 3, 2013 at 9:00 AM
Project Number:	0127-006

Attendees: Craig George, Andrew Sheldon, Bob Brager, Bonnie Blue/City of Malibu; Leslie Dumas, Steve Clary/RMC Water and Environment; Eric Wu, Don Tsai/LA RWQCB

1. Purpose of Meeting

The purpose of the meeting was to provide a project status update for the City of Malibu's Civic Center Wastewater Treatment Facility Project.

2. Discussion Summary

2.1 Status of Injection Program & Modeling

- All field work has been completed and all equipment removed from the field. Presently working on data analysis and modeling.
- A web meeting was held on December 22nd with the LA RWQCB to discuss the modeling. The presentation by modelers covered the model development and data sets used. The RWQCB has generally accepted the model, but it did have four questions. A response to the four questions is currently being prepared.
- The model is presently being calibrated. We should have preliminary results to answer the basic question of how much water can be injected into the groundwater basin and where by December 18th.
- The preliminary results will most likely be in spreadsheet form with screenshots. There won't be much text initially.
- The model period includes the wettest year in the 70 years of data available, which should make the initial results conservative.
- The groundwater model does capture infiltration impacts on groundwater and includes both direct infiltration from precipitation and indirect infiltration from groundwater connection with Malibu Creek and Lagoon (funning the runoff) and from upland areas (infiltration at the basin margins).
- The first model runs will conservative as they include that wettest year on record and does not assume recycled water use in the winter months.
- For the hotel design (proposed for next door to the treatment plant), the RWQCB has required that they look at 100 years of precipitation data for the no-discharge scenario to be conservative.
- When they consider the capacity of the groundwater basin, the RWQCB will want assurances that there's a sufficient factor of safety in terms of disposal capacity.
- The RWQCB is more recently requesting that 200 years of precipitation data be considered in treatment plant design.

2.2 Status of City's Regulatory Obligations

- The City filed the NOP on November 22nd. The scoping meeting will be held on December 11th.
- The City also filed the CDP application using the data available, including the infrastructure layout for the Phase 1 project and the treatment plant site plan
- They have had one request for information from the public that they are currently responding to.
- More information will be added to the CDP application as it becomes available.
- In regards to the EIR, the biology and tree surveys are done; the cultural survey is still in progress. The EIR team is steadily working on the various impacts sections.
- It would be nice to get comments from the RWQCB on the NOP as this will be the CEQA document that will be used to process the WDR. A letter from the RWQCB in regards to this would be useful.
- Don & Eric need to review the NOP. They will talk over any comments they have in regards to the NOP and the EIR at the TAC meeting on December 12th.
- The TAC agenda has an item for permitting and CEQA; these comments can be discussed then.
- The landscape architect will be visiting the site today to take photographs for renderings. The renderings will be ready by the end of the month.

2.3 Design Update

- Ongoing progress is being made on the design.
- The new site plan is working; the NOP and CDP application are consistent with the new site plan.
- There was a marathon meeting during the week of Thanksgiving to address the flows and flow assumptions. The flows are still 'fluttering around', but the design team hopes to have them finalized soon.
- After Christmas, the disciplines (mechanical, electrical, etc.) will start working heavily on the design. While it won't be impossible to make changes after they are in progress, it will become more difficult and costly to make major changes.
- Regarding the assessment district, the flow assumptions will support the assessment district which will be formed after the entitlements are approved (after the EIR and CDP application are completed). But the City is continuing to work towards forming the district as we speak.
- The assessment district has to be formed before construction, but after the EIR is certified (which is presently scheduled for September 17, 2014).
- The City will likely go out to get bonds prior to getting bids due to time constraints.

2.4 Recycled Water Use

- There are no updates on recycled use.
- Barbara continues to explore other possibilities to the west.
- The City needs to develop an agreement with Water District 29 regarding duplication of services for the sale of the recycled water.
- Related to the recycled water distribution, the City needs to decide if it plans to charge for the recycled water.

- Craig and Bob will contact WD 29 to start the discussion on the duplication of services agreement.

2.5 WDR Permitting

- The next set of self-monitoring reports are due January 15, 2014.
- The City is planning to continue to file self-monitoring reports until after the EIR appeal period is over. If not needed, the City will file Notices of Termination at that time.
- The City got invoices from the SWRCB for the permits and there's a bunch of questions regarding them. The City contacted the SWRCB (using the contact provided), but they haven't heard back from them.

2.6 Project WDR

- Form 200 has been submitted and it's in the RWQCB database. (This point should be noted at the upcoming TAC meeting).
- The RWQCB is still in the early stages of permit formulation and they can't move forward until the modeling results are available. Basically, they are waiting for more information.
- The group agreed to talk about the preliminary results at the next monthly meeting.
- Also, the modelers (project team and RWQCB) will have another meeting after the results are available.
- Work has begun on the Salt and Nutrient Management Plan (SNMP). The City would like to get RWQCB buy-in on the indicator constituents and on basin goals.
- Eric will send an introduction email to Ginachi Amah, who will be the SNMP-lead on the RWQCB side.
- The permit for the CCWTF will most likely be a master permit, combining the water reclamation requirements with the waste discharge requirements.

2.7 Questions and Answers

- Sam Unger/RWQCB executive officer is prepared to be at the scoping meeting, but the group generally agreed that it would be better for him to attend the EIR workshop once the draft is released. Eric will be at the scoping and TAC meetings.
- The scooping meeting is on December 11th at 6:30 pm at the City offices.
- The TAC meeting is on December 12th at 9:30 am at the City offices.

3. Other

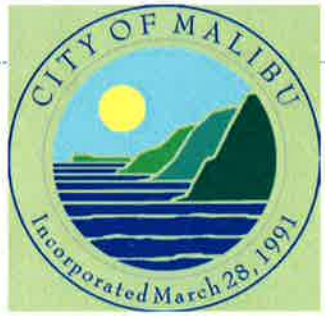
- The next meeting will be held on January 8, 2014 at 9 AM

4. Action Items

Action Item Summary Table

Responsible Party		Task/Action Item
Organization	**Name**	
RMC	Steve Clary/Marc Nakamoto	Provide the City with information as to the dimensions of the proposed lab and recommendations for making it into a certified lab
City of Malibu	Craig George	Confirm with Fire Department that the three hydrants across Civic Center will be acceptable.
RMC/City of Malibu	All	Evaluate north entrance at CCWWTF site relative to traffic constraints
RMC	Steve Clary	Provide RWQCB and TAC with update on estimated recycled water use versus volume of water to be injected/percolated
RMC/City of Malibu	All	Address Plan B (ocean outfall) at next TAC meeting
City of Malibu	Craig George	Talk with La Paz representative at next stakeholder meeting regarding understanding of MOU and approval to contact Pio Lombardo re: SNMP work to date
LA RWQCB	Eric Wu	Talk with LA County regarding how to coordinate with City to connect residents with centralized system
RMC	Leslie Dumas	Determine what length of precipitation record is being used in the modeling.
LA RWQCB	Eric Wu	The RWQCB will put together a letter of comment on the NOP.
City of Malibu	Craig George/Bob Brager	Start discussions with Water District 29 regarding duplication of services agreement
City of Malibu	Craig George/Bob Brager	The City needs to decide if they will be charging for recycled water.
LA RWQCB	Eric Wu	Eric will send an 'email of introduction' to Ginachi Amah at the RWQCB regarding the Malibu SNMP.

Malibu Civic Center Stakeholders Meeting



October 31, 2013
Malibu City Hall
8:30 a.m.

RMC

Meeting Agenda

- Regional Water Quality Control Board
- Community Facilities District (CFD)
- Outreach Meetings/Presentations
- Assessment District (AD)
- Wastewater Facility Design
- Questions/Comments
- Next Meeting December 11, 2013
- Adjourn

Regional Water Quality Control Board

- Joint Progress Meetings with Board Staff (Dr. Eric Wu and Dr. Don Tsai of Groundwater and Permitting Unit)

- Monthly Meetings:
  - April 17, 2013 ✓
  - June 19, 2013 ✓
  - July 17, 2013 ✓
  - August 28, 2013 ✓
  - September 24, 2013 ✓
  - October 30, 2013 ✓

Regional Water Quality Control Board

- Topics of Discussion
  - Status of the Injection and Modeling Program
  - Status of the City's Regulatory Obligations
    - CDP
    - CEQA
    - EIR
    - LCPA
  - Design Updates
  - Recycled Water Use and Opportunities
  - WDR Discharge Limits
  - WDR – Project Permits for Injection Program
  - Public Outreach
- Quarterly Progress Reports to RWQCB's Executive Officer, Mr. Sam Unger

Community Facilities District (CFD)

- Bond sale closed in February 2013 ✓
- City received funds in February 2013 ✓
- No other updates

Outreach Meetings/Presentations

- **August 6, 2013:** Project Technical Advisory Committee (TAC) at City Hall. ✓
- **August 17, 2013:** Project Presentation to Malibu Knolls HOA. ✓
- **August 21, 2013:** Discussions with Pepperdine University Officials regarding possible future recycled water use and opportunities. ✓
- **August 22, 2013:** Project Presentation to Wastewater Advisory Committee. ✓
- **September 12, 2013:** City Manager presentation of project update to the RWQCB. ✓
- **October 6, 2013:** Project update to Malibu Colony HOA. ✓

Assessment District (AD)

- **June 24, 2013:** Sent out RFP for Assessment Engineering Consultant. ✓
- **August 1, 2013:** Two proposals received ✓
- **September 23, 2013:** City Council approved David Taussig & Assoc., Inc. as the Assessment Engineering Consultant for the formation of the Assessment District for the project. ✓
- **October 3, 2013:** Notice to Proceed/Kick-off Meeting ✓
- **Current:** Gathering and analyzing data to determine benefit assessment. ✓

Wastewater Facility Design

- Groundwater Injection Study
  - Phase 1 – cursory modeling and scoping ✓
  - Phase 2 – preliminary feasibility assessment ✓
  - Phase 3 – monitoring & injection wells
    - Construction ✓
    - Testing ✓
    - Analysis ✓
    - Modeling
    - Injection and Pre-design

Wastewater Facility Design

- Regulatory Obligations
  - LCPA
    - Amend existing site use for Public Facilities
    - Planning Commission
    - City Council
    - Coastal Commission for certification
  - EIR
    - Project description
    - NOP
    - Scoping Meeting
    - Administrative Draft EIR
    - Draft EIR
    - ERB
    - Planning Commission
    - City Council for certification for Final EIR

Wastewater Facility Design

- CDP
  - Application Package
    - Project Plans
    - Preliminary Reports
      - Biology Assessment
      - Cultural Resources
      - Geology
      - Tree Survey
  - ERB
  - Planning Commission
  - City Council

Wastewater Facility Design

- Design
  - Treatment Plant Facility
  - Injection System
  - Collection System
  - Recycled Water System
  - **Current:** ***Plans are 50% complete!***

Questions / Comments

Next meeting December 11, 2013

Thank you
&
Happy Halloween