

## D. Pajarito Corridor East Planning Area

### 1. General Description

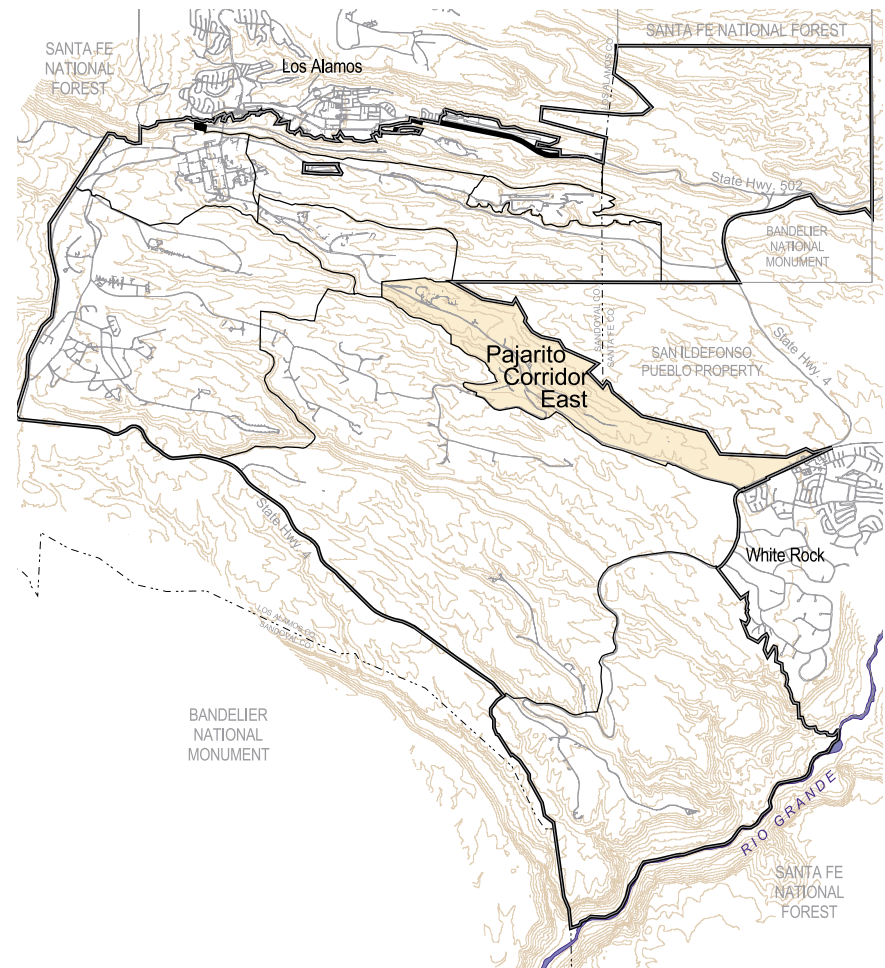
Pajarito Corridor East Planning Area is approximately 2.6 square miles and is similar in landscape character to the Pajarito Corridor West Planning Area which is at the western border of the planning area. The planning area is bounded by the Dynamic Testing Area Planning Area to the south; San Ildefonso Pueblo land to the north, and State Route 4 and the White Rock residential community to the east. Pajarito Road bisects the planning area from the northwest to the southeast for approximately 4.6 miles. After crossing the planning area, Pajarito Road descends eastward into the lower stretches of Pajarito Canyon. The western half of the Pajarito Corridor East Planning Area planning is situated on Mesita del Buey.

Pajarito Corridor East Planning Area consists of:

- TA-18: Special nuclear materials criticality
- TA-46: Applied photochemistry research
- TA-51: Environmental research and development
- TA-54: Waste management operations
- TA-65:

A narrow width of the northern boundary of TA-36 is included in this planning area because of its geographic association to Pajarito Road.

Map IV-D1: Key Map

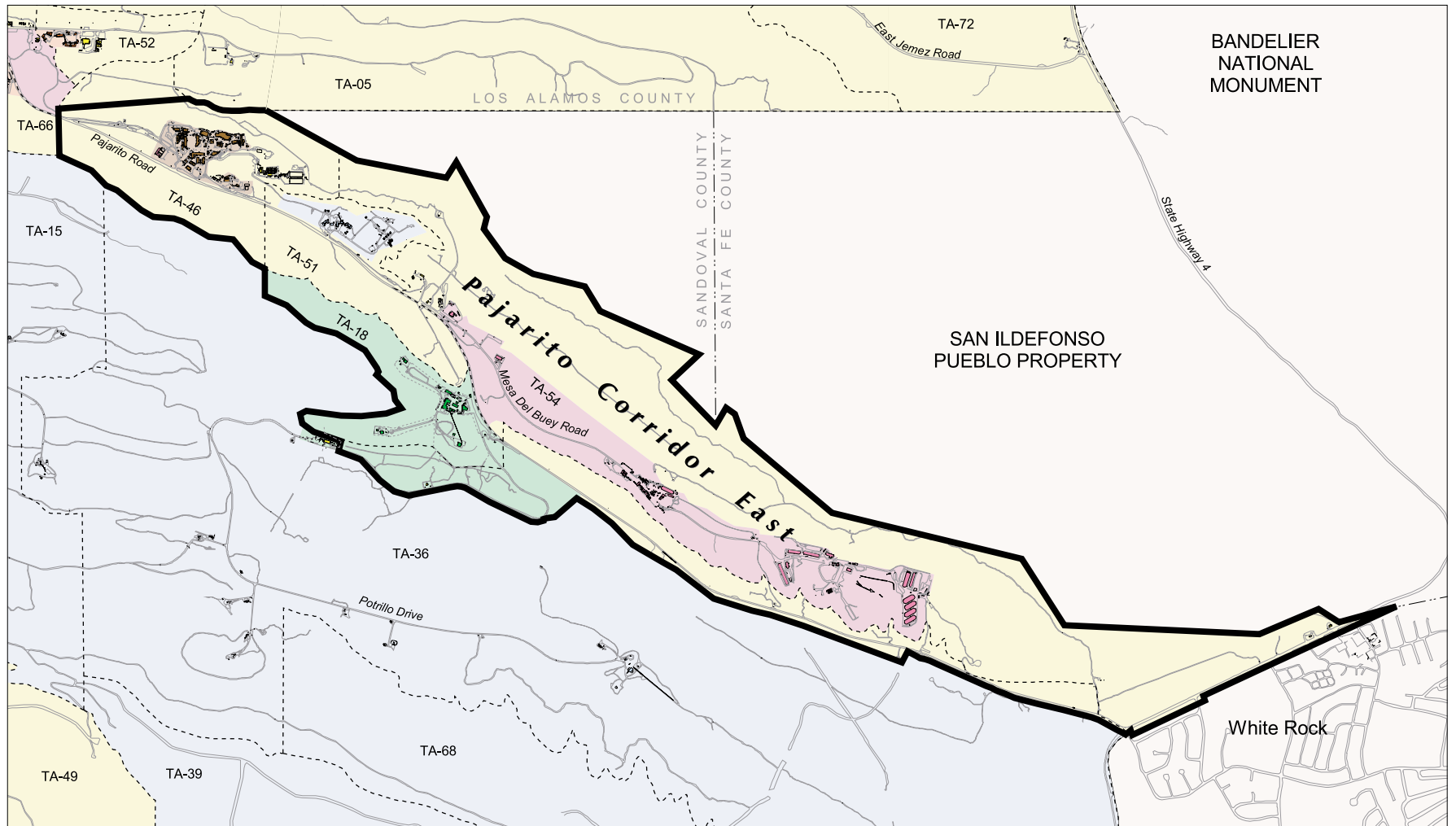


## 2. *Specific Planning Assumptions*

Major planning assumptions for the Pajarito Corridor East Planning Area are:

- The long range thinking for TA-18 is to close activities there. This will require the transfer of key functions to new locations. The nuclear nature of the activities would require these functions to be within the proposed nuclear park. Some of these activities may be relocated to the Nevada Test Site. Other functions will need to be maintained at the Laboratory.
- TA 54 is necessary to keeping the Laboratory operational. The storage of waste and its characterization and shipment to WIPP is handled through facilities at TA-54.
- The development of a non-public road from TA-54 to TA-48 is planned for ease of SNM shipments. This would eliminate the need for continued costly road closures.

Map IV-D2: Pajarito Corridor East Programmatic Associations

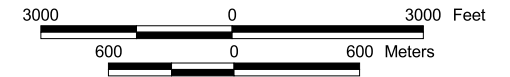


**AREA / STRUCTURE      PROGRAM**

- Defense Program / Stockpile Stewardship
- Defense Program / Stockpile Weapons Management
- Defense Program / Landlord or Institutional
- Office of Science
- Laboratory Directed Research & Development

**AREA / STRUCTURE      PROGRAM**

- Multiple Programs
- Nonproliferation & National Security
- Non DOE Programs
- Environmental Restoration & Waste Management
- County or Private within DOE Boundary



### ***3. Future Trends***

The future trends for this area are continued operations of the existing work. The removal of TA-18 to consolidate the nuclear activities within the conceptual nuclear park is proposed. The area is proposed to have upgraded facilities including a non-public road to connect TA-48 to TA-54 for SNM shipments.

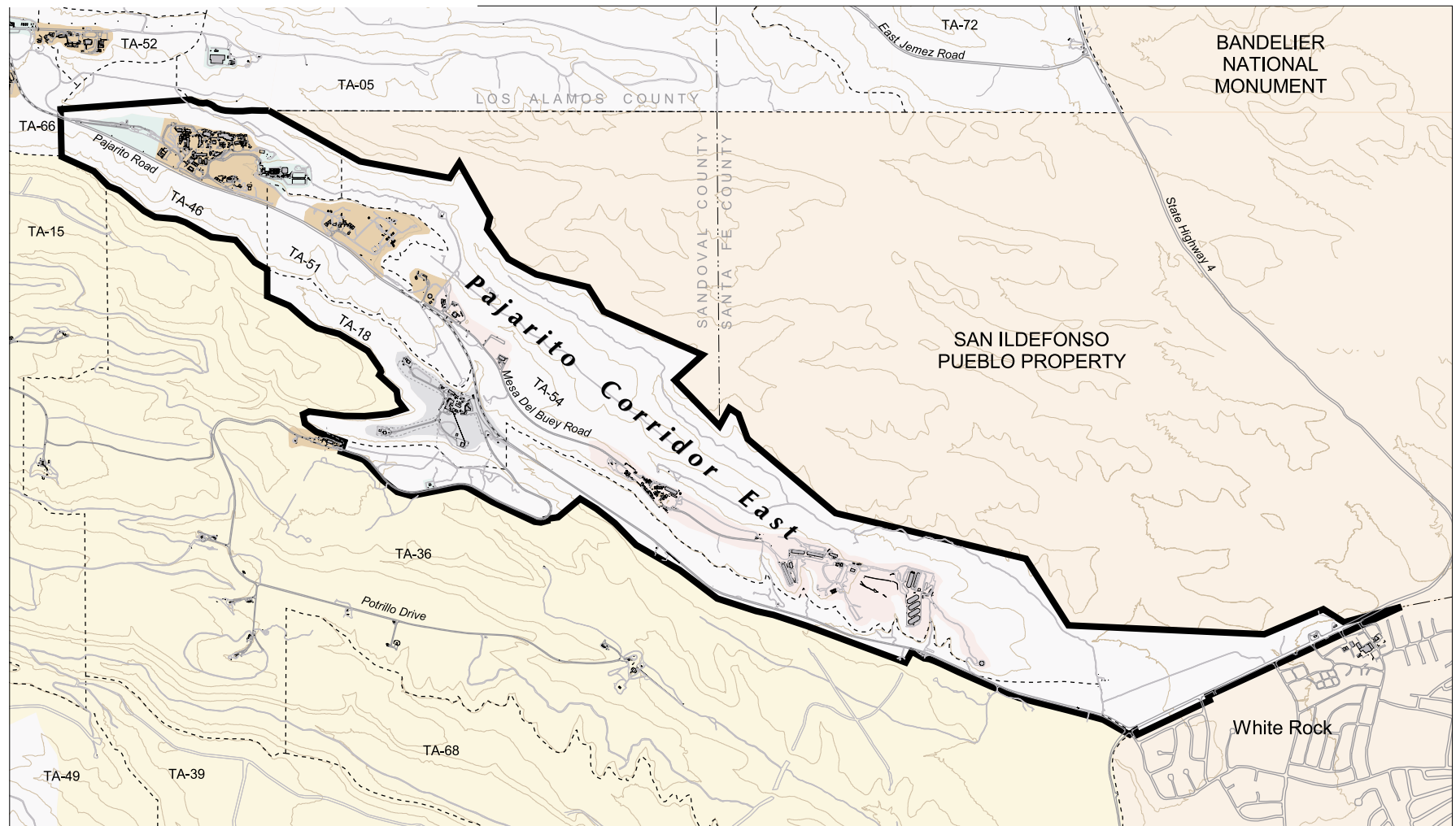
### ***4. Existing and Proposed Land Use***

#### ***1. Existing Land Use***

The land uses in the Pajarito Corridor East Planning Area are Nuclear Materials R&D, Experimental Science, Waste Management, and Physical/Technical Support. The remainder of the area (and bulk of the acreage) is Reserve, of which only a small portion is developable.

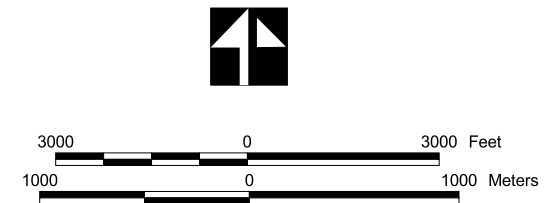


Map IV-D4: Pajarito Corridor East Existing Land Use



LEGEND

- |                              |                            |                                   |
|------------------------------|----------------------------|-----------------------------------|
| LANL Buildings               | Experimental Science       | Reserve                           |
| Non Dept. of Energy Property | High Explosive R&D         | Theoretical/Computational Science |
| Planning Area                | High Explosive Testing     | Waste Management                  |
| Research Park                | Nuclear Materials R&D      |                                   |
| Administration               | Physical/Technical Support |                                   |
| Airfield                     | Public/Corporate Interface |                                   |



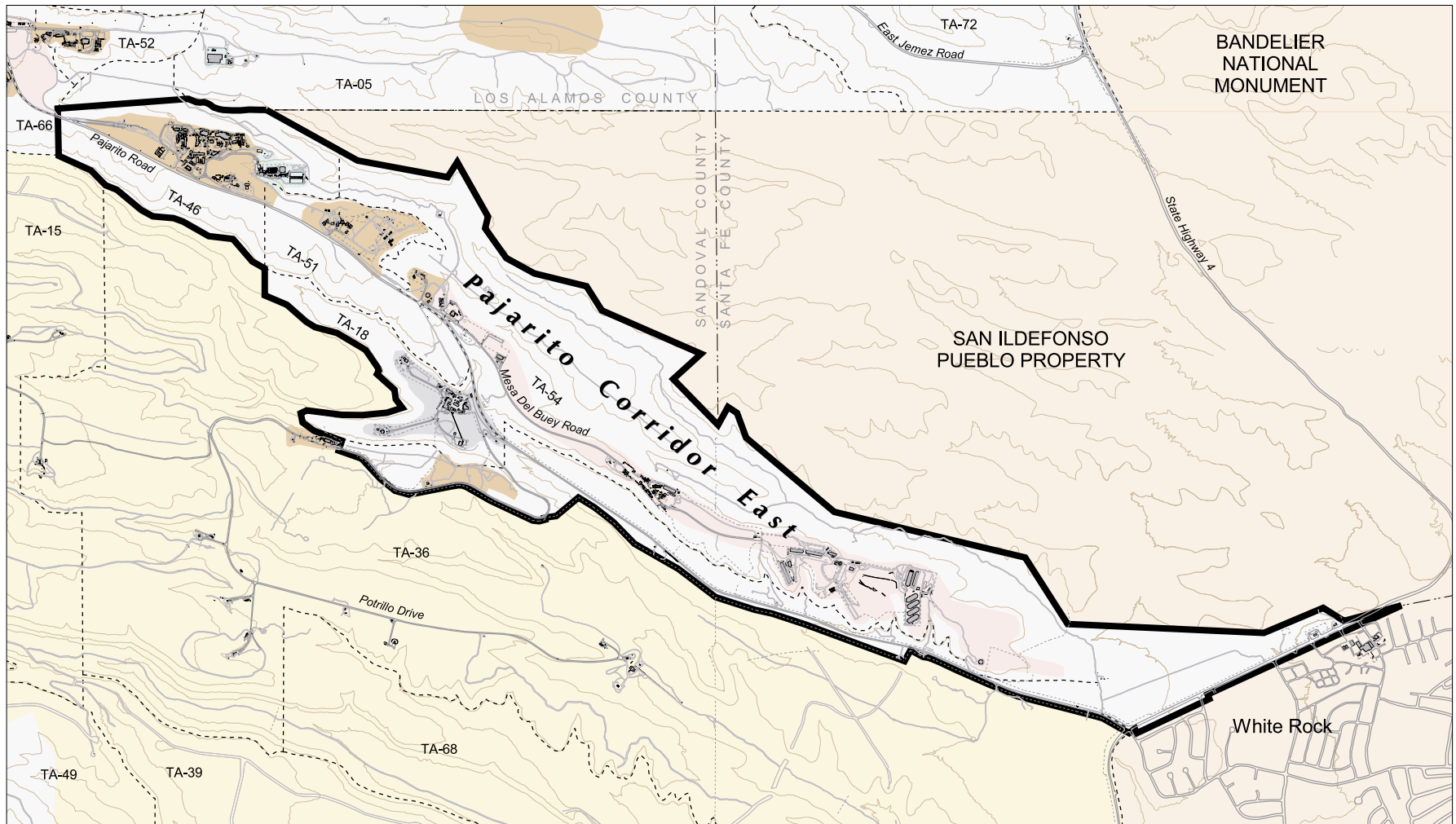
## 2. *Future Land Use*

The Pajarito Corridor East and the Pajarito Corridor West Planning Areas will become one restricted area and the current activities will remain and grow as required.

Table IV.D1: Pajarito Corridor East Planning Area

Existing Land Use		Future Land Use	
Land Use Category	Acreage	Land Use Category	Acreage
Experimental Science	132	Experimental Science	136
Nuclear Materials R&D	46	Nuclear Materials R&D	46
Waste Management	140	Waste Management	140
Physical/Technical Support	12	Physical/Technical Support	12
Reserve (Developable: 94 acres)	<u>1,329</u>	Reserve (Developable 94 acres)	<u>1,329</u>
<b>Total</b>	<b>1,659</b>	<b>Total</b>	<b>1,659</b>

Map IV-D5: Pajarito Corridor East Future Land Use



LEGEND

- |                              |                            |                                   |
|------------------------------|----------------------------|-----------------------------------|
| LANL Buildings               | Experimental Science       | Reserve                           |
| Non Dept. of Energy Property | High Explosive R&D         | Theoretical/Computational Science |
| Planning Area                | High Explosive Testing     | Waste Management                  |
| Research Park                | Nuclear Materials R&D      |                                   |
| Administration               | Physical/Technical Support |                                   |
| Airfield                     | Public/Corporate Interface |                                   |

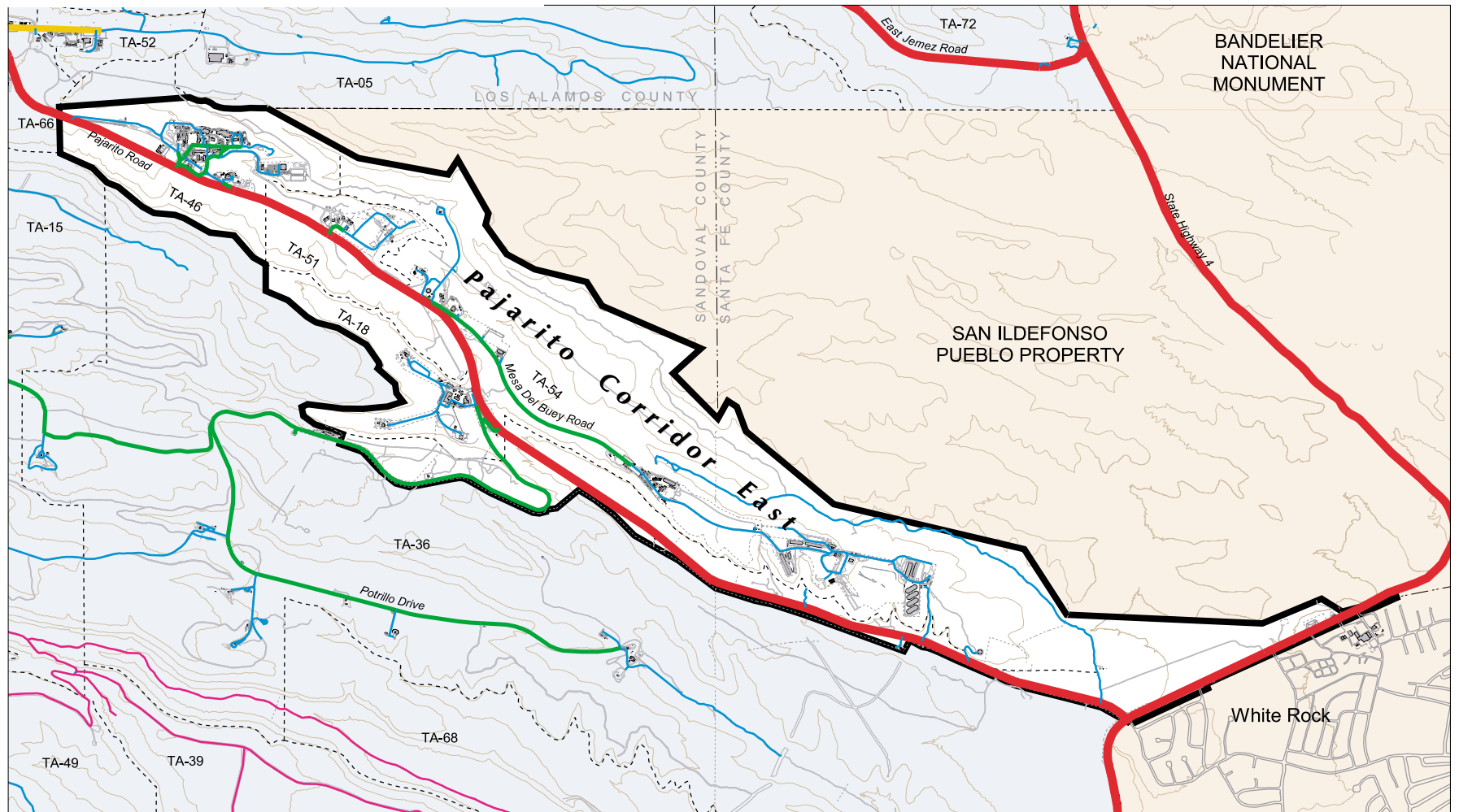


## ***5. Transportation/Circulation***











### ***a. Existing Transportation/Circulation/Parking***

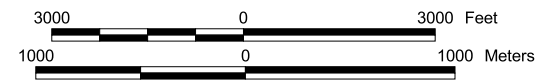
The transportation system in the Pajarito Corridor East Planning Area is limited to Pajarito Road and TA entrances. TA-54 has only one entrance/exit to its long, narrow mesa, creating severe safety problems. The road leading into TA-18 is inaccessible to public traffic.

Map IV-D6: Pajarito Corridor East Existing Transportation



LEGEND

- |  |  |
|--|--|
|  Arterial         |  Dept. of Energy Property     |
|  Collector        |  LANL Buildings               |
|  Local            |  Non Dept. of Energy Property |
|  Access / Service |  Planning Area                |
|  Emergency Lanes  |                               |



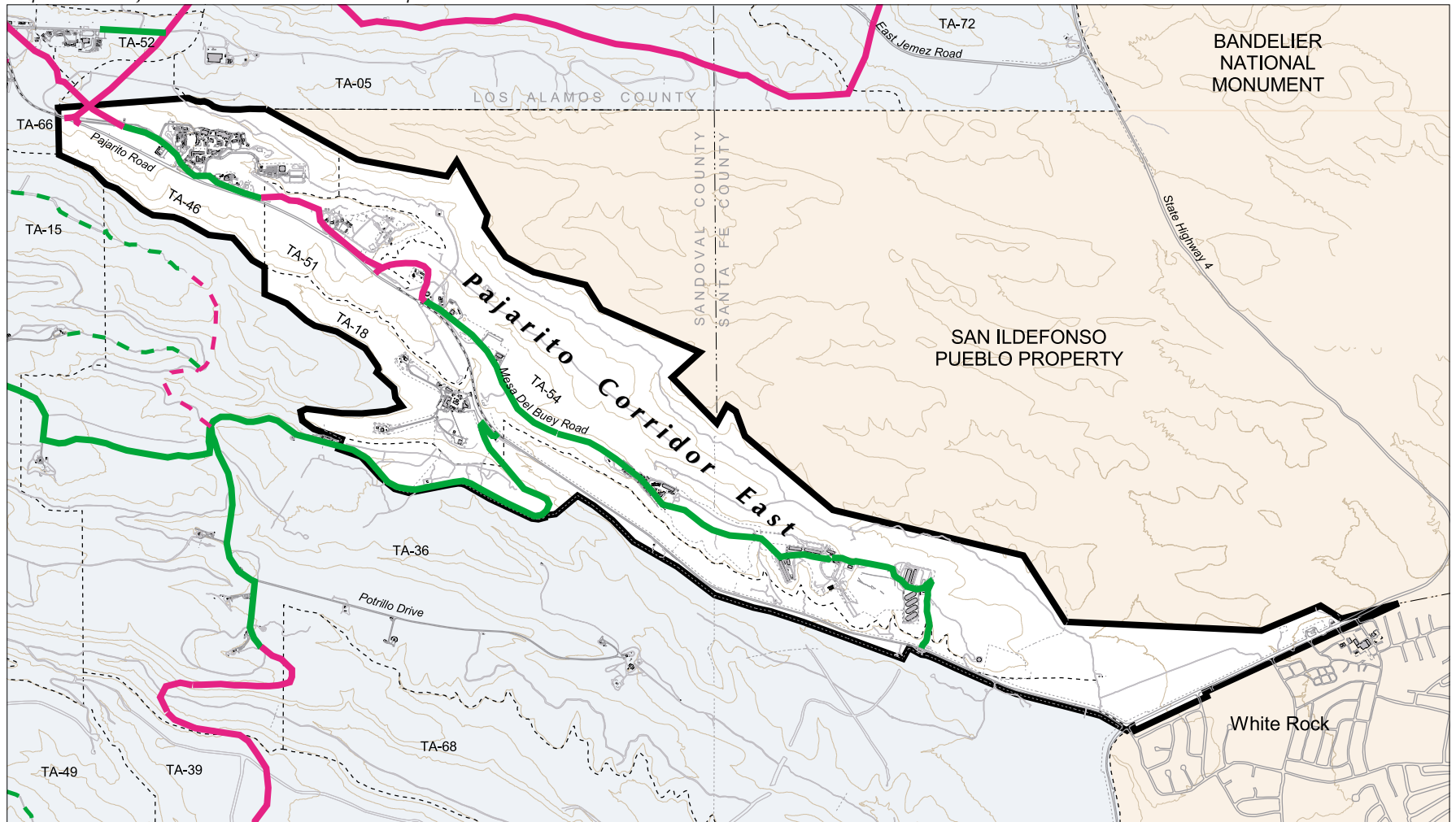
***b. Future Transportation/Circulation/Parking***

Pajarito Road and its intersections will be upgraded for safety purposes. A secondary access/service road should be constructed eastward from the mesa in TA-54 to Pajarito Road for safety reasons. If the eastern end of TA-54 were developed, a new road from Pajarito Road would access the area. A guard gate will be established near the intersection of NM 4 and Pajarito Road to restrict access to the Pajarito Corridor West and Pajarito Corridor East Planning Areas.

The road that intersects Pajarito Road along the boundaries of TA-18 and -36 will be upgraded allowing for a second exit/entrance to the Dynamic Testing Planning Area (particularly TA-36 and -67). It will travel through areas constrained by streambeds, floodplains, and threatened and endangered species habitat core and buffer zones. Therefore, environmentally sensitive construction techniques will be required.

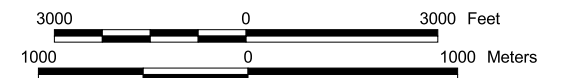


Map IV-D7: Pajarito Corridor East Future Transportation



LEGEND

- |  |                                      |  |                              |
|--|--------------------------------------|--|------------------------------|
|  | New Construction                     |  | Dept. of Energy Property     |
|  | Long Range Proposed New Construction |  | LANL Buildings               |
|  | Road Improvements                    |  | Non Dept. of Energy Property |
|  | Long Range Proposed Improved Roads   |  | Planning Area                |
|  | Road Elimination                     |  |                              |





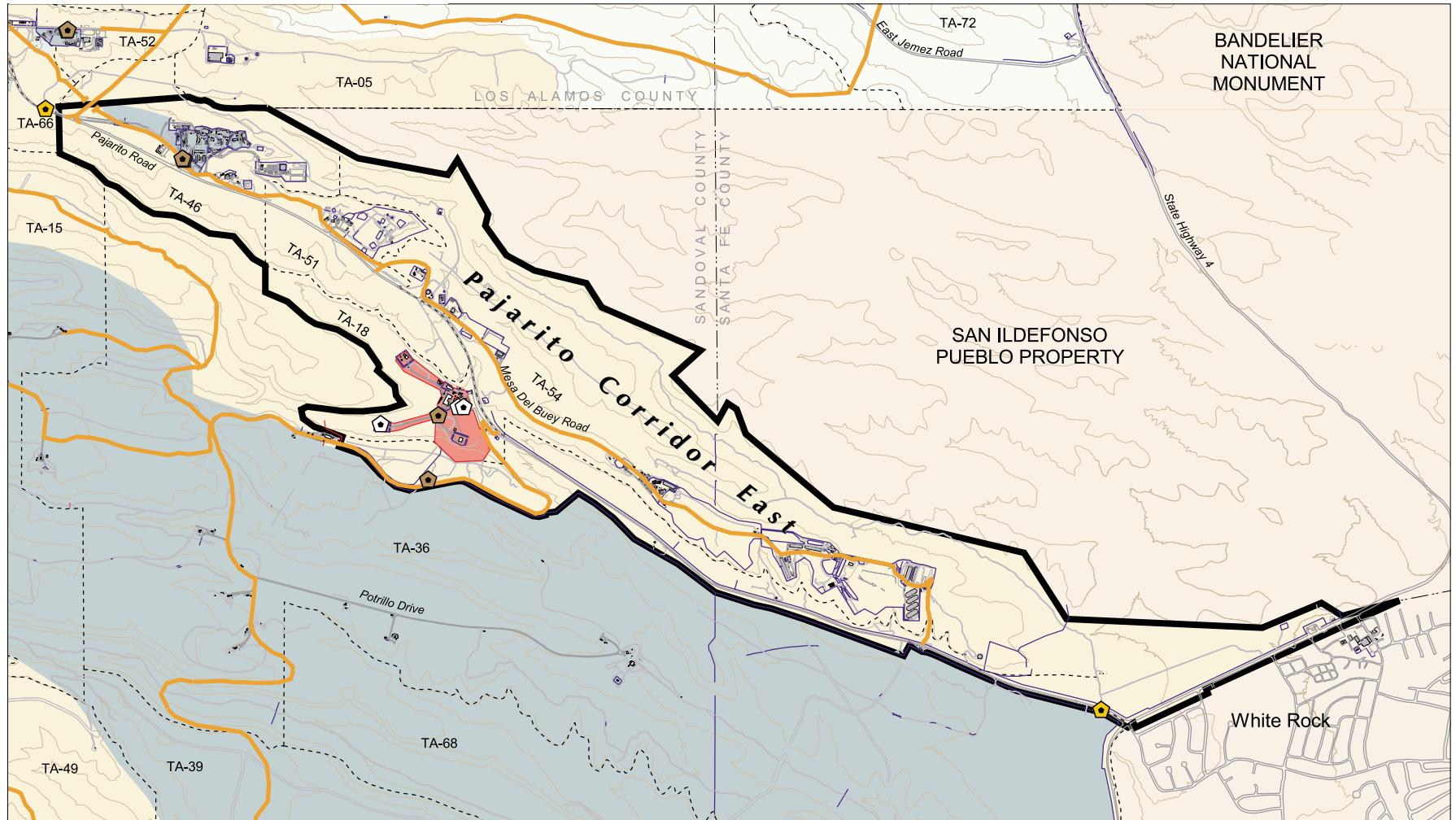
## 6. Security

Security operations are planned to remain at the current level with the exception of TA-18 (Verify). Pajarito Corridor East is used for basic research requiring limited security at TA-46, Category I and II SNM security at TA-18, and environmental research requiring controlled security at TA-51. TA-54 requires controlled safety access for waste operations. However, TA-54 controlled access stations are not part of security division activities.

### *Recommendations*

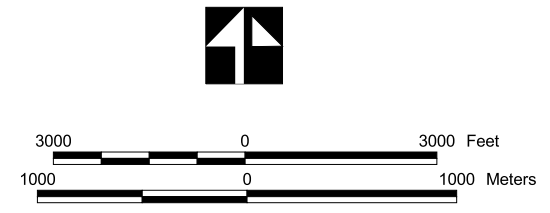
- Expand programs requiring materials access areas and Category I and II SNM security only within or adjacent to the existing Category I and II SNM security area in TA-18.
- Site any additional facilities requiring limited-security within or adjacent to the existing limited-security area to limit the number of security islands.
- Reserve the area directly west of the TA-46 fence for classified activities because there is no room for such expansion in the other three directions.
- Reserve the area along Pajarito Road and on the north edge of the TA-46 mesa for unclassified functions.

Map IV-D8: Pajarito Corridor East Existing and Future Security Areas



LEGEND

- |                              |                         |                                   |
|------------------------------|-------------------------|-----------------------------------|
| Industrial Fences            | Proposed Guard Stations | Secured Building                  |
| Security Fences              | Active Guard Station    | Existing Limited Security Area    |
| Proposed/Improve Roads       | Closed Guard Station    | Existing Property Protection Area |
| Roads                        | Planning Area           | Existing Protected Area           |
| Technical Area Boundaries    | Research Park           | Future Limited Security Area      |
| Non Dept. of Energy Property |                         | Future Protected Area             |
|                              |                         | Security Buffer                   |



## 7. *Utilities*

### a. *Water System*

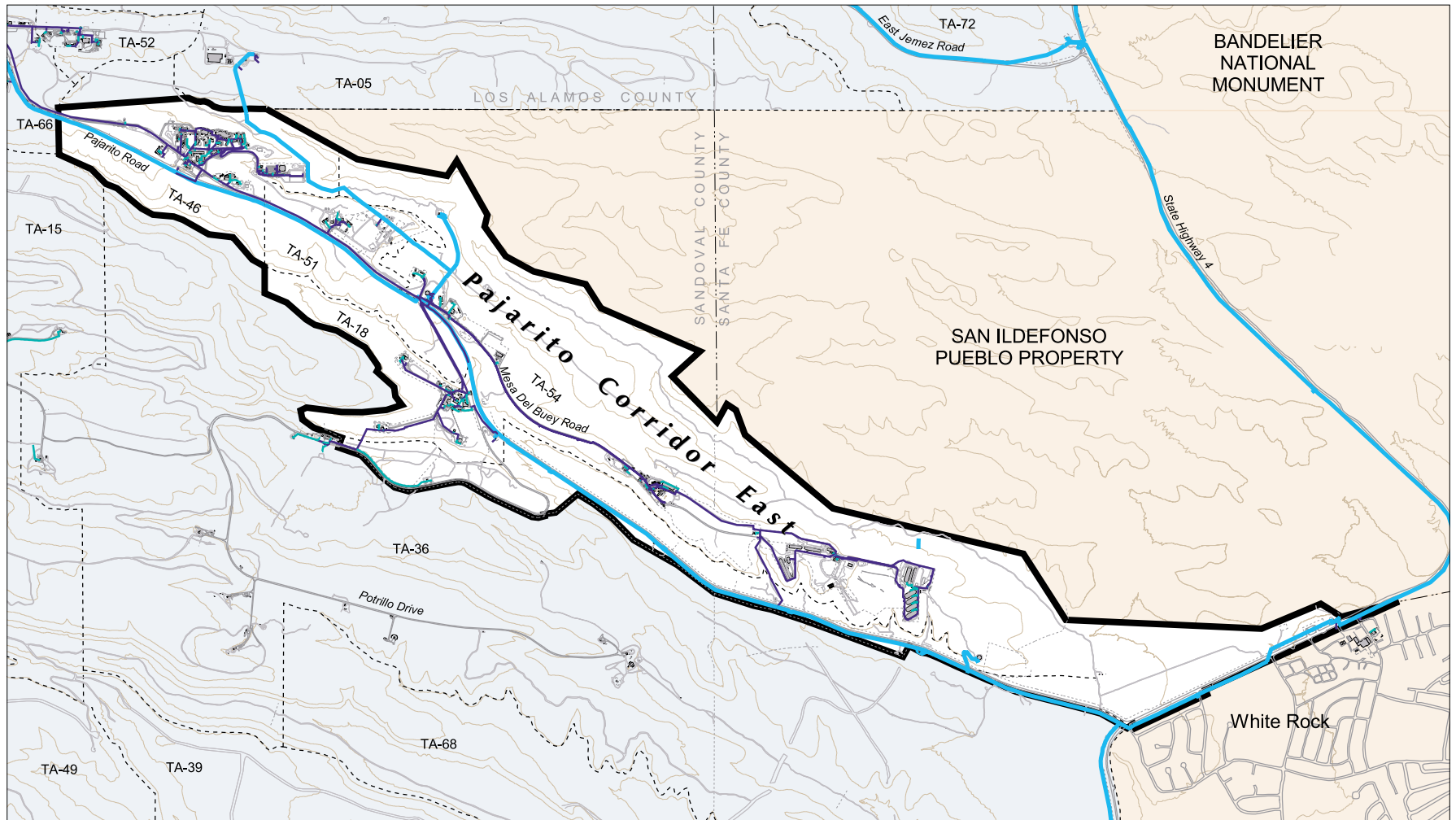
**Condition of System:** The water distribution system is in good condition throughout the planning area. No projects are required to improve any water system conditions.

**System Materials:** Pipe materials used in the water distribution system include cast iron, steel, asbestos cement, reinforced concrete, copper, ductile iron, and plastic. Cast iron has been replaced by ductile iron for distribution sized pipe. Steel and reinforced concrete are not common in today's systems of the Laboratory's size (greater than 24 inches diameter). Plastics and ductile iron dominate the water supply market for these sizes and fittings. Concerns regarding materials include:

- Replacement of asbestos cement pipe, particularly in areas where pipe may be disturbed for repair or replacement.
- Replace aged cast iron or steel pipe.

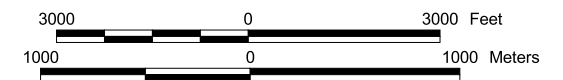
**System Capacities:** Fire hydrants are typically connected to 6-inch-diameter pipe. Water service lines, less than 6 inches should be replaced if they provide fire protection services.

Map IV-D9: Pajarito Corridor East Existing Water System



LEGEND

- Water Distribution Lines
- Water Service Lines
- Water Transmission Lines
- Planning Area
- Dept. of Energy Property
- LANL Buildings
- Non Dept. of Energy Property



**b. Sanitary Sewer System**

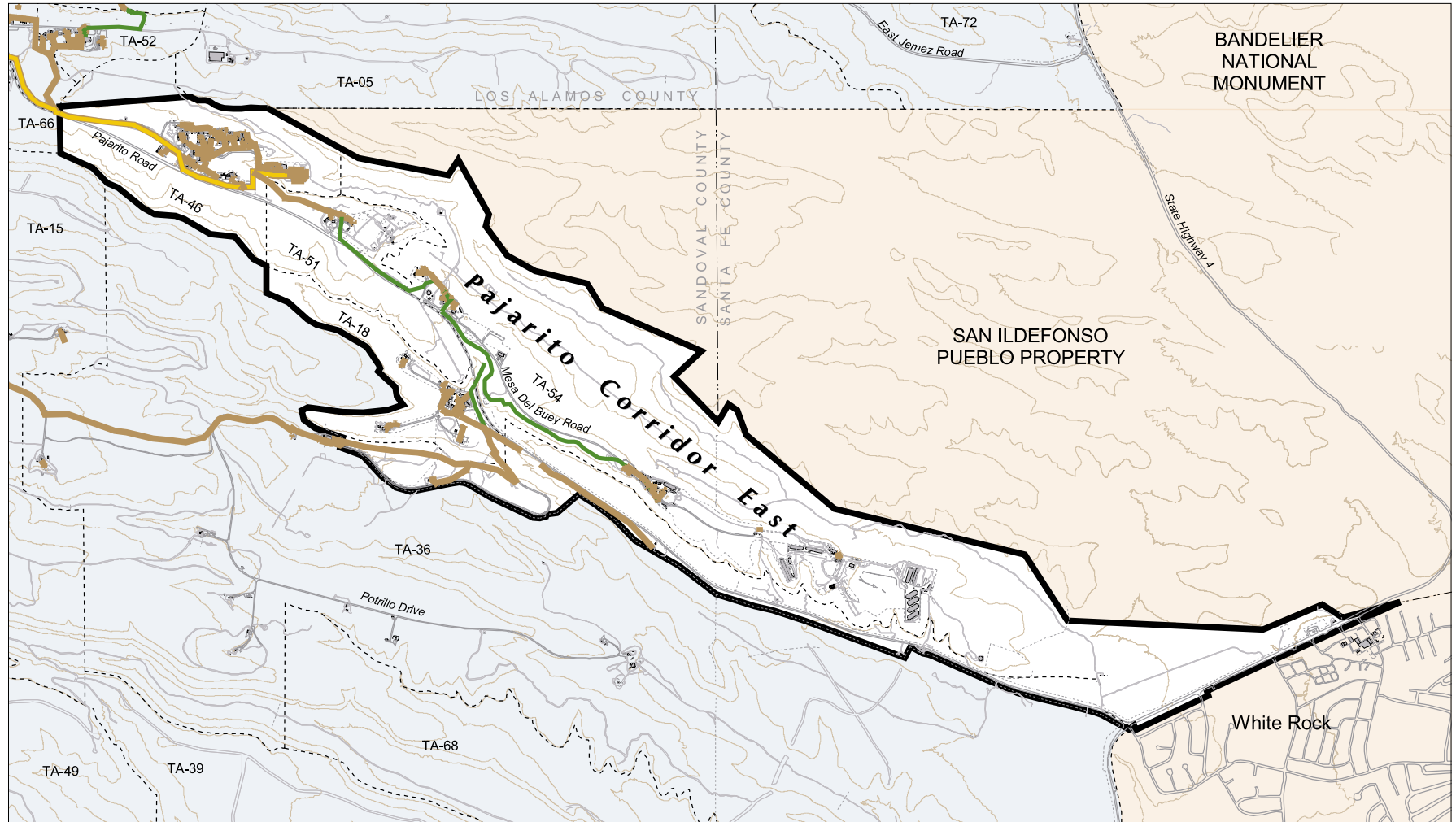
**Condition of System:** The sewer system is generally in good operating condition.

**System Materials:** Pipe materials used in the sewer system include cast iron, vitrified clay, steel, asbestos cement, reinforced concrete, copper, ductile iron, and plastic. Material concerns are

- Replacement of concrete pipe that has shown evidence of interior deterioration from exposure to sewer gases.
- Replacement of asbestos cement pipe, especially where it could be disturbed by maintenance operations.
- General condition of aged vitrified clay pipe.

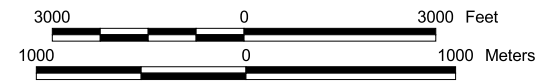
**System Capacities:** The sewer system has no capacity issues, with exception of limitations set by lift station pumps. There is currently a strategy in place to abandon lift stations where economically feasible and replace them with gravity flow. Those gravity systems will accommodate increased demands and require considerably less maintenance.

Map IV-D10: Pajarito Corridor East Existing Sanitary Sewer System



LEGEND

- Gravity Lines
- Effluent Lines
- Force Main Lines
- Drain Lines
- Service Lines
- Dept. of Energy Property
- LANL Buildings
- Non Dept. of Energy Property
- Planning Area

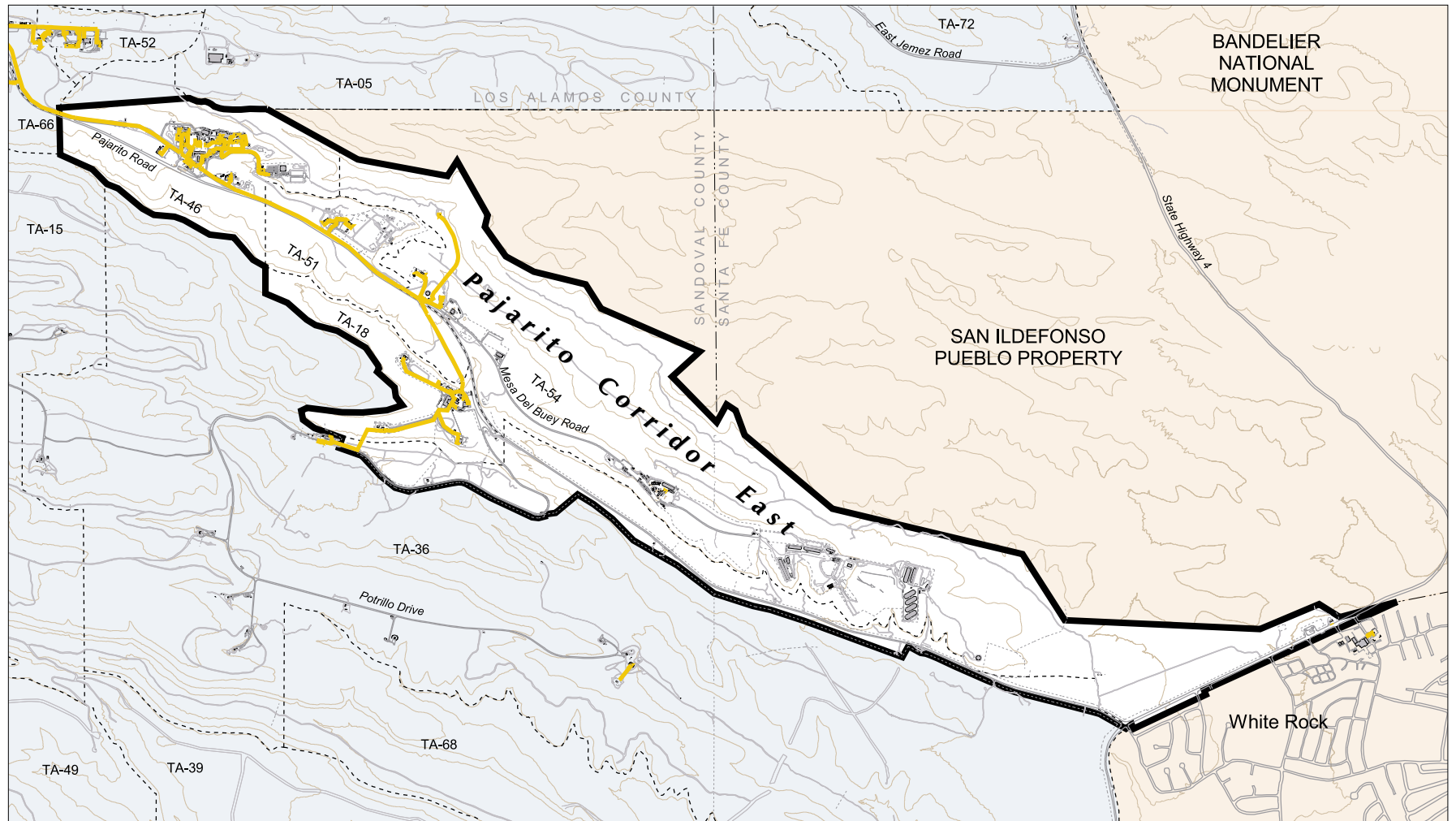


***c. Natural Gas System***

A 3-inch steel pipe in good condition serves this area. This pipe is too small, and the area experiences large pressure drops during winter months. Long range plans are to install a 6-inch PE pipe upstream from the Core Planning Area through the Pajarito Corridor West Planning Area to TA-55. This new section of pipe will satisfy the capacity problem.

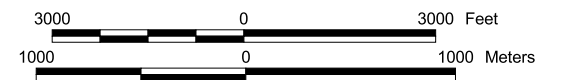


Map IV-D11: Pajarito Corridor East Existing Natural Gas System



LEGEND

- Natural Gas Distribution
- Natural Gas Transmission
- Planning Area
- Dept. of Energy Property
- LANL Buildings
- Non Dept. of Energy Property

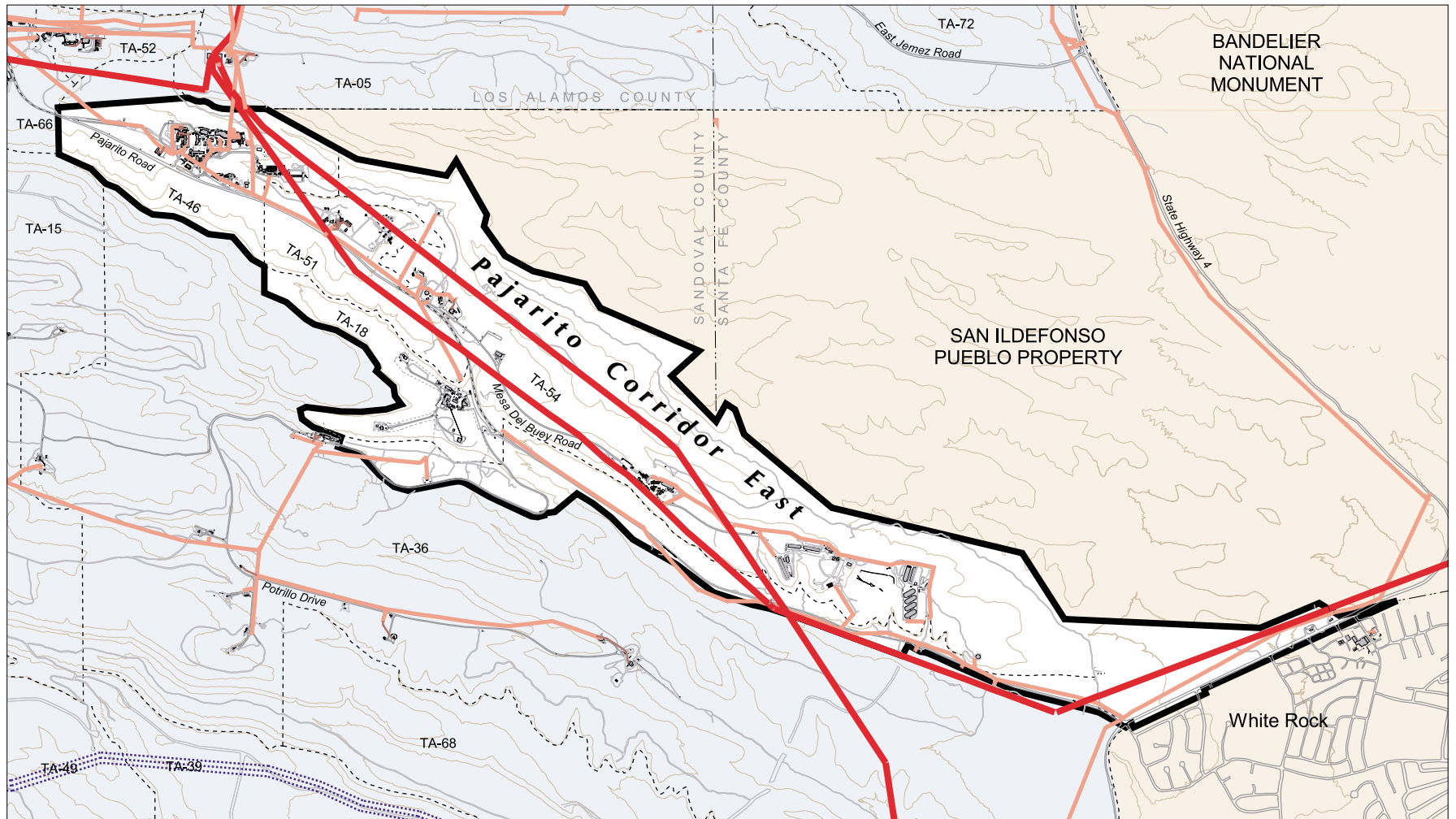


***d. Electric Transmission and Distribution System***

There are three remaining transformers that are PCB contaminated. These transformers should either be replaced or refilled with a suitable dielectric fluid to mitigate the PCB concerns.

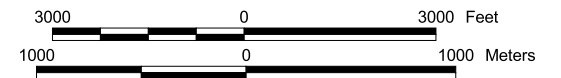
The 115kV Norton transmission line is limited to 120MVA in its present configuration. With the SVC exporting VARs to maintain system voltage, the Norton line is not adequate to carry electrical loads greater than 75MW if the TA-3 power plant and the PNM-Reeves line were out of service. The Norton line can be reconducted to a capacity of over 200MVA, so that it could carry existing and future loads alone, but with reliability solely dependent upon its integrity.

Map IV-D12: Pajarito Corridor East Existing Electrical System



LEGEND

- Proposed 155 kv Transmission Line
- Electrical Transmission
- Electrical Distribution
- Electrical Service
- Dept. of Energy Property
- LANL Buildings
- Non Dept. of Energy Property
- Planning Area

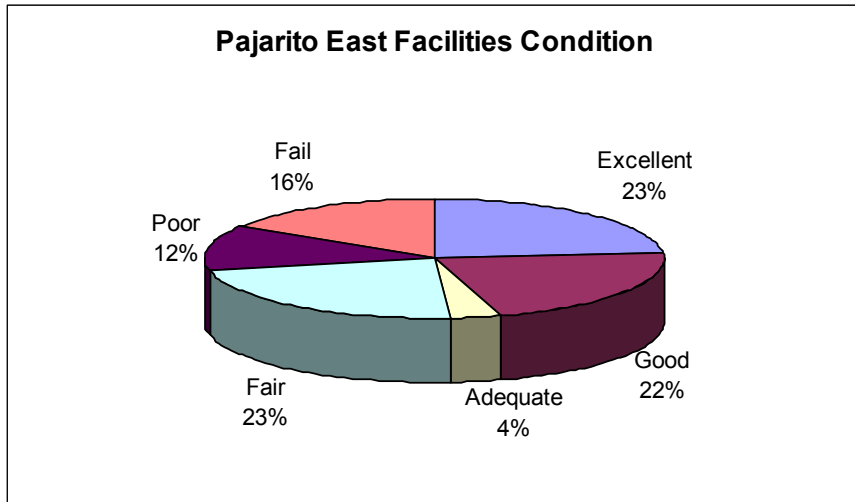


### 8. Facilities

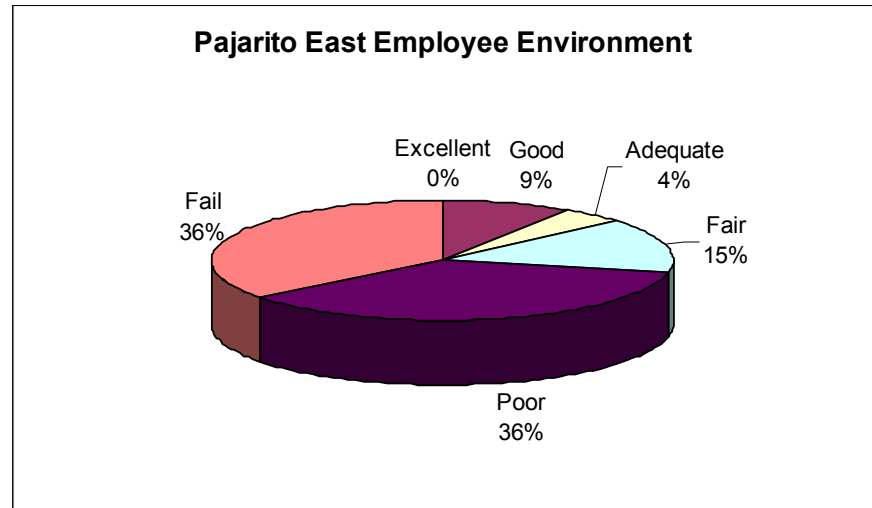
The facilities within the Pajarito Corridor East Area are old and in need of replacement. TA-18 is an example of an entire set of facilities in need of major improvements or replacements. An alternative proposal is to close down the entire technical area and relocate the appropriate functions elsewhere. TA-54 is almost entirely developed with temporary facilities, such as, fabric domes, trailers, transportables, and covered storage slabs, all with short life cycles. The only fixed structure within TA-54 is a high bay building near the entrance, which is a key facility used to support the shipment of waste to the Waste Isolation Pilot Plant (WIPP). TA-46 is an example of a Laboratory technical area with a mixture of buildings, a large percentage being in poor condition with a number of trailers and transportables meeting its housing needs.

The Pajarito Corridor East Planning Area accounts for 7% of the Laboratory’s on-site population. About 567,000 GSF of space, which accounts for 7% of the Laboratory’s total GSF, is contained in 201 structures. Overall, the facilities in this planning area are in acceptable condition, with only about 28% in poor or failing condition. However, approximately 72% of the employees are housed in these facilities. Service and laboratory uses are the majority.

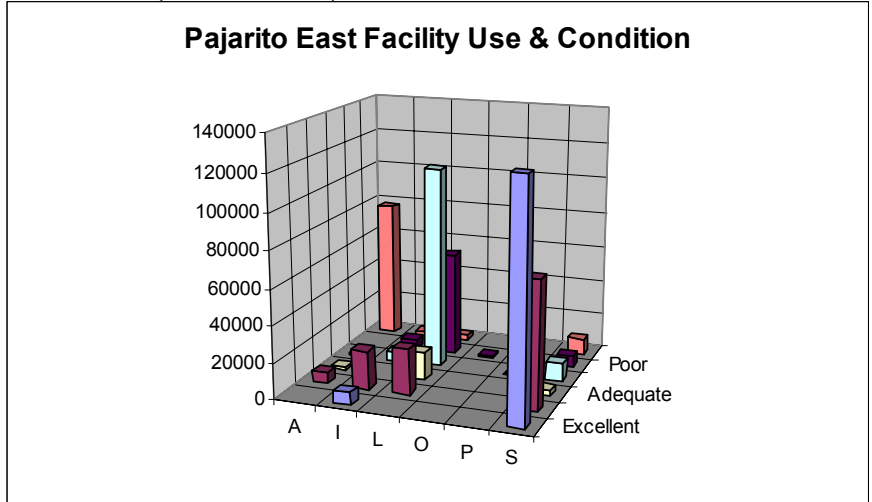
TableIV-D2: Pajarito East Facilities Condition



TableIV-D3: Pajarito East Employee Environment Condition



TableIV-D4: Pajarito East Facility Use & Condition



## **9. *Environment, Safety, and Health***

The facilities within the Pajarito Corridor East Area include nuclear, hazardous chemical, waste and industrial. These facilities include laboratory, office and storage land uses. Some of the activities require a high degree of protective measures for the safety of the workers and surrounding environment. This planning area has canyons to the north and south. Both are environmentally sensitive requiring careful review of all activities and development to ensure appropriate protection of these environments. All of these surrounding areas contain habitat supporting local wild life and plant life, which can be impacted by the activities within the facilities of the Pajarito Corridor East Area.

## **10. *Quality Environment***

The urban area of the Pajarito Corridor East Area is largely developed. As with other Laboratory areas the character is very industrial with a few small spaces reflecting a human scale environment. It is not possible for people to walk from one area to another because the distances are too great, with non-urban areas in between. Within the developed urban areas, such as the office core of TA-54 or TA-46, pedestrian movement is severely hampered due to the lack of pedestrian paths without vehicle conflict. Where some of this is related to the narrow mesas, the basic problem is a result of growth being addressed with trailers and transportables in lieu of permanent buildings and appropriate parking. This is a common pattern of development throughout the Laboratory. The Laboratory has issued a ban on new trailers or transportables to meet housing needs in the future. However, this does not eliminate the ongoing need to continue the use of the existing units throughout the Laboratory.

The most notable natural areas within the Pajarito Corridor East Planning Area are the canyons and the mesa edges. The lack of trees within the developed areas is indicative of poor development. Even though the work of the Laboratory is industrial, the technical areas within TA-18, -54 and -46 have not been developed in harmony with the surrounding environment. It is common throughout the Pajarito Corridor East Planning Area to have outdoor spaces reflecting their very industrial urban environment, which defines the quality of environment for the workforce as not very attractive.

<b><i>Pajarito Corridor East Planning Area Assessment/Needs Summary</i></b>			
<b><i>Current Functions/Capability</i></b>	<b><i>Current Mission Activity</i></b>	<b><i>Forecasted Functions/Capabilities</i></b>	<b><i>Plan Discussion</i></b>
<b>Waste Management Admin Facilities</b>			
Offices	-NWP -Material Disposition	Continue as current	It can be argued that this is a temporary site, however the length of temporary warrants replacing many or all temporary trailers and transportables with permanent facilities
<b>Criticality Experiment Facilities - TA-18</b>			
Criticality Experiments and Assemblies	-NWP Manufacturing -NWP Nuclear Materials	Continue as current for immediate future	These functions may move to the nuclear campus at LANL, Nevada, or other. Adjacency to public Pajarito Road poses safety and security issues
<b>Area G Low Level Rad Waste Storage/Disposal Facility</b>			
Rad and Hazardous Storage	NWP	Continue as current	
Rad/RCRA Temporary Storage and Handling	NWP	Reducing over time as shipments to WIPP continue	
<b>Area L Hazardous Chemical Storage Facility</b>			
Chemical and Hazardous Storage	NWP	Continue as current	
Temporary Storage and Handling	NWP	Continue as current	
<b>Waste Characterization and Packaging Facility (Randt)</b>			
Waste characterization	NWP	Continue as current	

<i>Needed Development</i>	<i>Proposed Projects</i>	<i>Land Use</i>	<i>Transp.</i>	<i>Security</i>	<i>Utilities</i>	<i>Facilities</i>	<i>Quality</i>	<i>ESH</i>
Temporary facilities	None							
Close TA-18, relocate activities to other locations, reuse of facilities	None							
	None							
	None							
	None							
	None							
	None							



<b><i>Pajarito Corridor East Planning Area Assessment/Needs Summary</i></b>			
<b><i>Current Functions/Capability</i></b>	<b><i>Current Mission Activity</i></b>	<b><i>Forecasted Functions/Capabilities</i></b>	<b><i>Plan Discussion</i></b>
<b>Engineering, Electronics, &amp; Chemical Test Laboratories - TA-46</b>			
Research Labs and Offices	-Various -work for others	Continue as current	This is an active area with miscellaneous facilities. Many are old or not used for current experiments.
Program Offices	ER/WM program	Continue as current	
<b>Infrastructure Facilities</b>			
Utility Supply & Site Access	All missions in the planning area	Continue as current	Road System: Redesign TA-54 entry road for safety.  Create secondary roads to TA-54 for safety, emergency and security needs.  Create secure internal roads for transport of SNM between TA-55 and TA-54.

<i>Needed Development</i>	<i>Proposed Projects</i>	<i>Land Use</i>	<i>Transp.</i>	<i>Security</i>	<i>Utilities</i>	<i>Facilities</i>	<i>Quality</i>	<i>ESH</i>
Not located with other program administration areas	None							
	None							
Access control station near intersection of NM4 and Pajarito Road	None							
Upgrade intersections at TA-54	Mesita Del Buey Extension/ Intersection Improvements	○	○	●	○	○	○	●
Build non-public road from TA-54 to TA-48	Connector Bypass from TA-54 to TA-55	○	○	●	○	○	○	●
Build secondary access eastward from TA-54 to Pajarito Road	Secondary (East) Connector Route to TA-54	○	○	●	○	○	○	●
Upgrade road along TA-18	None							
Upsize 3” pipe from Pajarito Corridor West	On-Going Utility Upgrades	○	○	○	●	●	○	●
Develop outdoor interactive spaces	None							

