G. Dynamic Testing Planning Area

1. General Description

The Dynamic Testing Planning Area is one of the largest planning areas and covers approximately 12.6 square miles. It is bordered on the north by Pajarito Corridor East. The White Rock Community and the Rio Grande Corridor Planning Area lie to the east, while NM State Hwy. 4 and Bandelier National Monument are on the south. Three mesas-Frijoles, Mesita del Buey, and Mesita del Potrillo-lie within the area and are separated by four predominant canyons: Ancho, Fence, Indio, and Potrillo.

The Dynamic Testing Planning Area consists of the following TAs:

TA-15: Detonator development for high-explosives and hydrodynamic testing.
TA-36: (except for the narrow strip of land along the northern border that is within Pajarito Corridor East) Explosives phenomena investigations.
TA-39: Non-nuclear weapons behavior and shock wave phenomena investigations.
TA-49:
TA-68: An undeveloped technical area, Parts of TA-67.

The planning area hosts non-nuclear testing.

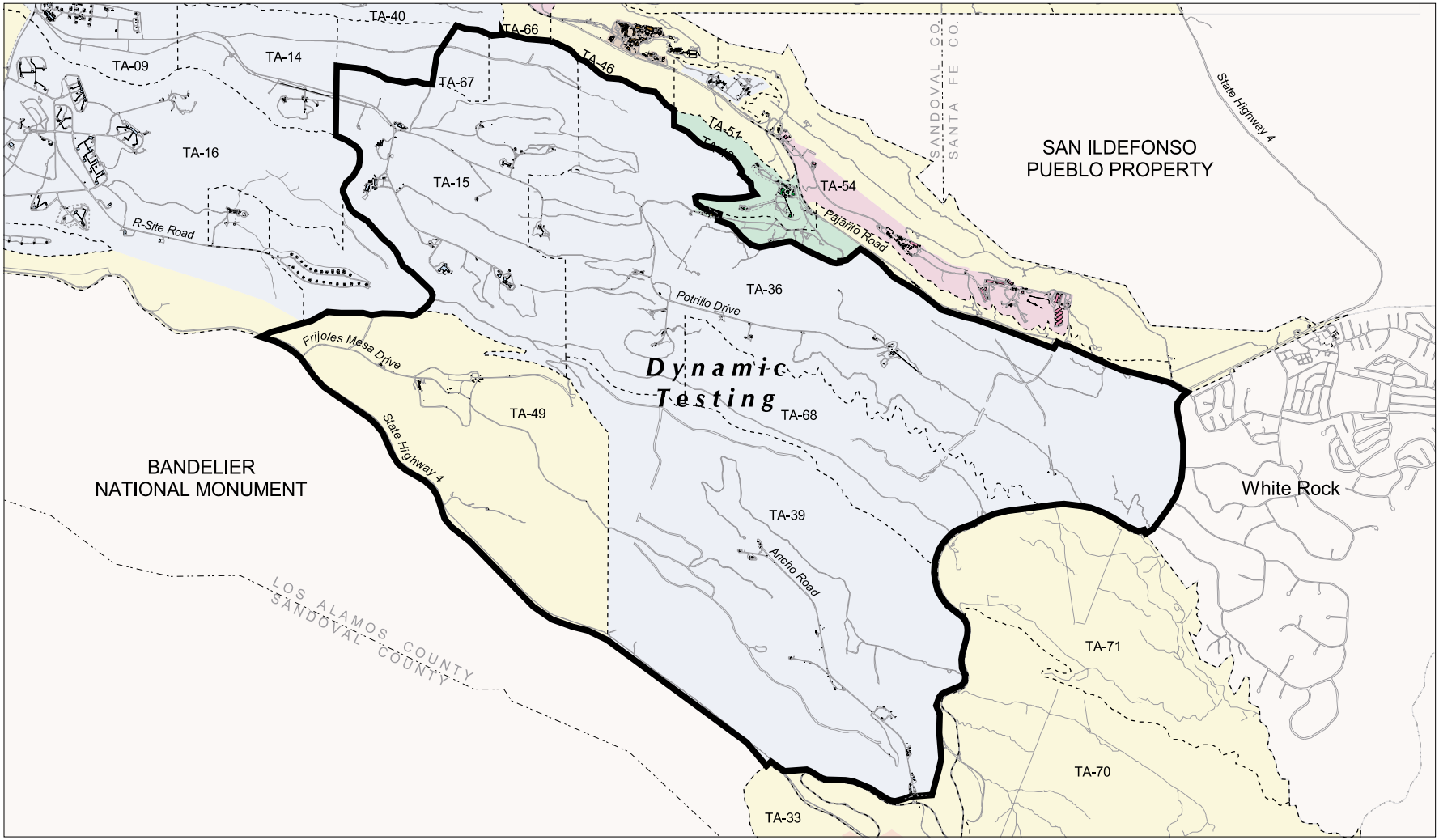
Map IV-G1: Key Map

2. Specific Planning Assumptions

Planning assumptions to guide physical planning at the Dynamic Testing Planning Area for the next ten years are:

- Non-nuclear testing has diminished over the last decade in this area; however, its role in the Dynamic Testing Planning Area continues to be crucial in the primary stockpile stewardship work of the Laboratory.
- Without nuclear testing, future emphasis will be placed more on predictive calculational capabilities and experiments tied directly to past nuclear data and to the physics underpinning weapons.
- The core of the new Advanced Hydrodynamic Testing initiative will occur within this planning area. The DARHT and PHERMEX facilities are located here.

Map IV-G2: Dynamic Testing Area 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

5000 0 5000 Feet
1000 0 1000 Meters

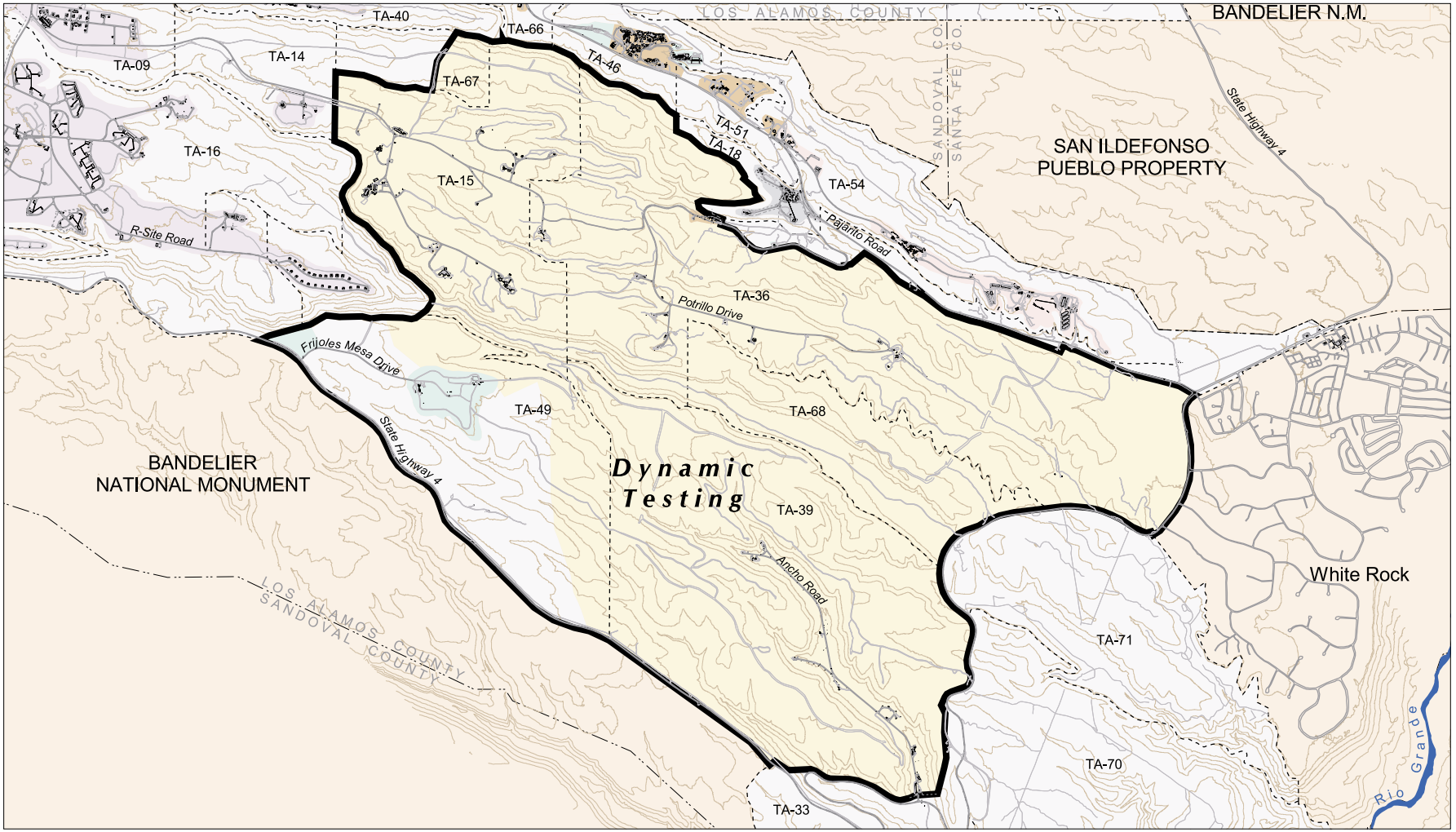
3. Land Use

Existing and future land uses within the Dynamic Testing Planning Area are shown on the facing page.

a. Existing Land Use.

The predominant land use in this planning area is High Explosives Testing. TA-49 is an area of Physical/Technical Support surrounded by Reserve land use. There is a small parcel of Experimental Science land use along the northern border of this planning area.

Map IV-G4: Dynamic Testing Area Existing Land Use



LEGEND

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

5000 0 5000 Feet
1000 0 1000 2000 Meters

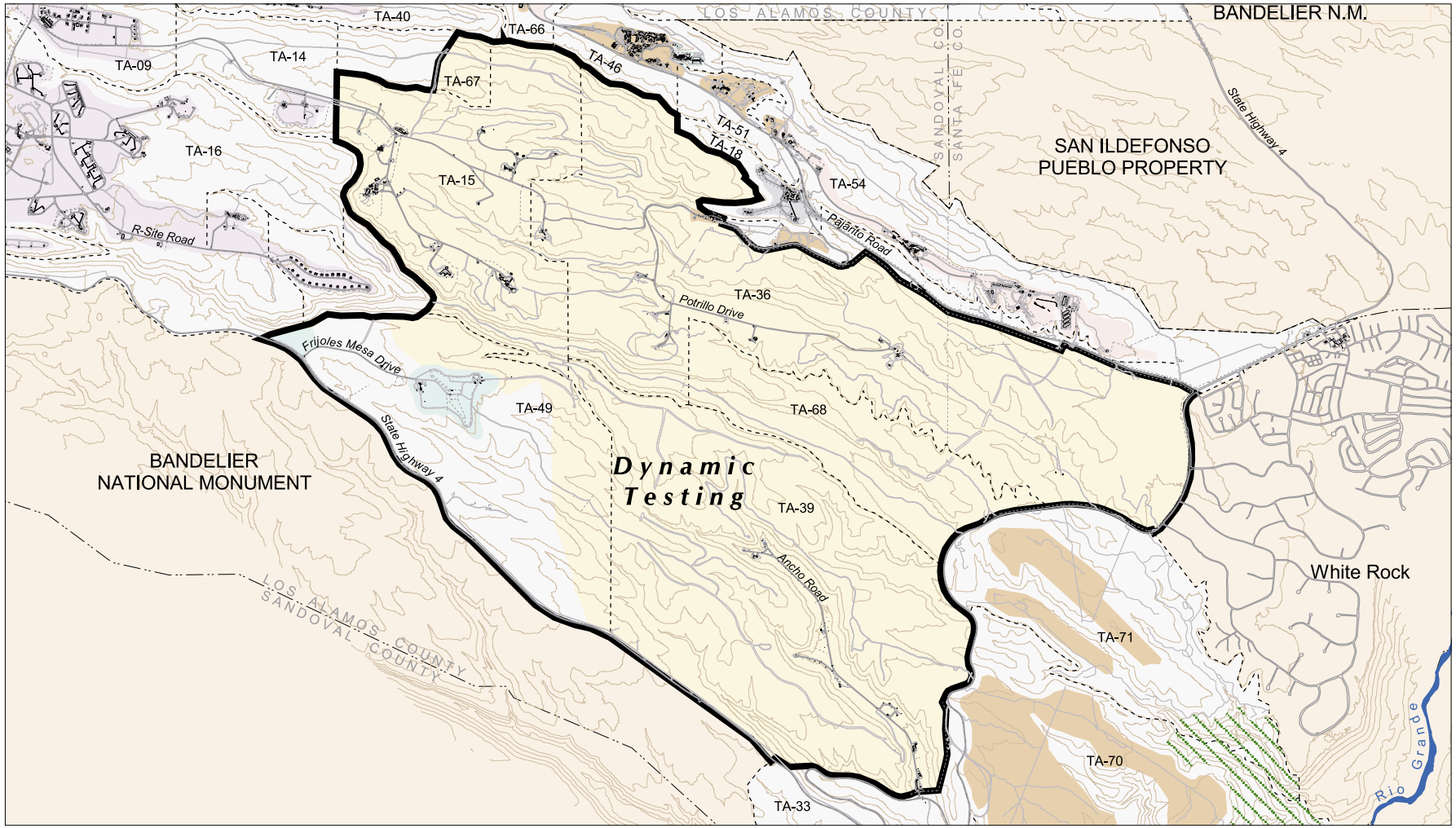
b. Future Land Use.

This planning area is limited to High Explosives Testing with the exception of TA-49.

Table IV.C1: Dynamic Testing Planning Area Existing and Future Land Acreage

Existing Land Use		Future Land Use	
Land Use Category	Acreage	Land Use Category	Acreage
Experimental Science	7	Experimental Science	7
Physical/Technical Support	121	Physical/Technical Support	121
High Explosive Testing	7,209	High Explosive Testing	7,209
Reserve (Capable of development:150 acres)	742	Reserve (Capable of development:150 acres)	742
Total	**8,079**	**Total**	**8,079**

Map IV-G5: Dynamic Testing Future Land Use



LEGEND

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

5000 0 5000 Feet
1000 0 1000 2000 Meters

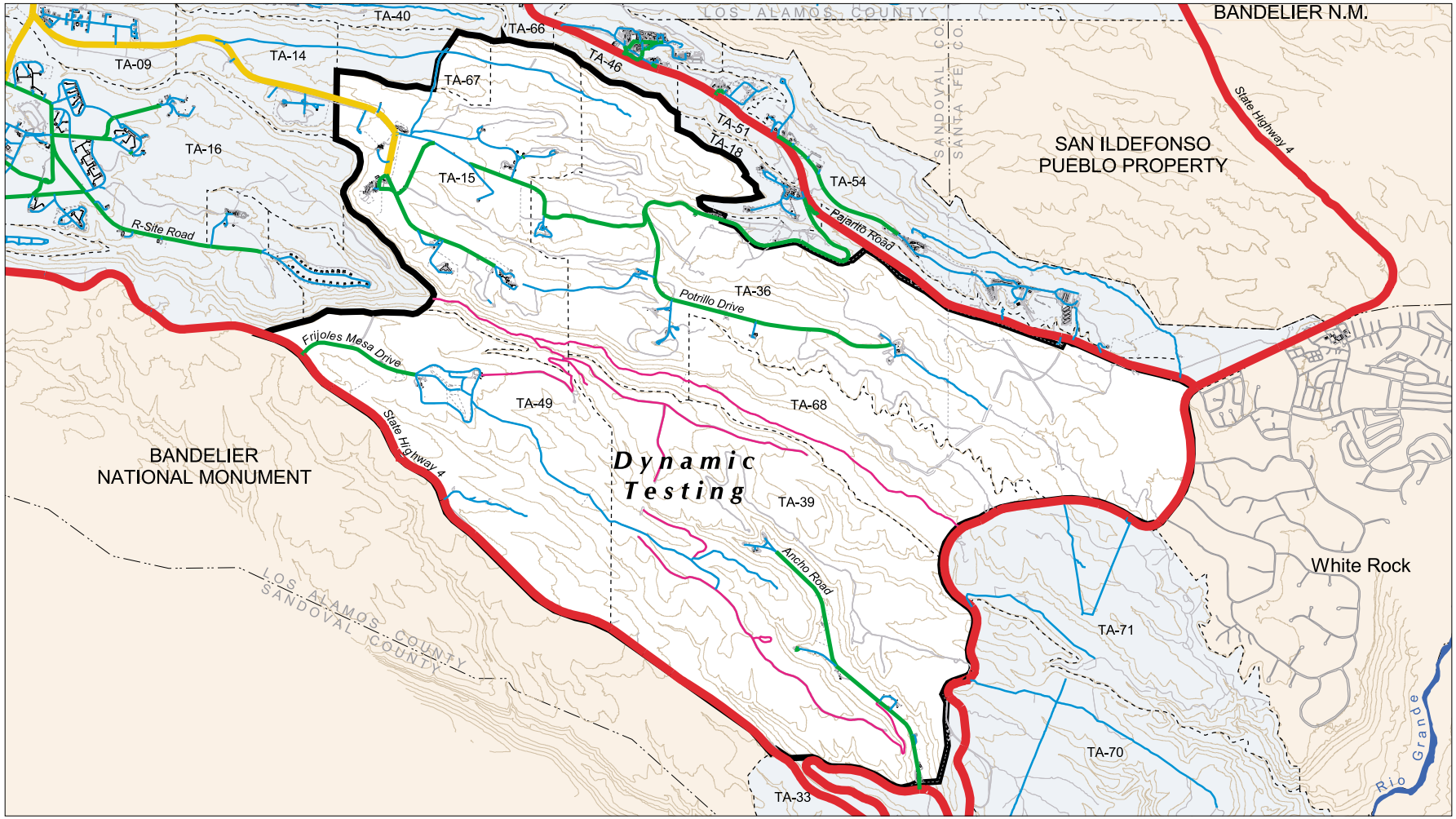
4. Transportation/Circulation/Parking.

Three office structures have been planned to accommodate DX work related to the AHF. The first building, 7381 gross square feet, was completed in the spring of 1999, and the second, a 14,400 square foot building, is under construction with occupancy scheduled for spring of 2000. The third structure is also 14,400 square feet, but there is no anticipated date for construction of this facility. These structures are all located within TA-15 and north of Buildings 15-183 and -446.

a. Existing Transportation/Circulation/Parking.

The transportation network in this planning area, like that of the Experimental Engineering Planning Area, was developed incrementally to provide access to widely dispersed explosives testing sites. Most of its roads proceed east-west and are in generally poor condition. All roads leading into TAs-15, -36, -39, -49, and -68 are inaccessible to public traffic.

Map IV-G6: Dynamic Testing Area Existing Transportation



LEGEND

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

5000 0 5000 Feet
1000 0 1000 2000 Meters

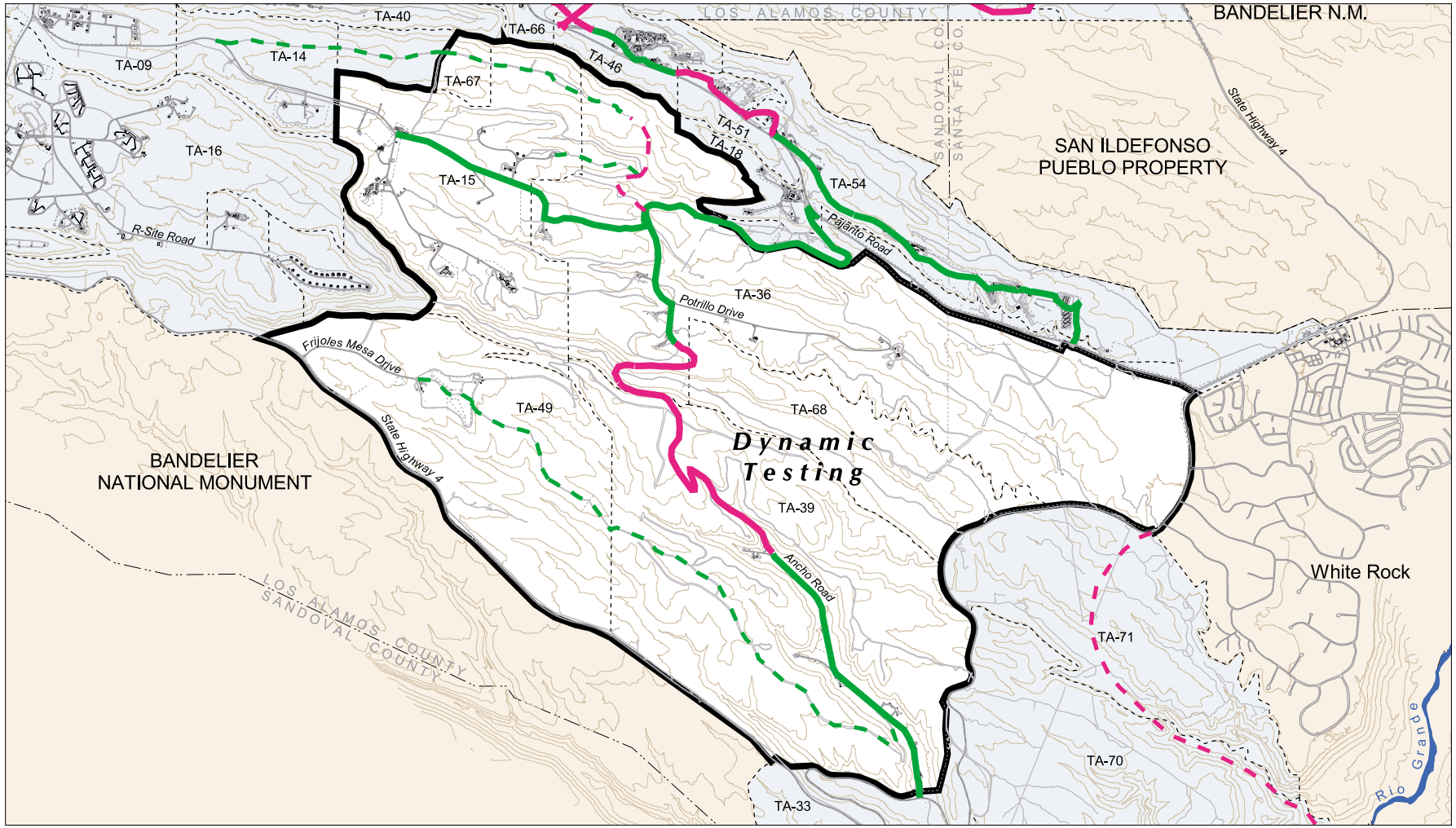
b. Future Transportation/Circulation/Parking.

To prevent accident-related road obstructions, promote safety and accident response, and provide north-south connections within the planning area, this area's transportation network must be improved and expanded. This will be accomplished through a combination of new road construction and the improvement of existing roads. Upon completion of these, this planning area will have improved site wide access, as well as multiple entrance/exit points that will improve site safety. Additionally, Access/Service roads need improved maintenance for better emergency access and improved fire protection.

The road extension proposed in the Experimental Engineering Planning Area from TAs-14 and -67 into TA-36 would provide access to Pajarito Road. A new north-south road linking TA-36 with TAs-68 and -39, and a new east-west road from TA-49 to TA-39 would provide cross-canyon access.

These new roads will travel through areas constrained by streambeds, floodplains, and threatened and endangered species habitat cores and buffer zones. Therefore, environmentally sensitive construction techniques will be required.

Map IV-G7: Dynamic Testing Area Future Transportation



LEGEND

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

5000 0 5000 Feet
1000 0 1000 2000 Meters

5. Security

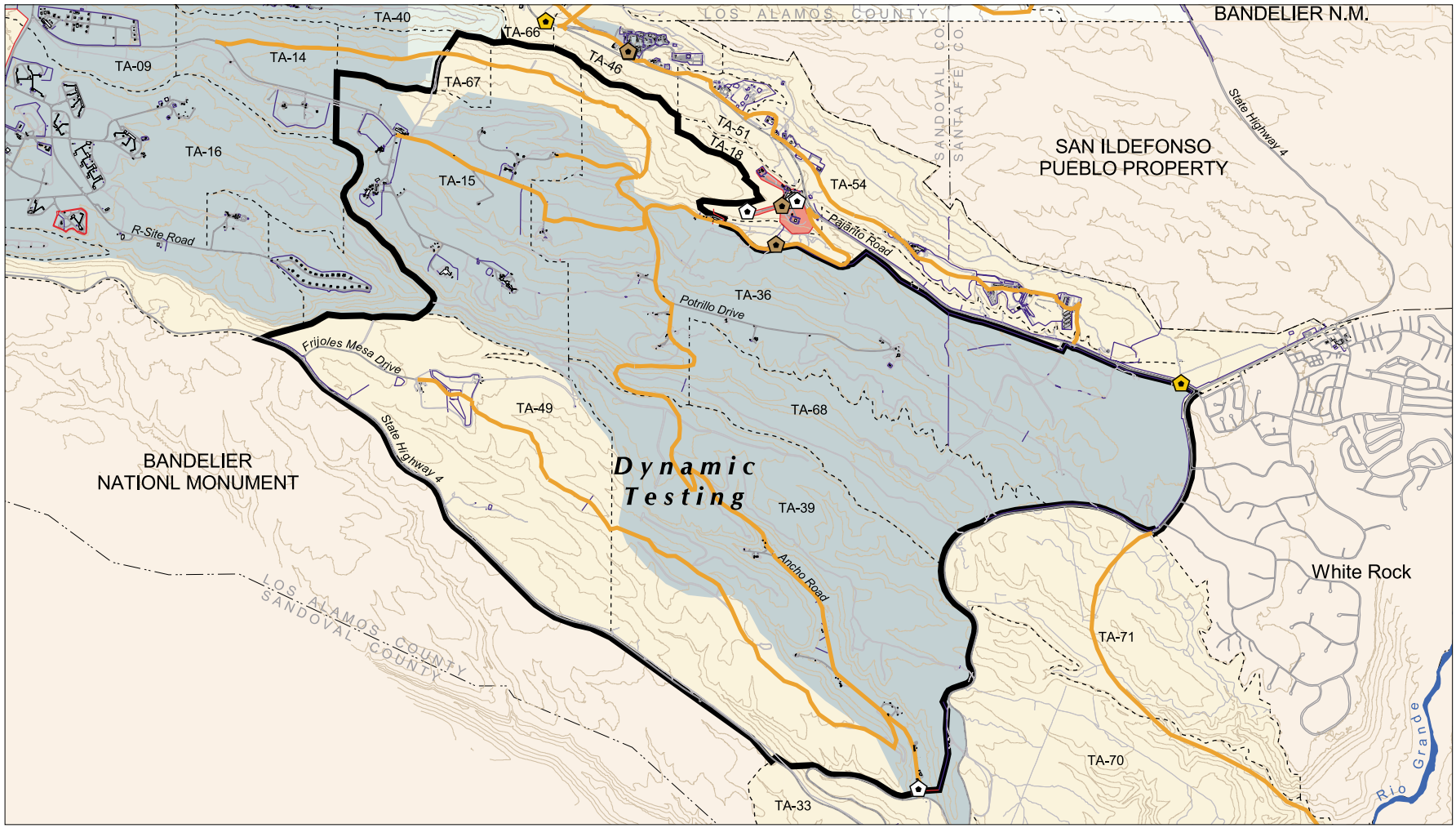
Physical security in the Dynamic Testing Planning Area is planned to remain essentially unchanged compared to current operations. The majority of the Dynamic Testing Development Area currently requires limited-security. The security areas are bounded by steep, deep canyons that act as natural barriers to intrusion. Part of the facilities in the proposed central complex at TA-67 will be in the controlled access area outside the fenced security area. This arrangement will allow cleared personnel to interact effectively with uncleared personnel from universities, other agencies, and industry, and to participate in joint projects with them.

Controlled and limited security is planned for the central complex at TA-67. Access will be provided from TA-09 and TA-36 on a new road to the north of the secure perimeter.

Recommendations

- Install security fencing as functions expand in the eastern part of the area to provide a limited level of security.
- Develop the central complex at TA-67 as two security areas: controlled and limited.
- Construct facilities to provide secure storage for classified parts. These facilities should accommodate both high explosives parts and non-HE parts. These facilities should be constructed and alarmed to meet all DOE security requirements.

Map IV-G8: Dynamic Testing Area Existing and Future Security Areas



LEGEND

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

5000 0 5000 Feet

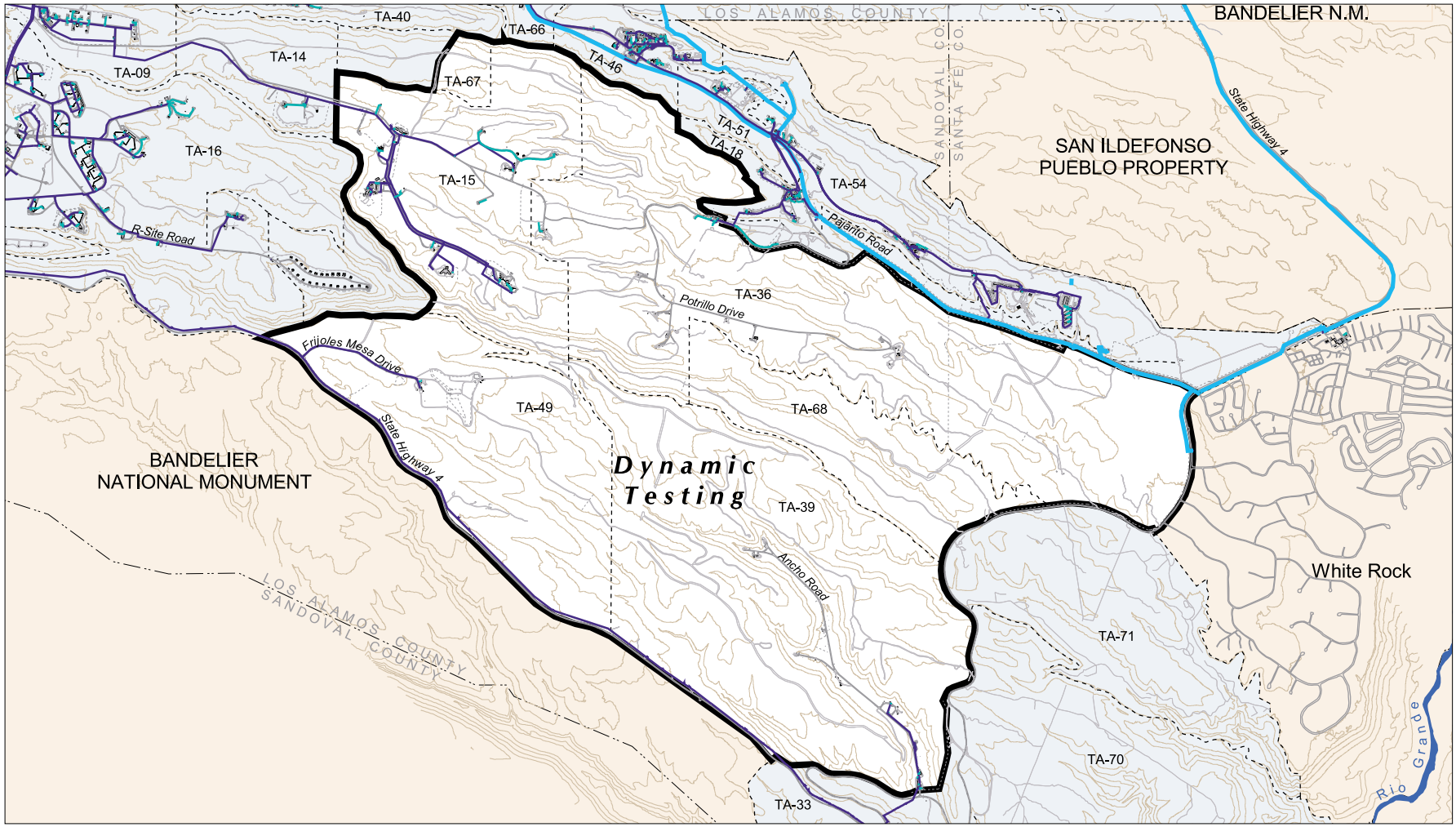
1000 0 1000 2000 Meters

6. Utilities

a. Water System

Water and sanitary sewer systems are in good condition. Concerns regarding materials include replacement of asbestos cement pipe in the water system, particularly in areas where pipe may be disturbed for repair or replacement. At this time, water and sewer capacities satisfy current demand. The steam system is not present in the Dynamic Testing Planning Area.

Map IV-G9: Dynamic Testing Area 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

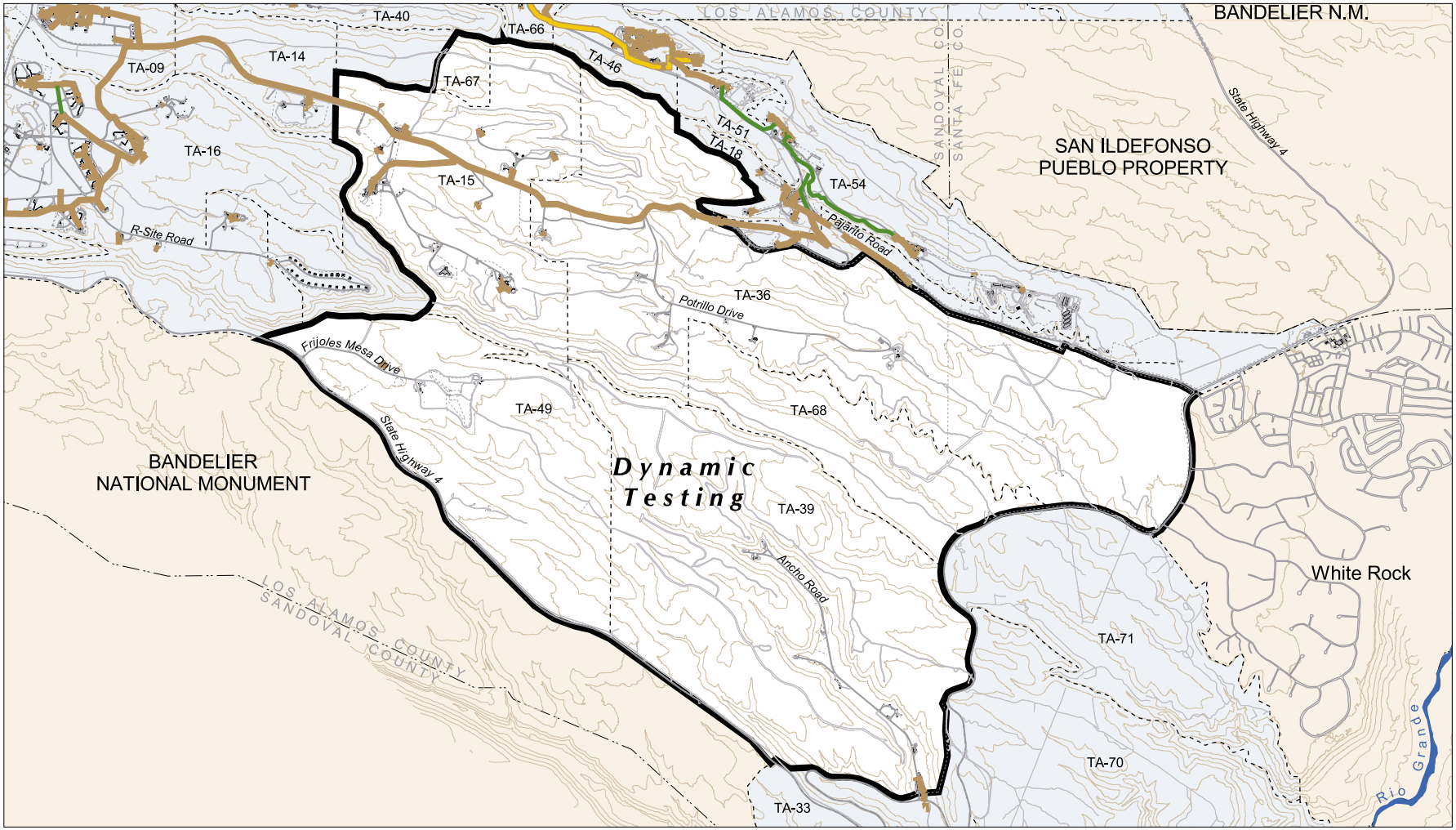
5000 0 5000 Feet

1000 0 1000 2000 Meters

b. Sanitary Sewer System

Concerns regarding materials include the repair of the crushed pipe at TA-36.

Map IV-G10: Dynamic Testing Area 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

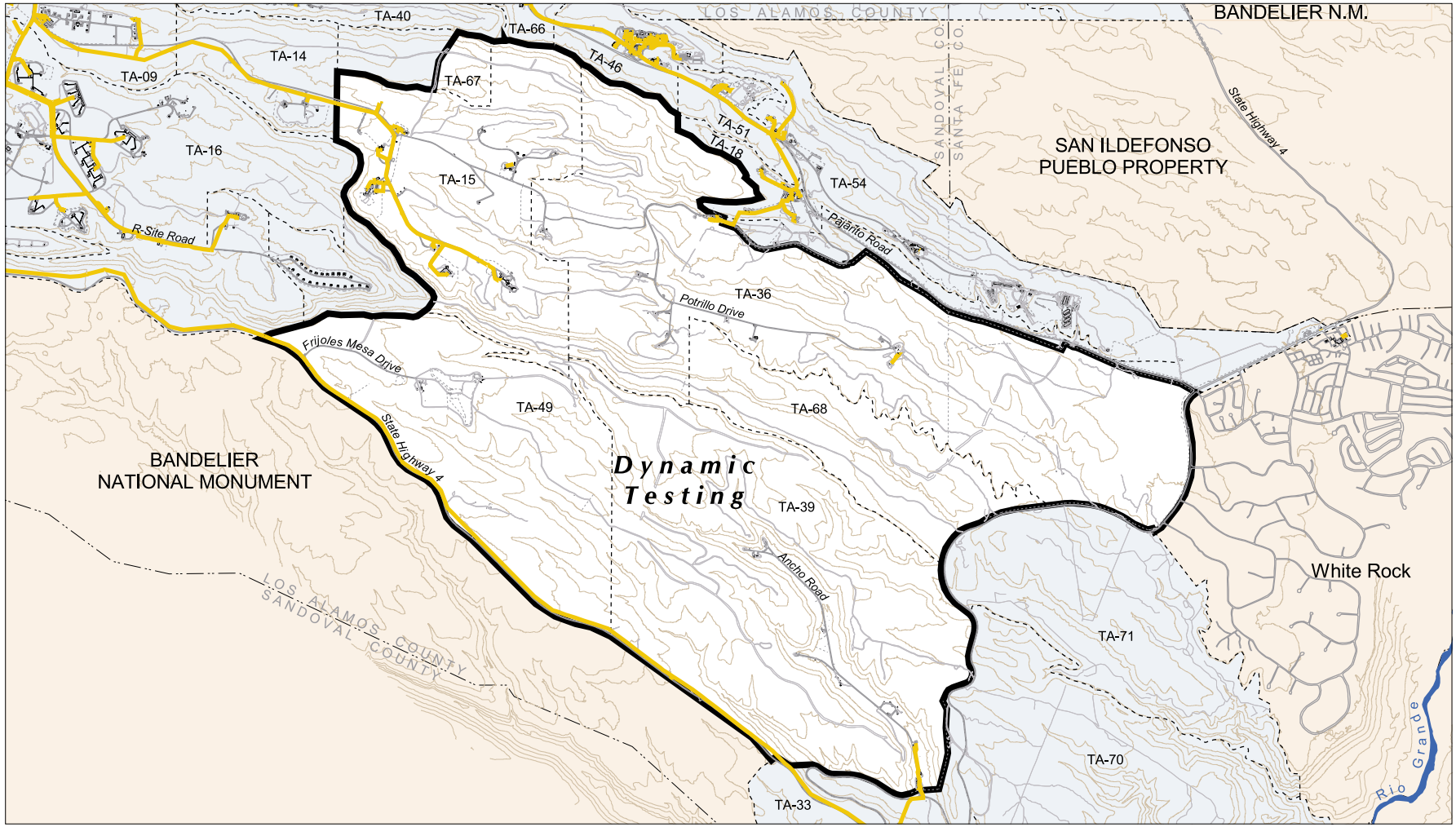
5000 0 5000 Feet

1000 0 1000 2000 Meters

c. Natural Gas System

A 2-inch steel pipe in good condition serves the gas system of this area. However, there is a capacity shortfall, because the pipe is too small. There is an active project underway to replace the pipe with a 4-inch PE pipe, for a 5 1/2 mile length.

Map IV-G11: Dynamic Testing Area Existing Natural Gas System



LEGEND

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

5000 0 5000 Feet

1000 0 1000 2000 Meters

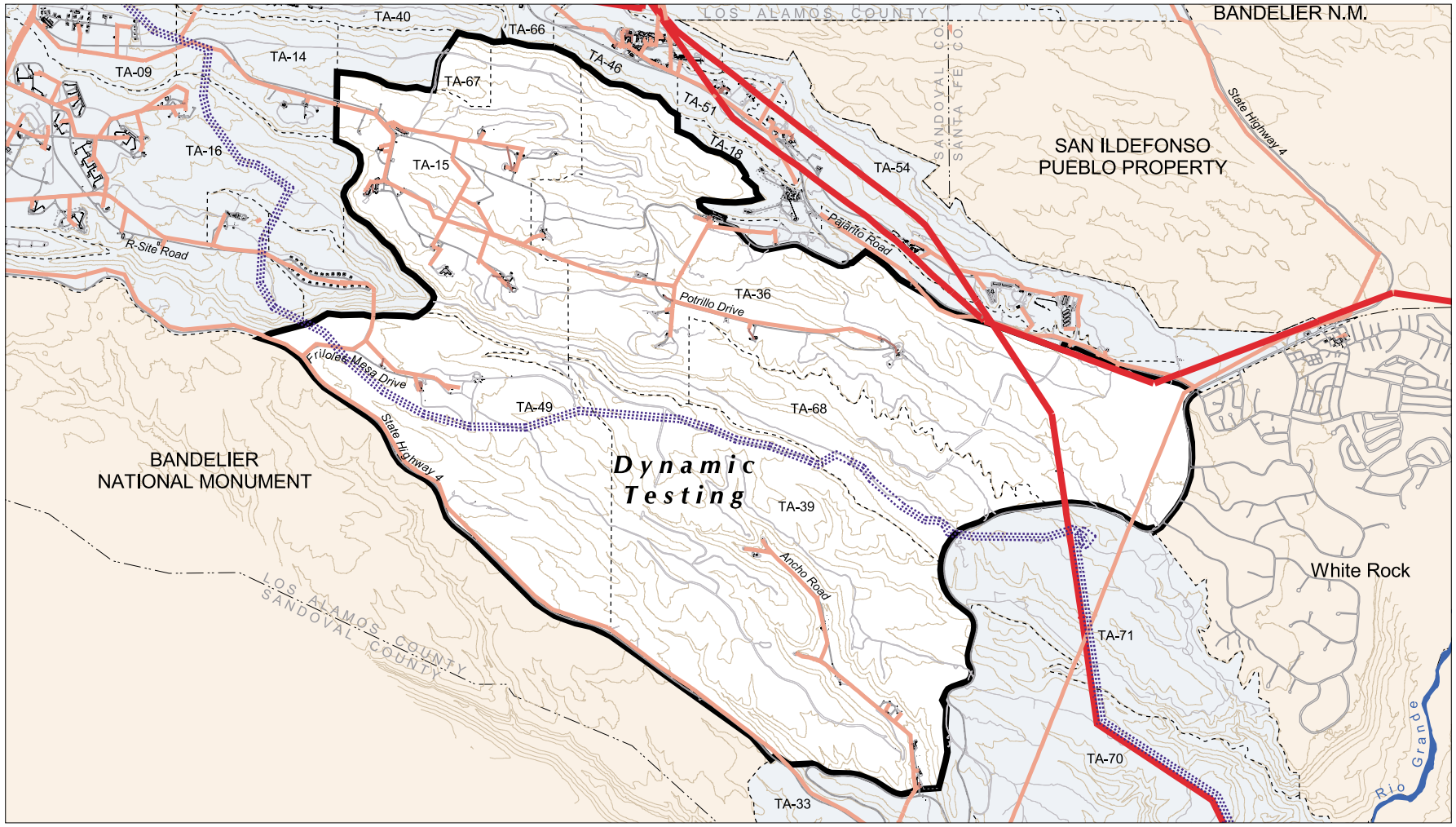
d. Electric Transmission and Distribution System

Presently, two 115 kV transmission lines carry all the bulk electric power for the Laboratory, the Los Alamos town site and for White Rock. Both lines terminate on a common bus. A third 115kV transmission line is planned to interconnect with the Laboratory power system at a new and physically separate location from the original two lines. This will provide for redundancy and provide increased reliability and security.

There are two 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 two 115kV lines cross one above the other at one point. This single vulnerability is a major issue due to the inadequacy of the on-site generation capabilities. A third 115kV transmission line run to a separate switchyard would mitigate this vulnerability.

Map IV-G12: Dynamic Testing Area 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

5000 0 5000 Feet

1000 0 1000 2000 Meters

7. Facilities

The Dynamic Testing Planning Area includes less than 1% of the Laboratory's on-site population. About 217,000 GSF of space, which accounts for 3% of the Laboratory's total GSF, is contained in 134 structures. Roughly 35% of the facilities in this planning area are in poor or failing condition and should be replaced or upgraded. The majority of space in this area is used for laboratory purposes.

Table IV-G3: Dynamic Testing Employee Environment Condition

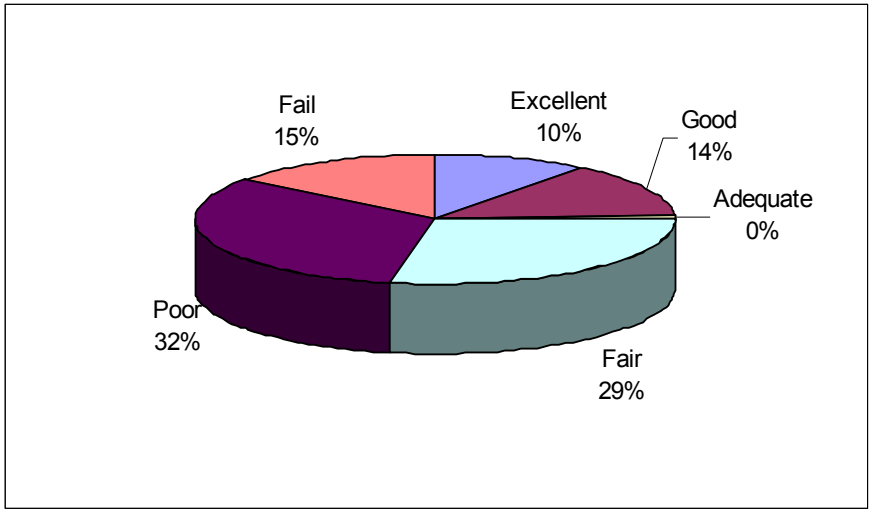


Table IV-G2: Dynamic Testing Facilities Condition

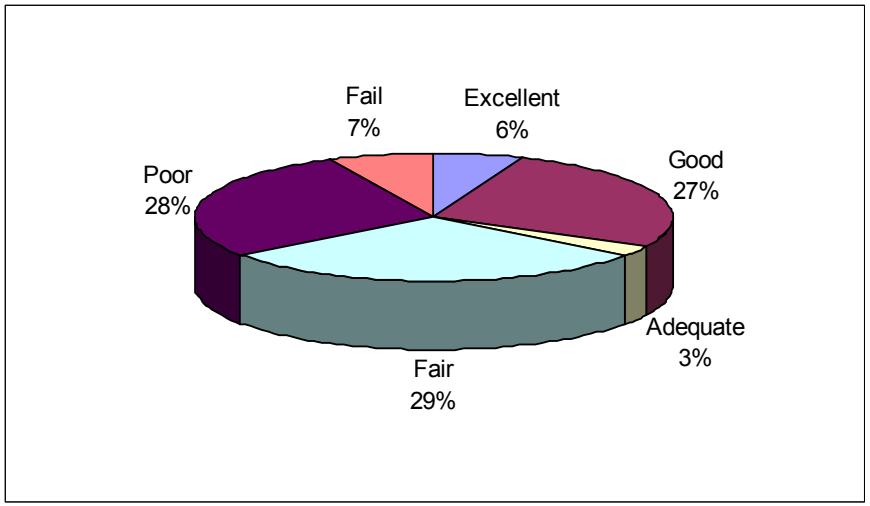
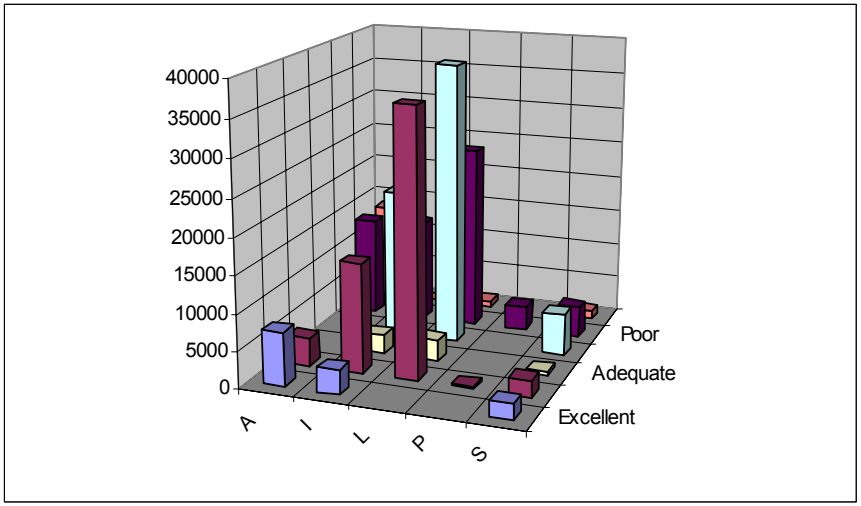


Table IV-G4: Dynamic Testing Facility Use & Condition



8. Environment, Safety, and Health

9. Quality Environment

Development in the Dynamic Testing Planning Area is confined to relatively isolated sites where experimental testing is conducted. The sites are linked by access roads that pass through mesa lands except utilitarian roadways and trails that are related to fire protection measures. The area is completely restricted from public access.

Dynamic Testing Planning Area Assessment/Needs Summary			
Current Functions/Capability	***Current Mission Activity***	***Forecasted Functions/Capabilities***	***Plan Discussion***
DARHT Facility			
Dual Axis Radiography	-NWP Manufacturing -NW R&T	Continue as current	As this facility comes on line, additional development to support activities is expected in the area.
Sled Firing Site			
Explosive Tests	-NWP Manufacturing -NW R&T	Continue as current	
Ancho Canyon Firing Site Facilities			
Explosive Tests	-NWP Manufacturing -NW R&T	Continue as current	
TA-36 Firing Sites			
Explosive Tests	-NWP Manufacturing -NW R&T	Continue as current	
TA-15 Firing Sites			
Explosive Tests	-NWP Manufacturing -NW R&T	Continue as current	
Emergency Management Facilities - TA-49			
Field Training	Support	Continue as current	
Backup Ops Center	Support	Continue as current	
Pulse Power Laboratory Facilities			
Pulse Power	-NWP Manufacturing -NW R&T	Continue as current	
Health Physics Calibration Facilities			
Personnel monitoring	Support of all missions	Continue as current	Relocating from Core Area

Needed Development	*Proposed Projects*	Land Use	Transp.	Security	Utilities	Facilities	Quality	ESH
New assembly facility for AHF & DARHT support	-DAHRT - PHASE I -DAHRT - PHASE 2 (including THOR)	●	●	●	○	●	●	○
Firing Sites Revitalization Program	Project Needed	●	○	○	○	●	●	○
Firing Sites Revitalization Program	Project Needed	●	○	○	○	●	●	○
Firing Sites Revitalization Program	Project Needed	●	○	○	○	●	●	○
Firing Sites Revitalization Program	Project Needed	●	○	○	○	●	●	○
	None							
	None							
	None							
	Central Health Physics Calibration Laboratory	○	○	○	○	●	●	●

Dynamic Testing Planning Area Assessment/Needs Summary			
Current Functions/Capability	***Current Mission Activity***	***Forecasted Functions/Capabilities***	***Plan Discussion***
Hydrodynamic Test Labs and Offices			
Research Labs and Offices	-NWP Manufacturing -NW R&T	Continue as current	
PHERMEX			
Pulse Power	-NWP Manufacturing -NW R&T	Continue as current	Development of core of PHERMEX
Infrastructure Facilities			
Utility Supply & Site Access	All missions in the planning area	Continue as current	Road system improvements for future: • Extend road from TA-14 to TA-36 • New road from TA-36 to • TA-68/-39 • New road from TA-49 to TA-39 • Road Across Water Canyon Utility improvements • Replace transite pipe • Replace or refill 2 PCB transformers • Upsize 2” pipe to 4” pipe • Add third 115kV transmission line • Separate switch yard for third 115kV line
Solid Waste Landfill	Support of all LANL activities	New capability at TA-49 to replace current county landfill	

Needed Development	*Proposed Projects*	Land Use	Transp.	Security	Utilities	Facilities	Quality	ESH
	None							
	None							
Road Improvement / Circulation Projects	Need project	🟡	🔴	○	○	○	🟡	🔴
On-going utilty maintenance	On-going utilty maintenance	🟡	○	🔴	🔴	🔴	🔴	○
Natural Gas Line (Gas Line Replacement to TA-15)	Natural Gas Line (Gas Line Replacement to TA-15)	○	○	○	🔴	🔴	🟡	🟡
Third 115kV transmission line	Third 115kV transmission line	○	○	○	🔴	🟡	○	🟡
Separate switch yard for third 115kV line	Separate switch yard for third 115kV line	○	○	○	🔴	🟡	○	🟡