**Prepared by:**
**U.S. Department of Energy - National Energy Technology Laboratory**

**Pursuant to:**
**Office of Manufacturing and Energy Supply Chains and Office of Energy Efficiency and Renewable Energy Grant Opportunity - Bipartisan Infrastructure Law (BIL) Battery Materials Processing and Battery Manufacturing (DE-FOA-0002678)**

**DOE/EA-2213 - Awarded**

**Date: September 2023**

# Final Environmental Assessment

## Cirba Solutions - Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials

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# FINDING OF NO SIGNIFICANT IMPACT
# FOR
# LITHIUM-ION BATTERY RECYCLING TO PRODUCE BATTERY-GRADE RAW MATERIALS
# CIRBA SOLUTIONS
# LANCASTER, OHIO
# DOE/EA-2213

**RESPONSIBLE AGENCY:** U.S. Department of Energy (DOE)

**ACTION:** Finding of No Significant Impact (FONSI)

**SUMMARY:** DOE completed the Final Environmental Assessment (EA) for Cirba Solutions - Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials (DOE/EA – 2213). Based on analyses in the EA DOE determined that its Proposed Action - awarding a grant to Cirba Solutions to partially fund the expansion of their existing lithium-ion battery (LiBs) recycling facility - would result in no significant adverse impacts. DOE further determined that there would be beneficial impacts to socioeconomics, environmental justice, greenhouse gas emissions reduction, and electric vehicle (EV) and lithium-ion battery industries from implementation of Cirba Solutions' proposed project.

**BACKGROUND:** As part of the Infrastructure Investment and Jobs Act (Bipartisan Infrastructure Law; Public Law 111-58), DOE's National Energy Technology Laboratory (NETL), on behalf of the Office of Manufacturing and Energy Supply Chains and the Office of Energy Efficiency and Renewable Energy, jointly issued the Funding Opportunity Announcement (FOA) DE-FOA-0002678 Bipartisan Infrastructure Law (BIL) Battery Materials Processing and Battery Manufacturing. The BIL appropriates more than $62 billion to the DOE to deliver a more equitable clean energy future to the American people and will invest more than $7 billion in the battery supply chain over the five-year period encompassing fiscal years (FYs) 2022 through 2026.

Cirba Solutions' expanded facility would support a circular economy in the LiB industry in the U.S. and anticipated growth in the EV and hybrid-electric vehicle industries. If approved, DOE would provide $74,999,925 in financial assistance in a cost-sharing arrangement with the project proponent, Cirba Solutions, which will provide $159,970,351 towards the total project cost.

Based on the scope of the Proposed Project, DOE prepared an EA to evaluate potential environmental and socioeconomic consequences of providing financial assistance for the proposed project in accordance with the requirements of the National Environmental Policy Act (NEPA), as amended (42 U.S.C. 4321 et seq.), the President's Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR Parts 1500 to 1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021).

**PURPOSE AND NEED:** The overall purpose and need for DOE action pursuant to the Office of Manufacturing and Energy Supply Chains in collaboration with the Office of Energy Efficiency and Renewable Energy and the funding opportunity under the BIL is to accelerate the development and production of a resilient supply chain for high-capacity batteries by increasing investments in battery materials processing and battery manufacturing projects. This and other selected projects are needed to maximize benefits of the clean energy transition as the nation works to curb the climate crisis. These projects would meet the objective of recruiting, training, and retaining a skilled workforce in communities that have lost jobs due to displacement of fossil fuel-based energy jobs. The proposed project will also meaningfully assist in the nation's economic recovery by creating manufacturing jobs in the United States in accordance with the objectives of the BIL. The funding received from BIL will make this project (and others) possible.

**DESCRIPTION OF THE PROPOSED ACTION:** DOE's Proposed Action is to provide a grant to Cirba Solutions in a cost-shared arrangement to partially fund Cirba Solutions' proposed project to expand their industrial scale spent lithium-ion battery (LiB) recycling facility in Lancaster, Ohio ('proposed project' or 'Facility'). The Facility expansion would consist of retrofitting an existing building at the current Cirba Solutions Facility to increase LiB processing capacity, as well as developing new buildings to house advanced hydrometallurgical processing lines, which will allow for more refined processing of spent LiBs. Once expanded, the Facility would produce enough battery precursor materials to supply over 100,000 EVs annually.

The facility expansion would occur within Cirba Solutions' existing industrial facility, which is located in an existing industrial neighborhood of Lancaster, Ohio. The overall Facility footprint on the property would be expanded from 10.9 acres to 31.7 acres and include new buildings, parking areas and other paved surfaces, a rail spur, stormwater management infrastructure, and landscape plantings. The proposed project would create approximately 100 construction jobs and up to 100 new full-time jobs with benefits, increasing the full-time workforce at the facility to 150 employees during operations.

**ALTERNATIVES CONSIDERED:** In addition to the Proposed Action, DOE considered the No-Action Alternative as required under NEPA. Under the No-Action Alternative, DOE would not provide funds for the Proposed Project. It is Cirba Solutions' intent to proceed in the absence of DOE funding, and DOE recognizes that this project might continue if DOE decides not to provide financial assistance. If DOE's selected projects proceed without DOE's financial assistance, the potential impacts would be essentially identical to those under DOE's action alternative. To allow a comparison between the potential impacts of the projects to be implemented and the impacts of not proceeding with the projects, for purposes of the EA, DOE assumed that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

**ENVIRONMENTAL CONSEQUENCES:** DOE considered the potential effects of the Proposed Action and No-Action alternative on 18 environmental resource areas in preparation of the EA; however, not all resource areas were evaluated at the same level of detail. DOE determined that community services, parks and recreation, aesthetics and visual resources, and land use were resource areas that would either not be affected or would sustain negligible impacts from the proposed project and thus were dismissed from detailed analysis in the EA. The areas that DOE evaluated in more detail included socioeconomics, environmental justice, wetlands and floodplains, cultural resources, air quality, greenhouse gases, noise and vibration, geology, topography, and soils, surface water and groundwater, vegetation and wildlife, regulated wastes (solid and hazardous wastes), utilities and energy use, transportation and traffic, and human health and safety. For these areas, DOE determined there would be negligible or minor potential environmental impacts.

**Socioeconomics:** The Proposed Project would provide approximately 100 jobs during the construction period, which would be hired from the local population, and Cirba Solutions would demonstrate a preference for contracting with local companies. Once operational, the Proposed Project would initially create approximately 100 new FTE jobs, increasing the workforce to approximately 150 permanent jobs at full capacity. Labor requirements for the Facility are not expected to change drastically as most jobs would be in advanced manufacturing operations, which is already represented in the region. No substantial influx in population is expected, therefore the impact to housing demand, public services, and resources would be expected to be minor and beneficial.

**Environmental Justice:** The proposed project supports DOE's stated EJ policy priority to increase clean energy jobs, the job pipeline, and job training for individuals from disadvantaged communities. While the Proposed Project site is not within a disadvantaged community, Cirba Solutions is committed to promoting benefits for communities in the greater Lancaster, Ohio area. Through Equity Plans developed by Cirba Solutions that include development of a Community Engagement Plan organizing various existing and planned community outreach activities that support the City of Lancaster and surrounding area, the proposed project is anticipated to provide short and long-term benefits to disadvantaged communities in the vicinity, and therefore have both a short and long-term beneficial impact on environmental justice and equity.

**Wetlands and Floodplains:** Due to the absence of regulated sensitive aquatic resources, including jurisdictional wetlands, waters, and floodplains within the proposed project site, construction and operations are anticipated to have negligible impacts on wetlands and floodplains.

**Cultural Resources:** The proposed project site lies within the cultural area of five federally recognized Tribes including the Delaware Nation of Oklahoma, the Delaware Tribe of Indians, the Eastern Shawnee Tribe of Oklahoma, the Miami Tribe of Oklahoma, and the Seneca-Cayuga Nation. The nearest site listed on the National Register of Historic Places (NRHP) is the Fairfield County Children's Home, located approximately 0.75 miles northwest from the site

boundary. Consultation with the Ohio State Historic Preservation Office (SHPO) and federally recognized tribes on April 27, May 6, May 10, May 22, and May 22, 2023, resulted in responses from both the Ohio SHPO and Delaware Nation of Oklahoma indicating that the proposed project would have no effect on properties listed in or eligible for listing in the NRHP and that the proposed project should have no adverse effect on known cultural resource sites of interest to the Delaware Nation. Due to the absence of sensitive resources of historic, cultural or tribal interest at the site, the Proposed Project would have negligible impact on cultural and historic resources.

**Air Quality:** The Proposed Project's operational impacts to air quality are subject to a Clean Air Act Title V Operating Permit issued by the Division of Air Pollution Control of the Ohio Environmental Protection Agency (OEPA). The Title V permit for the proposed project would address increased emissions from operations associated with entire expanded facility, by setting acceptable emissions limits and increasing the monitoring and reporting requirements at the Facility to demonstrate that emissions control devices are continuously operating. Any increase in emissions to ambient air resulting from operations of the Proposed Project would be minor and consistent with current activities performed and permitted at the existing facility.

**Greenhouse Gases:** The Proposed Project would incur a net-positive, long-term impact to global climate and greenhouse gas emissions through contributions to decarbonizing U.S. transportation, which would markedly outweigh Proposed Project GHG emissions. Cirba Solutions estimates that production levels at the Proposed Project site would produce sufficient raw material to create lithium-ion batteries for 100,000 EVs annually. It is expected that these EVs would primarily replace conventional gasoline and diesel-fueled vehicles, resulting in a proportional reduction in GHG emissions (primarily carbon dioxide [CO2]). Using estimates generated by the United States Environmental Protection Agency, replacing 100,000 conventionally fueled vehicles with EVs would eliminate an estimated 460,000 metric tons of CO2 annually for every year that an EV displaced a comparable fossil fuel vehicle. Over the course of the first five years of operation, batteries produced using material generated at the proposed project site would be expected to eliminate 6,900,000 metric tons of CO2 emissions. The CO2 emissions figures above assume that the number of EVs on the road made possible from Cirba's facility would be "additive" each year, and that each of those vehicles would remain on the road for five years. 100,000 new EVs would be produced each year and added to the number of EVs still on the road from prior years. This emissions reduction would be expected to far exceed any emissions anticipated from construction and operations of the Proposed Project during its operational lifetime.

**Noise and Vibration:** Typical construction noise would be generated during the construction phase of the project. Operational noises outside the new buildings would come primarily from ventilation and air conditioning installed externally on facility structures and industrial activities around enclosed facility structures, such as truck and employee-vehicle traffic and a possible incremental increase in rail traffic. As the proposed project is located within an existing industrial area with other industrial tenants with mechanical and traffic-related noises, any

increase in noise from operations of the proposed project over ambient conditions would be minor.

**Geology, Topography, and Soils:** The proposed project would have minor direct, long-term impacts on geology, topography, and soils. Soil loss and erosion are the major factors for consideration and management during the proposed project, and best management practices would be implemented during construction and operations to effectively prevent effects to soil resources. These include: stormwater training for onsite personnel, use of erosion control blankets where soil would otherwise be exposed, avoidance of excessive soil stockpiling where soil is exposed to wind and rain, a sediment settling basin as part of the stormwater and erosion runoff control program, use of water and dust palliatives on soils that are temporarily exposed to erosive elements, and proper use of temporary or permanent landscaping to hold soils in place and prevent unwanted soil movement. Proposed construction is limited to surface and near-surface activity which is not anticipated to affect minerals and deeper geological strata. Seismic activity in this region is negligible and would be adequately addressed through compliance with local building codes.

**Surface Water and Groundwater:** Construction and operation of the proposed project would have a minor, temporary and long-term, indirect impacts on surface waters. The site is approximately 30.5% impervious surface, with stormwater runoff directed to a stormwater management basin (approximately 0.86-acre) which directs overflow away from the existing Facility in a south and westerly direction towards Pleasant Run, through offsite drainage culverts and storm water swales. Construction of the proposed project would have a minor, temporary, indirect impact on surface waters, from direct run-off during rain events. Potential impacts to surface waters from direct runoff would be minimized through implementation of a SWPPP and BMPs, required by the Ohio EPA General Permit for Stormwater Discharges Associated with Construction Activities. Operation of the proposed project would include increased production of wastewater, which would have direct, minor long-term impacts on surface waters. Cirba Solutions would also continue to pre-treat certain process wastewaters prior to discharge, using the existing facility wastewater pretreatment system, to further ensure discharge requirements are met. Because all process water would be discharged to the POTW, and effluent discharged from the POTW must meet water quality criteria set out in NPDES Permit No. OH0026026, negligible impacts to the Hocking River would be anticipated from proposed project operations.

The impact of proposed project construction on groundwater would be negligible and operations would have a minor, long term, direct impact on groundwater resources. There are no known or proposed wells on the proposed project Site. Infiltration of a small portion of this precipitation (3 to 16 inches) recharges the groundwater aquifers in the region. No discharges to land are anticipated during construction, and stormwater discharges would comply with the requirements of the Ohio EPA General Permit for Stormwater Discharges Associated with Construction Activities. Given the low potential for discharges during operations to reach groundwater and the limited increase in groundwater resources that Cirba Solutions' water requirements represent

in terms of the City's available water capacity, proposed project operations would have a minor, long term, direct impact on groundwater resources.

**Vegetation and Wildlife:** The proposed project site contains minimal vegetation, rather it is dominated by developed impervious surface as well as fallow, undeveloped land. Grading and site development during construction would cause localized removal of topsoil and reduce the extent of vegetation at the site; however, the quality of this topsoil has been diminished after years of intensive agricultural cultivation and the magnitude of this loss is small when compared to the extent of vegetated land in the vicinity of the project site. As a result, impacts to vegetation from proposed project construction are anticipated to be direct, minor and long-term, and operations of the proposed project is not anticipated to create any additional impacts to vegetation.

No federally listed endangered or threatened species have been observed or documented on the site, nor does the site contain designated critical habitat for any listed species. The United States Fish and Wildlife Service (USFWS) responded to the DOE's request for consultation stating, "due to project type, size, and location we do not anticipate adverse effects to federally endangered, threatened, or proposed species or designated critical habitat."

**Regulated Wastes (Solid and Hazardous Wastes):** Construction is expected to generate negligible impacts from regulated waste. Solid waste and sanitary waste generated during construction activities would be limited to common construction-related waste streams which existing landfills or recycling facilities will have the capability and capacity to accept. Operations are expected to incur minor, long-term impacts from regulated wastes, including certain non-hazardous waste streams and oil. The quantity of hazardous waste generated by the proposed project would determine the Facility's updated generator status and which Federal and State regulations related to waste generation, management, and disposal would be applicable. The proposed project would have a negligible impact on the overall quantity of hazardous waste generated and the amount of waste that would require offsite treatment and disposal. Cirba Solutions intends to continue to recycle or reuse byproducts and non-hazardous waste to the extent possible, minimizing the amount of waste disposed of offsite.

**Utilities and Energy Use:** Construction of the proposed project would have short-term negligible impacts on local utilities and energy use because during construction, the expanded site would rely on portable generators water tanks and portable bathroom rather than local utility connections. Operation of the proposed project would have long-term, direct minor impacts on local utilities, as the expanded industrial processes involved would increase the demand for electricity, potable water, natural gas, and wastewater services at the proposed project site. However, despite the increase in demand, the proposed project is not expected to adversely affect local utilities, as the Cirba Solutions facility would continue to connect to the local electricity provider and publicly owned treatment works, and demand for potable water is not anticipated to have an adverse impact on availability for other users.

**Transportation and Traffic:** Construction would have short term but measurable minor adverse impacts to traffic lasting up to 24 months. Operations would generate a minor long-term increase in anticipated daily truck and personal-vehicle traffic resulting from the expected 57 additional truck trips per day over existing traffic for delivery and shipments. Trucks would use the established road network to access the Project site, and these roadways are designed for and currently accommodate industrial truck traffic. Once fully operational the Facility would add approximately 150 new employees and there would be a corresponding daily increase in the number of personal vehicles at the site; however, the number of personal vehicles is expected to be distributed throughout the day, as the project would be operated in three shifts, and Facility design includes adequate parking, loading and maneuver space for these vehicles.

**Public and Occupational Health and Safety:** Risks to public and occupational health and safety from proposed project construction and operations are expected to be minor, direct and indirect, and long-term. Cirba Solutions Facility is subject to numerous regulatory permitting requirements and planned mitigations addressing factors relevant to public and occupational health and safety, and Cirba Solutions' existing corporate policies further address relevant health and safety risk factors and would be followed throughout construction and operations. Materials used during operation of the proposed project would include sulfuric acid, sodium hydroxide, potassium persulfate, sodium phosphate, sodium fluoride, monosodium phosphate, calcium hyroxide, calcium oxide, calcium carbonate, sodium carbonate, sulfur dioxide, hydrogen peroxide, D2EHPA, Versatic 10, Cyanex 272, Orpfom SX, diatamecous earth filter aid, Metalsorb mixture, clay-based flocculant, and activated carbon. To reduce risk, the materials would be received via railcar and/or truck within the designated receiving area, allowing for strictly controlled and consistent management. Cirba Solutions will continue to incorporate emergency policies and procedures, required health, safety, and security training, and specialized training for individuals handling hazardous materials and wastes at the Facility. Cirba Solutions also maintains a current Contingency Plan for implementation in the event of an unintended release.

**PUBLIC AVAILABILITY:** DOE issued the Draft EA and advertised its release in the *Lancaster Eagle-Gazette* on July 30 through August 1, 2023. In addition, DOE sent copies for public review to the Fairfield County District Library (Main Branch) in Lancaster, Ohio. DOE established a 30-day public comment period that began on July 30, 2023, and ended August 28, 2023. DOE announced it would accept comments by mail, phone, and email. All comments received are located within the appendices of the Final EA.

The Draft EA was distributed to various federal, state, and local agencies with jurisdiction or special expertise. During development of the Draft EA, and prior to the public comment period, DOE initiated consultations with the responsible USFWS field office in Columbus, Ohio, and the Ohio History Connection, which serves as the Ohio SHPO. DOE also initiated consultations with the Delaware Nation, Delaware Tribe of Indians, Miami Tribe of Oklahoma, Eastern Shawnee Tribe of Oklahoma, and the Seneca-Cayuga Nation through each Tribal Nation's Tribal Historic Preservation Office. Through these consultations, DOE provided information about the

proposed project and solicited input for consideration both prior to finalizing and releasing the Draft EA for public comment and then again concurrent with the public release of the Draft EA.

Consultation with the FWS was completed on May 25, 2023, via a written acknowledgement from the FWS of DOE's determination that the proposed project would have no effect on listed species or their designated critical habitat.

The Ohio SHPO concluded, in a response letter dated May 10, 2023, that based on the information submitted by the DOE the Proposed Project will have no effect on properties listed in or eligible for listing in the NRHP. In a letter dated May 11, 2023, the Delaware Nation Historic Preservation Department stated they "concur with the SHPO that the proposed project should have no adverse effect on any known cultural or religious sites of interest to the Delaware Nation, but there is always the potential for discovery of archaeological resources in this area. Should the scope of the project be amended to include any additional ground-disturbing activity, you will need to reinitiate consultation with our office." Cirba Solutions intends to implement the Project-specific Inadvertent Discovery Plan attached in Appendix 5 of the Final EA to address the potential for inadvertent discovery during project construction of unknown archaeological resources.

**PUBLIC COMMENTS:** No comments were received from individuals of the general public. As discussed in the "Public Availability" section, comment letters were received directly from the Ohio SHPO (Ohio History Connection), USFWS (Ohio Ecological Services Field Office), and the Delaware Nation. These comments are acknowledged, addressed in the text, and included in Appendix 2 of the Final EA.

**MITIGATION REQUIREMENTS:** No additional mitigation measures beyond those contained in permits obtained or to be obtained by Cirba Solutions from the appropriate permitting authorities are required.

**DETERMINATION:** Based on information presented in the Final EA (DOE/EA-2213), DOE finds that the Proposed Action to provide a grant to Cirba Solutions would not significantly affect the quality of the physical, biological, or human environment. Therefore, preparation of an Environmental Impact Statement is not required, and DOE is issuing this FONSI.

Copies of the Final EA and this FONSI are available at DOE's NETL EA website at: https://netl.doe.gov/node/6939. The EA and FONSI are also available at DOE's NEPA – EA website at https://www.energy.gov/nepa/doe-environmental-assessments.

Copies of the Final EA and FONSI can also be obtained by sending a request to:

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Sean I. Plasynski, Ph.D.
Director, National Energy Technology Laboratory (Acting)

**National Environmental Policy Act (NEPA) Compliance**
**Cover Sheet**

**Proposed Action:**

**The United States (U.S.) Department of Energy (DOE) National Energy Technology Laboratory (NETL) prepared this Final Environmental Assessment (EA) to analyze the potential environmental, cultural, and socioeconomic impacts of partially funding a proposed project by** Cirba Solutions to expand their industrial scale spent lithium-ion battery (LiB) recycling facility in Lancaster, Ohio ('proposed project' or 'Facility'). Once expanded, the Facility would produce enough battery precursor materials to supply over 100,000 electric vehicles (EVs) annually. Located within an existing industrial neighborhood of Lancaster, Ohio, the Facility expansion would consist of retrofitting an existing building (Building 295) at the current Cirba Solutions Facility to increase LiB processing capacity, as well as developing new buildings (Building 395 and Building Complex 495) to house advanced hydrometallurgical processing lines, which will allow for more refined processing of spent LiBs. The overall Facility footprint would be expanded from 10.9 acres (476,546 square feet [$ft^2$]) to 31.7 acres (1,381,546 $ft^2$) and include new buildings, parking areas and other paved surfaces, a rail spur, stormwater management infrastructure, and landscape plantings, all within Cirba Solutions' existing industrial lot. The proposed project would create approximately 100 construction jobs and up to 100 new full-time jobs with benefits, increasing the full-time workforce at the facility to 150 employees during operations. Cirba Solutions also plans to offer community benefits such as workforce development, scholarship opportunities, good paying jobs, and community engagement plans to raise equity levels in the greater Lancaster community. Together, these efforts would continue a trend to revitalize the workforce and economy of Fairfield County while significantly strengthening the U.S. LiB industry. **Under the proposed action, DOE proposes** to provide $74,999,925 of the project's total award value of $234,970,276 in a cost-shared arrangement.

**Type of Statement:** **Final** Environmental Assessment

**Lead Agency:** U.S. Department of Energy; National Energy Technology Laboratory


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**Abstract:**

The proposed project would be constructed on the remaining, undeveloped portion of Cirba Solutions' 36.8-acre lot at 265 Quarry Rd SE, Lancaster, Ohio. Expanded facility components would become operational on an expedited, 36-month schedule, with site improvements and construction completed within the first 24 months. During the construction period, equipment would be specified, procured, and installed, and processes would be tested and commissioned for operation. The proposed buildings, rail spur, paved parking lot and road surface, stormwater management features, and other infrastructure would cover approximately 20.8 acres.

The environmental analysis identified that the most notable changes to result from the proposed action would occur in the following areas: water consumption and wastewater generation, and generation of regulated wastes, with net-positive impacts to local socioeconomic conditions and greenhouse gas reduction.

**Public Participation:**

DOE encourages public participation in the NEPA process. **The Draft EA was** released for public review and comment **and was announced through publication of the Notice of Availability in the Lancaster Eagle-Gazette on July 30, July 31, and August 1, 2023**. The public **was** invited to provide oral, written, or e-mail comments on the Draft EA to DOE **during** the comment period**, which occurred from July 30, 2023 through** August 28, 2023. Copies of the Draft EA **were** also distributed to cognizant Federal and State agencies and Tribal Nations, **and hard copies (3) were made available at the Fairfield County District Library (Main Branch) in Lancaster, OH. The Final EA document is also available on the National Energy Technology Laboratory (NETL) website at https://netl.doe.gov/node/6939 and DOE's NEPA - EA website at https://www.energy.gov/nepa/doe-environmental-assessments. Comments received from other agencies and tribal nations as part of the EA process are described within this EA and provided in Appendix 2, but in summary, no comments were received that stated objections to this proposed action. No comments were received from the public during the public comment period. Within this Final EA document, bolded text (except for chapter and section headings) indicates verbiage or punctuation which was revised following the publication of the Draft EA and completion of the public review and comment period and is shown in bold to allow readers to quickly identify revised material.**

# Contents

## Tables



## Figures



## Appendices

# Acronyms and Abbreviations

| | |
|---|---|
| AOI | area of interest |
| BIL | Bipartisan Infrastructure Law |
| BMP | best management practice |
| CAA | Clean Air Act |
| CE | Categorical Exclusion |
| CEJST | Climate and Economic Justice Screening Tool |
| CEQ | Council on Environmental Quality |
| CFR | Code of Federal Regulations |
| $CH_4$ | methane |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| $CO_2e$ | carbon dioxide equivalents |
| DAC | disadvantaged communities |
| DOE | United States Department of Energy |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| EPA | United States Environmental Protection Agency |
| EO | Executive Order |
| EV | electric vehicle |
| FEMA | Federal Emergency Management Agency |
| FIRM | Flood Insurance Rate Map |
| FOA | Funding Opportunity Announcement |
| FONSI | Finding of No Significant Impact |
| FTE | full-time equivalent |
| FY | fiscal year |
| GHG | greenhouse gas |
| gpd | gallons per day |
| HEV | hybrid-electric vehicle |
| IH | Industrial-Heavy |
| kV | kilovolt |
| kWh | kilowatt-hour |
| kWh/yr | kilowatt hours per year |

| | |
|---|---|
| **S**HPO | **State** Historic Preservation Office |
| LiB | lithium-ion batteries |
| LOMR | Letter of Map Revision |
| mgd | million gallons per day |
| mtpy | metric tons per year |
| $N_2O$ | nitrous oxide |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NETL | National Energy Technology Laboratory |
| NHPA | National Historic Preservation Act |
| $NO_2$ | nitrogen dioxide |
| $NO_X$ | nitrogen oxide |
| NRHP | National Register of Historic Places |
| $O_3$ | ozone |
| Pb | lead |
| PM | particulate matter |
| $PM_{10}$ | particulate matter 10 microns or less |
| $PM_{2.5}$ | particulate matter 2.5 microns or less |
| POTW | publicly owned treatment works |
| ppm | parts per million |
| ROD | Record of Decision |
| scf | standard cubic foot |
| SCFH | standard cubic foot per hour |
| $SF_6$ | sulfur hexafluoride |
| SIP | State Implementation Plan |
| $SO_2$ | sulfur dioxide |
| SWPPP | Stormwater Pollution Prevention Plan |
| tpy | tons per year |
| ug/kg | microgram per kilogram |
| $ug/m^3$ | microgram per cubic meter |
| U.S. | United States |
| USACE | United States Army Corps of Engineers |
| USFWS | United States Fish and Wildlife Service |

# 1. Introduction & Purpose and Need

## 1.1 Introduction

This **EA** was prepared by the United States Department of Energy (DOE) - National Energy Technology Laboratory (NETL) pursuant to the National Environmental Policy Act of 1969 (NEPA) (Title 42, Section 4321 et. Seq., United States Code) and DOE's NEPA implementing procedures (Chapter 10, Part 1021, Code of Federal Regulations (CFR)) to evaluate the potential environmental and social impacts of DOE's proposed action to provide funding to Cirba Solutions, Cirba Solutions' proposed project, and the No Action alternative. The purpose of this EA is to provide the information needed to assess the potential environmental and social impacts associated with the proposed project to expand Cirba Solution's existing battery recycling facility within a 36.8-acre parcel of land in Lancaster, Ohio.

## 1.2 Background

The Office of Manufacturing and Energy Supply Chains, in collaboration with the Office of Energy Efficiency and Renewable Energy, issued Funding Opportunity Announcement (FOA) DE-FOA-0002678. Projects awarded under the FOA will be funded, in whole or in part, with funds appropriated by the Infrastructure Investment and Jobs Act (USA 2021), also more commonly known as the Bipartisan Infrastructure Law (BIL).

DOE prepared an environmental synopsis to evaluate and compare potential environmental impacts for each proposal it deemed to be within the competitive range from proposals received in response to the FOA. The Department used the synopsis to evaluate appreciable differences in potential environmental impacts from those proposals. The synopsis included: (1) a brief description of background information for the Funding Opportunity area of interest, (2) a general description of the proposals DOE received in response to the Funding Opportunity Announcement and deemed to be within the competitive range, (3) a summary of the assessment approach DOE used in the initial environmental review to evaluate potential environmental impacts associated with the proposals, and (4) a summary of environmental impacts that focused on potential differences among the proposals. Appendix 1 contains a copy of the environmental synopsis for this project developed for DE-FOA-0002678.

DOE initially selected 21 projects under twelve topic areas of interest and provided cost-shared funding for project definition activities; all of the projects are subject to the completion of project-specific NEPA reviews. FOA-0002678 supports new, retrofitted, and expanded commercial-scale domestic facilities to produce battery materials, processing, and battery recycling and manufacturing demonstrations.

The applications reviewed under this FOA were selected for negotiations in October 2022. Twelve topic areas of interest (AOIs; Table 1) were included in the FOA and each AOI outlined project objectives that were specific to that AOI. The twelve AOIs were separated according to the BIL sections 40207(b)(3)(A) and 40207(c)(3)(A): AOIs 1–3 and 6–11 were

directed to commercial level projects. AOIs 4, 5, and 12 were directed to demonstration level projects.

**Table 1. Areas of Interest under DE-FOA-0002678**

| Areas of Interest | Title |
|---|---|
| **Battery Material Processing Grants pursuant to Section 40207(b)(3)(A)** | |
| 1 | Commercial-scale Production Plants for Domestic Separation of Critical Cathode Battery Materials from Domestic Feedstocks |
| 2 | Commercial-scale Domestic Production of Battery-Grade Graphite from Synthetic and Natural Feedstocks |
| 3 | Commercial-scale Domestic Separation and Production of Battery-grade Precursor Materials (Open Topic) |
| 4 | Demonstrations of Domestic Separation and Production of Battery-grade Materials from Unconventional Domestic Sources |
| 5 | Demonstrations of Innovative Separation Processing of Battery Materials Open Topic |
| **Battery Component Manufacturing and Recycling Grants pursuant to Section 40207(c)(3)(A)** | |
| 6 | Commercial-scale Domestic Battery Cell Manufacturing |
| 7 | Commercial-scale Domestic Battery Cathode Manufacturing |
| 8 | Commercial-scale Domestic Battery Separator Manufacturing |
| 9 | Commercial-scale Domestic Next Generation Silicon Anode Active Materials and Electrodes |
| 10 | Commercial-scale Domestic Battery Component Manufacturing Open Topic |
| 11 | Commercial-scale Domestic Battery Recycling and End-of Life Infrastructure |
| 12 | Domestic Battery Cell and Component Manufacturing Demonstration Topic |

DOE selected the project proposed by Cirba Solutions under AOI 11 of DE-FOA-0002678 to support expansion of Cirba Solutions' Lancaster, Ohio facility. DOE's action is to propose to provide $74,999,925 of the project's total award value of $234,970,276 in a cost-shared arrangement.

## 1.3 Purpose and Need for Department of Energy Action

The overall purpose and need for DOE action pursuant to the Office of Manufacturing and Energy Supply Chains in collaboration with the Office of Energy Efficiency and Renewable Energy program and the funding opportunity under the BIL is to accelerate the development of a resilient supply chain for high-capacity batteries by increasing investments in battery materials processing and battery manufacturing projects. The BIL investments in the battery supply chain will include five main steps including: (1) raw material production, (2) materials processing including material refinement and processing, (3) battery material /component

manufacturing and cell fabrication, (4) battery pack and end use product manufacturing, and (5) battery end-of-life and recycling.

DOE considers Cirba Solutions' proposed project and location to be one that can meet the focus of the BIL sections: a) creating and retaining good-paying jobs; b) supporting inclusive and supportive workforce development efforts to strengthen America's competitive advantage; c) ensuring that the United States has a viable battery materials processing industry to supply the North American battery supply chain; d) expanding the capabilities of the United States in advanced battery manufacturing; e) enhancing national security by reducing the reliance of the United States on foreign competitors for critical materials and technologies; f) enhancing the domestic processing capacity of minerals necessary for battery materials and advanced batteries; and g) ensuring that the United States has a viable domestic manufacturing and recycling capability to support and sustain a North American battery supply chain. The Project site was selected due to its co-location with Cirba Solutions' existing facility in an existing industrial zone, and its location within the emerging "Battery Belt" of EV and battery manufacturing sites in the southeastern and midwestern U.S. The site has exceptional access to transportation infrastructure, public utilities, including rail service, and its potential to have a positive economic impact on the regional and local community.

DOE intends to further this purpose and satisfy this need by providing financial assistance under cost-sharing arrangements to this and the other 20 projects selected under DE-FOA-0002678. This and the other selected projects are needed to maximize the benefits of the clean energy transition as the nation works to curb the climate crisis. This project would meet the objective of recruiting, training, and retaining a skilled workforce in communities that have lost jobs due to the displacements of fossil energy jobs. This project would also meaningfully assist in the nation's economic recovery by creating manufacturing jobs in the United States in accordance with the objectives of the BIL.

### 1.4 National Environmental Policy Act and Related Procedures

This EA is prepared in accordance with NEPA, as amended (42 U.S.C. 4321), the President's Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021). This statute and the implementing regulations require that DOE, as a federal agency:

- Assess the environmental impacts of its proposed action;
- Identify any adverse environmental effects that cannot be avoided, should the proposed action be implemented;
- Propose mitigation measures for adverse environmental effects, if appropriate;
- Evaluate alternatives to the proposed action, including a no action alternative; and
- Describe the cumulative impacts of the Proposed Action together with other past, present, and reasonably foreseeable future actions.

These provisions must be addressed before a final decision is made to proceed with a proposed federal action that has the potential to cause impacts to the human environment, including providing federal funding to a project. This EA is intended to meet DOE's regulatory requirements under NEPA and provide DOE with the information needed to make an informed decision about providing financial assistance. In accordance with the above regulations, this EA allows for public input into the federal decision-making process; provides federal decision-makers with an understanding of potential environmental effects of their decisions before making these decisions; and documents the NEPA process.

## 1.5 Laws, Regulations, and Executive Orders

- Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (Executive Order [EO] 13985)
- Bald and Golden Eagle Protection Act (BGEPA)
- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Endangered Species Act (ESA)
- Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input (EO 13690)
- Executive Order on America's Supply Chains (EO 14017)
- Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations (EO 12898)
- Floodplain Management (EO 11988)
- Migratory Bird Treaty Act (MBTA)
- Pollution Prevention Act of 1990
- Protection of Wetlands (EO 11990)
- Resource Conservation and Recovery Act (RCRA)
- Revitalizing Our Nation's Commitment to Environmental Justice for All (EO 14097)
- Tackling the Climate Crisis at Home and Abroad (EO 14008)
- The Noise Control Act of 1972, as amended

## 1.6 Agency Consultation

DOE initiated consultations with the United States Fish and Wildlife Service (USFWS) under the Endangered Species Act and with the Ohio State Historic Preservation Office (**S**HPO) under Section 106 of the National Historic Preservation Act (NHPA). Response letters are included in Appendix 2.

## 1.7 Consultation with Tribal Nations

DOE initiated consultations with the Delaware Nation of Oklahoma, the Delaware Tribe of Indians, the Eastern Shawnee Tribe of Oklahoma, the Miami Tribe of Oklahoma and the

Seneca-Cayuga Nation, through each Tribal Nation's Tribal Historic Preservation Office. Response letters **received** are included in Appendix 2 of this EA.

### 1.8 Prior DOE Actions Within the Area of Potential Effect

DOE has previously provided financial assistance to Cirba Solutions (then under the corporate name of Toxco, Inc.) to support the construction of Building 295 within the area of potential effect (APE) of the current proposed project. As part of this financial assistance, DOE completed an EA (DOE/EA-1722) to analyze the potential impacts of this construction, and a Finding of No Significant Impact (FONSI) was issued in 2010 **(DOE, 2010 and DOE, 2012)**. As part of the EA process, DOE consulted with the Ohio **SHPO,** the U.S. Fish and Wildlife Service, the Bureau of Indian Affairs Eastern Regional Office, the Eastern Shawnee Tribe of Oklahoma, and the Shawnee Tribe. None of these entities expressed issues or concerns regarding the construction of Building 295. In 2011, Toxco, Inc. proposed to expand Building 295 by approximately 17,000 square feet. DOE subsequently initiated a Supplement Analysis to DOE/EA-1722 for this proposed expansion, and, as part of the Supplement Analysis process, requested an additional consultation with **Ohio SHPO**. DOE received correspondence from Ohio **S**HPO supporting a determination that no impacts to historic properties would occur due to this expansion. DOE determined through the overall Supplement Analysis process that the proposed expansion would not significantly change the analysis of impacts for any of the resource areas analyzed in DOE/EA-1722, and a supplement to DOE/EA-1722 (or any other NEPA analyses) would not be needed.

## 2. Proposed Action and Alternatives

### 2.1 Department of Energy's Proposed Action

DOE proposes, through a grant awarded to Cirba Solutions, to partially fund the expansion of a lithium-ion batteries (LiBs) recycling facility in Lancaster, Ohio (Figure 2). The expanded battery recycling facility would support the anticipated growth in the **LiB** industry and, more specifically, the EV industry and hybrid electric vehicle (HEV) industry. If approved, DOE proposes to provide $74,999,925 of the project's $234,970,276 total costs. Cirba Solutions' private cost share would be $159,970,351.

### 2.2 Cirba Solutions' Proposed Project

Cirba Solutions currently operates a LiB recycling facility on a 36.8-acre property at 265 / 295 Quarry Road SE in Lancaster, Ohio (Figure 1 and Figure 2). The company has operated at the site since 2003, under the corporate names Toxco, Inc., Retriev, and now Cirba Solutions. The objective of Cirba Solutions' proposed project is to expand and upgrade their existing facility leveraging both new technologies as well as expanding existing equipment to increase domestic recycling capacity for LiB used in advanced EVs, as described below. The proposed facility expansion would increase recycling percentages and value recovery of critical minerals, providing Cirba Solutions with the ability to transform used batteries into battery-grade raw materials supporting a U.S.-based circular supply chain.

Cirba Solutions proposed project site is composed of their existing facility, which covers approximately 10.9 acres, and approximately 25.9 acres of undeveloped, fallow land. The existing facility is composed of approximately 267,894 square feet [$ft^2$] of buildings and approximately 208,652 $ft^2$ of other paved surface and stormwater management features (Figure 3). The proposed project would include interior retooling of an existing building (Building 295) within the already developed footprint, as well as construction of new buildings and structures in the undeveloped portion of the property. Upgrades to Building 295 would include essential fire safety equipment, more efficient air emissions control equipment, and reconfiguration of equipment within the building to accommodate four new battery processing lines. Facility expansion would include development on an additional 20.78 acres (905,000 square feet) of the site to erect Building 395 and the conjoined and integrated structures collectively comprising Building Complex 495, two new stormwater management basins, a rail spur extension off the adjacent Conrail line, and additional external equipment pads and paved surface for parking and driving. The site currently supports seven fire hydrants, and approximately eight additional fire hydrants would be installed to reflect the increased facility capacity (four at the corners of Building 395 and four at the corners of Building Complex 495).

**Figure 1. Regional Location Map**

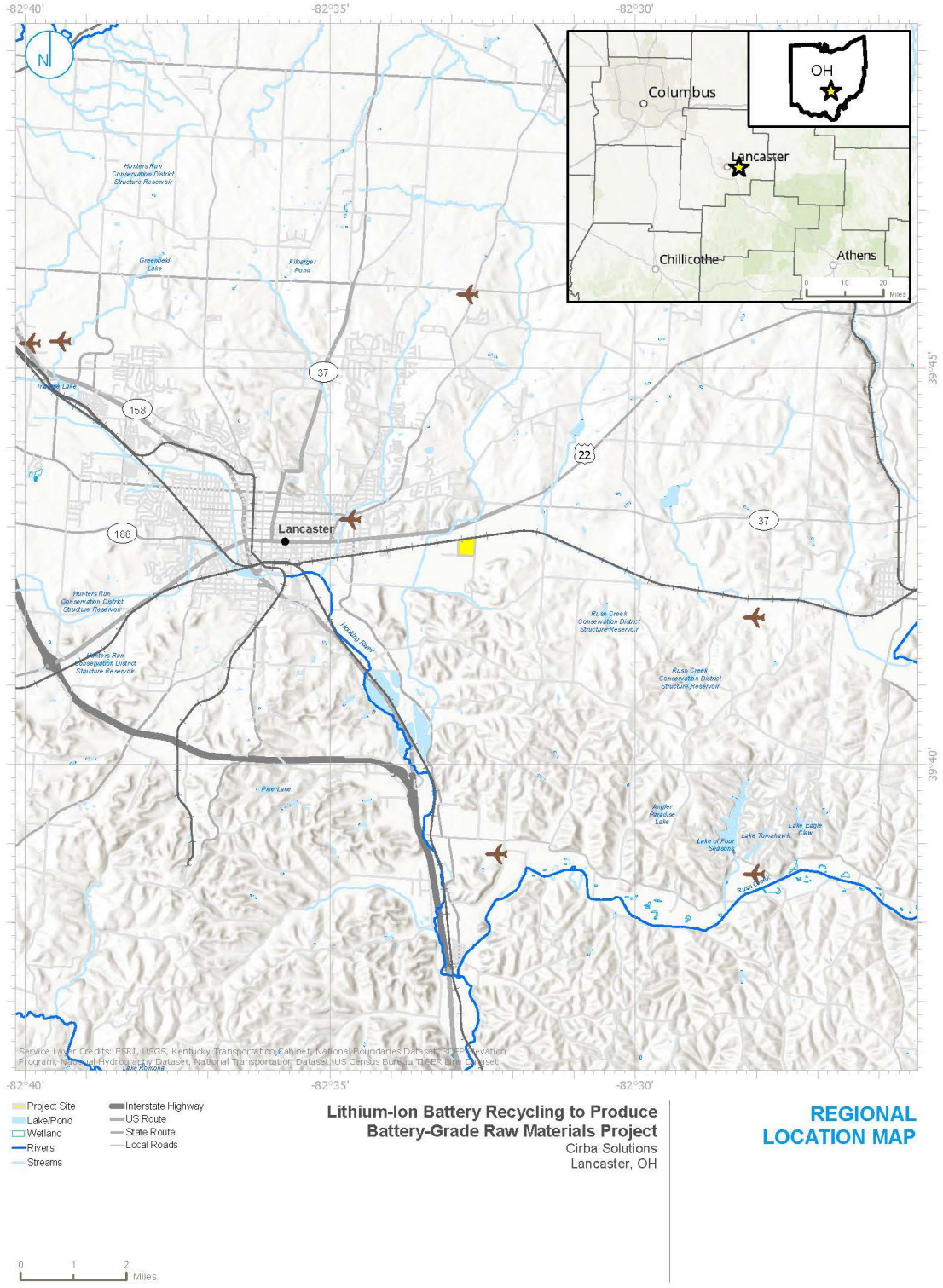
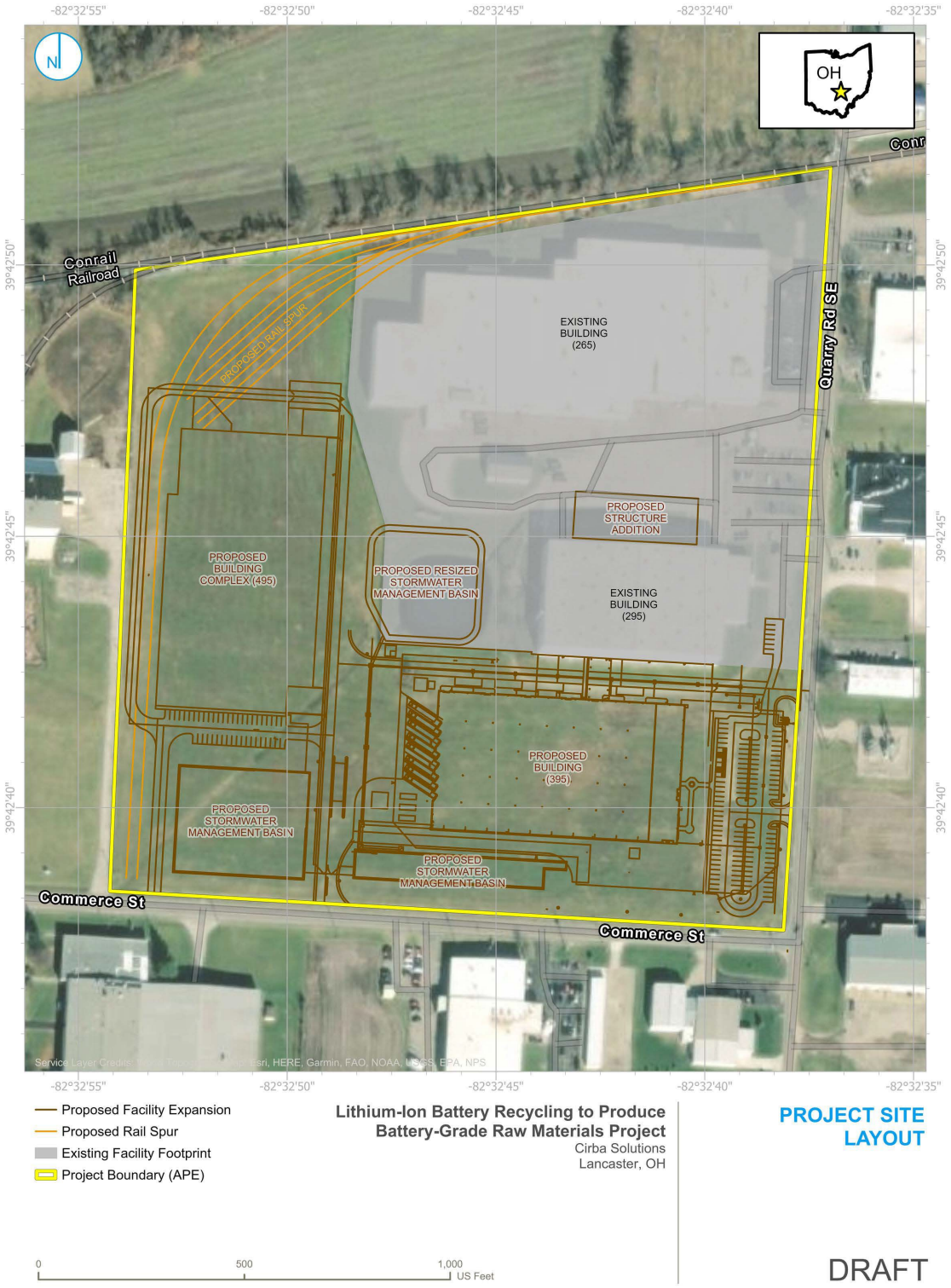


**Figure 2. Proposed Project Layout Map**



Building 395 is designed as a 156,000 $ft^2$ structure housing additional battery processing capacity, including a devoted Copper (Cu)/Aluminum (Al) separation line and two battery processing lines that would produce 15,000 tons of black mass per year, where black mass refers to the material created after spent batteries are dismantled, shredded, and processed. Black mass is primarily comprised of lithium, manganese, cobalt, and nickel metals. The structures within Building Complex 495 would support an advanced hydrometallurgical unit capable of processing 15,000 tons of black mass per year into battery-grade raw materials (nickel, cobalt, manganese sulfates, and lithium carbonate).

### 2.2.1 Construction and Operations of the Proposed Project

Figure 3 shows the locations of the existing Facility buildings and locations of additional structures planned as part of the proposed project. Upgrades to Building 295 would commence first. Once building approval and construction and installation permits have been obtained, Cirba Solutions' contractors would initiate site preparation for construction of Building 395, including installation of temporary facilities such as dirt access roads for construction equipment, staging areas and sourcing of construction materials. Early site preparation would be followed by grading, placement and compaction of fill, foundation work, and development of (buried) electrical and water infrastructure for Building 395. Site civil engineering work would be followed by building construction. Installation of mechanical systems and process equipment would be the final construction step before instrumentation testing and commissioning are undertaken. Construction of Building 395 is anticipated to take a year and would be completed before construction of the structures for Building Complex 495 begins. The construction process and phases for the 495 structures would be expected to follow the same general trajectory as Building 395 and take approximately one year to complete. The full construction period is therefore be expected to last two years.

During the construction period, the Facility is expected to employ 100 construction personnel. Once Building 395 is operational the expanded Facility would add approximately 45 full time equivalent (FTE) jobs to the existing workforce, increasing the Facility's workforce to 100 people, from 55. Once Building Complex 495 is operational, approximately 50 additional FTEs would be hired. At full capacity, the expanded Facility would support approximately 150 FTEs during operations with benefits such as healthcare, workforce training, and other employer funded benefits. The planned operating life of the expanded Facility is approximately 30-years.

### 2.2.2 Interim Actions and Categorical Exclusions

As described above, a portion of the proposed project concerns interior process expansion and renovation within the existing footprint of Building 295. Construction and operations activities proposed within Building 295, including installation of new shredding lines and upgraded office space, were examined and then determined by DOE to have no significant effect on the environment or limit the range of reasonable alternatives for the project. Construction and operations activities within Building 295 were authorized under an Interim Action memorandum prior to the completion of this EA, as documented in a memorandum

titled, "RE: Interim Action(s) within the scope of an ongoing Environmental Assessment prior to issuance of a Finding of No Significant Impact for the Lithium-Ion Battery Recycling to Produce Battery-Grade Raw materials Project (DOE/EA-2213D) (Appendix 3). Cirba Solutions also received a separate award under DE-FOA-0002680 which focused on other operational activities planned entirely within the renovated Building 295, and not related to any new construction or groundbreaking activities under the DE-FOA-0002678 award. DOE issued a Categorical Exclusion for the award under DE-FOA-0002680 (Appendix 3).

## 2.3 Alternatives

DOE's alternatives to this project consist of the numerous technically acceptable applications received in response to FOA DE-FOA-0002678. Before selection, DOE made preliminary determinations about the level of review under NEPA based on potentially significant impacts it identified during review of technically acceptable applications. DOE conducted these preliminary reviews pursuant to 10 CFR 1021.216 and prepared a synopsis for projects under the FOA. These preliminary NEPA determinations and environmental reviews were provided to the selection official, who considered them during the selection process.

Because DOE's Proposed Action is limited to providing financial assistance in cost-sharing arrangements to projects submitted by applicants in response to a competitive funding opportunity, DOE's decision is limited to either accepting or rejecting a project as proposed by the proponent, including its proposed technology and selected sites. DOE's consideration of reasonable alternatives is therefore limited to the technically acceptable applications and a no-action alternative for each selected project.

## 2.4 No Action Alternative

Under the No Action Alternative, DOE would not provide funds to the proposed project. Without DOE funding for the project to be completed as proposed, the applicant would need to identify, obtain, and use an alternative source of funds equal to the amount of funding that the applicant would have received from DOE under the above-listed funding opportunity. As a result, this project would be de-scoped or delayed while the applicant seeks other funding sources and may be modified if sufficient funding is not obtained. Furthermore, acceleration of the development of industrial scale U.S. production capacity of sustainable, low-cost precursor LiB battery materials including critical materials recycling processes would be delayed or perhaps not occur. DOE's ability to achieve its objectives under the Infrastructure Investment and Jobs Act would be reduced.

It is Cirba Solutions' intent to proceed in the absence of DOE funding, and DOE recognizes that this project might proceed if DOE decides not to provide financial assistance. If the project does proceed without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative (i.e., providing financial assistance that allows the project to proceed) or incrementally reduced. To allow a comparison between the potential impacts of the project as implemented and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would not likely proceed without DOE assistance. The baseline of potential impacts

in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

## 2.5 Alternatives Considered by Cirba Solutions

Because Cirba Solutions already owns the property and operates a battery recycling facility in Lancaster Ohio at the proposed project site, Cirba Solutions determined that expanding the existing facility was the only reasonable project alternative that could meet their goals while satisfying economic, social, and technological expectations in the grant FOA, and therefore no alternative locations were considered.

## 2.6 Summary of Environmental Consequences

Table 2 provides a summary of the environmental, cultural, and socioeconomic impacts of the No Action Alternative and the proposed project.

**Table 2. Summary of Environmental, Cultural, and Socioeconomic Impacts**

| Impact Area | No Action Alternative | | Proposed Project | |
|---|---|---|---|---|
| | Construction | Operations | Construction | Operations |
| Community Services | Negligible | Negligible | Negligible | Negligible |
| Parks and Recreation | Negligible | Negligible | Negligible | Negligible |
| Aesthetics and Visual Resources | Negligible | Negligible | Negligible | Negligible |
| Land Use | Negligible | Negligible | Negligible | Negligible |
| Socioeconomics | Negligible | Negligible | Minor (beneficial) | Minor (beneficial) |
| Environmental Justice | Negligible | Negligible | Minor (beneficial) | Minor (beneficial) |
| Wetlands and Floodplains | Negligible | Negligible | Negligible | Negligible |
| Cultural Resources | Negligible | Negligible | Negligible | Negligible |
| Air Quality | Negligible | Negligible | Minor | Minor |
| Greenhouse Gases | Negligible | Negligible | Minor (beneficial) | Minor (beneficial) |
| Noise and Vibration | Negligible | Negligible | Minor | Minor |
| Geology, Topography and Soils | Negligible | Negligible | Minor | Minor |
| Surface Water and Groundwater | Negligible | Negligible | Minor | Minor |
| Vegetation and Wildlife | Negligible | Negligible | Minor | Negligible |
| Regulated Wastes (Solid and Hazardous Wastes) | Negligible | Negligible | Minor | Minor |
| Utilities and Energy Use | Negligible | Negligible | Negligible | Negligible |
| Transportation and Traffic | Negligible | Negligible | Minor | Minor |
| Public and Occupational Health and Safety | Negligible | Negligible | Minor | Minor |

# 3. Affected Environment and Environmental Consequences

Chapter 3 provides a description of the affected environment (existing conditions) at the site, and a discussion of the environmental consequences of the No Action Alternative and the proposed project. Additionally, cumulative impacts and mitigation measures are discussed where appropriate. The methodology used to identify existing conditions and to evaluate potential impacts on the physical and human environment involved the following: review of the Environmental Questionnaires and Environmental Information Volume prepared by Cirba Solutions (Cirba Solutions 202**3**a and 202**3**b); review of documentation provided by Cirba Solutions; searches of various environmental databases; and agency consultation.

## 3.1 Resource Areas Dismissed from Further Consideration

DOE has determined that various resources would either not be affected or would sustain negligible impacts from the proposed project and do not require further evaluation. They include community services, parks and recreation, aesthetics and visual resources, and land use; therefore, these resource areas are briefly discussed in this section of the EA and will not be evaluated further.

***Community Services:*** Community services pertinent to the proposed project include schools, police, fire, and emergency medical support, all of which are provided for in Lancaster. Most of these services are located north and west of the Project site, across of U.S. Highway 22 (US-22). The nearest law enforcement headquarters is located with the Lancaster Police Department approximately 3.1 miles northwest of the site. The closest fire station is Lancaster Fire Department, located approximately 1.3 miles west of the site. The nearest emergency medical service provider is the Fairfield Medical Center, located approximately 1.8 miles west of the site.

The City of Lancaster has one pre-school, five public elementary schools, and three public high schools. The region also supports numerous private elementary and high schools. The closest early learning institution to the Project site is the Sanderson Pre-School located approximately one mile north-northwest. The City of Lancaster supports two higher education institutions: Ohio University Lancaster Campus and Daymar College Lancaster. In addition, there are 38 additional higher education institutions within 50 miles of Lancaster.

Construction crews, as well as permanent new employees, are expected to be drawn from local and regional residents and not constitute a notable permanent migration of workers and their families to the region. The additional construction staff and operational staff are not anticipated to exert an undue burden on existing community services. In addition, road closures or other impacts that would restrict or impede the movement of emergency personnel or other traffic through the region are not anticipated as part of construction and operations activities associated with the proposed project (see Section 3.2.11 for a discussion of transportation and traffic related impacts).

The increased burden on existing police, fire, emergency medical, and other community services during construction and operations of the proposed project is expected to be negligible.

***Parks and Recreation:*** The City of Lancaster maintains approximately 25 city parks and recreation facilities. The closest City recreation facility is Huffer Durdin Park located approximately 1.6 miles north of the proposed project site, across a highway and railroad. The closest National Park to the site is Wayne National Forest located approximately 22 miles south-southeast in Woods Coal Township. The nearest state park is Hocking Hills, which is located 20 mile south of the proposed project site in the city of Logan, OH. Due to the zoning and existing land use in the vicinity of the site, including heavy industrial, recreational uses in proximity to the site are limited and expansion of Cirba Solutions' facility is not expected to alter any existing recreational uses of the immediate area or vicinity.

The impact upon parks and recreation from the proposed project is anticipated to be negligible.

***Aesthetics and Visual Resources:*** The proposed project site includes Cirba Solutions' existing industrial facility, which is located on a 36.8-acre parcel within a larger 200-acre industrial park, east of downtown Lancaster, Ohio. The site is bordered by industrial neighbors on three sides, and by the Conrail Railroad to the north. The topography of the site and surrounding properties ranges from gently sloped to relatively flat, and therefore the site does not offer notable vistas or views. Impacts to identified views and vistas were determined based on an analysis of the existing quality of landscape views, the sensitivity of the view, and the anticipated relationship of the scale and massing of the proposed buildings to the existing visual environment. Although the new construction would be visible from the immediately surrounding landscape, the scale and massing of the buildings would be consistent with existing and planned buildings in the surrounding industrial area. In addition, with the increase in parking spaces planned under the proposed project, the facility would be required to install screening vegetation, which would minimize potential visual impacts to passing motorists on adjacent roadways from reflective window surfaces on parked cars (Codified Ordinances of the City of Lancaster, Ohio, Chapter 1151.10).

The impact upon aesthetics and visual resources from the proposed project is anticipated to be negligible.

***Land Use:*** As noted above, the proposed project site contains an existing industrial facility, covering approximately 30% of the property. The site is zoned as an Industrial Heavy District (IH) and prior to its purchase by Toxco (now Cirba Solutions) the property was an automotive glass company (Codified Ordinances of the City of Lancaster, Ohio, Section 1135.04). Despite historic agricultural cultivation at the site, the undeveloped portion of the property has been fallowed since 2018 and regularly mowed up to twice annually for the past five years. Plans for development of the proposed project, including maximum building height and setbacks, would be consistent with current building and land use standards for an IH District (Codified Ordinances of the City of Lancaster, Ohio, Section 1135.04).

The impact upon land use from the proposed project is anticipated to be negligible.

## 3.2 Resource Areas Considered Further

Environmental resource areas carried through for further consideration of the potential impact of Cirba Solutions' proposed project include socioeconomics, environmental justice, wetlands and floodplains, cultural resources, air quality, greenhouse gases, noise and vibration, geology, soils, and topography, surface water and groundwater, vegetation and wildlife, regulated wastes (solid and hazardous wastes), utilities and energy use, transportation and traffic, and human health and safety.

### 3.2.1 Socioeconomics

#### 3.2.1.1 Affected Environment

The City of Lancaster is located in the center of Fairfield County, Ohio, and supports a population of 40,552 residents within approximately 18.9 square miles. Lancaster is situated approximately 30 miles southeast of the state capital in Columbus, Ohio. Fairfield County is currently home to an estimated 162,898 residents, reflecting a 10% increase in population since the 2010 U.S. Census (US Census Bureau, 2023a and 2023b), with the total county labor force currently estimated at 80,700 (ODJFS, 2023). Most of the county labor force is employed within private businesses (84.4%), with the public sector (federal, state, and local governments) employing 15.1%. Fairfield County's estimated unemployment rate (3.5%) is below the state of Ohio's unemployment rate (3.9%); (US Bureau of Labor Statistics, 2023)

Education and Health Services is the single largest industry in terms of employment (27.5%) followed by trade, transportation, and utilities (21.2%); leisure and hospitality (15.4%); manufacturing (11%); and professional business services (9.6%). The remaining 15.3% of the labor force is distributed across other industry categories. While Fairfield County's economy historically included a significant manufacturing component, as a major producer of glass products, current employment within the manufacturing sector is estimated at 11% (Ohio History Connection, 2023 and US Bureau of Labor Statistics, 2023). Office and administrative support jobs are estimated to comprise the single largest occupation sector (12.3%), followed by management occupations (11.2%), sales and office work (9.9%), business and financial operations (6.6%), educational instruction and library occupations (6.2%), with all other occupations comprising 53.7% (DataUSA, 2023).

Cirba Solutions currently engages in community outreach and engagement in Lancaster, Ohio through organizations such as Lancaster Parks and Recreation, and Habitat for Humanity. Cirba Solutions is directly engaged in the community through monetary donations, supporting their employees with paid volunteer hours, supporting community education, and free battery recycling.

#### 3.2.1.2 Environmental Consequences

##### 3.2.1.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed with the proposed project in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison

between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

3.2.1.2.2 Proposed Project

3.2.1.2.2.1 *Construction*

Under the proposed project, local construction workers would be employed full time and taxes would continue to be paid on the property, therefore no adverse impacts would occur. Construction workers employed for the construction period (approximately 100 individuals) would be hired from the local population, and may be currently unemployed or underemployed, residing and paying taxes in Fairfield County or the surrounding area, with preference for contracting local companies for the work. Increased sales transactions for the purchase of materials and supplies would generate additional tax revenues for local and state governments, which would have a minor beneficial impact in Fairfield County. Secondary jobs related to increased economic activity stimulated by the proposed project may be created, including additional retail and business employment, which may through a multiplier effect yield additional sales and income tax revenues for local and state governments, also generating a minor beneficial impact.

3.2.1.2.2.2 *Operations*

The proposed project would initially create approximately 100 new FTE jobs, increasing the workforce to approximately 150 permanent jobs at full capacity. Labor requirements for the Facility are not expected to change drastically as most jobs would be in advanced manufacturing operations, which is already represented in this region. No substantial influx in population is expected, therefore the impact to housing demand and population would be expected to be negligible.

Cirba Solutions' Equity Plan for the proposed project includes development of a Community Engagement Plan organizing various existing and planned community outreach activities that support the City of Lancaster and surrounding area. To develop the plan, Cirba Solutions would meet with community leaders to identify stakeholders and avenues for engagement, targeting traditionally excluded groups. Cirba Solutions would use feedback received from community outreach to draft a community agreement, which would engage and build partnerships and allow for continued meaningful contribution to the community addressing the communities' specific concerns. The Community Engagement Plan would combine Cirba Solutions' various existing efforts including household battery recycling education, scholarship programs, and hiring from disadvantaged communities with new and expanded efforts. Expanded efforts would include Cirba Solutions' commitment to provide $100,000 in scholarships for study focusing on business, technology, science, engineering, and mathematics, emphasizing fields relevant for energy and battery related programs. Scholarship award criteria would be based on several qualifications weighted in favor of

individuals from disadvantaged communities. As a result of community engagement efforts, employment, and permanent jobs, the proposed project would be anticipated to have short-term and long-term beneficial impacts on socioeconomic conditions in Lancaster and Fairfield County.

#### 3.2.1.3 Cumulative Impacts

There is currently no forecast for a population influx to Lancaster or Fairfield County from the proposed project or from future industrial expansion within the industrial district, though expansion of neighboring industrial facilities could theoretically result in a local population shift. Despite potential for additional industrial development in the vicinity of the site, no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to socioeconomic conditions in Lancaster or Fairfield County.

#### 3.2.1.4 Proposed Mitigation Measures

No mitigation measures would be anticipated for socioeconomic factors.

### 3.2.2 Environmental Justice

President Biden established the Justice40 Initiative in Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad.* Building on Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* the Justice40 Initiative established a goal that at least 40% of the benefits of certain Federal investments, including investments in clean energy, energy efficiency, and clean transit, flow to disadvantaged communities. To assist agencies with identifying disadvantaged communities, the White House Council on Environmental Quality (CEQ) developed the Climate and Economic Justice Screening Tool (CEJST) (CEQ 2022), which identifies census tracts as disadvantaged based on consideration of environmental and socioeconomic burdens.

Secretary Granholm published a letter to DOE Stakeholders on July 25, 2022 to inform them that "DOE intends to implement the Justice40 Initiative throughout all its BIL efforts, wherever authorized by law, and within well-established DOE programs that fall within the climate and clean energy investment categories covered by Justice40." (US Department of Energy, 2022). In follow up documents, DOE has adopted eight policy priorities that govern the Department's implementation of the Justice40 Initiative.

1. Decrease energy burden in disadvantaged communities (DACs).
2. Decrease environmental exposure and burdens for DACs.
3. Increase parity in clean energy technology (e.g., solar, storage) access and adoption in DACs.
4. Increase access to low-cost capital in DACs.
5. Increase clean energy enterprise creation and contracting (MBE/DBE) in DACs.
6. Increase clean energy jobs, job pipeline, and job training for individuals from DACs.
7. Increase energy resiliency in DACs.
8. Increase energy democracy in DACs.

DOE concurrently published a list of the Department's programs covered by the Justice40 Initiative because the programs incorporate investments that can benefit disadvantaged communities (Office of Management and Budget [OMB] Memorandum 21-28 [M-21-28]). Within the Manufacturing and Energy Supply Chains Office, DOE identified the Battery Manufacturing and Recycling Grants and the Battery Material Processing Grants programs as Justice40 covered programs (Section IIAii Clean Energy and Energy Efficiency within OMB M-21-28).

Additionally, DOE developed a DAC Reporter to define and identify disadvantaged communities for the purposes of Department programs. The DAC Reporter identifies disadvantaged communities based on the cumulative burden the community faces from 36 burden indicators. The top 20% of communities within a state are designated as disadvantaged and interested parties can use the DAC Reporter to generate community-specific reports that include the results for each of the 36 burden indicators. Nationwide, 13,581 communities have been identified as disadvantaged by the DAC Reporter.

Cirba Solutions strives to increase environmental justice efforts by facilitating disadvantaged and marginalized communities' involvement in environmental decision making through incorporation of elements in Executive Order 14008. Cirba Solutions aspires to attract and maintain a diverse workforce that reflects the central Ohio region of Lancaster and Fairfield County. Goals include increased awareness and access to environmental careers in the sciences and engineering in minority and underserved communities to promote diversity in the labor workforce.

#### 3.2.2.1 Affected Environment

The proposed project is located within a census tract that was not designated as disadvantaged in either the DAC Reporter or the CEJST **(DOE, 2023 and CEQ, 2022).** The DAC Reporter ranked the cumulative burden faced by the census track as being in the top 61% of communities in the State of Ohio, well below the 80% threshold required for a community to be designated as disadvantaged. There are no census tracts within the City of Lancaster that are designated as disadvantaged by the DAC Reporter.

The CEJST identified three adjacent census tracts to the census tract occupied by the proposed project site as disadvantaged because they meet more than one burden threshold as well as the associated socioeconomic threshold (CEQ, 2022). The burden thresholds that are currently met by one or more of the five tracts include those related to climate change, human health conditions, housing conditions, and workforce development challenges from less than a high school education.

#### 3.2.2.2 Environmental Consequences

##### 3.2.2.2.1 <u>No Action Alternative</u>

It is Cirba Solutions' intent to proceed with the proposed project in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with

the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

#### 3.2.2.2.2 Proposed Project

##### 3.2.2.2.2.1 *Construction and Operations*

DOE's selection of the proposed project is consistent with the provisions of Executive Orders 12898 and 14008, aligns with DOE's eight policy priorities, and advances the DOE's progress toward the goal established by the Justice40 Initiative that at least 40% of the benefits of certain types of Federal investment flow to disadvantaged communities.

The proposed project supports DOE's stated EJ policy priority to increase clean energy jobs, the job pipeline, and job training for individuals from disadvantaged communities. As discussed in Section 3.2.1.2.2 *Socioeconomics,* Cirba Solutions expects to employ approximately 100 individuals during the construction stage and create approximately 100 new FTE jobs (increasing the workforce to approximately 150 total FTEs once fully operational). While the site is not within a disadvantaged community, Cirba Solutions is committed to continuing to promote benefits for communities in the greater Lancaster area, including that 40% of those benefits flow to local disadvantaged communities. To facilitate that process, Cirba Solutions developed an Equity Plan (Cirba, 2023a) in which they have committed to developing and executing a Community Engagement Plan reflecting community-based needs. The Community Engagement Plan would include initiatives focused on workforce development, scholarship opportunities, and good paying jobs. Cirba Solutions expects to invest up to $1,500,000 over the course of the project to support the goals of the Community Engagement Plan, delivering meaningful benefits to local disadvantaged communities.

The proposed project is anticipated to provide positive short and long-term benefits to disadvantaged communities in the local area, and therefore have a direct, beneficial long-term impact on environmental justice and equity.

### 3.2.2.3 Cumulative Impacts

Although Cirba Solutions' existing facility is in an industrial park with adjacent industrial neighbors that may potentially expand their individual operations, there are no known plans for additional industrial development in the vicinity of the proposed project and no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to environmental justice.

### 3.2.2.4 Proposed Mitigation Measures

No mitigation measures would be required for environmental justice.

### 3.2.3 Wetlands and Floodplains

#### 3.2.3.1 Affected Environment

The proposed project site includes approximately 10.9 acres of previously developed industrial facility bordered to the west and south by 25.9 acres of undeveloped, weedy uplands. Within the developed footprint, the site supports an unvegetated 0.9-acre stormwater management basin, constructed in 2010, concurrent with development of Building 295. The undeveloped portion of the site was actively cultivated in corn and soybeans until 2018, at which time the property was mowed and left to grow weedy grasses.

The National Wetlands Inventory (NWI) indicates that the site lacks mapped streams, wetlands, and other aquatic features (USFWS 2023**a**). Drainage off the property is naturally directed as sheet flow toward the south and west, and the property slopes less than four feet southwest from its highest point at the northeast corner to its lowest point at the southwest corner. The nearest surface water features within 1000-feet of the property are upland drainage culverts and stormwater swales on adjacent properties.

#### 3.2.3.2 Environmental Consequences

##### 3.2.3.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed with the proposed project in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

##### 3.2.3.2.2 Proposed Project

###### 3.2.3.2.2.1 *Construction and Operations*

The property is entirely disturbed uplands and does not contain mapped or unmapped wetlands or other water features, based upon available aerial imagery and online data sources (Google Earth, 2023 and USFWS, 2023a). A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number 39045CO258G (FEMA, 2012) and letter of map revision (LOMR) Number 18-05-0226P (FEMA, 2018) indicates the entire proposed project site is mapped within Zone X, outside the 500-year floodplain (i.e. outside the 0.2% annual probability floodplain). The LOMR is attached as Appendix 4 to this EA.

Due to the absence of regulated sensitive aquatic resources, including wetlands, waters, and floodplains within the proposed project site, construction and operations are anticipated to have negligible impacts on wetlands and floodplains.

#### 3.2.3.3 Cumulative Impacts

Although Cirba Solutions' existing facility is in an industrial park with adjacent industrial neighbors that may potentially expand their individual operations, there are no known plans for additional industrial development in the vicinity of the proposed project and no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to wetlands and floodplains.

#### 3.2.3.4 Proposed Mitigation Measures

No mitigation measures would be required for wetlands and floodplains.

### 3.2.4 Cultural Resources

#### 3.2.4.1 Affected Environment

The proposed project site lies within the cultural area of five federally recognized tribes including the Delaware Nation of Oklahoma, the Delaware Tribe of Indians, the Eastern Shawnee Tribe of Oklahoma, the Miami Tribe of Oklahoma, and the Seneca-Cayuga Nation. The nearest site listed on the National Register of Historic Places (NRHP) is the Fairfield County Children's Home, located approximately 0.75 miles northwest from the site boundary. The site **is** over 2.5 miles from the Lancaster Heritage District, which encompasses 0.21 square miles in the center of the City of Lancaster.

A portion of the proposed project site was used for agricultural purposes from at least 1938 to 2018. The northeast corner of the site, which contains the existing Facility buildings, was initially developed in the 1970's by C-E Glass for automobile glass testing and manufacturing and transferred to various other automotive glass companies until operations ceased in 1998. Toxco, Inc. (now Cirba Solutions) acquired the proposed project site from Amilite in 2000 for battery recycling purposes (Ramboll, 2021). The western and southern portions of the site continued to be leased out for agricultural purposes until 2018. In 2009 Toxco, Inc. expanded the Facility footprint through the construction and subsequent expansion of Building 295 in 2010 and 2012, respectively, with DOE grant funding.

#### 3.2.4.2 Environmental Consequences

##### 3.2.4.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed with the proposed project in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

3.2.4.2.2 Proposed Project

3.2.4.2.2.1 *Construction and Operations*

DOE initiated consultation with the Ohio **SHPO** on April 27, 2023, and initiated tribal consultation with the Delaware Nation of Oklahoma, the Delaware Tribe of Indians, the Eastern Shawnee Tribe of Oklahoma, the Miami Tribe of Oklahoma, and the Seneca-Cayuga Nation by formal letters on May 5, 2023 and May 10, 2023. **Ohio S**HPO concluded that the proposed project would have no effect on properties listed in or eligible for listing in the National Register of Historic Places, and that no future coordination would be required with **Ohio S**HPO unless the proposed project changes or if archaeological remains are discovered during the course of the proposed project. The Delaware Nation of Oklahoma also responded with a determination that the proposed project should have no adverse effect on known cultural resource sites of interest to the Delaware Nation, but that consultations with the Delaware Nation of Oklahoma should be reinitiated if the scope of the project changes or if human remains or Native American archaeological resources are inadvertently uncovered during the course of project activities. **The responses from the Ohio SHPO and Delaware Nation** are included in Appendix 2.

3.2.4.3 Cumulative Impacts

Although Cirba Solutions' existing facility is in an industrial park with adjacent industrial neighbors that may potentially expand their individual operations, there are no known plans for additional industrial development in the vicinity of the proposed project and no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to cultural resources.

3.2.4.4 Proposed Mitigation Measures

Cirba Solutions would implement a project-specific Inadvertent Discovery Plan, following guidance provided by the Ohio **SHPO**, that details the following: construction crew responsibilities for reporting in the event of a discovery of cultural material during construction; requirements to stop work; and directions for notification of local law enforcement officials (as required), appropriate Cirba Solutions personnel, **Ohio S**HPO, and the Delaware Nation of Oklahoma, the Delaware Tribe of Indians, the Eastern Shawnee Tribe of Oklahoma, the Miami Tribe of Oklahoma, and the Seneca-Cayuga Nation (in the event Tribal cultural resources or human remains are discovered during construction activities). The Inadvertent Discovery Plan is attached in Appendix 5.

### 3.2.5 Air Quality

Emissions associated with the proposed project would be subject to federal and state regulatory requirements under the Clean Air Act (CAA) and Ohio Administrative Code (OAC) 3745 which is the state implementation plan (SIP) under the federal CAA. In addition to the federal regulations promulgated under the CAA, the Ohio EPA regulates emissions at both the facility level and the emission unit level. Ohio state regulations include requirements to obtain construction and operating permits for installation and operation of potential

emissions sources, a component of which may include toxics air quality modeling, as required under OAC 3745-114-01 and defined by Ohio EPA. Cirba Solutions intends to comply with all applicable regulations of the CAA and OAC.

The CAA requires the United States Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The EPA has established NAAQS for six (6) principal pollutants, which are called "criteria pollutants": ozone ($O_3$), carbon monoxide (CO), nitrogen dioxide ($NO_2$), particulate matter (PM), sulfur dioxide ($SO_2$), and lead (Pb) (Table 3).

**Table 3. EPA National Ambient Air Quality Standards**

| Pollutant | | Primary/ Secondary | Averaging Time | Level | Form |
|---|---|---|---|---|---|
| Carbon Monoxide (CO) | | primary | 8 hours | 9 ppm | Not to be exceeded more than once per year |
| | | | 1 hour | 35 ppm | |
| Lead (Pb) | | primary and secondary | Rolling 3-month average | 0.15 µg/m$^3$ (1) | Not to be exceeded |
| Nitrogen Dioxide ($NO_2$) | | primary | 1 hour | 100 ppb | 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years |
| | | primary and secondary | 1 year | 53 ppb (2) | Annual Mean |
| Ozone ($O_3$) | | primary and secondary | 8 hours | 0.070 ppm (3) | Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years |
| Particle Pollution (PM) | $PM_{2.5}$ | primary | 1 year | 12.0 µg/m$^3$ | Annual mean, averaged over 3 years |
| | | secondary | 1 year | 15.0 µg/m$^3$ | Annual mean, averaged over 3 years |
| | | primary and secondary | 24 hours | 35 µg/m$^3$ | 98th percentile, averaged over 3 years |
| | $PM_{10}$ | primary and secondary | 24 hours | 150 µg/m$^3$ | Not to be exceeded more than once per year on average over 3 years |
| Sulfur Dioxide ($SO_2$) | | primary | 1 hour | 75 ppb (4) | 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years |
| | | secondary | 3 hours | 0.5 ppm | Not to be exceeded more than once per year |

Source: https://www.epa.gov/criteria-air-pollutants/naaqs-table
Notes:

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 μg/m3 as a calendar quarter average) also remain in effect.
(2) The level of the annual NO2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.
(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O3 standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O3 standards.
(4) The previous SO2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO2 standards or is not meeting the requirements of a State Implementation Plan (SIP) call under the previous SO2 standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

#### 3.2.5.1 Affected Environment

Lancaster, Fairfield County, Ohio has been designated by the U.S. EPA as in "attainment" or "unclassifiable" for designated criteria pollutants (ozone [O3], carbon monoxide [CO], nitrogen dioxide [NO2], particulate matter [PM], sulfur dioxide [SO2], and lead [Pb]). As such, the air quality in Fairfield County meets the federal National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. The area surrounding the proposed project site is primarily industrial with limited remaining agricultural operations to the north (see Section 3.1 *Land Use* and Section 3.2.10 *Vegetation and Wildlife*). The nearest sensitive receptors (sources of human populations) are scattered residences, the closest of which is roughly 0.13 miles north of the site along Quarry Road SE. The nearest residential neighborhood is located over 0.2 miles north of the site, across a divided 4-lane highway (US-22). Huffer Durdin City Park is located over 1.3 miles northwest of the site, across both US-22 and State Route 188. Sanderson Preschool is located 0.85 miles north of the site, on the far side of US-22. Other sensitive receptors (e.g., primary schools, hospitals, etc.) are not located in proximity to the proposed project site (described in greater detail in Section 3.1 *Community Services*).

Cirba Solutions' existing facility is currently a synthetic minor source of air emissions with respect to the federal Title V permitting program and the federal New Source Review (NSR) program because facility-wide potential emissions of criteria pollutants and hazardous air pollutants (HAPs) are less than the applicable thresholds for major sources. The facility is also classified as an "area" (or minor) source with respect to the federal National Emission Standards for Hazardous Air Pollutants (NEHAP) because facility-wide potential emissions of HAPs are below 25 tons per year (tpy) for all combined HAPs and below 10 tpy for a single HAP. To comply with Ohio EPA requirements for minor sources of air emissions, Cirba Solutions currently operates under active Permits-to-Install and Operate (PTIOs) Nos. P0127978, P0115841, P0121976 and P0116028, each of which expire on December 4, 2023

with the exception of P0132776 which expires on January 6, 2033. Operations authorized under the current PTIOs include the Li-B line with associated venturi scrubber and packed-bed scrubber, six retort ovens and associated equipment, and the Pilot LIB recycling line.

#### 3.2.5.2 Environmental Consequences

##### 3.2.5.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed with the proposed project in the absence of DOE funding If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

##### 3.2.5.2.2 Proposed Project

###### 3.2.5.2.2.1 *Construction*

Minor, temporary, intermittent air emissions are anticipated during the two-year project construction period which could potentially have a short-term, minor adverse impact on air quality. Tailpipe emissions are anticipated from the equipment used to construct the proposed facilities, including during site grading and levelling, during construction, and through delivery of construction materials and supplies by road. This equipment would intermittently emit quantities of five criteria air pollutants: CO, $NO_X$, $SO_2$, $PM_{10}$, Pb, and VOC. As such, in addition to tailpipe emissions, surface soil disturbances during excavation and grading could result in generation of fugitive dust. Fugitive dust could potentially affect both public health and the environment. The severity of its effects on health depends on the size and composition of the particulate matter. Typical effects are persistent coughs, respiratory distress, eye irritation, asthma, etc. Cirba Solutions construction contractor would implement best management practices to minimize generation of dust during construction activities.

###### 3.2.5.2.2.2 *Operations*

The proposed project's operational impacts to air quality are expected to be minor, direct, and long term. Operations would include new Lithium-Ion Batter Recycling Lines (Li-B2) in Building 295, Building 395, and Building Complex 495 and therefore require a new PTIO application to authorize the installation and operation of the proposed emission units.

According to emission estimates for current operations and anticipated new emissions associated with the proposed project, the Facility is expected to qualify as a major source subject to Title V permitting; however, the facility would not be considered a major source with respect to the New Source Review Program under the CAA. To control emissions from operations over the 30-year operating life the Facility would not operate recycling processes

without associated emissions controls. Each LiB line would have an associated Regenerative Thermal Oxidizer (RTO) unit and scrubbers to destroy VOC and HAP emissions and minimize emissions during operations. The Title V permit for the proposed project would address increased emissions from operations associated with entire expanded facility, by setting acceptable emissions limits and increasing the monitoring and reporting requirements at the Facility to demonstrate that emissions control devices are continuously operating.

Cirba Solutions conducted toxics air quality modeling, following criteria established in Ohio EPA Engineering Guides, to examine air quality impacts associated with potential Facility-related-emissions of methanol, nickel, cobalt, manganese, copper and aluminum from expanded operations in Building 295. Cirba Solutions performed modeling using AERSCREEN, and the model output showed that the maximum modeled ground-level concentration of each air toxic did not exceed Maximum Acceptable Ground Level Concentration (MAGLC). Cirba Solutions submitted PTIO application number A0073941 to the Ohio EPA on March 27, 2023 and is awaiting approval.

Air toxics modeling for operations in Building 395 and Building Complex 495 would be completed as part of the permitting process and based upon modeling methodology from similar processes within Building 295. Additional controls, beyond those currently proposed, are not anticipated but would be implemented, if deemed necessary by Ohio EPA.

#### 3.2.5.3 Cumulative Impacts

Although Cirba Solutions' existing facility is in an industrial park with adjacent industrial neighbors that may potentially expand their individual operations, there are no known plans for additional industrial development in the vicinity of the proposed project, and no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to air quality.

#### 3.2.5.4 Proposed Mitigation Measures

Numerous mitigation measures and standard procedures related to air quality would be employed during construction and operation of the proposed project. These are consistent with existing PTIO permits, which incorporate applicable requirements of the Clean Air Act and state regulations, including those related to operations and specific processes, installation of source control equipment, emissions testing requirements, and monitoring and reporting protocols.

### 3.2.6 Greenhouse Gases

Greenhouse gases (GHGs) are of concern for climate change, and include water vapor, carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), sulfur hexafluoride ($SF_6$), and several hydro and per-chlorofluorocarbons.

The CEQ issued interim guidance on January 9, 2023, relevant to the consideration of GHGs and climate change effects of proposed actions under NEPA (CEQ, 2023). The guidance

advises federal agencies to consider "(1) the potential effects of a proposed action on climate change, including by assessing both GHG emissions and reductions from the proposed action; and (2) the effects of climate change on a proposed action and its environmental impacts."

#### 3.2.6.1 Affected Environment

Rising global temperatures are associated with weather and climate shifts driving environmental and human impacts across a range of spatiotemporal scales and intensities (IPCC, 2013). The Climate Reality Project identified the following climate-related environmental and public health hazards for Ohio: rising temperatures, intensifying drought, intensifying precipitation events, and flooding (CRP, 2020). While Fairfield County and the city of Lancaster are expected to experience GHG-driven climate change impacts generally consistent with Intergovernmental Panel on Climate Change (IPCC) forecasts, the type, frequency, and intensity of these impacts are not forecast for the county or the region specifically.

#### 3.2.6.2 Environmental Consequences

##### 3.2.6.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed with the proposed project in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

##### 3.2.6.2.2 Proposed Project

###### 3.2.6.2.2.1 *Construction*

Construction of the proposed project would result in temporary GHG emissions from sources including vehicle transportation of equipment and materials, use of construction machinery, and curing of concrete. Use of electricity during construction may indirectly increase GHG emissions depending on electric generation sources/methods employed by local utilities serving the site. Current online resources provide very general estimates for order of magnitude of GHG emissions from construction projects, based on input of known project parameters. The site http://buildcarbonneutral.org provides these rough estimates using the following basic input parameters: area of disturbance planned, primary structural material to be used, region within the US, prior land use, and current vegetation type (or unvegetated). Estimates are given as net embodied carbon from construction activities, where "embodied carbon" includes emissions from raw material extraction, transportation of materials, materials wasted, building operations and maintenance, and the emissions a building continues to produce after it is no longer in use. Build Carbon Neutral estimates that

construction, including development of 20.8 acres of ground currently occupied by "short grass", would produce net emissions of 23,892 metric tons of embedded carbon (2023).

3.2.6.2.2.2 *Operations*

Facility operations would include two Regenerative Thermal Oxidizers (RTO), a hot oil heater for distillation, heating across the facility, a boiler, propane powered mobile equipment, and a battery shredder and hammermill. Plans for anticipated Facility operations would include purchase of roughly 4,800,000 kilowatt hours per year (kWh/yr) of electricity which would contribute to the proposed project's GHG emissions. The quantity of emissions that are associated with the purchased electricity would vary year to year based on electric generation sources and methods employed by local utilities serving the site. Maximum $CO_2$ emissions from purchased electricity for operations, presuming all electricity is generated from fossil fuel sources, would be 2,076 metric tons of $CO_2$ equivalent per year, which equates to approximately 62,000 metric tons of $CO_2$ equivalent during the 30-year operating life of the Facility.

GHG emission reductions would be realized through the extraction of battery-grade raw materials (from spent LiBs) within the United States rather than importing them from another country. The materials would be used as precursors to the domestic manufacture of lithium-ion batteries used in EVs. Cirba Solutions estimates that production levels from proposed expansion of their Facility would produce sufficient raw material to create lithium-ion batteries for 100,000 EVs annually. It is expected that these EVs would primarily replace conventional gasoline and diesel-fueled vehicles, resulting in a proportional reduction in GHG emissions (primarily carbon dioxide [$CO_2$]).

The EPA estimates that a typical passenger vehicle emits approximately 4.6 metric tons of $CO_2$ annually while EV operation produces no emissions (EPA, 2018). Replacing 100,000 conventionally fueled vehicles with EVs would eliminate an estimated 460,000 metric tons of $CO_2$ annually for every year that an EV displaced a comparable fossil fuel vehicle. Over the course of the first five years of operation, batteries produced using material generated at the proposed project would be expected to eliminate 6,900,000 metric tons of $CO_2$ emissions. Over the 30-year operating life of the Facility, the proposed project would be expected to eliminate a total of 41,400,000 metric tons of $CO_2$ emissions. **The $CO_2$ emissions figures above assume that the number of electric vehicles on the road made possible from Cirba's facility would be "additive" each year, and that each of those vehicles would remain on the road for five years. 100,000 new electric vehicles would be produced each year and added to the number of electric vehicles still on the road from prior years. The $CO_2$ emissions calculation then also becomes additive; each year will contribute 460,000 metric tons of $CO_2$ elimination from the cars produced in a given year, plus 460,000 for each year in the cycle preceding it, representing those cars still on the road. The $CO_2$ calculation for the first five years then yields:**

**Year 1: 460,000 metric tons $CO_2$ eliminated (from 100,000 EVs) +**
**Year 2: 920,000 metric tons $CO_2$ eliminated (from 200,000 EVs) +**
**Year 3: 1,380,000 metric tons $CO_2$ eliminated (from 300,000 EVs) +**
**Year 4: 1,840,000 metric tons $CO_2$ eliminated (from 400,000 EVs) +**
**Year 5: 2,300,000 metric tons $CO_2$ eliminated (from 500,000 EVs) =**
**Total: 6,900,000 metric tons $CO_2$ eliminated overall during that five year period**

**The 41,400,000 metric tons figure for the 30-year operating life of the Facility accounts for attrition in the EV population over time based on an average vehicle lifespan of five years.**

This emissions reduction would be expected to far exceed any emissions anticipated from construction and operations of the proposed project during its operational lifetime; therefore, GHG emissions and associated impacts deriving from Facility operations would be considered minor.

#### 3.2.6.3 Cumulative Impacts

The proposed project would incur a net-positive, long-term impact to global climate and GHG emissions through its contributions to decarbonizing U.S. transportation which would markedly outweigh its GHG emissions. As noted above, within the first five years of operation, the proposed project is expected to cause a reduction in carbon dioxide emissions totaling 6,900,000 metric tons. In general, the potential benefits associated with reducing $CO_2$ emissions would support a reduction in GHG concentrations and reduce the associated climate change impacts (e.g., increases in atmospheric temperature, changes in precipitation, increases in the frequency and intensity of extreme weather events, rising sea levels).

#### 3.2.6.4 Proposed Mitigation Measures

Market displacement of gasoline and diesel-powered vehicles through battery production for U.S. EV manufacture is expected to realize GHG emissions reductions greater than GHG emissions from Facility operations. Therefore, the impact to GHG emissions from this project is net-positive, and no mitigation measures are proposed.

### 3.2.7 Noise and Vibration

#### 3.2.7.1 Affected Environment

As described above, the proposed project site is bordered on all sides by existing industrial development and rail corridor. Existing noise and vibration sources within the site vicinity include the Conrail line, local transportation on primary and secondary roads, and various industrial activities surrounding the site. The nearest sensitive receptors are rural residences, the closest of which is located roughly 0.2 miles north of the proposed project boundary, across the railroad tracks, on Quarry Road SE. The nearest residential neighborhood to the site is also located to the north, and at its closest point, the neighborhood is roughly 0.4 miles northeast of the existing Facility, near the intersection of US-22 and Lynwood Lane. The

City of Lancaster's zoning code does not contain provisions related to allowable noise thresholds during constructions or industrial operations.

### 3.2.7.2 Environmental Consequences

#### 3.2.7.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs**.**

#### 3.2.7.2.2 Proposed Project

##### 3.2.7.2.2.1 *Construction*

Short-term but measurable adverse minor impacts to noise levels may occur during the construction phase of the proposed project, associated with site grading and levelling, building construction, installation of Facility equipment, and use of heavy machinery during construction. Typical noise levels from comparable construction sites would be expected to be within the range of 80 to 90 dBA decibels, at a distance of 50 feet (Table 4), which is consistent with current proposed project plans.

**Table 4. Estimated Construction Noise Levels at 50-feet from Source**

| Construction phase | dBA $L_{eq}$ |
|---|---|
| Ground Clearing | 84 |
| Excavation, Grading | 89 |
| Foundations | 78 |
| Structural | 85 |
| Finishing | 89 |

Table Source: (Harris, 1998)

Construction noise and vibration would primarily be limited to the immediate vicinity of the proposed project site and would be short-term and intermittent. The location of construction is at a sufficient distance from the nearest sensitive receptors such that noise and vibration impacts are anticipated to remain minor, though it is possible that nearby office workers at adjacent facilities may be temporarily disturbed by the construction noise, and intermittent noise may be detectable by the nearest residents. Construction is expected to last for approximately 24 months.

Although construction-related noise effects would be minor, contractors would limit construction to occur primarily during normal weekday business hours and would properly maintain construction equipment mufflers. The effects on construction personnel would be

limited by requiring all personnel wear adequate personal hearing protection. Limiting worker exposure and providing adequate personal hearing protection would promote compliance with federal health and safety regulations.

##### 3.2.7.2.2.2 *Operations*

The proposed project would result in a minor, long-term increase in noise as an average increase in ambient noise within the decibel range of existing, adjacent activities. Primary noise sources during operations are anticipated from industrial activities within enclosed facility structures which would have limited impacts on sensitive receptors due to strict internal facility compliance with OSHA standards for employees, and from truck and employee-vehicle traffic accessing the Facility. Heating and ventilation would be installed externally on facility structures, with small contributions to low-decibel ambient noise. Due to the expected hiring of approximately 100 new full-time employees, increasing the full-time workforce to 150 employees during operations at the Facility, there is expected to be a proportional increase in commuter vehicle noise on Quarry Road SE.

#### 3.2.7.3 Cumulative Impacts

As the Facility would be located within an industrial area, any increase in ambient noise levels resulting from operations of the proposed project would be minor, with maximum decibel levels anticipated to remain low. Therefore, despite potential additional industrial development in the vicinity of the Facility, no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse noise and vibration impacts.

#### 3.2.7.4 Proposed Mitigation Measures

No mitigation measures for noise and vibration are proposed at this time.

### 3.2.8 Geology, Topography and Soils

#### 3.2.8.1 Affected Environment

The Project site is located on the western edge of a formerly glaciated portion of the Allegheny Plateau, underlain primarily by sandstone and shale bedrock formations. The plateau experienced repeated cycles of glaciation from Illinoian-age, and to a lesser extent the Wisconsin-age glaciers, with isostatic uplift during interglacial periods. Glacial processes deposited multiple strata of diamict and outwash within periglacial landforms that were subsequently reworked by alluvial, colluvial, and aeolian process following late Wisconsinan glacial retreat. The current surrounding landscape includes soils and substrata of various lithologies and densities within a land surface of multiple features and markings from a variety of natural events (Stout, 1938).

The Facility is on the western edge of an area in southeastern Ohio containing multiple oil and gas wells. The nearest producing well to the site is located approximately 1.6 miles east. The nearest mineral resource location is a sand and gravel extraction site approximately two miles southeast of the Facility. Coal is a geological resource found in southeastern Ohio, but

Fairfield County is not among the counties listed by Ohio Department of Natural Resources as having available coal resources (ODNR, 2023).

The building site for this project contains soil designated as Patton silty clay loam. Poorly drained soil derived from Pleistocene glaciolacustrine deposits (USDA, 2023). Soils of this type are generally found in depressions; left by former proglacial lakes. Slopes within the proposed project site boundary range from 0% to 2%. **(National Cooperative Soil Survey, 2011).**

There were three historic, but unmeasured, earthquakes with epicenters in Fairfield County. The dates and epicenter locations relative to the Facility were 1870 (approximately 2 miles west), 1848 (approximately 3.7 miles) south-southeast), and 1965 (approximately 4.6 miles south-southeast) (ODNR, 2023). The local area is within seismic zone 1, the second lowest seismic risk zone defined by the Uniform Building Code, which has no additional enforceable earthquake safety requirements for structural design.

#### 3.2.8.1 Environmental Consequences

##### 3.2.8.1.1 No Action Alternative

It is Cirba Solutions' intent to proceed in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

##### 3.2.8.1.2 Proposed Project

###### 3.2.8.1.2.1 *Construction and Operations*

Impacts to geology, soils, and topography are anticipated to be direct, long term, and minor. Proposed construction is limited to surface and near-surface activity that not anticipated to affect minerals and deeper geological strata. Seismic activity in this region is negligible and would be adequately addressed through compliance with local building codes.

Based on past use of the property and results of previous site investigations, there is no indication that constituents of concern are present in the soil at the proposed project site, therefore, it would not be anticipated that planned activities during construction and operations (e.g., site grading, building construction, and facility operations) would inadvertently accelerate the migration of such constituents across the site. Grading and leveling activities would be anticipated to occur across 20.8 acres of the site and would redistribute soils to accommodate planned building foundations and paved roadway. Soil loss and erosion are the major factors for consideration and management during this project, and best management practices would be implemented to effectively prevent effects to soil resources. These include: stormwater training for onsite personnel, use of erosion control

blankets where soil would otherwise be exposed, avoidance of excessive soil stockpiling where soil is exposed to wind and rain, a sediment settling basin as part of the stormwater and erosion runoff control program, use of water and dust palliatives on soils that are temporarily exposed to erosive elements, and proper use of temporary or permanent landscaping to hold soils in place and prevent unwanted soil movement.

#### 3.2.8.2 Cumulative Impacts

Although Cirba Solutions' existing facility is in an industrial park with adjacent industrial neighbors that may potentially expand their individual operations, there are no known plans for additional industrial development in the vicinity of the proposed project, and no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to geology, topography, and soils.

#### 3.2.8.3 Proposed Mitigation Measures

Potential for future impacts to soils would be mitigated throughout the life of the proposed project through the implementation of stormwater management procedures and a facility monitoring and inspection program. Cirba Solutions would obtain authorization under the Ohio EPA General Permit for Storm Water Discharges Associated with Construction Activity under the National Pollutant Discharge Elimination System (NPDES Permit No. OHC000005), and following construction but prior to operation, Cirba Solutions would file a Notice of Intent for authorization under the Ohio NPDES Permit for Stormwater Discharges Associated with Industrial Activities (Permit No. OH000007). This permit prohibits unauthorized discharges to surface water during operations and incorporates the requirements of a facility-specific Stormwater Pollution Prevention Plan (SWPPP) and erosion control measures, as well as other sitewide best management practices (BMPs).

### 3.2.9 Surface Water and Groundwater

#### 3.2.9.1 Affected Environment

##### 3.2.9.1.1 Surface Water

The proposed project site is located within the Hocking River watershed which drains approximately 1,197 square miles from Central Ohio to the Ohio River (Ohio EPA, 2023). A tributary called Pleasant Run flows within 0.4 miles of the site at its closest point, flowing south towards its terminus at the Hocking River. The closest lake to the project site lies approximately 1.5 miles to the northwest.

Cirba Solutions discharges 8,760 gallons per day (gpd) of sanitary and process wastewaters (from the existing scrubber and battery line operations) to the City of Lancaster's publicly owned treatment works (POTW), Lawrence Street Water Pollution Control Facility (LSWPCF), as authorized by pretreatment permits P-101-LWPCD and P-109-LWPCD (City of Lancaster, 2021a and 2021b). The City has two water treatment plants with a combined design capacity of 17 million gallons per day (MGD) (Ohio EPA 2022), and the city estimates the water treatment plant demand is currently 4 MGD. Certain process wastewaters receive

pretreatment in Building 295 (neutralization and filtration) prior to release to the POTW, which then treats these wastewaters and discharges treated waters to the Hocking River, as authorized under National Pollutant Discharge Elimination System permit (NPDES Permit No. OH0026026). Additional inputs to surface water at the proposed project site include direct precipitation runoff.

The site is approximately 30.5% impervious surface, with stormwater runoff directed to a stormwater management basin (approximately 0.86-acre) which directs overflow away from the existing Facility in a south and westerly direction towards Pleasant Run, through offsite drainage culverts and storm water swales (Cirba, 2023b).

3.2.9.1.2 Ground Water

There are no known wells on the proposed project Site. Groundwater depth in the area ranges from 35 feet to more than 235 feet (Cirba, 2023b). According to the Ohio EPA, nearly half of all cities, villages, schools, business, and industries in Ohio depend on ground water for drinking, processing, and irrigation. Average precipitation in Ohio ranges between 30 to 44 inches per year (increasing from northwest to southeast). Infiltration of a small portion of this precipitation (3 to 16 inches) recharges the aquifers (Ohio EPA 2015).

The City of Lancaster receives drinking water from the Hocking River Valley Aquifer by 16 separate wells (City of Lancaster, 2023). The City of Lancaster has two Wellhead Protection Zones for their Miller Park Wellfield; the proposed project site is outside of these zones (City of Lancaster, 2008).

3.2.9.2 Environmental Consequences

3.2.9.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be essentially identical to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

3.2.9.2.2 Proposed Project

3.2.9.2.3 Surface Water

3.2.9.2.3.1 *Construction*

Construction of the proposed project would have a minor, temporary, indirect impact on surface waters, from direct run-off during rain events. Potential impacts to surface waters from direct runoff would be minimized through implementation of a SWPPP and BMPs, required by the Ohio EPA General Permit for Stormwater Discharges Associated with

Construction Activities (Permit number OHC000006) under which Cirba Solutions would obtain coverage prior to ground disturbance activities associated with construction. Cirba Solutions would also request approval from the City of Lancaster for an erosion and sediment control plan detailed in the City of Lancaster Stormwater Design Manual, as required for site plan approval by the City of Lancaster (2023) further minimizing impacts to surface waters from runoff.

#### 3.2.9.2.3.2 *Operation*

Operation of the proposed project would include increased production of wastewater, which would have direct, minor long-term impacts on surface waters. Approximately 115,295 gpd of additional process and sanitary wastewater would be routed to the LSWPCF POTW, treated, and then discharged to the Hocking River throughout the 30-year operating life of the proposed project. Operations would contribute additional discharge to POTW that represents a 1.2 percent increase from the current average municipal daily discharge to the POTW (10 MGD; [City of Lancaster, 2023]). Cirba Solutions' anticipated discharge to the POTW would meet the requirements of the City of Lancaster Wastewater Pretreatment Code of Ordinances and anticipated pretreatment permit requirements. Cirba Solutions would also continue to pre-treat certain process wastewaters prior to discharge, using the existing facility wastewater pretreatment system, to further ensure discharge requirements are met. Because all process water would be discharged to the POTW, and effluent discharged from the POTW must meet water quality criteria set out in NPDES Permit No. OH0026026, negligible impacts to the Hocking River would be anticipated from proposed project operations.

The proposed project includes the development of up to 20.78 acres of new impervious surface which could increase production of surface runoff during precipitation events. Cirba Solutions is currently preparing a SWPPP, as required in the application for coverage under the Ohio EPA Industrial Stormwater Multi-Sector General Permit (MSGP) (Permit Number OHR000007). Cirba Solutions will submit a full application for coverage under Permit Number OHR000007 for anticipated stormwater runoff from industrial activities well in advance of operations that have the potential to impact stormwater. As part of the permit, Cirba Solutions would implement best management practices (BMPs), notably operation of three stormwater management basins. Cirba Solutions intends to modify the existing stormwater management basin at the site and construct two new stormwater management basins to control anticipated runoff at the Facility (Table 5). All three ponds would be designed to meet design standards published in the City of Lancaster Stormwater Design Manual (City of Lancaster, 2003).

**Table 5. Stormwater Management Basins Planned for the Proposed Project**

| Pond | Origin | Size (square feet) | Depth (feet) |
|---|---|---|---|
| 1 | (Existing) | 30,200 | 10 |
| 2 | (New) | 22,400 | 6 |
| 3 | (New) | 30,000 | 6 |

Stormwater overflow from the stormwater management basins would be anticipated to flow south and west from southwest corner of the site to an unnamed tributary to Pleasant Run, via offsite drainage culverts and stormwater swales.

#### 3.2.9.2.4 Groundwater

##### 3.2.9.2.4.1 *Construction*

The impact of proposed project construction on groundwater would be negligible. No discharges to land are anticipated during construction, and stormwater discharges would comply with the requirements of the Ohio EPA General Permit for Stormwater Discharges Associated with Construction Activities (Permit number OHC000006) under which Cirba Solutions intends to apply for coverage. Finally, Cirba Solutions would develop a spill prevention and response plan designed to prevent any constituents that might be spilled from infiltrating the soil and reaching groundwater.

##### 3.2.9.2.4.2 *Operation*

The expanded facility is expected to operate 24-hours per day, 365 days per year. Operations would require approximately 332,266 gpd of additional water for process water needs and employee use. Water would be supplied by the City of Lancaster, which obtains water via wells from the Hocking River Valley Aquifer. Based upon existing POTW capacity and demand, water requirements associated with operation of the proposed project would consume approximately 2.6 percent of the remaining available water treatment design capacity. To minimize the quantity of groundwater resources required, Cirba Solutions plans to install cooling towers for the new buildings, which would reduce daily water demand by 44,640 gpd, minimizing Cirba Solutions' water demand through on-site recycling and re-use. Given the low potential for discharges to reach groundwater and the limited increase in groundwater resources that Cirba Solutions' water requirements represent in terms of the City's available water capacity, proposed project operations would have a minor, long term, direct impact on groundwater resources.

### 3.2.9.3 Cumulative Impacts

Although Cirba Solutions' existing facility is in an industrial park with adjacent industrial neighbors that may potentially expand their individual operations, there are no known plans for additional industrial development in the vicinity of the proposed project, and no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to surface waters and groundwater resources.

### 3.2.9.4 Proposed Mitigation Measures

No mitigation measures are proposed for surface water or groundwater.

### 3.2.10 Vegetation and Wildlife

#### 3.2.10.1 Affected Environment

The proposed project site contains developed impervious surface as well as fallow, undeveloped land. Through 2018, the undeveloped land contained soybean and corn crops; however, it was mowed in 2020 and subsequently recolonized in weedy grass and forb species (See Section 3.1, *Land Use*). For listed species, preliminary desktop analysis including the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) query identified habitat potential for the Indiana bat (*Myotis sodalis*), the northern long-eared bat (*Myotis septentrionalis*), and the tricolored bat (*Perimyotis subflavus*) in the vicinity of the proposed project site. No critical habitats were identified within the site boundary (USFWS, 2023**b**).

##### 3.2.10.1.1 Vegetation

Vegetation within proposed project site is predominantly composed of weedy grasses and flowering plants, covering 24.92 acres of undeveloped land, and limited landscaped areas around the existing facility buildings. The site also contains a single copse of deciduous woody sapling stems located adjacent to southwest corner of the fence line and covering approximately 1,000 square feet. The stems are estimated at less than two-inches in diameter-at-breast height (DBH) and estimated to stand between 8 and 15-feet tall. The proposed project site also contains three mature planted white pine (*Pinus strobus*) trees located in the northeast corner, adjacent to an offsite strip of vegetation lining the Conrail railroad berm.

##### 3.2.10.1.2 Wildlife

Within the Project site, limited suitable habitat for listed threatened and endangered species may be present (three white pine trees). Based upon the absence of native plant communities and the absence of other trees large enough to support roosting and foraging requirements of the bat species with potential to occur, no other suitable habitat is anticipated.

#### 3.2.10.2 Environmental Consequences

##### 3.2.10.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

3.2.10.2.2 Proposed Project

3.2.10.2.3 Vegetation

3.2.10.2.3.1 *Construction*

Impacts to vegetation from proposed project construction are anticipated to be direct, minor and long-term. Construction would include the permanent removal of approximately 20.8 acres of non-native grasses and woody species which colonized the site following the termination of agricultural activities after 2018 and offer limited ecological value for native plants and wildlife. The pine trees in the northeast corner of the site would not be impacted by construction activities, as they are outside the construction footprint and buffered from existing paved roadway by grass. Approximately 4.25 acres of permeable soils would remain at the completion of construction, and it would be re-seeded and stabilized with grasses or planted with screening vegetation, consistent with Lancaster Zoning requirements for screening vegetation around public streets and the perimeter of parking areas (See Section 3.1 *Aesthetics and Visual Resources*). The installation of screening vegetation would have a beneficial impact on vegetation resources by increasing the number and diversity of trees and shrubs at the site following construction. Grading and site development during construction would cause localized removal of topsoil and reduce the extent of vegetation at the site; however, the quality of this topsoil is diminished after years of intensive agricultural cultivation and the magnitude of this loss is small when compared to the extent of vegetated land in the vicinity of the Project Site.

3.2.10.2.3.2 *Operations*

Operations of the proposed project are not anticipated to create any additional impacts to vegetation.

3.2.10.2.4 Wildlife

3.2.10.2.4.1 *Construction*

Impacts to listed endangered or threatened species or designated critical habitat from the proposed project are anticipated to be negligible. No federally listed endangered or threatened species have been observed or documented on the site, nor does the site contain designated critical habitat for any listed species. While the desktop analysis and report generated from a query of the USFWS IPaC tool (Appendix 2) identified potential for as many as three listed species of bat within or in proximity to the site, the three trees with potential to support bat habitat would not be impacted or disturbed during proposed project construction or operations. DOE initiated consultation with the USFWS - Ohio Ecological Services Field office via letter on May 24, 2023, and the USFWS responded to DOE's request for consultation on May 25, 2023, stating "due to project type, size, and location we do not anticipate adverse effects to federally endangered, threatened, or proposed species or designated critical habitat" (USFWS 2023**c**). Copies of the correspondence between DOE and the USFWS are provided in Appendix 2.

3.2.10.2.4.2 *Operations*

Operations of the proposed project are not anticipated to create any additional impacts to wildlife.

3.2.10.3 Cumulative Impacts

Although additional development of adjacent industrial properties could foreseeably occur, the type and extent of impacts to vegetation and habitat that would result are not reasonably predictable due to the unknown nature of any plans by existing or future tenants. To the extent any potential impacts were reasonably foreseeable, existing industrial neighbors would be subject to the Endangered Species Act, including prohibitions on unauthorized "take" (as applicable) of a listed species and on the destruction or adverse modification of critical habitat contained therein. No reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to vegetation and wildlife.

3.2.10.4 Proposed Mitigation Measures

As noted, Cirba Solutions intends to mitigate for losses of vegetation and wildlife habitat resources by re-seeding unpaved portions of the site that have been disturbed during construction and by planting screening vegetation around public streets and the perimeter of parking areas, consistent with conditions in the City of Lancaster zoning ordinances.

### 3.2.11 Regulated Waste (Solid and Hazardous Wastes)

The Ohio Environmental Protection Agency (OEPA) has been authorized by the USEPA to implement and regulate a Resource Conservation and Recovery Act (RCRA) hazardous

waste management program[1]. Cirba Solutions' existing facility is registered as a large quantity generator (LQG) of hazardous waste and a large quantity handler (LQH) of universal waste consisting of batteries and lamps. The facility is permitted as a hazardous waste treatment storage and disposal facility (TSDF) under USEPA ID OHD 071654 958, an Ohio Hazardous Waste Facility Installation and Operation Permit issued by the Ohio Environmental Protection Agency (OEPA).

#### 3.2.11.1 Affected Environment

The existing Facility's TSDF activities include accepting shipments from offsite sources of battery related waste and hazardous waste in the form of industrial, automotive, and household batteries and battery components for recycling and treatment onsite. These raw materials are essential inputs to Cirba's battery identification, collection, consolidation, and recycling operation. Cirba Solutions receives batteries in the form of cells, modules, and packs. Cells and modules are currently and would continue to be fed directly into the processing lines. However, packs require disassembly prior to processing. The packs have a metal cover that that is removed and sent for scrap metal recycling along with any bolts, nuts, rivets, and rods. The packs also contain a Battery Management System (BMS) that is removed, and the copper wire and plastic are recycled. While Cirba Solutions attempts to recycle every part of the battery there are times when the design of the battery may fuse two types of plastic or inherently be designed in such a way that makes recycling unfeasible. In these instances, ancillary parts may have to be landfilled. Any constituent deemed unrecyclable would be continuously re-evaluated for market changes that would enable recycling. Further, as an R2 & RIOS certified entity, Cirba Solutions is required to demonstrate that all wastes streams are continually evaluated for emerging recycling avenues. Some of the received materials may contain characteristic waste codes D001 through D011 and could be identified as hazardous wastes; while some of the materials may not be considered hazardous waste upon receipt or after recycling (e.g., scrap metals, non-regulated/excluded/exempt solid wastes, and universal wastes). Cirba Solutions' existing facility contains approximately 9 solid waste management units on-site. Existing units are located inside the facility; and battery handling areas and waste storage areas are located on impermeable surfaces (coated with a special coating material), routinely inspected for any deterioration.

The facility maintains a RCRA Part B Ohio Hazardous Waste Facility Installation and Operation Permit, issued on March 28, 2018, and valid until November 14, 2027. In January of 2019 a permit modification was approved by OEPA to increase the facility's container storage capacity to 200,000 pounds from 100,000 pounds and decrease the permitted container storage capacity in building 265 from 5,900,000 pounds to 5,800,800 pounds. In 2020, the facility submitted a Class 2 modification request for reducing frequency of

[1] Ohio initially received final authorization on June 28, 1989, effective June 30, 1989 (54 FR 27170, June 28, 1989) to implement the RCRA hazardous waste management program. Subsequently the EPA granted authorization for changes to the Ohio program effective June 7, 1991 (56 FR 14203, April 8, 1991) as corrected June 19, 1991, effective August 19, 1991 (56 FR 28088); effective September 25, 1995 (60 FR 38502. July 27, 1995); effective December 23, 1996 (61 FR 54950, October 23, 1996); effective January 24, 2003 (68 FR 3429, January 24, 2003); effective January 20, 2006 (71 FR 3220, January 20, 2006); effective October 29, 2007 (72 FR 61063, October 29, 2007); effective March 19, 2012 (77 FR 25966, March 19, 2012), and effective February 12, 2018 (83 FR 5948, February 12, 2018).

inspection. In 2022, the facility submitted a Class 1 modification to update the facility maps and add a contingency plan quick reference guide for emergency responder reference. The facility has received no formal compliance violations of state or federal regulations for hazardous waste reporting, management, and disposal; according to public records of OEPA facility routine compliance audits and inspections.

#### 3.2.11.2 Environmental Consequences

##### 3.2.11.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

##### 3.2.11.2.2 Proposed Project

###### 3.2.11.2.2.1 *Construction*

The construction phase of the proposed project is expected to generate negligible direct, temporary impacts from regulated waste. Solid waste and sanitary waste generated during construction activities would be limited to common construction-related waste streams. In-state or out-of-state landfills or recycling facilities would have the capability and capacity to accept these wastes, and therefore, there would be no impact associated with the disposal of these materials. In addition, the Cirba Solutions' and their hired contractors would implement BMPs to minimize the quantity of non-hazardous solid waste generated, as appropriate, during construction and to ensure proper handling of materials.

###### 3.2.11.2.2.2 *Operations*

Operations are expected to incur minor, direct, long-term impacts from regulated wastes. The proposed project is designed to handle and treat the same materials as are handled and treated during current operations for the duration of the 30-year lifespan of the proposed project. The volumes of universal waste and hazardous waste accepted by the facility is expected to increase under the proposed project, as are the resulting products generated from the treatment process. While a limited quantity is sent to local landfills (plastics and some fused components with plastic parts), most of the excess material created in the disassembly of spent batteries includes metal casings, bolts, rivets etc. that are sent to an offsite recycling facility. Hazardous wastes generated by the facility associated with processing and treating universal waste batteries (including lead, nickel cadmium [Ni-Cd], nickel-metal [Ni-metal], lithium-ion [Li-ion], lithium primary [Li primary], lithium hydrogen [Li-hydrogen], and mercury) are expected to increase in reflection of the increased treatment capacity of the expanded facility.

Routine facility and process wastes are also expected to increase, including production of water treatment system sludges and maintenance-related materials. Opportunities to reduce, recycle, and recover materials generated by facility processes and maintenance activities would be prioritized over direct disposal. Major waste stream estimates for anticipated operations are shown in Table 6.

**Table 6. Major Waste Stream Estimates for Year 1 Operations Compared to 2022 Waste Generation**

| Process Area | Description | Classification | 2022 Annual Generation Rate (tons/year) | Projected Estimated Annual Generation Rate (tons/year) |
|---|---|---|---|---|
| Battery Processing | Black Mass (battery casing) | Recycled Product (copper & aluminum) | 1,000 | 8,750 |
| Battery Processing | Recovered electrolyte | Waste / byproduct | 0 | 3,500 |
| Metals Recovery | Metal Slag and Dross | Waste (hazardous) | 2,848 | 2,848 |
| Battery Processing | Byproduct containing Copper, Aluminum, and Iron | Industrial Waste | 0 | 8,800 |
| Metals Recovery | Byproduct containing Copper, Aluminum, and Iron | Industrial Waste | 0 | 1,100 |
| Maintenance Activities | Waste Oil, Waste Solvents | Hazardous Waste | 4 | 4.5 |
| Maintenance Activities | Recovered oil | Used oil | <1 | <5 |
| Wastewater Treatment | sludges | Waste | 30 | 30 |
| Wastewater Treatment | Sodium Sulfate | Waste/ byproduct | 0 | 30,000 |
| Laboratory | Onsite laboratory wastewater | Waste (hazardous) | ~120 gallons/year for offsite disposal | ~240 gallons/year for offsite disposal |

*Estimates are based on 16-hour operations, 365 days per year.

Materials would be stored in above-ground fractionation tanks, sacks, containers, or in tank farms appropriately designed for spill containment in accordance with best management practices and applicable regulatory requirements. Spent batteries and battery components would be received via tractor-trailer truck and stored in all buildings except Building Complex 495, consistent with current practice, and in compliance with updated permit requirements.

The quantity of hazardous waste generated at the Facility would determine the Facility's generator status and which Federal and State regulations related to waste generation, management, and disposal would be applicable. Cirba Solutions intends to recycle or reuse byproducts and non-hazardous waste to the extent possible, minimizing the amount of waste that would be disposed of offsite. As a result, the proposed project would have a negligible impact on the overall quantity of solid waste generated and treated onsite and treated and landfilled offsite. The facility would continue to operate as an LQG of hazardous waste and a LQH of universal waste.

#### 3.2.11.3 Cumulative Impacts

Although Cirba Solutions' existing facility is in an industrial park with adjacent industrial neighbors that may potentially expand their individual operations, there are no known plans for additional industrial development in the vicinity of the proposed project, and no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to regulated waste streams. Despite increases in facility waste quantities, the project purpose and need is to improve the U.S. ability to process hazardous and universal waste streams associated with spent batteries.

#### 3.2.11.4 Proposed Mitigation Measures

During construction, standard BMPs and preventative measures such as maintaining fencing around construction areas, establishing designated materials containment and storage areas, and controlling the flow of construction equipment and personnel through the proposed project site, would minimize the potential for a release to occur. If a release occurs, immediate action would be taken to contain, remediate, and dispose of any contaminated materials in accordance with Federal, State, and local regulations and site-specific spill plans.

The facility would comply with all LQG storage, record keeping, disposal, and reporting requirements, as applicable. In addition, Cirba Solutions maintains a robust health and safety program that educates staff to identify issues before they become hazards and take corrective action before the issues become safety hazards for employees (See Section 3.2.14 for additional detail on Cirba Solutions' Environmental Health and Safety Program (EHS).

### 3.2.12 Utilities and Energy Use

#### 3.2.12.1 Affected Environment

The proposed project is located within the service area of the City of Lancaster Municipal Utility Services which provides the City of Lancaster's residents with natural gas, water, wastewater treatment, stormwater management, and refuse collection. Electricity providers in the region include the American Electric Power Co, Inc. (AEP) Ohio and South-Central Power Co, a division of Touchstone energy Corporation.

City of Lancaster Water Authority provides current water and wastewater services to Cirba Solution's existing facility. Freshwater is provided via two treatment plants with a combined design rating for 17 MGD. The Lawrence Street Water Pollution Control Facility (LSWPCF) treats municipal, commercial, and industrial wastewaters and is designed for a peak hour

capacity of 18.0 MGD. The facility has a peak daily flow of 12 MGD through the biological treatment system and an average daily capacity of 10 MGD. Cirba Solutions receives electricity and natural gas from AEP Ohio and Lancaster Municipal Gas Company, respectively. Cirba Solutions' existing demand for electricity for current operations varies from 180,000 to 200,000 kilowatt-hours (kWh) per month and reflects its 24-hours per day, five days per week operating schedule.

#### 3.2.12.2 Environmental Consequences

##### 3.2.12.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

##### 3.2.12.2.2 Proposed Project

###### 3.2.12.2.2.1 *Construction*

Construction of the proposed project would have short-term, negligible impacts on utilities, including electricity, water, gas, and sewer. During the construction period the proposed project site would rely on portable generators, water tanks, and portable bathrooms to accommodate increases in the demand for water, electricity and sewer from workers and equipment at the proposed project site. Once grading is completed, contractors would build utility lines, the new structures to existing services onsite. New permanent utility connections would be constructed during the construction period, but not be relied on for services in new buildings until buildings are operational.

###### 3.2.12.2.2.2 *Operations*

Proposed project operations would have direct, long-term minor adverse impacts on local utilities and energy use, as the industrial processes involved would increase the demand for electricity, water, and gas at the proposed project site. Demand for electricity, potable water, and wastewater services from operation of the proposed project would require infrastructure tie-ins to existing services as well as limited upgrades to existing utility infrastructure and services.

To meet increased electricity demands from operation of the proposed project (2,400,000 kWh/yr for upgrades in Building 295, Building 395, and Building Complex 495), Cirba Solutions would coordinate with AEP Ohio to connect new buildings to their service. This would include development of new overhead lines to reach Building 395 and Building Complex 495. It is anticipated that the increased electricity demand would be satisfied by

the current substation providing service, and therefore operation of the proposed project would not adversely impact users of AEP Ohio's service elsewhere in the area.

The proposed project is anticipated to increase demand for potable water by approximately 332,266 gpd, a quantity that would be procured by Cirba Solutions from the City of Lancaster Water Authority. As described in Section 3.2.9.2.4.2, this quantity equates to approximately 2.6 percent of the City treatment plants' remaining design capacity, and the increased demand from the proposed project would not have an adverse impact on availability for other users. Additionally, Cirba Solutions plans to continue incorporating water recycling into the Facility to increase water use efficiency during operations, including the construction of a cooling tower and continued use of internal water recycling processes, thereby minimizing the quantity of water required from municipal sources.

To address wastewater generated by operations, the proposed project would use its existing connection to the local POTW. Anticipated wastewater discharges from operations would be approximately 115,295 gallons per day (gpd), which represents a 1.2 percent increase from the current average municipal daily discharge to the POTW (10 million gallons per day (MGD) [City of Lancaster 2023]). Wastewater discharge through the POTW from expanded operations is therefore not anticipated to exceed treatment capacity and have direct adverse impacts on wastewater infrastructure (also see Section 3.2.9 *Surface Water and Groundwater*). Cirba Solutions submitted a PTI application to the City of Lancaster and Ohio EPA on May 18, 2023, addressing increased demand for treated water and wastewater services associated with the proposed project and is awaiting response confirming increased demand is consistent with existing municipal facilities and design capacity. Cirba Solutions would not commence expanded operations until the City of Lancaster issues the PTI permit.

Lancaster Municipal Gas Company would continue to provide natural gas to the proposed project area via existing infrastructure. The proposed project natural gas demand is estimated to be 1,110,468 scf per year (124.56 SCFH).

#### 3.2.12.3 Cumulative Impacts

The proposed project is anticipated to contribute incrementally to cumulative impacts affecting utility infrastructure and services. Consistent with Section 3.2.9 (Surface Water and Groundwater), the proposed project, would increase demand for electricity, the production of wastewater discharged to the LSWPCF and the demand for treated water from the Lancaster City Water Authority; however, future tenants each would need to coordinate with the Lancaster City Water Authority and other utility providers to negotiate resource procurement and discharge.

#### 3.2.12.4 Proposed Mitigation Measures

Cirba Solutions' proposed project would include a number of energy and water efficiency measures to mitigate for anticipated increased demand on local utilities and energy. The proposed project includes the addition of cooling towers to support water recycling and reduce the quantity of raw water needed during operations. Design of the proposed project includes LED and other energy efficient lighting. Cirba Solutions is currently finalizing a company-wide renewable energy efficiency plan to be included in the Company's carbon

neutrality goals, and which will guide further energy efficiency measures implemented within the new Building 395 and Building Complex 495.

### 3.2.13 Transportation and Traffic

#### 3.2.13.1 Affected Environment

The proposed project site is in an industrial park area, approximately one quarter mile (0.25) mile southwest of US-22, and roughly 16 miles southwest of Interstate Highway 70 (I-70). The Conrail Railroad commercial rail line runs in a north-south orientation along the northern property boundary and supports light commercial rail traffic. John Glenn Columbus International Airport (CMH) is located 26 miles northeast of the Project site.

The facility currently employs 55 full time employees and daily traffic to and from the site reflects their commute trips plus approximately 23 daily truck deliveries of spent battery material and processing chemicals.

##### 3.2.13.1.1 No Action Alternative

It is Cirba Solutions' intent to proceed in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

##### 3.2.13.1.2 Proposed Project

###### 3.2.13.1.2.1 *Construction*

Short-term but measurable minor adverse impacts to traffic and transportation are expected during the construction phase of the proposed project. Construction of the Facility is anticipated to last for up to 24 months and include the development of buildings, parking lots, stormwater basins, a rail spur, and other industrial infrastructure. During the construction period approximately 100 jobs would be generated, and construction vehicles and construction workers' vehicles would add to existing local traffic. Construction is anticipated to require an average of approximately 20 truck trips per day for deliveries and shipments, increasing to 28 truck trips per day during site grading activities while fill material is being delivered for building pads. The roads most impacted would include Quarry Road SE and U-22; however, these roads are designed to accommodate industrial truck traffic and should not be adversely affected by the increase in traffic. The planned rail spur would not cross any existing roads; therefore, its construction would not disrupt existing traffic patterns.

#### 3.2.13.1.2.2 *Operations*

The proposed project would generate a minor long-term increase to traffic and transportation from anticipated daily truck and personal-vehicle traffic into and out of the industrial park. Operations are expected to require approximately 80 truck trips per day for deliveries and outgoing shipments (a daily increase of approximately 57 truck trips to the site over existing truck traffic) and one train for deliveries per day. The rail spur would be connected to an existing rail line and would be used for incoming deliveries and outgoing shipments, facilitated through a single additional daily train carrying six (6) railcars of supplies. The use of the rail spur for deliveries would reduce the number of additional truck trips needed to operate the expanded facility over time, minimizing impacts to traffic from increased truck deliveries. The rail spur would be designed to support rail deliveries efficiently and minimize traffic disruptions at the adjacent automobile rail crossing on Quarry Road SE. Trucks would use the established road network to access the industrial park, and these roadways are designed for and currently accommodate industrial truck traffic. Once fully operational, the Facility will add approximately 100 new employees, increasing the full-time workforce to 150 employees, and there is expected to be a corresponding daily increase in the number of personal vehicles at the site each day (See Section 3.2.1 Socioeconomics). The number of personal vehicles accessing the proposed project site are expected to be distributed throughout the day, as the proposed project would be operated in three shifts, 24-hrs per day, 365 days per year, and the Facility site design would include adequate parking, loading, and maneuver space for these vehicles and trucks.

### 3.2.13.2 Cumulative Impacts

Although Cirba Solutions' existing facility is in an industrial park with adjacent industrial neighbors that may potentially expand their individual operations, there are no known plans for additional industrial development in the vicinity of the proposed project, and no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to transportation and traffic.

### 3.2.13.3 Proposed Mitigation Measures

No mitigation measures would be required for transportation and traffic.

## 3.2.14 Public and Occupational Health and Safety

### 3.2.14.1 Affected Environment

The proposed project site has supported Cirba Solutions' active industrial battery-recycling facility since 2000. Public occupational health and safety considerations are currently managed at the facility following Cirba Solutions' internal EHS Program, consistent with numerous regulatory permitting requirements addressing factors relevant to public and occupational health and safety. These factors include air quality (Section 3.2.5), greenhouse gases (Section 3.2.6), water quality (Section 3.2.9), regulated waste (Section 3.2.11), and transportation and traffic (Section 3.2.13). Cirba Solutions maintains internal guidance documents and training for the following topics, within their EHS Program: bloodborne pathogens, confined spaces, electrical safety, lockout/Tagout, contractor safety, fire

prevention, hazard assessment, welding cutting and brazing, personal protective equipment, hearing conservation, hazard communications, CO monitoring, fall protection and working at heights, medical surveillance, hot work, extreme temperature, and machine guarding.

Cirba Solutions requires all employees to participate in the Company's established health, safety, and security training, which includes specialized training for individuals handling hazardous materials and wastes. Cirba Solutions maintains a visible emergency contact list and close coordination with local first responders (e.g., fire department and law enforcement), and Cirba Solutions' Lancaster facility maintains compliance with local, state, and federal regulatory requirements including the Emergency Planning and Community Right-to-Know Act (EPCRA), Tier II reporting, and RCRA. Under their current RCRA permit, Cirba Solutions maintains a current Contingency Plan for implementation in the event of an unintended release.

#### 3.2.14.2 Environmental Consequences

##### 3.2.14.2.1 No Action Alternative

It is Cirba Solutions' intent to proceed with the proposed project in the absence of DOE funding. If the proposed project proceeds without DOE's financial assistance, the potential impacts would be similar to those under DOE's action alternative. To allow a comparison between potential impacts of the proposed project and the impacts of not proceeding with the project, for purposes of this environmental analysis, DOE assumes that the proposed project would likely not proceed without DOE assistance. The baseline of potential impacts in this case would involve Cirba Solutions continuing to operate their existing Lancaster facility with no new construction or modifications to the facility's scope, size, footprint, or operational outputs.

##### 3.2.14.2.2 Proposed Project

###### 3.2.14.2.2.1 *Construction and Operations*

Risks to public and occupational health and safety from proposed project construction and operations are expected to be minor, direct and indirect, and long-term. Numerous regulatory permitting requirements and planned mitigations governing proposed project construction and operations address factors relevant to public and occupational health and safety. These include air quality (Section 3.2.5), greenhouse gases (Section 3.2.6), water quality (Section 3.2.9), regulated waste (Section 3.2.11), and transportation and traffic (Section 3.2.13). Existing corporate policies of Cirba Solutions, or future updates thereof, further address relevant health and safety risk factors and would be followed throughout construction and operations. Policies include corporate guidance for chemical handling procedures; waste management and handling procedures; and specific health and safety policies including proper training, equipment commissioning, regular maintenance, and engineering controls.

Proposed project operations would process certain hazardous materials on a regular basis including sulfuric acid, sodium hydroxide, potassium persulfate, sodium phosphate, sodium fluoride, monosodium phosphate, calcium hydroxide, calcium oxide, calcium carbonate,

sodium carbonate, sulfur dioxide, hydrogen peroxide, D2EHPA, Versatic 10, Cyanex 272, Orpfom SX, diatamecous earth filter aid, Metalsorb mixture, clay-based flocculant, and activated carbon. To reduce safety and logistic risk, these materials would be received via railcar within the Facility area allowing for strictly controlled and consistent management. Prior to the start of expanded facility operations, Cirba Solutions would update their existing Emergency Action Contingency Plan to an Emergency Action/Crisis Management (EA/CM) Plan addressing unanticipated events (e.g., natural disaster, terrorism, accidents, spills) and provide procedures for the protection of the site's personnel, environment, and infrastructure. The current plan is included as Appendix 6.

Cirba Solutions would continue to require all employees to participate in the Company's established health, safety, and security training, which includes specialized training for individuals handling hazardous materials and wastes. Cirba Solutions would maintain a visible emergency contact list and close coordination with local first responders (e.g., fire department and law enforcement), and Cirba Solutions' Lancaster facility would continue to maintain compliance with local, state, and federal regulatory requirements including the Emergency Planning and Community Right-to-Know Act (EPCRA), Tier II reporting, and RCRA.

#### 3.2.14.2.2.2 *Accidents and Intentional Destructive Acts*

Cirba Solutions could continue to implement, during proposed project construction and operations, security procedures to protect the site's personnel, environment, and infrastructure from reasonably foreseeable accidental and intentional destructive acts, which may be possible but are considered very unlikely to occur. Procedures would continue to focus on both prevention and emergency response, predicated on existing environmental, health, and safety protocols at the facility. Procedures and protocols would also include those discussed in Sections 3.2.5, 3.2.11, 3.2.12, and 3.2.13, as part of operations and regulatory compliance. The proposed project site would continue to be surrounded by a perimeter security fence that is monitored by dedicated 24-hour security staff and trained first responders. In addition, the facility would have closed-circuit cameras in each building with focus on critical ingress and egress routes. Security badges would continue to regulate access to Facility buildings, and Facility management staff would work in full and immediate cooperation with emergency responders and managers from outside the Facility, as appropriate.

### 3.2.14.3 Cumulative Impacts

Although Cirba Solutions' existing facility is in an industrial park with adjacent industrial neighbors that may potentially expand their individual operations, there are no known plans for additional industrial development in the vicinity of the proposed project and no reasonably foreseeable actions have been identified that would interact with the proposed project to generate cumulative adverse impacts to public and occupational health and safety.

### 3.2.14.4 Proposed Mitigation Measures

Risk mitigation for handling hazardous materials would be established through defined operational procedures (e.g., hazardous materials communication, personal protective equipment, and chemical management) including, maintenance of equipment in compliance with federal, state, and local occupational health and safety requirements, environmental regulations, and manufacturer recommendations.

Site-specific process risk assessments would be completed in Building 395 and Building Complex 495 to identify potential hazards by type (i.e., material handling or worker safety program) not present within the existing Facility. If new hazards are identified, additional policies would be implemented to directly address potential hazards in compliance with local, state, and federal regulations.

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**Appendix 1**

Environmental Synopsis
Bipartisan Infrastructure Law Battery (BIL)
Materials Processing and Battery Manufacturing
DE-FOA-0002678

# ENVIRONMENTAL SYNOPSIS
# Bipartisan Infrastructure Law Battery (BIL) Materials Processing and Battery Manufacturing
# DE-FOA-0002678

**April 2023**

**National Energy Technology Laboratory**
**U.S. Department of Energy**
**Pittsburgh, PA**
**Morgantown, WV**
**Albany, OR**

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# CONTENTS

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# INTRODUCTION

The United States Department of Energy (DOE or the Department) prepared this Environmental Synopsis pursuant to the Department's responsibilities under Section 216 of the DOE's National Environmental Policy Act (NEPA) Implementing Procedures set forth in 10 CFR Part 1021. This synopsis summarizes the consideration given to environmental factors and records that the relevant environmental consequences of reasonable alternatives were evaluated in the process of selecting awardees seeking financial assistance under The Office of Manufacturing and Energy Supply Chains and the Office of Energy Efficiency and Renewable Energy, which jointly issued the Funding Opportunity Announcement (FOA) DE-FOA-0002678 Bipartisan Infrastructure Law (BIL) Battery Materials Processing and Battery Manufacturing. Projects awarded under FOA-0002678 to be funded, in whole or in part, with funds appropriated by the Infrastructure Investment and Jobs Act[2], also more commonly known as the BIL. The BIL is a once-in-a-generation investment in infrastructure, which will grow a more sustainable, resilient, and equitable economy through enhancing U.S. competitiveness in the world, creating good jobs, and ensuring stronger access to these economic benefits for disadvantaged communities (DACs). The BIL appropriates more than $62 billion to the DOE[3] to deliver a more equitable clean energy future for the American people by investing in American manufacturing and workers; expanding access to energy efficiency and clean energy for families, communities, and businesses; delivering reliable, clean, and affordable power to more Americans; and building the technologies of tomorrow through clean energy demonstrations.

The BIL will invest more than $7 billion in the batteries supply chain over the five-year period encompassing fiscal years (FYs) 2022 through 2026. This includes sustainable sourcing of critical minerals from secondary and unconventional sources, reducing the need for new extraction and mining; sustainable processing of critical minerals; and end-of-life battery collection and recycling. The activities to be funded under this FOA support BIL Sections 40207 (b) & (c) and the broader government-wide approach to upgrading and modernizing infrastructure, including by strengthening critical domestic manufacturing and supply chains to maximize the benefits of the clean energy transition as the nation works to curb the climate crisis and advance environmental justice. These BIL Sections are focused on:

- Creating and retaining good-paying jobs, where workers are properly classified as employees, free from discrimination and harassment, with a free and fair choice to join, form, or assist a union;
- Supporting inclusive and supportive workforce development efforts to strengthen America's competitive advantage based on innovation, efficiency, and a skilled and diverse workforce up and down the supply chain;
- Ensuring that the U.S. has a viable battery materials processing industry to supply the North American battery supply chain;

1. Infrastructure Investment and Jobs Act, Public Law 117-58 (November 15, 2021).
2. U.S. Department of Energy. November 2021. "DOE Fact Sheet: The Bipartisan Infrastructure Deal Will Deliver For American Workers, Families and Usher in the Clean Energy Future." https://www.energy.gov/articles/doe-fact-sheet-bipartisan-infrastructure-deal-will-deliver-american-workers-families-and-0

- Expanding the capabilities of the U.S. in advanced battery manufacturing;
- Enhancing national security by reducing the reliance of the U.S. on foreign competitors for critical materials and technologies;
- Enhancing the domestic processing capacity of minerals necessary for battery materials and advanced batteries; and
- Ensuring that the U.S. has a viable domestic manufacturing and recycling capability to support and sustain a North American battery supply chain.

The DOE initially selected 21 projects under twelve topic areas of interest (AOIs) and provided cost-shared funding for project definition activities; all of the projects are subject to the completion of project-specific NEPA reviews. FOA-0002678 supports new, retrofitted, and expanded commercial-scale domestic facilities to produce battery materials, processing, and battery recycling and manufacturing demonstrations. As required by section 216, this synopsis does not contain business sensitive, confidential, trade secret or other information that statues or regulations would prohibit the DOE from disclosing. It also does not contain data or other information that may reveal the identity of the offerors.

## BACKGROUND

The projects that will result from this FOA are cost-shared collaborations between the government and industry to increase investment in battery materials processing and battery manufacturing projects. In contrast to other federally funded activities, these projects are not federal projects; instead, they are private projects seeking federal financial assistance. Under the FOA, industry proposes projects that meet their needs and those of their customers while furthering the national goals and objectives of DOE. The successful development of battery materials processing and battery manufacturing projects is a key objective of the nation's effort to help mitigate the effects of climate change, gain energy independence, and bolster the domestic supply chain.

Awardees under this FOA would receive assistance using funds appropriated by the Infrastructure Investment and Jobs Act, Public Law 117-58 (November 15, 2021) also known as the Bipartisan Infrastructure Law (BIL). The activities to be funded under this FOA support BIL Sections 40207(b) & (c) and the broader government-wide approach to upgrading and modernizing infrastructure, including by strengthening critical domestic manufacturing and supply chains to maximize the benefits of the clean energy transition as the nation works to curb the climate crisis and advance environmental justice.

The applications reviewed under this FOA were selected for negotiations in October 2022. Twelve topic areas of interest (AOIs) were included in the FOA and each AOI outlined project objectives that were specific to that AOI. The twelve AOIs were separated according to the BIL sections 40207(b)(3)(A) and 40207(c)(3)(A):

| Areas of Interest | Title |
|---|---|
| **Battery Material Processing Grants pursuant to Section 40207(b)(3)(A)** | |
| 1 | Commercial-scale Production Plants for Domestic Separation of Critical Cathode Battery Materials from Domestic Feedstocks |
| 2 | Commercial-scale Domestic Production of Battery-Grade Graphite from Synthetic and Natural Feedstocks |
| 3 | Commercial-scale Domestic Separation and Production of Battery-grade Precursor Materials (Open Topic) |
| 4 | Demonstrations of Domestic Separation and Production of Battery-grade Materials from Unconventional Domestic Sources |
| 5 | Demonstrations of Innovative Separation Processing of Battery Materials Open Topic |
| **Battery Component Manufacturing and Recycling Grants pursuant to Section 40207(c)(3)(A)** | |
| 6 | Commercial-scale Domestic Battery Cell Manufacturing |
| 7 | Commercial-scale Domestic Battery Cathode Manufacturing |
| 8 | Commercial-scale Domestic Battery Separator Manufacturing |
| 9 | Commercial-scale Domestic Next Generation Silicon Anode Active Materials and Electrodes |
| 10 | Commercial-scale Domestic Battery Component Manufacturing Open Topic |
| 11 | Commercial-scale Domestic Battery Recycling and End-of Life Infrastructure |
| 12 | Domestic Battery Cell and Component Manufacturing Demonstration Topic |

AOIs 1–3 and 6–11 were directed to commercial level projects. AOIs 4, 5, and 12 were directed to demonstration level projects. Each level had different evaluation criteria and each application was evaluated against the criteria as outlined below:

A. Technical Review Criteria AOIs 1–3, 6–11 (commercial)

Criterion 1: Technical Merit, Project Management, and Impact (30%)
Criterion 2: Commercialization and Market Acceptance (30%)
Criterion 3: Cost Share (10%)
Criterion 4: Qualifications and Resources (10%)
Criterion 5: Equity Plan: Quality Jobs & Community Benefits (20%)

B. Technical Review Criteria AOIs 4, 5, and 12 (demonstration)

Criterion 1: Technical Merit, Project Management, and Impact (40%)
Criterion 2: Commercialization and Market Acceptance (20%)
Criterion 3: Cost Share (10%)
Criterion 4: Qualifications and Resources (10%)
Criterion 5: Equity Plan: Quality Jobs & Community Benefits (20%)

These criteria represented the total evaluation scoring. However, the selection official also considered program policy factors, in making final selections.

As a federal agency, DOE must comply with NEPA (42 U.S.C. §§ 4321 *et seq.)* by considering potential environmental issues associated with its actions prior to deciding whether to undertake these actions. The environmental review of applications received in response to FOA-0002678 was conducted pursuant to Council on Environmental Quality Regulations (40 Code of Federal Regulations (CFR) Parts 1500–1508) and DOE's NEPA Implementing Procedures (10 CFR Part 1021), which provide directions specific to NEPA in the context of procurement and financial assistance actions.

## PURPOSE AND NEED

The overall purpose and need for DOE action pursuant to the Office of Manufacturing and Energy Supply Chains in collaboration with the Office of Energy Efficiency and Renewable Energy program and the funding opportunity under the BIL is to accelerate the development of a resilient supply chain for high-capacity batteries by increasing investments in battery materials processing and battery manufacturing projects. The BIL investments in the battery supply chain will include five main steps including: (1) raw material production, (2) materials processing including material refinement and processing, (3) battery material /component manufacturing and cell fabrication, (4) battery pack and end use product manufacturing, and (5) battery end-of-life and recycling. Projects selected are needed to meet the focus of the BIL sections: a) creating and retaining good-paying jobs; b) supporting inclusive and supportive workforce development efforts to strengthen America's competitive advantage; c) ensuring that the United States has a viable battery materials processing industry to supply the North American battery supply chain; d) expanding the capabilities of the United States in advanced battery manufacturing; e) enhancing national security by reducing the reliance of the United States on foreign competitors for critical materials and technologies; f) enhancing the domestic processing capacity of minerals necessary for battery materials and advanced batteries; and g) ensuring that the United States has a viable domestic manufacturing and recycling capability to support and sustain a North American battery supply chain.

DOE intends to further this purpose and satisfy this need by providing financial assistance under cost-sharing arrangements to this project and the other 20 projects selected under this FOA. This project and the other selected projects are needed to maximize the benefits of the clean energy transition as the nation works to curb the climate crisis. These projects would meet the objective.

## ALTERNATIVES

The DOE received numerous eligible applications in twelve AOIs. AOIs 1 through 5 are under Battery Material Processing Grants pursuant to Section 40207(b)(3)(A); AOIs 6 through 12 are under Battery Component Manufacturing and Recycling Grants pursuant to Section 40207(c)(3)(A).

Detailed requirements for each AOI are listed in the FOA. Applications were accepted, reviewed, and initial selections were made; all of the projects are subject to the completion of project specific NEPA reviews. AOIs and number of initial selections are listed in the table below:

| AOI | AOI Title | Number of initial Selections |
|---|---|---|
| 1 | Commercial-scale Production Plants for Domestic Separation of Critical Cathode Battery Materials from Domestic Feedstocks | 4 |
| 2 | Commercial-scale Domestic Production of Battery-Grade Graphite from Synthetic and Natural Feedstocks | 3 |
| 3 | Commercial-scale Domestic Separation and Production of Battery-grade Precursor Materials (Open Topic) | 2 |
| 4 | Demonstrations of Domestic Separation and Production of Battery-grade Materials from Unconventional Domestic Sources | 1 |
| 5 | Demonstrations of Innovative Separation Processing of Battery Materials Open Topic | 1 |
| 6 | Commercial-scale Domestic Battery Cell Manufacturing | 0 |
| 7 | Commercial-scale Domestic Battery Cathode Manufacturing | 2 |
| 8 | Commercial-scale Domestic Battery Separator Manufacturing | 2 |
| 9 | Commercial-scale Domestic Next Generation Silicon Anode Active Materials and Electrodes | 2 |
| 10 | Commercial-scale Domestic Battery Component Manufacturing Open Topic | 1 |
| 11 | Commercial-scale Domestic Battery Recycling and End-of Life Infrastructure | 1 |
| 12 | Domestic Battery Cell and Component Manufacturing Demonstration Topic | 2 |

## ENVIRONMENTAL REVIEW

DOE assembled environmental review teams to assess all applications that met the mandatory requirements. The review teams considered 20 resource areas that could potentially be impacted by the technologies and sites proposed for each project that was selected for negotiations. These resource areas consisted of:

- Aesthetics
- Air Quality
- Biological Resources
- Climate
- Community Services
- Cultural Resources
- Environmental Justice
- Floodplains
- Geology
- Ground Water
- Human Health and Safety
- Land Use
- Noise
- Socioeconomics
- Soils
- Surface Water
- Transportation and Traffic
- Utilities
- Wastes and Materials
- Wetlands

The review teams were composed of environmental professionals having expertise in the resource areas considered by the DOE and with experience evaluating the impacts of industrial facilities and energy-related projects. The review teams considered the information provided as part of each application, which included narrative text, worksheets, and the environmental information volumes for the sites proposed by the applicant. Reviewers conducted preliminary analyses to identify the potential range of impacts that would be associated with each application. In addition, reviewers identified both direct and indirect potential impacts to the resource areas mentioned above, as well as short-term impacts that might occur during construction and start-up, and long-term impacts that might occur over the expected operational life of the proposed project and beyond. The reviewers also considered any mitigation measures proposed by the applicant, and any reasonably available mitigation measures that may not have been proposed.

Reviewers assessed the potential for environmental issues and impacts using the following characterizations:

- **Beneficial** – Expected to have a net beneficial effect on the resource in comparison to baseline conditions.
- **None (negligible)** – Immeasurable or negligible in consequence (not expected to change baseline conditions).
- **Low** – Measurable or noticeable but of minimal consequence (barely discernable change in baseline conditions).
- **Moderate** – Adverse and considerable in consequence but moderate and not expected to reach a level of significance (discernable, but not drastic, alteration of baseline conditions).
- **High** – Adverse and potentially significant in severity (anticipated substantial changes or effects on baseline conditions that might not be mitigable).

For cases in which an application failed to provide sufficient information to support a determination among the above characterizations, the reviewers assigned one of the following characterizations:

- **Limited Concern** – The potential for substantial adverse impacts would be negligible to low based on background information about the resource area with respect to the geographic location of the project.
- **Elevated Concern** – The potential for substantial adverse impacts would be moderate to high based on background information about the resource area with respect to the geographic location of the project.

**Applications in Response to the FOA**

Based on the technologies and sites proposed, the applications for the FOA were preliminarily evaluated and reviewed by the NEPA compliance team. There were several applications that were deemed to not have sufficient information for assessment, and also site selections for some projects have not been finalized. Therefore, the summary in the below section is based on the information that was available. The following impacts by resource area were considered in the selection of candidates for award:

***Aesthetics*** – Low to moderate impact would be expected as construction would primarily be conducted on existing industrial sites. Five projects were assessed to have a visual resource impact. Visual viewpoint changes are expected to occur at the sites as a result of project implementation and construction of the facilities. One project has overhead transmission lines.

***Air Quality*** – Moderate impact would be expected as many facilities would have air controls and permitting in place, and new facilities will be putting controls in place as required by any obtained air permits. Fifteen projects had impacts, with several pollutants listed including: greenhouse gases (GHGs), particulate matter (PM), hazardous air pollutants (HAPs), volatile organic compounds (VOCs), nitrogen oxides (NOx), cadmium, nickel, lead, and combustion products. One project mentioned that BACT (best available control technology) would be installed, and one project mentioned MACT (maximum achievable control technology) to be installed (an iron-pellet gas purification and polishing system). One project stated that a Synthetic Minor Construction and Operations Air Permit would be required. Other impacts may be expected from transportation-related emissions or fugitive dust from construction activities.

***Biological Resources*** – Low to moderate impact would be expected for three projects, with one project being located on the eastern edge of Great Salt Lake, and two projects being sited on greenfield sites. An additional three projects mention sites that were previously used for agriculture or grazing lands. The project located on one of the greenfield sites mentions that the site is pastureland, strands of forest, and wetlands/streams. The other greenfield site is located on farmland. Projects will be assessed for agricultural or natural habitat concerns, if any are identified.

***Climate*** – Beneficial impacts would occur for all projects as batteries are critical to decarbonizing the economy through grid storage, resilience for powering homes and businesses, and electrification of the transportation sector, as noted in the FOA. GHG emissions from the projects would be minimal compared to these decarbonization efforts.

***Community Services*** – Low impacts would be expected for the projects, though no impacts were specified in the review. Generally, projects anticipating a larger temporary workforce during construction would be expected to place a higher demand on community services – particularly in smaller, more rural communities where currently existing community services are more limited.

***Cultural Resources*** – Moderate impacts would be expected for five projects, with several being sited next to railways or on greenfield sites. One project noted that Tribal Nations, U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers consultations will all be needed. It is expected that Section 106 regulations will be followed on all projects. Bureau of Land Management (BLM) and Department of Defense (DOD) cooperating agencies will be needed for one other project. One project is in proximity to an airport, and another project is located near a major railyard. BLM permitting is expected for two projects.

***Environmental Justice (EJ)*** – The EJ impacts should be beneficial for the projects. Through the Administration's Justice40 Initiative, 40 percent of the overall benefits of this FOA should flow to DACs, as listed in the Justice40 guidance document and the FOA[4]. EJ impacts were expected for four of the projects, yet EJ benefits will be considered for all projects under the Juctice40 initiative. Under Justice40 the benefits include (but are not limited to) measurable direct or indirect investments or positive project outcomes that achieve or contribute to the following in DACs: (1) a decrease in energy burden; (2) a decrease in environmental exposure and burdens; (3) an increase in access to low-cost capital; (4) an increase in job creation, the clean energy job pipeline, and job training for individuals; (5) increases in clean energy enterprise creation and contracting (e.g., minority-owned or diverse business enterprises); (6) increases in energy democracy, including community ownership; (7) increased parity in clean energy technology access and adoption; and (8) an increase in energy resilience. Environmental and human health of the DACs will be considered under Executive Order 12898 — Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, as required for projects.

***Floodplains*** – Floodplains impact for the projects are low. There are four projects with Floodplains concerns, with one of the projects below the 500 Year Flood Plain (0.2-percent-annual-chance).

***Geology*** – Geology impacts would be low to moderate for the projects. The possibility of extraction of economic minerals for battery manufacturer should be considered for relevant projects. One project has backfilled coal mine pits and spoil piles. One project is located on an old mine site. If geology is undisturbed, no additional impacts would be expected.

***Ground Water*** – Ground Water impacts for the projects would be low. One project has a groundwater concern. Ground water impact from metals/chemicals or wastes could be of note for the projects, though containment measures would be in place as required for

[4] The Justice40 initiative, created by E.O. 14008, establishes a goal that 40percent of the overall benefits of certain federal investments flow to (DACs). The Justice40 Interim Guidance provides a broad definition of DACs (Page 2): https://www.whitehouse.gov/wp-content/uploads/2021/07/M-21-28.pdf. The DOE, Office of Management and Budget (OMB), and/or the Federal Council for Environmental Quality (CEQ) may issue additional and subsequent guidance regarding the designation of DACs and recognized benefits under the Justice40 Initiative.

permitting. It is unknown if projects own any groundwater supply wells. Stormwater runoff will be managed in accordance with all relevant requirements, if required by projects.

***Human Health and Safety*** – Impacts will be moderate. Five projects cited a concern. One project has a sensitive receptor (daycare) 2,500 feet from the corner of the lot. One project is upgrading its fire safety equipment, and fire safety and coordination with local fire departments is likely to be considered for all projects. Low to moderate impacts may also be considered during both construction and operations of the facilities. The level of risk is generally related to the size and complexity of the planned construction. Of note would be any concerns for handling of chemicals and metals, including minimizing exposure and prevention of spills. Safe operating practices will be implemented for all projects, and compliance with federal, state, and local regulations and standards as well.

***Land Use*** – Low to moderate impacts would be expected for all projects due to construction within existing facilities or on a compatible nearby site. Two sites are greenfield sites, but many are already existing industrial sites. Three sites have not yet been selected. BLM permits are needed for two projects (three sites), with one BLM site also consulting with the DOD. One project is consulting with Tribal Nations, U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers. Clearance of land, stormwater runoff best management practices, utility line installations, and rail lines will be considered as needed.

***Noise*** – Noise impacts would be low to moderate. One project specifically cited noise impact. During the project construction phases, noise levels will increase, but would be temporary and ending after construction. All project facilities conducting manufacturing and/or recycling activities may have noise, but much will occur within closed buildings. Any projects located near neighboring buildings may have noise impacts to consider for those near the site if outdoor noise continues past construction phases.

***Socioeconomics*** – Beneficial impacts would be expected for all projects. Seven projects cited socioeconomic and/or EJ concerns. All projects would provide some additional employment during construction and operations, with most opportunities occurring within the local area DACs. Tax revenue generation and direct and indirect spending in the local economy is expected for the projects.

***Soils*** – Low impacts would be expected for projects requiring land disturbance, including two greenfield sites. Five projects have sites that are adjacent to agricultural activity, with one converting existing pastureland, and one possibly converting farmland. Construction activities could result in a potential for soil erosion, but appropriate mitigation would be implemented as necessary, such as run-off control, silt fences, and stormwater detention facilities.

***Surface Water*** – Impacts would be low to moderate. Battery Manufacturing and recycling facilities would potentially have water influent and wastewater effluent requirements to minimize the impacts with municipalities treating water. One project noted an effluent line along an existing roadway with a connect to the Mississippi River levee and River. Stormwater controls could be used during construction and operation. Controls could be used on hazardous liquids, if any, to minimize impacts.

***Transportation and Traffic*** – Moderate impacts are expected with eight projects citing impacts. Five projects noted that they are cited near railways, railway right of way, or may need to recommission/use railway. Transportation of construction workforce to the site would be temporary. Construction access roads may be considered for projects. Transportation of operations workforce would be considered. Recycling and manufacturing facilities would also require trucking or railcar transport of materials and wastes in and out of the facility.

***Utilities*** – Moderate impacts would be expected for greenfield sited projects resulting from the need for new energy infrastructure for manufacturing and recycling. Recycling and manufacturing facilities may have need for water, electricity, steam, wastewater, industrial gases and/or natural gas, or other for the processes and facilities. Availability and capacity of utilities and anticipated infrastructure needs will be evaluated for projects.

***Wastes and Materials*** – Impacts would be moderate to high. Sixteen projects have waste streams impact and hazardous material storage and use impacts. Three projects have a Resource Conservation and Recovery Act (RCRA) designation, and several others have hazardous chemicals. One project is a large quantity generator (LQG). The nature of the manufacturing and/or recycling for Batteries Materials and Processing Manufacturing and Recycling will require diligence in hazardous/non-hazardous waste management practices and applicable permitting. Transportation of waste to landfills to be considered, if applicable, to projects.

***Wetlands*** – Wetlands impacts would be low to moderate. Four projects noted wetlands concerns, which could be avoided, or controls used to minimize impacts resulting from project construction. The extent and the conditions of the wetlands on each site will be addressed during construction and/or operations as required. One project noted that wetlands will be avoided. One project has wetlands and streams on site. Appropriate wetland mitigation measures will be implemented for unavoidable impacts.

# CONCLUSION

The alternatives available to DOE from applications received in response to the FOA provided reasonable alternatives for accomplishing the Department's purpose and need to satisfy the responsibility imposed on the Department to carry out a program to bolster the nation's battery material production and battery production.

An environmental review was part of the evaluation process of these applications. DOE prepared a critique containing information from this environmental review. That critique, summarized here, contained summary as well as project-specific environmental information. The critique was made available to, and considered by, the selection official before selections for financial assistance were made.

DOE determined that selecting twenty-one applications in response to the FOA would meet the Department’s purpose and need. DOE selected twenty-one projects for awards of financial assistance:

- Project Recipient (City, State) project located in City, State. Construct a new, commercial-scale U.S.-based lithium materials processing plant, sited next to existing facility, that uses sustainably extracted spodumene minerals from the site's lithium mine to produce battery grade lithium hydroxide for domestic manufacturing of lithium-ion batteries for 750,000 vehicles in the U.S. market. The DOE has determined that an environmental assessment (EA) is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Construct a battery minerals processing facility to process nickel ore in concentrate (nickel/iron and copper) from economically viable sources in support of a new domestic cathode supply chain. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Plan, design, and construct a cathode active materials (CAM) plant including a manufacturing building and the processing equipment necessary to convert precursor materials into CAM, the highest value component in a lithium-ion battery. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Design a sustainable lithium hydroxide facility to produce 30,000 metric tons per year of lithium hydroxide for the domestic battery and electric vehicle (EV) market, doubling the lithium hydroxide production capacity currently available in the U.S. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Design, construct and commission a graphite anode powder plant over a five-year period. Testing of a pilot manufacturing plant will occur site I in City, State, and graphitization at site II City, State, during the first 3 years of the project. Approximately 35,000 tons per annum of new synthetic graphite anode material capacity for lithium-ion batteries will be used in electric vehicles and critical energy storage applications. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Expand the production capacity of the integrated milling, purification, coating, and surface treatment operation producing on-specification active anode material (AAM), using natural graphite from an overseas graphite operation. Construction of a new 11,250 metric tons per annum (tpa) AAM facility is underway to serve as the only vertically integrated and large-scale natural graphite AAM producer outside China and the first large-scale natural graphite AAM producer in the U.S. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Building its first mass production site in the U.S., which will produce 10,000 metric tons per year of battery grade synthetic graphite. The project will build a new plant near City to produce 30,000 metric tons per year of graphite targeted at the EV industry. The DOE has

determined that an EA is the appropriate level of environmental review for the proposed project;

- Project Recipient (City, State) project located in City, State. Will build a new battery-grade polyvinylidene fluoride (PVDF) facility in City, State, to supply the needs of the North American EV and stationary energy storage market. Potential to provide enough PVDF to supply more than 5 million EV batteries per year at full capacity. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Proposes to build the first U.S. manufacturing plant for lithium hexafluorophosphate (LiPF6) on the grounds of the company's existing fluorochemical production site and produce up to 10,000 metric tonnes (MT) of LiPF6 per year, which is sufficient to support domestic production of more than a million full EVs. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Proposes to build and operate a commercial-scale facility to implement its novel process for manufacturing battery cathode grade lithium hydroxide (LiOH) (5,000 MT (metric tonnes) LiOH/year, with capacity for 30,000 MT LiOH/year) commercial processing plant from unconventional Nevada-based lithium-bearing sedimentary resources (10,000 acres). The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Proposes to demonstrate production of lithium at commercially relevant scales using a proprietary technology (using ion-exchange beads) for lithium extraction from domestic brine resources at commercially relevant scales. The project would include 4 pilot units in State and State. Each site would require 5–7 acres for demonstrations lasting 10 months to 3 years before demobilization. Additional work would be manufacturing ceramic beads at 2 existing facilities, one of which will require modification and equipment to support the new production. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Proposes to establish industrial scale U.S. production capacity of sustainable, low-cost precursor cathode materials by integrating the separation of critical cathode materials from spent lithium-ion batteries (LIBs) with the production of both precursor cathode active materials (pCAM) and metal salts to support domestic production of cathode active material (CAM). CAM can then be used in new LIBs for EVs and energy storage systems (ESS). It will produce enough material to supply over 250,000 EVs annually. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Proposes to build a plant to produce high quality lithium iron phosphate (LFP) cathode powder for the global lithium battery industry using primarily a domestic supply chain. Using its own

process technology and by acquiring licenses for certain other commercially proven processes, the plant will have two production lines built in dual phases, with each line capable of producing 15,000 tonnes per year of LFP powder. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project

- Project Recipient (City, State) project located in City, State. Proposes to build a separator facility capable of supplying 19 gigawatt-hour (GWh) of electrovoltaic batteries, including their existing 2 GWh battery plant. The project would construct new buildings, tanks, and associated equipment. The area is a greenfield site that was previously used for agriculture and is currently being developed as an industrial park. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. The proposed project would construct new separator plants with capacity of 1-1.8 billion $m^2$ per year, enough material for ~1.4 million EVs. The separator plants would include the installation of high-capacity battery separator lines. Finalized site selection is still underway. The DOE has not determined the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Build-out of a 600,000-square-foot factory that will produce breakthrough lithium-ion anode materials. The project is expected to begin production of Recipient's proprietary silicon anode material in 2025, with full production of 20 GWh equivalent of material at the project's conclusion in 2026. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Proposes to design and construct two 2,000 tonnes/year silicon-carbon anode material factories, also known as "modules." The proposed project plans to construct these modules as part of an expansion of a previously planned project. The proposed project will involve design and construction of two modules. The proposed project will also involve the construction of support facilities for all modules. These two modules and support facilities will be constructed on a planned, but undeveloped portion of the proposed project site. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Proposes to set up an advanced prelithiation and lithium anode manufacturing facility to accelerate the transition to next-generation lithium-ion (Li-ion) batteries and enable the development of a robust U.S. battery component supply chain. The proposed facility will support industrial-scale production of advanced lithiated anodes for multiple battery cell makers and automobile manufacturers. Finalized site selection is still underway. The DOE has not determined the appropriate level of environmental review for the proposed project;

- Project Recipient (City, State) project located in City, State. Proposes to expand and upgrade recipient's existing lithium-ion recycling facility. Collect, disassemble, shred, and upgrade the critical minerals present from tens-of-thousands of tons of lithium-ion batteries for reuse in new lithium-ion batteries. The project requires the physical modification of existing buildings, new construction, and ground-disturbing activities on a portion of the project site. The DOE has determined that an EA is the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Proposes to demonstrate the manufacturing of silicon nanowire anode technology at the component and cell level on multi-megawatt-hour-scale manufacturing lines that are comparable to those used in multi-GWh factories. Plans are to construct a new facility of about 120,000 square feet. Finalized site selection is still underway. The DOE has not determined the appropriate level of environmental review for the proposed project;
- Project Recipient (City, State) project located in City, State. Proposes to demonstrate the ability to domestically produce multiple battery chemistries namely NMC811 and LFP in a plant with the capacity of 3,000 tpa ready for production in 2025 scaling to 10,000 tpa in 2026. The demonstration plant will produce NMC811 generating zero waste and 70 percent less GHGs by using only 10 percent of the water and 30 percent of the energy versus traditional battery material production methods. The proposed new facility will be approximately 120,000 square feet in a zoned industrial park. Finalized site selection is still underway. The DOE has not determined the appropriate level of environmental review for the proposed project.

**Appendix 2**

Consultation with Agencies and Tribal Nations

May 24, 2023

Ms. Patrice Ashfield
Field Office Supervisor
U.S. Fish and Wildlife Service
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355

Subject: Section 7 Consultation for the Cirba Solutions Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project (DOE/EA-2213D)

Dear Ms. Ashfield,

The U.S. Department of Energy (DOE) is proposing to provide a financial assistance grant (DOE's Proposed Action) to Cirba Solutions, Inc. (Cirba Solutions) as part of the funding opportunity announcement titled "Bipartisan Infrastructure Law (BIL) Battery Materials Processing and Battery Manufacturing," with funds appropriated by the Infrastructure Investment and Jobs Act, also more commonly known as the Bipartisan Infrastructure Law.

Cirba Solutions currently operates a lithium-ion battery recycling facility on an approximately 37-acre plot of land in Lancaster, Ohio, which is part of a larger 200-acre industrial park zoned for heavy industrial uses. The objective of Cirba Solutions' proposed project is to expand and upgrade their existing lithium-ion battery recycling facility to increase domestic recycling capacity for lithium-ion batteries (LiB). To achieve its objectives, Cirba Solutions would add hydrometallurgical processing capabilities, safety upgrades, and a Copper (Cu)/Aluminum (Al) separation line to existing processes at the existing facility, located at 295 Quarry Road SE (Fairfield County). The scope of the proposed project within the 37-acre plot of land includes the physical modification of an existing building (Building 295) within the developed portion of the property, including interior retooling of this existing building (particularly fire safety equipment, air emissions control equipment, and new battery processing lines) and new ground-disturbing activities, including grading and the importation of fill on an additional 20.8 acres of undeveloped land. New construction would also include development of a new Building 395 and new Facility 495. Building 395 is designed to accommodate additional battery processing capacity. Facility 495 would be composed of multiple buildings and would support an advanced hydrometallurgical unit capable of processing black mass into battery-grade raw materials. Additional proposed activities include construction of two new stormwater management basins, a rail spur extension, and installation of additional external equipment pads and paved surface for parking and driving.

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www.netl.doe.gov

The proposed project site contains developed impervious surface as well as fallow, undeveloped land. Through 2018, the undeveloped land contained soybean and corn crops. However, this was mowed in 2020 and subsequently recolonized in weedy grass and forb species. Vegetation within the proposed project site is predominantly composed of weedy grasses and flowering plants, covering 24.92 acres of undeveloped land, and limited landscaped areas around the existing facility buildings. The site also contains a single copse of deciduous woody sapling stems located adjacent to southwest corner of the fence line and covering approximately 1,000 square feet. The stems are estimated at less than two-inches in diameter-at-breast height and estimated to stand between 8 and 15-feet tall. The proposed project site also contains three mature planted white pine (*Pinus strobus*) trees located in the northeast corner, adjacent to an offsite strip of vegetation lining a Conrail railroad berm. Limited suitable habitat (the three white pine trees) for listed threatened and endangered species may be present within the proposed project site. The National Wetlands Inventory indicates that the site lacks mapped streams, wetlands, and other aquatic features.

Impacts to vegetation from the proposed project construction are anticipated to be direct, minor, and long-term. Construction would include the permanent removal of approximately 20.8 acres of non-native grasses and woody species which colonized the site following the termination of agricultural activities after 2018 and offer limited ecological value for native plants and wildlife. The pine trees in the northeast corner of the site would not be impacted by construction activities, as they are outside the construction footprint and buffered from existing paved roadway by grass. Approximately 4.25 acres of permeable soils would remain at the completion of construction, and it would be re-seeded and stabilized with grasses or planted with screening vegetation, consistent with Lancaster, Ohio zoning requirements for screening vegetation around public streets and the perimeter of parking areas. The installation of screening vegetation would have a beneficial impact on vegetation resources by increasing the number and diversity of trees and shrubs at the site following construction. Grading and site development during construction would cause localized removal of topsoil and reduce the extent of vegetation at the site. However, the quality of this topsoil is diminished after years of intensive agricultural cultivation and the magnitude of this loss is small when compared to the extent of vegetated land in the vicinity of the proposed project site.

The U.S. Fish & Wildlife Service's Information for Planning and Consultation website identified two endangered species (the Indiana Bat and the Northern Long-eared Bat), one proposed endangered species (the Tricolored Bat), and one candidate species (the Monarch Butterfly) that could be impacted by a project located at the proposed project site. The proposed project site contains no critical habitat.

As part of DOE's coordination and consultation responsibilities and to comply with both Section 7 of the Endangered Species Act of 1973, as amended, and provisions of the Fish & Wildlife Coordination Act, we would appreciate receiving any additional information you have on important wildlife resources, including endangered and threatened species or critical habitat in the project area. If your initial review of the proposed project details concludes that no endangered or threatened species (or their habitat) are present in the project area and that neither protected species nor their habitat would be affected by the proposed action, a written acknowledgment of that conclusion would be appreciated.

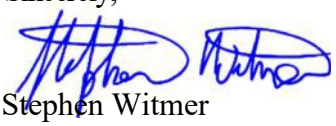
Based on the scope of the proposed Cirba Solutions project, DOE plans to prepare an Environmental Assessment (EA) (DOE/EA-2213D) in accordance with requirements of the National Environmental Policy Act to analyze, document, and disseminate information on the potential environmental and cultural consequences of the project. Information that you provide will be incorporated and appropriately addressed in the EA. Moreover, when the Draft EA is circulated for public comment, the Ohio Ecological Services Field Office will be sent an electronic and hard copy where you may provide additional comments.

If you have any questions concerning the project, please contact me at the following address, phone or email below:

U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Thank you for your attention to this request, and I look forward to working with you.

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. IPaC Official Species List – Ohio Ecological Services Field Office
2. Cirba Solutions Project – Maps, Site Plans, and Photographs

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
Phone: (614) 416-8993 Fax: (614) 416-8994

In Reply Refer To: May 24, 2023
Project Code: 2023-0074760
Project Name: Cirba Solutions Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials (DOE/EA-2213D)

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

**Migratory Birds**: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Ohio Ecological Services Field Office**
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
(614) 416-8993

# PROJECT SUMMARY

Project Code: 2023-0074760

Project Name: Cirba Solutions Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials (DOE/EA-2213D)

Project Type: Federal Grant / Loan Related

Project Description: Cirba Solutions currently operates a lithium-ion battery recycling facility on an approximately 37-acre plot of land in Lancaster, Ohio, which is part of a larger 200-acre industrial park zoned for heavy industrial uses. The objective of Cirba Solutions' proposed project is to expand and upgrade their existing lithium-ion battery recycling facility to increase domestic recycling capacity for lithium-ion batteries (LiB). To achieve its objectives, Cirba Solutions would add hydrometallurgical processing capabilities, safety upgrades, and a Copper (Cu)/Aluminum (Al) separation line to existing processes at the existing facility, located at 295 Quarry Road SE (Fairfield County). The scope of the proposed project within the 37-acre plot of land includes the physical modification of an existing building (Building 295) within the developed portion of the property, including interior retooling of this existing building (particularly fire safety equipment, air emissions control equipment, and new battery processing lines) and new ground-disturbing activities, including grading and the importation of fill on an additional 20.8 acres of undeveloped land. New construction would also include development of a new Building 395 and new Facility 495. Building 395 is designed to accommodate additional battery processing capacity. Facility 495 would be composed of multiple buildings and would support an advanced hydrometallurgical unit capable of processing black mass into battery-grade raw materials. Additional proposed activities include construction of two new stormwater management basins, a rail spur extension, and installation of additional external equipment pads and paved surface for parking and driving.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.712431300000006,-82.54595995246453,14z

Counties: Fairfield County, Ohio

# ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries,[1] as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## MAMMALS

| NAME | STATUS |
|---|---|
| Indiana Bat *Myotis sodalis*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Northern Long-eared Bat *Myotis septentrionalis*<br>No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045 | Endangered |
| Tricolored Bat *Perimyotis subflavus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/10515 | Proposed Endangered |

## INSECTS

| NAME | STATUS |
|---|---|
| Monarch Butterfly *Danaus plexippus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9743 | Candidate |

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# IPAC USER CONTACT INFORMATION

Agency: Department of Energy
Name: Stephen Witmer
Address: 626 Cochran Mill Road
Address Line 2: Mailstop 921-227
City: Pittsburgh
State: PA
Zip: 15236
Email stephen.witmer@netl.doe.gov
Phone: 4123867589

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994

May 25, 2023

Project Code: 2023-0074760

Dear Mr. Witmer:

The U.S. Fish and Wildlife Service (Service) received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse effects to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, or proposed species or proposed or designated critical habitat. If there are any project modifications during the term of this action, or additional information for listed or proposed species or their critical habitat becomes available, or if new information reveals effects of the action that were not previously considered, then please contact us for additional project review.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

Patrice Ashfield
Field Office Supervisor

April 27, 2023

Mr. Burt Logan
Ohio History Connection
State Historic Preservation Office
800 E. 17th Avenue
Columbus, OH 43211-2474

Subject: Consultation and Section 106 compliance for the Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project (DOE/EA-2213D)

Dear Mr. Logan,

The U.S. Department of Energy (DOE) is proposing to provide a financial assistance grant (DOE's Proposed Action) to Cirba Solutions, Inc. (Cirba Solutions) as part of the funding opportunity announcement titled "Bipartisan Infrastructure Law (BIL) Battery Materials Processing and Battery Manufacturing," with funds appropriated by the Infrastructure Investment and Jobs Act, also more commonly known as the Bipartisan Infrastructure Law.

Cirba Solutions currently operates a lithium-ion battery recycling facility on an approximately 37-acre plot of land in Lancaster, Ohio, which is part of a larger 200-acre industrial park zoned for heavy industrial uses. The objective of Cirba Solutions' proposed project is to expand and upgrade their existing lithium-ion battery recycling facility to increase domestic recycling capacity for lithium-ion batteries (LiB). To achieve its objectives, Cirba Solutions would add hydrometallurgical processing capabilities, safety upgrades, and a Copper (Cu)/Aluminum (Al) separation line to existing processes at the existing facility, located at 295 Quarry Road SE (Fairfield County). The scope of the proposed project within the 37-acre plot of land includes the physical modification of an existing building (Building 295) within the developed portion of the property, including interior retooling of this existing building (particularly fire safety equipment, air emissions control equipment, and new battery processing lines) and new ground-disturbing activities, including grading and the importation of fill on an additional 20.8 acres of undeveloped land. New construction would also include development of a new Building 395 and new Facility 495. Building 395 is designed to accommodate additional battery processing capacity. Facility 495 would be composed of multiple buildings and would support an advanced hydrometallurgical unit capable of processing black mass into battery-grade raw materials. Additional proposed activities include construction of two new stormwater management basins, a rail spur extension, and installation of additional external equipment pads and paved surface for parking and driving.

For additional details on the proposed project, including the location, site plans and photos, and current understanding of historic resources at the site, I have provided a

626 Cochran Mill Road, Pittsburgh, PA 15236
stephen.witmer@netl.doe.gov Phone (412) 386-7589 www.netl.doe.gov

Section 106 Review – Project Summary Form for review by the Ohio State Historic Preservation Office. If your review of the proposed project details and Section 106 – Project Summary Form concludes that no historic or cultural properties are present in the project area and that neither historic nor cultural properties would be affected by the proposed project, a written acknowledgement of that conclusion would be appreciated.

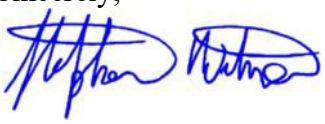
Based on the scope of the proposed Cirba Solutions project, DOE plans to prepare an Environmental Assessment (EA) (DOE/EA-2213D) in accordance with requirements of the National Environmental Policy Act to analyze, document, and disseminate information on the potential environmental and cultural consequences of the project. Information that you provide will be incorporated and appropriately addressed in the EA. Moreover, when the Draft EA is circulated for public comment, the Ohio State Historic Preservation Office will be sent an electronic and hard copy where you may provide additional comments.

If you have any questions concerning the project, please contact me at the following address, phone or email below:

U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Thank you for your attention to this request, and I look forward to working with you.

Sincerely,

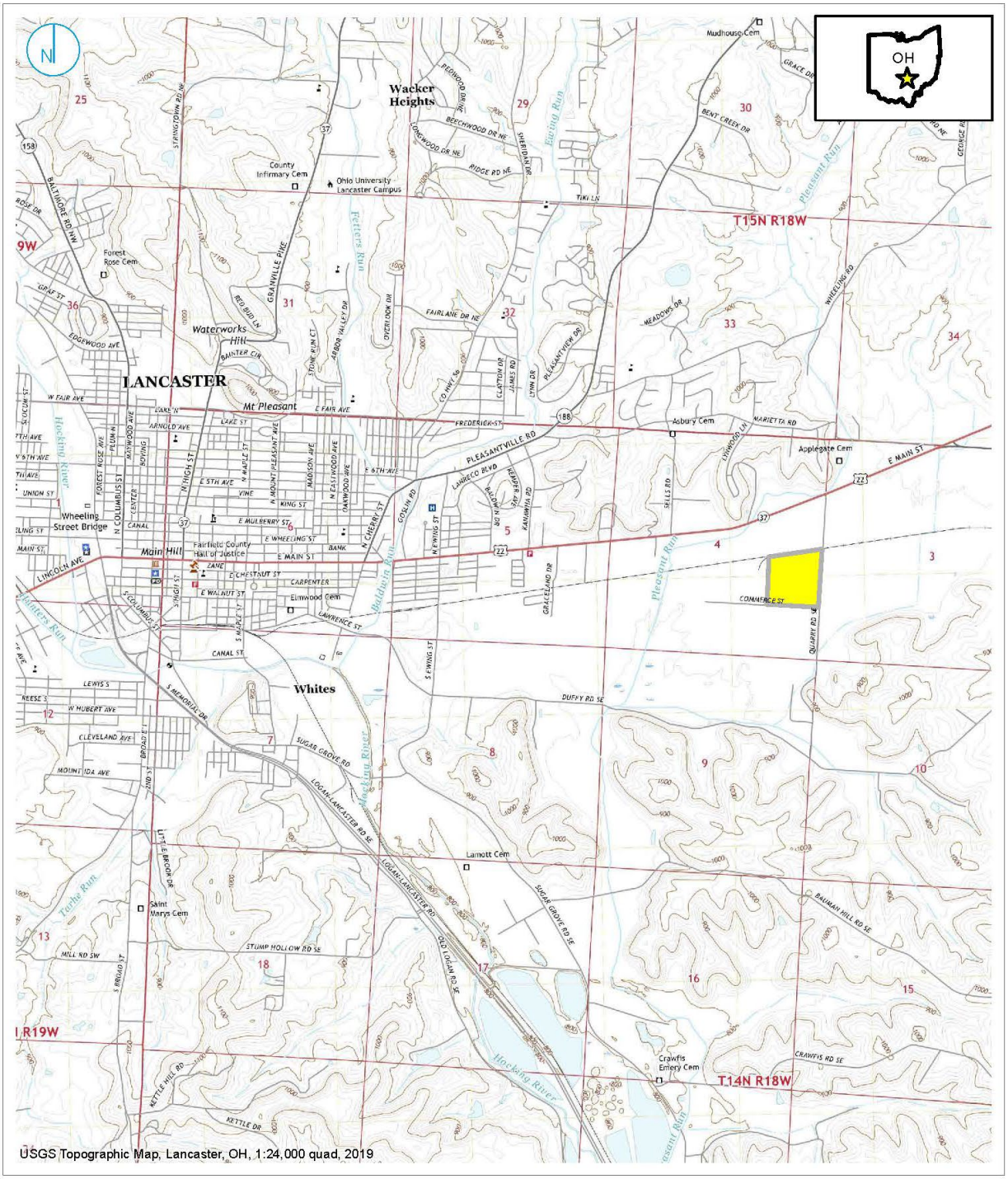


Stephen Witmer
NEPA Compliance Officer

Attachment: Section 106 Review – Project Summary Form – DOE-EA-2213D (2023)

# Attachment 1. Figures

Figure 1. Area of Potential Effects

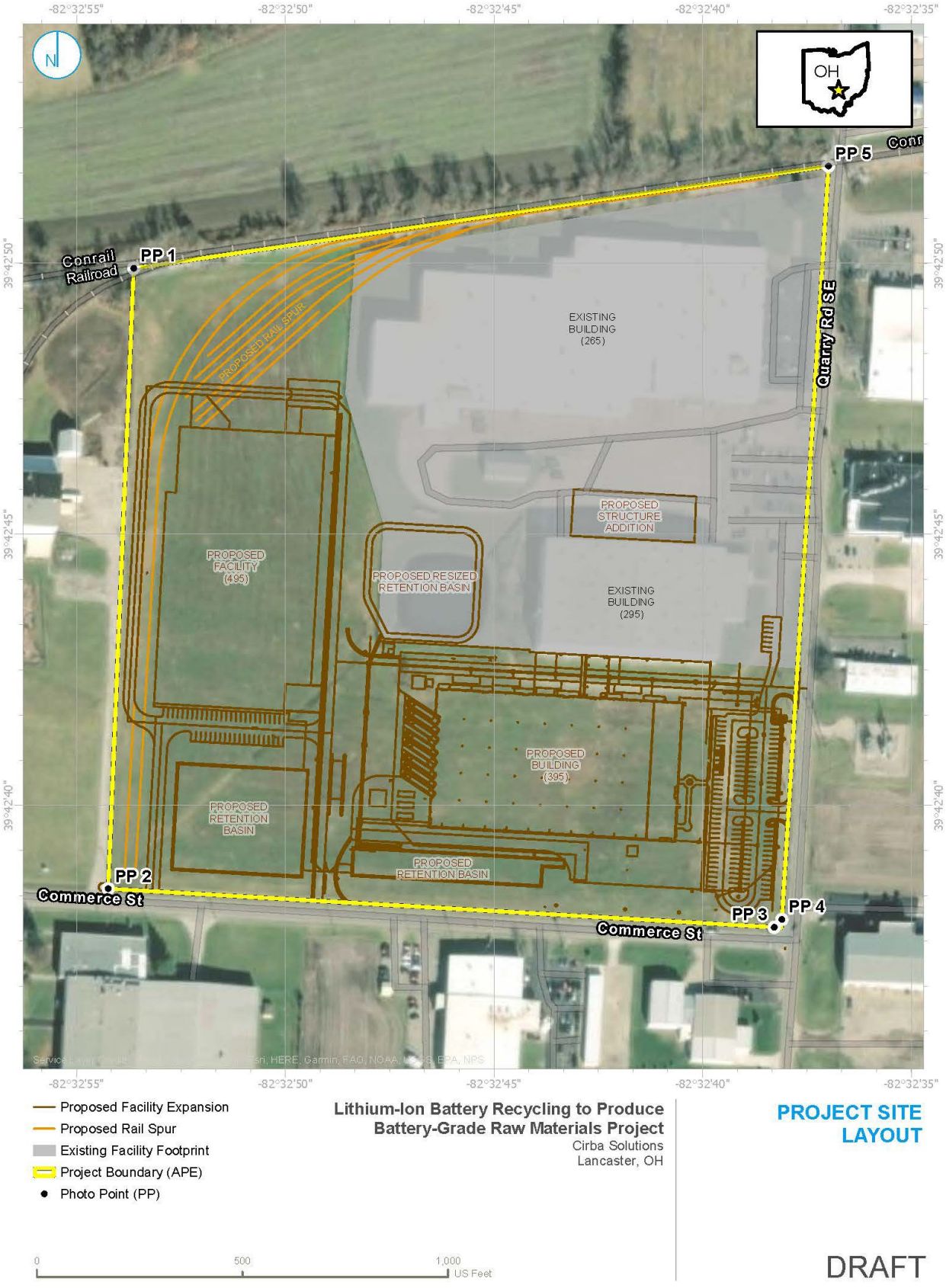



**Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials**
Cirba Solutions
Lancaster, OH

**AREA OF POTENTIAL EFFECT**

DRAFT

Figure 2. Proposed Project Site Layout




**Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project**
Cirba Solutions
Lancaster, OH

**PROJECT SITE LAYOUT**

DRAFT

# Attachment 2. Site Photographs

Photo Point 1. View looking east from the northwest corner of the APE

Photo Point 2. View looking northeast from the southwest corner of the APE

Photo Point 3. View looking west from the southeast corner of the APE

Photo Point 4. View looking northwest from the southeast corner of the APE

Photo Point 5. View looking southwest from the northeast corner of the APE

May 10, 2023

Ms. Katelyn Lucas
Tribal Historic Preservation Officer
Delaware Nation
Post Office Box 825
Anadarko, OK 73005

Subject: Tribal consultation and Section 106 compliance for the Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project (DOE/EA-2213D)

Dear Ms. Lucas,

The U.S. Department of Energy (DOE) is proposing to provide a financial assistance grant (DOE's Proposed Action) to Cirba Solutions, Inc. (Cirba Solutions) as part of the funding opportunity announcement titled "Bipartisan Infrastructure Law (BIL) Battery Materials Processing and Battery Manufacturing," with funds appropriated by the Infrastructure Investment and Jobs Act, also more commonly known as the Bipartisan Infrastructure Law.

Cirba Solutions currently operates a lithium-ion battery recycling facility on an approximately 37-acre plot of land in Lancaster, Ohio, which is part of a larger 200-acre industrial park zoned for heavy industrial uses. The objective of Cirba Solutions' proposed project is to expand and upgrade their existing lithium-ion battery recycling facility to increase domestic recycling capacity for lithium-ion batteries (LiB). To achieve its objectives, Cirba Solutions would add hydrometallurgical processing capabilities, safety upgrades, and a Copper (Cu)/Aluminum (Al) separation line to existing processes at the existing facility, located at 295 Quarry Road SE (Fairfield County). The scope of the proposed project within the 37-acre plot of land includes the physical modification of an existing building (Building 295) within the developed portion of the property, including interior retooling of this existing building (particularly fire safety equipment, air emissions control equipment, and new battery processing lines) and new ground-disturbing activities, including grading and the importation of fill on an additional 20.8 acres of undeveloped land. New construction would also include development of a new Building 395 and new Facility 495. Building 395 is designed to accommodate additional battery processing capacity. Facility 495 would be composed of multiple buildings and would support an advanced hydrometallurgical unit capable of processing black mass into battery-grade raw materials. Additional proposed activities include construction of two new stormwater management basins, a rail spur extension, and installation of additional external equipment pads and paved surface for parking and driving.

I have provided an attachment that contains additional details regarding the proposed project, including the location, site plans, and photos. DOE is also consulting with the

626 Cochran Mill Road, Pittsburgh, PA 15236
stephen.witmer@netl.doe.gov Phone (412) 386-7589 www.netl.doe.gov

Ohio State Historic Preservation Office regarding this proposed project, and their response to this proposed project is also provided as an attachment.

Based on the scope of the proposed Cirba Solutions project, DOE plans to prepare an Environmental Assessment (EA) (DOE/EA-2213D) in accordance with requirements of the National Environmental Policy Act to analyze, document, and disseminate information on the potential environmental and cultural consequences of the project. Information that you provide will be incorporated and appropriately addressed in the EA. Moreover, when the Draft EA is circulated for public comment, the Delaware Nation will be sent an electronic and hard copy where you may provide additional comments.

If you have any questions concerning the project, please contact me at the following address, phone, or email below:

U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Thank you for your attention to this request, and I look forward to working with your Tribal Nation.

Sincerely,

Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cirba Solutions Project – Maps, Site Plans, and Photographs
2. Cirba Solutions Project – Ohio State Historic Preservation Office Response

May 22, 2023

Ms. Susan Bachor
Archaeologist & Historic Preservationist
Delaware Tribe of Indians
Delaware Tribe Historic Preservation, Pennsylvania Office
Post Office Box 64
Pocono Lake, PA 18347

Subject: Tribal consultation and Section 106 compliance for the Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project (DOE/EA-2213D)

Dear Ms. Bachor,

The U.S. Department of Energy (DOE) is proposing to provide a financial assistance grant (DOE's Proposed Action) to Cirba Solutions, Inc. (Cirba Solutions) as part of the funding opportunity announcement titled "Bipartisan Infrastructure Law (BIL) Battery Materials Processing and Battery Manufacturing," with funds appropriated by the Infrastructure Investment and Jobs Act, also more commonly known as the Bipartisan Infrastructure Law.

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If you have any questions concerning the project, please contact me at the following address, phone, or email below:

U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
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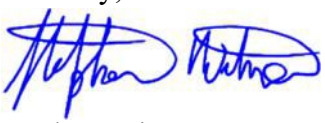

Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cirba Solutions Project – Maps, Site Plans, and Photographs
2. Cirba Solutions Project – Ohio State Historic Preservation Office Response

May 10, 2023

Mr. Paul Barton
Tribal Historic Preservation Officer
Director of Culture Preservation
Eastern Shawnee Tribe of Oklahoma
70500 E. 128 Road
Wyandotte, OK 74370

Subject: Tribal consultation and Section 106 compliance for the Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project (DOE/EA-2213D)

Dear Mr. Barton,

The U.S. Department of Energy (DOE) is proposing to provide a financial assistance grant (DOE's Proposed Action) to Cirba Solutions, Inc. (Cirba Solutions) as part of the funding opportunity announcement titled "Bipartisan Infrastructure Law (BIL) Battery Materials Processing and Battery Manufacturing," with funds appropriated by the Infrastructure Investment and Jobs Act, also more commonly known as the Bipartisan Infrastructure Law.

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Ohio State Historic Preservation Office regarding this proposed project, and their response to this proposed project is also provided as an attachment.

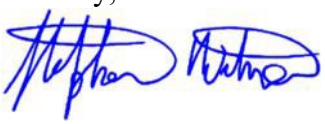
Based on the scope of the proposed Cirba Solutions project, DOE plans to prepare an Environmental Assessment (EA) (DOE/EA-2213D) in accordance with requirements of the National Environmental Policy Act to analyze, document, and disseminate information on the potential environmental and cultural consequences of the project. Information that you provide will be incorporated and appropriately addressed in the EA. Moreover, when the Draft EA is circulated for public comment, the Eastern Shawnee Tribe of Oklahoma will be sent an electronic and hard copy where you may provide additional comments.

If you have any questions or concerns regarding this project, please contact me at the following address, phone, or email below:

U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Thank you for your attention to this request, and I look forward to working with your Tribal Nation.

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cirba Solutions Project – Maps, Site Plans, and Photographs
2. Cirba Solutions Project – Ohio State Historic Preservation Office Response

May 5, 2023

Ms. Diane Hunter
Tribal Historic Preservation Officer
Miami Tribe of Oklahoma
Post Office Box 1326
Miami, OK 74355

Subject: Tribal consultation and Section 106 compliance for the Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project (DOE/EA-2213D)

Dear Ms. Hunter,

The U.S. Department of Energy (DOE) is proposing to provide a financial assistance grant (DOE's Proposed Action) to Cirba Solutions, Inc. (Cirba Solutions) as part of the funding opportunity announcement titled "Bipartisan Infrastructure Law (BIL) Battery Materials Processing and Battery Manufacturing," with funds appropriated by the Infrastructure Investment and Jobs Act, also more commonly known as the Bipartisan Infrastructure Law.

Cirba Solutions currently operates a lithium-ion battery recycling facility on an approximately 37-acre plot of land in Lancaster, Ohio, which is part of a larger 200-acre industrial park zoned for heavy industrial uses. The objective of Cirba Solutions' proposed project is to expand and upgrade their existing lithium-ion battery recycling facility to increase domestic recycling capacity for lithium-ion batteries. To achieve its objectives, Cirba Solutions would add hydrometallurgical processing capabilities, safety upgrades, and a Copper (Cu)/Aluminum (Al) separation line to existing processes at the existing facility, located at 295 Quarry Road SE (Fairfield County). The scope of the proposed project within the 37-acre plot of land includes the physical modification of an existing building (Building 295) within the developed portion of the property, including interior retooling of this existing building (particularly fire safety equipment, air emissions control equipment, and new battery processing lines) and new ground-disturbing activities, including grading and the importation of fill on an additional 20.8 acres of undeveloped land. New construction would also include development of a new Building 395 and new Facility 495. Building 395 is designed to accommodate additional battery processing capacity. Facility 495 would be composed of multiple buildings and would support an advanced hydrometallurgical unit capable of processing black mass into battery-grade raw materials. Additional proposed activities include construction of two new stormwater management basins, a rail spur extension, and installation of additional external equipment pads and paved surface for parking and driving.

I have provided an attachment that contains additional details regarding the proposed project, including the location, site plans, and photos. DOE is also consulting with the Ohio State Historic Preservation Office regarding this proposed project, but we would

appreciate any information you have regarding Native American interests, sacred locations, traditional resources, or traditional religious practices potentially affected by this proposed project.

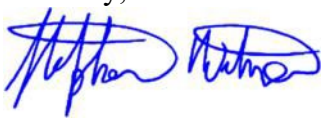
Based on the scope of the proposed Cirba Solutions project, DOE plans to prepare an Environmental Assessment (EA) (DOE/EA-2213D) in accordance with requirements of the National Environmental Policy Act to analyze, document, and disseminate information on the potential environmental and cultural consequences of the project. Information that you provide will be incorporated and appropriately addressed in the EA. Moreover, when the Draft EA is circulated for public comment, the Miami Tribe of Oklahoma will be sent the website containing the Draft EA where you may provide additional comments.

If you have any questions concerning the project, please contact me at the following address, phone, or email below:

U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Thank you for your attention to this request, and I look forward to working with your Tribal Nation.

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachment: Cirba Solutions Project – Maps, Site Plans, and Photographs

May 10, 2023

Mr. William Tarrant
Tribal Historic Preservation Officer
Seneca-Cayuga Nation
Post Office Box 453220
Grove, OK 74345

Subject: Tribal consultation and Section 106 compliance for the Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project (DOE/EA-2213D)

Dear Mr. Tarrant,

The U.S. Department of Energy (DOE) is proposing to provide a financial assistance grant (DOE's Proposed Action) to Cirba Solutions, Inc. (Cirba Solutions) as part of the funding opportunity announcement titled "Bipartisan Infrastructure Law (BIL) Battery Materials Processing and Battery Manufacturing," with funds appropriated by the Infrastructure Investment and Jobs Act, also more commonly known as the Bipartisan Infrastructure Law.

Cirba Solutions currently operates a lithium-ion battery recycling facility on an approximately 37-acre plot of land in Lancaster, Ohio, which is part of a larger 200-acre industrial park zoned for heavy industrial uses. The objective of Cirba Solutions' proposed project is to expand and upgrade their existing lithium-ion battery recycling facility to increase domestic recycling capacity for lithium-ion batteries. To achieve its objectives, Cirba Solutions would add hydrometallurgical processing capabilities, safety upgrades, and a Copper (Cu)/Aluminum (Al) separation line to existing processes at the existing facility, located at 295 Quarry Road SE (Fairfield County). The scope of the proposed project within the 37-acre plot of land includes the physical modification of an existing building (Building 295) within the developed portion of the property, including interior retooling of this existing building (particularly fire safety equipment, air emissions control equipment, and new battery processing lines) and new ground-disturbing activities, including grading and the importation of fill on an additional 20.8 acres of undeveloped land. New construction would also include development of a new Building 395 and new Facility 495. Building 395 is designed to accommodate additional battery processing capacity. Facility 495 would be composed of multiple buildings and would support an advanced hydrometallurgical unit capable of processing black mass into battery-grade raw materials. Additional proposed activities include construction of two new stormwater management basins, a rail spur extension, and installation of additional external equipment pads and paved surface for parking and driving.

I have provided an attachment that contains additional details regarding the proposed project, including the location, site plans, and photos. DOE is also consulting with the

626 Cochran Mill Road, Pittsburgh, PA 15236
stephen.witmer@netl.doe.gov Phone (412) 386-7589 www.netl.doe.gov

Ohio State Historic Preservation Office regarding this proposed project, and their response to this proposed project is also provided as an attachment.

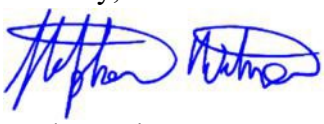
Based on the scope of the proposed Cirba Solutions project, DOE plans to prepare an Environmental Assessment (EA) (DOE/EA-2213D) in accordance with requirements of the National Environmental Policy Act to analyze, document, and disseminate information on the potential environmental and cultural consequences of the project. Information that you provide will be incorporated and appropriately addressed in the EA. Moreover, when the Draft EA is circulated for public comment, the Seneca-Cayuga Nation will be sent an electronic and hard copy where you may provide additional comments.

If you have any questions or concerns regarding this project, please contact me at the following address, phone, or email below:

U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
M/S 921-227
Pittsburgh, PA 15236
Telephone: 412-386-7589
Email: stephen.witmer@netl.doe.gov

Thank you for your attention to this request, and I look forward to working with your Tribal Nation.

Sincerely,



Stephen Witmer
NEPA Compliance Officer

Attachments:

1. Cirba Solutions Project – Maps, Site Plans, and Photographs
2. Cirba Solutions Project – Ohio State Historic Preservation Office Response

In reply refer to
2023-FAI-57819

May 10, 2023

Stephen Witmer
U.S. Department of Energy
National Energy Technology Laboratory
626 Cochran Mill Road
Dear Ms. Allen:

RE: Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project, 265 Quarry Road SE, Lancaster, Fairfield County, Ohio

This is in response to the receipt, on April 27, 2023, of information related to proposed commercial construction within an existing industrial park at the above location in Fairfield County, Ohio. The comments of the Ohio Historic Preservation Office are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Based on the information submitted, it is my opinion that the proposed undertaking will have no effect on properties listed in or eligible for listing in the National Register of Historic Places. No further coordination is required unless the project changes or archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted as per 36 CFR 800.13.

Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs. If you have any questions, please contact me at (614) 298-2000, or by email at nyoung@ohiohistory.org. Please note the Ohio SHPO now accepts electronic-only submissions for state and/or federal review under Section 106 and ORC 149.53. Please send your submissions to section106@ohiohistory.org. We have also updated our Survey Report Submission Standards.

Sincerely,

Nathan J. Young, Project Reviews Manager
Resource Protection and Review

*Delaware Nation*
**Tribal Historic Preservation Department**
31064 State Highway 281
Anadarko, OK 73005
Phone (405)247-2448

May 11, 2023

To Whom It May Concern:

The Delaware Nation Historic Preservation Department received correspondence regarding the following referenced project(s).

**Project(s):** Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project, 265 Quarry Road SE, Lancaster, Fairfield County, Ohio

Our office is committed to protecting tribal heritage, culture, and religion with particular concern for archaeological sites potentially containing burials and associated funerary objects. The Lenape people occupied and/or interacted in the area indicated in your letter prior to European contact until their eventual removal to our present locations. **We accept your invitation to consult.** We concur with the SHPO that the proposed project should have **no adverse effect on** any known cultural or religious sites of interest to the Delaware Nation, but there is always the potential for discovery of archaeological resources in this area. Should the scope of the project be amended to include any additional ground-disturbing activity, you will need to reinitiate consultation with our office. **Please continue with the project as planned** keeping in mind during construction should human remains and/or any Native American archaeological resources inadvertently be uncovered, all construction and ground disturbing activities should immediately be halted until the appropriate state agencies, as well as this office, are notified (within 24 hours), and a proper archaeological assessment can be made.

Please note that Delaware Nation, the Delaware Tribe of Indians, and the Stockbridge Munsee Community are the only Federally Recognized Delaware/Lenape entities in the United States and consultation for Lenape homelands must be made with only the designated staff of these three Nations (and/or other federally recognized tribal nations who may have overlapping areas of interest). We appreciate your cooperation in contacting the Delaware Nation Historic Preservation Office to conduct proper Section 106 consultation. Should you have any questions, feel free to contact our offices at 405-247-2448 ext. 1403.

*Katelyn Lucas*

Katelyn Lucas
Tribal Historic Preservation Officer
Delaware Nation
405-544-8115
klucas@delawarenation-nsn.gov

**Appendix 3**

# Interim Actions and Categorical Exclusions

U.S. DEPARTMENT OF ENERGY

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

NATIONAL ENERGY TECHNOLOGY LABORATORY

April 12, 2023

Laura Evans
Project Manager
Cirba Solutions, Inc.
265 Quarry Road SE
Lancaster, OH 43130-8054

RE: Interim Action(s) within the scope of an ongoing Environmental Assessment prior to issuance of a Finding of No Significant Impact for the Lithium-Ion Battery Recycling to Produce Battery-Grade Raw Materials Project (DOE/EA-2213D)

Dear Ms. Evans:

In accordance with criteria established by the Council on Environmental Quality in its regulations implementing the procedural provisions of the National Environmental Policy Act (NEPA)(40 CFR Parts 1500-1508), DOE's NEPA implementing regulations (10 CFR Part 1021), which rely on those criteria, and DOE Order 451.1B, *National Environmental Policy Act Compliance Program,* our office has reviewed the Environmental Questionnaire submitted and found it acceptable to proceed with the following project tasks from the enclosed Statement of Project Objectives: Overall Project Management and Planning (including Task 0.0 — Project Management and Planning and Task 0.1 — Kick-off Meeting), Task 1.1 (Expanding Lithium-Ion Mechanical Processing), Task 1.3 (Production of Battery Grade Raw Materials via Expansion of Basic Hydro Line), Task 1.5 (Copper and Aluminum Recovery), Task 1.8 (Implement Equity Plan), and Task 1.9 (Production of MHP and Lithium Salts via Basic Hydro Line). These tasks include administrative work, paper studies, analysis, permitting, and planning. These tasks also include interior renovation, alteration, equipment installation, and production/operations within an existing building (Building 295), and minimal exterior alterations related to the renovation of Building 295 within the existing and previously disturbed building footprint. Any tasks or portions of tasks not noted above are not considered to be interim actions, and potential environmental impacts of these activities must be evaluated with the Environmental Assessment (EA) planned for this project. Construction,

groundbreaking, land disturbances, or other related activities not noted above are not authorized under this interim action memorandum.

Although the tasks discussed in the above paragraph would take place prior to DOE's completion of the EA for the entire project *(wherein a more thorough and extensive review will be conducted),* DOE has determined that completing these tasks would not have an adverse environmental impact; nor would it limit the choice of reasonable alternatives for the project. It is therefore acceptable for you to proceed with these tasks.

The activities detailed within this interim action will need to be further documented and included in the upcoming EA. This interim action memorandum will be included as an Appendix in the upcoming EA and become part of the official record. Please contact Stephen Witmer at 412-386-7589, or Fred Pozzuto at 304-285-5219 if you have questions concerning this interim action memorandum.

Sincerely,

Stephen Witmer
NEPA Compliance Officer

Fred Pozzuto
Director, NETL NEPA Division

Enclosure: MS0000019 Cirba Solutions SOPO

cc:
Paul Braham, MESC HQ
Hank Hinkle, MESC HQ
Sheldon Funk, NETL

PMC-ND

(1.08.09.13)

# U.S. DEPARTMENT OF ENERGY
# OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
# NEPA DETERMINATION

**RECIPIENT:** Cirba Solutions **STATE:** OH

**PROJECT TITLE :** A Novel Integrated End-to-end Processing of End-of-Life EV Batteries for Remanufacturing of New EV Cells

| Funding Opportunity Announcement Number | Procurement Instrument Number | NEPA Control Number | CID Number |
|---|---|---|---|
| DE-FOA-002680 | | DE-EE0010397 | |

**Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), I have made the following determination:**

**CX, EA, EIS APPENDIX AND NUMBER:**
Description:

| | |
|---|---|
| **A9 Information gathering, analysis, and dissemination** | Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site |
| **B3.6 Small-scale research and development, laboratory operations, and pilot projects** | Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment. |
| **A9 Information gathering, analysis, and dissemination** | Small-scale renewable energy research and development projects and small-scale pilot projects. provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with the applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices. |

Rational for determination:

**NEPA PROVISION**

DOE has made a final NEPA determination.

**FOR CATEGORICAL EXCLUSION DETERMINATIONS**

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

The proposed action is categorically excluded from further NEPA review.

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature: Stephen Witmer Date: 6/6/2023
NEPA Compliance Officer

**FIELD OFFICE MANAGER DETERMINATION**

☑ Field Office Manager review not required
☐ Field Office Manager review required

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature: _____ Da

**Appendix 4**

Floodplain Mapping
Letter of Map Revision Number 18-05-0226P

# Federal Emergency Management Agency

Washington, D.C. 20472

## LETTER OF MAP REVISION
## DETERMINATION DOCUMENT

| COMMUNITY AND REVISION INFORMATION | | PROJECT DESCRIPTION | BASIS OF REQUEST |
|---|---|---|---|
| COMMUNITY | Fairfield County<br>Ohio<br>(Unincorporated Areas) | BRIDGE | BASE MAP CHANGES<br>FLOODWAY<br>HYDRAULIC ANALYSIS<br>NEW TOPOGRAPHIC DATA |
| | COMMUNITY NO.: 390158 | | |
| IDENTIFIER | Pleasant Run | APPROXIMATE LATITUDE & LONGITUDE: 39.712, -82.545<br>SOURCE: Other DATUM: NAD 83 | |

| ANNOTATED MAPPING ENCLOSURES | ANNOTATED STUDY ENCLOSURES |
|---|---|
| TYPE: FIRM* NO.: 39045C0256G DATE: January 6, 2012<br>TYPE: FIRM NO.: 39045C0258G DATE: January 6, 2012 | DATE OF EFFECTIVE FLOOD INSURANCE STUDY: January 06, 2012<br>PROFILE(S): 076-077P<br>FLOODWAY DATA TABLE: 10 |

Enclosures reflect changes to flooding sources affected by this revision.
* FIRM - Flood Insurance Rate Map

**FLOODING SOURCE(S) & REVISED REACH(ES)**

Pleasant Run - From approximately 2,500 feet downstream of Railroad to approximately 250 feet upstream of Marietta Road

**SUMMARY OF REVISIONS**

| Flooding Source | Effective Flooding | Revised Flooding | Increases | Decreases |
|---|---|---|---|---|
| Pleasant Run | Zone AE | Zone AE | YES | YES |
| | Zone X (shaded) | Zone X (shaded) | YES | YES |
| | BFEs* | BFEs | YES | YES |
| | Floodway | Floodway | YES | YES |

* BFEs - Base Flood Elevations

## DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

18-05-0226P 102-I-A-C

Federal Emergency Management Agency
Washington, D.C. 20472

# LETTER OF MAP REVISION
# DETERMINATION DOCUMENT (CONTINUED)

## OTHER COMMUNITIES AFFECTED BY THIS REVISION

**CID Number:** 390161 **Name:** City of Lancaster, Ohio

| AFFECTED MAP PANELS | AFFECTED PORTIONS OF THE FLOOD INSURANCE STUDY REPORT |
|---|---|
| TYPE: FIRM* NO.: 39045C0256G DATE: January 6, 2012<br>TYPE: FIRM NO.: 39045C0258G DATE: January 6, 2012 | DATE OF EFFECTIVE FLOOD INSURANCE STUDY: January 6, 2012<br>PROFILE(S): 076-077P<br>FLOODWAY DATA TABLE: 10 |

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

# LETTER OF MAP REVISION
# DETERMINATION DOCUMENT (CONTINUED)

## COMMUNITY INFORMATION

### APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

### COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

## LETTER OF MAP REVISION
## DETERMINATION DOCUMENT (CONTINUED)

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Mary Beth Caruso
Director, Mitigation Division
Federal Emergency Management Agency, Region V
536 South Clark Street, Sixth Floor
Chicago, IL 60605
(312) 408-5500

### STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panel(s) and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

Federal Emergency Management Agency
Washington, D.C. 20472

## LETTER OF MAP REVISION
## DETERMINATION DOCUMENT (CONTINUED)

### PUBLIC NOTIFICATION OF REVISION

A notice of changes will be published in the *Federal Register*. This information also will be published in your local newspaper on or about the dates listed below, and through FEMA's Flood Hazard Mapping website at https://www.floodmaps.fema.gov/fhm/bfe_status/bfe_main.asp

LOCAL NEWSPAPER
Name: *Lancaster Eagle-Gazette*
Dates: July 16, 2018 and July 23, 2018

Within 90 days of the second publication in the local newspaper, any interested party may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised flood hazard determination presented in this LOMR may be changed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/nfip.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

| FLOODING SOURCE | | FLOODWAY | | | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD) | | | |
|---|---|---|---|---|---|---|---|---|
| CROSS SECTION | DISTANCE[1] | WIDTH (FEET) | SECTION AREA (SQUARE FEET) | MEAN VELOCITY (FEET PER SECOND) | REGULATORY | WITHOUT FLOODWAY | WITH FLOODWAY | INCREASE |
| Pleasant Run (cont.) | | | | | | | | |
| L | 24,699 [1] | 148 | 287 | 7.3 | 835.1 | 835.1 | 835.1 | 0.0 |
| M | 24,972 [1] | 84 | 484 | 5.5 | 837.5 | 837.5 | 837.9 | 0.4 |
| N | 26,849 [1] | 211 | 992 | 2.7 | 842.2 | 842.2 | 842.6 | 0.4 |
| O | 28,470 [1] | 171 | 724 | 3.6 | 847.6 | 847.6 | 848.1 | 0.5 |
| P | 29,150 [1] | 179 | 710 | 3.4 | 849.3 | 849.3 | 849.8 | 0.5 |
| Q | 30,940 [1] | 262 | 1,107 | 2.2 | 854.5 | 854.5 | 855.0 | 0.5 |
| R | 32,080 [1] | 132 | 598 | 4.1 | 859.2 | 859.2 | 859.7 | 0.5 |
| S | 34,380 [1] | 173 | 807 | 3.0 | 863.7 | 863.7 | 864.2 | 0.5 |
| T | 35,710 [1] | 303 | 976 | 2.5 | 866.2 | 866.2 | 866.7 | 0.5 |
| U | 38,070 [1] | 174 | 824 | 3.0 | 873.6 | 873.6 | 874.1 | 0.5 |
| V | 40,890 [1] | 306 | 1,031 | 2.4 | 878.5 | 878.5 | 879.0 | 0.5 |
| W | 42,870 [1] | 475 | 1,493 | 1.6 | 885.6 | 885.6 | 886.1 | 0.5 |
| X | 44,810 [1] | 407 | 1,315 | 1.8 | 888.3 | 888.3 | 888.8 | 0.5 |
| Y | 45,790 [1] | 340 | 1,860 | 1.2 | 892.9 | 892.9 | 893.4 | 0.5 |
| Z | 47,770 [1] | 196 | 785 | 2.8 | 897.2 | 897.2 | 897.7 | 0.5 |
| AA | 49,240 [1] | 270 | 904 | 2.4 | 900.0 | 900.0 | 900.5 | 0.5 |
| AB | 51,420 [1] | 557 | 1,558 | 1.4 | 904.0 | 904.0 | 904.5 | 0.5 |
| AC | 53,620 [1] | 51 | 339 | 6.5 | 916.5 | 916.5 | 917.0 | 0.5 |
| Pleasant Run Lateral | | | | | | | | |
| A | 2,840 [2] | 390 | 1,007 | 1.5 | 821.2 | 821.2 | 821.7 | 0.5 |
| B | 5,240 [2] | 307 | 806 | 1.3 | 826.9 | 826.9 | 827.4 | 0.5 |

[1] Feet above confluence with Hocking River [2] Feet above confluence with Pleasant Run

REVISED DATA

TABLE 10

FEDERAL EMERGENCY MANAGEMENT AGENCY

**FAIRFIELD COUNTY, OHIO**
AND INCORPORATED AREAS

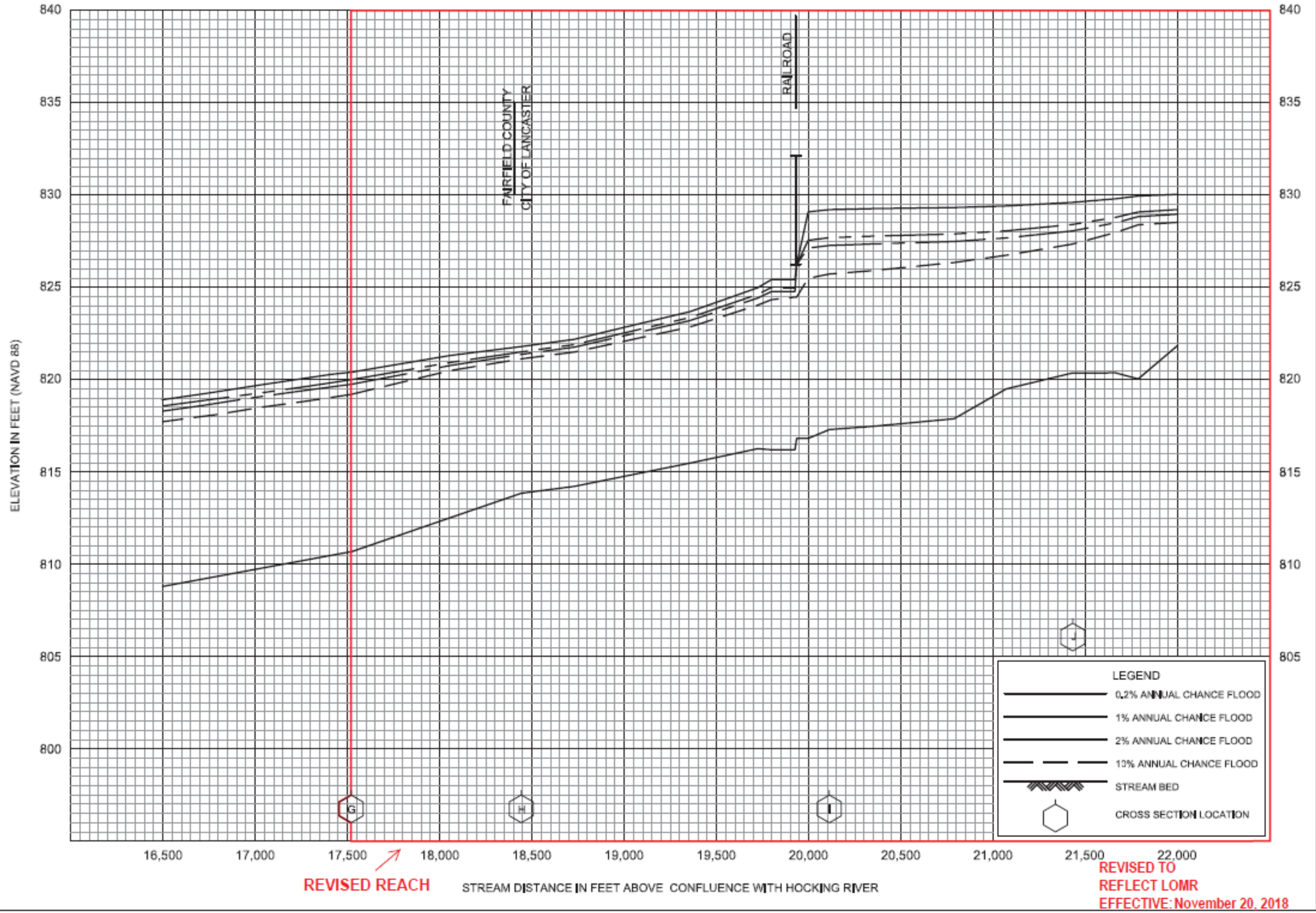
REVISED TO REFLECT LOMR

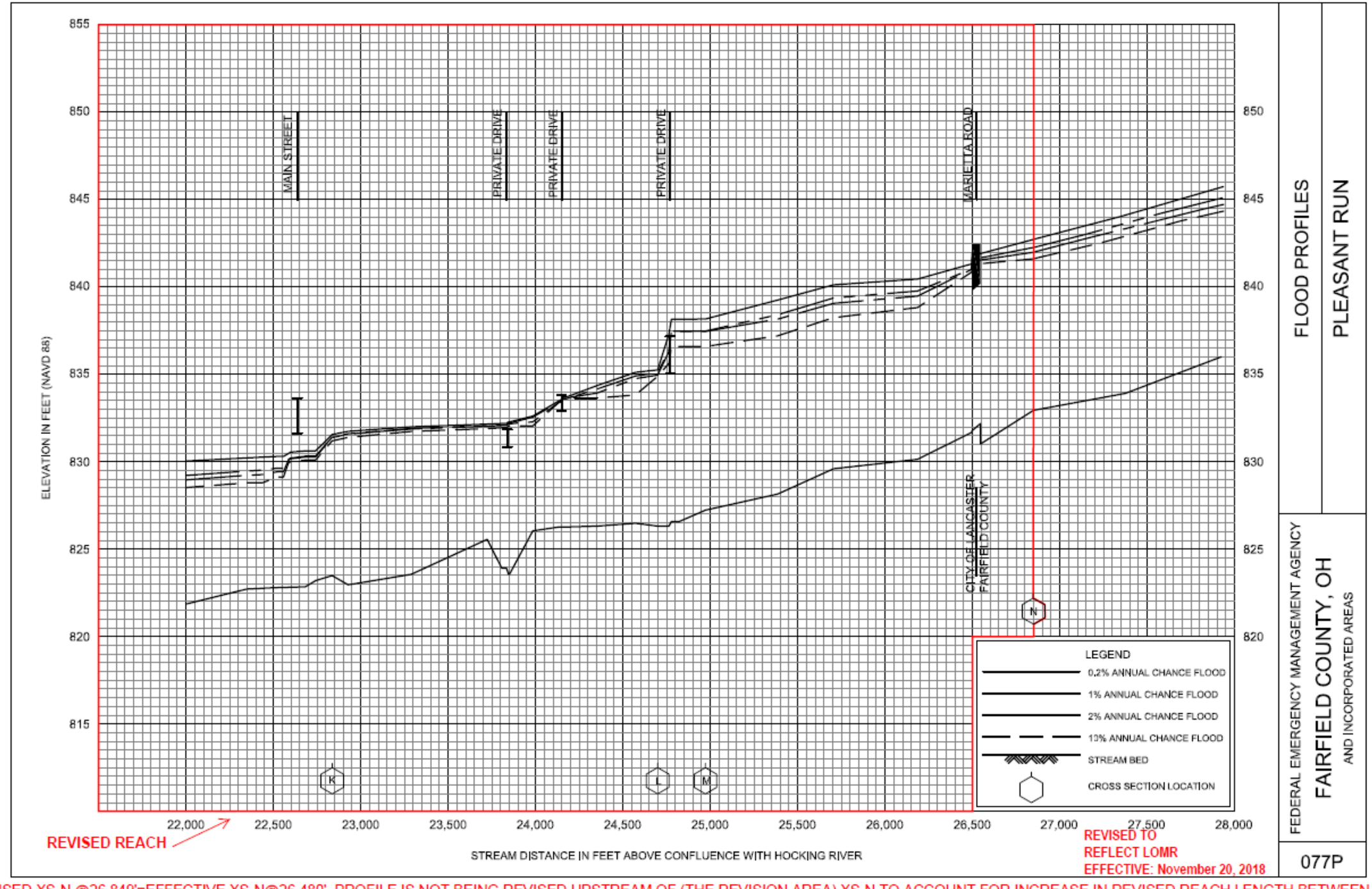
**FLOODWAY DATA**

EFFECTIVE: November 20, 2018

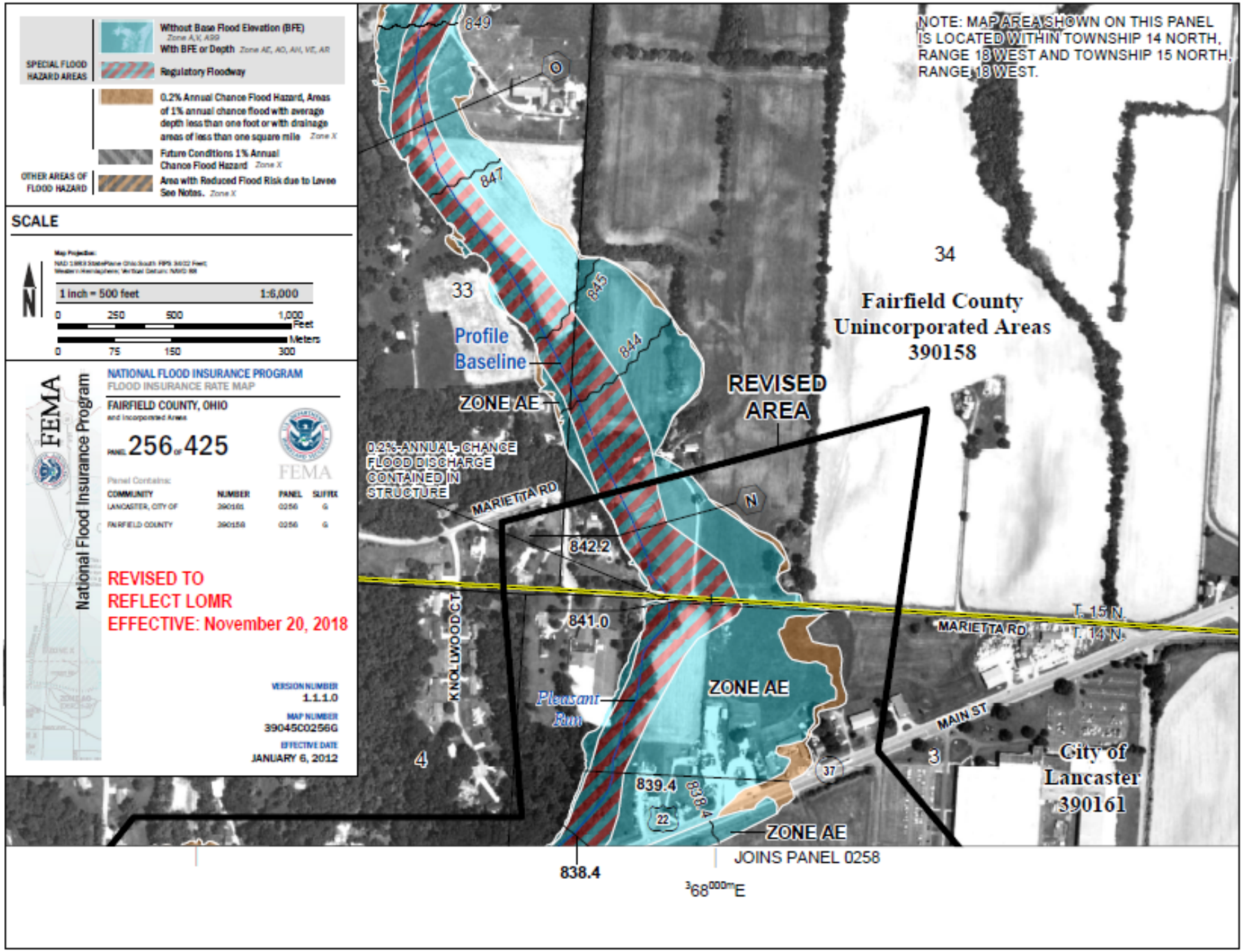
**Pleasant Run, Pleasant Run Lateral**

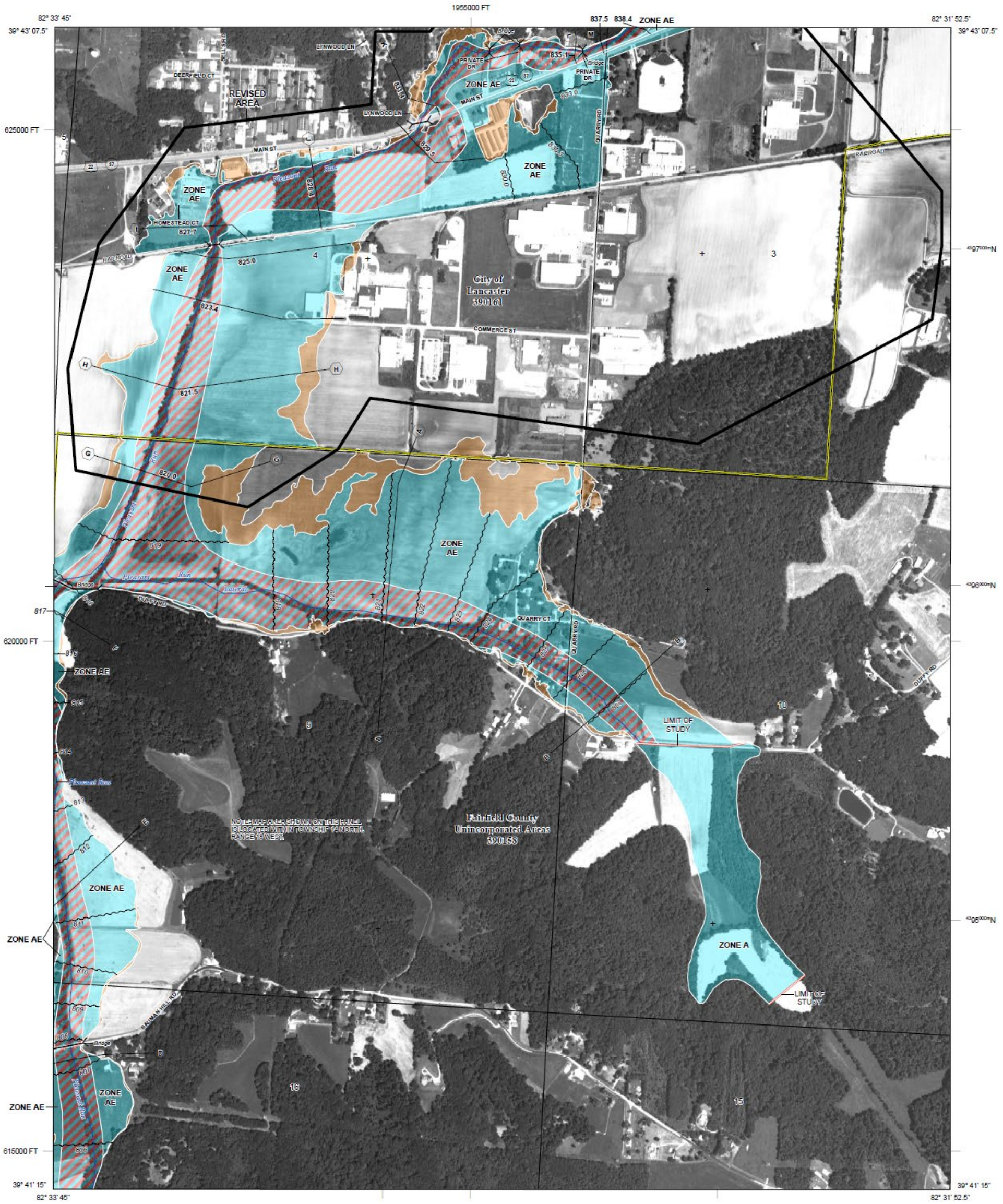
REVISED XS-N @26,849'=EFFECTIVE XS-N@26,480'. PROFILE IS NOT BEING REVISED UPSTREAM OF (THE REVISION AREA) XS-N TO ACCOUNT FOR INCREASE IN REVISED REACH LENGTH BETWEEN XS-G AND XS-N


840
835
830
825
820
815
810
805
800
ELEVATION IN FEET (NAVD 88)
FAIRFIELD COUNTY
CITY OF LANCASTER
RAILROAD
G
H
I
16,500
17,000
17,500
18,000
18,500
19,000
19,500
20,000
20,500
21,000
21,500
22,000
REVISED REACH
STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH HOCKING RIVER
LEGEND
0.2% ANNUAL CHANCE FLOOD
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD
10% ANNUAL CHANCE FLOOD
STREAM BED
CROSS SECTION LOCATION
REVISED TO
REFLECT LOMR
EFFECTIVE: November 20, 2018
FLOOD PROFILES
PLEASANT RUN
FEDERAL EMERGENCY MANAGEMENT AGENCY
FAIRFIELD COUNTY, OH
AND INCORPORATED AREAS
076P




REVISED XS-N @26,849'=EFFECTIVE XS-N@26,480'. PROFILE IS NOT BEING REVISED UPSTREAM OF (THE REVISION AREA) XS-N TO ACCOUNT FOR INCREASE IN REVISED REACH LENGTH BETWEEN XS-G AND XS-N


SPECIAL FLOOD HAZARD AREAS
Without Base Flood Elevation (BFE) Zone A, A99
With BFE or Depth Zone AE, AO, AH, VE, AR
Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD
0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
Future Conditions 1% Annual Chance Flood Hazard Zone X
Area with Reduced Flood Risk due to Levee See Notes. Zone X
SCALE
1 inch = 500 feet 1:6,000
0 250 500 1,000 Feet
0 75 150 300 Meters
FEMA
National Flood Insurance Program
NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP
FAIRFIELD COUNTY, OHIO
and Incorporated Areas
PANEL 256 OF 425
Panel Contains:
COMMUNITY NUMBER PANEL SUFFIX
LANCASTER, CITY OF 390161 0256 G
FAIRFIELD COUNTY 390158 0256 G
REVISED TO
REFLECT LOMR
EFFECTIVE: November 20, 2018
VERSION NUMBER
1.1.1.0
MAP NUMBER
39045C0256G
EFFECTIVE DATE
JANUARY 6, 2012
NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 14 NORTH, RANGE 18 WEST AND TOWNSHIP 15 NORTH, RANGE 18 WEST.
649
847
845
844
842.2
841.0
839.4
838.4
838.4
33
34
4
3
Profile Baseline
ZONE AE
REVISED AREA
0.2%-ANNUAL-CHANCE FLOOD DISCHARGE CONTAINED IN STRUCTURE
MARIETTA RD
KNOLLWOOD CT
Pleasant Run
ZONE AE
ZONE AE
MAIN ST
Fairfield County Unincorporated Areas 390158
City of Lancaster 390161
T. 15 N.
T. 14 N.
37
22
JOINS PANEL 0258
368000mE




## FLOOD HAZARD INFORMATION

**SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP**

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTP://MSC.FEMA.GOV

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes. *Zone X*

**OTHER AREAS**
- NO SCREEN Areas Determined to be Outside the 0.2% Annual Chance Floodplain *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

## NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information on this FIRM was provided in digital format by the Fairfield County GIS Department. This information was produced from aerial photography dated 2006 or later.

## SCALE

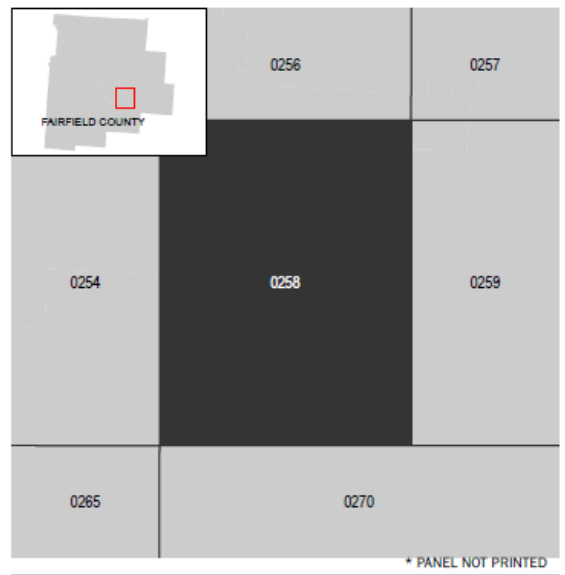
Map Projection:
NAD 1983 StatePlane Ohio South FIPS 3402 Feet;
Western Hemisphere; Vertical Datum: NAVD 88

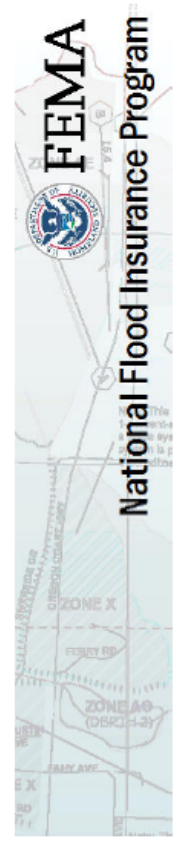
1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

## PANEL LOCATOR




**NATIONAL FLOOD INSURANCE PROGRAM**
**FLOOD INSURANCE RATE MAP**

**FAIRFIELD COUNTY, OHIO**
and Incorporated Areas

PANEL 258 OF 425

Panel Contains:

| COMMUNITY | NUMBER | PANEL | SUFFIX |
|---|---|---|---|
| LANCASTER, CITY OF | 390161 | 0258 | G |
| FAIRFIELD COUNTY | 390158 | 0258 | G |

**REVISED TO REFLECT LOMR EFFECTIVE: November 20, 2018**

VERSION NUMBER
1.1.1.0

MAP NUMBER
39045C0258G

EFFECTIVE DATE
JANUARY 6, 2012

**Appendix 5**

# Inadvertent Discovery Plan

OHIO HISTORY CONNECTION

# American Indian Policy Supplement

## *Procedures for the inadvertent discovery and disposition of American Indian ancestral human remains, funerary objects, sacred objects, and objects of cultural patrimony in the State of Ohio*

The Mission of the Ohio History Connection is to spark discovery of Ohio stories:
Embrace the Present, Share the Past, Transform the Future

## PURPOSE

The purpose of these procedures is to establish state-wide "best practices" for responding to an inadvertent discovery of American Indian ancestral human remains and/or artifacts on lands within the State of Ohio—

- over which the Ohio State Historic Preservation Officer (SHPO) or the Ohio History Connection has statutory/regulatory authority or administrative influence;
- which are owned, managed, or administered by the Ohio History Connection; or
- which are under the supervision or control of the Ohio SHPO.

These procedures have been developed in collaboration with the Ohio SHPO, the Ohio History Connection, and the Tribal Historic Preservation Officers (THPO) of the historic Tribal Nations affiliated with the State of Ohio[1], and in conformity with the Native American Graves Protection and Repatriation Act (NAGPRA) and implementing regulations[2].

## CURRENT OHIO STATE LAW

We recognize that, at present, the burial protection and preservation laws in the State of Ohio are weak at best. At present, state law prohibits—

- Treating a corpse in a way that the person knows would outrage reasonable family or community sensibilities. ORC 2927.01(A)/(B)
- Purposely defacing, damaging, polluting, or otherwise physically mistreating any historical or commemorative marker, or any structure, Indian mound or earthwork, cemetery[3], thing, or site of great historical or archaeological interest. ORC 2927.11(A)(3)
- Anyone from engaging in archaeological survey or salvage work on any land that is owned, controlled, or administered by the state or any political subdivision of the state, or at any archaeological preserve, without first obtaining the written permission of the Ohio History Connection Director. Only qualified persons (as established Chapter 119 of the Revised Code) shall be authorized to engage in archaeological survey and salvage work; based on minimum education, training, and experience requirements. ORC 149.54

Establishing sound procedures and best practices will help us to fulfill the intent of the Ohio History Connection American Indian Policy as well as NAGPRA and ORC 149.54.

---

[1] OHC consults with a total of 46 federally recognized tribal nations based on the Greenville Treaty historic tribes, by adjudications of the Indian Claims Commission, and by tribes' individual determinations of historic occupancy.

[2] NAGPRA, Pub. L. 101-601, 25 U.S.C. 3001 et seq., 104 Stat. 3048; 43 CFR Part 10, Section 10.4.

[3] As used in this section, "cemetery" means any place of burial and includes burial sites that contain American Indian burial objects placed with or containing American Indian human remains. ORC 2927.11(C)

## INADVERTENT DISCOVERY DEFINED

*Inadvertent discovery* means the unanticipated and unintended encounter, detection or discovery of American Indian ancestral human remains, funerary objects, sacred objects, cultural resources or objects of cultural patrimony[4] found during any ground-disturbing activity or natural disturbance.

## DISPOSITION OF AMERICAN INDIAN ANCESTRAL REMAINS

It is the policy of the Ohio History Connection that the disposition of any American Indian ancestral human remains and/or cultural items that cannot remain in situ within lands in the State of Ohio over which the Ohio SHPO or the Ohio History Connection has statutory or regulatory authority shall remain in the care and custody of the Ohio History Connection until such time as they can be repatriated following NAGPRA principles and requirements.

## PROCEDURES

1. Cease all activity. Upon discovery, immediately cease all activity within the project footprint or for a minimum distance of fifty (50) meters from point of discovery, whichever is greater.

2. Delineate and secure the area. Identify and delineate the area of disturbance and ensure that no further disturbance occurs. At a minimum, securing the area will include flagging off the area of discovery and, if the circumstances of the discovery make it reasonable to do so, implementing measures to protect discovery from vandalism and looting including posting a guard or monitor at the site until the proper authorities are notified. The remains will not be touched, moved, or further disturbed.

3. Reporting and notification. The finding of American Indian ancestral remains will be immediately reported to the county medical examiner/coroner and local law enforcement in the most expeditious manner possible. The county medical examiner/coroner will assume jurisdiction over the ancestral remains and make a determination of whether those remains are forensic or non-forensic. If the county medical examiner/coroner determines the remains are non-forensic, then they will report that finding to the Ohio State Historic Preservation Office or the Cultural Resources Division Director of the Ohio History Connection.

    a. Examination and analysis of American Indian ancestral remains shall be non-destructive and non-invasive, unless otherwise authorized by the affected tribes[5].

---

[4] "Human remains," "funerary objects," "sacred objects," or "objects of cultural patrimony" shall have the same meaning as found in NAGPRA, 25 U.S.C. 3001.

[5] "Affected Tribes" means any federally recognized tribe likely to be culturally affiliated with the discovery, who were aboriginal to the area of discovery as determined by the tribes themselves, by land cession treaties, acts of Congress, the Indian Claims Commission, or that are known to have a cultural relationship to the discovery.

b. Photography of American Indian ancestral remains, funerary objects and sacred objects shall be limited to those essential to forensic examination and criminal investigations and shall be kept secure and confidential. All images shall be subject to tribal repatriation.

4. Additional Expertise. The Ohio History Connection will be responsible for providing the medical examiner/coroner with any special archaeology, anthropology or osteology expertise used to determine if the remains are of American Indian provenance. A NAGPRA Coordinator/Deputy State Historic Preservation Officer or their designee shall be assigned to each inadvertent discovery.

a. Destructive sampling or DNA (Deoxyribonucleic Acid) extraction from American Indian ancestral remains for scientific or forensic purposes shall not be performed without the unanimous and mutual free, prior, informed consent of all affected tribes.

b. All material extracted from American Indian ancestral remains for scientific or forensic purposes shall be subject to tribal repatriation.

5. Additional Coordination. The Ohio History Connection will be responsible for notifying any federally recognized Indian tribe which may have a claim of cultural affiliation to the ancestral human remains or based upon any aboriginal territory claims for projects that have no federal involvement or Section 106 application. Tribal notification shall be made within 24 hours of discovery. Provisions shall be made for physical examination of the site by tribal experts. Unrestricted access shall be provided for any requested tribal monitoring or ceremonial activities.

6. Consultation. Within 72 hours of determination that the ancestral human remains are of American Indian provenance, Ohio History Connection and the site management partner shall initiate consultation with the affected tribes.

a. Notification shall be made by the Site Manager or project supervisor by telephone with follow-up in writing by mail or email to all federally recognized Indian tribes likely to be culturally affiliated with the discovery, who were aboriginal to the area as determined by the tribes themselves, by land cession treaties, acts of Congress, the Indian Claims Commission, or that are known to have a cultural relationship to the discovery. This notification must provide information about the human remains/cultural items discovered, their condition, and the circumstances of their discovery.

b. This notification shall include an invitation to consult, which includes, a) a proposed date, time, and location or venue for consultation, b) recommend considerations for handling and treatment of the discovery, and c) evaluate whether excavation or removal is appropriate and necessary. Mail a certified return receipt letter to ensure appropriate tracking and documentation.

c. Initial consultation shall determine if leaving ancestral remains in situ is desirable and feasible; and if the ancestral remains and/or cultural items will not be excavated or removed, determine procedures for any additional measures necessary to secure the site and document the discovery.

d. Tribal representatives shall be financially compensated for site visits as necessary to facilitate consultation.

7. Necessary or intentional excavation and removal. If it is deemed necessary to excavate and remove American Indian ancestral remains and/or cultural items from the site where discovered/disturbed, all legal requirements shall be followed:

a. When on Ohio state or state-controlled lands, the provisions of ORC 149.54 shall be met prior to any further site disturbance. Ohio History Connection's NAGPRA policy shall also be observed.

b. When on federal lands in the State of Ohio, all provisions of the Archaeological Resources Protection Act (ARPA) and NAGPRA shall be met prior to any further site disturbance.

c. Affected tribes shall be consulted regarding handling, disposition and cultural affiliation determination of American Indian ancestral remains and cultural items. Accommodations shall be made for traditional or ceremonial practices in association with ancestral remains and cultural items.

d. Following consultation, the Ohio History Connection must prepare and implement a written Plan of Action. All excavations and removal must be authorized pursuant to ARPA Permit or Ohio History Connection Director Permit must follow current professional archaeological excavation and data recovery standards and be conducted in accordance with the written Plan of Action. Following excavation or removal, and completion of the steps identified and described in the written Plan of Action, the Ohio History Connection will determine disposition in consultation with affected tribe(s).

e. Following consultation and the drafting of the written Plan of Action, the Ohio History Connection shall execute a bilateral agreement directly with the affected tribe(s) which contains protocols for the treatment, handling, custodianship, curation, and disposition of the American Indian ancestral remains and cultural items discovered. Affected tribes shall be principal signatories to any such agreement.

f. The written Plan of Action shall also include a reinterment or reburial plan which identifies the tribe or tribes taking primary responsibility for the reinternment or reburial and any cooperating tribes, agencies or institutions which may assist in the reinternment or reburial or in establishing a reburial cemetery.

# APPENDIX A
## Ohio History Connection – Ohio State Historic Preservation Office

## INADVERTENT DISCOVERY PLAN

The following Inadvertent Discovery Plan is to be implemented by the Ohio History Connection, in cooperation with the Ohio State Historic Preservation Office, and followed by any contractor or subcontractor working for or on behalf of the Ohio History Connection, as policy to expeditiously address inadvertent discoveries during ground disturbing activities within the State of Ohio.

- This Inadvertent Discovery Plan is appended to and made part of all permits, contracts, and agreements entered into by the Ohio History Connection authorizing ground disturbing activities.

This Inadvertent Discovery Plan (IDP) is to ensure all parties involved are contacted and fulfill their obligations under state and federal laws that include, but are not limited to:

- Public functions of Ohio history connection. [ORS § 149.30]
- Archaeological preserves; dedication; effects; prohibitions; penalties. [ORS § 149.52]
- Desecration of any historical or commemorative marker, or any structure, Indian mound or earthwork, cemetery, thing, or site of great historical or archaeological interest. [ORS § 2927.11]
- National Historic Preservation Act [16 USC 470] [36 CFR Part 60]
- Native American Graves Protection and Repatriation Act [25 USC 3001] [43 CFR Part 10]

The laws recognize and codify agency obligations and the tribes' rights in the decision-making process regarding ancestral remains and associated objects. Therefore, both the discovered ancestral remains and/or archaeological objects should be treated in a sensitive and respectful manner by all parties involved.

In accordance with these laws, if previously unidentified archaeological materials or sites are discovered during ground disturbing activities, the following shall occur:

1. Cease all activity. Immediately cease all activity within the project footprint or “Area of Potential Effect” (APE), or for a minimum distance of fifty (50) meters from point of discovery, whichever is greater.

2. The project supervisor[6] shall immediately notify the responsible agency official[7] by telephone of the inadvertent discovery and the responsible official shall, in turn, immediately notify a professional archaeologist of the inadvertent discovery. Additionally, if the discovery involves human remains, the responsible official shall immediately notify the medical examiner/coroner and County Sheriff by telephone.

3. The project supervisor shall immediately delineate and secure the area of disturbance to ensure that no further disturbance occurs. At a minimum, securing the area will include flagging off the area of discovery and, if the circumstances of the discovery make it reasonable to do so, implementing measures to protect discovery from vandalism and looting including posting a guard or monitor at the site until the proper authorities are notified. The remains will not be touched, moved, or further disturbed.

4. Within 24 hours of discovery and determination that the inadvertent discovery is of archaeological interest or American Indian provenance, the responsible agency official shall notify the following by telephone or email (see list with current contact information below):

   a) The Ohio History Connection (OHC), Director of Cultural Resources Division
   b) Ohio State Historic Preservation Office (SHPO)
   c) American Indian Tribes of Interest[8]
   d) Advisory Council on Historic Preservation (ACHP)

5. If ground disturbing activities within the protected area are necessary to determine significance, site boundaries, National Register eligibility or American Indian provenance, an expedited archaeological permit must be applied for by the responsible agency official or the consulting archaeologist and received from the SHPO prior to commencing with any further ground disturbance.

6. Expedited review to prevent an undue threat to the site shall be undertaken in accordance with state and federal law. The SHPO and tribe(s) will attempt to respond within seventy-two (72) hours of notification (excluding Saturdays, Sundays, and any legal or tribal holidays). The project supervisor shall not proceed with any ground disturbing activities within the protected area until concurrence is received from the SHPO. If an appropriate American Indian Tribe of Interest objects (in writing) to an expedited review, an expedited review will not

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[6] "Project supervisor" mean any on-site field representative of the responsible agency official, whether paid employee, contractor, subcontractor, or consultant.

[7] "Responsible agency official" means any federal, state, county or municipal official responsible for executing or administering decisions, contracts, or agreements which implement any ground disturbing activity.

[8] "American Indian Tribes of Interest" mean any federally recognized tribe consulting on the project and/or any federally recognized tribe that may attach religious, cultural or historic significance to the affected property, including any federally recognized tribe claiming cultural affiliation to the area based upon any aboriginal territory or ceded territory claims.

proceed and review will proceed in accordance with state and federal laws. The responsible agency official will take into account recommendations for the discovered resources and carry out appropriate actions.

7. The consulting archaeologist or OHC Director of Cultural Resources shall make a preliminary assessment of National Register eligibility of the discovered resource(s) and propose actions to resolve any potential adverse effects at the soonest possible time. The findings will be sent to all consulting parties identified in (4) if human remains are discovered.
8. All inadvertent discoveries must be documented, as appropriate, regarding state historic preservation laws. This may include archaeological site forms submitted to the SHPO, cultural resource evaluation reports, findings of effect, and testing and mitigation reports. All data recovery plans should be coordinated through the Ohio SHPO. If found eligible for the National Register, the site should be avoided, if possible. If not, it will need to be mitigated to minimize impacts.
9. Depending on the project, the nature of discovery and the statutory jurisdiction, the SHPO may ask the responsible agency official to retain a consulting archaeologist to assist in the development of a Recovery and Mitigation Plan. The appropriate jurisdictional agency may need to get involved in discussions to resolve the matter in accordance with their respective authorities.
10. The responsible agency official may conclude this procedure and notify consulting parties, as appropriate, if the disturbance of the historic property or property of traditional religious and cultural importance is minimal so as to have no effect on the historic property and the excavation or disturbance can be relocated to avoid the property, as determined in consultation with the SHPO and appropriate tribes. Concurrence from the SHPO and appropriate tribes is required prior to commencement of any further ground disturbing activities.
11. Documentation of all reports and associated compliance should be kept in the project files. The intent of the IDP is to have a process in place to expeditiously deal with such discoveries. Management of archaeological sites should be conducted in a spirit of stewardship for future generations, with full recognition of their non-renewable nature and their potential multiple uses and public values.

Contact information for parties identified in Item #4:

- *Ohio History Connection, Office of the SHPO*
  Mr. Nathan J. Young
  Project Reviews Manager
  Resource Protection and Review
  Ohio History Connection – State Historic Preservation Office
  800 E. 17th Avenue
  Columbus, OH 43211-2474
  nyoung@ohiohistory.org

- *Delaware Nation*
  Ms. Katelyn Lucas
  Tribal Historic Preservation Officer
  Post Office Box 825
  Anadarko, OK 73005
  405-544-8115
  klucas@delawarenation-nsn.gov

- *Delaware Tribe of Indians*
  Ms. Susan Bachor
  Archaeologist & Historic Preservationist
  Delaware Tribe Historic Preservation, Pennsylvania Office
  Post Office Box 64
  Pocono Lake, PA 18347
  610-761-7452
  sbachor@delawaretribe.org

- *Eastern Shawnee Tribe of Oklahoma*
  Mr. Paul Barton
  Tribal Historic Preservation Officer
  Director of Culture Preservation
  70500 E. 128 Road
  Wyandotte, OK 74370
  918-238-5151, Ext. 1833
  pbarton@estoo.net

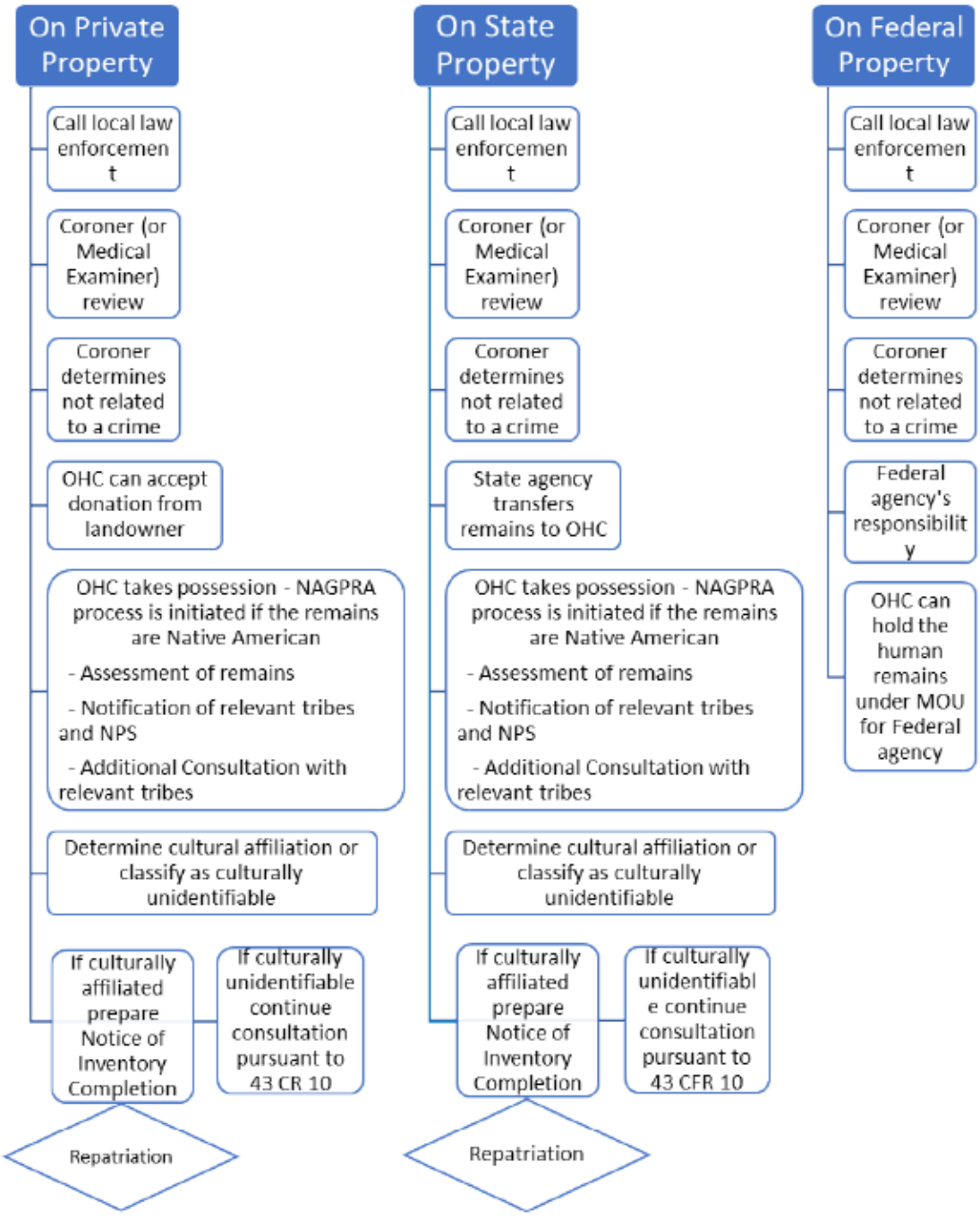
- *Miami Tribe of Oklahoma*
  Ms. Diane Hunter
  Tribal Historic Preservation Officer
  Post Office Box 1326
  Miami, OK 74355
  918-541-8966
  thpo@miamination.com

- *Seneca-Cayuga Nation*
  Mr. William Tarrant
  Tribal Historic Preservation Officer
  Post Office Box 453220
  Grove, OK 74345
  918-791-6061
  wtarrant@sctribe.com

- *Advisory Council on Historic Preservation (ACHP)*
  401 F Street NW, Suite 308
  Washington, DC 20001
  202-517-0200
  achp@achp.gov

- *Lancaster Police Department*
  Non-Emergency Dispatch
  130 S Broad Street
  Lancaster, OH 43130
  740-687-6680

- *Department of Energy, NETL*
  Stephen Witmer
  626 Cochran Mill Road
  M/S 921-227
  Pittsburgh, PA 15236
  412-386-7589
  stephen.witmer@netl.doe.gov


On Private Property
Call local law enforcement
Coroner (or Medical Examiner) review
Coroner determines not related to a crime
OHC can accept donation from landowner
OHC takes possession - NAGPRA process is initiated if the remains are Native American
- Assessment of remains
- Notification of relevant tribes and NPS
- Additional Consultation with relevant tribes
Determine cultural affiliation or classify as culturally unidentifiable
If culturally affiliated prepare Notice of Inventory Completion
If culturally unidentifiable continue consultation pursuant to 43 CR 10
Repatriation
On State Property
Call local law enforcement
Coroner (or Medical Examiner) review
Coroner determines not related to a crime
State agency transfers remains to OHC
OHC takes possession - NAGPRA process is initiated if the remains are Native American
- Assessment of remains
- Notification of relevant tribes and NPS
- Additional Consultation with relevant tribes
Determine cultural affiliation or classify as culturally unidentifiable
If culturally affiliated prepare Notice of Inventory Completion
If culturally unidentifiable continue consultation pursuant to 43 CFR 10
Repatriation
On Federal Property
Call local law enforcement
Coroner (or Medical Examiner) review
Coroner determines not related to a crime
Federal agency's responsibility
OHC can hold the human remains under MOU for Federal agency

**Appendix 6**

# Cirba Solutions Emergency Action Contingency Plan

# Contingency Plan Quick Reference Guide
# Retriev Technologies, Inc., Lancaster, Ohio

**January 24, 2022 Revision 0**
**Attachment B – RCRA Permit Application**

*This quick reference guide has been prepared, in layman's terms, per the requirements of OAC 3745-52-262(B) to allow outside emergency response teams and Retriev personnel to quickly determine key elements and critical information associated with the Contingency Plan. This quick reference guide is not a substitute for understanding and following the detailed procedures within the Contingency Plan.*

## 1.0 Types of Hazardous Waste That May Be Present

The following may be present at the Facility in large quantities and have the *potential* to be classified as hazardous waste:

Acid Batteries and Components – consists of various forms of lead acid batteries and components that are fully intact or in process of recycling; solid and/or liquid; potentially ignitable; potentially corrosive; potentially toxic due to metals content; stored at ambient temperature

Alkali Batteries and Components – consists of various forms of nickel, cadmium, zinc, silver, mercury, and magnesium bearing batteries and components that are fully intact or in process of recycling; solid and/or liquid; potentially ignitable; potentially corrosive; potentially toxic due to metals content; stored at ambient temperature

Lithium Batteries and Components – consists of lithium ion and lithium primary batteries and components that are fully intact or in process of recycling; solid; potentially ignitable; potentially reactive; stored at ambient temperature

## 2.0 Estimated Maximum Amount of Hazardous Waste That May Be Present

The maximum amount of hazardous waste that may be onsite at any given time is several million pounds, the majority of which is stored in containers within the 265 building, and to a lesser extent, within the 295 building.

## 3.0 Unique or Special Treatment for Exposure to Hazardous Waste

There is no unique or special treatment required by medial or hospital staff for exposure to the hazardous waste.

## 4.0 Facility Map

A Facility (Figure 1) map is attached that identifies where hazardous wastes are accumulated and recycled, as well as routes for accessing the hazardous wastes.

## 5.0 Street Map

A street map is attached as Figure 2 that shows the location of the Facility in relation to surrounding areas to understand how best to get to the Facility and how best to evacuate citizens and workers.

## 6.0 Water Supply Locations

Water supply locations and flow rates are shown on the Facility Map (Figure 1).

## 7.0 On-Site Notification Systems

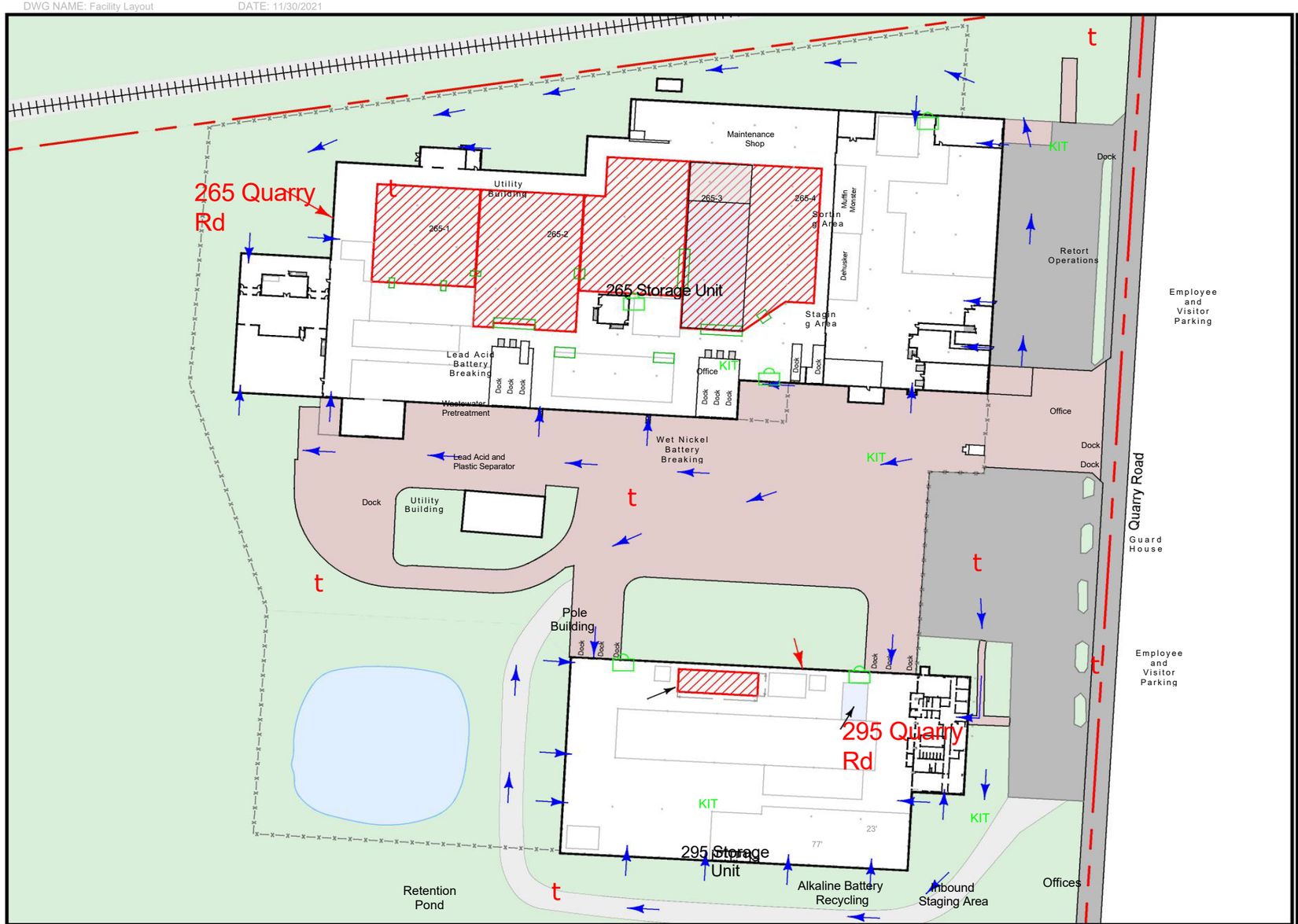
Alarms: Audible alarms with flashing strobes/beacons that are activated by red emergency alarm buttons located at key areas throughout the Facility. Automated fire alarm system to notify anyone onsite as well as offsite responders.

Communication Equipment: Two-way radios, telephones capable of making internal and external calls, and cell phones. In the event of a power outage, communications would be established via plant radios and cell phones.

## 8.0 Emergency Coordinator and Alternates

Emergency Coordinator: Tom Plute 740-501-2541
Alternate #1: Rick Rose 740-438-0758
Alternate #2: Stacy Delong 740-503-2888

DWG NAME: Facility Layout DATE: 11/30/2021




## Legend

- Property Boundary
- Fence
- Railroad Line
- Rollover Berm
- Permitted Storage Unit
- Staging Area
- Asphalt
- Concrete
- Gravel
- Vegetation
- Surface Topography Contour Elevation (ft)
- t — Fire Hydrant (1,625 gpm)
- KIT — Spill Kit
- Path to Hazardous Waste

All locations are approximate.

N

Scale

0' 50' 100' 500'

Facility Layout

Cox-Colvin & ASSOCIATES, INC.

ENVIRONMENTAL SERVICES

Facility Layout,
Retriev Technologies, Inc.,
Lancaster, Ohio

Figure 1


Property Boundary

Legend

N

Scale

0' 750' 1500' 3000'

Street View,
Retriev Technologies,
Inc., Lancaster, Ohio

Cox-Colvin & ASSOCIATES, INC. ENVIRONMENTAL SERVICES

Figure
2

DWG Name: Site Location Date: 11/16/2021

# Contingency Plan
# Retriev Technologies, Inc.
# Lancaster, Ohio

June 22, 2015
Revision 0.3

Submitted to:

Retriev Technologies, Inc.
295 Quarry Road
Lancaster, Ohio 43130

Submitted by:

Cox-Colvin & Associates, Inc.
7750 Corporate Blvd.
Plain City, Ohio 43064
(614) 526-2040

Cox-Colvin & ASSOCIATES, INC. ENVIRONMENTAL SERVICES

RETRIEV TECHNOLOGIES

# Table of Contents

# Figures



# Tables



# Plates

# 1.0 Introduction

Retriev Technologies, Incorporated ("Retriev", "facility", "site", or "property") is a permitted hazardous waste facility specializing in the management, reutilization, and recycling of all types of industrial/military, automotive, and household batteries. Battery identification, collection, consolidation, and recycling services are provided to industry, government, and the public. Effective December 21, 2005, Retriev received an Ohio Hazardous Waste Facility Installation and Operation Permit (Permit) that authorized the facility to store hazardous waste in containers as part of its battery recycling operations. All other hazardous waste activities performed by Retriev are exempt or excluded from permitting.

A Contingency Plan was originally prepared as part of Retriev's 2002 Permit application and has been subsequently modified on several occasions. As part of Retriev's Permit renewal application, this Contingency Plan has been updated and is an attachment to the renewal application. The purpose of this Contingency Plan is to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. The provisions of this Contingency Plan will be implemented immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment. A copy of this Contingency Plan will be available at the facility at all times.

## 1.1 Facility Description

Retriev (owner/operator) is located within an industrial park near the intersection of Quarry Road and Commerce Street in Lancaster, Fairfield County, Ohio. The facility maintains two addresses, which correspond to the main buildings at 265 and 295 Quarry Road. The property is approximately 36.8 acres in size and consists of one parcel (053-50034-00), which is bound by railroad tracks to the north, Quarry Road to the east, Commerce Street to the south, and another facility property to the west (Figures 1-1 and 1-2). Property zoning is heavy industrial. Latitude and longitude of the approximate center of the property is 39.712505, -82.545954.

Within each of the buildings is a permitted storage unit that can be used to store containers for up to one year. The permitted storage unit within the 265 Quarry Road building is identified as the "265 storage unit". The 265 storage unit consists of four contiguous areas that share perimeter and interior berms (Figure 1-2). For ease of discussion, these four areas are referred to as 265-1, 265-2, 265-3, and 265-4. Several rollover berms are associated with the 265 storage unit to allow forklift access. The total area of the 265 storage unit (measured from perimeter berm centerlines) is approximately 56,709 square feet (sf). A 7,750 sf staging area identified by painted lines is located within 265-4 and

is included as part of the total area of the 265 storage unit. All waste codes accepted by the facility can be stored in containers within the 265 storage unit. The secondary containment system associated with the 265 storage unit allows for the storage of containers with free liquids. The permitted capacity of the 265 storage unit is 5,800,000 pounds.

The permitted storage unit within the 295 Quarry Road building is identified as the "295 storage unit". The 295 storage unit consists of an approximate 1,771 sf area of the 295 building concrete floor (Figure 1-2). All waste codes accepted by the facility can be stored in containers within the 295 storage unit. There is not a secondary containment system associated with the 295 storage unit; therefore, hazardous wastes containing free liquids cannot be stored within the 295 storage unit unless appropriate secondary containment is provided (e.g., spill pallet). The permitted capacity of the 295 storage unit is 200,000 pounds.

Additional detail regarding the permitted storage units and exempt/excluded activities is presented within the Permit renewal application.

## 1.2 Floodplain Information

The Retriev property is found on the Flood Insurance Rate Map (FIRM) for Fairfield County, Panel Number 258 of 425. This FIRM was revised on January 6, 2012, which identified the Retriev property within Zone AE of the 100-year floodplain. Prior to the January 6, 2012 revision of the FIRM (including the time in which the initial Permit application was prepared), the Retriev property was not within the 100-yr floodplain.

As a result of the 2012 revised FIRM, Retriev incorporated applicable flood-related requirements within their Permit renewal application for the 265 and 295 storage units. However, based on Retriev's knowledge of the area surrounding their property, Retriev believed that the 2012 FIRM was not an accurate representation of the 100-year floodplain. As such, Retriev contracted EMH&T in 2017 to perform a floodplain study. This study culminated in the preparation of a Letter of Map Revision (LOMR) that presents a more accurate representation of the 100-year floodplain and demonstrates that the Retriev property is not located within the 100-year floodplain. The LOMR was submitted to the Federal Emergency Management Agency (FEMA). On July 6, 2018, FEMA issued an updated FIRM Panel Number 258 of 425 with an effective date of November 20, 2018. The updated 2018 FIRM (Plate 1) indicates that the Retriev property is located within Zone X (outside of both the 100-year and 500-year floodplains). Therefore, flood-related requirements are not applicable to Retriev.

# 2.0 Emergency Coordinators

The Environmental Manager serves as the primary Emergency Coordinator for the facility. When the Environmental Manager is absent, his/her trained alternates assume the duties of the Emergency Coordinator. An Emergency Coordinator will be on site or on call, within a short distance of the facility, at all times. Table 2-1 is a list of the primary and alternate Emergency Coordinators, and includes their address and both office and mobile telephone numbers.

The Emergency Coordinator is thoroughly familiar with all aspects of this Contingency Plan, all operations and activities at the facility, the location and characteristics of waste managed, the location of all records within the facility, and the facility layout. In addition, the Emergency Coordinator (both primary and alternates) has the authority to commit the resources needed to implement this Contingency Plan.

In the event an emergency is declared, as defined by this Contingency Plan, the primary Emergency Coordinator, when on site, assumes direct responsibility for the coordination of all emergency response activities. However, the primary Emergency Coordinator may delegate this authority to an alternate Emergency Coordinator at their discretion. In the absence of the primary Emergency Coordinator, an alternate Emergency Coordinator will assume responsibility. Alternate Emergency Coordinators may be replaced by an Emergency Coordinator higher up on the list in Table 2-1 as they appear on the scene.

# 3.0 Implementation

This Contingency Plan will be implemented whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents that could threaten human health or the environment. Instances when this Contingency Plan may be implemented include, but are not limited to, the following:

Fire

- any fire that is beyond the employee's ability to control with a fire extinguisher; whereas a small, incipient fire that is easily, safely, and quickly extinguished would not require implementation of this Contingency Plan
- a fire involving hazardous waste/material in storage, at the point of generation/use, at an accumulation area, or during transfer to/from a vehicle;
- a fire that causes the release of toxic fumes;
- a fire that could possibly spread or has spread to off-site areas; and
- when the use of water or other fire suppressants could result in contaminated runoff.

Explosion

- an explosion that causes or may cause a fire or other hazardous conditions;
- an explosion that causes the release of toxic fumes; and
- an explosion that results in the release of hazardous waste/material.

Spill

- a spill involving hazardous waste/material in storage, at the point of generation/use, at an accumulation area, or during transfer to/from a vehicle that cannot be easily contained by an employee using spill response equipment;
- a spill that could result in the release of a significant quantity of flammable, corrosive, or toxic waste/material;
- a spill that cannot be contained onsite;
- a spill that is contained onsite but has the potential for groundwater contamination; and
- a spill in which the quantity of material spilled exceeds the Reportable Quantity of that material.

If one or more of the above events occur, emergency response procedures in Section 4.0 will be performed.

# 4.0 Emergency Response Procedures

If a fire, explosion, spill, or injury as described in Section 3.0 occurs, the emergency response procedures in this section will be performed. These emergency response procedures cover notification, identification of hazardous materials, assessment, control, prevention of reoccurrence/spread, storage and treatment of release material, incompatible waste, post-emergency equipment maintenance, and container spills and leakage.

## 4.1 Notification

Notification of emergency incidents involve both internal and external communication. Internal communication alerts on-site personnel of possible dangers; provides for an ordered shut down of operations in the affected area and work area evacuation, if necessary; and signals appropriate facility personnel to respond to the emergency if capable. External communications serve to summon assistance in responding to the emergency or transporting injured personnel; appraise emergency response agencies/parties of the status of the situation so their resources may be mobilized, if needed; and comply with regulatory reporting responsibilities. The procedures below will be followed in the event of an emergency.

- The first employee to observe an emergency will contact their respective supervisor immediately and state the nature of the emergency. If an immediately life threatening situation occurs, the employee is authorized to activate audible alarms with flashing strobes/beacons by use of the red emergency alarm buttons located at key areas throughout the facility.

- After being notified of the emergency, the supervisor will immediately identify the hazardous materials involved with the emergency and assess possible hazards to human health and the environment. Following identification and assessment, the supervisor will notify the Emergency Coordinator. The identification and assessment may also be performed by the Emergency Coordinator if he/she is already at the emergency area before being notified by the supervisor.

- The Emergency Coordinator will instruct properly trained facility personnel to attempt to contain or control the emergency situation if possible without endangerment. The Emergency Coordinator will also instruct properly trained facility personnel to perform other emergency duties.

- If the emergency involves a fire or explosion that requires implementation of this Contingency Plan, the Emergency Coordinator (or a person delegated by the Emergency Coordinator) will contact the Lancaster Fire Department by calling 911.

The person calling 911 will remain on the phone until directed to hang up and will provide the following information:

- facility location;
- nature of the emergency (e.g., fire, explosion, injury, etc.);
- number of injured personnel (if applicable/known);
- type or nature of injuries (if applicable/known); and
- volume and source of release (if applicable/known).

- If the emergency is beyond the immediate control of trained facility personnel, the Emergency Coordinator will initiate an evacuation of the affected area, the building, or the entire facility, as appropriate. An evacuation within the facility will be signaled by activating audible alarms with flashing strobes/beacons by use of the red emergency alarm buttons located at key areas throughout the facility. An evacuation route map is provided as Figure 7-1. If the Emergency Coordinator believes that evacuation of local areas beyond the facility property may be advisable, he/she must immediately notify the City of Lancaster Fire Department and the Fairfield County Local Emergency Planning Committee (LEPC) and be available to help decide whether local areas should in fact be evacuated.

- If an injury has occurred related to a fire, explosion, or spill, the associated Supervisor or the Emergency Coordinator will immediately begin compiling all information pertinent to the accident. This includes, but may not be limited to, conditions prior to and at the time of the accident, contributing factors, persons directly and indirectly involved, witnesses and their statements, and what actually occurred at the moment of the accident.

- Whenever there is an emergency situation consisting of imminent or actual harm or hazard to human health or the environment, the Emergency Coordinator must notify the Ohio EPA 24-hour emergency response team at 800-282-9378 and provide the following information:

    - name and telephone number of reporter;
    - name and address of the facility;
    - time and type of incident;
    - name and quantity of material(s) involved;
    - the extent of injuries, if any; and

- an assessment of the possible hazards to human health or the environment outside the facility.

- As appropriate, the Emergency Coordinator will contact other authorities and outside parties for assistance (Table 4-1). Prior to resuming operations in an affected area, the facility will notify the Director of Ohio EPA and local authorities that cleanup procedures (Sections 4.4 and 4.7) and post-emergency equipment maintenance (Section 4.8) have been adequately completed.

## 4.2 Identification of Hazardous Materials

During an emergency, the supervisor of the area in which the emergency occurs or the Emergency Coordinator will immediately identify the character, source, amount, and extent of released materials. The initial identification method will be based on visual inspection of the released material and location of the release. Visual inspection will be supplemented with facility operating records and information in the facility tracking system. The tracking system can provide information about material in a particular location, as well as material which may be located in close proximity to the area involved in the emergency.

In the unlikely event that the source of the material involved in the emergency cannot be determined, a sample of the solid and/or liquid will be collected if conditions are safe. The collected solid will be carefully mixed with water to determine if a reaction occurs. If a reaction does occur, it would suggest material related to lithium-bearing batteries and battery components. The pH of the collected liquid would be measured to allow the type of material to be categorized as acidic or alkaline, which will also allow a determination of whether neutralization is necessary. This testing information will provide the immediate information for emergency control and cleanup actions to commence. Facility personnel will utilize appropriate personnel protective equipment for safe management of the materials involved in the emergency.

The areas/processes at the facility that pose the greatest threat and the associated dangers consist of the following:

- retort operations area in 265 building – explosion and fire;
- lithium ion battery storage in 265 and 295 buildings – fire; and
- wet nickel and lead acid battery breaking areas in 265 building – spill.

## 4.3 Assessment

Concurrent with the identification of the released material discussed in Section 4.2, the supervisor of the area in which the emergency occurs or the Emergency Coordinator will assess possible hazards to human health and the environment that may have resulted due to

a fire, release, or explosion. The supervisor or Emergency Coordinator will follow the steps below to determine the extent of possible hazards:

- identify materials and quantities involved in the incident as well as materials in close proximity (Section 4.2);
- review the safe handling procedures of the materials involved in the incident;
- determine the possible release or exposure pathways by reviewing facility features, topography, meteorological conditions, physical/chemical properties of the material involved, and other appropriate information;
- assess the effects of any toxic, irritating, or asphyxiating gases that may be generated or the effects of any hazardous surface water from run-off or chemical agents that may be used to control fire and heat-induced explosions.

The above assessment will be completed utilizing safety data sheets, regulatory guidance, and additional emergency release information sources such as the United States Department of Transportation Emergency Response Guidebook and the National Institutes of Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards. Based on the assessment of the incident, the supervisor or Emergency Coordinator will determine the following:

- can the appropriately trained facility personnel handle the emergency;
- is outside assistance necessary;
- is a partial or a complete site evacuation necessary;
- is an evacuation of the surrounding area recommended; and
- what are the proper control procedures for the response.

## 4.4 Control Procedures

General control procedures were discussed as part of the notification procedures in Section 4.1. In addition to these general control procedures, the facility will implement specific control procedures in the event of a fire, explosion, release, or flood as summarized below.

### 4.4.1 Fire or Explosion

If the emergency involves a fire or explosion, regardless of the ability for facility personnel to control the situation, the Emergency Coordinator (or a person delegated by the Emergency Coordinator) will contact the Lancaster Fire Department by calling 911 and

provide the information specified in Section 4.1. The Emergency Coordinator will instruct properly trained facility personnel to attempt to contain or control the fire using a hand-held extinguisher if possible without endangerment. If the automated fire suppression system or fire boxes are activated, a facility alarm is sounded and simultaneously notifies the Lancaster Fire Department. The facility will alert the fire department if an ambulance is also required. The Emergency Coordinator will ensure that the following procedures are followed:

- work in affected areas will be shut down immediately;
- personnel not actively involved in controlling the fire will be evacuated from the area;
- possible sources of ignition in the affected area, including electrical equipment, process equipment, heating, ventilation, air conditioning, and exhaust systems will be shut down;
- nearby material containers will be isolated or removed from the area to prevent further spread of the fire or release, if this can be accomplished safely;
- injured personnel will be treated by qualified medical personnel and taken to a hospital for treatment if needed;
- when the Emergency Coordinator, with the concurrence of the Lancaster Fire Chief, determines that the emergency has been controlled, an all-clear announcement will be made;
- a fire watch will be posted if warranted
- all emergency equipment in the affected area will be cleaned and fit to use before plant operations in the affected area resume (Section 4.8).

### 4.4.2 Release

Batteries and battery components that contain liquid electrolytes are stored and processed in areas that are constructed with passive secondary containment (concrete berms). This ensures that accidental releases will be contained until cleaned up. Spills of small quantities, should they occur, will be cleaned up by using appropriate absorbent materials, pads, or other suitable means. Any absorbent material or pads will then be placed in a drum and managed as a hazardous waste, if appropriate. Large spills (or other circumstance described in Section 3.0) may require the implementation of this Contingency Plan.

In the event of a large spill, the Emergency Coordinator will consider the type of waste, location, and source of the spill, quantity, potential for fire or explosion, direction of flow for a liquid or vapor release, and the potential contamination of environmental media. If the Emergency Coordinator determines that an emergency condition exists, the Lancaster Fire Department and outside contractor will be notified. The Emergency Coordinator will ensure that the following procedures are followed:

- any person who comes in contact with spilled material will wash off the chemical in the emergency showers located throughout the facility operations areas, change clothing, and/or seek outside medical attention to minimize the risk of personal injury in a timely manner;

- work in affected areas will be shut down immediately;

- personnel not actively involved in controlling the release will be evacuated from the area;

- assure that all non-essential (to handle the situation) persons leave the affected area.

- appropriate protective clothing will be worn by facility personnel that are instructed to assist with containing the release;

- if the release contains a flammable substance, all portable sources of ignition within 50 feet will be removed, electricity within the affected area will be turned off (if the incident occurs at darkness, portable lights and a portable generator may be used as appropriate for the emergency situation), and a fire watch will be posted if warranted (it is anticipated that flammable substances will not be present at the facility above reportable quantities);

- if a release should occur outside of, or escapes from, a containment area, it may be necessary to control the movement of the material by creating temporary earthen dikes, applying dry absorbent, closing valves, or trenching to a holding point;

- if the release is due to a leak, an attempt will be made to stop the leak and to minimize the volume of material released by valving, waste transfer, or other appropriate measures;

- large releases contained in sumps or secondary containment will be pumped into an unaffected, compatible waste management unit such as another tank or a tank truck;

- neutralization will be performed as appropriate;

- absorbent materials and appropriate equipment will be used to collect the residual waste liquids that cannot be pumped out; all spent absorbent materials will be collected and managed as hazardous waste, unless determined otherwise;

- when the Emergency Coordinator, with the concurrence of the Lancaster Fire Chief, determines that the emergency has been controlled, an all-clear announcement will be made;

- under the direction of the Emergency Coordinator, all affected structures will be cleaned, if necessary, once the all-clear announcement has been made;

- if a release occurs or migrates outside of a building onto an unpaved surface, the contaminated material will be removed and disposed of properly; shovels and drums for small areas or bulldozers and trucks for large areas will be used as appropriate; after the initial clean-up, the Emergency Coordinator will direct soil sampling and analysis to ensure that all contaminated materials have been removed.

## 4.5 Prevention of Recurrence/Spread of Fires, Explosions, or Releases

The procedures which have been adopted to prevent a recurrence or spread of fires, explosions, or releases include stopping processes and operations in affected areas, collecting and containing the released waste, removing, and recovering or isolating the waste as described in Sections 4.1 through 4.4 of this Contingency Plan. Additionally relevant procedures to prevent hazards are discussed in Section 5.0 of the Part B application. If the facility stops operations in response to a fire, explosion, or release, the Emergency Coordinator or designee will monitor for leaks, pressure build up, gas generation, or ruptures in valves, pipes, or other equipment whenever appropriate.

## 4.6 Storage and Treatment of Released Material and Impacted Environmental Media

Once the immediate emergency has been resolved, the Emergency Coordinator will direct the cleanup and disposal of residues, recovered wastes, contaminated soil, standing water, or any other contaminated materials. This cleanup will occur as soon as possible in order

to avoid further contamination or incident recurrence. The material will be considered hazardous unless demonstrated otherwise and will be managed as on-site generated waste or impacted environmental media, as appropriate. Released material, cleanup residues, and impacted environmental media may be analyzed, as necessary, to determine the appropriate management procedures.

The collected material will be stored in tanks or containers that are compatible with the chemical and physical properties of the material. Depending on the volume of material, storage may be within an existing permitted storage unit or other designated location. To the extent possible, the facility will process the material in-house. Any material that cannot be process by the facility will be transported off site for appropriate management.

## 4.7 Incompatible Waste

Treatment and storage of incompatible waste will not be permitted in affected areas until cleanup procedures are completed. In addition, the cleanup of the release must be completed before operations may resume in the affected area. If the Emergency Coordinator deems it necessary, wastes or other materials stored in the affected area that present a hazard due to incompatibility will be removed as part of the emergency response effort. This can be accomplished by actions such as pumping "at risk" tank contents to alternate tanks or manually removing "at risk" containers while preventing the combination of incompatible wastes. To determine whether incompatible material is stored in the affected area, the Emergency Coordinator will review known information concerning the waste or material stored in the area, means of containment, physical location, container integrity, and the waste or material involved in the incident. Characteristics such as ignitability, corrosivity, and reactivity will be relevant in assessing potentially incompatible combinations.

## 4.8 Post-Emergency Equipment Maintenance

All emergency equipment used in response and cleanup efforts will be properly disposed or decontaminated at the end of cleanup operations. Decontamination procedures may include, but may not be limited to, a pressurized water rinse, scrubbing equipment with brushes and water-compatible solvent cleaning solutions, or steam cleaning. The decontamination wastewater along with other materials used for the cleanup or response will be stored in appropriate containers for characterization and management. All emergency equipment and materials used in the response will be inspected, repaired, or replaced, as necessary, and stored in their correct locations prior to resuming operations in the affected area.

## 4.9 Container Spills and Leakage

Containers that are not in good condition (e.g., structural defects) or are damaged will be managed to prevent or minimize leaks. This may involve repairing the container if possible, repacking or transferring the waste, or overpacking the container. When a container is leaking, action will be taken to contain the spill or release by:

- investigating to see if a closure mechanism is defective or needs tightened;
- adding appropriate absorbent;
- re-orienting the container to reduce the flow to the defective area; and
- repairing the container, if possible.

Applicable labeling and storage requirements of a new container or overpack will followed. Any cleanup material generated will be properly contained and managed. The floor and other affected surfaces will be decontaminated. Decontamination procedures may include, but may not be limited to, a pressurized water rinse, scrubbing with brushes and water-compatible solvent cleaning solutions, or steam cleaning. All emergency equipment and materials used in the response will be inspected, repaired, or replaced, as necessary, and stored in their correct locations prior to resuming operations in the affected area.

# 5.0 Emergency Equipment

Emergency equipment and spill recovery materials are available at designated locations throughout the facility. The emergency equipment will be maintained in good working order. Table 5-1 provides a list of emergency equipment and spill recovery materials, as well as the associated specifications/capabilities. Locations of the emergency equipment and spill recovery materials are shown on Figure 5-1. Personnel protective equipment is utilized as part of routine facility operations and is therefore readily available for use during emergency and decontamination efforts. Emergency equipment and spill recovery materials are inspected as identified in Section 5.2 of the Part B application.

Internal and external communications systems and water for fire control are also available to provide immediate emergency information. These systems include the following:

- telephones located throughout the facility capable of making internal and external calls;
- two-way radios for various facility personnel, which may include but may not be limited to, forklift and warehouse operators, breaking technicians, maintenance staff, guards, and managers;
- cellular phones for various facility personnel;
- audible alarms with flashing strobes/beacons that are activated by red emergency alarm buttons located at key areas throughout the facility; and
- fire alarm system that is activated with the building sprinkler system to notify anyone onsite as well as appropriate offsite emergency responders.

The facility is equipped with water at adequate volume and pressure to supply water hose streams and automatic sprinklers. Both the 265 and 295 buildings are equipped with a sprinkler system that is activated by heat melting a fusible link in the sprinkler head. Fire hydrants are installed at strategic locations throughout the facility. The City of Lancaster maintains a 1,000,000-gallon firewater tank located less than two miles from the facility that feeds the facility process and potable water lines. A dedicated service line that feeds the sprinkler systems is also connected to the City main.

# 6.0 Coordination Agreements

Arrangements have been made with the City of Lancaster Police and Fire Departments, the local hospital (Fairfield Medical Center), and the Fairfield County LEPC to familiarize themselves with various aspects of the facility, including:

- layout of the facility;
- properties of hazardous waste handled at the facility and associated hazards;
- places where facility personnel would normally be working;
- entrances to and roads inside the facility;
- possible evacuation routes; and
- types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

In the event that multiple police departments, fire departments, and/or other agencies assist in an incident at the facility, the City of Lancaster (both fire and police) will have primary authority over other departments, unless they relinquish their authority. The facility will document any refusal of other agencies to enter into a coordination agreement with the facility. This documentation will be maintained in the facility operating record.

The facility also has arrangements with the Ohio EPA emergency response team and various emergency response contractors and equipment suppliers to provide assistance and/or supplies, if necessary, during an incident. Table 4-1 provides a list of outside emergency contacts.

# 7.0 Evacuation Plan

As discussed in Section 4.1, if the emergency is beyond the immediate control of trained facility personnel, the Emergency Coordinator will initiate an evacuation of the affected area, the building, or the entire facility, as appropriate. An evacuation within the facility will be signaled by activating audible alarms with flashing strobes/beacons by use of the red emergency alarm buttons located at key areas throughout the facility. If the Emergency Coordinator believes that evacuation of local areas beyond the facility property may advisable, he/she must immediately notify City of Lancaster Fire Department and the Fairfield County LEPC and be available to help decide whether local areas should in fact be evacuated.

If evacuation is necessary, the evacuation route identified in Figure 7-1 will be followed to the primary or secondary rally point. If an alternate evacuation route to the primary or secondary rally point is necessary, it will be identified by the Emergency Coordinator or designee. Facility personnel are familiarized through the training program with the facility layout and evacuation procedure. Contractors are made familiar with the evacuation procedures prior to working at the facility. Visitors will either be familiarized with the evacuation procedures when arriving at the facility or will be accompanied by facility personnel.

# 8.0 Required Reports

The facility will note in the operating record the time, date, and details of any incident that requires implementing the Contingency Plan. Within 15 days after the incident, the facility will submit a written report of the incident to the Director of the Ohio EPA. The report will include:

- name, address, and telephone number of the owner or operator;
- name, address, and telephone number of the facility;
- date, time, and type of incident (e.g., fire, explosion);
- name and quantity of material(s) involved;
- the extent of injuries, if any;
- an assessment of actual or potential hazards to human health or the environment, when applicable;
- estimated quantity and disposition of recovered material that resulted from the incident; and
- any other information Ohio EPA may require.

# 9.0 Copies of the Contingency Plan

A copy of the Contingency Plan will be maintained at the facility as well as distributed to the following authorities and outside parties:

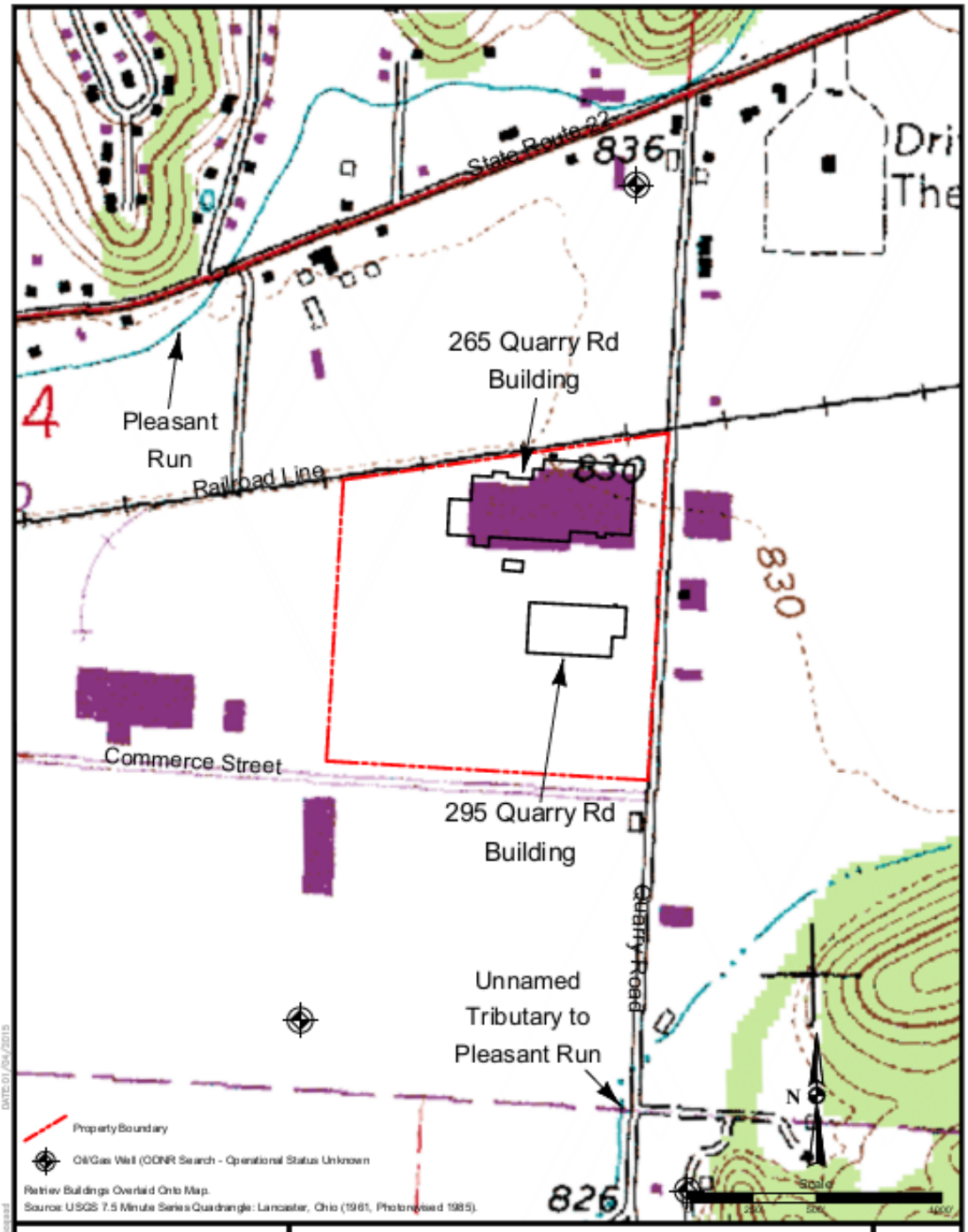
- City of Lancaster Police Department;
- City of Lancaster Fire Department;
- Fairfield Medical Center
- Fairfield County LEPC; and
- Ohio EPA.

# 10.0 Amendment of the Contingency Plan

The facility will immediately amend this Contingency Plan when the facility's Permit is revised and requires a change to the Contingency Plan. The facility will also immediately amend this Contingency Plan if any of the following occur:

- the Contingency Plan fails in an emergency;
- the facility is modified in a way that increases the potential for fires, explosions, or release of hazardous waste or hazardous waste constituents;
- the Director of Ohio EPA requires a change;
- the list of emergency coordinators change; and/or
- the list of emergency equipment changes.

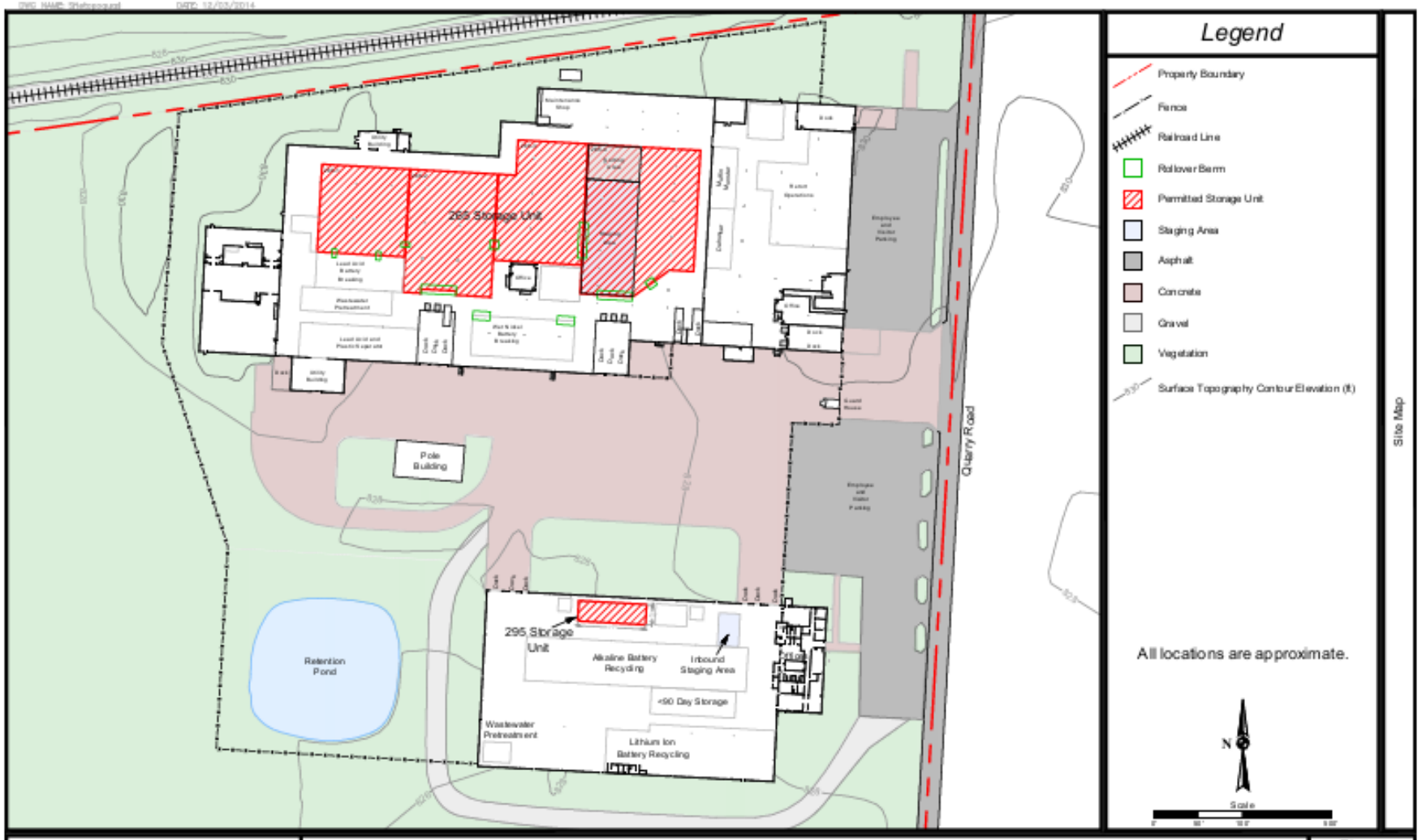
# Figures




Cox-Colvin & Associates, Inc. Environmental Services

Topographic Map,
Retriev Technologies, Inc.,
Lancaster, Ohio

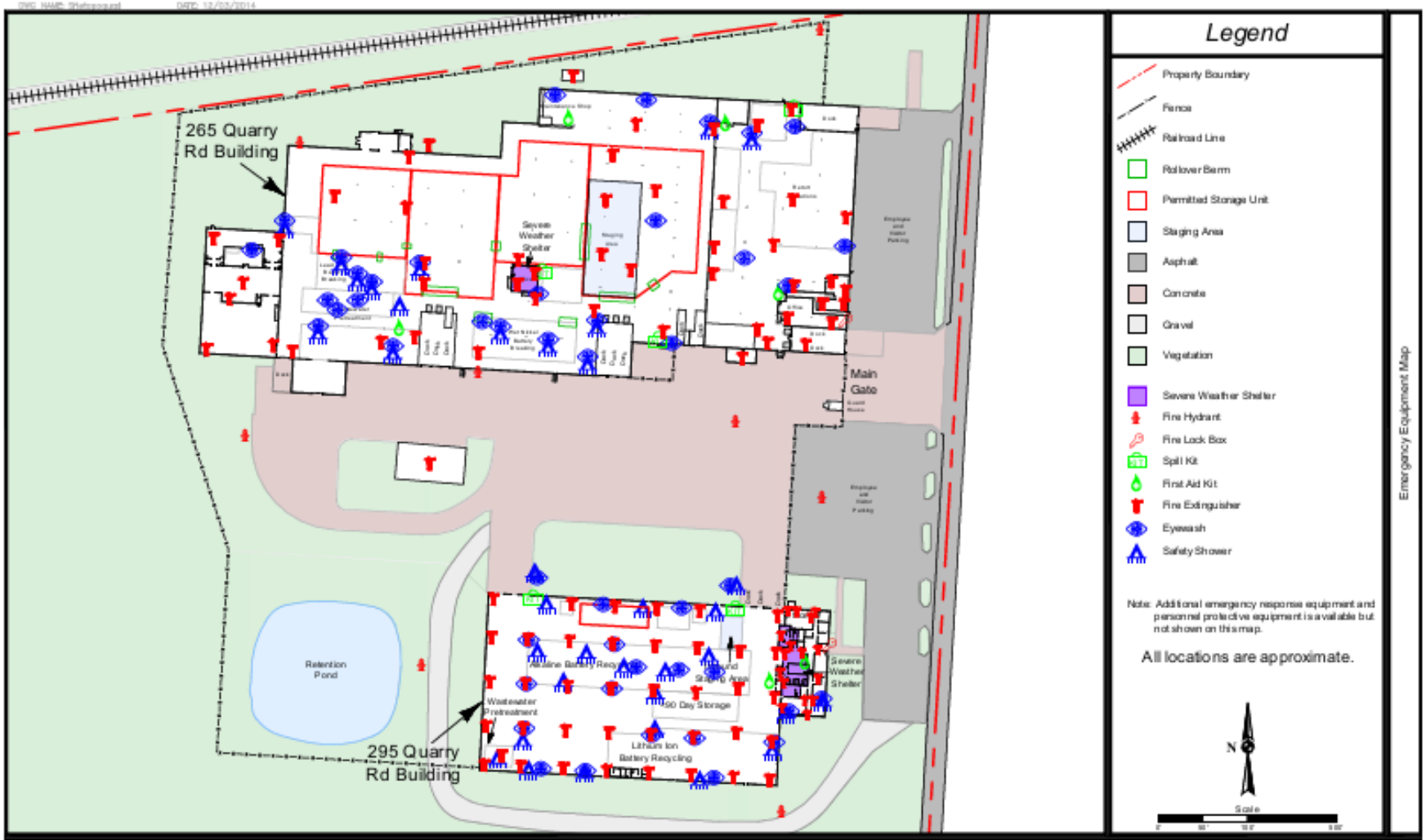
Figure
1-1




Cox-Colvin & Associates, Inc. Environmental Services

Site Map,
Retriev Technologies, Inc.,
Lancaster, Ohio

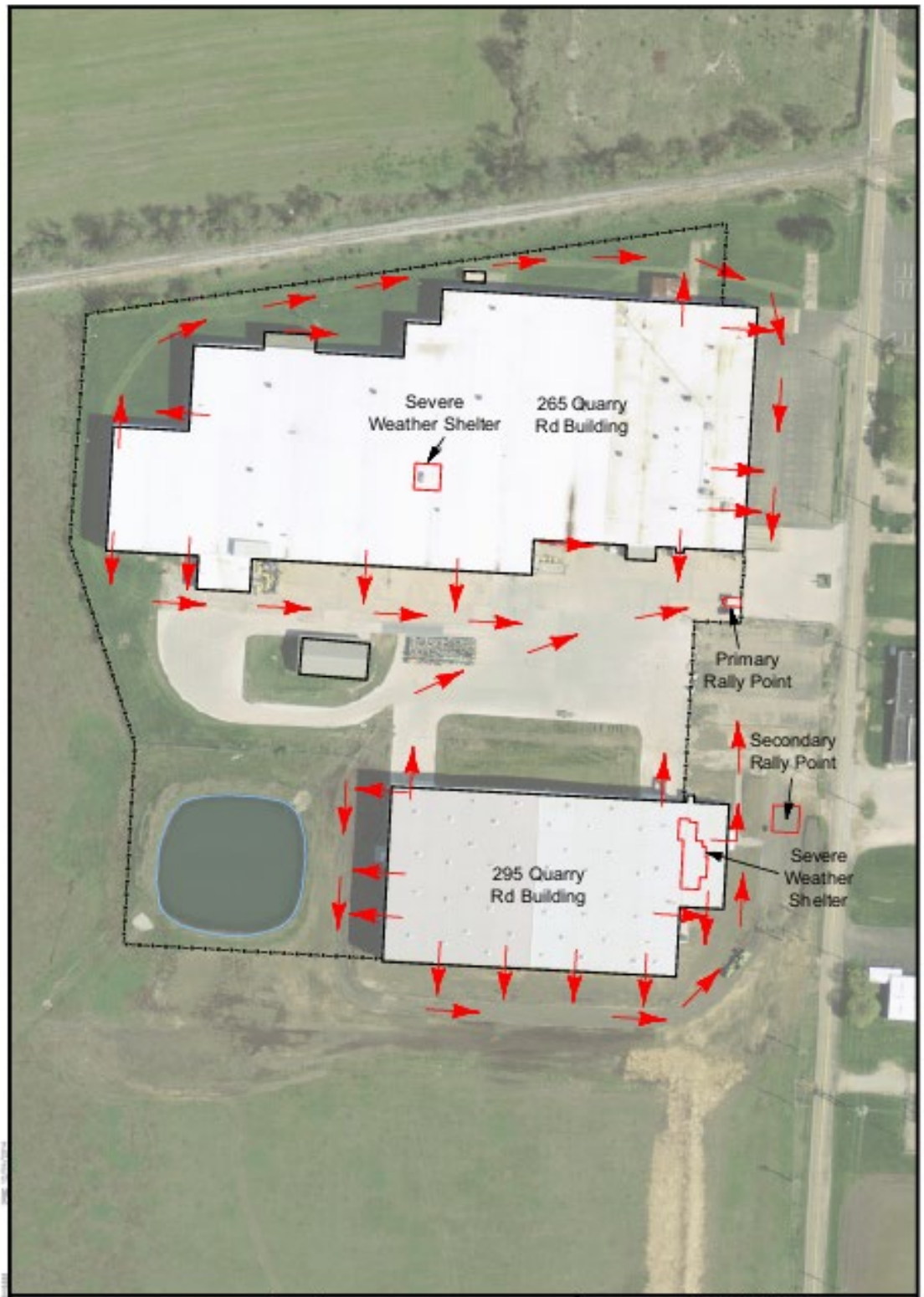
Figure
1-2
Revision 3




Cox-Colvin & Associates, Inc. Environmental Services

Emergency Equipment Map,
Retriev Technologies, Inc.,
Lancaster, Ohio

Figure
5-1
Revision 4




Legend

Fence

Primary Evacuation Route

Source of Aerial Imagery: Ohio Department of Administrative Services, 2011.

Evacuation Route,
Retriev Technologies, Inc.,
Lancaster, Ohio

Cox-Colvin

Figure
7-1

# Tables

Table 2-1. Emergency Coordinators List, Retriev Technologies, Inc., Lancaster, Ohio

*Revision 6*

| Position | Name | Address | Telephone |
|---|---|---|---|
| Emergency Coordinator<br>Environmental Manager | Tom Plute | 862 Sheridan Ave.<br>Columbus, OH 43209 | Mobile: (740) 501-2541 |
| 1st Alternate<br>Production & Operations Manager | Rick Rose | 2403 Carroll Southern Rd.<br>Carroll, OH 43112 | Mobile: (740) 438-0758 |
| 2nd Alternate<br>Human Resources Manager | Stacy Delong | 926 King St<br>Lancaster, OH 43130 | Mobile: (740) 503-2888 |

Note: the office number for all personnel listed above is 740-653-6290

Table 4-1. Outside Emergency Contacts List, Retriev Technologies, Inc., Lancaster, Ohio

Revision 1

| Organization | Telephone | Address |
|---|---|---|
| City of Lancaster Fire Department | 911 or 740-687-6640 | 1596 E Main St, Lancaster, Ohio 43130 |
| City of Lancaster Police Department | 911 or 740-687-6680 | 130 S Broad St, Lancaster, Ohio 43130 |
| Fairfield Medical Center | 911 or 740-687-8000 | 401 N Ewing St, Lancaster, Ohio 43130 |
| Ohio EPA Emergency Response | 800-282-9378 | 50 West Town St, Suite 700, Columbus, Ohio 43215 |
| Ohio EPA Director's Office | 614-644-2782 | 50 West Town St, Suite 700, Columbus, Ohio 43215 |
| National Response Center | 800-424-8802 | Ariel Rios Building (5104A), 1200 Pennsylvania Ave NW, Washington DC 20460 |
| Fairfield County LEPC | 740-654-4357 | 241 West Main St, Suite 100, Lancaster, Ohio 43130 |
| City of Lancaster Water Pollution Control | 740-687-6664 | 800 Lawrence St, Lancaster, Ohio 43130 |
| CHEMTREC | 1-800-424-9300 | 1300 Wilson Coulevard, Arlington, VA 22209 |
| UST Environmental Inc. | 740-862-1554 | 8374 Lancaster-Newark Rd. NE, Baltimore, OH 43105 |

Table 5-1. Emergency Equipment List, Retriev Technologies, Inc., Lancaster, Ohio

Revision 1

| Emergency Equipment | Quantity | Specifications/Capabilities |
|---|---|---|
| Absorbent materials | 10 | Contain and collect liquid releases, compatible with acids and caustics |
| Brooms and shovels | 3 | Contain and collect sludge/solid releases |
| Caution Tape | 3 Rolls | Access control |
| Chemical Gloves | 5 | For spill or releases |
| Drum overpacks | 2 | Contain leaking or damaged drums up to 55-gallons |
| Drums | 2 | Contain or collect liquid, sludge, or solid releases |
| Duct Tape | 3 Rolls | Secures containers of liquid, sludge, or solids and provides secure seals on PPE |
| Eye wash stations | 12 | Flush chemicals from eyes |
| Fire extinguishers | 105 | Standard Class A, B, C for small fires |
| First aid kits | 6 | Treat minor injuries |
| High pressure water sprayer | 1 | Clean residual contamination |
| Nylon rope | 1 | For resuce or secure of area |
| Portable generators | 1 | Operate emergency equipment or lighting |
| Portable lighting | 2 | Eluminate areas for emergency response |
| Portable pumps | 2 | Contain and collect liquid releases, compatible with acids and caustics |
| Portable ventilation fans | 1 | Ventilate atmosphere near an emergency area |
| Rain gear | 4 | For command post and other necessary personnel assistanting |
| Safety showers | 1 | Flush chemicals from skin and clothing |
| Safety showers/eyewash combinations | 35 | Flush chemical from skin and clothing and flush chemicals from eyes |
| Sodium bicarbonate/lime | 1 | Neutralize acids |
| Spill response kits | 5 | Contain or collect liquid, sludge, or solid releases, compatible with acids and caustics; contains goggles or face shield, gloves, face masks or respirators, tyvek coveralls or other full-body synthetic suit, rain gear, boots, absorbent material, non-sparking tools, waste bags and/or waste drums, and cation tape |
| Squeegees | 2 | Contain and collect liquid releases, compatible with acids and caustics |
| Telephones | 2 Systems | In-plant communication |
| 2-way radios | 4 | General instruction or command communication with office or outside |

Various types of personnel protective equipment are utilized during routine facility operations and is available for emergency response.
Communications and alarm systems are summarized in Section 5.0 of the Contingency Plan and not included in this table.
Refer to Figure 5-1 for locations of select emergency response equipment.
This list of emergency response equipment will be updated whenever there is a key change in availability and type of equipment.

# Plates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Flood Insurance Rate Map (FIRM),
Retriev Technologies, Inc.,
Lancaster, Ohio

Plate
1