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Changing the World's Energy Future

Idaho National Laboratory

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DOE-ID NEPA CX DETERMINATION
Idaho National Laboratory

CX Posting No.: DOE-ID-INL-18-048 R3

SECTION A. Project Title: PBF-622 and PBF-623 Fiber Optic Cable Installation

SECTION B. Project Description and Purpose:

Revision 3:

The project has decided that the use of pole-mounted fiber is better suited for the area. Trenching requires that basalt be cut and/or chipped through potentially contaminated soil, which is cost prohibitive. The placement of wood poles serves two purposes. The fiber optic cable can be easily routed from the source to each building. Lights will also be mounted to three of the poles and power will be supplied through a power line that will originate from a new masthead to be located on the northwest corner of PBF-622. The layout of the poles and aerial lines are provided in Figure 3-1.

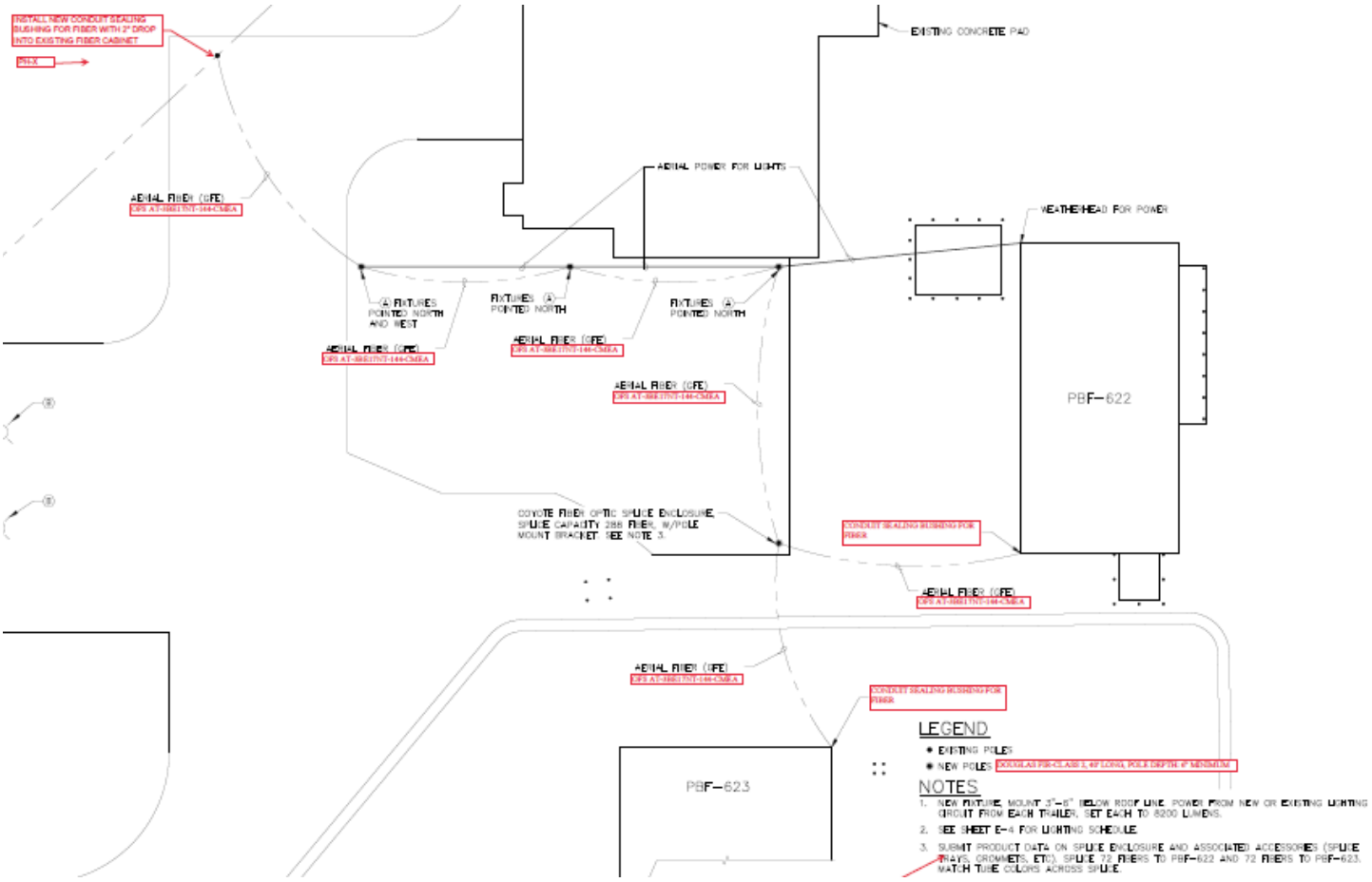


Figure 3-1 Location of new poles and aerial cable routing.

Revision 2:

This revision covers the installation of the fiber optic cable from PBF-622 to PBF-623. There is an existing underground conduit which the new fiber optic cable can be pulled through. See Figure 2-1 for the routing of the cable. from PBF-622 to PBF-623. No additional excavation would be required. This fiber connection will provide connectivity for research such as Moran, F&SS fire systems, F&SS building monitoring systems, future security systems, communication upgrades (including WiFi, etc.), and training connectivity for nonproliferation training.

This part of the project will also involve purchasing a new floor mounted server rack (APC Netshelter SX-42U) and components for installation in the electrical room (Room 103) of PBF-623, as well as the installation of electrical outlets in Room 103 and routing fiber optic cable from the outside of the building (i.e., J-box) to the new server rack in Room 103. Some removal/rerouting of old conduit and cabling may be required as part of the installation

process. Because the routing of the fiber optic cable to PBF 623 utilizes an existing underground conduit there will be no ground disturbance for this additional scope.

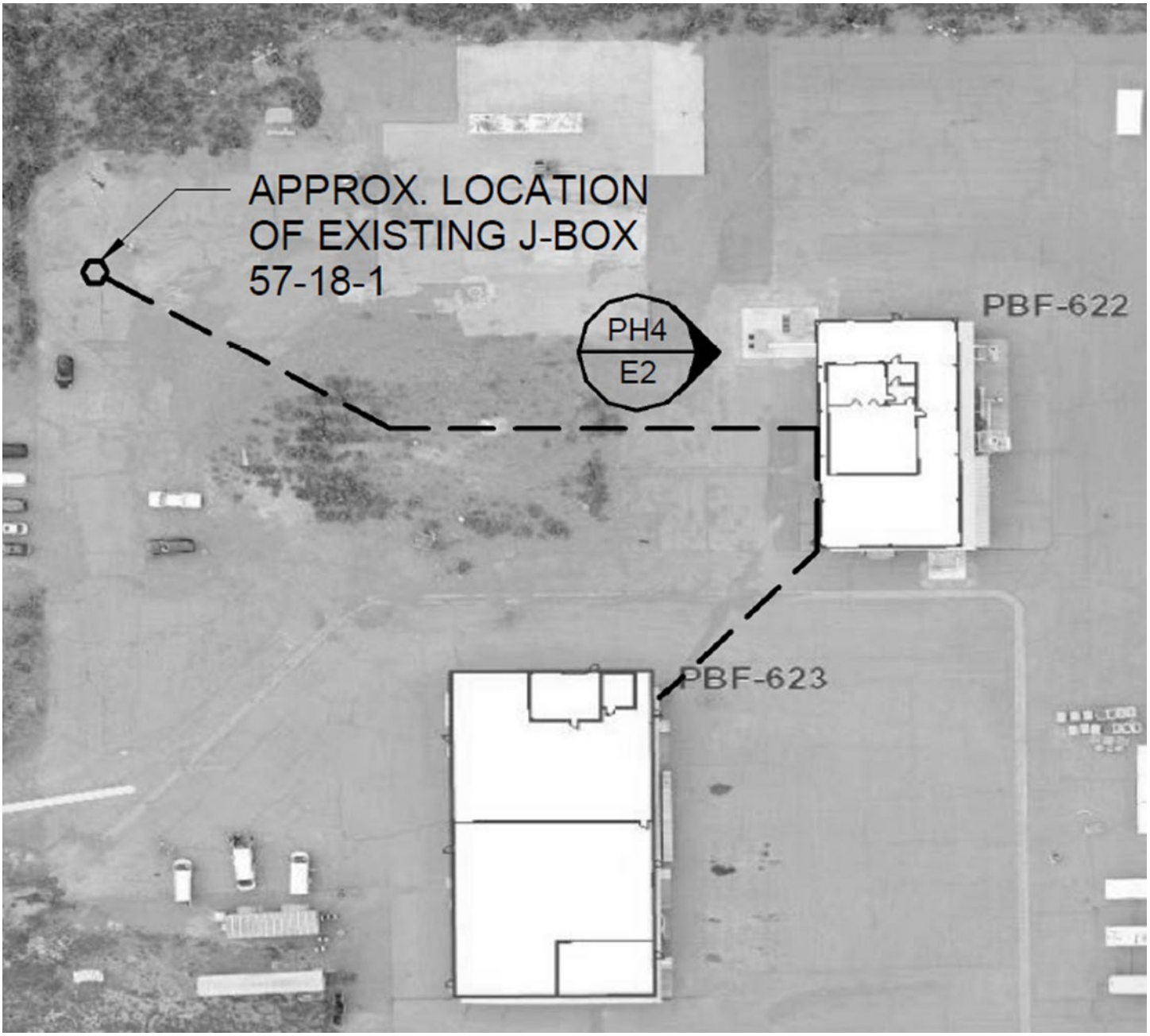
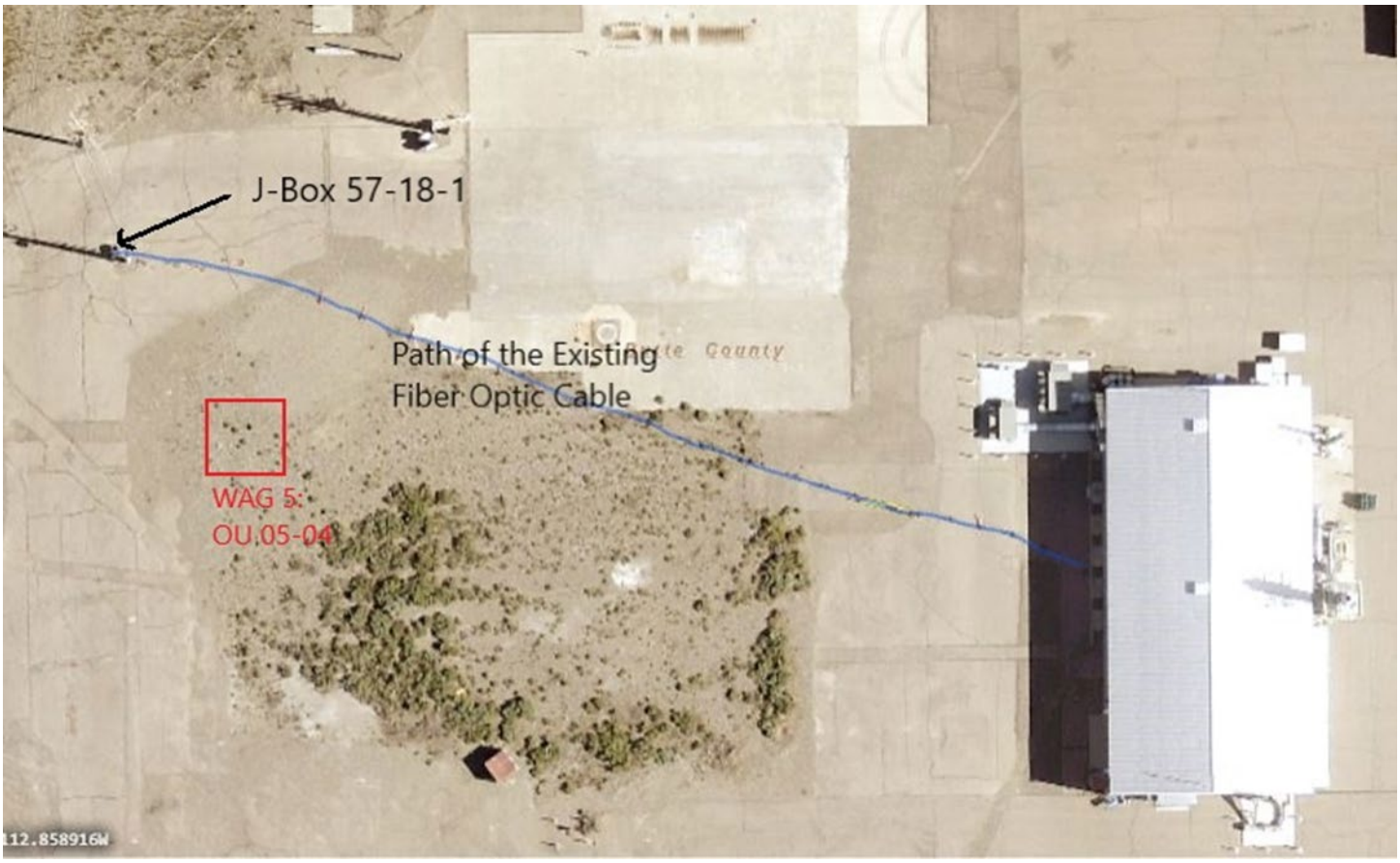


Figure 2-1. Fiber Optic Cable Routing.

Revision 1:

The original EC identified the addition of an aerial fiber optic cable to PBF-622 aboveground using a power pole. The fiber optic cable was added but was laid on top of the ground. It was recognized that the aerial cable would limit future capability for movement of research equipment in the future and limits some activities and therefore, is not the preferred method. The preferred method is to trench the cable underground. The cable would be trenched at least 18" inches in depth. The trench would generally follow the path of the cable laying on the ground, but some adjustments may be necessary to accommodate underground obstructions. See the figure below for the proposed path of the underground fiber optic cable.



Original EC:

National and Homeland Security (N&HS) uses the Power Burst Facility (PBF) building 622 (PBF-622) for research and development activities. The proposed action supplies fiber optic communications to the building. Project activities include installation, termination, and testing one (1) GFE 48 strand fiber optic cable from an exterior pole mounted fiber optic junction box to a current above ground communications conduit on the west side of PBF-622. The communication conduit will be intercepted and a new NEMA 4 junction box installed and used for the new cable run inside PBF-622. A GFE wall mounted equipment rack will be installed on the south wall of PBF-622 with patch panel and fiber enclosure. A dedicated 120VAC power circuit will be provided for the rack and sourced from a nearby electrical panel. The work is scheduled to be performed prior to December 01, 2018 and will last approximately 2-weeks. The costs are estimated to be approximately $32,200.00.

SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions

Emissions from installation activities are expected to be minimal. No asbestos work is anticipated. Emissions/fumes from common construction adhesives/sealants and are anticipated. Fugitive dust is expected during excavation activities and stringing fiber and power lines. If portable emission sources are used, equipment must meet opacity requirements.

Discharging to Surface-, Storm-, or Ground Water

N/A

Disturbing Cultural or Biological Resources

All ground disturbing activities in the CITRC area, even in previously disturbed or built locations, requires a written Cultural Resource Review (CRR) prior to implementing project activities. Further, all ground disturbing activities in CITRC will need to be monitored by INL Cultural Resource Management Office (CRMO) personnel and may require DOE to consult with the Idaho State Historic Preservation Office (SHPO) and or the Shoshone-Bannock Tribes.

Generating and Managing Waste

Industrial waste, in the form of common construction debris (wire, conduit, etc.), is expected. All Solid Waste would be managed by Waste Generator Services (WGS).

Releasing Contaminants

Typical construction chemicals such as lubricants, adhesives, etc., will be used during the project.

Using, Reusing, and Conserving Natural Resources

All applicable material will be diverted from disposal in the landfill when possible. Project personnel will use every opportunity to recycle, reuse, and recover materials and divert waste from the landfill when possible.

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 to Subpart D, B4.7 "Fiber optic cable", B2.1 "Workplace enhancements", and B1.31 "Installation or relocation and operation of equipment."

Justification:

The proposed activities are consistent with CX B4.7 "Adding fiber optic cables to transmission facilities or burying fiber optic cable in existing powerline or pipeline rights-of-way. Covered actions may include associated vaults and pulling and tensioning sites outside of rights-of-way in nearby previously disturbed or developed areas.",

CX B2.1 "Modifications within or contiguous to an existing structure, in a previously disturbed or developed area, to enhance workplace habitability (including, but not limited to, installation or improvements to lighting, radiation shielding, or heating/ventilating/air conditioning and its instrumentation, and noise reduction)" and

CX B1.31 "Installation or relocation and operation of machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment), provided that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to an existing building, within or contiguous to a previously disturbed or developed area, that are necessary for equipment installation and relocation. Such modifications would not appreciably increase the footprint or height of the existing building or have the potential to cause significant changes to the type and magnitude of environmental impacts.

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

Approved by Jason L. Anderson, DOE-ID NEPA Compliance Officer on: 06/02/2022