

DOCKETED

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Project Title:	Palomar Energy Project Compliance
TN #:	220471
Document Title:	Petition for Change of the Project Description in the Final Decision to Augment Cooling Tower Makeup Water With Water Reclaimed
Description:	Petition for Change of the Project Description in the Final Decision to Augment Cooling Tower Makeup Water With Water Reclaimed Onsite
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**PETITION FOR CHANGE OF THE PROJECT DESCRIPTION IN THE FINAL
DECISION TO AUGMENT COOLING TOWER MAKEUP WATER WITH
WATER RECLAIMED ONSITE**

**PALOMAR ENERGY CENTER
(O1-AFC-24C)**

By:

**SAN DIEGO GAS & ELECTRIC COMPANY
SAN DIEGO, CALIFORNIA**

Submitted to:

CALIFORNIA ENERGY COMMISSION

June 22, 2017

**PETITION FOR CHANGE OF THE PROJECT DESCRIPTION IN THE FINAL
DECISION TO AUGMENT COOLING TOWER MAKEUP WATER WITH
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**PALOMAR ENERGY CENTER
(O1-AFC-24C)**

1.0 INTRODUCTION

San Diego Gas & Electric Company (SDG&E or the “applicant”) is filing this petition for a proposed amendment of the project design as described in the Final Decision for the Palomar Energy Center (PEC), Docket 01-AFC-24 pursuant to 20 Cal. Code Regs. Section 1769(a)(1). SDG&E is proposing to augment cooling tower makeup water with (1) fire hydrant flushing water, and (2) storm water captured onsite. Augmenting the cooling tower makeup with these sources will assist in California’s water conservation efforts by reducing the annual water import by up to approximately 7.2 million gallons per year.

2.0 DESCRIPTION OF PROPOSED MODIFICATION (Sec. 1769(a)(1)(A))

2.1 Fire Hydrant Flushing Water

The PEC currently uses the same source of reclaimed water in its fire suppression system as it does for cooling tower makeup. Periodic system testing and flushing generates up to approximately 25,000 gallons per year of water that is currently introduced into the sewer system. The PEC wishes to introduce this water to the cooling tower thereby gaining beneficial use from the water while simultaneously reducing unnecessary demand on the city’s sewer system.

This change would not require any construction related activity. Hydrant flushing water could be easily discharged to the cooling tower via temporary hose and existing infrastructure. Because the reclaimed water used in the fire suppression system is from the same source as the reclaimed water that is currently used in the cooling tower, the only difference is the path the water takes prior to being introduced in the cooling tower.

The San Diego Regional Water Board has reviewed, and approved, augmenting cooling tower makeup water with fire suppression water effective March 15, 2017. Appendix II contains the California Regional Water Quality Control Board Order approving the requested changes.

2.2 Storm Water

The PEC directs storm water runoff to an onsite detention basin at the south end of the facility. The storm water discharges to the MS4, from the MS4 to the Escondido creek, then to the San Elijo lagoon, and ultimately to the Pacific Ocean. SDG&E would like to install a pumping system which would divert a portion of the storm water into the cooling tower at a controlled rate.

Historical rainfall in Escondido is approximately 15 inches, or approximately 7,192,000 gallons of storm water, annually. Historical rainfall data suggests that the maximum daily storm water volume available for use in the cooling tower is 0.375 MGD. Currently, the storm water returns to the environment untreated. Introducing this water to the cooling tower at a controlled rate is not expected to have any negative effects on chemistry control, process use rates, plant efficiencies, or the ability to comply with the discharge limits currently specified in the NPDES permit.

The storm water reclamation portion of the project will be achieved by installing a small sump pump to the existing storm water basin and routing the discharge piping less than 50 feet to an existing piping rack at the chemical storage area. Power is also available at the chemical storage area. Construction activity will consist of:

- Constructing a small concrete sump and the bottom of the storm water basin.
- Making an approximately 13 foot long, 1 foot wide, cut across an existing road.
- Making an approximately 17 foot long, 1 foot wide, excavation parallel to, and at the same or less depth as, an existing drain pipe between the chemical storage area containment and the chiller building.
- Utilizing an existing pipe rack at the chemical storage area to route the discharge piping to the cooling tower.

The entire PEC is substantially shielded from view on the north, east, and west by an earthen berm. In addition to this berm, the sump pump (approximately 2 feet tall) will be located in a small sump at the bottom of the approximately 7 feet deep storm water basin. The Sump pump is not expected to extend more than 1 foot above the current finish grade of the storm water basin floor. This area is further hidden by the chiller building and the Thermal Energy Storage Tank.

Please see Appendix III and Appendix IV for additional installation details.

Storm water not diverted to the cooling tower would continue to be discharged, untreated, to the MS4 and eventually the Pacific Ocean as

described above. Because a portion of the storm water would continue to be discharged, this change would not affect the site's storm water BMP's, or associated plans.

The San Diego water board has reviewed, and approved, augmenting cooling tower makeup water with storm water effective March 15, 2017. Appendix II contains the California Regional Water Quality Control Board Order approving the requested changes.

2.3 Modification of soil and water conditions

Condition SOIL&WATER 5 states that the PEC "shall use recycled water for cooling tower makeup" and allows the use of brawl water from the emergency backup water supply in the event at recycled water is not available.

Accordingly, condition SOIL&WATER 5 will need to be modified to allow augmenting cooling tower makeup with these additional water sources. Condition SOIL&WATER 5 is attached in Appendix I, with suggested edits.

3.0 NECESSITY (Sec. 1769(a)(1)(B))

This measure is necessary to support California's ongoing drought response and Governor Brown's Executive Order B-29 by implementing an onsite storm water capture system.

4.0 TIMING (Sec. 1769(a)(1)(C) and (D))

SDG&E assumed ownership of the PEC in 2006, about three years after issuance of the Final Decision and certification to Palomar Energy, LLC. Since that time, SDG&E has

continued to review the engineering and design of the plant in order to increase efficiency and better serve the needs of the community. SDG&E is proposing to install the pumping system during calendar year 2017, if approved.

5.0 ANALYSIS OF THE EFFECT OF THE MODIFICATIONS ON THE ENVIRONMENT (Sec. 1769(a)(1)(E))

The requested equipment change will have no significant effects on any of the technical areas analyzed in the August 2003 Final Commission Decision. As previously determined and noted in prior amendments and Annual Compliance Report submittals the activities conducted on previously disturbed, paved, or covered surfaces within the active operational footprint of the PEC do not contain, and, are not adjacent to, any areas requiring avoidance of any sensitive biological or cultural resources.

Soil and Water Resources, condition SOIL&WATER 5, is the only Condition of Certification affected by the amendment. This condition states that the PEC shall use recycled water for cooling tower makeup, and provides an allowance for the use emergency backup water if recycled water is unavailable. Accordingly, language allowing the augmentation of cooling tower make up water with fire suppression and storm water would need to be added to condition SOIL&WATER 5. SDG&E has provided suggested language in Appendix I.

Please see Table 1 below.

Table 1
Review of Effects of Augmenting Cooling Tower Makeup Water

TECHNICAL AREA	SIGNIFICANT ENVIRONMENTAL IMPACT (Y/N)?		NOTES
AIR QUALITY		N	No change
CULTURAL RESOURCES		N	Area is previously disturbed for foundations and drain pipe
EFFICIENCY		N	No impact
GEOLOGICAL HAZARDS		N	No change
HAZARDOUS MATERIALS HANDLING		N	No change
LAND USE		N	No change
NOISE		N	No Change
PALEONTOLOGICAL RESOURCES		N	Area is previously disturbed for foundations and drain pipe
BIOLOGICAL RESOURCES		N	Area is previously disturbed for foundations and drain pipe
PUBLIC HEALTH		N	No change
RELIABILITY		N	No change
SOCIOECONOMICS		N	2-3 man work crew for 1 week
SOILS		N	No change
TRAFFIC AND TRANSPORTATION		N	1-2 vehicle trips per day for 1 week; 2 total truck trips

TECHNICAL AREA	SIGNIFICANT ENVIRONMENTAL IMPACT (Y/N)?		NOTES
T-LINE SAFETY AND NUISANCE		N	No change
TRANSMISSION SYSTEM ENGINEERING		N	No change
VISUAL RESOURCES		N	New equipment will comply with the visual requirements of Final Decision. The detention basin is the lowest point on site. New equipment is minimal and will be screened by existing structures, topography, etc.
WASTE MANAGEMENT		N	No change
WATER RESOURCES		N	No change
WORKER SAFETY		N	No change

6.0 COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) (Sec. 1769(a)(1)(F))

The proposed changes will not affect compliance with any other LORS requirement. Therefore, the proposed modification is not anticipated to impact SDG&E’s ability to comply with the applicable LORS, as listed in Appendix A of the Commission Final Decision.

Additionally, this action is exempt from the requirements of preparation of environmental documents under the California Environmental Quality Act (Public Resources Code,

division 13, chapter 3, section 21000 et seq.) in accordance with section 13389 of the Water Code.

7.0 POTENTIAL EFFECTS ON PUBLIC AND NEARBY PROPERTY OWNERS (Sec. 1769(a)(1)(G and I))

The amendment will not have any adverse environmental impacts and will comply with all applicable LORS. Thus, the proposed equipment change is not anticipated to affect nearby property owners, parties to the application proceedings, or the public.

8.0 LIST OF PROPERTY OWNERS (Sec. 1769(a)(1)(H))

A list of property owners 1,000 feet of the plant site has previously been provided to the Commission CPM.

9.0 SUMMARY OF REQUEST

As demonstrated above, augmenting cooling tower makeup with additional onsite resources will not have an adverse effect on the public or the environment. The change will not affect compliance with applicable LORS. Accordingly, SDG&E requests that the Energy Commission Staff expedite review of this petition, and requests Commission approval of the proposed modified conditions in accordance with Title 20 CCR Section 1769.

Respectfully Submitted,

Jason Bowman
Compliance Coordinator
SDG&E Electric Generation

Appendix I

**SUGGESTED CHANGES TO
CONDITION OF CERTIFICATION SOIL & WATER 5
AS AMENDED BY ORDER NO. 06-0412-02**

**PETITION TO ALLOW THE USE OF RAW WATER
AS BACKUP SUPPLY TO RECYCLED WATER**

Deleted text is shown in ~~strikethrough~~; new text is shown in double underline.

SOIL & WATER 5: The PEC shall primarily use recycled water for cooling tower makeup, process water, landscape irrigation and all other non-potable uses. If recycled water is unavailable due to maintenance or events beyond the control of the City of Escondido (City), the PEC may use raw water supplied from the emergency backup water supply system operated by the City. The project owner shall notify the CPM immediately whenever raw water is used. The project owner shall provide reports detailing the duration of outages and quantities of water used to the CPM. Raw water shall not be used for more than seven consecutive days or 20 days in a calendar year without CPM approval. The PEC may augment cooling tower makeup water with recycled water, sourced from the fire suppression system, and captured storm water.

Following each instance of raw water use, a fee of \$522 per acre-foot of water use during the outage (from the time of notification by the city that raw water has been entered the system to the time of notification that its delivery has ceased) shall be paid to a water conservation program. The mitigation fee shall be adjusted annually consistent with the annual adjustment of the compliance fee described in public resources code subsection (b 25806).

The PEC shall comply with all Title 22 California Code of Regulations requirements while using either source of water.

Verification: At least 60 days prior to the start of construction of the water supply system, the project owner shall submit to the CPM its water supply system design demonstrating compliance with this condition. Those required features shall be included in the final civil design drawings submitted to the CBO as required in Condition of Certification CIVIL 1. Approval of the final design of the water supply and treatment system shall be obtained prior to the start of construction of the systems.

The CPM shall be notified in writing within 24 hours of any time raw water is delivered to the recycled water system, and shall be notified again when raw water delivery has ceased. Upon notification by the City of the delivery of backup water, the project owner shall record the amount used in acre-feet (to at least two decimal places) and the duration of use in hours. Following notification that raw water delivery has ceased, an event report shall be provided to the CPM within 30 days identifying the cause of the interruption of recycled water, any efforts underway to remedy the cause, the duration of the outage, the amount of water used and evidence that funds were deposited with the San Diego County Water Authority conservation program, or other, CPM approved conservation program. If raw water is approved for use beyond 7 consecutive days or 20 days in a calendar year, the project owner shall provide a weekly report to the CPM for as long as raw water use continues, including the amount used and progress by the City of Escondido towards restoring recycled water delivery.

Appendix II

**ORDER NO. R9-2012-0015
AS AMENDED BY ORDER R9-2017-012
NPDES NO. CA0109215**

**WATER DISCHARGE REQUIREMENTS FOR
SAN DIEGO GAS AND ELECTRIC COMPANY
PALOMAR ENERGY CENTER**

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN DIEGO REGION

2375 Northside Drive, Suite 100, San Diego, CA 92108
Phone (619) 516-1990 · Fax (619) 516-1994
www.waterboards.ca.gov/sandiego

ORDER NO. R9-2017-0012 AMENDING

ORDER NO. R9-2012-0015, NPDES NO. CA0109215 WASTE DISCHARGE REQUIREMENTS FOR SAN DIEGO GAS AND ELECTRIC COMPANY PALOMAR ENERGY CENTER

The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), finds that:

Background

1. San Diego Gas and Electric (Discharger) is the owner and operator of the Palomar Energy Center (Facility), a 550-megawatt natural gas combined cycle power plant that discharges up to 1.4 million gallons per day (MGD) of cooling tower blowdown and low volume waste to the City of Escondido Industrial Brine Collection System (IBCS). The IBCS discharges through the Escondido Land Outfall and the San Elijo Ocean Outfall to the Pacific Ocean. The Facility discharges in accordance with Order No. R9-2012-0015, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0109215, adopted by the San Diego Water Board on September 12, 2012.
2. The Facility uses approximately 5.3 MGD of tertiary treated recycled water for the cooling towers, evaporative coolers, and water purification systems. The recycled water circulated in the cooling towers enables the captured steam from the steam turbines to be cooled, recondensed, and routed to the heat recovery steam generators. The recycled water that is circulated in the cooling towers is continuously chlorinated as required by the California Code of Regulations, Title 22 section 60306(c) to prevent biofouling and to minimize the growth of harmful bacteria and other organisms. Most of this water is lost to evaporation in the process operations.
3. To ensure the discharge from the Facility does not cause or contribute to exceedances of water quality standards applicable to the Pacific Ocean, Order No. R9-2012-0015 includes effluent limitations, receiving water limitations, and monitoring requirements. A water quality based effluent limitation is established for total residual chlorine. Low volume waste is subject to technology based effluent limitations for pH, total suspended solids, and oil and grease, pursuant to chapter 40 of the Code of Federal Regulations (40 CFR) section 423.15.

Purpose of this Order

4. By letter dated May 4, 2015, the Discharger requests that Order No. R9-2012-0015 be amended to allow the reuse of specified waste streams generated on-site as additional cooling tower makeup water. The waste streams that are proposed for reuse include up to 25,000 gallons per year of fire suppression system water and up to 0.375 MGD of retained

storm water. The fire suppression system uses tertiary treated recycled water. Therefore, the fire suppression system water has the same characterization as the water already used in the cooling towers. On June 9, 2016, the Discharger provided laboratory data characterizing the pollutant concentrations found in the retained storm water. The San Diego Water Board reviewed the Discharger's request and the waste characterization of the storm water and has determined that the pollutant concentrations in the storm water meet the effluent limitations and performance goals specified in Order No. R9-2012-0015.

5. Based on Findings 1 through 4 above, the San Diego Water Board is amending Order No. R9-2012-0015 to incorporate the changes requested by the Discharger.

Legal Authorities

6. Section 13263(e) of the California Water Code (Water Code) provides that the San Diego Water Board may, upon application by any affected person, or on its own motion, review and revise waste discharge requirements. Section 122.62(a) of 40 CFR authorizes the reopening and modification of an NPDES permit based upon new information.
7. Order No. R9-2012-0015 is not being reopened for any other purpose than the revisions contained herein. Except as contradicted or superseded by the findings and directives set forth in this Order, all of the previous findings and directives of Order No. R9-2012-0015 shall remain in full force and effect.

California Environmental Quality Act

8. This action is exempt from the requirement of preparation of environmental documents under the California Environmental Quality Act (Public Resources Code, division 13, chapter 3, section 21000 *et seq.*) in accordance with section 13389 of the Water Code.

Public Participation

9. The San Diego Water Board has notified all known interested parties of its intent to adopt this Order.
10. The San Diego Water Board in a public meeting on March 15, 2017, heard and considered all comments pertaining to the adoption of this Order.
11. Any person aggrieved by this action of the San Diego Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 *et seq.* The State Water Board must receive the petition by 5:00 p.m., 30 days after the adoption date of this Order. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

IT IS HEREBY ORDERED:

1. This Order amends Order No. R9-2012-0015, NPDES No. CA0109215, as described in the revised version included as Attachment 1 to this Order. Added text to Order No. R9-2015-0002 is displayed as **red-underline** text and deleted text is displayed as **red-strikeout** text. Modifications to Order No. R9-2012-0015 were made to the following sections:

<u>Page No.</u>	<u>Section No.</u>
E-4	Attachment E, section IV.A.2
F-5	Attachment F, section II.A

2. The amended version of Order No. R9-2012-0015 included as Attachment 1 to this Order shall become effective on March 15, 2017.
3. San Diego Water Board staff is directed to prepare and post a conformed copy of Order No. R9-2012-0015 incorporating the revisions made by this Order.

I, James G. Smith, Acting Executive Officer, do hereby certify that this Order is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on **March 15, 2017**.

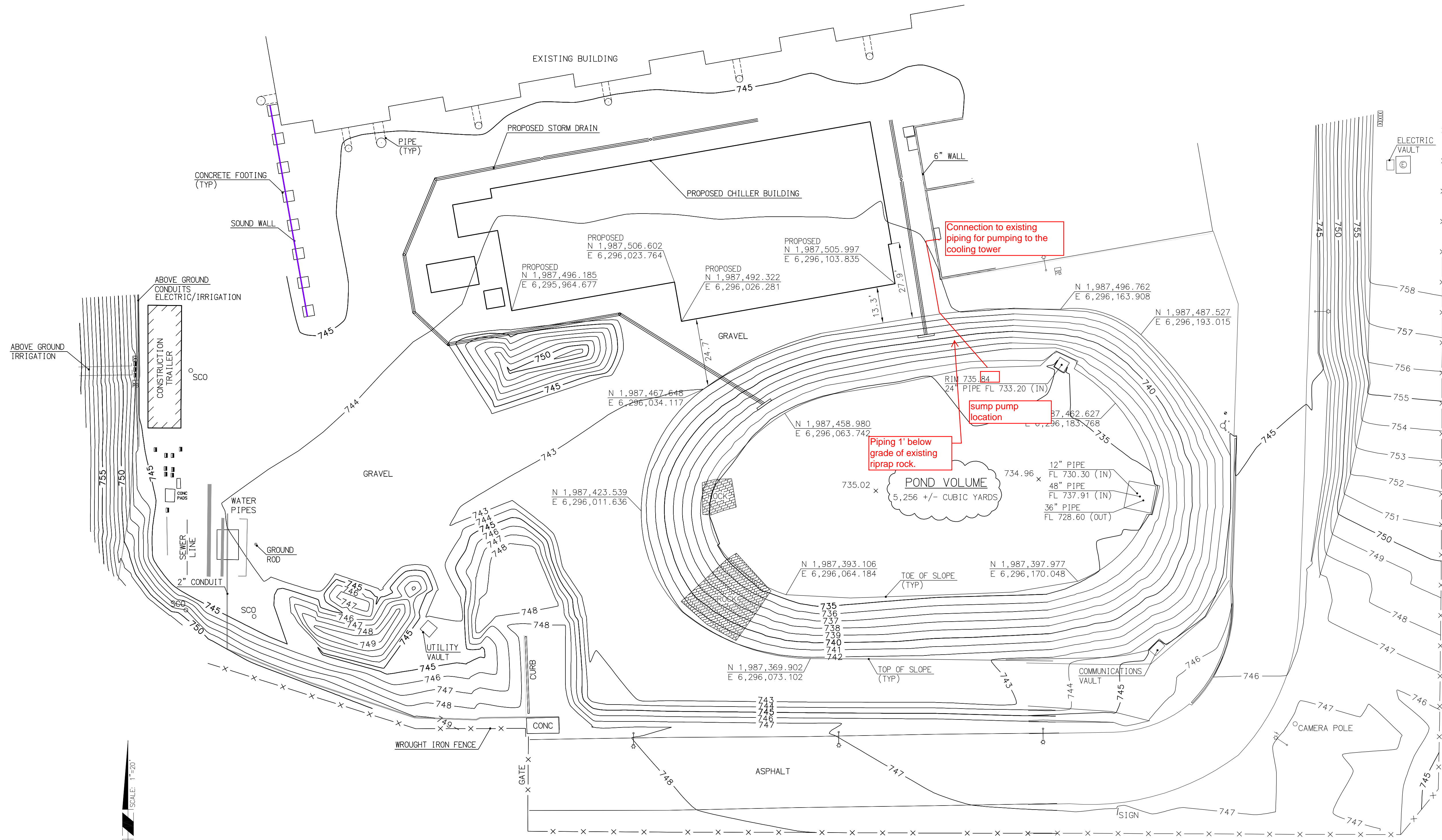


James G. Smith
Acting Executive Officer

Appendix III

OVERFLOW POND EXTENDED TOPOGRAPHICAL SURVEY

PALOMAR ENERGY CENTER OVERFLOW POND EXTENDED TOPOGRAPHICAL SURVEY



LEGEND

- SEWER CLEANOUT
- ⊙ ELECTRIC MANHOLE
- ⊞ ELECTRIC PULLBOX
- ⊕ LIGHT POLE
- ⊞ IRRIGATION CONTROL VALVE
- ⊞ IRRIGATION CONTROL BOX

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM (NAD83) ZONE 6, AS DETERMINED BY THE LINE BETWEEN STATION 2095 AND STATION 2123 PER ROS 14236 WITH A BEARING OF N36°10'41"W.

BENCHMARK

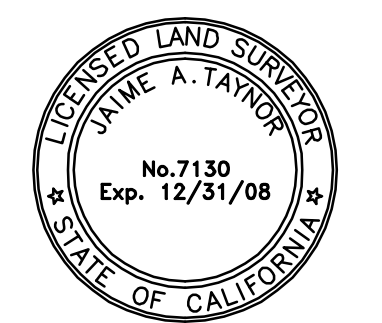
2" IRON PIPE WITH BRASS DISK STAMPED "EGCS 1992 2123" IN AC PAVEMENT LOCATED ON CURB RETURN ISLAND 40± FEET NORTHEAST OF INTERSECTION NORDAHL ROAD AND MISSION ROAD. ELEVATION: 692.83 (DATUM NGVD29)

POND VOLUME

POND VOLUME CALCULATED FROM TOP OF SLOPE TO TOE OF SLOPE. (5,256 +/- CUBIC YARDS)

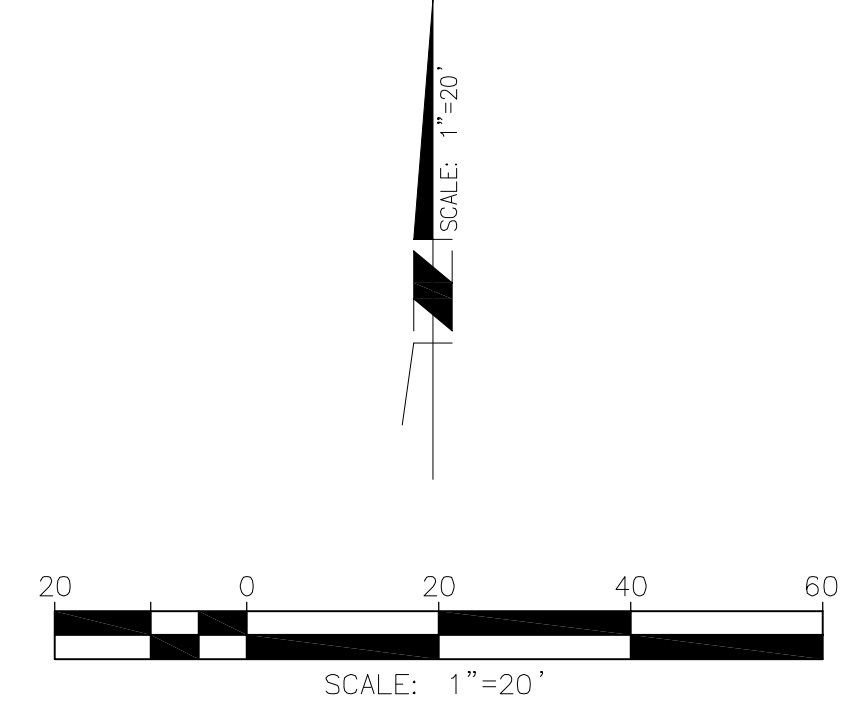
DATE OF SURVEY

JUNE 6, 2008



PREPARED UNDER MY DIRECTION

JAIME A. TAYNOR L.S. 7130 6/6/2008



Appendix IV

OVERFLOW POND 3D RENDERING

