3.3.2.3 Construction Requirements

Table 3–5 shows the construction requirement parameters used for the environmental impact analysis.

Table 3–5 Construction Requirements under the TA-18 Upgrade Alternative

Requirement	*Quantity*
Electrical energy (megawatt hours)	378
Peak electrical demand (megawatts)	0.2
Concrete (cubic meters)	688
Steel (metric tons)	49
Fuel/gasoline (liters)	(a)
Water (liters)	5,800,000
Land (hectares)	0.2
Construction workers	
Total (during construction)	220
Peak	110
Construction time (months)	24

[a] Not provided. Considered to be part of construction costs; contractors to provide fuel/gasoline needed for their machinery.
Source: LANL 2001a.

3.3.3 LANL New Facility Alternative

This alternative would involve the relocation of TA-18 operational capabilities and materials associated with security Category I/II activities to new buildings northwest of the existing Plutonium Facility 4 in LANL's TA-55 and extension of the existing TA-55 PIDAS (LANL 2001a). The location of TA-55 within LANL is shown in Figure 4–1. The location of the proposed new buildings is shown in **Figure 3–4**. The site plan for the proposed buildings is shown in **Figure 3–5**. Under this alternative, a portion of the security Category III/IV activities (the SHEBA activities) would either be relocated to a new structure at TA-39 or remain at TA-18. The rest of the security Category III/IV activities would be relocated to a new structure at TA-55 or would remain at TA-18. The relocation of SHEBA and other security Category III/IV activities to new structures is discussed in Section 5.6.

3.3.3.1 Facilities

The new security Category I/II operations buildings would consist of above-grade structures that would house support operations and below-grade structures that would house criticality assembly areas and SNM vaults. The criticality assembly level would consist of criticality bays and SNM vaults that would be below-grade, with a minimum of 6 meters (20 feet) of cover consisting of rubble and earth. This level would consist of approximately 3,252 square meters (35,000 square feet) of floor space. Construction of the below-grade portions of the facility would consist of reinforced concrete. **Figure 3–6** shows the location of the critical assembly machines and SNM vaults at the critical assembly level. The control-room level would consist of the control rooms for the criticality bays and other support areas. The control-room level would be at grade and constructed of reinforced concrete. This level would consist of approximately 1,161 square meters (12,500 square feet) of floor space.

The new low-scatter bay would be a pre-engineered-type building with a 5-meter-deep (15-foot-deep) basement. The building would consist of approximately 604 square meters (6,500 square feet) of floor space. A PIDAS security fence would be constructed to surround the facility. Access to the facility would be through a Protected Area Access Control Building.

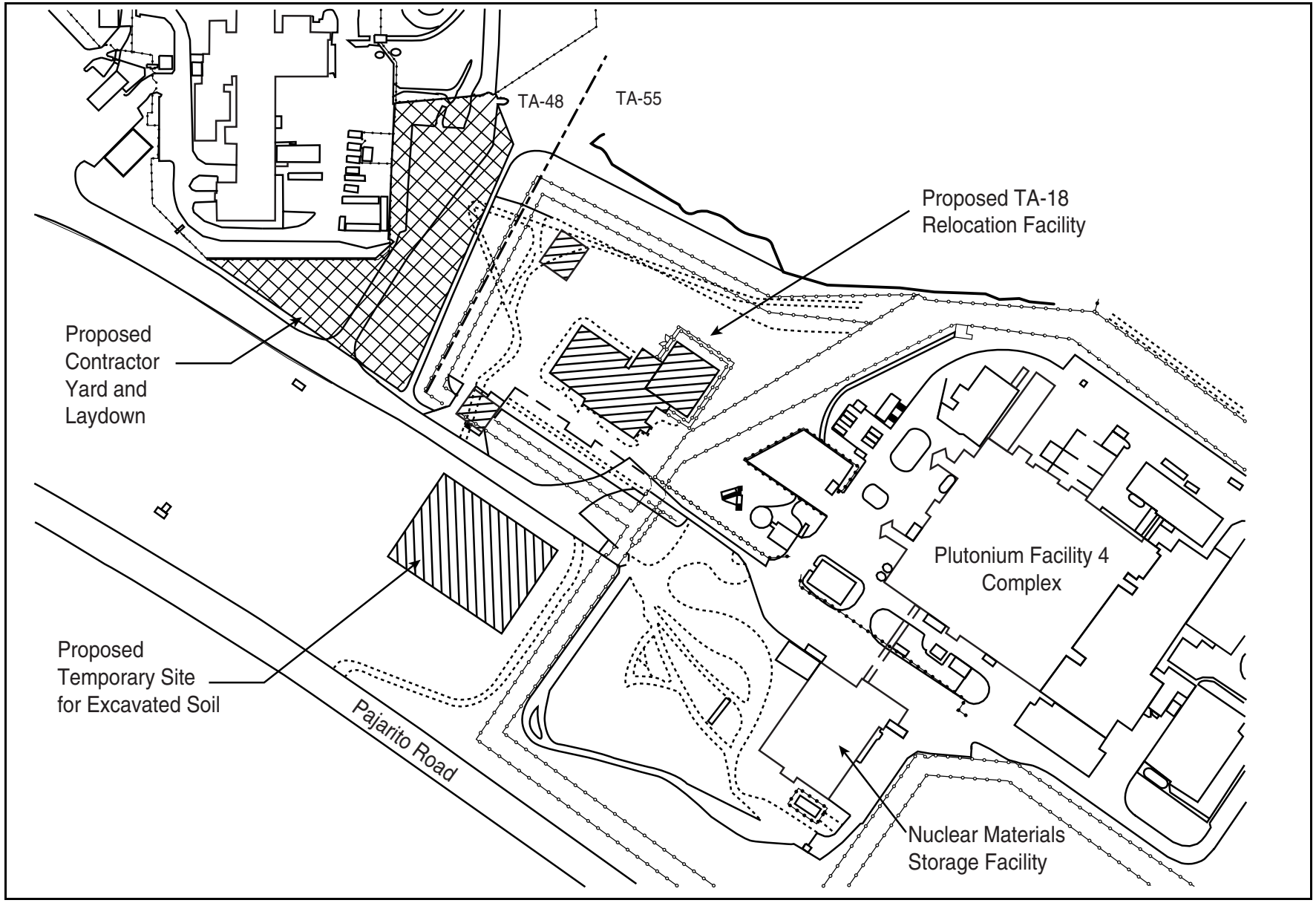

Figure 3–4 Location of the Proposed New Facility (LANL New Facility Alternative)

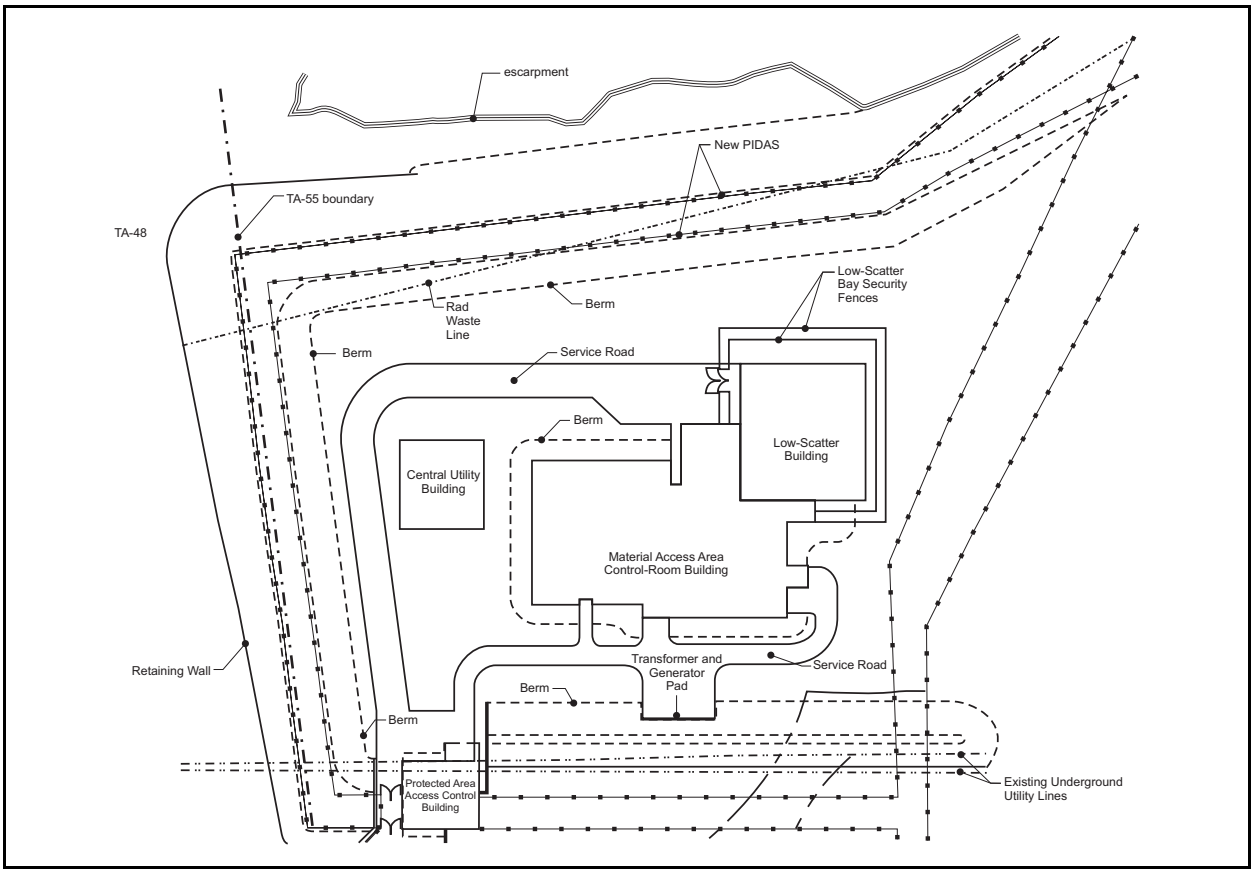

Figure 3–5 Site Plan for Proposed LANL Facility (LANL New Facility Alternative)

3.3.3.2 Annual Operations

The operational characteristics of the facilities under the LANL New Facility Alternative, common to all alternatives, are provided in Section 3.2.

3.3.3.3 Construction Requirements

Table 3–6 shows the construction requirement parameters used in the environmental impact analysis.

Table 3–6 Construction Requirements under the LANL New Facility Alternative

Requirement	*Quantity*
Electrical energy (megawatt hours)	170
Peak electrical demand (megawatts)	0.13
Concrete (cubic meters)	15,324
Steel (metric tons)	842
Fuel/gasoline (liters)	(a)
Water (liters)	22,700,000
Land (hectares)	1.82
Construction workers	
Total (during construction)	400
Peak	300
Construction time (months)	16

[a] Not provided. Considered to be part of construction costs; contractors to provide fuel/gasoline needed for their machinery.
Source: LANL 2001a.

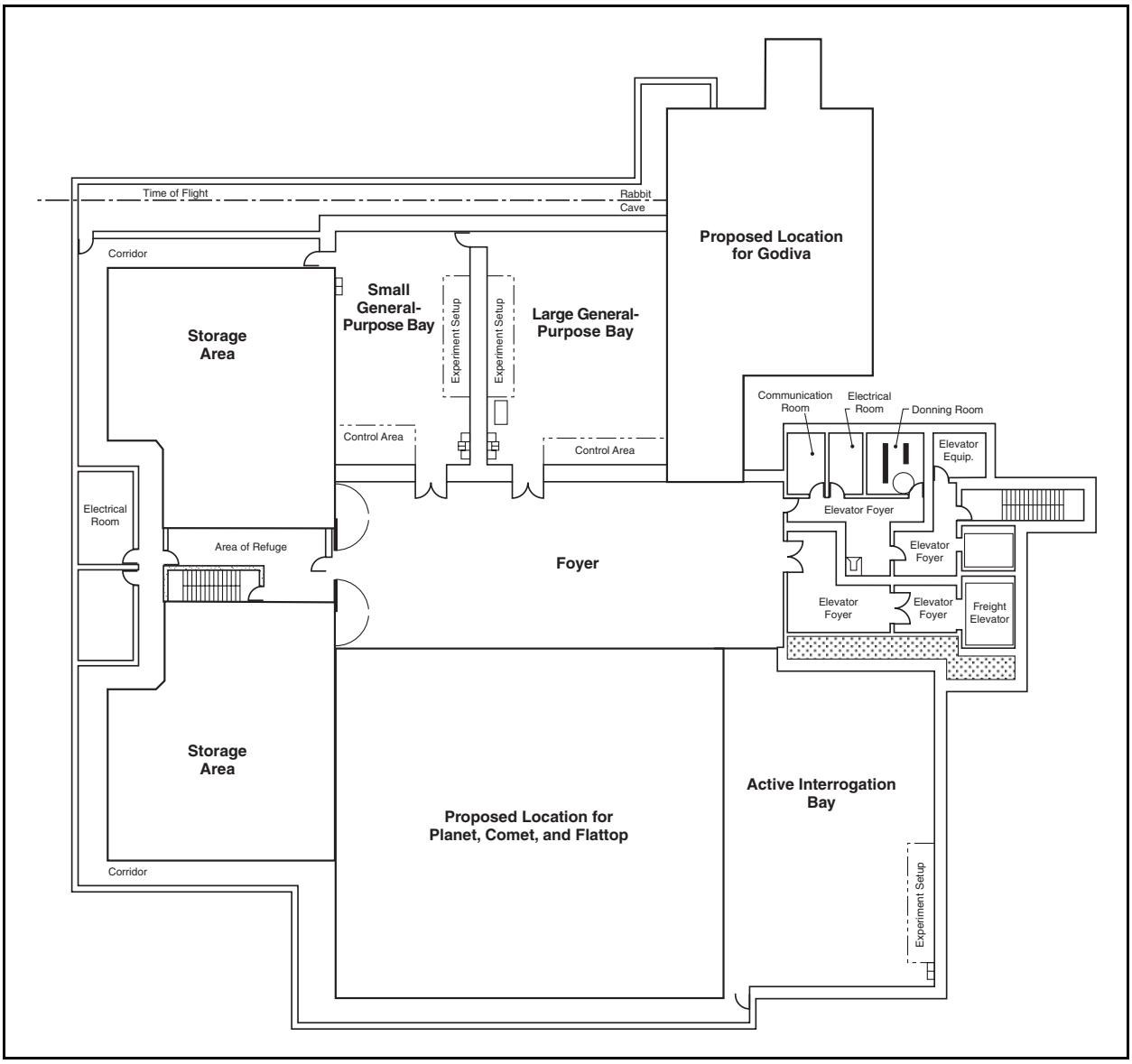

Figure 3–6 Location of Critical Assembly Machines and SNM Vaults (LANL New Facility Alternative)

3.3.4 SNL/NM Alternative

This alternative would involve the housing of the TA-18 operational capabilities and materials associated with security Category I/II activities within TA-V[1] at SNL/NM. Under this alternative, a portion of the security Category III/IV activities (the SHEBA activities) would either be relocated to a new structure at LANL's TA-39 or remain at TA-18. The rest of the security Category III/IV activities would remain at TA-18. The relocation of SHEBA and other security Category III/IV activities to new structures at LANL is discussed in Section 5.6.

[1] *Technical areas at SNL/NM are designated using roman numerals rather than the arabic numerals used at LANL.*