

DTIC FILE COPY

2

AD-A206 086



FINAL
ENVIRONMENTAL IMPACT STATEMENT
PEACEKEEPER RAIL GARRISON PROGRAM

EXECUTIVE SUMMARY

DTIC
SELECTED
MAR 13 1989
S D

UNITED STATES AIR FORCE
FEBRUARY 1989

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited

89 3 13 014

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified		1b. RESTRICTIVE MARKINGS None	
2a. SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for Public Release. Distribution unlimited.	
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE			
4. PERFORMING ORGANIZATION REPORT NUMBER(S)		5. MONITORING ORGANIZATION REPORT NUMBER(S)	
6a. NAME OF PERFORMING ORGANIZATION US Air Force, AFRCE-BMS	6b. OFFICE SYMBOL (if applicable) DEP	7a. NAME OF MONITORING ORGANIZATION Headquarters, US Air Force/LEEV	
6c. ADDRESS (City, State, and ZIP Code) Norton AFB CA 92409-6448		7b. ADDRESS (City, State, and ZIP Code) Bldg 516, Bolling AFB Washington DC 20332-5000	
8a. NAME OF FUNDING/SPONSORING ORGANIZATION USAF Ballistic Missile Office	8b. OFFICE SYMBOL (if applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c. ADDRESS (City, State, and ZIP Code) Norton AFB CA 92409-6468		10. SOURCE OF FUNDING NUMBERS	
		PROGRAM ELEMENT NO.	PROJECT NO.
		TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) Final Environmental Impact Statement, Peacekeeper Rail Garrison Program, Executive Summary			
12. PERSONAL AUTHOR(S) United States Air Force			
13a. TYPE OF REPORT Final EIS	13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Year, Month, Day) Feb 1989	15. PAGE COUNT 875 60
16. SUPPLEMENTARY NOTATION			
17. COSATI CODES		18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	
16	01		
16	03		
19. ABSTRACT (Continue on reverse if necessary and identify by block number) Attached			
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS		21. ABSTRACT SECURITY CLASSIFICATION	
22a. NAME OF RESPONSIBLE INDIVIDUAL THOMAS J. BARTOL, Lt Col, USAF		22b. TELEPHONE (Include Area Code) (714) 382-4891	22c. OFFICE SYMBOL DEP

19.

Abstract: The U.S. Air Force proposes to deploy 50 Peacekeeper missiles on 25 trains, which will be based at F.E. Warren AFB, Wyoming, and at up to 10 other Air Force installations. If the Peacekeeper Rail Garrison system is approved for deployment, F.E. Warren AFB would be the Main Operating Base (MOB) and the first garrison installation. After the EIS is filed, the other garrison installations to be used would be selected from the 10 candidates and the decision would be documented in one or more Records of Decision. Up to four trains could be deployed at the MOB and at each selected garrison installation. Peacekeeper missiles would be assembled and integrated onto missile launch cars at F.E. Warren AFB and then dispatched to other selected garrison installations. Periodically, a training train, with no missile propellants or warheads onboard, would travel to each of the garrison installations for operations, security, and maintenance training. Periodically, for maintenance or test launches, missiles (without warheads) would be moved by rail between garrisons and F.E. Warren AFB, Wyoming or Vandenberg AFB, California. During periods of national need and upon receipt of direction from a higher authority, Peacekeeper trains could be dispersed onto the national rail network to improve their survivability. The Alternative Action is to deploy 100 Peacekeeper missiles on 50 trains. With this alternative, up to six trains would be deployed at F.E. Warren AFB, the MOB, and at up to 10 other garrison installations. Operations, maintenance, and training activities for the Alternative Action would be similar to those described for the Proposed Action. A No Action Alternative is also presented. The Preferred Action is the deployment of 50 Peacekeeper missiles on 25 trains; the initial deployment of up to eight Peacekeeper missiles (4 trains) at the north site at F.E. Warren AFB, the MOB, with additional bases to be selected after the FEIS is filed. The south site at Dyess AFB, onbase site at Eaker AFB, and south site at Malmstrom AFB are preferred should any of these bases be selected. Potential environmental impacts are considered in the FEIS under the following environmental resource categories: socioeconomics, utilities, transportation, land use, cultural, biological, water, geology and soils, air quality, and noise. In addition, national economic impacts, national railroad transportation impacts, and safety considerations are discussed. Finally, mitigation measures that could be implemented to rehabilitate or restore the affected environment or to reduce significant adverse impacts are identified.

This FEIS follows the June 1988 publication of the Draft EIS (DEIS) for the Peacekeeper Rail Garrison program and incorporates responses to public comments received on the DEIS either in the text or in Volume II (Public Comments).

Cover Sheet

Final Environmental Impact Statement Peacekeeper Rail Garrison Program

- a. Responsible Agency: U.S. Air Force
- b. Proposed Action: Deployment of the Peacekeeper Rail Garrison System
- c. For further information contact: Lt Col Thomas Bartol, Director, Programs and Environmental Division, AFRCE-BMS/DEP, Norton AFB, San Bernardino, California 92409-6448. For telephone inquiries, contact Lt Col Barry Glickman, Director, Public Affairs at (714) 382-6631.
- d. Designation: Final Environmental Impact Statement (FEIS)

- e. Abstract: ^A The U.S. Air Force proposes to deploy 50 Peacekeeper missiles on 25 trains, which will be based at F.E. Warren AFB, Wyoming, and at up to 10 other Air Force installations. If the Peacekeeper Rail Garrison system is approved for deployment, F.E. Warren AFB would be the Main Operating Base (MOB) and the first garrison installation. After the EIS is filed, the other garrison installations to be used would be selected from the 10 candidates and the decision would be documented in one or more Records of Decision. Up to four trains could be deployed at the MOB and at each selected garrison installation. Peacekeeper missiles would be assembled and integrated onto missile launch cars at F.E. Warren AFB and then dispatched to other selected garrison installations. Periodically, a training train, with no missile propellants or warheads onboard, would travel to each of the garrison installations for operations, security, and maintenance training. Periodically, for maintenance or test launches, missiles (without warheads) would be moved by rail between garrisons and F.E. Warren AFB, Wyoming or Vandenberg AFB, California. During periods of national need and upon receipt of direction from a higher authority, Peacekeeper trains could be dispersed onto the national rail network to improve their survivability. ^A The Alternative Action is to deploy 100 Peacekeeper missiles on 50 trains. With this alternative, up to six trains would be deployed at F.E. Warren AFB, the MOB, and at up to 10 other garrison installations. Operations, maintenance, and training activities for the Alternative Action would be similar to those described for the Proposed Action. A No Action Alternative is also presented. The Preferred Action is the deployment of 50 Peacekeeper missiles on 25 trains; the initial deployment of up to eight Peacekeeper missiles (4 trains) at the north site at F.E. Warren AFB, the MOB, with additional bases to be selected after the FEIS is filed. The south site at Dyess AFB, onbase site at Eaker AFB, and south site at Malmstrom AFB are preferred should any of these bases be selected. Potential environmental impacts are considered in the FEIS under the following environmental resource categories: socioeconomics, utilities, transportation, land use, cultural, biological, water, geology and soils, air quality, and noise. In addition, national economic impacts, national railroad transportation impacts, and safety considerations are discussed. Finally, mitigation measures that could be implemented to rehabilitate or restore the affected environment or to reduce significant adverse impacts are identified. ()

This FEIS follows the June 1988 publication of the Draft EIS (DEIS) for the Peacekeeper Rail Garrison program and incorporates responses to public comments received on the DEIS either in the text or in Volume II (Public Comments).

CONTENTS

PURPOSE AND NEED	S-1
SYSTEM OVERVIEW	S-3
PROPOSED ACTION	S-3
Construction Scenario	S-6
Operations Scenario	S-6
Maintenance Scenario	S-22
Training Scenario	S-22
Resource Requirements	S-23
ALTERNATIVE ACTION	S-23
Reposturing of Peacekeeper Missiles in Minuteman Silos	S-23
PREFERRED ACTION	S-41
OTHER FUTURE AIR FORCE PROGRAMS AT PEACEKEEPER RAIL GARRISON BASES	S-41
DECOMMISSIONING	S-42
ENVIRONMENTAL IMPACT ANALYSIS PROCESS	S-42
PUBLIC SCOPING PROCESS	S-42
PUBLIC HEARING PROCESS	S-42
SUMMARY AND COMPARISON OF PROGRAM IMPACTS	S-43
National Economic Impacts	S-43
National Rail Transportation Impacts	S-44
Comparative Analysis of Environmental Impacts of the Proposed and Alternative Actions	S-44
F.E. Warren Air Force Base, Wyoming	S-47
Barksdale Air Force Base, Louisiana	S-47
Dyess Air Force Base, Texas	S-48
Eaker Air Force Base, Arkansas	S-48
Fairchild Air Force Base, Washington	S-49
Grand Forks Air Force Base, North Dakota	S-49
Little Rock Air Force Base, Arkansas	S-49
Malmstrom Air Force Base, Montana	S-49
Minot Air Force Base, North Dakota	S-50
Whiteman Air Force Base, Missouri	S-50
Wurtsmith Air Force Base, Michigan	S-51
Safety Considerations	S-51
NO ACTION ALTERNATIVE	S-53
MITIGATION MEASURES	S-53

EXECUTIVE SUMMARY

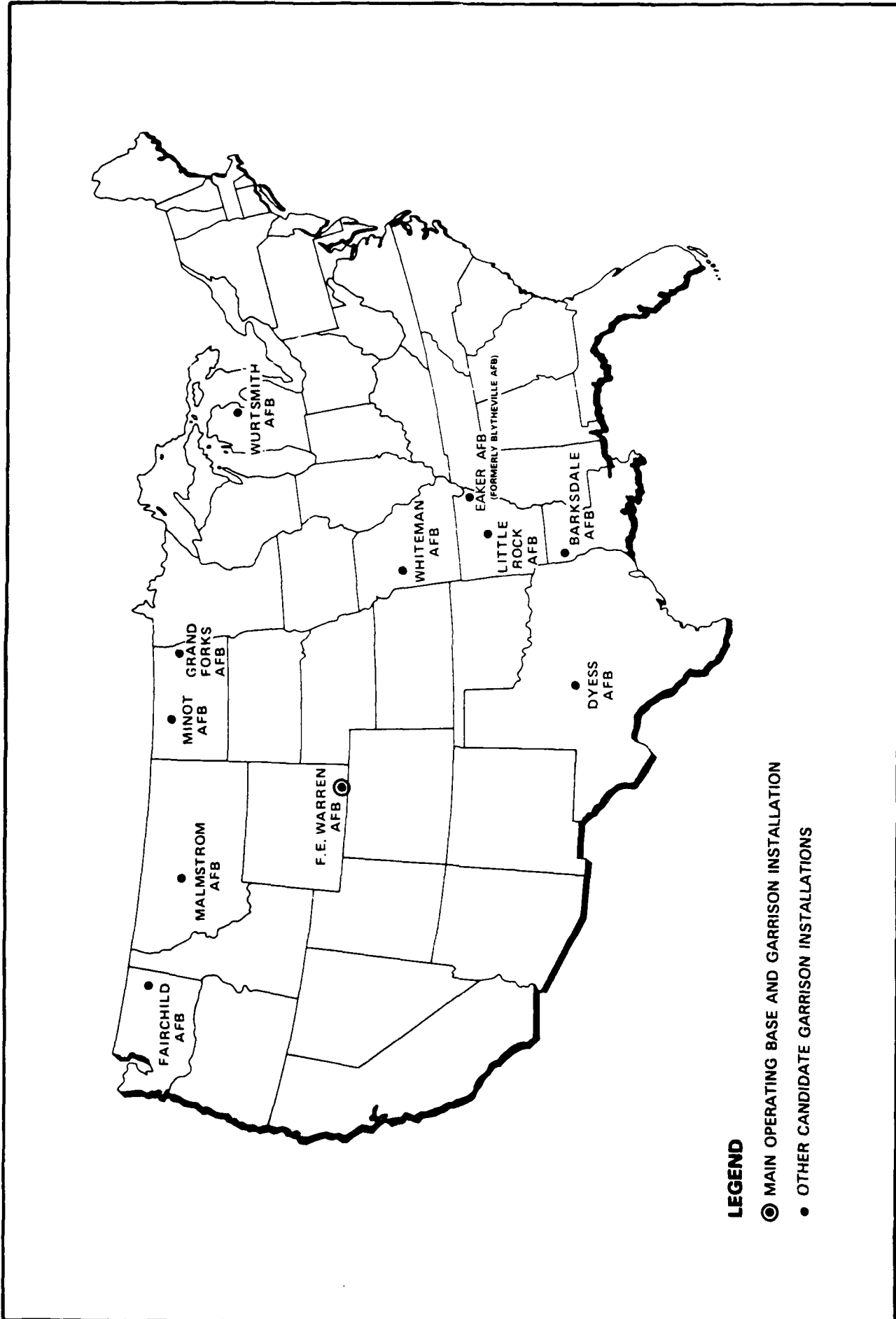
In December 1986, President Reagan announced his decision to begin development of the Rail Garrison basing mode for the deployment of Peacekeeper missiles. In this basing mode, Peacekeeper missiles would be deployed on trains garrisoned at specified Air Force installations. Missile trains would remain in garrisons on a day-to-day basis, and would move off the installations onto the national rail network only during times of national need (for example the 1962 Cuban Missile Crisis and the 1973 Middle East War). F.E. Warren Air Force Base (AFB), near Cheyenne, Wyoming, was designated by the President as the Main Operating Base (MOB) and the first garrison installation. In February 1987, the Air Force identified 10 additional installations as candidate garrison locations. These candidate installations are Barksdale AFB, Louisiana; Dyess AFB, Texas; Eaker (formerly Blytheville) AFB, Arkansas; Fairchild AFB, Washington; Grand Forks AFB, North Dakota; Little Rock AFB, Arkansas; Malmstrom AFB, Montana; Minot AFB, North Dakota; Whiteman AFB, Missouri; and Wurtsmith AFB, Michigan (Figure S-1).

This Final Environmental Impact Statement (FEIS) was prepared to aid in the following interrelated decisions: whether or not to deploy Peacekeeper missiles in the Rail Garrison basing mode, the number of Peacekeeper missiles to be deployed in this mode, the installations at which to deploy the system, the siting of facilities at the selected installations, and the mitigation actions to be implemented to reduce the effect of significant adverse impacts associated with deployment of the system. Decisions on these matters will be made, and selection of garrison installations and determination of the sequence of deployment will be made after the FEIS is filed and will be documented in one or more Records of Decision.

This FEIS considers the Proposed Action of basing 50 Peacekeeper missiles on 25 trains, with garrisons at F.E. Warren AFB and at up to 10 other candidate installations. The FEIS also considers the Alternative Action of deploying 100 Peacekeeper missiles on 50 trains (including reposturing the 50 missiles from the Minuteman silos), cumulative impacts from other programs, and the No Action Alternative. The impacts on 10 resource categories (issue areas) are discussed. These resource categories are: socioeconomics, utilities, transportation, land use, cultural, biological, water, geology and soils, air quality, and noise. In addition, issues regarding system safety are also discussed. Significant environmental issues identified during the scoping process have been incorporated into the analysis. Mitigation measures to reduce significant adverse impacts are also identified.

PURPOSE AND NEED

In January 1983, President Reagan established the bipartisan Commission on Strategic Forces, also referred to as the Scowcroft Commission, to review the strategic forces modernization program of the United States. One of the Scowcroft Commission's recommendations was to deploy 100 Peacekeeper missiles in Minuteman silos in order to hold hardened Soviet targets at risk and promote arms talks. Congress and the President endorsed this recommendation. Accordingly, the Air Force prepared and filed, in January 1984, an environmental impact statement (EIS) for the deployment of 100 Peacekeeper missiles in modified Minuteman silos at F.E. Warren AFB. Later, in the 1986 Department of Defense (DOD) Authorization Act, Congress limited the deployment of Peacekeeper missiles in Minuteman silos to 50 and asked the President to propose a more survivable basing mode for the other 50 Peacekeeper missiles. Accordingly, in December 1986, the President decided to begin development of the Rail Garrison system as the basing mode for the second 50 Peacekeeper missiles.



LEGEND

- ◎ MAIN OPERATING BASE AND GARRISON INSTALLATION
- OTHER CANDIDATE GARRISON INSTALLATIONS

FIGURE S-1 LOCATION OF AIR FORCE BASES PROPOSED FOR DEPLOYMENT OF THE PEACEKEEPER RAIL GARRISON SYSTEM

SYSTEM OVERVIEW

The Peacekeeper Rail Garrison concept includes placement of two Peacekeeper missiles on each train (Figure S-2). Each Peacekeeper train would consist of two locomotives, two security cars, a launch control car, two missile launch cars, a maintenance car, and several supplemental cars as required for operations. The trains and necessary support facilities would be located at up to 11 secure garrisons on specified Air Force installations. While in the garrisons, the missiles would be on alert as are current silo-based missiles. The Peacekeeper trains would not be moved out of the garrisons except during times of national need. When directed by a higher authority, the trains could be moved onto the national rail network.

The missiles and trains would be assembled at F.E. Warren AFB (the MOB), and then moved, without the reentry systems containing the nuclear warheads, to their destinations. The reentry systems would be shipped separately by air and installed into the missiles at the receiving installation. Routine missile maintenance would be provided at the garrisons by Air Force personnel. If major maintenance, repair, or operational testing requires movement of a missile to the MOB or other facility, the reentry system would be removed before movement.

The garrison complex would be the major new facility required at each selected garrison installation and would be a secured area of approximately 150 acres (Figure S-3), enclosed by a double chain link security fence. It would accommodate four to six Train Alert Shelters and the major Rail Garrison security and maintenance facilities. Additional support facilities would be required at the selected installations, including those necessary for system operations, maintenance, training, and personnel support.

In addition, a rail spur would be constructed to connect the garrison to the commercial rail network (Figure S-4). Construction of a second rail connection from a garrison to a railroad main line is being considered as a possible future option at each of the 10 candidate garrison installations. Before any decision is made concerning the implementation of this option, the specific proposed routes and their reasonable alternatives would be determined for each garrison installation, and appropriate environmental analyses would be completed.

Training trains which physically and electronically simulate the missile train, but have no missile propellants or warheads onboard, would be moved periodically on the national rail network to provide crew training. All train movements, including training and maintenance trips, would be coordinated with appropriate railroad company personnel to ensure safe and efficient movement.

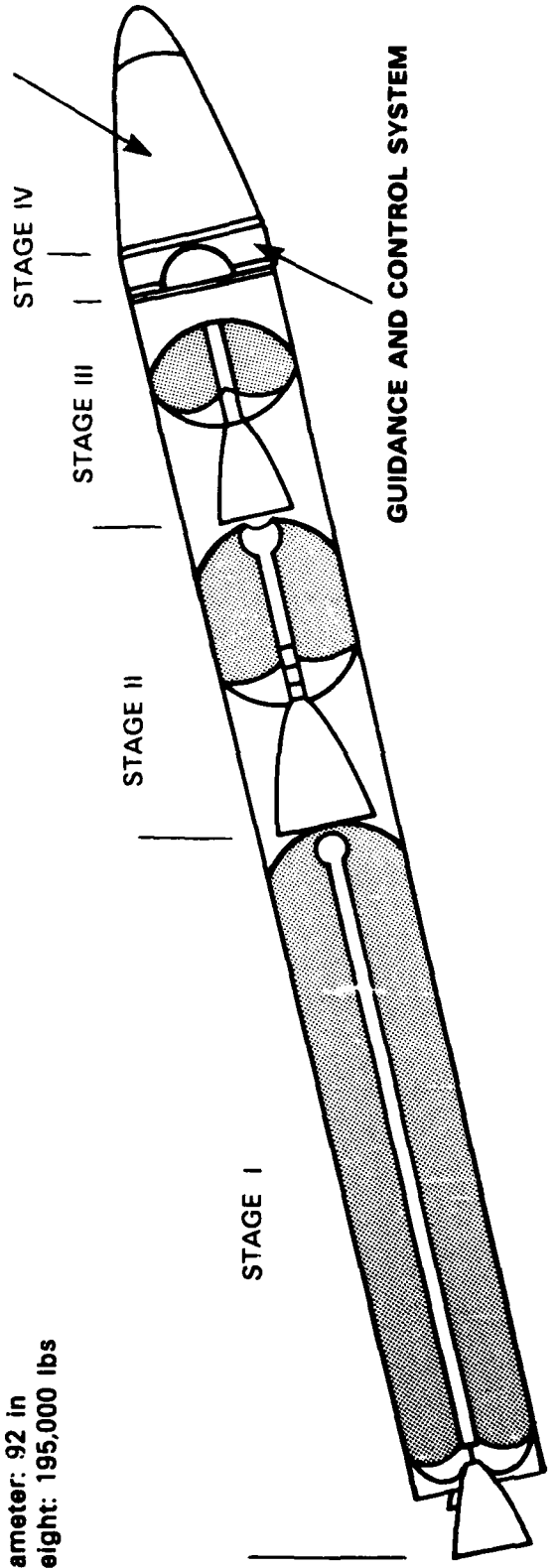
As currently planned, the Peacekeeper Rail Garrison program would achieve Initial Operational Capability (defined as deployment of one train with two missiles and one training train) as early as December 1991. Full Operational Capability of the system would be achieved by the deployment of the remaining trains and missiles, and could be reached as early as December 1993.

PROPOSED ACTION

The Proposed Action is to deploy 50 Peacekeeper missiles on 25 trains at F.E. Warren AFB and at up to 10 other garrison installations. Up to four trains could be deployed at each selected garrison. Activities related to the Proposed Action are described below and involve construction, operations, maintenance, and training, as well as the commitment of various resources.

Length: 71 ft
 Diameter: 92 in
 Weight: 195,000 lbs

REENTRY SYSTEM



GUIDANCE AND CONTROL SYSTEM

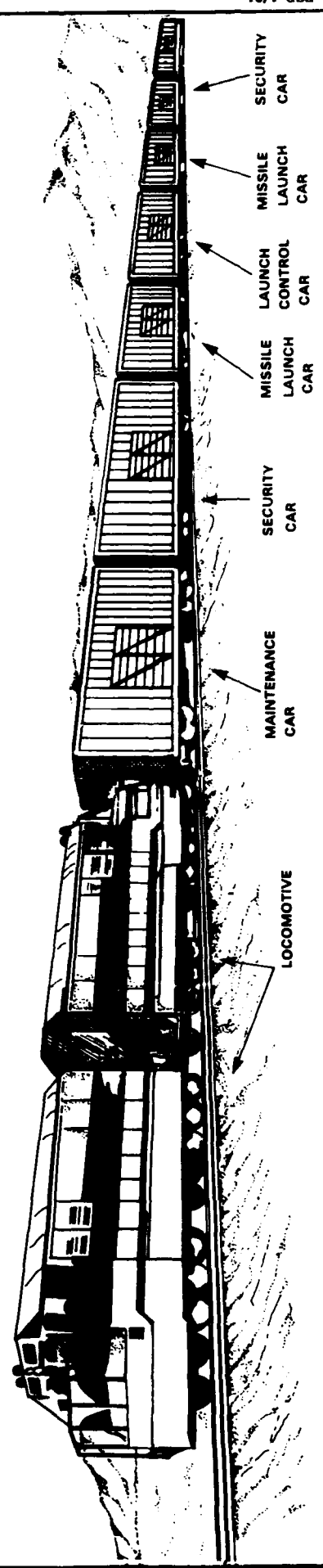


FIGURE 8-2 PEACEKEEPER MISSILE AND CONCEPTUAL PEACEKEEPER TRAIN

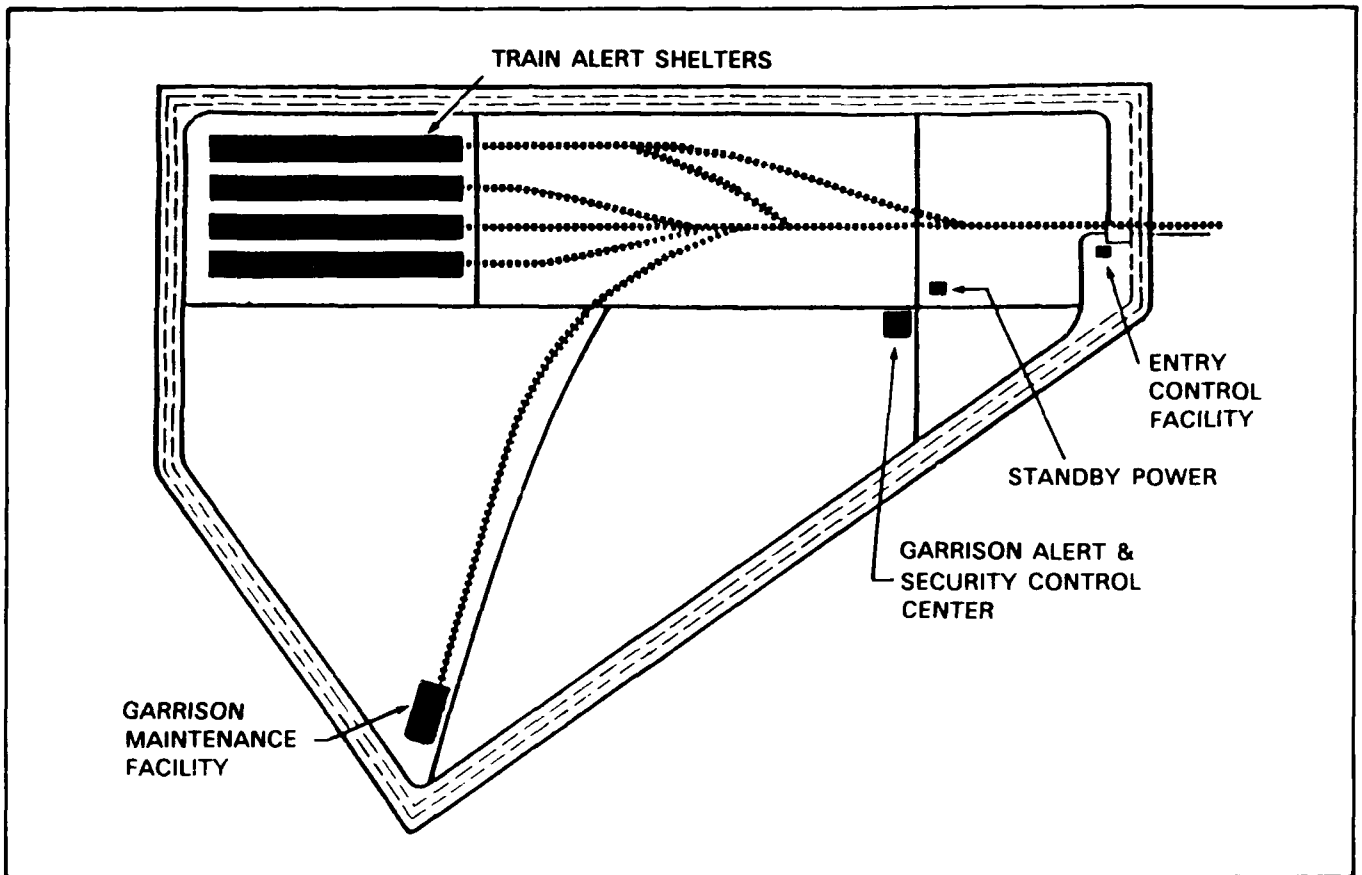
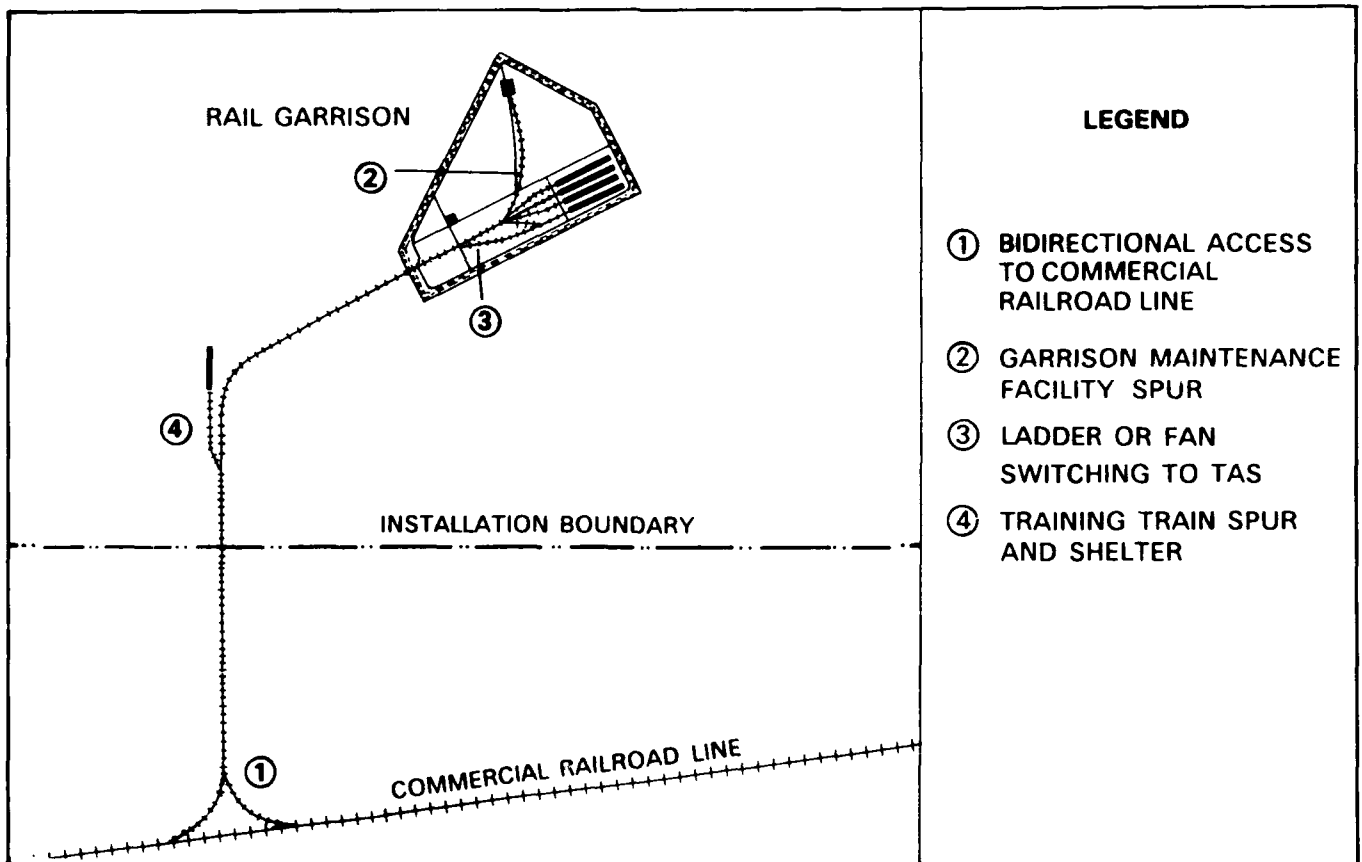


FIGURE S-3 TYPICAL RAIL GARRISON FACILITY LAYOUT

RLG-19/6 ESR-1/2 ESR-1/22



- LEGEND**
- ① BIDIRECTIONAL ACCESS TO COMMERCIAL RAILROAD LINE
 - ② GARRISON MAINTENANCE FACILITY SPUR
 - ③ LADDER OR FAN SWITCHING TO TAS
 - ④ TRAINING TRAIN SPUR AND SHELTER

FIGURE S-4 TYPICAL RAIL NETWORK CONNECTING GARRISON FACILITIES TO THE COMMERCIAL RAILROAD LINE

ESR-1/3 ESR-1/23

Construction Scenario

Construction activities for the Peacekeeper Rail Garrison program would include both new construction and modifications of facilities, roads, railroads, and utilities at F.E. Warren AFB and the other selected garrison installations. The Air Force Site Activation Task Force would serve as the field managing organization for construction, and for assembly and checkout of mechanical and electrical equipment. Details of the construction program for the MOB and the other candidate installations would vary with the type of mission at the installation, the number of people assigned to support the Peacekeeper Rail Garrison mission, the availability of existing facilities, and safety considerations. Proposed facility locations at each installation are shown on Figures S-5 through S-19.

Construction activities at the MOB may begin as early as March 1989 for the Missile Assembly Building with completion scheduled for November 1990. Construction of the garrison and support facilities could begin in March 1990 and finish by July 1992. Operations-related manpower could begin to arrive in July 1991 and could reach a full complement by December 1991.

Construction activities for the other candidate installations would occur over a 27-month period in the early 1990s. Site preparation, and road and utilities construction, would be appropriately phased, followed by construction of technical and personnel support facilities.

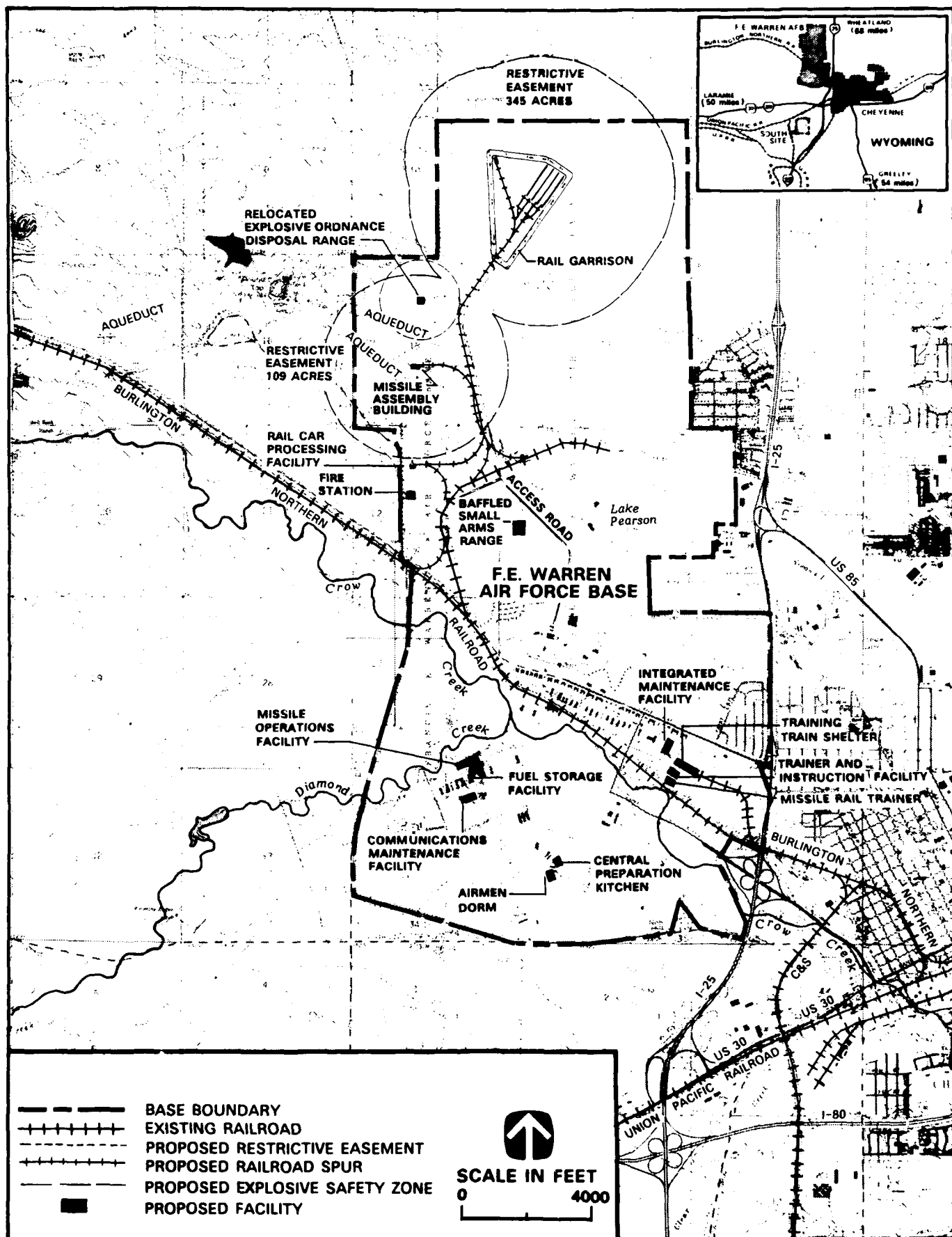
Operations Scenario

Peacekeeper missiles would be assembled and integrated onto the missile launch cars at F.E. Warren AFB, the MOB. They would then be dispatched to the selected Peacekeeper Rail Garrison installations. F.E. Warren AFB would also have a garrison with Peacekeeper trains on alert.

Each garrison would house up to four Peacekeeper trains, with two Peacekeeper missiles on alert on each train ready for dispersal. Two missile combat crews would perform continuous duty within the Garrison Alert and Security Control Center. The two-person crews would have primary responsibility for Peacekeeper status monitoring, command, and control. Together, they would perform the normal day-to-day weapon system functions.

During times of national need, when directed to disperse by a higher authority, the Air Force would contact the railroad dispatch offices to request clearance onto the main line. After clearance is received, trains would move onto the national rail network. Once on the network, the Peacekeeper trains would operate in a manner similar to existing commercial freight trains.

The Air Force would comply with Federal Railroad Administration rules for operation and would provide crews qualified to operate the locomotives. The railroads would provide a pilot who is fully knowledgeable of the physical characteristics and rules of operations over the segment of railroad on which the train would be moved. The use of pilots is a standard railroad practice to provide safe operations on the commercial railroad network.



PW-4/2 ESR-1/26

FIGURE 8-5 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT F.E. WARREN AFB, WYOMING (NORTH SITE OPTION)

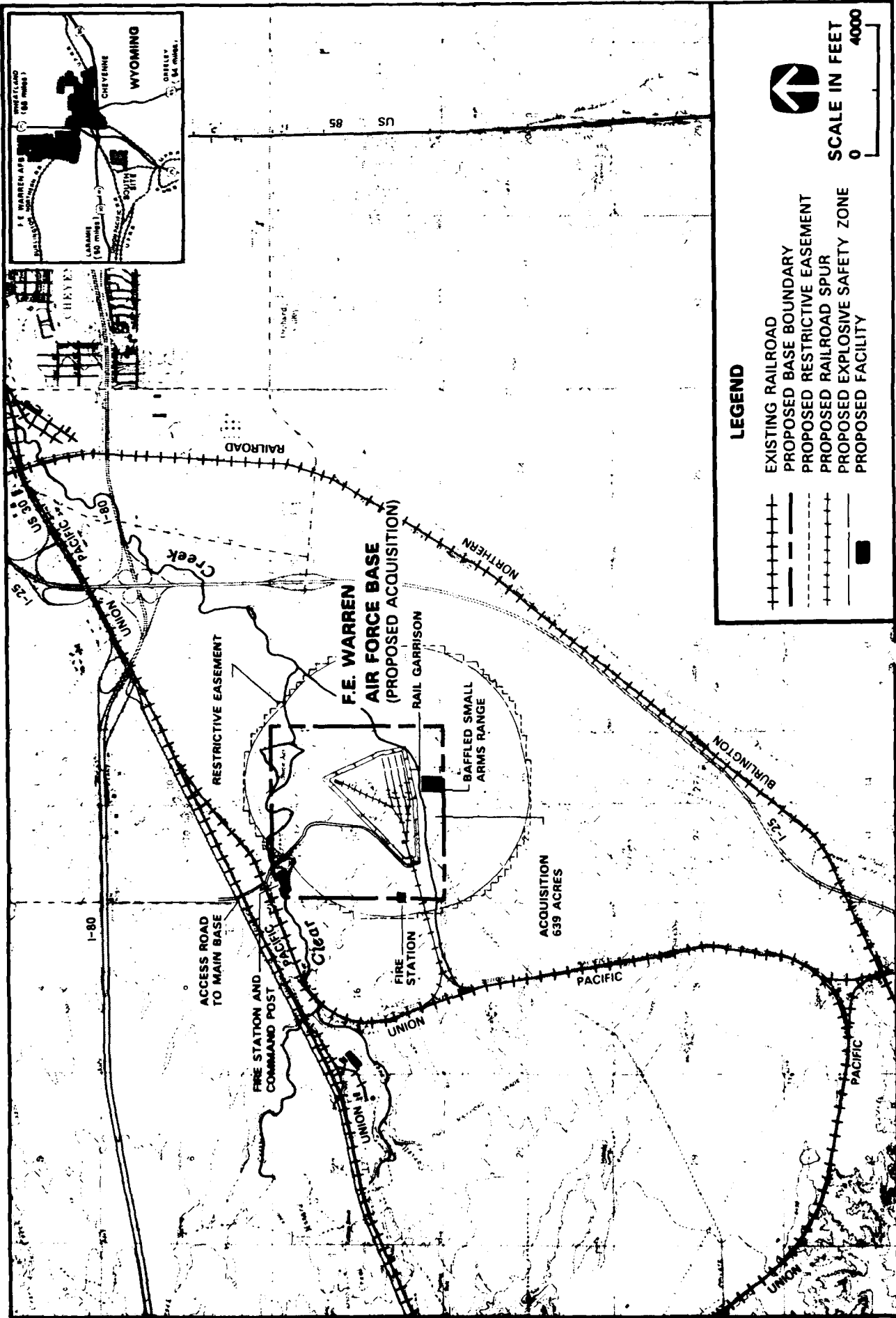


FIGURE S-6 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT F.E. WARREN AFB, WYOMING (SOUTH SITE OPTION)

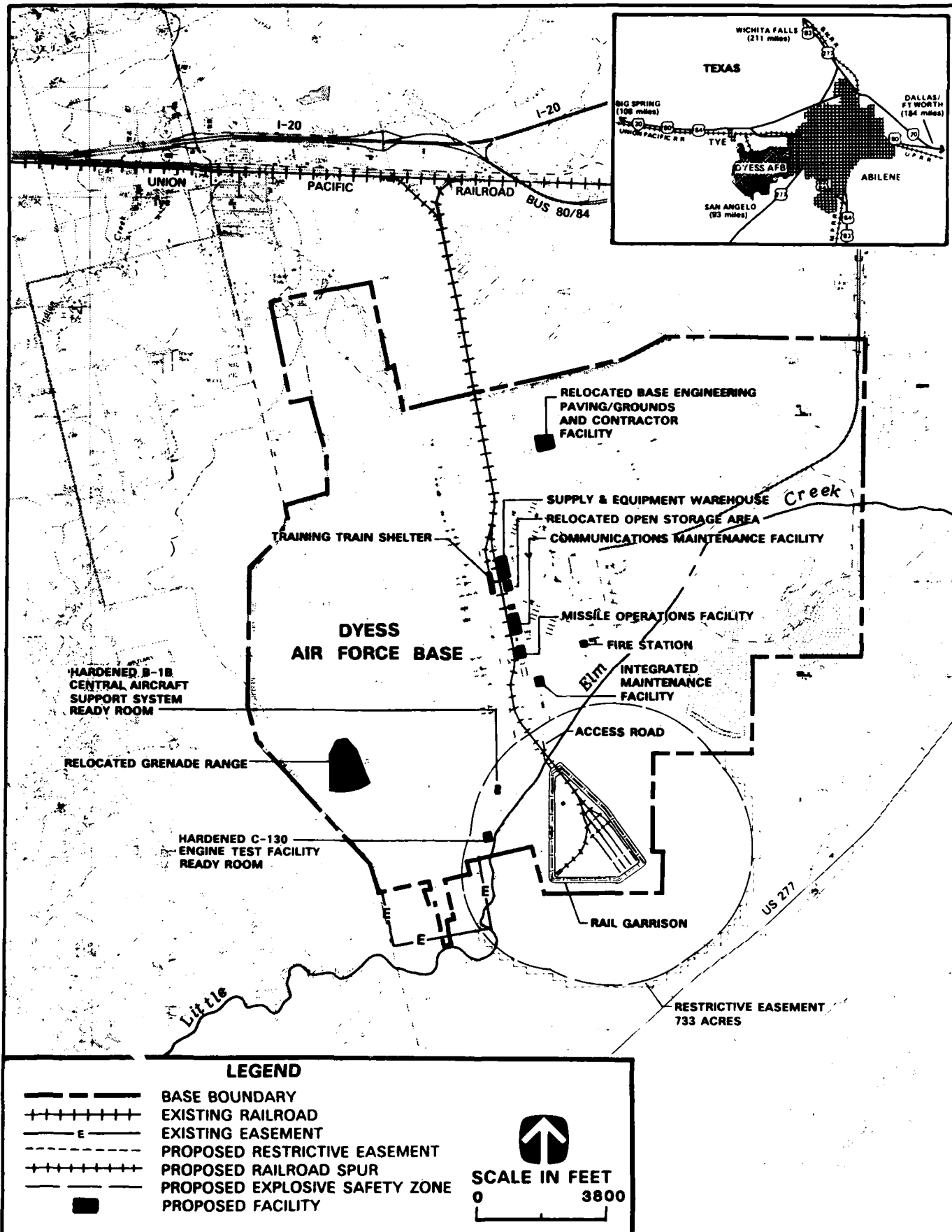


FIGURE S-8 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT DYESS AFB, TEXAS (SOUTH SITE OPTION)

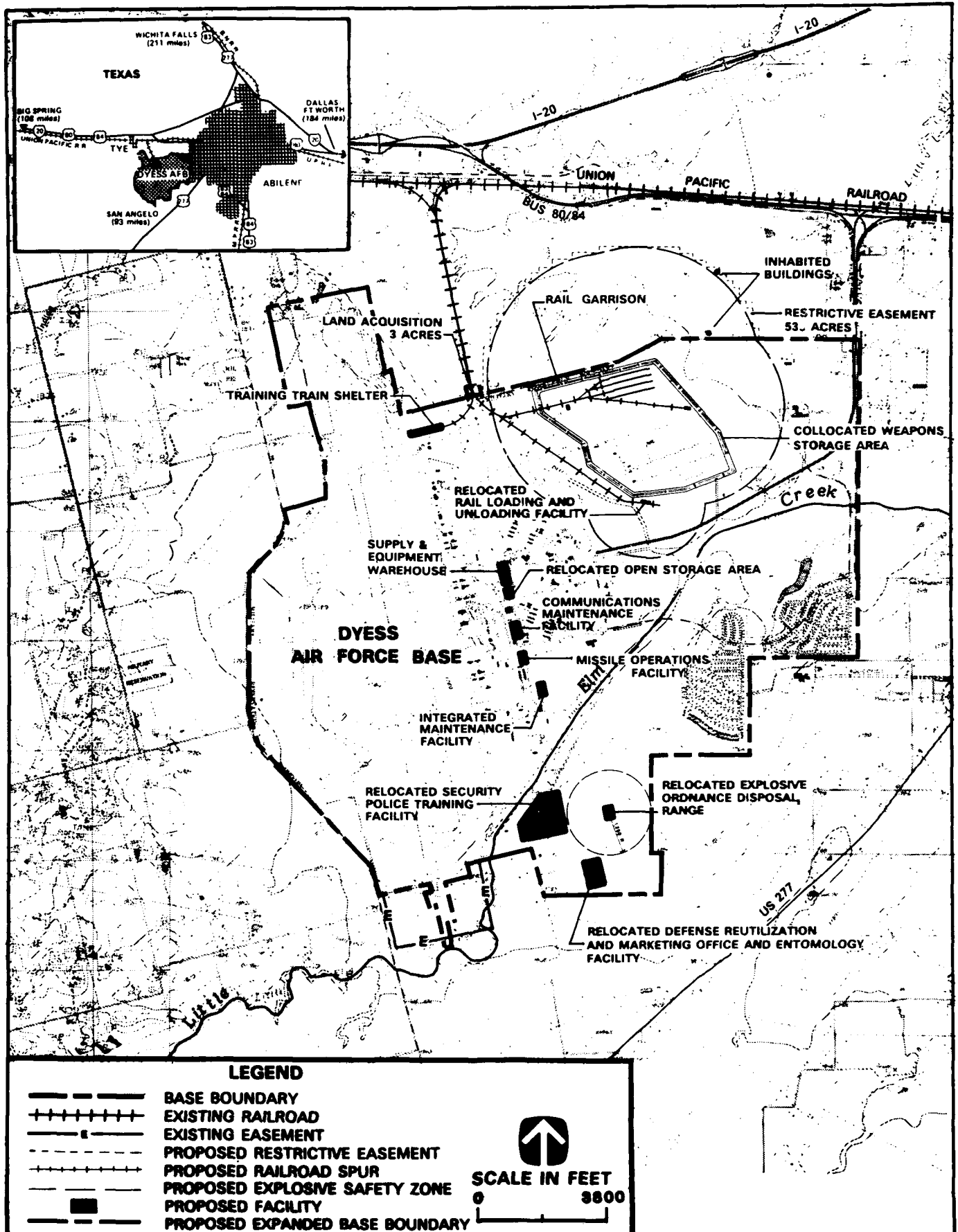


FIGURE S-9 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT DYESS AFB, TEXAS (NORTH SITE OPTION)

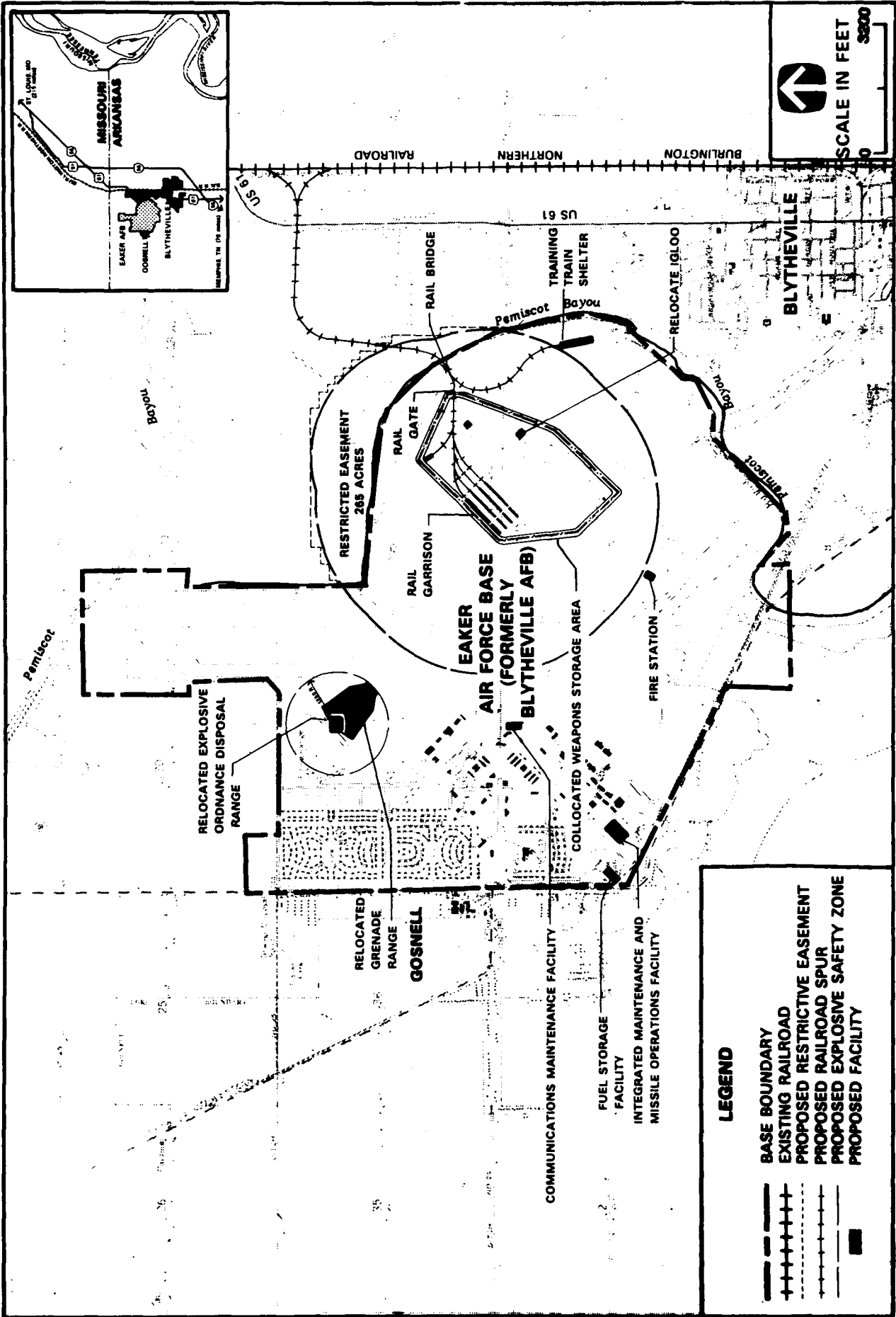


FIGURE 8-10 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT EAKER AFB (FORMERLY BLYTHEVILLE AFB), ARKANSAS (ONBASE OPTION)

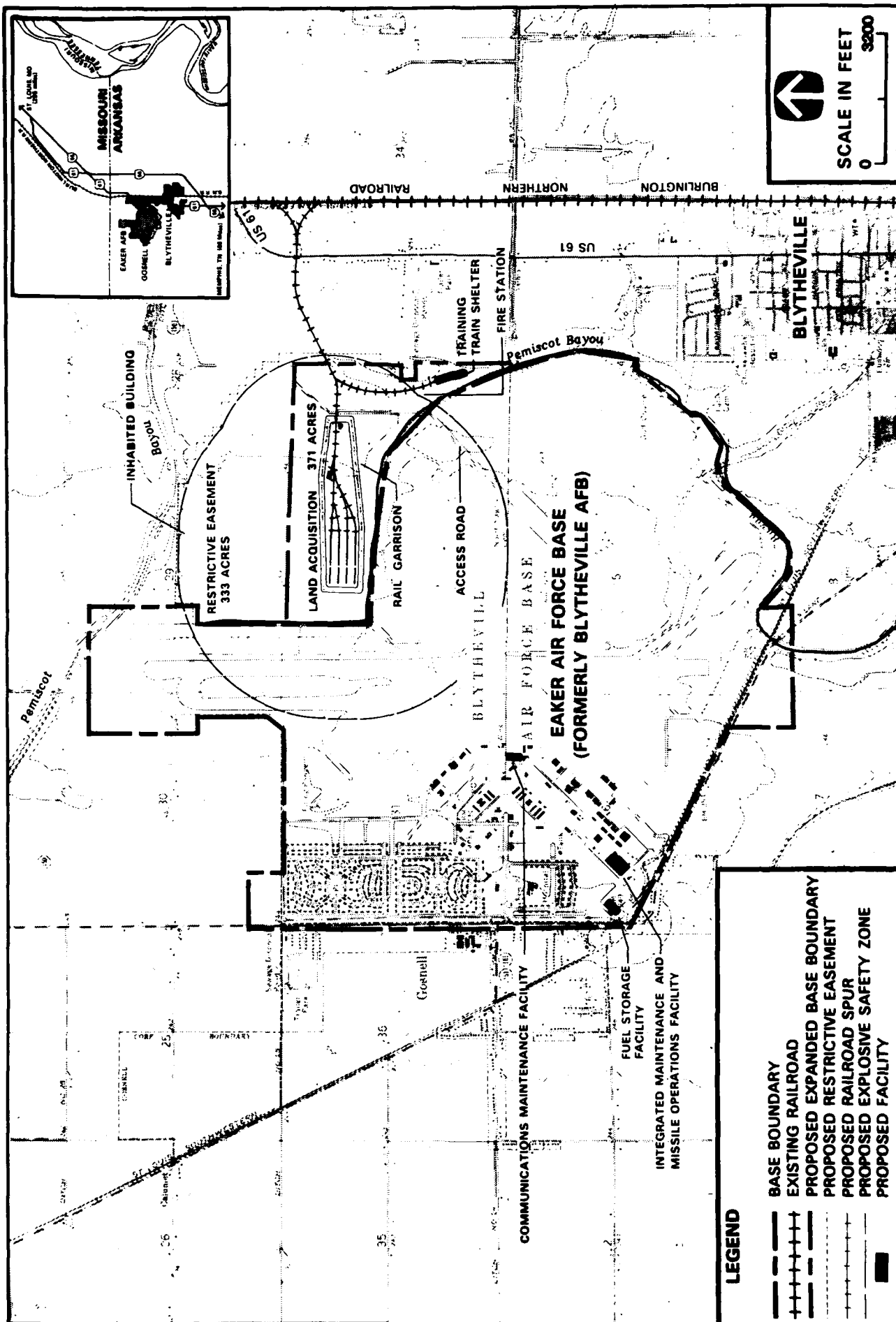


FIGURE S-11 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT EAKER AFB (FORMERLY BLYTHEVILLE AFB), ARKANSAS (OFFBASE OPTION)

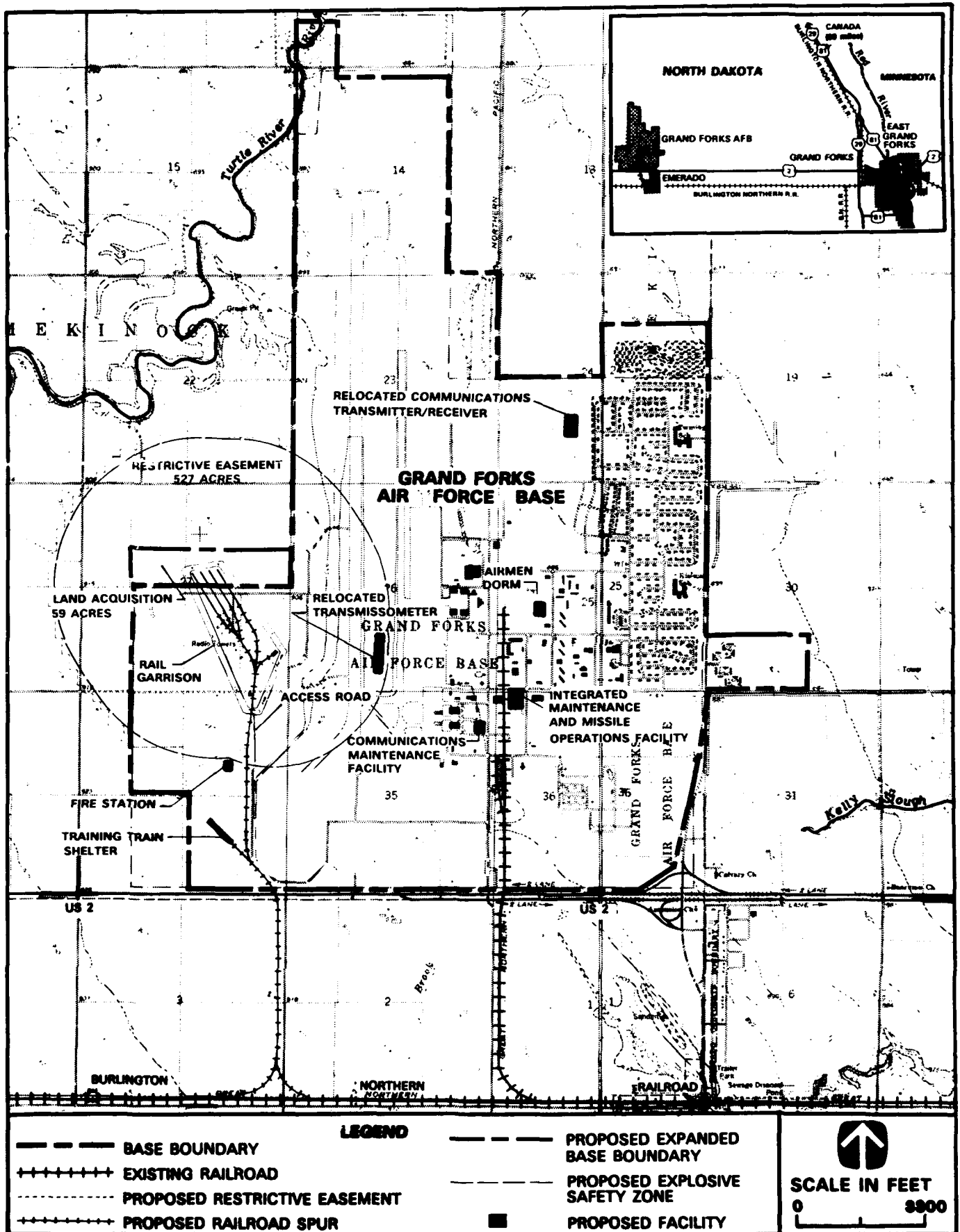


FIGURE 8-13 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT GRAND FORKS AFB, NORTH DAKOTA

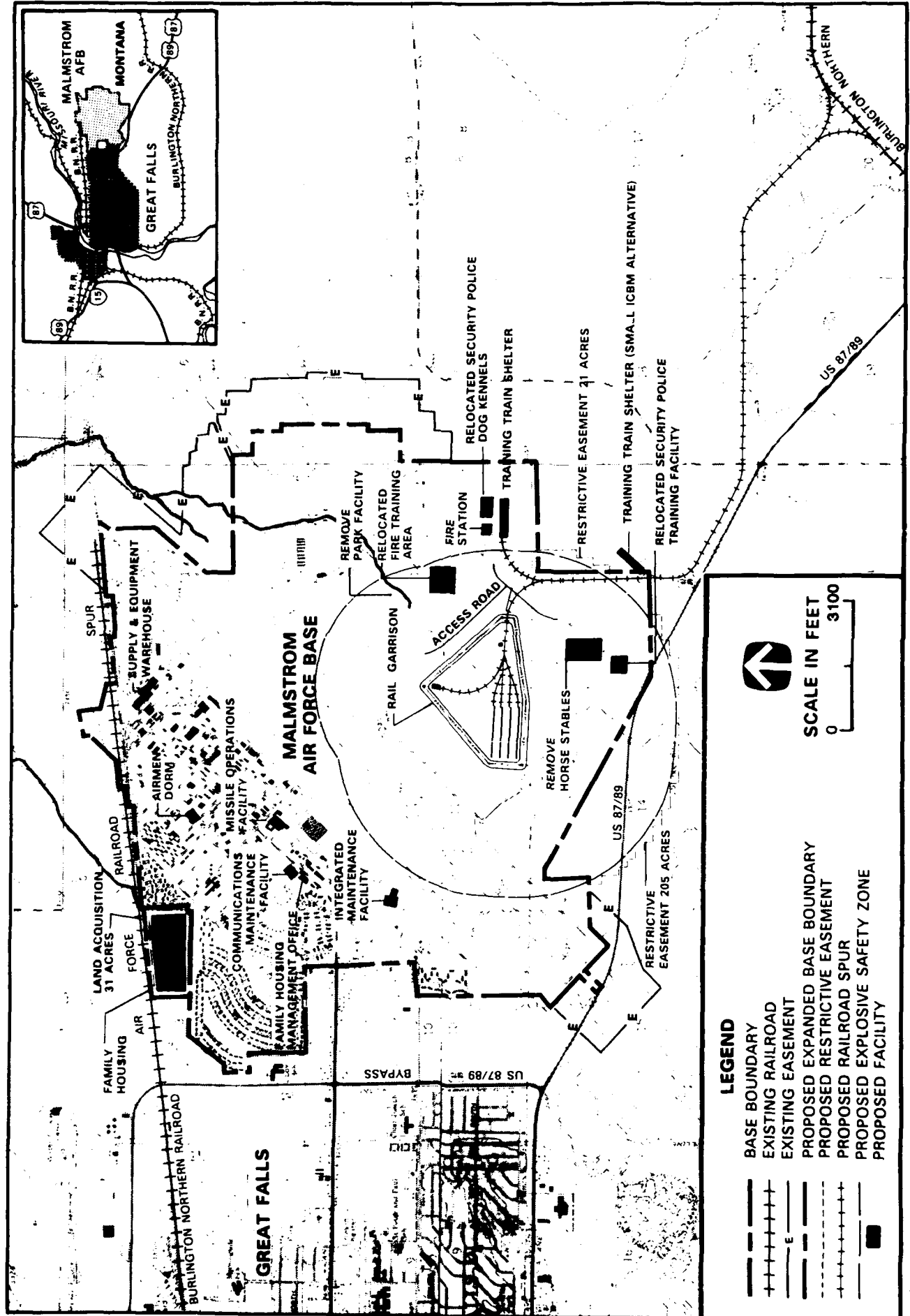


FIGURE S-15 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT MALMSTROM AFB, MONTANA (SOUTH SITE OPTION)

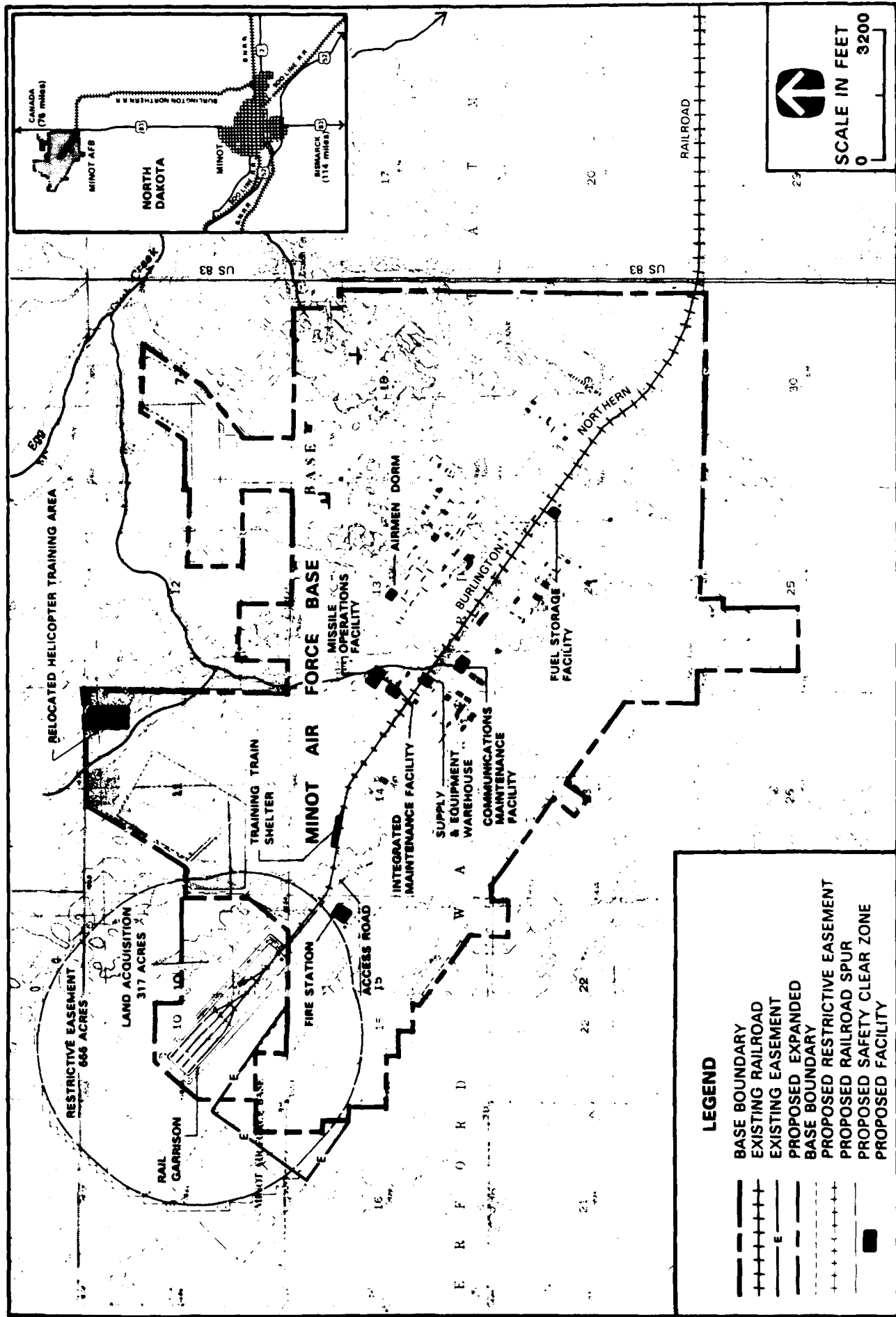
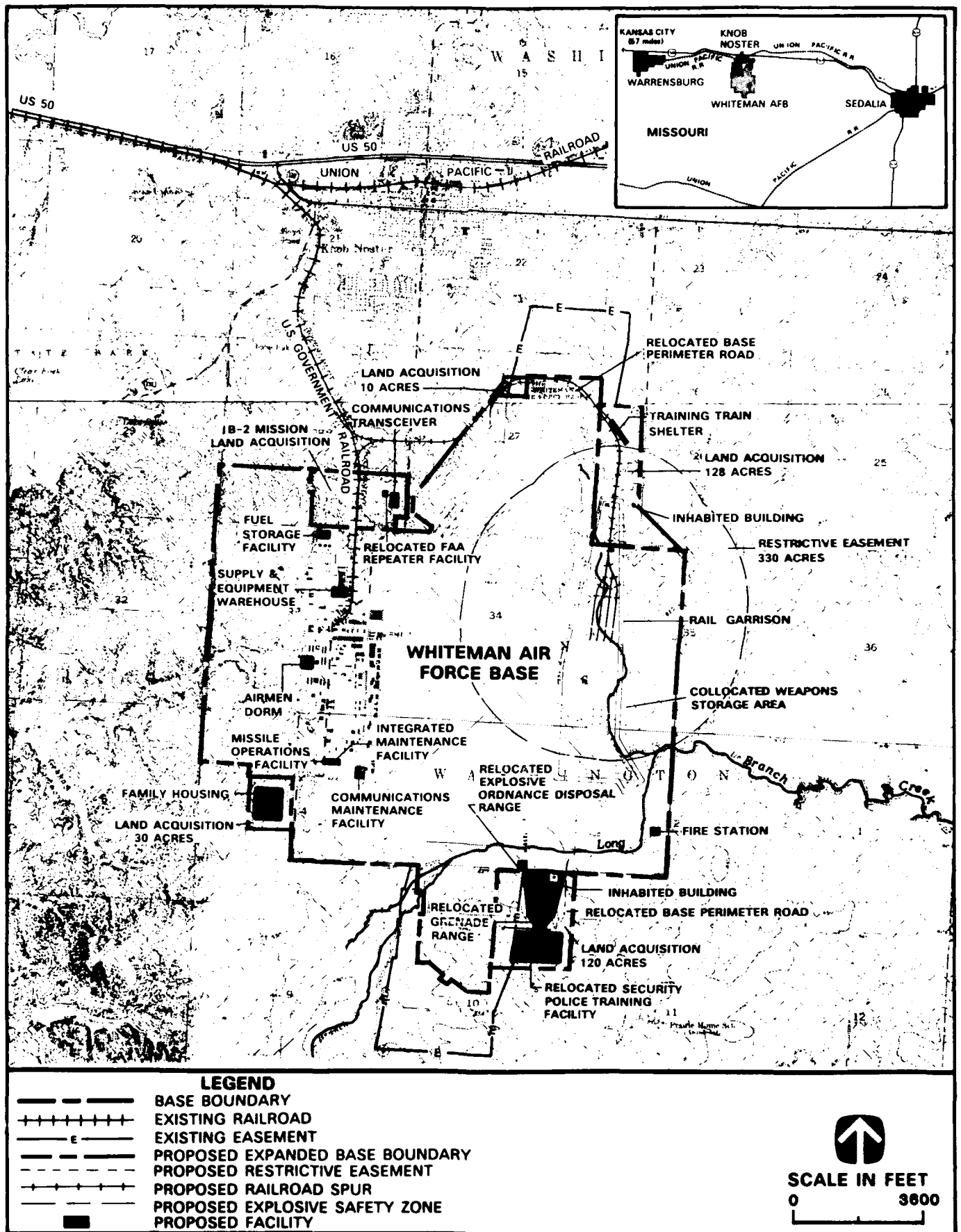


FIGURE 9-17 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT MINOT AFB, NORTH DAKOTA



WM-4/1 EBR-1/38

While dispersed, each train would operate independently of other Peacekeeper trains and remain under the command of the Air Force train commander. Command and control of the Peacekeeper missiles would be maintained by a two-person missile combat crew, located in the launch control car. The crew would be in constant contact with a higher authority and would maintain the capability of reacting to directives.

The Peacekeeper trains would be equipped with their own security systems and carry well-trained and appropriately armed security personnel. The trains would also be equipped with a variety of sensors to detect direct threats to the train and to provide 24-hour surveillance of the surrounding areas.

Once dispersed, the Peacekeeper trains would continue to operate on the national rail network until directed by a higher authority to return to the garrison. Supplies such as fuel, food, and water would be carried onboard the train. When necessary, resupply would be accomplished in a variety of ways, including local purchases, servicing by mobile servicing vehicles, and servicing from military installations located in the train's dispersal area.

Maintenance Scenario

Peacekeeper missile maintenance would be performed at the MOB, the garrisons, existing Air Force depots, and on the railroad network when the system is in the dispersed mode of operation. At the garrisons, train maintenance would consist of removal and replacement of operational support equipment and minor inspection and servicing of trains. Maintenance of the canisterized missile would require removal of the reentry system at the Garrison Maintenance Facility (at the garrison installation) and transportation of the missile to the MOB or other depot facilities for disassembly and repair.

Train maintenance would be performed in accordance with Federal Railroad Administration and American Association of Railroads requirements, and would meet or exceed their standards. The missile train's onboard maintenance team would perform repair/replacement of launch-critical components and operation support equipment during dispersal.

Training Scenario

Training of Air Force personnel for operations and maintenance activities would be conducted at existing designated technical training centers. These include Chanute AFB, Illinois; Lowry AFB, Colorado; Keesler AFB, Mississippi; Lackland AFB, Texas; and Vandenberg AFB, California. Simulators would be used to provide hands-on training for both maintenance and operations personnel. These simulators and other training tools would be located at the technical training centers, the MOB, and each garrison installation. Training on the actual system equipment would occur at the MOB, Vandenberg AFB, and other garrison installations. Air Force train operators may also be trained at existing commercial railroad training centers.

In addition, two training trains would be based at F.E. Warren AFB and would travel to each garrison installation for operations, security, and maintenance training. These trains would physically and electronically simulate the missile trains, but would not have missile propellant or warheads onboard.

Resource Requirements

The total cost of the Peacekeeper Rail Garrison program is estimated at between \$10 billion and \$12 billion (in 1986 dollars). This includes research and development, production (missile and train components), construction, deployment, and operations over a 20-year period. Direct manpower requirements at F.E. Warren AFB, the MOB, and the candidate garrison installations are shown in Table S-1.

At a typical base, about 150 acres to 180 acres of land would be needed for the garrison facilities and another 50 acres for technical and personnel support facilities. Table S-2 provides a summary of the permanent, temporary, and total land disturbance at each candidate installation.

ALTERNATIVE ACTION

The Alternative Action is to deploy 100 Peacekeeper missiles on 50 trains, including the 50 missiles initially deployed in Minuteman silos at F.E. Warren AFB. With this alternative, up to six trains would be deployed in the garrisons at F.E. Warren AFB, the MOB, and up to six trains at each of the candidate installations. Construction, operations, maintenance, and training activities for the Alternative Action would be similar to those described for the Proposed Action. Proposed facility locations at each installation are shown on Figures S-20 through S-34.

The Alternative Action would involve constructing up to six Train Alert Shelters at the MOB and at each of the selected garrison installations. Slightly higher construction and operations manpower would be required than for the Proposed Action. Direct manpower requirements for the Alternative Action are presented in Table S-1.

Land area disturbed by the garrison and other technical and personnel support facilities at each installation for the Alternative Action is summarized in Table S-2.

Reposturing of Peacekeeper Missiles in Minuteman Silos

The Alternative Action would require the removal of 50 Peacekeeper missiles currently deployed in modified Minuteman silos located in the State of Wyoming under the command of the 400th Strategic Missile Squadron based at F.E. Warren AFB. These missiles would be repostured into missile launch cars. Under the Alternative Action, a total of 100 Peacekeeper missiles (50 new and 50 repostured) would be deployed at F.E. Warren AFB, the Main Operating Base (MOB), and at up to 10 additional garrison bases. A maximum of six trains (12 missiles) would be based at any of the 11 garrison bases.

Current reposturing plans for Peacekeeper in Minuteman Silos (PIMS) missiles based at F.E. Warren AFB do not extend beyond their removal from existing silos. All land and facilities currently in use for the PIMS program will remain as Air Force property in active status. Security and maintenance procedures for launch control facilities, launch facilities, and defense access roads will be continued as necessary to sustain their operational readiness. There is no current plan to decommission, deactivate, "mothball", or "pickle" any of the facilities, plant, or equipment at these locations. If changes in the status of these facilities are proposed at a future date, the required environmental analyses and documents will be prepared.

Since F.E. Warren AFB is the MOB for the Peacekeeper Rail Garrison program, the operational manpower requirements for system training and maintenance will be increased under the Alternative Action. Total operations manpower is estimated at

Table S-1
Direct Employment - Construction and Operations Phases
Peacekeeper Rail Garrison Program
Proposed and Alternative Actions
(Full-Time Equivalent Jobs)

	F.E. Warren AFB	Barksdale AFB	Dyess AFB	Eaker AFB	Fairchild AFB	Grand Forks AFB	Little Rock AFB	Malmstrom AFB	Minot AFB	Whiteman AFB	Wurtsmith AFB
Proposed Action											
Construction Phase	624	505	533	476	507	429	515	439	440	437	520
Operations Phase	442	416	418	400	419	345	426	338	345	339	408
Alternative Action											
Construction Phase	687	549	576	516	550	465	558	474	476	472	562
Operations Phase	486*	459	460	439	461	380	468	372	380	373	449

Notes: Construction phase employment data including Site Activation Task Force, construction, assembly and checkout, and some military operations personnel are for 1992, the year in which population immigration would be the greatest. For purposes of analysis and comparison, construction at all bases except F.E. Warren AFB is assumed to start in 1990 and finish in 1992. At F.E. Warren AFB, construction and deployment activities are assumed to start in 1989 and finish in 1994.

Operations phase data are for 1995 at F.E. Warren AFB, and are for 1993 at all other bases. Employment at this level would continue for the life of the program. Operations phase workers would be nearly all military personnel.

*Net of reposturing of the Peacekeeper in Minuteman Silos (PIMS) missiles.

Table S-2
 Summary of Area Disturbed by the Peacekeeper Rail Garrison Program
 Proposed and Alternative Actions
 (acres)

Installation	Garrison Facilities		Support Facilities ¹		Rail Spur ²		Relocated Facilities		Total		Grand Total
	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	
Proposed Action											
F.E. Warren AFB (north)	52.8	93.2	25.1	86.1	17.5	19.9	1.0	0.0	96.4	199.2	295.6
F.E. Warren AFB (south)	52.8	91.2	32.6	99.4	6.0	4.7	1.0	0.0	92.4	195.3	287.7
Barksdale AFB	94.2	165.4	19.9	15.7	14.7	11.5	40.8	0.2	169.6	192.8	362.4
Dyess AFB (south)	53.6	101.4	8.8	10.7	10.4	16.5	8.5	10.5	81.3	139.1	220.4
Dyess AFB (north)	71.7	192.3	9.9	11.5	4.4	9.3	17.7	17.3	104.2	230.4	334.6
Eaker AFB (onbase)	62.0	156.8	29.2	29.6	10.4	8.1	6.2	1.0	107.8	195.5	303.3
Eaker AFB (offbase)	50.0	52.0	29.3	32.6	8.2	6.4	0.0	0.0	87.5	91.0	178.5
Fairchild AFB	100.0	130.5	40.0	64.6	10.9	21.2	16.2	9.2	167.1	225.5	392.6
Grand Forks AFB	53.4	67.6	31.2	41.5	12.5	9.8	0.7	1.0	97.8	119.9	217.7
Little Rock AFB	52.9	90.1	15.6	15.7	8.2	21.6	23.9	15.8	100.6	143.2	243.8
Malmstrom AFB (south)	50.0	92.0	55.0	70.0	24.0	18.7	3.5	2.8	132.5	183.5	316.0
Malmstrom AFB (east)	63.6	132.8	60.6	75.4	16.9	13.2	11.1	2.0	152.2	223.4	375.6
Minot AFB	51.4	52.6	43.1	70.7	6.0	74.7	0.0	0.0	100.5	198.0	298.5
Whiteman AFB	82.6	98.7	49.5	87.8	12.5	14.0	6.3	6.8	150.9	207.3	358.2
Wurtsmith AFB	71.5	147.4	16.9	80.0	35.5	31.0	35.2	2.0	159.1	260.4	419.5
Alternative Action											
F.E. Warren AFB (north)	62.4	124.6	25.1	86.1	16.4	19.1	1.0	0.0	104.9	229.8	334.7
F.E. Warren AFB (south)	62.7	116.3	32.6	99.4	5.5	4.2	1.0	0.0	101.8	219.9	321.7
Barksdale AFB	99.6	165.2	19.9	15.7	13.6	10.6	40.8	0.2	173.9	191.7	365.6
Dyess AFB (south)	60.3	124.7	8.8	10.7	10.4	16.5	8.5	10.5	88.0	162.4	250.4
Dyess AFB (north)	78.4	205.6	9.9	11.5	4.4	9.3	18.8	18.1	111.5	244.5	356.0
Eaker AFB (onbase)	73.4	175.9	29.2	29.6	10.4	8.1	6.2	1.0	119.2	214.6	333.8
Eaker AFB (offbase)	54.9	68.1	29.3	32.6	8.2	6.4	0.0	0.0	92.4	107.1	199.5
Fairchild AFB	102.1	154.3	40.0	66.4	11.5	21.6	16.2	9.2	169.9	251.5	421.4
Grand Forks AFB	61.5	100.6	31.2	41.6	12.5	9.8	0.7	1.0	105.9	153.0	258.9
Little Rock AFB	56.9	114.5	15.6	15.7	7.6	21.2	38.9	15.8	123.6	167.2	290.8
Malmstrom AFB (south)	56.9	114.1	55.0	70.0	24.0	18.7	4.0	2.8	139.9	205.6	345.5
Malmstrom AFB (east)	70.3	160.6	60.6	75.4	16.9	13.2	11.1	2.0	158.9	251.2	410.1
Minot AFB	56.9	75.1	43.1	70.9	6.0	74.7	0.0	0.0	106.0	220.7	326.7
Whiteman AFB	86.9	152.0	49.5	87.8	12.5	14.0	6.3	6.8	155.2	260.6	415.8
Wurtsmith AFB	80.5	189.0	16.9	80.0	34.9	30.5	35.2	2.0	167.5	301.5	469.0

Notes: ¹Support facility totals for F.E. Warren AFB (north and south site options) include 11.9 acres of permanent and 22.5 acres of temporary disturbance for construction of Main Operating Base facilities.

²Area disturbed for rail spur construction reflects only disturbance outside the garrison.

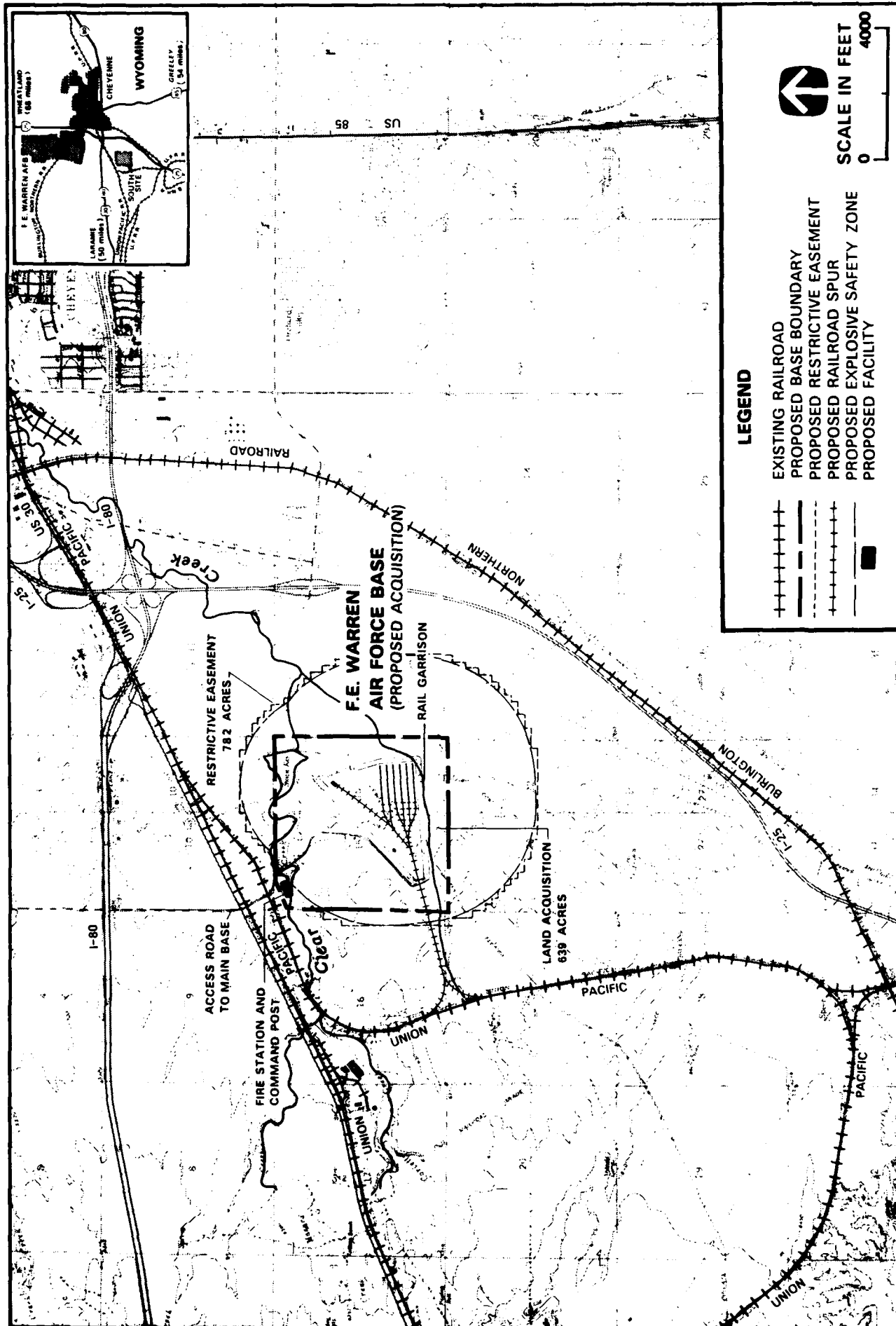


FIGURE S-21 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT F.E. WARREN AFB, WYOMING (SOUTH SITE OPTION) (ALTERNATIVE ACTION)

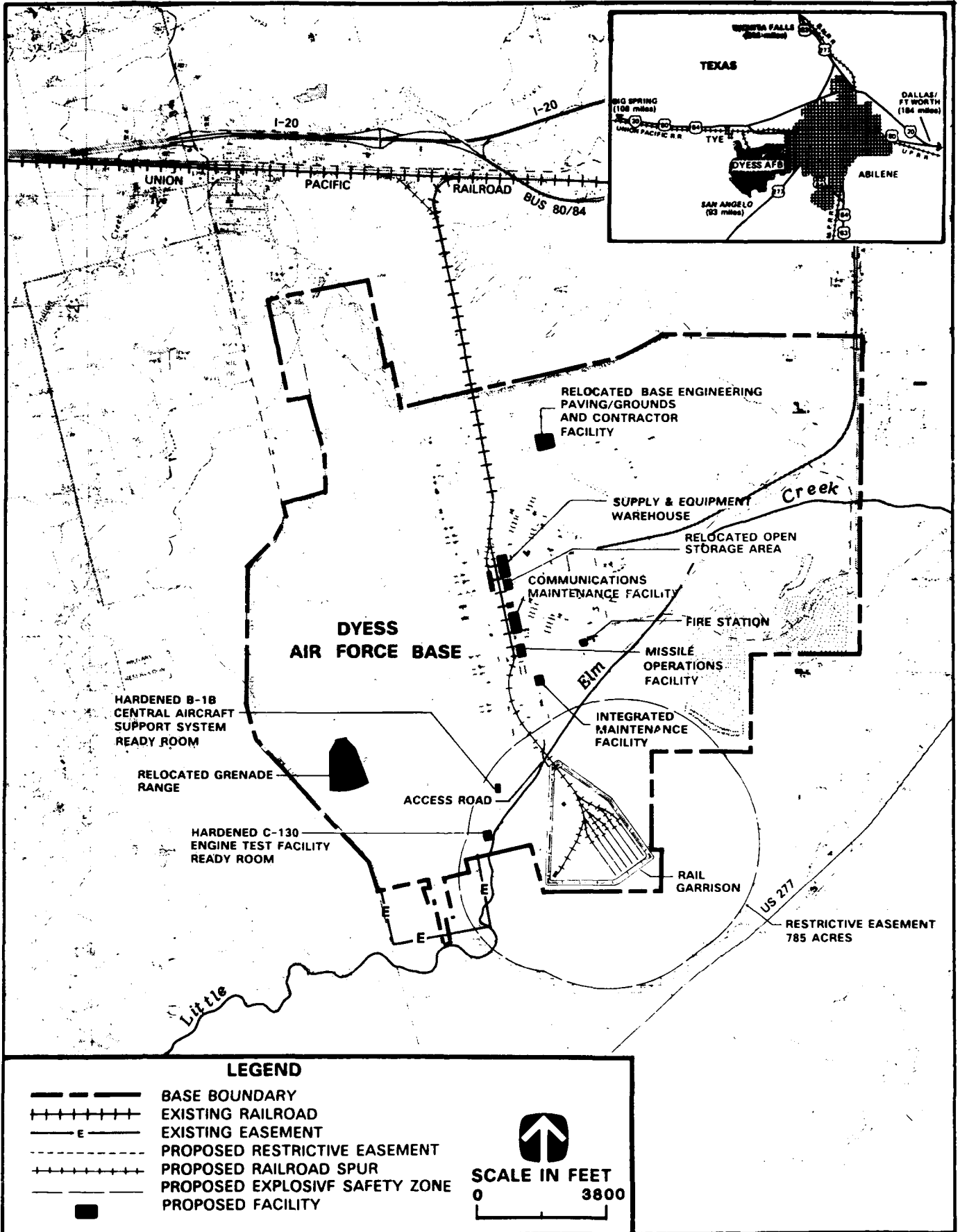
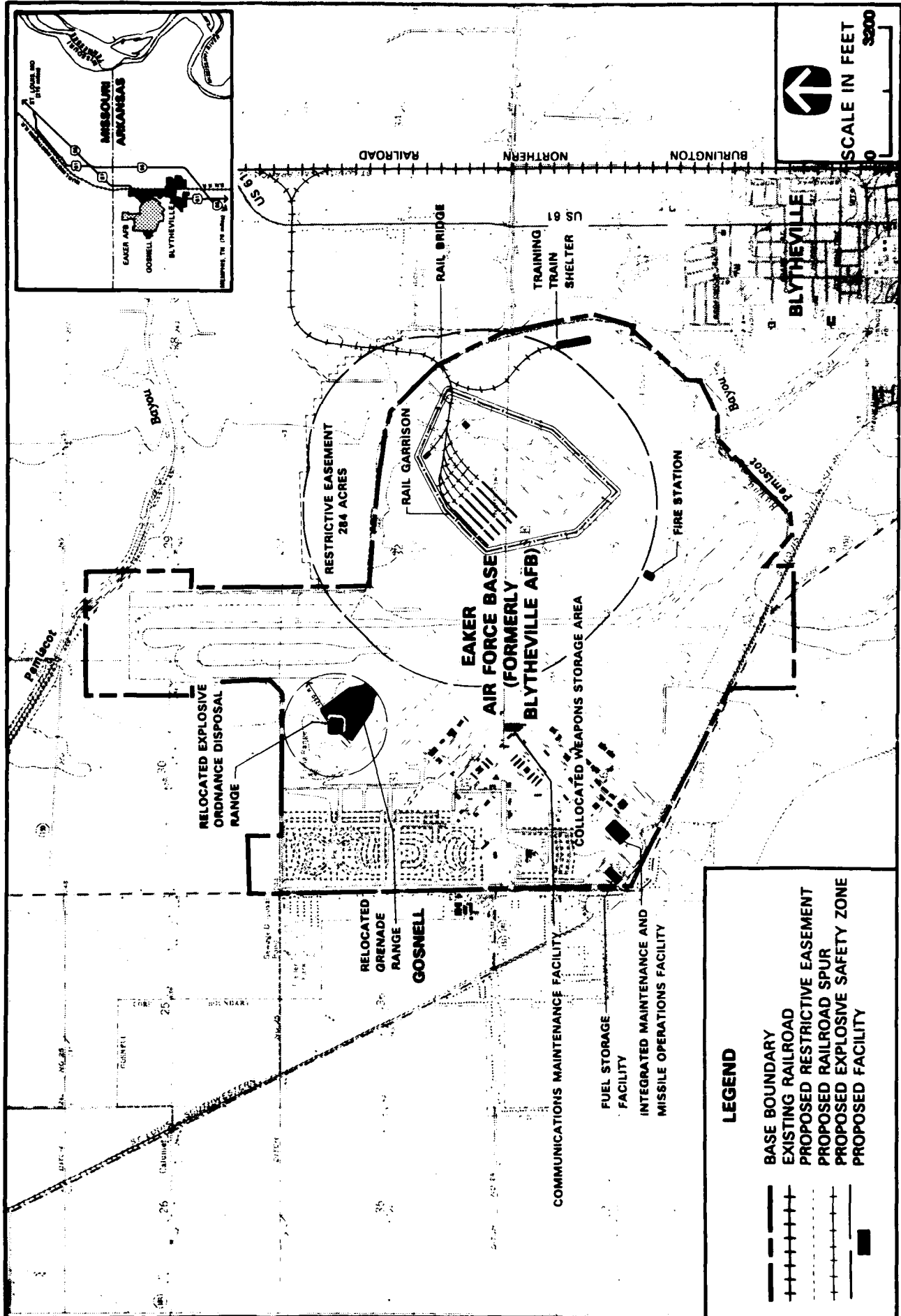


FIGURE S-23 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT DYESS AFB, TEXAS (SOUTH SITE OPTION) (ALTERNATIVE ACTION)



LEGEND

- BASE BOUNDARY
- +++++ EXISTING RAILROAD
- - - - - PROPOSED RESTRICTIVE EASEMENT
- PROPOSED RAILROAD SPUR
- PROPOSED EXPLOSIVE SAFETY ZONE
- PROPOSED FACILITY

FIGURE S-25 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT EAKER AFB (FORMERLY BLYTHEVILLE AFB), ARKANSAS (ONBASE OPTION) (ALTERNATIVE ACTION)

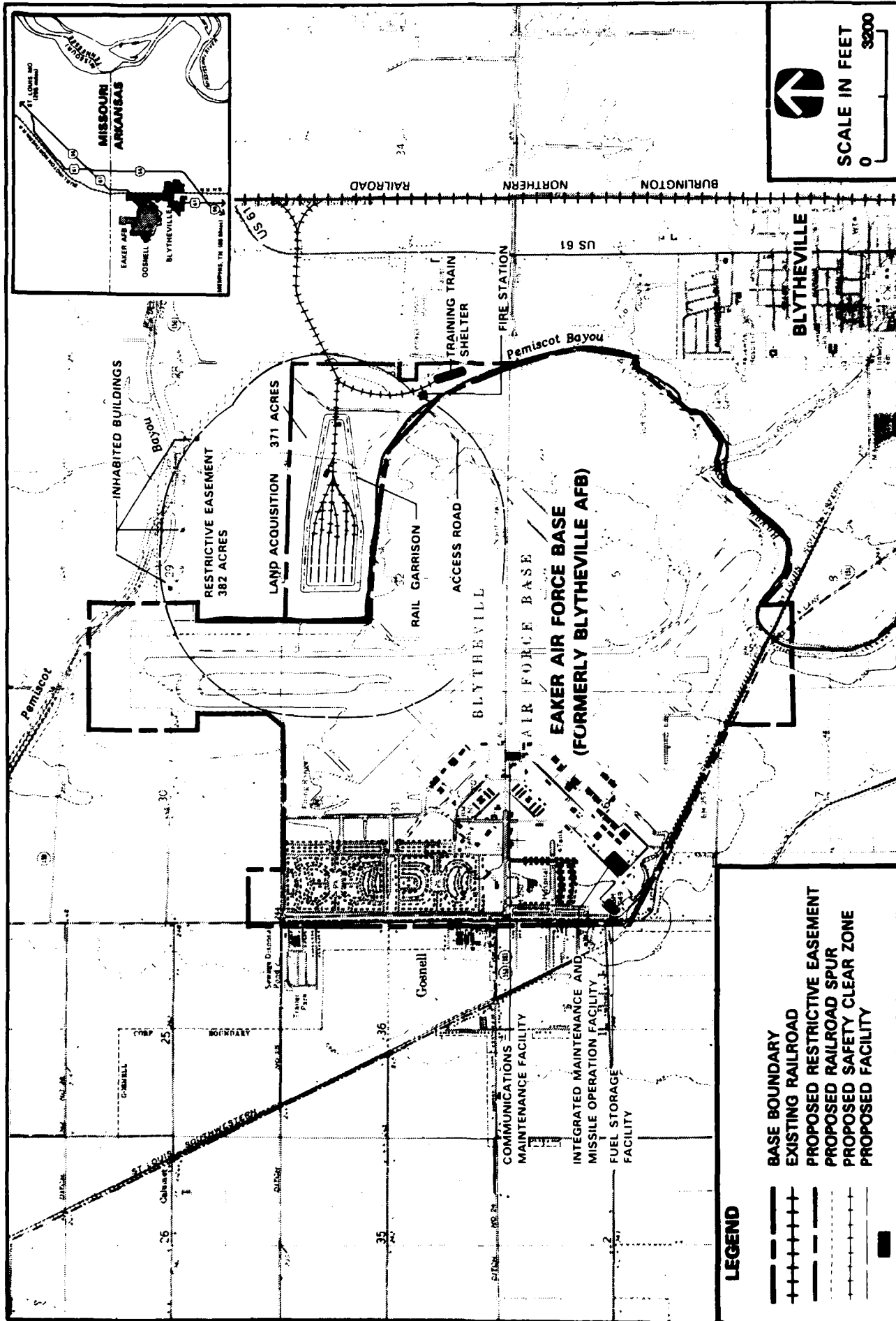


FIGURE S-26 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT EAKER AFB (FORMERLY BLYTHEVILLE AFB), ARKANSAS (OFFBASE OPTION) (ALTERNATIVE ACTION)

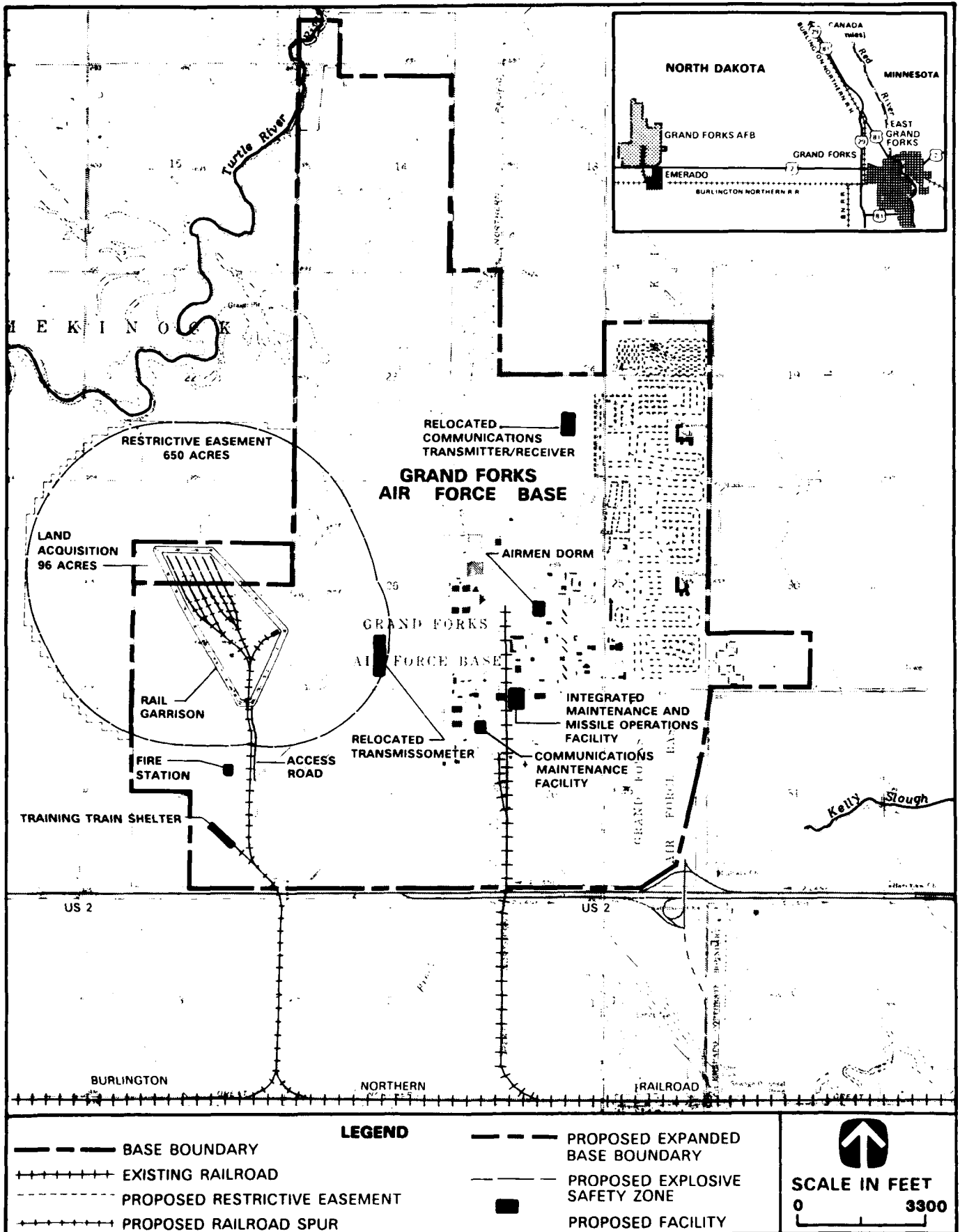
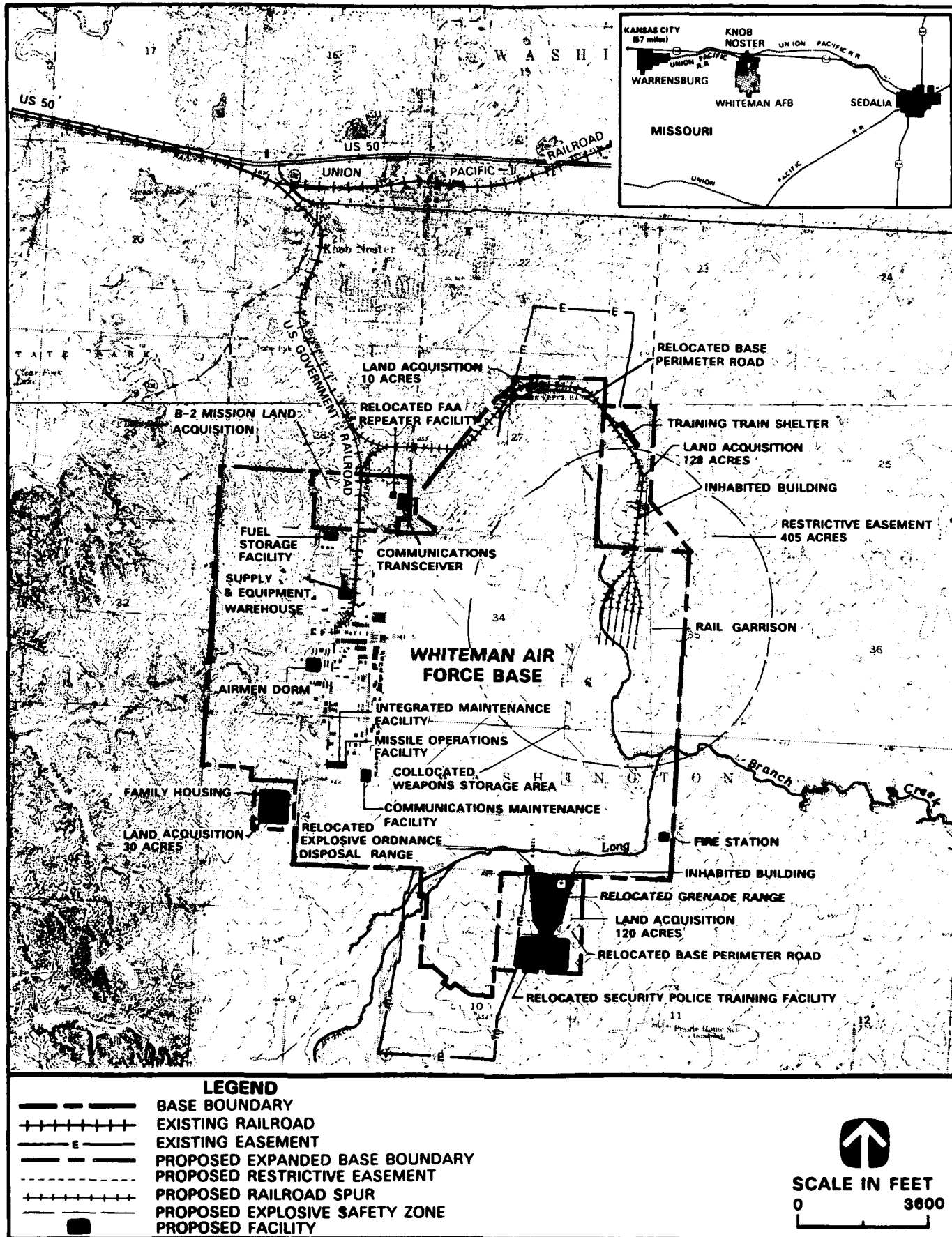
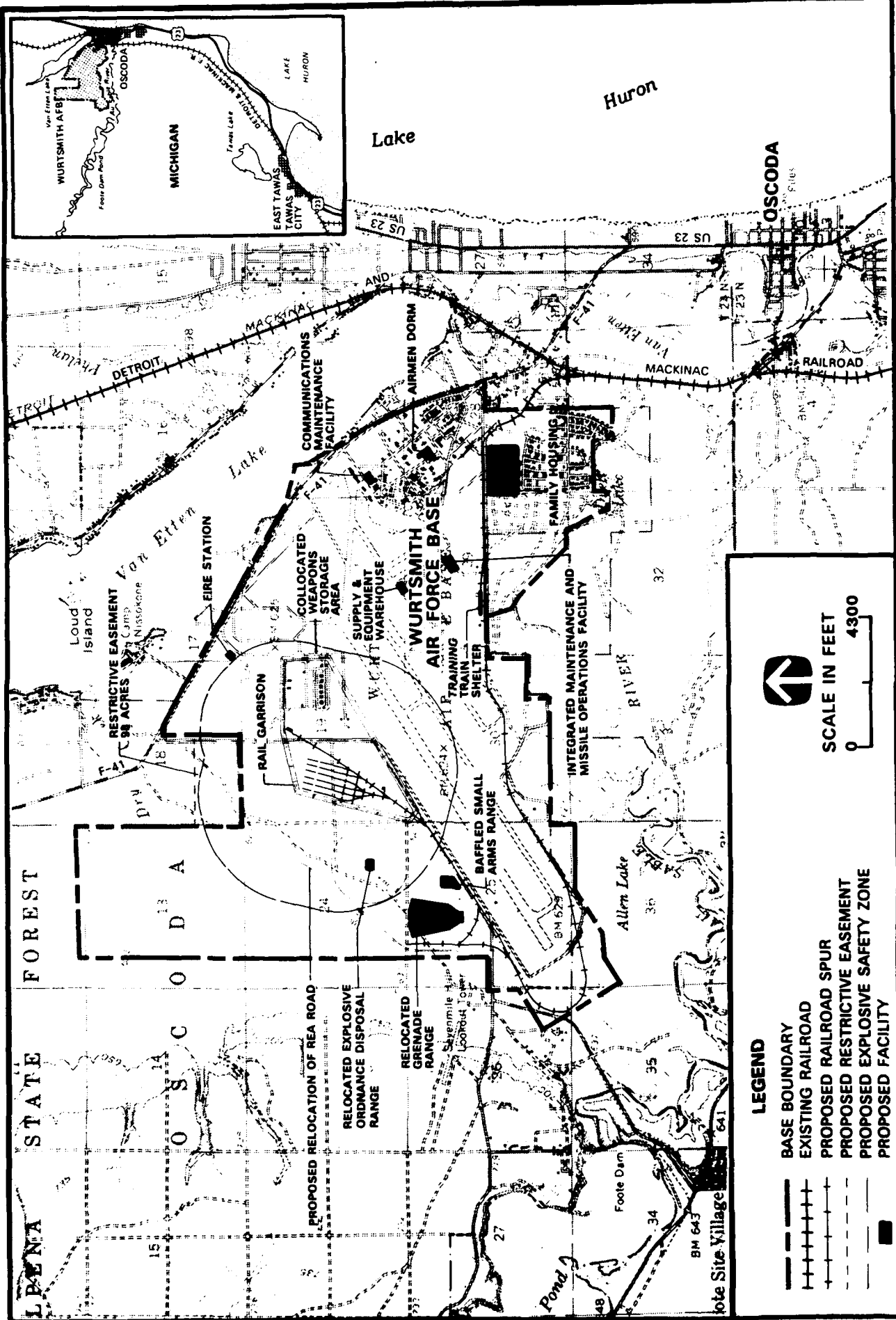


FIGURE S-28 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT GRAND FORKS AFB, NORTH DAKOTA (ALTERNATIVE ACTION)

GF-4/2 ESR-1/47



WM-4/2 ESR-1/52



LEGEND

- BASE BOUNDARY
- +++++ EXISTING RAILROAD
- - - - - PROPOSED RAILROAD SPUR
- - - - - PROPOSED RESTRICTIVE EASEMENT
- - - - - PROPOSED EXPLOSIVE SAFETY ZONE
- PROPOSED FACILITY

SCALE IN FEET
0 4300

↑

FIGURE S-34 PROPOSED PEACEKEEPER RAIL GARRISON FACILITIES AT WURTSMITH AFB, MICHIGAN (ALTERNATIVE ACTION)

582 jobs of which over 90 percent are military personnel. The removal of silo-based Peacekeeper missiles at F.E. Warren AFB would concurrently reduce personnel requirements for operational missile crews by an estimated 96 jobs. As a result, net manpower requirements of the Peacekeeper Rail Garrison program at F.E. Warren AFB would be 486 (including some transfer of PIMS manpower responsibilities) and as such, the potential employment and population impacts are based on a "net" estimate of the changes proposed for both programs.

Because the silo system will remain in active status pending a decision upon its disposition, no environmental impacts other than those related to the changes in personnel mentioned above are anticipated.

PREFERRED ACTION

This Final EIS for the Peacekeeper Rail Garrison program was prepared to provide substantive information for several interrelated decisions: whether or not to deploy Peacekeeper missiles in Rail Garrison basing, the number of Peacekeeper missiles to be deployed in this mode, the garrison locations at which to deploy the system, and the siting of facilities at selected Air Force installations. After a comprehensive review of all the system alternatives and options presented in this document, the Air Force has identified a single set of these choices as the Preferred Action for the Peacekeeper Rail Garrison program. This set includes the following:

- The Preferred Action is the deployment of 50 Peacekeeper missiles on 25 trains, based at F.E. Warren AFB and at up to 10 additional candidate garrison bases. F.E. Warren AFB would be the Main Operating Base (MOB) for the program.
- The Preferred Action is the initial deployment of up to eight Peacekeeper missiles (4 trains) at F.E. Warren AFB. Decisions on the final selection of additional garrison bases from the 10 candidate bases and the sequence of deployment will be made after the FEIS is filed and will be documented in one or more Records of Decision.
- Garrison siting options are presented for F.E. Warren AFB, Wyoming, the MOB, and for three potential garrison base installations: Dyess AFB, Texas; Eaker AFB, Arkansas; and Malmstrom AFB, Montana. At F.E. Warren AFB, the Preferred Action is the north site option located in the northern area of the existing base. The south site at Dyess AFB, onbase site at Eaker AFB, and south site at Malmstrom AFB will be the preferred siting options should any of these bases be selected as garrison locations.

OTHER FUTURE AIR FORCE PROGRAMS AT PEACEKEEPER RAIL GARRISON BASES

A number of Air Force programs, some publicly announced and some classified, are being considered or programmed for deployment at some of the 11 installations. The publicly announced programs include possible deployment of Small Intercontinental Ballistic Missiles (ICBMs) at Malmstrom AFB, Montana and F.E. Warren AFB, Wyoming; deployment of a second squadron of KC-135R tanker aircraft at Malmstrom AFB; deployment of the B-2 bomber at Whiteman AFB, Missouri; and deployment of the Central Radar System, Over-the-Horizon Backscatter radar program at Grand Forks AFB, North Dakota. Discussion of these unclassified programs is included in the future baseline or cumulative impact sections, as appropriate. The cumulative environmental impacts of classified programs are covered in a classified annex to this EIS.

DECOMMISSIONING

It is difficult to predict when and how the Peacekeeper Rail Garrison system, if deployed, would be decommissioned. The relevant laws and procedures are likely to change substantially in the 20 or more years the system would be in use. Moreover, techniques for handling the disposal of obsolete missile fuel and the reclamation or disposal of the nuclear material contained in the warheads may well change during the period the Peacekeeper is actively deployed. Consequently, the Air Force has focused this EIS on those actions which are reasonably foreseeable. When the decision is made and the manner of decommissioning is known, the Air Force will analyze the environmental consequences associated with that decision and, at that time, invite appropriate public participation in the analysis process. The Air Force would follow all relevant laws at the time of decommissioning. The practice in the recently completed Titan decommissioning program was to remove the missiles from the silos and place them in storage for use as space boosters. It is possible that the same would be done for the Peacekeeper missiles. If they are not used in this manner, the missile fuel may be burned off or otherwise disposed. The warheads may be removed and reused or returned to the U.S. Department of Energy (DOE) for reclamation. The details of this process are presently classified.

ENVIRONMENTAL IMPACT ANALYSIS PROCESS

In 1987, Congress appropriated \$350 million for Peacekeeper Rail Garrison research and development. The Senate Armed Services Committee report that accompanied the fiscal year 1988-1989 Department of Defense Authorization Act (April 1987) urged the Air Force "to continue to preserve the option for an early 1990s deployment, including the conduct of siting studies and a site-specific environmental impact statement on the peacetime deployment and operation of the Peacekeeper Rail Garrison system. . . ." This EIS complies with that Congressional direction. The EIS analyzes the potential environmental impacts of proposed deployment of the Peacekeeper Rail Garrison system at F.E. Warren AFB and at up to 10 other garrison installations. Within the EIS, program-related impacts are reported for 10 resource categories at each location for the Proposed and Alternative Actions. These resource categories are: socioeconomics, utilities, transportation, land use, cultural, biological, water, geology and soils, air quality, and noise.

PUBLIC SCOPING PROCESS

The purpose of scoping was to identify the significant issues for study in the EIS, and to determine the scope of the research for each issue. Scoping activities were undertaken in response to federal requirements and as part of the assessment of environmental impacts of major federal actions. Preliminary data and information were collected from federal, state, and local government organizations in the areas near candidate deployment installations prior to scoping. Scoping meetings with the public and with governmental organizations were conducted during March and April 1988. A wide range of issues related to the physical and social environment, including safety considerations, were identified through the scoping process and have been incorporated into the analysis.

PUBLIC HEARING PROCESS

A Draft EIS (DEIS) was published and distributed for public review in June 1988. Public hearings on the DEIS were conducted between 25 July and 11 August 1988 at Abilene, Texas; Bossier City, Louisiana; Oscoda, Michigan; Jacksonville, Arkansas; Blytheville, Arkansas; Warrensburg, Missouri; Medical Lake, Washington; Grand Forks, North Dakota;

Great Falls, Montana; Cheyenne, Wyoming; and Minot, North Dakota. In addition, federal, state, and local agencies, as well as individuals and organizations, were invited to submit written comments to the Air Force by 31 August 1988. All comments received by the Air Force were analyzed for incorporation in this document. Many issues addressed during the public comment period led to further analysis, reanalysis, or verification of data and have resulted in revision or modification of the EIS text. A number of comments were related to issues which are outside the scope of this document or which required individual responses. These comments and their responses, as well as those which are responded to in the text of the EIS are contained in Volume II (Public Comments) of this document.

SUMMARY AND COMPARISON OF PROGRAM IMPACTS

The environmental consequences of the proposed Peacekeeper Rail Garrison program are evaluated in terms of the magnitude and significance of impacts. Magnitude is a measure of the numbers and kinds of environmental consequences of the program as compared to existing and future baseline conditions. Magnitude is defined by the level of impact (LOI), which can be negligible, low, moderate, or high. Significance requires consideration of both the context and the intensity of impacts. Context includes consideration of whether impacts are of short or long duration. Intensity refers to the severity of an impact, which includes consideration of its magnitude.

The LOI and significance of short- and long-duration impacts were evaluated separately. Short-duration impacts are transitory effects of the proposed program that are generally caused by construction activities or the starting of operations. Long-duration impacts would occur over an extended period of time, whether they begin in the construction phase or the operations phase. Most impacts from the operations phase are expected to be of long duration because program operations essentially represent a steady-state condition (i.e., impacts result from actions that occur repeatedly over a long period of time). However, long-duration impacts can also be caused by construction activities if a resource is destroyed or irreparably damaged, or if the recovery rate of the resource is very slow.

This summary highlights the major findings from the environmental analysis. First, the impacts on the national economy and national railroad network are presented. Next, the significant adverse impacts at F.E. Warren AFB and each candidate deployment location are presented. Finally, the conclusions of an extensive safety analysis are discussed.

National Economic Impacts

The Peacekeeper Rail Garrison program is expected to cost between \$10 billion and \$12 billion (in 1986 dollars) including expenditures for research and development, production (e.g., missile and train components), construction, and operations over the life of the system. Peak annual expenditures during the deployment period would occur in 1991, amounting to \$2.8 billion. These peak expenditures would represent 0.06 percent of forecast 1991 United States gross national product. Ongoing annual costs for operation and support of the program beyond 1993 are projected at about \$0.2 billion.

Total (direct and secondary) employment generated by the program is expected to increase from 32,000 jobs in 1989 to 120,000 jobs in 1991 at the peak of nationwide program expenditures. About 53,000 of these peak year jobs would be in manufacturing, with the remainder distributed among other sectors of the economy. By 1994, total program-related employment is projected to decrease to a steady-state level of about 9,000 jobs per year for the system operations phase.

Manufacturing capacity utilization for the United States economy is projected to average about 83 percent between 1989 and 1993. The economic expansion associated with the Peacekeeper Rail Garrison program can be expected to be supported under these conditions without creating labor and material shortages. However, certain key sectors, such as missile components, rocket fuels, and locomotive production, may experience increased backlogs. Because United States government purchases would represent substantial portions of the output in these sectors, it may be necessary for government agencies to set schedule priorities among alternative programs.

National Rail Transportation Impacts

For the purpose of analyzing the Proposed Action, 2 Peacekeeper trains are assumed to be deployed at F.E. Warren AFB, the MOB, and 23 at up to 10 other garrison installations. Initial deployment of the Peacekeeper trains, which would involve 11 to 12 train trips per year for two years, would have negligible effects on the normal operations of the commercial railroads. If all 25 Peacekeeper trains are dispersed on the commercial rail network simultaneously in times of national need, an additional 25 train trips per day would be generated for the duration of the dispersal activity. Additionally, there would be 200 to 300 training train trips per year. Compared to the 5,000 to 7,000 daily train trips on the national rail network, the additional trips would be considered insignificant.

For the Alternative Action, 4 Peacekeeper trains are assumed to be deployed at F.E. Warren AFB and 46 at up to 10 other garrison installations. If all 50 trains are dispersed on the commercial rail network simultaneously, the additional 50 train trips per day for the duration of dispersal activity would likewise have an insignificant effect on the national rail network.

Comparative Analysis of Environmental Impacts of the Proposed and Alternative Actions

The construction and deployment of the Peacekeeper Rail Garrison program at the MOB and each candidate garrison installation would result in both beneficial and adverse environmental impacts. Beneficial socioeconomic effects, such as increases in employment and income and greater utilization of vacant housing, would occur at all locations and are not discussed further. Significant adverse impacts occurring at the MOB (F.E. Warren AFB, Wyoming) and at each of the 10 candidate installations are presented to provide an overview of the extent of programwide impacts on 10 resource categories: socioeconomics, utilities, transportation, land use, cultural, biological, water, geology and soils, air quality, and noise. Cumulative impacts, including those associated with other potential programs in conjunction with the Proposed and Alternative Actions, are also presented (Figures S-35 and S-36). Impacts that are not considered significant are not presented in this summary text but are shown in Figures S-35 and S-36.

F.E. Warren Air Force Base, Wyoming. At F.E. Warren AFB, two site options (north and south) were considered. The Proposed Action for both site options would result in significant impacts for transportation and cultural resources. Short- and long-duration impacts on transportation would be moderate because of a reduction in the level of service (LOS) rating along Randall Avenue. The impacts would be significant because program-induced traffic would aggravate existing congested traffic conditions.

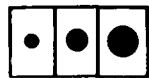
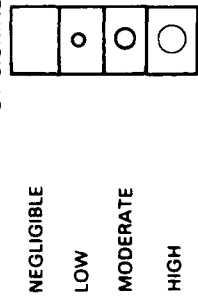
Long-duration impacts on cultural resources for the north site option would be low. Although eight sites eligible for the National Register of Historic Places (NRHP) would be affected, the five prehistoric sites are of types common in the region and construction

PROPOSED ACTION IMPACTS

ENVIRONMENTAL RESOURCES	SOCIOECONOMICS *		UTILITIES		TRANSPORTATION		LAND USE		CULTURAL **		BIOLOGICAL RESOURCES		WATER RESOURCES		GEOLOGY AND SOILS		AIR QUALITY		NOISE		
	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	
	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	
F.E. WARREN AFB (NORTH)	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
F.E. WARREN AFB (SOUTH)	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
F.E. WARREN AFB (CUMULATIVE)	●	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
BARKSDALE AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DYESS AFB (SOUTH)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DYESS AFB (NORTH)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
EAKER AFB (ONBASE)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
EAKER AFB (OFFBASE)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
FAIRCHILD AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
GRAND FORKS AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
LITTLE ROCK AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MALMSTROM AFB (SOUTH)	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MALMSTROM AFB (EAST)	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MALMSTROM AFB (CUMULATIVE)	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MINOT AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
WHITEMAN AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
WURTSMITH AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

LEVEL OF IMPACT

NOT SIGNIFICANT SIGNIFICANT



* Beneficial short- and long-duration socioeconomic (employment and income) impacts would occur at each location.

** Beneficial long-duration cultural resource impacts would occur at F.E. Warren AFB (south site option) and Eaker AFB (both onbase and offbase options)

FIGURE S-35 IMPACTS ASSOCIATED WITH THE PROPOSED PEACEKEEPER RAIL GARRISON PROGRAM (PROPOSED ACTION)

ALTERNATIVE ACTION IMPACTS

ENVIRONMENTAL RESOURCES	SOCIOECONOMICS		UTILITIES		TRANSPORTATION		LAND USE		CULTURAL **		BIOLOGICAL RESOURCES		WATER RESOURCES		GEOLOGY AND SOILS		AIR QUALITY		NOISE		
	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	SHORT DUR.	LONG DUR.	
IMPACT DURATION → INSTALLATION ↑																					
F.E. WARREN AFB (NORTH) ***	○	○	○	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
F.E. WARREN AFB (SOUTH) ***	○	○	○	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
F.E. WARREN AFB (CUMULATIVE) ***	●	●	○	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
BARKSDALE AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DIYESS AFB (SOUTH)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DIYESS AFB (NORTH)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
EAKER AFB (ONBASE)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
EAKER AFB (OFFBASE)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
FAIRCHILD AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
GRAND FORKS AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
LITTLE ROCK AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MALMSTROM AFB (SOUTH)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MALMSTROM AFB (EAST)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MALMSTROM AFB (CUMULATIVE)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MINOT AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
WHITEMAN AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
WURTSMITH AFB	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

LEVEL OF IMPACT

NOT SIGNIFICANT SIGNIFICANT

○	○	○	○
○	○	○	○
○	○	○	○
○	○	○	○

NEGLIGIBLE
LOW
MODERATE
HIGH

* Beneficial short- and long-duration socioeconomic (employment and income) impacts would occur at each location.
 ** Beneficial long-duration cultural resource impacts would occur at F.E. Warren AFB (south site option) and Eaker AFB (both onbase and offbase options)
 *** Net of reposturing of Peacekeeper in Minuteman Silos (PIMS) Missiles.

FIGURE S-36 IMPACTS ASSOCIATED WITH THE PROPOSED PEACEKEEPER RAIL GARRISON PROGRAM (ALTERNATIVE ACTION)

would only affect small portions or segments of the three historic sites. The impacts would be significant because the disturbance of these sites would constitute a loss of scientific research potential.

Long-duration cultural resource impacts for the south site option would also be low. Nine sites eligible for the NRHP would be affected, including four identified for the north site option. Five additional sites have been identified at the south site. Construction would disturb portions of two sites and three would be affected primarily by visual intrusions on their setting. The impacts would be significant because they would diminish the qualities that qualify the sites for the NRHP.

Impacts of the Proposed Action on all other resources for both site options would not be significant.

The Alternative Action at F.E. Warren AFB for both site options would not alter the LOI or significance rating for any resource.

Deployment of either the Proposed or Alternative Action and the Small ICBM program would result in significant cumulative impacts on socioeconomics, transportation, cultural resources, water resources, geology and soils, and air quality. Short-duration socioeconomic impacts would be moderate and long-duration impacts would be high because immigration would increase the population in the Cheyenne area by 7.5 percent above baseline projections during construction (1995) and approximately 13 percent during operations (1999). The impacts would be significant because of the need for new housing and expanded school facilities, and the potential for revenue shortfalls in local jurisdictions. Short- and long-duration transportation impacts would be high because of increased traffic congestion along Randall Avenue. The impacts would be significant because the LOS would drop to a substandard level.

Long-duration cultural resource impacts would be moderate because additional NRHP-eligible sites would be affected. The impacts would be significant because of the loss of scientific research potential. Long-duration water resource impacts would be low because the Small ICBM Hard Mobile Launcher (HML) vehicle operations training area, which would be located in the upper portion of the Dry Creek drainage, would result in a small increase in stormwater runoff. The impacts would be significant because of the potential for aggravating flooding problems which frequently occur along the creek during periods of intense rainfall. Long-duration geology and soil impacts would be moderate because of accelerated rates of erosion at the HML vehicle operations training area, which would be barren for the life of the Small ICBM program. The impacts would be significant because the permanent disturbance and erosion of 250 acres associated with the HML area would result in an appreciable net loss of topsoil. Long-duration air quality impacts would be high because the fugitive dust generated by the HML training activities would result in 24-hour average ambient particulate matter (PM₁₀) concentrations in excess of 150 µg/m³ at the base property lines. The impacts would be significant because these concentrations would result in violations of the PM₁₀ National Ambient Air Quality Standards (NAAQS).

Cumulative impacts on all other resources would not be significant.

Barksdale Air Force Base, Louisiana. The Proposed Action at Barksdale AFB would result in significant impacts for biological resources. Long-duration impacts on biological resources would be high because the program would affect approximately 189 acres of wetland habitat, cause associated disturbances in surrounding wetland habitats, and result in the degradation of local and regional biological communities.

These impacts would be significant because of the ecological importance of the habitat and the level of concern these potential impacts would elicit from natural resource management agencies.

Impacts on all other resources would not be significant. However, if local plans to alleviate traffic congestion in Bossier City are not implemented, the traffic along Barksdale Boulevard and Airline Drive would be further congested. The additional degradation of service along these roads would result in low and significant transportation impacts.

The Alternative Action at Barksdale AFB would not alter the LOI or significance rating for any resource.

Dyess Air Force Base, Texas. At Dyess AFB, two site options (south and north) were considered. The Proposed Action (south site option) would result in significant impacts on cultural resources. Long-duration impacts would be low because one prehistoric site of a type common in the region would be disturbed. The impacts would be significant because the disturbance of this site would constitute a loss of scientific research potential. The Proposed Action (north site option) would result in significant impacts on land use and cultural resources. Short- and long-duration land use impacts would be low because two inhabited buildings would be located within the explosive safety zone for the garrison. The impacts would be significant because the buildings may require relocation. Long-duration cultural resource impacts would be low and significant because the site affected for the south site option would also be affected for this site option, though by construction of different facilities.

Impacts on all other resources for both siting options would not be significant.

The LOI and significance ratings for all resources for the Alternative Action would be the same as for the Proposed Action.

Eaker Air Force Base, Arkansas. At Eaker AFB, two site options (onbase and offbase) were considered. The Proposed Action (onbase option) would result in significant impacts on cultural resources. Long-duration impacts on cultural resources would be low. Construction would affect portions of two sites, including a major prehistoric archaeological site; however, only a small portion of the site would be disturbed. The impacts would be significant because of the loss of considerable scientific research potential, reflected in their eligibility for the NRHP. The protection of undisturbed portions of prehistoric sites would be a beneficial effect of the program.

Impacts on all other resources for the onbase option not be significant.

The Proposed Action (offbase option) would result in significant impacts on: land use and cultural resources. Short- and long-duration impacts on land use would be low because one inhabited building would be located within the explosive safety zone for the garrison. The impacts would be significant because the building may require relocation. Long-duration impacts on cultural resources would be low because two prehistoric sites of a type more common in the region would be disturbed. The impacts would be significant because the overall research potential of the sites would be diminished.

Impacts on all other resources for the offbase option would not be significant.

The Alternative Action (onbase option) would result in significant impacts on cultural resources. Long-duration impacts would be moderate because construction of the

garrison would affect a larger portion of the major prehistoric archaeological site. The impacts would be significant because of the loss of research potential. The impacts for the offbase option would remain low and significant.

Impacts on all other resources for both options would not be significant.

Fairchild Air Force Base, Washington. The Proposed Action at Fairchild AFB would result in significant impacts on land use, biological resources, and air quality. Short- and long-duration land use impacts would be moderate because of impacts on visual attributes, and because one inhabited building would be located within the explosive safety zone for the garrison. These impacts would be significant because the building may require relocation. Long-duration impacts on biological resources would be moderate because wetland areas would be permanently disturbed and several federal-candidate and state-recognized sensitive species would likely be affected. The impacts would be significant because of the ecological importance of the habitats and the level of concern potential wetland impacts would elicit from natural resource management agencies. Local short-duration air quality impacts would be high because the 24-hour average ambient PM₁₀ concentrations would exceed 150 µg/m³ at the base property lines. The impacts would be significant because these concentrations would result in violations of the PM₁₀ NAAQS.

Impacts on all other resources would not be significant.

The Alternative Action at Fairchild AFB would not alter the LOI or significance ratings for any resource.

Grand Forks Air Force Base, North Dakota. The Proposed Action at Grand Forks AFB would result in significant air quality impacts. Local short-duration air quality impacts would be high because the 24-hour average ambient PM₁₀ concentrations would exceed 150 µg/m³ at the base property lines. The impacts would be significant because these concentrations would result in violations of the PM₁₀ NAAQS.

Impacts on all other resources would not be significant.

The Alternative Action at Grand Forks AFB would not alter the LOI or significance ratings for any resource.

Little Rock Air Force Base, Arkansas. The Proposed and Alternative Actions at Little Rock AFB would not result in significant impacts for any resource.

Malmstrom Air Force Base, Montana. At Malmstrom AFB, two site options (south and east) were considered. The Proposed Action for both site options would result in significant impacts on socioeconomics and transportation. Socioeconomic impacts would be low because program-induced immigration would increase the population in the Great Falls area by 1.3 percent above baseline levels during construction (1992) and 1.1 percent over baseline during operations (1993 onwards). This level of program-induced population growth would result in low impacts on housing, education, public services, and public finance for the peak (1992) and succeeding years. The impacts would be significant because additional program-related population could aggravate existing overcrowded conditions in the Cascade County jail. Transportation impacts for both site options would be moderate because of a reduction in the LOS rating for segments of 10th Avenue South. The impacts would be significant because program-induced traffic would aggravate existing congested conditions.

Impacts of the Proposed Action on all other resources for both site options would not be significant.

The Alternative Action at Malmstrom AFB would not alter the LOI or significance ratings for any resource.

Deployment of the south site option for either the Proposed or Alternative Action, the second KC-135R squadron, and the proposed Small ICBM program would result in significant impacts on socioeconomics, transportation, geology and soils, and air quality. Both short- and long-duration socioeconomic impacts would be high because immigration would increase the population in the Great Falls area by 13 percent above baseline projections during the construction phase and 12.3 percent during operations. These impacts would be significant because of the need for expanded school facilities near Malmstrom AFB, the aggravation of existing overcrowded conditions in the Cascade County jail, and revenue shortfalls in Cascade County. Both short- and long-duration transportation impacts would be high because of a reduction in the LOS rating for segments of 10th Avenue South. The impacts would be significant because the LOS would drop to a substandard level. Long-duration geology and soils impacts would be moderate because of accelerated rates of erosion at the Small ICBM HML vehicle operations training area which would remain barren for the life of the program. These impacts would be significant because the permanent disturbance and erosion of 350 acres associated with the HML training area would result in an appreciable loss of topsoil. Long-duration air quality impacts would be high because the fugitive dust generated by the HML training activities would result in 24-hour average ambient PM_{10} concentrations in excess of $150 \mu\text{g}/\text{m}^3$ at the base property lines. The impacts would be significant because these concentrations would result in violations of the PM_{10} NAAQS.

Minot Air Force Base, North Dakota. The Proposed Action at Minot AFB would result in significant air quality impacts. Local short-duration air quality impacts would be high because the 24-hour average ambient PM_{10} concentrations would exceed $150 \mu\text{g}/\text{m}^3$ at the base property lines. The impacts would be significant because these concentrations would result in violations of the PM_{10} NAAQS.

Impacts on all other resources would not be significant.

The Alternative Action at Minot AFB would not alter the LOI or significance ratings for any resource.

Whiteman Air Force Base, Missouri. The Proposed Action at Whiteman AFB would result in significant impacts on socioeconomics, land use, biological resources, and air quality. Short-duration socioeconomic impacts would be high because immigration would increase the population in the Knob Noster area by 10.4 percent above baseline projections by 1992. Long-duration impacts would be moderate because of immigration of 9.6 percent over baseline during operations. The short-duration impact would be significant because the demand for permanent units in 1994 and for temporary housing facilities during the construction phase would create shortages in the local housing market. Long-duration impacts would not be significant. However, if current plans for the financing and construction of new school facilities in Knob Noster and Warrensburg to accommodate projected baseline requirements are not implemented, education impacts in these communities would be significant. In addition, if program-related military family housing is not provided at Whiteman AFB, long-duration housing impacts would be significant.

Short- and long-duration land use impacts would be low because two inhabited buildings would be located within the explosive safety zone for the garrison or within land to be

acquired for the program. The impacts would be significant because the buildings may require relocation. Long-duration biological resources would be moderate because important wetland and forest habitat would be lost and the wildlife inhabiting those areas would be affected. The impacts would be significant because of the ecological importance of the habitats affected and the level of concern these potential impacts would elicit from natural resource management agencies. Local short-duration air quality impacts would be high because the 24-hour average ambient PM₁₀ concentrations would exceed 150 µg/m³ at the base property lines. The impacts would be significant because these concentrations would result in violations of the PM₁₀ NAAQS.

Impacts on all other resources would not be significant.

The Alternative Action at Whiteman AFB would result in high long-duration socioeconomic impacts but would not alter the LOI or significance ratings for other resources.

Wurtsmith Air Force Base, Michigan. The Proposed Action at Wurtsmith AFB would result in significant impacts on socioeconomics, biological resources, and water resources. Short-duration impacts on socioeconomics would be moderate because the program-related immigration would increase the population in the Oscoda area by 7.6 percent over baseline projections in 1992 and by 7.2 percent in 1993. The impacts would be significant because of a potential shortage of permanent and temporary housing during the construction phase of the program. In addition, if program-related military family housing is not provided at Wurtsmith AFB, long-duration housing impacts would be significant.

Long-duration impacts on biological resources would be moderate because important wetland habitat would be filled and/or disturbed, local drainage patterns would be altered, and the wildlife populations inhabiting those areas would be affected. In addition, the program would result in the loss of forest habitat. The impacts would be significant because of the ecological importance of the wetland habitat which would be affected and the concern these impacts would elicit from natural resource management agencies. Long-duration impacts on water resources would be low because the pumping of additional water needed to supply program requirements would be expected to have only a minor effect on local groundwater drawdown. The impacts would be significant because program water needs would be drawn from wells vulnerable to groundwater contamination from adjacent areas of the local aquifer.

Impacts on all other resources would not be significant.

The Alternative Action at Wurtsmith AFB would result in significant air quality impacts. Local short-duration air quality impacts would be high because the 24-hour average ambient PM₁₀ concentrations would exceed 150 µg/m³ at the base property lines. The impacts would be significant because the concentrations would result in violations of the PM₁₀ NAAQS.

The Alternative Action would not alter the LOI or significance ratings for any other resource.

Safety Considerations

Safety has been and will continue to be of utmost concern throughout the development and proposed deployment of the Peacekeeper Rail Garrison system. Safety programs implemented during Peacekeeper missile system development are being continued; those

formulated for deployment of Peacekeeper Missiles in Minuteman Silos are being revised and expanded to reflect the Rail Garrison basing concept.

The analysis of safety concerns associated with the proposed deployment of the Peacekeeper Rail Garrison system includes an evaluation of the risks posed by rail, air, and truck transportation of the missiles and reentry systems, and the potential for fires, explosions, and radioactive material releases. In addition, the risk to the missile crews from exposure to radiation during day-to-day in-garrison operations (the "accident-free" risk, see Section 5.2.2.3) has been analyzed along with the accident-free risk to the general public that would exist during dispersal operations.

The major findings of these analyses are: (1) while there is a very slight potential for accidents with the deployment of the Peacekeeper Rail Garrison system, the system would be safe and would pose negligible risk to human health and the environment; and (2) in the absence of an accident, the materials in the Peacekeeper missile would impose an extremely small health risk to Air Force personnel who would be exposed to them on a daily basis and even less to the general public during infrequent dispersals.

The Peacekeeper program will build upon the safety programs of the Air Force Weapons Laboratory, the rail industry, the Federal Railroad Administration (FRA), and the American Association of Railroads (AAR). Peacekeeper trains are expected to have a substantially better safety record than commercial rail traffic because the Peacekeeper locomotives would be new and the cars would be the most modern available, contain special safety features, be better maintained, and would be subjected to less wear than commercial rolling stock.

If an accident occurred involving a train carrying missiles, the missiles would be protected by the launch tube and the missile launch car structure. One Peacekeeper missile stage contains a propellant classified as a high explosive. However, it is an insensitive high explosive that can withstand much higher temperature, shock, crush, and other abnormal environments without igniting or exploding, than many other chemicals routinely transported on the national rail network and highways. The inherent stability of the solid propellants makes the missile an unlikely source of explosion or fire.

United States nuclear weapons include safety features and control over arming mechanisms that assure there is virtually no possibility of an inadvertent nuclear detonation. There has never been even a partial nuclear detonation of a United States weapon as a result of an accident. In the few accidents in the past involving nuclear weapons, the nuclear safety devices performed as designed and no nuclear detonation occurred. The Peacekeeper weapons incorporate improved, additional safety features to ensure that no nuclear explosion would occur as the result of an accident.

Specially certified Air Force aircraft flown by specially selected and qualified crews will be the primary means of moving the reentry systems with nuclear warheads between the Main Operating Base (MOB) (F.E. Warren Air Force Base [AFB], Wyoming) and the deployment installations. The probability of an accident during air transportation of the reentry systems is extremely small. In fact, the Air Force units that handle these systems have transported nuclear materials for 25 years and have never experienced an accident of the type that would create any possibility of damage to the reentry system.

Of all Peacekeeper trains, only those on alert or in strategic dispersal would have even the slightest potential of an accident involving radioactive materials. In the exceedingly unlikely event of a fire or conventional explosion causing airborne dispersal of radioactive materials, the chance that an exposed person would eventually develop

cancer would increase. Though such consequences are very serious, radioactive material dispersal would be so unlikely that it is considered a negligible risk.

The proposed routine uses of the national rail network are for training trains, for occasional movement of missiles between garrison installations and the MOB for maintenance, and for transporting a small number of missiles to Vandenberg AFB, California for operational readiness training (ORT). Because the training trains would not carry missiles or warheads, no propellant or radioactive material hazard would arise in an accident. The train transportation of missiles (without warheads) for maintenance and ORT would involve only a few trips and thus would constitute a very small risk.

In the unlikely event of an accident, the Department of Defense (DOD) would respond promptly by deploying specially trained and equipped initial response teams. Control of access to the site, fire suppression, and the rescue and treatment of casualties would be the most immediate concerns; DOD would assign an on-scene commander who would coordinate the activities of federal agencies and any responding local and state agencies. Recovering and rendering safe any weapons would begin as soon as DOD or U.S. Department of Energy (DOE) explosive ordnance disposal and emergency response personnel arrived at the site. If there were a release or threatened release of hazardous materials as a result of the accident, the U.S. Environmental Protection Agency (EPA) National Response Center would be notified. The EPA spill response teams would be dispatched to assist in containment and clean up, as appropriate. If radioactive or other hazardous materials were dispersed, all contaminated areas would be treated to comply with applicable federal, state, and local standards.

NO ACTION ALTERNATIVE

With this alternative, the Peacekeeper Rail Garrison system would not be deployed. Activities at F.E. Warren AFB and the other candidate Air Force installations would continue to support existing or proposed missions. For the host community, environmental changes would occur as a result of baseline activities. A description of these activities is contained within the "Existing and Future Baseline Conditions" section of each resource.

MITIGATION MEASURES

Mitigation measures are undertaken to minimize the adverse environmental impacts of a given program. For the Peacekeeper Rail Garrison program, efforts have been made in the planning process and will continue to be made to avoid environmentally sensitive areas and thereby eliminate or reduce program impacts.

The Air Force has made a commitment to follow specific procedures and guidelines that protect and restore environmental resources disturbed by program activity. These mitigations may include:

- Avoidance of sensitive cultural resources wherever possible;
- Adherence to base architectural and planning guidelines;
- Minimization of disturbance area;
- Recontouring and revegetation of disturbed areas;

- Avoiding wetland habitat wherever possible;
- Mulching disturbed ground after construction;
- Stockpiling topsoil for re-use;
- Controlling runoff and rates of erosion;
- Utilizing sediment control measures;
- Minimizing stream crossings and disturbances in floodplains;
- Minimizing interruptions to local traffic flow;
- Using alternate base gates if available; and
- Providing military family housing, if necessary, to avoid shortages of low- and moderately priced housing.

Since the Air Force is committed to the implementation of these mitigations, their effectiveness in reducing adverse conditions was considered in the determination of program impacts.

In addition, other mitigation programs may be implemented to rehabilitate or restore the affected environment or to reduce or eliminate impacts through preservation procedures or compensation.