EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: September 7, 2022

MEMO TO: Distribution

THROUGH: Jose L. Rios, Senior Civil Engineer, Distribution System Planning

FROM: Anna T. Lau, Associate Civil Engineer, Distribution System Planning

SUBJECT: Revision No. 1 to Wildcat Pumping Plant Project – Design Criteria and Site Plan

REF: Memo to Distribution from Anna T. Lau through Jose L. Rios dated August 6, 2020 (DOCS #2853392)

INTRODUCTION

In August 2020, Water Distribution Planning Division (WDPD) completed a design criteria and site plan memo for the Wildcat Pumping Plant (PP) Project (Project). In August 2022, Water Operations Department (WOD) requested that WDPD incorporate an in-conduit hydroelectricity system into the new PP building. This memo documents information related to the in-conduit hydroelectricity system and the revisions to the original proposed Project site plan.

BACKGROUND

The in-conduit hydroelectricity system includes a microturbine, control valve, piping, and electrical cable, conduit, and cabinets. The purpose of the in-conduit hydroelectricity system is to generate electricity from excess pressure and reduce greenhouse gases. The average electricity produced by the system is estimated to be approximately 145kW. In addition, the in-conduit hydroelectricity system has a pressure management feature which enhances water loss control by reducing background leakage and pipeline breaks in the distribution system. The in-conduit hydroelectricity system would be operated remotely by District operations staff using the District's SCADA system, similar to the existing operations of the Road 20 Rate Control Station (RCS) to fill North Reservoir.

PROJECT REVISIONS

Design Division reviewed existing site plan and spacing requirements for the in-conduit hydroelectricity system and determined that the proposed PP building length would increase by approximately 4 feet to the north and the switchgear width would increase by approximately 3 feet to the south. The mechanical equipment of the in-conduit hydroelectricity system is approximately 12 feet in length, 14 feet in width and 6 feet in height and would occupy the space planned for a 24-inch rate control valve on the south side of the building to replace the existing

Road 20 RCS in the future. The electrical control cabinet (approximately 3.5 feet by 1.5 feet) and electrical power cabinet (approximately 4 feet by 1.5 feet) would be mounted on the southern interior wall of the new PP building. The new design assumes that the laydown area in the new building is not affected, and any future rehabilitation of the Road 20 RCS will be completed within the existing vault location. An additional 36-inch-wide section will be added to the outdoor switchgear to accommodate an estimated full load of 603 Amps and circuit breaker size of 750 Amps. The new PP building dimensions will be approximately 40 feet by 82 feet and the new switchgear dimension will be approximately 12 feet by 13 feet (see Attachment 1).

WDPD will incorporate the in-conduit hydroelectricity system in the existing site plan and Mitigated Negative Declaration being prepared for the Project. Specific details for the in-conduit hydroelectricity system will be addressed in the design phase.

ATL:nl
sb22_188_WildcatPP_DesignCriteria_Addendum.docx

Attachment: 1 – Wildcat PP – Revised Alternative 2 Site Plan

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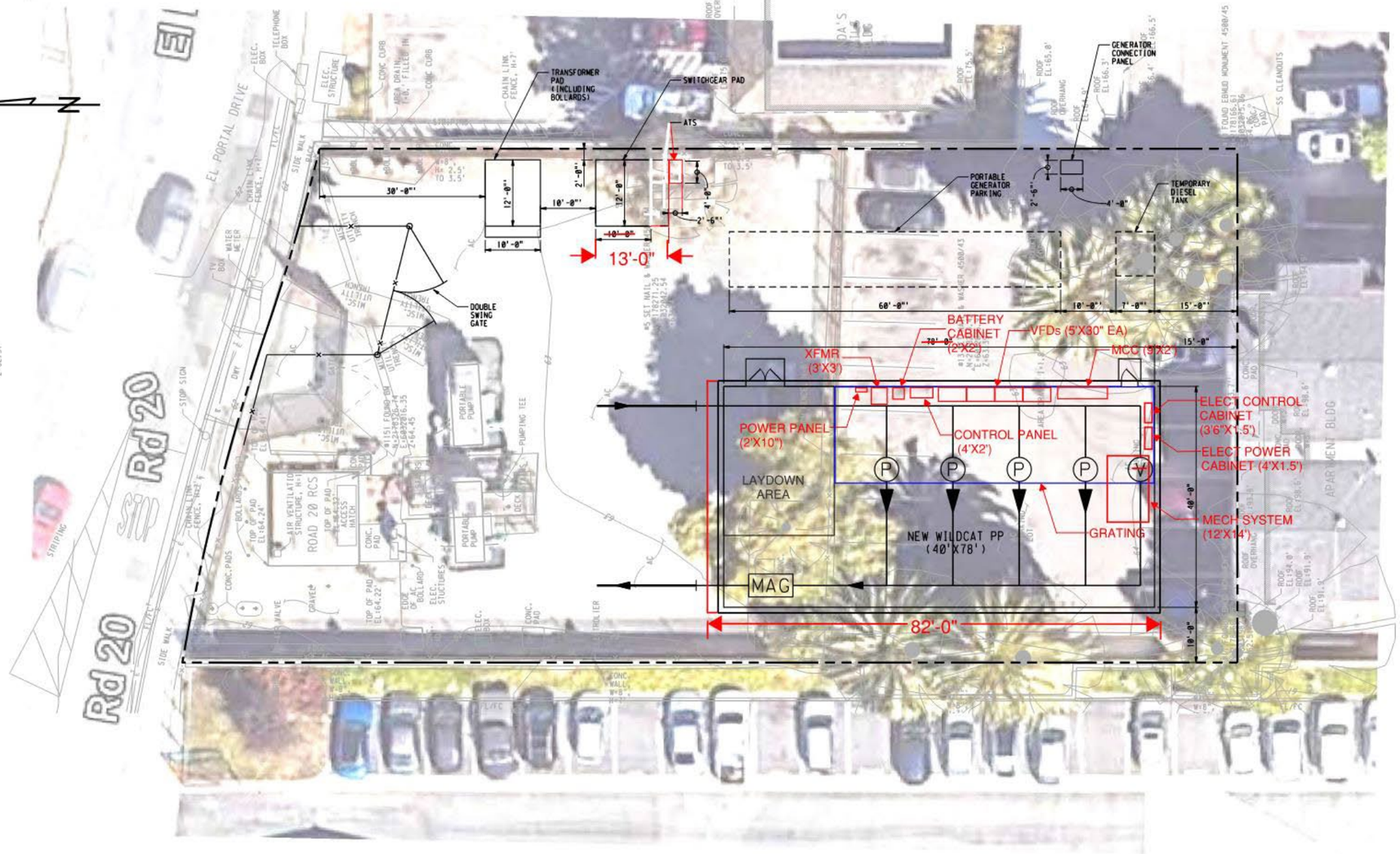
SPEC NO.



ATTACHMENT 1

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NO.	DATE	REVISION	BY	REC.	APP.

DESIGN: DESIGNED BY; DESIGN CHECKED BY; DRAWN BY
REVISED: RECOMMENDED; APPROVED

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

WILDCAT PUMPING PLANT
REVISED ALTERNATIVE 2

SITE PLAN

PROJ NO.
SCALE 1"=10'
DATE
STRUCT. DISC. NUMBER REV.

USER: alau
DATE: 04-AUG-2020 16:40
FILE: W:\4777\WDP\Capital Projects\West of Hills Master Plans\Wildcat PPs\00 Drawings (CADD)\Site Plans\200709sAL12 - WILDCAT PP - 12in Gate.dgn