

DOE-ID NEPA CX DETERMINATION

Idaho National Laboratory

Manhole SN-08 and reroutes the force main from MFC-760 out to the new utility corridor. The new force main runs west between the perimeter security fences and parallel to the new fire/potable water line. It then goes north and discharges into the existing force main that goes out to the sewage lagoons.

The project estimates average daily flows of 7.4 gallons per minute (gpm) to the MFC-760 lift station. Future growth indicates the need to accommodate 58 additional employees at the current lift station. The average wastewater flow for the MFC is 13 gallons per capita per day (gpcd). For 58 employees, this equals an average daily flow of approximately 754 gallons per day (gpd) (0.52 gpm). A peaking factor converts the average daily flow to a peak flow of 2.5. This produces an average daily flow of about 8 gpm and a peak flow of about 20 gpm for the MFC-760 lift station. Future growth estimates anticipate average daily flows of about 6,500 gpd and an annual average of 2,372,500 gallons based on 13 gpcd. Using the peaking factor of 2.5, the peak flow generated is approximately 16,250 gpd (12 gpm). The new wastewater collection system is designed to handle flows of approximately 32 gpm (20 gpm + 12 gpm).

The proposed action uses a combination of gravity and pressure collection systems. The project installs a gravity collection pipe from the new discharge manhole (west of MFC-788) that continues to the north. It also installs a lift station (LS-1) at the northwest corner of the security fence, which pumps sewage to another gravity collection pipe that conveys the wastewater to the east, where it discharges into a wet well and lift station (LS-2) northwest of the Irradiated Materials Characterization Laboratory (IMCL) building (MFC-1729). The wastewater is pumped from LS-2 to the current force main, then conveyed to the sewage lagoons.

The gravity system is 8-inch diameter polyvinyl chloride (PVC) SDR-35 (ASTM D 3034) sewer main buried 6-12 feet below the ground surface. The proposal installs standard pre-cast concrete manholes (48-inch diameter) at each change in direction, spaced a minimum of 400 feet.

The pressurized sewer is 4-inch diameter force main per 10-States Standards for minimum force main sizing and pressure class pipe that conforms to the requirements of American Water Works Association (AWWA) C900 (PVC), C905 (OPVC), or C906 (HDPE). Air release valves at high points in the force main protect the pipeline system and maintain efficiency.

The lift stations contain a 48-inch diameter wet well with pre-packaged duplex, submersible, non-clog pumps. The pumps alternate on pumping cycles, which allows maintenance of one pump while keeping the lift station in service. A high level float switch turns on both pumps to provide for extra large peak flows, which may occur at infrequent intervals. The pumps grind sewage into a slurry and pump to either a force main or gravity main. Alarm outputs in the control panel include power failure, pump failure, high water level, and low water level alarms.

Industrial Wastewater System

The project may reroute the industrial wastewater going to Ditch C through a new pipeline, connecting the southern discharge pipeline with the northern line. A new flowmeter and sampler would be installed in the common industrial wastewater line, upstream of its discharge to the pond.

Firewater and Potable Water Distribution

The fire and potable water supply routes a new 12-inch main from the north end of MFC, around the west side, to the southwest area of MFC. At the north end of MFC, the project removes the 8-inch cast iron main from the northwest corner near fire hydrant FH-23, across to the northeast corner of MFC-1729, and installs new 12-inch main. The new main continues to the west until it is outside of the security fence, then turns south. The new main ties into the HDPE firewater mains that provide fire and potable water to the TREAT facilities. The main continues south to tie into the fire and potable water main from the existing potable/firewater line. The new main creates additional looped flow paths to enhance system reliability.

Construction uses C900/RJ Certa-Lok PVC Pressure Pipe with 12-inch nominal size piping. The project installs control valves at each connection point to the water supply system.

DOE-STD-1066-2012 requires reliable and adequate water supply for fire suppression. Design features to provide reliability include a looped and gridded distribution system with sectional valves and redundant supplies. The new supply mains and control valves comply with these requirements and enhance the fire and potable water supply to the west side of MFC.

Electrical Distribution

The proposed action feeds medium voltage power out of new substation building MFC-758A, from Bus #2, B532 (1B), and SS-004 at EM-35. A looped feed improves availability and reliability. The scope of work also installs two new sectionalizing switches - the first west of MFC-756 and the second northwest of IMCL. The path between sectionalizing switches consists of four (4) 6" ducts with multiple manholes for switch installation. Low voltage power distribution is comprised of a pad with a 13.8kV-480Y/277V or 208Y-120V transformer, and power panel. The new power panel feeds the lift station and pump station via 2" underground ducts.

Telecommunications and Alarms Distribution

Telecommunication distribution pathways use new duct banks and duct banks already in place. The proposal uses current pathways from the dial room vault (MFC-1728) to TM-05 (six (6) 4-inch conduits) in areas between and around TM-13 and TM-15 (four (4) to six (6) 4-inch conduits). The project installs new pathways from the TM-05 to the new telecommunications manhole south of MFC-758A (four (4) 4-inch conduits), from the new telecommunications manhole south of MFC-758A to the new telecommunications manhole west of MFC-758A (four (4) 4-inch conduits), along the MFC perimeter (six (6) 4-inch conduits), and from the new manhole northwest of IMCL to TM-13 (four (4) 4-inch conduits).

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SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Project activities have the potential to create fugitive dust.

Mobile generators, welders, heavy equipment, and compressors will contribute to air emissions during construction.

Discharging to Surface-, Storm-, or Ground Water

Project activities will excavate near or through stormwater ditches.

The corridor will cross two industrial wastewater pipelines. Measures to support corridor construction may temporarily reroute or halt the flow of this wastewater.

The project will tie-in to existing wastewater lines, so there is a potential for some discharge during tie-in.

Disturbing Cultural or Biological Resources

There are no known archaeological properties within the proposed project area. However, if at any time during project implementation cultural resources (i.e., bones, flakes of obsidian, "arrowheads" or other stone tools, bottles, tin cans, etc.) are discovered, all work in the area must cease until a CRMO Archaeologist can evaluate the resources. Contact L. Suzann Henrikson (208.526.2985) should any inadvertent or late discoveries occur during project implementation to arrange archaeological evaluation and cultural resource review for historic archaeological properties.

Within the Area of Potential effect (APE for the project as described there are 10 historic architectural properties:

- 1 Category 1 property (Experimental Breeder Reactor (EBR) II Reactor Plant Building)
- 2 Category 2 properties;
- 7 Category 3 properties.

EBR-II is slated for deactivation, decontamination, and decommissioning (DD&D), for which adverse effects have been fully mitigated with the completion of Historic American Engineering Record (HAER) documentation (Idaho National Engineering Laboratory, EBR-II Containment Building, Scoville, Butte County, ID, HAER ID-33-J). No further mitigation is required for this historic property.

MFC-768B (Water Chemistry Laboratory) and MFC-785 (Hot Fuel Examination Facility [HFEF]) are eligible for listing on the NRHP, and are considered Category 2 properties.

MFC-758 (Electrical Substation Building), MFR-759 (Emergency Re-entry Building), MFC-768 (Power Plant), MFC-768E (Flammable Materials Storage), MFC-770B (Sodium Component Storage Building), MFC-788 (EBR-II Maintenance Shop), MFC-793 (Sodium Comp. Maintenance Shop) are all eligible for listing on the NRHP, and are considered Category 3 properties.

Alterations or modifications to these buildings, or to the historic view shed associated with these buildings, may adversely affect these historic properties. The project activities as described are not anticipated to affect these historic properties as the project activities will:

- 1. Reuse existing utility corridors and pathways
- 2. Create new utility corridors and pathways similar to those existing
- 3. Use existing and create new subsurface utility corridors and pathways outside of the historic view shed.

Additionally, the project activities as described fall under exemption 2 (routine maintenance) identified in the INL CRMP (Idaho National Laboratory Cultural Resource Management Office. Idaho National Laboratory Cultural Resource Management Plan. DOE/ID-10997, revision 6, Idaho Falls, Idaho: U.S. Department of Energy, Idaho Operations Office, 2016, pg 51). As such, no further cultural resource review for historic architectural properties is required under this project description.

Generating and Managing Waste

Industrial waste such as concrete, asphalt, scrap wood, scrap metal, packaging material, rags, insulation, wire, pipe scrap, etc., will be generated during the project.

Hazardous waste generation is not anticipated, although paint waste, adhesive waste, and spill material have the potential for being hazardous.

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Releasing Contaminants

Typical construction chemicals such as fuels, lubricants, adhesives, paints, concrete, concrete cure, asphalt, refrigerants, etc., will be used on the project.

The project will disturb known Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites.

Although not anticipated, there is a potential for spills when using chemicals or fueling equipment. In the event of a spill, notify facility PEL. If the PEL cannot be contacted, report the release to the Spill Notification Team (208-241-6400). Clean up the spill and turn over spill cleanup materials to WGS.

Using, Reusing, and Conserving Natural Resources

Recycled materials will be used to the greatest extent practicable in the selection of building materials.

SECTION D. Determine Recommended Level of Environmental Review, Identify Reference(s), and State Justification: Identify the applicable categorical exclusion from 10 Code of Federal Regulation (CFR) 1021, Appendix B, give the appropriate justification, and the approval date.

For Categorical Exclusions (CXs), the proposed action must not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, or similar requirements of Department of Energy (DOE) or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment or facilities; (3) disturb hazardous substances, pollutants, contaminants, or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources (see 10 CFR 1021). In addition, no extraordinary circumstances related to the proposal exist that would affect the significance of the action. In addition, the action is not "connected" to other action actions (40 CFR 1508.25(a)(1)) and is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1608.27(b)(7)).

References: 10 CFR 1021, Appendix B, 1.26 "Small water treatment facilities," B2.2 "Building and equipment instrumentation," and B4.11 "Electric power substations and interconnection facilities instrumentation."

Justification: Project activities are consistent with 10 CFR 1021, Appendix B, B1.26 "Siting, construction, expansion, modification, replacement, operation, and decommissioning of small (total capacity less than approximately 250,000 gallons per day) wastewater and surface water treatment facilities whose liquid discharges are externally regulated, and small potable water and sewage treatment facilities;"

B2.2 "Installation of, or improvements to, building and equipment instrumentation (including, but not limited to, remote control panels, remote monitoring capability, alarm and surveillance systems, control systems to provide automatic shutdown, fire detection and protection systems, water consumption monitors and flow control systems, announcement and emergency warning systems, criticality and radiation monitors and alarms, a and security equipment);" and

B4.11 "Construction or modification of electric power substations or interconnection facilities (including, but not limited to, switching stations and support facilities)."

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act) Yes No

Approved by Jason Sturm, DOE-ID NEPA Compliance Officer on: 3/26/2018