

# Rocky Mountain Laboratories

Environmental Assessment for the RML Building J Site  
RML Campus Hamilton, MT



SmithGroup  
March 22, 2023

2023 Environmental Assessment for the RML Building J



## EXECUTIVE SUMMARY

---

The National Institutes of Health (NIH) is proposing to construct Building J on the NIH Rocky Mountain Laboratory (RML) campus in Hamilton, MT. The overall purpose of the actions analyzed in this Environmental Assessment (EA) is to accomplish the following:

- Provide the infrastructure and capacity necessary to meet RMLs mission objectives.
- Consolidate Microscopy labs, campus security, administrative, logistical, and management teams into a flexible building structure and envelope that can adapt to future changes in RMLs internal programs and departmental occupancy.
- Provide improved employee engagement and wellbeing through modern facility design focused on improved daylight qualities and viewsapes.

The need for the action analyzed in the EA is to improve RMLs ability to meet its mission objectives while adding flexibility to RML campus facilities and infrastructure to adapt to future changes in RMLs internal programs and departmental occupancy.

Two alternatives are considered in detail in this Draft EA. The Proposed Action would construct Building J to meet the purpose and need of the NIH and RML. The No-Action Alternative would not construct Building J, and the NIH and RML would continue to rely on existing facilities and infrastructure to meet its mission objectives. NIH's preferred alternative is the Proposed Action alternative.

The Proposed Action could result in minor adverse direct, indirect, or cumulative impacts to geology, soils, climate change and sustainability (GHG emissions, energy consumption, water consumption, and waste generation), surrounding communities, air quality, stormwater, waste management, noise, and utilities. The Proposed Action would also result in temporary impacts to groundwater and surface water, and an increase in noise, air emissions (including mobile source emissions and GHG emissions, traffic, waste, and health and safety hazards due to construction.

This EA was developed to address the requirements under the National Environmental Policy Act of 1969, as amended (42 USC 4321et seq.), which requires all federal agencies to understand and disclose the environmental impacts from federal actions, and determine whether the impacts are significant, thus requiring the preparation of an environmental impact statement. The purpose of this EA is to evaluate potential environmental impacts associated with the construction of Building J, taking into consideration efforts to mitigate potential environmental impacts (e.g., sustainable building design, campus wide energy efficiency improvements, construction traffic reduction, etc.). In this EA, the nature of impacts is described in the following ways:

### Impact Code:

- No Impact: No impact to the resource is anticipated or is not applicable to this project.
- Beneficial: Potentially beneficial impact to the resource.
- Adverse: Potentially adverse impact to the resource.

**Impact Type:**

- Direct Impacts: Occur at the same time and place as the proposed project.
- Indirect Impacts: Occur at a different location or later time than the proposed project.
- Cumulative Impacts: Collective impacts on the environment when considered in conjunction with other past, present, and future actions related to the proposed project.

**Impact Analysis Terminology:**

- Severity: negligible, minor, or major.
  - Negligible is used in instances where impacts are indistinguishable from background conditions at the local, regional, and statewide levels.
- Duration: short-term or long-term and/or temporary or permanent
- Extent: local, regional, or statewide.

**TABLE OF CONTENTS**

---

**1.0 INTRODUCTION ..... 1**

    1.1 Background ..... 1

    1.2 Building J Location ..... 1

    1.3 Scope ..... 1

    1.4 Relationship to Other Activities ..... 2

**2.0 PURPOSE AND NEED ..... 3**

    2.1 Purpose and Need for Agency Action ..... 3

**3.0 ALTERNATIVES ..... 4**

    3.1 Proposed Action- Construct Building J ..... 4

        3.1.1 Facility Site and Construction ..... 4

        3.1.2 Facility Description and Operations ..... 4

        3.1.3 Safety and Security ..... 5

        3.1.4 Transportation ..... 5

        3.1.5 Utilities and Waste Management ..... 5

    3.2 No Action Alternative ..... 6

    3.3 Other Alternatives Considered, But Eliminated From Detailed Consideration ..... 6

**4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES ..... 7**

    4.1 Introduction ..... 7

    4.2 Soils ..... 8

        4.2.1 Affected Environment ..... 8

        4.2.2 Direct and Indirect Effects ..... 8

        4.2.3 Cumulative Effects ..... 8

    4.3 Groundwater ..... 8

        4.3.1 Affected Environment ..... 8

        4.3.2 Direct and Indirect Effects ..... 9

        4.3.3 Cumulative Effects ..... 9

    4.4 Climate Change and Sustainability ..... 9

        4.4.1 Affected Environment ..... 9

- 4.4.2 Cumulative Effects .....10
- 4.5 Surrounding Communities.....10
  - 4.5.1 Affected Environment.....10
  - 4.5.2 Direct and Indirect Effects .....10
  - 4.5.3 Cumulative Effects .....10
- 4.6 Human Health (Construction, operations, exposure to hazardous/toxic materials, etc) .....10
  - 4.6.1 Affected Environment.....10
  - 4.6.2 Direct and Indirect Effects .....11
  - 4.6.3 Cumulative Effects .....11
- 4.7 Air Quality .....11
  - 4.7.1 Affected Environment.....11
  - 4.7.2 Direct and Indirect Effects .....12
  - 4.7.3 Cumulative Effects .....12
- 4.8 Stormwater .....12
  - 4.8.1 Affected Environment.....12
  - 4.8.2 Direct and Indirect Effects .....13
  - 4.8.3 Cumulative Effects .....13
- 4.9 Environmental Justice .....13
  - 4.9.1 Affected Environment.....13
  - 4.9.2 Direct and Indirect Effects .....14
  - 4.9.3 Cumulative Effects .....14
- 4.10 Waste Managment (Solid, Hazardous, MPW, recycling).....14
  - 4.10.1 Affected Environment.....14
  - 4.10.2 Direct and Indirect Effects .....14
  - 4.10.3 Cumulative Effects .....15
- 4.11 Noise .....15
  - 4.11.1 Affected Environment.....15
  - 4.11.2 Direct and Indirect Effects .....15
  - 4.11.3 Cumulative Effects .....16

4.12 Land Use and Planning.....16

    4.12.1 Affected Environment .....16

    4.12.2 Direct and Indirect Effects .....16

    4.12.3 Cumulative Effects .....16

4.13 Aesthetics.....16

    4.13.1 Affected Environment .....16

    4.13.2 Direct and Indirect Effects .....17

    4.13.3 Cumulative Effects .....17

4.14 Ecological Resources.....17

    4.14.1 Affected Environment .....17

    4.14.2 Direct and Indirect Effects .....18

    4.14.3 Cumulative Effects .....18

4.15 Transportation.....18

    4.15.1 Affected Environment .....18

    4.15.2 Direct and Indirect Effects .....19

    4.15.3 Cumulative Effects .....19

4.16 Historic Resources .....20

    4.16.1 Affected Environment .....20

    4.16.2 Direct and Indirect Effects .....20

    4.16.3 Cumulative Effects .....20

4.17 Utilities and Services .....20

    4.17.1 Affected Environment .....20

    4.17.2 Direct and Indirect Effects .....21

    4.17.3 Cumulative Effects .....22

**5.0 REFERENCES ..... 23**

## LIST OF TABLES

---

<b>Table 1:</b> Existing Conditions and Proposed Conditions.....	<b>4</b>
--	----------

## APPENDICES

---

### APPENDIX A – FIGURES

**Figure 1.** Location Map

**Figure 2.** RML Scientific Core

**Figure 3.** Building J Conceptual Design (35%) Site Plan

## ACRONYMS/ABBREVIATIONS

---

Acronyms/Abbreviations	Definition
BMP	Best Management Practices
CO	Carbon Monoxide
EA	Environmental Assessment
FEIS	Final Environmental Impact Statement
GSF	Gross Square Feet
HHS	Department of Health and Human Services
NIH	National Institutes of Health
NO <sub>x</sub>	Nitrogen Oxides
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
PM	Particulate matter less than 10 microns
RML	Rocky Mountain Laboratories
SO	Sulphur Oxides
USC	United States Code
VOC	Volatile Organic Compounds



## 1.0 INTRODUCTION

### 1.1 BACKGROUND

The National Institutes of Health (NIH) Rocky Mountain Laboratories (RML) occupies a 36.5- acre facility in Hamilton, Montana (**Figure 1**). As of March 2022, the campus consisted of approximately 40 buildings (including temporary buildings), totaling 377,191 gross square feet (GSF), and housing approximately 450 research scientists, administrators, and support staff. The main campus components include laboratories, veterinary branches, administrative services, central plants, maintenance shops, equipment storage, and chemical and hazardous material storage (NIH, 2023).

In support of proposed expansion at the RML, a comprehensive RML Master Plan was developed in 2009 (NIH, 2009a). In addition to complying with U.S. Department of Health and Human Services (HHS) requirements, the 2009 plan addressed growing physical security requirements, community concerns about campus development, effects on natural resources, and general community concerns about RML activities. An environmental review of the 2009 RML Master Plan was documented in the Final Environmental Impact Statement for the Master Plan (FEIS) (NIH, 2009b). The analysis in the environmental impact statement is incorporated into this EA by reference.

The NIH RML Master Plan Update 2015 (Master Plan Update) (NIH, 2016a) was developed to better understand and manage future facilities needed to support RMLs mission priorities not considered or expanded since the 2009 RML Master Plan was released. The Master Plan Update addressed the NIH impacts on the region and its community, and concerns such as traffic, pedestrian safety, the economy, the environment, historic preservation, and sustainability. Adoption of the Master Plan Update was supported by an EA of the NIH RML Master Plan Update 2015 (NIH, 2016b). The analysis in the Master Plan Update EA is incorporated into this EA by reference.

### 1.2 BUILDING J LOCATION

Building J will be located north of Building 26, north and west of Building 31, and east of Building 28 within the scientific core of the RML (**Figure 2**). Building J will physically join Building 31 (**Figure 3**), and provide direct interior connections between the 1<sup>st</sup>, 2<sup>nd</sup>, and basement levels of each building.

### 1.3 SCOPE

This EA was developed to address the requirements under the National Environmental Policy Act of 1969, as amended (42 USC 4321et seq.), which requires all federal agencies to understand and disclose the environmental impacts from federal actions, and determine whether the impacts are significant, thus requiring the preparation of an environmental impact statement. The purpose of this EA is to objectively evaluate direct, indirect, and cumulative environmental impacts associated with identified alternatives.

## 1.4 RELATIONSHIP TO OTHER ACTIVITIES

---

Construction of new buildings and related infrastructure are ongoing at RML. Currently, Build B is under construction on the RML campus, and is expected to be completed prior to construction of Building J. Avoiding concurrent construction projects on the RML campus helps mitigate temporary impacts associated with construction (e.g., noise and traffic).

The construction of building J supports operational improvements, relocation of existing staff to new facilities, and anticipated new staffing needs at the RML. Building J will house approximately 44 existing Full Time Equivalent (FTE) positions and provides space for approximately 49 new FTE and supports other activities at RML.

## 2.0 PURPOSE AND NEED

### 2.1 PURPOSE AND NEED FOR AGENCY ACTION

---

The overall purpose of the action analyzed in this EA is to accomplish the following:

- Provide the infrastructure and capacity necessary to meet RMLs mission objectives
- Consolidate Microscopy labs, campus security, administrative, logistical, and management teams into a flexible building structure and envelope that can adapt to future changes in RMLs internal programs and departmental occupancy
- Provide improved employee engagement and wellbeing through modern facility design focused on improved daylight qualities and viewsapes

The need for the action analyzed in the EA is to improve RMLs ability to meet its mission objectives while adding flexibility to RML campus facilities and infrastructure to adapt to future changes in RMLs internal programs and departmental occupancy.

### 3.0 ALTERNATIVES

#### 3.1 PROPOSED ACTION- CONSTRUCT BUILDING J

The Proposed Action would construct Building J and associated infrastructure within the existing RML campus at the location shown in **Figure 2 (Appendix A)**.

##### 3.1.1 Facility Site and Construction

Building J, as currently designed, will be constructed north of Building 26, north and west of Building 31, and east of Building 28 within the scientific core of the RML. Building J will physically join Building 31, and provide direct interior connections between the 1<sup>st</sup>, 2<sup>nd</sup>, and basement levels of each building. Existing site conditions and proposed site conditions following construction are summarized in **Table 1**:

**Table 1:** Existing Conditions and Proposed Conditions

Building J Site Characteristics	Existing Conditions	Proposed Conditions	Net Change
Impervious Ground	11,028 sq. ft.	24,949 sq. ft.	+13,921 sq. ft.
Pervious Ground	35,713 sq. ft.	21, 792 sq. ft.	-13,921 sq. ft.
Above Grade Footprint	0 sq. ft.	8,100 sq. ft.	+8,100 sq. ft.
Below Grade Footprint <sup>1</sup>	0 sq. ft.	10, 520 sq. ft.	10, 520 sq. ft.

1. Includes Building J footprint and an additional 2,420 sq. ft. of underground Utility Corridor

##### 3.1.2 Facility Description and Operations

Building J is proposed new construction within the scientific core of the RML. Building J will be a multiuse facility that provides a combination of laboratory and office space for the Microscopy Division, Bioinformatics, Genomics, as well as campus security, administrative, logistical, and management teams. Building J is composed of 55,400 gross square feet with the following physical attributes:

- Four levels and enclosed rooftop penthouse for mechanical equipment
  - Three levels above ground level with level 1 and 2 having direct interior access to existing Building 31.
  - Basement level with direct interior access to existing Building 31.
- Maximum main roof height of 43 feet 4 inches.
- Maximum penthouse height of 54 feet 0 inches.
- Maximum lab exhaust pipe height of 63 feet 2 inches.

Building J is designed to meet LEED Silver certification requirements as required by the NIH 2021 Sustainability Implementation Plan (2021) and Pending Executive Order 14057. RML will meet the LEED Silver requirements by:

- Incorporating sustainable building practices and design, including the implementation of low-e windows.
- Reducing pollution through the promotion of alternatives to conventionally fueled automobiles with the installation of electric vehicle charging stations.
- Promoting employees to commute by bicycling or walking thereby reducing vehicle traffic and promoting recreational physical activity.
- Enhancing employee experience by increasing access to outdoor space through the establishment of a picnic area.
- Connecting employees with the outdoors by increasing daylight exposure to reduce the use of electrical lighting and support employee engagement and wellness while providing quality views, **LEED scorecard | U.S. Green Building Council (usgbc.org).**
  - **Building J meets the standard for the LEED v4 Interior Lighting Credit and includes control devices local to controlled fixtures with a minimum of 3 lighting levels or scenes for individual occupant spaces and multi-occupant spaces, thus allowing users to control the contribution of electrical lighting based on natural lighting conditions.**
- **Exterior lighting is minimized to the greatest extent possible, focused on high traffic areas (e.g., entry ways) to reduce exterior light pollution within RML's light control zone. RML's light control zone is a zone controlled by RML's building automation system (BAS) and includes automated dimming and/or timed lighting on/off periods.**

### 3.1.3 Safety and Security

Access to the RML campus is controlled at all points of entry whether by vehicle or on foot. Access to Building J is controlled by electronic key card access and limited to those individuals that require access.

### 3.1.4 Transportation

Building J will use existing campus transportation infrastructure and does not require new roads or changes to existing traffic patterns.

### 3.1.5 Utilities and Waste Management

Building J will tie into existing utilities for electricity, natural gas, heating, cooling, water, and wastewater.

Electricity and natural gas for Building J will be provided by NorthWestern Energy which sources 59% of its electricity in Montana from Carbon-Free sources, and 56% of its total electricity portfolio from Carbon-Free sources. (NorthWestern Energy, 2023).

Heating will be provided to Building J by piped steam generated onsite at the RML steam utility plant (Building 26). The steam utility plant has, or will be retrofitted soon, with energy recovery systems to improve energy efficiency. These systems include a stack economizer (currently installed on 1 of 4 boilers) where heat

## Environmental Assessment for RML Building J

is transferred from the boiler stack to pre-heat feed water, and a blowdown economizer (1 installed, and being replaced to increase capacity) where heat is transferred from boiler blowdown to pre-heat feed water.

Cooling will be provided by mechanical or passive cooling via chilled water sourced from RML Building 28. At temperatures below 42 degrees Fahrenheit, mechanical cooling is replaced with free cooling that utilizes a dry cooler which uses outside air for chilling water.

The city of Hamilton currently provides water, wastewater, and solid waste services to RML. Building J has been designed to meet LEED silver and RML Master Plan standards which include design considerations to reduce water consumption, wastewater generation, and solid waste streams. Updating an existing campus facility to meet current sustainability standards is anticipated to reduce water consumption, wastewater generation and solid waste streams.

### 3.2 NO ACTION ALTERNATIVE

---

The No-Action alternative would not implement the Proposed Action. Under the No-Action Alternative Building J would not be constructed and existing operations, staffing, and environmental conditions would remain the same.

The No-Action Alternative would not meet the purpose and need for agency action as described in **Section 2.1**. As a result, NIH considers the No-Action Alternative to be less desirable than the Proposed Action.

### 3.3 OTHER ALTERNATIVES CONSIDERED, BUT ELIMINATED FROM DETAILED CONSIDERATION

---

Building J was considered as two separate buildings (Building J and Building H) in the 2015 Master Plan Update (NIH, 2015). Through further evaluation of existing facilities, new facility needs, constructability, campus aesthetics, and other environmental factors the two buildings considered in the 2015 Mast Plan Update were consolidated and reconfigured into the current Building J design and footprint. Building H and Building J, as envisioned in the 2015 Master Plan update, were eliminated from detailed consideration.

## 4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### 4.1 INTRODUCTION

The 2009 Master Plan FEIS (NIH, 2009b) and the 2015 Master Plan Update EA (NIH, 2016) considered a range of environmental factors and categories related to expansion of facilities at the RML. Implementation of the 2009 Master Plan, and the 2015 Master Plan Update, have changed baseline conditions previously analyzed for the 2009 Master Plan Update FEIS and the 2015 Master Plan Update EA. Accordingly, this EA re-evaluates previously analyzed baseline conditions and environmental consequences while incorporating analysis of additional environmental factors and categories not considered during the analysis of the 2009 Master Plan (NIH, 2009a) or the 2015 Master Plan Update (NIH, 2015).

During evaluation of the Proposed Action, it was determined that several environmental factors and/or environmental areas that would either a) not be affected by the evaluated actions, or b) would experience only minor, temporary impacts, or minor beneficial impacts associated implementation. These areas are briefly addressed below but are not discussed further within this section.

- **Sustainable development – Minimal potential effects.** Building J has been designed to be LEED Silver Certified, and in compliance with the Energy Independence and Security Act of 2007, Executive Order No 13423, incorporates actions to meet non-numerical targets of sustainability and implements strategies to improve sustainability as outlined in Executive Order No 13514.
- **Exterior Lighting – Minimal potential effects.** Building J will meet RML Master Plan requirements that limit exterior lighting impacts to the surrounding environment. The incorporation of natural light and LED lighting into Building J design will reduce potential exterior light pollution impacts from interior lighting. Exterior lighting will integrate into RML’s light control zone and managed with RML’s BAS.
- **Geology – No potential effects.** Local and regional geologic conditions would be unaffected by the construction of Building J.
- **Topography – Minimal potential effects.** Excavation and grading of the site related to construction of Building J generally confirms to existing site topography.
- **Environmentally Sensitive Areas – No potential effects.** No environmentally sensitive areas are present within the proposed project area.
- **Fish and Wildlife – Minimal potential effects.** Building J will remove a small area of non-native grass and landscaping that could serve as small mammal habitat and desirable food source for certain species.
- **Socioeconomics – Minimal potential effects.** Potential for minor temporary increases in economic benefits to the local community during construction activities (e.g., meals and incidentals for construction workers, local material sourcing, etc.). Potential for minor permanent increases in economic uplift resulting from the addition of permanent, high wage FTE positions.

## 4.2 SOILS

---

### 4.2.1 Affected Environment

The dominant soil type at the RML campus is the Tiechute series composed of gravelly, sandy loam with average slopes of 3.30%. This soil type is somewhat excessively drained and formed in mixed alluvium located on stream terraces and inset fans. There are two additional soil types located west of the Tiechute that form the Riverrun-Curlew soil complex. The Riverrun-Curlew complex is classified as moderately well drained with average slopes of 1.0% (Montana State Library, 2021). Riverrun soils consist of gravelly sandy loam forming in the alluvium deposited in floodplains, drainageways, stream terraces, and outwash fans. Curlew soils similarly form in the alluvium of floodplains and drainageways but are typically finer in nature being a silty loam (USDA-NRCS, 2013). To the northwest is the Overwhich-Tiechute complex, classified as somewhat poorly drained with average slopes of 1.90% (Montana State Library, 2021). Overwhich series soils consist of coarse loam formed in the alluvium or outwash of features such as stream terraces, outwash fans, and floodplains (USDA-NRCS). The Overwhich soils are mixed with the Tiechute series to create the complex present in the northwest corner of the site boundary.

### 4.2.2 Direct and Indirect Effects

#### **Proposed Action**

Construction of building J requires the excavation and removal of local soils and non-native fill to accommodate 10,520 square feet of permanent, below grade structure and conversion of pervious soils to impervious surfaces.

The direct and in direct effects of the removal of native soil and non-native backfill has a minor, permanent effect on local soil characteristics and availability. Conversion of pervious soil to impervious surfaces has highly localized minor effects on water infiltration and shallow alluvial aquifer storage.

#### **No-Action Alternative**

Under the No-Action Alternative, soils and non-native backfill would remain in their existing condition. Prior conversion of pervious soils to impervious surfaces inside the Building J footprint would remain.

### 4.2.3 Cumulative Effects

Under the Proposed Action, minor effects to soil in the construction area are expected. Cumulative effects of the Proposed Action on soils would be negligible.

## 4.3 GROUNDWATER

---

### 4.3.1 Affected Environment

Groundwater is present in a shallow alluvial aquifer, associated with the soils and near surface geology of the area. Depth to groundwater is anticipated at 14 feet -15 feet below ground level.



### 4.3.2 Direct and Indirect Effects

#### **Proposed Action**

Construction of building J will require a dewatering plan to allow for the construction of subgrade infrastructure. Pumped groundwater would be discharged to the surface via the outfalls west of the RML property fence. Water will flow northwest through wetlands to discharge into the Bitterroot River (NIH, 2009b). Groundwater pumping and discharge to the surface would result in temporary increases in water levels in native wetlands, potential for increased turbidity, and short-term alterations to wetland and surface water hydrology. Direct and indirect effects are expected to be minor and temporary.

#### **No-Action Alternative**

Under the No-Action Alternative, groundwater would not be pumped and discharged at the surface, and no temporary effects to local groundwater or receiving surface water would occur.

### 4.3.3 Cumulative Effects

Under the Proposed Action, minor temporary effects to groundwater are expected during construction due to dewatering. Cumulative effects of the Proposed Action on groundwater would be negligible.

## 4.4 CLIMATE CHANGE AND SUSTAINABILITY

---

### 4.4.1 Affected Environment

The generation and emission of Green House Gases (GHGs), energy consumption, water consumption, and waste generation are all potentially affected by current and future RML facilities, including the construction of Building J. Campus wide actions to conform to the NIH 2021 Sustainability Implementation Plan are ongoing. The construction of Building J increases the GSF of the RML campus and provides the capacity for 49 new FTE. This represents a minor contribution to energy consumption, water consumption, waste generation, and GHG emissions. Building J, as a LEED Silver Certified building, incorporates a range of design features to reduce direct and indirect GHG emissions from energy consumption, interior heating and cooling, water consumption, and waste generation. Additional campus wide sustainability actions have been or are being implemented to reduce contributions to climate change.

#### **Proposed Action**

Climate concerns associated with Building J would be linked to energy consumption, water consumption, waste generation, and the emission of greenhouse gases. Minor direct and indirect effects on GHG emissions, energy consumption, water consumption, and waste generation are anticipated.

#### **No Action Alternative**

Under the No Action Alternative older less efficient buildings would continue to house personnel and would require modification for expanded FTE. Associated direct and indirect impacts to climate would be minor.

#### **4.4.2 Cumulative Effects**

Under the Proposed Action cumulative effects on climate are negligible and mitigated through various sustainable development actions and energy efficiencies described in **Section 3**.

### **4.5 SURROUNDING COMMUNITIES**

---

#### **4.5.1 Affected Environment**

The RML campus is bordered to the north, east, and south by single family residential neighborhoods and the City of Hamilton in Ravalli County, MT. RML campus access points are located on 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> Avenue, and require passing through the residential neighborhoods immediately to the north of the RML campus. The main campus entrance is located on 4<sup>th</sup> Avenue and is accessed from Highway 93 via Baker or Grove Street.

#### **4.5.2 Direct and Indirect Effects**

##### **Proposed Action**

Construction of Building J will result in minor temporary negative effects to surrounding communities due to construction activities. Temporary negative effects on air quality, noise, and traffic are expected. Following construction, the addition of 49 FTE would have minor negative effects on air quality (GHGs from vehicles, fugitive dust), noise, and traffic.

Limiting the temporary impacts of construction on surrounding communities are achieved through controlled construction access, defined traffic patterns, fugitive dust control. RML works with surrounding communities to identify and implement additional mitigation measures to reduce temporary impacts associated with construction.

The addition of permanent, high wage FTE could have a minor beneficial effect on local property values and tax base.

##### **No Action Alternative**

Under the No-Action Alternative direct and indirect impacts from other RML activities would continue.

#### **4.5.3 Cumulative Effects**

Under the Proposed Action cumulative effects on the surrounding community would be negligible, with the potential for minor beneficial effects on local property values and tax base.

### **4.6 HUMAN HEALTH (CONSTRUCTION, OPERATIONS, EXPOSURE TO HAZARDOUS/TOXIC MATERIALS, ETC)**

---

#### **4.6.1 Affected Environment**

The area proposed for Building J is a mix of pervious and impervious surfaces adjacent to existing buildings. RML has occupied the area since 1928. During early operations, waste was commonly buried within the

campus perimeter at various locations. In addition, release of hazardous materials during operations have occurred. When identified, RML has responded to address concerns to current standards. All known hazardous materials buried or released within the campus boundaries have been removed or addressed to the satisfaction of state and federal agencies. However, the presence of unknown buried hazardous materials persists as evidenced by a previously unknown historic waste vault unearthed during construction of Building B in 2021.

#### **4.6.2 Direct and Indirect Effects**

##### **Proposed Action**

Construction activities are hazardous by nature. Construction activities have the potential to expose sensitive receptors and construction workers to noise emission, fugitive dust, and low levels of air pollution in addition to physical hazards like unknown buried utilities, unknown buried waste, overhead work, changing construction traffic patterns, and typical hazards such as slip/trip, strain, pinch points etc.

Once constructed, Building J would house laboratory facilities, K-9 kennel facilities, and administrative office space. RML staff and visitors could be exposed to range of conditions that pose a risk to human health. Human health risks are mitigated through facility design, institutional controls, and health and safety procedures.

##### **No-Action Alternative**

Under the No-Action Alternative no effects or impacts to the health and safety of construction workers or personnel would occur.

#### **4.6.3 Cumulative Effects**

Under the Proposed Action, temporary increases in noise, air emissions, GHG emissions, and health and safety concerns are expected. The Proposed Action will introduce temporary direct impacts typically associated with construction but will not create permanent impacts that may negatively affect human health. The scope of the Proposed Alternative will not contribute temporary impacts; however, the Proposed Action will contribute to the overall improvements within the Master Plan FEIS and Master Plan Update EA.

### **4.7 AIR QUALITY**

---

#### **4.7.1 Affected Environment**

##### **Emission Sources**

Operations at RML generate air emissions from multiple sources. Sources include onsite stationary sources (e.g., boilers, generators, incinerators, flume hoods, etc.), offsite stationary sources (e.g., power plants, landfills, etc.), and mobile sources (vehicles and construction equipment).

##### **Green House Gases**

Operations at RML produce GHG emissions through a variety of activities, including the following:

- Purchasing electricity

- Operating boilers, incinerators, emergency generators, RML fleet vehicles, and other onsite facilities
- Commuting of employees to RML, and employee business travel

## 4.7.2 Direct and Indirect Effects

### **Proposed Action**

Gaseous and particulate emissions would be generated under the Proposed Action during normal operation at RML. This would result in increased emissions associated with increased generation of medical waste, increased boiler use and/or the addition of a boiler for heating, and testing and running backup diesel generators in the event of a power outage. These increases would be monitored under conditions of the RML air quality permits: Montana Air Quality Permit 2991-03 and Environmental Protection Agency's Title V Operating Permit #OP2991-00 (NIH, 2015). However, according to 2007 data, RML would not exceed pollutant limits under the proposed new source performance standards and air quality would be within Montana DEQ and EPA acceptable limits (NIH, 2009b). Many of the air emissions of concern result from operation of the natural gas fired boilers and these boilers do not violate permit values. Emissions from the weekly testing or use of diesel generators in the event of a power outage are expected to increase as new generators are added to campus, however, impacts on air quality would be minor. The newly installed generators utilize new diesel technology for low emission stationary generator sets and follow Tier 2 standards stipulated by the Environmental Protection Agency (NIH, 2015).

### **No-Action Alternative**

Under the No-Action Alternative no increase risks to health and safety above existing conditions would occur.

## 4.7.3 Cumulative Effects

Under the Proposed Action, minor temporary and permanent effects to air quality are expected. Temporary effects include gaseous and particulate emissions associated with construction of Building J. Permanent effects are associated with operations and increased FTE. Cumulative effects of the Proposed Action on air quality would be negligible based on regulatory compliance and sustainability measures taken to reduce air quality impacts.

## 4.8 STORMWATER

---

### 4.8.1 Affected Environment

The affected environment, regulatory requirements and environmental consequences would be the same as disclosed in the 2009 FEIS. Temporary increases in stormwater runoff are expected during construction but managed through a Stormwater Pollution Prevention Plan (SWPP). Long-term stormwater management improvements would consist of appropriate green infrastructure features to help with stormwater generation and management. These design improvements would follow stormwater management guidelines as mandated by Executive Order 13693.

## 4.8.2 Direct and Indirect Effects

### **Proposed Action**

By utilizing the Natural Resources Conservation Service (NRCS) methods, surface types may be qualified into two categories: low permeability-buildings, roads, and parking areas; and high permeability-landscaped areas and native vegetation (NIH, 2015). Surface runoff is directly affected by the surface type as it may impede or aid in infiltration rates. High permeability-landscaped areas will have a much greater infiltration rate than low-permeability areas utilizing concrete or other similar mediums. Building J would follow the 2-year 24-hour storm event estimates used in the 2015 Master Plan update, concluding that RML could contribute minor amounts of stormwater runoff to local waterways due to onsite capture and infiltration to the groundwater table.

Engineered BMPs have been implemented into the construction process to combat storm event precipitation following estimated state and national standards. Through regular inspection and maintenance of the Building J stormwater runoff BMPs by RML, the longevity of this system may be preserved.

Local waterways would experience a minimal adverse effect due to stormwater runoff during construction and will be mitigated according to State of Montana Storm Water Pollution Prevention Plan (SWPPP) standards. A Building J specific SWPPP will be completed and submitted to the Montana Department of Environmental Quality for approval during the construction permitting phase.

### **No-Action Alternative**

Under the No-Action Alternative no changes to stormwater discharge or management are expected, and therefore has no impact.

## 4.8.3 Cumulative Effects

Under the Proposed Action minor and permanent effects on stormwater are expected. Temporary effects are associated with construction and related site disturbances. Urbanization would proceed in the Hamilton area regardless of Building J's construction, thereby, increasing stormwater runoff as pervious soils such as grasslands are converted to impervious surfaces. One may presume that sediment and pollutants would continue to reach area waterways from sources such as soils eroded from steep slopes following a local forest fire. By achieving a no net increase in stormwater runoff from the RML campus, cumulative effects on local waterways would be negligible.

## 4.9 ENVIRONMENTAL JUSTICE

---

### 4.9.1 Affected Environment

Environmental Justice Indexes for the RML campus and surrounding area exceed the 50<sup>th</sup> percentile for the following: Ozone, Air Toxics Cancer Risk, Air Toxics Respiratory HI, Lead Paint, RMP Facility Proximity, Underground Storage Tanks, and Wastewater Discharge. Environmental Justice Indexes for the RML campus and surrounding areas are below the 50<sup>th</sup> percentile for the following: Particulate Matter 2.5, Diesel Particulate

Matter, Traffic Proximity, and Superfund Proximity ([EJScreen \(epa.gov\)](https://www.epa.gov/ejscreen) accessed March 17<sup>th</sup>, 2023). No Environmental Justice Indexes exceed the 75<sup>th</sup> percentile.

## 4.9.2 Direct and Indirect Effects

### **Proposed Action**

Construction of Building J may have minor temporary effects on Environmental Justice Indexes related to Particulate Matter 2.5, Diesel Particulate Matter, Traffic Proximity, and Wastewater Discharge. Contributions to these Environmental Justice Index values are expected to be minor and would not disproportionately affect surrounding communities and their populations.

### **No-Action Alternative**

Under the No-Action Alternative no effects on Environmental Justice or associated Environmental Justice Indexes would occur.

## 4.9.3 Cumulative Effects

Under the Proposed Action cumulative effects on Environmental Justice or Environmental Justice Index values are expected to be negligible.

## 4.10 WASTE MANAGEMENT (SOLID, HAZARDOUS, MPW, RECYCLING)

---

### 4.10.1 Affected Environment

The affected environment and regulatory requirements would be the same as disclosed in the 2009 FEIS.

Due to the unique nature of the facilities and research at RML, a wide variety of waste is generated. The RML Waste Management Plan divides the waste stream into recyclable, non-recyclable, and incinerated waste. The incinerated waste is the largest percentage of waste stream and largely consists of infectious medical waste. Non-recyclable waste comprises the lowest percentage of the waste stream and is directed to a landfill facility.

### 4.10.2 Direct and Indirect Effects

#### **Proposed Action**

The Proposed Action calls for construction of additional laboratory and administrative space. However, approximately 47 percent of this space is intended to replace and or centralize other existing facilities. A total of 93 fulltime employees (FTE) will occupy Proposed Building J with 44 FTE being relocated from within the campus. Therefore, a net increase of 49 new FTE is proposed resulting in an increase in all waste streams. Current available information and technology indicate incineration of all medical type wastes is the technology best suited for RML and the Proposed Action retains the current incineration of medical type waste.

Based on a municipal solid waste (total waste) generation rate of 0.56 tons/year as a per capita of the total campus staff; the impacts from the Proposed Action would increase total waste generation by up to

27.44 tons per year. Analysis from the Medical Waste Disposal Alternatives Study indicated researchers would contribute approximately 0.5 tons of medical waste for annual incineration per researcher. Assuming the most conservative scenario that all new FTE are researchers, the Proposed Action would generate approximately 24.5 tons of additional waste for incineration each year. An additional 3 tons per year combined of recyclable and non-recyclable solid waste would be transported off site.

Increases in throughput of all types of waste at the RML campus would generate additional waste disposal byproducts such as liquid waste, solid waste, and air emissions. These would indirectly increase transportation related disposal activities and costs, increase water consumption, and wastewater discharge, and increase air emissions from the RML incinerator.

### **4.10.3 Cumulative Effects**

Under the Proposed Action direct and indirect effects are minor, and cumulative effects on waste management are negligible.

## **4.11 NOISE**

---

### **4.11.1 Affected Environment**

The affected environment and regulatory requirements would be the same as disclosed in the 2009 FEIS.

There are no local, state, or federal noise ordinances in effect for the RML area. RML has established self-imposed noise criteria to limit the amount of cumulative ambient noise at the campus boundaries to 55 decibels from 7:00 AM to 7:00 PM and 50 decibels from 7:00 PM to 7:00 AM.

### **4.11.2 Direct and Indirect Effects**

#### **Proposed Action**

RML prepares a noise analysis for each new project to demonstrate the new project complies with noise standards. During construction of the Proposed Action, noise levels at the campus boundary may occasionally exceed the 55 dBA criteria during daytime hours of 7 am to 7 pm on weekdays due to the nature of construction equipment. Construction outside of these hours is not permitted. After the project is complete, noise levels will be measured to ensure requirements are met. Once completed, the RML Campus Noise Criteria (BSA 2003) would continue to limit the noise level at the campus boundary to 55 dBA during the day and 50 dBA at night. Therefore, the proposed action may have minor adverse noise effect on the surrounding residential neighborhoods during construction hours but no adverse effects during non-construction hours or after construction is complete.

#### **No-Action Alternative**

Under the No-Action Alternative RML would not affect noise beyond existing conditions.

### 4.11.3 Cumulative Effects

Under the Proposed Action cumulative effects on noise are expected to be minor and temporary during construction, but negligible following construction.

## 4.12 LAND USE AND PLANNING

---

### 4.12.1 Affected Environment

The RML campus is positioned with residential zones containing single family residential neighborhoods to the north, south, and east with an outfall to the west past the property fence. Building J will be an institutional space attached to another proposed development, Building H, along the northern edge of the campus. Building J is designated as a multiuse facility intended for laboratory services and office space. The building footprint is expected to occupy approximately 10,000 GSF.

### 4.12.2 Direct and Indirect Effects

#### Proposed Action

There are no direct or indirect effects identified with the Building J development as the land to be used for the construction is currently vacant space existing within the RML campus property lines.

#### No-Action Alternative

Under the No-Action Alternative no effects on land use and planning would occur.

### 4.12.3 Cumulative Effects

Under the Proposed Action no cumulative effects are expected.

## 4.13 AESTHETICS

---

### 4.13.1 Affected Environment

The location of the Proposed Action is currently vacant land landscaped to a park-like setting. The area consists of concrete sidewalks downward facing light poles connecting buildings 28, 31, and the surrounding campus with open spaces in between landscaped with native and non-native trees, shrubs, grasses, large rocks, two picnic shelters and several park benches. Trees are generally less than 20 feet in height. Immediately adjacent to the area east is Building 31, with Building 26 (boiler building) to the south and Building 28 to the west. Buildings 28 and 31 are constructed of red brick masonry, painted metal panels, aluminum framed doorways, windows, and awnings. Building 28 has a main roofline height of approximately 53 feet while Building 31 has a main roof line of approximately 32 feet and a total height of approximately 44 feet. Building 26 is constructed of concrete block with painted metal siding absent of windows on the north, east, and west sides. Building 26 also includes three exhaust stacks reaching more than 20 feet above the roofline to a total height of 65 feet. The cooling towers, exhaust stacks, and above ground diesel storage



tank associated with Building 26 are visible from the neighborhoods north of the campus and the main employee parking area north of Building 28.

### **4.13.2 Direct and Indirect Effects**

#### **Proposed Action**

The Proposed Action would remove landscaped open space from the RML campus. The building constructed in its place will be constructed of similar materials, colors, and styles as adjacent Buildings 28 and 31. Additionally, the proposed building with a main roof line height of approximately 43 feet, a penthouse extending to 54 feet and exhaust stacks reaching 63 feet would provide visual transition from the taller adjacent Building 28 to the shorter adjacent Building 31. Sidewalks, landscaping, and picnic shelters would be preserved or relocated north of the construction site. Proposed Building J would obscure the view of Building 26 and its associated cooling towers, exhaust stacks, and above ground diesel storage tank from the neighborhoods north of the campus and from the main employee parking area north of Building 28; likely improving the aesthetics from these directions. Four exhaust stacks that extend 20 feet above the main roofline will be constructed on the northern third of the proposed building instilling some degree of industrial appearance which would not detract from the existing appearance.

#### **No-Action Alternative**

Under the No-Action Alternative no changes to RML campus aesthetics would occur.

### **4.13.3 Cumulative Effects**

Under the Proposed Action a minor beneficial effect is expected by improving the overall appearance of the RML campus by blending the architectural and aesthetic properties of the adjacent buildings and by obscuring the view of Building 26 infrastructure from the north both on and off the RML campus.

## **4.14 ECOLOGICAL RESOURCES**

---

### **4.14.1 Affected Environment**

Ecological Resources of the Bitterroot Valley are diverse and representative of the northern Rocky Mountain Region. Such resources include wetlands, floodplains, riparian areas, fish, and wildlife.

The affected environment and regulatory requirements on Ecological Resources would be the same as disclosed in the 2009 FEIS.

#### **4.14.1.1 Fish and Aquatic Communities**

The west end of the RML property is in the Bitterroot River floodplain. The area is relatively flat and partially or fully inundated when the river floods. The extend of inundation depends on the magnitude of flood. Portions of the west end or RML property are classified as wetlands. For regulatory purposes under the Clean Water Act, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps,

marshes, bogs and similar areas." [from the EPA Regulations listed at 40 CFR 230.3(t)] Protection of the nation's wetlands is provided under Section 404 of the Clean Water Act.

The closest aquatic community to the RML campus is the Bitterroot River and adjoining wetland / riparian areas, providing habitat for 12 fish species. Of these species, the west slope cutthroat trout is listed as a species of concern while the bull trout is listed under the Endangered Species Act.

#### **4.14.1.2 Wildlife**

Approximately 45 species of mammals, five species of amphibians, and nine species of reptiles occur in the vicinity of RML. Sufficient habitat is present surrounding the RML campus for approximately 100 species of birds.

The specific location of the Proposed Action within the RML campus is approximately 1,000 feet from the nearest classified wetland and consists of native and non-native grasses, weeds, trees, and shrubbery.

### **4.14.2 Direct and Indirect Effects**

#### **Proposed Action**

The Proposed Action has a primary construction site approximately 1,000 feet east of the nearest identified wetland. In addition, construction materials, supplies and equipment are not planned to be stored within wetland or floodplain areas but are planned to be stored on highland areas adjacent to wetland or flood plain areas. Therefore, floodplains, wetlands and riparian areas would not be directly affected by the Proposed Action because these areas would not be developed. These areas may experience minor indirect effects from runoff or dust transmission from construction storage areas.

The Proposed Action will not affect fish habitat or stream water quality; therefore, fish would not be impacted.

The location of the Proposed Action within the RML campus provides little wildlife habitat. Impacts to habitat if any, would be minor and affect few individuals and not populations.

#### **No-Action Alternative**

Under the No-Action Alternative no direct or indirect effects to ecological resources are expected.

### **4.14.3 Cumulative Effects**

Under the Proposed Action cumulative effects on ecological resources in the area would be negligible.

## **4.15 TRANSPORTATION**

---

### **4.15.1 Affected Environment**

The RML campus is accessed through three gates by either motor vehicle, bicycle, or foot traffic. The main employee and visitor entrance is located on 4<sup>th</sup> Street, between Baker Street and Grove Street.

The Main Service entrance for routine facility deliveries is located at the north end of the campus at the intersection of 5<sup>th</sup> Street and Baker Street. The third entrance is located at the northeast corner of the campus at the intersection of 6<sup>th</sup> Street and Baker Street. The third entrance is for construction related traffic only.

Currently there are no entrances onto the campus from the south or west. Access to all current gates pass through single family residential neighborhoods.

### **4.15.2 Direct and Indirect Effects**

#### **Proposed Action**

The RML campus is proposing to continue use of the three existing entrances. Construction completion of Building B is anticipated to be completed in January 2024 while groundbreaking for Proposed Action would not begin till mid-2024. Therefore, Proposed Action construction traffic accessing the campus at the 6<sup>th</sup> Street gate would essentially continue until construction is completed at which time construction traffic would decrease.

The Proposed Action calls for construction of additional laboratory and administrative space with a total of 49 new FTE. Additional employees will require additional supplies and equipment being delivered as well as additional solid waste removed through the Main Service entrance at the intersection of 5<sup>th</sup> Street and Baker Street. Additional trip counts for transportation services have not been calculated. The increase of 49 new FTE suggests a negligible to minor increase in demand for transportation services.

Addition of 49 employees will increase traffic volumes on area roadways. The greatest percentage of additional employee trip counts would access the campus via the 4<sup>th</sup> Street gate using Baker Street and Grove Street. An unknown percentage of additional FTE are likely to access the campus by bicycle or on foot. The installation of electric vehicle charging stations are likely to have an indirect minor reduction in the noise and air pollution of anticipated traffic.

#### **No-Action Alternative**

Under the No-Action Alternative no changes to existing traffic patterns, traffic counts, etc. would occur.

### **4.15.3 Cumulative Effects**

In the short-term, during construction of the Proposed Action, no adverse impacts are anticipated as daily trip counts will likely remain at current levels. Once construction is completed, the daily trip counts to and from the campus will likely increase along surrounding residential roadways primarily Baker Street and Grove Street. Increase in traffic will likely cause a negative impact to surrounding residential streets as intersections with Highway 93 become more congested during morning and evening commute times. Highway 93 intersections may need improvements in the future to continue to operate at acceptable levels. Cumulative effects of additional employee traffic within the campus would be minor when compared to local and regional traffic trends.

## 4.16 HISTORIC RESOURCES

---

### 4.16.1 Affected Environment

The affected environment and regulatory requirements on historical resources would be the same as disclosed in the 2009 FEIS.

Prehistoric resources are physical properties resulting from human activities that predate Native American/European contact. Typical site types in the region include campsites, limited activity areas, stone rings, cairns, and rock art. A Class I record search was conducted for RML in July 2007. No prehistoric sites were identified.

Historic resources consist of physical properties that postdate Native American/European contact. Site types may include trails/roads, trash scatters, foundations, and architectural structures (buildings, dams, and bridges). The RML Historic District (24RA373) is listed on the National Register of Historic Places (NRHP). The RML Historic District is located on the southeast corner of the campus and includes Buildings 1 through 9, and 11.

### 4.16.2 Direct and Indirect Effects

#### **Proposed Action**

The Proposed Action of Building J construction is not within or adjacent to the RML Historic District. The majority of the proposed is shielded by existing Buildings 26 and 31 from view from the RML Historic District. Increased traffic and presence of construction equipment such as cranes within the viewshed of the RML Historic District would cause minor short-term impacts to the view from the Historic District. Once constructed, the presence of Building J within the viewshed of the RML Historic District would pose minimal impacts due to the presence of preexisting buildings and the architectural blending of proposed building design. These impacts would not harm the qualities for which the district is listed in the National Register. Therefore, the Proposed Action would have no direct effect on the RML Historic District, with minor indirect effects from campus modernization.

#### **No-Action Alternative**

Under the No-Action Alternative no changes direct or indirect effects to Historic Resources would occur.

### 4.16.3 Cumulative Effects

Under the Proposed Action, there would be no cumulative effects to the qualities for which the RML Historic District is listed in the National Register.

## 4.17 UTILITIES AND SERVICES

---

### 4.17.1 Affected Environment

RML receives natural gas, electric, communications, potable water, and wastewater services from off campus private or municipal providers.

### Natural Gas

Natural gas is provided to the campus by Northwestern Energy via a 6-inch buried main which enters the campus along the north central perimeter, runs under the perimeter loop road to Building 26 via a buried utility corridor along the east perimeter of Building 28. The affected environment and regulatory requirements on natural gas would be the same as disclosed in the 2009 FEIS.

### Electricity

Electricity is also provided by Northwestern Energy via buried power lines. A buried utility corridor exists along the east perimeter of Building 28. There are no critical power lines within the proposed construction zone. The affected environment and regulatory requirements on electrical utilities would be the same as disclosed in the 2009 FEIS.

### Communications

Telephone and computer network communications are provided to the campus through a Main Distribution Frame in Building 6. All services are distributed throughout the campus from this location. The affected environment and regulatory requirements on communications would be the same as disclosed in the 2009 FEIS.

### Water and Wastewater

Water and Wastewater are municipal services provided to the RML campus by the City of Hamilton Department of Public Works (CHDPW). RML has four existing water supply wells that are not part of the potable or industrial supply system. The first well is used solely for landscape irrigation. The second well is used for irrigation and backup fire suppression. The third well is used for irrigation and industrial cooling. The fourth well is backup industrial supply. Water and wastewater would continue as described in the 2009 FEIS. Regulatory requirements would be similar, except for the implementation of Executive Order 13693 – Planning for Federal Sustainability in the Next Decade was signed March 19, 2015. Executive Order 13693 mandates improvements in water use efficiency and management by reducing agency potable water consumption before fiscal year 2025 by reducing water consumption and improving conservation.

### Heating and cooling

Heating is provided to campus buildings from a central boiler facility (Building 26) via a network of subsurface steam lines. Cooling is provided by chilled water fed from Building 28. Both Buildings are adjacent to the Proposed Action.

## **4.17.2 Direct and Indirect Effects**

### **Proposed Action**

Several branch utilities may require relocation of services provided to Buildings 26, 28, and 31. The Proposed Action will not affect any critical utility corridors. All services to adjacent buildings will be maintained during construction. The existing utility network will service Proposed Building J. Proposed Building J will receive chilled water from the chilled water plant in adjacent Building 28 and steam heat from adjacent Building 26 reducing plumbing runs and heating and cooling losses in route. Electrical, potable water and sanitary sewer

infrastructure are adjacent to the proposed construction site. Buried power is present beneath the main employee parking area north of Building 28 to service the proposed electric car charging stations near the 5<sup>th</sup> Street entrance.

The Proposed Action is intended to replace and centralize other existing facilities with more efficient construction materials and methods, but it will increase the total gross square feet requiring heating and cooling. Increases in natural gas (for steam heat) and electrical consumption are anticipated but not quantified at this time. The Proposed Action does not include any major freezer or large energy demand equipment. The addition of electric car charging stations near the 5<sup>th</sup> Street entrance may have a minimal indirect increase on campus electrical consumption. Therefore, no significant increase in energy consumption is anticipated. The 2009 FEIS Master Plan, which included Building J, indicated existing utility infrastructure had sufficient capacity for proposed growth. LEED Silver certification of the Proposed Action suggests gas and electric consumption will be lower per square foot than predicted in the 2009 FEIS. Therefore, the existing energy infrastructure will have adequate capacity to accommodate the proposed.

Water demand and wastewater discharge are anticipated to be approximately equal. Water consumption and wastewater discharge volumes are expected to increase with the Proposed Action. The proposed does not include any large water demand activities such as cage washing. Only laboratory and restroom usage are planned. The Proposed Action is expected to increase the number of employees by 49 FTE. For impact analysis all additional FTE are assumed to be laboratory usage. In the absence of campus per capita water usage, 18,400 gallons of potable water per fulltime employee (FTE) per year are estimated (CBECS 2012). Therefore, the proposed increases water consumption and wastewater discharge by approximately 901,600 gallons per year. The additional potable water demand is not expected to exceed system capacity. No adverse effects to the CHDPW water distribution system are anticipated.

As of the 2009 FEIS, the CHDPW wastewater treatment plant (WWTP) was operating at or near capacity. At this time, it is unknown if CHDPW WWTP expansion plans identified in the 2009 FEIS have been completed. Therefore, it is unknown if the CHDPW WWTP has sufficient capacity to handle an additional 901,600 gallons per year.

#### **No-Action Alternative**

Under the No-Action Alternative direct and indirect effects on utilities or services would occur.

#### **4.17.3 Cumulative Effects**

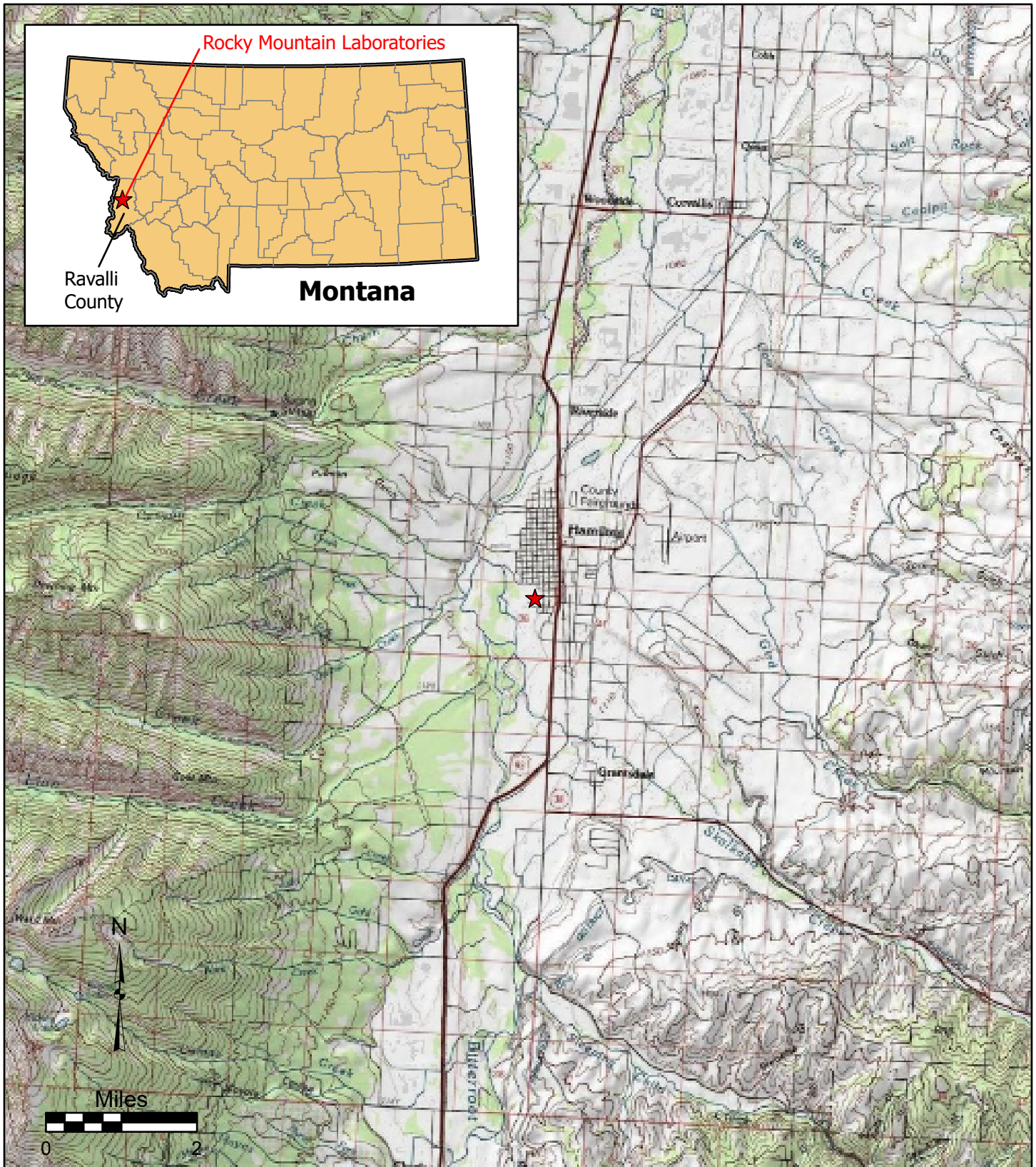
Under the Proposed Action minor permanent effects on energy and water consumption, and wastewater generation is expected. Water and wastewater demands are negligible compared to regional and city population growth trends and associated impacts on utilities but could have a minor negative impact to the CHDPW.

## 5.0 REFERENCES

- EIA (2017). U.S. Energy Information Administration 2012 Commercial Building Energy Consumption Survey; Water Consumption in Large Buildings Summary. Release date February 9, 2017.
- EPA (2023). EJScreen Mapper. Accessed March 17<sup>th</sup>, 2023 at **EJScreen (epa.gov)**
- Montana State Library & USDA-NRCS. (2021). *Ecological Site Reviewer*. Montana.gov. Accessed January 16, 2023 at <https://montana.maps.arcgis.com/apps/webappviewer/index.html?id=ee8f63e72e204c4594dd6ccea68749b6>
- MBMG, & Montana Technological University. (2007). *Montana Geologic Maps*. mbmg.mtech.edu. Retrieved January 10, 2023 at <https://mbmg.mtech.edu/Information/StoryMaps/GeologicMaps.asp>
- NIH. (2009). Final Environmental Impact Statement for the Master Plan. Rocky Mountain Laboratories Campus - Hamilton Montana. March.
- NIH. (2015). Environmental Assessment – 2015 RML Master Plan Update.
- NIH. (2016). 2015 Master Plan Update, Rocky Mountain Laboratories NIH. Division of Facilities Planning, Office of Research Facilities.
- NIH (2021). NIH 2021 Sustainability Implementation Plan.
- SmithGroup. (2022, July 14). *Architectural Design Review Board Presentation*, Building J Exterior Design. NIH NIAID RML.
- USDA-NRCS. (2013). *Official soil series descriptions and series classification*. USDA.gov. Retrieved January 16, 2023 at <https://soilseries.sc.egov.usda.gov/>
- Vuke, S. M., Porter, K. W., Lonn, J. D., & Lopez, D. A. (2007). *Geologic Map of Montana*. mbmg.mtech.edu (1.0 ed.). Montana Bureau of Mines and Geology. Retrieved January 10, 2023, from [https://mbmg.mtech.edu/pdf/GM62\\_2007Booklet.pdf](https://mbmg.mtech.edu/pdf/GM62_2007Booklet.pdf)

**APPENDIX A – FIGURES**



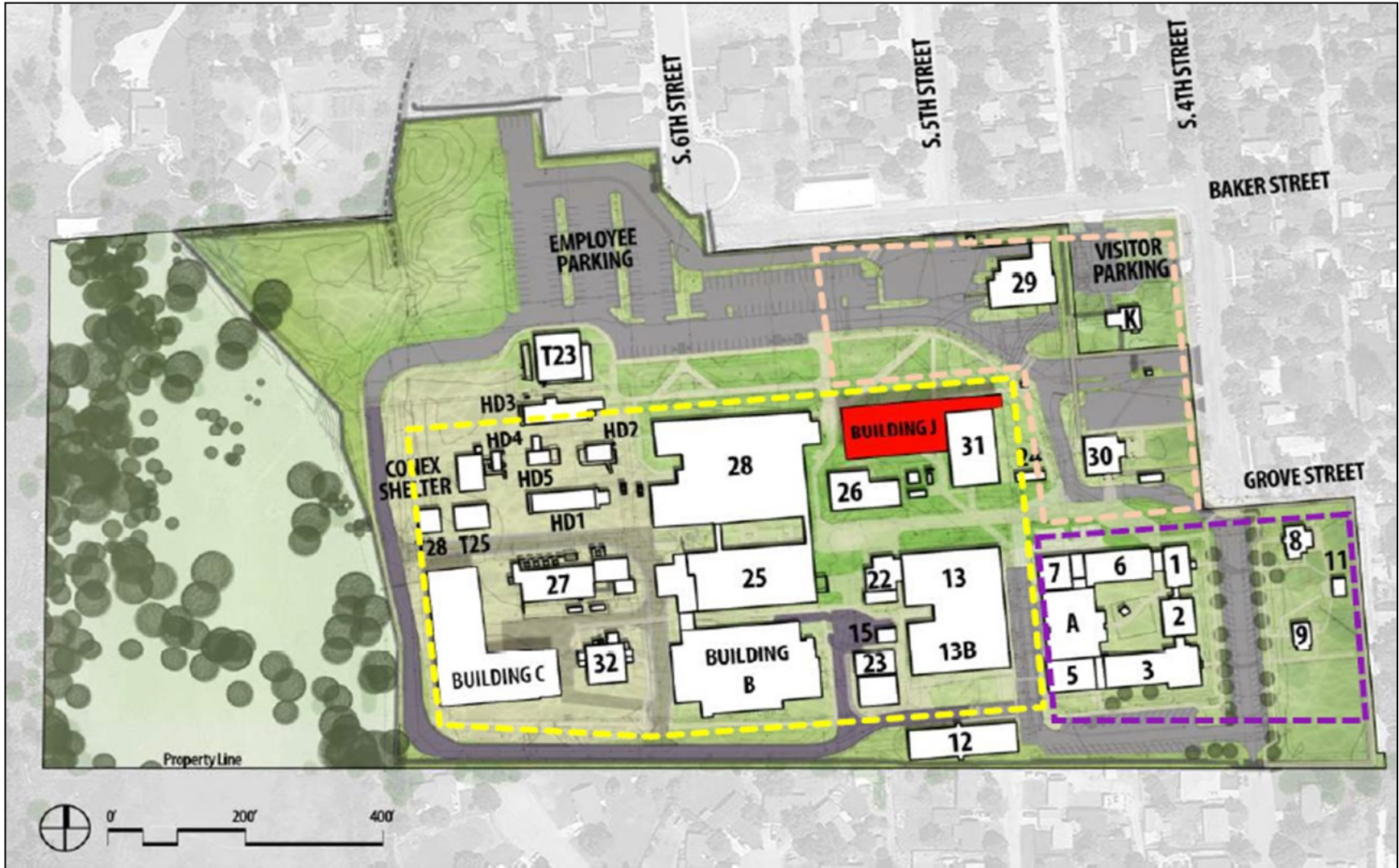


March 2023

Legend

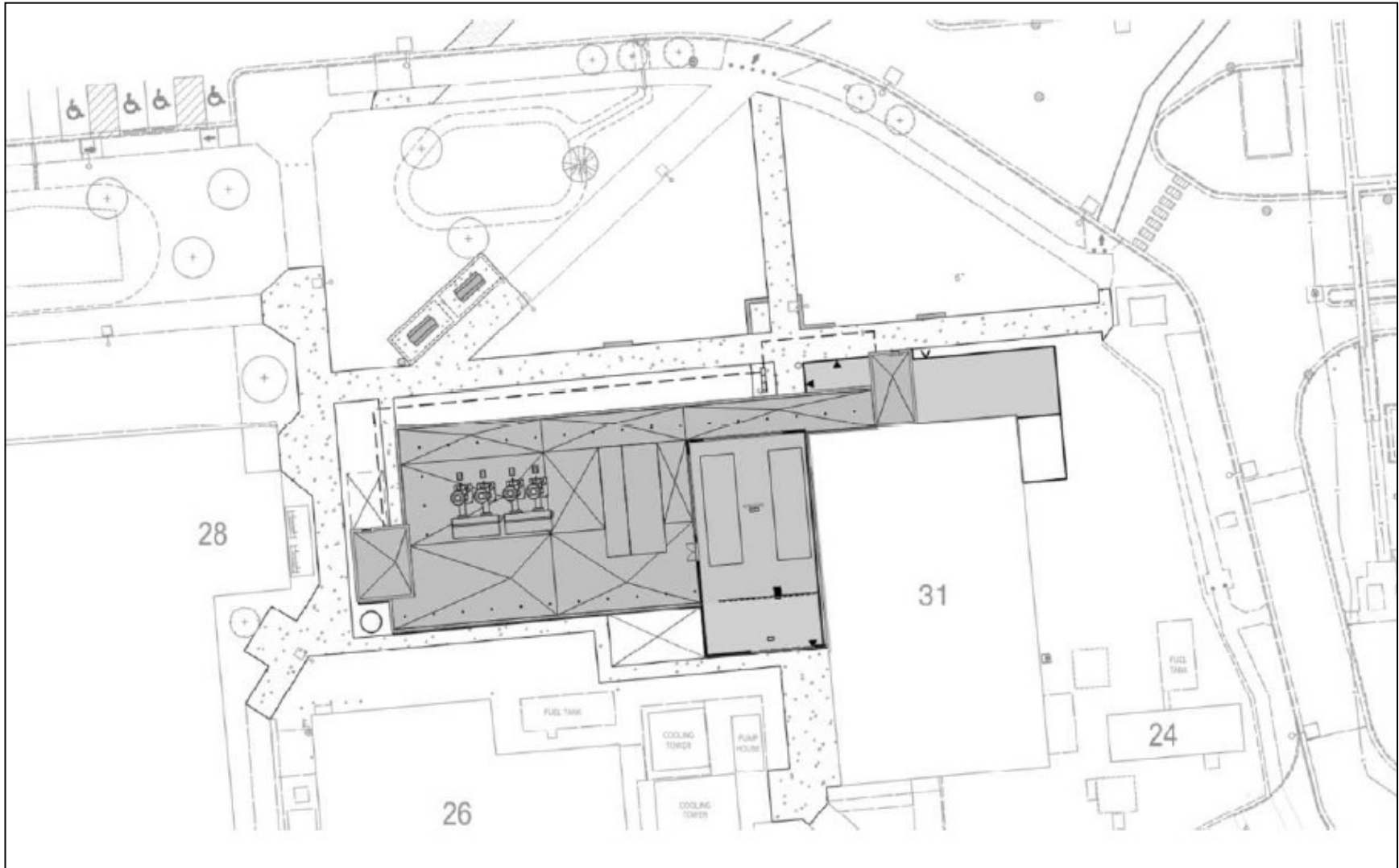
★ Rocky Mountain Laboratories

**Figure 1. Location Map  
Rocky Mountain Laboratories  
Ravalli County, Montana  
RML Building J**



- - - - ENTRANCE / SECURITY CHECK
- - - - SCIENTIFIC CORE
- - - - HISTORIC DISTRICT

**Figure 2. RML Scientific Core  
RML, SmithGroup Designs  
Ravalli County, Montana  
RML Building J**



**Figure 3. Building J Conceptual Design (35%) Site Plan RML, SmithGroup Designs Ravalli County, Montana RML Building J**