

Staff Report

for the Engineering Committee Meeting of August 11, 2020

TO: Engineering Committee

FROM: Doug Roderick, P.E., Engineering Manager
Keane Sommers, P.E., Hydro-Electric Manager

DATE: August 4, 2020

SUBJECT: Project Status Report

ENGINEERING

RECOMMENDATION:

Review the Engineering Department and Hydro-Electric Department Project Status Reports with the Committee.

BACKGROUND:

This item is to provide information to the Committee members regarding the progress, current status and next action to be taken on the projects in process in the Engineering and Hydro-Electric Departments.

BUDGETARY IMPACT:

No budget impact

DR

Attachment:

- Engineering Department Project Status Report
- Hydro-Electric Department Project Status Report

Engineering Department Project Status

<u>Prty</u>	<u>Proj Mgr</u>		<u>Facility Name</u>	<u>WO#</u>	<u>Description</u>	<u>Status</u>	<u>Comments</u>
02 - PIPELINE REPLACEMENT (\$1,500,000) 10151-52907							
01	DOUGLAS RODERICK	2020	Lidster Avenue & Country Club Terrace (DIV 5)	2071	Replacement of deteriorated water mains and services in this area. 4,545 LF of 8" pipe.	Construction	Mainline installed, tying in existing services to new line. Work being performed by Maintenance.
02	DOUGLAS RODERICK	2020	Apple Ave & Annex Ave Pipeline Replacement (DIV 1)	2492	Replace deteriorated water mains, service lines, and fire hydrant laterals in this area prior to the City of Grass Valley performing its planned road restoration	Construction	Maintenance performing construction of pipeline.
03	TONIA TABUCCHI HERRERA	2021	Christian Life Way at Highway 49 (DIV 5)	6962	Replace approximately 1500 LF of pipeline with 8" pipeline. Existing pipeline is undersized; has reached its useful life, is difficult to access, existing ROW is inadequate, requires new route for accessibility	Design	Design 10%. Survey is complete.
04	TONIA TABUCCHI HERRERA	2020	Rough & Ready Round-a-bout waterline improvements (DIV 5)	2497	Nevada county proposed to realign Rough and Ready Hwy, Ridge Road and Adams Ave. NID affected facilities included treated water line along Rough and Ready HWY and Adams Ave; and Rough and Ready Canal crossing/near Ridge Road.	Planning	Internally reviewing draft layout for relocation of treated and raw water facilities. Discussions needed with County regarding the future ROW need. Discussion will be needed regarding who will be doing the relocation. County design of round about at 65% with construction Summer 2021.
03 - PRV REPLACEMENT (\$160,000) 10151-52908							
01	TONIA TABUCCHI HERRERA	2019	Cedar Ridge PRV Replacement (DIV 2)	2366	Existing PRV station is badly deteriorated with valves in a vault. Replacement station will be above ground. Additional ROW is required	Design	Design 90%. Property owner to be contacted regarding existing easement; easement adjustment is required.
02	TONIA TABUCCHI HERRERA	2019	East Ridge PRV Replacement (DIV 1)	2318	Existing PRV station is badly deteriorated with valves in a vault. Replacement station will be above ground. Additional ROW is required.	Design	Design 10%. Survey is complete. Existing easement information received.
03	DOUGLAS HOBBS	2020	Berggren Lane PRV Replacement (DIV 1)	2370	Replace PRV with 1300 LF of 8" pipe connecting Red Dog Rd. with Jasper Agate Court	Design	Design at 90%. In process of obtaining easement.
04	DOUGLAS HOBBS	2021	Silver Way PRV Replacement (DIV 2)	1010	Replace existing PRV station at corner of Silver Way and Hwy 174 with an above ground PRV station upstream on Hwy 174	Design	Design at 10%. Property owner to be contacted regarding adding above ground structure to existing pipe easement.
05 - RAW WATER SYSTEM IMPROV (\$2,100,000) 10151-52910							
01	DOUGLAS RODERICK	2019	Doty North Canal (PC) (DIV 4)	1031	Doty North canal which will encase approximately 450 feet of canal and replace siphon #1.	Design	Application to CDFW has been submitted, waiting for response from CDFW. Working on design and temporary easements. Anticipating sending out for quotes for pre-purchase of steel pipe in early August 2020.
02	DOUGLAS HOBBS	2020	Santini Siphon 1 (DIV 4)	1098	Replacement of undersized Siphon with 1500 LF of 18" pipe.	Design	Design at 90%. Acquiring easements. Met with property owners on July 7, 2020.
03	DOUGLAS RODERICK	2020	South Yuba Canal Repair & Upgrades Ph 1 (DIV 1)	2419	Repair/Replace segments of So. Yuba Canal	Planning	Site visits still to be determined due to COVID-19, but anticipated by late August/early September, 2020.
04	DOUGLAS HOBBS	2020	Hayt Canal Siphon Replacement (DIV. 4)	2474	Hayt Canal Siphon #1 and #6, replace aged infrastructure.	Design	Maintenance planning project. Construction of siphon #1 starting October 15, 2020. Project to include removal of 18" private culvert upstream.
06 - BACKBONE EXTENSION (\$1,700,000) 10151-52911							
01	TONIA TABUCCHI HERRERA	2020	E. George to LWW Pipeline Project-Phase I (DIV 5)	2255	Phase 1 Hope Street to approximately 12390 Rough & Ready Highway along R&R HWY parallel construction of 2475 lf of pipeline and 1 PRV replacement. ROW required for replacement above ground PRV. Pipeline construction within County ROW.	Design	Offer package to property owner for Twin Cities Church. Board authorized bidding of Phase 1 of project on May 27, 2020. Staff considering construction of improvements within existing infrastructure first, while working on ROW.
07 - NON-PROGRAMMATIC (5,850,000) 10151-52915							
01	DOUGLAS RODERICK	2021	Combie I Replacement	6746	Combie Phase 1 Pipeline Bypass, 8900 LF of 96" pipe	Construction	Contractor pulled off of site. Will be back onsite in September to start bypass work in preparation of starting phase II construction in October.
02	DOUGLAS HOBBS	2020	Alta Sierra Tank Replacement (DIV 2)	6971	Replace existing Alta Sierra Hypalon-covered reservoir with 3MG storage tank	Design	Design underway. Construction to begin October 2020.

Engineering Department Project Status

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07 - NON-PROGRAMMATIC (5,850,000) 10151-52915							
03	TONIA TABUCCHI HERRERA	2020	Hemphill Diversion (DIV 4)	7032	Hemphill Diversion Project to facilitate Fish Passage.	Design	Preparation of IS and NOP underway. Public release of IS/NOP for public comment is scheduled for September 2020.
04	ADRIAN SCHNEIDER	2020	North Auburn Treatment Plant (DIV 3)	2376	Upgrade of high lift pumps at North Auburn Water Treatment Plant	Planning	Contract for designing of generator and motor control awarded to A T .E.E.M. on 6/12/2020. Kick off meeting scheduled for 7/1/2020. Design/RFQ expected by September 2020. Second RFQ to be sent out to contractors for purchase and installation of generator and motor control items. Generator install expected winter of 2020/2021.
05	ADRIAN SCHNEIDER	2020	Pine Woods Pump Station	2488	Design, purchase and install a permanent stand-by generator at Pine Woods Pump Station	Planning	Draft study under review
06	DOUGLAS RODERICK	2021	Centennial Water Supply Project	7013	Centennial Water Supply Project	Planning	Quarterly update to be presented at the September 8, 2020 Engineering Committee. Due to COVID-19, no consulting work or AB52 consultation has taken place since the last update. The next update is due in September 2020.
13 - ENGINEERING O&M 10151-NA							
01	GREG JONES	2020	District Wide	1041	Raw Water Master Plan / EIR	Planning	Public Outreach Process presented at the July 22, 2020 Board Meeting.
02	TONIA TABUCCHI HERRERA	2019	LWW and N. Auburn Water Age Evaluation (DIV 3&5)	2027	Model the water age in the LWW and N. Auburn Treated Water Systems.	Study	Consultants comments are under review.
17 - SEDIMENT REMOVAL PROJECTS (\$1,200,000) 10151-52914							
01	ADRIAN SCHNEIDER	2020	District-wide Reservoir Study	2500	District-wide reservoir study of the current condition of all District reservoirs, that includes bathymetry to better understand the diminished capacity due to sedimentation. Will assist in determining costs, prioritization, and alternatives.	Planning	Developing study. Received budgetary quotes for Bathymetric surveys.
02	ADRIAN SCHNEIDER	2019	Loma Rica Reservoir (DIV 2)	2090	Placement of 5,600 cubic yards of stockpiled sediment at airport property	Post-Construction	Request for quotes to be sent out in August. Project start anticipated for September 2020 for the placement of 5,600 cubic yards of stockpiled sediment at airport property
03	ADRIAN SCHNEIDER	2019	Newtown Reservoir (DIV 1)	6958	Install permanent bypass pipe & remove accumulated sediment from the reservoir to regain capacity.	Post-Construction	Request for quotes to be sent out in August 2020. Project start anticipated for September 2020 to remove 700 cubic yards of stockpiled sediment
04	GREG JONES	2019	Combie Sediment Removal Project	2135	Removal of sediment at the east side of Combie Reservoir	Post-Construction	Final report nearing completion, approximately 60-days. Final disposal of material is ongoing.
05	ADRIAN SCHNEIDER	2020	Greenhorn Sediment Removal (DIV 2)	8515	Removal accumulated sediment from the Greenhorn Creek arm of Rollins Reservoir.	Planning	Reservoir sediment removal study (cost/benefit analysis) to determine validity of removing sediment from this reservoir.
06	ADRIAN SCHNEIDER	2020	Orr Creek Reservoir (DIV 3)	6963	Cleaning of Orr Creek Reservoir to increase capacity	Planning	Reservoir sediment removal study (cost/benefit analysis) to determine validity of removing sediment from this reservoir.
07	ADRIAN SCHNEIDER	2020	Dutch Flat Afterbay Sediment Removal (DIV 2)	2213	Remove accumulated sediment from the afterbay to reduce outlet pipe clogging & operation.	Planning	Reservoir sediment removal study (cost/benefit analysis) to determine validity of removing sediment from this reservoir.
08	GREG JONES	2020	Steephollow Sediment Removal	6877	Removal of sediment at Steep Hollow and protection of hydro facilities	Hold	Need funds to get things moving for Channel / Monitoring. ROW has one easement remaining.

Hydro-Electric Department Project Status

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10-1 - HYDRO NON-PROGRAMMATIC (\$250,000) 50112-52915							
01	KEANE SOMMERS	2020	Hydro Field Office	2432	Design and construction of the new Hydroelectric Field Office	Design	Awarded a contract to WLC on December 11, 2019. A preliminary update has been received and is being reviewed. Energy Center components are under development. The new maintenance facility and storage yard predesign are under development and near completion. A initial study has been conducted on the carbon sequestration feasibility and opportunities for a portion of the site. An initial study has been conducted for a pumped storage scheme. And the solar field with battery storage initial study is also nearing completion. Once all efforts are completed, findings will be summarized to present options and alternatives for developing the site into various levels of renewable energy generation and carbon zero footprint.
10-2 - HYDRO POWERHOUSE IMPROV (\$1,585,000) 50112-52920							
01	NATHAN DROIVOLD	2020	Dutch Flat #2 Powerhouse Balance of Plant.	2348	Install an expandable balance of plant to monitor critical plant systems such as excess vibration of the turbine and generator, temperature, and flow.	Design	Hydro awarded an installation/commissioning contract to dHSI for the project on July 23. Hydro has purchased equipment and made progress installing new equipment at the DF Forebay. Design contract was fully executed with d'Heurle Systems on May 1, 2020. Equipment purchase request was approved by the APC on May 5, 2020 and a purchase order was sent to d'Heurle Systems to start material procurement on May 11, 2020. The BOP-PLC will be installed during the 2020 annual outage in September/October.
02	NATHAN DROIVOLD	2020	Chicago Park Powerhouse Governor Replacement	2402	Replace governor, install instrumentation that will enable operators to monitor flow, temperature, and pressure of vital powerhouse components.	Design	Hydro expecting 100% Design submittal and bill of materials by the end of August. Hydro received and reviewed a 90% Cooling Water Upgrade Design with its consultant Mead & Hunt on May 4, 2020. Hydro will review the design and order materials in 2020, and will complete the installation during the 2021 annual outage for CPPH.
03	ADRIAN SCHNEIDER	2019	Combie Reservoir	6943	Combie South Access Road. Develop approx. 3,000 ft. from south abutment.	Planning	Alternate 2 alignment being studied. Had numerous meetings with property owner Arroyo and included Cummings, and Knapp. Survey marked initial access road alignment and added a second road variation to push alignment further east into NID property. Meet with Arroyo to meet and finalize access road alignment in early August, 2020.
04	ADRIAN SCHNEIDER	2019	Chicago Park Fire Suppression System (DIV 2)	2164	Upgrade of existing CO2 system (piping, alarms, sensors) to protect Generator. Includes installation of new Clean Agent suppression system for control room and the addition of a fire detection system for electrical cable trays.	Design	Design finalized 100%, expect to receive by end of July. Sabah to provide schedule to start installing piping and materials prior to outage September 13 - September 26, 2020
05	THEODORE BLANK	2019	Combie South Electrical Upgrades	2168	Combie South Electrical Upgrades	Design	Hydro and Engineering are working on the containment pad and foundation for the new transformer. Hydro purchased the new 12kV transformer, which is expected to be delivered in late 2020. Hydro has nearly completed electrical drawing consolidation with Mesa and received an updated drawing set in early July. Hydro then completed a second round of review and field verification of the new drawings. Hydro will review final changes with Mesa in early August, and expects to have the final drawings complete by the end of the month.
07	PHILIP NEDVED	2019	Bowman Governor	2234	Replace and integrate with BoP PLC.	Closeout	The new digital governor was installed and commissioned on June 12, 2020. Hydro received commissioning records and final deliverables for the project on June 26. Project complete, will be removed from future Project Status reports
08	NATHAN DROIVOLD	2020	Dutch Flat #2 Powerhouse Fire Suppression System	2240	Designing, installing and commissioning a new CO2 fire suppression system for the Dutch Flat #2 Powerhouse.	Planning	Awarded a contract to GHD to prepare 30% design and BDR on 07/21/2020. Hydro will then prepare a Project Definition Memo to transfer the project over to Engineering during Q3 of 2020.
09	NATHAN DROIVOLD	2020	Deer Creek Powerhouse	2290	Deer Creek Powerhouse Upgrades - Cost of upgrades necessary to sell power upon close of sale	Planning	Hydro operations has purchased equipment. Hydro is moving forward with the installation of the control panel in DCPH. Next Hydro is coordinating the installation of a fiber optic cable between DCPH and E George Treatment Plant, gaging stations on conveyance from E George to DCPH, and an ANIRA box at E George, in order for DCPH to be operated remotely by NCPA.

Hydro-Electric Department Project Status

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10-2 - HYDRO POWERHOUSE IMPROV (\$1,585,000) 50112-52920							
10	NATHAN DROIVOLD	2020	Rollins Powerhouse	2351	Replace the existing oil circuit breaker (OCB) at the Rollins Powerhouse with a more environmentally acceptable vacuum circuit breaker.	Planning	Hydro heard a presentation by the vacuum circuit breaker manufacturer, Hitachi, to learn more about vacuum breakers and their performance history in late June, and contacted another agency to hear about their experiences with Hitachi breakers in July. Hydro will make a site visit to RPH to confirm the suitability of a vacuum circuit breaker for the site, and will decide whether or not to convert to a VCB in early August. Hydro will then decide whether or not to pursue purchasing a vacuum circuit breaker for the project.
11	NATHAN DROIVOLD	2020	Bowman Intertie	2354	Replace the existing Bowman Inter-tie SF6 breaker with a more environmentally friendly vacuum circuit breaker	Hold	Hydro may replace the existing oil circuit breaker with a vacuum circuit breaker based on the decision made for the oil circuit breaker replacement at RPH (FATR 2351). This project is on hold until that decision has been made.
12	THEODORE BLANK	2020	Scotts Flat Powerhouse	2306	Install all components necessary for a backup usage electrical meter for Scotts Flat Powerhouse	Planning	Hydro is no longer installing a CAISO meter following negotiations with PG&E. Hydro will instead install a backup usage meter and will request a quote to purchase.
13	NATHAN DROIVOLD	2020	Rollins Powerhouse Balance of Plant	2393	Install an expandable balance of plant to monitor critical plant systems such as excess vibration of the turbine and generator, temperature, and flow.	Planning	Hydro will define the project scope and request bids to complete the design in Q4 2020. The design will be completed in 2021, and installation will be during the 2021 annual outage at RPH.
14	NATHAN DROIVOLD	2020	Rollins Powerhouse Relay Protection Upgrade	2394	Replace aging relay protection system to improve protection of the powerhouse relay, transformer, and generator.	Hold	Hydro is defining the project scope and preparing the Project Definition Memo. The scope will be dependent on the RPH OCB replacement (FATR 2351) as the breaker manufacturer will need to provide relay protection inside of the new breaker. Project is on hold until the breaker is ordered.
10-3 - HYDRO DAM & WATER IMPROV (\$1,595,000) 50112-52921							
01	MIN CHEN	2020	Scotts Flat Spillway Repair	2094	Scotts Flat Spillway Repair & Upgrades	Planning	The Spill Crest Stability Analyses Report is being reviewed by DSOD. The physical hydraulic modeling plan is being reviewed by DSOD and FERC. Additional funding with Board approval is necessary for the modeling studies.
02	MIN CHEN	2019	Combie Abutment Scour	201402	Dam stabilization, abutments protection against scouring, and water supply upgrade	Planning	A progress update meeting is scheduled for Friday, July 24 to review the initial findings in scouring potential and dam stability issues and to determine the next steps for the project.
03	MIN CHEN	2020	Jackson Lake Spillway	2361	Improve spillway training walls on the Jackson Lake Dam	Design	The in-house design is being reviewed by DSOD and FERC. Addendum 1 was released to prospective contractors and the bid opening is scheduled for July 27. The construction is planned for September to October 2020.
04	MIN CHEN	2020	Gaging Station	2007/2360	Replace the damaged sections of the concrete lining on the upstream dam face to minimize leakage, modify the spillway training walls to prevent over topping, and construct a weir on the dam outlet to measure flow.	Design	The French Dam Upgrades design is nearly completed, and the permit application package will be prepared and submitted to FERC for review and approval. The construction is scheduled from August to October 2021.
10-4 - HYDRO LOWER DIV(\$450,000) 50112-52922							
01	NATHAN DROIVOLD	2020	Chicago Park Canal Liner Replacement	TBD	Repair segments of the Chicago Park Canal where existing shotcrete liner needs replacement.	Planning	Hydro is defining the project scope and preparing the Project Definition Memo.
10-5 - HYDRO UPPER DIV (\$200,000) 50112-52923							
01	DARYL NOEL	2020	Rucker Creek Spillgate	2339	Replace existing radial gate at Rucker Creek Diversion with an overshot gate to improve personnel safety and operational performance.	Planning	Hydro is reviewing FERC relicensing requirements for the project and will be updating the project scope accordingly.
02	NATHAN DROIVOLD	2020	Bowman-Spaulding Canal	2340	Re-establish driving access to the upstream portal of the Clear Creek Tunnel, design and install a bar screen to prevent debris from plugging the tunnel, and perform a canal condition assessment to identify and prioritize repairs or replacements	Planning	Hydro will be seeking a study with an alternatives analysis for possible options to complete the repair of the access road/berm.
10-6 - HYRDO SCADA/COMMS (\$265,000) 50112-52924							
01	KEANE SOMMERS	2022	Hydro Office Radio Tower	2405	Construct a new hydroelectric field office radio tower to improve communication of critical infrastructure.	Design	Awarded a contract to IEC on May 5, 2020 to study communications paths for the new location. IEC has identified two possible locations for a tower on the new Hydro Office property and will be sending those points to confirm access is available for construction.

Hydro-Electric Department Project Status

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10-6 - HYRDO SCADA/COMMS (\$265,000) 50112-52924							
01	THOMAS KLUGE	2020	Dutch Flat Forebay/Dutch Flat #2 Powerhouse	2355	Install fiber optic communication between Dutch Flat Powerhouse and Dutch Flat Forebay	Closeout	Hydro has received quotes for the installation from IDF. Contracts were fully executed on May 14, 2020, and the installation of the new fiber optic cable was completed in July 2020. Project will be removed from future project status reports
02	THOMAS KLUGE	2020	Chicago Park Flume	2389	Install fiber optic communication between Chicago Park HVP and Chicago Park intake	Planning	Hydro working on soliciting a study to determine the project scope and costs to install either a fiber optic cable or microwave/radio system.
03	THOMAS KLUGE	2020	Dutch Flat #2 Powerhouse	2390	Install fiber optic communication between Dutch Flat Forebay and PG&E Drum Afterbay to improve reliability.	Planning	Hydro working on soliciting a study to determine the project scope and costs to install either a fiber optic cable or microwave/radio system.