

# AREA DEVELOPMENT PLAN: WEST PAJARITO CORRIDOR



LA-UR-06-6133

# EXECUTIVE SUMMARY

Special nuclear materials research and stewardship activities at Los Alamos National Laboratory are concentrated within the West Pajarito Corridor. This concentration requires that security and safety be major considerations in future design for this planning area.

Since the events of 2001, security planning for all federal facilities has been heightened. Design-basis threat guidelines from the Department of Energy have highlighted the need to manage and control security-sensitive locations such as TA-55, located within the West Pajarito Corridor area.

The 2006 West Pajarito Area Development Plan provides a holistic approach to addressing pedestrian oriented development while at the same time integrating heightened security, land use, and transportation goals with the creation of a quality Laboratory environment.

The following is the conceptual framework for the 2006 West Pajarito Corridor Area Development Plan, developed through discussion and review with representatives of the Laboratory program and support divisions.

 Parking at TA-55 would be moved to TA-50 and Pecos Road along the eastern edge of TA-55 would be narrowed for increased security.

- Employees and visitors would park at new large parking areas at TA-50 and supplemental lots at TA-48 and TA-63.
- A limited use internal shuttle system would transport personnel between the new parking lots at TA-50 to facilities in TA-55, 50, 35 and 63.
- A new bypass route circumventing the limited access area would be developed. The new route would begin at TA-63, cross TA-35 and lead north to Sigma Mesa.
- New pedestrian and vehicular bridges would be part of the new bypass route.

The opportunities and challenges to the vision for the West Pajarito Corridor Planning Area are substantial. Clear and sustained support from DOE as well as Laboratory leadership will be needed to achieve the goals.

### **MAJOR IMPLEMENTATION ISSUES**

- How can approvals, funding, design and implementation of much needed parking structures be accelerated to meet deadlines?
- Several structures, such as the Atlas Facility, require public access and are within the limitedaccess zone around TA-55. How should land use and access discrepancies between these facilities be discussed, resolved and implemented?
- People must have safe walkway systems and sufficient modes of transit. The Laboratory has a poor record of implementing meaningful pedestrian or transit systems. How would the Laboratory commit to qualityinvestments into pedestrian and transit facilities?





# AREA DEVELOPMENT PLAN:

# WEST PAJARITO CORRIDOR

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## I.INTRODUCTION

### A. Intent

The West Pajarito Corridor is the focal point for critical mission activities related to special nuclear materials at Los Alamos National Laboratory. This report is the long-range area development plan for the corridor. The intent is to describe a comprehensive development concept for the next 20 to 30 years for the West Pajarito Corridor Planning Area.

The Area Development Plan is a strategic document that describes the influences that shape where development should or should not occur within the West Pajarito Corridor Area. The intent is to describe the surrounding planning context that should be considered in the locating, siting and development of proposed improvements. The Plan raises questions such as: Is a use compatible with the security needs of the surrounding area? Do proposed parking strategies address the Lab's current needs? What part of the pedestrian network should this project build?

The Plan is intended to be flexible, to respond to a variety of future uses or facilities that many be proposed; and to provide the framework to coordinate future development to achieve the overall vision for the West Pajarito Corridor Area.

### B. Comprehensive Site Planning

Comprehensive site planning is a holistic planning approach that integrates eight elements—environment, land use, transportation, infrastructure, facilities, security, safety, and quality work environments. A comprehensive approach captures the complexity of site planning and aligns it with future development to efficiently and effectively use dollars and land. By coordinating the physical planning of the eight elements, the goal is to develop a Laboratory that is of a caliber befitting an international science and research institution.

This Plan has been developed by SPPI as part of its charge to lead long-range site planning initiatives for Los Alamos National Laboratory. This Plan supports other site-wide planning including the Laboratory's Ten Year Comprehensive Site Plan, the 2000–2001 Comprehensive Site Plan, and the Site-Wide Environmental Impact Study (SWEIS). It also supports critical security plans to meet current Department of Energy design basis threat guidance at its national laboratories.

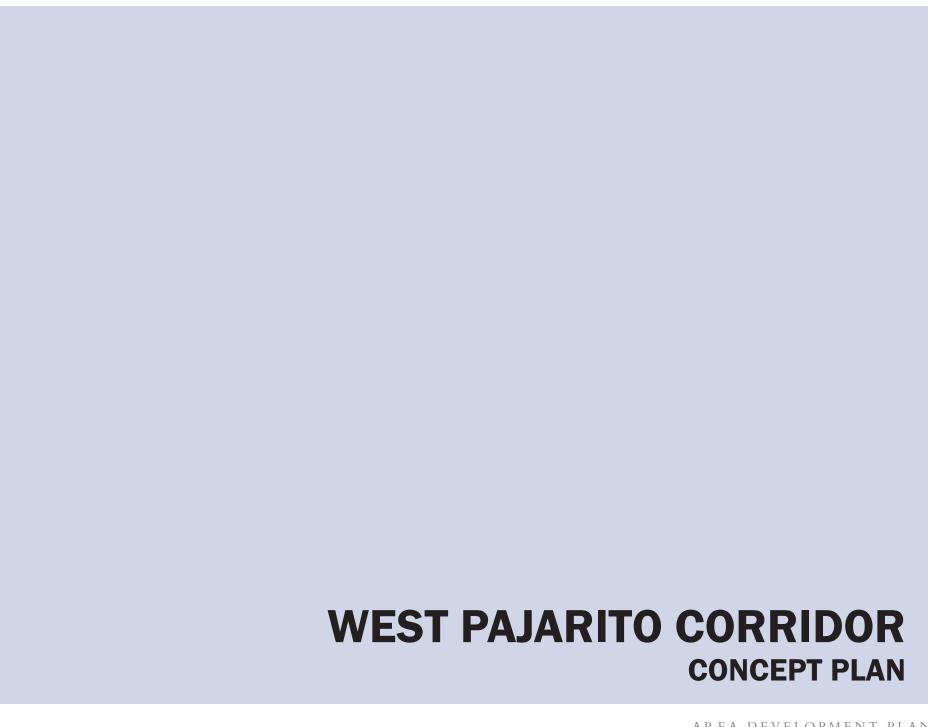




Figure II-01: West Pajarito Corridor 2025 Master Plan

**WEST PAJARITO CORRIDOR CONCEPT PLAN** 

## II. West Pajarito Corridor Concept Plan

Security requirements for activities at TA-55 are the most dynamic influence on future planning for the West Pajarito Corridor Planning Area. The physical site plan for almost every Technical Area within the corridor would be modified to respond to security initiatives at TA-55.

A major theme is the need to consider and prioritize the pedestrian as part of transportation planning. As the effects of reducing vehicular security threats to the activities at TA-55 are rolled out, people will need to rely on walking and perhaps limited transit as the modes to get to and from locations within the West Pajarito Corridor. Substantive investments in pedestrian and transit improvements will be needed to create a quality environment that is safe, effective and welcoming for the many visitors, staff and future employees of the West Pajarito Corridor Area.

The following is the conceptual framework for the West Pajarito Corridor Area Development Plan.

### **Environmental Concepts**

The environmental concepts that inform the West Pajarito Corridor Plan are:

- Plan protects endangered wildlife habitats and wetlands by avoiding development in Pajarito and Mortendad Canyons.
- Where development of infrastructure such as roads and utilities must occur within the two major canyons, it would be evaluated, designed and constructed to minimize impacts to the canyons and natural systems.
- New development would be sited, designed and constructed to reduce impacts to wildlife and natural systems, by reducing noise, night lighting, storm runoff, etc., during the development phases and longterm operations.
- New development would be clustered and focused first to infill locations to reduce the area of existing natural landscape consumed for new development.

### **Infrastructure Concepts**

Infrastructure concepts for the West Pajarito Corridor Plan are:

- Infrastructure utility corridors would align with main roads where possible.
   This strategy reduces loss of very limited developable lands to utility easements.
- Infrastructure utility corridors would be used in the routing of future infrastructure. Clustering utilities to corridors allows for denser development that is more efficient for infrastructure management and operations.
- Infrastructure improvements would be considered as practical infrastructure upgrade needs of affected or adjacent facilities. The approach builds in capacity to allow the future infrastructure needs to be implemented.

### **Security Concepts**

Security Concepts that drive the West Pajarito Corridor Plan are:

- The central area of the corridor surrounding TA-55 would be reserved for future expansion of secure nuclear materials and materials science technology activities that require PIDADS boundary protection.
- Security buffer areas would be created surrounding the PIDADS area on both TA-55 and TA-48.
- New facilities in the surrounding areas outside the PIDADS would be designed to support security needs at TA-55 for height, sight lines, proximity, etc.
- Pecos Road east of TA-55 would be narrowed and limited in use.

### **Safety Concepts**

Safety concepts which are part of the West Pajarito Corridor Plan are:

- Pedestrian network improvements would increase pedestrian safety as many areas in the corridor have no, or inadequate, sidewalks.
- New facilities would be placed beyond the 100-foot fire safety setback along canyon edges to reduce wildfire threats.
- Two possible locations for emergency fire stations are shown to help improve overall fire safety response.
- The MDA area at TA-50 would continue to be protected and undisturbed.
- The bypass road from TA-63 to TA-35 to Sigma Mesa would create the long-needed secondary emergency egress route for TA-50 and TA-35.

### **Land Use Concepts**

Land use concepts which structure the West Pajarito Corridor Plan are:

- Nuclear materials research and technology activities would consolidate at and around TA-55. Over time, these types of activities would migrate from other locations on the Laboratory to TA-55, 48, 50, and 35.
- TA-35, TA-52, and TA-48 would continue to focus on material science, physics and other current activities. In the long term, activities that conflict with security operational requirements of TA-55 would migrate out to other areas of the Laboratory.
- TA-59, TA-63 and the western end of TA-48 would provide support uses such as supplemental parking and future transit centers for TA-55, TA-35 and TA-50 personnel.
- TA-64 would continue to be used for protection technology (PTLA) and TA-66 would continue its use for homeland security activities.

### **Transportation / Vehicular Concepts**

Transportation / Vehicular concepts tied to the West Pajarito Corridor Plan are:

- All parking at TA-55 would be removed and relocated to the southern rim of TA-50.
- Employees and visitors would park at new large parking areas at TA-50 or at supplemental surface lots at TA-48 and TA-63.
- A limited use shuttle system would transport personnel between the new parking lots at TA-50 to facilities in TA-55, TA-50, TA-35 and TA-63.
- Parking complexes at TA-50 South, TA-48, and TA-63 and parking structure at TA-35 allow more efficient land use development of the limited land availability, high densities requiring new government vehicular trips.
- A bypass route to circumvent the limited access area would be developed. The route would begin at TA-63, cross to TA-35 and lead north to Sigma Mesa, and include

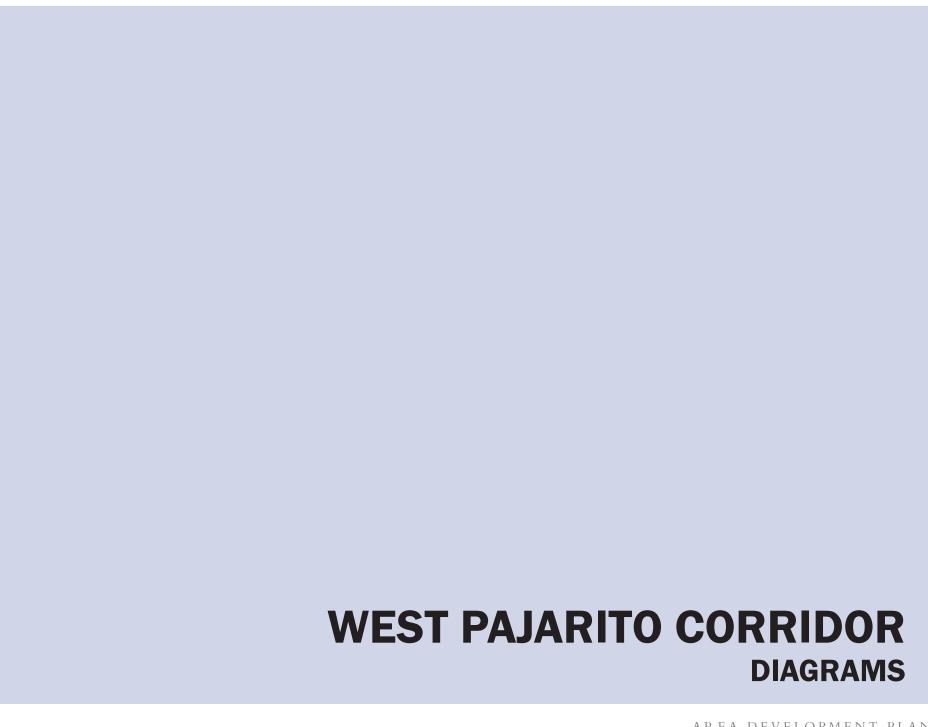
secure and general access lanes.

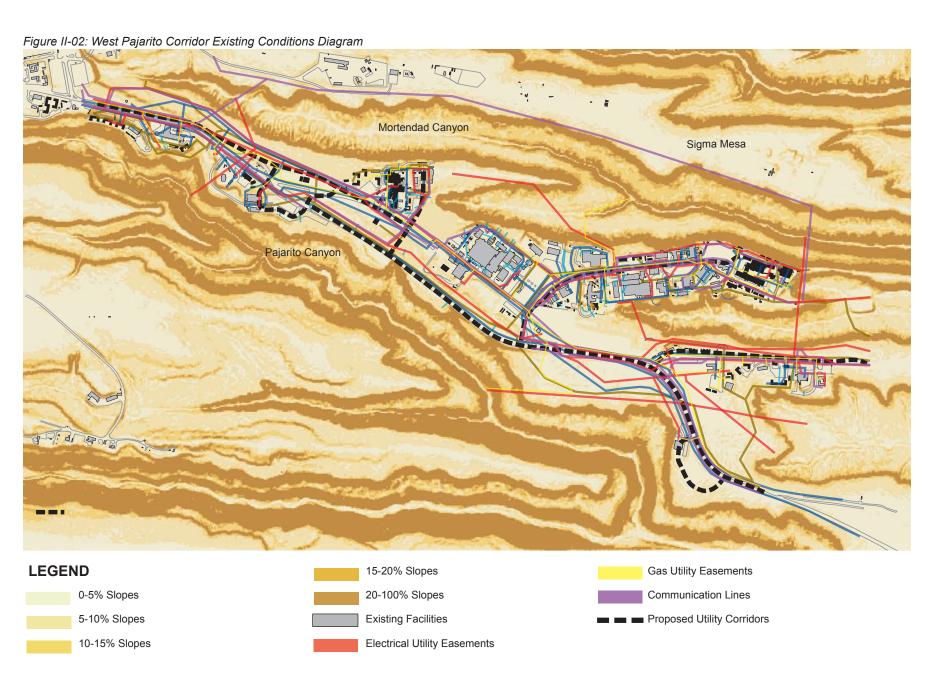
- A bypass route would allow most of the Laboratory to continue to function if security needs to temporarily close part of Pajarito. Bypass enhances safety, location, and traffic flow for TA-03, TA-50, TA-55, TA-52, TA-63, TA-59, TA-48 and TA-64.
- Future transit centers at TA-48 and TA-63 would be easily integrated into the ADP to respond to changing design basis threat recommendations.

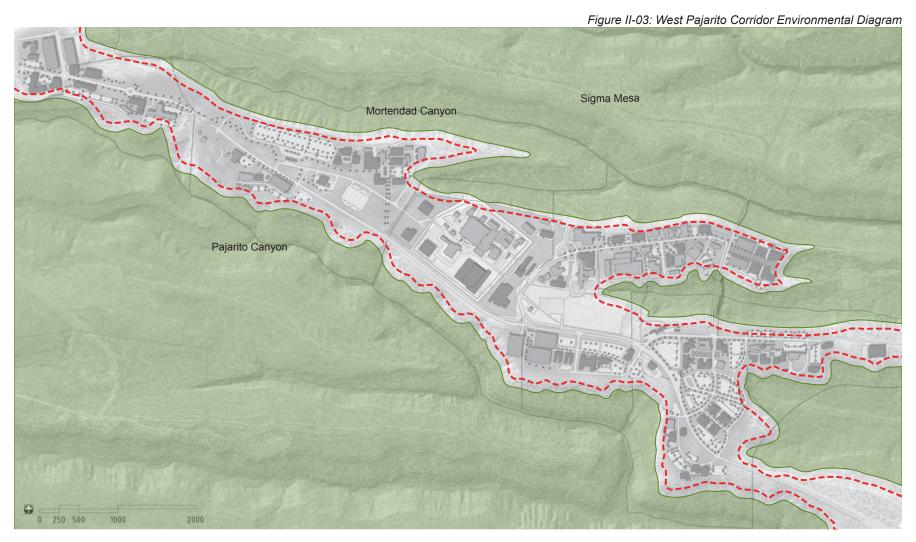
### **Transportation / Pedestrian Concepts**

Pedestrian network concepts crucial to the West Pajarito Corridor Plan are:

- Implementation of sidewalk and trail improvements throughout the West Pajarito Corridor. These are a necessary and critical component of a successful transition to a more pedestrian-oriented environment.
- Urban open spaces would act as a dynamic, organizing element for new development that would engage the Lab's employees and visitors in outdoor, informal gathering spaces.
- Addition of a new major pedestrian walkway between TA-55 and TA-63 would be added to provide emergency pedestrian egress from TA-55.
- Two major pedestrian connections between TA-35 and TA-63 would be created to provide emergency pedestrian egress for TA-35. One would be at the western end, and one at part of the bypass road connection on the eastern end of TA-35.







### **LEGEND**

Canyon Edge

Fire Setback Line (Building Setback)

Wildlife Habitat

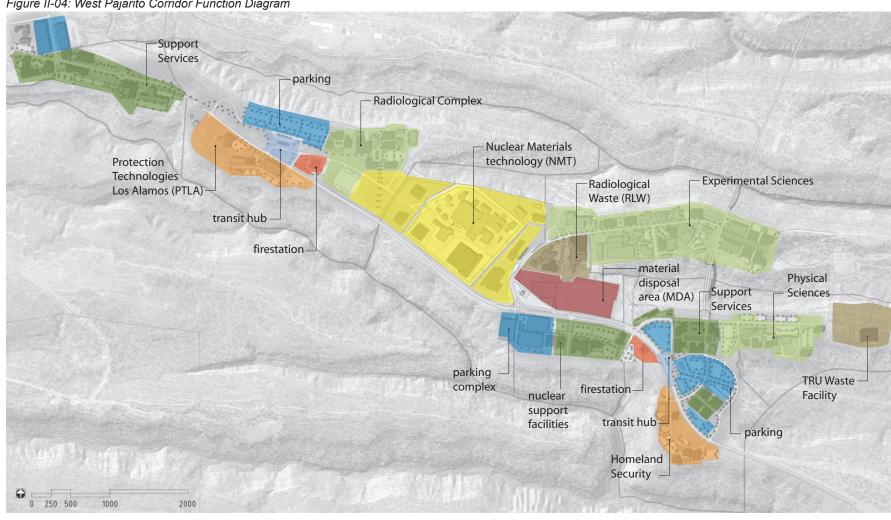
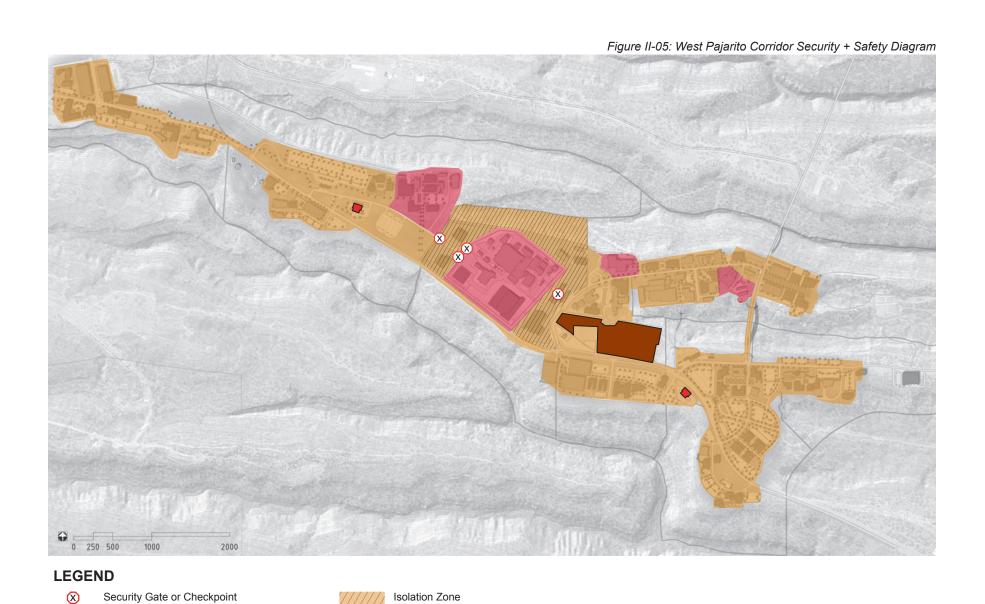


Figure II-04: West Pajarito Corridor Function Diagram

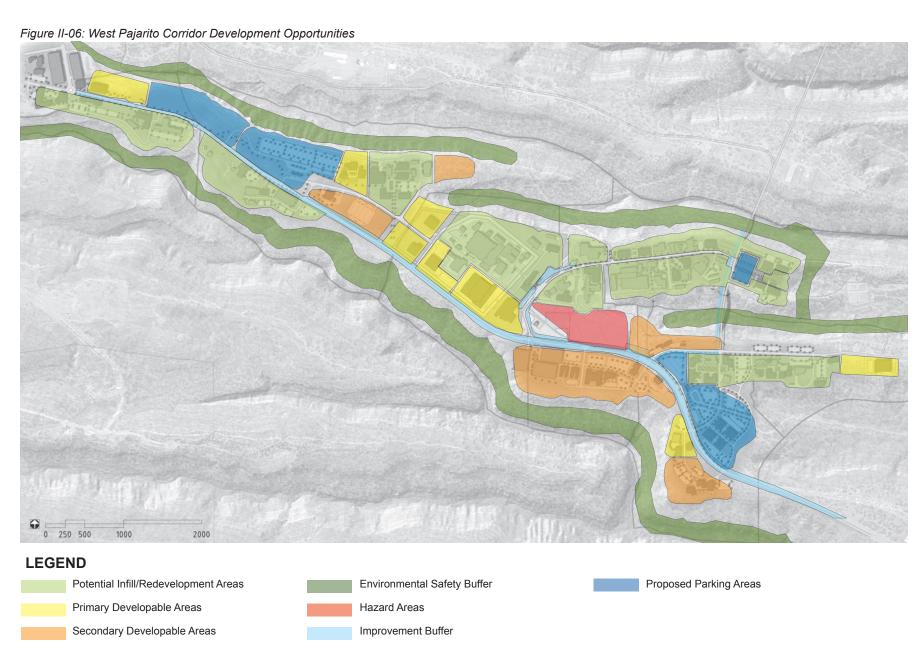


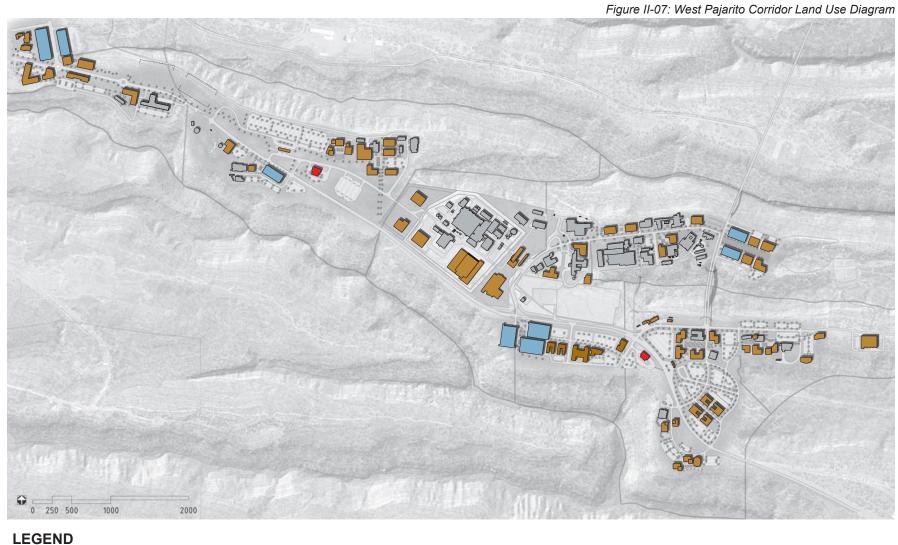
Material Disposal Area (MDA)

Potential Fire Station Location

Limited Access Area Controlled Access Area

# AREA DEVELOPMENT PLAN



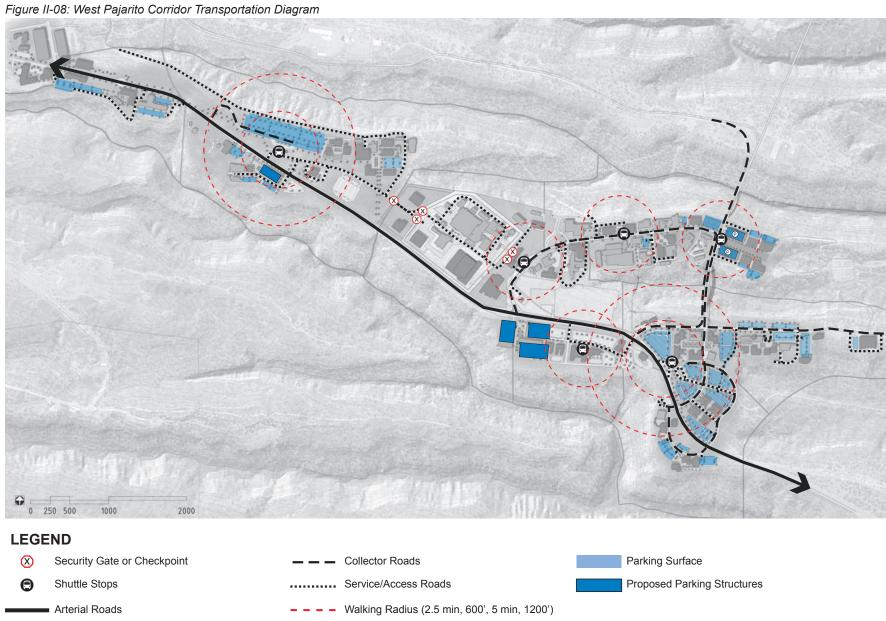


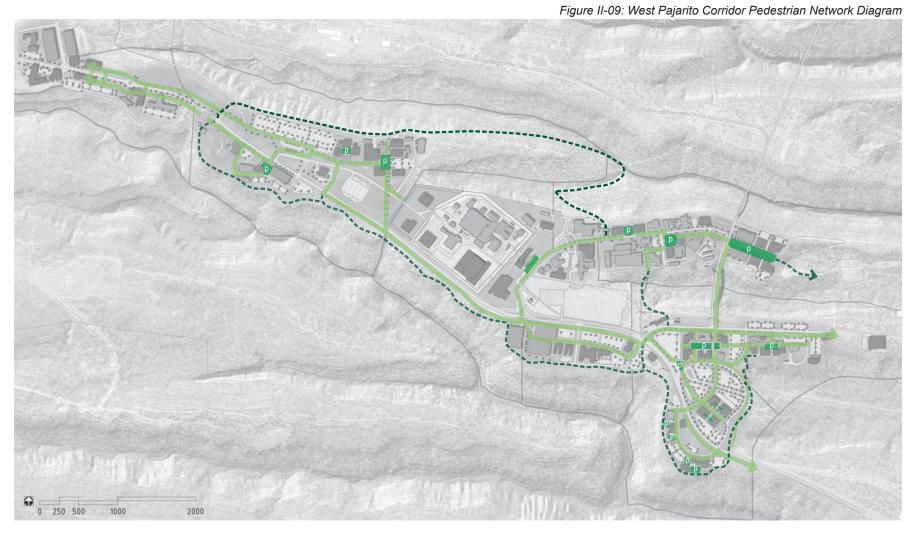
**Existing Facilities** 

Potential Fire Station Location

Proposed Facilities

Proposed Parking Structures



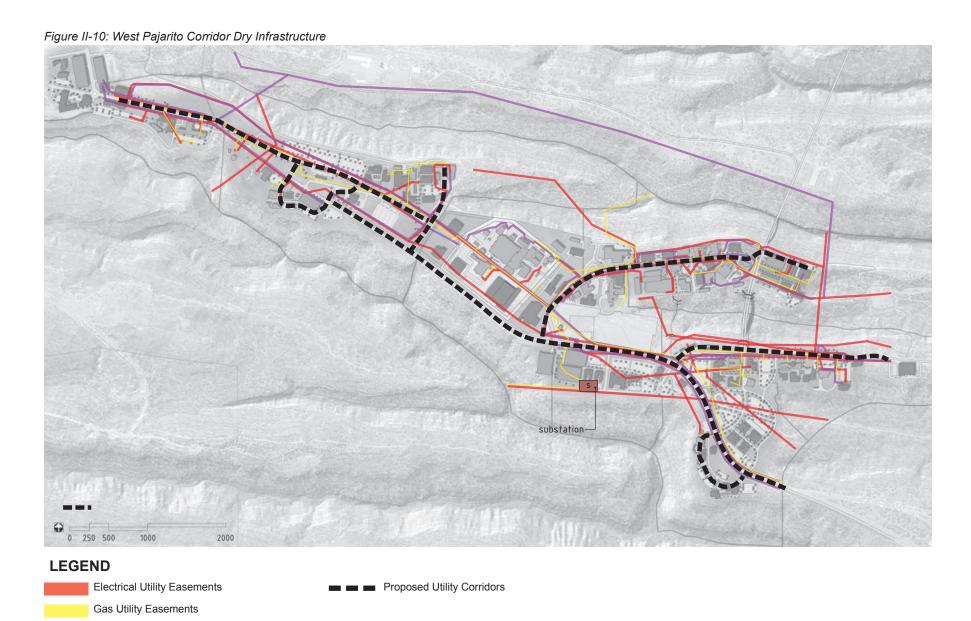


### **LEGEND**

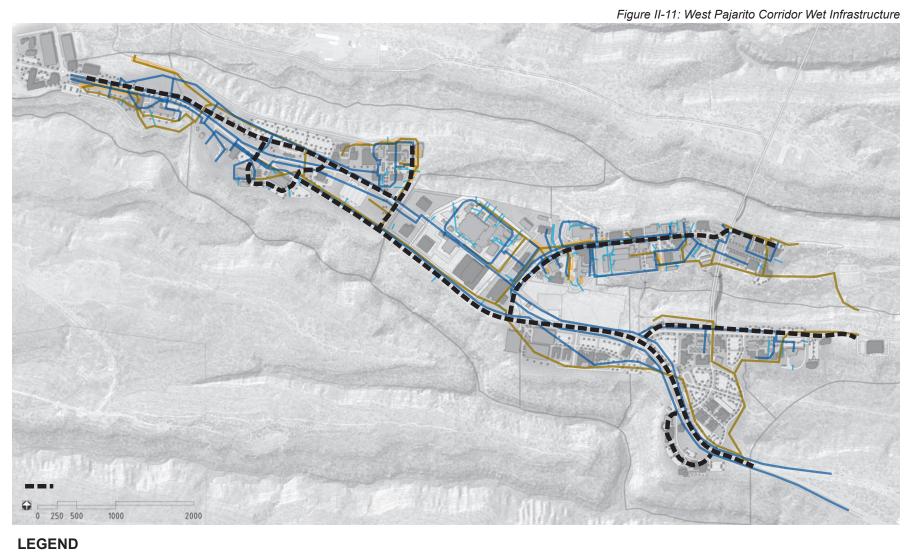


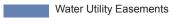
Major Pedestrian Corridors

-- Recreational Trails



Communication Lines







Radiation Waste

Proposed Utility Easements

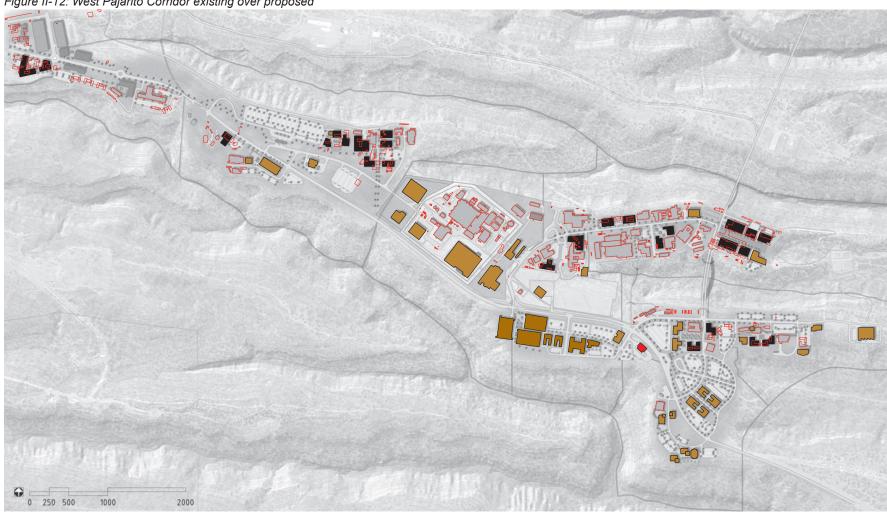
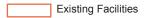
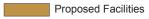


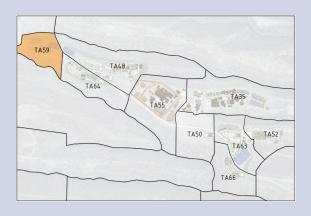
Figure II-12: West Pajarito Corridor existing over proposed

### **LEGEND**



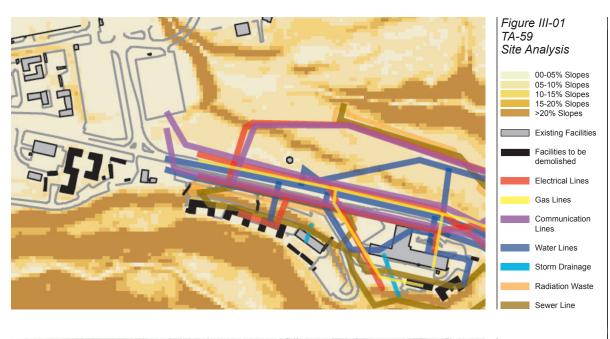


Proposed Facility Over Existing Facility





# **TA-59 PLAN**





### Figure III-02 TA-59 2025 Masterplan

Existing Facilities

Proposed Facilities

Proposed Parking Structures

### III. TA-59 2025 Framework Plan

### **TA-59 Mission**

TA-59 supports functions such as hazardous materials management and emergency services. A limited amount of near term expansion to support activities in the Sigma Building area in TA-03 and major long-term expansion for site-wide operational needs such as remote parking are anticipated.

### **Physical Characteristics**

TA-59 is the west end of the West Pajarito Corridor Planning Area. Occupying the land on the north and south sides of Pajarito Road, the site is bisected by Pajarito Road. It is bound by Mortendad Canyon to the north and Pajarito Canyon to the south. Sharp slopes at both canyon edges greatly limit the developable area within the Technical Area. On the south side of Pajarito Road, the land is further divided by a sharp break in the topography which creates a second land bench considerably below the land along Pajarito Road. There are approximately 20 developable acres of the total 43.5 acres within TA-59. Existing development at the site uses approximately 32 percent of the developable land in the Technical Area.

### **Operational Limitations**

Operations at TA-59 are primarily limited by the physical characteristics of the narrow, steeply sloped site. There are numerous seismic lines that limit the site for facilities.

### **Existing Development**

Most development at TA-59 exists as a linear row of small building immediately abutting the edge of Pajarito Canyon. Other than utility lines and a water tank, the north area of the Technical Area is currently undeveloped. Along Mortendad Canyon a narrow dirt road runs between TA-48 and the Biologic Science Laboratory at the Sigma Building area in TA-03; it is desired that this road be upgraded to allow transport of materials.

### 2025 Framework Plan

Future development in TA-59 will be affected most by security needs of TA-55. The most prominent change would be a potential long-range development of large structured parking north of Pajarito Road at the east end. These improvements would provide remote parking for the West Pajarito Corridor should the need to close parts of Pajarito arise or development densities increase.

Development of the south areas of TA-59 would focus on replacement of the large quantity of temporary buildings in the area with modern code-compliant space.

### **Environment**

Most of the developable land in the Technical Area south of Pajarito Road has been disturbed by previous development activities. The north area, however, remains largely in a natural wooded state. In the south area. issues of environmental concerns would continue to focus on reduction of erosion. from development runoff and limiting impacts on wildlife habitat and buffers in Pajarito Canyon to the south. The latter can be achieved by removing existing structures from the lower land bench and creating parking areas that are designed to control and manage canyon runoff. As planning for possible major parking structures occurs on the north side, the need would arise for detailed plans complying with NEPA and the Laboratory's SWEIS planning.

#### Infrastructure

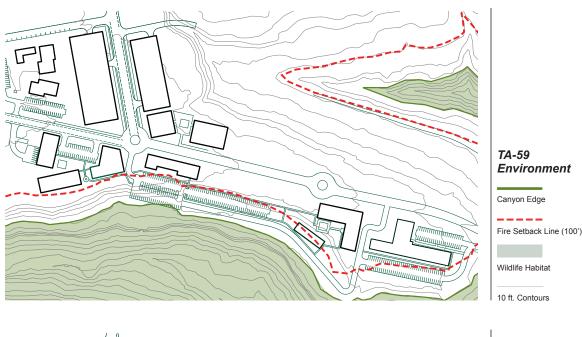
There are three main utility easements in TA-59: one along the south edge of Pajarito Road, a second near the Mortendad Canyon edge, and a third at the Pajarito Canyon edge.

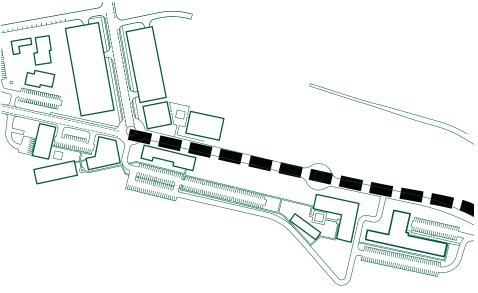
These corridors would continue to function as the primary utility corridors for TA-59 but it would be ideal to locate any overhead utilities below grade for a better pedestrian oriented experience. The existing water tank north of Pajarito Road would remain. Utility demands from future development on the south side of TA-59 would likely require only minor upgrades in the supply systems, and should be integrated into the planning for larger development upgrades for the corridor. Evaluation of utility demands for the large parking structures would rely on the required ventilation systems. A radiological waste line creating a north-south bisection should be undisturbed. Parking structure design would need to accommodate for this line.

### **Security and Safety**

Other than property controls around some utility infrastructures such as the water tank, TA-59 would be open to general Laboratory traffic. To avoid site line issues to TA-55, appropriate security guidance would need to be incorporated into potential parking structure design.

Safety goals include the removal of occupied buildings from the 100-foot wildfire safety buffer along Pajarito Canyon to the south. If large parking structures develop north of Pajarito Road, safe pedestrian walkways





TA-59 Infrastructure

Proposed Utility Corridors

and crossing locations would be designed to connect people to TA-03 and TA-48 and the south side of TA-59. Traffic congestion could result even with optimal parking operations, thus, mid-block pedestrian crossings would be evaluated to increase pedestrian safety.

### **Future Land Use**

Future land uses would primarily remain operational support functions south of Pajarito Road, with a limited amount of program support uses in the northwest area adjacent to the Sigma Building area at TA-03, and major parking uses in the northeast area of the Technical Area.

### **Facilities and Space**

Many of the existing facilities are temporary structures or warehouses. Temporary structures account for 26,000 of the total 66,500 square feet of structures in TA-59. These structures would be replaced to adhere to Laboratory policy to remove and replace temporary structures with permanent buildings.

At the northwest corner of the Technical Area, one to two office buildings, each with footprints of approximately 15,000

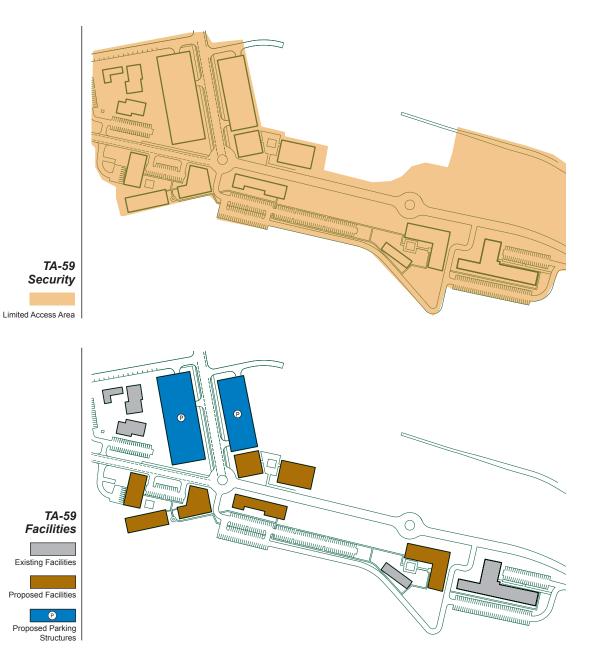
square feet, would be developed to support activities at the Sigma Building area of TA-03 or an independent land use such as HAZMAT functions.

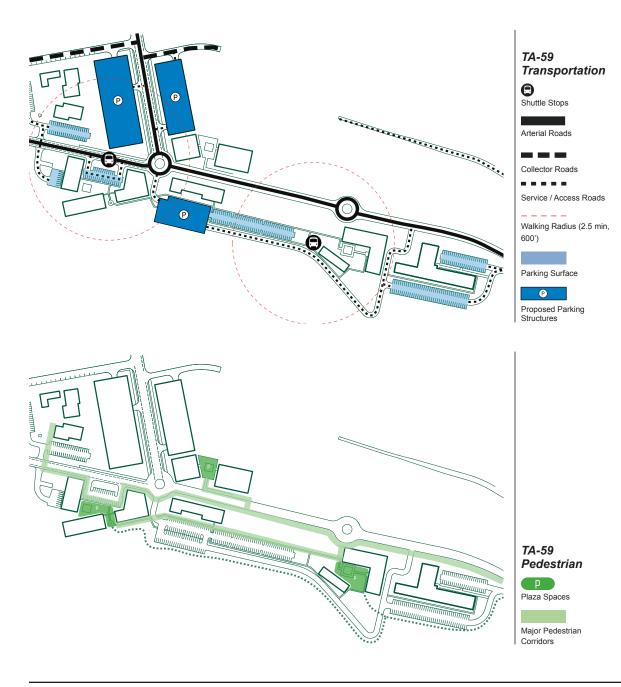
### **Transportation**

Comprehensive security planning for TA-55 triggers a series of major transportation changes at TA-59. Most significant is development of large-scale parking at the west end of TA-59 to accommodate remote parking needs for West Pajarito area employees and visitors.

The development of large structured parking on the TA-59 would be a long-range activity. To serve the possible large volumes of traffic that would be attracted to the parking structures, major intersection changes on Pajarito Road would be implemented. Firstly, the Diamond and Pajarito intersection would be redesigned as a large-scale roundabout. A second roundabout would then be built to the west for future traffic needs. The combination of these two intersections would encourage a continuous traffic flow, reducing congestion likely to result from new parking structures and development.

The parking structures would be designed





to take advantage of the steep grade drop from Pajarito Road northward to Mortendad Canyon. Schematic concepts propose parking structures with six levels of parking: three levels visible on the Pajarito Road side, and three partially underground levels toward the canyon side. This natural land break in the cross-section of the parking structures allows for general Laboratory access from the Pajarito Road side via a lower canyon-side secure transit road. This road would carry personnel from the parking structures to a proposed transit center at TA-48. This road would also serve as a secure material-transfer route between TA-48 and the Biologic Science Laboratory at TA-03.

Traffic routing from the parking structure would emanate from the proposed roundabout at the west end. Upon exiting at the roundabout, vehicles would be steered onto a one-way street on the Pajarito Road side of the structures. Multiple exits from the one-way road would lead to the structures. Traffic departing the parking structures would turn right onto the one-way road and exit either at the east end onto a new access road to TA-48, or at a mid-point right-in/right-out only access. Driveways to the facilities on the south side of Pajarito Road would be realigned to meet or avoid conflicts with the proposed

roundabout and exit roads for the proposed parking structures.

### **Site and Architectural Design Principles**

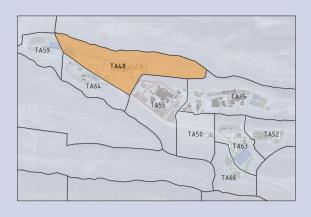
Site and architectural design principles for TA-59 encompass the clustering of new replacement structures and the creation of appropriate outdoor spaces at the entryways. Additionally, storm runoff and landscape standards would be utilized for existing and proposed parking lots. Architectural standards would be applied to proposed parking structures and buildings.

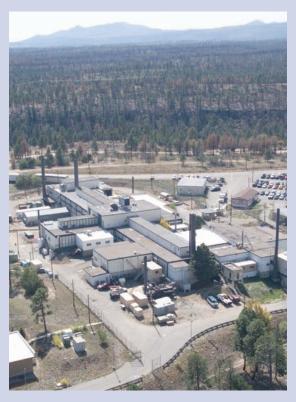
## **Implementation and Phasing**

Improvements would focus first on the replacement of temporary structures with permanent buildings. GPP funding availability will determine the timing and speed of these replacement facilities. The implementation of large-scale parking structures would be determined by the remote parking needs created by the growth within the West Pajarito Corridor. These improvements would be scheduled in the long-range planning horizon and are unlikely to occur before 2025.

### **DISCUSSION ISSUES**

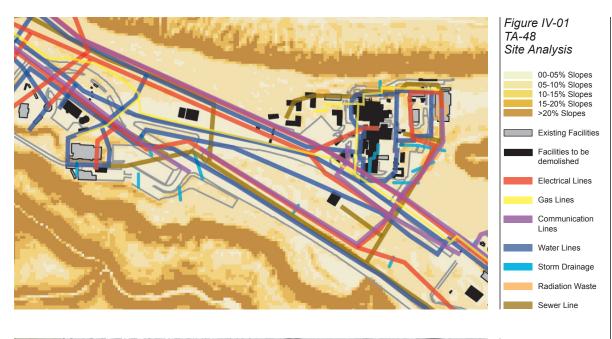
- The intersection changes at Diamond and Pajarito are a sitewide need. What is the process and timing for evaluating and implementing changes to that intersection?
- When should the temporary buildings be replaced with more permanent buildings and what is the strategy for placing them on the institutional funding cycles?
- Will security needs continue to change to require or not require major parking structures at the northeast end of the site? What should be the timing to begin that evaluation and planning?





**TA-48 PLAN** 

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# Figure IV-02 TA-48 2025 Masterplan



Proposed Facilities

Proposed Parking Structures

Potential Fire Station Location

#### IV. TA-48 2025 Framework Plan

#### **TA-48 Mission**

TA-48 supports science and materials technology research, a mission that is anticipated to remain constant. Located adjacent to the nuclear complex at TA-55, the functions and operations of TA-48 are directly influenced by the design basis threat requirements for TA-55.

# **Physical Characteristics**

TA-48 is near the west end of the West Pajarito Corridor Planning Area. Located on the north side of Pajarito Road between TA-59 and TA-55, the site sits at the edge of the Pajarito Mesa overlooking Mortendad Canyon. Across Pajarito Road to the south is TA-64. A long and narrow, east-west oriented site, the developable area comprises approximately 49 acres of the total 116 acres within TA-48. Existing development at the site uses about 2.6 acres of the developable land in the Technical Area.

# **Operational Limitations**

Activities at TA-48 are limited by TA-55 operational uses. Functions thereby are limited to those that do not compromise

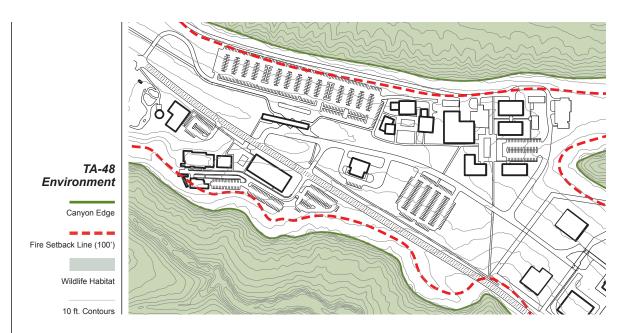
the use, security or safety of TA-55 mission work. Much of the undeveloped area in the center of TA-48 is limited for development due to security requirements of the adjacent TA-55.

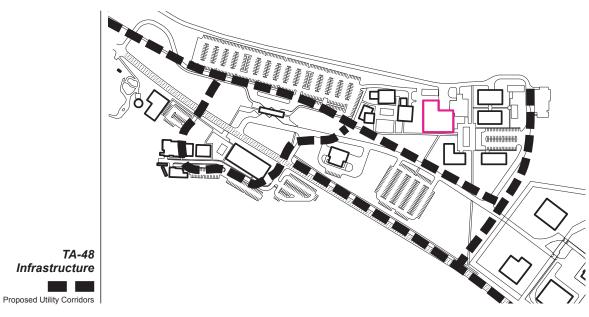
# **Existing Development**

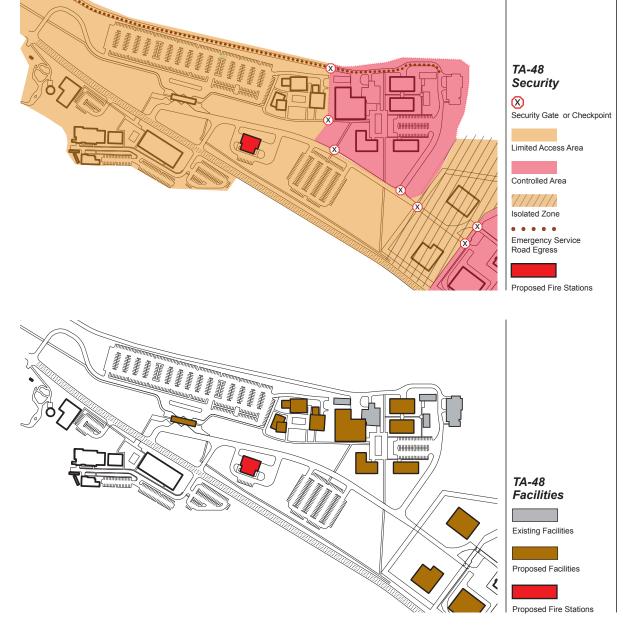
Development at TA-48 is mostly clustered at the eastern edge of the Technical Area, and includes two large program buildings, support office buildings, and scattered parking lots surrounding the buildings. TA-48 is currently accessed from a signalized intersection on Pajarito Road near the center of the site. A service road runs along the north mesa edge of TA-48 and connects to the Biological Sciences Laboratory building at the Sigma compound at TA-03. There is a desire to use the service road to transport secure materials between the two locations, if approved.

#### 2025 Framework Plan

Future development in TA-48 will be additional support facilities and supplemental parking. The ability to add large parking structures and transit facilities if design basis threat guidelines change remains a vital component of the future framework of TA-48.







Development at the eastern end of TA-48 near TA-55 would be program-driven to redevelop and consolidate material-science activities into more efficient spaces. Demolition of portions of existing program areas, replacement of aged and for development due to security requirements of the adjacent TA-55.

#### **Environment**

Most of the developable land in the Technical Area has been disturbed by previous development activities. Thus, environmental concerns would continue to focus on reduction of erosion from development runoff and limiting impacts on wildlife habitat and buffers in Mortendad Canyon to the north. During the planning and development of new structures and transportation improvements, detailed plans in compliance with NEPA and the Laboratory's SWEIS planning would have to be created.

#### Infrastructure

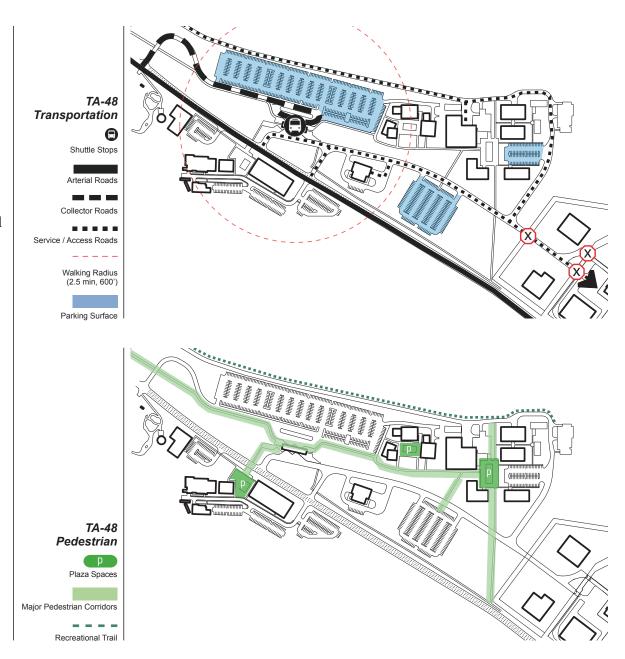
There are two main utility easements on TA-48; one along the north edge of Pajarito Road and a second near the Mortendad Canyon edge. These corridors will remain

the primary utility corridors for TA-48. As future development occurs, all utility systems would need evaluation for upgrades as needed. The radiological waste line in the north utility corridor should be left in situ as much as possible.

# **Security and Safety**

TA-48 would require two levels of security. At the future transit center and the proposed surface parking lots, limited Laboratory access would be unimpeded. When the two proposed Category 2 facilities are developed near TA-55, the requisite fencing and secured zone would be constructed and implemented to meet security guidance. Design of all proposed facilities would need to take the security needs of TA-55 into account for their siting and detailed design.

A primary safety consideration would be to incorporate pedestrian safety features such as large pedestrian crossing tables and speed bumps, particularly at areas of great pedestrian and vehicular traffic such as near the future transit center. A firehouse location is proposed just east of the transit area to enhance fire fighting capabilities in this sector of the Laboratory.



#### **Future Land Use**

Future land use would be segregated into two primary uses in TA-48. Materialscience activities are anticipated to remain the primary short-and long-term use for the eastern end of the TA-48. Future land use in the west end would entail transit and parking. Land to the south of the existing buildings would be temporarily assigned to construction-related needs, until the completion of the CMRR and light lab/office building at the adjacent TA-55. It is likely that the area would continue to be used for construction staging for many years. A future land use option would accommodate a fire station at the west end of the construction staging area.

# **Facilities and Space**

As many of the existing structures are reaching thirty years in age, substantial renovation planning should begin, in order to meet current code requirements. Future facilities and space development anticipates consolidation of more material-science activities to TA-48. A major development activity would be the proposed demolition of a large portion of Building 01 leaving the hot cell wing intact. This would allow for the construction of approximately the same amount of area of Building 01 that would

be demolished. This new facility would be joined to the remaining portion of Building 01 in order to maintain proper security and functional relationships.

Three to four GPP-funded buildings would be built as a compound to the west of the existing structures. These buildings would provide office and light lab space needed for consolidation of material-science technology activities. Each building would be approximately 15,000 sq. ft. in footprint. Additional facilities would be developed between the existing structures at the east end of the site with approximately 25,754 sq. ft. of infill for new program buildings.

In the area adjacent to TA-55 to the east, two future Category 2 buildings would be built as part of nuclear materials-handling training and research. The two buildings would be contained within a Category 2 fenced compound. The fence would be adjacent to, but not part of the existing PIDADS compound at TA-55.

# **Transportation**

A long-term proposal would be the development of large-scale structured parking on the adjacent TA-59 to the west. Initial planning for the proposed access road to TA-48 should consider this possibility.

An ancillary development would consist of a secondary shuttle route from the parking structures at TA-59 to the TA-48 transit center and beyond. This would be a secure route and act as a secure-materials transfer route from TA-48 to the Biologic Science Laboratory at the Sigma Complex in TA-03.

The transit center would be the hub of much pedestrian and vehicular traffic. Regional bus and local internal shuttle needs would be accommodated. Peak commute times would need to accommodate large traffic volumes. Proposed transit improvements include safe pedestrian access from the parking and transit area to the TA-48 buildings and safe passage for staff at TA-64 across Pajarito Road.

# **Site and Architectural Design Principles**

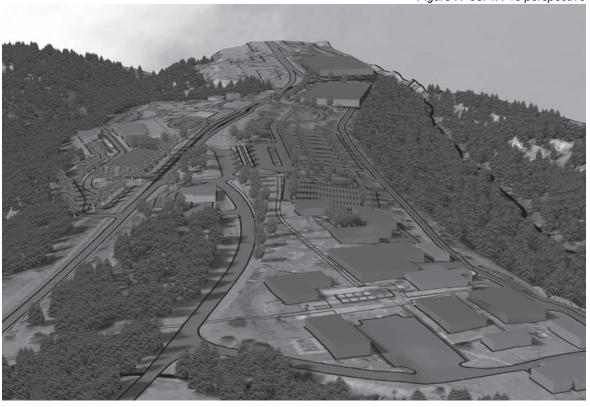
Particular attention would be paid to applying the Laboratory's Site and Architectural Design Principles to the design of the major transit facility at TA-48. As the future entry point for most people traveling to TA-55, TA-50 and TA-35, the transit center would provide comfort, safety and amenities such as all-weather shelters, benches, bike racks, night lighting, emergency phones, landscaping, and information boards. The design of this transit center would create an attractive

location, and an important component of the experience that interns, potential new hires, visitors and employees would encounter in their time at the Laboratory. If well-designed and implemented, it would be part of attracting the "best and the brightest" to come and work at the Laboratory.

# **Implementation and Phasing**

Priorities for development implementation would initially be driven by changes related to the security changes for TA-55. The foremost priority addresses transit and parking improvements. Subsequent improvements would be based on departmental needs and available funding.

Figure IV-03: TA-48 perspective

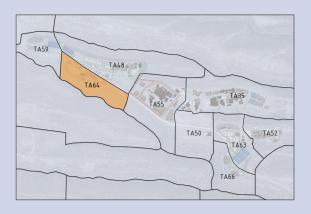


# **DISCUSSION ISSUES**

Should the remote parking and transit improvements at TA-48 move forward based on the current TA-55 security requirements?

What is the process to assure that the transit center is budgeted and designed to create an aesthetically pleasing and comfortable facility to accommodate the large numbers of people that will use this facility?

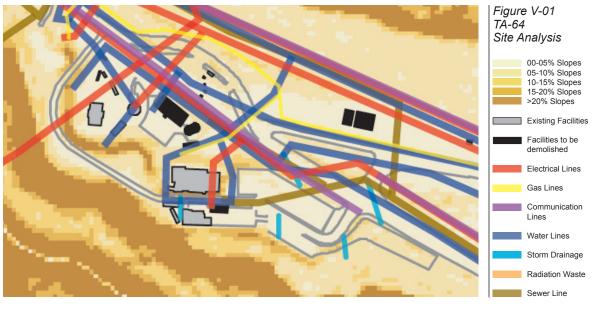
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# **TA-64 PLAN**

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# Figure V-02 TA-64 2025 Masterplan

Existing Facilities

Proposed Facilities

Proposed Parking Structures

Potential Fire Station Location

#### V. TA-64 2025 Framework Plan

#### **TA-64 Mission**

TA-64 supports security functions at the Laboratory. Located adjacent to the nuclear complex at TA-55, TA-64 is engaged in functions and operations directly affected by the changing design basis threat requirements for TA-55.

# **Physical Characteristics**

TA-64 is located near the western end of the West Pajarito Corridor Planning Area. On the south side of Pajarito Road between TA-59 and TA-55, the site sits at the edge of the Pajarito Mesa overlooking Pajarito Canyon. The site's very long and narrow east-west configuration constricts the developable area to approximately 17 acres of the full 48 acres within TA-64. Across Pajarito Road is TA-48. Existing development at the TA-64 site utilizes approximately 1 acre of the developable land in the Technical Area.

# **Operational Limitations**

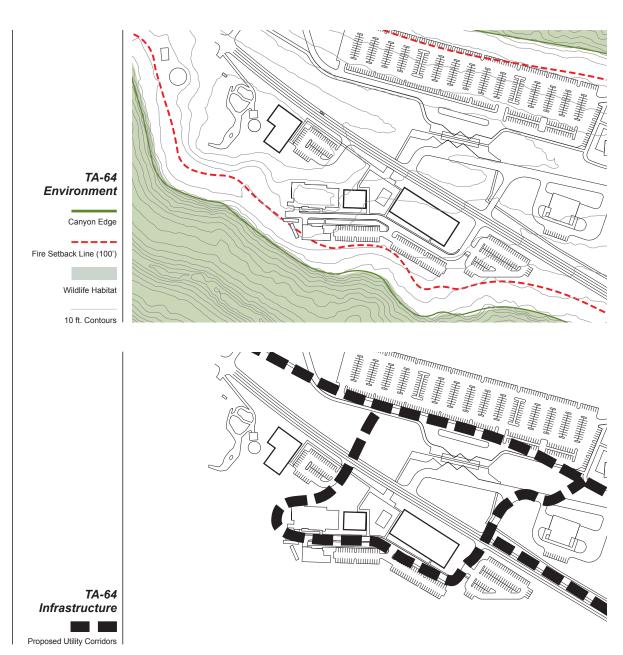
Activity at TA-64 is limited by operations of TA-55. TA-64 can only engage in activities that do not compromise the use, security or safety of the mission work at TA-55.

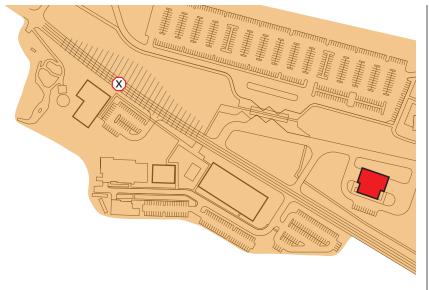
# **Existing Development**

Existing development at TA-64 is comprised of small low-rise office buildings, parking lots, utility infrastructure, and storage areas. The densely clustered current development is accessed from a signalized intersection on Pajarito Road at the east end of the site. This intersection serves as the entry point to both TA-48 and TA-64. Parking lots occupy most of the eastern end of the site. The largest building in TA-64 is located to the west of the parking lots. A narrow twolane road continues west from the parking lot, wrapping around the south side of the building. A number of smaller buildings and transportables on the south side of the building serve as office and storage space. The narrow road is gated to through traffic at the west end of the buildings.

#### 2025 Framework Plan

The 2025 Framework Plans for TA-64 focus on building a new access route into and through the site and creating opportunities for limited building expansions through removal of small existing structures. A permanent barrier wall would separate the new road from Pajarito Road, turn through the site, run south of Building 210, and exit westward, looping back to Pajarito Road,





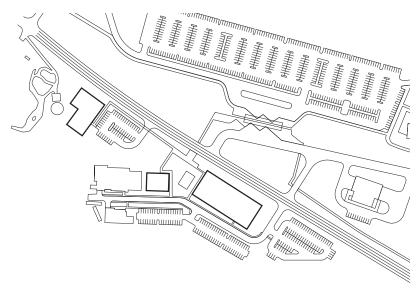
#### TA-64 Security

Future Security Checkpoint

Limited Access Area

Isolated Zone

Proposed Fire Stations



#### TA-64 Facilities

Existing Facilities

Proposed Facilities

Proposed Parking Structures and rejoining its original departure point from Pajarito.

Future building expansion is anticipated to result from the removal of smaller on-site structures and their replacement with multistory permanent buildings.

#### **Environment**

Most of the developable land in the Technical Area has been disturbed by existing development. Environmental concerns therefore focus on continued reduction of erosion due to development runoff and limiting impacts on wildlife habitat and buffers in Pajarito Canyon to the south.

#### Infrastructure

The main utility easement for TA-64 lies along the south side of Pajarito, which will remain the primary corridor for TA-64. This corridor switches to the north side of Pajarito near the existing intersection to TA-48 and TA-64.

# **Security and Safety**

Asset protection through fencing would remain intact for existing individual facilities

within TA-64, but may not always be operational pending security status of the laboratory. Due to its location along the Pajarito Canyon edge, TA-64's primary safety concerns TA-64 are fire setbacks and fire-wise development standards. Another consideration would be the improvement of pedestrian safety, in light of intensified future pedestrian and vehicular traffic along Pajarito Road.

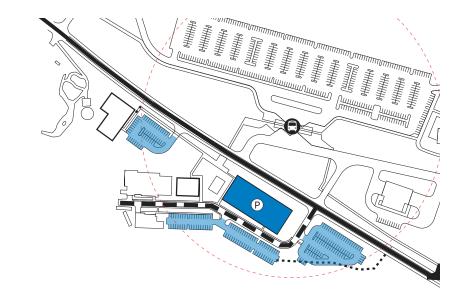
#### **Future Land Use**

The primary long-and short-term use for TA-64 is projected to retain security support activities. Expansion of security services and growth of the security force can be met by the current HAZMAT area conversion, to security facilities and the development of a parking structure at TA-64.

# **Facilities and Space**

TA-64 currently comprises around 6,000 sq. ft. of temporary facilities, most of which are trailers and transportainers. The only pragmatic means for creating new development areas would be removal of these temporary facilities. The permanent structures on site are mostly 1970's buildings; these are likely to require substantive interior upgrades within the next 10 to 20 years.





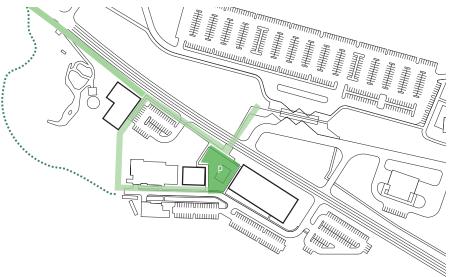


TA-64

Pedestrian

Major Pedestrian Corridors

Plaza Spaces



# **Transportation**

A primary consideration is the incorporation of pedestrian safety features such as large crossing tables and speed reduction bumps near the building area, where pedestrian and vehicular conflicts would be greatest.

Future parking at TA-64 would be segregated into parking lots and a proposed parking structure.

As future transit improvements are made at TA-48, a high priority would be planning and design for safe and reasonable staff access to those improvements. This planning would alleviate the need for additional parking at TA-64.

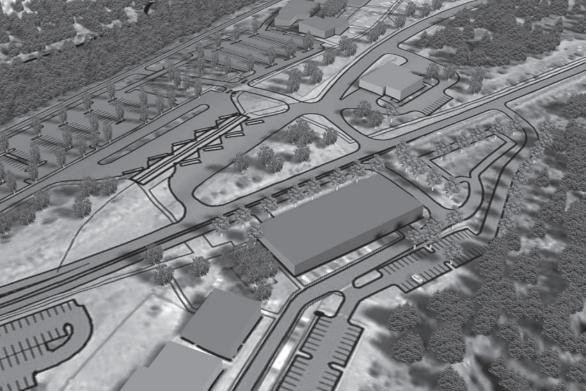
# **Site and Architectural Design Principles**

Future facilities will comply with the Laboratory's Site and Architectural Design Principles. Particular areas of focus include maintaining and improving pedestrian areas for walking, and outdoor break areas.

# Implementation and Phasing

Security changes for TA-55 would initially drive priorities for development implementation of TA-64. The highest

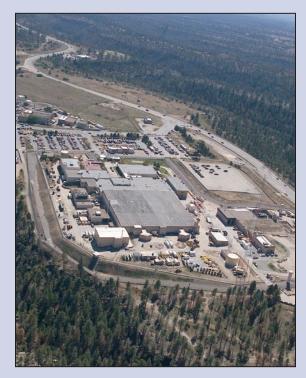
priorities would be for transportation and parking improvements. Subsequent improvements would be based on departmental needs and available funding. Figure V-03: TA-64 perspective



# **DISCUSSION ISSUES**

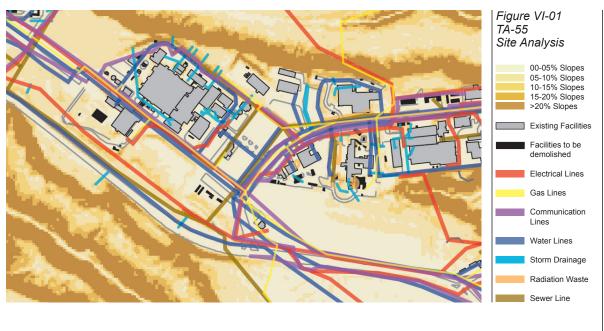
- Implementation of security changes at TA-55 could result in increased personnel at TA-64 what development needs to occur to accommodate that increase?
- Would it be possible for personnel at TA-64 to use transit in the future to defer the need to build structured parking?





# **TA-55 PLAN**

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# VI. TA-55 2025 Framework Plan

#### **TA-55 Mission**

The nuclear research and development activities conducted at TA-55 are central to the mission of Los Alamos National Laboratory. TA-55 is a Category 3 special nuclear materials area.

# **Physical Description**

Located approximately at the center of the West Pajarito Corridor Planning Area, TA-55 sits on the widest part of the Pajarito Mesa, on relatively flat slopes. The area is bound by TA-48 to the west, TA-50 and TA-35 to the east, Mortendad Canyon to the north and Pajarito Canyon to the south. Most of the Technical Area lies north of Pajarito Road which runs along the Pajarito Canyon edge. Pecos Drive is located at the eastern boundary of the Technical Area. Of the approximately 92.5 acres within the Technical Area, less than 53% percent is on a slope of 20% or less. Canyons and cliff conditions severely constrain the north and south edges of the Technical Area. Ponderosa pine is the dominate cover on the undeveloped portions of the Technical Area.

#### **Operational Constraints**

The management of Category 3 nuclear materials, and the concomitant security and safety requirements related are the primary operational constraint for TA-55. These requirements have been heightened since 9/11, and are anticipated to continue at heightened levels for the foreseeable future.

# **Existing Development**

Most of the existing development within TA-55 resides within a PIDADS security fenced area. Two smaller office buildings have in recent years been constructed north of the main fenced area near the Mortendad Canyon edge. Asphalt parking lots fill most of the eastern portion of the site where it fronts Pecos Drive. West of the main compound lies an open undeveloped area that extends to the eastern edge of TA-48. Running on the south side of the main area, Pajarito Road has been cut into the slope and sits low in relationship to the main compound.

#### 2025 Framework Plan

The 2025 Framework Plan for TA-55 envisions an active and expanded PIDADS compound to contain the majority of the nuclear materials research and development activities of the Laboratory. The PIDADS

fenced area would be expanded eastward to Pecos Drive and to the west to the edge of TA-48. The CMRR and a light lab-office building are currently planned for the southeast sector of the TA-55. A transit stop along with a new pedestrian security gate would be located on the east side of the expanded PIDADS area to welcome staff and visitors who would walk from the TA-50 parking complex or use a shuttle bus system to arrive at TA-55 in the future. A well-designed system of walks and pedestrian ways would connect the transit stop and new gate to the individual buildings, creating a highly secure, pedestrian-friendly environment within the Technical Area.

#### **Environment**

The areas of TA-55 located in Mortendad and Pajarito Canyons contain wetlands and wildlife habitat. They therefore, require protection from runoff, noise, light and other disruptions from development and operations at the mesa top. No development is anticipated to occur on the canyon sides or floor. Fire safety setbacks of 100-feet from canyon edges would be maintained; vegetation would be selected and upkept site-wide to reduce wildfire threats.

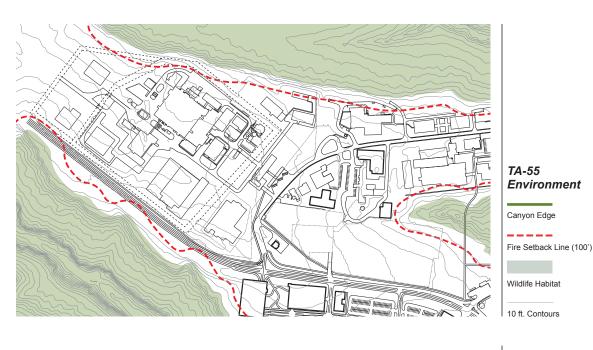
#### Infrastructure

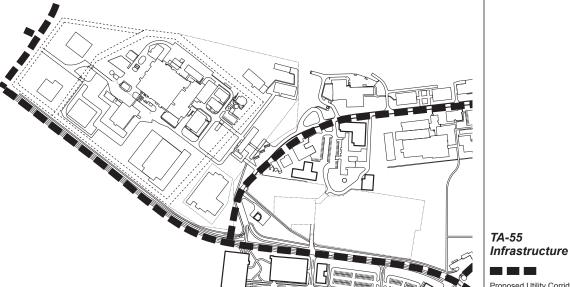
Three main utility corridors serve TA-55 and are expected to maintain their current alignments. As infill development continues at TA-55, all future utility services would require capacity evaluation. The existing radiological waste lines corridors between TA-55 and TA-50 would be maintained—however, line upgrades may be necessary.

# **Security and Safety**

The PIDADS fenced area at TA-55 would be expanded and realigned on the east side to incorporate most of the existing parking areas. The realignment would create improved buffer zones around existing buildings, incorporate the proposed CMRR site, and improve sight lines along the PIDADS perimeter. The western, northern and southern edges of the PIDADS fenced area would remain unaltered. A new east pedestrian security gate is proposed as part of the expansion of the PIDADS fencing.

The plan also envisions the addition of two new clearance fenced areas. The first would secure the remaining area of TA-55 eastward from the PIDADS fence to Pecos Drive and would enclose a proposed light lab-office building site. The second new clearance fenced area would extend from the west side





of the PIDADS fencing to the boundary of TA-48. The west area would be for possible Category 2 facilities for Material Sciences activities related to TA-48.

## **Future Land Use**

TA-55 would remain dedicated to nuclear materials research and development uses. The Plan would continue the relocation of most Category 3 nuclear research and development uses from across the Laboratory to TA-55. The consolidation into a singular nuclear "campus" would increase the efficiency of the Laboratory's requisite high-level security and safety efforts. Parking uses would be reduced to only that required for security and service needs. Other future uses in TA-55 would be limited to only those compatible with Category 3 nuclear activities.

# **Facilities and Space**

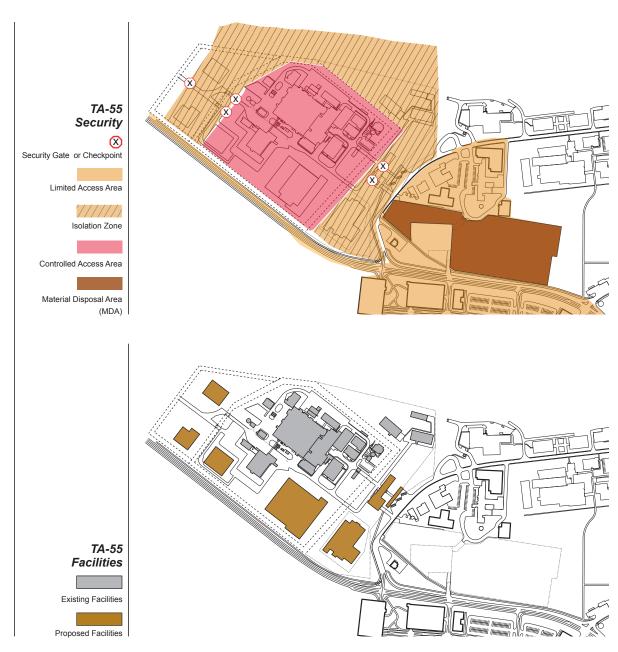
Proposed Utility Corridors

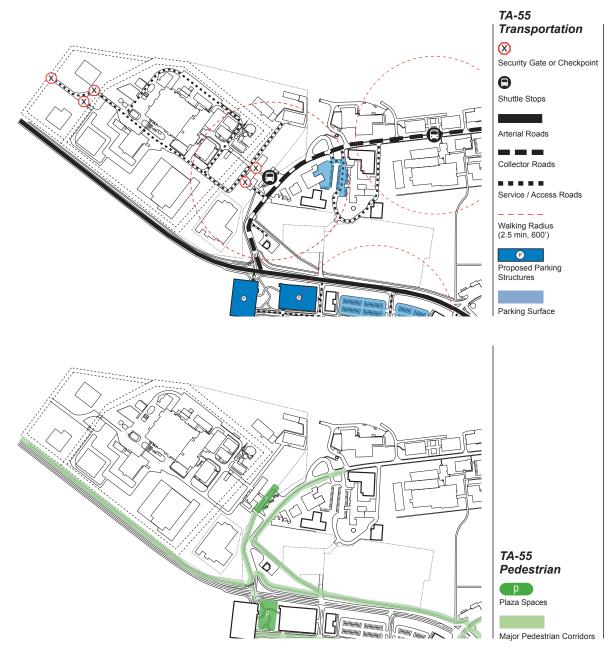
As consolidation of nuclear research and development activities to TA-55 continues to occur, facilities would continue to infill developable areas within TA-55. Currently, proposed facility projects for TA-55 include, an approximately 120,000 sq. ft. Chemical Materials Research Replacement (CMRR) facility and an approximately

66,000 sq. ft. light lab-office building. Both of these structures would be located within the secure fenced zone. Additional facility expansion would be necessitated with the removal and replacement of older and outdated facilities southwest of Building 201. These removals would create approximately 120,000 sq. ft. of additional development footprint. The removal of east parking lots presents additional longterm developable areas. Three buildings in TA- 55 (55-01, 02 and 39) are sited on the list of Exceptional High Risk Buildings for Potential Seismic Risk. These buildings need to be scheduled and planned for actions addressing the seismic risk. TA-55 also has approximately 7,000 sq. ft. of temporary facilities that would be removed in accordance with Laboratory goals for elimination of all temporary structures.

# **Transportation**

A limited use shuttle system for staff and visitors to TA-55, would be the most pronounced transportation change at TA-55. All private parking areas within TA-55 will be closed and replacement parking facilities would be built at TA-50. A limited use transit shuttle would run from those proposed parking lots at TA-50 to the new east pedestrian security gate at TA-55 and





loop around through TA-35 and into TA-63. All existing roads within TA-55 would become service-and emergency-access only roads. Pecos Drive would be reconfigured as a two-lane road, using only the eastern half of the existing roadbed. The existing west vehicle gate would remain the primary emergency and service access into the main PIDADS fenced area.

#### **Site and Architectural Design Principles**

Great science needs the interaction of great minds. The creation of comfortable spaces for people to move and congregate provides settings for fruitful informal interactions. The 2025 Framework Plan would include well-designed, highly secure outdoor pedestrian spaces, primarily located at the proposed transit shelter and new east pedestrian security gate. The plan incorporates improved walkways and, possibly, underground passageways connecting the buildings within the PIDADS area. As transit replaces parking at TA-55 personnel and visitors, improved walking connections will gain significance for year-round pedestrian safety. Walks would also be added along Pecos Drive connecting TA-55 to TA-50 and TA-35, and joining a proposed trail along Pajarito Road linking to the parking lots at TA-48 and TA-63.

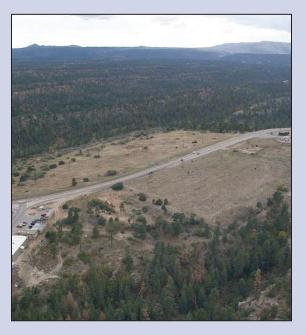
# **Implementation and Phasing**

The NMSSUP Project for PIDADS fencing changes implementations has already influenced security alterations at the east clearance fencing and the new east pedestrian security gate. If MST Category 2 facilities are approved for development a west PIDADS fencing expansion would be required.

Development phasing within TA-55 would be a multi-year planning and construction effort. The construction staging areas would need to be coordinated due to space limitations at TA-55.

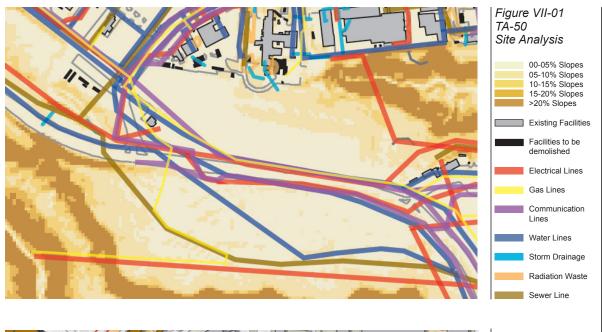
Facilities may need to be shared or use space in other Technical Areas. The CMRR replacement and MNSUP, the first projects planned, are projected to utilize all of the currently available space within TA-55 until their completion, forecasted for 2012.





# **TA-50 PLAN**

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# Figure VII-02 TA-50 2025 Masterplan

Existing Facilities

Proposed Facilities

Proposed Parking Structures

Potential Fire Station Location

#### VII. TA-50 2025 Framework Plan

#### **TA-50 Mission**

As a primary location for radiological waste treatment and management, TA-50 plays a critical role in support of the Laboratory's special nuclear materials programs.

# **Physical Characteristics**

Located in the central area of the West Pajarito Corridor Planning Area, TA-50 is situated between TA-55 and TA-35, lies south of Pecos Road, and is bisected by Pajarito Road. The approximate midpoint of TA-50's western edges is the intersection of Pecos and Pajarito Roads. TA-50 is confined to two distinct areas, one north of Pajarito Road and one south of the road.

Most of TA-50 lies on a relatively flat mesa top. The area north of Pajarito Road drains toward a canyon beginning east of the MDA area. The area to the south of Pajarito Road runs toward Pajarito Canyon. Grass and shrubbery, along with a few scattered pinon trees, constitute the primary vegetative cover over the undeveloped area of the TA-50.

# **Operational Limitations**

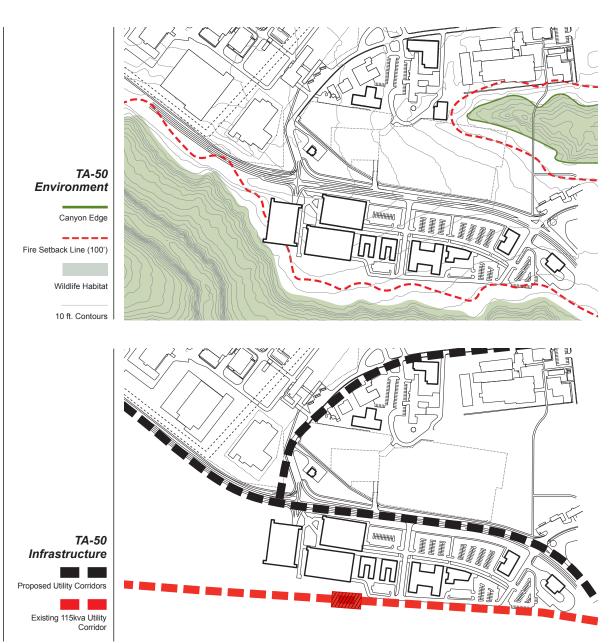
Similar to most of the West Pajarito Corridor, the primary operational limitations are the result of TA-50's adjacency to TA-55. Uses and development at TA-50 must be compatible with activities and security requirements. As long as the ATLAS facility is located next door within TA-35, TA-50 operations require management to prevent creating vibrations.

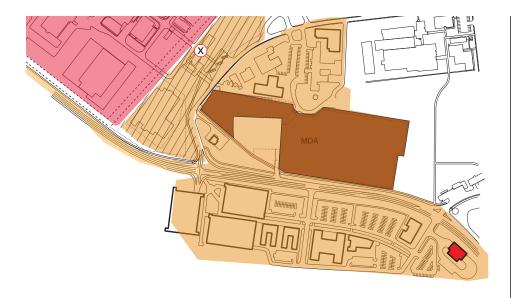
# **Existing Development**

The north area is a largely built out, fenced compound, with a mix of older buildings and facilities. It is home to critical Laboratory radiological waste management operations. Immediately south of the main compound lies a large MDA area, access to which is prevented by independent fencing. A small communication building with a small parking area lies at the Pecos and Pajarito intersection. South of Pajarito Road lies a large, open, and undeveloped area abutting Pajarito Canyon to the south. The south area of TA–50 includes a major archeological site that would require mitigation prior to any future development.

#### 2025 Framework Plan

The proposed TA-50 2025 plan would renovate and infill the north compound into









# TA-50 Facilities Existing Facilities Proposed Facilities Parking Structures Fire Stations Potential Future Development Site

an efficient consolidated campus for TRU waste functions, thereby reducing the need for continued waste functions at TA-54. The area south of Pajarito Road would be support facilities as well as a multi-phased, three building parking complex that could eventually house over 2400 cars and expand support office space to TA-55. The existing communications facility and the delineated MDA area would continue their current configuration and utilization, however, after the MDA cap is completed, there may be limited opportunity for some development adjacent to the MDA.

#### **Environment**

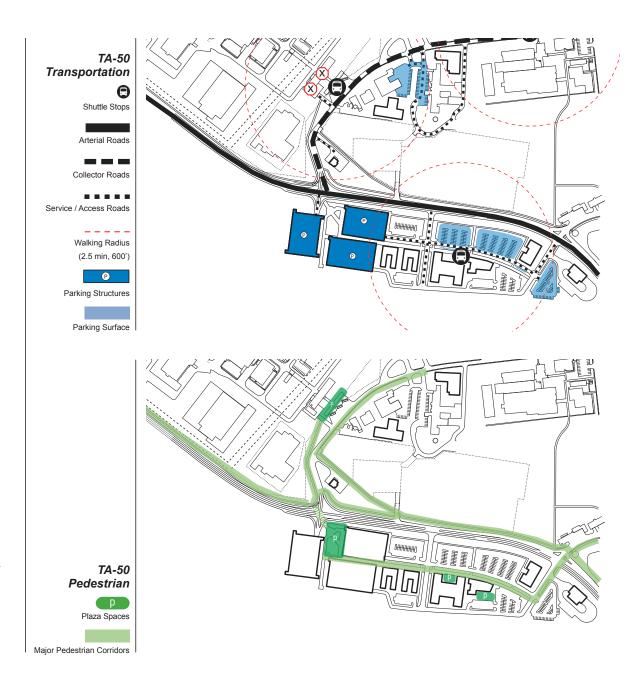
The main environmental risks are created by eight radiation sources and contaminated areas in the northern half of TA-50 within the defined MDA fenced area. Control of surface and subsurface migration will remain a continual focus until the day new mitigation technology becomes practical and possible. Adherence to fire setbacks would be a necessary development component for the area adjacent to Pajarito Canyon.

#### Infrastructure

Future development at TA-50 would reinforce the location of the existing utility corridors by locating any new utilities in those corridors. The major utility corridor serving the north portion of TA-50 runs along Pecos Drive and would remain unchanged. Other minor utility corridors between TA-55 and TA-50 would need to be maintained due to their specific functions, in particular waste transfer lines. Eight radiological waste lines enter the site from various facilities throughout the Laboratory. Those lines would be maintained in their current alignments. The siting of new facilities would need to accommodate these existing utility corridors. The south portion of TA-50 would be served by the existing major utility corridor running along the south edge of Pajarito Road.

# **Security and Safety**

All current radiological waste management facilities would remain located behind the existing property control fencing. The MDA at TA-50 will remain fenced off, for safety reasons. (*See note p. 57.*)



#### **Future Land Use**

The north half of the TA-50 complex is a hazardous waste treatment site. The plan anticipates that current waste management, MDA, and communications land uses would be maintained and confined to their existing zones. The area to the south of Pajarito would in the short term be paved as a large surface parking area; future plans call for a parking complex and to accommodate uses in support of TA-55 activities and future office building to support TA-55.

# **Facilities and Space**

Currently, approximately 8,000 sq. ft. of temporary facilities need to be removed from the TA-50 to adhere to Laboratory policy for the removal of temporary facilities. TRU are proposed to be moved to TA-52, which creates space for a new RLW building and a second support building. A proposed renovation of Building 01 would address seismic issues, as the building is currently identified as "Extremely High Risk" for seismic events. C-Division currently operates two facilities within TA-55. Consolidation plans for C-Division would free up those facilities for re-use. The area north of the existing MDA has the ability to accommodate a new facility with an approximate footprint of 15,000 sq. ft.

There is a location to the southwest of the MDA where additional development could occur. This plan does not place any major new facilities in that location due to its isolation from adjacent developments. The existing communication facility at Pajarito Road and Pecos Drive would remain unaltered. Three large scale parking structures would be developed south of Pajarito road to address the removal of parking around TA-55 and future developments within TA-50, TA-35, and TA-63.

# **Transportation**

As the corridor moves toward centralized parking in this Technical Area, improvements such as walkways and exterior lighting would be built to create safe pedestrian routes from a bus shelter at the entry to TA-50 to each facility within the Technical Area. Redevelopment of the roads within TA-50 would focus on creating a more efficient service circulation in order to reduce conflicts with pedestrians and limit the number of full intersections along Pajarito Road.

# **Site and Architectural Design Principles**

New area facilities would adhere to the Site and Architectural Design Guidelines. Site

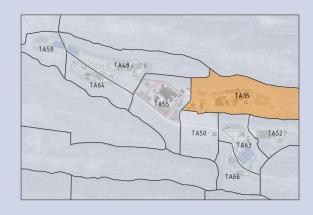
improvements would focus on creating a safe pedestrian network with small outdoor sitting and smoking areas at each facility as needed.

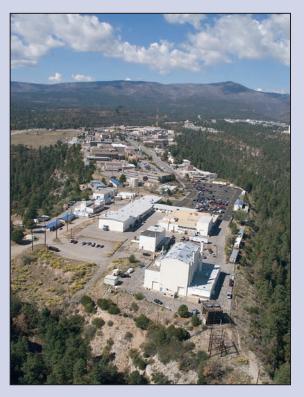
## Implementation and Phasing

A final consolidation plan for TRU waste functions is the first step needed to begin implementation of the TA-55 development plan. Negotiations with C Division for their current space would be part of this consolidation plan. The first phase of the TRU waste consolidation would be the redevelopment of building 50-01. After that, the new facilities in the area could be constructed and renovation of older facilities for office space could begin.

# **DISCUSSION ISSUES**

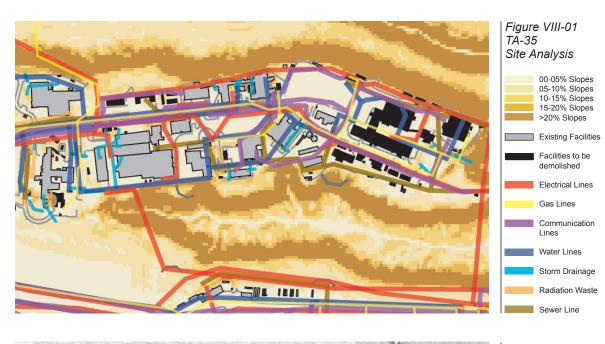
- What is the strategy and timing to create an approved consolidation plan for TRU waste functions?
- What is the strategy and funding source to implement sidewalks and walkways improvements needed for the change to transit as the primary mode for personnel getting to and from TA-50?





**TA-35 PLAN** 

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# Figure VIII-02 TA-35 2025 Masterplan

Existing Facilities

Proposed Facilities

Proposed Parking Structures

## VIII. TA-35 2025 Framework Plan

## **TA-35 Mission**

TA-35 houses a variety of scientific user groups including Materials Science, Physics, the ATLAS Facility, and Optical Sciences. TA-35 Master planning is primarily based on the physical opportunities of the mesa and what it can provide based on the labs current program needs.

# **Physical Description**

Located to the east of TA-55, TA-35 runs for almost 1/2 of a mile along a narrow secondary finger of the Pajarito Mesa. Defined at is edges by Mortendad Canyon on the north, and a smaller unnamed canyon on the south, TA-35 is generally about 800' wide from canyon edge to canyon edge. The eastern end of the Technical Area drops off the mesa into the canyons below. Twenty percent of the total 150 acres in TA-35 are situated on land with a less than 20% slope. The undeveloped areas at the top of the mesa are covered in native tall grasses. The canyon edges and floors are generally covered by Ponderosa Pine.

# **Operation Constraints**

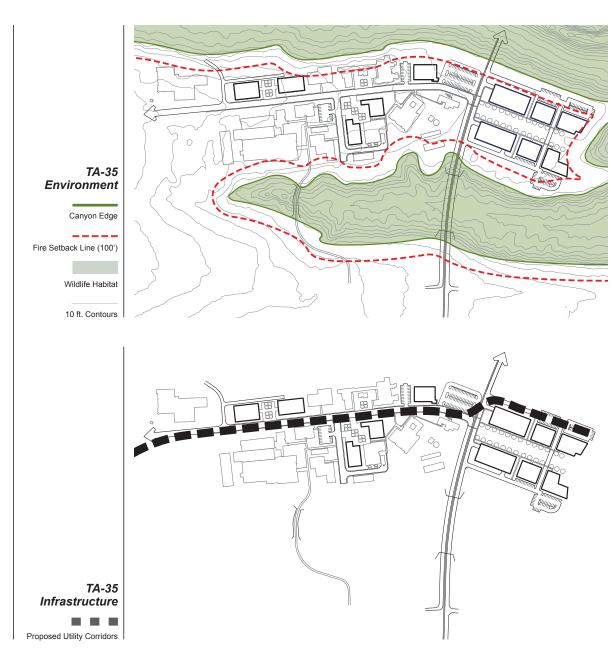
An increasing operational constraint exists between the rising security requirements for adjacent TA-55 and the more open access desired for facilities such as the ATLAS and the conference building within TA-35. A specific operational constraint for the ATLAS facility is that this structure houses work that is highly vibration-sensitive.

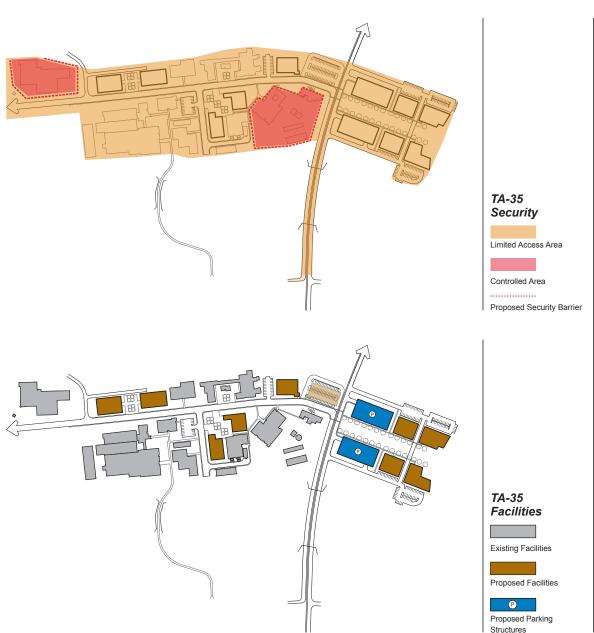
## 2025 Framework Plan For TA-35

The 2025 Framework Plan for TA-35 envisions several plans of action. Facilities and functions that conflict with security and access restrictions at the adjacent TA-55 should be moved out of TA-35. The eastern end of the Technical Area would be revitalized by replacing aged and underutilized Laboratory space with modern office and light Laboratory facilities. Transitioning to a limited use transit shuttle system as the primary means of access for personnel to the western areas of the site from TA-50 is also projected.

#### **Environment**

The north and east ends of TA-35 contain part of Mortendad Canyon. The canyon houses wetlands and Spotted Owl habitat. These areas therefore require protection





from runoff, noise, light and other disruptions caused by development and operations on the mesa top at TA-35. No development is anticipated to occur on the canyon floor. A secondary finger of Mortendad Canyon runs along the south edge of the Technical Area. More data is required regarding wetlands and wildlife habitat requirements in this smaller canyon. One hundred foot fire safety setbacks from canyon edges would be maintained, and vegetation throughout the site would be selected and maintained to reduce wildfire threats.

## Infrastructure

The existing utility corridor along Pecos Road would continue to serve as the main utility corridor for the area. Expansion of two minor north- and south corridors along the mesa edge would accommodate redevelopment of the eastern end of TA-35.

# **Security and Safety**

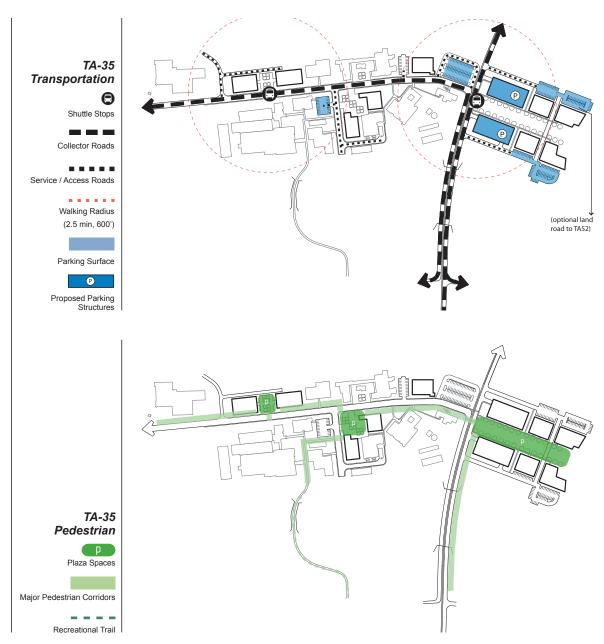
The popularity of the ATLAS and other science facilities in TA-35 and their appeal to international and general visitors, along with their proximity to TA-55, create security issues. The framework plan proposes that the western and central areas of the Technical

Area operate within the limited access control zone.

Safety concerns for the area, centering on the need for a second emergency access, would be addressed by the development of a proposed bridge connection between TA-35 and TA-63.

## **Future Land Use**

The future land use recommendations include transitioning activities in the west and central areas of TA-03 to facilities which are compatible with the use, access needs and security requirements of the adjacent TA-55. Such a transition would entail relocating major structures, such as the ATLAS facility, to other areas of the Laboratory. To accomplish this relocation, strategic facilities plans for affected groups such as Material Science and Technology (MST), require alignment and funding support. The implementation of connections between TA-35 and TA-63 would open the eastern end of the Technical Area to supporting a wider variety of office and Laboratory activities. Until such connections are in place, land uses should be limited to those compatible with TA-55 security needs.



# **Facilities and Space**

This plan recommends the demolition and decommissioning of approximately 86,800 footprint sq. ft. of aged and outdated facilities. Most of this removal would occur at the eastern end of the site, allowing for the development of approximately 135,000 sq. ft. of new Laboratory and office space.

Two parking garages are shown in the plans for the eastern area of the site. These facilities are predicated on the development of a new bridge connection between TA-35 and TA-63. They are also reliant on a related decision to allow general traffic access to the TA-35 from the east.

A short-term shortage of office and administrative space has been identified for MST. The west end of the TA-35 on a site north of Pecos Road could accommodate two new office facilities of approximately 15,000 sq. ft. each by removing two temporary structures in that area. Currently, there are 33,700 sq. ft. of temporary facilities throughout TA-35 that require removal in order to support the Laboratory-wide goal of eliminating all temporary structures.

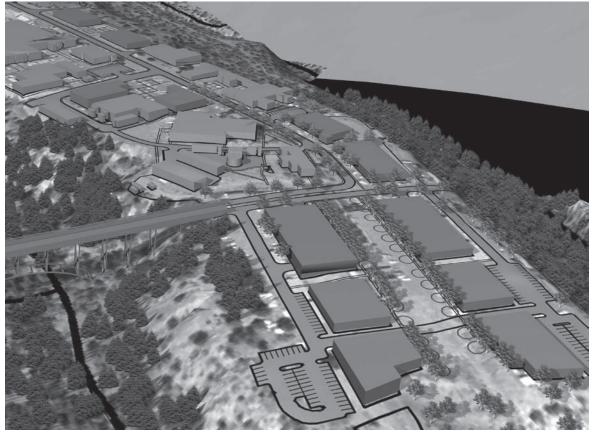
# **Transportation**

The transportation plan for the TA-35 area proposes that the existing Pecos road corridor be updated to encompass a more pedestrian oriented design which incorporates speed bumps and crosswalks at appropriate areas. A temporary parking lot and loop road for a limited use internal shuttle that carries Lab workers and visitors to TA-55 and TA-35 would be required until a bridge structure to TA-63 is implemented.

# **Site and Architectural Design Principles**

In order to create a safe and comfortable walking system and to enable a successful transition to transit shuttles as the main transportation mode for western and central areas of TA-35, it is critical to implement pedestrian improvements along Pecos Road. A component of a safe pedestrian system would include the development of landscaped outdoor gathering and resting spaces within the central area of the Technical Area, as well as coordinating building clusters around shuttle stop locations. The east end would be organized around a large central plaza space open to the natural landscape beyond, thereby creating a focus for a campus-style development approach.

Figure VIII-03: TA-35 perspective



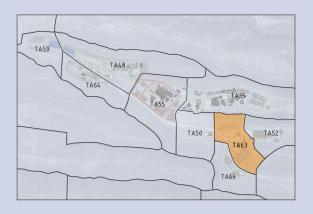
## Implementation and Phasing

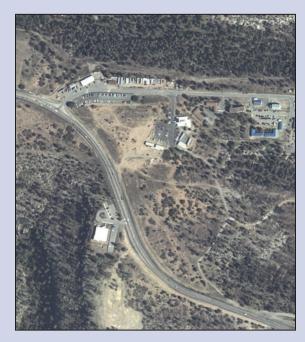
Detailed phasing has not been completed for all divisions using the area, but it is evident that major D&D projects must be accomplished prior to significant east end redevelopment. Immediate needs for MST office space support the D&D of temporary structures near the west end.

Laboratory support and funding to relocate ATLAS and other public access science facilities is a key consideration for complete implementation of this proposed plan. The proposed bridge connection between TA-35 and TA-63 is another critical component of achieving long-term security and safety improvements for the whole TA-55 area.

## **DISCUSSION ISSUES**

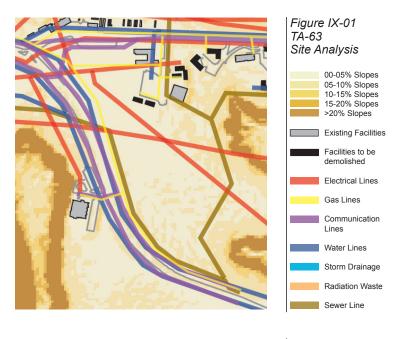
 How would the transit stops and pedestrian walkways needed to convert to transit be planned and funded?





# **TA-63 PLAN**

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Potential Fire Station

Structures

## IX. TA-63 2025 Framework Plan

#### **TA-63 Mission**

TA-63 supports facilities operations functions at the Laboratory. Located just to the east of the nuclear complex, TA-63's functions and operations are directly affected by the changing design basis threat requirements for TA-55.

# **Physical Characteristics**

TA-63 lies at the very eastern end of the West Pajarito Corridor Planning Area, on the north side of Pajarito Road and across from TA-66. Bounded by a small canyon to the north and TA-52 to the east, TA-63 is a large relatively flat site with generally open grassland or sparse Pinon Pine cover. There are few constraints to development. The developable area is approximately 38 acres of the total 50 acres within TA-63. Existing development at the site uses 1 acre of the developable land.

# **Operational Limitations**

Operations at TA-63 are limited to categories that do not compromise the use, security or safety of the work at TA-55.

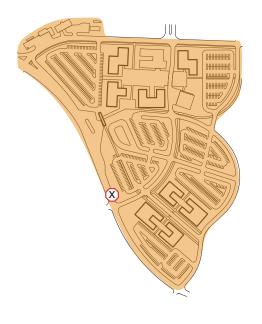
# **Existing Development**

Puye Road enters at the northwest corner of TA-63 and is the access road from Pajarito Road to the Technical Area. Puye Road runs east along the north side of the Technical Area and connects through to TA-52 on the east. Temporary buildings and storage areas occupy the long thin tract of land contiguous to the north side of Puye Road. A small cluster of one- and two-story office buildings and their related parking occupies an area just south of Puye and completes the extent of development in the area. The remainder of the site is currently undeveloped.

## 2025 Framework Plan for TA-63

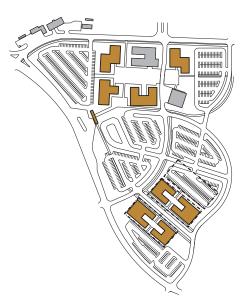
The immediate future of TA-63 is to become an area for support facilities or potentially a hub for transit and parking facilities supporting West Pajarito activities. With the removal of staff parking lots in the TA-55 area, TA-63 would become the replacement location for a portion of the required parking. If parking structures were the preferred development strategy, an integrated shuttle system would be required to transport people between TA-63 and the rest of the West Pajarito corridor. A large-scale transit stop would





TA-63 Security

Limited Access Area





be developed providing capacity for onsite shuttle buses and regional bus service transfers. If security conditions for the West Pajarito area were hightened, a new control gate would be installed on Pajarito Road west of the current entrance to TA-64. That intersection would be improved to create a four-way crossroads feeding into new, large parking lots at TA-63. At the east edge of the new lots, a proposed road would intersect with Pajarito Road. It would proceed northward toward the north canyon separating TA-63 from TA-35. A vehicular connection would be made across the canyon connecting the new road to the eastern end of TA-35. A new pedestrian connection would be built at the west end of TA-63, enhancing walking opportunities between TA-63 and the TA-55, 50 and 35 areas.

#### **Environment**

Environmental concerns would be focused on erosion control due to development runoff, and limiting impacts on wildlife habitat and buffers in the small canyons to the north and east of the Technical Area. Of particular consideration would be to plan for and mitigate any impacts to wildlife and water quality during the construction and use of any connections across the canyon

between TA-63 and TA-35.

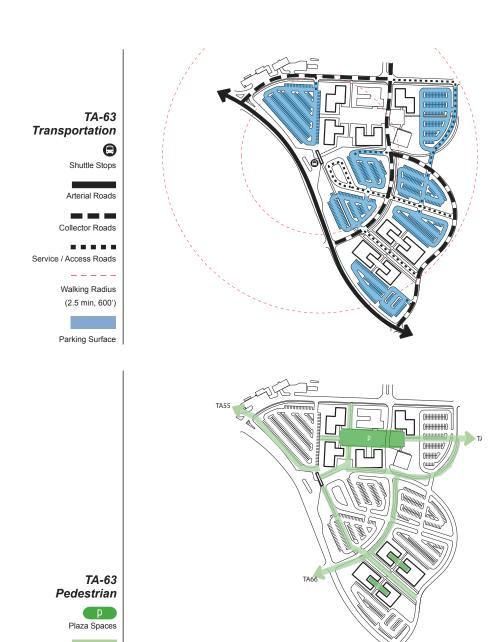
## Infrastructure

The main utility easements at TA-63 lie along the south side of Pajarito Road and along Puye Road and are anticipated to remain so into the future. A 115 KVA line bisects the site in an east-west direction approximately in the middle of the site, but the 100-foot buffer related to the utility would only minimally affect the site's development potential. Distribution of site infrastructure should align with the site roads, reducing impacts to clear building areas for future development.

# **Security and Safety**

Security requirements at TA-63 would in general be satisfied by its location within the controlled access area of Pajarito Road. Security can be enhanced by closing Pajarito Road and adding a controlled access gate at TA-63 as alternately shown in the security map.

If this scenario were to be implemented, a particular security concern would be the design of the vehicular connections between TA-63 and TA-35. The connection would be designed to accommodate secure vehicle



Major Pedestrian Corridors

traffic and general Laboratory traffic while separating the two areas. Possible design alternates include: two separate side-byside connections, or a shared causeway with a hardened barrier between separated roadbeds.

#### **Future Land Use**

Facilities operations activities are anticipated to constitute the primary use in TA-63 for the immediate future. Redevelopment of the site first as support facilities and eventually a transportation and transit hub would be an area of major focus.

# **Facilities and Space**

The permanent on-site buildings—all recent developments built within the past five years— would remain in place. Due to the anticipated emphasis on transit activities at TA-63, future structural development might be related to transportation needs, such as parking structures and transit stops but additional support facilities can be readily developed. All temporary structures and storage uses in the technical area would be replaced by parking and transit improvements.

## **Transportation**

Future transportation improvements in TA-63 include new vehicular and pedestrian connections between TA-63 and TA-35, facilities for regional and site-wide transit, a potential control gate, and large parking areas and road connections to serve them. Access and intersection improvements on Pajarito Road would be coordinated with the development of the large parking lots in TA-63.

Changes to the TA-63 road system would include:

- A new road at the eastern edge of the technical area. This road would commence at a new intersection on Pajarito Road near the east end of TA-63, and swing north to intersect with Puye Road as it enters TA-52. This route would become the new access route to TA-52. If security requirements changed, Puye Road to the west could be disconnected from its eastern end at this point with vehicle barriers.
- Pedestrian bridge to TA-35 from TA-63 as a link for pedestrian flow in addition to walking/hiking trail.

Safe pedestrian access from the proposed transit facilities at TA-63 to TA-35, 52 and 66 would be designed as part of the TA-63 transit and circulation system design. A major improvement for pedestrian safety would be a connection near the west end of TA-55 to an area close to the west edge of TA-35. It would provide a viable pedestrian alternative to future shuttle use, as well as create a secondary access to TA-55, 35 and 50 in the case of limited or closed vehicular access.

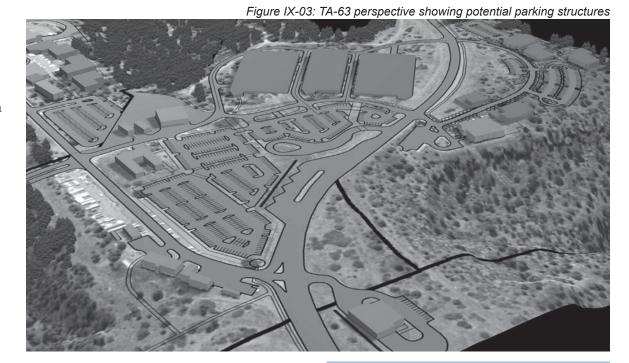
Transit planning could be a major factor in future transportation design for TA-63 if design basis threat changes. The new transit transfer station would need to accommodate both on-site shuttles and regional bus service. The actual scale and design for the transit station would be based on user volume, shuttle and bus routes, peak use timing, and dimensional requirements of the shuttles and buses.

# **Site and Architectural Design Principles**

Transit and pedestrian improvements would comply with the Laboratory's Site and Architectural Design Principles. Emphasis would be placed on designing exemplary transit and pedestrian improvements as they will comprise the portals for visitors and staff on a daily basis. Landscaping, shelters, benches, bike racks, lighting, signage and other basic improvements would create a comfortable and safe location for the thousands of people who will use this site in the future.

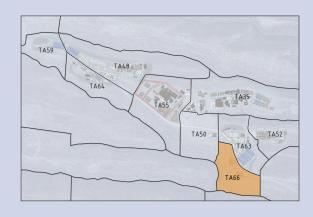
## Implementation and Phasing

The priority for implementation is to first establish lay down/spoils areas for TA-55 projects. These areas will lead to the development of 300 to 350 space parking capacity at TA-63 within the immediate future. Long range implementation of an additional 900 to 850 parking stalls with required new roads, new buildings, and a potential control gate. The canyon connections for vehicles and pedestrians are an immediate priority, given constraints of funding and the planning processes.



## **DISCUSSION ISSUES**

- If TA-63 moves toward a transit oriented design, what is the strategy to fund and build the parking and transit center improvements?
- When should planning for the bypass road begin and what is the funding strategy for it?





# **TA-66 PLAN**

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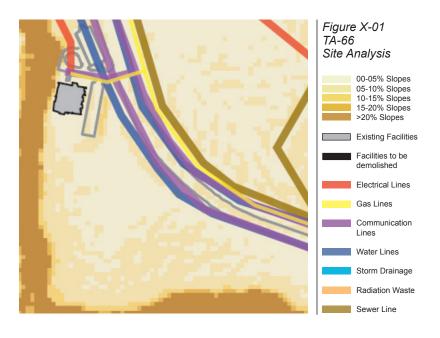




Figure X-02 TA-66 2025 Masterplan



Proposed Facilities

## X. TA-66 2025 Framework Plan

#### **TA-66 Mission**

TA-66 is the locale for Homeland Security at Los Alamos National Laboratory. This will be the long-term mission for TA-66.

# **Physical Constraints**

Located at the extreme southeast end of the Planning Area, TA-66 is a 46 acre parcel that sits along the edge of Pajarito Canyon to the south. Slightly ovular in shape, TA-66 has a relatively moderate slope and open conditions. The main physical constraint to development is a large archeological site in the center of the site. Approximately a quarter of the developable area is constrained by archeology.

# **Operational Constraints**

Security needs of the nuclear complex at TA-55 place the greatest operational limitations on TA-66. The effect is primarily on access to TA-66.

# **Existing Development**

Current development in the area is limited to a single building with related parking and fencing. Access from Pajarito Road is by a short road spur near the west end of the Technical Area.

## 2025 Framework Plan

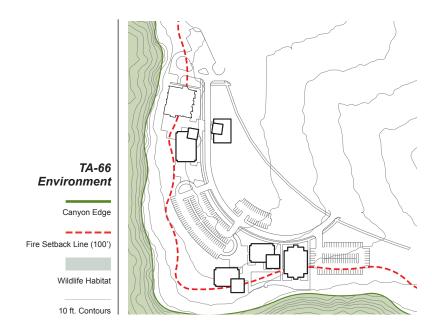
The 2025 Framework Plan for TA-66 creates two small building clusters arranged around pedestrian plazas. The first cluster of buildings would be sited near the existing building, with the second cluster located toward the site's south area. An open spine linking the two new pedestrian plazas would connect the two building clusters. Placing parking away from the Pajarito Canyon edge plan would punctuate the views and pedestrian spaces.

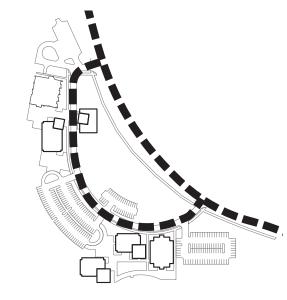
#### **Environment and Cultural**

The plan avoids the major archeological sites and they should not be an impediment to implementation as master planned.

## Infrastructure

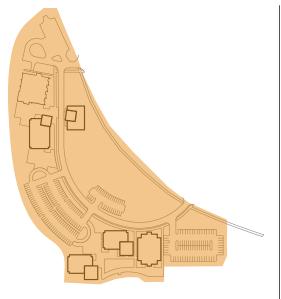
The main utility corridor runs along the south side of Pajarito Road. That easement would be maintained, with smaller service easements running parallel to the proposed internal loop road. Sewer service would also follow the loop road, requiring connections



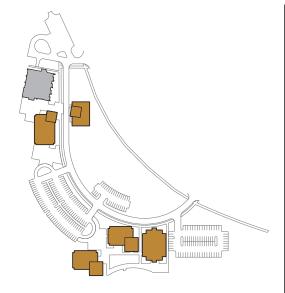


TA-66 Infrastructure

Proposed Utility Corridors



TA-66 Security



TA-66
Facilities
Existing Facilities
Proposed Facilities

to the main trunk lines on the north side of Pajarito Road with the implementation of additional buildings.

# **Security and Safety**

Although the plan for TA-66 does not anticipate any perimeter security fencing, individually secure facilities are not precluded. As part of the main West Pajarito ADP, the site lies within site wide checkpoints on East Pajarito Road and TA-03. The existing facility currently lies within a 100' buffer for fire safety near the canyon edge. All future facilities are sited outside that 100' buffer. Two modes of egress provide emergency egress to Pajarito.

#### **Future Land Use**

The current facility provides administrative functions for Homeland Security. Future land uses would be for further expansion of those office and administrative functions.

# **Facilities and Space**

Approximately 40,652 sq. ft. of new building footprint are incorporated in the plan. The one existing on-site facility is in good condition and anticipated to remain in place. The quantity of potential developable area

seems adequate to accommodate long-term growth needs for the site.

## **Transportation**

There is currently one road in and out of the TA-66 site via a stop-signed intersection on Pajarito. Gradients and high travel speeds on Pajarito Road in this area make it difficult to execute a left-hand turn out of TA-66. As TA-63, which is across Pajarito Road from TA-66, is transformed into a prominent parking and transit location, a signaled four-way intersection at the location of the current TA-66 crossing would improve turning conditions for TA-66.

A second four-way signaled intersection near the east end of TA-66, connecting to TA-63, would be recommended for development with future parking improvements. This would provide a second entrance to the TA-66 area and improve regular and emergency access to the area.

Internal access would be provided by a looped road along the south edge of the archeological site. On-site parking would be located in major surface lots between and north of the two building clusters.



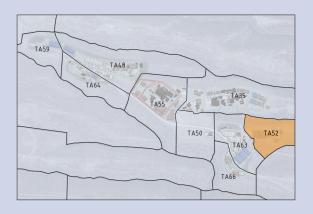
# **Site and Architectural Design Principles**

Clustering facilities around pedestrian open spaces would improve the pedestrian amenities of this Technical Area plan. A pedestrian spine would link the two building clusters, with ample plaza spaces reserved for pedestrians to focus on the canyon views. A connecting trail would run around the perimeter of the site along the canyon edge. All of the architecture should be designed with articulated facades to the main looping road and the pedestrian plazas near the canyon edge.

# Implementation and Phasing

Archeological preservation and mitigation is the primary consideration for TA-66 site. The first development phase would likely begin near the existing facility. Future facilities will need infrastructure extensions for circulation and utilities.

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# **TA-52 PLAN**

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# Figure XI-02 TA-52 2025 Masterplan

Existing Facilities

Proposed Facilities

## XI. TA-52 2025 Framework Plan

### **TA-52 Mission**

TA-52 supports Experimental Science missions at the Laboratory. Circulation and use changes immediately west at TA-63 are anticipated to be the major influence on future planning for TA-52.

# **Physical Characteristics**

Located at the end of a narrow finger extension of the main mesa in the Pajarito Corridor, TA-52 is the easternmost technical section in this planning area. Steeply sloped canyon edges limit the developable area in TA-52 to an average of 400 feet in width. The natural narrow configuration is further subdivided by Puye Road which runs down the middle of the site.

# **Operational Limitations**

Security needs of the nuclear complex at TA-55 place the greatest operational limitations on TA-52. The effects are usually tangential by way of affecting access planning to TA-52.

# **Existing Development**

The narrow land shape of TA-52 has led to facilities laid out along the south side of Puye Road. Most of the existing development is comprised of aged and inefficient program space and transportables that the Laboratory plans to replace with more efficient or permanent structures in the long term. There are approximately 28 acres of developable land in TA-52 of which 27 acres are undeveloped.

The very eastern tip of TA-52 is an electrical substation. Plans for upgrades are a consideration.

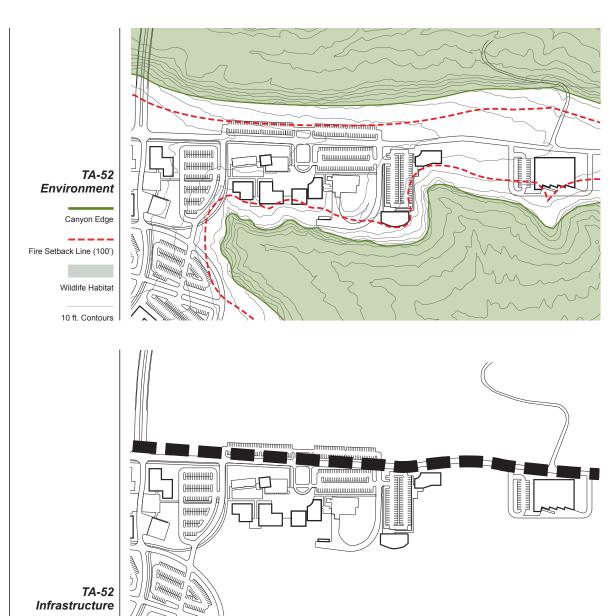
#### 2025 Framework Plan

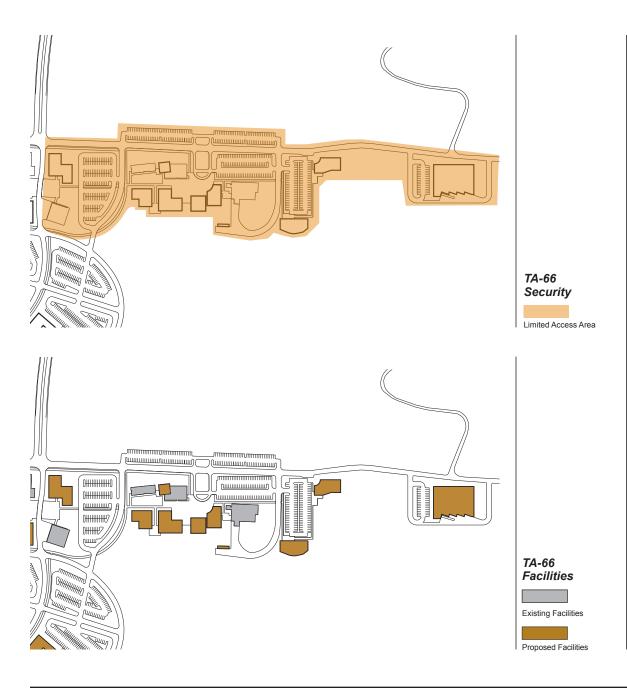
The 2025 Framework Plan for TA-52 lodges new facilities around select existing buildings that will not be moved. The focal point would be a pedestrian plaza framed by the new facilities. Pedestrian connections would link this campus plan to TA-63. Ample future expansion space would remain in place east of the main campus site.

## **Environment**

Environmental considerations anticipated for development of TA-52 include protection of

Proposed Utility Corridors





wildlife habitat, protection of canyon edges and prevention of construction disturbance on steep slopes. Laboratory procedures to mitigate environmental impacts would be incorporated in all planning and implementation for redevelopment and new development in TA-52.

## Infrastructure

A large utility easement runs along the south side of Puye Road. Major electrical service runs the entire length of the road down to the substation at the east end. That easement would be maintained as would the utility corridor north of the road. Sewer service would connect to large trunk lines on the eastern edge of TA-63.

# **Security and Safety**

Although there are no planned secure areas within the TA-52 campus plan, individual secure facilities are not precluded. The lack of a secondary emergency access route creates safety concerns, a problem which could be alleviated by the proposed bridge connection between TA-63 and TA-35. All of the existing and planned facilities are outside the 100 foot fire safety buffer along the canyon edges.

## **Future Land Use**

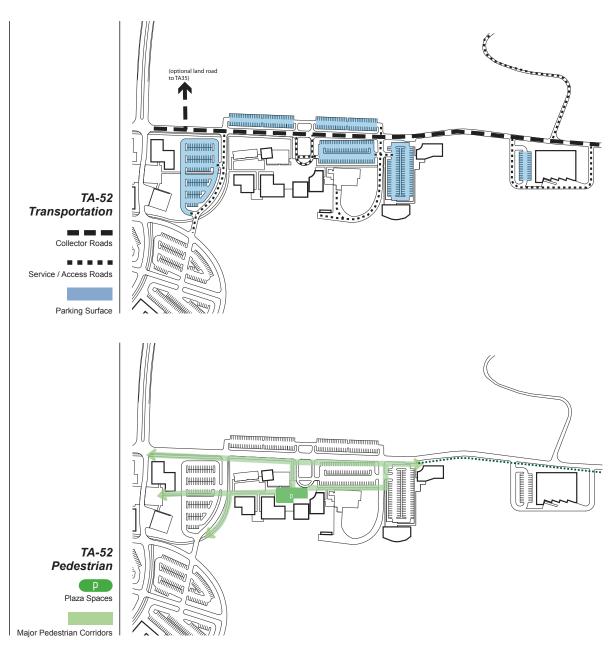
Experimental science would remain the focus of TA-52. The plan is flexible enough to allow for a mix of Laboratory and office/administrative functions. This plan provides a flexible framework for multiple end users should ESH consolidate its facilities to another location. On the eastern edge of the Technical Area, a TRU waste facility on 7 acres of land is proposed.

# **Facilities and Space**

This framework eliminates 25,000 sq. ft. of temporary facilities and retains only two of the existing facilities—Building 52–01 and Building 52–33. The plan represents approximately 58,000 square feet of additional building footprint.

# **Transportation**

TA-52 is served by Puye Road from Pajarito Road. The proposed new access for TA-52 would close Puye Road near the western end of the Technical Area and link it to a new east perimeter road at TA-63. This new perimeter road would run into to Pajarito Road east of TA-66 and connect northward to TA-35 using a new bridge.



New parking would be provided at the west end next to TA-63 as well as, along the north side of Puye Road. Future parking expansion would be implemented in conjunction with TA-63 parking expansion.

be demolished and set the stage for infill development to occur.

# **Site and Architectural Design Principles**

The 2025 Framework Plan for TA-52 is focused toward the canyon views to the south. A small pedestrian plaza and open space would create a welcoming zone for employees and visitors alike. Parking and roads located to the perimeter would enable the new facilities to frame the plaza area. A pedestrian corridor from the small plaza westward would connect TA-52 to TA-63. All of the facilities will be designed according the Site and Architectural Design guidelines and should compliment the architectural character of the TA-63 area.

# Implementation and Phasing

A detailed phasing analysis of the proposed TA-52 plan is required to coordinate the demolition and removal of existing facilities to create opportunities for new development between the facilities that are to remain. The first recommended activity would be to build a new facility in the existing parking area next to Building 52-33. That would provide the capability for aged facilities to

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# GLOSSARY

## **AADT**

Annual Average Daily Traffic

#### **ADA**

"Americans with Disabilities Act of 1990." A series of federal regulations related, in part, to providing access to public facilities to persons with physical disabilities.

#### **ADT**

Average Daily Traffic

#### **ADTT**

Average Daily Truck Traffic

#### **ADP**

Area Development Plan

# Arterial or Major (Street)

A roadway designed to carry traffic, mostly uninterrupted, through an urban area, or to different neighborhoods within an urban area. These streets are generally found on section lines or state routes, and are of regional significance. These streets are typically planned to be multi-lane facilities.

# Bicycle Lane (Bike Lane)

A portion of a roadway which has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists.

# Bicycle Path (Bike Path or Off-Road Bikeway)

A bikeway physically separated from motorized vehicular traffic by

an open space or barrier and either within the highway right-ofway or within an independent right-of-way.

# Bicycle-Pedestrian Lane

A portion of a roadway designated for the preferential or exclusive use of bicycles and pedestrians.

#### **BSL**

Bio Safety Level

## **BPR**

Bureau of Public Roads

## **CSP 2000**

Comprehensive Site Plan 2000

#### **CINT**

Center for Integrated Nanotechnology

# Collector (Street)

A roadway designated to carry traffic between local streets and arterials, or from local street to local street.

## Crosswalk

Portion of a roadway ordinarily included with the prolongation or connection of the lateral lines of sidewalks at an intersection or any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface.

## **CMRR**

Chemistry and Metallurgy Research Replacement

## **DBT**

Design Basis Threat

## DOE

United States Department of Energy

## $\mathbf{EB}$

**Executive Board** 

## **EPA**

United States Environmental Protection Agency

## **EMS**

**Emergency Management Service** 

## **FHWA**

The Federal Highway Administration, a division of the United States Department of Transportation.

#### **FTA**

Federal Transit Administration Frontage Road – A road parallel and adjacent to a highway or arterial street designated and designed to serve local traffic.

#### Grade

A measure of the steepness of a roadway, bikeway, or walkway, expressed in a ratio of vertical rise per horizontal distance, usually in percent.

## Guaranteed Ride Home

The Guaranteed Ride Home program may be used by an employee who commutes to work by carpool, van pool, or bus. This program

is designed so that in case of emergency or other circumstance, an employee is guaranteed a free ride home via taxi or bus service.

#### **HBW**

Home-Based Work

## **HBO**

Home-Based Other

## Headways

Service policies and standards on how often a vehicle will come by on a route; also commonly referred to as frequency.

#### ITE

Institute of Transportation Engineers

#### **LASO**

Los Alamos Site Office

## **Local Street**

A roadway designated to provide access to and from residences or businesses.

#### LOS

Level of Service

#### **MSL**

Material Science Laboratory

## **NEPA**

National Environmental Policy Act

#### **NHB**

Non-Home-Based NHB

## **NMDOT**

New Mexico Department of Transportation

## **NMSSUP**

Nuclear Material Safeguards and Security Upgrades Project

## Park-and-Ride

An access mode to transit in which employees drive private vehicles to a bus stop or carpool/van pool waiting area and park their vehicles in the area provided for the purpose. They then ride the transit system or take the carpool/van pool to their destinations.

## **Pedestrian**

Any person afoot or in a wheelchair.

## **PIDADS**

Perimeter Intrusion Detection Assessment (and) Delay System.

# **PTLA**

Protective Technology Los Alamos

# Right-of-Way

1) The right of one vehicle or pedestrian to proceed in a lawful manner in preference to another vehicle or pedestrian or 2) the designated land over which is built a public road.

# Roadway

The portion of the highway, including shoulders, for vehicle use.

### **RLUOB**

Radiological Light Laboratory Office Building

### Shoulder

The part of a highway which is contiguous to the regularly-traveled portion of the highway and is on the same level as the highway. The shoulder may be made of various materials, such as pavement, gravel, or earth.

## **Sidewalk**

The portion of a highway designated for preferential or exclusive use by pedestrians.

# Sight Distance

The distance a person can see along an unobstructed line of sight.

## SOV

Single Occupant Vehicle

## **SPPI**

Site Planning and Project Initiation

## TA

Technical Area

# TAZ

Traffic Analysis Zone

## **TEA-21**

Transportation Equity Act for the 21st Century