

**Hydroelectric Department Project Status Report
as of July 15, 2022**

| Priority | Project Manager | Project | Project No. | Description | Status | Comments | CIP |
|--|-----------------|-------------------------|-------------|---|----------|---|-----|
| 10-1 HYDRO NON-PROGRAMMATIC (\$250,000*) 50112-52915 | | | | | | | |
| 01 | Keane Sommers | Hydro HQ | 2432 | New Hydroelectric Office Design/Construction | Hold | The Energy Center program components are under development. The new maintenance facility and storage yard draft predesign by the architect is complete. The three energy/carbon concept studies are complete; forest carbon sequestration, pumped storage, and solar field. A draft Energy Management Strategy Summary has been received and is under review. 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 IMPROVEMENTS (\$1,650,000*) 50112-52920 | | | | | | | |
| 01 | Nathan Droivold | Deer Creek Powerhouse | 2290 | Deer Creek Powerhouse Upgrades: Make upgrades necessary to sell power upon close of sale. | Design | NID is working with a consultant to design a new microwave link from KLOVE tower to the Chicago Park Powerhouse to create a new SCADA data link necessary for the operation of Deer Creek Powerhouse. A new gaging station, YB-31A, has been constructed at the upstream transition point of PG&E to NID ownership on the South Yuba Canal. | |
| 02 | Nathan Droivold | Rollins Powerhouse | 2394 | Rollins Powerhouse Relay Protection Upgrade. Replace aging relay protection system to improve protection of the powerhouse relay, transformer, and generator. | Design | NID is awaiting submittals for the next phase of design (expected in July). A new task order has been executed for additional drafting work to update existing drawings with as-found conditions so that accurate drawings are used as a basis for design. Project has been delayed due to supply chain issues causing significant issues in obtaining necessary project materials. Coordination with PG&E has been on hold. Construction is now scheduled for 2023. | * |
| 03 | Nathan Droivold | Chicago Park Powerhouse | 2383 | Chicago Park Powerhouse Rewind: Replace deteriorated generator windings. | Planning | Staff have selected a proposal to award a contract to complete Phase 1 of the project, which consists of developing a detailed project scope. The NID Board of Directors will vote on approving this contract award during the July 27, 2022 Board of Directors Meeting. | * |
| 04 | Nathan Droivold | Chicago Park Powerhouse | 2353 | Chicago Park Powerhouse Turbine Overhaul. Replace worn turbine and appurtenances. | Planning | Staff have selected a proposal to award a contract to complete Phase 1 of the project, which consists of developing a detailed project scope. The NID Board of Directors will vote on approving this contract award during the July 27, 2022 Board of Directors Meeting. | * |

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| 05 | Nathan Droivold | Chicago Park Powerhouse | 2362 | Chicago Park Powerhouse Transformer Replacement. Procure and install a new main transformer at the Chicago Park Powerhouse. | Planning | Staff have selected a proposal to award a contract to complete Phase 1 of the project, which consists of developing a detailed project scope. The NID Board of Directors will vote on approving this contract award during the July 27, 2022 Board of Directors Meeting. | * |
| 06 | Tonia Tabucchi Herrera | Chicago Park Powerhouse | 2598 | Chicago Park Powerhouse RTU Replacement: Replace remote terminal unit (RTU) at Chicago Park Powerhouse to eliminate obsolete equipment and improve the District's SCADA communication network. | Planning | Engineering has worked with Hydro to develop a scope of work for the project. In July, NID will request a proposal for engineering design and integration support from a consultant. Construction is planned for the Fall of 2023. | * |
| 07 | Thomas Kluge | Combie North Powerhouse | 2581 | Combie North Powerhouse Capacitor Bank Upgrade: Design and replace existing capacitor bank at Combie North Powerhouse to improve the reliability and efficiency of power generation of the facility. | Design | Hydro is working with an engineering consultant to design a new capacitor bank for the Combie North Powerhouse. Once the design is complete, Hydro will order necessary project materials in 2022 and will complete construction in 2023. | * |
| 08 | Adrian Schneider | Combie Reservoir/Combie South Powerhouse | 6943 | Combie South Access Road. Develop approx. 3,000 ft. from south abutment. | Design | ROW sent a formal written description for offer to Arroyo beginning of July 2022. Requested Arroyo to approve and sign future document. Construction planned for 2022. | * |
| 09 | Kaylie Hague | Scotts Flat Powerhouse | 2552 | SFPH Fire Detection Upgrades: Install new smoke detection systems in the Scotts Flat Powerhouse that includes alarming and callout features to notify staff in case of fire while unoccupied. | Design | NID is reviewing the 90% design submittal for the new fire detection systems to submit to the District's insurance provider for review and approval. Design will be completed during the first half of 2022. | |
| 10 | Kaylie Hague | Combie North Powerhouse | 2553 | CNPH Fire Detection Upgrades: Install new smoke detection systems in the Combie North Powerhouse that includes alarming and callout features to notify staff in case of fire while unoccupied. | Design | NID is reviewing the 90% design submittal for the new fire detection systems to submit to the District's insurance provider for review and approval. Design will be completed during the first half of 2022. | |
| 11 | Kaylie Hague | Combie South Powerhouse | 2554 | CSPH Fire Detection Upgrades: Install new smoke detection systems in the Combie South Powerhouse that includes alarming and callout features to notify staff in case of fire while unoccupied. | Design | NID is reviewing the 90% design submittal for the new fire detection systems to submit to the District's insurance provider for review and approval. Design will be completed during the first half of 2022. | |

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| 12 | Adrian Schneider | Chicago Park Powerhouse | 2164 | Chicago Park Powerhouse Fire Suppression System Upgrades. 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. | Post-Construction | The Fire Suppression System was completed in August 2021. A revised Fire Response Plan sent in June 2022 is being reviewed by Hydro. Upon finalization of Fire Response Plan, fire and safety equipment purchases are planned by Hydro and then the fire suppression system will be activated. A Description of System Operation (DOSO) document will be planned for completion prior to end of year. | |
| 13 | Nathan Droivold | Chicago Park Powerhouse | 2402 | Chicago Park Powerhouse Instrumentation Upgrade. Install instrumentation that will enable operators to monitor flow, temperature, and pressure of vital powerhouse components. | Post-Construction | Construction is now complete and the new cooling water system is in service. Hydro has received project as-builts and commissioning files. Drawings will be verified prior to closeout. | |
| 14 | Doug Hobbs | Dutch Flat #2 Powerhouse | 2544 | Dutch Flat #2 Powerhouse Cooling Water System Upgrade. Install new instrumentation that will enable operators to monitor flow, temperature, and pressure of vital powerhouse components. | Planning | Design will begin in 2022. Engineering and Hydro are currently refining As-Built drawings from Project 2402 for use with this project. Once a bill of materials is developed, long lead time materials will be purchased. Construction is scheduled for 2023. | * |
| 15 | Tonia Tabucchi Herrera | Dutch Flat #2 Powerhouse | 2483 | Dutch Flat #2 Powerhouse Backup Generator: All costs associated with the installation of new backup generator at Dutch Flat #2 Powerhouse. | Design | Design is in progress by consultants. A bill of materials has been developed. After requesting bids for the new switchgear Engineering will move to procure necessary materials in 2022. Installation is planned for Fall of 2023 during the annual plant outage. | |
| 16 | Nathan Droivold | Rollins Powerhouse | 2392 | Rollins Governor Replacement. Replace worn governor and appurtenances. | Hold | Hydro to begin project scoping in 2023. | * |
| 17 | Nathan Droivold | Bowman Intertie | 2354 | Bowman Interties SF6 Breaker Replacement. Replace the existing Bowman Inter-tie SF6 breaker with a more environmentally friendly vacuum circuit breaker. | Hold | Hydro will replace the existing SF6 breaker with a vacuum circuit breaker after completion of the oil circuit breaker replacement at Rollins PH (FATR# 2351). | |
| 18 | Adrian Schneider | Dutch Flat #2 Powerhouse | 2240 | Dutch Flat #2 Powerhouse Fire Suppression System Upgrades. Designing, installing and commissioning a new CO2 fire suppression system for the Dutch Flat #2 Powerhouse. | Hold | Project on hold pending the completion of the Chicago Park Powerhouse Fire Suppression System Upgrade Project. Hydro will transfer the project to Engineering. | * |
| 19 | Nathan Droivold | Rollins Powerhouse | 2379 | Rollins Powerhouse Fire Protection System. Provide fire protection system for Rollins Powerhouse (design, installation and commissioning). | Hold | Project on hold pending the completion of the Chicago Park Powerhouse Fire Suppression System Upgrade Project (FATR# 2164). | |

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| 20 | Nathan Droivold | Deer Creek Powerhouse | 2342 | Deer Creek Powerhouse Controls and Automation Upgrades. Install programmable logic controller and automate the Deer Creek Powerhouse. | Hold | Project placed on hold. | |
| 21 | Nathan Droivold | Deer Creek Powerhouse | 2395 | Deer Creek Powerhouse Exciter Replacement. Replace exciter and appurtenances. | Hold | Project placed on hold. | |
| 22 | Nathan Droivold | Deer Creek Powerhouse | 2343 | Deer Creek Powerhouse Generator Breaker Replacement. Replace the existing generator breaker with a generator breaker and cabinet to mitigate an arc flash safety hazard at the Deer Creek Powerhouse and improve reliability. | Hold | Project placed on hold. | |
| 10-3 HYDRO DAM & WATER IMPROVEMENTS (\$1,295,000*) 50112-52921 | | | | | | | |
| 01 | Dar Chen | Scotts Flat Spillway | 2094 | Scotts Flat Spillway Repair & Upgrades | Design | The Physical Hydraulic Modeling has been completed and the Alternative Study and Geotechnical Design Reports are due to the District in early July 2022. They will address the needs of the preferred Alternative 3, replacement of the entire spillway chute with new chute and vertical side walls. Then the District needs to review the Geotechnical Design Report and negotiate with HDR about re-organizing the consulting team, the scope, the approach, and schedules for the design. | * |
| 02 | Dar Chen | Sawmill Dam | 2596 | Sawmill Dam Outlet Pipe Rehabilitation: Investigate and survey the conditions of the outlet pipe for Sawmill Dam. Complete a design to repair, modify, or replace the existing pipe, and then implement the preferred solution. | Planning | A LiDAR scan and an ultrasonic pipe wall thickness sounding inside the 21" riveted-plate outlet pipe has been proposed by SewerVUE from B.C. Canada. | * |
| 03 | Dar Chen | Scotts Flat Dam | 2595 | Scotts Flat Dam Wave Erosion Protection: Design and install new erosion protection at/near the crest of the upstream face of Scotts Flat Dam to protect the dam from wave action during a probable maximum flood (PMF) event. | Planning | As DSOD recommends against using concrete K-rails, the District has changed plans to using riprap for both slope protection and the short wave dike at the upstream edge of the dam crest. AECOM has been asked to evaluate the wave action and adequacy of the riprap. DSOD dam alteration permit application is required for these riprap additions. Hydroelectric plans to defer the construction so that the necessary change in the wave protection scheme due low PMF freeboard can be made at the same time. | * |

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| 10-3 HYDRO DAM & WATER IMPROVEMENTS (\$1,295,000) 50112-52921 | | | | | | | |
| 04 | Dar Chen | Jackson Lake Dam | 2597 | Jackson Lake Dam Toe Slope Protection: Investigate stability of the downstream toe slopes near the outlet end of Jackson Lake Dam. Complete a design to repair and mitigate the issue, and then implement the preferred solution. | Design | A District meeting with environmental consultants has decided to remove the debris pile just downstream of the outlet and to replace the weir flow measurement structure 100' downstream. A 70% design has been completed for Regulatory Compliance to obtain the necessary environmental permits. The 100% design needs to be submitted to DSOD and FERC for approvals before the construction, which is scheduled for 2023. | * |
| 05 | Dar Chen | Combie/Van Giessen Dam | 201402 | Combie Dam Stabilization. Improve abutment protection against scouring, and water supply upgrades. | Hold | The final alternatives report has been received and a preferred solution has been selected. Construction is planned for 2025-2026. | |
| 10-4 HYDRO LOWER DIVISION WATER IMPROVEMENTS 50112-52922 | | | | | | | |
| 01 | Doug Hobbs | Chicago Park Forebay/Canal | 2511 | Chicago Park Forebay/Canal Liner Replacement. Repair segments of the Chicago Park Canal where existing shotcrete liner needs replacement. | Hold | Project placed on hold. | |
| 02 | Doug Hobbs | Chicago Park Powerhouse | 2551 | Chicago Park Powerhouse Tailrace Repair: evaluate and address erosion concerns of the tailrace foundation. | Hold | Project placed on hold. | |
| 03 | Doug Hobbs | Dutch Flat Canal | 2545 | Dutch Flat Canal Liner Replacement. Repair segments of the Dutch Flat Canal where existing shotcrete liner needs replacement. | Hold | Project placed on hold. | |
| 10-5 HYDRO UPPER DIVISION WATER IMPROVEMENTS (\$950,000*) 50112-52923 | | | | | | | |
| 01 | Doug Roderick | Bowman-Spaulding Canal | 2339 | Rucker Creek Spill Gate Replacement. Replace existing radial gate at Rucker Creek Diversion with an overshot gate to improve personnel safety and operational performance. | Design | Engineering is working with Hydro to develop specifications for the new gate and a preliminary construction plan. Engineering has contacted gate manufacturer's for quotes and estimate of lead times. FERC review of project design will be required prior to construction. | * |
| 02 | Phil Nedved | Bowman-Spaulding Canal | 2404 | Fall Creek Flume Upgrades. Make structural enhancements to improve the reliability of the Fall Creek Flume. | Complete | Construction was completed during the annual Bowman-Spaulding Canal outage in June 2022. Project is complete and will not appear on future reports. | * |

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| 10-5 HYDRO UPPER DIVISION WATER IMPROVEMENTS (\$950,000*) 50112-52923 | | | | | | | |
| 03 | Phil Nedved | Fall Creek Diversion | 2576 | Fall Creek Diversion Improvements. Make structural enhancements to improve the reliability of the Fall Creek Diversion Flume. | Planning | Hydro has obtained a quote for necessary project materials for purchase in 2022. | * |
| 04 | Doug Hobbs | Bowman-Spaulding Canal | 2600 | Boxcar Spill Canal Lining Repair: Repair deteriorated shotcrete liner of the Bowman-Spaulding canal. | Planning | Damaged area will be assessed during the annual Bowman-Spaulding Canal outage in 2022 to plan for future repairs. | * |
| 05 | Kaylie Hague | Wilson Creek Diversion | 2546 | Wilson Creek Diversion Rehabilitation. Repair and modify the Wilson Creek Diversion Dam structure to ensure diverted flows are measurable and accurate. | Design | NID has received the necessary permits for the temporary diversion. Currently in the planning and preparation phase to meet compliance requirements associated with the permits, prior to construction. Installation is to occur contingent on the State Water Board issuing orders that impose a curtailment and reporting requirements. | |
| 06 | Adrian Schneider | Bowman-Spaulding Canal | 2599 | Christmas Tree Spill Gate Replacement: Replace existing radial gate at Christmas Tree Spill with an overshot gate to improve personnel safety and operational performance. | Hold | Engineering will begin the project after completion of the Rucker Creek Spill Gate Replacement Project (FATR# 2339) so that standards can be developed for system consistency. | * |
| 10-6 HYDRO SCADA/COMMUNICATION UPGRADES (\$350,000*) 50112-52924 | | | | | | | |
| 01 | Tonia Tabucchi Herrera | Hydro HQ | 2405 | Hydro Office Radio Tower | Planning | The line of sight study has been reviewed by District staff. The findings of this study were used to update the NID Hydroelectric Department SCADA Wide Area Network Report to plan future communications improvement projects. Hydro and Engineering will visit the proposed site of the new radio tower in July before Engineering starts planning for the new radio tower in 2022. | * |
| RAW WATER SYSTEM IMPROVEMENTS 10151-52910 | | | | | | | |
| 00 | Dar Chen | Loma Rica Dam | 2529 | Loma Rica Dam Repairs | Hold | The seismic retrofit alternatives study has been completed. An internal draft project documentation memo has been sent from the Dam Safety Engineer to the Mangers of Hydroelectric and Water Operations and the future District PM for Design. Project will be placed on hold until its design phase, which is planned to start in 2025. | |