Final Environmental Assessment/Environmental Impact Report
For the Construction of the
Army Aviation Support Facility at
Westfield Barnes Municipal Airport
Westfield, Massachusetts
for

Massachusetts Army National Guard
50 Maple Street
Milford, Massachusetts 01757

January 2001

S E A Consultants Inc.
Scientists/Engineers/Architects

1999275.05A

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EXECUTIVE SUMMARY

The Massachusetts Army National Guard (the MAARNG) has prepared this Final Environmental Assessment (EA)/Environmental Impact Report (EIR)(or EA/EIR), which describes and analyzes construction and installation of the Proposed Action. The Proposed Action involves the construction, installation and subsequent operation of an approximately 60,000 square foot (sf) Army Aviation Support Facility (AASF) and a 10,000 sf Readiness Support Facility (RSF) to replace the facility currently in use at Westover Air Force Reserve Base (AFRB) in Chicopee, Massachusetts. The current facility is undersized, outdated and scheduled for demolition. The proposed AASF and RSF consists of the placement of permanent masonry and steel construction with built-up roofs, concrete floors, mechanical and electrical equipment, and partitions of masonry block. Supporting facilities include: rigid and flexible paving for aircraft parking/tie down pads; ground support equipment; helicopter hover lanes; a secondary containment area for two mobile fuel storage units; an aircraft wash facility; exterior lighting; fire protection; and fencing.

In addition, the project also involves the construction of 130,000 sf of internal roadways and parking areas, as well as a 402,000 sf aircraft parking apron.

The Proposed Action has been analyzed for potentially adverse impacts under the following topics:

- geology and soils
- air quality
- water resources
- vegetation
- wildlife
- threatened and endangered species
- wetlands
- cultural resources
- land use
- noise
- socioeconomics
- utilities
- hazardous materials and hazardous waste

This EA/EIR identifies, documents and evaluates the potential environmental impacts of construction of the AASF and its RSF. Section 1 describes the existing conditions and the Proposed Action. Section 2 describes alternatives examined and rejected, and reasons for selection of the Proposed Action. Section 3 describes the status of past mitigation for projects approved by agencies of the Commonwealth. Section 4 describes impacts of noise on the adjacent community. Section 5 describes potential impacts to groundwater as well as area hydrogeology. Section 6 describes traffic impacts relating to the proposed curb cut at Route 10/202. Section 7 describes use of agricultural and other lands as a result of the Proposed Action. Section 8 describes coordination relating to the Massachusetts Contingency Plan. Section 9 contains the Proposed Section 61 Finding and mitigation measures relating thereto. Section 10 includes the Certificate of the Secretary of Environmental Affairs on the Environmental Notification Form and responses to the Scope contained therein. Section 11 details comment letters received, and provides responses to comments. The conclusions are presented in Section 12.

No significant environmental or human impacts are expected to occur from implementation of the Proposed Action. The potential for short-term construction period impacts will be mitigated by following best management practices (BMPs), which are listed in Appendix 3. Construction and operation of the facility will also comply with all applicable State and Federal regulatory authorities. In addition, compliance with local authorities has been provided for via extensive and ongoing coordination conducted by the MAARNG and its consultants with local boards in the City of Westfield as well as coordination with residents of the affected community.

The tarmac is proposed to be expanded a total of 13.6 acres for aircraft-related activities (e.g., pre-flight checks, parking, refueling, and static displays). This would result in the loss of an average of 45,000 gallons per day of recharge if the water was collected and transported out of the basin via a municipal sewerage system. The loss of 0.045 MGD represents less than ½ of one percent (0.5%) of the combined capacity of the four wells within the Conceptual Zone II and would not be considered a significant impact to the resource. However, the MAARNG is proposing to collect, filter, and discharge the run-off through a network of oil-water separators and detention basins. Therefore, the proposed expansion of the tarmac will have virtually no impact on the quantity of water available for recharge.

1. Existing Conditions and Project Description

1.1 Westfield Barnes Municipal Airport

The existing Barnes Air National Guard Base (ANGB) is abutted by the Westfield Barnes Municipal Airport, which is owned and operated by the City of Westfield. The airport consists of a terminal building, runways, paved parking aprons, storage and maintenance hangars, and a restaurant. Four airlines currently operate at the airport: Northeastern Air, Charis Air, Airflyte, and A.F.M. Corporation. All general aviation functions, including Federal Aviation Administration (FAA) facilities, management offices, airlines, maintenance buildings, parking aprons, and storage hangars are located at the southwestern portion of the airport. Land surrounding the airport is primarily zoned for industry and business. A limited amount of residential zoned land is found south of the airport, toward downtown Westfield (ABB 1992).

The proposed AASF and RSF will be constructed on property presently occupied by the Barnes Municipal Airport (See Figures 1 through 3 immediately following this page and in Appendix 1 for existing site conditions and the proposed site conditions for the AASF and RSF, respectively.)

1.2 Massachusetts Air National Guard Base

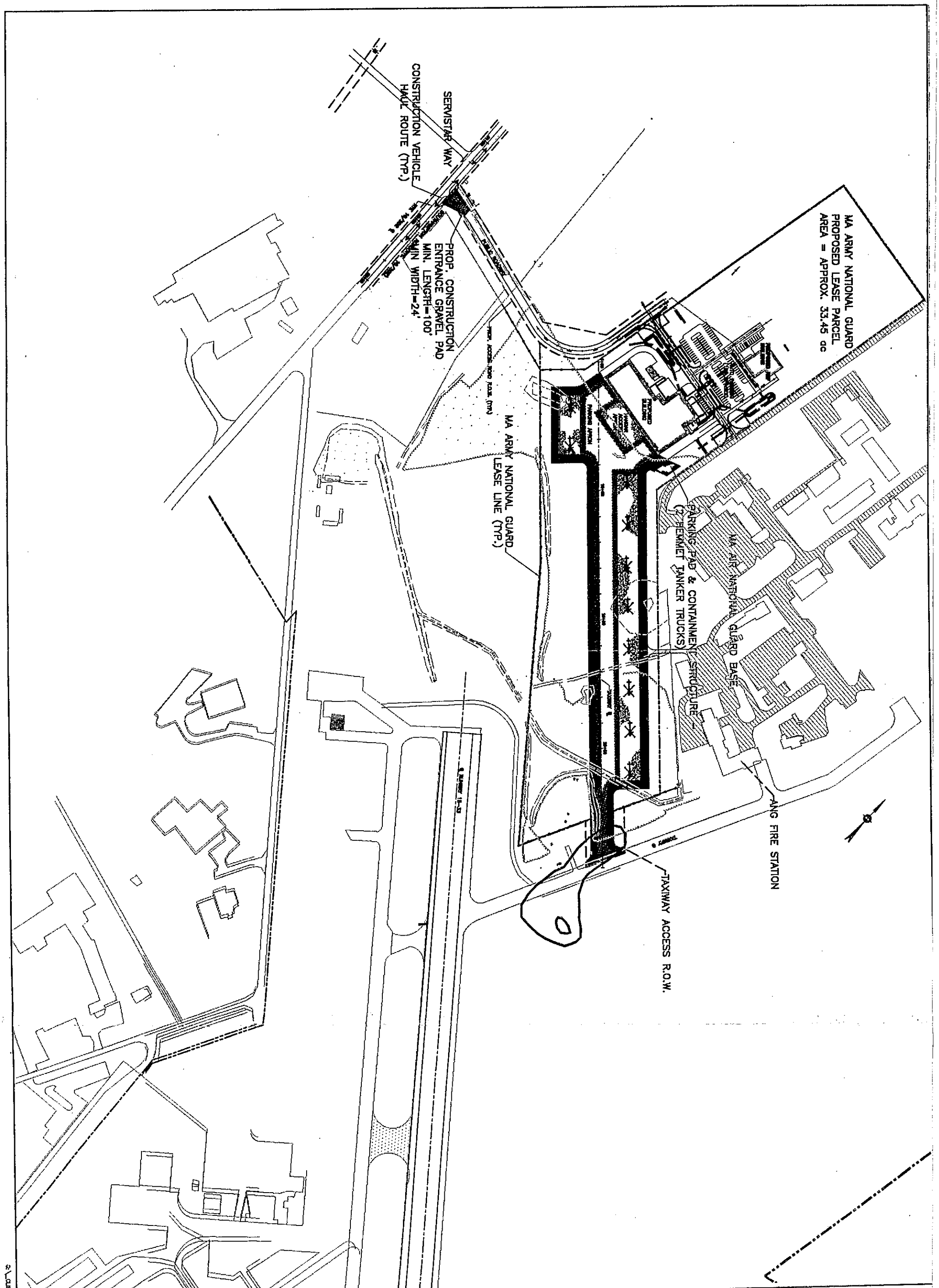
The Massachusetts ANGB is located at approximately 42 09' 30" north latitude and 72 45' 30" west longitude in Hampden County in the City of Westfield, Massachusetts, and approximately 1.5 miles north of the Westfield River and 5 miles west of the Connecticut River. The regional climate surrounding Westfield is characterized by warm summers and cold winters. The average high temperature in July is 82.6^0 F, while the average low temperature in January is 16.3^0 F. The annual precipitation is 41.6 inches.

The existing ANGB currently occupies two separate parcels totaling approximately 185 acres of land in the northern portion of the Barnes Municipal Airport. The Massachusetts Air National Guard (the MAANG) has maintained continuous and successful operations at the airport since 1947. The current unit is the 104th Fighter Wing (FW) (ABB 1992). Additional information on history and uses of the Base can be found in the Preliminary Assessment (PA) report completed by the Hazardous Materials Technical Center (HMTC 1988). MAANG facilities include operations buildings; maintenance and storage hangars; a petroleum, oil, and lubricant (POL) area; aircraft parking aprons; navigation aids; and Base support services (ABB 1992).

1.3 Proposed Action

The MAARNG proposes to construct and install a new AASF/RSF to replace the inadequate existing facility, as well as to ensure continued successful operation of the assigned unit. To accommodate construction and operation of the Proposed Action, the National Guard Bureau (NGB) proposes, under a Federal lease, to lease approximately 31 acres of land located at the Westfield Barnes Municipal Airport in Westfield, Massachusetts from the City of Westfield. The new AASF and RSF is proposed to meet the following requirements:

- Provide maintenance space for eight UH-1 Iroquois (Huey) and three OH-58C (Kiowas) helicopters
- Provide a secondary containment area for fuel truck storage
- Provide parking and office space for support personnel



ARMY AVIATION SUPPORT FACILITY

GENERAL PLAN

MASSACHUSETTS ARMY NATIONAL GUARD

File No. 99275.05

Sheet No. FIG.1

Scale	SCALE
Date	01/31/2001
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No.	Description	Date
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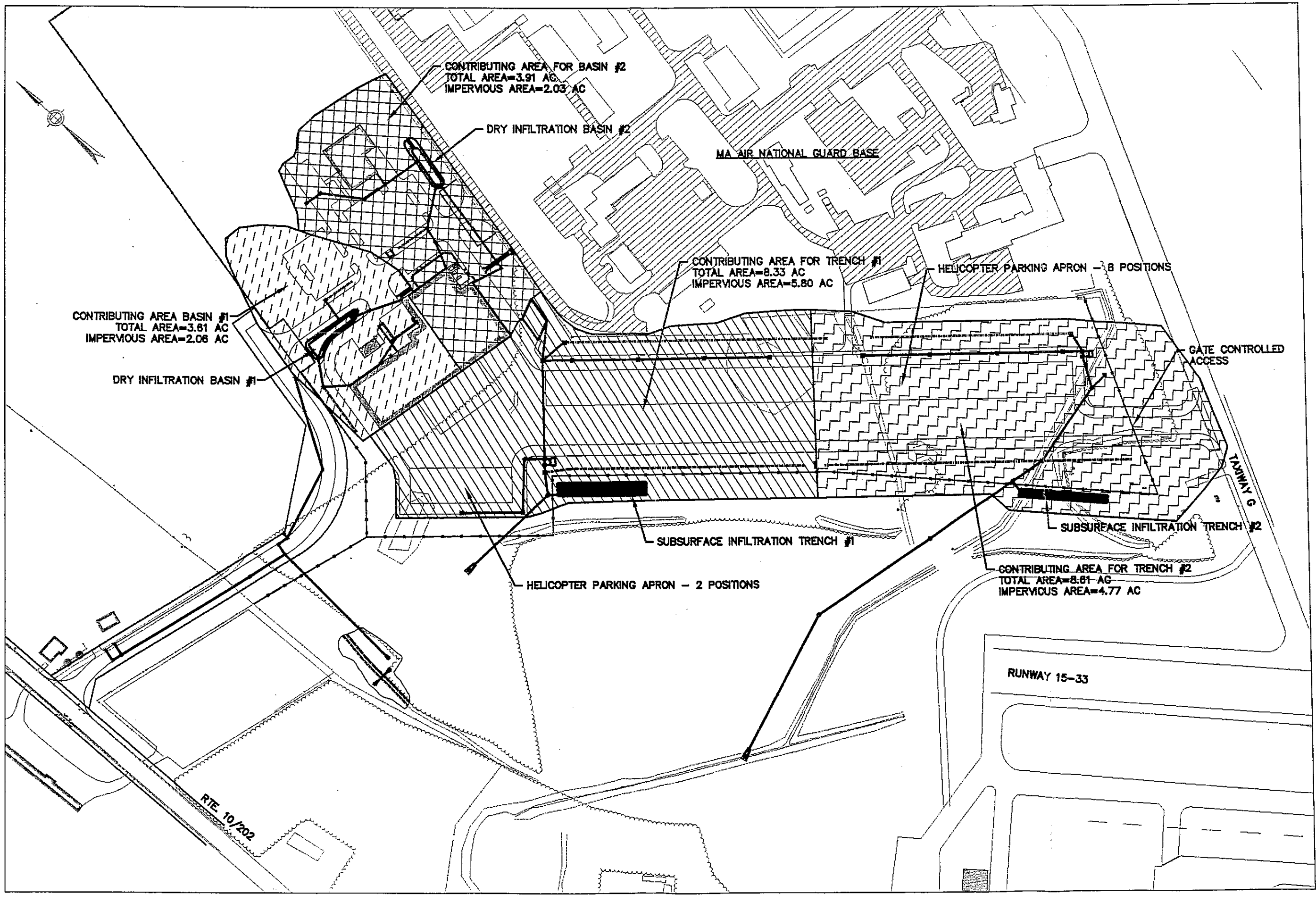

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ARMY AVIATION SUPPORT FACILITY
SITE WATERSHED AREAS
MASSACHUSETTS ARMY NATIONAL GUARD

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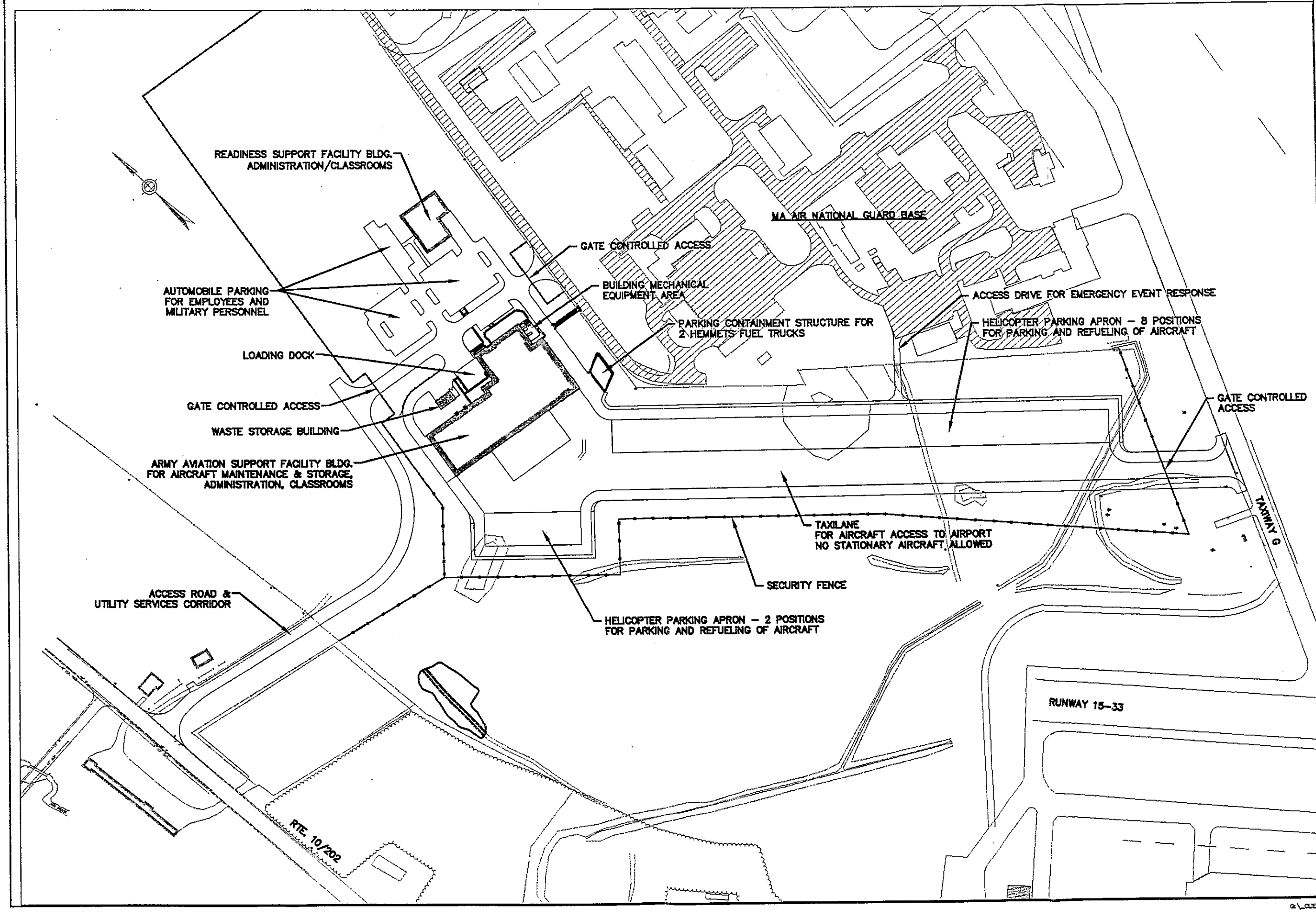

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ARMY AVIATION SUPPORT FACILITY
SITE LAYOUT AND USAGE
MASSACHUSETTS ARMY NATIONAL GUARD

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1.3.1 Description of Facility

The proposed leased area (See Figures 1 through 3 following this page and in Appendix 1) is adjacent to the existing Barnes ANGB, which houses the 104th Fighter Wing (FW) also located at the airport. The size and capacity of the AASF is in accordance with NGB Pamphlet 415-12, draft, January 1, 1997 and is appropriately designed for the use and occupancy of the proposed facility. The Proposed Action would consist of the placement of permanent masonry and steel construction with built-up roof, concrete floor, mechanical and electrical equipment, and partitions of masonry block. Supporting facilities include rigid and flexible paving for aircraft parking/tie down pads, ground support equipment, helicopter hover lanes, a secondary containment area for mobile fuel storage units, aircraft wash facility, exterior lighting, fire protection, and fencing. The total approximate area of proposed impervious surfaces is 598,500 sf, distributed as follows:

- AASF Building - 56,500 sf
- RSF administrative building – 10,000 sf
- Aircraft Parking Apron - 402,000 sf
- Auto Parking/Driveways - 90,000 sf
- Roadway from Route 202 - 40,000 sf

Under the Proposed Action, helicopters used by the MAARNG would be reassigned from Westover AFRB to the new AASF. Initially, the unit would possess eight UH-1 Iroquois (Huey) and three OH-58C Kiowas helicopters. A maximum of 10 helicopters will be in operation during any one-flight mission. The eleventh helicopter would be used as reserve equipment if circumstances (i.e. repairs) warranted. At some point in the future, the UH-1s are to be replaced by UH-60 (Black Hawk) helicopters.

The Huey: The UH-1 (Huey) is a light-lift Air Force helicopter used for distinguished visitor transport and support of missile sites and ranges. The number of passengers and/or cargo which can be accommodated in the Huey is controlled by the amount of fuel necessary for the mission. The Huey was originally designed for local air base rescue and was first utilized by the Air Force in the early 1970s.

The Black Hawk: The UH-60 (Black Hawk) is a light transport helicopter that performs many missions in the Army. The Black Hawk is the primary helicopter for assault, air cavalry and aeromedical evacuation units. Modified Black Hawks also fulfill command and control and special operations roles. The Black Hawk enhances overall mobility because of its dramatic improvements in troop capacity and cargo lift capability compared to the Huey it replaces. In addition, an entire 11-man fully-equipped infantry squad can be lifted and transported more quickly and in more severe weather conditions than in the Huey.

2. Alternatives

2.1 No Build Alternative

Evaluation of the No Build Alternative, also referred to as the No Action Alternative, is required by Army Regulation (AR) 200-2. The No Action Alternative provides a baseline with which impacts of the Proposed Action and other alternatives can be compared.

The No Build Alternative involves the continued use of the existing Westover AASF without any improvements. Continued use of the existing Westover AASF would only be for a short term since this current facility is located in the clear zone of the runway at Westover AFRB. It has outlived its usefulness. The improvements needed from a cost benefit perspective do not justify renovation of the existing facility. Its location in the clear zone eliminates it as a candidate for renovation or new construction at the same site. The condition of the facility warrants demolition as soon as the facility becomes vacant. Without the proposed action, the unit's readiness, and therefore its ability to maintain support in the area, will be adversely affected; thus, the overall readiness of the MAARNG will be adversely affected. The ability of the governor of the Commonwealth to provide support to local cities and towns during a civil emergency will be degraded.

The existing facility at Westover AFRB is considered undersized by NGB regulations to meet the military unit's mission-essential aircraft maintenance readiness standards. The Westover AASF is an operational safety hazard from an industrial and airport operational standpoint. Its present state of repair is not conducive to the type of high quality maintenance operations required to keep military aircraft operating safely. Its location in the Safety Clear Zone for C-5A aircraft clearly degrades the safe operation of the airfield.

The U.S. Air Force completed a study of Air Force accidents that occurred between 1968 and 1972 within 10 nautical miles of airfields. The study of 369 accidents revealed that 75 percent of aircraft accidents occurred on or adjacent to the runway (1,000 feet to each side of the runway centerline) and in a corridor 3,000 feet (1,500 feet either side of the runway centerline) wide, extending from the runway threshold along the extended runway centerline for a distance of 15,000 feet.

Three zones were established based on crash patterns: The Clear Zone (CZ), Accident Potential Zone (APZ) I and APZ II. The CZ starts at the end of the runway and extends outward 3,000 feet. It has the highest accident potential of the three zones. The Air Force has adopted a policy of acquiring property rights to areas designated as CZs because of the high accident potential. APZ I extends from the CZ an additional 5,000 feet. It includes an area of reduced accident potential. APZ II extends from APZ I and additional 7,000 feet in an area of further reduced accident potential.

2.2 Otis Air National Guard Base

The existing MAARNG AASF #1 located at Otis Air National Guard Base (ANGB) in Falmouth, Massachusetts would be feasible to physically support the unit's mission. However, due to the location of the base 150 miles to the east of Westover, it is considered far too distant to support the unit's operational mission. The unit could not maintain unit readiness during the transition phase due to loss of qualified pilots and crewmembers incapable of traveling and relocating to the Cape Cod Area. Therefore, Otis ANGB fails to meet the screening criteria for feasibility of the unit's mission, readiness response, and recruitment population.

2.3 Worcester Municipal Airport

- Site Location. There is no available State, Federal or municipal land to adequately provide for mission-essential aircraft operations, as well as maintenance, administration, supply, and training support functions which provides direct access to the instrumented airfield. A thirty two acre site is not available at Worcester Municipal Airport.

- Command and Control. The essential supporting services would not be under the direct control of the Adjutant General. Fire protection and crash rescue, environmental services, fuel storage and security force protection would be required at additional costs to be constructed and operated by the MAARNG or to be provided by airport operator at an additional operating cost. This site does not provide the assurance of sustainment in a threat environment, natural disaster, or mobilization. There is an increased requirement for the construction of facilities as there is no opportunity for shared military facilities, such as secure fuel storage, communications, dining facilities, and health, welfare, and morale facilities.

- Feasibility. The Worcester Municipal Airport site is at the limits of the geographical limits of the personnel (1-hour driving time). It is 55 miles from the current location. This site has an impact on the units' response time and readiness. The weather conditions at Worcester include frequent severe events both in the winter and the summer, conditions that would have a potential adverse impact on readiness training. This site does not provide any opportunity for Joint Operations Training or the sharing of facilities to reduce construction and operating costs. The Worcester Municipal Airport site only provides for a single-mission, single service operation that would therefore be vulnerable in future Congressionally-mandated (Base Realignments and Closures (BRAC) actions.

- Community Support. The Worcester Municipal Airport has the support of the local community as manifested by the fact that Massport has recently taken charge of the operations at the airport in order to re-invigorate its commercial passenger base as a major regional airport. The addition of environmental noise sources such as proposed would not have a severe impact on existing or future environmental conditions. The introduction of additional fuel storage requirements could have a potential environmental impact.

- Recruitment Population: This site is beyond the unit's proximity to its' previous location which will have an adverse impact its' ability to successfully recruit and retain trained member for units mission. The ability to maintain the leadership cadre of the existing military unit during the transition to a new location would be degraded. The unit could not maintain unit readiness during the transition phase due to loss of qualified pilots and crewmembers incapable of traveling and relocating to the Worcester area. Of critical concern is the ability of the military unit to attract female members. The MAARNG is a community-based organization. They are located in fifty-seven cities and towns across the state. Adding another military unit to the Worcester area would saturate the "market". Many other units in the area can accept and actively recruit female members. The introduction of the aviation unit would upset the balance that now exists.

2.4 Fitchburg Municipal Airport

- Site Location. There is no available State, Federal or municipal land to adequately provide for mission-essential aircraft operations, as well as maintenance, administration, supply, and training support functions. The airport does not currently possess the essential precision navigation instrumentation for the safe operation of military aircraft, nor does it possess the required full time

air traffic control operations. Because of the need for additional services the site requirement of thirty two acres would have to be increased.

- Command and Control. Essential support services would have to be constructed and staffed to insure effectiveness fire protection and crash rescue, environmental services, bulk fuel storage and dispensing facilities and security force protection. This site has the least assurance of sustainment in a threat environment, natural disaster, or mobilization. There is no added benefit of reduced requirements for the construction of facilities as there no opportunity for shared facilities, such as communications, dining facilities, and health, welfare, and morale facilities.

- Feasibility. The Fitchburg Municipal Airport site is well beyond the geographical limits of the unit (1.5-hour driving time). It is 75 miles from its current location. This site has a severe impact on the units' response time and readiness. The weather conditions at Fitchburg are essentially the same as those at Worcester, however, while the severity of the conditions may be less they would have a potential adverse impact on readiness training. This site does not provide any opportunity for Joint Operations Training or the sharing of facilities to reduce construction and operating costs. The Fitchburg Municipal Airport site only provides for a single-mission, single service operation that would be vulnerable in future BRAC actions. The additional cost of construction at this site to includes support facility requirement would make the project unattainable

- Community Support. The Fitchburg Municipal Airport is currently supported by the local community at its' current level of limited operation. The introduction of new environmental noise sources may have an adverse impact on the human environment. The cumulative impacts of increased requirements such as fuel storage and the increased need for support services such as crash rescue, communications, dining facilities, and health, welfare, and morale facilities will have an effect on the state of the environment in the area.

- Recruitment Population: This site is in well beyond the unit's proximity to its previous location which will have an adverse impact its' ability to successfully recruit and retain trained member for units mission. Since this site is roughly the same geographic area as Worcester the same recruiting and retention issues would manifest themselves here.

Both Worcester and Fitchburg exceed the limits of screening criterion with regards to Location, Command and Control, Feasibility, and Recruitment Population. Additionally these sites increase the potential for adverse environmental impacts to threats to the human and natural environment resulting from the requirement for increases in construction activity to provide the facilities that can not be shared. Worcester Municipal Airport is in close proximity to open reservoirs that will severely restrict any activity that would threaten the quality of the drinking water supply. The reservoirs must be protected at the expense of any additional development that may threaten them. Fitchburg Municipal Airport is much smaller than Worcester is in size and level of operations. The available infrastructure is totally insufficient to meet the MAARNG needs and a substantial increase in construction activity would be required to construct and operate them. The introduction of new and additional noise sources may well exceed existing acceptable limits and threaten the human environment. The construction and operating program costs alone at Fitchburg Municipal Airport are beyond the capability of this agency support.

2.5 Preferred Alternative

Siting the new AASF and the RSF at the Barnes Municipal Airport in Westfield, Massachusetts on Federally leased land contiguous to the existing Barnes ANGB best meets the established criterion.

- Site Location. The minimum required acreage and access to taxiways is available at Barnes Municipal Airport. A Federal lease is to be executed encompassing sufficient area (approx. 32 Acres) to provide for the mission-essential operations, training, maintenance, administration, and supply support functions for the unit. Direct access is provided to an instrumented airfield that provides for safe operations in extremes weather conditions.

- Command and Control. The site and the essential supporting services are under the direct control of the Adjutant General. Barnes ANGB will provide fire protection and crash rescue, environmental services, fuel storage and security force protection. This site affords the best assurance of sustainment in a threat environment, natural disaster, or mobilization. There is the added benefit of reduced requirements for the construction of facilities as many existing facilities can be shared, such as communications, dining facilities, and health, welfare, and morale facilities.

- Feasibility. The Barnes Municipal Airport site is well within the geographical limits of the unit. It is 10 miles from its current location at Westover AFRB. This site has the least impact on the unit's response time and readiness. The weather conditions at Barnes are essentially the same as those at Westover so there is no net change over existing conditions that would have a potential adverse impact on readiness training. The site provides an excellent base for Joint Operations Training with the Air National Guard unit stationed at Barnes ANGB. This opportunity can not be duplicated elsewhere in the state. The Barnes Municipal Airport site provides for a multi-mission Joint Operations Base that would be far more resistant to a BRAC action than limited mission single service operation would be. The loss of a long-term military presence at Barnes Municipal Airport would have a devastating impact in the status of the joint use airfield.

- Community Support. The Barnes Municipal Airport site enjoys the committed support of the local community as manifested in the many positive statements of support by local leaders and elected public officials as well as the community at large. The regulatory authorities and the Barnes Municipal Airport Commission well within the limits establish the introduction of additional environmental noise sources. Noise mitigation can be accomplished by establishment of no fly zones, hours of operation and community involvement by the military unit to limit impacts of increased operations at the airport. The environmental impacts of fuel storage and dispensing are lessened due to the MAARNG's ability to jointly use existing facilities at Barnes ANGB. The environmental checks and balances currently in place at Barnes ANGB can be used with joint use agreements to lesson the risk of environmental damage if a spill occurs.

- Recruitment Population: This site is in close proximity to its previous location (10 miles) which will have no adverse impact upon its ability to successfully recruit and retain trained member for the unit's mission.

3. Status of Past Mitigation

3.1 EOEA Number 8955

PROJECT: Massachusetts Air National Guard (MA ANG), 104th Fighter Group, Project to replace 18 A-10A attack aircraft with 18 F-16C/D fighter aircraft and perform the required construction activities at the Barnes Municipal Airport to support the new aircraft, Westfield, MA. However, the proposed changeover from A-10A to F-16 aircraft never occurred; therefore, many of the proposed mitigation measures specifically related to impacts from the aircraft were not implemented. Construction of some proposed facilities did occur; mitigation measures relating to construction and operation of those facilities were implemented. Status of these mitigation measures are enumerated below.

1. NOISE: Noise impact mitigation involved the use of special operating procedures such as preferential runway use or alteration of flight paths to avoid sensitive receptors, and coordination of noise abatement procedures for air and land with the FAA and airport officials. STATUS: Mitigation measures not implemented
2. AIR QUALITY: An increase in Sulfur Dioxide (SO2) emissions was anticipated. The MA ANG committed to applying new technology, as it became available, to reduce the source of SO2. STATUS: No significant effect on ambient air quality. Mitigation measures not implemented.
3. HUMAN SAFETY: Mitigation for fire safety issues involved coordination with the City of Westfield Fire Department to ensure mutual response to fire incidents at the Airport. An aircraft arresting system for the F-16 was constructed at the end of each main runway to stop aircraft and prevent personal injury to aircraft and ground crew. Mitigation for munitions and hazardous materials handling and storage included personnel training and strict compliance with applicable State and Federal laws governing hazardous material handling and storage. STATUS: Implemented and ongoing.
4. EROSION CONTROL: During construction, methods proposed to prevent erosion were installation of erosion controls to reduce erosion and loss of soil, minimizing size of disturbed areas, and stabilizing stockpiled material. STATUS: Implemented and removed upon completion of limited construction.
5. WATER RESOURCES: To prevent impacts to water quality, the proponent proposed the following: conduct a basewide awareness program, reduce erosion during construction, prevent fuel spills, utilize Best Available Control Technology, apply for a NPDES permit with mitigation for runoff from aircraft de-icing operations using propylaline glycol, connect all waste water flows to the City of Westfield Municipal Treatment Plant, develop a comprehensive base contingency plan, and eliminate the use of all underground fuel storage tanks. STATUS: Implemented and ongoing.
6. HAZARDOUS MATERIALS: Mitigation for asbestos and PCB waste included removal of all suspected PCB transformers, coordination with the base Installation Restoration Program process during the construction of the hydrazine storage facility, removal of all asbestos waste from older structures under a MADEP permit for such removal, annual review of pesticide use on the base, and recycling/reuse of hazardous waste when possible. STATUS: Implemented and ongoing.
7. WETLANDS AND WILDLIFE: No wetlands were identified on the base. Mitigation for threatened and endangered species on site involved identifying and avoiding critical habitat during nesting season and revegetation of disturbed areas to grassland. STATUS: Implemented during construction. Due to the danger of aircraft collision with birds living in

adjacent open fields and infield areas between the runways, the proponent has kept all open grassy areas mowed. The current condition of the fields is such that it provides neither escape nor habitat cover for these species.

8. CULTURAL RESOURCES: There were no known historic, archaeological or Native American sites associated with the base. However, the proponent committed to monitor previously undisturbed areas for resources prior to construction. STATUS: Implemented during construction. No such resources were exposed.

3.2 EOEA Number 6588

Based upon coordination with both MEPA and the Commonwealth State Archives, the above-referenced documentation has been inventoried but not yet received by State Archives.. Therefore, these documents were unavailable to review regarding the status of that project's mitigation. The MAARNG will obtain these documents, when they are made available, and review them in accordance with MEPA's request.

In addition, the existing Westfield Barnes Municipal Airport and the MA ANG Base are in compliance with all applicable state permits issued for those facilities.

4. Noise

4.1 Quantitative Noise

4.1.1 Definition of Impact

Noise is considered to be unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment. It may be intermittent or continuous, steady or impulsive. It may be stationary or transient. Stationary sources are normally related to specific land uses and activities (e.g., industrial plants or mining operations). Transient sources move through the environment, either along established paths (e.g., highways, or aircraft operating from an airport), or randomly. There is wide diversity in responses to noise that not only vary according to the type of noise and the characteristics of the sound source, but also according to the sensitivity and expectations of the receptor, the time of day, and the distance between the noise source (e.g., an aircraft) and the receptor (e.g., a person or animal).

The physical characteristics of noise, or sound, include its intensity, frequency, and duration. Sound is created by acoustic energy, which produces minute pressure waves that travel through a medium, like air, and are sensed by the eardrum. This may be likened to the ripples in water that would be produced when a stone is dropped into it. As the acoustic energy increases, the intensity or amplitude of these pressure waves increase, and the ear senses louder noise. Sound intensity varies widely (from a soft whisper to a jet engine) and is measured on a logarithmic scale to accommodate this wide range. The frequency of sound is measured in cycles per second, or hertz (Hz). This measurement reflects the number of times per second the air vibrates from the acoustic energy. Low frequency sounds are heard as rumbles or roars, and high frequency sounds are heard as screeches. The duration of a noise event, and the number of times noise events occur are also important considerations in assessing noise impacts.

The unit of measurement on the logarithmic scale used to determine the level of noise is the "Bel." The bel is a large unit, with each unit representing a ten-fold increase relative to the previous value. Therefore, these units have been subdivided into 10 subunits, known as decibels (dB). Since the human ear does not respond similarly to all frequencies, a weighting scale has been developed to emphasize those frequencies best sensed. Sounds measured on this scale are identified as "A-weighted." Sound levels in this EA/EIR are described in terms of "A-weighted decibels" (dBA).

The word "metric" is used to describe a standard of measurement. As used in environmental noise analysis, there are many different types of noise metrics. Each metric has a different physical meaning or interpretation, and each metric was developed by researchers in an attempt to represent the effects of environmental noise.

The noise metrics used in this EA/EIR to support the assessment of noise from aircraft operations are the maximum sound level (L_{max}), the Sound Exposure Level (SEL), and Day-Night Average Sound Levels (L_{dn}). Each metric represents a "tier" for quantifying the noise environment, and is briefly discussed below.

4.1.2 Maximum Sound Level (L_{max})

L_{max} represents the first tier in quantifying the noise environment. It is the highest sound level measured during a single aircraft overflight. For an observer, the noise level starts at the ambient noise level, rises up to the maximum level as the aircraft flies closest to the observer, and returns to the ambient level as

the aircraft recedes into the distance. Maximum sound level is important in judging the interference caused by an aircraft noise event with conversation, sleep, or other common activities.

4.1.3 Sound Exposure Level (SEL)

SEL, the second tier, combines the maximum sound level associated with the noise event and the duration of the event. L_{max} alone may not represent how intrusive an aircraft noise event is because it does not consider the length of time that the noise persists. SEL combines both of these characteristics into a single metric. It is important to note, however, that SEL does not directly represent the sound level heard at any given time, but rather provides a measure of the total exposure of the entire event. Its value represents all of the acoustic energy associated with the event, as though it were present for one second. Therefore, for sound events that last longer than one second, the SEL value will be higher than the L_{max} value.

4.1.4 Cumulative Noise Metrics

The first and second tiers (L_{max} and SEL) provide a description of a single noise event. However, neither of these metrics describe in a single measure the overall noise impact from multiple noise events. The third tier, which does, is the Day-Night Average Sound Level (L_{dn}) metric. This metric sums the individual noise events and averages the resulting level over a specified length of time. Thus, it is a composite metric representing the maximum noise levels, the duration of the events, and the number of events that occur. This metric also considers the time of day during which the events occur. Although this cumulative metric does not represent the variations in the sound levels heard, it does provide an excellent measure for comparing environmental noise exposures when there are multiple noise events to be considered.

Using measured sound levels as a basis, the military has developed several computer programs to calculate noise levels resulting from aviation operations (Lee and Mohlman 1990). Sound levels calculated by these programs have been extensively validated against measured data, and have been proven to be highly accurate.

4.1.5 Westfield Barnes Municipal Airport

To assess noise effects, various federal agencies and committees have defined noise levels to be considered in land use planning. These areas are described by the noise levels to which they are exposed, and, based on sociological considerations, compatible land uses are recommended. In general, below 65 L_{dn}, very few people will be bothered by noise levels and unrestricted land use is indicated. In areas exposed to 65 to 75 L_{dn}, outdoor noise levels increase, and more people may be affected. Restrictions or qualifications are placed on certain land uses, specifically regarding residential development. As noise levels increase above 75 L_{dn}, fewer and fewer compatible land uses are indicated.

The region of influence for the noise assessment at Barnes Municipal Airport is the airfield itself and abutting areas exposed to noise levels of 65 L_{dn} or greater.

Calculations of noise exposure associated with flight activities conducted from Barnes Municipal Airport are based on the L_{dn} cumulative noise metric. Under current conditions, almost 69,000 military and civil aviation operations were conducted from Barnes Municipal Airport and Barnes ANGB in 1998 (FAA 1998). Considering all types of flight activities, a scenario representing a "typical busy day's" operations was developed. The operations considered include takeoffs, landings, and closed patterns around the airfield. The typical day's operations are summarized in Table 4-3. Noise calculations consider the frequency of flight operations, runway utilization, and the flight tracks and flight profiles flown by each aircraft. "Penalties" are added to noise events that occur at night to account for their added disturbance.

A 10 dB penalty is added to those that occur between 10:00 p.m. and 7:00 a.m. At Barnes Municipal Airport, very few operations occur during these hours.

These levels and types of activity are then combined with information on climatology and aircraft flight parameters and processed through the Air Force's BASEOPS/NOISEMAP computer models to calculate L_{dn}. Once noise levels are calculated, they are plotted on a background map in 5-dB increments from 65 L_{dn} to 85 L_{dn}, as applicable. Noise contours associated with current activities at Barnes Municipal Airport are shown in Figure 4 immediately following this page and in Appendix 1. The land area encompassed by the noise contours is shown in Table 4-4.

Table 4-1. Barnes Municipal Airport "Busy Day" Flight Operations

Operation	Military	Civil Turbine-Powered Aircraft	Civil Propeller-Driven Aircraft
Arrival	12.0	21.5	21.6
Departure	12.0	21.5	21.6
Closed Pattern	6.0	5.0	36.7
Total	**30.0**	**48.0**	**79.9**

[a]Daily operations are based on averages of annual operations; therefore, numbers do not round.
Source: Barnes Municipal Airport: Personal Communication, Gifford 1999.

Table 4-2. Land Area Within Noise Contours[a]

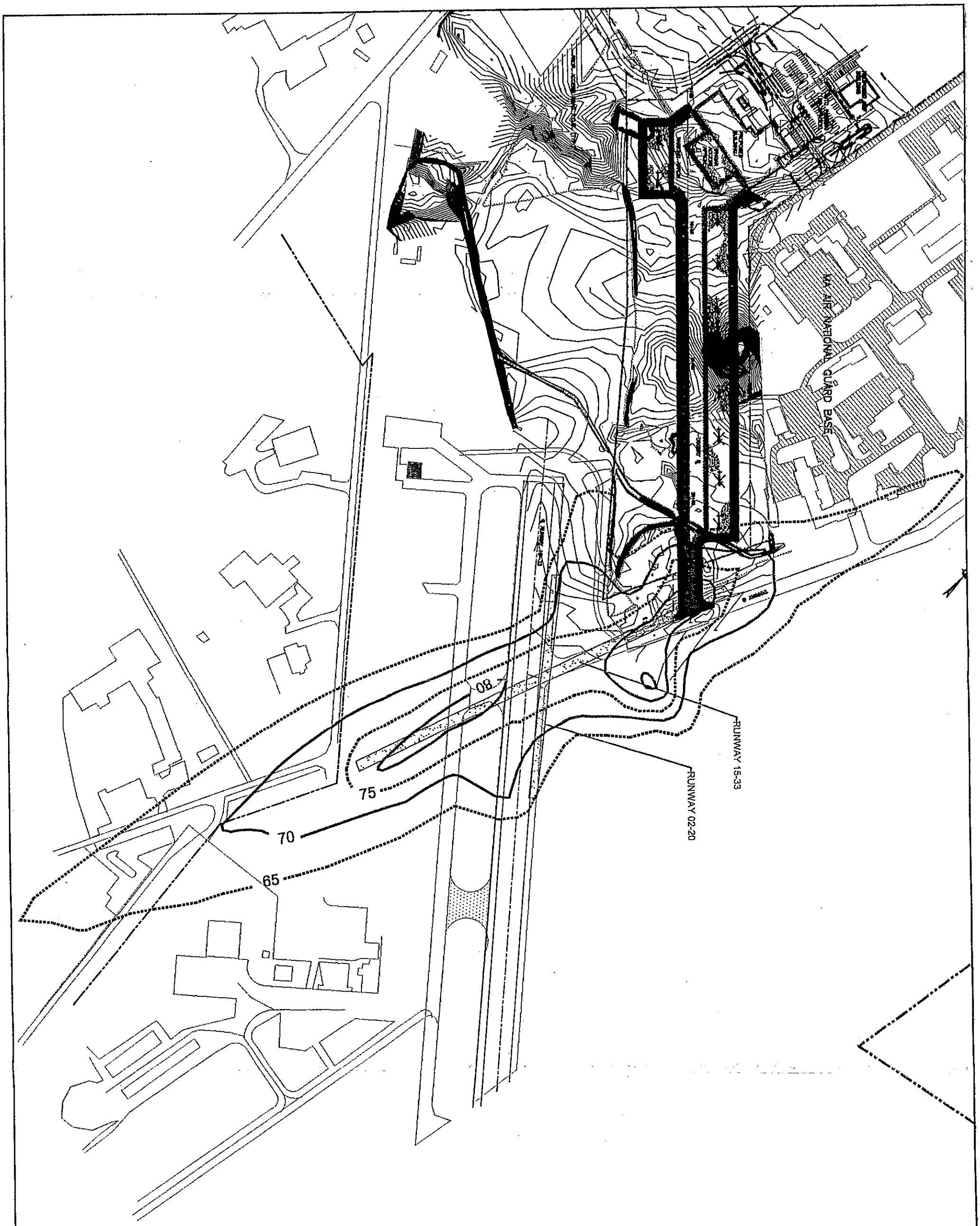
Noise Level (in L_{dn})	Acres of Land Exposed
65 to 70	736.66
70 to 75	357.03
75 to 80	220.50
80 to 85	83.89
> 85	1.01

[a]Land area exposed to indicated sound level. Total area exposed to L_{dn} 65 or greater is 1,399.09 acres.
Source: Moulton 1990

4.1.6 Summary of Noise Impacts and Mitigation

Noise-sensitive land uses in the area primarily include residences and educational institutions. Existing noise levels at these locations are generally dominated by noise generated existing operations at Westfield Barnes Municipal Airport, and by motor vehicles on nearby major roads and local streets.

A substantial (i.e. perceptible) increase in ambient noise levels is defined as being an approximate 15 dBA increase over existing noise levels. An area or land use must be considered for noise abatement if impacts are to be sustained (i.e. not intermittent) and significant. The Proposed Action is not anticipated to create a substantial increase over existing cumulative ambient noise occurring from current airport operations; ANG operations, and contributing sources from motor vehicles. As the level of increase to ambient noise is both intermittent and not significant, the MAARNG proposes maintenance of standard flight patterns and defined minimum approach and departure altitudes in order to reduce noise levels to the maximum extent feasible.



File No. FIG.4	Sheet No.	ARMY AVIATION SUPPORT FACILITY	Scale SCALE			
		NOISE CONTOURS	Date DATE			
		MASSACHUSETTS ARMY NATIONAL GUARD	Job No. 99275.05-A			
			Checked by PEO	No.	Description	Date
			Approved by MDH	REVISIONS		

S E A Consultants Inc.
Science/Engineering/Architecture

CAMBRIDGE, MASSACHUSETTS · ROCKY HILL, CONNECTICUT
CONCORD, NEW HAMPSHIRE · ROCHESTER, NEW YORK

Q:_CLIENTS\MAANG\99275.05\FIG.15

Noise impacts are assessed with respect to the amount of change in noise exposure that is associated with a specific proposal when compared to existing conditions.

Under the Proposed Action, helicopters flown by the MAARNG would be reassigned from Westover AFRB to Barnes Municipal Airport. Initially, the unit would possess UH-1 and OH-58 helicopters. At some point in the future, the UH-1s would be replaced by UH-60 helicopters. Both conditions were considered in this assessment. It is estimated that the unit would fly 2,800 annual sorties. This results in increases in arrivals, departures, and closed patterns flown during an average busy day as shown in Table 4-5. It also is estimated that approximately 2% of the arrivals would occur after 10:00 p.m.

Table 4-3. U.S. Army National Guard "Daily" Operations[a]

Operation	UH-1 / UH-60	OH-58
Arrival	8.560	2.140
Departure	8.560	2.140
Closed Pattern	15.408	3.852
Total Operations	**32.528**	**8.132**

[a]Daily operations are based on averages of annual operations; therefore, numbers do not round.
Source: Personal Communication, Hormon 1999

Overall, this proposal results in approximately a 26% increase in operations. As under current conditions, very few operations would be conducted at night (10:00 p.m. – 7 a.m.).

The additional helicopter operations were added to current operations, and processed through BASEOPS/NOISEMAP programs to calculate the changes in noise exposure associated with the proposal. Under both conditions, the noise contours associated with this proposal and the amount of land exposed to elevated noise levels do not show any notable change from current conditions. The areas exposed to elevated noise from aircraft operating from Barnes Municipal Airport remain as shown in Figure 4 and described in Table 4-4. An assessment of noise exposure at specific points around the airfield and within specific noise contours shows that the noise associated with current flight activities at the airfield does now and will continue to dominate the acoustic environment. Noise levels with the aircraft considered in the proposal are relatively lower than those currently operating at the facility, specifically the turbine-powered aircraft. Therefore, while the increased helicopter operations do increase noise to some minor degree (approximately 0.25 dBA at some specific points), the impact is insufficient to cause any shift in major contours. The most noticeable impacts are localized to the small area constituting the parking ramp in front of the maintenance facility. For modeling purposes, all operations were assumed to begin and terminate in this area, and all engine runs for maintenance were assumed to be conducted in this area. Overall, the proposal has essentially no impact on the acoustic environment of the region of influence.

For comparative purposes, Tables 4-4 and 4-5 present SEL and L_{max} noise levels at varying distances for the helicopters associated with the proposal as well as representative aircraft currently operating from Barnes Municipal Airport. The sound levels reflected represent typical flight parameters used in noise analysis.

Table 4-4. SEL Values for Aircraft at Varying Ranges[a]

Aircraft	500 ft	1,000 ft	2,000 ft	2,500 ft	5,000 ft
A-10[b]	103	96	88	85	76
Gulfstream II[c]	114	109	103	101	94
Beech Baron[d]	93	88	83	81	75
OH-58[e]	90	86	80	78	72
UH-1[e]	96	91	86	85	79
UH-60	89	84	79	77	70

[a] Values in dBA
[b] Currently assigned military aircraft
[c] Business jet
[d] Representative general aviation aircraft
[e] Proposed helicopters
Source: USAF database–OMEGA10.8.

Table 4-5. L_{max} Values for Aircraft at Varying Ranges[a]

Aircraft	500 ft	1,000 ft	2,000 ft	2,500 ft	5,000 ft
A-10[b]	100	92	82	78	68
Gulfstream II[c]	110	103	96	93	84
Beech Baron[d]	87	80	74	71	63
OH-58[e]	76	70	63	60	52
UH-1[e]	83	76	70	67	60
UH-60	82	76	68	66	57

[a] Values in dBA
[b] Currently Assigned Military Aircraft
[c] Business Jet
[d] Representative General Aviation Aircraft
[e] Proposed helicopters
Source: USAF database–OMEGA10.8.

As shown, the noise associated with the turbine-powered (jet) aircraft currently operating from Barnes Municipal Airport is significantly greater than that produced by any of the helicopters proposed to operate from the facility. It should also be noted that when the UH-1s are replaced by the UH-60s, the limited and localized noise impacts associated with the proposal, specifically in the helicopter ramp area, will be further reduced.

S E A Consultants Inc.
Science/Engineering/Architecture

February 7, 2001

RE: Massachusetts Army National Guard/Army Aviation Support Facility
S E A Reference No.: 199275.05-A

Dear Responder:

Please find a copy of the Massachusetts Army National Guard, Aviation Support Facility, Final Environmental Assessment/Environmental Impact Report (FEA/EIR) enclosed. This document is being forwarded to you to reply to your comments received in response to the Supplemental Draft Environmental Assessment/Expanded Environmental Notification Form (SDEA/EENF).

Pursuant to MGL c. 30 ss. 61 through 62H inclusive (the Massachusetts Environmental Policy Act [MEPA]), and its implementing Regulations at 301 CMR 11.00, you are hereby notified that the enclosed FEA/EIR is currently undergoing a 37 day public review and comment period. The commencement date of the comment period is February 7, 2001.

Written comments through the MEPA process are due by March 7, 2001. Comments should be directed as follows:

Bob Durand, Secretary
Executive Office of Environmental Affairs, Attention: MEPA Office
Dick Foster, EOEA #12343
251 Causeway Street, Suite 900
Boston, MA 02114

In addition, legal advertisements noting the availability of these documents will be placed in the Westfield Evening News, Union News, and the Daily Hampshire Gazette on February 7, 2001.

If you have any questions or require additional information regarding the technical components or the associated regulatory process, please contact Mr. Paul E. Orr, SEA Consultants, Inc., 485 Massachusetts Avenue, Cambridge, MA, 02139 or by phone at 617-498-4738.

Respectfully yours,

S E A CONSULTANTS INC.

Paul E. Orr
Principal Environmental Planner
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Questions for BAPAC Green Awards

The Barnes Aquifer Protection Advisory Committee (BAPAC) is composed of representatives from the four jurisdictions- Easthampton, Holyoke, Southampton, and Westfield- in which the Barnes Aquifer is located. The committee was created in 1989 to address developments of regional impact that are proposed within the aquifer to ensure that drinking water resources remain safe for the 60,000 people that it serves. BAPAC encourages citizens and businesses within the aquifer to contribute to its protection through educational initiatives, such as the recent Small Business BMP handbook. As part of BAPAC endeavors, they look to reward those citizens and businesses that have made substantial efforts towards the protection of the aquifer. You have been chosen as a nominee for the 2001 BAPAC Green Award. In order for the committee to make an informed decision on this year's nominees, we would like to ask you a few questions to help us better understand your business and environmentally related business practices. We may wish to follow up this interview with a site visit. The Green Award would be handed out during the Drinking Water Week in May 2001.

Name of Business:_____
Address:_____
Contact Name:_____
Phone Number:_____
Email:_____

Describe your business operation._____

Describe any proactive steps that you have taken with regards to the environment and the aquifer (land donation, provision of recharge areas, stormwater management, use of alternatives or reduction in use of toxic chemicals, fertilizers, pesticides, etc.)_____

Describe any conservation efforts undertaken at your business that have benefited the environment._____

Describe any employee training or educational programs to ensure good management practices._____

Additional comments._____

4.2 Qualitative Noise

4.2.1 The Effects of Aircraft Noise on People

This section addresses the primary ways humans can be affected by airport noise: annoyance, speech interference and sleep disturbance.

4.2.2 Annoyance

Social survey data have long made it clear that individual reactions to noise vary widely for a given noise level. Nevertheless, as a group, people's aggregate response to factors such as speech and sleep interference and desire for an acceptable environment is predictable and relates well to measures of cumulative noise exposure such as DNL. A wide variety of responses have been investigated in social survey research. The concept of "percent highly annoyed" in sample populations seems to provide the most consistent response of a community to a particular noise source.

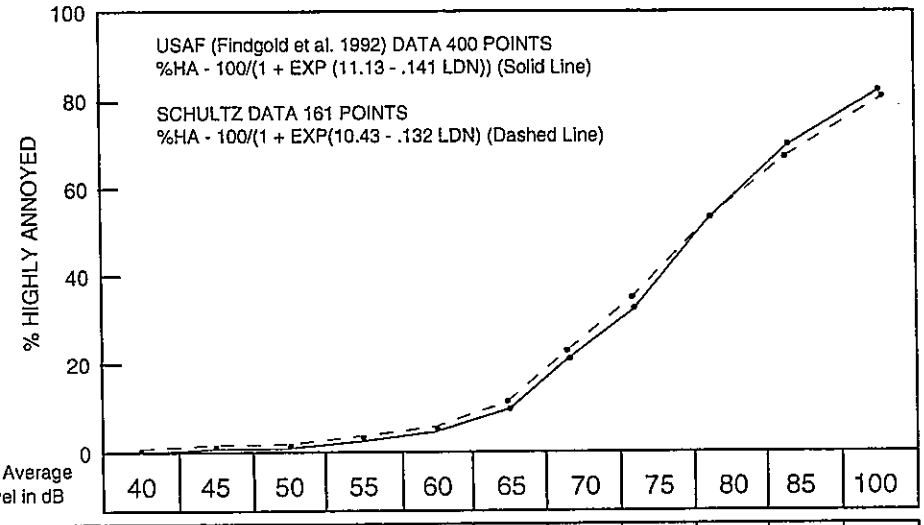
The most widely recognized relationship between noise and the percentage of people highly annoyed by it -- regardless of the noise source -- was developed by Schultz in the late 1970s. Schultz based his analysis on data from 18 surveys conducted worldwide; the curve indicates that at levels as low as DNL 55, approximately five percent of the people will still be highly annoyed, with the percentage increasing more rapidly as exposure increases above DNL 65. Separate work by the EPA has shown that overall community reaction to a noise environment is also dependent on DNL.

The most recent analysis of community annoyance (1989) supports the conclusions set forth by Schultz; that is, that the DNL-%HA relationship presented in the "Schultz curve" is applicable to all transportation noise. This analysis included Schultz' original data (161 points) and added to it data from more recent social surveys (269 points). A logistic regression of the relationship is shown in Figure 5 following this section. This is the preferred relationship for current investigations. The more recent analysis also showed that communities near airports are slightly more willing to describe themselves as annoyed than those near surface transportation noise sources, although there are no statistically significant differences between modes of transportation.

4.2.3 Speech Interference

A primary effect of aircraft noise is its tendency to drown out or "mask" speech. The noise level of speech is diminished the further apart the distance between a talker and listener. As an aircraft's maximum noise level increases, it becomes harder to hear speech. Figure 6 following this section presents typical distances between talker and listener for satisfactory outdoor conversations in the presence of different steady A-weighted background noise levels for three degrees of vocal effort: raised, normal, and relaxed. As the background level increases, the talker must raise his or her voice, or the individuals must get closer together to continue talking.

Note that "satisfactory conversation," as used in the figure, does not always require hearing every word; 95% intelligibility is acceptable for many conversations. Listeners can infer a few unheard words when they occur in a familiar context. However, in relaxed conversation, we have higher expectations of



Day - Night Average Sound Level in dB	40	45	50	55	60	65	70	75	80	85	100
Calculated %HA Points: USAF	0.41	0.831	1.66	3.31	6.48	12.29	22.1	36.47	53.74	70.16	82.64
Calculated %HA Points: SCHULTZ	0.576	1.11	2.12	4.03	7.52	13.59	23.32	37.05	53.25	68.78	81

Figure 5. **DNL-%HA Relationship**

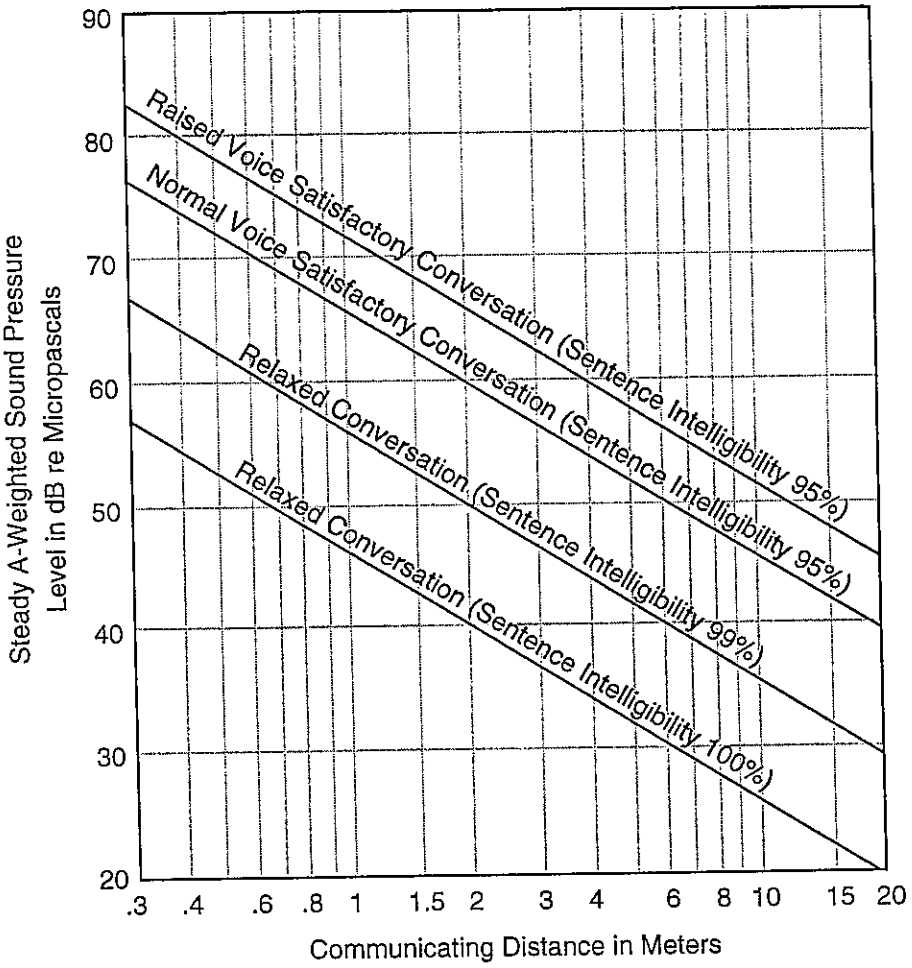


Figure 6. **Effect of Noise on Outdoor Speech**

hearing speech and generally require closer to complete 100% intelligibility. Any combination of talker-listener distances and background noise that falls below the bottom line in Figure 6 (thus assuring 100% intelligibility) represents an ideal environment for speech communication.

One implication of the relationships in Figure 6 following this section is that for typical communication distances of 3 or 4 feet (1 to 1.5 meters), acceptable outdoor conversations can be carried on in a normal voice as long as the background noise outdoors is less than about 65 dBA. If the noise exceeds this level, intelligibility would be reduced unless vocal effort is increased or communication distance is decreased.

The effect of steady noise on indoor speech intelligibility is shown in Figure 7 following this section. This figure is different from the outdoor speech figure due to the existence of a reverberant field in the room. This reverberant field is the result of reflections from the solid boundaries of the room (walls, windows, etc.). The reverberant field enhances speech sounds so that the decrease of speech level with distance occurs only for distances close to the talker (i.e., the near field). The distance where the noise field changes from near field to reverberant field is a function of the sound absorption in the room. The lower the absorption, the greater the reverberant field. Figure 7 assumes a noise absorption typically found in living rooms or bedrooms.

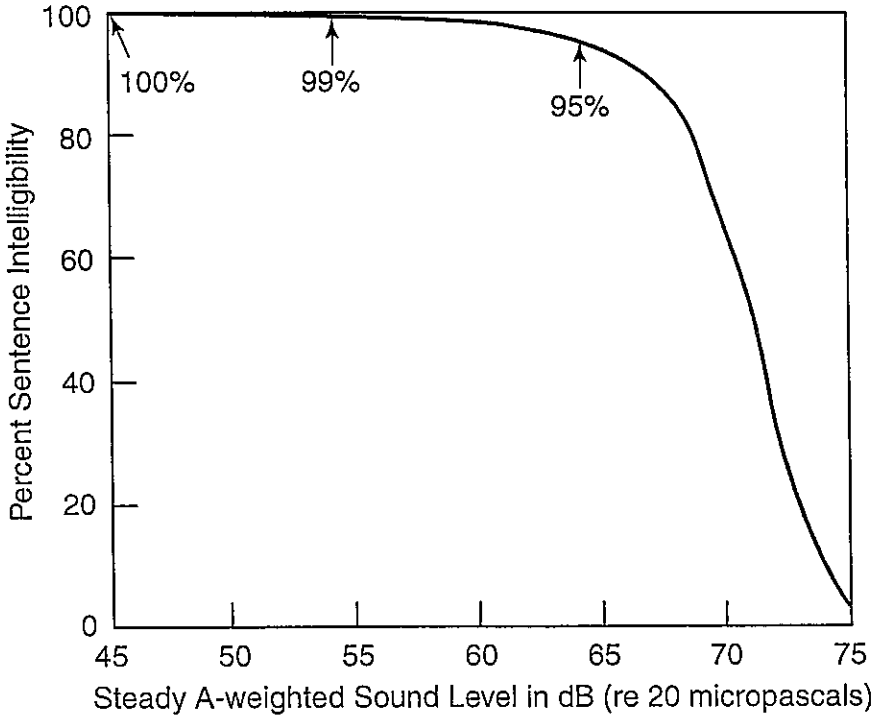
4.2.4 Sleep Disturbance

The effect of aviation noise on sleep is a long-recognized concern of those interested in addressing the impacts of noise on people. Historical studies of sleep disturbance were conducted mainly in laboratories, using various indicators of response electroencephalographic recordings, verbal response, button push, etc). Field studies also were conducted, in which subjects were exposed to noise in their own homes, using real or simulated noise.

In 1992, the Federal Interagency Committee on Noise (FICON) recommended an interim dose-response curve to predict the percent of the exposed population expected to be awakened (% awakening) as a function of the exposure to single event noise levels expressed in terms of sound exposure level (SEL). This interim curve was based on the data presented in the 1989 study. The FICON report also recommended continued research into community reactions to aircraft noise, including sleep disturbance.

Since the adoption of FICON's interim curve in 1992, substantial field research in the area of sleep disturbance was completed, using a variety of test methods, and in a number of locations. The data from these studies show a consistent pattern, with considerably less percent of the exposed population expected to be behaviorally awakened than had been shown with laboratory studies.

In 1997, the Federal Interagency Committee on Aviation Noise (FICAN) recommended the adoption of a new dose-response curve for predicting awakening, based on the field data described above. It is depicted in Figure 8. FICAN took the conservative position that, because the adopted curve represents the upper limit of the data presented, it should be interpreted as predicting the "maximum percent of the exposed population expected to be behaviorally awakened", or the "maximum percent awakened". FICAN cautioned that the dose-response relationship presented here relies on behavioral awakening as the indicator of sleep disturbance; relationships between aircraft noise and other potential sleep disturbance or related health effects responses have not been established by any of these newer studies. FICAN further noted that the curve should be applied only to long-term residential settings and should not be generalized to include children.



Note: Assumes 300 sabins absorption typical of living rooms and bedrooms and is valid for distances greater than one meter

Figure 7. **Effect of Noise on Indoor Speech**

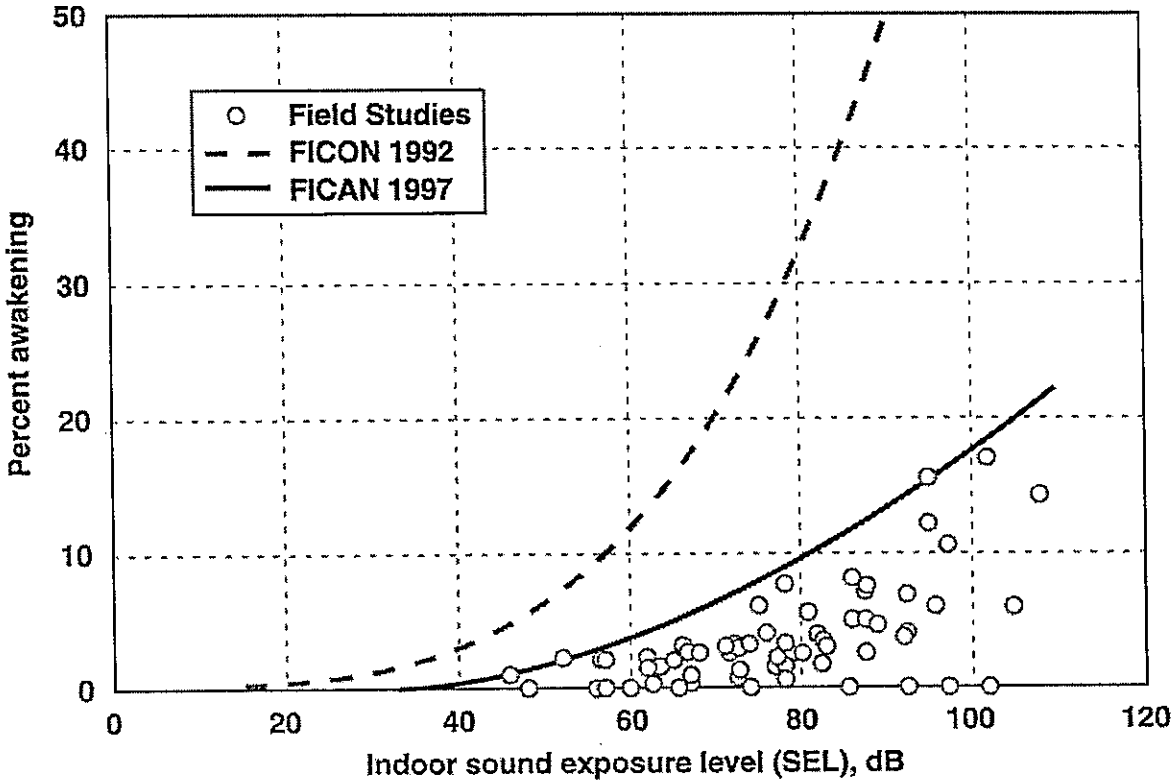


Figure 8. **FICON / FICAN Dose Response Curves**

4.3 Helicopter Noise Issues

There are some particular issues of concern when dealing with helicopter noise: frequency of operation, and induced vibration and rattle, or "blade slap". This section discusses these two issues.

4.3.1 Frequency of Operations

Residents exposed to helicopter noise often feel as though the metrics and models used to describe aircraft noise are not adequate for assessing helicopters, because the number of operations by helicopters is usually very small, as compared with commercial airports or even busy general aviation fields. NASA conducted a study to examine this issue in 1988. The residential neighborhood selected for study was located near an Army base which had a unit of UH-1 ("Huey") and SH-60 helicopters operating on a schedule of fewer than 20 to 30 operations per day – this is an analogous situation to the Guard re-location at Westfield. Residents were not informed of the purpose of the study, but were surveyed over a three-week period during NASA controlled helicopter operations near the neighborhood, to determine which days were "more annoying". The study showed that: (1) A-weighted metrics, including DNL, were adequate for predicting annoyance due to helicopter noise; and (2) the lower frequency of operations did not affect the predictive capability of DNL for addressing annoyance.

4.3.2 Blade Slap

Another cause of annoyance from helicopter noise is noise-induced vibration or rattle, caused from blade/vortex interaction, often referred to as "blade slap". Physically, blade slap occurs when the helicopter blade hits the vortex created by the previous blade; the phenomenon is more pronounced in helicopters with two-bladed propellers, such as the UH-1.

Several studies have been conducted to address this issue. In general, they have shown that at distances of less than 500 feet from helicopter flybys or flyovers, nearby residents almost certainly will notice induced vibration and rattle in their homes; at distances greater than 1,000 feet, noise-induced vibration and rattle is minimal.

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4.4 Noise Terminology

A variety of metrics are used to assess the effects of aircraft noise. Noise metrics are used to describe individual noise events or groups of events. Both types of metrics are helpful in explaining how people tend to respond to a given noise condition.

4.4.1 The Decibel

All noises come from a sound source — a musical instrument, a voice, a helicopter. The energy that produces these sounds is transmitted through the air in sound waves, or sound pressures, which impinge on the ear, creating the noise we hear.

Logarithms are used to express a ratio of two sound pressures; the first is the noise source and the second the reference pressure (the quietest sound we can hear). This ratio is referred to as a sound pressure level (SPL), which is expressed in decibels (dB). This logarithmic conversion provides that the quietest sound we can hear has a SPL of 0 dB, while the loudest sounds we can hear have SPLs of about 120 dB. Most environmental noises have SPLs ranging from 30 to 100 dB.

Because decibels are logarithmic, they do not behave like other numbers. For example, if two noise sources each produce 100 dB, when they are operated together they will produce 103 dB — not 200 dB. If four 100 dB sources operating together again double the noise energy, the result is a total SPL of 106 dB, and so on. In addition, if one source is much louder than another, the two sources operating together will produce the same SPL as if the louder source were operating alone. For example, a 100 dB source plus an 80 dB source produce 100 dB when operating together. The louder source masks the quieter one. Two useful rules of thumb to remember when comparing SPLs are: (1) most people perceive a six to ten dB increase in SPL between two noise events to be about a doubling of loudness, and (2) changes in SPL of less than about three dB between two events are not easily detected outside of a laboratory.

4.4.2 A-Weighted Decibel

Frequency, or pitch, is an important characteristic of sound. When analyzing noise, it is of interest to know how much low-, middle- and high-frequency noise is present. This breakdown is important for two reasons. First, human ears are better equipped to hear mid- and high- frequencies; mid- and high-frequency noises are more annoying. High frequency noise also produces more hearing loss. Second, engineering solutions to noise problems are different for different frequency ranges. The normal frequency range of hearing for most people extends from about 20 to 15,000 Hertz (Hz).

Electronic noise measuring instruments should have the same sensitivity to different frequencies as the human ear. The most common accepted method used to modify electronic noise measuring instruments to replicate the human ear is to use an "A" filter when measuring noise levels. This "A" filter can be thought of as an electronic black box that modifies the noise by decreasing (or 'weighting') low- and high-frequency noises by the same amount as the human ear. Two noises with the same A-weighted noise levels will be perceived to be equally loud, even though they may have different frequency contents.

4.4.3 Maximum A-Weighted Noise Level (Lmax)

A-weighted noise levels vary with time. For example, the noise increases as an aircraft approaches, then falls and blends into the background as the aircraft recedes into the distance. Figure 9 illustrates this phenomenon for an example aircraft overflight.

Because of this variation, it is often convenient to describe a particular noise "event" by its maximum noise level (Lmax). In Figure 1, the level increases as the aircraft approaches, reaching an Lmax of 85 dBA, and then decreases as the aircraft passes by. The ambient A-weighted level around 55 dBA in Figure 1 is due to the background sounds that dominate before and after the aircraft passes. Figure 10 shows typical maximum noise levels for a variety of common environmental noise sources.

Note that Lmax describes only one dimension of an event; it provides no information on the cumulative noise exposure generated by a noise source. In fact, two events with identical Lmax may produce very different total exposures. One may be of very short duration, while the other may be much longer.

4.4.4 Sound Exposure Level (SEL)

A measure of cumulative noise exposure for an individual noise event is the Sound Exposure Level (SEL). SEL is a summation of the A-weighted noise energy at a particular location over the duration of a noise event. The duration is defined as the amount of time the noise event exceeds background levels. The shaded area in Figure 11 shows that portion of the noise energy included in this event. Mathematically, the SEL equation compresses (i.e., normalizes) this noise energy into a column one second wide (shown as the darkly shaded area in Figure 11). The height of the column is the SEL, measured in decibels.

Because the SEL is normalized to only one second, it will almost always be larger in magnitude than the Lmax for the event. In fact, for most aircraft events, the SEL is about 7 to 12 dB higher than the Lmax. Also, the fact that it is a cumulative and normalized measure means that a higher SEL can result from either a louder or longer event, or some combination.

4.5 Conclusion

Based on the preceding qualitative and quantitative assessments regarding the potential impacts of helicopter noise, the MAARNG believes that the Proposed Action complies with current guidelines and regulations regarding increases to ambient noise levels. At distances of less than 500 feet from helicopter flybys or flyovers, nearby residents almost certainly will notice induced vibration and rattle in their homes; at distances greater than 1,000 feet, noise-induced vibration and rattle is minimal. Therefore, the MAARNG is committed to maintaining standard approach altitudes where feasible that are greater than 1,000 feet.

In addition, the MAARNG also believes that based on the qualitative information provided herein, there will be no significant adverse impacts as a result of helicopter noise on either people or the natural environment.

Finally, the MAARNG reiterates its commitment to working with the community and the Westfield Barnes Airport Manager to address helicopter noise related issues.

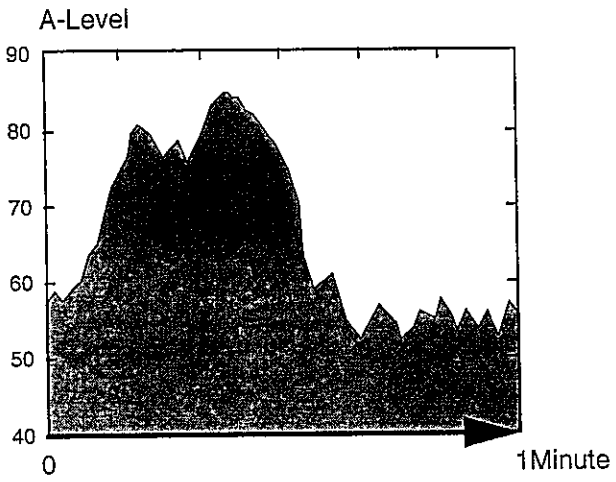


Figure 9. **Aircraft Noise Event**

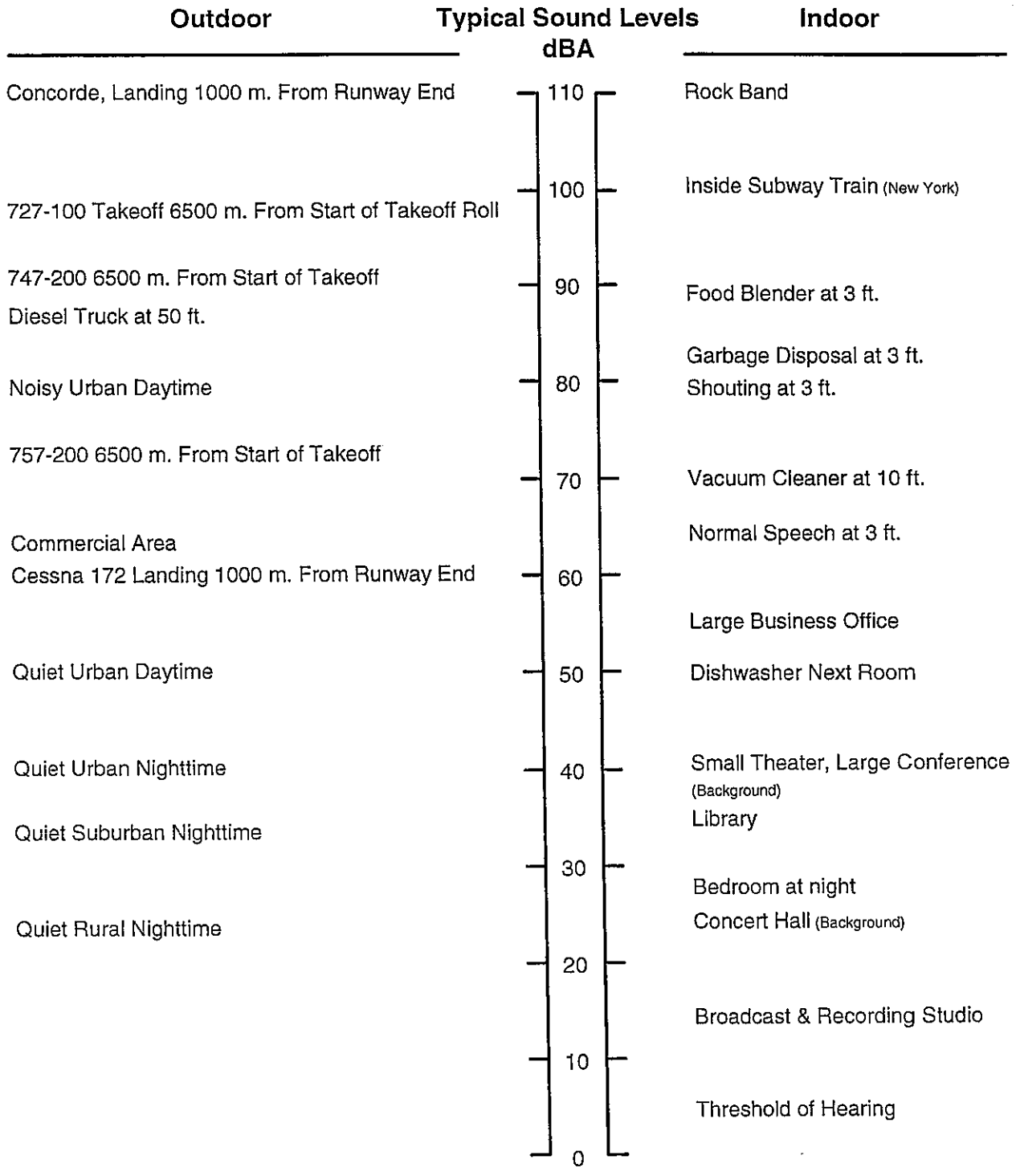


Figure 10. **Typical Maximum Noise Levels**

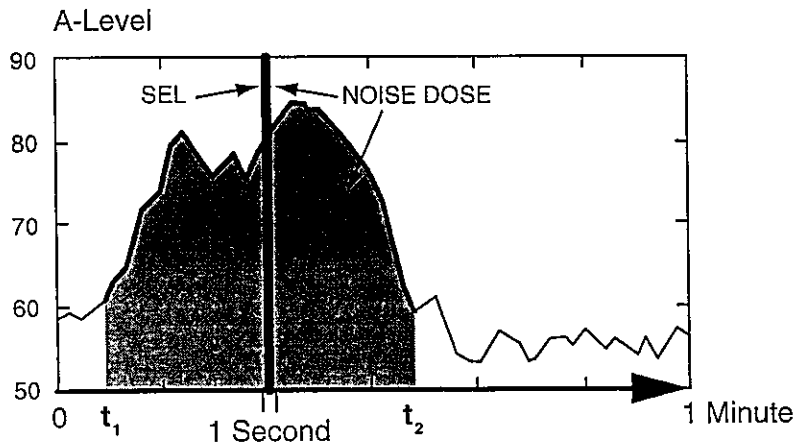


Figure 11. **Typical Sound Exposure Level**

5. Ground Water

The primary water source for the City of Westfield and Barnes Municipal Airport is groundwater from a series of nine municipal wells screened in surficial deposits of glacial sands and gravels referred to as the Barnes Aquifer. The airport and its vicinity have been designated as an Approved Zone II Aquifer Protection Area by the Commonwealth of Massachusetts. Zone II designation is defined as a contributing zone to a drinking water aquifer under the most severe pumping conditions. Two municipal wells, Numbers 7 and 8, are located approximately 1,000 ft north of Runway 15-33. The wells are 24 inches in diameter with pump capacities of 1,400 gpm each. Well 7 is screened from 151 to 171 ft bgs. Well 8 is screened from 164 to 184 ft bgs. These wells are currently producing at an average rate of 1,200 to 1,250 gpm (Vardakis 1996).

Barnes Municipal Airport overlies the Barnes Aquifer, which serves as a major source of potable water for the airport and the city of Westfield (SAIC 1992). The Barnes Aquifer is characterized as unconfined and is located in outwash deposits. Groundwater ranges from 20 to 30 ft bgs and flows in a southerly direction. Groundwater is generally of good quality and is classified as being soft to moderately hard (Earth Tech 1997). The aquifer is approximately 50 to 250 feet thick, with municipal wells being installed in the deeper portions of the aquifer. Estimated well yields from the aquifer range from 300 gallons per minute (gpm) to 1,000 gpm (Earth Tech 1997).

Westfield currently maintains eight water supply wells at various locations around the city, including two wells (Wells 7 and 8) which are located on airport property.

5.1 Potable Water

The Proposed Action would not affect the potable water of the area. The AASF would be serviced by local public utilities, and no new water facilities would be installed. The proposed facility is expected to use approximately 7,300 gallons per day (gpd) of water. Current wells are discharging at an average rate of 1,200 to 1,250 gpm (Vardakis 1996) and the additional personnel scheduled to be employed at the proposed AASF is not expected to increase this pumping rate. Degradation of potable water would be minimized through BMPs (i.e. storm water management via the use of detention ponds, oil/water separators) and implementation of operating practices as described in the SPCC and Contingency Plan..

5.2 Stormwater

Pollutants that have been deposited on land are carried by storm water runoff, which is defined as the water from rain and snow melt that flows across land surface (Stormwater, 1997). Storm water generated at the existing location currently percolates into the groundwater through direct surface absorption. Storm water from the northern one-third of the adjacent Barnes ANGB is collected in storm sewers that drain into a storm water retention pond in the northwestern corner of the base. Storm water from the southern two-thirds flows southwest through storm sewers to drainage ditches at the original aircraft maintenance area, a grassy swale located near the center of the Barnes ANGB. It is then routed through a wooded area to the northern portion of the base (Wendel, Inc. 1995).

The design of the drainage systems throughout the site incorporates the guidelines of the MADEP Storm Water Policy. Each system meets or exceeds the 80% total suspended solids removal goal through the use of various BMPs including sweeping programs, grass lined swales, hooded deep sump catch basins and drainage manholes, retention ponds, oil/water separators, and subsurface infiltration fields.

The above noted BMPs work together to minimize the potential of contamination of the ground water due to a spill event involving the jet fuel used by the helicopters. In areas where fueling operations or the parking of fuel trucks occur specific design elements have been incorporated to protect the local drinking water resources. The containment parking pad for the Hemmet fuel tanker trucks has a containment capacity that is two times the required volume. All run off from the pad is collected and is to be analyzed for contaminates prior to discharge into the storm water collection system (which is further protected as described in this response). The runoff from all areas subjected to helicopter fueling activities is collected on pavement into a closed drainage system. The site grading was specifically designed to prevent run off from the required design storm event from sheet flowing off of the pavement areas.

Within the drainage system, all catch basins and drainage manholes utilize hooded, deep sump structures which act to settle out sediments and act as a passive oil/water separator. The normal flow of water is the directed through a pre-engineered treatment unit which in addition to further removal of any sediment, has a wiered oil/fuel capture compartment The treatment units are sized to handle up to the full volume of the ten year design storm event. Typical systems that operate on the "first flush" concept typically only handle the flow volume generated by a two year storm event. Under normal operating procedures, the MA ARNG will not be running training operations, and thus fueling operations, in inclement weather exceeding the intensity if the ten year design storm event.

Prior to the drainage systems' entry to the infiltration fields (or the high flow by-pass), manually operated sluice gates can be closed as part of the spill response action plan which will contain all flow collected by the closed systems on the airside areas. Each of the piping systems on the airside has containment volumes in excess of 25,000 gallons upstream of the sluice gates. This volume is ten times the volume of Hemmet fueling trucks to be utilized on the proposed site.

Flows in excess of the ten year design storm volume bypass the infiltration fields once the fields have become full and exit to surface flow in vegetated swales leading to large natural detention areas and/or exit the airport property following existing drainage paths. The bypass flow from infiltration field No. 1 follows the existing drainage path that ultimately exits the airport under Southampton Road. The existing culvert under the roadway is a 36-inch concrete pipe. The runoff from the proposed project is impounded upstream of this point in a shallow detention area whose outflow is restricted by the use of a 24-inch diameter pipe.

The landside drainage systems utilize BMPs as recommended by the MADEP Storm Water Policy for areas subjected to normal roadway and parking lot activities. This includes utilization of sweeping programs, sheet flow runoff from paved areas into grass lined swales, catch basins using deep sumps and hooded outflows, and collection of runoff in retention ponds which settle out potential pollutants and recharge the ground water supply. These systems meet or exceed the requirements for total suspended solids removal.

All bulk storage of jet fuel will be done using the existing fuel storage facilities located on the adjacent MA ANG Base. Two Hemmet tanker trucks, with 2500-gallon capacity each, will be used to transport product from the storage facilities to the helicopter flight line where fueling activities will take place. The Hemmet tanker trucks will utilize the paved roadway network, which is self-contained on the ANG Base and the proposed ARNG facility, for normal transport of fueling product. When not engaged in fueling activities, the Hemmet tankers will be parked on the ARNG site on a containment pad designed to capture any fuel product in a spill or leak event. Should a spill occur all material/product would be handled and disposed of following the procedures outlined in the spill response plan. A description of

the drainage system, including its measures designed to capture and contain runoff from a potential spill event, is described above.

Implementation of this Proposed Action would not have an impact on stormwater and subsequently its recharge to the aquifer. Daily operations at the proposed facility would only generate approximately 4,800 gpd of sanitary waste, which would be serviced by local public utilities. The increase in personnel (38 full-time employees) that is expected to work at the facility would not increase wastewater production significantly. However, during precipitation events there would be an increase in post-development runoff due to an increase in impervious area. The impervious area to be constructed is estimated to be 598,500 sf. As previously stated, storm water control features located in the parking area and at the aircraft parking apron would be designed to retain and re-introduce post-development runoff to the groundwater via the use of detention ponds and a subsurface infiltration system. All runoff from paved areas would be treated per MADEPStorm Water Management Standards prior to recharge (i.e., treatment swales, oil/water separator, etc.).

5.3 Wastewater

The AASF has 9 "typical" floor drains, which one could find in a standard office building. The standard 9 floor drains with their intended use are located as follow:

AASF
Typical Floor Drain Locations

Quantity	Location	Use
1	Boiler room	Maintenance of hot water heater/heating system (i.e., draining system for repair or replacement)
1	Mechanical room	To remove condensation from A/C units
1	Air compressor	Maintenance
1	Mechanical/water recycling	Maintenance
1	Men's shower	Mop down and cleaning of shower floor
2	Men's latrine	Cleaning of floor
1	Women's shower	Mop down and cleaning of shower floor
1	Women's latrine	Cleaning of floor

The above-referenced floor drains are connected to the building plumbing sewer system which is discharged into the city sewer system.

The AASF has 3 floor drains and 4 trench drains which are "non-typical" and have been isolated into a separate waste line which go through an oil/water separator prior to exiting the building and being discharged into the city sewer system. The MAARNG will be provided with an Operations and Maintenance Manual on the procedures for cleaning and removal of any contaminates in the oil/water separators. The 3 floor drains and 4 trench drain with their intended use are located as follow:

AASF
Non-Typical Floor Drain Locations

Quantity	Location	Use
3	Hangar (floor drains)	Cleaning of hangar floor
3	Hangar at doors (trench drains)	To prevent stormwater from rain or melting ice/snow from entering the hangar
1	Hangar in wash bay (trench drain)	To hand wash helicopters. This trench drain is also connected to a water recycling system along with the oil/water separators

The RSF has 6 typical floor drains, which one could find in a standard office building. The standard 6 floor drains with their intended use are located as follows:

RSF
Typical Floor Drain Locations

Quantity	Location	Use
1	Mechanical room	Condensation from A/C units, maintenance of hot water and heating (draining systems for repair or replacement)
1	Supply room	Condensation from A/C units and dehumidification
1	Men's shower	Mop down and cleaning of shower floor
1	Men's latrine	Cleaning of floor
1	Women's shower	Mop down and cleaning of shower floor
1	Women's latrine	Cleaning of floor

All of the above-referenced floor drains are connected to the building plumbing sewer system which then discharges into the city sewer system.

5.4 Hydrogeology of Westfield Public Supply Wells No. 7 and No. 8.

The hydrogeological assessment is based on interviews and research done at the Westfield Municipal Offices, specifically the Engineering Department and the Water Department, on September 29, 2000. Information reviewed and evaluated included exploratory boring logs, production well logs and construction documents, 1993 Conceptual Zone II Report, US Geological Survey Hydrogeological Atlas No. 716, statistical water use data, and communications with personnel from both the Westfield Engineering and Water Departments.

The City of Westfield currently has eight (8) groundwater and one (1) surface water withdrawal points registered with the MADEP under the Water Management Act (WMA), for an Average Volume per Day of 6.11 million gallons and a Total Annual Volume of 2,231.45 million gallons per year. The proposed fueling location is within the Conceptual Zone II for four groundwater withdrawal points . Because the sources are registered jointly, there is no regulatory limit on the withdrawal from any single source or

combination of sources so long as the Average Daily and Total Annual Volumes do not exceed the limits stated in the WMA Registration Statement.

Westfield Public Water Supply Wells (PWS) Nos. 7 and 8 are located adjacent to the approach end of runway (Rwy) 33 and were installed in 1977 in the thick outwash present in the channel of the ancient course of the pre-glacial Connecticut River. Each well is equipped with a pump capable of supplying 1,400 gallons per minute (gpm) to the Westfield's water system. Historic records from testing performed at the time of well installation suggest that the wells are capable of yielding nearly 3,000 gpm combined.

The deposits range in thickness from approximately 50 feet along a bedrock topological ridge to the west of the river course (near the intersection of Rwy 02-20 and Rwy 15-33) to approximately 200 feet along the axis of the channel, at the approach end of Rwy 33.

The thickness and composition of these deposits has led to extensive groundwater development along the axis of these deposits. Along the 18 mile stretch of pre-glacial Connecticut River deposits within the present-day Westfield River drainage basin there are no less than 10 wells with an estimated pumping capacity of 26 million gallons per day. These highly productive deposits have been extensively developed and there will be continuing pressure to mine groundwater in this region for both potable and non-potable uses.

As described earlier, the sediments over which the proposed Army National Guard facilities, and in which the Westfield public water supply wells are constructed consist of glacial outwash sands and gravels. The depth to which the deposits extend before encountering bedrock ranges from approximately 50 to 60 feet along the western edge of Rwy 2-20 to nearly 200 feet at the approach end of Rwy 33, approximately ½-mile to the east. The deposits trend strongly north-south and extend into the Connecticut River watershed to the north. Groundwater flow prior to the development of extensive production capacity would have followed this axis and migrated from the north to the south. The development of numerous high-capacity production wells in this valley likely results in some local variation in the water table and resulting groundwater flow patterns.

The supply wells are completed in the deep deposits of the aquifer at depths ranging from 171 feet below grade (PWS No. 7) to 184 feet below grade (PWS No. 8). This suggests that they receive recharge from groundwater flowing within the deep regions of the aquifer. Based on the USGS mapping referenced earlier, there is no logical break in the surficial materials at depth which would suggest that the surface water divide is an appropriate terminus for the zone of contribution to the wells. Therefore, despite the fact that the surficial drainage basin (and the Conceptual Zone II) terminates approximately 3.5 miles north-northeast of PWS Nos. 7 and 8, these wells in all likelihood draw water from the deep aquifer deposits along the pre-glacial Connecticut River valley within the present day Connecticut River basin.

The Conceptual Zone II, in which a portion of the Barnes Municipal Airport and the associated National Guard facilities are located, was developed to incorporate the area of recharge for Westfield PWS Nos. 1, 2, 7, and 8. A Conceptual Zone II is generally implemented for protection of small sources for which it is either impractical or economically infeasible to perform a comprehensive Zone II delineation.

In practice, a comprehensive Zone II delineation would involve the performance of a prolonged aquifer stress test during which the wells are pumped at their design rate while recording water levels in a network of monitoring wells until the drawdown has stabilized. The MADEP defines stabilization as ½-inch or less of drawdown within a 24-hour period. Utilizing the data from the pumping test, aquifer parameters can be generated and a more complete understanding of the area of contribution to the wells can be established. As a check on the suitability of the Zone II, a water budget is generally performed.

The water budget will confirm that the area of the Zone II is large enough to provide sufficient recharge from precipitation.

The existing Conceptual Zone II encompasses a total area of approximately 1.61 x 10^8 square feet. The average rainfall rate in west-central Massachusetts is approximately 44 inches per year. Assuming 100% recharge, this would yield approximately 8 x 10^6 gallons per day (8 MGD), or slightly less than the combined capacity of the four wells within the Zone II. However, the evapotranspiration rate in this portion of Massachusetts is approximately 15 inches per year, resulting in one-third of available recharge lost to plant respiration and evaporation directly back to the atmosphere. Additionally, it is common to assume that in glacial outwash deposits, 30% of rainfall is lost to the basin due to surface water runoff and streamflow out of the basin. With these factors taken into account, the total available recharge is approximately 4 MGD, considerably less than the current available yield from the wells within the Zone II.

The water budget analysis of the Conceptual Zone II makes it clear that the delineation of the Zone II was based on an incomplete understanding of the aquifer and demand requirements of the wells within the Zone II. Therefore, caution is advised when making land use decisions based on the siting of a project outside the currently delineated Zone II as the area of the Conceptual Zone II is too small by at least a factor of two.

The question about the currently delineated Zone II is an important one as regards the MAARNG proposal to locate the AASF and RSF at Westfield Barnes Municipal Airport. The two main concerns are for water quality and water quantity. Impacts to water quality arise primarily from potential spills of oil and hazardous materials (OHM). Water quantity may be impacted due to the increase in impervious area as the tarmac is expanded.

The enlargement of the Zone II would suggest that groundwater recharges the site from a much broader area. It is suggested in this report that much of recharge to PWS Nos. 1, 2, 7, and 8 will ultimately be found to derive from the present-day Connecticut River basin. A prolonged pumping test may also suggest that the Zone II be expanded further into the permeable sand and gravel deposits to the west of its current boundary, thus incorporating the entirety of the airport.

The tarmac is proposed to be expanded a total of 13.6 acres for aircraft-related activities (e.g., pre-flight checks, parking, refueling, and static displays). This would result in the loss of an average of 45,000 gallons per day of recharge if the water was collected and transported out of the basin via a municipal sewerage system. The loss of 0.045 MGD represents less than ½ of one percent (0.5%) of the combined capacity of the four wells within the Conceptual Zone II and would not be considered a significant impact to the resource. However, the MAARNG is proposing to collect, treat, and discharge the run-off through a network of oil-water separators and detention basins. MADEP guidelines for stormwater management will be met by this design. Therefore, the proposed expansion of the tarmac will have virtually no impact on the quantity of water available for recharge.

In order to safeguard water quality within the Conceptual Zone II, and based upon coordination with EPA and the Westfield Water Department, the MAARNG is currently proposing a network of four monitoring wells for the purpose of evaluating the groundwater quality and to serve as an early warning mechanism in the event that unobserved releases of OHM occur. One well is proposed to be sited approximately 150 feet downgradient from the two subsurface leaching fields associated with the stormwater collection system and a third located downgradient from the outfall of the stormwater overflow from the eastern leaching field. A fourth wells is to be sited upgradient from the proposed ASF for the purpose of monitoring background water quality.

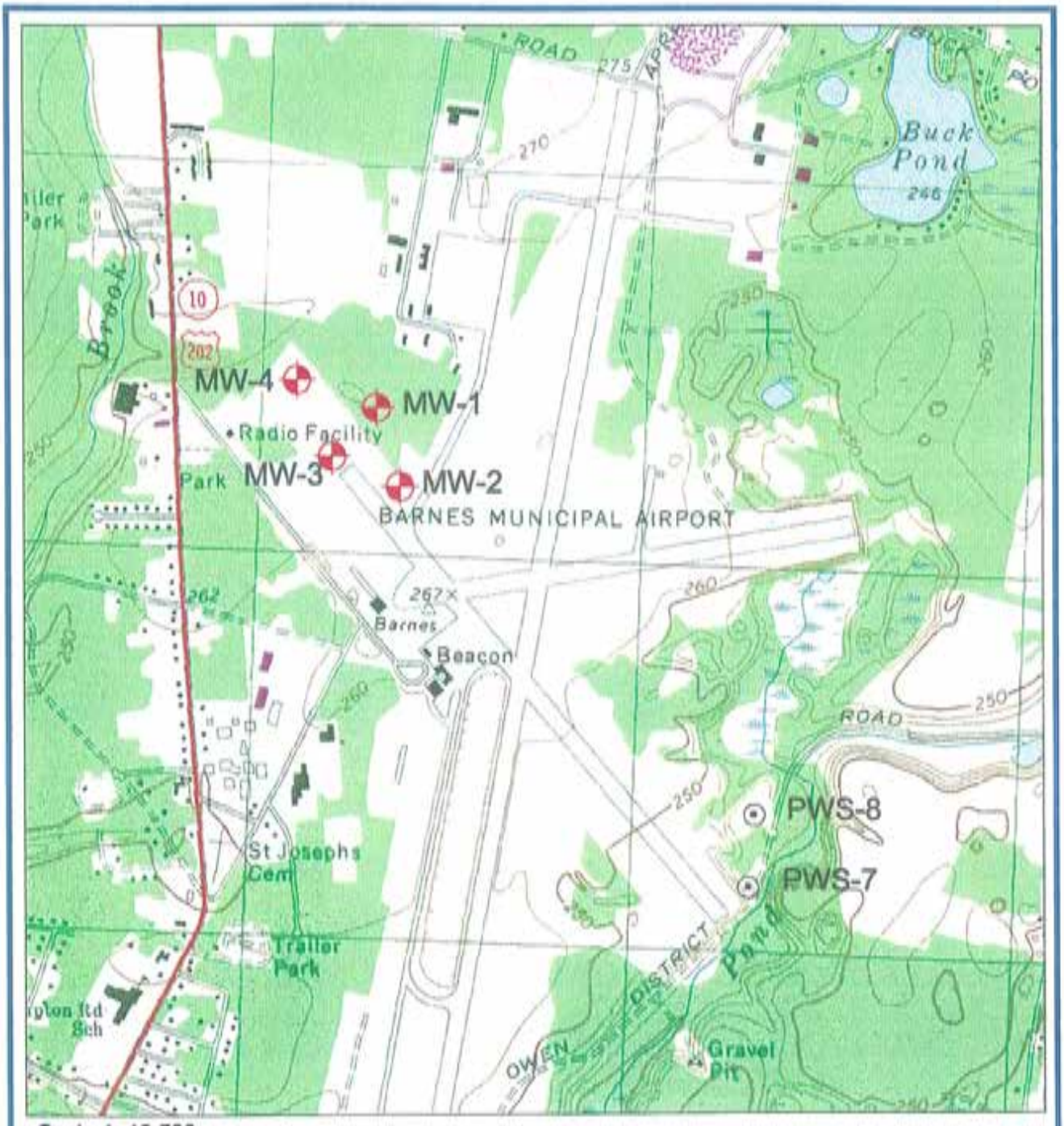
The network will consist of four monitoring wells at four locations. One location will be a single shallow well placed hydrogeologically upgradient from the proposed tarmac. Three wells will installed downgradient from the proposed tarmac. (See Table 5-1 below for a summary.) The approximate locations of the wells are shown on Figure 12 immediately following this page and in Appendix 1. The shallow well in will be screened near the groundwater interface close to the tarmac and will be a maximum of ten (10) feet below the interface at MW-6S and MW-7S.

The depth ranges for the monitoring points have been chosen to best intercept groundwater flowing from the fueling location toward the Public Supply Wells. The deep monitoring wells will be positioned to intercept groundwater flow at the level at which the supply wells are screened.

Monitoring wells are to be installed during the final construction phase of the facility, and will begin monitoring immediately prior to the operation of the facility. Water quality sampling will be performed annually or immediately subsequent to the release of a reportable quantity, should one occur. The samples will be collected by a representative of the MAARNG suitably trained in environmental sampling protocols. The samples will be analyzed by a Massachusetts certified analytical laboratory for volatile organic compounds (VOCs) by EPA Method 8260B, for petroleum hydrocarbons by the EPH and VPH methods, and for semi-volatile organic compounds (SVOCs) by EPA Method 8270. In addition, routine chemistry including pH, dissolved oxygen, temperature, conductance, and carbon dioxide will be collected by field personnel at the time of sample collection.

Table 5-1

MONITORING WELL DESIGNATION	LOCATION	APPROXIMATE SCREENED INTERVAL (FEET BGS)
MW-1	Upgradient - North	
Shallow		35-45
MW-2	Downgradient - Southeast	
Shallow		20-30
MW-3	Downgradient - East	
Shallow		25-35
MW-4	Downgradient - East	
Shallow		25-35



Scale 1: 12,500

Figure 12

PROPOSED MONITORING WELL LOCATIONS
ARMY AVIATION SUPPORT FACILITY
MASSACHUSETTS ARMY NATIONAL GUARD

LEGEND
MW-#
Monitoring Well #

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ROCKY HILL, CONNECTICUT
ROCHESTER, NEW YORK

G:_sites\MAANG\98275.05\GENERAL\Fig. 6_MW LOCATIONS USGS

6. Traffic

The proponent will be required to file for a MassHighway access permit for the proposed curb cut at Route 10/202 should that curb cut be implemented in the future. Safety issues to be examined including the potential for signalization and realignment of the cut to accommodate minimum sight distances will be coordinated with MassHighway at that time. Currently, access to the MAARNG facility is proposed to be through the existing MAANG facility and interior access roadways.

7. Land Use

7.1 Agricultural Lands

The Proposed Action would result in the disturbance of approximately 26 acres of deciduous forest habitat and 5.3 acres of cornfield. Soils in the area are well drained and no wetlands are present. Both of these areas have been disturbed in the past. Although the area to be disturbed provides some habitat to a variety of plant and animal species, the value of the habitat for wildlife is not high, and is not unique in the Eastern Deciduous Forest Province. Impacts to vegetation due to construction and operation of the AASF would be negligible when compared to the total resource base as a whole.

There are approximately 90 acres of land currently leased for agricultural uses at Barnes Municipal Airport (see Figure 9). An additional 5.3 acres of land to be leased by the MAARNG (as part of a larger, 35 acre parcel) is also used for agricultural purposes. The AASF project will convert all 5.3 of these acres to a different use. This is the only land currently used for agricultural purposes impacted by the AASF expansion project.

The 8.5 acres northwest of the "stub" runway is not part of the Army National Guard Complex. The lengthening of this runway is under consideration by the Barnes Municipal airport and not a part of this project, therefore, there will be no impact to this parcel from the AASF expansion.

Prior impacts to agricultural land use at the airport have resulted in mitigation efforts including additional land designated for agricultural use. Due to the conversion of 4 acres of land from agricultural to other uses, approximately 14 acres were designated for agricultural use east of the airport (see Figure 9), resulting in a net gain of 10 acres. An additional 8 acres of land were converted from agricultural to other uses in 1996. The conversion of this land was mitigated in conjunction with the earlier effort, resulting in a net gain of 2 acres. The conversion of 5.3 acres will result in a net loss of 3.3 acres from 1996 levels. The original 14 acre parcel is still designated for agriculture and used for such.

The 5.3 acres of cornfield to be converted as part of the AASF are not actively used for farming. The lease agreement which was executed for this parcel specifically indicated that the ultimate goal was to place the parcel in aviation or aviation-related use. The airport retained the right to terminate the lease if the use of the parcel interfered with the aviation purposes of the airport. As such, no agricultural use other than temporary was implied by the lessor. However, in accordance with Executive Order 193, the net loss of 3.3 acres is required to be mitigated. The City of Westfield is currently developing a city-wide Agricultural Land Use Mitigation Policy in conjunction with other municipal projects. Based on a preliminary discussion with Mr. Mark Noonan, Conservation Coordinator for the City of Westfield on January 25, 2001, and given that the parcel is city owned land, the 3.3 acres is expected to be mitigated by the City as part of that plan and not as part of this Proposed Action.

7.2 Wildlife

The Proposed Action would result in minor impacts to wildlife from the direct loss of habitat due to construction of the AASF and its associated paved areas. Minor indirect impacts to nearby wildlife could result from operational activities of the AASF. These indirect impacts include avoidance of the area due to disturbance from helicopter operations and other human activities. Although the proposed area (26 acres of deciduous forest habitat and 5.3 acres of cornfield) provides some habitat for wildlife, impacts as

#9 (6ac)
#10 (6ac)
#7 (9ac)
#8 (6ac)
#6 (8ac)
#11 (7ac)
#5 (20ac)
#4 (4ac)
#13 (8ac)
#15 (35ac)
#14 (13ac)
#12 (9ac)
#3 (14ac)
#1 (8ac)
TERMINATED 1997

ARMY AVIATION SUPPORT FACILITY
AGRICULTURAL LAND USE
MASSACHUSETTS ARMY NATIONAL GUARD

Sheet No.
File No.
FIG.13

Scale	SCALE			
Date	1/31/2001			
Job No.	99275.05-A			
Checked by	PEO	No.	Description	Date
Approved by	MDH		REVISIONS	

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a whole due to habitat loss and other disturbances is expected to be negligible.

7.3 Threatened and Endangered Species

No federally-listed or proposed threatened or endangered species are known to occur in the project area except for transient bald eagles and peregrine falcons, which have occasionally been seen in the airport area and surrounding areas. Dr. Michael Ciaranca, MAARNG Natural Resources Manager, conducted a site reconnaissance of the proposed project location to determine if any state-protected rare species or habitat were present. Although habitat for the upland sandpiper and grasshopper sparrow exists nearby within the airport area, these species or their habitat were not identified as existing on the proposed project location. Habitat for the marbled salamander or the New England blazing star also does not exist within the project area. Therefore, no adverse impacts to threatened and endangered species would occur. Letters from Federal and State agencies concurring with this finding were presented in Appendix 4 of the SDEA/EENF.

7.4 Indian Lands

On November 21, 1999, the Department of Defense (DoD) promulgated its American Indian and Alaska Native Policy, which emphasizes the importance of respecting and consulting with tribal governments on a government-to-government basis. The Policy requires an assessment, through consultation, of the effect of proposed DoD actions that may have the potential to significantly affect protected tribal resources, tribal rights, and Indian lands before decisions are made by the services.

As required by the Policy, the proposed action was analyzed as to whether it may have the potential to significantly affect the protected tribal resources, tribal rights, or Indian lands of any federally recognized American Indian and Alaska Native governments (as defined by the most current Department of the Interior/Bureau of Indian Affairs list of tribal entities published in the Federal Register pursuant to Section 104 of the Federally Recognized Indian Tribe List Act.

Based on review of area mapping and review by MHC, the MAARNG has concluded that the proposed action does not have the potential to impact significant protected tribal resources, tribal rights, or Indians.

8. Massachusetts Contingency Plan

A Final RAO Statement was submitted pursuant to the MCP by the MAANG. The RAO was subsequently approved by DEP. As implementation of the Proposed Action would result in the disturbance of approximately 26 acres of deciduous forest habitat and 5 acres of cornfield, encounters with OHM are unlikely. Soils in the area are well drained and no wetlands are present. However, as both of these areas have been disturbed in the past, any encounters with OHM will be reported to MADEP through standard procedures set forth at 310 CMR 30.00, the Massachusetts Contingency Plan.

9. Proposed Section 61 Finding

9.1 Mitigation Measures

At various points in the SDEA and this EA/EIR, mitigation measures to lessen the adverse impacts of the Proposed Action or to ensure that negative impacts do not occur have been discussed. These measures include those that are included in the design of the AASF, and those to be implemented following construction.

The mitigation measures that have been incorporated into the proposed design are described below.

- All major aircraft washing and maintenance operations associated with the Proposed Action will be conducted in a covered building.
- The MAARNG will share existing fixed fuel storage facilities with the MAANG.
- Hemmet fuel tankers will be stored in a dedicated secondary containment area with a capacity of 110% of each tanker plus an additional 10% of the aggregate.
- Stormwater BMPs are intended to provide for a reduction of potentially adverse environmental impacts to resources, either on the construction site or at adjacent off-site locations. Appendix 3 presents a listing of some common BMPs. This listing, although not all-inclusive, indicates the type of actions that would be undertaken during the construction phase of the project to ensure that unacceptable impacts do not occur.
- Permanent BMPs will include closed drainage catch basins, swales and oil/water separators. This will allow for recharge of stormwater to the aquifer on site for up to the ten-year storm event. After treatment in the BMPs, stormwater associated with storms of greater magnitude will flow off-site. The design provides for BMPs to be taken off-line during an event to prevent fuel or other contaminants from being conveyed through the stormwater system.

Additional mitigation measures include those related to future operation of the facility. These measures include:

- Development of an operational phase Storm Water Pollution Prevention Plan (SWPPP). The operational SWPPP, currently being prepared, will discuss the storm water management system in further detail (i.e. applicable permits, detention basins, storm water infiltration system, complete inventory of potentially polluting materials and storage locations, system operation and maintenance, etc.). In addition, a draft construction period SWPPP has been prepared and is included in this EA/EIR in Appendix 5

- Maintenance of minimum traffic altitudes and established patterns established in cooperation with the Barnes Airport Commission (see Figure 14 following and in Appendix 1)

- Operation of a community "hotline" for area residents to register concerns and receive additional information regarding non-standard MAARNG activities

- Revisions to the MAANG Spill SPCCCP (see Appendix 4) currently in effect for MAANG operations at Barnes Municipal Airport. The revisions will reflect the new SWPPP, as well as describe the non-stormwater-related controls and countermeasures that are specific to MAARNG operations. The SPCCCP will identify the parties responsible for implementing the Plan.

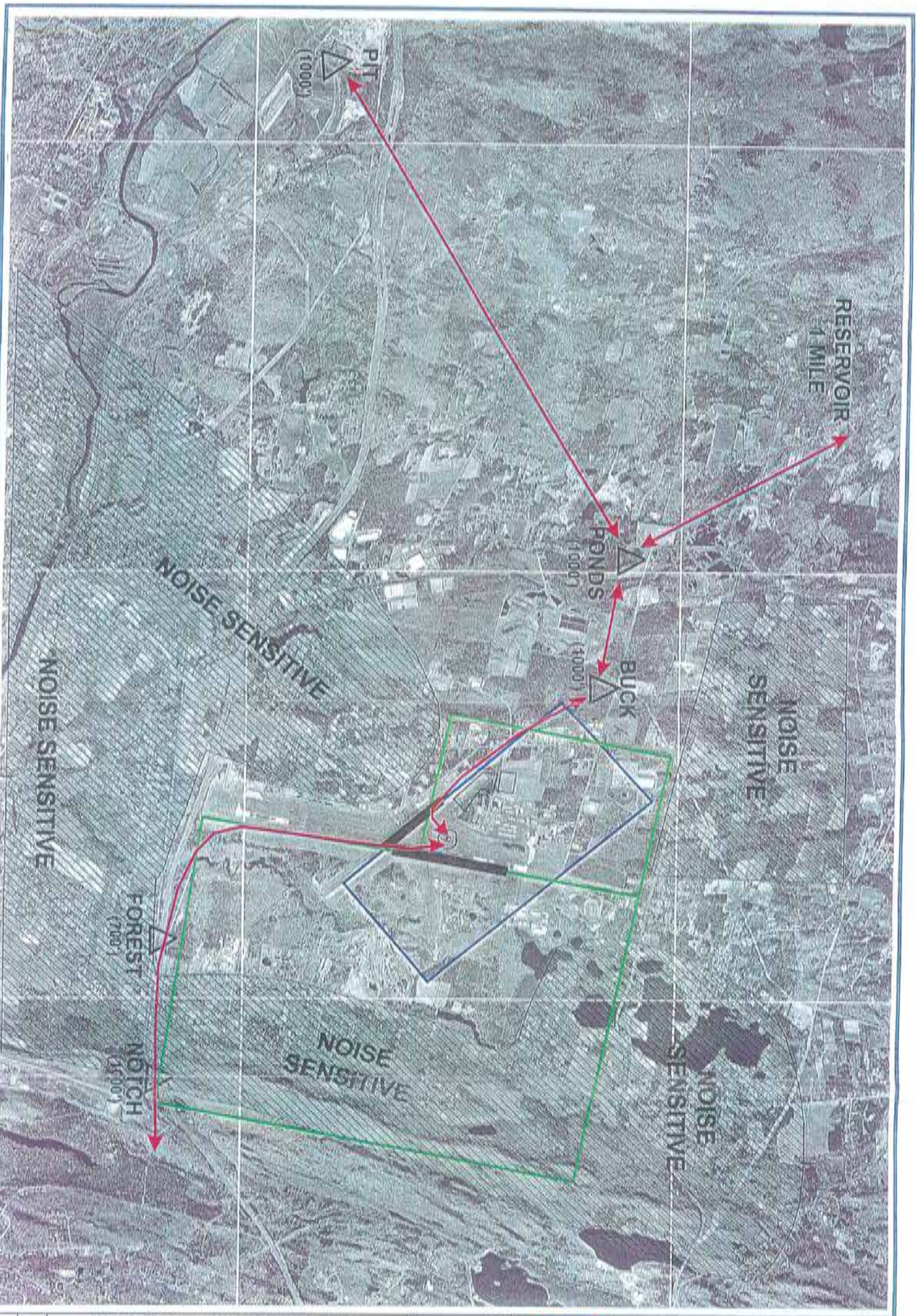

FIG 14

MASSACHUSETTS ARMY NATIONAL GUARD

ARMY AVIATION SUPPORT FACILITY

WESTFIELD BARNES MUNICIPAL AIRPORT

Scale	N.T.S.
Date	1/31/01
Job No.	0927IL04-A
Designed by	APC
Drawn by	APC
Checked by	PEC
Approved by	MDH

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- Coordination with the Barnes Aquifer Protection Advisory Committee (BAPAC), City of Westfield, and MADEP to design and operate the facility to preclude a risk of contamination to groundwater.

- Installation of a network of monitoring wells on site. Baseline sampling will be completed, and wells will be monitored annually thereafter.

- Installation of wellhead protection area signs in cooperation with the Westfield Water Department

- Coordination with the City of Westfield and its local boards as the project progresses through the design into construction phase

- Coordination with the members of the local and surrounding communities prior to the construction of the AASF

9.2 Responsible Parties

The MAARNG is responsible for obtaining funding for construction of the AASF and, as the project owner/operator, is ultimately responsible for construction management. The MAARNG is also responsible for each of the other mitigation measures described above, except that it will share responsibility for funding and maintenance of the wellhead protection signage with the Westfield Water Department.

9.3 Implementation Schedule

Prior to the start of construction:

- Final SWPPP prepared and implemented

During construction:

- Coordination with the City of Westfield and its local boards as the project progresses through the design into construction phase

- Coordination with the members of the local and surrounding communities prior to the construction of the AASF

Prior to the start of operations at the AASF:

- SPCCP revised and implemented

- Flight patterns and hours of operation established

- Creation of a community "hotline" for area residents to register concerns and receive additional information regarding non-standard MAARNG activities

- Monitoring wells installed and baseline sampling completed

- Installation of wellhead protection area signs

9.4 Conclusion and Findings

Based on the foregoing, the MAARNG finds that the environmental impacts resulting from the construction and operation of the MAARNG AASF and RSF at Westfield Barnes Municipal Airport are as presented in this EA/EIR. The MAARNG further finds that the mitigation measures to which it has committed in this Finding and set forth more fully elsewhere in this EA/EIR constitute all feasible measures to avoid or minimize the adverse environmental impacts described.

In conclusion, the MAARNG commits to inform the EOEA MEPA Office of any changes in the Proposed Action which may affect this Finding, in accordance with applicable MEPA regulations set forth at 310 CMR 11.00.

31 January 2001
Date

David M. Teasdale
Signature

Environmental Compliance Manager
Title

10. Certificate of the Secretary of Environmental Affairs on the Environmental Notification Form and Responses to Scope

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
251 Causeway Street, Suite 900
Boston, MA 02114-2119

RECEIVED
DEC 05 2000
SEA CONSULTANTS INC.

ARGEO PAUL CELLUCCI
GOVERNOR

JANE SWIFT
LIEUTENANT GOVERNOR

BOB DURAND
SECRETARY

December 1, 2000

Tel. (617) 626-1000
Fax (617) 626-1181
http://www.magnet.state.ma.us/envir

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS
ON THE
ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME	: Army Aviation Support Facility
PROJECT MUNICIPALITY	: Westfield
PROJECT WATERSHED	: Westfield River
EOEA NUMBER	: 12343
PROJECT PROPONENT	: National Guard Bureau/Massachusetts Army National Guard
DATE NOTICED IN MONITOR	: October 25, 2000

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and Sections 11.03 and 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **requires** the preparation of an Environmental Impact Report (EIR).

According to the Environmental Notification Form (ENF), the project involves construction of a 60,000 square foot Army Aviation Support Facility and a 10,000 square foot Readiness Support Facility. Included are construction of 130,000 square feet of roadways and parking areas, and 402,000 square feet of aircraft parking/taxiway access. Also proposed are: a fuel storage/dispensing system, an aircraft wash facility, a stormwater drainage system, external lighting, and fencing.

The project is subject to review and preparation of a mandatory EIR pursuant to Section 11.03 (1)(a)2 of the MEPA regulations because it involves creation of more than ten acres (13.7 acres) of impervious area. The project requires a groundwater discharge permit from the Department of Environmental Protection (DEP), approval of the airport master plan by the Massachusetts Aeronautics Commission, and review by the Department of Food and Agriculture. Because the proponent is an agency of the Commonwealth, MEPA jurisdiction extends to all aspects of the

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project that might have significant environmental impact.

The proponent is seeking approval to prepare and file a Single EIR (rather than the ordinary Draft and Final EIRs) in accordance with Sections 11.05(7) and 11.07(5). Section 11.06(8) requires that an expanded ENF (EENF): (1) describe and analyze all aspects of the project and all feasible alternatives, regardless of any jurisdictional or other limitation that may apply to the scope; (2) provide a detailed baseline in relation to which potential environmental impacts and mitigation measures can be assessed; and (3) demonstrate that the planning and design of the project uses all feasible means to avoid potential environmental impacts. Based on a review of the information provided by the proponent and after consultation with relevant public agencies, I find that the expanded ENF meets these requirements and therefore authorize the proponent to prepare and file a Single EIR for the project.

SCOPE

I. Project Description - The EIR should fully describe the existing airport, including the Airforce National Guard Facility, any industrial development, and any areas of past project mitigation. It should describe each element of the proposed project, including the areas to be altered in constructing or operating the element. It should clearly describe the status of mitigation strategies proposed in past EIRs for projects proposed on the airport, and compliance with past conditions applied to state agency approvals of the projects.

II. Alternatives - The EIR should describe the alternative sites evaluated for relocation of the facilities. The EIR must evaluate the No-build alternative for comparative purposes.

III. Status of Past Mitigation - The EIR should report on the status of each mitigation strategy developed in the past EIRs (EOEA #6588 & 8955), or required as a condition of funding, approval, or permitting.

IV. Noise - The proponent is developing noise mitigation strategies with the City of Westfield. Those strategies

should be clearly described in the EIR. The discussion should clarify the use of the maximum, single event and day-night average noise levels in evaluating the noise level experienced by residents and sensitive receptors. Both scheduled use and non-scheduled use of aircraft should be considered. The EIR should evaluate the level of compliance with any current guidelines, and describe the procedure for recording and addressing noise complaints from the community.

V. Ground Water - The airport is located over the Barnes Aquifer. The EIR should fully describe the facilities designed to control stormwater, fuel movement and storage, and hazardous waste storage at the site, and evaluate the effectiveness of each element. The EIR should describe the location and use of building drains, including those in the proposed aircraft washing area. The EIR should contain a proposed spill prevention and response plan. A proposed system of groundwater monitoring wells, and a proposed analysis plan should be discussed with EPA and DEP prior to its presentation in the EIR. The EIR should show that the DEP guidelines for stormwater management are met.

VI. Traffic - The EIR should evaluate the proposed curb-cut design on Route 10/202 for safety.

VII. Agricultural Lands - The EIR should describe existing and committed agricultural use on the parcel to be developed. The proponent should discuss plans to meet Executive Order #193 with the Department of Food and Agriculture and present the developed plans in the EIR.

VIII. Massachusetts Contingency Plan - The proponent should meet with DEP to evaluate the consistency of the plan with the Massachusetts Contingency Plan and present any requirements in the EIR.

IX. Mitigation - The EIR should contain a proposed Section 61 Finding which identifies all mitigation measures, parties responsible for their implementation and an implementation schedule.

The EIR should follow MEPA regulation 11.07 as modified by this scope and must address the issues raised in the enclosed comment letters. It must be circulated to the commenters and the

following for the MEPA review period:

DEP/Boston
DEP/WERO
NHESP
DF&A
MHD/Boston
MHD/Northampton
EOEA/Air Quality
MAC
PVPC
EPA
WRWA
WR Watershed Team
BAPAC
Westfield Planning Board
Westfield City Council
Westfield Conservation Commission
Westfield Public Library

Twenty-five additional copies must be available on request.

December 1, 2000
DATE

Bob Durand

Comments received : DEP - 11/21/2000
DF&A - 11/22/2000
Westfield Water Dept. - 11/17/2000
J. Perkins - 10/27/2000
R. Loder & I. Scanlon - 11/20/2000
G. & F. Snyder - 11/20/2000
D. Storek - 11/21/2000
W. Mead - 11/17/2000
F. Folta, Jr. - 11/21/2000
EPA - 11/29/2000
Barnes Aquifer - 11/22/2000
S. Durocher - 11/22/2000
D. King - 11/21/2000
J. & F. Fitzgerald - 11/22/2000

W. Mead - 11/17/2000
J. Murphy - 11/22/2000
Kelly Family - 11/23/2000
K. Hall - received 11/27/2000
E. Furie - 11/22/2000
W. Simmons - 11/20/2000
C. Rockwell - 11/21/2000
B. Rokosz, K. Wigby & J. Carpenter 11/21/00
S. & E. Tenero - 11/22/2000
J. Corell - 11/22/2000
D. Pyhitti - 11/20/2000
K. Dulude - 11/21/2000
S. Freedberg - 11/28/2000
J. Pappas - 11/29/2000
S. Kuchurski - 11/24/2000

BD/DES/ds

The Certificate discusses the requirement for a groundwater discharge permit from the Massachusetts Department of Environmental Protection (MADEP). The proponent will seek the required permit from MADEP prior to completion of the proposed facility.

The Secretary's Certificate also mentions approval of the airport master plan by the Massachusetts Aeronautics Commission (MAC). The Airport master Layout Plan is currently under review by both MAC and the Federal Aviation Administration (FAA). The Westfield Barnes Municipal Airport manager's office is coordinating with both MAC and FAA regarding review and approval of the plan. In addition, the proposed action has been reviewed by the Westfield Barnes airport manager, and this action has been deemed to be consistent with the Airport's future use.

Finally, the Certificate mentions the requirement for review by the Massachusetts Department of Food and Agriculture (DFA). The October 2000 SDEA/EENF was reviewed by DFA; comments on the SDEA/EENF are addressed in Section 7 of this EA/EIR.

The following subsections respond to items enumerated in the Scope of the Secretary's Certificate.

10.1 Project Description

Please refer to Section 1.3.1 of this EA/EIR for a description of the project.

10.2 Alternatives -

Please refer to Section 2 of this EA.EIR for the Alternatives Analysis

10.3 Status of Past Mitigation

Please refer to Section 3 of this EA/EIR

10.4 Noise

For quantitative and qualitative assessments of the noise impacts of the Proposed Action, please refer to Section 4 of this EA/EIR.

"The proponent is developing noise mitigation strategies with the City of Westfield. Those strategies should be clearly defined in the EIR."

Please refer to Section 9 of this EA/EIR, Proposed Section 61 Finding.

"The discussion should clarify the use of the maximum, single event and day night average noise levels in evaluating the noise level experienced by residents and sensitive receptors."

Please refer to Section 4 in general, and subsections 4.1.1 through 4.1.5

"Both scheduled and non-scheduled use of aircraft should be considered."

Please refer to Table 4-1 and Section 4.1.6 of this EA/EIR.

"The EIR should evaluate the level of compliance with any current guidelines..."

Please refer to Sections 4.2 and 4.4 of this EA/EIR

"...and describe the procedure for recording and addressing noise complaints from the community."

Please refer to Section 9 of this EA/EIR. The MAARNG is committed to establishing a community hotline specifically for recording and addressing helicopter noise complaints. Specifics of the operations of the hotline are under development.

10.5 Ground Water

"The EIR should fully describe the facilities designed to control stormwater..."

Please see Section 5.2 of this EA/EIR.

"...fuel movement and storage..."

See Section 5.2 of this EA/EIR

"...hazardous waste storage at the site..."

See Figure 2 in Appendix 1 of this EIR for a description of site layout and usage.

"The EIR should describe the location and use of building drains, including those in the proposed aircraft washing area."

See Section 5.3, Wastewater.

"The EIR should contain a proposed spill prevention and response plan."

The Spill Prevention and Countermeasure Control Contingency Plan, which has been approved and is currently in use by the MAANG at its existing facility, is included in this EIR in Appendix 4. This SPCCC Plan will be amended to include the proposed MAARNG operations at the site, and will be implemented upon commencement of MAARNG operations.

"A proposed system of groundwater monitoring wells, and a proposed analysis plan, should be discussed with EPA and DEP prior to its presentation in the EIR."

Several meetings have been held with Doug Heath of EPA, most recently on January 18, 2001. EPA was brought up to speed on the evaluation performed of the data from a pump test conducted on Westfield wells 7 & 8, which indicated that the zone of contribution to the wells was calculated to extended approximately 400 to 1300 feet laterally from the wells. As the proposed army aviation support facility (AASF) is sited approximately 5000 feet laterally from the wells, it would therefore be significantly

outside the zone of contribution. This would be true even if a safety factor of two (2) were applied to the most conservative estimate of 1,300 feet. EPA concurred with this analysis and was in agreement that the proposed AASF posed minimal threat to the Westfield water supply.

Also discussed with EPA was the number and screened interval of the proposed monitoring wells. Based on the above discussion, the locations were selected based on the presumed regional groundwater flow to the south/southwest. Therefore, one well was proposed to be sited approximately 150 feet downgradient from the two subsurface leaching fields associated with the stormwater collection system and a third located downgradient from the outfall of the stormwater overflow from the eastern leaching field. A fourth wells is to be sited upgradient from the proposed ASF for the purpose of monitoring background water quality.

EPA recognized that the primary contaminant of concern is JP-8 jet fuel, a product lighter than water and of relatively low solubility. EPA agreed that installing wells in the shallow water table, with the screen set 10 feet below the water table and five feet above is sufficient to detect contamination from the site, should it occur.

"The EIR should show that the DEP guidelines for stormwater management are met."

Please see response to item 5.1 above.

10.6 Traffic

Please refer to Section 6 of this EA/EIR.

10.7 Agricultural Lands

Please refer to Section 7 of this EA/EIR

10.8 Massachusetts Contingency Plan

- There are no known DEP-identified areas of known release on the project site. However, the proponent is aware of the requirements of the MCP and will report any releases or discovery of OHM as required.

10.9 Mitigation and Proposed Section 61 Finding

Please see Section 9 of this EA/EIR for the Proposed Section 61 Finding.

In addition, as requested in the Secretary's Certificate and Scope, all comment letters received have been categorized, responded to, and reproduced in Section 11 of this EA/EIR. Finally, this EA/EIR has been circulated as requested in the Certificate and as required at 310 CMR 11.07.

11. Comments Received on the Supplemental Draft EA/Expanded ENF, and Responses

This section and the subsequent matrix details written comments received from Federal, State and local regulatory authorities, as well as public interest groups and individual members of the community, on the Supplemental Draft Environmental Assessment (SDEA)/Expanded Environmental Notification Form (EENF) Dated November 2000. A total of 30 comment letters were received; 99 comments were identified within those 30 comment letters. Letters are numbered as indicated on the first page of the letter in the lower right-hand corner; comments are numbered individually by letter. Responses to comments as enumerated immediately follow each letter.

Comment Letters Received
on the
October 2000 MAARNG Expanded Environmental Notification Form/
Supplemental Draft Environmental Assessment

LETTER NUMBER	SENDER	COMMENT NUMBER/SYNOPSIS
FEDERAL AGENCIES		
F-1	EPA	1. Stormwater management
		2. Monitoring well siting
F-2	EPA	1. Monitoring well recommendations
STATE AGENCIES		
S-1	Department of Environmental Protection	1. Filing of RDA with the Westfield Conservation Commission
		2. Wastewater management
		3. Drinking water permit
		4. Hazardous Waste generator status
		5. MANG Final RAO
		6. Consideration of noise generation standards
		7. Air pollution from energy use
		8. Demolition of Westover and related permits
S-2	Division of Food and Agriculture	1. Conversion of agricultural land; status and location of 1996 mitigation land
LOCAL AGENCIES		
L-1	Westfield Water Department	1. Groundwater sampling
		2. Annual monitoring of existing wells
		3. Vehicle maintenance
		4. Surface water supply clarification
		5. Secondary Hemmet containment area/lose of storage volume
		6. Environmental reports, engineering designs, submittals requested by WWD
PUBLIC INTEREST GROUPS		
P-1	BAPAC	1. Section 1820 of the Westfield Zoning Ordinance
		2. Amount and method of artificial recharge
		3. More detailed mapping of site design
		4. BMP treatment areas; BMPs offline in case of event
		5. Groundwater protection regulations
		6. Recharge and degradation of groundwater
		7. O&M plan
		8. Pre- and post-construction sedimentation and erosion controls
		9. vegetative cover

LETTER NUMBER	SENDER	COMMENT NUMBER/SYNOPSIS
		10. List of hazardous materials
		11. SPCCP
		12. Spill containment materials/notification process
		13. Secondary hemmet containment
INDIVIDUALS		
I-1	J. Steele Perkins	General re: noise
1-2	R. Loder, J. Scanlon	General re: noise
I-3	G. and F. Snyder	General re: noise
I-4	D. Storek	General re: noise
I-5	W. Mead	General re: noise
I-6	F. Folta	General re: noise
I-7	S. Durocher	1. Home and public safety
		2. Helicopter noise on auditory system
		3. Nuisance noise
I-8	D. King	General re: noise
I-9	J. & F. Fitzgerald	General re: noise
I-10	J. Murphy	1. Noise/approach altitudes
		2. Alternatives analysis
I-11	Kelley family	1. Water quality
		2. Noise and vibration
		3. Flight times
		4. Alternatives analysis
I-12	K. Hall	1. Alternatives analysis
		2. Noise
		3. Tax break
I-13	E. Furie	General re: noise
I-14	W. Simmons	1. ENF distribution
		2. Alternatives analysis
		3. Noise and standard operating hours
		4. Noise
		5. Community coordination and additional info
		6. Figure 7
I-15	C. Rockwell	1. Noise
		2. Alternatives analysis
		3. Water quality/aquifer protection
		4. Air quality
		5. Threatened and endangered species
		6. Sewer
I-16	B. Rokosz; K. Wigby; J. Carpenter	See responses to letter I-15
I-17	S. & E. Tenero	1. Safety and disturbance
I-18	J. Corell	General re: noise, water quality, air pollution

LETTER NUMBER	SENDER	COMMENT NUMBER/SYNOPSIS
I-19	D. Pyhitti	General re: noise
I-20	K. Dulude	See responses to letter I-15
I-21	S. Freedberg	1. Mitigation of noise and safety issues
		2. Reduce number of flights; approach altitudes
I-22	J. Pappas	General re: noise; distribution requirements
I-23	S. Kucharski	1. Noise
		2. Safety
		3. Alternatives analysis

Total number of comment letters received - 29

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

D5

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NOV 29 2000
MEPA

November 29, 2000

Bob Durand, Secretary
Executive Office of Environmental Affairs, Attention: MEPA Office
Dave Shepardson, EOEA No. 12343
251 Causeway Street, 9th Floor
Boston, MA 02114-2150

Re: EOEA #12343, Expanded Environmental Notification Form (ENF)/Supplemental Draft Environmental Assessment, Massachusetts Army National Guard Army Aviation Support Facility.

Dear Secretary Durand:

The Environmental Protection Agency (EPA) New England Office has reviewed the Supplemental Draft Environmental Assessment/ENF dated October 2000 for relocation of an army aviation support facility at the Barnes Municipal Airport in Westfield, MA. EPA has been involved with review of the project for the past year and has been concerned about potential impacts from the facility to the City of Westfield's drinking water supply. According to the ENF, the proposed facility would be located within a Zone II wellhead protection area, near two municipal wells, in an area where ground water lies close to the land surface (20-30 feet below ground surface). Past contamination at the Barnes Air National Guard Base, located adjacent to the proposed facility, demonstrates the susceptibility of ground water in the area to contamination.

If the Army Aviation Support Facility is transferred to the Barnes Municipal Airport it will pose a threat to drinking water sources due to the use and storage of hazardous materials, aircraft washing operations, generation of stormwater runoff, and refueling. For this reason, our Agency has provided several recommendations to the Massachusetts Army National Guard for minimizing the risk of ground water contamination. Our agency is pleased to see that several of these recommendations are reflected in the current proposed design and operation of the facility, as described in this ENF. For example, all aircraft washing and maintenance will be performed in a covered building; fuel tankers will be stored in a dedicated secondary containment area; an emergency response plan will be coordinated with the nearby Barnes Air National Guard Base, local emergency response staff and the Westfield Water Department; wellhead protection area signs and spill report information will be posted at the Base; and local requirements will be met.

With the current design of the facility, the greatest potential threat of contamination arises from the potential release of jet fuel. The ENF only generally describes potential changes to the stormwater system on-site, but does commit to meeting DEP Storm Water Management

F-1

Standards. Due to the sensitivity of the aquifer and the importance of nearby public supply wells, EPA recommends that the EIR include greater detail about the effectiveness of the proposed stormwater management practices on-site, particularly for areas where the fuel tankers and helicopters are stored and refueled. The EIR should include a discussion of how each will meet DEP performance standards, and include a discussion of the effectiveness of the proposed system for treating VOCs and other potential drinking water contaminants. Ongoing maintenance and monitoring of the stormwater system should also be further described. 1

EPA is pleased that the proposed design now includes the installation of monitoring wells. If located correctly, sampling from monitoring wells will provide early warning of any degradation of ground water quality. To ensure that the proposed monitoring wells will be effective, the EIR should describe the rationale for monitoring well installation at each specific location and its sampling schedule. In other words, what is the exact potential contamination source each well is designed to detect, and its distance from the well? For each source, what are the characteristics of potential contaminants? Will the screened intervals be optimally placed to intercept possible oil and hazardous materials releases based on probable fate and transport conditions for LNAPL and DNAPL constitutents in both vadose and saturated zones? Under what time of year would sampling occur? Procedures for the release of sampling information to the Westfield Water Department should also be described. 2

EPA appreciates the efforts made by the Massachusetts Army National Guard and its consultants to carry out our recommendations and to obtain feedback from a variety of parties, including local residents and officials, and state and federal agencies. EPA's staff will continue to be available to offer guidance and suggestions for minimizing impacts from the proposed project as the design is finalized. Please contact me at (617)918-1578 if you have any questions about our comments.

Sincerely,

MaryJo Feuerbach

MaryJo Feuerbach
Drinking Water Source Protection Program

cc. Charles Darling, Westfield Water Department and BAPAC
Gary Lipp, Westfield Planning Board
Tara Gallagher, MA DEP, Boston Drinking Water Program
Nancy Caffall, DEP WERO Drinking Water Program

11.1 Federal Agencies

Letter F-1

1. The design of the drainage systems throughout the site incorporates the guidelines of the MADEP Storm Water Policy. Each system either meets or exceeds the 80% total suspended solids removal goal through the use of various BMPs including but not necessarily limited to sweeping programs, grass-lined swales, hooded deep sump catch basins and drainage manholes, retention ponds, oil/water separators, and subsurface infiltration fields.

The above noted BMPs work together to minimize the potential of contamination of the ground water due to a spill event involving the jet fuel used by the helicopters. In areas where fueling operations or the parking of fuel trucks occur specific design elements have been incorporated to protect the local drinking water resources. The containment parking pad for the Hemmet fuel tanker trucks has a containment capacity that is two times (2x) the required volume. All run off from the pad is collected and is to be visually inspected for potential contamination prior to discharge into the storm water collection system (which is further protected as described in this response). The runoff from all areas subjected to helicopter fueling activities is collected on pavement into a closed drainage system. The site grading was specifically designed to prevent run off from the required design storm event from sheet flowing off of the pavement areas.

Within the drainage system, all catch basins and drainage manholes utilize hooded, deep sump structures which act to settle out sediments and act as a passive oil/water separator. The normal flow of water is the directed through a pre-engineered treatment unit which in addition to further removal of any sediment, has a weired oil/fuel capture compartment. The treatment units are sized to handle up to the full volume of the ten year design storm event. Typical systems that operate on the "first flush" concept typically only handle the flow volume generated by a two year storm event. Under normal operating procedures, the MA ARNG will not be running training or fueling operations in inclement weather exceeding the ten-year design storm event.

Prior to the drainage systems' entry to the infiltration fields (or the high flow by-pass), manually operated sluice gates can be closed as part of the spill response action plan which will contain all flow collected by the closed systems on the airside areas. Each of the piping systems on the airside has containment volumes in excess of 25,000 gallons upstream of the sluice gates. This volume is ten times (10x) the volume of Hemmet fueling trucks to be utilized on the proposed site.

Flows in excess of the ten year design storm volume bypass the infiltration fields once the fields have become full and exit to surface flow in vegetated swales leading to large natural detention areas and/or exit the airport property following existing drainage paths. The bypass flow from infiltration field No. 1 follows the existing drainage path that ultimately exits the airport under Southampton Road. The existing culvert under the roadway is a 36-inch concrete pipe. The runoff from the proposed project is impounded upstream of this point in a shallow detention area whose outflow is restricted by the use of a 24-inch diameter pipe.

The landside drainage systems utilize BMPs as recommended by the MADEP Storm Water Policy for areas subjected to normal roadway and parking lot activities. This includes utilization of sweeping programs, sheet flow runoff from paved areas into grass lined swales, catch basins using deep sumps and hooded outflows, and collection of runoff in retention ponds which settle out potential pollutants and

recharge the ground water supply. These systems meet or exceed the requirements for total suspended solids removal.

2. Since issuance of the SDEA/EENF, the MAARNG and its contractor, S E A have had several meetings regarding this subject with EPA Region I and the Westfield Water Department (WWD). S E A met most recently with Doug Heath of the EPA on Friday, December 29, 2000, and again on January 12, 2001 with representatives of the MAARNG to discuss the rationale for the siting of the monitoring wells and to obtain results from the pumping test conducted at Westfield Public Water Supply wells 7 and 8 in October, 1977. Preliminary analysis of the data suggests that the zone of contribution to these wells extends approximately 3,100 feet laterally to the east and west of the pumping wells. This implies that the proposed facility is outside the zone of contribution and that the proposed activities will not have an adverse impact to these wells. It is the MAARNG's understanding that EPA Region I and the WWD are satisfied with the proposed design and best management practices (BMPs) regarding the future operation of the facility.

The monitoring wells are being installed in connection with the SWPPP, as well as a BMP to ensure that the MAARNG activities are conducted in an environmentally safe and protective manner. The sampling frequency will be annually or immediately after a significant storm event to provide for protection of the aquifer. In addition, the SWPPP and SPCC plan will be implemented to provide for additional protection of this sole-source aquifer, which supplies more than 60,000 people with drinking water.

As stated in the SDEA/EENF, the primary potential contaminant of concern is JP-8 jet fuel. JP-8 is comparable to kerosene and is considered a light, non-aqueous phase liquid (LNAPL). Because JP-8 is less dense than water, it is proposed that the screened intervals for the four shallow monitoring wells that will be from ten (10) feet below the water table to five (5) feet above the water table. The proponent is suggesting that the wells be sampled annually.

The precise locations of the monitoring wells will be determined pending the completion of a water table survey to be conducted prior to the construction phase of the project. Once accurate water table contours have been developed, the monitoring wells can be sited to ensure that they are placed optimally to detect facility derived variations in groundwater quality

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

November 29, 2000

Mr. David Tessicini
Environmental Affairs
MAARNG
50 Maple Street
Milford, MA 01757

Re: EOEA #12343, Expanded Environmental Notification Form (ENF)/Supplemental Draft Environmental Assessment, Massachusetts Army National Guard Army Aviation Support Facility.

Dear Mr. Tessicini:

The Environmental Protection Agency (EPA) New England Office has reviewed the Supplemental Draft Environmental Assessment/ENF dated October 2000 for relocation of an Army Aviation Support Facility at the Barnes Municipal Airport in Westfield, MA. As you know, EPA has been involved with review of the project for the past year and has been concerned about potential impacts from the facility to the City of Westfield's drinking water supply. Our agency is pleased to see that several of the recommendations which we have discussed with your staff and consultants are reflected in the current proposed design and operation of the facility, as described in the Supplemental Draft Environmental Assessment/ENF. Our remaining comments and suggestions for the design and operation of the proposed facility are attached in our letter to Secretary Durand. As you will see, we believe that most of our comments are adequately addressed, however, we request further information about the effectiveness of the stormwater system for treating potential drinking water contaminants in areas where fuel storage, helicopter parking and refueling will occur on-site, and we request further rationale for the location and design of the monitoring well system. Additional recommendations for installation of the monitoring well system are attached.

EPA appreciates the effort made by the Massachusetts Army National Guard to work with our Agency and other parties to reduce potential impacts to the Westfield Water Supply. Our staff continue to be available to offer guidance and suggestions for minimizing potential drinking water impacts from this project. Please contact me at (617)918-1578 if you have any questions about our comments.

Sincerely,

MaryJo Feuerbach
Drinking Water Source Protection Program

F-2

Additional Recommendations for Installation of Monitoring Wells

According to the ENF (Section 4.5, Pages 4-11 through 4-14), the 1993 Conceptual Zone II for Supply Wells 7 and 8 is an approximate estimation of the area of stratified drift contributing ground water to these wells under conservative assumptions. I We recommend that prior to monitoring well installation, the Massachusetts Army National Guard analytically calculate the approximate public water supply capture-zone boundaries using the wells' historical aquifer test data for transmissivity, maximum daily discharge over the past year (the maximum pumpage on record for a 24-hour period), and the hydraulic gradient estimated from the channel gradient of Pond Brook on the Mt. Tom 7.5-minute USGS quadrangle (210'-200'/2,400' = 0.00417 feet per feet) and the uniform flow equation (SP = Q/6.28Ti, and Y = Q/Ti). If a more sophisticated model is available, then that can be used. As for the prevailing direction of ground water flow (and assuming an integrated ground water/surface water hydraulic connection in this unconfined aquifer), connecting the 250, 240, 230, 220, 210 and 200-foot topographic contours intersecting the channels of Arm Brook to the west and Pond Brook to the east shows a NNE to SSW flow direction through the wellfield. The resultant capture zones extended upgradient should be superimposed on Figure 14 of the MANG EA to ascertain if they intersect the proposed monitoring well locations. The proposed monitoring well directions should be adjusted, if necessary, based on estimated ground water flow directions and fuel storage and handling facilities. Once installed and developed, the monitoring wells should be surveyed to the nearest 0.01 feet elevation and tied into other surrounding monitoring wells to more accurately determine ground water flow direction through the airport and upgradient vs. downgradient relationships.

For further information, contact Douglas Heath, hydrogeologist with EPA, at (617)918-1585.

DS

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WESTERN REGIONAL OFFICE

ARGEO PAUL CELLUCCI
Governor

JANE SWIFT
Lieutenant Governor

BOB DURAND
Secretary

LAUREN A. LISS
Commissioner

RECEIVED
NOV 27 2000
MEPA

Date: November 21, 2000

Bob Durand, Secretary
Executive Office of Environmental Affairs, Attention: MEPA Office
Dave Shepardson, EOEA No. #12343
251 Causeway Street, Suite 900
Boston, MA 02114

Re: Army Aviation Support Facility
Westfield, MA

Dear Secretary Durand,

The Department of Environmental Protection, Western Regional Office appreciates the opportunity to comment on the Environmental Notification Form (ENF) submitted for the proposed Army Aviation Support Facility EOEA #12343 located in Westfield. Department staffs from the Bureau of Resource Protection, Bureau of Waste Prevention and the Bureau of Waste Site Cleanup have participated in this review and comment letter. Richard Larson and Craig Givens attended the MEPA site visit on November 15, 2000.

I. Project Description

The Massachusetts Army National Guard (MAARNG) proposes to construct and install a new Army Aviation Support Facility (AASF) and Readiness Support Facility (RSF). To accommodate construction and operation for the Proposed Action, the National Guard Bureau (NGB) proposes to lease (Federal lease) from the City of Westfield, approximately 31 acres of land located at Westfield Barnes Municipal Airport in Westfield. The new AASF and RSF is proposed to meet the following requirements:

- Provide maintenance space for eight UH-1 Iroquois (Huey) and three OH-58C (Kiowas) helicopters
- Provide a secondary containment area for fuel truck storage
- Provide parking and office for support personnel

The proposed lease area is adjacent to the existing Barnes Air National Guard Base (ANGB) that houses the 104th Fighter Wing (FW) also located at the airport. The proposed Action would consist of the placement of permanent masonry and steel construction with built up roof, concrete floor, mechanical and electrical equipment, and partitions of masonry block. Supporting facilities include rigid and flexible paving for aircraft parking/tie down pads, ground support equipment, helicopter lanes, a secondary containment area for mobile fuel storage units, aircraft wash facility, exterior lighting, fire protection, and fencing. The approximate area of proposed impervious surfaces is 598,500 SF, distributed as follows:

S-1

- AASF Building – 56,500 Square Feet (SF)
- RSF Administration Building – 10,000 SF
- Aircraft Parking Apron – 402,000 SF
- Auto Parking/Driveways – 90,000 SF
- Roadway from Route 202 – 40,000 SF

II. Required DEP Permits

Local Request for Determination of Applicability (Westfield Conservation Commission)
Local Cross-Connection (Westfield Water Department)
Hazardous Waste Generator Status Registration

III. Permit Discussion

Bureau of Resource Protection

Wetland Program

1 The Supplemental Draft Environmental Assessment states (paragraph 4. 6. 4.) that there are no wetlands depicted on the U. S. Fish and Wildlife's National Wetland Inventory map for the proposed project area. No wetland areas were observed during a site reconnaissance. However, the Wetlands and Waterways Program requests that a Request for a Determination of Applicability be filed with the Westfield Conservation Commission. 1

Wastewater Management

2 Wastewater is not mentioned in the document, but the expected wastewater flows based upon the areal extent (66,500 ft^2) and usage of the buildings indicates that a sewer connection permit will not be required. 2

Drinking Water Program

3 There are no permits related to drinking water required for the project other than those for cross-connections, which are delegated to be permitted by the Westfield Water Department. 3

Hazardous Waste

4 The proponent should give particular attention to their registration as a hazardous waste generator in order to assure that the correct status (i.e. small quantity generator, large quantity generator, etc.) is registered with the Department (DEP). The generation rates of hazardous waste at the existing facility located in Chicopee may not be representative of the generation rates which will be realized at the proposed facility. 4

IV. Other Comments/Guidance

Bureau of Waste Site Cleanup

The proposed location of the Army Aviation Support Facility will overlay a Massachusetts Tier IA Site; the Former Fire Training Area associated with the Air National Guard Base. Remediation of this site has occurred, under the oversight of the MADEP/Bureau of Waste Site Cleanup. The remediation included the removal of 3,334 tons of petroleum contaminated soil from four areas of concern:

- The burn pit
- A drum storage area
- The fire extinguisher training pit
- A 6 ft high earthen berm

On October 11, 2000, the Department commented on the Draft Response Action Outcome (RAO) Statement for this site. Post-remediation soil and groundwater analytical results were compared to the Massachusetts Contingency Plans (MCP) Method 1 Cleanup Standards. Laboratory results were below the S-1/GW-1, GW-3 standards and a Draft Class A-1 RAO Statement were submitted. A Class A-1 RAO applies to sites where a Permanent Solution has been achieved and the level of oil and hazardous material in the environment has been reduced to background. The Massachusetts Air National Guard must submit a Final RAO Statement as required by the MCP.

5 5

Bureau of Waste Prevention

Air Quality and Solid Waste Management

6 The Department's Air Quality Regulations (310 CMR 7.00) and the policies associated with the enforcement of these regulations set forth certain standards relative to the generation of noise. The proponent should continue to consider these standards as the facility proceeds throughout both the planning and physical development phases. 6

7 The project is anticipated to incorporate the construction of buildings that will have certain energy needs (i.e. heating, lighting, etc.). If any of these needs will be met through the combustion of liquid, gaseous, or solid fuels then such systems may need to be permitted by the Massachusetts Department of Environmental Protection (DEP) provided that the proposed equipment meets or exceeds certain energy input capacities. For example, boilers using distillate oil or natural gas with an energy input of ten million BTU per hour or greater are required to be permitted prior to installation. Boilers utilizing residual oil or used oil fuel are also required to obtain permits if their energy-input capacity equals or exceeds five or three million BTU, respectively. It should also be noted that there are permit thresholds for incinerators, stationary turbines, reciprocating engines, and other internal combustion engines (e.g. those associated with power generation units) that may or may not be applicable to your project. The project proponent should refer to the Air Pollution Control Regulations (310 CMR 7.02) for a complete overview of the permitting thresholds associated with 310 CMR 7.00 if the project proposes to meet certain on-site energy needs through combustion process. 7

The scope of the proposed project appears to be limited to the development of the Army Aviation Support Facility in Westfield, Massachusetts. It is also noted in the report, however, that this project is proposed as a replacement for the existing facility, located in Chicopee, Massachusetts, which is currently scheduled, for demolition. The project proponent, to the extent that they may continue to be associated with the Chicopee facility, should be advised that demolition activity at the existing site must comply with both Solid Waste and Air Quality Control regulations. The appropriate Solid Waste provisions addressing this includes M.G.L. Chapter 40, Section 54, which provides:

8 "Every city or town shall require, as a condition of issuing a building permit or license for the demolition, renovation, rehabilitation or other alteration of a building or structure, that the debris resulting from such demolition, renovation, rehabilitation or alteration be disposed of in a properly licensed solid waste disposal facility, as defined by Section one hundred and fifty A of Chapter one hundred and eleven. Any such permit or license shall indicate the location of the facility at which the debris is to be disposed. If for any reason, the debris will not be disposed of as indicated, the permittee or licensee shall notify the issuing authority as to the location where the debris will be disposed. The issuing authority shall amend the permit or license to so indicate". 8

For purposes of implementing the requirements of M.G.L. Chapter 40, Section 54, the Department of Environmental Protection considers an Asphalt, Brick and Concrete (ABC) rubble processing facility, or other recycling facility established pursuant to the provisions of section (3) of 310 CMR 16.05 (Site Assignment Regulations for Solid Waste Management Facilities), is conditionally exempt from the site assignment requirements if the ABC rubble at such facilities are separated at their point of generation from other solid waste materials. Under 310 CMR 16.05(3), ABC can be crushed on-site with just a 30 day notification to DEP. However, the asphalt is limited to weathered bituminous concrete (no roofing asphalt, etc.) and the brick and concrete must be uncoated or unimpregnated (e.g. no roofing epoxy, etc.). If the brick and concrete is not clean, e.g. coated and/or impregnated, then the material is defined as construction and demolition (C&D) waste and

requires either a Beneficial Use Determination (BUD) or a Site Assignment and permit before it can be crushed.

In addition to the above, if any portion of the demolition project contains asbestos, the project proponent is advised that asbestos and asbestos-containing waste material is a special waste as defined in the "Solid Waste Management Regulations" (310 CMR 19.061). Asbestos removal notification must be made to DEP using permit form ANF 001 and building demolition notification made to DEP using permit form AQ06 at least 10 working days prior to initiating work. Except for vinyl asbestos tile (VAT), and asphaltic-asbestos felt and shingles; the disposal of asbestos containing materials within the Commonwealth must be at a facility specifically approved by the Department of Environmental Protection pursuant to 310 CMR 19.061. No asbestos containing material; including VAT, asphaltic-asbestos felts or shingles; may be disposed at a facility operating as a recycling facility pursuant to the provisions of 310 CMR 16.05. The disposal of the asbestos containing materials outside the jurisdictional boundaries of the Commonwealth must comply with all the applicable laws and regulations of the state receiving the material.

The demolition activity also must conform to current Air Quality Control Regulations. The proponent should suggest measures to alleviate dust, noise, and odor nuisance conditions, which may occur during the demolition. Such measures must comply with DEP Bureau of Waste Prevention (BWP) Regulations 310 CMR 7.01, 7.09, and 7.10. These include notifying the DEP, in writing, at least ten days in advance of removing any asbestos. The BWP also must be notified, in writing, at least ten days prior to performing the proposed demolition. The removal of asbestos from the buildings must adhere to the special safeguards defined in the Air Quality Regulations (310 CMR 7.15 (2)).

8 (cont.)

8 (cont.)

If you have any questions regarding this comment letter please do not hesitate to call Craig Givens at (413)-755-2217.

Sincerely,

Michael J. Gorski
Regional Director

cc: DEP/Boston/David Murphy
MEPA File

11.2 State Agencies

Letter S-1

1 The MAARNG and its contractor will meet with the Westfield Conservation Commission to review the project and determine whether a Request for Determination of Applicability (RDA) would serve the interests of the Wetlands Protection Act.

2 Comment noted. A final evaluation of wastewater flows will be conducted during the final design phase of the project to determine if a sewer connection permit is required.

3 Comment noted.

4 The MAARNG will evaluate its status to determine whether the proposed facility will qualify as a small quantity generator or very small quantity generator. When the facility's status is determined, the MAARNG will obtain an independent and permanent EPA identification number as a generator of hazardous waste prior to implementation of operations.

5 A Final RAO Statement was submitted by the MAANG and approved by DEP.

6 Comment noted. The MAARNG will continue to consider the air quality standards set forth at 310 CMR 7.00.

7 The proponent has reviewed the Air Pollution Control Regulations relative to permitting thresholds for this project. The MAARNG will obtain any permits applicable under 310 CMR 7.00 regarding the construction or operation of this proposed facility.

8 Comment noted. The SDEA/EENF as well as this EA/EIR address the proposed AASF/RSF project at Barnes only. Prior to demolition of the Westover facility, the proponent of that project will submit its required environmental documentation to be reviewed under the National Environmental Policy Act (NEPA), and will be required to comply with all Federal and state permits and regulations, as applicable.

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF FOOD AND AGRICULTURE
LANCASTER REGIONAL FIELD OFFICE
142 OLD COMMON ROAD, LANCASTER, MA 01523 (508) 792-7711 FAX: (978) 365-2131

DS

ARGEO PAUL CELLUCCI
Governor

JANE SWIFT
Lieutenant Governor

BOB DURAND
Secretary

JONATHAN L. HEALY
Commissioner

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NOV 29 2000
MEPA

11/22/00

MEMORANDUM

To: Bob Durand, Secretary
Executive Office of Environmental Affairs

Attn: David Shepardson, MEPA Office

From: Marcia Starkey MS

Re: EOEA #12343 Expanded ENF Army Aviation Support Facility Westfield

Date: 22 November 2000

This Expanded Environmental Notification Form filed by the Massachusetts Army National Guard proposes to replace the existing Army Aviation Support Facility at Westover Air Force Reserve Base with a facility at Westfield Barnes Municipal Airport as an extension of the present Air National Guard Base at the airport. The EENF states that no alternative space is available at Westover. As a state agency project, the provisions of Executive Order 193 apply.

The Air National Guard would conclude a new, additional 31 acre lease for the construction of an AASF building, RSF building, aircraft parking apron, auto parking and access road to Route 10/202. The project is located adjacent to the present base on the west and south. Agricultural impact is identified in the ENF as the conversion of 5.3 acres of cornfield.

The 1996 Master Plan Implementation for the Massachusetts Air National Guard (MEPA #10691) expanded the ANG lease line to the west, converting 8 acres of cornfield which were mitigated through designating other equivalent acreage for agricultural use (plus an additional 2 acres) on the east side of the airport.

In assessing the impacts to agricultural land which would result from ANG activities as presented in the ENF, we have consulted the airport's Inventory Plan base maps for 1996 and 2000 and USDA acreage figures. The project appears to convert the remaining 32 acres of field west of the present AANG base, as well as an 8.5 acre field northwest of the "stub" runway proposed for lengthening as part of the present project. Approximately 60 acres of farmland is presently under lease at Barnes. As farmed acreage may be reduced from 1996 levels, we ask that the EIR also verify the status and location of the 1996 mitigation land.

1

1

The Environmental Impact Report should include specific written and mapped identification of these areas, and an agricultural mitigation plan appropriate to DFA's Agricultural Lands Mitigation Policy. We recognize the primary airport use of this facility, the constraints which airport safety places on crops grown, and that on-site mitigation may be infeasible.

C/Paul E. Orr, S E A Consultants Inc.
Christopher J. Willenborg, Airport Manager

5-2

Letter S-2

See Section 7 of this EA/EIR and its associated Figure 9.

CITY OF WESTFIELD, MASSACHUSETTS
Water Department
59 Court Street, Westfield, MA 01085-3572
(413) 572-6243

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Charles L. Darling, Water Superintendent

Commissioners:

Jana Catuccio, Chairman
Lee Perez, Member
Brent Bean, Member

November 17, 2000

Bob Durand, Secretary
Executive Office of Environmental Affairs, Attention: MEPA Office
Dick Foster, EOEA #12343
215 Causeway Street, Suite 900
Boston, Massachusetts 02114

Subject: Comments to Proposed Construction of the Army Aviation Support Facility Expanded Environmental Notification Form (Expanded ENF)
Barnes Municipal Airport
Westfield, Massachusetts

Dear Secretary Durand:

The Westfield Water Department (WWD) has prepared the following comments on the Proposed Construction of the Army Aviation Support Facility at the Barnes Municipal Airport (Airport) in Westfield, Massachusetts. The comments are based on our review of portions of the Expanded ENF. The WWD comments are based on an important goal. That is the protection of the quality and quantity of the water within the City of Westfield. This includes surface water and groundwater and associated drainage areas both within and outside State-approved wellhead protection areas (i.e., MA DEP-approved Zone II for WWD Wells 1, 2, 7, and 8).

As a general comment, we are pleased with the overall concern by the Army National Guard with the protection of the natural resources of the City of Westfield. The development of engineering controls and Best Management Practices (BMPs) to ensure the long-term protection of the ground water supply within the MA DEP-approved Zone II for Westfield's Wells 1, 2, 7, and 8. These wells, at present, supply the majority of ground water used by our community. The loss of these wells would be catastrophic for the city.

1. Discussion of Zone II Delineation – Section 4.5

   The delineation was performed using an analytical solution approach that was approved by MA DEP personnel. In addition, a computer model to determine the recharge area to these wells was performed in the late 1980's for the WWD. There was little difference between the computer simulation and the analytical solution that was the basis for the MA DEP-approved Conceptual Zone II for Wells 1, 2, 7, and 8.

L-1

Numerous reports have been prepared for the WWD on the Barnes Aquifer, especially the MA DEP-approved Zone II delineation.

2. General Comments

1 We are pleased to read that monitoring wells are proposed for the facility. We recommend that the ground water be sampled and tested for baseline conditions, then annually. The ground water quality must be submitted to the Superintendent of the WWD for review within 45 days of completion of the annual ground water sampling. Ground water quality results will also be submitted to the WWD if a release of a reportable quantity has occurred. 1

2 We would like the applicant to include in the annual monitoring three wells on airport property identified as MW-7A, 7B, and 7C adjacent to Taxiway Gulf and near runway 15-33. These monitoring wells were used for the environmental evaluation of site conditions at the Air Guard Facility and have since been turned over to the city. 2

The proposed storm water collection, treatment, and subsequent infiltration appears adequate.

3 We are, however, concerned with the statement on page 5-2, Section 5.2.1.3.2 Groundwater – "Potential impacts to water quality could result from day-to-day operations at the proposed facility, which would include aircraft/vehicle maintenance and refueling and flight operations." This is not acceptable. With the proposed engineering controls and staff training, this should not be an issue. In addition, on page 5-8, Section 5.2.4.3.1 AASF Maintenance Operations indicates that no vehicle maintenance operations at the facility. This is an inconsistent statement. What will and will not occur at the facility with respect to vehicle maintenance? 3

We will work with ANG to place appropriate water supply signs.

4 The applicant makes a confusing statement on page 10, Section 4.4.3.1 Surface Water. The WWD has a surface water supply. Is the applicant referring to the water supply for the airport? 4

5 We are concerned that the open containment area for the Hemmet tankers may lose storage volume due to precipitation collecting in this area. It is our understanding that facility personnel will open valves to drain this area and will manually remove snow and ice. In our opinion, it may be better to have this area protected from the weather to assure that adequate containment storage volume will always be available. 5

6 The WWD requests that they receive all future environmental reports, engineering designs, and related submittals for the proposed construction of the Army Aviation Support Facility in Westfield and be placed on the list to receive all future correspondence related to the proposed construction project. 6

Sincerely,

Charles L. Darling PE

Charles L. Darling
Water Superintendent

11.3 Local Agencies

Letter L-1

1 The MAARNG will provide the annual results of the water quality analysis to the WWD and intends to keep the WWD informed of any reportable release.

2 The MAARNG cannot agree to expend federal funds to monitor these wells.

3 While there is minimal possibility of contamination of groundwater, and all measures have been taken to provide for a design which will protect the Barnes Aquifer, the MAARNG is required to identify any activities or project elements which may have a potential for adverse environmental impact.

4 Comment noted. The proponent was referring to the water supply for the airport.

5 Per the direction of the MA ARNG an open containment pad for the Hemmets was incorporated into the design of the site. Per regulations, the containment pad for multiple tanks is required to provide 110% of the volume of the largest tank plus an additional 10% of the total volume of all the tanks within the containment area. Per this requirement, the proposed facility shall have a minimum of 3000 gallons of containment volume. As designed, the proposed containment pad has a containment volume of approximately 6190 gallons. Additionally, in combination with the site grading, any overflow from the containment pad is directed to the closed drainage system via a paved swale. Although the secondarily contained area is more than adequate, the MAARNG believes the addition of a cover would be a BMP. However, there are no current plans or available funds for this BMP. The MAARNG will request funding from Congress for this addition in a future year's funding.

6 The MAARNG is committed to building a strong working relationship with the WWD, and will submit to the WWD all future reports, designs and other documentation within the purview of the WWD.

BARNES AQUIFER PROTECTION ADVISORY COMMITTEE

c/o Pioneer Valley Planning Commission, 26 Central Street, West Springfield, MA 01089

DS

November 22, 2000

RECEIVED
NOV. 27 2000
MEPA

Mr. Robert Durand, Secretary
Executive Office of Environmental Affairs
251 Causeway Street, Suite 900
Boston, MA 02114

Attention: Dave Shepardson, MEPA Office

Reference: Review Comments on the Expanded Environmental Notification Form, Massachusetts Army National Guard Army Aviation Support Facility, Westfield, MA, EOEA No. 12343

Dear Secretary Durand:

I am writing to you on behalf of the Barnes Aquifer Protection Advisory Committee (BAPAC) to provide our comments on the Expanded Environmental Notification Form for the Massachusetts Army National Guard Army Aviation Support Facility. The Barnes Aquifer Protection Advisory Committee (BAPAC) is composed of representatives from the four jurisdictions- Easthampton, Holyoke, Southampton, and Westfield- in which the Barnes Aquifer is located. The committee was created in 1989 to address developments of regional impact that are proposed within the aquifer to ensure that drinking water resources remain safe for the 60,000 people that it serves. The proposed project is situated on land that is directly linked to the Barnes Aquifer.

The proponent has addressed some of BAPAC's early concerns by incorporating stormwater management best management practices (BMPs), including infiltration, and by installing monitoring wells. However, the proponent should provide additional detailed information related to the project and the proposed aquifer protection measures as described below.

Although the Army National Guard may not be legally required to comply with local zoning requirements, the proponent should at a minimum meet the requirements set forth in Section 1820 of the Westfield Zoning Ordinance for the Water Resources Protection Area. The Water Resources Protection Area and the associated requirements were incorporated into the zoning ordinance in order to protect the valuable drinking water resources within the City. The proposed Army National Guard facility is located over the Barnes Aquifer and within the delineated Zone II of four drinking water wells, which serve Westfield. The aquifer also serves as the sole-source aquifer for the town of Easthampton. Groundwater recharge is important in the areas located over the Barnes Aquifer. The zoning ordinance requires that any development that results in greater than 15% impervious surface, an artificial recharge system must be provided. The proposed project involves the addition of 13.7 acres (or approximately 44%) of impervious surfaces within the aquifer. The proposed project includes an infiltration system.

1 1

In order to ensure the protection of this important water resource, we request the following information be detailed in the EIR:

2 — 1. Amount and method of artificial recharge to be provided; | 2
3 — 2. Mapping and details of the specific activities proposed at the site, including refueling and aircraft washing areas; | 3
4 { 3. Mapping of the drainage areas indicating which areas are to be treated by BMPs; | 4
4. Description of how the stormwater BMP system can be taken off line in the event of a spill;
5 — 5. Description of how the project will comply with groundwater protection regulations; | 5

P-1

6 – 6. Methods to ensure that the recharge system shall not degrade the groundwater; 6

7 – 7. Operation and maintenance plan detailing how the Guard proposes to maintain the BMP system in "full working order"; 7

8 – 8. Proposed erosion and sedimentation controls during and after construction; 8

9 – 9. Detail on the vegetative cover to be applied; 9

10 – 10. Complete list of chemicals and fuels, including fertilizers and pesticides, to be used or stored on site; and 10

11 – 11. Hazardous Materials Management Plan to include provisions to prevent or contain spills and an Emergency Response Plan detailing tasks in the event of a spill. BAPAC should be informed of any changes to the plans. 11

12 We recommend that appropriate spill containment and clean up materials should be maintained on-site and the proponent should the City Water Department and BAPAC immediately of any spills. The proponent plans to use hemmet tankers to transport and store fuel at the proposed base. The parking pad proposed for the hemmet tankers 12

13 is not enough to protect the environment from spills from the fuel storage tankers. The tankers should be stored within a building with adequate containment provided for the amount of fuel to be stored. 13

Thank you for your consideration of our comments.

Charles L Darling, Jr.

Charles L. Darling, Westfield
Chair, BAPAC

cc: Joe Slattery, Southampton, BAPAC Exec. Comm.
Stuart Beckley, Easthampton, BAPAC Exec. Comm.
Alicia Zoeller, Holyoke, BAPAC Exec. Comm
Christopher Curtis, PVPC
Tracy Adamski, PVPC

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11.4 Public Interest Groups

Letter P-1

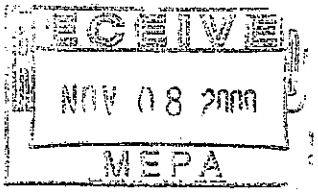
1. The MAARNG and its contractor, S E A, have met with both EPA Region I and the WWD to discuss aquifer protection. The MAARNG believes that consensus was reached with both of these agencies regarding protection of the aquifer, implementation of Best Management Practices (BMPs), and compliance with all applicable laws and regulations which are protective of the environment. Artificial recharge is provided on site through the use of both surface retention ponds (2) and subsurface infiltration fields (2). The MADEP Storm Water Policy seeks to recharge a volume equivalent to 0.4 inches of water covering the area of newly created impervious area. For the proposed site this would equate to approximately 21,400 cubic feet of water. The combined recharge capacity of the proposed ponds and fields on the proposed site totals approximately 54,300 cubic feet. The MAARNG is committed to ensuring that all of its operations are done in an environmentally friendly and safe manner and is committed to being a good neighbor and steward of this precious environment.
2. See response to Comment 1 above.
3. A map of proposed activities is provided in Appendix 1 of this EA/EIR.
4. A map identifying the individual drainage areas is provided in Appendix 1 of the EA/EIR. A description of the storm water system and its operation is included above in the response to Comment No. 1 of the EPA letter identified as Letter F-1.
5. See response to comment 1.
6. Installation of monitoring wells and adoption of monitoring program: BMPs including use of hooded, deep sump catch basins and drain manholes and an in-line oil water separator (up to the 10 yr. Design storm flow) all prior to entry of storm water into infiltration fields.
7. Emergency cut off sluice gates, which when closed per actions prescribed in an Emergency Response Plan, prevents the flow of the storm water from both entering the infiltration field and from exiting the closed drainage system. Any contaminated runoff in conjunction with a spill event would be contained within the pipes and pumped out for appropriate disposal.
8. The Stormwater Pollution Prevention Plan included in Appendix 5 describes construction phase erosion controls. Erosion and sedimentation controls are shown in the Construction Documents, Sheet No. C-3, Site Preparation & Erosion Control Plan. Additionally, the Contract Specifications direct the Contractor to implement all erosion control measures in accordance with MADEP requirements. After construction, the MAARNG will develop an erosion control plan for the facility.
9. All areas disturbed by the construction of this project are called to be topsoiled (min. 4" depth) and seeded. The *MassHighway Standard Specifications for Highways and Bridges, 1995 Metric Edition*, shall be utilized for materials and methods.
10. See Appendix 6 for a list of hazardous materials
11. The MAARNG will have all required plans in place prior to commencement of full-scale operations (i.e., hazardous materials management plan, emergency response plan, etc.). See response to comment 10.
12. The MAARNG will have adequate spill response material located at the site and will have trained personnel on-hand to react should a spill occur. One of the reasons the MAARNG proposes to relocate to Barnes is so that they can share resources and infrastructure already in place at the MAANG base, such as the 104FW Fire Department.
13. Although the secondarily contained area is more than adequate, the MAARNG believes the addition of a cover would be a best management practice (BMP). Currently, there are no plans

or funding for this BMP but the MAARNG will request funding from Congress for this additional measure.

J. Steele Perkins
81 E. Silver St.
Westfield, MA 01085

DS

10-27-00.



BARBARA L. SWORDS,

COUNCIL PRESIDENT.

BARNES COMMUNITY

ADVISORY BOARD.

DEAR MS. SWORDS,

CONCERNING NATIONAL GUARD SUPPLEMENTARY DRAFT, ENVIRONMENTAL ASSESMENT.

5.2.33.

AIRCRAFT NOISE.

PAGES 5-4. 5-5.

& FIG 5. BASE OPS/ NOISE MAP. CONTOURS.

IT SAYS "NOISE CONTOURS ASSOCIATED WITH THIS PROPOSAL & THE AMOUNT OF LAND EXPOSED TO ELEVATED NOISE LEVELS DO NOT SHOW ANY NOTABLE CHANGE FROM CURRENT CONDITIONS".

AT THE PRESENT TIME GUARD A 10°. HAVE A CONSISTANT HABIT OF TURNING (R) OFF 02 20 RUNWAY AT THE END OF "THE NOISE PLUME". THIS IS OVER E. SILVER ST / S. MEADOW RD. & THE S. END OF THE CITY.

THEY SHOULD IN FACT CONTINUE SOUTH PAST THE CITY BEFORE TURNING.

I'VE ARE TO ENDURE MORE NOISE FROM NOISY LOW APPROACHES (1000 FT) FROM ARMY HELICOPTERS SOME

I-1

STRINGENT REQUIREMENT MUST BE IMPLEMENTED.

SUCH AS:- ① NO LOW LEVEL APPROACHES TO 02.20.

② ACCESS FROM THE NORTH OF TOWN S. END OF THE CITY AT ANY NIGHT.

③ NO TURNS OVER THE ONCS

④ A SATISFACTORY MONITORING SYSTEM. FOR COMPLIANCE

PRESENTLY THOSE OF US WHO LIVE AT THE END OF THE "NOISE PLUME" HAVE A LOT TO PUT UP WITH.

FURTHER INCREASE IN NOISE EVENT FREQUENCY WOULD BE HARD TO BEAR.

I ENCLOSE A COPY OF A PREVIOUS LETTER SOLICITED BY THE AIR NATIONAL GUARD IN DEC, 1995.

Yours sincerely,

Jan Slade-Smith.

THE DESK OF

JAN STEELE-PERKINS, M.D.
D.C.H., F.R.C.P.(C), F.A.A.P.

TELEPHONE (413) 568-1197

Dr. J. Steele Perkins, M.D.
81 E Silver St.
Westfield, MA 01085

MR DAVID TESSIERNI.
ENVIRONMENTAL OFFICER
AIR NATIONAL GUARD
50 MAPLE ST- MILLFORD
MA

DEAR SIR
CONCERNING THE USE OF
MILITARY HELICOPTERS AT BARNES
AIRPORT.
THE PROBLEM OF NOISE INCREASE
MUST BE ADDRESSED.
PRESENTLY NATIONAL GUARD AIDS
THRN OVER MY HOUSE TO LAND
ON 02 20 FROM THE SOUTH.
I ENCLOSE A MAP DETAIL.
I AM AN EX LT/COR ROYAL NAVY

FROM THE DESK OF

JAN STEELE-PERKINS, M.D.
D.C.H., F.R.C.P.(C), F.A.A.P.

TELEPHONE (413) 568-1197

AND KNOW SOMETHING
ABOUT THE NOISE ISSUE,
ESPECIALLY DURING THE
SUMMER MONTHS.
I WOULD SAY THAT THERE
SHOULD BE NO LOW APPROACH
LANDINGS AND, ALL ACCESS
TO RUNWAYS MUST BE
FROM THE NORTH OF THE
AIRPORT, TO AVOID THE CITY.
PLEASE INFORM ME
OF FORTHCOMING LANDING
INSTRUCTIONS.

YOURS TRULY.

J. Steele Perkins

11.5 Individuals

Letter I-1

1 The commenter makes a number of reasonable recommendations, many of which are addressed in the noise mitigation plan for the helicopter unit, including: (1) minimizing low-altitude overflights (less than 1,000 feet AGL) of residential areas; (2) avoiding noise-sensitive areas to the maximum extent feasible; and (3) establishing a noise complaint hotline. The MAARNG is committed to the implementation of these measures.

RECEIVED
NOV 21 2000
MEPA

RICHARD LODER
& JENNIFER SCANLON
66 OLD HOLYOKE RD
WESTFIELD MA 01085
413-562-9296

11/20/2000

DEAR DAVID SHEPARDSON,

ALTHOUGH WE WERE UNABLE TO ATTEND THE MEETING ON WEDNESDAY CONCERNING THE NOISE FROM THE HELICOPTER UNIT MY WIFE AND I ARE VERY UPSET AT THE PROSPECT OF HELICOPTERS ASCENDING AND DESCENDING DIRECTLY OVER OUR HOUSE AND THOSE OF OUR NEIGHBORS ON OLD HOLYOKE RD & INDIAN RIDGE!

WHAT IS THE POINT OF MOVING THEM FROM WESTOVER IF THEY WILL SIMPLY RETURN THESE TO PRACTISE? THE NOISE IS DEAFENING!

SINCERELY RICHARD LODER
& Jennifer Scanlon

I-2

Letter I-2

1 The current Army Aviation Support Facility (AASF) at the Westover AFRB is scheduled for demolition in the future to facilitate the establishment of a Safety Clear Zone for C-5A aircraft. A new AASF is necessary to maintain the unit's readiness in the area; the Barnes ANGB is the preferred location for this facility. The MAARNG provides area emergency response, search and rescue support, firefighting and drug eradication support. The siting of a new facility is at issue, not the location of the MAARNG's practice maneuvers.

Noise analyses have shown that the proposed action will not create a substantial increase over existing cumulative ambient noise occurring from the Westfield Barnes Municipal Airport, Air National Guard operations and motor vehicles on nearby major roads and local streets. Nevertheless, in an effort to reduce the noise levels of its proposed operations, the MAARNG is committed to the establishment of normal operating hours, minimum approach and departure altitudes, standard flight patterns, and no-fly zones, contingent upon meteorological conditions and instructions received from the Westfield Barnes Air Traffic Control Tower. A 24-hour community telephone hotline will be available for area residents to voice concerns and/or register complaints. The MAARNG has established these procedures to minimize impacts on the surrounding community while maintaining the level of readiness necessary to conduct emergency search and rescue operations.

RECEIVED
NOV 22 2000
MEPA

342 HOLYOKE RD
WESTFIELD, MA
01085
NOV. 20, 2000

SIR,

I AM WRITING THIS LETTER TO OPPOSE THE TRANSFER OF THE ARMY HELICOPTERS TO BARNES AIRPORT IN WESTFIELD.

MY HOME IS LOCATED APPROXIMATELY 2000 FEET DIRECTLY SOUTH OF THE MAIN RUNWAY. I BUILT MY HOME IN 1955, WHEN THIS WAS NOT THE MAIN RUNWAY. IN 1960'S THE AIRPORT WAS EXPANDED TOWARD THIS RESIDENTIAL AREA, AND MADE THIS THE MAIN RUNWAY. THIS WAS TO ACCOMODATE JET AIRCRAFT OF THE MASS. AIR GUARD. SINCE THEN, WE HAVE BEEN SUBJECT TO NOISE AND AIR POLLUTION AT ALL TIMES OF THE NIGHT AND DAY. HELICOPTERS WOULD ONLY ADD TO OUR SITUATION AND FURTHER DEVALUE OUR PROPERTY.

REPECTFULLY

Gordon F. Snyder
Florence M. Snyder

I-3

Letter I-3

1 The current Army Aviation Support Facility (AASF) at the Westover AFRB is scheduled for demolition in the future to facilitate the establishment of a Safety Clear Zone for C-5A aircraft. A new AASF is necessary to maintain the unit's readiness in the area; the Barnes ANGB is the preferred location for this facility. The MAARNG provides area emergency response, search and rescue support, firefighting and drug eradication support. The siting of a new facility is at issue, not the location of the MAARNG's practice maneuvers.

Noise analyses have shown that the proposed action will not create a substantial increase over existing cumulative ambient noise occurring from the Westfield Barnes Municipal Airport, Air National Guard operations and motor vehicles on nearby major roads and local streets. Nevertheless, in an effort to reduce the noise levels of its proposed operations, the MAARNG is committed to the establishment of normal operating hours, minimum approach and departure altitudes, standard flight patterns, and no-fly zones, contingent upon meteorological conditions and instructions received from the Westfield Barnes Air Traffic Control Tower. A 24-hour community telephone hotline will be available for area residents to voice concerns and/or register complaints. The MAARNG has established these procedures to minimize impacts on the surrounding community while maintaining the level of readiness necessary to conduct emergency search and rescue operations.

DS

November 21, 2000

Dear Mr. David Sheppard,

I am writing to you regarding the helicopters that will be stationed at Barnes Airport in Westfield, ma. I reside at 40 Skipper Lane, just abut one mile from the airport. I am <u>not</u> in favor of these types of aircraft, due to their extreme noise volume. I have two small children, there are two schools within the same mile and with repeated noise volume I believe it will cause disturbances.

I think if the airport ran trial runs for the neighbors to get the full effect it would be a good start, but just to put them there without any trial basis is really unfair for those who live so close by.

Thank you,

Deborah M. Sloat

RECEIVED
NOV 22 2000
MEPA

I-4

Letter I-4

1 Trial runs of missions were conducted in the two weeks prior to the June 8, 2000 Community Information meeting. A total of five missions were flown. No complaints were received by Westfield Barnes Municipal Airport, the Massachusetts Air National Guard Base, or Westover Air Force Reserve Base.

November 17, 2000

DF
DS

RECEIVED
NOV 22 2000
MEPA

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Secretary Bob Durgh
251 Causeway St.
Ste 900
Boston, MA 02114-2119

RE: MEPA EOEA 12343

To whom it may concern,

I am a resident of Westfield Mass. I live in a residential area near the Southeast end of Barnes airport. The MEPA EOEA (12343) number referenced above refers to the placement of a Mass Army National Guard helicopter unit at Barnes Municipal Airport.

My concerns are:

A. That the MANG UH-1 helicopters will generate in excess of 85db for a distance of approx. 209 feet (1 acre = 209' x 209', and 80 to 85 db for an area approx 3,615,480 SQ ft (83 acres). We are told that these levels are considered "excessive". Currently when the UH-1 has flown, over our neighborhood in particular, they are flying at a height of less than 300' above the level of the airport, and 200 to 250' over our homes. Subjecting those of us directly below, or adjacent to them, to 80 db. If personnel at the airport are subjected to these levels they are required to wear ear protection. Something not available or desired by my neighbors or myself. Whether or not the machine is several hundred feet to your side, or several hundred feet above your head, excessively loud is unacceptable.

1 1

Even if the UH-1 was able to reach 500' to 1000', (We are told by the Army national guard that 1000' by the time the reach our area would be impossible), I believe, according to their numbers, that the noise levels would still be unacceptable at an excess of 75db to 80db.

B. After reading the Supplemental Draft Environmental Assessment it states (4.7.3.2 & 4.7.3.4) that there is a great difference between the start of the noise, until it passes overhead, and then recedes.
Also that the impact of the duration of this noise rises as the aircraft spends more, and more time in the area.

2 2

Both of these items magnify the impact of the helicopters noise.

I-5

They have compared the noise level of the UH-1, to flights of the A-10 and Gulfstreams. Both of these aircraft follow established flight lines and heights, and are over head for less than 4-5 seconds. The UH-1 can be heard from several miles away, always getting louder as it approaches, and may be in the area for one to two minutes (longer if they are doing touch and goes). The MANG claims that these units are traveling over 100 MPH(?). Even if this where true the UH-1 (which can be heard several miles away) would still be within earshot for 3 minutes or more, growing louder as it approaches.
In the past when I complained to the airport manager and the "MANG" I was told that they are military aircraft and are not required to follow the established civilian flight rules. And as helicopters they can fly as low as tree top level if they wish.

C. That the number of flights would not be the approx, 8 a day quoted by the Mass Army National Guard. But the reality is that they do not fly everyday and may concentrate their flights into groups of 30 to 40 flights per day.
That they did not count the return to base as additional flights (even though this may require that they flying over our homes again.
That regardless of the number of touch and go's, they will only be counted as one flight.
All of these, leading to a larger number of exposures to my family from the over flights.

D. The Mass Army National Guard claims that there have been few if any complaints regarding their aircraft recently. But, they also claim that the unit has been grounded for the past 3-4 months. How can residents complain about noise that they have not been subjected to in recent memory?

E. The Mass Army National Guard claims that they will publish a definitive flight plan for the exit and entrance of their aircraft. But not until they receive approval to build.

G. In the past when these very helicopters have over flown our home, children have been awakened from their sleep, fixtures have fallen from the wall and telephone and face to face conversations are impossible. My expectations are that this will continue to occur, only multiplied by 100.

I respectively request that the Mass Army National Guard proposal to begin construction be refused until the impact of the excessive noise generated by their aircraft has been properly identified and resolved.
That they not be allowed to start construction until they have an acceptable plan in place to negate the impact of their flying (or not) over established residential areas .

That an appropriate plan is but in place to remove either the offending aircraft, or the residents from the projected flight paths of these excessively noisy machines.

That all residents surrounding the airport, for a distance of at least one-mile, be contacted and given the true impact of these helicopters noise. And a reasonable time to refute the facts they (MANG) claim as true.

7 I believe that it unreasonable for the Mass Army National Guard to ask existing and future homeowners, all of whom have built or purchased their homes in established residential areas, to be subjected to the excessive noise generated by their machines. 7 (Cont.)

Thank you,

William Mead

William Mead
43 Indian Ridge Rd.
Westfield, MA 01085-1488

To: ISMTPOutBound@itd.w4@servers["Shepardson, Dave (ENV)" <Dave.Shepardson@state.ma.us>]
From: <Eastmtadv@aol.com>
Cc: ISMTPOutBound@itd.w4@servers[<MENUDYNAMI@aol.com>]
Subject: MEPA EOEA 12343
Attachment:
Date: 11/19/00 6:14 PM

November 17, 2000

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Secretary Bob Durgh
251 Causeway St.
Ste 900
Boston, MA 02114-2119

RE: MEPA EOEA 12343

To whom it may concern,

I am a resident of Westfield Mass. I live in a residential area near the Southwest end of Barnes airport. The MEPA EOEA (12343) number referenced above refers to the placement of a Mass Army National Guard helicopter unit at Barnes Municipal Airport.

My concerns are:

A. That the MANG UH-1 helicopters will generate in excess of 85db for a distance of approx. 209 feet (1 acre = 209GÇÿ x 209GÇÿ, and 80 to 85 db for an area approx 3,615,480 SQ ft (83 acres). We are told that these levels are considered "excessive".
Currently when the UH-1 is flown, over our neighborhood in particular, they are flying at a height of less than 300GÇÖ above the level of the airport, and 200 to 250GÇÿ over our homes. Subjecting those of us directly below, or adjacent to them, to 80 db. If personnel at the airport are subjected to these levels they are required to wear ear protection. Something not available or desired by my neighbors or myself.
Whether or not the machine is several hundred feet to your side, or several hundred feet above your head, excessively loud is unacceptable.

Even if the UH- 1 was able to reach 500GÇÖ to 1000GÇÖ, (We are told by the Army national guard that 1000GÇÖ by the time the reach our area would be impossible), I believe, according to their numbers, that the noise levels would still be unacceptable at an excess of 75db to 80db.

B. After reading the Supplemental Draft Environmental Assessment it states (4.7.3.2 & 4.7.3.4) that there is a great difference between the start of the noise, until it passes overhead, and then recedes.
Also that the impact of the duration of this noise rises as the aircraft spends more, and more time in the area.
They have compared the noise level of the UH-1, to flights or the A-10 and Gulfstreams. Both of these aircraft follow established flight lines and heights, and are over head for less than 4-5 seconds. The UH-1 can be heard from several miles away, always getting louder as it approaches. And may be in the area for one to two minutes (longer if they are doing touch and goes).
The MANG claims that these units are traveling over 100 MPH(?). Even if this where true the UH-1 (which can be heard several miles away) would still be within earshot of 3 minutes or more, growing louder as it approaches.

In the past when I complained to the airport manager and the "MANG" I was told that they are military aircraft and are not required to follow the established civilian established flight rules. And as helicopters they can fly as low as tree top level if they wish.

C. That the number of flights would not be the approx, 8 a day quoted by the Mass Army National Guard. But the reality is that they do not fly everyday and may concentrate their flights into groups of 30 to 40 flights per day.
That they did not count the return to base as additional flights (even though this may require that they flying over our homes again.
That regardless of the number of touch and goGÇÖs, they will only be counted as one flight.
All of these, leading to a larger number of exposures to my family from the over flights.

D. The Mass Army National Guard claims that there have been few if any complaints regarding their aircraft recently. But, they also claim that the unit has been grounded for the past 3-4 months. How can residents complain about noise that they have not been subjected to in recent memory?

E. The Mass Army National Guard claims that they will publish a definitive flight plan for the exit and entrance of their aircraft. But not until they receive approval to build.

I respectively request that the Mass Army National Guard proposal to begin construction be refused until the impact of the excessive noise generated by their aircraft has been properly identified and resolved.
That they not be allowed to start construction until they have an acceptable plan in place to negate the impact of their flying (or not) over established residential areas .

That an appropriate plan is but in place to remove either the offending aircraft, or the residents from the projected flight paths of these excessively noisy machines.

That all residents surrounding the airport, for a distance of at least one-mile, be contacted and given the true impact of these helicopters noise. And a reasonable time to refute the facts they (MANG) claim as true.

I believe that it unreasonable for the Mass Army National Guard to ask existing and future homeowners, all of whom have built or purchased their homes in established residential areas, to be subjected to the excessive noise generated by their machines.

Thank you,

William Mead
43 Indian Ridge Rd.
Westfield, MA 01085-1488

Letter I-5

1 The commenter makes a number of reasonable recommendations, many of which are addressed in the noise mitigation plan for the helicopter unit, including: (1) minimizing low-altitude overflights (less than 1,000 feet AGL) of residential areas; (2) avoiding noise-sensitive areas to the maximum extent feasible; and (3) establishing a noise complaint hotline. The MAARNG is committed to the implementation of these measures.

2 The current Army Aviation Support Facility (AASF) at the Westover AFRB is scheduled for demolition in the future to facilitate the establishment of a Safety Clear Zone for C-5A aircraft. A new AASF is necessary to maintain the unit's readiness in the area; the Barnes ANGB is the preferred location for this facility. The MAARNG provides area emergency response, search and rescue support, firefighting and drug eradication support. The siting of a new facility is at issue, not the location of the MAARNG's practice maneuvers.

Noise analyses have shown that the proposed action will not create a substantial increase over existing cumulative ambient noise occurring from the Westfield Barnes Municipal Airport, Air National Guard operations and motor vehicles on nearby major roads and local streets. Nevertheless, in an effort to reduce the noise levels of its proposed operations, the MAARNG is committed to the establishment of normal operating hours, minimum approach and departure altitudes, standard flight patterns, and no-fly zones, contingent upon meteorological conditions and instructions received from the Westfield Barnes Air Traffic Control Tower. A 24-hour community telephone hotline will be available for area residents to voice concerns and/or register complaints. The MAARNG has established these procedures to minimize impacts on the surrounding community while maintaining the level of readiness necessary to conduct emergency search and rescue operations.

3 The MAARNG will average eight missions per day during normal operating hours. A mission is by nature a round trip. Though missions may at times be concentrated for training purposes, these occurrences should be the exception rather than the rule. "Touch and goes" are expected to be performed at Westover.

4 The MAARNG statement that there have been no complaints referred specifically to the unannounced trial run missions which occurred the two weeks prior to the June 8, 2000 Community Information Meeting.

5 The MAARNG is working diligently with the Westfield Barnes Air Traffic Control Center, Massachusetts Air National Guard Base, Westover Air Force Reserve Base, in compliance with FAA regulations and procedures, to establish standard flight plans for its aircraft operations. When approval is received to construct the proposed new facility, these efforts will be concluded and the MAARNG will inform the community of the final flight plans.

6 The MAARNG cannot address past events without more specific information. The MAARNG wishes to assure the community that measures will be implemented (see response to Letter I-2) to reduce noise impacts. Residents should feel free to contact the MAARNG on the telephone hotline at any hour of the day to report noise incidents and voice their concerns.

7 See response to Letter I-2. In the interest of public safety, eliminating "offending aircraft" would compromise the emergency readiness of the AASF unit. Relocating residents is not a feasible option. The MAARNG is making every effort to address the concerns of the community without sacrificing public safety. The MAARNG believes that the community has had ample opportunity to review the available documentation on the Proposed Action.

November 21, 2000

MEPA Unit
Attn: David Sheppard
Ref. EOEA #12343
251 Causeway Street
Suite 900
Boston, MA 02114

Re: Helicopters moving to Barnes Airport, Westfield, MA

Dear Mr. Sheppard:

I am voicing my concern that not enough test flights have been done to justify the feasibility of the helicopters moving to Westfield, MA. The people need to see a demonstration to the test flights and what that might encompass. The noise factor is a major one in this area. This area is a heavy residential area with hundreds of homes, a preschool, an elementary school, a middle school, and two major mobile home parks within a half mile of the airport.

This area cannot support any additional noise. I have talked to people from Westover and they all say the same, "the noise". Since the unit is established already in Westover why move it?

Please give this some consideration when you decide about the helicopters. Maybe you should visit the area and see how bad the impact would be on the average taxpayers. All I ask is for meetings to be set up in the evening so the many residents can attend.

Thank you for your consideration.

Frank J. Folta, Jr.

Frank J. Folta, Jr.
10 Meadowbrook Lane
Westfield, MA 01085

I-6

Letter I-6

1 See responses to Letters I-2 and I-4. In addition, the public hearing on the Proposed Action was scheduled by the MEPA Unit to accommodate residents, the proponent and its consultants, and Federal, State and local regulators. It is not always possible to satisfy each individual's schedule.

DS

RECEIVED
NOV 27 2000
MEPA

November 22, 2000

Mr. David E. Shepardson
Environmental Analyst
The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
251 Causeway Street
Suite 900
Boston, MA. 02114-2119

Dear Mr. Shepardson:

This correspondence represents my opposition to project EOEA 12343 regarding the proposed relocation of military helicopters from Westover AFB in Chicopee to the Air National Guard Unit 104th Fighter Wing at Barnes Municipal Airport. You were referenced as the party to contact at a meeting at the Westfield airport that took place on 11/15/00. In my apprehension to trust the representatives of the project present on 11/15/00, I must say that if you are not the party in question, would you kindly forward this letter to the appropriate office. With that said, I will get to the point.

There are three main factors that I must call attention to with regard to my opposition of the proposal. These factors are:

1. The jeopardization of the safety of my home, family and overall public safety
2. The impact of helicopter sound levels on the auditory system
3. The nuisance noise factor

In the recent past a Westover helicopter flew over my home and brushed the tops of the trees in my back yard. My home is on a very high elevation just along the ridgeline that will be utilized for the take off of these vehicles. I am very nervous each time a helicopter flies overhead and I can assure you that the next time something of this nature occurs, that I will not suffer in silence. The Commonwealth of Massachusetts, the City of Westfield and the Federal Government will be held liable for any property damage. 1 1

I understand that these helicopters will emit 83 decibels of sound while on the ground. Furthermore, I understand that this intensity is intensified as the vehicle ascends. The auditory health of myself and my family, as well as other residents is a huge concern. The negative effects on the tympanic membrane in the middle ear, as well as the hearing receptors in the inner ear are permanent and irreversible. As residents, I think it would be in our best interests to have baseline auditory examinations, as this will definitely be an issue going forward. I am fearful of what impact this will have on my ability to hear in the future. My worst fear concerns my 14-month-old son's ability to hear in the future subsequent to the relocation of the helicopter unit. 2 2

The noise is very annoying when a helicopter flies over my home. Relative to the high elevation and their inability to fly well within "safe" levels, (as experienced by myself in the past), the noise effects our ability to converse on the telephone, watch television even on the highest volume setting and to sleep. I feel that it would be in the residents best interests to have "the powers that be" (particularly our city council members and, of course, Mr. John Olver) share in our experiences in the future. Communication is the key in understanding the impact of your actions. 3 3

I-7

I urge you to call attention to and consider these issues that will negatively effect the environment in Westfield by jeopardizing the safety of my family and other residents, the potential for diminished auditory capacity and the derogatory effects on our permanent auditory health of my son and we residents, and the noisy interruptions that effect the overall quality of our lives.

I have not addressed the issue for the potential of a decrease in property values nor the fact that we selected this city to build our dream home. I could go on at length with reference to these issues, however I'm not sure what it would accomplish.

In conclusion, I have heard that a council member told a resident that this is a done deal because of the Federal involvement. I implore you to stand up for what you know is right as an agent employed by Massachusetts citizens to call the attention of these issues to the Federal "powers that be". We as citizens need to be heard. We expect you to protect our environment.

Sincerely,

Suzanne Durocher

Suzanne Durocher
40 Indian Ridge Road
Westfield, MA 01085
413-568-0966

CC: Secretary Bob Durand

Letter I-7

1 The primary effects from aircraft and environmental noise are annoyance and activity interference (sleep, speech, television-viewing, etc.). It is likely that the noise levels produced by the helicopters will cause some annoyance, although it is difficult to predict, as annoyance is a subjective response. The MAARNG is concerned with both the safety of the surrounding community as well as that of its helicopter pilots. All reasonable means, including but not limited to maintenance of minimum altitude clearances as mandated by Federal Aviation Administration regulations, as well as those agreed upon in coordination with Westfield Barnes Municipal Airport, will be adhered to.

2 Environmental noise in general, and aviation noise in particular, generally is not loud enough to cause physical (i.e. auditory) damage. In fact, OSHA standards for occupational noise limit exposure to constant noise levels of 90 dBA for a period of 8 hours, assumed to occur daily over a period of many years (i.e., a lifetime job).

3 See response to Comment 1, above.

D5

Denise M. King
48 Birch Bluff Road
Montgomery, MA 01085

RECEIVED
NOV 27 2000
MEPA

November 21, 2000

David E. Shepardson
Massachusetts Environmental Policy Act Unit
251 Causeway St.
Boston, MA 02114

Dear Mr. Shepardson,

I am writing to you to protest plans to move the Army National Guard helicopter unit from Westover Airforce Base in Chicopee to Barnes Municipal Airport in Westfield.

As a resident of one of the hilltowns to the west of Westfield, I firmly believe that the constant helicopter traffic from Westfield to Pittsfield will adversely affect the quality of life that we hilltown residents sought by moving here.

I'm not sure if you're aware of what life is like in Montgomery and most of the other small towns nestled in the Berkshires. It's a life filled with peace and quiet. We wake each morning to birds chirping – not cars and trucks driving by. In fact, if a car comes down the road, we expect company. Montgomery, like most hilltowns, has few, if any, streetlights and even fewer traffic lights. Most people are in bed by 9 p.m. because we get up early to walk in the woods, hoping to catch a glimpse of some of the wildlife with whom we share our environment. It's so quiet you can hear the leaves rustle in the trees, or a woodpecker drilling holes in a distant tree.

When a plan flies over, the silence is broken for just a few seconds. When helicopters fly over we can hear them coming from miles away and they seem to take forever to leave. Once in a while, it's a treat to hear and look for a helicopter. But if several helicopters fly over several times a day it will dramatically change the ambience of the hilltowns.

We pay high taxes to live here and drive many miles to work. We have no cable TV, sewers, city water, trash pick-up or any of the other amenities offered in cities. But we chose to give those things up so we could live a life surrounded by the quiet sounds of nature.

Please reconsider your decision to approve the helicopters at Barnes. They will disturb the peace of residents throughout the Berkshires, and we won't get any of the benefits that the city of Westfield will get.

If you'd like to experience the beauty of hilltowns, I'd be happy to have you visit. You can reach me at home at (413) 862-3661 or at work at (413) 862-3894 (Montgomery library) or (413) 587-1500 (Florence library).

Thank you for taking the time to read this letter.

Sincerely,
Denise M. King

I-8

Letter I-8

1 The commenter makes a number of reasonable recommendations, many of which are addressed in the noise mitigation plan for the helicopter unit, including: (1) minimizing low-altitude overflights (less than 1,000 feet AGL) of residential areas; (2) avoiding noise-sensitive areas to the maximum extent feasible; and (3) establishing a noise complaint hotline. The MAARNG is committed to the implementation of these measures.

DS

November 22, 2000

RECEIVED
NOV 27 2000
MEPA

Mr. David E. Shepardson
Environmental Analyst
Commonwealth of Massachusetts
MEPA Office
251 Causeway St., Suite 900
Boston, Ma. 02114-2119

Dear Mr. Shepardson:

I would like to thank you for the recent opportunity to voice my opposition to the helicopter unit at the Barnes Municipal Airport. This is more than the City of Westfield has provided the property owners surrounding the airport.

I am in my 43rd year living at my present address, 6 Meadow Brook Lane, which the City has changed the zoing from agricultural/residential to industrial after we built our present home.

The noise in this area has increased tremendously in the last five years due to an increase in 18 wheeler truck traffic north and south on Rt. 202/10; C & S Warehouse refrigeration units being run on their roof and trucks parked there running 24 hours a day, and a race track operating at the airport.

We feel that we cannot bear the brunt of any further noise pollution to our area which will not only add to the devaluation of our property but will make every day living here a detriment to the quality of life.

Thank you for your consideration.

Very truly yours,

James E. Fitzgerald
Florence A. Fitzgerald

James E. Fitzgerald
Florence A. Fitzgerald

6 Meadow Brook Lane
Westfield, Ma. 01085

I-9

Letter I-9

1 The commenter makes a number of reasonable recommendations, many of which are addressed in the noise mitigation plan for the helicopter unit, including: (1) minimizing low-altitude overflights (less than 1,000 feet AGL) of residential areas; (2) avoiding noise-sensitive areas to the maximum extent feasible; and (3) establishing a noise complaint hotline. The MAARNG is committed to the implementation of these measures. This EA/EIR did not include a discussion of traffic related noise on Route 10/202, as all access to the proposed facility will be through the existing MAANG base and a series of internal roadways.

544 Russellville Rd.
Westfield MA.
November 22, 2000

DS

RECEIVED
NOV. 27 2000
MEPA

Sec. Durand
Att: D.E. Blakeslee
251 Causeway St. Suite 900
Boston MA 02114-2119

Ref: EOEA 12343

Dear Sec Durand:

I am writing in regard to additional noise levels to be created by the helicopter unit proposed for Barnes Airport. Published maps indicate "noise sensitive areas." As a homeowner in an area which is considered "non-noise sensitive", I strongly object to being subjected to two flight patterns. The quality of life of a few is being sacrificed to favor the majority.

Residential areas of the city which were developed in recent years near the Airport after noise yet

1

1

1-10

1 (cont)

air craft were stationed at the Air National Guard, should not be given preference over older established areas. At the very least the minimum standard altitude of 1000' should be increased after the aircraft leave the run ways.

1 (cont)

2

At a public hearing which I attended, reasons given for the move of the unit were not very convincing. The best solution, in my opinion, would be to leave this unit at Westover.

2

Any financial gain into the Westfield area should not be considered more important than the quality of life of the residents of Westfield.

Respectfully yours,

John J. Murphy

Letter I-10

1 The MAARNG has and will continue to work with the Westfield Barnes Airport manager in an attempt to establish feasible minimum aircraft altitudes in an effort to mitigate noise levels while concurrently enabling the unit to complete its mission

2 See response to Letter I-2. As a result of the planned demolition of the Westover AASF, it is necessary to relocate the facility. A detailed analysis of alternative locations was conducted (see Section 2 of this EA/EIR), and the Barnes ANGB was determined to be the preferred alternative for the reasons outlined therein.

DS

375 Holyoke Road
Westfield, MA 01085

November 23, 2000

RECEIVED
NOV 27 2000
MEPA

David Shepardson
Mass. Environment Policy Act
Unit 251
Causway Street
Suite 900
Boston, MA 02114

Dear Sir,

Referring to OPA 12343: The use of helicopters at Barnes Airport in Westfield, Ma.

Noting the usual safety factors of flyovers, our major concerns are the water aquifer, noise, paths and times of flight.

1 Knowing you are well aware of the water problems resulting at Otis Air Force Base and the flumes, we see the same situation happening to our water supply. 1

These flights, plus the noise factor will affect our air quality. Please note at the meeting at Barnes on Wednesday, November 15,2000 no results were given by the 2 National Guard on readings of sensitive receptors. There are three schools in the area and citing of studies done on noise relating to student's learning show noise is detrimental to learning. 2

Personal experience with helicopters flying over our home shows vibrations that shake the walls and deafening noise.

Maybe tests should be done with sensors and results shown to the OPA and made public to Westfield citizens. Our homes are not equipped with the gear the guard has on the flight line, but our backyards receive the same battering noise. Our ears and hearing will be affected. Doctors in the area should have input for your decision.

3 We see the flight times as detrimental to our way of life. Flights before 9:00 AM and later than 5:00 PM seriously upset sleep patterns of adults and children in the area. 3

Sleep deprivation is a known scientific factor in everyone's life. No one sleeps when helicopters are flying overhead in our neighborhood. We have had ample proof even without the result of the noise sensors.

4 Chicopee has had Westover and the helicopters with all the environmental permits needed. There is ample space for the new buildings to be put up somewhere in that acreage. Why spoil another area? 4

We'd appreciate your help with our concerns. Thank you for conducting a fair and civilized meeting on November 15, 2000.

Sincerely,
The Kelley Family

I-11

Letter I-11

1 The MAARNG and its contractor, S E A, have met with both EPA Region I and the WWD to discuss aquifer protection. The MAARNG believes that consensus was reached with both of these agencies regarding protection of the aquifer, implementation of Best Management Practices (BMPs), and compliance with all applicable laws and regulations which are protective of the environment. Artificial recharge is provided on site through the use of both surface retention ponds (2) and subsurface infiltration fields (2). The MADEP Storm Water Policy seeks to recharge a volume equivalent to 0.4 inches of water covering the area of newly created impervious area. For the proposed site this would equate to approximately 21,400 cubic feet of water. The combined recharge capacity of the proposed ponds and fields on the proposed site totals approximately 54,300 cubic feet. The MAARNG is committed to ensuring that all of its operations are done in an environmentally friendly and safe manner and is committed to being a good neighbor and steward of this precious environment. In addition, The MAARNG will have adequate spill response material located at the site and will have trained personnel on-hand to react should a spill occur. One of the reasons the MAARNG proposes to relocate to Barnes is so that they can share resources and infrastructure already in place at the MAANG base, such as the 104FW Fire Department.

2 Environmental noise in general, and aviation noise in particular, generally is not loud enough to cause physical (i.e. auditory) damage. In fact, OSHA standards for occupational noise limit exposure to constant noise levels of 90 dBA for a period of 8 hours, assumed to occur daily over a period of many years (i.e., a lifetime job).

3 The majority of the MAARNG's flight operations will be performed during normal working hours. The unit also needs to schedule some night vision training exercises in the early evening hours; these hours will depend upon the season. The instances where a helicopter will be in flight between 10:00 PM and 6:00 AM is usually in the case of an emergency, i.e. a search and rescue or a fire fighting mission in the western part of the state.

4 Please see Section 2, Alternatives, of this EA/EIR for a complete explanation of the methodology used in selection of alternatives. In addition, the current Army Aviation Support Facility (AASF) at the Westover AFRB is scheduled for demolition in the future to facilitate the establishment of a Safety Clear Zone for C-5A aircraft. A new AASF is necessary to maintain the unit's readiness in the area; the Barnes ANGB is the preferred location for this facility. The MAARNG provides area emergency response, search and rescue support, firefighting and drug eradication support. The siting of a new facility is at issue, not the location of the MAARNG's practice maneuvers.

DS

RECEIVED
NOV 27 2012
MEPA

Mr. David Sheppard
251 Causeway Street
Suite 900
Boston, MA. 02114

Dear Mr. David Sheppard,

1 I am writing this letter in regards to the helicopters moving into Barnes Airport in Westfield MA. The helicopters are now housed at Westover Airforce Base in Chicopee MA. I don't understand why they need to be move to this new location. I live on Holyoke Road, which runs south of the runway the planes flight pattern goes over the house now. This happens at any time of the day 2 sometimes wakes you up from a sound sleep. If I am outside speaking on the phone I am unable to hear the person on the other end do to the noise factor. The planes fly at a higher altitude then the helicopters. My family enjoys living here and puts up with the airplanes because they were here first but I don't understand why we need to put up with the helicopters. The people in Westfield 3 should have a right since they are paying taxes. Those who live close too the flight pattern should receive some kind of tax break on their property taxes because not too many people would live in the way of a flight path. Would you?

1 2 3

Thank you for your consideration,

Mrs. Kimberly Hall

Mrs. Kimberly Hall

I-12

Letter I-12

1 Please see Section 2, Alternatives, of this EA/EIR for a complete explanation of the methodology used in selection of alternatives. In addition, the current Army Aviation Support Facility (AASF) at the Westover AFRB is scheduled for demolition in the future to facilitate the establishment of a Safety Clear Zone for C-5A aircraft. A new AASF is necessary to maintain the unit's readiness in the area; the Barnes ANGB is the preferred location for this facility. The MAARNG provides area emergency response, search and rescue support, firefighting and drug eradication support. The siting of a new facility is at issue, not the location of the MAARNG's practice maneuvers

2 The MAARNG has and will continue to work with the Westfield Barnes Airport manager in an attempt to establish feasible minimum aircraft altitudes in an effort to mitigate noise levels while concurrently enabling the unit to complete its mission

3 The MAARNG has no authority regarding property taxes.

November 22, 200[illegible]

Attn: David Sheppard DS

Ref. EOEA #12343

I am a resident at 225 Holyoke Road in Westfield, MA. and have lived here for forty-four years.

I am writing to you because of my concern of the helicopters that are slated to move into Barnes Airport.

I am retired and am home most of the time and I really do not wish to have to hear the loud annoying noise that a helicopter makes.

I would appreciate it if you could do anything in your power to stop this move, that is in the planning stages.

Thank You

Mrs Eunice [illegible]

RECEIVED
NOV 2[illegible] 2000
MEPA

I-13

Letter I-13

1 The primary effects from aircraft and environmental noise are annoyance and activity interference (sleep, speech, television-viewing, etc.). It is likely that the noise levels produced by the helicopters will cause some annoyance, although it is difficult to predict, as annoyance is a subjective response. The MAARNG is concerned with both the safety of the surrounding community as well as that of its helicopter pilots. All reasonable means, including but not limited to maintenance of minimum altitude clearances as mandated by Federal Aviation Administration regulations, as well as those agreed upon in coordination with Westfield Barnes Municipal Airport, will be adhered to. Environmental noise in general, and aviation noise in particular, generally is not loud enough to cause physical (i.e. auditory) damage. In fact, OSHA standards for occupational noise limit exposure to constant noise levels of 90 dBA for a period of 8 hours, assumed to occur daily over a period of many years (i.e., a lifetime job).

D5

W. Simmons
9 Nicole Circle
Southampton, MA 01073
November 20, 2000

Bob Durand, Secretary
Executive Office of Environmental Affairs, Attn: MEPA Office
Dick Foster, EOEA #12343
251 Causeway Street, Suite 900
Boston, MA 02114

RECEIVED
NOV 27 2000
MEPA

Dear Secretary Durand:

I would like to express my concerns regarding the proposed Mass. Army National Guard/Army Aviation Support Facility in Westfield.

1 Quite by accident, I came upon the recently filed Expanded Environmental Notification Form for this project. I purposely state "by accident" because contrary to what is stated in the Expanded ENF, I do not feel an adequate "Community Coordination and Public Outreach" has been attempted (at least outside of Westfield). Both the communities of Southampton and Holyoke have residential areas that are close to this proposed facility – neither of which received copies of this Expanded ENF. No notices were posted at our Town Hall or published in our local newspapers. Subsection 1.4, Public Involvement, states the MAARNG and NGB "invite full public participation..." How can the public participate when we aren't even aware of the project? I find this absolutely incomprehensible. Just because we do not reside within the political confines of Westfield certainly does not mean this project will not impact any of us – it will. 1

2 I found Section 3, Alternatives Analysis, quite interesting. I firmly believe Worcester and Fitchburg, both much larger and more urban areas than this portion of Westfield, would be far better suited for this operation. Furthermore, I found it interesting that "community support" was gained largely through "local leaders and elected public officials." None of these individuals I presume live in the immediate area. I believe more weight and consideration should have been given to those individuals whose letters reflect the daily impacts on their lives from hovering, noisy aircraft. 2

3 Section 4, Existing Conditions, left me with more questions than answers – what are the "standard flight patterns and defined minimum approach and departure altitudes" that the MAARNG proposes to maintain? This information was not included in the Expanded ENF. Additionally, I question the true accuracy of the noise analysis contained in this section. As a person who lives and hears aircraft every day, I question the statement that "very few operations" occur between 10:00 pm and 7:00 am. Frequently I am woken up by aircraft buzzing over my house in the middle of the night. I can't imagine what this is going to be like when additional 3

I-14

helicopters (which, in my experience, are by far the loudest aircraft – they "resonate" through our valley) begin to invade our area.

4 Section 5 concludes "no adverse impacts (relative to noise) are associated with this proposal." I find it difficult to believe no impacts will be felt by those of us in the surrounding communities. As a person living near the proposed facility, I feel I am in a prime position to judge the severity of future adverse impacts (particularly noise). 4

5 Section 6, Public and Agency Coordination: As I discussed earlier, I do not believe an extensive enough "community coordination and public outreach" has been undertaken by the project proponent. In the real world, impacts do not stop at political boundaries. More thought should have gone into contacting neighboring communities, such as Southampton and Holyoke. I cannot stress that feeling enough. Additionally, I would appreciate receiving more information about the "Fly Neighborly Program." I would like to know what are the established flight patterns, what is the community telephone hotline, what are the normal operating hours, and what are the standard approach and departure altitudes and patterns. I would appreciate receiving this information at my home address, listed above. 5

6 Section 7 discusses "coordination with the members of the local and surrounding communities prior to the construction of the AASF." I would like to know what coordination has been conducted with the Town of Southampton. Also, this section indicates "maintenance of minimum traffic altitudes and established patterns (see Figure in Appendix 7)." There is no figure in Appendix 7. I would appreciate receiving a copy of this missing figure. 6

In conclusion, I would like to stress that I feel the objective of the proposed expansion is not the issue – saving lives is certainly paramount. However, I feel the positions taken in the Expanded ENF relative to "no additional noise impacts" are too broad and not realistic. Helicopters are extremely noisy machines. How can an additional 8 or 10 helicopters not increase the noise level? And, I feel more public outreach should have been undertaken in surrounding communities.

Thank you for the opportunity to comment on this project.

Sincerely,

W. Simmons

W. SIMMONS

Letter I-14

1 Per MEPA regulations, the notice of the filing of the SDEA/EENF was published in the Westfield Evening News, a newspaper of local circulation in the municipality affected by the Proposed Action. It was also published in the Environmental Monitor, the official publication of the Massachusetts Executive Office of Environmental Affairs. The Environmental Monitor is transmitted for public posting to all City and Town Halls and public libraries in the Commonwealth of Massachusetts. Any person may request a free subscription to the Environmental Monitor; it also can be found on the MEPA website. However, in the interest of achieving complete public review and comment, the MAARNG will place legal notice of the availability of this EA/EIR in papers of local circulation in the abutting communities of Southampton and Holyoke.

2 As a result of the planned demolition of the Westover AASF, it is necessary to relocate the facility. A detailed analysis of alternative locations was conducted (see Section 2 of this EA/EIR), and the Barnes ANGB was determined to be the preferred alternative for the reasons outlined therein.

3 The MAARNG has and will continue to work with the Westfield Barnes Airport manager in an attempt to establish feasible minimum aircraft altitudes in an effort to mitigate noise levels while concurrently enabling the unit to complete its mission. In addition, the majority of the MAARNG's flight operations will be performed during normal working hours. The unit also needs to schedule some night vision training exercises in the early evening hours; these hours will depend upon the season. The instances where a helicopter will be in flight between 10:00 PM and 6:00 AM is usually in the case of an emergency, i.e. a search and rescue or a fire fighting mission in the western part of the state.

4 The primary effects from aircraft and environmental noise are annoyance and activity interference (sleep, speech, television-viewing, etc.). It is likely that the noise levels produced by the helicopters will cause some annoyance, although it is difficult to predict, as annoyance is a subjective response. The MAARNG is concerned with both the safety of the surrounding community as well as that of its helicopter pilots. All reasonable means, including but not limited to maintenance of minimum altitude clearances as mandated by Federal Aviation Administration regulations, as well as those agreed upon in coordination with Westfield Barnes Municipal Airport, will be adhered to. Environmental noise in general, and aviation noise in particular, generally is not loud enough to cause physical (i.e. auditory) damage. In fact, OSHA standards for occupational noise limit exposure to constant noise levels of 90 dBA for a period of 8 hours, assumed to occur daily over a period of many years (i.e., a lifetime job).

5 Please see response to Comment 1, above.

6 Please see response to Comment 1, above.

DS

November 21, 2000

Robert Durand, Secretary
Executive Office of Environmental Affairs,
Attention: MEPA Office **EOEA No. 12343**
251 Causeway Street, Suite 900
Boston, MA 02114

RECEIVED
NOV 27 2000
MEPA

Re: Helicopters at Barnes Airport - Westfield

Dear Mr. Durand:

We have recently attended meetings regarding helicopters being stationed at the Barnes Airport in Westfield. Several issues disturb us:

1. The area is situated like a bowl, surrounded by hills. Fog, smog, smoke, fumes settle in this valley. Any noises resonate throughout the area.
2. The planes that take off and land at the airport do so fairly rapidly and we have accepted them. We are not happy when they test engines at night, which happens not infrequently. The helicopters however, take much longer to leave the area or to land and hover much lower than the planes with considerably more noise and velocity.
3. We were told the unit which is now based at Westover, will be relocated to Westfield, but will continue to fly back to Westover for training. We realize that our Government is not cost effective, but this is a ridiculous waste of taxpayer's money.
4. There is already a discrepancy as to the probable cost of the building to house the unit. One article stated a cost of 13.2 million and the ENF lists the approximate cost as 16.4 million. Are we looking at another potential "BIG DIG"? Why wouldn't it be more cost effective to rebuild the facility at Westover?
5. According to the ENF, this is not an area of critical concern. However, the area is entirely over the Barnes Aquifer, which supplies drinking water to three communities. Furthermore, in his letter dated November 3, 1999, Mr. Charles Darling of the Barnes Aquifer Protection Advisory Committee, states that the Aquifer is the soul source of water for the City of Easthampton. MEPA cannot ignore the potential for contamination to the Barnes Aquifer.
6. Re: 4.4.2 air quality- we are concerned that no air quality monitoring is being performed in Westfield before any approval. Because of the unique topography of the area, we believe the proponents should conduct air quality testing in the immediate area. The ENF states that Massachusetts is classified as being in "serious" non-attainment for ozone statewide. How can

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1 2 3 4

I-15

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the helicopters NOT further impact our air? Approximately 46% of Westfields' children attend schools within a 2-mile radius of the airport. There are also a private school, several day care facilities and senior mobile home parks that will be impacted by the noise and any additional emissions produced by these helicopters.

4 (cont.)

5

7. The Marbled Salamander (T) is known to be present along Pond Brook, which is East of the airport. According to 4.4.3, the surface water flow is eastward. There is a strong possibility of contamination to its habitat. The Upland Sandpiper (E) and Grasshopper Sparrow (T) are present in the vicinity. The protection granted these species under the Federal Endangered Species Act must be adhered to. Too many species have already been lost due to our neglect, apathy and arrogance.

5

6

8. Westfield to date has not been issued a permit to expand its existing sewage treatment plant, which is at full capacity. Since the City of Westfield is not permitting any new additional sewer tie-ins does this mean the new building for the helicopters will be on a septic system?

6

A Concerned Citizen,

Carol A Rockwell

Letter I-15

1 The commenter makes a number of reasonable recommendations, many of which are addressed in the noise mitigation plan for the helicopter unit, including: (1) minimizing low-altitude overflights (less than 1,000 feet AGL) of residential areas; (2) avoiding noise-sensitive areas to the maximum extent feasible; and (3) establishing a noise complaint hotline. The MAARNG is committed to the implementation of these measures.

2 As a result of the planned demolition of the Westover AASF, it is necessary to relocate the facility. A detailed analysis of alternative locations was conducted (see Section 2 of this EA/EIR), and the Barnes ANGB was determined to be the preferred alternative for the reasons outlined therein.

3 Please see responses to Letter P-1.

4 The proposed operation of intermittent, mobile source emissions exceeds neither the primary nor secondary Massachusetts Ambient Air Quality standards for Sulfur Oxides, Particulate Matter, Carbon Monoxide, Ozone, Nitrogen Dioxide, or Lead. Therefore, air quality monitoring at this location for the limited MAARNG use would be both unwarranted and infeasible.

5 The open field areas adjacent to the existing MA Air National Guard and Westfield Barnes Municipal Airport were formerly in agricultural use as cornfields. These areas are kept mown in order to prevent attraction to the area of birds, which can be detrimental to airport flight operations. In addition, the current condition of the fields is such that it provides neither escape nor habitat cover for these species. This information will be provided to the Massachusetts Division of Fisheries and Wildlife, NH&ESP.

6 The proposed facility will be connected to the City of Westfield's municipal sewer system. The City is currently under directive of the EPA that no new extensions to the existing system be allowed prior to expanding their treatment plant. This restriction does not effect new service connections. Additionally, the City 's current schedule for the expansion to their treatment plant is that it will most likely occur prior to, or at the same time as, the construction of the proposed MA ARNG facility.

DS

November 21, 2000

Robert Durand, Secretary
Executive Office of Environmental Affairs,
Attention: MEPA Office **EOEA No. 12343**
251 Causeway Street, Suite 900
Boston, MA 02114

RECEIVED
NOV 2 2000
MEPA

Re: Helicopters at Barnes Airport - Westfield

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I-16

the helicopters NOT further impact our air? Approximately 46% of Westfields' children attend schools within a 2-mile radius. There are also a private school, several day care facilities and senior mobile home parks that will be impacted by the noise and any additional emissions produced by these helicopters.

7. The Marbled salamander is known to be present along Pond Brook, which is East of the airport. According to 4.4.3, the surface water flow is eastward. There is a strong possibility of contamination to its habitat. The Upland Sandpiper (E) and Grasshopper Sparrow (T) are present in the vicinity. The protection granted these species under the Federal Endangered Species Act must be adhered to. Too many species have already been lost due to our neglect, apathy and arrogance.
8. Westfield to date has not been issued a permit to expand its existing sewage treatment plant, which is at full capacity. Since the City of Westfield is not permitting any new additional sewer tie-ins does this mean the new building for the helicopters will be on a septic system?

Very Sincerely,

Barbara Rokosz

Barbara Rokosz - 272 Lockhouse Road, Westfield, MA 01085

Kathleen Wigby - 24 Scenic Road, Westfield, MA 01085

Kathleen Wigby

Jean Carpenter - 31 Barbara Street, Westfield, MA 01085

Jean Carpenter

Letter I-16

1 The commenter makes a number of reasonable recommendations, many of which are addressed in the noise mitigation plan for the helicopter unit, including: (1) minimizing low-altitude overflights (less than 1,000 feet AGL) of residential areas; (2) avoiding noise-sensitive areas to the maximum extent feasible; and (3) establishing a noise complaint hotline. The MAARNG is committed to the implementation of these measures.

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22 Nov. 2000

DS

To: MEPA Unit
Attn: David Shepard
Ref. EOEA # 12343
251 Causeway Street
Suite 900
Boston, MA

RECEIVED
NOV 27 2000
MEPA

From: Sally & Edward N. Tenero
126 Meadowbrook Lane
Westfield, MA

This is to register our protest against the planned transfer of the army Helicopter group from Westover to the Barnes Airport in Westfield.

We strongly feel that these helicopters will pose a serious disturbance and safety hazard to not only our neighborhood, but also to all neighborhoods in the immediate vicinity of the airport. 1

Thank you for the opportunity to make known our views to you.

Yours truly,
Sally & Edward N. Tenero

I-17

Letter I-17

1 The primary effects from aircraft and environmental noise are annoyance and activity interference (sleep, speech, television-viewing, etc.). It is likely that the noise levels produced by the helicopters will cause some annoyance, although it is difficult to predict, as annoyance is a subjective response. The MAARNG is concerned with both the safety of the surrounding community as well as that of its helicopter pilots. All reasonable means, including but not limited to maintenance of minimum altitude clearances as mandated by Federal Aviation Administration regulations, as well as those agreed upon in coordination with Westfield Barnes Municipal Airport, will be adhered to. Environmental noise in general, and aviation noise in particular, generally is not loud enough to cause physical (i.e. auditory) damage. In fact, OSHA standards for occupational noise limit exposure to constant noise levels of 90 dBA for a period of 8 hours, assumed to occur daily over a period of many years (i.e., a lifetime job).

DS

RECEIVED
NOV 27 2000
MEPA

126 Western Circle
Westfield, MA 0108
November 22, 2000

David Shephardson
MEPA Unit
251 Causeway Street, Suite 900
Boston, MA 02114

Dear Mr. Shephardson:

On November 15, 2000 I attended the meeting at the National Guard Base in Westfield regarding the helicopter unit that is planned. I am very pleased with the care that all concerned are taking with environmental matters. However, I urge that extra care be taken not only because of the aquifer, but because Westfield is already subjected to a large amount of noise and air pollution, particularly on the north end of the City. I urge continuing monitoring so that new helpful technology and regulations can be applied as they become available.

A year ago, David Tessicini of the Massachusetts National Guard, Office of Environmental Affairs in Milford, Massachusetts invited comments about this project. I send you a copy of that letter which indicates my concerns.

Thank you for your attention to this matter.

Very truly yours,

H. Corell

Joan H. Corell

Enc.

cc: Airport Manager
Mayor

I-18

126 Western Circle
Westfield, MA 01085
December 14, 1999

David Tessicini
MA National Guard, Office of Environmental Affairs
50 Maple Street
Milford, MA 01757-3604

Dear Mr. Tessicini:

I am commenting on the DRAFT ENVIRONMENTAL ASSESSMENT FOR THE CONSTRUCTION OF THE ARMY AVIATION SUPPORT FACILITY AT BARNES MUNICIPAL AIRPORT. I want to be sure that the project is extra careful in its attention to sound and air quality issues.

I reviewed this draft and am pleased that care was taken to consider sound and air quality levels, two of my main concerns. Not only am I interested in the quality of life in Westfield in general, but my family home, established in 1912, is at the north end of the airport, thus I have personal reasons as well for keeping the area healthy.

1. The safety to the aquifer is of utmost importance as you know, but I wouldn't want it to shade the need for other safe practices. Noise and air pollution are hazards too. "Massachusetts is classified as being in serious non-attainment for ozone statewide" is a quote from 3-5. Anything to make the situation worse is bad. What the report did not take into consideration is that other noise and pollution factors from the trucking and warehouse industries that are seemingly growing by leaps and bounds add into the equation.

2. I do believe that there is some confusion in the report on the location of Route 202. It is on the west side of the airport as it runs along with Route 10, but then it turns to the north side. (3-8). There are more homes on *all* sides of the airport than the report seems to imply.

3. Indeed, there are four schools just west of the airport, one being a brand-new middle school. As a professor emeritus and a psychologist I am aware of research that indicates airport and traffic noise is detrimental to learning and good mental health.

In summary, the report seems to consider the important environmental issues and offers solutions to possible problems. I write merely to urge extra caution as the project becomes reality and to consider the whole of Westfield noise and air quality, not just that caused by the airport alone.

Thank you for your attention to this matter.

Very truly yours,

Joan H. Corell

cc: Airport Manager
Mayor

Letter I-18

1 The MAARNG is required by law to undergo a thorough Federal and State environmental review. Environmental regulations require the MAARNG to mitigate potentially adverse environmental impacts. The MAARNG is committed to working with Federal, State and local regulatory authorities to achieve the best solutions to environmental contingencies that could result from the Proposed Action. The MAARNG also has made a firm commitment to the citizens of Westfield to address the community's concerns about noise, water quality and safety.

DS

November 20, 2000

Mr David Sheppard
MEPA Unit
251 Causeway St Suite 900
Boston, MA 02114

RECEIVED
NOV 27 2000
MEPA

Mr. Sheppard:

This is to inform you of our concern over the Helicopter landing moved from Western AVE to Wilson Rd.

We are against this and hope you will take our concerns into consideration. It is much too close to where we live and the noise level will be overwhelming. Thank You

Mr. + Mrs David Pyhtila
115 Sunset Dr
Westfield, MA 01085

I-19

Letter I-19

1 The primary effects from aircraft and environmental noise are annoyance and activity interference (sleep, speech, television-viewing, etc.). It is likely that the noise levels produced by the helicopters will cause some annoyance, although it is difficult to predict, as annoyance is a subjective response. The MAARNG is concerned with both the safety of the surrounding community as well as that of its helicopter pilots. All reasonable means, including but not limited to maintenance of minimum altitude clearances as mandated by Federal Aviation Administration regulations, as well as those agreed upon in coordination with Westfield Barnes Municipal Airport, will be adhered to. Environmental noise in general, and aviation noise in particular, generally is not loud enough to cause physical (i.e. auditory) damage. In fact, OSHA standards for occupational noise limit exposure to constant noise levels of 90 dBA for a period of 8 hours, assumed to occur daily over a period of many years (i.e., a lifetime job).

DS

November 21, 2000

RECEIVED
NOV 27 2000
MEPA

Robert Durand, Secretary
Executive Office of Environmental Affairs,
Attention: MEPA Office **EOEA No. 12343**
251 Causeway Street, Suite 900
Boston, MA 02114

Re: Helicopters at Barnes Airport - Westfield

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4. There is already a discrepancy as to the probable cost of the building to house the unit. One article stated a cost of 13.2 million and the ENF lists the approximate cost as 16.4 million. Are we looking at another potential "BIG DIG"? Why wouldn't it be more cost effective to rebuild the facility at Westover?
5. According to the ENF, this is not an area of critical concern. However, the area is entirely over the Barnes Aquifer, which supplies drinking water to three communities. Furthermore, in his letter dated November 3, 1999, Mr. Charles Darling of the Barnes Aquifer Protection Advisory Committee, states that the Aquifer is the soul source of water for the City of Easthampton. MEPA cannot ignore the potential for contamination to the Barnes Aquifer.
6. Re: 4.4.2 air quality- we are concerned that no air quality monitoring is being performed in Westfield before any approval. Because of the unique topography of the area, we believe the proponents should conduct air quality testing in the immediate area. The ENF states that Massachusetts is classified as being in "serious" non-attainment for ozone statewide. How can

I-20

the helicopters NOT further impact our air? Approximately 46% of Westfields' children attend schools within a 2-mile radius of the airport. There are also a private school, several day care facilities and senior mobile home parks that will be impacted by the noise and any additional emissions produced by these helicopters.

7. The Marbled Salamander (T) is known to be present along Pond Brook, which is East of the airport. According to 4.4.3, the surface water flow is eastward. There is a strong possibility of contamination to its habitat. The Upland Sandpiper (E) and Grasshopper Sparrow (T) are present in the vicinity. The protection granted these species under the Federal Endangered Species Act must be adhered to. Too many species have already been lost due to our neglect, apathy and arrogance.
8. Westfield to date has not been issued a permit to expand its existing sewage treatment plant, which is at full capacity. Since the City of Westfield is not permitting any new additional sewer tie-ins does this mean the new building for the helicopters will be on a septic system?

Very Sincerely,

Kathleen Deluda

Letter I-20

1 The commenter makes a number of reasonable recommendations, many of which are addressed in the noise mitigation plan for the helicopter unit, including: (1) minimizing low-altitude overflights (less than 1,000 feet AGL) of residential areas; (2) avoiding noise-sensitive areas to the maximum extent feasible; and (3) establishing a noise complaint hotline. The MAARNG is committed to the implementation of these measures.

2 As a result of the planned demolition of the Westover AASF, it is necessary to relocate the facility. A detailed analysis of alternative locations was conducted (see Section 2 of this EA/EIR), and the Barnes ANGB was determined to be the preferred alternative for the reasons outlined therein.

3 Please see responses to Letter P-1.

4 The proposed operation of intermittent, mobile source emissions exceeds neither the primary nor secondary Massachusetts Ambient Air Quality standards for Sulfur Oxides, Particulate Matter, Carbon Monoxide, Ozone, Nitrogen Dioxide, or Lead. Therefore, air quality monitoring at this location for the limited MAARNG use would be both unwarranted and infeasible.

5 The open field areas adjacent to the existing MA Air National Guard and Westfield Barnes Municipal Airport were formerly in agricultural use as cornfields. These areas are kept mown in order to prevent attraction to the area of birds, which can be detrimental to airport flight operations. In addition, the current condition of the fields is such that it provides neither escape nor habitat cover for these species. This information will be provided to the Massachusetts Division of Fisheries and Wildlife, NH&ESP.

6 The proposed facility will be connected to the City of Westfield's municipal sewer system. The City is currently under directive of the EPA that no new extensions to the existing system be allowed prior to expanding their treatment plant. This restriction does not effect new service connections. Additionally, the City 's current schedule for the expansion to their treatment plant is that it will most likely occur prior to, or at the same time as, the construction of the proposed MA ARNG facility.

OS

November 28, 2000

Sarah Freedberg
48 Converse St.
Longmeadow, MA 01106

David Shepardson
Massachusetts Environmental Policy Act Unit
251 Causeway St.
Suite 900
Boston, MA 02114

Dear Mr. Shepardson,

A recent report in the Country Journal, published in Huntington, MA, discussed a plan to move an Army National Guard helicopter unit to Barnes Airport in Westfield. The article in the Country Journal of November 23 stated that the guard planned to fly 8 to 10 training sessions per day between Westfield and Pittsfield. Citizens quoted in the article raised concerns about noise and safety.

As a property owner in Chester I join in these concerns. I too purchased country property for peace, solitude and closeness to nature, and fear these values may be threatened by this helicopter unit's training activities. I realize that the Army needs to have training areas, but I am disturbed that this move appears to have been undertaken without much notification to those who may be impacted. I am also disturbed by a description in the above mentioned article of a Huey helicopter flying so low that it hit a tree top.

My first choice would of course be for the helicopter unit to remain at Westover Air Base. However, I would also like to ask what can be done to mitigate noise and safety concerns if this move goes ahead as I fear it will. For instance, can the number of flights per day be reduced and can a limit be put on how low these helicopters can fly? One might assume that much of the area between Westfield and Pittsfield is empty forest, but that would not be accurate. There are homes in those woods and valleys, and people who value their closeness to nature. Surely a compromise can be developed that will satisfy both groups.

1 1
2 2

Very truly yours,

Sarah Freedberg

Sarah Freedberg

I-21

Letter I-21

1 The current Army Aviation Support Facility (AASF) at the Westover AFRB is scheduled for demolition in the future to facilitate the establishment of a Safety Clear Zone for C-5A aircraft. A new AASF is necessary to maintain the unit's readiness in the area; the Barnes ANGB is the preferred location for this facility. The MAARNG provides area emergency response, search and rescue support, firefighting and drug eradication support. The siting of a new facility is at issue, not the location of the MAARNG's practice maneuvers. In addition, the MAARNG has and will continue to work with the Westfield Barnes Airport manager in an attempt to establish feasible minimum aircraft altitudes in an effort to mitigate noise levels while concurrently enabling the unit to complete its mission. Finally, the MAARNG is required by law to undergo a thorough Federal and State environmental review. Environmental regulations require the MAARNG to mitigate potentially adverse environmental impacts. The MAARNG is committed to working with Federal, State and local regulatory authorities to achieve the best solutions to environmental contingencies that could result from the Proposed Action. The MAARNG also has made a firm commitment to the citizens of Westfield to address the community's concerns about noise, water quality and safety.

2 The MAARNG will average eight missions per day during normal operating hours. A mission is by nature a round trip. Though missions may at times be concentrated for training purposes, these occurrences should be the exception rather than the rule. "Touch and goes" are expected to be performed at Westover. The MAARNG is working diligently with the Westfield Barnes Air Traffic Control Center, Massachusetts Air National Guard Base, Westover Air Force Reserve Base, in compliance with FAA regulations and procedures, to establish standard flight plans for its aircraft operations. When approval is received to construct the proposed new facility, these efforts will be concluded and the MAARNG will inform the community of the final flight plans.

05

TO: David E.Shepardson	FAX: 617-626-1181	PHONE: 617-626-1020
FROM: Jennifer Stevens Pappas	FAX: 215-590-9448	PHONE: 215-590-9683
DATE: November 29, 2000	TIME: 9:30 am	PAGES: 3
SUBJECT: Military Helicopter Missions in Western Massachusetts		

As a summer resident of Huntington, Massachusetts, I am concerned that the Army National Guard may get permission to fly 8 to 10 daily military helicopter missions over the hilltowns between Westfield and Pittsfield.

My family has been spending summers in Huntington since 1910, as a retreat from the noise of our winter homes in Manhattan, Boston, and Philadelphia. I know many Huntington residents who would be willing to work to block plans for approving these flights.

Please let me know what needs to be done to prohibit the Army National Guard from making these flights over the hilltowns.

I would have written sooner but only heard about this on the 27th when reading the November 23rd issue of the Country Journal (which mentioned the November 24th deadline for comments). Apparently the plans for these flights have been kept rather quiet, perhaps in order to avoid controversy.

As noted in the faxed letter, I have contacted Governor Celluci, Senator Kennedy, Senator Kerry, Mayor Richard Sullivan, Barnes Municipal Airport Manager Willenborg, and Huntington friends who have email addresses. I have also called Lt. Colonel Richard Covello, manager of new real estate for the National Guard, to ask for more information.

I look forward to hearing from you soon.

Jennifer Stevens Pappas

JENNIFER STEVENS PAPPAS
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1114 DARBY ROAD, HAVERTOWN, PA 19083 610-853-3204
150 PISGAH ROAD, HUNTINGTON, MA 01050 413-667-3029
jpappas@mail.nbme.org

I-22

05

From: Jennifer Pappas
To: Internet:g-office@state.ma.us; Internet:john_kerry@kerry.senate.gov; Internet:senator@kennedy.senate.gov
Date: 11/28/00 12:00PM
Subject: Daily Military Helicopter Missions over Western Massachusetts Hilltowns

Dear Governor Celluci, Senator Kennedy, and Senator Kerry,

This is an urgent request for assistance in blocking plans for daily helicopter flights by the Army National Guard over the hilltowns of western Massachusetts. I am one of thousands of residents who love the hilltowns because of the beauty and quiet of the forests. We do not appreciate the occasional low-flying jets of previous summers and understand that 8-10 helicopter missions per day will be much noisier (due to number of daily missions, type of aircraft, age of aircraft, direction and altitude of flight path).

Please let me know what you can do about this matter and what hilltown residents can do to assist in the blocking of these plans.

Excerpts from a recent issue of the Country Journal are included below. If you would like a copy of the article, please contact the Journal or me.

Jennifer Stevens Pappas
Evaluation Officer, NBME, 3750 Market Street, Phila, PA 19104
jpappas @mail.nbme.org phone 215-590-9683 fax 215-590-9448
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Country Journal
P O Box 429, 5 Main Street, Huntington, MA 01050
Margot Locke, Publisher and Editor
Phone 413-667-3211 Fax 413-667-3011

EXCERPTS FROM COUNTRY JOURNAL November 23, 2000
Volume 22, Number 27, Pages 1 and 6

Montgomery. The peace and quiet of the hilltowns may soon be disrupted by the sounds of Army helicopters flying daily training sessions between Westfield and Pittsfield.

The Army National Guard plans to move a helicopter unit, D Company of the 1st Battalion, 126th Aviation Regiment, from Westover Air Reserve Base to Barnes Municipal Airport in Westfield.

Plans are well underway to build a $13.2 million dollar addition to the existing Air National Guard base to house eight UH-1 Huey and three OH-58 Scout helicopters."

William Mead, a Westfield resident who lives near the airport, said he has been fighting a one-man battle for one year to try to put a stop to the plans that he believes will greatly impair the quality of life of people in the flight path.

The guard plans to fly eight to ten missions per day between 7 am and 10 pm. These flights would go from Westfield to Pittsfield (and back)."

Mead argues that the helicopters will be much noisier than the A-10 jets currently using that flight path.

What really upsets Mead is that the plans to bring the helicopters to Westfield has been so quiet.

According to Mead the federal government is giving 4.5 million dollars to the city of Westfield in exchange for allowing the helicopters at Barnes.

If you are concerned about this issue, please contact the individuals below and fellow hilltown residents. Thanks for your help. Jennifer Steven Pappas

David E. Shepardson of the Executive Office of Environmental Affairs
Phone 617-626-1020 Fax 617-626-1181
Massachusetts Environmental Policy Act Unit
251 Causeway Street, Suite 900, Boston, MA 02114

Senator Edward F. Kennedy
315 Russell Senate Office Building, Washington, DC 20510
Phone 202-224-4543

Senator John Kerry
421 Russell Senate Office Building, Washington DC 20510
Phone 202-224-2742

Mayor Richard Sullivan, City Hall
59 Court Street, Westfield, MA 01085
Phone 413-572-6200 Fax 413 572 6274

Governor Paul Celluci,
State House, Office of the Governor, Room 360, Boston MA 02133
Phone 617-727-6550 (~~email above~~) goffice @ state.ma.us

Christopher Willenborg, Manager, Barnes Municipal Airport
110 Airport Road, Westfield, MA 01085
Phone 413-572-6275 Fax 572 6296

Lt. Col. Richard Covello
Manager of new real estate for the Army National Guard
Phone 508-233-6551

Major Robert Walsh
involved in environmental study done at Barnes
Phone 508-233-6715

CC: Internet:AlvinOut@worldnet.att.net; Internet:elizabeth_bedell@concordacademy.edu;org
Internet:estherwms@juno.com; Internet:gaitenby@mail.disputes.net; Internet:loverduck1@aol.com;
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Letter I-22

1 The current Army Aviation Support Facility (AASF) at the Westover AFRB is scheduled for demolition in the future to facilitate the establishment of a Safety Clear Zone for C-5A aircraft. A new AASF is necessary to maintain the unit's readiness in the area; the Barnes ANGB is the preferred location for this facility. The MAARNG provides area emergency response, search and rescue support, firefighting and drug eradication support. The siting of a new facility is at issue, not the location of the MAARNG's practice maneuvers.

Noise analyses have shown that the proposed action will not create a substantial increase over existing cumulative ambient noise occurring from the Westfield Barnes Municipal Airport, Air National Guard operations and motor vehicles on nearby major roads and local streets. Nevertheless, in an effort to reduce the noise levels of its proposed operations, the MAARNG is committed to the establishment of normal operating hours, minimum approach and departure altitudes, standard flight patterns, and no-fly zones, contingent upon meteorological conditions and instructions received from the Westfield Barnes Air Traffic Control Tower. A 24-hour community telephone hotline will be available for area residents to voice concerns and/or register complaints. The MAARNG has established these procedures to minimize impacts on the surrounding community while maintaining the level of readiness necessary to conduct emergency search and rescue operations.

The MAARNG will average eight missions per day during normal operating hours. A mission is by nature a round trip. Though missions may at times be concentrated for training purposes, these occurrences should be the exception rather than the rule. "Touch and goes" are expected to be performed at Westover.

The MAARNG is working diligently with the Westfield Barnes Air Traffic Control Center, Massachusetts Air National Guard Base, Westover Air Force Reserve Base, in compliance with FAA regulations and procedures, to establish standard flight plans for its aircraft operations. When approval is received to construct the proposed new facility, these efforts will be concluded and the MAARNG will inform the community of the final flight plans.

Finally, per MEPA regulations, the notice of the filing of the SDEA/EENF was published in the Westfield Evening News, a newspaper of local circulation in the municipality affected by the Proposed Action. It was also published in the Environmental Monitor, the official publication of the Massachusetts Executive Office of Environmental Affairs. The Environmental Monitor is transmitted for public posting to all City and Town Halls and public libraries in the Commonwealth of Massachusetts. Any person may request a free subscription to the Environmental Monitor; it also can be found on the MEPA website. However, in the interest of achieving complete public review and comment, the MAARNG will place legal notice of the availability of this EA/EIR in papers of local circulation in the abutting communities of Southampton and Holyoke.

Susan Kucharski
45 Lynes Rd.
Chester, MA 01011
413-354-2327

DS

RECEIVED
NOV 24 2000
MEPA

November 24, 2000

Mr. David E. Shepardson
Executive Office of Environmental Affairs
Policy Act Unit
251 Causeway St. Suite 900
Boston, MA 02114

Dear Dear Mr. Shepardson,

I am writing to express my opposition to the project in Western Massachusetts to build an addition to the existing Air National guard base to house eight UH-1 Huey and three OH-58 Scout helicopters at Barnes Airport in Westfield.

1 As a resident of Chester, I will be directly in the flight path of these helicopters. My experience with this situation now is that these helicopters make too much noise and fly too low and too slow. To say that if there was fruit on the trees they could reach out and pick it off the top would be no exaggeration. The frequency of these proposed flights and the noise pollution they will cause between 7am and 10pm is most disturbing. While this is a rural area, people still do live here and in many cases have chosen to live here because of the quiet environment. The noise of the A-10's is tolerable only because they fly higher and faster. These helicopters take several minutes from the time one hears their approach to when they are from the area. 1

2 3 The safety of these older helicopters is also a great concern. Should one of these crash, it could spark a forest fire that could burn for weeks From all reports, there is no reason to move the helicopters from Westover Air Force Base in Chicopee to Barnes. Westover is solely a military airport and there are thousands of acres to house these helicopters. Before this project moves any further, there should be further open and announced *local* public hearings and further environmental impact studies done not just for Barnes airport, but for the towns directly in the flight path of these helicopters. 2 3

Sincerely,

Susan Kucharski

Susan Kucharski

I-23

Letter I-23

1 HMMH and The MAARNG has and will continue to work with the Westfield Barnes Airport manager in an attempt to establish feasible minimum aircraft altitudes in an effort to mitigate noise levels while concurrently enabling the unit to complete its mission

2 Standard scheduled maintenance and replacement of parts at specified intervals (whether required or not) is part of MAARNG standard operating procedures. In addition to scheduled maintenance, MAARNG operators are required to perform pre-flight checks of equipment immediately prior to each mission. The MAARNG is committed to both the safety of the citizens of the area, the existing natural environment, and the safety of MAARNG personnel.

3 Per MEPA regulations, the notice of the filing of the SDEA/EENF was published in the Westfield Evening News, a newspaper of local circulation in the municipality affected by the Proposed Action. It was also published in the Environmental Monitor, the official publication of the Massachusetts Executive Office of Environmental Affairs. The Environmental Monitor is transmitted for public posting to all City and Town Halls and public libraries in the Commonwealth of Massachusetts. Any person may request a free subscription to the Environmental Monitor; it also can be found on the MEPA website. However, in the interest of achieving complete public review and comment, the MAARNG will place legal notice of the availability of this EA/EIR in papers of local circulation in the abutting communities of Southampton and Holyoke.

12. Conclusion

Evaluation of the Proposed Action indicates that no significant adverse environmental impacts would result from the construction and operation of the new AASF. The project location has been previously disturbed (Fire Training Area) and was formerly used for agricultural purposes. The Proposed Action is an upgrade of the current facility located at Westover AFRB.

No adverse impacts to sensitive resources (i.e., wetlands or threatened and endangered species) would occur, and the proposed project area is not located within a floodplain. The Massachusetts Historical Commission has been consulted to identify any historic, cultural or archaeological resources that may exist in the area, and it was determined that no such resources are likely to be present.

Construction activities have the potential to cause some short-term impacts to soils, surface water, air quality, and wildlife in the immediate vicinity of the project location. These impacts would be mitigated through the use of Best Management Practices (BMPs) for construction projects. A list of common BMPs are included in Appendix 3. No significant impacts would occur to the infrastructure of the Barnes ANGB, Barnes Municipal Airport, or the City of Westfield. The cost of construction and operation of the new facility would not significantly impact the socioeconomics of the surrounding area. A noise analysis conducted for the Proposed Action indicates that the proposal would have essentially no impact on the acoustic environment of the region of influence.

The tarmac for the facility is proposed to be expanded a total of 13.6 acres for aircraft-related activities (e.g., pre-flight checks, parking, refueling, and static displays). This would result in the loss of an average of 45,000 gallons per day of recharge if the water was collected and transported out of the basin via a municipal sewerage system. The loss of 0.045 MGD represents less than ½ of one percent (0.5%) of the combined capacity of the four wells within the Conceptual Zone II and would not be considered a significant impact to the resource. However, the MAARNG is proposing to collect, treat, and discharge the run-off through a network of oil-water separators and detention basins. Therefore, the proposed expansion of the tarmac will have virtually no impact on the quantity of water available for recharge.

The project would have the positive impact of allowing Company D, 1-126 Aviation Battalion to maintain its FSP 1 mission readiness. Since no significant adverse environmental impacts have been identified for the Proposed Action that would warrant the preparation of an Environmental Impact Statement, it is recommended that a Finding of No Significant Impact be issued. Finally, based on the above review pursuant to factors at 310 CMR 11.00, the MAARNG respectfully requests the Secretary of the Executive Office of Environmental Affairs finds that this EIR adequately complies with the MEPA Regulations, and that no further review pursuant to MEPA is required.

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14. Agency Distribution List

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15. Glossary

Air Emissions	(Gas-borne pollutants) are either vapors that are the gaseous phase of liquids or solids or fumes that are microscopic solid particles, such as metallic oxides (zinc and lead oxides) formed by the condensation of vapors of solid materials.
Aquifer Transmissivities	The rate at which water of the prevailing kinematic viscosity is transmitted through a unit width of the aquifer under a unit hydraulic gradient.
Arkosic Sandstone	A sandstone with considerable feldspar, such as one containing minerals derived from coarse-grained quartzo-feldspath rocks (granite, granodiorite, gneiss) or from highly feldspathic sedimentary rocks.
Battalion	A military unit consisting of a headquarters company and three to five functional (combat arms, combat support, or combat service support) companies – approximately 250 to 1000 persons, depending on the type of unit.
Bedrock	A general term for the rock, usually solid, that underlies soil or other unconsolidated, superficial material.
Best Management Practices	Procedures or controls other than effluent limitations to prevent or reduce pollution of surface water (includes runoff control, spill prevention, and operating procedures).
Bladeslap	The modulation of sound caused by the relatively slow turning of the main rotor of a helicopter.
Combustion Sources	Typically include heating units, generators, and vehicle or aircraft engines.
Deciduous Forests	Trees that shed their leaves annually.
Endangered Species	Animals, plants, birds, fish, or other living organisms threatened by extinction by man-made or natural changes in the environment.
Environmental Assessment	A preliminary, written, environmental assessment required by National Environmental Policy Act to determine whether implementation of a proposed federal agency activity would significantly affect the environment.
Environmental Impact Statement	A document that identifies and analyzes, in detail, environmental impacts of a Proposed Action. As a tool for decision-making, the EIS describes positive and negative effects and lists alternatives for an undertaking, such as development of a wilderness. In certain circumstances, it is a requirement of the National Environmental Protection Act.

Finding of No Significant Impact	A public document issued by a federal agency briefly presenting the reasons why an action for which the agency has prepared an Environmental Assessment has no potential to have a significant effect on the human environment and, thus, will not require preparation of an Environmental Impact Statement.
Floodplain	Mostly level land along rivers and streams that may be submerged by floodwater.
Fugitive Dust	Particulates released to the air other than those from stacks or vents; typically from earthmoving or construction activities.
Glacial Deposits	A general term for drift transported by glaciers and deposited directly on land or in the sea.
Groundwater	That part of the subsurface water which is in the zone of saturation.
Hazardous Waste	A category of waste regulated under RCRA and must exhibit at least one of four characteristics, i.e., ignitability, corrosivity, reactivity, or toxicity.
High Transmissive Zones	Zone of high transmissivity.
Igneous Bedrock	Said of a rock or mineral that solidified from molten or partly molten material, i.e., from a magma.
Jurassic Age	The second period of the Mesozoic era (after the Triassic and before the Cretaceous), thought to have covered the span of time between 190 and 135 million years ago.
Kames	A short ridge, hill, or mound of stratified drift deposited by glacial meltwater.
Loamy Sands	A soil containing at least 25% very coarse sand, coarse sand, and medium sand, and less than 50% fine sand, or very fine sand. It is subdivided into loamy coarse sand, loamy fine sand, and loamy very fine sand.
Maximum Sound Level	Represents the first tier in quantifying a noise event. It is the highest sound level measured during a single aircraft flight.
Mesozoic Age	An era of geologic time, from the end of the Paleozoic to the beginning of the Cenozoic era, or from about 225 to about 65 million years ago.
No Action Alternative	For proposed new projects, "no action" means that the proposed activity would not take place. For proposed changes to an ongoing activity, "no action" can mean continuing with the present course of action with no

	changes. It can also mean discontinuing the present course of action by phasing-out operations in the near term.
Non-Attainment Areas	Locations of the country that have higher than acceptable levels for one air pollutant or more.
Outwash Deposits	Drift deposited by meltwater streams beyond active glacial ice.
Outwash Plains	A broad, gently sloping sheet of outwash deposited by meltwater streams flowing in front of or beyond a glacier, and formed by coalescing outwash fans; the surface of a broad body of outwash.
Pollutants	Any substances in water, soil, or air that degrade the natural quality of the environment, offend the senses of sight, taste, or smell, or cause a health hazard.
Potable Water	Treated or non-treated water that is considered safe to drink.
Quaternary Age	The second period of the Cenozoic era, following the Tertiary; that began two to three million years ago and extends to the present.
Region of Influence	The physical area that bounds the environmental, sociological, economic, or cultural features of interest for the purpose of analysis.
Sedimentary Bedrock	A rock resulting from the consolidation of loose sediment that has accumulated in layers.
Sliding-scale Approach	Refers to the spectrum of significance of environmental impact. Generally, those proposals with greater potential for significant environmental impact require more analysis than those proposals with very small environmental impacts.
Sorties	Flights.
Sound Exposure Level	Represents the second tier of defining noise events. Combines the maximum sound level associated with the noise event and the duration of the event.
Surface Water	All water naturally open to the atmosphere, such as rivers, lakes, reservoirs, ponds, streams, and all springs, wells, or other collectors directly influenced by surface water.
Surficial Glacial Deposits	Unconsolidated and residual, alluvial, or glacial deposits lying on bedrock or occurring on or near the earth's surface; generally are unstratified and represents the most recent of geological deposits.
Swale	A slight depression, sometimes swampy, in the midst of generally level land.

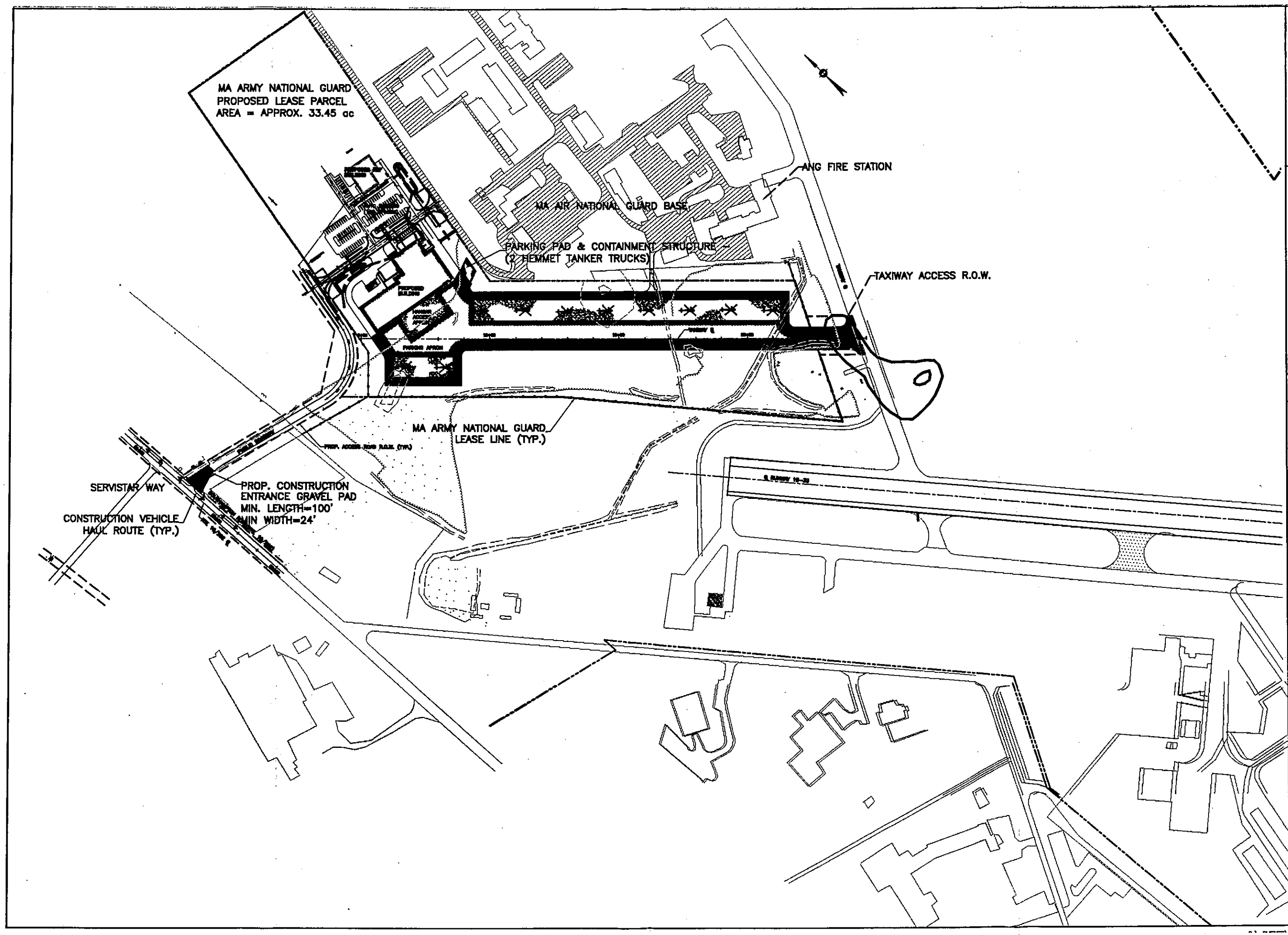
Terraces	A horizontal or gently sloping ridge or embankment of earth built along the contours of a hillside for the purpose of conserving moisture, reducing erosion, or controlling runoff.
Threatened Species	Any plants or animals that are likely to become endangered species within the foreseeable future throughout all or a significant portion of their ranges.
Triassic Age	The first period of the Mesozoic era (after the Permian of the Paleozoic era, and before the Jurassic), thought to have covered the span of time between 225 and 190 million years ago.
Wastewater	Seepage water from a ditch or reservoir.
Watershed	The region drained by, or contributing water to, a stream, lake, or other body of water.
Wetlands	Areas that are soaked or flooded by surface or groundwater frequently enough or for sufficient duration to support plants, birds, animals, and aquatic life. Serve as recharge/discharge areas to purify water; absorb flood waters and collect overflow. Important wildlife habitats, breeding grounds, and nurseries because they are composed of most fertile, natural ecosystems biodiversity.
Wilderness Area	Area designated for the protection of wild animals, within which hunting and fishing are either prohibited or strictly controlled.

16. Acronyms and Abbreviations

AASF	Army Aviation Support Facility
AFRB	Air Force Reserve Base
ANG	Air National Guard
ANGB	Air National Guard Base
AR	Army Regulation
ARNGB	Army National Guard Base
bgs	below ground surface
BMPs	best management practices
CAAA	Clean Air Act Amendments
dB	decibels
dBA	A-weighted decibels
EA	Environmental Assessment
EBS	Environmental Baseline Study
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FSP	Force Support Pool
FW	Fighter Wing
gpm	gallons per minute
Hz	hertz
IRP	Installation Restoration Program
kw	kilowatts
Ldn	Day-Night Average Sound Levels
LTO	Landing - TakeOff
MAANG	Massachusetts Air National Guard
MAARNG	Massachusetts Army National Guard
MADEP	Massachusetts Department of Environmental Protection
MCP	Massachusetts Contingency Plan
MEPA	Massachusetts Environmental Policy Act
Lmax	Maximum Sound Level
MHC	Massachusetts Historic Commission
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Protection Act
PA	Preliminary Assessment
POL	Petroleum, Oil and Lubricants
RI	Remedial Investigation
RSF	Readiness Support Facility
SEL	Sound Exposure Level
SI	Site Investigation
SOPs	Standard Operating Procedures
SPCCP	Spill Prevention Control Countermeasure Plan
TM	Technical Memorandum
tpy	tons per year
USGS	United States Geological Survey
VOCs	Volatile Organic Compounds

APPENDIX 1

FIGURES



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No.	Description	Date
	REVISIONS	

Scale
Date 01/31/2001
Job No. 99275.06-A
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Approved by MDH

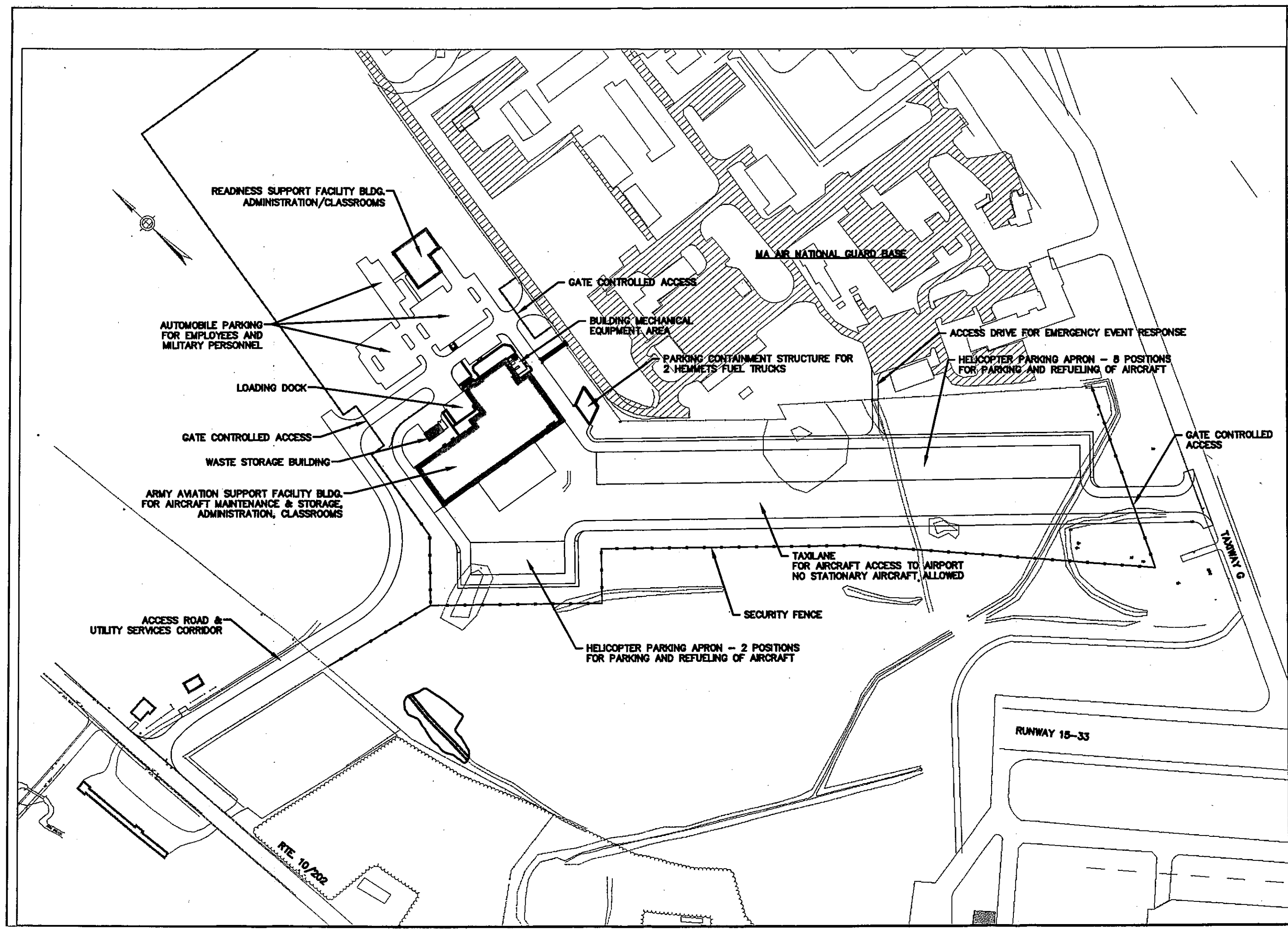
ARMY AVIATION SUPPORT FACILITY

GENERAL PLAN

MASSACHUSETTS ARMY NATIONAL GUARD

Sheet No. FIG.1

File No.



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ARMY AVIATION SUPPORT FACILITY

SITE LAYOUT AND USAGE

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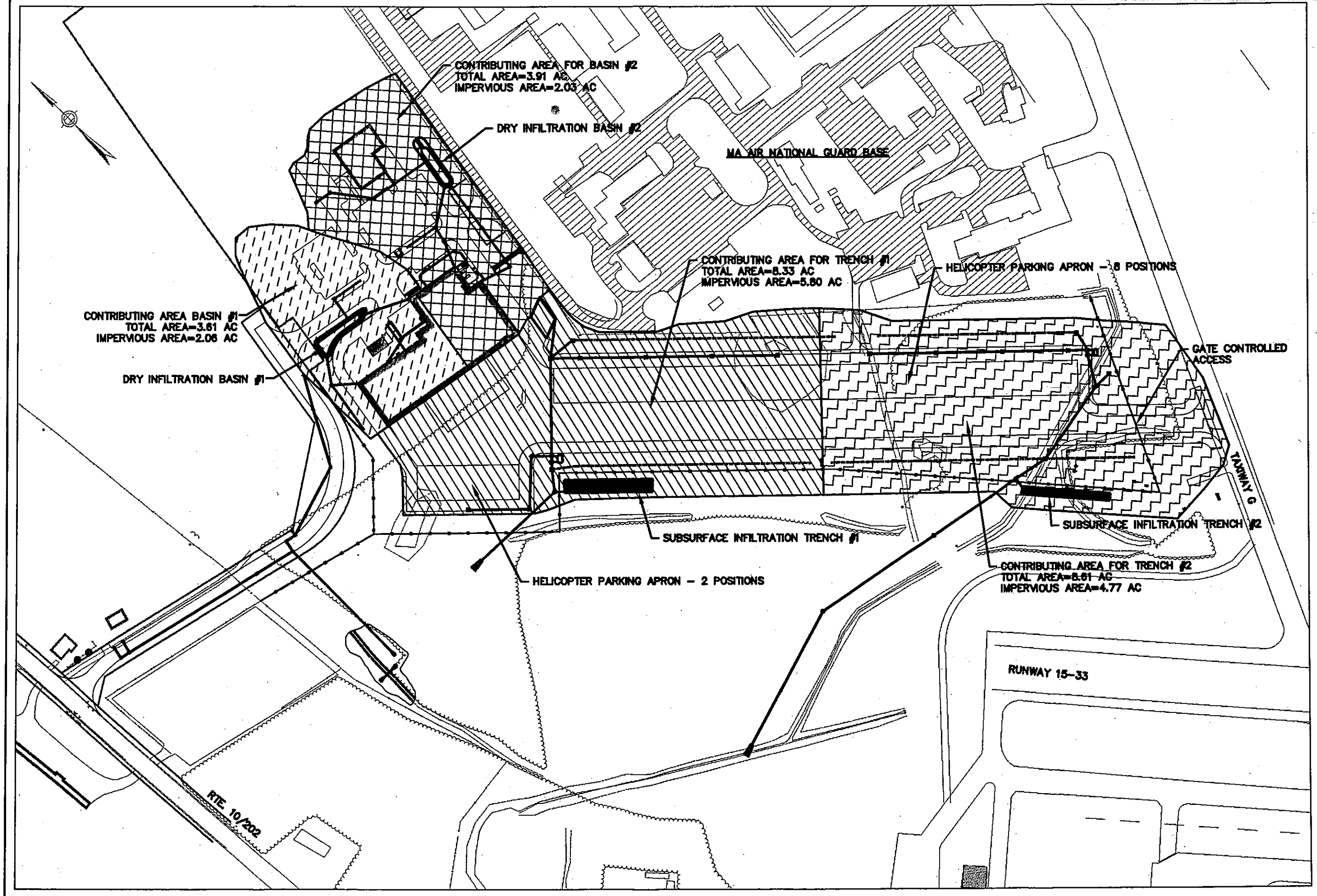
Sheet No.
FIG.2
File No.



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ARMY AVIATION SUPPORT FACILITY

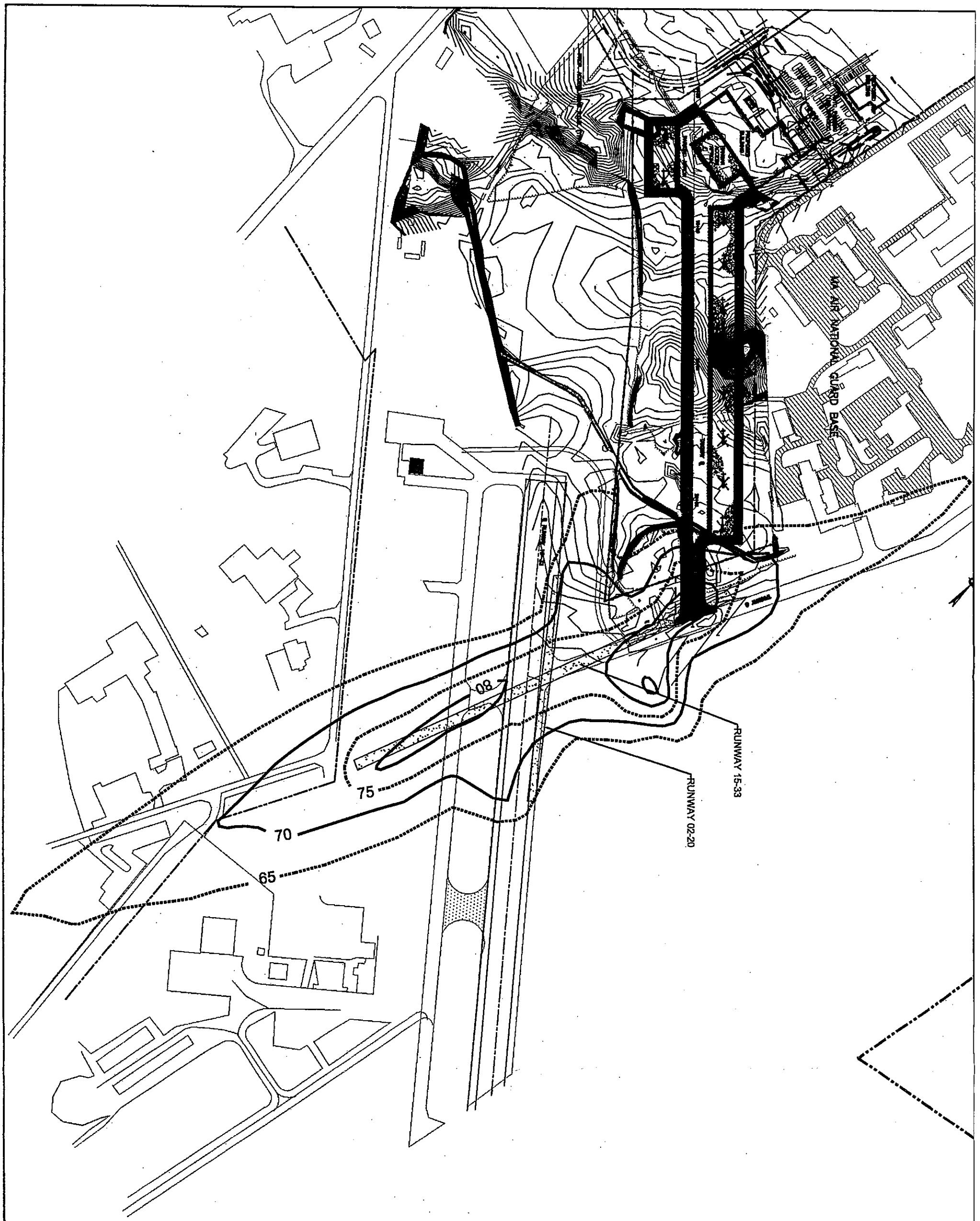
SITE WATERSHED AREAS

MASSACHUSETTS ARMY NATIONAL GUARD

Sheet No.

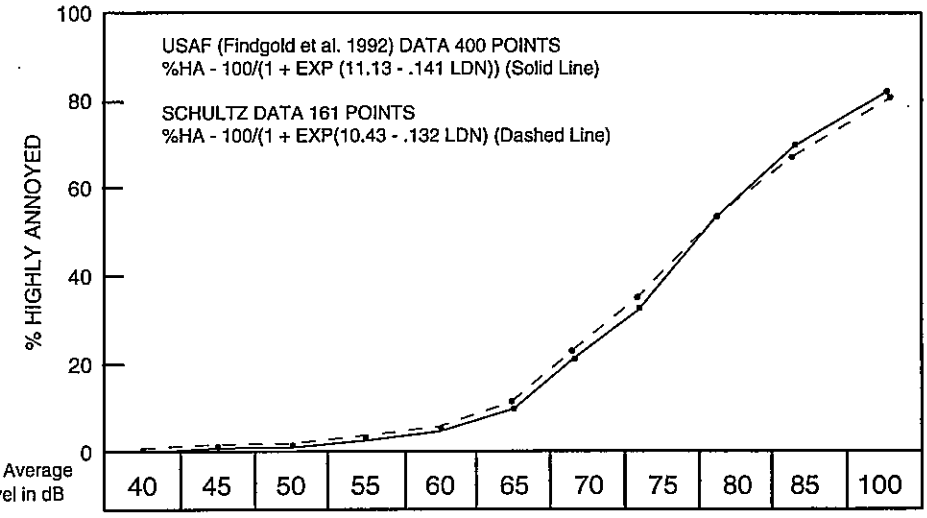
FIG.3

File No.



File No. FIG.4	Sheet No.	ARMY AVIATION SUPPORT FACILITY	Scale SCALE				S E A Consultants Inc. Science/Engineering/Architecture
		NOISE CONTOURS	Date DATE				CAMBRIDGE, MASSACHUSETTS · ROCKY HILL, CONNECTICUT CONCORD, NEW HAMPSHIRE · ROCHESTER, NEW YORK
		MASSACHUSETTS ARMY NATIONAL GUARD	Job No. 99275.06-A				
			Checked by PEO	No.	Description	Date	
			Approved by MDH		REVISIONS		

● _CLIENTS\ANNG\99275.06\FIG.19



Day - Night Average Sound Level in dB	40	45	50	55	60	65	70	75	80	85	100
Calculated %HA Points: USAF	0.41	0.831	1.66	3.31	6.48	12.29	22.1	36.47	53.74	70.16	82.64
SCHULTZ	0.576	1.11	2.12	4.03	7.52	13.59	23.32	37.05	53.25	68.78	81

Figure 5. **DNL-%HA Relationship**

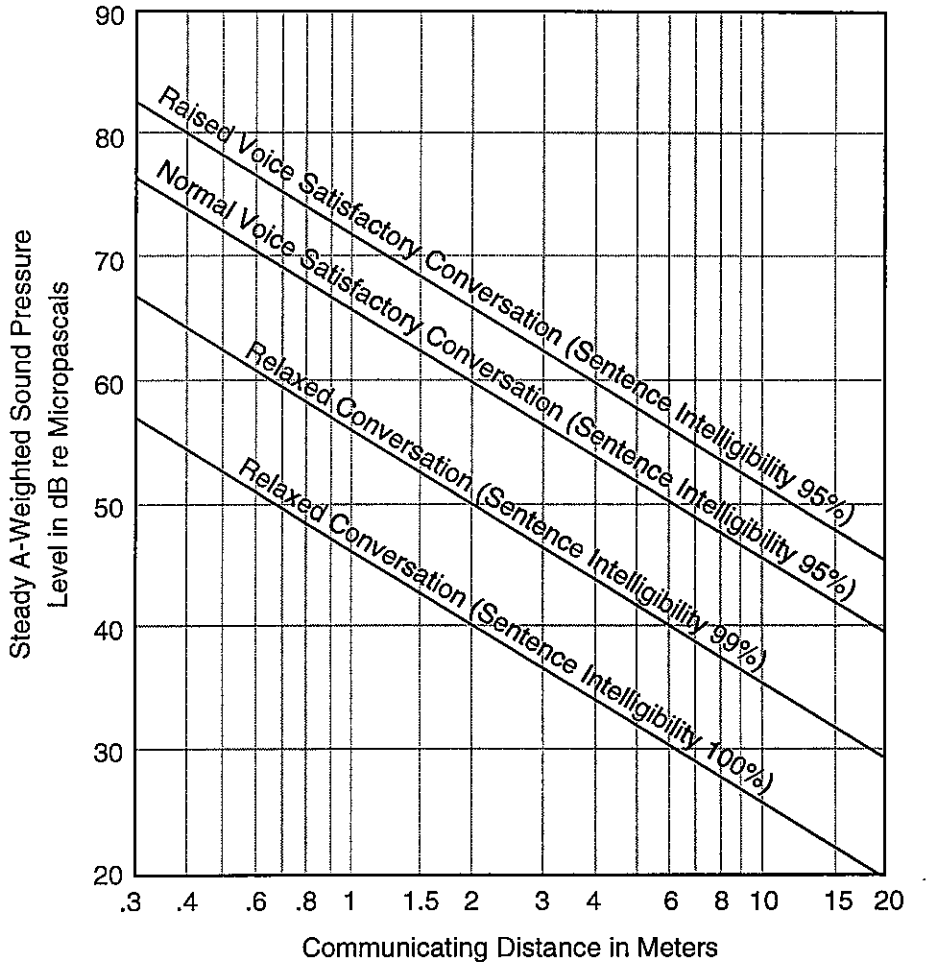
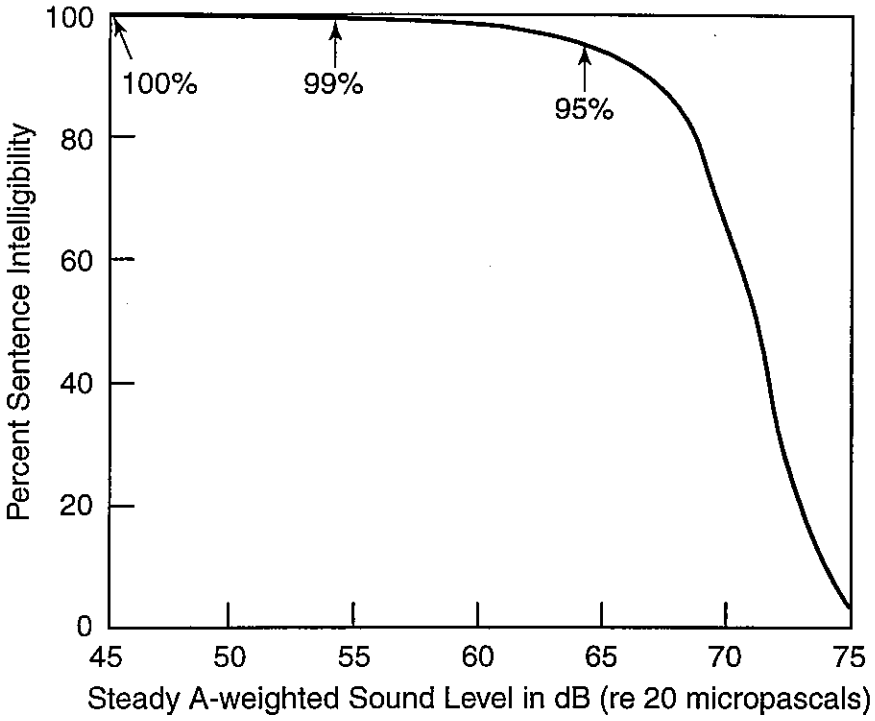


Figure 6. **Effect of Noise on Outdoor Speech**



Note: Assumes 300 sabins absorption typical of living rooms and bedrooms and is valid for distances greater than one meter

Figure 7. **Effect of Noise on Indoor Speech**

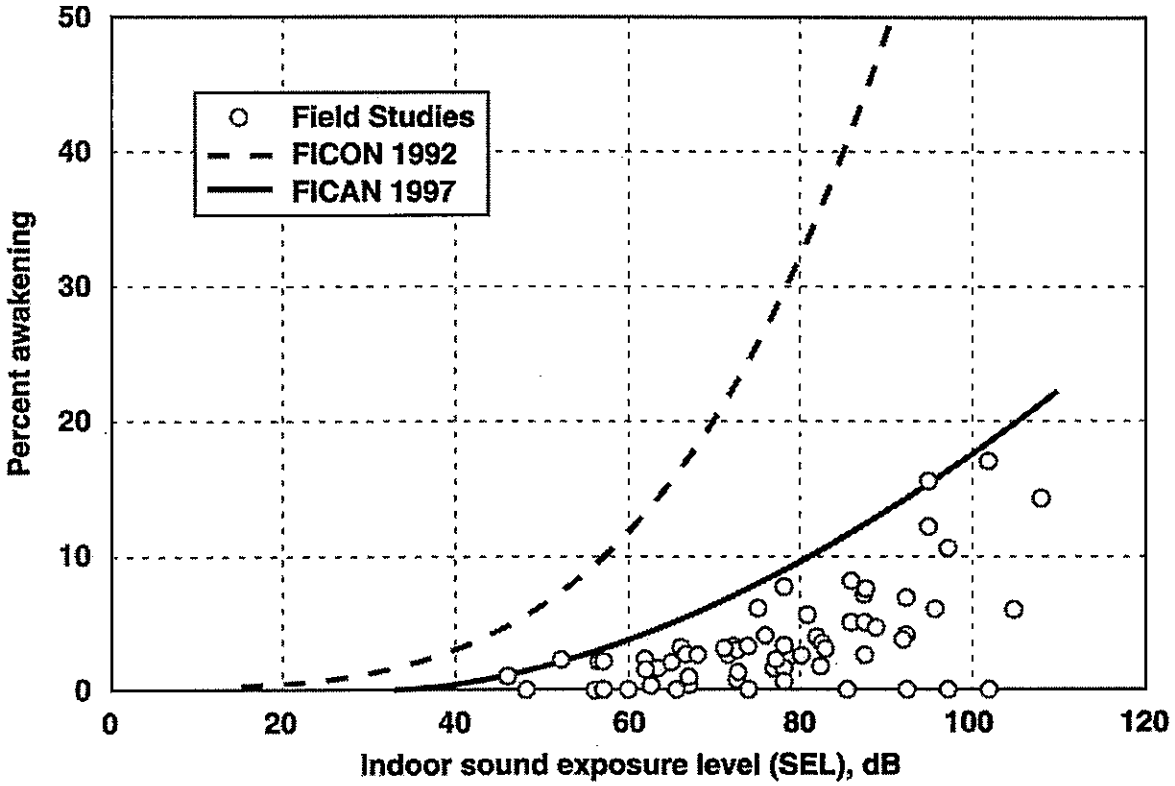


Figure 8. **FICON / FICAN Dose Response Curves**

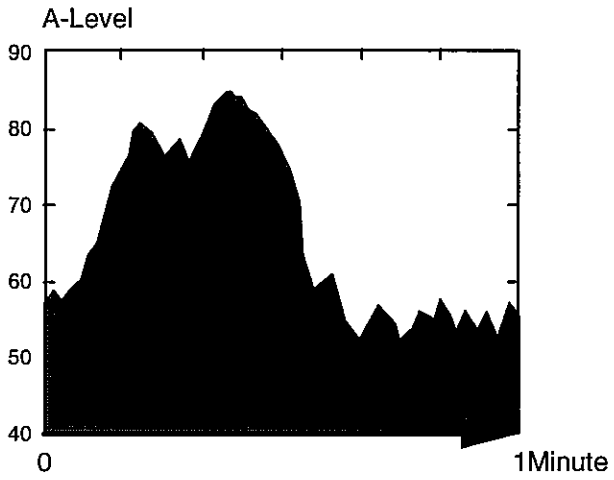


Figure 9. **Aircraft Noise Event**

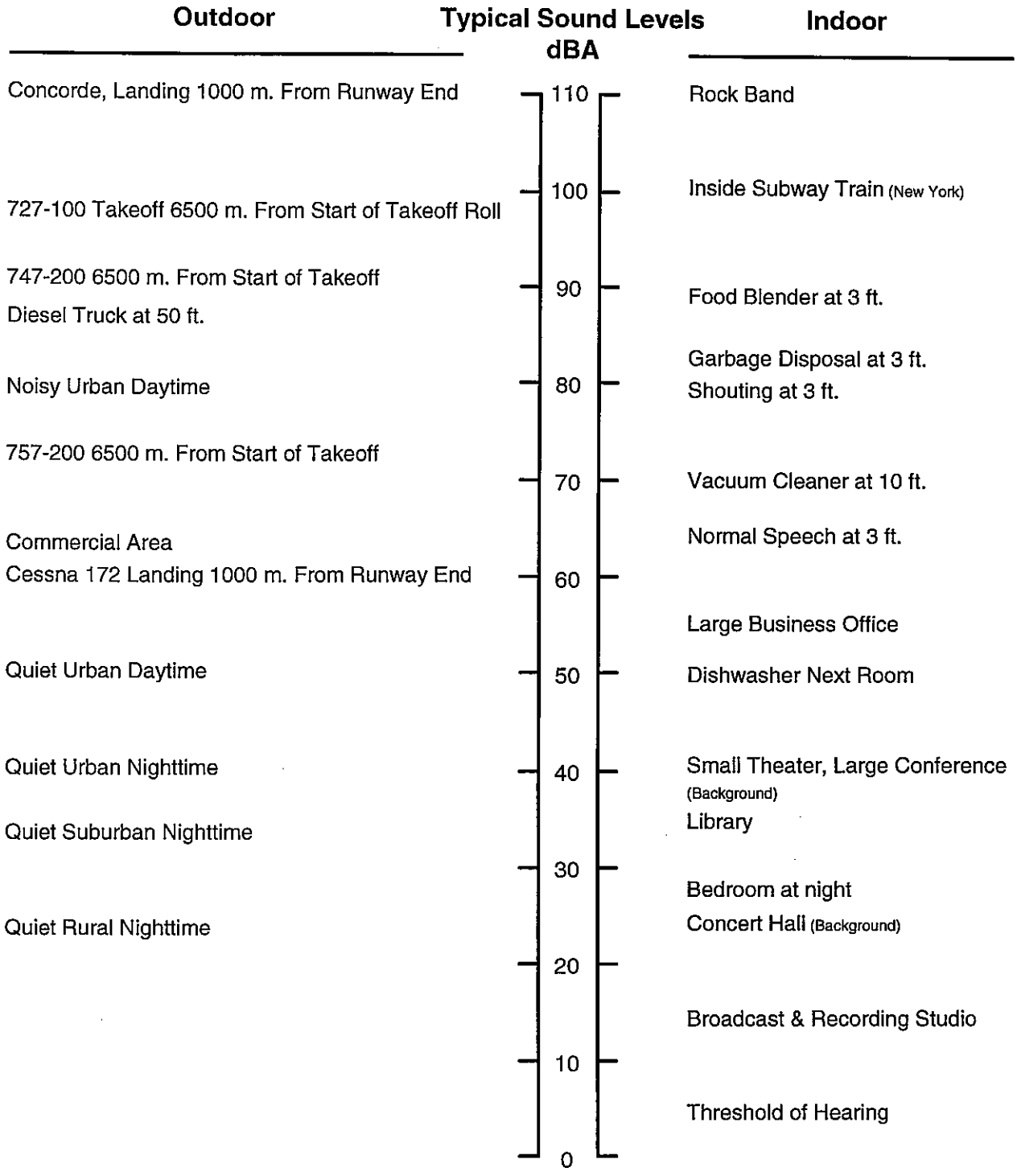


Figure 10. **Typical Maximum Noise Levels**

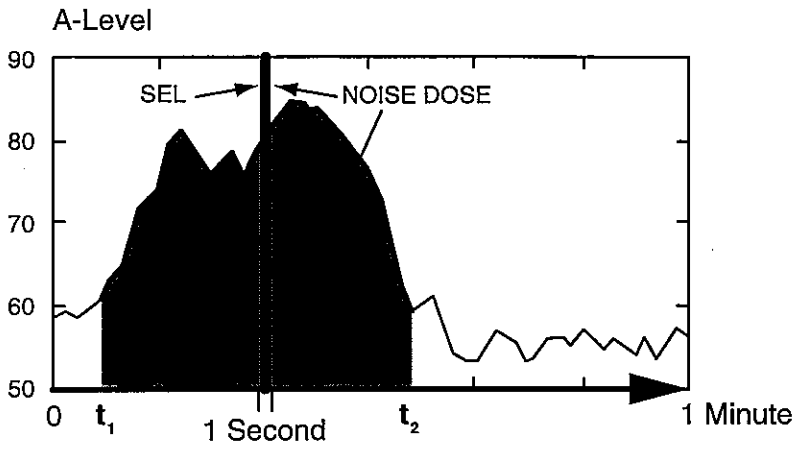
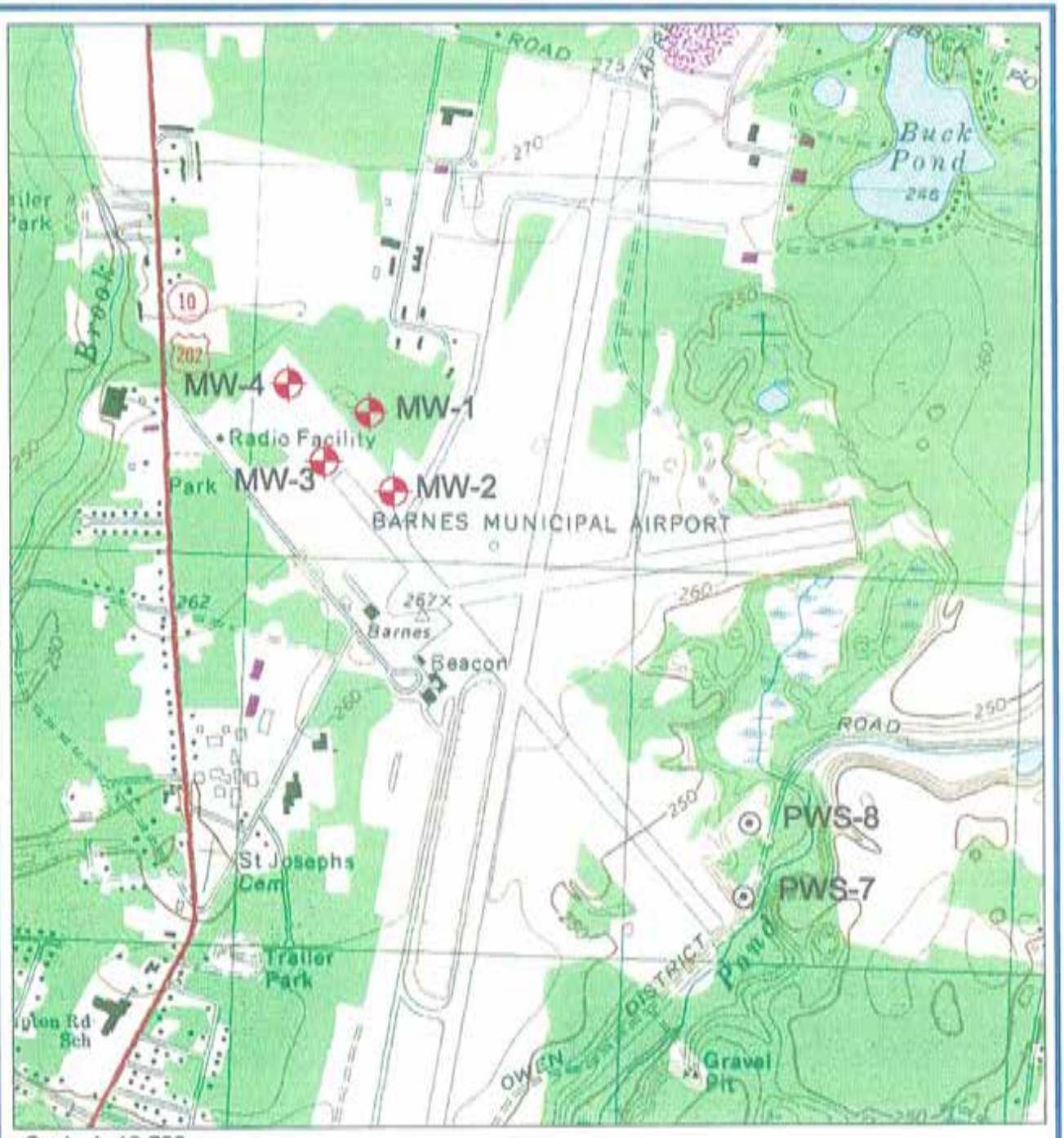


Figure 11. **Typical Sound Exposure Level**



Scale 1: 12,500

Figure 12

PROPOSED MONITORING WELL LOCATIONS
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MASSACHUSETTS ARMY NATIONAL GUARD

LEGEND
MW-#
Monitoring Well #

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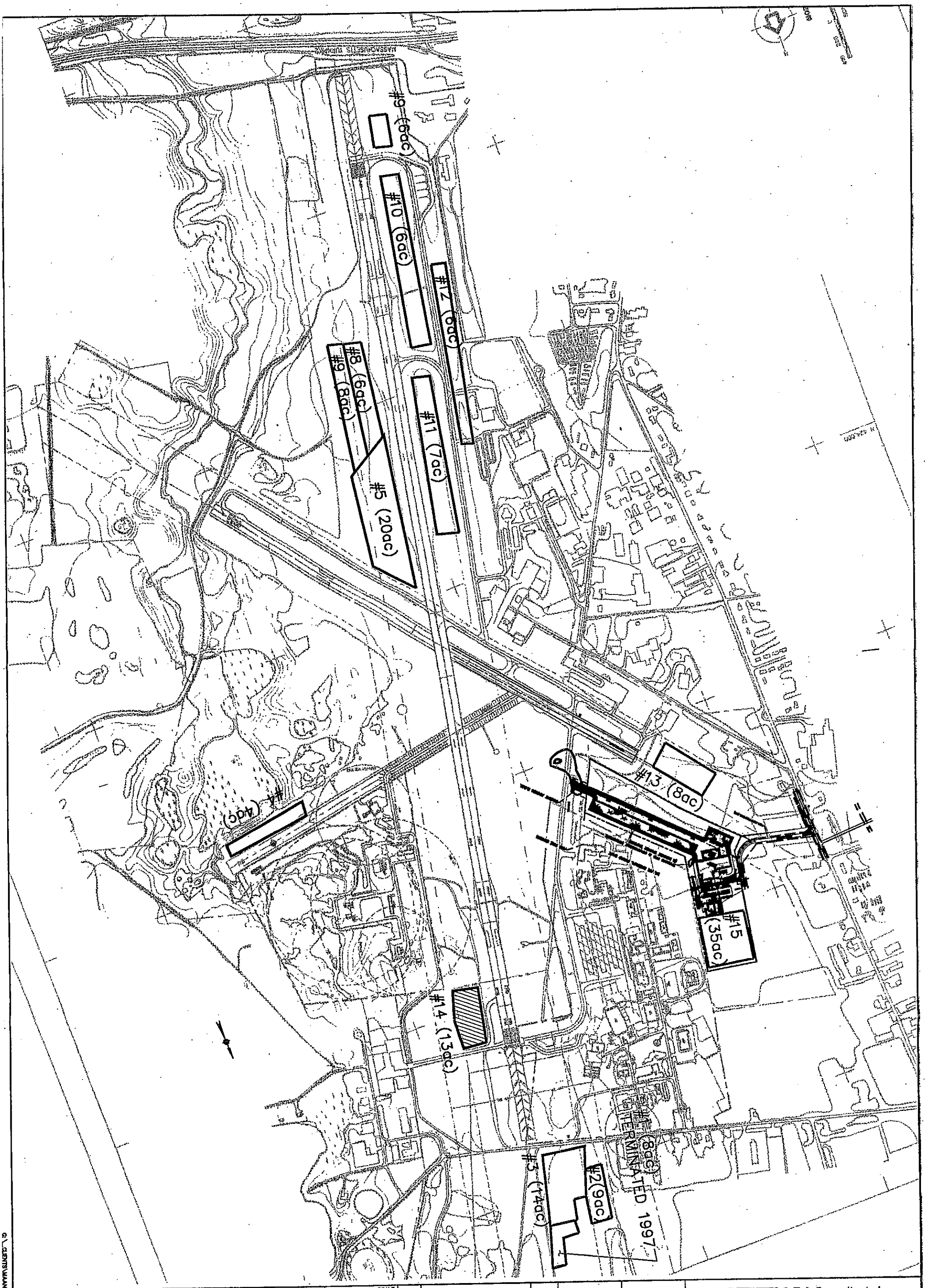
G:_clients\MAANG\69275.06\GENERAL\Fig. 8_MW LOCATIONS USGS



Sheet No. FIG.13	ARMY AVIATION SUPPORT FACILITY	Scale SCALE				S E A Consultants Inc. Science/Engineering/Architecture
File No.	AGRICULTURAL LAND USE	Date 1/31/2001				CAMBRIDGE, MASSACHUSETTS ROCKY HILL, CONNECTICUT
	MASSACHUSETTS ARMY NATIONAL GUARD	Job No. 99275.06-A				CONCORD, NEW HAMPSHIRE ROCHESTER, NEW YORK
		Checked by PEO	No.	Description	Date	
		Approved by MDH	REVISIONS			

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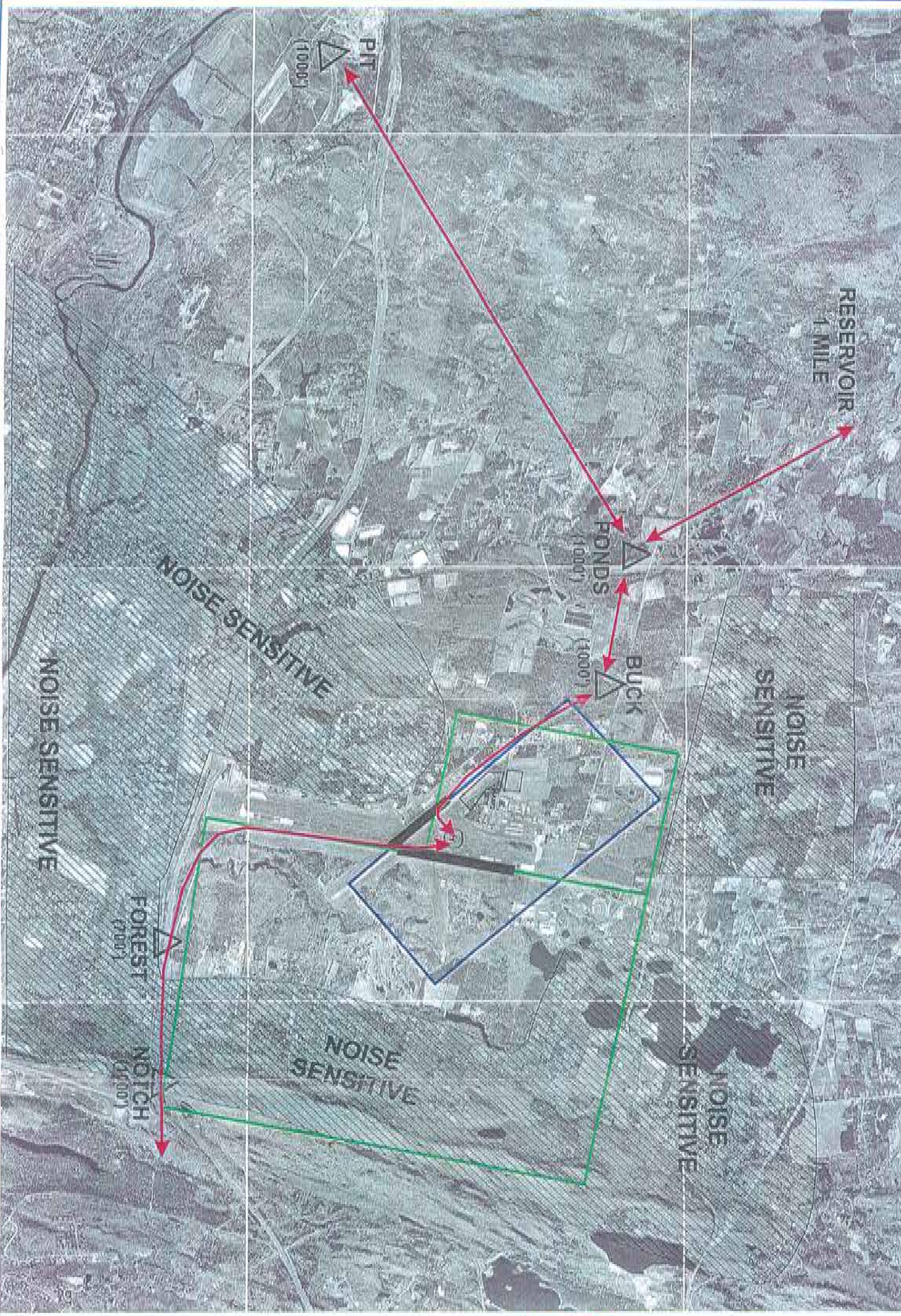

MASSACHUSETTS ARMY NATIONAL GUARD	Scale	N.T.S.
	Date	1/31/01
ARMY AVIATION SUPPORT FACILITY	Job No.	99275.04-A
	Designed by	APC
WESTFIELD BARNES MUNICIPAL AIRPORT	Drawn by	APC
	Checked by	PED
	Approved by	MDH

Sheet No.

Fig No. FIG 14

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APPENDIX 2

REGULATORY REQUIREMENTS

The MAARNG would be responsible for seeking and obtaining federal, state, and/or local permits for activities associated with the construction and operation of the proposed helicopter maintenance facility. A regulatory analysis performed for the Proposed Action identified applicable federal and state statutes, regulations, executive orders, and permit requirements. These permit and regulatory requirements are addressed below.

AIR RESOURCES

The MADEP Air Program Planning Unit is responsible for protecting Massachusetts' air quality resources and reducing the public's exposure to air pollution from sources located within and outside the Commonwealth. The program concentrates on controlling ambient emissions of air pollutants, including emissions of toxic compounds, from stationary and mobile sources that contribute to violations of federal ambient air quality standards.

The Air Program Planning Unit administers regulations under 310 CMR 6.00 to 310 CMR 8.00, which pertain to the control of ambient air pollution. It is anticipated that the construction and operation of the proposed facility would not constitute a new major stationary source and would not require any state plan approvals or stationary source operating permit. However, MADEP would require notification prior to construction (310 CMR 7.09).

WATER RESOURCES

The MADEP Bureau of Resource Protection is responsible for implementing the requirements of the federal Clean Water Act and protecting the water resources and quality of the Commonwealth. Regulations covering water resources are contained in 310 CMR and wastewater regulations are found in 314 CMR.

The regulations that could potentially apply to the Proposed Action include:

Groundwater discharge permits (310 CMR 4.00, 314 CMR 5.00, and 314 CMR 6.00)
Sewer Connection and Extension Permits (310 CMR 4.00 and 314 CMR 7.00)
Cross Connection Plan Approval (310 CMR 4.00 and 310 CMR 22.00)

In addition, the local board of health may have regulations that apply to groundwater discharges.

HAZARDOUS MATERIALS

Federal laws that apply to hazardous materials activities include the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA). These provide liability and compensation for cleanup and emergency response from hazardous substances released and discharged into the environment and the cleanup of hazardous disposal sites. The Resource Conservation and Recovery Act (RCRA) regulates storage, transportation, treatment, and disposal of hazardous waste that could adversely affect the environment.

The MADEP Division of Hazardous Materials regulates the generation, storage, transport, treatment, recycling and disposal of hazardous chemicals and substances for the Commonwealth. Because the proposed facility would likely generate and store hazardous materials and waste, it would be subject to the Hazardous Waste Regulations found in 310 CMR 30.00. The facility would be required to register as a hazardous waste generator using a Hazardous Waste Generator Form.

APPENDIX 3

BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are intended to ensure that construction activities do not result in adverse impacts to environmental resources, either on construction site or at adjacent off-site locations. This listing presented below, although not all-inclusive, indicates the types of actions that would be undertaken during the construction phase of the project to ensure that unacceptable impacts do not occur.

1. Erosion and sediment control measures must be in place and functional before earth moving operations begin and must be properly constructed and maintained throughout the construction period.

2. Clearing grubbing must be held to a minimum necessary for grading and equipment operation.

3. Construction must be sequenced to minimize the exposure time of cleared surface areas. Grading activities must be avoided during periods of highly erosive rainfall.

4. Construction must be staged or phased for large projects. Areas of one phase must be stabilized before another phase can be initiated. Stabilization shall be accomplished by temporarily or permanently protected the disturbed soil surface from rainfall impacts and run-off.

5. Equipment used in soil reconstruction will be selected to provide the least amount of compaction possible.

6. All surface water flowing to the construction area shall be diverted around the construction area to reduce its erosion potential, using dikes, berms, channels, or sediment traps as necessary. Temporary diversion channels must be lined to expected high water level and protected by non-erodible material to minimize erosion. Clean rock, log, sandbag, or straw bale check dams shall be properly constructed to detain run-off and trap sediment.

7. Staked and entrenched straw bales and/or silt fence must be installed along the base of all fills and cuts, on the downhill sides of stockpiled soil and along stream banks in cleared areas to prevent erosion into streams.

8. Excavated material from pipe trenches shall not be placed between the trench and streams. Instead it shall be placed on the upslope side of the excavation such that any erosion from it is caught by the trench. Trenches or pits shall be promptly backfilled and stabilized to reduce the risk of erosion.

9. Regular maintenance is vital to the success of the erosion and sediment control system. All control measures shall be checked weekly and after each rainfall.

10. Construction debris must be kept from entering stream channels.

11. Streams shall not be used as transportation routes for equipment. Crossing must be limited to no point. A stabilized pad of clean and properly sized shot rock must be used at the crossing point. All rocks shall be clean, hard rocks containing no sand, dust, or organic materials.

12. A buffer strip of vegetation at least as wide as the stream shall be left along stream banks whenever possible. On streams less than 15 ft wide the buffer zone shall extend at least 15 ft back from the water's edge. Unnecessary canopy removal is discouraged. When necessary, trees and shrubs should be cut so that they fall away from streams.

13. Sediment basins and traps shall be properly designed according to the size of as upstream water before it is discharged to surface water. Water must be discharged through a pipe or lined channel so that the discharge does not cause erosion or sedimentation.

14. Stockpiled soil shall be located from streams or drainageways so that runoff cannot carry sediment downstream.

15. A footing sediment boom shall be located downstream of the construction area to collect the unsettled silt or debris. The device shall be cleaned and maintained on a daily basis.

16. Vegetative ground cover shall not be destroyed, removed or disturbed more than 15 calendar days prior to grading.

17. Temporary soil stabilization with appropriate annual vegetation shall be applied on areas that will remain unfinished for more than 30 calendar days.

18. Permanent soil stabilization with perennial vegetation shall be applied as soon as possible after final grading.

19. When using fertilizer to establish areas of new vegetation for soil stabilization, use mulches to prevent fertilizer nutrients from washing off the vegetative areas. Apply fertilizer when there is already adequate soil moisture and little likelihood of immediate heavy rain. Surface water, groundwater, and pipeline systems must be protected when using all chemical products.

20. Roads shall follow the contour of the natural terrain to the extent possible. Slopes should not exceed 10%. Drainage ditches shall be provided as needed and shall be designed and constructed to carry anticipated storm flows. A 6-inch aggregate shall be applied immediately after grading or the completion of utility installation within the right-of-way.

21. Parking areas should be located on naturally flat areas to minimize grading. Grades should be sufficient to provide drainage but should not exceed 4%.

22. All roadside ditches, cuts, fills, and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation.

23. To reduce surface and air movement of dust during land disturbance demolition or other construction activities, apply mulch, vegetative covers, or spray on adhesives to retain or capture all dust.

24. To reduce the transport of mud by motor vehicles or by runoff from the construction site, a stone stabilized pad or temporary construction entrance should be constructed. One-half inch to 1 inch or larger stone should be used to form a pad at least 4 inches thick, which should extend to full width of the vehicular ingress and egress area. The length of this construction entrance should be at least 50 ft and should be sufficiently protected to prevent sediment from leaving the site.

25. The corridor bordering any on-post barrow will be restricted. Work limit will be marked before the initiation of construction activities and the riparian zone clearly marked as off-limits to construction equipment.

26. Maintenance and repair of equipment onsite shall be confined to areas specifically designed for that purpose. These areas shall have adequate waste disposal receptacles for liquid and solid waste. Waste oil shall be removed to designated waste oil collection areas for recycling. No potential pollutants will be allowed to drain into catch basins, streams, or other water bodies.

APPENDIX 4

DRAFT SPILL PREVENTION AND COUNTERMEASURE CONTROL PLAN

MASSACHUSETTS AIR NATIONAL GUARD
104TH FIGHTER WING
WESTFIELD, MASSACHUSETTS

OIL and HAZARDOUS SUBSTANCES
SPILL PREVENTION and RESPONSE PLAN

Prepared for
Air National Guard
Contract No. DAHA90-94-D-0005
Delivery Order No. 0082

Originally Prepared By:
OGDEN ENVIRONMENTAL AND ENGINEERING SERVICES
One Centerview Drive, Suite 203
Greensboro, North Carolina 27407
Dec 1997

Reviewed Updated by Dufresne-Henry
Precision Park
North Springfield, VT 05150-0029

July, 99

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LIST OF TABLES

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LIST OF FIGURES

1.0 APPROVAL AND CERTIFICATION

1.1 COMMANDERS APPROVAL

This Oil and Hazardous Substances Spill Prevention and Response (SPR) Plan has been carefully reviewed by The Base Environmental Protection Committee who concurs and supports the programs and procedures which are to be implemented and periodically reviewed and updated in accordance with Federal Regulation 40 Code of Federal Regulations (CFR) 112; Air Force Instruction (AFI) 32-4002, Hazardous Material Emergency Planning and Response Program; and Department of Defense (DOD) Directive 5030.41, Oil and Hazardous Substances Pollution Prevention and Contingency Planning. Management approval has been extended at a level with authority to commit the necessary resources.

Signature _____

Daniel P. Swift, Colonel, MA ANG, Commander

1.2 PROFESSIONAL ENGINEER CERTIFICATION

"I hereby certify that staff of Dufresne-Henry, Inc has examined the facilities on the installation and, being familiar with the provisions of Federal Regulations 40 CFR 110, 112, 116, 117 and 302, attest that this SPR has been prepared in accordance with reasonable and prudent engineering practices and satisfies the current requirements of the aforementioned regulations."

Name: _____

Signature: _____

Date: _____

Registration No.: _____

State: _____

1.3 CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

(Attachment C-II, 40 CFR 112.20e)

Facility Name 104th Fighter Wing, Massachusetts Air National Guard
Facility Address: Barnes ANGB, 175 Falcon Drive, Westfield, Massachusetts 01085-1482

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?
   Yes _____ No X

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground storage tank area?
   Yes _____ No X

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located a distance (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response plans: Fish and Wildlife and Sensitive Environments" (See Appendix E to this part, section 10, for availability) and the applicable Area Contingency Plan.
   Yes _____ No X

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located a distance (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?
   Yes _____ No X

5 Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?
   Yes _____ No X

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature

Daniel P. Swift, Colonel, MA ANG

Name (please print or type)

Base Commander

Title

Date

2.0 HISTORICAL PERSPECTIVE

Federal Regulation 40 CFR 112 provides the guidelines for the development of the Spill Prevention, Control and Countermeasure Plan (SPCC) in regards to oil only; that is, it establishes procedures, methods, and equipment to prevent the discharge of oil from non-transportation related facilities into surface waters. The Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Regulations 40 CFR 300.3, and the Resource Conservation and Recovery Act (RCRA) Regulation 40 CFR 264.52 expand the scope of the SPCC to incorporate hazardous materials as defined in 40 CFR 302.3. This expanded plan is a SPR Plan. The expanded scope satisfies the conditions of DOD Directive 5030.41, AFI 32-4002, and is suitable for inclusion in whole or part in the Base Disaster Preparedness Operations Plan (OPlan 32-1).

A SPR must be written and certified for an installation when one of the following requirements are met:

A. There is a reasonable potential for discharging oil from fixed facilities into waters of the United States; or

B. The oil storage capacity on site exceeds either:

(1) **42,000 gallons of total underground storage, or**

(2) **1,320 gallons of total aboveground storage, or any single container having a capacity in excess of 660 gallons.**

As a further explanation of this criteria, oil refers to any petroleum product which is a liquid at normal temperature and pressure, and the "reasonable potential for discharging oil" excludes any man-made features that might be employed.

In addition, a SPR must be written if there is a toxic storage and disposal facility present or there is sufficient storage of a hazardous material on site that it would produce a reportable quantity release, should a release occur, or a chemical is present in amounts equal to or above its threshold planning quantity. A reportable quantity is an amount of a given chemical that is determined to be a threat to human health or the environment. A listing of reportable quantities and threshold planning quantities can be found in 40 CFR 302 and 355. It should be noted that in regards to hazardous substances, the environment encompasses all aspects -air, surface waters, groundwater, and soil.

If there is a change in facility design, construction, operation, or maintenance which materially affects the facility potential for an oil discharge into navigable waters of the United States or adjoining shorelines, the SPR shall be amended in accordance with 40 CFR 112.5. These amendments shall be fully implemented as soon as possible, but not later than 6 months after such change occurs. The SPR shall be reviewed and evaluated every three years. The owner/operator shall amend the SPR Plan within 6 months of the review to include more effective prevention and

control technology, if such technology will significantly reduce the likelihood of a spill event from the facility, and if such technology has been field-proven at the time of the review. No amendment to the SPR as defined in 40 CFR 112.5 shall be effective to satisfy these requirements unless it has been certified by a Professional Engineer in accordance with 40 CFR 112.3 (d).

Owners or operators of facilities subject to 40 CFR 112.3 (a), (b) or (c) who violate the requirements of this part 112 by failing or refusing to comply with any of the provisions of 112.3, 112.4 or 112.5 shall be liable for a civil penalty of not more than $5,000 for each day such violation continues[1].

Amendments to 40 CFR 112.20e, dated July 1, 1994, identify criteria to be used to determine whether or not an installation is a "substantial harm facility" and therefore subject to requirements to develop a facility response plan (FRP).

This site, Massachusetts Air National Guard, 104th Fighter Wing (104 FW), Westfield, Massachusetts, is provided a SPR because:

A. There is a reasonable potential for discharging fuel and oil into the waters of the United States.

B. Fuel storage capacity exceeds 1,320 gallons total aboveground storage.

Spills can result from one or more of the following:

- Rupture of commercial tanker trucks during receipt of fuel.
- Fueling operations for ground equipment.
- Fueling operations for aircraft.
- Venting of aircraft fuel tanks.
- Leaking and overturned chemical containers.
- Improper disposal of used parts and waste fluids.

Maintenance occurring on the Flightline includes A-10 aircraft, AO-10 aircraft, transient aircraft and ground support equipment. Several types of vehicles are maintained at the 104 FW. The maintenance activities in the Vehicle Maintenance Area include other ground vehicles and aircraft refuelers. Fuel storage on the Base includes jet fuel, diesel fuel, unleaded gasoline (MOGAS) and heating oil. Jet fuel and ground vehicle fuel on the Base is contained in aboveground storage tanks (ASTs) and heating oil is contained in either ASTs or underground storage tanks (USTs). Anti-freeze, degreasers, and hydraulic fluids may be stored in 55-gallon drums, as are used oils and solvents in the maintenance areas.

[1] 40 CFR Part 112.6 (b)

3.0 PLAN IMPLEMENTATION AND REVIEW

3.1 HOW TO USE THE SPILL PREVENTION AND RESPONSE PLAN

This Spill Prevention and Response Plan is intended to fulfill the requirements of both a SPCC Plan, as required under 40 CFR 112, and an Oil and Hazardous Substances Pollution Contingency (OHSPC) Plan, as required under Air Force Policy Directive (AFPD) 32-70, AFI 32-4002, DOD Directive 5030.41, and OPlan 32-1. The plan is organized such that the required certifications are provided in Section 1, the SPCC requirements are satisfied in Sections 2 through 6, and the OHSPC requirements are satisfied in Section 7. The following paragraphs describe the contents of this plan.

Section 1 contains the required certifications of the SPR. If significant changes are made to either the operations addressed by the SPR or to the document itself, the certifications included in subsections 1.1 and 1.2 may need to be revised. The "Substantial Harm Certification" in subsection 1.3 does not need to be recertified unless the volume of JP-8 fuel storage at the Base changes.

Spill response materials are located

Section 2 provides a brief history of the regulations that require the development and implementation of this Plan. Section 3 provides guidance on the use of the plan and identifies the individuals on the Base that are responsible for the implementation of the plan, when the plan needs to be updated, and the certifications that are required when changes to the plan are made. Section 4 outlines the initial notifications and follow-up reporting requirements that must be met when oil spills occur.

General information on the Base, including its history, the local geology, sanitary sewerage, and surface drainage, are provided in Section 5. The areas on the Base where there is a significant potential for spills of oil or hazardous substances are identified and described in Section 6. The descriptions of these sites describe the activity that occurs there, the potential pollutants that can be spilled, and the local storm water runoff patterns.

The oil and hazardous substances pollution contingency plan is Section 7. This section has multiple subsections that provide details for the response actions that will be implemented in the event of a spill.

Spill response equipment is located in areas where hazardous materials/waste is stored/accumulated. The location and inventory of the spill kits is identified in section 7.3.3 of this plan.

Supporting information is provided in the appendices. The appendices provide a glossary of acronyms and definitions; describe suggested training programs; describe the inspection

procedures; describe spill cleanup procedures for hazardous substances; describe spill prevention responsibilities; and, provide master forms for use in the implementation of the plan.

It should be noted that some redundancies are unavoidable in the process of formatting this plan as separable documents.

3.2 KEY IMPLEMENTATION PERSONNEL

The following sections identify the key parties responsible for the implementation of the SPR. Responsibilities of other personnel identified in this plan are outlined in the Base OPlan and other sections of this plan.

3.2.1 Spill Prevention Coordinators

Primary		Alternate	
Name:	MAJ William Kelley	Name:	John W. Richardson
Title:	Base Civil Engineer	Title:	Base Environmental Coordinator
Base EXT:	1737	Base EXT:	1710

The spill prevention coordinators' primary responsibilities include keeping the SPR up to date, ensuring copies of the SPR are distributed to appropriate personnel on-Base and authorized emergency response agencies off-Base who request it, and ensuring Base personnel designated to respond to spills have been trained. Additional responsibilities are included throughout the SPR.

3.2.2 Fuels Supervisor/Alternate

	Primary	Alternate
Name:	SMSGT Robert Burbank	TSGT Henry Lukowski
Title:	Fuels Supervisor	Alternate Fuels Supervisor
Base EXT:	1353	1353

The fuels supervisors' primary responsibilities within the SPR include tracking all petroleum product movements, ensuring an updated copy of the SPR is maintained at the POL Management Facility, and ensuring POL Management personnel designated to respond to spills are familiar with the SPR and have been trained.

3.2.3 On-Scene Commanders (OSCs)

	Primary	Alternate
Name:	SMSgt Armand Lamour	Mr. Todd Mullane
Title:	Base Fire Chief	Assistant Fire Chief
Base EXT:	1431	1781

The OSCs' primary responsibilities include responding to a spill, notifying appropriate Base personnel and off-site emergency response agencies, and directing the spill response under the Base incident command system. Additional responsibilities are included throughout the SPR.

3.3 AMENDMENTS

According to 40 CFR 112.5, changes in the facility design, construction, operation or maintenance at the 104 FW (Sections 2-6) which materially affects the facility's potential for the discharge of oil into or upon navigable waters of the United States or adjoining shorelines require the SPR to be amended and recertified by a Registered Professional Engineer (PE). The amendment(s) must be fully implemented no later than six months after the changes at the facility have been completed, unless an extension has been requested and granted. Administrative type revisions, deletions, etc. to the SPCC portion of this Plan which do not materially affect the facility's potential for a discharge of oil shall not require PE re-certification. The OHSPC portion (Section 7) of this Plan does not require PE certification.

3.4 PERIODIC REVIEW AND EVALUATION

The SPR Plan shall be reviewed by the Base Environmental Coordinator (EC) and the Base Environmental Protection Committee (EPC) on an annual basis and amended as required (40 CFR 112.5 requires a review and evaluation of the SPCC portion at least once every three years). Subsequent to this review and within a six-month period, the plan may need to be amended to include more effective prevention and control technology. The plan will be amended if it is determined that:

1. More effective prevention and control technology will significantly reduce the likelihood of a spill event from a facility; and,

2. Such technology has been field-proven at the time of the review.

The EC shall be responsible for conducting an annual review of the report, monitoring any corrective actions and updating the SPR Plan when necessary. The EM will submit the annual review report to the EPC describing any deficiencies noted and recommend corrective actions. Annual review of the Plan and any resulting amendments or changes shall be logged on the record sheet provided in Appendix F. As noted above, amendments to the SPCC portion of the Plan will be reviewed and certified by a PE.

This plan was most recently reviewed, revised, and certified by Dufresne-Henry, Inc, 17 March 1999.

3.5 REGIONAL ADMINISTRATIVE REVIEW

According to 40 CFR 112.4, this SPR will be reviewed by an EPA Regional Administrator if:

1. A facility has discharged more than 1,000 gallons of oil into or upon navigable waters or adjoining shorelines in a single spill event; or

2. Two reportable spills have occurred at a facility within any 12 month period.

The administrator may require an amendment to bring the plan into compliance with the regulations and to prevent and contain discharges of oil from the facility.

4.0 SPILL RESPONSE ACTION LIST

4.1 SPILL REPORTING

The Base Incident Command System is referenced by ANG personnel for the management of spill response activities. Under this program **all** spills and/or disasters are reported. When a spill occurs that is beyond the control of shop personnel than call EXT 1911, the Base Fire Department. The Base Fire Department will contact an OSC, who is responsible for making all notifications based on the type and nature of spill or disaster based on the responsibilities listed in the Disaster Preparedness Operations Plan (OPlan 32-1). Notification for spills during aircraft fueling on the ramp is made by radio (Channel 2) or by calling EXT 1911.

4.1.1 Oil Spills into Navigable Waters

The On-Scene Commander (OSC), as identified in the OPlan, shall consult the most recent edition of 40 CFR 110 to establish whether or not a harmful quantity has been discharged to a navigable water in the U.S. or adjoining shoreline. 40 CFR 110 generally defines an oil spill of harmful quantity as "...such quantities of oil...determined to be harmful to the public health or welfare of the U.S....to include discharges which violate applicable water quality standards...or cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines, or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines." Although the term "navigable waters" has been expanded to encompass practically all surface bodies and streams, it is important to note that this definition is restricted to surface waters.

A spill of oil to the ground or groundwater is not a reportable spill under 40 CFR 110 unless it should later appear as a surface water contamination. If a harmful quantity (or reportable quantity as defined by state regulations) has been discharged, the spill will be reported by telephone to the federal, state, and local agencies listed in Section 4.2. The information which must be included when reporting to federal agencies is as follows:

1. Name, location, and type or function of installation.
2. Commander of installation and phone number.
3. Name and phone number of person making report.
4. Type and estimated amount of material.
5. Location of spill.
6. Local discovery time and date of incident.
7. Receiving stream or waters.
8. Cause of incident and equipment/facility involved.
9. Injuries and/or property damage.
10. Duration of discharge.
11. Remedial actions taken.
12. Agencies notified.

4.1.2 Other Oil Spills

The Commonwealth of Massachusetts considers a release of hazardous materials or other wastes, regardless of size, to water as a reportable spill. A practical matter s pills of oil in quantities greater than 10 gallons are generally considered reportable spills. All spills will be reported in writing to the Massachusetts Department of Environmental Protection at the following address:

James C. Colman, Assistant Commissioner
Bureau of Waste Site Cleanup
Massachusetts Department of Environmental Protection
1 Winter Street, 5th Floor
Boston, MA 02108
(617) 292-5851

The initial reporting information needed by the state agency includes, at a minimum, the location of the release, the material released, and the approximate quantity and concentration of the release.

4.2 EMERGENCY TELEPHONE NOTIFICATION LIST

The following telephone numbers are to be used as described in this plan for federal, state, local and Air National Guard (ANG) notification of oil spills, based on the spill event characteristics. These numbers should be verified on an annual basis to ensure accuracy.

Federal Agencies
National Response Center (Will notify EPA Region I) **800-424-8802**

U.S. EPA Region I, Emergency Response (If NRC is not able to be contacted) **617-573-5715**

State Agencies
Massachusetts Department of Environmental Protection (24-hour) **888-304-1133**

Local Agencies
Westfield Fire Department (Emergency) **9-911**

District 11 Hazardous Materials Team (Emergency) 9-911

Air National Guard
ANG/CEVQ (Monday-Friday, 0730 - 1700) ..... **DSN 278-8695**
or DSN 278-8197

4.3 FOLLOW-UP REPORTS

4.3.1 Federal Follow-up Requirements

If a single 1,000-gallon oil spill event, or two "harmful quantity" oil spill events[2] (as defined in 40 CFR 110.3) occurring within a 12 month period, discharges into or upon a navigable waterway or adjoining shoreline, the following information is required to be submitted to the Regional Administrator of EPA Region I within 60 days (40 CFR Part 112.4(a)):

1. Name of facility;
2. Name of owner or operator of the facility;
3. Location of the facility;
4. Date and year of initial facility operation;
5. Maximum storage or handling capacity of the facility and normal daily usage throughout;
6. Description of the facility including maps, flow diagrams, and topographic maps;
7. A complete copy of the SPR with amendments;
8. The cause of the spill including a failure analysis of the system or subsystem in which the failure occurred;
9. The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs and/or replacement;
10. Additional preventive measures taken or contemplated to minimize the possibility of reoccurrence; and,
11. Such other information as the Regional Administrator may reasonably require pertinent to the plan or spill prevention.

This information will be sent to the following:

Denise Valdez, SPCC Coordinator
U.S. EPA Region I
JFK Federal Building
Boston, MA 02203-2211

The Base Environmental Coordinator (EC) will clearly mark on the outside of the envelope that the package is to be submitted to the EPA Region I official in charge of the SPR program. A complete copy of all information sent to EPA will also be sent to the Massachusetts Department of Environmental Protection (40 CFR Part 112.4 (c)) at the following address:

James C. Colman, Assistant Commissioner
Bureau of Waste Site Cleanup
Massachusetts Department of Environmental Protection
1 Winter Street, 5th Floor
Boston, MA 02108

[2] A discharge of oil resulting in a sheen or film upon, or discoloration of water is considered harmful.

The information that is to be reported to the Air National Guard is listed in Section 7.7.1.

4.3.2 State Follow-up Requirements

Immediately following a reportable quantity release of a hazardous substance, the Massachusetts Department of Environmental Protection and the Massachusetts District 11 HAZMAT Team shall be notified of the release.

Follow up to spill may be required under 310 CMR 40.0000, Massachusetts Contingency Plan.

5.0 BASE LOCATION/OPERATION

5.1 BASE NAME AND ADDRESS

HQ 104th Fighter Wing
Massachusetts Air National Guard
Barnes Air National Guard Base
175 Falcon Drive
Westfield, MA 01085-1482

5.2 DATE OF INITIAL OPERATION, PURPOSE, AND ACTIVITIES

The Barnes ANGB was created in 1946 and initial operations began at the Base shortly thereafter. The 104 FW has gradually expanded its facilities throughout its history. Today, the 104 FW flies and maintains A-10 aircraft and AO-10 aircraft (15 total aircraft) to support its fighter mission. The major support operations performed at the Base include aircraft fueling, aircraft maintenance, aerospace ground equipment (AGE) maintenance, ground vehicle maintenance, fueling of ground vehicles, and facilities maintenance. Aircraft maintenance operations include activities such as corrosion control, non-destructive inspection, fuel cell maintenance, engine maintenance, hydraulics system maintenance, washing, and wheel and tire maintenance.

AGE and ground vehicle maintenance operations include: fluid changes (i.e., oil, transmission, antifreeze, etc.); filter changes (gas, oil transmission, air, etc.); brake repair; lube, grease and repair of the axle and drive trains; body repair; welding; minor painting; and washing. Facilities maintenance operations include structural maintenance and repairs, painting, chemical treatment (pesticides, fertilizers, and herbicides), mowing, and utility maintenance. Painting of aircraft and vehicles is limited to touch-up with brushes, aerosol cans and spray paint cans, or spray guns.

The 104 FW supports a geographically separated unit (GSU), the 212 Engineering Installation Squadron (212 EIS), also hereinafter referred to as the Worcester ANG Station, which occupies approximately seven acres in the City and County of Worcester, MA. The 212 EIS has mobility and deployment capabilities for the engineering, installation and/or replacement of information system facilities. Activities at the Worcester ANG Station include electronics and radio equipment maintenance, grounds maintenance, and vehicle maintenance.

5.3 GEOGRAPHIC/TOPOGRAPHIC BASE DESCRIPTION

The Base descriptions contained in Section 5.3 have been obtained from the Base Installation Restoration Program (IRP), Site Investigation Report dated December 1996. Text references identified have not been included in the SPR, but are available in the IRP document.

5.3.1 Geographic Location

The 104 FW, also hereinafter referred to as the Base, is located at the Barnes Air National Guard Base (ANGB) in the City of Westfield, Massachusetts in Hampden County. The Base occupies approximately 185 acres of leased land from the City of Westfield at the Westfield-Barnes Municipal Airport. The Base consists of two separate parcels of land, which are divided by the main north-south runway. Access to Barnes ANGB is achieved from Falcon Drive, an east-west roadway, just north of the Base. Properties to the east and south of the Base include runways and taxiways of the Westfield-Barnes Municipal Airport and to the west include undeveloped airport property. Areas to the north of the Base are primarily commercial or undeveloped land. Figure 5.1 shows the approximate Base location according to the United States Geological Survey Topographic Map, Mount Tom, Massachusetts Quadrangle.

5.3.2 Geology and Soils

The Base is in the Connecticut Valley physiographic region of south-central Massachusetts. The general topography of the Westfield area is characterized by a narrow valley bounded by a ridge to the east (East Mountain) and the Berkshire Mountains to the west. The Base is within the relatively flat region of the valley floor with elevations around 270 feet above mean sea level.

The Base is located within the Hartford Basin, one of the Mesozoic-age basins that make up the Connecticut Valley physiographic region. The geology of the Base is characterized by Quaternary-age glacial material underlain by Jurassic- and Triassic-age sedimentary and igneous bedrock. Surficial glacial deposits in the Base vicinity consist primarily of glacial outwash sands and gravels with an approximate thickness of 100 to 150 feet above bedrock. The upper 20 to 30 feet of the glacial deposits consist of coarse to fine subangular arkosic sand with trace amounts of gravel and silt. A 10- to 15-foot thick interval of brown silt to very fine sand underlies the shallow sand deposit beneath most of the Base. The remaining glacial deposits consist primarily of brown, reddish-brown, and gray sand with trace amounts of silt, clay and gravel. Bedrock underlying the outwash deposits consists of the New Haven Arkose, a red, pink or gray coarse-grained, locally conglomeratic arkose, interbedded with brick-red shaley siltstone and fine-grained arkosic sandstone. According to the U.S. Soil Conservation Service, the primary soil type at the Base is the Hinckley Loamy Sand.

5.3.3 Groundwater

Both surface water and underground water sources are available for the City of Westfield, however no surface water sources are used for water supply at the Westfield-Barnes Municipal Airport or at the Base. The primary water source for the City of Westfield and the airport is groundwater from a series of municipal wells screened in surficial deposits of glacial sands and gravels referred to as the Barnes Aquifer. The Base receives water from the Westfield Water Department, which currently maintains two water supply wells on airport property. The airport and its vicinity have been designated a Zone II by the Commonwealth of Massachusetts, meaning that the area around the Base is a contributing zone to a drinking water aquifer under the most severe pumping conditions.

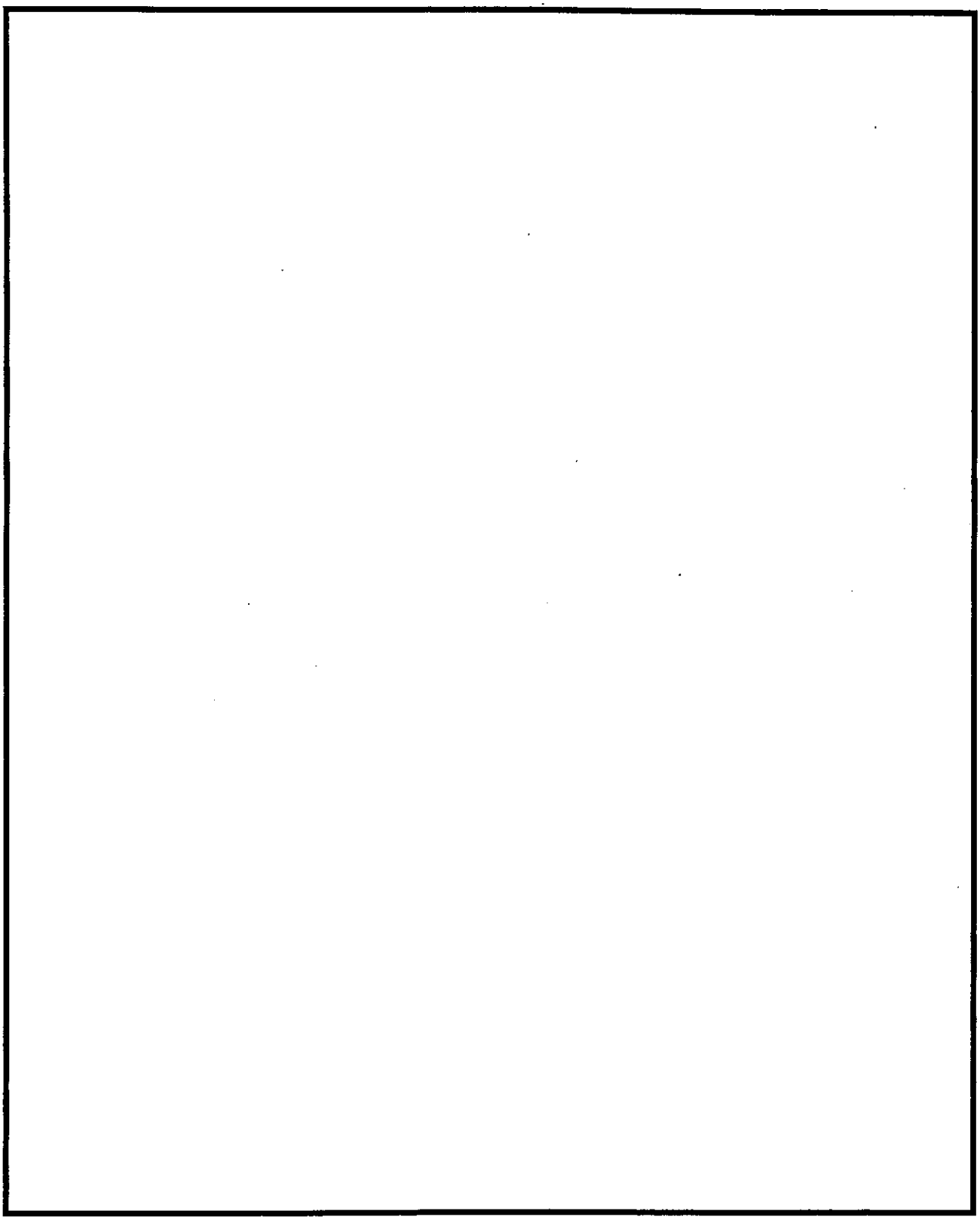

FIGURE 5.1 LOCATION MAP

The two municipal wells at the airport, Wells #7 and #8, are located approximately 1,000 feet north of Runway 15-33 and approximately 2,500 feet south of the Base Munitions Maintenance Complex, which is located on the eastern portion of the Base. These two wells are 24 inches in diameter with pump capacities of 1,400 gallons per minute each. The wells are completed in the thickest glacial deposits, which correspond with the trace of the preglacial Connecticut River Valley, in an area of overburden 200 to 250 feet thick, whereas the Base is in an area where deposits are 100 to 150 thick. The depth to groundwater in these wells typically ranges from 25 to 35 feet below ground surface. The prevailing direction of groundwater flow within the water table aquifer below the Base is southerly.

5.3.4 Surface Waters

Surface water flow direction at the Westfield-Barnes Municipal Airport is influenced by a series of streams and ponds in the surrounding areas. The airport is split by a topographic high that acts as a watershed divide running approximately north-south along the airport's major runway. Surface water flow on the western side of the divide, which includes the Main Base, is predominantly westward towards Arm Brook. East of the watershed divide, where the Base Munitions Maintenance Complex is located, surface water flow is eastward towards Pond Brook. Both Arm Brook and Pond Brook flow south and discharge to the Westfield River, which is located approximately 1.5 miles south of the Base. The Westfield River flows in an easterly direction and eventually discharges to the Connecticut River, which is located approximately 5 miles east of the Base.

Surface water runoff at the Main Base flows into three separate storm water retention ponds located on the Main Base and infiltrates into the subsurface sandy soils. Surface water runoff at the Munitions Maintenance Complex flows primarily as sheet flow to the southeast towards Pond Brook.

Information on the topographic maps indicates the presence of wetlands northeast of the Munitions Maintenance Complex, in the northeast corner of the eastern portion of the Base, as well as in several areas along Pond Brook to the southeast of the Base.

5.4 LIKELY SPILL FLOW PATH PREDICTION AND RECEPTORS

Detailed drawings pertaining to the Base-wide storm water drainage conveyance and sanitary sewer systems are available for inspection at the Base Civil Engineering office. Brief descriptions of these systems are outlined in the following sections.

5.4.1 Storm Water Drainage System

A high percentage of the active administrative and industrial areas of the installation are paved or roofed and exhibit high run-off coefficients. Drainage of the built-upon area is typified by overland flow to storm drain inlets, drainage catch basins and roadside ditches and culverts, which are connected by a network of underground pipes. Storm water runoff from the Aircraft Parking Apron flows as sheetflow towards storm drainage catch basins located around the perimeter of the Apron.

Storm water runoff from the northern half of the Main Base flows into storm sewer inlets that discharge into storm water Retention Pond #1, located in the west-central portion of the Main Base adjacent to the POL Facility. Storm water runoff from the southern half of the Main Base flows into storm drainage ditches and storm sewer inlets that discharge to one of two storm water retention basins located in the southern half of the Main Base. Storm water runoff from the southeast portion of the Main Base, which includes the majority of the Aircraft Parking Apron, flows into Retention Pond #2, which is located immediately southeast of Building 40. Storm water runoff from the southwest portion of the Main Base, which includes runoff from the Vehicle Maintenance Facility, flows into Retention Pond #3, which is located immediately west of Building 55. Due to the natural sand conditions of the soils and its high percolation rate, storm drainage runoff collected in the three retention ponds percolates into the subsurface soils. The ponds do not discharge off-Base.

Storm water runoff from the Munitions Maintenance Complex flows through surface drainage ditches and as overland sheetflow to the east towards an adjacent wetland area or to the southeast towards Pond Brook. Discharge into the adjacent wetland area is via unchannelized overland flow. The wetland area discharges into an unnamed tributary of Pond Brook.

Industrial Facilities that discharge into Retention Pond #1 are:

- Aircraft Maintenance Hangar (Building 15)
- Aircraft Parking Apron
- Boiler Facility (Building 16)
- AGE Maintenance/ Welding Shop/ Engine Shop/ NDI Laboratory (Building 20)
- Avionics/ Weapons Release Facility (Buildings 26, 37 and 2)
- Fuel Cell Maintenance/ Corrosion Control (Building 27)
- Repair Reclamation/ Egress Shop (Building 28)
- Base Clinic/ Communications/ Security Forces (Building 29)
- POL Facility (Buildings 33-35, 38-39 and 10)

Industrial Facilities that discharge into Retention Pond #2 are:

- Aircraft Parking Apron
- Fire Station/Base Civil Engineering (Buildings 40 and 42)

Industrial Facilities that discharge into Retention Pond #3 are:

- Aircraft Parking Apron
- Base Supply and Warehouse Facilities (Buildings 7, 9, 11, 12, 17, 18, 31 and 52)
- Hazardous Material Pharmacy (Building 52)
- Waste Central Accumulation Point CAP (Building 52)
- Vehicle Maintenance Facility (Buildings 55, 56 and 58)
- Squadron Operations (Building 25)

Industrial Facilities that discharge into Pond Brook from the eastern Base parcel are:

- Munitions Maintenance Complex (Buildings 61-65, 67 and 19)
- Hush House

5.4.2 Wastewater Drainage System

The Base sanitary sewer system collects domestic sewage from latrines, showers, and other sanitary facilities, as well as industrial wastewater, primarily from oil/water separators. Sewage disposal at the Base is split between the eastern portion of the Base and the western portion (Main Base).

The existing sanitary sewer system for the Main Base is primarily gravity flow and consists of two independent lines connected to the City of Westfield public sewer system located on Falcon Drive. The west line runs along Tank Destroyer Boulevard and consists of a gravity line with a pump station (Bldg 41) located west of Building 8 and a force main discharge line. The east line runs along Thunderstruck Road and consists of a total gravity system.

The buildings located within the Munitions Maintenance Complex are serviced by a gravity system to a pump station. The force main from the pump station discharges to a City sanitary sewer manhole located north of the main base.

5.5 GENERAL SECURITY

The 104 FW, by virtue of being a military installation, has strict Base-wide security policies and enforcement procedures. The Base is fully enclosed by a perimeter chain-link security fence. Personnel and vehicle access is limited to the Main Gate on Falcon Road. Visitors must stop at the Guard House at the Main Gate prior to entry onto the Base property. Visitors must be accompanied by Base personnel while on the Flightline, which is clearly marked as a restricted access area. The POL Facility is patrolled as part of the general security plan currently in force. Master valves and starter controls for oil transfer systems are locked when the facilities are not in use. Lighting is sufficient throughout the Base to identify spills or activities which may create the potential for a spill.

6.0 IDENTIFICATION OF POTENTIAL SPILL LOCATIONS

6.1 SPILL HISTORY

The 104 FW has not experienced a major spill event (as defined in 40 CFR 110, 112, and Appendix B) since December 11, 1972[2]. Records related to spill response incidents are maintained by the 104 FW Fire Department.

6.2 ON-BASE STORAGE

Tables 6.1 through 6.5 provide a summary of the on-Base storage sites which may include tanks or containers that contain petroleum, oils, lubricants, hazardous substances or hazardous waste. Figure 6.1 provides approximate locations of outdoor storage areas relative to on-Base buildings.

6.2.1 Aboveground Storage Tanks

Aboveground storage tanks (ASTs) are utilized for bulk fluid storage at the Base. ASTs are constructed of materials which are compatible for the liquids they contain. A complete listing of on-Base ASTs is provided in Table 6.1, with more detailed descriptions contained in Section 6.3. A rust-inhibiting paint program prevents AST tank walls and supports from developing structural weaknesses.

TABLE 6.1 ABOVEGROUND STORAGE TANKS

Building #	Product	Container Capacity (gal)	Container Material	Secondary Containment
35	JP-8 fuel	107,000	steel	concrete dike
35	JP-8 fuel	107,000	steel	concrete dike
35	JP-8 + 100 fuel	~ 380	plastic	none (drip pan in use)
1	#2 fuel oil	500	steel	steel dike structure
9	#2 fuel oil	1,000	steel	steel dike structure
16	#2 fuel oil	2,000	steel	steel dike structure
20	Diesel fuel	2,000	steel	steel dike structure
20	Waste oil	275	Steel	vault tank
20	#2 fuel oil	2,000	steel	steel dike structure
25	#2 fuel oil	500	steel	steel dike structure
26	#2 fuel oil	1,000	steel	steel dike structure
27	#2 fuel oil	1,000	steel	steel dike structure
28	#2 fuel oil	500	steel	steel dike structure
55	Diesel fuel	5,000	steel	vault tank
55	MOGAS	5,000	steel	vault tank
55	#2 fuel oil	2 @ 75	steel	(inside Bldg. 55)

[2] This is a regulatory date that predates the effective date of 40 CFR 112.7 by 12 months.

Building #	Product	Container Capacity (gal)	Container Material	Secondary Containment
55	waste oil	495	steel	(inside Bldg. 55)
64	#2 fuel oil	500	steel	steel dike structure
64	#2 fuel oil	1,000	steel	steel dike structure
65	#2 fuel oil	1,000	steel	steel dike structure
Hush House	JP-8 fuel	2,500	mobile tanker	concrete containment area

6.2.2 Underground Storage Tanks

Two underground storage tanks (USTs) utilized for heating oil storage are located at the Base. The USTs are constructed of materials which are compatible for the liquids they contain. USTs which are regulated under 40 CFR 280 are inventoried and tightness tested according to the regulations as appropriate. A complete listing of on-Base USTs is provided in Table 6.2, with more detailed descriptions contained in Section 6.3.

TABLE 6.2 UNDERGROUND STORAGE TANKS

Building #	Product	Container Capacity (gal)	Material	Comments
29-1	#2 fuel oil	4,000	steel - FRP	installed in 1986
40-1	#2 fuel oil	5,000	steel	installed in 1992
35	Reclaim JP-8 fuel	400	steel	installed in 1992

6.2.3 Base Normal Throughput

Normal throughput of JP-8 fuel at the POL Facility on the Base is approximately 2.4 million gallons of JP-8 fuel annually. Normal throughput of other fuels on the Base is approximately 20,000 gallons of diesel fuel and 20,000 gallons MOGAS annually. The primary Base heating is natural gas with #2 fuel oil storage tanks used for backup systems.

6.2.4 Oil/Water Separators

Oil/water separators (OWS) are utilized by the Base to prevent potential pollution sources from entering the sanitary sewer or storm water drainage systems at the Base. The OWSs range in capacity from 300 to 10,000 gallons. The OWSs are underground and typically have high-level alarm systems to prevent overfilling and interstitial monitoring between the tank shells to detect leaks from the inner tank. Water from the OWSs is discharged to the sanitary sewer system. Civil Engineering is responsible for OWS oversight, including monthly inspections and biennial cleaning. Table 6.3 identifies the locations and capacities of the OWSs at the Base.

TABLE 6.3 OIL/WATER SEPARATORS

Location Building #	Product	Capacity (gal)	Year Installed	Collects Flow From	Discharges To
20	Wash rack waste	600 w/ 600 holding tank	1994	Outdoor AGE/vehicle wash rack	Sanitary
27 Fuel Cell	JP-8 waste	100 gpm w/ 500 Gal. Oil Capacity	1997	Bldg. 27 floor drains	Sanitary
27 Corr. Control	Wash rack waste	100 gpm w/ 500 Gal. Oil Capacity	1996	Bldg. 27 floor drains	Sanitary
28	Oil/Grease	Unknown	1982	NOT IN USE	Ret. Pond # 1
33	JP-8 waste	300	1992	Bldg. 33 - laboratory floor drains	Sanitary
POL Complex	JP-8 waste	10,000	1992	Refueler parking pads, ASTs dikes, fuel transfer area	Ret. Pond # 1
55	Oil/Grease	55 gpm w/ 275 Gal. Oil Capacity	1996	Bldg. 55 floor drains	Sanitary
65	Wash rack waste	55 gpm w/ 275 Gal. Oil Capacity	1994	Bldg. 65 floor drains, outdoor equipment wash rack	Sanitary
Hush House	Oil/Grease	275 gpm w/ 800 Gal. Oil Capacity	1994	Hush House floor drains, outdoor containment basin	Sanitary

6.2.5 Hazardous Substance Storage Sites

Hazardous substance storage sites (including hazardous waste satellite accumulation points) are located throughout the Base as identified in Table 6.4. This table is not intended to reflect exact quantities, types, and locations of all hazardous substances stored on the Base, since daily usage will change these parameters. These sites are typically comprised of one or more 55-gallon drums, a self-contained flammables cabinet or a hazardous substance storage building. Sites have been included in this plan as a safety and good housekeeping measure, since many liquids containing hazardous substances need to be cautiously removed and carefully disposed of following a release. Additionally, many of the hazardous substances or chemicals contained in liquids at the Base are listed in federal or state regulation and have a reportable quantity (RQ) threshold in the event of a major release. RQ thresholds are generally based on the potential hazards (i.e. physical, chemical, biological) posed by the hazardous substances or chemicals in the liquid. Following the release of a

liquid considered to be or containing a hazardous substance or chemical, the appropriate Material Safety Data Sheet (MSDS) should be consulted to identify and/or calculate whether the volume of the release is greater than the RQ for the hazardous substance or chemical. Reporting and response procedures are identified in Section 7.

TABLE 6.4 HAZARDOUS SUBSTANCE STORAGE

Building ID#	Product	Container Capacity (gal)	Container Type	Container Material	Secondary Containment	Comments
	BASE SUPPLY					
11	POLs & HAZMATs	M @<5	varies	varies	yes	Exp. Shelf
17	None					
18	None					
15	**AIRCRAFT MAINTENANCE HANGAR**					
	Flammables cabinets[1]	M @ 45	cans	metal	yes	Paints, sealants, POL & KOH
	POLs	M @ 55	drums	steel	no	
	Hydraulic fluid	M @ 30	M1s	steel	no	
	SAP[3]	M @ 55	drums	steel	no	waste hyd. fl, spill residue
	Used POLs	M @ 55	drums	steel	no	
	AFFF		tank	steel	no	fire suppression system
	BE Parts Washer[4]	<30 gal	tank	steel	no	wastewater
	Batteries	M			yes	
2	**AVIONICS ANNEX**					
	Flammables cabinet[1]	M @ 45	cans	metal	yes	
16	**BOILER PLANT**					
	Flammables cabinet[1]	M @ 45	cans	metal	yes	
20	**AGE MAINTENANCE**					
	Flammables Cabinets[1]	M @ 45	cans	metal	yes	
	Solvent	30	tank	metal	no	
	Antifreeze	M @ 55	drums	metal	no	
	POLs	M @ <55	varies	metal/plastic	no	
	BE Parts Washer[4]	<30 gal	tank	steel	no	wastewater

Building ID#	Product	Container Capacity (gal)	Container Type	Container Material	Secondary Containment	Comments
	SAP[3]	M @ 55	drums	steel	yes	waste hyd. fl, spill, oil, paint
20	**WELDING SHOP**					
	SAP[3]	M @ 55	drum	steel	yes	waste cutting fluid
	Flammables Cabinet[1]	M @ 45	cans	metal	yes	
20	**ENGINE SHOP**					
	Flammables Cabinets[1]	M @ 45	cans	metal	yes	
	Citrikleen solvent	30	tank	metal	no	
	Solvent	M @ <30	tanks	metal	no	
	POLs	M @ 55	drums	steel	no	
	BE Parts Washer[4]	<30 gal	tank	steel	no	wastewater
	SAP[3]	M @ 55	drums	steel	yes	waste hyd. fl, spill residue, w paint, JP-8
20	**NON-DESTRUCTIVE INSPECTION LABORATORY**					
	Flammables Cabinet[1]	M @ 45	cans	metal	yes	
	Photo process chem.	M @ <55	tanks	metal	no	
	SAP[3]	M @ 20	drums	steel	yes	waste oil
	Used POLs	1 < 15	cans	metal	no	
25	**SQUADRON OPERATIONS**					
	Flammables Cabinet[1]	M @ 45	cans	metal	yes	
26	**AVIONICS FACILITY**					
	Flammables Cabinet[1]	M @ 45	cans	metal	yes	MEK, oils, alcohol, cleans
26	**WEAPONS RELEASE**					
	Flammables Cabinets[1]	M @ 45	cans	metal	yes	
	BE Parts Washer[4]	<30 gal	tank	steel	no	wastewater
	Solvent	2 @ 35	tanks	metal	no	
27	**FUEL CELL MAINTENANCE**					
	POLs	varies <55	varies	varies	no	
	Flammables Cabinets[1]	M @ 45	cans	metal	yes	bench stock
	Used POLs	varies	varies	varies	no	transport to reclaim

Building ID#	Product	Container Capacity (gal)	Container Type	Container Material	Secondary Containment	Comments
	SAP[3]	1@30	drum	steel	yes	Waste sealants
	AFFF		tank	steel	no	fire suppression system
27	**CORROSION CONTROL**					
	Flammable Cabinets[1]	M @ 45	cans	metal	yes	paints, bench stock
	SAP[3]	55	drum	steel	yes	waste paint rel. mat'l.
	Corrosive Cabinet[2]	M @ 45	cans	metal	yes	
	AFFF		tank	steel	no	fire suppression system
	Propylene glycol	1700	tank	plastic	no	ADF
	Propylene glycol	30 @ 55	drums	steel	no	ADF
28	**REPAIR RECLAMATION SHOP**					
	BE Parts Washer[4]	<30 gal	tank	steel	no	wastewater
	Flammable Cabinets[1]	M @ 45	cans	metal	yes	
28	**EGRESS SHOP**					
	Flammable Cabinets[1]	M @ 45	cans	metal	yes	
29	**BASE CLINIC/ COMMUNICATIONS**					
	Flammable Cabinets[1]	M @ 45	cans	metal	yes	
	Fixer/developer chem.	Varies	cans	plastic		
9	**SECURITY FORCES**					
	Flammable Cabinets[1]	M @ 45	cans	metal	yes	
	POL FACILITY					
	Reclaim JP-8 fuel	varies	bowsers	steel		
	Waste JP-8 fuel	55	drum	metal	no	@ fuel transfer area
33	Flammables Cabinet[1]	M @ 45	cans	metal	yes	
	Waste JP-8 fuel	M <5	cans	metal	yes	
10	Flammables Cabinet[1]	M @ 45	cans	metal	yes	
35	POLs	M @ <5	buckets	plastic	no	
38	LOX	2 @ 3,000	tanks	metal		
	LOX	M @ 50	bowsers	metal		

Building ID#	Product	Container Capacity (gal)	Container Type	Container Material	Secondary Containment	Comments
40	**BASE FIRE STATION**					
	AFFF	M @ 55	drums	plastic	no	
	AFFF	M @ 5	cans	plastic	no	
	Flammables Cabinet[1]	M @ 45	cans	metal	yes	
40	**BASE CIVIL ENGINEERING**					
	Flammables Cabinets[1]	M @ 45	cans	metal	yes	
	Flammables Cabinet[1]	M @ 45	cans	metal	yes	5 gal cans - diesel, gas
	HAZMAT Shed	M @ 55	drums	steel	yes	Pesticides/herbicides
42	Flammables Cabinets[1]	M @ 45	cans	metal	yes	state supply room
	SAPs[3]	M @ 55	drums	steel	no	
52	HAZMART	M @ 55	varies	varies	yes	bench stock
	POLS	M @ 55	drums	steel	yes	bench stock
	Solvents	M @ 55	drums	steel	yes	bench stock
	Cleaning cmpds.	M @ 55	drums	varies	yes	bench stock
	HAZARDOUS WASTE CENTRAL ACCUMULATION POINT					
52	CAP[3]	M @ 55	drums	varies	yes	
	AIRCRAFT PARKING APRON					
	Used JP-8 Fuel	M @ 5	cans	metal	no	
55	**VEHICLE MAINTENANCE**					
	Flammables Cabinets[1]	M @ 45	cans	metal	yes	bench stock
	POLs	M @ 55	drums	steel	yes	mezzanine level
	Hydraulic Fluid	55	drum	steel	yes	mezzanine level
	Anti-freeze	55	drum	steel	yes	mezzanine level
	Paints	M @ <5	varies	varies		
	Batteries	M				
	BE Parts Washer[4]	<30 gal	tank	steel	no	wastewater
	SAP[3]	M @ 55	drums	steel	yes	waste hyd. fl, spill residue, w paint, JP-8
	Used POLs	M @ 55	drums	steel	yes	
64	**MUNITIONS MAINTENANCE FACILITY**					
	Flammables Cabinets[1]	M @ 45	cans	metal	yes	

Building ID#	Product	Container Capacity (gal)	Container Type	Container Material	Secondary Containment	Comments
65	Spill Residue	55	drum	steel	no	
	SAP[3]	M @ 55	drums	steel	yes	Waste spill mtl.
	Flammables Cabinet[1]	M @ 45	cans	metal	yes	
	HUSH HOUSE					
	SAP[3]	M @ 20	drums	steel	yes	waste hyd. fl, spill residue, JP-8
	Flammables Cabinet[1]	M @ 45	cans	metal	yes	engine 1010 oil, JP-8 fuel
	AFFF		tanks	steel	no	fire suppression system
HS	**HAZARDOUS WASTE CENTRAL ACCUMULATION POINT**					
	CAP[3]	M @ 55	drums	varies	yes	

[1] Flammables cabinets may contain one or more of the following products in containers ≤ 10 gallon cans: aerosol paints, liquid paints, lacquers, adhesives, degreasers, cleaners, solvents, thinners, mineral spirits, oils, and detergents. Some cabinets may contain 55-gallon drums of oil. Flammables cabinets are self-contained and would be expected to contain minor leaks and spills of liquids stored inside.

[2] Corrosives cabinets may contain one or more of the following products in containers ≤ 5 gallon cans: alodine, electrolyte fluid (acid), bleach, batteries, sodium hydroxide (Process 235) , metal surface preparation products, fixer, developer, and paint remover.

[3] Hazardous Waste SAPs or CAP may contain one or more of the following waste streams in 5 to 55 gallon containers: used oil and filters, used antifreeze, used solvent, reclaim JP-8, waste JP-8 and filters, wastewater, waste paint and solvents, waste corrosives and batteries, and waste alcohol.

[4] Better Engineering parts washers contain waste waster, which is a hazardous waste when disposed of. The wastewater contains oils, grease and heavy metals such as lead cadmium and chromium.

M = Multiple

6.2.6 Mobile/Portable Storage

Aircraft at the 104 FW are refueled by 5,000 or 6,000 gallon capacity refuelers. Other mobile storage tanks that may be located at the Base typically include bowsers containing JP-8 fuel. A complete listing of mobile storage tanks, including refuelers, is provided in Table 6.5.

TABLE 6.5 MOBILE SOURCES

Building #	Product	Capacity (gal)	Container Type	Container Material	Secondary Containment	Comments
POL Complex	JP-8 fuel	3 @ 6,000	R-11 Refueler	Steel		pad to OWS
POL Complex	JP-8 fuel	2 @ 5,000	R-9 Refueler	Steel		pad to OWS
20 or near 21	used JP-8 fuel	618	Trailer	Steel	None	
near 27	used JP-8+100 fuel	200	Bowser	Steel	None	2-100 gal compartments
Flightline	used JP-8 fuel	400	Bowser	Steel	None	

6.2.7 Refueler and Aircraft Loading/Unloading Procedures

ANG aircraft are fueled by 5,000-gallon or 6,000-gallon capacity refuelers. Both the apron and POL transfer areas are paved. All fuel used on the Base is delivered by commercial fuel tanker trailers (typically 10,000-gallon capacity). Ground level clearance signs have been posted on or near piping where appropriate. There are no pipelines used to bring fuel into the installation. The refueler loading/unloading procedures outlined below shall also be followed during commercial tanker trailer loading/unloading operations.

During fuel deliveries, an ANG employee in spill response and cleanup supervises the loading and/or unloading procedure. The ANG employee installs a wheel chock between the trailers rear dual tires to prevent vehicle movement prior to beginning unloading operations. Also, the tractors parking brake is set and the engine is shut down.

During refueler loading, the drivers are responsible for connecting and disconnecting pantograph arms to the refueler and opening dispensing valves. Pantograph arms are visually inspected for damage before use. Spill containment devices (absorbent pads or booms, or a drip pan) are placed below the bottom-loading fitting connection on the refueler to absorb or catch any product which might leak due to a loose connection.

Metering devices are set and double checked before operations begin. At least one portable "B, C" type fire extinguisher located adjacent to the refueling station should be readily available at all times during transfer operations in the event of an emergency. The refueler shall be grounded. No smoking is allowed within 50 feet of the operations.

During the fuel transfer, the driver and/or ANG representative must remain with or near the refueler and the storage container to ensure the following:

1. Major leaks do not occur from the tank, refueler, pantograph connection, or storage container;
2. The refueler or aircraft is not overfilled; and,
3. A fire does not arise and go unnoticed.
4. An additional person from the facility will be utilized during transfer operations to cover the following circumstances:
5. To stop the pumping operation if automatic metering devices fails; or
6. To monitor the liquid level of a container which does not have a level measuring device.

Leaks or spills shall result in the immediate termination of transfer operations and the initiation of spill containment measures, including notification of an OSC. At least one person will stay on-site at the spill to keep unnecessary personnel from the area. Transfer lines will be replaced if minor leaks are detected.

After transfer has been completed, valves should be double-checked to ensure each one is closed before disconnecting attached transfer devices. To prevent excess residual liquid from creating a spill, line pressure should be relieved from the fill pipeline prior to disconnecting the pantograph arm. Compartment hatches should be secured, grounding wires disconnected, and wheel chocks removed before moving the refueler. Any substance left on the ground shall be cleaned by using absorbent materials.

In an effort to reduce the chance of a spill or overflow, the trained POL personnel regularly complete a checklist at the facility. Any deficiencies or potential problems discovered through the checklist are immediately brought to the attention of an OSC. Checklists are maintained at the POL Facility Office.

6.2.8 Loading/Unloading Procedures at Other Storage Tank Locations

Commercial tanker trucks up to 8,000-gallon capacity routinely deliver jet fuel, diesel fuel, MOGAS and heating oil to specified locations on the Base. Any mishap along Base roadways would necessitate prompt spill response actions and would differ depending on the exact location of the spill. Ground level clearance signs have been posted on or near piping where appropriate.

During commercial deliveries or pickup at other locations on-Base, an ANG employee in spill response and cleanup shall escort the delivery truck and supervise the loading and/or unloading procedures. The tanker truck driver uses wheel chocks to chock the delivery vehicle at each location prior to off-loading. Also, the delivery truck's parking brake is set and the truck engine is shut down. Each tank is stuck to determine the available capacity prior to filling. Tank filling operations are continuously monitored to ensure that the tank is not overfilled. Minor spills from a tank overfill would be contained and cleaned up with absorbents. Small spills on grassed areas would require excavation, testing, and proper disposal of any contaminated soil.

Drivers are responsible for connecting and disconnecting transfer hoses on tanker trailer and storage container valves. Hoses are visually inspected for damage before use. Spill containment devices (sorbent pad or boom, or a drip pan) are placed below the valve-hose fitting connection on the

tanker trailer to absorb or catch any product which might leak due to a loose connection. If more than one hose is needed for the transfer, then the same type of spill containment shall be employed at each hose connection.

At least one portable "B, C" type fire extinguisher should be readily available at all times during transfer operations in the event of an emergency. If the substance being transferred is flammable or combustible, the tanker trailer shall be grounded. No smoking is allowed within 50 feet of the operations.

During the transfer, the driver and the commercial delivery representative must remain with or near the tanker trailer and the storage container to ensure the following:

1. Major leaks do not occur from the tank, tanker trailer, hose connection, hose body or storage container;
2. The receiving container or trailer is not overfilled; and,
3. A fire does not arise and go unnoticed.

Leaks or spills shall result in the immediate termination of transfer operations and the initiation of spill containment measures, including notification of an OSC. At least one person will stay on-site at the spill to keep unnecessary personnel from the area. Hose lines will be replaced if minor leaks are detected.

After transfer has been completed, valves should be double checked to ensure each one is closed before disconnecting attached hoses. To prevent excess residual liquid from creating a spill, hoses and valves should be drained, wiped off, and capped before removing spill containment equipment. Compartment hatches should be secured, grounding wires disconnected, and wheel chocks removed before moving the tank trailer. Any substance left on the ground shall be cleaned by using sorbent materials.

6.3 POTENTIAL SPILL SOURCES

The following sections describe those areas and buildings that are of concern due to the potential for significant spills of either oils or hazardous substances. A listing of material categories by building/activity area is provided in Table 6.6.

TABLE 6.6 POTENTIAL POLLUTANT SOURCES

BUILDING NUMBER	11,12, 18, 31, 52	15	16	20	25	26	27 Fuel Cell	27 Corr .Cntr .	28	29	40-42	55-58	61-65	CAP 52	Hush House	Apron	POL Facility
PETROLEUM, OILS, LUBRICANTS	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
PAINT	X	X	X	X	X	X		X	X	X	X	X	X	X			X
SOLVENTS	X	X		X		X	X			X		X	X	X			X
AFFF	X	X					X	X			X		X		X		X
BATTERY ACID/CORROSIVES	X	X		X				X				X		X			
DE-ICING FLUID	X						X									X	
ANTI-FREEZE	X			X								X					
DETERGENT/CLEANERS	X	X		X		X		X	X	X	X	X	X				
AIRCRAFT/VEHICLE OPERATIONS		X					X	X				X			X	X	X
USED ANTIFREEZE				X								X		X			
USED OIL		X		X		X						X		X			X
HAZARDOUS WASTE (CAP, SAP)		X		X				X			X	X		X			X

6.3.1 Base Supply and Warehouse Facilities

The Base Supply Complex is located in the center of the Main Base directly north of the Vehicle Maintenance Facility and consists of Buildings 7, 9, 11, 12, 17, 18, 31, and 52 (Figure 6.3.1). The Base Supply Complex has asphalt paved parking and material storage areas. Security fencing surrounds the buildings. Access to the Base Supply facilities is restricted unless accompanied by authorized Base personnel.

Building 12 is the central receiving and shipping location for the Base and it contains a loading dock, administrative offices and storage areas. Items that enter or leave the Base pass through this facility. The central loading dock with loading ramp is located on the south side of the building. Hazardous substance containers unloaded at the loading dock are typically transferred to building 52 are delivered directly to individual shops located on Base after processing through the HAZMART.

Hazardous materials are received and stored at building 52. Material Safety Data Sheets (MSDSs) are required for all hazardous substances stored at or used by the Base, and a computer database of MSDSs is maintained at Base Supply.

Base shops request the use of hazardous materials through the hazmart technician, who authorizes the amount the shop will have on hand at any time. Levels of hazardous materials on hand are limited to what the shop needs. The shop must go through a rigid approval process to increase their demand levels. This process reduces the amount of hazardous materials on hand, reduces expired shelf life, which is otherwise disposed a hazardous waste, and aids in EPCRA reporting.

Building 7 is a covered, three-sided storage building used by Base Supply to store gas cylinders. Gates located across the western side of the building provide access to the gas cylinders.

Building 9 contains administrative offices. A 1,000-gallon AST containing #2 fuel oil is located outside the northwest corner of Building 9. The AST is located on a concrete pad, within a grass area that is partially surrounded by a wood fence. The AST is constructed of steel and is used for backup heating purposes for the building. Secondary containment is provided for the AST by an integral steel dike structure. The AST is equipped with a lockable fill port and an interstitial monitoring alarm panel.

Building 11 (also known as Warehouse 72) is a brick storage building and is used by Base Supply for AFFF and expired shelf hazardous materials, which are awaiting Defense Reutilization Marketing Office (DRMO). The floor in the building is concrete and there are no floor drains.

DRMO is the lead agency that is charged with disposing the installation hazardous waste. They are responsible for the hiring government contractors that dispose hazardous waste. DRMO is also responsible for the inspecting and certifying TSD facilities.

Building 17 is a Base Supply Warehouse that is primarily used for dry material storage. Mobility risk kits are stored in this building. The floor in this building is concrete and there are no floor drains.

Building 18 is a Base Supply Warehouse that is used for dry material storage. The facility has a concrete floor and there are no floor drains located in the warehouse.

Building 31 is a Base Supply Warehouse that is primarily used for dry mobility storage.

A pre-fabricated HAZMAT storage shed with integral containment is located at the southern end of the Base Supply Complex, east of Building 31. This shed is used for the storage of Acetylene, POL Antifreeze, and Methanol.

Spills occurring at the Base Supply and Warehouse Facilities may result from:

- Leaking, ruptured, overturned, or otherwise damaged containers in storage or during transfer activities at either building or storage area.

Spills at the Building 12 loading dock or other material storage areas located at Base Supply would typically have a 55-gallon maximum volume. This volume represents the size of the largest container typically handled at Base Supply. Class I spills occurring at the loading dock or at the various storage buildings would be contained and cleaned-up using available spill response equipment. Class II or III spills or spills associated with rainfall events outside the buildings would sheetflow across the pavement and enter the storm drainage system which discharges southwest towards the Retention Pond #3.

Class I, II, and III spills are defined in Appendix A and Table 7.6.

Base Supply personnel inspect these areas on a regular basis. The areas are well maintained and clean.

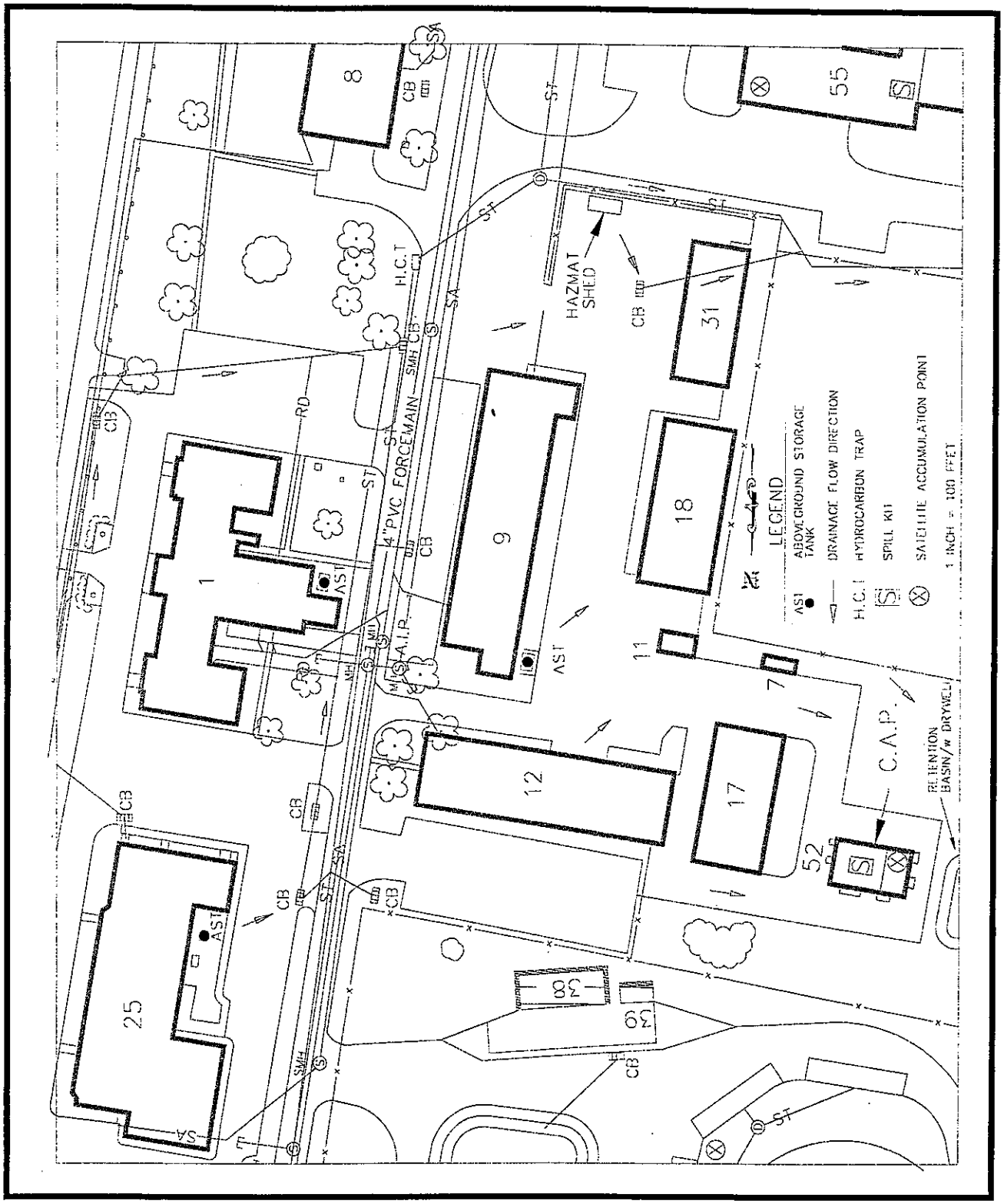

FIGURE 6.3.1 SUPPLY AND WAREHOUSE FACIL./CENTRAL ACCUM. POINT

6.3.2 Aircraft Maintenance Hangar

The Main Hangar (Bldg. 15) is located on the Flightline north of the apron and is used for general maintenance of aircraft (Figure 6.3.2). This facility consists of a large aircraft maintenance hangar with shop areas located around the hangar perimeter. Maintenance activities are primarily conducted indoors, although some minor maintenance may be conducted on the apron. This area is restricted unless accompanied by an authorized person from the Base.

The hangar floor is concrete and is sloped towards trench drains located along the hangar entrances. The trench drains located in the hangar have been filled with concrete. The hangar is equipped with a fire suppression system. Drip pans and buckets for collecting leaks from aircraft awaiting maintenance are located in the hangar. Several self-contained flammables cabinets are located inside the hangar. The cabinets typically contain small quantities of lubricants, hydraulic oil, engine oil, paints, aerosols, greases, sealants and solvents. Several mobile 30-gallon M1 containers of hydraulic fluid are stored in the hangar. Containers of waste hydraulic fluid and used JP-8 fuel are transported to the three Satellite Accumulation Points located inside the of the building.

Shops located around the perimeter of the main hangar include the structural repair shop, hydraulic shop, battery shop, parachute shop and phase inspection room. These shops utilize various hazardous substances during maintenance activities. The floor drains in shop areas that are not connected to oil water separators are sealed. The structural repair shop fabricates and repairs metal parts for aircraft and ground support equipment. The aircraft battery shop stores new Ni-Cad battery cells and also has a universal waste SAP for the collection of used unserviceable batteries. The hydraulic shop, which is used for the testing, maintenance and repair of aircraft hydraulics equipment, contains a large aqueous parts washer. The parachute shop contains one self-contained flammables cabinet used to store small quantities of aerosols, paints, lacquers and adhesives. The Flightline shop also has one self-contained flammables cabinet used to store paints, adhesives and cleaners. Containers used to collect oily rags are located throughout the shops. Spill kits and emergency eyewash showers are located in the hangar and shop areas.

The Avionics Annex (Bldg. 2) is located outside the northwest corner of Building 15. The shop has a concrete floor. There are no floor drains located in the building. A self-contained flammables cabinet used to store small quantities of bench stock chemicals including aerosols, cleaners and adhesives is located in the shop.

Spills occurring inside Building 15 may result from:

- Leaking, ruptured, or overturned containers;
- Leaking fuel, oil, or hydraulic fluid lines on the aircraft;

- Fuel, oil, or hydraulic lines that are disconnected to service fuel cells or remove engines;
- Fuel transfer activities;
- Damaged or leaking equipment; or
- Damaged aircraft equipment.

Class I spills inside the building would be contained and cleaned-up by trained personnel using spill response equipment available in the building. Class II or III spills inside the main hangar would likely enter the trench drains which are plugged.

Spills occurring outside Buildings 15 may result from:

- Leaking, ruptured, or overturned containers; or
- Containers damaged during transfer activities to and from the building.

Class I spills outside the building would be contained and cleaned-up by trained personnel using spill response equipment available in the building. Class II or III spills or spills associated with rainfall events outside Building 15 on the paved apron would likely enter the storm drainage system that discharges towards Retention Pond #1.

The areas associated with the Aircraft Maintenance Hangar are well-maintained and clean, and inspected regularly by ANG personnel. The inspections include a review of container integrity and the cleanliness and safety of the building and shop areas.

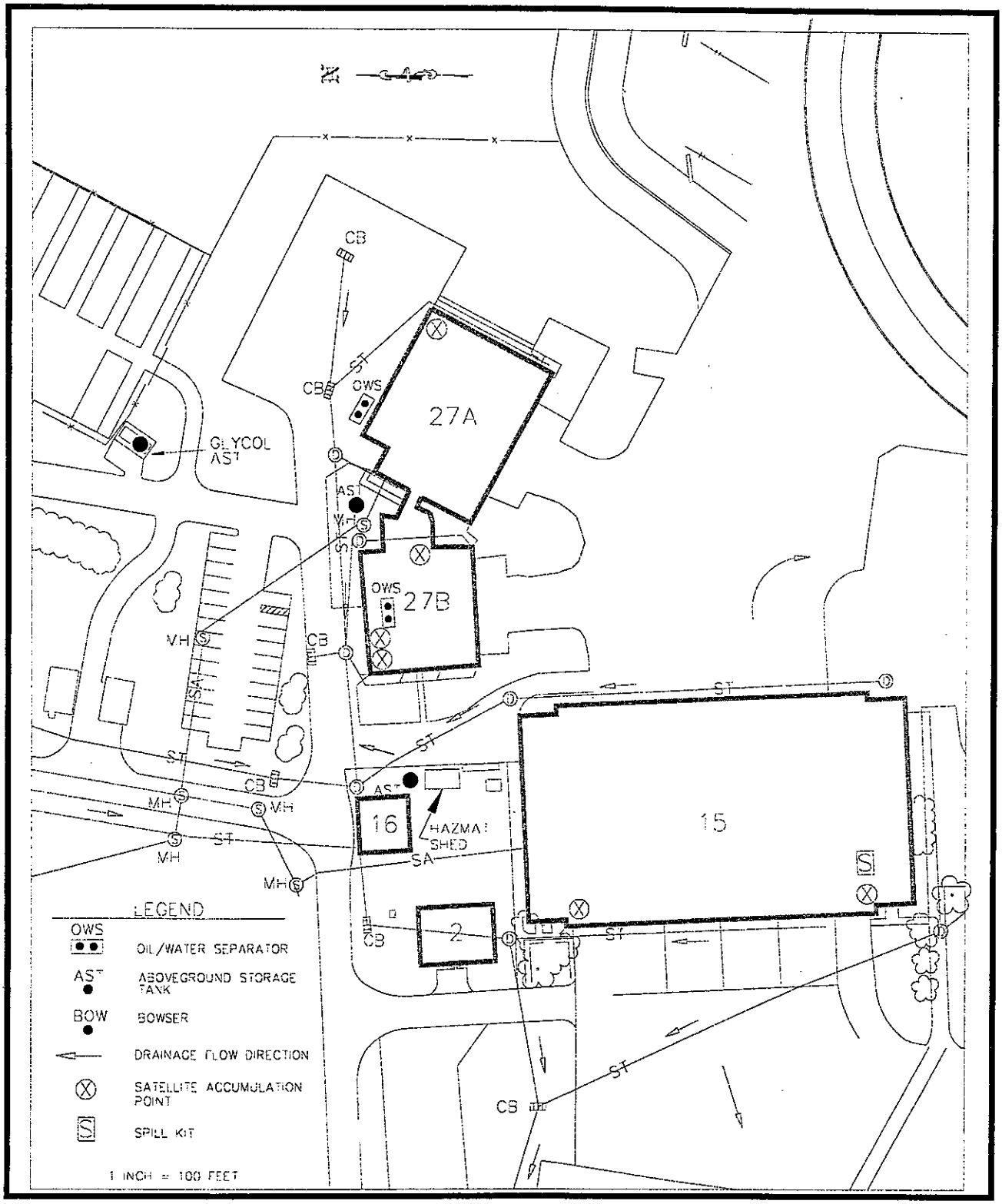

FIGURE 6.3.2 MAIN HANGAR/ BOILER/ FUEL CELL-CC/ AVIONICS/ WEAPONS

6.3.3 Aircraft Parking Apron

The Aircraft Parking Apron (Apron) is located on the Flightline in the central portion of the Main Base, east of Buildings 8, 1 and 25 (Figure 6.3.3). The Apron is used for parking, fueling, deicing and occasional minor maintenance of A-10 aircraft and transient aircraft. The Apron is completely paved and sloped outwards so that runoff sheetflows to storm drainage catch basins located around the perimeter of the Apron. The area surrounding aircraft is guarded 24-hours a day by Base Security Forces and is restricted to authorized Base personnel.

Aircraft are primarily refueled on the Apron. Refuelers with capacities of 5,000 or 6,000 gallons are operated by POL Management personnel to deliver JP-8 fuel to the aircraft. After each flight the aircraft are parked on the Apron and Flightline personnel hook collection devices under the aircraft engines just prior to engine shutdown to collect residual JP-8 fuel in the engines. The JP-8 fuel collected from the aircraft is then placed into 5-gallon jerry cans stored at various locations on the Apron. At the end of each day, the jerry cans are collected and emptied into the used JP-8 bowser that is stored on the Flightline. Halons filled fire extinguishers are also located at various positions on the Apron.

Deicing fluid, which is sprayed on aircraft parked on the Apron to eliminate icy conditions on aircraft during winter months, is stored in a 1,700-gallon AST and in 55-gallon drums located at an outdoor storage area north of Building 27.

Spills of JP-8 fuel from aircraft parked on the Apron will sheetflow to the different areas depending on the spill location. Residual deicing fluid on the Apron will also sheetflow towards the perimeter storm drainage collection system. Runoff and any spills on the eastern portion of the Apron will sheetflow east and enter the catch basin or surface drainage ditch located along Apron's eastern border, which eventually discharges to Retention Pond #2. Runoff and any spills on the western portion of the Apron will sheetflow west towards catch basins located on the Apron's western border, which eventually discharge to Retention Pond #3.

Spills on the Apron are most likely to occur as a result of fueling operations. Spills occurring on the Apron may result from:

- Leaking, ruptured, or otherwise damaged fluid storage or transfer lines associated with aircraft, refuelers, or bowsers;
- Leaking fittings on the refuelers, bowsers or aircraft;
- Overfilling or venting of aircraft fuel tanks;
- Catastrophic failure of fuel tanks on either the refueler or the aircraft fuel cells during liquid transfers or storage;
- Leaking fuel, oil or hydraulic fluid lines from aircraft or AGE parked on-site;
- Leaking or rupture of propylene glycol tanks on deicer trucks during aircraft deicing; or
- Leaking, ruptured or over-turned 5-gallon jerry containers stored on-site.

Spills of any size must be reported to the base fire department at 1911. Spills on the Apron are reported by radio from Security Forces or Flightline personnel directly to the Base Fire Department, located in Building 40. The Fire Department and its response vehicles, including the Spill Response Trailer located east of Building 50, are located at the south end of the Apron. The Fire Department is the first responder for spills on the Apron. The Fire Department's primary objective is to contain a spill. An independent contractor would be contacted to clean up a large spill. In the event of a small spill, as determined by the Fire Chief, the Fire Department may contain and clean up the spill.

Class I spills will be contained and cleaned up by trained personnel using spill response equipment located on the Apron, in Flightline hangars or in the spill response trailer. Class II or III spills or spills associated with rainfall events would flow over the pavement to storm sewer catch basins and drainage ditches located around the perimeter of the Apron, which discharge to either Retention Pond #2 or #3.

The Apron is inspected daily by ANG personnel and aircraft parked on the apron are monitored throughout the working day. Personnel follow a FOD prevention and removal program which helps keep the Apron well maintained and clean.

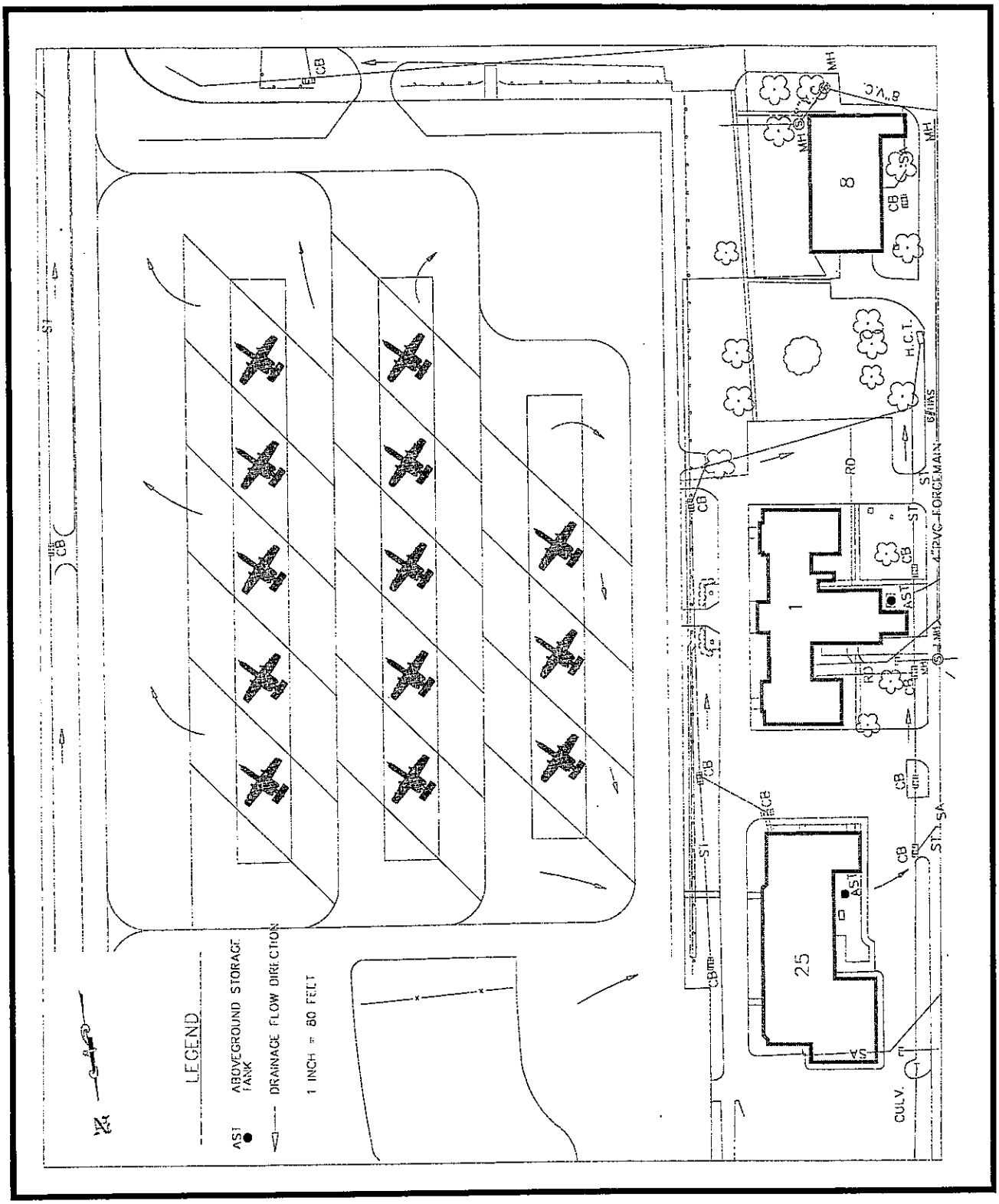

FIGURE 6.3.3 AIRCRAFT PARKING APRON/ SQUADRON OPERATIONS

6.3.4 Boiler Plant

The Base Boiler Plant (Bldg. 16) is located immediately north of the Aircraft Maintenance Hangar (Figure 6.3.2). The brick building is used to operate the boiler equipment for the Base. A self-contained flammables cabinet located inside the building is used to store small quantities of oils, paints, aerosols and adhesives.

A 2,000-gallon AST containing #2 fuel oil is located on a concrete pad outside the south side of this building. The AST is constructed of steel and secondary containment is provided for the AST by an integral steel dike structure. The AST is equipped with a lockable fill port. Concrete filled bollards are provided around the AST to protect it from accidental vehicle collisions.

Spills at Building 16 may result from:

- Leaking, overturned or damaged containers during storage or transfers;
- Leaks, drips, or spills from transferring activities associated with the AST; or
- Leaking of, rupture of, or damage to the AST.

Spills or leaks inside the building are expected to be Class I, and would be contained and cleaned up by trained personnel. Class I spills will be contained and cleaned up by trained personnel using spill response equipment located in nearby hangars. Class II or III spills or spills associated with rainfall events from the AST area would flow into the storm drainage system which eventually discharges to Retention Pond #1.

The facility is inspected regularly by ANG personnel.

6.3.5 AGE Maintenance/Welding Shop/Engine Shop/NDI Laboratory

Building 20 is located at the north central portion of the Main Base (Figure 6.3.4). The building contains AGE Maintenance, Welding Shop, Engine Shop and Non-Destructive Inspection (NDI) Laboratory facilities. A vehicle/equipment wash rack, a fuel dispensing island and asphalt paved equipment/material storage areas are located outside the south side of this facility. Access to the area is restricted unless accompanied by authorized Base personnel.

The eastern portion of Building 20 contains the AGE Maintenance Facilities, which are used for the general maintenance of aerospace ground support equipment, including tow vehicles, generators, and lights. Maintenance operations are typically conducted indoors in the AGE maintenance bays, but occasionally they may be conducted outside due to special circumstances. Drip pans are used under equipment undergoing maintenance. The maintenance floor is concrete. Floor drains located inside the maintenance bays are plugged. Two self-contained flammables cabinets located in the maintenance area contain small quantities of oils, lubricants and paints. Another self-contained flammables cabinet contains one 90 weight gear oil dispenser, one 5-gallon container of unleaded fuel, one 5-gallon container of diesel fuel, one 1 gallon container of unleaded fuel , a 1 gallon break fliud servicing unit. A filter crusher, an antifreeze recycler, a solvent parts washer with a 30-gallon capacity tank and a large aqueous parts washer, a 5-gallon

container of unleaded fuel, and a 55gal drum containing 15w 40 motor oil connected to an overhead oil system are located in the maintenance shop. Oil residue from crushed filters is drained into a bucket, which is then transferred into a 55-gallon waste oil drum before eventually being transported to the base central accumulation point. A 55-gallon drum of Simple Green detergent and spray wash equipment with an indoor ventilation system are also located in the shop. Sorbent materials are available in the shop.

The Welding and Machine Shop is located adjacent to the AGE Shop within Building 20 and is used for the fabrication and repair of metal parts and equipment. A self-contained flammables cabinet located in the shop is used for bench stock storage of small quantity chemicals including oil, grease, thinner and cutting fluid. An emergency eyewash station is located in the shop. There are no floor drains in this area.

The Engine Maintenance Shop is located in the western portion of Building 20 and is used for the repair and maintenance of aircraft engines used at the Base. Drip pans are used under engines awaiting or undergoing maintenance in the shop. There are no floor drains in the shop. Several self-contained flammables cabinets located in the shop maintenance bays are used to store small quantities of paints, aerosols, thinners, oils, lubricants and cleaners. One cabinet contains 5-gallon containers of JP-8 fuel. A large aqueous parts washer is also located in the maintenance bay area. A spill kit and an emergency eyewash station are located in the shop. A cleaning room located in this shop contains a solvent parts washer with a 15-gallon capacity tank, a 55-gallon drum of Citri-kleen and a corrosion cabinet containing nitric acid. A bearing room located in the shop consists of another solvent parts washer used for cleaning bearings and an emergency eyewash station. The auxiliary power unit shop area in the building contains a self-contained flammables cabinet used to store small quantities of oils and greases, aerosols and paints.

The NDI Laboratory is located at the west end of Building 20 and consists of the following areas: main laboratory, soap laboratory, film processing, oil analysis, film x-ray control and exposure rooms, bench stock supply room and an office room. The NDI Laboratory maintains chemicals in several large tanks used to conduct inspections of aircraft parts. These tanks contain penetrate, emulsifier, and developer, in addition to hot water used as a rinsate between the chemical tanks. Parts are alternately dipped into these chemicals which will eventually leave small deposits in hairline structural defects (if any are present). The chemicals used in this process are replaced approximately once every two years, and typically the volume of liquid exchanged is only 55 gallons.

Hydraulic fluids are tested daily in the aircraft oil testing laboratory to identify the concentrations of metals in the fluids. This room generates small quantities of used oil. The used oil is stored in two 20-gallon containers located in this room. Containers used to collect oily rags are located in the building. An emergency eyewash station is located in the shop. A small self-contained flammables cabinet used to store magnetic inspection compound and developers is also located in the shop. The Base plans to install a new recycling rinse water system and a new silver recovery unit in the shop. Chemical spills in this building would tend to be of small volume, five gallons or less. There are no floor drains in this shop.

A small fuel dispensing island with one diesel fuel pump is located outside the southeast corner of Building 20. Concrete pavement is provided at the fueling area and concrete filled bollards are provided around the island for protection from accidental vehicle collisions. Overhead lighting is provided to illuminate the fuel island at night. A 2,000-gallon AST containing diesel fuel located on the east side of the building provides fuel to the pump. The AST is located on a concrete pad and is partially surrounded by a wood fence. The AST is constructed of steel and secondary containment is provided for the AST by an integral steel dike structure with a leak detector. The AST is equipped with a lockable fill port.

A vehicle/equipment wash rack located outside the south side of the AGE Maintenance bays consists of a concrete pad sloped to a central drain. The wash rack is used by the AGE, engine and weapons shops to clean equipment and vehicles. Aircraft surface cleaning compound Eldorado ALK-660 NSN 6850-01-339-5227 is used at the wash rack. Washwater and storm water runoff that enters the drain discharges into a 600-gallon underground holding tank located east of the wash rack, which in turn discharges through an adjacent OWS to the Base sanitary sewer system.

The asphalt paved parking area located on the southern side of Building 20 is used to store hydraulic units, generators and various equipment.

A 2,000-gallon AST containing #2 fuel oil is located on a concrete pad outside the south side of the welding shop. The AST is constructed of steel and is used for backup heating purposes for the building. Secondary containment is provided for the AST by an integral steel dike structure with a leak detector. The AST is equipped with a lockable fill port. Concrete filled bollards are provided around the AST to protect the AST from accidental vehicle collisions.

Buildings 70 and 71, which are located north of Building 20, are used for equipment storage.

Spills occurring inside Building 20 may result from:

- Leaking, ruptured, or damaged containers;
- AGE leaking hydraulic fluids, oils, or coolant;
- Leaks or drips from engines awaiting or undergoing maintenance; or
- Spills while transferring liquids between containers and/or equipment;
- Spills during vehicle refueling.

Class I, II or III spills inside the building would be contained and cleaned-up by trained personnel.

Spills occurring outside Building 20 may result from:

- Failure of one of the ASTs;
- Leaking, ruptured, or overturned containers;
- Containers damaged during transfer activities to and from the Building; or

- AGE leaking hydraulic fluids, oils, or coolant.

Class I spills outside the building would be contained and cleaned up by trained personnel using spill response equipment located outside Building 20 left of door 20C or the portable spill kits one located in AGE and the other located in Propulsion. Class II or III spills or spills associated with rainfall events at this facility would either sheet-flow southward over the asphalt paved surfaces into the adjacent grass area or flow into the wash rack drain. Spills from this facility that are collected in the Base storm drainage system will flow towards Retention Pond #1.

These facilities are inspected regularly by ANG personnel. The inspections include a review of liquid level in the ASTs, OWS, holding tank, container integrity, and shop cleanliness and safety.

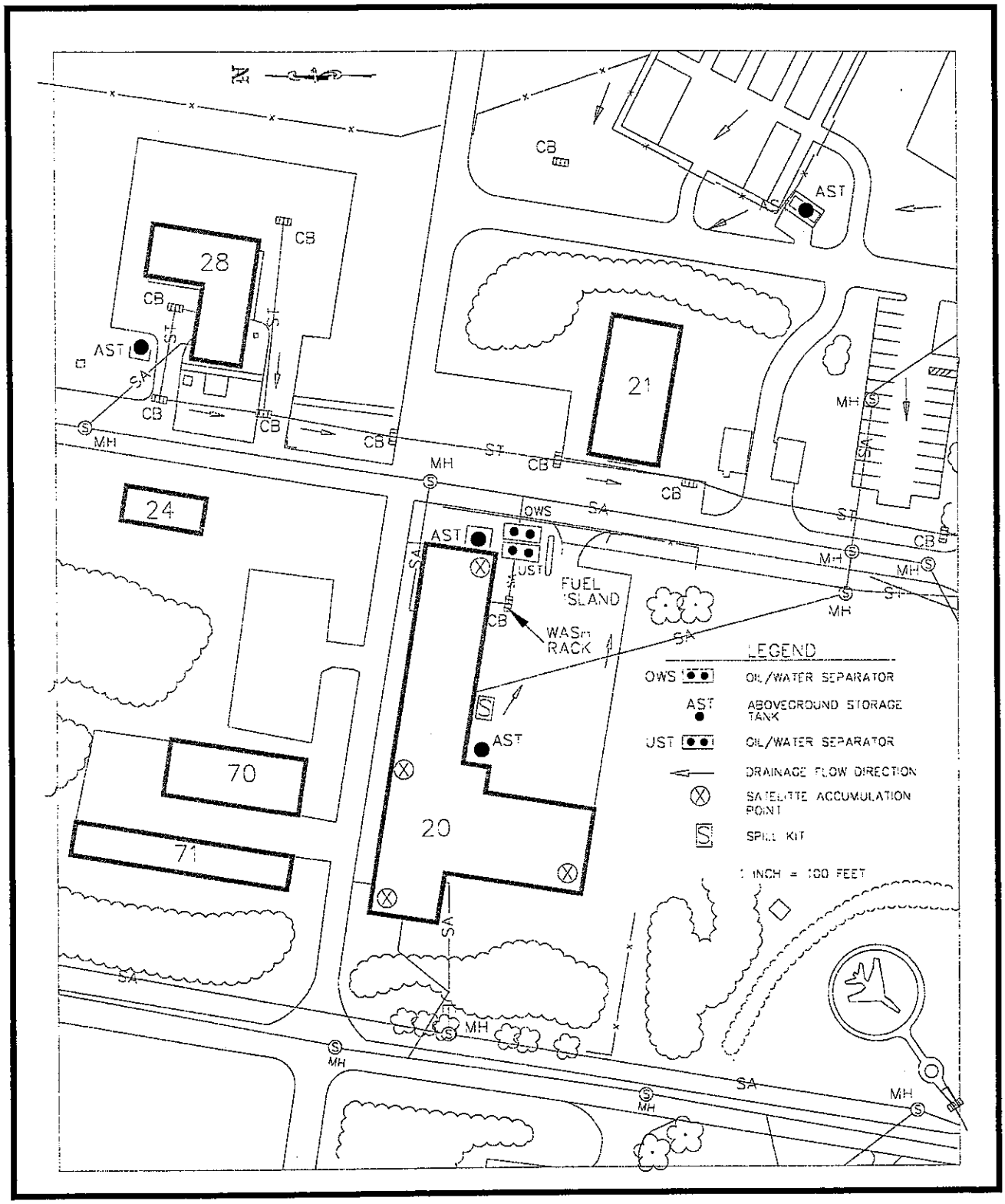

FIGURE 6.3.4 AGE MAINTENANCE/ WELDING / ENGINE / NDI LAB/ RR SHOP

6.3.6 Squadron Operations

Squadron Operations (Bldg. 25) is located in the central portion of the Main Base west of the Aircraft Parking Apron (Figure 6.3.3). This facility primarily contains offices and shops which support general Base activities.

The Life Support Shop is located in Building 25, and contains a self-contained flammables cabinet. The cabinet typically contains aerosol paints, isopropyl alcohol, solvents, and lubricants in small containers. No floor drains are located in the shop.

A 500-gallon AST containing #2 fuel oil is located outside the west side of Building 25. The AST is constructed of steel and is located on concrete and surrounded by a six foot fence which is locked when not attended. Secondary containment is provided for the AST by an integral steel dike structure with a leak detector. The AST is equipped with a lockable fill port.

Spills inside Building 25 may result from:

- Leaking, ruptured, overturned or otherwise damaged containers during storage or transfers.

Spills or leaks inside the building are expected to be Class I, and would be contained and cleaned up by trained personnel.

Spills outside Building 25 may result from:

- Leaks, drips, or spills from transferring activities associated with the AST; or
- Leaking of, rupture of, or damage to the AST.

Class I spills will be contained and cleaned up by trained personnel using spill response equipment located inside the building. Class II or III spills or spills associated with rainfall events from the AST area would flow west towards a storm water catch basin. The catch basin is connected to an underground drainage system which discharges southward into Retention Pond #3.

The facility is inspected regularly by ANG personnel. The area is well maintained and clean.

6.3.7 Avionics/Weapons Release Facility

Building 26 is located in the center of the Main Base and contains offices and shop areas for both avionics and weapons release facilities (Figure 6.3.5). Access to the maintenance areas is restricted to authorized Base personnel unless accompanied.

The Avionics Shops are located in the northern portion of Building 026. There are three main work areas where Hazardous Materials are used and stored for Avionics – Photo/Sensor, ECM, and Mission Systems.

The Photo/Sensor area has a small self-contained flammable cabinet used to store small quantities of cleaning compounds, oils, aerosols, lubricants and flux. An emergency eyewash station is located in the shop. There are no floor drains located in the shop.

The ECM area consists of three areas - the ECM office and backshop area, ECM Pod Station, and the ECM Warehouse. The ECM Pod Station area has a small self-contained flammable cabinet used to store small quantities of cleaning compounds, oils, aerosols, lubricants, and flux. Additionally there is a 5-gallon SAP for lubricating oil located in the shop. A spill kit is located in the shop. An emergency eyewash station is located in the shop. The ECM Warehouse has a floor drain located in the southeast corner.

The Mission System area consists of two rooms. The Mode 4 room and the Mission Systems shop/office area. The Mission Systems area contains a small self contained flammables cabinet used to store small quantities of cleaning compounds, oils, aerosols, paints, and flux. Also, there is a small self contained Corrosive Cabinet used to store Alodine and the liquid SAP for Alodine. There are containers located in the shop for solid waste. An emergency eyewash station is located in the shop. A spill kit is located in the shop. There is a floor drain located in the middle of the west wall in the shop.

Building 002 houses a small portion of the Avionics Section. There is a small self-contained flammable cabinet used to store small quantities of cleaning compounds, aerosols, paints, flux and sealant. The are no drains in the building. An emergency eyewash station is located in the building.

The Weapons Release Shop is located in the southern portion of Building 26 and contains maintenance areas used to service aircraft weapons and release equipment. A solvent parts washer with a 30-gallon capacity tank and self-contained flammables cabinets used to store small quantities of bench stock chemicals including cleaning compounds, oils, aerosols, lubricants, electrolyte and paints are located in the shop. An emergency eyewash station is located in the shop. A tank room located in the gun shop contains another 30-gallon capacity solvent parts washer and a large aqueous parts washer. The shop floors are concrete and there are no floor drains in the shops.

A 1,000-gallon AST containing #2 fuel oil is located on a concrete pad outside the east side of Building 26. The area surrounding the building is asphalt paved. The AST is constructed of steel and is used for backup heating purposes for the building. Secondary containment is provided for the AST by an integral steel dike structure with a leak detector. The AST is equipped with a lockable fill port. Concrete filled bollards are provided around the AST to protect it from accidental vehicle collisions.

A weapons release warehouse (Bldg. 37) is located directly south of Building 26 and is used to store dry materials and equipment The building has a flammable cabinet used to store 5 gallons of gasoline for lawn mower and snow removal equipment.

Spills inside the buildings may result from:

- Leaking, ruptured, overturned or otherwise damaged containers during storage or transfers.

Spills inside the buildings are expected to be Class I in volume due to the capacity of the stored containers. Class I spills will be contained and cleaned up by trained personnel using spill response equipment located inside the building.

Spills outside the buildings may result from:

- Leaks, drips, or spills from transferring activities associated with the AST; or
- Leaking of, rupture of, or damage to the AST.

Class I spills will be contained and cleaned up by trained personnel using spill response equipment located inside the building. Class II or III spills or spills associated with rainfall events from outside areas would enter the storm drainage system which discharges southward into Retention Pond #1.

This facility is inspected regularly by ANG personnel. The area is well maintained and clean.

6.3.8 Fuel Cell Maintenance/Corrosion Control

Two separate hangar buildings comprise the Fuel Cell Maintenance and Corrosion Control Facility (Bldg. 27), which is located on the Flightline, northeast of the Aircraft Maintenance Hangar (Figure 6.3.2). The eastern most hangar is used for the maintenance of aircraft fuel cells and the west hangar is used for the coating of aircraft and equipment parts to prevent corrosion and for removing coatings prior to non-destruction inspections. Access to the hangars is restricted unless accompanied by authorized Base personnel.

Aircraft fuel pods are defueled on the Apron before being brought into the Fuel Cell Maintenance Hangar. Before initiating maintenance, the remaining fuel in the fuel cells is transferred into one of two 200-gallon capacity bowsers or into a 50-gallon bowser located in the hangar. One of the 200-gallon bowsers is designated for JP-8 fuel +100 additive. When a fuel bowser has reached approximately 50% of its capacity, POL Management personnel transport the bowsers to the POL Facility to reclaim the fuel. A self-contained flammables cabinet located in the hangar is used to store small quantities of bench stock chemicals including isopropyl alcohol, toluene and methyl ethyl ketone (MEK). Waste chemicals and rags accumulated in the hangar are transported to the SAP storage shed located outside the west side of the building. A 55-gallon drum of AFFF is also stored in the hangar. Trench drains in the hangar discharge through an underground OWS to the Base sanitary sewer system. The hangar is equipped with a hand-held hose and under wing AFFF fire suppression systems. Emergency eyewash stations/showers are located in the hangar. A spill kit is also located in the hangar.

The Corrosion Control Hangar is located west of the Fuel Cell Maintenance Hangar. Aircraft washing activities are conducted inside this hangar. One corrosives cabinets typically containing small quantities of chromic acid and phosphoric acid are located in the hangar Citri-kleen

cleaning compound, which is used for aircraft washing, is stored in 5-gallon containers inside the hangar. A bead-blasting booth and a composite repair booth are also located in the hangar. Trench drains in the hangar discharge through an underground OWS located inside the hangar to the Municipal sanitary sewer system. The OWS is equipped with a leak monitor and two-level indicator alarm panel mounted on the inside hangar wall. The hangar is equipped with hand-held and under wing AFFF fire suppression systems. An emergency eyewash station is located in the paint room. Sorbent materials are located on-site.

A paint mixing room is located in this facility. One self-contained flammables cabinet located in the paint room are used to store small quantities of aerosols, paints, coatings, enamels, strippers and solvents. A SAP consisting of another self-contained flammables cabinet is used to store a 55-gallon drum of waste paint related material. A paint gun cleaner is also located in this room.

A paint booth located in this facility is used to apply the corrosion prevention coatings onto parts of aircraft and equipment used by the facility. The paint booth utilizes aerosol and liquid application techniques. Fabric filters are used to prevent airborne mist from being release to the environment. An abrasive blasting room is also located in this facility.

A 1,000-gallon AST containing #2 fuel oil is located on a concrete pad outside the north side of the hangars. The AST is used for backup heating purposes for the buildings. The AST is constructed of steel and secondary containment is provided for the AST by an integral steel dike structure with a leak detector. The AST is equipped with a lockable fill port.

An outdoor equipment storage area located northeast of the hangars consists of an asphalt paved area and several concrete pads. The entire area is enclosed within a chain-link security fence. Empty fuel pods are stored on metal racks on the concrete pads. A 200-gallon bowser containing used JP-8 +100 additive fuel is stored on a concrete pad at this location. No secondary containment is provided for the fuel bowser. Spills from the bowser would likely flow west across the pavement and enter the surrounding grass covered areas.

An outdoor aircraft deicing fluid (ADF) storage area is located north of the hangars. The storage area consists of a concrete pad surrounded by concrete barriers. A 1,700-gallon polyethylene AST containing propylene glycol (ADF) is stored on the concrete pad. The AST has a discharge valve at the bottom of the tank. No lock is provided for the discharge valve. A portable stair structure and a manway located on the top of the AST provide access to the tank for pumping ADF into the Base Deicing Truck. Approximately thirty 55-gallon drums of ADF are also stored on the concrete pad adjacent to the AST. Half of these drums are stored horizontally on metal racks and the remainder are stored vertically on the concrete pad. No secondary containment is provided for the AST or for the drums stored at this location. An asphalt paved road provides vehicle access to this ADF storage facility. Spills from this area would likely flow north into the surrounding grass covered areas.

Spills occurring inside the hangars may result from:

- Leaking fuel, oil, or hydraulic lines disconnected in order to service fuel cells;

- Leaking, ruptured, or overturned containers;
- Accidental AFFF discharges in the hangars;
- Accidental discharges of aerosol paints from the paint booth; or
- Transfer activities associated with the bowsers, containers and fuel cells.

Class I spills inside the hangars would be contained and cleaned-up by trained personnel using spill response equipment available in the buildings. Class II or III spills inside the hangars would flow towards nearby trench or floor drains which are connected to the OWSs and sanitary sewer system.

Spills outside the hangars may result from:

- Transfer activities associated with fuel cells or reclaimable fuel bowsers;
- Leaking, ruptured, overturned or damaged containers during storage or transferring;
- Transfers of liquids from the OWSs;
- Leaking of, rupture of, or damage to the #2 fuel oil AST, ADF AST or ADF drums; or
- Leaks, drips, or spills from transferring activities associated with the outdoor ASTs or drums.

Class I spills outside the hangars would be contained and cleaned-up by trained personnel using spill response equipment available in the buildings. Class II or III spills or spills associated with rainfall events would likely enter the storm drainage system which discharges towards Retention Pond #1.

The area is well-maintained and clean. The area is inspected on a regular basis by ANG personnel. The inspection includes a review of the contents and volume of the OWSs, container integrity, and the cleanliness and safety of the facility.

6.3.9 Repair Reclamation/ Egress Shop

Building 28 is located at the north end of the Main Base and consists of the Repair/Reclamation and Egress shops (Figure 6.3.4). Wheel and tire maintenance is performed in the Repair/ Reclamation shop. This shop contains a crash recovery trailer with recovery equipment, air compressor equipment, a tire cage and a large aqueous parts washer. A self-contained flammables cabinet located in the shop is used to store minor quantities of oils, aerosols and paints. An emergency eyewash station is located in the shop. Floor drains located in this shop are plugged. An OWS is located outside the shop.

Aircraft emergency egress equipment is maintained in the Egress Shop located in this building. A self-contained flammables cabinet located in the Egress Shop is used to store small quantities of aerosols, greases and cleaners. Spills inside this building would be small in volume due to the capacity of the stored containers. No floor drains are located in this shop.

A 500-gallon AST containing #2 fuel oil is located outside the west side of the building. The AST is located on a concrete pad and is partially surrounded by a wood fence. The AST is used

for backup heating purposes for the building. The AST is constructed of steel. Secondary containment is provided for the AST by an integral steel dike structure with a leak detector. The AST is equipped with a lockable fill port.

Spills inside Building 28 may result from:

- Leaking, ruptured, overturned or otherwise damaged containers during storage or transfers.

Spills or leaks inside the building are expected to be Class I, and would be contained and cleaned up by trained personnel.

Spills outside Building 28 may result from:

- Leaks, drips, or spills from transferring activities associated with the AST; or
- Leaking of, rupture of, or damage to the AST.

Class I spills will be contained and cleaned up by trained personnel using spill response equipment located inside the building. Class II or III spills or spills associated with rainfall events from the AST area would flow towards a nearby storm water catch basin. The catch basin is connected to the underground drainage system which discharges southward into Retention Pond #1.

The facility is inspected regularly by ANG personnel. The area is well maintained and clean.

6.3.10 Base Clinic/ Communications/ Security Forces

Building 29 is located in the northwest portion of the Main Base and contains office and shop facilities for the Base Clinic, Communications and the Security Forces (Figure 6.3.5).

The Base Clinic is used for the diagnosis and treatment of minor medical problems which arise in Base personnel. A small self-contained flammables cabinet located in the Clinic office area is used to store very small quantities of methanol, acetone, hexane, lubricants and penetrants. Containers of fixer and developer are stored in a photo room located in the medical laboratory. No floor drains are located in the Clinic areas.

The Base Communications area contains one self-contained flammables cabinet which typically stores aerosols, paint and oils in one gallon or less capacity containers. Minor quantities of lubricants are stored in the Security Forces weapons shop area.

A 4,000-gallon UST containing #2 fuel oil is located outside the west side of Building 29. This UST is constructed of steel with fiberglass-reinforced plastic coating structure with and has an alternate leak detection system. Several storage buildings containing communications equipment are also located outside the west side of the building.

Spills inside Building 29 may result from:

- Leaking, ruptured, overturned, or otherwise damaged containers during storage or transferring.

Spills or leaks inside the building are expected to be Class I, and would be contained and cleaned up by trained personnel.

Spills outside Building 25 may result from:

- Leaks, drips, or spills from transferring activities associated with the UST; or
- Leaking or rupture of the UST.

Class I spills will be contained and cleaned up by trained personnel using spill response equipment. Class II or III spills or spills associated with rainfall events from loading the UST would flow south towards Retention Pond #1.

The area is inspected regularly by ANG personnel. The area is well maintained and clean.

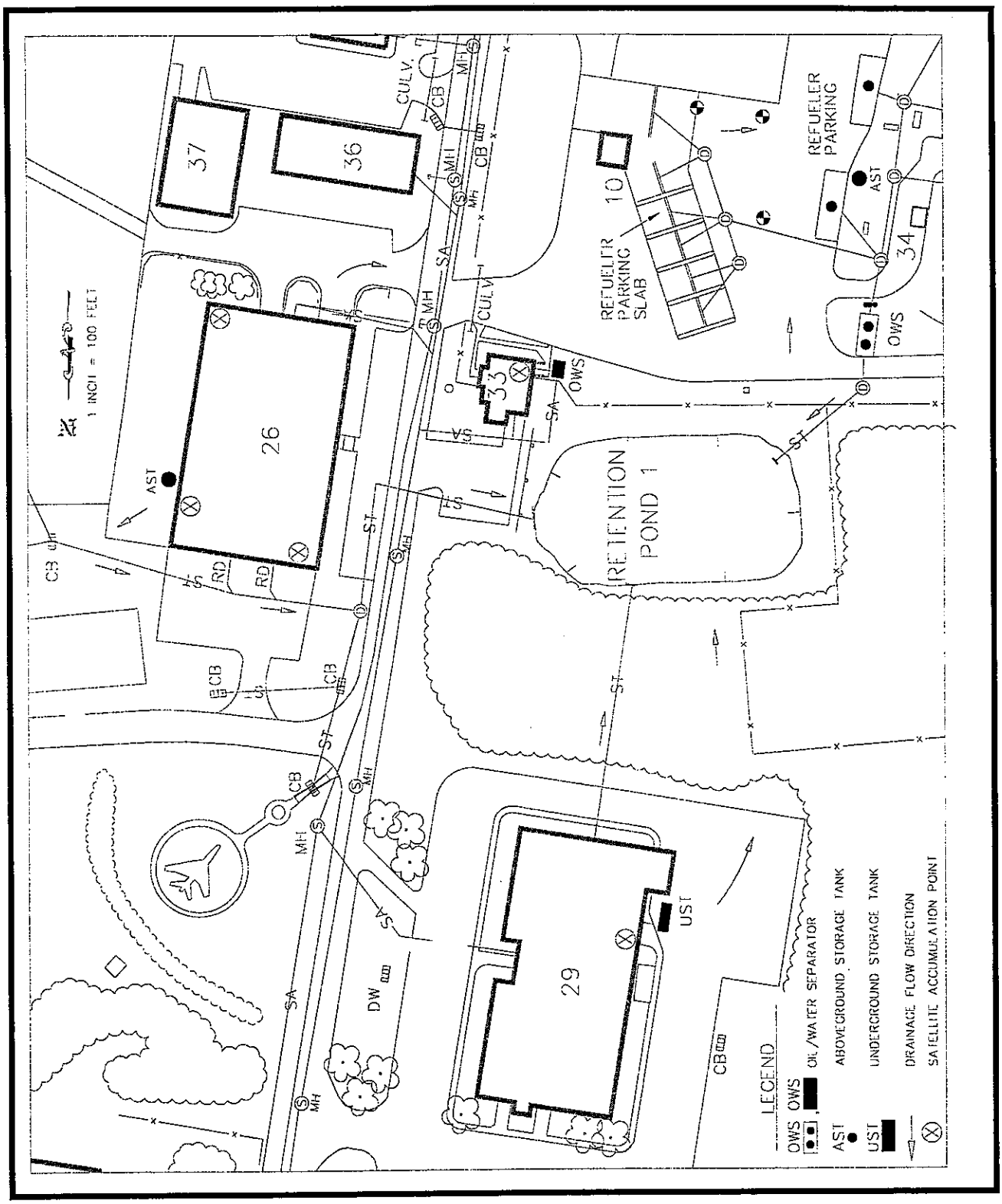

FIGURE 6.3.5 BASE CLINIC/ COMMUNICATIONS/ SECURITY FORCES

6.3.11 Hazardous Waste Central Accumulation Point

The Base Central Accumulation Point (CAP) for hazardous waste storage is located in Building 052 (base hazardous waste materials pharmacy), which lies on the westerly edge of the Main Base, Figure 6.3.1). All hazardous waste is transferred to this location prior to being shipped off Base for disposal. The Base is classified as a Large Quantity Generator (LQG) based on the volume of hazardous waste generated monthly. The Base may store hazardous waste for up to 90 days at this facility.

The CAP is comprised of two separate rooms, each with integral containment. The CAP surrounded by asphalt pavement. The rooms are locked when not in use. The CAP typically contains 55-gallon drums or smaller-sized containers of used oil, waste flammable liquids, waste solvents, waste contaminated solids and expired shelf life hazardous substances. One, large, room is designated to store waste oils including waste hydraulic fluid, waste engine oil, expired sealants and wastewater. A large spill kit stored inside an overpack is also located in this room. The second, smaller, room is designated as hazardous waste storage for corrosives and typically contains waste acids and bases, derived mostly from expired shelf life items. A small spill kit for corrosives is located in an overpack drum, and two corrosive cabinets (to keep acids and bases separated) are located inside this second room.

The CAP storage areas may occasionally contain other products, such as used rags or recovered spill response materials. Containers are transported off-site and disposed of by an outside contractor. Each container at the CAP is required to have a hazardous or non-hazardous waste label which identifies the name of the stored substance, the date the container was filled and sealed, and the specific hazardous properties of the substance stored. Each of these waste streams is generated during normal activities conducted at various locations on the Base.

Spills occurring outside in this area may result from:

- Leaking, ruptured, overturned or damaged containers during storage or transferring.

Class I spills will be contained and cleaned up by trained personnel using spill response equipment located on the in each room. Class II or III spills will be contained and cleaned up by trained personnel using spill response equipment located on the in each room. Runoff or spills outside the building would sheet-flow across the pavement west into the storm drainage dry well.

104 FW/EM personnel inspect the CAP on a weekly basis. The inspection includes monitoring waste storage levels in drums, container integrity, and general cleanliness and safety. The area is well maintained and clean.

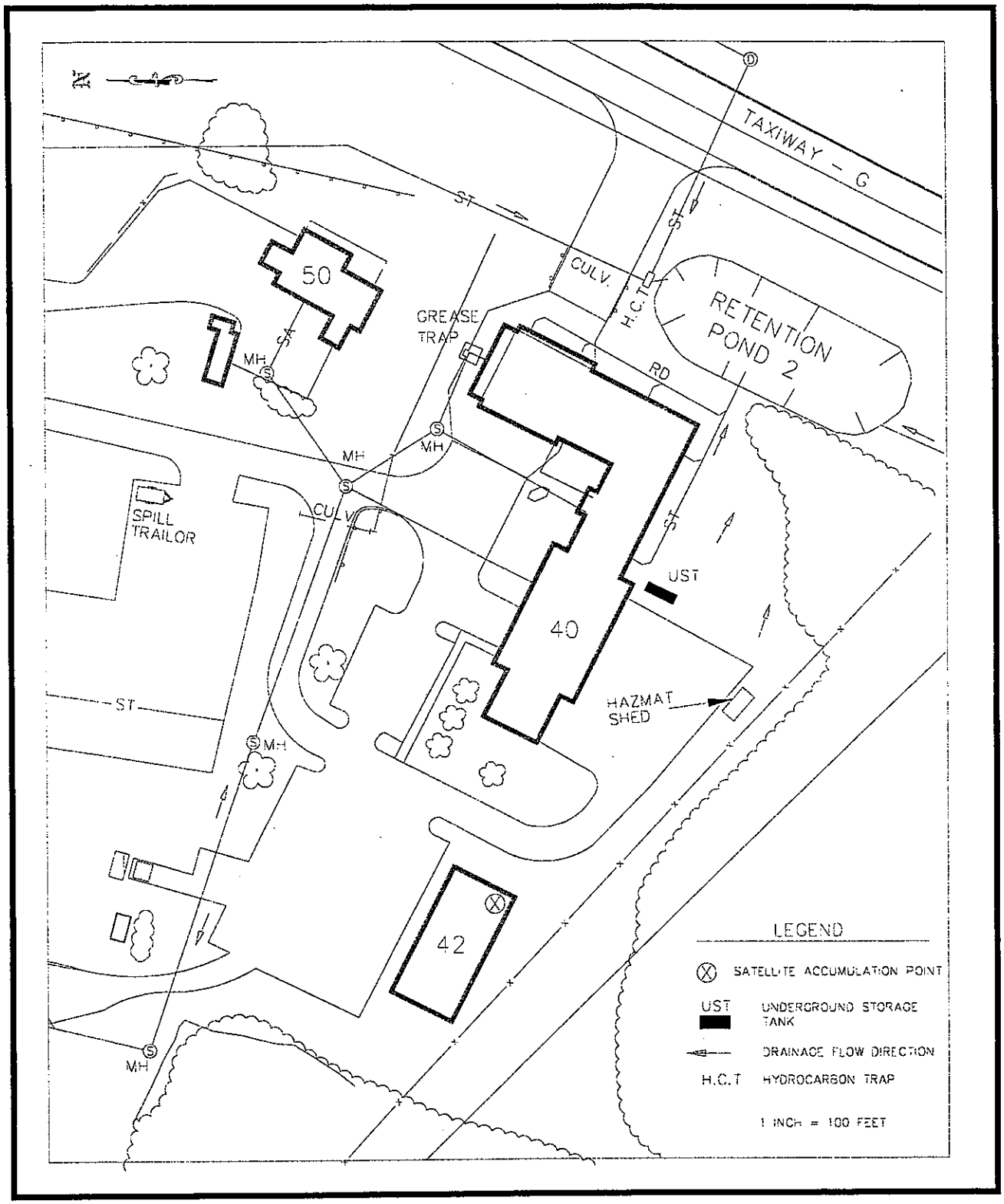

FIGURE 6.3.6 FIRE DEPT./ CIVIL ENGR.

6.3.12 POL Facility

The POL Facility is located on the central portion of the Main Base and is primarily used for storing and transferring jet fuels (See Figure 6.3.7). The POL Facility consists of a POL Office and Laboratory Facility (Bldg. 33), Fuels Control Room (Bldg. 34), Pump House (Bldg. 35), two Jet Fuel Storage Tanks with containment dikes, Tanker Truck Off-Loading Areas, Refueler Stands, POL Storage (Bldg. 10), and LOX/LIN Facilities (Bldgs. 38 and 39). This area is fenced and is restricted to Base personnel unless accompanied.

Security and Lighting

The POL Facility is enclosed within a six foot high security fence with secure gates at the entrances. The gates are locked during hours of non-operation. The control of automated transfer pumps and valves for the fuel storage tanks is located in the Fuels Control Room. The control room is typically manned during normal POL operating hours and is accessible only to authorized personnel. Valves that would allow direct outward flow of fuel are securely locked in the closed position when in non-operating status. The facility has sufficient lighting to facilitate safe working conditions 24 hours a day. The facility is well lit by on-site lighting during hours of darkness to discourage trespassing or vandalism and to aid in spill discovery.

Oil/Water Separator

An oil/water separator (OWS) is located at the north border of the POL Facility. The OWS has a capacity of 10,000-gallons and will hold 6,000-gallons of liquid before discharging to Retention Pond #1. The OWS is equipped with an oil interface float switch which activates an emergency automatic shutoff valve and alarm system control panels at the OWS and in the Control Room. The OWS has a three-level alarm system for 20% and 50% capacities and for a high-high level. When liquids in the OWS reach the high-high level, the incoming flow to the OWS is automatically shut off. Waste POL collected in the OWS is removed from the Base by a properly licensed contractor.

The storm drains from the two bulk fuel AST containment dikes, as well as the drain from the Pump House, Tanker Truck Off-Loading Area and Refueler Stands, are connected by underground piping to the OWS. Flow through the OWS discharges to Retention Pond #1, located directly north of the POL Facility.

POL Office and Laboratory Building

Building 33 is located at the northeast entrance to the POL Facility and contains the POL Laboratory and administrative offices. The floor inside the fuels testing laboratory is sloped to a floor drain that is connected to a 300-gallon OWS located outside the west side of the building. The OWS discharges to the Base sanitary sewer system. A self-contained flammable cabinet containing small quantities of used JP-8 fuel, used diesel fuel, ether and isopropyl alcohol is located in the laboratory. An emergency eyewash shower, a crash kit and sorbent materials are also located in the room. Used JP-8 fuel collected in the laboratory is transported to and dumped into the POL Facility's product reclamation UST for reuse.

POL Storage Building

Building 10 consists of a brick equipment storage building, which is the former pump house for the POL Facility. The building has a concrete floor. A self-contained flammables cabinet used to store small quantities of paint, aerosols, lubes, JP-8 fuel and isopropyl alcohol is located in the building. Various equipment including shovels are stored inside the building. An emergency eyewash shower, a polyethylene storage container and several pallets are located outside the building.

Aboveground Storage Tanks (ASTs)

The POL Facility has two 107,000-gallon ASTs containing JP-8 fuel located in a diked containment area at the western end of the facility. Each AST is constructed of welded steel and is cathodically protected. The ASTs are equipped with liquid level indicators and a three-level (low, high and high-high) alarms which activate the alarm system control panel located in the Control Room. The high-high level alarm causes an automatic shut-down of the system. Stairways, welded to the side of each tank, lead to a hinged manway on the roof. Ground level manways are bolted shut and can only be accessed after determining the tank fuel levels are below allowable limits. The ASTs are provided with an AFFF fire suppression system which utilizes a fire truck connection point located adjacent to the facility OWS.

The JP-8 fuel ASTs are each located within a secondary containment (dike) system constructed of reinforced concrete walls and a concrete lining. A secondary rubber liner is located beneath the concrete containment areas. Access to the interior is provided via stairways over the walls. Rainwater and snowfall collected in the concrete secondary containment structure drains to an inlet located at the low point of each diked area. Two normally closed gate valves located in series at each diked area can be used to release the accumulated water if the visual inspection indicates that the water is non-polluting. Records of each visual inspection are maintained in the Control Room. The second valve located outside each diked area is locked and has a sign indicating the valve's open or closed position. When the valves are opened to release accumulated water, the drainage enters the storm drainage system and discharges through the facility's OWS to Retention Pond #1. Spills within the diked area that occur due to the failure of one of the ASTs would be retained in the diked area before discharging through the storm drainage system. The spill would either be recovered by ANG personnel and/or removed by a local contractor and disposed accordingly.

Pump House

The Pump House (Bldg. 35) is located adjacent to the diked walls around the bulk fuel ASTs. The Pump House consists of a brick building containing pump and filter vessels and associated piping used to transfer fuel between the bulk fuel ASTs and fuel transfer areas. The Pump House building has a concrete sealed floor sloped to floor drains which discharges through the facility OWS to Retention Pond #1. Spills or leakage from the pumps or piping in this building would most likely flow into the floor drains. Two buckets of oil used for equipment lubrication and containers of solid waste and soiled rags are located in the Pump House. An emergency eyewash shower, a spill kit with sorbent materials and a cabinet used to store spill response equipment are also located in the building.

Product Reclamation Tank

A product reclamation UST (approximate 400-gallon capacity) is located adjacent to the Pump House. The tank is equipped with a liquid level indicator, transfer fuel pump and a two-level alarm which activates the alarm system control panel located in the Control Room. This tank is used to store excess JP-8 fuel reclaimed during fuel transfer operations. The tank receives JP-8 fuel directly during fuel transfers through pressure release valves at the Pump House and reclaimed JP-8 fuel from the POL Laboratory. The reclaimed JP-8 fuel is then pumped into the bulk fuel ASTs. Water collected in the bottom of the tank is pumped into a 55-gallon drum stored at the Fuel Transfer Area. The wastewater collected in the drum is transported to the Base CAP. Spills that may occur due to the failure of the UST or its associated piping or from the 55-gallon drum would either enter the storm drainage system and discharge through the facility's OWS to Retention Pond #1 or flow through grass areas and enter the subsurface soil at the facility.

Tanker Truck Off-Loading Stands

JP-8 fuel is delivered to the POL Facility by outside contractors using tanker trailers with a maximum capacity of 8,000 gallons. Delivery truck off-loading operations are conducted at the two fuel receiving stands located south of the Pump House. The transfer areas are continuously monitored by ANG personnel and by the contractor during transfer operations. The off-loading areas consist of two concrete pads, each sloped toward a storm drain inlet located in the center of the pad. Storm water runoff and any spills resulting from leaking or ruptured fuel lines between trucks and hydrants, from leaking fittings on delivery trucks or from failure of delivery truck tanks while off-loading would flow towards these storm inlets. The inlets are connected to underground piping which discharges through the facility OWS to Retention Pond #1. Delivery tanker trucks are compartmented. In the event of a tanker rupture, portions of the delivery tank could be sealed off to prevent excess spillage.

The transfer hydrants have valves and caps that are closed and locked when not in use and secured within a fenced area. The receiving underground piping is double-walled. The fuel is visually inspected and a sample is collected prior to transfer of fuel to the ASTs. Liquid recovered during the fuel transfer is dumped into the product reclamation UST.

Emergency shutoff devices are available on-site. An emergency eyewash shower and drip pans are located at the Off-Loading Stands. Fuel travels from the stands to the pump/filter vessels located within the Pump House where it is filtered and transferred into one of the ASTs. The receiving and discharging of fuel from the ASTs is rotated. The AST receiving product is properly gauged prior to any receipt to insure adequate capacity exists to receive the total volume of the delivery. A small portable AST used to check accuracy of meter readings is located outside the west side of the bulk ASTs' containment structure.

Refueler Stands

Two Refueler Stands are located in the center of the POL Facility east of the Pump House. The two stands consist of concrete pads, each sloped to a storm drain inlet located in the center of the pad. Sorbent materials are stored inside each refueler. Spills at the Refueler Stands would likely result from ruptures of refueler tanks while loading, from leaking or ruptured fuel lines between refuelers and hydrants or from the aboveground fuel transfer piping, from leaking fittings on

refuelers, or from the failure of refueler tanks while loading. Storm water runoff and any spills that may occur during loading operations would most likely enter the storm drain inlet located beneath the refuelers. The inlets are connected to underground piping which discharges through the facility OWS to Retention Pond #1. Emergency shutoff devices are located at each stand. An emergency eyewash shower and drip pans are also located at the stands. A 380-gallon AST containing JP-8 + 100 additive fuel is located on a metal rack at one Refueler Stand. A drip pan is located on the rack beneath the AST.

Refueler Parking Area

Fuel from the ASTs is transferred to the Flightline via refuelers. The 104 FW maintains three R-11 refuelers (6,000-gallon capacity) and two R-9 refuelers (5,000-gallon capacity). The refuelers are parked on the concrete containment Refueler parking area, when not in use or being serviced. Heaters for the refuelers are located at this parking location. Refuelers typically contain JP-8 fuel while parked. Spills on the concrete containment parking area resulting from ruptures of tanks or from leaking fittings on the refuelers would enter the drains located in the parking area. The drains are connected via underground piping to the OWS which discharges to Retention Pond #1. The emergency shutoff valve at the OWS can be manually closed to trap spills in the piping and on the pads. No secondary containment is provided for the refuelers that are parked on the asphalt pavement.

LIN/LOX Facility

A Liquid Nitrogen/Liquid Oxygen (LIN/LOX) Facility consisting of Buildings 38 and 39 is located on the south side of the POL Facility. A shed roof structure (Bldg. 38) located on a concrete paved area contains four storage bays used to store LIN and LOX storage tanks, bowsers and equipment. Two 3,000-gallon LOX ASTs and three 50-gallon LOX trailers are stored in this area. Drip pans are used at this facility. Concrete filled bollards are located along the shed entrances to provide protection from accidental vehicle collisions with the storage tanks. A brick building (Bldg. 39) located adjacent to the storage shed has a concrete floor and contains an office room and an equipment storage room. This building contains LOX servicing and testing equipment. The LOX purging unit is parked in the storage room to the right side of the building.

Control Room

The Fuels Control Room is located inside Building 34, which is a brick building located in the center of the POL Facility. A control panel located in the room contains gauges and alarm indicators (horns and lights) for the POL Facility operating systems. The controls include alarms for the bulk fuel ASTs, pumping system, OWS, product reclamation UST; an alarm acknowledgment control; alarm and lamp test controls; as well as an emergency electrical system shutdown control. POL Management personnel perform monthly checks on the facility's electrical systems. Two additional emergency shutoff control devices are located at the two access roads to the POL Facility.

General Operations

The facility is normally operated for eight or nine hours a day during the working week, with occasional operations on weekends. Product delivery to the ASTs is performed during this time by outside contractors with dedicated tanker trailers. The JP-8 throughput is approximately 2.4 million gallons per year. JP-8 inventories, temperatures, and water level are reviewed daily and a automatic tank gauging system is maintained to identify losses or gains which may not be accounted for otherwise. Drip pans and waste containers are located at each loading/unloading coupling point to catch fuel remaining in the hose or at the coupling after the transfer has been completed. Individuals conducting loading/unloading procedures operate on a "two man" policy using detailed checklists. Warning systems are in place to prevent vehicles from departing without disconnecting transfer hose. The POL Facility is well-maintained to minimize the likelihood of accidents which could cause a potential release. Inspections at the POL Facility are conducted daily by ANG personnel who complete an Air Force Technical Order-39 (AFTO-39) form, which includes checks for leaks, corrosion, worn parts, contents and volume of ASTs, OWS and UST, and any other problems which might be visually identified. Inspection records are kept on-site by the POL Manager.

Spills occurring at this facility may result from:

- Failure of one of the 107,000-gallon JP-8 fuel ASTs or associated piping;
- Rupture of tanks, hoses, or hydrants on delivery trucks or refuelers during transfers;
- Leaks or drips from fittings, valves, hoses, or pumps during transfers;
- Overfilling of tanks or refuelers;
- Leaks or drips from piping, valves, filter vessels, or pumps associated with the ASTs;
- Vehicles departing without disconnecting the refilling hose from the vehicle;
- Rupture or leaking from refuelers while staged at the facility;
- Failure of the POL OWS;
- Failure of the 380-gallon AST containing JP-8 +100 additive fuel;
- Failure of the product reclamation UST or associated piping; or
- Transfer activities associated with the product reclamation UST or JP-8 reclaim drum.

Spills inside the POL Laboratory would either be contained and cleaned up on the floor or would flow into the floor drain which discharges through the 300-gallon OWS to the Base sanitary sewer system. Spills in the Pump House would either be contained and cleaned up on the floor or would flow to a floor drain discharging through the facility OWS to Retention Pond #1. Spills on the fuel transfer pads would flow into drains which are connected to the facility OWS. Class I spills will be contained and cleaned up by trained personnel using spill response equipment located on-site. Class II or III spills or spills associated with rainfall events on fuel transfer pads or on paved areas outside these containment pads will either flow into storm inlets that discharge through the OWS to Retention Pond #1; flow towards the pond as overland sheetflow or discharge into the subsurface soils around the POL Facility.

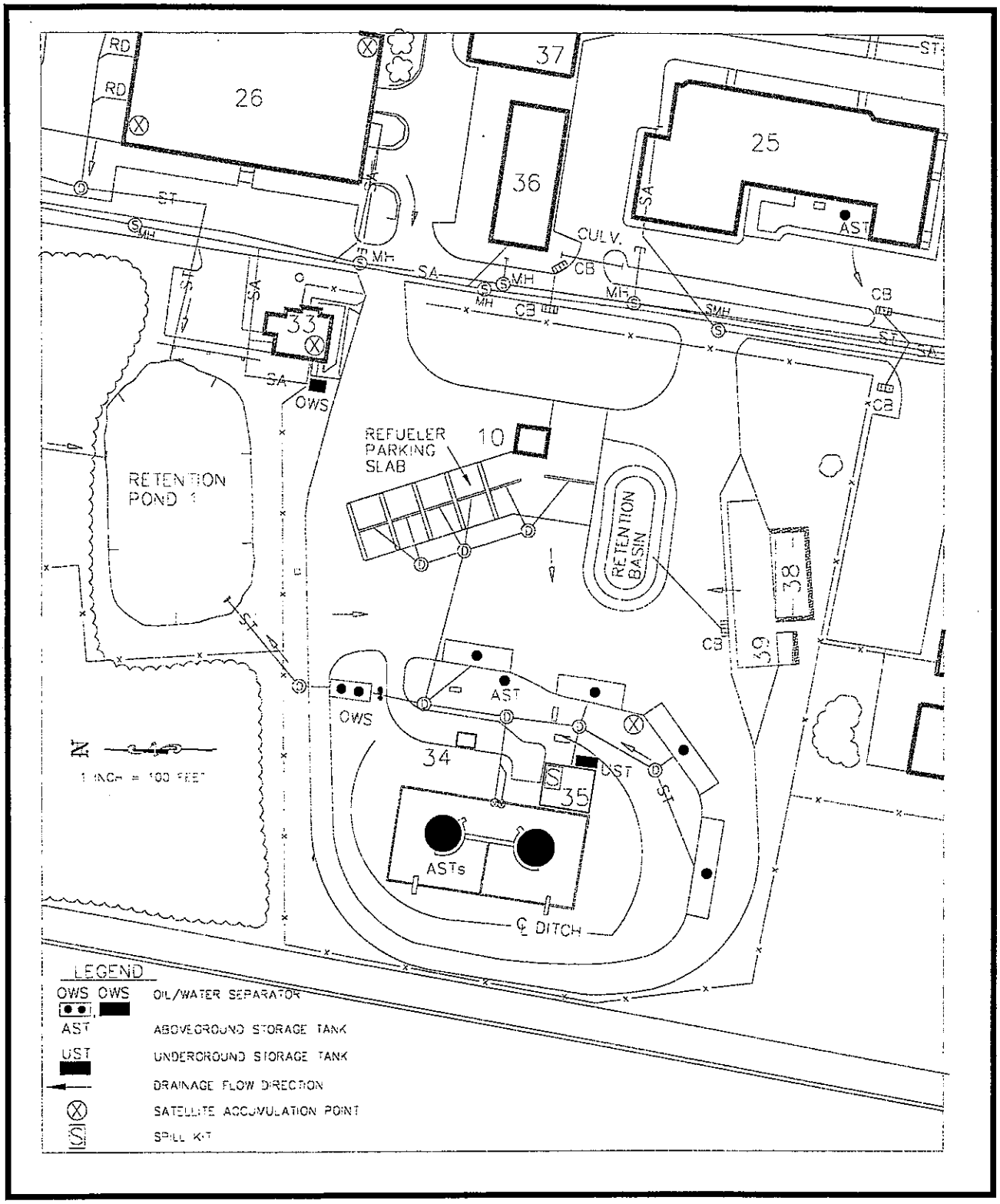

FIGURE 6.3.7 POL FACILITY

6.3.13 Fire Station/ Base Civil Engineering

The Fire Department and Base Civil Engineering facilities are located within Building 40, which is located in the southeast corner of the Main Base (Figure 6.3.6). The Fire Station is located in the eastern half of Building 40, with immediate access to the Flightline and Taxiway G. The Civil Engineering facility consists of the western half of Building 40, Building 42 and outdoor storage areas.

The Fire Department is staffed 24-hours a day, and is the first responder to fires and hazardous substance spills at the airport. There are approximately 24 full-time firefighters and approximately 27 part-time firefighters. Fire Department personnel are trained to the operations level, and several are trained to the technician level. Spills are to be diked only by Fire Department personnel. Access to the Fire Department is restricted to authorized Base personnel.

The Fire Department houses emergency response vehicles within its three large drive-thru vehicle storage bays in Building 40. The Fire Department operates three Crash vehicles, a Rescue vehicle, a Ramp Patrol vehicle and one water tanker. A spill response trailer, which is used to store sorbent booms, pads, drum overpaks, drain covers, patch kits and various spill response equipment, is located at the former vehicle maintenance parking lot. The trailer may be hitched to one of the Fire Department vehicles for deployment purposes. Crash vehicles are equipped with sorbent pads and buckets. Wheel chocks are used on vehicles parked at the Fire Station. Vehicle washing is conducted on the concrete pavement outside the east side (Flightline side) of the building.

The 104 FW Fire Department serves the entire Airport and has a mutual aid and response agreement with the Hampden County Fire Department. The 104 FW Fire Department can also provide assistance to the County if requested, however, the 104 FW Fire Department must have resources on-Base if ANG planes are flying. Eight firefighters are always on-Base during operating hours and a minimum of three firefighters are on-Base during non-operating hours. The City of Westfield HAZMAT Response Team provides HAZMAT response for the Base, if requested.

A self-contained flammables cabinet is located in the vehicle storage bay area. The cabinet typically contains small quantities of vehicle maintenance oils, paints, thinners and adhesives. The cabinet is closed and locked when not in use. AFFF backup supplies consist of 55-gallon drums and 5-gallon containers stored inside the bay area. Floor trench drains located in the vehicle storage bays are connected to the Base sanitary sewer system. An extinguisher maintenance and storage room is also located at the Fire Station.

The Civil Engineering (CE) Facility consists of the western portion of Building 40, Building 42 and outdoor storage areas. The facility is primarily used for design and maintenance of structures and the property at the Base. In addition to CE offices, Building 40 contains various electrical, mechanical, power production and facilities maintenance shops and storage areas. No floor drains are located in the shop areas in this building. A self-contained flammables cabinet

used to store small quantities of POLs is located in the power production shop. Sorbent materials are available in the shop areas.

A self-contained flammables cabinet and a drum storage area is located under a large lean-to outside the south side of the building. The cabinet is used to store several 5-gallon containers of diesel fuel and gasoline. Two spill containment pallets located next to the cabinet are used to store 55-gallon drums and 5-gallon containers of lube, oils, joint compound, gasoline and various chemicals. The outdoor areas surrounding Building 40 are asphalt paved.

An outdoor equipment and material storage area is located along the perimeter fence on the west side of Building 40. Generators, trailers, dumpsters, empty 55-gallon drums, trucks and other vehicles are stored in this area. An outdoor SAP consisting of a pre-fabricated HAZMAT storage shed with integral containment is located on a concrete pad in this area. Typically, this SAP is used to store 55-gallon drums of waste paints and Flightline spill residue.

A 5,000-gallon double walled UST with leak detection containing #2 fuel oil is located outside the south side of Building 40. The UST is used for backup heating purposes for the building.

Building 42 is located directly west of Building 40 and consists of a large warehouse used to store dry materials and equipment. A janitor supply room located in this building contains storage areas for cleaning supplies, paints, aerosols, and various chemicals. Several self-contained flammables cabinets located in the main warehouse area contain small quantities of less than 5 gallons of diesel fuel, oil, lubricants, paints, aerosols and adhesives. The flammables cabinets and state supply room are locked when not in use. There are no floor drains in the building.

A SAP is located outside the state supply room. One spill containment pallet used to store 35-gallon drum containers of oils, solid waste and paints. A spill response kit is available next to the SAP. An eye wash is located next to the state supply room.

Spills occurring inside the buildings may result from:

- Leaking, ruptured, overturned, or otherwise damaged containers; or
- Leaking vehicles parked inside building.

Class I spills will be contained and cleaned up by trained personnel using spill response equipment located at the facility. Class II or III spills would either be contained in the buildings or, in Building 40, may flow to a nearby floor drain connected to the Base sanitary sewer system.

Spills occurring outside the buildings may result from:

- Transfers associated with the UST;
- Leaking, ruptured, overturned or otherwise damaged containers during transferring; or
- Leaking vehicles or equipment parked outside the building;

- UST Failure.

Class I spills will be contained and cleaned up by trained personnel using spill response equipment located on-site. Class II or III spills or spills associated with rainfall events outside these buildings would likely flow southeast towards Retention Pond #2, which is located directly southeast of Building 40.

This facility is well maintained and clean. The area is inspected regularly by both Fire Department and Civil Engineering personnel. The inspections include a review of container integrity, and cleanliness and safety of the building and area. Records of on-Base spills and incidents are kept at the Fire Station.

6.3.14 Vehicle Maintenance Facility

The Vehicle Maintenance Facility is located in the southwest corner of the Main Base and is used for the maintenance, fueling, washing and parking of on-Base vehicles (Figure 6.3.8). The facility contains a large asphalt paved parking area with a fuel dispensing area and Buildings 055, 056 and 058 located around its perimeter. This area is restricted unless accompanied by authorized Base personnel. Overhead lighting provides nighttime illumination of the fuel dispensing island and vehicle parking facilities at the complex.

Vehicle Maintenance - Maintenance operations of vehicles and refuelers are conducted inside the vehicle maintenance bays in Building 055. A separate refueler drive-thru maintenance bay and a paint booth are also located within Building 055. Refuelers are prohibited from entering any maintenance bay on-Base other than the designated refueler maintenance bay in this building. Drip pans and buckets are used under vehicles awaiting or undergoing maintenance in the bays.

A shop room located next to the maintenance bays contains a battery shop, electrical room and janitor room with a mezzanine storage area located above these three rooms. Several 55-gallon drums of new product (oil, hydraulic fluid and antifreeze) used in the maintenance bays are stored on the mezzanine. Secondary containment is provided for the mezzanine storage area by an 8-inch concrete berm. ANG maintenance personnel use forklifts to transport drums of new product to the bermed mezzanine storage area. A washwater recycling system and storage tank are also located on the mezzanine area. The battery shop located in this area contains lead acid batteries, a container of acid neutralizer and a sink with neutralizing system. No floor drains are located in the battery shop. Cleaners and detergents are stored in the janitor room. An aqueous jet washer, antifreeze recycler, beadblaster and a self-contained flammables cabinet containing bench stock chemicals including starting fluid, aerosols, paints and brake fluid are also located in this area. A spill kit, sorbent materials, oil filter crusher and SAP are located in the maintenance bay area. Floor drains located inside the bays and shops discharge through an OWS located outside the south side of Building 055 to the Base sanitary sewer system.

Vehicle Wash Rack - One of the maintenance bays serves as a drive-thru vehicle wash rack. Washwater entering the wash rack floor drain discharges to a washwater recycling system located in the building.

Refueler Maintenance - The refueler drive-thru maintenance bay is located in the southwest end of Building 055. Refueler maintenance activities occur in this bay only. Refuelers are always emptied before entering the maintenance bay. The bay's floor drain discharges through the OWS located outside the building to the sanitary sewer system. The refueler maintenance bay is an explosion proof room and is equipped with a fire suppression system. Typical materials stored in this bay include 55-gallon drums of lube oil and antifreeze, 30-gallon drum of grease, and a self-contained flammables cabinet containing small quantities of chemicals including hydraulic fluid, sealers, paints and starting fluid canisters. An emergency eyewash shower is located in the bay.

Paint Booth - A paint booth is located adjacent to the refueler maintenance bay. Paint booth equipment including a paint gun washer/recycler is located in the facility.

Vehicle Storage Areas - A covered, three-sided vehicle storage shed with a concrete floor (Bldg. 056) is located along the west side of the complex. This facility is primarily used to store snow plows and other snow removal vehicles and equipment. There are no floor drains inside the building.

Building 058 consists of another covered, three-side vehicle storage building located on a concrete pad used to store vehicles, dry materials and equipment. The building is located along the south side of the complex. There are no floor drains inside the building.

Outdoor asphalt paved vehicle parking facilities are provided in the center of the complex. Heavy vehicles, trucks, jeeps, buses, cars and equipment are parked at this location. Any spills and storm water runoff on the asphalt parking area enters catch basins located throughout the parking area and discharges via underground piping to Retention Pond #3, which is located directly west of Building 056.

Hazardous Waste Satellite Accumulation Point - A hazardous waste SAP is located inside Building 055 at the west end of the main maintenance bay adjacent to the oil filter crusher. This area has lockable drums for the collect of waste fuel filters, fuel, antifreeze, and spill residue. A 495-gallon waste oil container is used to collect motor oil and hydraulic oil to be recycled. This area has a telephone with emergency numbers and notification instructions in the event of a spill.

Vehicle Refueling Island - The vehicle fuel dispensing island for the Base is located on the east side of the complex. The fuel island has pumps for gasoline and diesel fuel. The island is surrounded by concrete pavement, which is sloped west towards catch basins located in the asphalt paved parking area. Each vehicle being fueled must use a coded key to dispense fuel and the amount of fuel used is computer recorded for each vehicle. These records are kept by the Bulk Fuel Storage Section.

Two 5,000-gallon ASTs containing gasoline and diesel fuel are located on concrete pads within a grass area, east of the fuel dispensing island. The ASTs are constructed of steel. Secondary containment is provided for each AST by an integral steel dike structure. The ASTs are equipped with lockable fill ports, interstitial monitoring and liquid level alarms and warning

placards. Ladders and platform structures are attached to the ASTs. Liquid levels inside the tanks are measured by a gauge on the top of each AST. No locks are provided on the ASTs' fill ports. The underground piping connecting the ASTs to the fuel dispensing island is double-walled.

Deliveries of fuel to the ASTs are made by outside contractors with tanker trailers. Standard operating procedures followed during fuel deliveries include grounding of the transfer vehicles, manual gauging of the receiving tanks prior to fuel transfer, and continuous monitoring of the transfer tanks, valves, fittings, and hoses.

Spills occurring inside Building 055 may result from:

- Leaking, ruptured, or damaged containers;
- Transferring of fluids to vehicles/refuelers undergoing maintenance;
- Transferring of waste material to drums; or
- Leaking hydraulic fluids, oils, or coolants from vehicles/refuelers undergoing or awaiting maintenance.

Class I spills inside Building 055 would be contained and cleaned-up using spill response equipment located inside the building. Class II or III spills which are not contained would flow to the building floor drains. The floor drains are connected to the OWS located outside the building, which discharges to the Base sanitary sewer system.

Spills occurring outside Building 055 may result from:

- Leaking, ruptured, or damaged containers;
- Transferring of waste material to drums;
- Leaking vehicles awaiting maintenance in the parking area;
- Vehicles driving away without removing the dispenser hose from the vehicle;
- Not turning off the pump;
- Overfilling the vehicle, equipment, or fuel storage tanks;
- Rupture or leakage of a delivery truck tank, piping, or valve; or
- Rupture or leakage of a fuel tank.

Class I spills outside Building 055 will be contained and cleaned up by trained personnel using spill response equipment located inside Building 055. Class II or III outside the building would migrate flow over asphalt pavement into storm drainage catch basins which discharge westward through underground piping to the Retention Pond #3.

The entire facility is inspected regularly by ANG personnel. The inspection includes a review of contents and volume of the OWS, on-site storage tanks and SAPs, container integrity, and the cleanliness and safety of the facility.

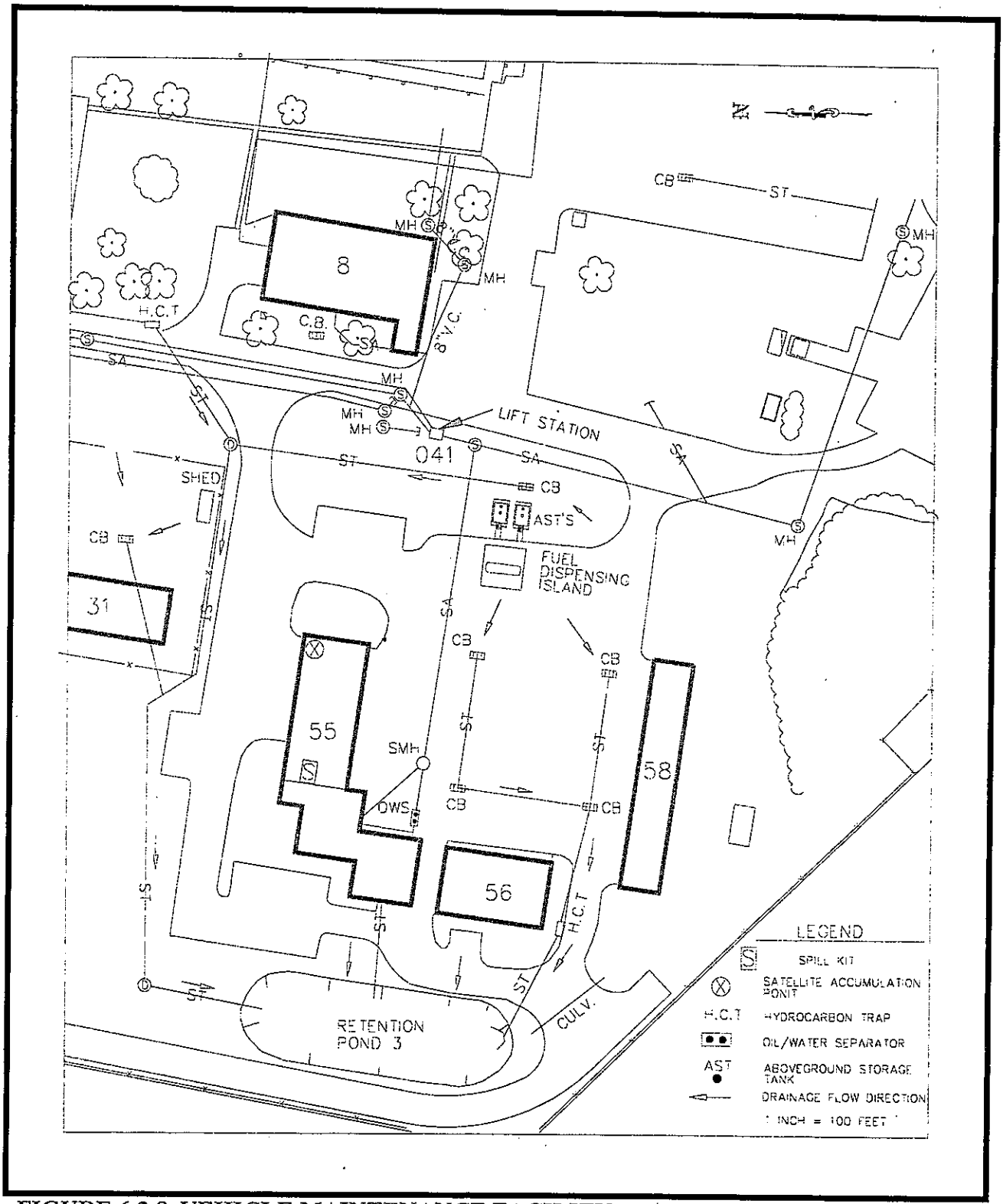

FIGURE 6.3.8 VEHICLE MAINTENANCE FACILITY

6.3.15 Munitions Maintenance Complex

The Munitions Maintenance Complex is located on the separate parcel of land that is located east of the Main Base and east of the main runway and consists of Buildings 61-65, 67 and 19 (Figure 6.3.9). The complex is used for the storage and maintenance of aircraft munitions. A perimeter security fence topped with barbed wire surrounds the complex and restricts access to authorized Base personnel unless accompanied. The main access gate to the complex is located on the south side of the Munitions Control Facility (Bldg. 65). Munitions maintenance activities are conducted in Buildings 64 and 65 and munitions are stored in Buildings 61-63, 67 and 19.

Building 65 contains the control room for the complex, administrative offices, some munitions maintenance bays and inert storage facilities. The maintenance areas within this building contain various equipment awaiting maintenance; a self-contained flammables cabinet used to store small quantities of paints, lacquers, brake fluid and adhesives; and a 15-gallon capacity solvent parts washer. A spill kit and containers of dry absorbents are located on-site. Used brake fluid is collected and stored in small container that is stored inside a large bucket and used dry absorbent is stored within a 55-gallon drum. Floor drains located within the inert storage bay area are connected to the Base sanitary sewer system. The sanitary sewer system pump station is located outside the northwest corner of Building 65.

An outdoor vehicle/trailer wash rack located east of Building 65 consists of a concrete pad sloped to a central drain inlet. The discharge of washwater through the drain inlet is manually controlled by a discharge valve. When the valve is opened, washwater that enters the drain discharges through an OWS located outside the northeast corner of the building to the Base sanitary sewer system. The drain valve is kept in the closed position to prevent storm water runoff from discharging to the sanitary sewer system. There are no markings or signs indicating whether the valve is in the open or closed position. The OWS is underground and double-walled and has a level sensor assembly and two high level alarms.

A 1,000-gallon AST containing #2 fuel oil is located on a concrete pad outside the west side of the building. The AST is covered by a shed roof structure. The AST is constructed of steel and is used for backup heating purposes for the building. Secondary containment is provided for the AST by an integral steel dike structure.

Building 64 is located in the center of the complex and consists of several munitions maintenance bays and a corrosion control bay. Self-contained flammables cabinets located in the maintenance bays are used to store small quantities of paints, aerosols, epoxies and other bench stock chemicals. There are no floor drains located in the maintenance areas of this building. A corrosion control paint booth is located in the building. The building utilizes a fire suppression system. Trailers and various munitions handling equipment are stored outside the east side of the building. A loading ramp is located outside the south side of the building.

A 1,000-gallon AST containing #2 fuel oil is located on a concrete pad outside the east side of the building. The AST is covered by a shed roof structure. The AST is used for backup heating purposes for the building. Secondary containment is provided for the AST by an integral steel

dike structure. Aboveground piping connecting the AST to the building's boiler room is located outside the secondary containment structure.

A 500-gallon AST containing #2 fuel oil is located outside the north end of the building. This AST is also located on a concrete pad under a shed roof structure. The AST is provides fuel for the heat exchange unit for the facility's paint booth. Secondary containment is provided for the AST by an integral steel dike structure. Aboveground piping connecting the AST to the building is located outside the secondary containment structure.

Building 63 is located at the north end of the complex and is used for munitions storage. Two additional munitions storage facilities (Bldgs. 61 and 62) are located at the east end of the complex. Two outdoor concrete paved areas located east of Building 65 are used for munitions and equipment storage. Another munitions storage facility (Bldg. 67) and a small rocket test cell facility are located in this area.

Spills occurring inside or outside Munitions Maintenance Complex may result from:

- Leaking, ruptured, overturned, or otherwise damaged containers;
- Spills during transfer activities to or from containers or equipment or the OWS;
- Failure of one of the 500- or 1,000-gallon ASTs or associated piping; or
- Fire suppression system discharges within Building 64.

Spills at the complex are expected to be Class I in volume due to the capacity of the stored containers. Class I spills will be contained and cleaned up by trained personnel using spill response equipment located inside maintenance areas. Class II or III spills or spills associated with rainfall events outside the buildings would enter the Base storm drainage system and flow either east towards the wetland area or southeast towards Pond Brook.

The complex is inspected regularly by ANG personnel. The facility is well maintained and clean.

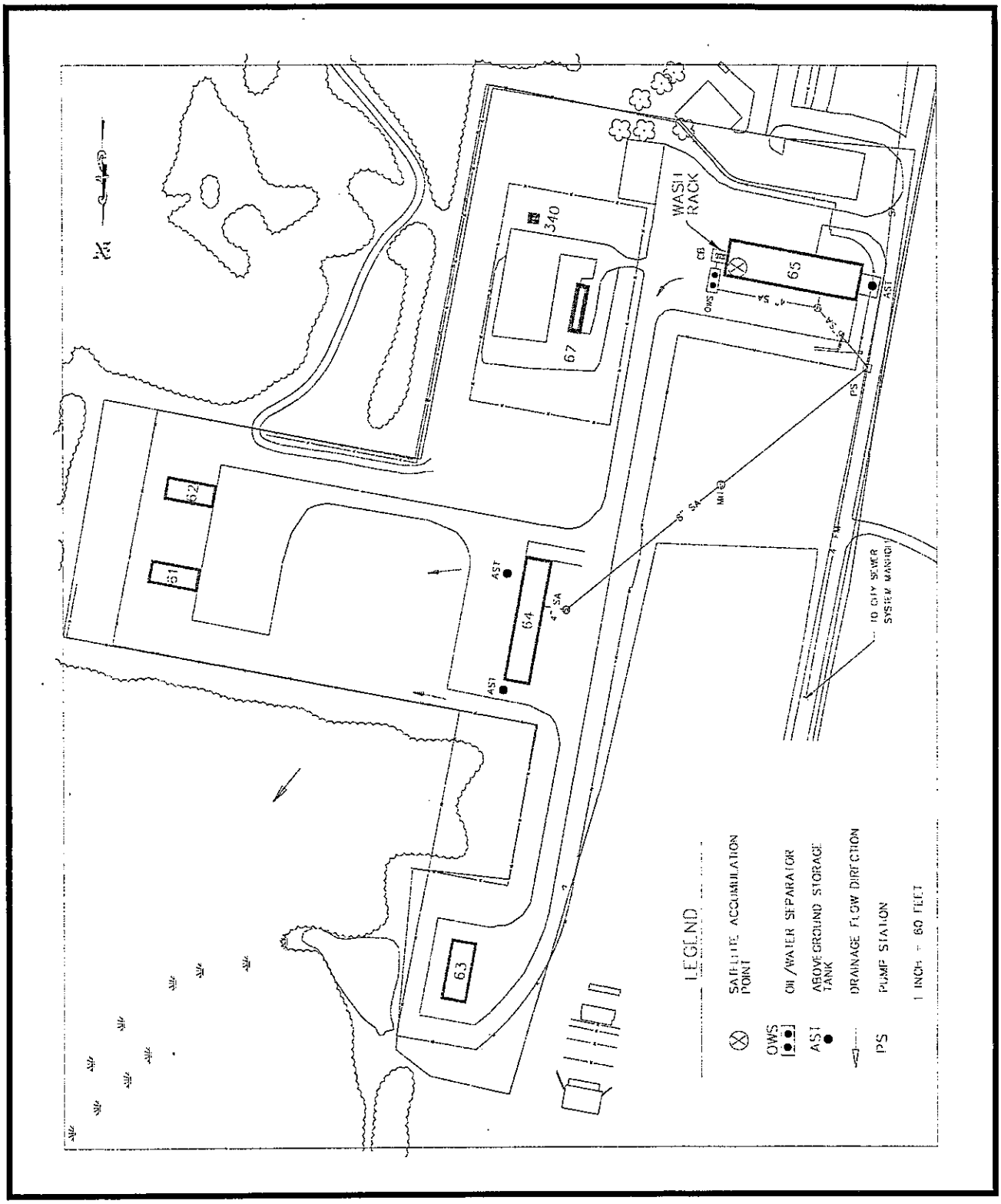

FIGURE 6.3.9 MUNITIONS MAINTENANCE COMPLEX

6.3.16 Hush House

The Hush House is located on the separate parcel of land that is located east of the Main Base and east of the main runway and is near the Munitions Maintenance Complex (Figure 6.3.10). The Hush House is used to test jet engines and consists of an engine mounting structure, an exhaust/sound tunnel, and an operations room. A concrete paved apron surrounds the Hush House. This facility is restricted unless accompanied by authorized Base personnel.

The trench drain located in the Hush House engine testing bay discharges through an OWS located outside the southeast corner of the Hush House to the Base sanitary sewer system. Other floor drains in the facility are connected to the sanitary sewer system. An engine wash system and water tank are located inside the facility. The facility fire suppression system consists of AFFF spray structures located on both sides of the engine mounting area. A self-contained flammables cabinet used to store containers of 1010 oil and JP-8 fuel. A spill kit and containers of sorbent materials are also located in the Hush House.

A drive-down concrete containment pad with concrete berms is located outside the south side of the Hush House. The containment area is covered by a large shed roof structure. A 2,500-gallon aboveground tank trailer containing JP-8 fuel is located within the bermed containment area. The AST is used to supply fuel to engines being tested. Fuel is transferred from the AST to the Hush House via underground piping. The concrete containment area has been designed to contain the capacity of the tanker. A drain located in the low point of the containment area discharges through the facility OWS, which is located directly east of the containment area, to the Base sanitary sewer system. A normally closed valve located at the containment area controls the flow of liquid from the containment area. No locks are provided for the valve and no markings or signs indicating whether the valve is in the open or closed position. The minimal amount of windblown rainwater that accumulates within the containment area is visually inspected for potential contamination before being released through the drain and OWS to the sanitary sewer system.

Spills occurring inside the Hush House may result from:

- Leaks or drips from engines being tested;
- Leaks, drips or ruptures associated with fuel lines to the engine;
- Leaking, ruptured, or over-turned containers; or
- Fire suppression system discharges in the building.

Spills occurring inside the Hush House would either be contained and cleaned-up within the building or would flow to a nearby drain discharging through the OWS to the sanitary sewer system.

Spills occurring outside the Hush House may result from:

- Leaks, drips, or ruptures associated with fuel lines from the JP-8 fuel AST to Hush House;
- Leaks, drips, or ruptures associated with the JP-8 fuel AST;
- Leaks, drips, or ruptures associated with refilling of the JP-8 fuel AST; or
- Leaks, drips, or spills associated with product recovery or maintenance of OWS.

Spills occurring from the JP-8 fuel AST inside the secondary containment structure would be contained. Class I spills will be contained and cleaned up by trained personnel using spill response equipment located inside the building. Class II or III spills or spills associated with rainfall events on the concrete apron outside the building or concrete containment area would enter the flow southeast towards Pond Brook.

The area is inspected regularly by ANG personnel. The inspection includes a review of the condition of the JP-8 fuel AST, the integrity of the secondary containment system, and the general cleanliness and safety of the area. The Hush House area is well maintained and clean.

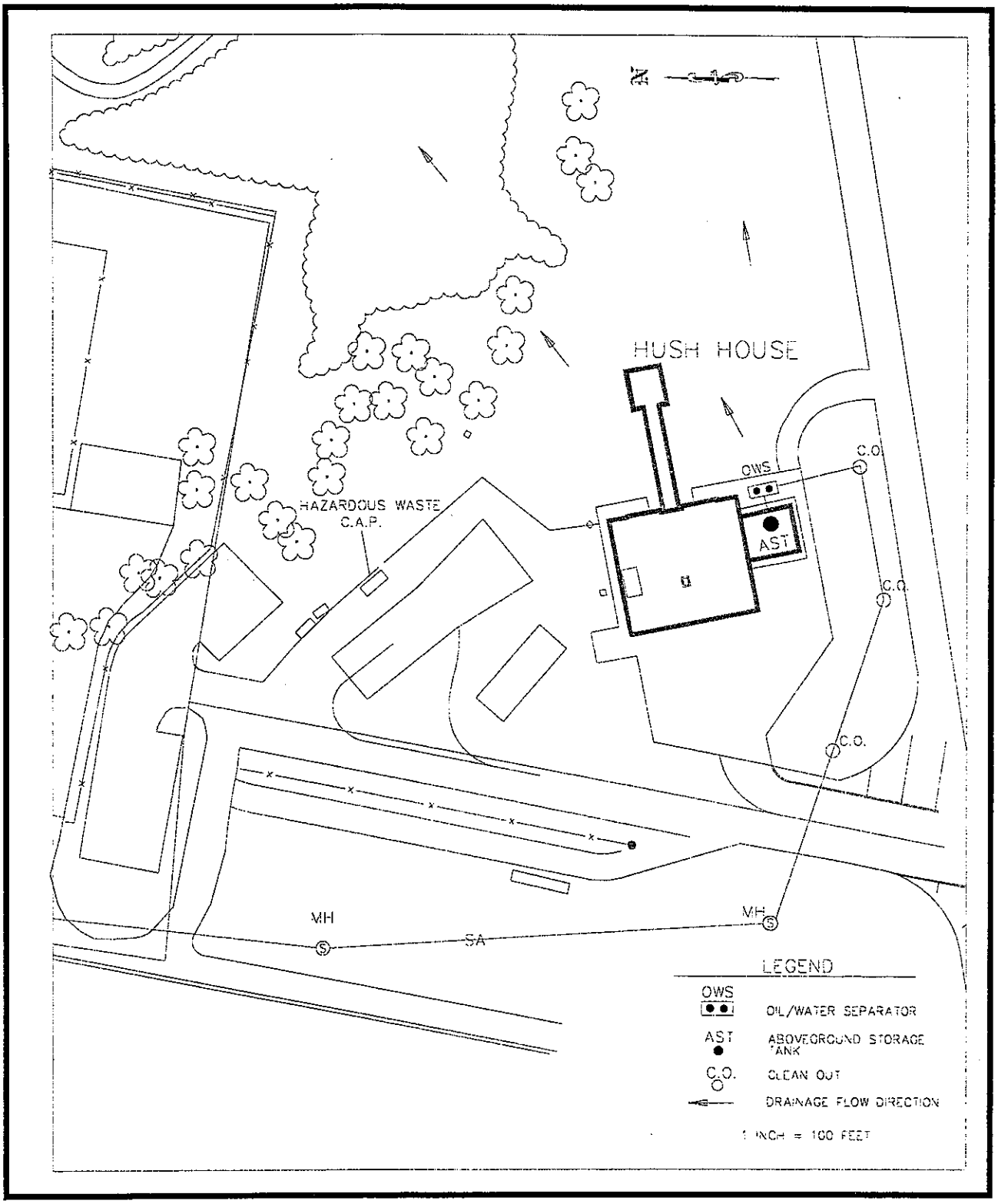

FIGURE 6.3.10 HUSH HOUSE

6.3.17 Refueling and Delivery Vehicle Travel Routes

Commercial fuel tanker trucks with 8,000-gallon capacities, government R-11 refuelers with 6,000-gallon capacities and R-9 refuelers with 5,000-gallon capacities routinely travel access roads between the main gate, the POL Facility, other on-Base fuel facilities and the Aircraft Parking Apron. Any discharge of significant quantity along these routes could enter the Base storm drainage system through nearby inlets or surface drainage ditches. Each refueler is equipped with spill response materials used to contain and remove small spills occurring on paved areas. Discharges which might occur along any other travel routes on the Base roadways, including travel to and from the Refueler Parking Area, would be expected to enter the grass-lined ditches, various other storm water inlet structures or surface soils. Minor spills can easily be cleaned up with sorbent materials before they would enter a storm drainage system.

Commercial tanker trucks up to 8,000-gallon capacity routinely deliver jet fuel, diesel fuel and MOGAS to specified locations on the Base. Any mishap along Base roadways would necessitate prompt spill response actions and would differ depending on the exact location of the spill. See Sections 6.2.7, 6.2.8 or other appropriate sections for additional details related to deliver tanker truck routes.

Spills could occur throughout the Base as a result of:

- Leaking fittings on refuelers traveling through the Base; or
- An accident or tank failure on refuelers traveling through the Base.

7.0 OIL AND HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN

7.1 HISTORICAL PERSPECTIVE

The National Contingency Plan (NCP) was established under CERCLA. Federal Regulation 40 CFR 300.3 states that all federal agencies must plan for emergencies and develop procedures for dealing with oil discharges, and releases of hazardous materials for which they are responsible. The Department of Defense Directive 5030.41, "Oil and Hazardous Substances Pollution Prevention and Contingency Plan," (OHSPC Plan) requires each installation or activity with the capability for a release of a reportable quantity of oil or hazardous materials to the environment to prepare, maintain, and implement a SPR Plan and an OHSPC Plan. This OHSPC Plan helps to comply with the above regulations governing the use of oils and hazardous materials. This plan addresses the requirements of 40 CFR 112, Oil Pollution Prevention Regulations, 40 CFR 116, Definition of Hazardous Materials, and 40 CFR 117, Determination of Reportable Quantities for Hazardous Materials, as well as Air Force instructions and policies stated in AFPD 32-70, AFI 32-4002, and the requirements for an OPlan 32-1.

7.2 OHSPC IMPLEMENTATION AND REVIEW

The OHSPC shall be implemented when a reportable quantity (RQ) of oil or a hazardous material is released due to ANG activities on- or off-Base, non-ANG activities at the Base, or releases that occur outside of the facility and drain onto the Base. A RQ is an amount of a given discharge which is determined to be a hazard to human health or the environment. Section 7.5 of this plan further defines and identifies reportable quantities.

Contracts or agreements with contractors, transporters, or similar personnel for movement of such commodities as fuel and used oil, onto or off the Base, will stipulate that the contractor, transporter, or similar person will be responsible for cleanup of on-facility spills caused by their negligence. The agreement shall also stipulate once these personnel leave the physical confines of the facility, the Base Commander's responsibilities for their actions terminates. For releases originating outside of the facility, the storm sewer plan will be consulted to determine the potential flow direction of the spill. Outfalls along the ditches where spills could be discharged may need to be monitored.

Copies of this OHSPC with changes will be kept on file at the following locations:

- Environmental Management Office;
- Base Fire Department Alarm Room;
- Base Civil Engineering;
- Public Affairs Office;
- Safety Office; and
- Each site that stores, handles or transfers oil or hazardous substances for which there is a reasonable possibility of a significant spill.

The exact location of the OHSPC must be known and easily accessed by all Base personnel who may handle or potentially be involved in handling hazardous substances.

7.3 PLANNING

7.3.1 OSC

The primary and alternate OSCs for the MAANG, 104 FW, Westfield, Massachusetts are identified below. The primary OSC will be the Base Fire Chief or senior fire official on the scene. The alternate OSC will assume full responsibility in the absence of the primary OSC. The OSC has primary responsibility for response actions following a spill, and will coordinate response plans with the Base Initial Response Force (IRF), any Regional Response Teams (RRTs) and Commonwealth and local officials. It is also the responsibility of the OSC to ensure that training programs and exercises involving spill response activities are routinely conducted. The OSC will notify the appropriate emergency response agencies and commands, as indicated in Table 7.1, when a reportable quantity spill occurs.

The OSC will ensure that the appropriate agencies are notified if installation personnel cannot adequately respond to a spill. Locations where persons can be reached are below:

Primary OSC:
SMSgt Armand Lamour
EXT: 1431

Alternate OSC:
Todd Mullane
EXT: 1781

The National Response Center (NRC) should be immediately notified of a reportable quantity spill. The EPA should be contacted only if it is impractical to immediately notify the NRC.

Tables 7.1 and 7.2 contain emergency, installation and local phone numbers, which may be used to alert persons of the incident or to request additional assistance.

TABLE 7.1 EMERGENCY RESPONSE AGENCIES

National Response Center[1]	800-424-8802
U.S. EPA, Region I, Emergency Response (24-hour Hotline)	617-223-7265
(Main Office)	617-573-5715
Massachusetts Department of Environmental Protection[2] (24-hour)	888-304-1133
Massachusetts District 11 HAZMAT Team	1-911
Local Emergency Planning Committee (LEPC)	413-568-1222

[1] The NRC will notify the U.S. Coast Guard and EPA.

[2] Spills should be reported immediately to the Massachusetts Department of Environmental Protection's 24-hour number or the Massachusetts District 11 HAZMAT Team 24-hour number.

TABLE 7.2 LOCAL TELEPHONE NUMBERS

I. On-Site

Initial Notification (Base Fire Department)	1217
Base Commander	1240/1220
Command Post	1222
Airbase Operability	1295
Environmental Office	1710
Bioenvironmental Office	1317
Base Disaster Preparedness	1295
Base Civil Engineer	1347
Civil Engineering Service Desk	1346
Fuels Management	1353
Base Clinic	1318
Safety Office	1218
Security Forces	1426
Public Affairs	1263 or 1504
Maintenance	1258
Transportation	1356
Supply	1307
Deputy Commander of Logistics	1361
Deputy Commander for Operations	1230
Support Group Commander	1343

II. Off-Site

Westfield Fire Department	911 or 413-562-2329
District 11 Hazardous Materials Team	413-594-6631
Massachusetts Dept. of Environmental Protection (Springfield)	413-784-1100
Baystate Medical Center (Springfield)	413-784-3233
Chicopee Fire Department	413-594-5531
Holyoke Fire Department	413-534-4511
Holyoke Hospital	413-534-2562
Holyoke Paramedics	413-534-2562
Mercy Hospital (Springfield)	413-781-9100
Noble Hospital (Westfield)	413-568-2811
Providence Hospital (Holyoke)	413-536-5111
Southampton Fire Department	413-527-1717
Springfield Fire Department	413-787-6400
West Springfield Fire Department	413-732-4141
ANG/CEVQ (Monday - Friday, 0730 - 1700)	DSN 278-8135
CHEMTREC (24-hours, Information Only)	1-800-424-9300
ETIS (Information Only)	DSN 970-6167
USAF Armstrong Laboratory	DSN 240-3305
National Poison Control Center	1-800-332-3073

7.3.2 Initial Response Force (IRF)

The IRF is comprised of base fire department personnel who perform functions as directed by the OSC in times of emergency. The base fire department respond to spills, which can not be handled by shop personnel, to perform spill containment, recovery, cleanup, disposal, and restoration activities as requested and directed by the OSC. The Base Fire Department located in Building 40, is the pre-planned location for a response operation center. It is possible other personnel will be assigned to provide qualified assistance for response actions related to a spill. Members and responsibilities of the IRF are enumerated in the Base OPlan 32-1 of the 104 FW.

7.3.3 Spill Response

A Spill Response Trailer located west of Building 51 is available for initial response to spills. Other equipment and supplies available for response to a spill of a hazardous substance are listed in Table 7.3. Any resources listed in Table 7.3 are available if National Guard Bureau (NGB) agencies are requested by the RRT to aid in the cleanup of a spill not due to ANG activities. An inventory of spill equipment and materials contained within the Spill Response Trailer is presented in Table 7.4.

TABLE 7.3 SPILL CONTROL / EMERGENCY EQUIPMENT

Fire Station Mobile Equipment Number/Vehicle Type	Fire Suppressant Type and Quantity			
	Water (gal)	3% Foam (gal)	Dry Chemical (lb)	Halon (lb)
1/ P-20			100	
1/P-10				
2/P-19s	1,000	130		
1/P-2	3,300	500		
1/P-18	2,000			
Spill Response Trailer				

Other Spill Control Equipment (Description)	Number/Amount	Location
Fire Extinguishers (150 lb. halon wheeled units)	M	Flightline
Fire Extinguishers (20 lb. dry chemical portable units)	M	Throughout Facility
Fire Hydrants	M	Throughout Facility
AFFF	M	Fire Dept. and Base hangars

Fire Station Mobile Equipment Number/Vehicle Type	Fire Suppressant Type and Quantity			
	Water (gal)	3% Foam (gal)	Dry Chemical (lb)	Halon (lb)
Recovery/ Overpak Drums		M	Fire Department	
Spill Response Equipment Kits		M	Throughout Facility	
Sorbent Materials (bags, sheets, booms, granular, etc.)		M	Throughout Facility	

M = Multiple

TABLE 7.4 INVENTORY OF SPILL RESPONSE TRAILER

Description	Number/Amount	Description	Number/Amount
3" X 40" Absorbent Socks	36	Pig Lite-Dri 22 lb bags Absorbent mat.	28
3" X 10' Absorbent Socks	7	Pig Absorbert Socks 10ft 8in Round	7
5" X 10" Absorbent Dikes	2	20ft 3in Round	12
HAZMAT Pillows	15	8ft 3in Round	22
HAZMAT Pulp, 5 lb bags	2	Absorbent Blanket Rolls	4
18' X 18' Mat. Sheets	100	Absorbent Material 50lb Bags	6
Disposal Bags and Ties	30	Rubber Drain Cover 4ft x 4ft	1
Garage Bags	2 boxes	Over Pak Drum 95 Gallon	1
Protective Face Shields	4	Over Pak Drum 30 Gallon	1
Absorbent Pads 2ft x 2ft	51	Absorbent Pillows 8in Square	29
Pig Socks 8ft 3in Round	5	18in Square	13
4ft 3in Round	33	Absorbent Material 22lb Bags	2
10ft 8in Round	1	Spill Gloves	17

In the event additional personnel and/or services are required, the City of Westfield Fire Department/ City of West Springfield Fire Department/ Chicopee Fire Department/ Holyoke Fire Department/ Springfield Fire Department/ Southampton Fire Department and/or outside contractors may be employed. Table 7.5 gives probable spill responses under the listed circumstances.

TABLE 7.5 PROBABLE SPILL RESPONSE BY NATURE/VOLUME OF SPILL

Substance	Volume	Probable Response
Oil	0-250 gal	expedient earthen containment / sorbent / off-site disposal
Oil	250-1,000 gal	expedient earthen containment / sorbent or pumping/off-site disposal
Oil	1,001-20,000 gal	maintain containment / skimming and pumping/off-site disposal or reclamation
PCBs	all volumes	containment/sorbentor pumping / off-site disposal or destruction

* Includes herbicides and pesticides.

7.3.4 Critical Water Use Areas

Based on the amount of property and the flow pattern of water through the property, critical water use areas are not considered to be endangered by potential spills of oil or hazardous substances from the facility.

7.3.5 Material Safety Data Sheets

Material Safety Data Sheets (MSDSs) are available for all hazardous substances utilized by the facility. They contain critical information regarding the substance, including toxicity, reactivity, flammability, personal protective equipment (PPE), health and safety hazards, and emergency medical decontamination and treatment procedures. In addition, many MSDSs include information related to spill containment and cleanup.

MSDSs are stored on a computer database maintained by Base Supply. MSDSs for products used throughout the ANG are gathered by ANG and downloaded into a master database. The database is updated as new products are purchased from or changes to current products are made by vendors. Updated databases are forwarded to the Base on a monthly basis, and are available for distribution upon request.

Each facility is responsible for maintaining updated MSDS for each substance stored in their building or facility. MSDSs are located in a well-marked storage binder or bin which is accessible to all personnel during normal hours.

7.4 EMERGENCY RESPONSE ACTIONS

7.4.1 Initial Response Actions

Personnel safety and protection of life and limb take precedence over environmental protection. The normal course of action in the event of a **Class I** spill is to contain and cleanup the spill using trained personnel and available spill response equipment. The normal course of action in the event of a **Class II** or **Class III** spill is to:

a. Initiate evacuation, if necessary.

b. Call Base Fire Department at EXT 1911. The Base Fire Department will notify the OSC, and respond to Class II or III spills for fire suppression support only. The OSC will lead the initial response effort and direct control and cleanup efforts at the Base. Leaks and minor spillage shall also be reported to insure appropriate action is taken to correct deficiencies or malfunctions that caused the discharge. The OSCs and their respective phone numbers are listed in Section 7.3.1.

c. Stop spill flow when possible without undue risk of personal injury. The attempt to stop the source of a spill should be made only by those personnel sufficiently familiar with the substance and equipment as to provide an effective response without undue risk of personal injury.

d. Contain the spill using spill response equipment or whatever means is readily available.

e. Make spill scene OFF LIMITS to unauthorized personnel.

f. Restrict all sources of ignition when flammable/combustible substances are involved.

g. Report to the OSC upon his/her arrival to the scene.

Class I, II and III spills are defined in Appendix A and Table 7.6. The sequence of initial response action may be altered depending upon individual spill characteristics (i.e., type of spill, quantity of spill, and/or safety hazards involved). When making the initial notification of a spill, the following information should be provided if known or can be reasonably determined:

a. Name of individual reporting spill
b. Location of spill
c. Number of injured personnel and number of injuries, if applicable
d. Substance spilled
e. Estimated amount spilled
f. Estimated rate at which material is currently spilling
g. Estimated time of spill occurrence
h. Extent of spill travel
i. Necessity of Fire Department to respond to protect life, property, and environment
j. Any additional pertinent information such as other potential hazards

Initial information is critical. Pre-printed forms which ask pertinent questions must be carried by the initial response team. A copy of this form is included in Appendix F. Answers to some of these questions will not be immediately known, but it is important to quickly gather as much information as possible without putting personnel in danger. Identification number, shipping manifests, and placard information are essential for the identification of the spilled or leaked material. First response should use DOT's Emergency Response Guidebook to help identify hazardous substances, and for guidance on initial precautionary and containment steps.

TABLE 7.6 ANG FUEL SPILL CLASSIFICATIONS

CLASS	LINEAR (ft)	AREA (sq ft)	FLOWING	GALLONS
Class I	< 2	< 4	no	< 0.4
Class II	< 10	< 50	no	< 4.0
Class III	> 10	> 50	yes	> 4.0

Assumptions: Fuel spill depth is 1/8 inch (0.0104 ft)
Horizontal paved surface

7.4.2 Additional Emergency Action

1. In case of fire/explosion, activate the fire alarm system, notify Base Fire Department immediately, and evacuate the area.

2. Allow no smoking or open flames within the potential area of the spill.

3. Equipment with magneto-sparked engines or equipment which produce sparks or static electricity should not be used in potential spill risk areas.

4. Do Not use any material that would cause oil to sink or disperse.

5. Place chemical soaked sorbent and soil in metal, leak-tight drums, label and dispose of properly.

6. If oil can be properly controlled and diverted to an oil separator system and the system is adequate for the spill volume, use absorbent only to protect against overflow or bypass of the separator unit.

7.5 INCIDENT REPORTING

7.5.1 On-Base Spills of Oil Entering Navigable Waters or Environment

The OSC shall consult the most recent edition of 40 CFR 110 to establish whether or not a RQ has been discharged to a navigable water in the U.S. or adjoining shoreline. If a RQ has been discharged, the spill will be reported by telephone to the agencies listed in Table 7.1, Section 7.3.

40 CFR 110 generally defines an oil spill RQ as "...such quantities of oil...determined to be harmful to the public health or welfare of the U.S....to include discharges which violate applicable water quality standards...or cause a film or sheen of the surface of the water or adjoining shorelines, or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines." Although the term "navigable waters" has been expanded to encompass practically all surface bodies and streams, it is important to note that this definition is restricted to surface waters.

A spill of oil to the ground or groundwater is not a reportable spill under 40 CFR 110 unless it should later appear as a surface water contamination. The Commonwealth of Massachusetts considers oil/fuel spills in quantities greater than 10 gallons as reportable spills. All spills will be reported to the Massachusetts Department of Environmental Protection. The information which must be included when reporting to federal agencies is as follows:

1. Name, location, and type or function of installation.
2. Commander of installation and phone number.
3. Name and phone number of person making report.
4. Type and estimated amount of material.
5. Location of spill.
6. Local discovery time and date of incident.
7. Receiving stream or waters.
8. Cause of incident and equipment/facility involved.
9. Injuries and/or property damage.
10. Duration of discharge.
11. Remedial actions taken.
12. Agencies notified.

7.5.2 Hazardous Substance Releases

For non-petroleum substance releases to the environment, the OSC shall consult the Massachusetts Contingency Plan (MCP) 310 CMR 40.000, Table 40.1600 to identify reportable hazardous substances releases. Federally defined hazardous substances are listed in the most recent edition of the following regulations:

- 40 CFR 355 to identify the substance as extremely hazardous (SARA);
- 40 CFR 304 to identify the substance as hazardous (CERCLA);
- 40 CFR 61 to identify the substance as hazardous (CAA); and,
- 40 CFR 117 if the release is in a coastal area or navigable waterway (CWA).

The Commonwealth of Massachusetts requires the reporting of hazardous or extremely hazardous substances, which are released to the environment in quantities equal to or greater than the substance's RQ. The Commonwealth of Massachusetts utilizes the hazardous substances list identified in the MCP 310 CMR 40.000, Table 40.1600. The Commonwealth of Massachusetts also considers releases of hazardous materials or other wastes, regardless of size, to water as a reportable spill. A release will trigger notification of the agencies listed in Table 7.1. If the substance is identified as or known to be an extremely hazardous material, then the LEPC must be

notified, in accordance with Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986. The number for the LEPC Community Emergency Coordinator has been included in Table 7.1. For any hazardous substance spill, as much information known about the event will be given during the report as is available. CHEMTREC is available 24-hours a day for additional emergency information related to a hazardous material release. The following material may be requested when reporting a RQ release:

- Substance(s) involved, and indicate whether extremely hazardous or not;
- Medium or media into which the release occurred;
- Any known or anticipated acute or chronic health risks associated with the release, and, where appropriate, advice regarding medical attention necessary for exposed individuals;
- Proper precautions to take as a result of the release, including evacuation;
- Amount of the substance(s) released or in danger of being released;
- Location of the hazardous substance emergency and directions to the site;
- Names, addresses, and phone numbers of persons that may have information on the substances involved;
- When the hazardous substance emergency occurred, duration of the release, and when it was discovered; and,
- Actions taken to cleanup the hazardous substance and to end the hazardous substance emergency and when those actions will be taken.

Should a hazardous substance be discharged through one of the facility's National Pollutant Discharge Elimination System (NPDES) outfalls, the OSC shall consult 40 CFR 117.12 for specific details regarding NPDES system spill discharges.

7.5.3 Off-Base Spills of Oil or Hazardous Substances

Spills will be reported following the procedure outlined in Sections 7.5.1 and 7.5.2. If the spilled material flows past the boundary of the installation, the Environmental Manager shall be notified to ensure that information, records, and samples adequate for legal purposes are obtained and safeguarded for future use. The LEPC will be notified if the spill could have an impact on off-site persons or resources.

7.5.4 Notification to the Air National Guard

If a RQ of oil or a hazardous material has been discharged to the environment, notification to the Air National Guard, Environmental Division, will be made within 24 hours of the incident in a manner consistent with the Base OPlan 32-1. The phone number to be used is DSN 278-8695/8197.

7.6 NOTIFICATION OF RELEASE

7.6.1 Installation Notification

Installation personnel will be notified of a spill which could pose an immediate threat to their health through the Base radio system. Should this system fail, the telephone system will serve as the backup notification method. Word of mouth will be utilized where practical.

7.6.2 Public Notification

Specific guidance is contained in the OPlan regarding release of information concerning chemical surety material and accidents resulting in casualty. Otherwise, with the Base Commander's approval, and after coordination with the Base's higher headquarters, the Public Affairs Office (PAO) will make appropriate statements to the media and the Commonwealth's congressional delegation concerning an oil or hazardous material spill event. Unclassified, factual information will be presented in a timely, positive manner to ensure public safety. The extent and nature of the hazard, as well as the steps being taken to safeguard life and property will be explained to prevent or reduce widespread public alarm.

Follow-up information will be provided to all interested media as it becomes available. An exception to this procedure is if the incident is of national significance; the Assistant Secretary of Defense (Public Affairs) or his designee will then be responsible for all public affair matters. If no information is formally disseminated to the public, unclassified information that may be obtained under the Freedom of Information Act will be made readily available to a person who requests it. Information specifically requested under the Freedom of Information Act is the responsibility of the Directorate of Information Management and requests for such information should be directed to this agency. Information will be fully disclosed to the public, consistent with the rights of individuals to privacy, and the rights of persons entitled to confidential business information. Information will be disclosed to any request to the fullest extent possible without unjustifiable expense or unnecessary delay.

Freedom of Information Act requests shall be made in writing and must reasonably describe the records in a manner that will permit proper identification of installation documents on record. Requests may be made by any person, corporation, or organization.

7.7 FOLLOW-UP REPORTS AND AMENDMENTS

The OSC will prepare a technical report of the spill and the actions taken. The report will describe the events or conditions which led up to or contributed to the spill, and the type of equipment and names of personnel involved, if known. The report will identify types and quantities of oil and/or other hazardous substances spilled, and the methods used in their cleanup. Description of assistance received from other federal and/or outside agencies will be included. Upon approval of the Base Commander, the report will be submitted to the agencies in the following sections as required.

7.7.1 Air National Guard

Within five working days after telephone notification of a spill, a written report must be submitted by the OSC to ANG/CEVQ. This should include spill location, flow diagrams, and topographic maps. The information will be sent to the following address:

ANG/CEVQ
3500 Fetchet Avenue
Andrews Air Force Base, MD 20762-5157

Note: If you file a written report with the Commonwealth of Massachusetts, then send a copy of report to ANG/CEVQ rather than using the Pollutant Incident Notification Report Format in Appendix F.

7.7.2 Federal and State

Oil - If a 1,000 gallon discharge event, or two "harmful quantity" discharge events (as defined in 40 CFR 110) within a 12 month period, of oil reaches a navigable waterway or adjoining shoreline, the following information is required to be submitted to the Regional Administrator of EPA Region I within 60 days (40 CFR Part 112.4(a)):

1. Name of Facility;
2. Name of owner or operator of the facility;
3. Location of the facility;
4. Date and year of initial facility operation;
5. Maximum storage or handling capacity of the facility and normal daily usage throughout;
6. Description of the facility including facility, topographic and flow maps ;
7. A complete copy of the SPR plan with amendments;
8. The cause of the spill including a failure analysis of the system or subsystem in which the failure occurred;
9. The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs or replacement;
10. Additional preventive measures taken or contemplated to minimize the possibility of reoccurrence; and
11. Such other information as the Regional Administrator may reasonably require pertinent to the plan or spill prevention.

This information will be sent to the following:

Denise Valdez, SPCC Coordinator
U.S. EPA Region I
JFK Federal Building
Boston, MA 02203-2211

The Facility Emergency Response Coordinator will clearly mark on the outside of the envelope that the package is to be submitted to the EPA Region I official in charge of the SPR program. A complete copy of all information sent to EPA will also be sent to the Massachusetts Department of Environmental Protection (40 CFR Part 112.4 (c)) at the following address:

James C. Colman, Assistant Commissioner
Bureau of Waste Site Cleanup
Massachusetts Department of Environmental Protection
1 Winter Street, 5th Floor
Boston, MA 02108

Hazardous Substance - The need for a written report for a reportable hazardous substance release will be determined on an individual basis by the EPA. If EPA requires a report, a concurrent copy will be provided to higher headquarters and to the LEPC. Phone notification must be made for all reportable releases.

Hazardous Waste - Immediately after a hazardous waste emergency, the Emergency Response Coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or other material that results from a release, fire, or explosion due to hazardous waste at the facility.

In the event hazardous waste is accidentally released and the RCRA contingency plan is implemented, a written report on the incident must be submitted to the EPA Regional Administrator within 15 days (40 CFR 265.56(j)). The report must include the following information:

1. Name, address, and telephone number of the owner or operator;
2. Name, address, and telephone number of the facility;
3. Date, time, and type of incident (e.g., fire, explosion);
4. Name and quantity of material(s) involved;
5. The extent of injuries, if any;
6. An assessment of actual or potential hazards to human health or the environment, where this is applicable; and
7. Estimated quantity and disposition of recovered material that resulted from the incident.

The owner or operator must notify the EPA Regional Administrator, and appropriate state and local authorities, that the facility is in compliance with the following before operations are resumed in the affected area(s) of the facility:

1. No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

2. Emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

The Emergency Response Coordinator will ensure that the provisions are met.

7.7.3 State

A follow-up or written report is not required, unless requested by the Massachusetts Department of Environmental Protection.

7.7.4 Amendments

After a spilled substance has been removed and the site remediated, consideration will be given to ways of preventing the reoccurrence of the spill. This may involve one or more of the following:

1. Reviewing equipment inspection records;
2. Reevaluating procedures for certain operations, (i.e., tank filling, tank inspecting, emergency response); and,
3. Investigating options such as:

    i. purchasing more spill contingency resources;
    ii. install monitoring/warning devices;
    iii. construct new secondary containment devices; and,
    iv. updating storage equipment.

Any changes made related to resources or procedures which affect the potential for a spill shall be incorporated into the OHSPC (and the SPR).

APPENDIX A: GLOSSARY

APPENDIX A: GLOSSARY

A.1. ACRONYMS

AFFF	Aqueous Film Forming Foam
AFI	Air Force Instruction
AFPD	Air Force Policy Directive
AFR	Air Force Regulation
AFTO	Air Force Technical Order
AGE	Aerospace Ground Equipment
ANG	Air National Guard
ANG/CEVQ	Air National Guard/Civil Engineering and Environmental Compliance
AST	Aboveground Storage Tank
BMP	Best Management Practices
CAA	Clean Air Act
CAP	Central Accumulation Point
CE	Civil Engineer
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended
CFR	Code of Federal Regulations
CWA	Clean Water Act
DENIX	Defense Environmental Network and Information exchange
DOD	Department of Defense
EHS	Extremely Hazardous Substance
EC	Environmental Coordinator
ECM	Electronic Countermeasure
EMC	Emergency Medical Center
EM	Environmental Management Office
EPA	Environmental Protection Agency
EPC	Environmental Protection Committee
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986
ETIS	Environmental Technical Information System
FFCA	Federal Facility Compliance Act of 1992
FOD	Foreign Object and Debris
FW	Fighter Wing
HAZCOM	OSHA 1910.120 Hazard Communication
HAZMAT	Hazardous Materials
HWMP	Hazardous Waste Management Plan
ICS	Incident Command System
IDLH	Immediately Dangerous to Life or Health
IRF	Initial Responses Force
IRP	Installation Restoration Program
LEL	Lower Explosive Limit
LEPC	Local Emergency Planning Committee
LQG	Large Quantity Generator
MAANG	Massachusetts Air National Guard
MAJCOM	Major Command

MEK	Methyl Ethyl Ketone
ml	Milliliters
MOGAS	Motor Vehicle Gasoline
MSDS	Material Safety Data Sheet
NCP	National Contingency Plan
NDI	Non-Destructive Inspection
NFPA	National Fire Protection Association
NGB	National Guard Bureau
NIOSH	National Institute of Safety and Health
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
OEHL	Occupational and Environmental Health Laboratory
OHSPC	Oil and Hazardous Substances Pollution Contingency
OPLAN	Disaster Preparedness Operations Plan 32-1
OPR	Office of Primary Responsibility
OSC	On-Scene Commander
OSHA	Occupational Safety and Health Agency
OWS	Oil/Water Separator
PAO	Public Affairs Office
PEL	Permissible Exposure Limit
Plan	Oil and Hazardous Materials Spill Prevention and Response Plan
POL	Petroleum based fuels, Oil or Lubricants
PPE	Personal Protective Equipment
ppm	Parts Per Million
RCRA	Resource Conservation and Recovery Act
RQ	Reportable Quantity
RRT	Regional Response Team
SAP	Satellite Accumulation Point
SARA	Superfund Amendments and Reauthorization Act of 1986
SCBA	Self Contained Breathing Apparatus
SPCC SOP	Standard Operating Procedure
SPR	Spill Prevention, Control and Countermeasure
	Spill Prevention and Response
SRT	Spill Response Team
STEL	Short-Term Exposure Limit
TO	Technical Order
TLV	Threshold Limit Value
TPQ	Threshold Planning Quantity
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
UEL	Upper Explosive Limit
UST	Underground Storage Tank

A.2. DEFINITIONS

a. *ANG Fuel Spill*: Fuel spills are inherent with aircraft operations and generally these spills occur on the flight line that are inclusive of runways, taxiways, ramp and hard stands. Spill is defined as dripping, splashing or overflow of fuel associated with aircraft operation. These fuel spill classifications are defined in Civil Engineering Squadron - Technical Order (T.O.) 00-25-172, para 1-8.0 (1)(2)(3).

(1) Class I minor spills involve an area less than two feet in any plane dimension (direction). Using agency fireguards, determine if these spills create a fire hazard to the aircraft or equipment. Generally, they need only be monitored until the aircraft is dispatched.

(2) Class II minor spills involve an area not over 10 feet in any plane dimension (direction), or not over 50 square feet and not of a continuing nature. Post the area, using agency fireguards and immediately notify the fire department.

(3) Class III minor spills involve an area over 10 feet in any plane dimension and over 50 square feet in area and of a continuous nature. Flightline personnel will post fire guards and immediately notify the fire department.

(4) Major, medium and minor spill classifications are as referenced in f., g. and h. below.

b. *Discharges*: Includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping of oil or other hazardous material, or any action that violates applicable water quality standards; causes a film, sheen or discoloration of the surface of the water or adjoining shoreline; causes a sludge or emulsion to be deposited beneath the surface of the water or upon the adjoining shoreline; or affects the quality of the groundwater.

c. *Hazardous Materials*: For the purposes of this document, hazardous materials refers to hazardous materials and hazardous wastes.

d. *Hazardous Substance*: Any substance designated under section 311 (b)(2)(A) of the Clean Water Act; any CERCLA reportable substance; any hazardous waste; any toxic pollutant listed under section 307 (a) of the Clean Water Act, e.g. NPDES effluent limits; and any Toxic Substances Control Act (TSCA) imminently hazardous chemical substance or mixture, e.g. PCBs.

e. *Hazardous Waste*: Refer to 40 CFR 261.3.

f. *Major Discharge*: Means a "discharge" of more than 10,000 gallons of "oil" to inland waters or more that 100,000 gallons of "oil" to the coastal waters.

g. *Medium Discharge*: Means a "discharge" of 1,000 to 10,000 gallons of "oil" to inland waters.

h. *Minor Discharge*: Means a discharge, e.g. spilling, emitting to inland waters of less than 1,000 gallons of any kind or form of oil, e.g. lubricating, diesel, MOGAS, JP-8.

i. *Navigable Waters*: Defined by EPA as all water subject to the ebb and flow of the tide; interstate waters, including interstate wetlands; intrastate lakes, rivers, streams, intermittent streams, mudflats, sandflats and wetlands.

j. *Oil*: Oil of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge, oil refuse and oil mixed with waste other than dredged soil.

k. *OSC*: The On-Scene Commander is responsible for all spill response activity on-Base and for coordinating all response personnel. Examples of personnel that may be assigned as OSC could be the designated representatives of the deputy commander for support, the Air Base Commander or the deputy commander for resources.

l. *Releases*: Means any spilling or escaping of oils or hazardous materials into the environment, e.g. navigable waters, any surface water, groundwater, drinking water supply, land surface or subsurface strata, ambient air.

m. *Reportable Spills* - Pollution spills must be reported to regulatory authorities if they:

(1) Are hazardous to human health or detrimental to aquatic or terrestrial species of plants or animals.

(2) Are a threat to, or result in, contamination of underground or surface water.

(3) Cause a film or sheen upon, or discoloration of, the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon the adjoining shorelines.

(4) Violate applicable water quality standards.

(5) Exceed quantities listed in 40 CFR 302.4 and amendments.

(6) Are a possible cause of unfavorable publicity for the Department of Defense or its agencies.

n. *Senior Fire Officer*: The individual from the Base Fire Department who is in charge of fire fighting operations and responding to the spill locations.

Spill Event: A discharge of oil into or upon the navigable waters of the United States or adjoining shorelines in harmful quantities, as defined at 40 CFR part 110.

APPENDIX B: TRAINING

APPENDIX B: TRAINING

B.1. TRAINING

Training requirements related to oil and/or hazardous material (HAZMAT) releases are included in Air Force Instruction (AFI) 32-4001 and AFI 32-4002. Both documents have been prepared to implement Air Force Policy Directive (AFPD) 32-40, Disaster Preparedness.

AFI 32-4002 requires each major installation to have either a HAZMAT response team or a HAZMAT response capability (Chapter 4, Section 4.1). The response team must be able to effectively respond to and contain a HAZMAT release to prevent or reduce human injury or death, property damage, product loss, and environmental damage. The Fire Department has been charged with the responsibility of forming the core of the HAZMAT response team, with other organizations providing assistance as needed. Each installation must identify specific roles and responsibilities for each organization that responds to a HAZMAT incident. Additionally, each installation must have a HAZMAT post-emergency response team or capability. The post-emergency response team consists of advisory and cleanup groups. The advisory group oversees release cleanup activities, while the cleanup group returns the incident site to pre-emergency condition. Cleanup groups are not required if the installation decides to contract out all cleanup operations.

Installations are exempt from the response requirements contained in AFI 32-4002 if they:

- Evacuate their personnel from the danger area when an emergency occurs;
- Do not permit any of their personnel (including their emergency response organizations) to assist in the emergency response; or,
- Prepare an emergency action plan that delineates who (i.e. contractors, local community responders) is responsible for the HAZMAT incident response.

As required by AFI 32-4002, all military and civilian employees having HAZMAT emergency response roles must receive specific training before they can take part in actual HAZMAT incident responses. The specific training for each type of employee has been outlined in Table B1. Initial HAZMAT Emergency Response training will be accomplished by correspondence course or by attending a training course using the outline by the National Fire Protection Association (NEPA) 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents and a computer based training testing program (CERTEST).

Annual refresher training is required of sufficient content and duration to maintain their competencies or shall demonstrate competency in those areas at least yearly. Examples include classroom training, briefings, self-guided training using HAZMAT multimedia courseware, or a show of competency during exercises or real world HAZMAT emergency responses. Training will be documented using a computer program maintained by the Readiness Flight.

Table B.1 HAZMAT Emergency Response Training Requirements

Employee Category	Training Categories				
	1	2	3	4	5
Designated OSC and Alternates	X			X	
Base Civil Engineer	X			O	
Senior Fire Officials	X	X		X	X
Fire Protection Personnel	X	X			
CE Readiness	X	O	O		O
Explosive Ordinance Personnel	X	O	O		
HAZMAT Emergency Response Team (Note 1)	X	X	X		
Medical Personnel (Note 2)	X	X			
Security Forces	X				
"X' designates mandatory training "O' designates optional training					

TRAINING CATEGORIES:

1 - First Responder Awareness (29 CFR 1910.120 and National Fire Protection Association (NFPA) 472)
2 - First Responder Operations (29 CFR 1910.120 and NFPA 472)
3 - First Responder Technician (29 CFR 1910.120 and NFPA 472)
4 - On-Scene Commander (MLMDC 813 or associate mobile training ream located at Maxwell AFB AL)
5 - First Responder Incident Commander (29 CFR 1910.120 and NFPA 472)

Note 1. Based on an installation's hazard analysis, HAZMAT Emergency Response Team members may not require technician level training.

Note 2. As a minimum, personnel that respond directly to HAZMAT incidents to provide care to the injured require First Responder Awareness level training and DOD certification (i.e. ambulance personnel, flight medicine doctors. Additionally, medical personnel that provides treatment to contaminated victims from a HAZMAT incident and or medical personnel who must enter the hot or warm zone.

The following is a description of requirements for several emergency response training categories which are included in Table B.1:

First Responder Awareness Level. First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the authorities of the release. First responders at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

(A) An understanding of what hazardous substances are, and the risks associated with them in an incident.

(B) An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.

(C) The ability to recognize the presence of hazardous substances in an emergency.

(D) The ability to identify the hazardous substances, if possible.

(E) An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.

(F) The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

First Responder Operations Level. First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operational level shall have received at least eight hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level and the employer shall so certify:

(A) Knowledge of the basic hazard and risk assessment techniques.

(B) Know how to select and use proper personal protective equipment provided to the first responder operational level.

(C) An understanding of basic hazardous materials terms.

(D) Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with their unit.

(E) Know how to implement basic decontamination procedures.

(F) An understanding of the relevant standard operating procedures and termination procedures.

On scene incident commander. Incident commanders, who will assume control of the incident scene beyond the first responder awareness level, shall receive at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

(A) Know and be able to implement the employer's incident command system.

(B) Know how to implement the employer's emergency response plan.

(C) Know and understand the hazards and risks associated with employees working in chemical protective clothing.

(D) Know how to implement the local emergency response plan.

(E) Know of the state emergency response plan and of the Federal Regional Response Team.

(F) Know and understand the importance of decontamination procedures.

APPENDIX C: INSPECTIONS AND RECORDS

APPENDIX C: INSPECTIONS AND RECORDS

C.1. SURFACE RELEASES

This section is designated for records involving surface releases from aboveground storage tanks to the ground or paved surfaces. In case of a surface release from an AST (fixed or mobile), the First Responder Reporting Form provided in Appendix F should be completed. Following contingency measures for an emergency surface release, a Spill Incident Report To EMO form shall be completed by the responding manager and inserted into this appendix. These forms must be kept in this appendix for at least three years. A blank copy of this form is also included in Appendix F.

C.2. STORAGE SITES

The Facility Manager or designate inspects all ASTs, USTs, and storage buildings on a regular basis along with the loading (transfer) areas and adjacent roadways. Air Force Technical Order inspection forms are to be used for all oil storage and transfer facilities, including AFTO Form 39 for recording storage tank inspections; AFTO Form 1807 for refueler inspections; and AFTO Form 422 for pump inspections. These records are kept on file for at least three years. If the parameter inspected is in satisfactory condition, a check mark is placed in the appropriate line. If a deficiency is noted, it will either be described on the appropriate line or at the bottom of the inspection form reserved for remarks.

Small storage tanks and drum storage areas should be inspected using the appropriate blank forms provided in Appendix F.

Personnel are instructed in the use of the inspection forms and the parameters to be assessed in an on-the-job training format. Personnel are also to be provided formal training on spill prevention and emergency preparedness. This requirement is described in more detail in Appendix B of this plan.

C.3. INSPECTION OF MOBILE ABOVEGROUND STORAGE

Aboveground mobile storage tanks, including both refuelers and tanker trailers, are to be inspected on an annual basis. The mobile aboveground storage sites will utilize AFTO Form 1807 as the checklist for routine inspections. The inspection form shall be filled out by personnel responsible for the mobile storage area and retained at the site for at least three years. Hoses and valves should be visually inspected on each use. The mobile storage facilities subject to these inspections are listed in Section 6.

C.4. SECONDARY CONTAINMENT DRAINAGE

The drain valves for containment structures (i.e., dikes) are normally closed and locked. After each significant precipitation event, facility operators will inspect the rainfall that has accumulated in the containment areas. If there is no evidence of oil or chemical contamination, the valves are opened to release the clean storm water to the drainage system. If oil or chemicals appear to be present, the contaminants are removed and disposed of in accordance with local, state, and federal regulations. It may be necessary to remove and dispose of all the accumulated rainwater as if it was a contaminated waste.

The valve opening is performed under a written work order. Along with the written statement of the task, the operator indicates how long the job took and when it was completed. Any relevant comments are also included. These records are kept on Base for at least three years. Blank forms which are filled out to document the releases are provided in Appendix F. After releasing accumulated rainwater, the drain valve is closed and locked.

An accidental release from a secondary containment structure, including diked or bermed areas, should be treated like an accidental release from an AST. Following an accidental release the First Responder Reporting Form and Spill Incident Report To EMO provided in Appendix F should be completed by the appropriate personnel and inserted into this appendix. Blank copies of the forms are included in Appendix F.

TABLE C.1 VISUAL INSPECTION REQUIREMENTS

LOCATION	FREQUENCY	OFFICE OF PRIMARY RESPONSIBILITY	REQUIREMENTS
Satellite Accumulation Points (Hazardous Waste)	Weekly	SAP/Shop Manager	• Check for container leak or corrosion • Identify tanks nearing capacity • Determine adequacy of spill control equipment and supplies • See Base Hazardous Waste Management Plan (HWMP) for additional details and documentation requirements
Refueler Trucks and Parking Area	Daily	LG	• Check trucks for leaks • Utilize AF Form 1807 (Operator's Inspection Guide and Trouble Report) to ensure truck integrity
Vehicle Storage Areas	Daily	VM	• Check for fuel tank or engine leaks
Oil/Water Separators	Quarterly/ After a Spill	CE	• Check level in oil accumulation tank
Hazardous Waste Central Accumulation Point	Weekly	EMO	• Check for container leaks or corrosion • Verify adequacy of secondary containment • Determine adequacy of spill control equipment and supplies • See Base HWMP for additional details and documentation requirements
Base Supply	Daily	LG	• Ensure liquid container integrity

APPENDIX D: RECOMMENDATIONS FOR MITIGATION ACTION AND CLEANUP

APPENDIX D: RECOMMENDATIONS FOR MITIGATION ACTION AND CLEANUP

D.1. Spill Mitigation Action

WARNING: Spilled fuel constitutes a hazard of fire and explosion with the threat to human life and destruction of property. Petroleum vapors are also hazardous to personnel due to anesthetic and toxic concentrations below explosive levels. Volatile fuel may cause skin irritation if allowed to remain on the skin (e.g., soaked gloves and/or clothing). Personnel safety and protection of life and limb take precedence over environmental protection. If there is a threat to personnel safety, the Fire Department should be the first official agency notified. Special precautions should be exercised when handling JP-8 fuel, diesel fuel, or MOGAS.

I. Aboveground Tanks. Potential release sources, tank contents, tank locations, and tank capacities for aboveground storage systems and mobile aboveground storage sites are identified in Section 6 of the SPR.

If a spill occurs:

1. Within a diked Area:
   a) NOTIFY THE OSC and convey the following information:
      1. Location of spill,
      2. Extent/quantity of spill,
      3. Source/cause of spill,
      4. Whether or not spill flow has been stopped, and
      5. Action taken to contain the spill.
   b) STOP THE SPILL SOURCE if possible.
   c) INSPECT ALL DRAIN VALVES to ensure they are closed and not leaking; activate any available spill control devices if a release is detected.
   d) ESTABLISH FIRE PREVENTION measures around the vicinity of the spill.
   e) Refer to Section D.2 for spill cleanup procedures for various substances.

2. At the Tank Truck Unloading Areas:
   a) STOP THE PUMPS
   b) SPREAD ABSORBENT MATERIALS to retard spread of fuel. If the spill occurs at the commercial tanker trucks unloading stations, spread absorbent materials to prevent the spilled products from reaching unpaved surfaces or area drains.
   c) NOTIFY THE OSC and convey the following information:
      1. Location of spill,
      2. Extent/quantity of spill,
      3. Source/cause of spill,
      4. Whether or not spill flow has been stopped, and
      5. Action taken to contain the spill.
   d) ESTABLISH FIRE PREVENTION measures around the vicinity of the spill.
   e) Refer to Section D.2 for spill cleanup procedures for various substances.
3. From a Tank Truck Rupture while parked:
   a) SPREAD ABSORBENT MATERIALS to retard the flow of spill.
   b) Provide temporary curbing to prevent the spilled materials from reaching any storm drain.

c) NOTIFY THE OSC and convey the following information:
   1. Location of spill,
   2. Extent/quantity of spill,
   3. Source/cause of spill,
   4. Whether or not spill flow has been stopped, and
   5. Action taken to contain the spill.

d) ESTABLISH FIRE PREVENTION measures around the vicinity of the spill.

e) Refer to Section D.2 for spill cleanup procedures for various substances.

II. Underground Tanks. Potential release sources, tank contents, tank locations, and tank capacities for underground storage tank systems are identified in Section 6 of the SPR.

If a spill or overfill occurs:

1. STOP THE UNLOADING of product from the tanker truck.
2. SPREAD ABSORBENT MATERIALS to retard the spread of the spill prior to disconnecting product hoses or fittings. Prevent the spilled product for reaching unpaved surfaces or area drains.
3. ESTABLISH FIRE PREVENTION measures around the vicinity of the spill.
4. NOTIFY THE OSC and convey the following information:
   a. Location of spill,
   b. Extent/quantity of spill,
   c. Source/cause spill,
   d. Whether or not spill flow has been stopped, and
   e. Action taken to contain the spill.
5. Refer to Section D.2 for the recommended spill cleanup procedures for various substances.

D.2. General Spill Containment/Spill Cleanup Procedures

General information pertaining to recommended spill containment and cleanup procedures for the following are discussed in the following sections:

- Control Procedures and Techniques
- Containment Dams and Barriers
- Spill Cleanup Procedures for Bases
- Spill Cleanup Procedures for Acids
- Spill Cleanup Procedures for Oxidizers and Organic Peroxides
- Spill Cleanup Procedures for Flammable and Combustible Organic Liquids
- Spill Cleanup Procedures for Pesticides

NOTE: Cleanup of and emergency response to spill incidents which potentially may expose workers to hazardous materials, health hazards, or safety hazards must be performed by a contractor with properly trained personnel in accordance with OSHA, hazardous waste operations and emergency response training protocol.

Disposable equipment and resources will be used for containment and cleanup procedures whenever possible, and will be disposed of along with the spilled substance. These items shall be replaced to

their prior inventory level as soon as practically possible. Non-disposable equipment used will be properly decontaminated and restored to readiness for future use.

The OSC will direct all activity related to the cleanup of a spill site. The restoration of impacted areas of the environment will be conducted after an evaluation of the remedial alternatives and their respective costs. Testing to determine the degree and extent of the environmental impact may be needed during the evaluation process. The Base Commander shall have the responsibility of approving the course of action chosen, and to ensure the action is carried out.

D.3. Control Procedures and Techniques

TABLE D.1 GUIDE TO CLEANUP OPERATIONS ON WATER COURSES

WATER COURSE	LARGE AMOUNTS OF OIL AND FIRST STAGE OPERATIONS	SMALL AMOUNTS OF OIL AND SECOND STAGE OPERATIONS
Ditches	Improvised Dam	Straw Bale Dam
Streams - Shallow, small flow	Underflow Dam	Straw Bale Dam, and Absorbent
Streams - Shallow, large flow	Overflow and Fixed Dams	Overflow Dam and Fixed Boom and Absorbent, or Straw Bale Dam and Absorbent
Pond	Boom plus Sweep Boom	Boom and Absorbent

D.4. Containment Dams and Barriers

Several approaches to oil spill control are suggested in this section, including dams and barriers.

Sorbent Materials - Commercially supplied sorbent materials may be used if they are available and have the physical characteristics to perform adequately. A boom or barrier must be continuously maintained. At the completion of an emergency, material added to a stream must be removed and disposed of properly.

Placement of a barrier is critical with respect to water velocity. Chances of spill recovery diminish rapidly in water moving faster than 1-1/2 to 2 feet per second. The more quiescent pools of the stream should be selected for containment operations. At least two barriers, and preferably three or more, should be placed in series along the stream leaving work space between barriers for small boats, skimming devices and other necessary equipment. The spill material should be removed before significant seepage occurs.

Straw Barriers - Straw barriers have proven effective not only as an absorbent medium, but as an underflow type containment dam capable of backing up an oil film several inches in thickness. This type of containment can be rapidly constructed from materials commonly available in most areas and is a major advantage where a more elaborate or patented boom may not be available. Wire fencing (hog wire or chain link) and preferably steel posts form the backup for the straw. Steel

posts can generally be driven into the stream bottom. These should be placed 8 to 10 feet apart depending on stream conditions, current flow, etc. Wire fencing is then tied to the posts and anchored adequately at each bank. The straw is then broken out of bails and spread across the full width of the structure and for a distance upstream of 10 - 15 feet. The depth of the straw should be maintained at a minimum of 6 inches. In cases where posts cannot be used, the fencing can be strung or suspended on cable. The fence must be adequately anchored at the bottom to avoid dumping saturated straw as the load or current increases.

Reservoirs - Construction of a reservoir (dry land) impoundment will buy time to allow removal of the spill material. Complications such as heavy rain washing over the structure, or floating oil over the dam may occur. These hazards must be considered in the initial phases of response and precautions taken.

If surface water drainage is anticipated, preparations should be made to pump or siphon off the water to the downgrade side. Valve pipes of adequate size extended through the dam during construction may offer an alternate solution. If valves are not available, set the intake at an upstream low point (well below oil level) and the discharge at the desired surface level.

This water bypass arrangement is also useful in cases where the spill has already reached a flowing stream or creek. Practical limits depend on flow rate of the stream and being able to provide sufficient water bypass capability. Necessary pipe size for low rates above 30 cu. ft./sec. is in the range of 24 to 30 inches diameter. Multiple pipes can be used; however, it may be more practical to consider some other type of underflow dam.

Earth Fill Dams - An earth fill dam, in one form or another, is commonly used for spill containment. Dams of this type may range from simple, manually constructed fills to more elaborate, controlled-flow structures designed to trap oil on water. Ideally, a spill should be caught in its earliest stage close to the source, thus permitting the simplest means of containment and recovery, and with minimal damage to the surroundings.

Spills that occur on dry land, remote from water, generally provide better prospects for effective containment with an earth fill barrier forming a temporary reservoir. A dry ditch or ravine can be blocked with minimum effort. Trenching and terracing can form a shallow holding pond. The options will vary with terrain, spill volume, soil conditions, lead time, manpower, equipment availability, etc. Lead time is the most critical factor in an event and dictates where and how containment efforts must proceed.

Dams should be constructed and compacted by whatever means possible. If a track vehicle is available, a width of 6-8 feet is needed at the top. The usual fall angle of the earth will suffice for sloping. The top of the dam should be 3-4 feet higher than the level to which the oil-water layers are expected to rise.

D.5. Spill Cleanup Procedures for Bases

Color code - White Letters on Black Background.

1. Emergency:
   a. Make initial notification identified in Section 4.2.
   b. If a chemical gets in an victim's eyes, flush the eyes using an eye wash unit for 15 minutes. Transport the victim to the Emergency Medical Center (EMC).
   c. Remove contaminated clothing. Wash skin for 15 minutes by having the victim stand under an emergency shower. Transport the victim to the EMC.
   d. Be prepared to tell the doctor what chemicals are involved.

2. Spill Containment: Enclose spilled caustic with a dike of solid absorbent (sawdust, vermiculite, or clay).

3. Neutralization: Add a 6N hydrochloric acid solution to the spilled liquid caustic while testing with pH paper. Continue to add the hydrochloric acid solution until the pH range of the spilled liquid is between 6 and 8. If the spilled caustic is a solid powder, pellet or flake, clean up by containerizing as much of the material as possible, then add water to the remaining material until all the visible solid has dissolved.
   Next, add a 6N hydrochloric acid solution to the remaining solution until the pH range of the spilled liquid, as determined by pH paper, is between 6 and 8.

4. Cleanup: Add more absorbent if necessary. Scoop up spent solid absorbent material with a non-sparking shovel or scoop with a long handle. Place in the proper spent waste container. The waste container should be properly color coded and labeled "CAUSTIC WASTES".

5. Container: Rubber or plastic.

6. Personal Protective Equipment: Spilled caustics are very slippery. Care must be taken to avoid falls. Employees involved in cleaning up spills must wear the following protective clothing and equipment:
   a. Butyl or neoprene 18" gauntlet gloves.
   b. Long sleeve shirt.
   c. Polylaminated Tyvek or Saranex® chemical protection suit.
   d. Runner high top boots or overshoes.
   e. Disposable coveralls.
   f. Air purifying, full face respirator with filters/cartridges for mists and fumes, use MSA respirator #471286 with 459595 filters/cartridges or approved equivalent. National Institute of Safety and Health (NIOSH) approval TC-21C-135. Use this respirator to leave the area after a spill. To clean up spills, contact the Fire Station so you can use their "Supplied Air Respirator" with open chemicals.
   g. Full face shield or chemical splash goggles should be worn when a respirator is not being worn and if still working with open chemicals.
   h. Supplied air respirator.

7. Fire Extinguishers: Use water spray, dry chemical, or carbon dioxide extinguishers.

D.6. Spill Cleanup Procedures for Acids

Color code - White Letters on Black Background.

1. Emergency:
   a. Make initial notification identified in Section 4.2
   b. If a victim ingests an acid or breathes the acid mists, transport the victim to the EMC at once.
   c. If a victim has acid spilled on him/her, provide immediate treatment by using an eye wash or shower as appropriate and then transport the victim to the EMC. Take off any clothing that acids have contaminated.
   d. Be prepared to tell the doctor what chemicals are involved.
   e. Call the ambulance at the time of accident so the Fire Department personnel can administer first aid and transport the victim to the EMC.

2. Spill Containment: Enclose spilled acid with a dike of clay absorbent.

3. Neutralization: Add sodium bicarbonate to the liquid acid spill until the pH range of the resulting solution, as determined by pH paper, is between 6 and 8. If the spilled acid is a solid pellet, flake or powder, begin cleanup by containerizing as much of the material as possible. Next, consult the MSDS for the acid to determine what type of basic solution can be used to safely dissolve and neutralize the remaining solid acid. This solution should then be added until all the solid has dissolved and the pH range, as determined by pH paper, is between 6 and 8.

4. Cleanup: Add sawdust or clay until the acid and sodium are completely covered. Scoop up spent solid absorbent material with a non-sparking shovel with a long handle. Place spent waste in the proper container. The waste container should be properly color coded and labeled "ACID WASTE".

5. Container: Plastic or rubber.

6. Personal Protective Equipment: Employees involved in cleaning-up an acid spill must wear the following protective clothing and equipment:
   a. Butyl or neoprene 18" gauntlet gloves.
   b. Rubber-coated or neoprene apron.
   c. Butyl or neoprene high top boots or overshoes.
   d. Wash all clothing after use and have it cleaned before reuse.
   e. Long sleeve shirt.
   f. Super size gas mask with ultravue facepiece, MSA #460122 Organic Vapor/Acid Gas, front mounted complete with two 460117 GMC-S canisters or approved equivalent. NIOSH approval No. TC 14G-100.
   g. Full face shield or chemical splash goggles to be used when not wearing gas mask and still handling spill.
   h. Supplied air respirator.

7. Fire Extinguishers: Use water spray, dry chemical, or carbon dioxide extinguishers.

D.7. Spill Cleanup Procedures for Oxidizers and Organic Peroxides

Color code - Black Letters on Yellow Background.

1. Emergency:
   a. Make initial notification identified in Section 4.2
   b. Body areas that have been in contact with chemicals should be flushed with water at once. Clothing that has chemicals on it should be removed at once. Transport the victim to the EMC.
   c. Contact with eyes. Wash thoroughly with water for fifteen minutes and transport the employee to the EMC.
   d. Taken internally Transport the victim to the EMC at once.
   e. Call ambulance at once so the Fire Department personnel can administer first aid and transport victim to the EMC.
   f. Be prepared to tell the doctor the chemicals involved.

2. Spill containment: Enclose spilled oxidizers with a dike of clay or talc (absorbent).

3. Chemical Treatment: Cover spills with sodium bisulfite. The bisulfite is a weak reducing agent and may need a reaction prompter such as in sulfuric acid (28.4 ml concentrated acid diluted to one liter) for a more rapid reaction.

4. Cleanup: Add more absorbent until the oxidizer is completely absorbed. Scoop up spent absorbent with a non-sparking shovel or scoop with a long handle. Place absorbent material in the proper waste container. The waste container should be properly color codes and labeled "WASTE OXIDIZERS".

5. Container: Plastic or rubber can or a wooden box lined with heavy plastic so it will not leak.

6. Personal Protective Equipment: Oxidizers and organic peroxides are extremely hazardous and readily combustible if mixed with organic compounds. Employees involved in cleaning-up spills must wear the following protective clothing and equipment:
   a. Rubber or neoprene 18" gauntlet gloves.
   b. Long sleeve shirt.
   c. Rubber or neoprene apron.
   d. Rubber high top boots or overshoes.
   e. Runner or neoprene coveralls.
   f. Hard or brimmed felt hat.
   g. Disposable coveralls.
   h. Super-size gas mask with ultravue facepiece, MSA #448923 organic/vapor, front mounted; complete with two 448965 GMA-SS canisters in carrying case or approved equivalent, NIOSH approval No. TC 14G-97.

i. A full body shield made of metal and covered with plastic should be available at the spill site. The shield should be placed between the employee and the chemical spill. This will protect employee from hazard caused by explosion.
j. Vaseline for lubrication of the nostrils.
k. A full face shield is to be worn when the gas mask is not being worn if working with open chemicals.
l. Supplied air respirator.

7. Fire Extinguishers: Dry chemical extinguishers should be used to fight fires. Separate the oxidizers from sources of ignition and avoid heating. Use water spray on combustible materials near the fire.

D.8. Spill Cleanup Procedures for Flammable and Combustible Organic Liquids

Color code - White Letters or Red Background

1. Emergency:
   a. Make initial notification identified in Section 4.2.
   b. Skin contact: All clothing contaminated with chemicals must be removed at once, including rubber foot wear and should be thoroughly washed with plenty of water for at least fifteen minutes. The skin should be washed with soap and water, and the victim transported to the EMC.
   c. Inhalation or taken internally: Transport the employee to the EMC at once.
   d. Eyes: Irrigate the eyes for 15 minutes and transport the victim to the EMC.
   e. Be prepared to tell the doctor what chemical(s) is/are involved.
   f. Call the ambulance at once so the Fire Department personnel can administer first aid and transport the victim to the EMC.

2. Spill Containment: Enclose spilled organic liquid with a dike of sawdust or sweeping compound (solid absorbent).

3. Cleanup: Use enough absorbent to soak up the spilled liquid. Since most organic liquids are very flammable, avoid sources of ignition or SPARKING. Scoop up spent solid absorbent with a non-sparking shovel or scoop with a long handle. Place absorbent in the proper waste container. Waste container should be color coded and labeled "WASTE FLAMMABLE OR COMBUSTIBLE MATERIALS".

4. Container: Metal can lined with plastic liner.

5. Personal Protective Equipment: Vapors heavier than air tend to accumulate in low places; avoid having flammable vapors come in contact with ignition sources to prevent flashback. Employees involved in cleaning-up a spill must wear the following protective clothing and equipment:
   a. Rubber or neoprene 18" gauntlet gloves.
   b. Rubber or neoprene apron.
   c. Rubber high top boots or overshoes.
   d. Disposable coveralls.

e. Super-size gas mask with ultravue facepiece, MSA #448923 organic/vapor, front mounted; complete with two 448965 GMA-SS canisters in carrying case or approved equivalent, NIOSH approval No. TC 14G-97.
f. A full face shield is to be worn when the gas mask is not being worn if working with open chemicals.
g. Supplied air respirator.

6. Fire Extinguishers: Carbon dioxide and dry chemical type. In case of fire, call the Fire Department and cool nearby drums with a hose stream of water to prevent ignition and the possibility of pressure increase in the containers.

D.9. Spill Cleanup Procedures for Pesticides

Color Code - Depends on type of pesticide.

1. Emergency:
   a. Make initial notification identified in Section 4.2.
   b. Identify the pesticide involved in the spill. If contamination of personnel has occurred, remove contaminated clothing. Wash skin for 15 minutes and report to the EMC.
   c. If pesticides are spilled in the eyes, wash in the eye bath for 15 minutes and report to the EMC.
   d. If there are any signs of dizziness, upset stomach, etc., report to the EMC at once.
   e. When going to the EMC, take the names of the pesticides you have been using with you.
   f. Call the ambulance at once so the Fire Department personnel can administer first aid and transport the victim to the EMC.
   g. Secure the spill site from entry by unauthorized personnel by roping off the area and posting warning signs.

2. Spill Containment: Enclose liquid spills with a dike of absorbent (e.g., sawdust, clay or vermiculite). If the pesticide container is still leaking, place the leaking container in a suitable overpack drum or comparable container to prevent further spillage.

3. Neutralization: Add sodium hypochlorite and cover with lime.

4. Cleanup: Add more absorbent if necessary. Scoop up spent solid absorbent and place in proper waste container. More specific procedures for cleanup of pesticides is presented in the Pesticide Spill Cleanup Management Program.

5. Containers: Metal can with plastic liner.

6. Personal Protective Equipment: The following protective clothing/equipment must be worn:
   a. Apron, impermeable, cotton duck both sides chloroprene rubber coated, tie tape fasteners at back, without sleeves or pockets.
   b. Boots, knee, non-insulated, black rubber water proofed upper, knurled rubber sole, non-slip heel, 15" high.
   c. Cap, cotton.

d. Gloves, rubber, natural or synthetic rubber, organic solvent resistant, rolled edge cuff, 14-inch long, black.
e. Goggles, chemical splash, without vent, rubber neoprene material, AO model 40989 or equivalent. Used when respirator is not worn.
f. For ULV Pesticides, use gas mask, MSA Part No. 448983 with canister part No. 448972. NIOSH approval No. TC14G-86.
g. For other than ULV pesticides, use respirator, chemical cartridge, MSA Part No. 448972. NIOSH approval No. TC14G-86.
h. Full faceshield for use when respirator is not worn and the employee is still working with open chemicals.

7. Fire Extinguishers: None. Evaluate and call Fire Department.

APPENDIX E: SPILL PREVENTION RESPONSIBILITIES

OIL AND HAZARDOUS SUBSTANCE POLLUTION CONTINGENCY PLAN (OHSPC)

RESPONSE ORGANIZATIONS:

The Wing Commander is responsible for directing and coordinating all spill response actions by the Disaster Response Force and the and Spill Response Team (SRT). The Spill Response Team will be deployed when requested by the On-Scene Commander (OSC) to provide a coordinated effort to contain, control, recover and restore the environment from oil, fuel, or hazardous substance spills. Table 7.2 lists Base telephone numbers for Spill Response Team members. Off-duty telephone numbers are maintained by the Command Post. Table 7.1 lists the off-Base response organizations and their telephone numbers. The personnel assigned to the Spill Response Team and their designated responsibilities are as follows:

a. Wing Commander:

1. Appoints the On-Scene Control Group and the On-Scene Commander.
2. Appoints an Environmental Coordinator to furnish technical expertise on pollution control techniques.

b. Command Post:

1. Maintains Response Checklists to ensure timely agency response.
2. Implements the Spill Response and all related Checklists to prevent personal injuries and destruction of property.
3. During off-duty hours recalls supervisors needed to implement the plan and prevent pollution.

c. On-Scene Commander (OSC):

1. Requests the deployment of the Spill Response Team.
2. Directs the spill response efforts of the SRT.
3. Coordinates requirements from the On-Scene Control Group for materials, personnel and equipment.
4. Coordinates the spill cleanup, area decontamination and restoration efforts.

d. Base Civil Engineer (BCE):

1. Conducts annual detailed inspection of all oil and hazardous material storage sites to ensure that facilities are in good repair and operate properly.
2. Utilizing the Base's routine maintenance plan, provides preventative maintenance to all facilities to prevent a possible discharge of oil or hazardous substances.
3. As available, provides personnel, transportation and equipment for containment, cleanup and restoration of landscape necessitated by fuel, oil or hazardous substance spills.
4. Notifies the On-Scene Commander of Base capability in terms of personnel and equipment.

5. Maintains an inventory and storage for chemical agents, sorbent materials and equipment, not otherwise specified to be furnished by other units, which are deployed in combating the spill.
6. Provides a Liquid Fuels Maintenance technician to supply explosion hazard measurements and technical assistance to the OSC.
7. Provides personnel as required for the Spill Response Team to document the extent of the spill, containment, countermeasures, and restoration procedures utilized and directed by the OSC.
8. Provides the Security Forces with containers and absorbent material to contain small spills during non-duty hours.
9. Assists in collecting all spill residue and absorbent material for storage and disposal.
10. Coordinates with contractors on the proper disposal of contractor spill materials.

e. Base Fire Chief:

1. Acts as the OSC until the appointed OSC is on site.
2. Immediately responds to spills as necessary to protect life and property with due regard to the environment.
3. Records all spills on a spill event log.
4. Provides technical assistance to the OSC concerning response to, and handling of, combustible or flammable substances.
5. Maintains protective clothing and equipment for response personnel within the Fire Department.
6. Provides personnel as required for the Spill Response Team.
7. Requests Command Post to notify Base Clinic (if injuries are reported) and the BCE or Bioenvironmental Coordinator of the spill occurrence.

f. Disaster Preparedness Officer:

1. Ensures Disaster Preparedness OPLAN 32-1 is coordinated and compatible with the Spill Response Plan in the event of a hazardous substance spill which requires the implementation of the OPLAN.
2. Ensures Spill Response Team receives proper training
3. Reports to the scene when directed by the Commander and supports the OSC.
4. Ensures hazardous waste trailer is properly stocked and maintained.
5. Activates and directs actions of the Disaster Preparedness Control Center.

g. Chief of Security Forces:

1. Immediately responds to an actual or potential oil or hazardous substance spill.

- Responds and closes appropriate spill containment valves to prevent discharges to streams or sanitary sewers.
- Cordons off the spill area and control traffic as directed by the OSC.

2. Ensures during non-duty hours, including holidays, routine checks of fuel storage areas, pumps and transfer equipment are conducted to assure there is no evidence of leaks or spillage.
3. Ensures individuals in the security force while on normal patrols, are continuously on the look out for oil and hazardous substance spills and report all suspected spills.
4. Will use containers and absorbent materials available in area to contain small spills during non-duty hours.

h. Liquid Fuels Maintenance Technician: Will report to the scene at the request of the OSC to measure explosive vapor concentrations, and determine where explosion hazards exist. This information will be provided to the OSC for use in establishing the cordon.

i. Safety Officer: Provides technical assistance to the OSC with respect to the safety of personnel.

j. Base Medical Technician:

1. Dispatches medical personnel and ambulances to the site of the spill as directed by the OSC.
2. Provide emergency treatment and await medical evacuation of injured personnel to area hospitals by the responding ambulance services.
3. Provides initial and follow-up information on injured personnel which is provided to the Wing Commander as soon as possible.

k. Bioenvironmental Services:

1. Ensures that the medical staff is familiar with the health effects of hazardous substances on the Base.
2. Takes periodic samples of on-Base drainage conveyances and sanitary sewers for pollution monitoring and maintaining background information.
3. If a spill occurs conducts tests within 50 minutes of sanitary sewers and drainage conveyances to determine whether or not the spilled substance is leaving the Base or creating a life-threatening situation.

l. Logistics Squadron Commander:

1. Provide Vehicle Maintenance and Base Fuels Management Facility personnel for the Spill Response Team.
2. Provides OSC with transportation as required for spill response personnel and equipment.
3. Provides for contract services needed to assist in spill containment and cleanup.
4. Provides transportation of contaminated sorbent material and reclaimed spilled material to the Defense Property Disposal Office.

m. Logistics Commander:

1. Relocates aircraft as personnel safety dictates. Coordinates relocation with the OSC to minimize impact on spill response efforts.

2. Provide personnel as required for the Spill Response Team.

n. Public Affairs Office: Responds in accordance with Base OPlan 32-1.

Technical Spill Assistance: In addition to the Base organizations and personnel assigned to the response effort, provisions have been made to include off-Base organizations in the response organization whenever on-Base spill response resources and expertise are insufficient, or if off-Base water, land, or air are adversely affected. Some of the significant off-Base spill response resources that can be incorporated into the Spill Response Team, if needed, are listed below.

a. City / County Fire Department: A fire protection agreement exists with the city/county Fire Department whereby they will provide available personnel and equipment as requested to control fire hazards resulting from a spill incident. In addition, the Fire Department will provide a Hazardous Material (HAZMAT) Response Team in no more than ten (10) minutes to the Base in the event of a hazardous material spill.

b. Private Contractors: Private contractors are included in the response organization primarily to conduct cleanup and restoration work when Base's resources are insufficient to conduct these activities. Names of reputable contractors can be obtained from the US Environmental Protection Agency. No advance contract arrangements have been made by the Base with any outside contractors.

c. CHEMTREC: The Chemical Transportation Emergency Center (1-800-424-9300) is a 24-hour hot line providing limited guidance and warnings to the OSC when a spill product can be identified by either the trade or chemical name. CHEMTREC will also assist the OSC in contacting the manufacturer or shipper for additional information. This service should be used when adequate spill response information is not available.

d. Defense Environmental Network & Information eXchange (DENIX): The DENIX is designed to provide Department of Defense (DOD) personnel in the environmental security arena (a principal staff element of the USD(A&T) mission) with timely access to environmental legislative, compliance, restoration, cleanup, and DOD guidance information. It is intended to serve as a central electronic "meeting place" where information can be exchanged among environmental professionals worldwide.

e. ETIS: Environmental Technical Information System (ETIS) is a computerized information system which contains federal and state environmental contacts and computer modeling capabilities. The ETIS is managed by the US Army Construction Engineering Research Laboratory located at Champaign, IL. The Environmental Planning Directorate at AFESC manages Air Force use of the ETIS. Additional information on the system and how to access it can be obtained by calling Autovon 970-6167 or Commercial (904) 283-1667.

f. USAF Occupational and Environmental Health Laboratory (OEHL): The OEHL is assigned responsibility for providing consulting services on spill sampling, containment, treatment methods and analytical support during response and recovery operations. For

complex spill problems, on-site support may be provided. Call DSN 240-3626 for analytical support.

OFF-BASE NOTIFICATION REQUIREMENTS BY EMO

SCENARIO NO.	BASIS FOR REPORTING	AGENCIES TO CONTACT	TIME FRAME FOR CONTACT	INFORMATION TO BE PROVIDED
1	**Discharge of Petroleum Product to the Ground** - Any release of oil to the ground in excess of 10 gallons.	A	Verbal within 30 minutes	• Location , source(s), time, and duration of the release; • Chemical name or identity and of any substance involved in the release; • Estimate of the quantity (pounds or gallons) released; • The medium (land, water, or air) in which the release occurred or exists; • Extent of the release; • Any known or anticipated acute or chronic health risks with the release and advice regarding medical attention necessary for exposed individuals; • Proper precautions to take as a result of the release or discharge, including evacuation and other proposed response actions; and, • The name and telephone number of the person(s) to be contacted for further information.
2	**Discharge of Petroleum Product to Surface Water** - Any discharge of petroleum product that violates 40 CFR 110.6 must be reported. This is basically any amount of petroleum product that reaches surface water (overland or through sewers).	A, B, C D	Immediately Within 24 hours	Same as Scenario 1 with these additions: • Location of spill and name of receiving water
3	**Spill of AFFF in Excess of the Reportable Quantity** — of 1 pound Glycol Ether, 47 ounces AFFF concentrate, or 15 gallons mixed with water.	A, B, D E	Immediately Within 15 minutes	• Facility name and address • Your name and phone number • Type and quantity of material spilled • Time of spill • Is spill continuing? • Location of spill • Current response action
4	**Discharge of Petroleum Product to Surface Water in Excess of 1,000 gal.**—If the facility has a spill in 1,000 gal. or has two spills that violate 40 CFR 110.6, a report to the EPA Regional Administer is required (40 CFR 112.4).	A, B, C, D, G A, C, D	Immediately Within 3 days of event that violates 40 CFR 112.4	Same as Scenario 2 Written report that describes: • Name of facility • Name(s) of the owner or operator of the facility • Location of the facility • Date and year of initial facility operation • Maximum storage or handling capacity of the facility and normal daily throughput • Description of the facility, including maps, flow diagrams and topographical maps • A complete copy of the SPR Plan with any amendments • The cause(s) of such spill, including a failure analysis of system or subsystem in which failure occurred • The corrective actions and/or countermeasures taken, including an adequate description of equipment repairs and/or replacements • Additional preventive measures taken or contemplated to minimize the possibility of reoccurrence • Such other information as the Regional Administrator may reasonably require pertinent to the Plan or spill event

OFF-BASE NOTIFICATION REQUIREMENTS (Continued)

SCENARIO NO.	BASIS FOR REPORTING	AGENCIES TO CONTACT	TIME FRAME FOR CONTACT	INFORMATION TO BE PROVIDED
5	**Spill of Hazardous Substances in Excess of the Reportable Quantity** -- Table 302.4 (40 CFR 302.4 and Attachment K of this SPR) lists the spill quantity of hazardous substances that triggers reporting under 40 CFR 302. (Use "Final RQ" column) If a hazardous substance does not have an reportable quantity, use 100 pounds.	A, B, C G D	Immediately Within 2 hours Within 24 hours	• Facility name and address • Your name and phone number • Type and quantity of material spilled • Time of spill • Is spill continuing? • Location of spill • Current response action
6	**Spills or Overflows from an Underground Storage Tank** -- Report to the implementing agency any spills or overflows that result in a release to the environment of 10 gallons of petroleum product, or the pet. Product causes a sheen on nearby surface water, or exceeds the RQ of a hazardous waste.	A, D, G B	Within 2 hours Within 2 hours (if spill enters surface water)	• Facility name and address • Your name and phone number • Type and quantity of material spilled • Time of spill • Is spill continuing? • Location of spill • Current response action
7	**Discharge to Sanitary Sewer** - Accidental spill of petroleum product, hazardous waste/material, or any other material which by reason of their nature or quantity are sufficient to cause fire or explosion or be injurious in any other way to the sewerage system or to the operation of the waste reclamation facilities.	A, E, F D	Immediately Within 24 hours	• Facility name and address • Your name and phone number • Type and quantity of material spilled • Time of spill • Is spill continuing? • Location of spill • Current response action

Agencies to Contact:

A Massachusetts Department of Environmental Protection - (888) 304-1133
B National Response Center - (800) 424-8802
C USEPA, Region I - (617) 573-5715
D ANG/CEVC - DSN 278-8223 (Duty Hrs.)/DSN 858-6001 (Non-Duty Hrs.)
E LEPC - (413) 787-6720
F Westfield Wastewater Treatment Plant - (413) 572-6268

APPENDIX F: MASTER FORMS

OHSPC TRAINING ROSTER

Training Topic_____

Training Date _____

Personnel	Unit / Assignment	Phone

ANNUAL REVIEW AND EVALUATION RECORD SHEET

The Environmental Manager shall be responsible for conducting an annual review of this plan. The Base Environmental Protection Committee will be responsible for approving the annual review report and assuring that the SPR Plan is amended when necessary. The annual review and any resultant changes to the plan must be logged on this record sheet. Any changes, which significantly affect the SPCC portion of this plan, will require recertification by a Registered Professional Engineer.

RECORD OF CHANGES

CHANGE (NO., DESCRIPTION, DATE)	DATE POSTED	POSTED BY

RECORD OF ANNUAL REVIEW

DATE REVIEWED	REVIEWED BY	REMARKS

POLLUTION INCIDENT NOTIFICATION REPORT FORMAT

A1-1. Requirements for notification, as established in the basic regulation, request the following information in the event of a pollution incident in which immediate corrective actions are required:

a. Name of installation.

b. Date and time of incident.

c. Severity of incident. Specify degree (serious, minor) of potential or actual threat to: human life; property; or plant or animal life.

d. Location of incident and the nature of terrain at the location to include surface and subsurface drainage characteristics and relationships to water bodies (estimate extent of area affected such as miles of stream or acres of lake).

e. Cause of incident.

f. Type and estimate amount (barrels, gallons, lbs) of pollutant.

g. Damage impact on surrounding including fish and wildlife. Include type of fish or wildlife affected and estimate number killed.

h. Corrective action to eliminate pollution source.

I. Corrective action to remove pollutant.

j. Assistance required.

k. Estimated completion date of remedial action.

l. Anticipated or actual reaction by the news media and public reaction to the incident. Specify potential for liability.

m. Regional Environmental Protection Agency or U.S. Coast Guard Office notified/or statement that notification was not required.

A1-2. Initial Report coordination and routing is established in the basic regulation.

DIKE DRAINAGE VERIFICATION

DATE	INITIALS	VISIBLE FILM	REMARKS
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	
		YES NO	

Liquid Storage in Aboveground Storage Tanks

Building / Area: _____ **Date:** _____

Inspector: _____ **Unit:** _____

	YES	NO	N/A
A. Aboveground Tank Management Plans			
1. Are the aboveground tanks included in other environmental management plans?			
2. Are tanks in compliance with all applicable plans and regulations?			
B. Safeguards Installed to Prevent Accidental Releases			
1. Are there overflow protection devices on tanks?			
2. Are there protective guards around tanks and pipes?			
3. Are valves clearly tagged, labeled, and oriented properly?			
4. Are employees trained in correct operating procedures and safety activities?			
C. Routine Inspections			
1. Are tanks systems inspected at least twice per year?			
2. Is tank structural integrity inspected at least once per year?			
D. Secondary Containment			
1. Are tanks located within adequate secondary containment?			
2. Are valves used for draining containment system?			
3. Are valves closed and locked?			
E. Other Comments:			

Yes: Compliance No: Non-Compliance N/A: Not Applicable

SPILL INCIDENT REPORT TO EM

(To be completed by responding manager)

INCIDENT DATE: _____ TIME: _____

REPORT DATE: _____ TIME: _____

LOCATION: _____

PERSON REPORTING: _____ PHONE: _____

MANAGER IN CHARGE: _____ PHONE: _____

SPILLED PRODUCT INFORMATION:

Product	Jet Fuel	MOGAS	Diesel	Oil (new)	Oil (used)	Solvent	Deicing Fluid	AFFF	Other
Storage Capacity									
Spill Volume									

Volumes in gallons

STOPPED DATE: _____ TIME: _____

Spill from or suspected from a leaking underground storage tank or piping? ..... _____

Spill contained on premises? ..... _____

If not, did the spill enter sewers, pipes, or ditches? ..... _____

If not, did the spill enter a body of water? ..... _____

Nearest body of water or body of water spill entered? _____ Distance..... _____

Will spill cleanup be accomplished within 24 hours? ..... _____

Were there any injuries? ..... _____

CONTRACTORS CONTACTED / AGENCIES AWARE OF INCIDENT:

CONTRACTOR / AGENCY	REPRESENTATIVE	PHONE

DESCRIPTION: (check one)

- ☐ leaking UST or piping
- ☐ overfill, during fuel drop
- ☐ drive off, hose in vehicle
- ☐ overfill, vehicle unattended
- ☐ overfill, aircraft
- ☐ venting, aircraft
- ☐ equipment failure
- ☐ other human error
- ☐ other (than UST, human error, or equipment failure)

(Describe Incident on opposite side. Include all facts relating to how discovered, cause of incident, stopping, containing, cleanup, and contacts/conversations with agencies outside.)

ADDITIONAL INCIDENT INFORMATION. Include all facts relating to how discovered, cause of incident, stopping, containing, cleanup, and contacts/conversations with agencies outside.

FIRST RESPONDER REPORTING FORM

Collect as much of the following information as reasonable before making initial notification

Name of individual reporting spill (Rank, Name)

_____

Location of spill (Building or area name / number, indoors or out)

_____

Number of injured personnel and number of injuries, if applicable

_____

Substance(s) spilled and estimated quantity spilled, rate at which material is currently spilling

_____

_____

_____

_____

Estimated time of spill occurrence

_____

Extent of spill travel

_____

Necessity of Fire Department to respond to protect life, property, and environment

_____

_____

Any additional pertinent information such as other potential hazards

_____

_____

_____

_____

Initial information is critical. Get as much information as you can, but don't hesitate to make the initial notification if a spill is moving or worsening rapidly!

SPILL RESPONSE ACTIONS

1. **Initiate evacuation, if necessary.**

2. **Notify the Base Fire Department by calling 1911, and report the following information if it is known or can reasonably be determined (The Base Fire Department will notify the On-Scene Commander):**

   - Name of individual reporting spill
   - Location of spill
   - Number of injured personnel and number of injuries, if applicable
   - Substance spilled
   - Estimated amount spilled
   - Estimated rate at which material is currently spilling
   - Estimated time of spill occurrence
   - Extent of spill travel
   - Necessity Base Fire Department to respond to protect life, property, and environment
   - Any additional pertinent information such as other potential hazards

3. **Stop spill flow when possible without undue risk of personal injury.**

4. **Contain the spill using whatever means is readily available.**

5. **Make spill scene OFF LIMITS to unauthorized personnel.**

6. **Restrict all sources of ignition when flammable substances are involved.**

7. **Report to the OSC upon his/her arrival to the scene.**

PHONE NUMBERS

The following organizations may need to be reached in the event of a spill.

On-site

1. *Base Fire Department*..... *x1911*
2. *Environmental Management*..... *x1710*
3. *Disaster Preparedness* *x1219*
4. *Safety Office* *x1218*
5. *Base Security*..... *x1426*
6. *Base Civil Engineer* *x1347*
7. *Base Fuels Management*..... *x1353*
8. *Bioenvironmental Engineering*..... *x1317*

Off-site

1. *Local Police and Fire.* *911*

FORMS FOR RECORDING STEP 2 INFORMATION THAT IS TO BE REPORTED TO THE FIRE DEPARTMENT ARE INCLUDED IN APPENDIX F OF BASE SPILL PLAN

MASSACHUSETTS AIR NATIONAL GUARD
104TH FIGHTER WING
WESTFIELD, MASSACHUSETTS

OIL and HAZARDOUS SUBSTANCES
SPILL PREVENTION and RESPONSE PLAN

July, 99

July, 99

MASSACHUSETTS AIR NATIONAL GUARD
104TH FIGHTER WING
WESTFIELD, MASSACHUSETTS

TO: DISTRIBUTION

1. Forwarded is the "Oil and Hazardous Substances Spill Prevention and Response Plan" for the Massachusetts Air National Guard (MAANG), 104th Fighter Wing.

2. The long title of the document is the Oil and Hazardous Substances Spill Prevention and Response Plan for the Massachusetts Air National Guard 104th Fighter Wing (104 FW) with the short title of "Spill Prevention and Response (SPR) Plan."

3. This plan satisfies all applicable state and federal (40 CFR 112) requirements for the development of a Spill Prevention Control and Countermeasure Plan.

4. This document is UNCLASSIFIED, however it is FOR OFFICIAL USE ONLY in accordance with Air Force Policy Directive (AFPD) 32-70.

5. This plan is effective for implementation upon receipt, and it has the full support of the Base Commander.

6. The Office of Primary Responsibility (OPR) for this document is 104 FW/EM.

7. This document will be reviewed annually, as of July, 99, and updated as is appropriate. All addressees of the plan are requested to advise this office of any factors which may prevent the execution of this plan as presented herein. Recommendations for changes should be submitted within 60 days after receipt of this document.

8. The OPR shall properly coordinate with the Environmental Protection Committee (EPC) to develop policies for employees and public awareness, staff training requirements, daily operating procedures and internal inspection or auditing program for this plan.

9. The OPR shall promptly coordinate with the EPC to identify and correct deficiencies in the daily operating procedures, storage facilities, equipment, structures and associated facilities.

Col. DANIEL P. SWIFT
Commander

APPENDIX 5

STORMWATER POLLUTION PREVENTION PLAN

Storm Water Pollution Prevention Plan
for
Construction Phase
Massachusetts Army National Guard

Prepared by:
S E A Consultants Inc.

December, 2000

Site Description			
Project Name and Location:	Army Aviation Support Facility Barnes Municipal Airport Westfield, MA	Owner Name and Address:	Massachusetts Army National Guard 50 Maple Street Milford, MA 01757

Purpose and Type of Soil Disturbing Activities:

Construction and installation of a new Army Aviation Support Facility, consisting of the placement of permanent masonry and steel construction. Supporting facilities include rigid and flexible paving for aircraft parking/tie down pads, ground support equipment, helicopter hover lanes, fuel storage/dispensing system, aircraft wash facility, exterior lighting, fire protection, and fencing.

Soil disturbing activities will include: clearing and grubbing; installation of a stabilized construction entrance, perimeter, and other erosion and sediment controls; grading; excavation for the building foundation; construction of roads, parking areas, and aircraft staging areas; and preparation for final planting and seeding of areas to be landscaped.

Runoff Coefficient:	The final coefficient of runoff for the site will be approximately .2, which is equivalent to lawn area. Engineered storm water management control features are intended to collect and direct run-off from new impervious surfaces to detention basins/grassy swales and infiltration structures for recharge to groundwater on-site.
Site Area:	The site consists of approximately 31 acres of land located near the Barnes Municipal Airport. Construction plans call for the creation of approximately 588,500 square feet (14.7 acres) of new impervious surface.

Sequence of Major Activities

1. Install stabilized construction entrance
2. Cut and cap and remove existing 18" drainage CMP; remove existing utilities as required
3. Clear and grub for temporary structures (berms, settling basins, sediment traps) and drainage basins
4. Install drainage structures
5. Install other erosion control devices
6. Continue clearing and grading
7. Stabilize stockpiles of excavated topsoil material
8. Install sedimentation barriers in locations as required around base of all deposits of stored excavated material, and protect catch basins from sedimentation by installing hay bales around basins, or siltation fabric under grating casting, immediately after site is cleared
9. Install utilities
10. Apply stone to parking areas and road
11. Construct permanent building structures
12. Construct permanent drainage structures
13. Complete grading and install permanent seeding and plantings
14. Complete final paving
15. Upon completion of all construction activity, including site stabilization with appropriate vegetation/mats, remove all temporary drainage structures and revegetate as necessary

Name of Receiving Waters:	Storm water under existing conditions infiltrates directly back into groundwater on-site, as the proposed project site is currently undeveloped. Storm water from the northern one-third of the existing facility is discharged to a detention basin. All other storm water is collected through storm sewers and discharged to drainage ditches and grassy swales.

	Proposed drainage systems for the new facilities will direct discharge to infiltration basins or detention ponds through treatment systems designed to meet DEP guidance policies for storm water management BMPs.

Controls

Erosion and Sediment Controls: Stabilization Practices

Temporary Stabilization - Top soil stock piles will be stabilized with plastic covers or other suitably impervious material. Hay bales shall be placed to form a continuous barrier around stockpiles. Each hay bale will be anchored with reinforcing bars, wood stakes or steel pickets. Silt fence will be installed at toe of slopes in accordance with engineer's specifications.

Stabilized construction entrances will consist of compacted crushed stone and will be maintained to prevent tracking or flowing of sediment onto the public rights-of-way. Maintenance may consist of periodic top dressing with additional stone or additional length, as conditions demand, and repair and clean-out of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way will be removed immediately.

Permanent Stabilization - Disturbed portions of the site where construction activities permanently cease shall be stabilized with permanent vegetation no later than 21 days after the last construction activity. Final grading will include a minimum of 4 inches of topsoil and seeding.

Erosion and Sediment Controls: Structural Practices

Earth berms or diversions to intercept and divert runoff water from critical areas will be constructed as needed. Sedimentation basins will be cleaned and debris disposed of on a weekly basis.

Erosion and Sediment Controls: Storm Water Management

Storm water drainage will be provided through a series of catch basins and drain manholes connected through piping to several infiltration basins and infiltration trenches. Areas untouched by construction will remain in their natural state. The developed areas, including parking facilities, taxi aprons or areas where oil or hazardous materials may be present will drain to storm water treatment units prior to discharge to the storm water infiltration structures. Silt-laden water from excavations will be discharged onto filter fabric mat and/or baled hay or straw sediment traps to ensure that only sediment-free water is returned to any water courses.

Other Controls

Waste Disposal:

Waste Materials:

Excavated material and construction debris will be stockpiled/staged in discrete locations and surrounded by a continuous barrier of haybales and covered by an impervious cover. Where required, temporary loading facilities will be brought on-site. Handling, sampling, manifesting, transportation and disposal of waste material will be documented.

Hazardous Waste:

Hazardous wastes will be disposed of as required under local, state and federal regulations. Site personnel will be instructed regarding proper management of hazardous waste. The individual in charge of this activity will be properly trained in hazardous waste management in accordance with OSHA regulations.

Sanitary Waste:

Temporary sanitary waste facilities will be provided on site. Waste will be collected as required, and in any event as required by local regulation, by a sanitary waste management contractor.

Offsite Vehicle Tracking:

A stabilized construction entrance will be provided to reduce vehicle tracking of sediments. The construction contractor is required to maintain the construction entrance and abutting public rights-of-way to reduce nuisance litter and sediment tracking. The contractor is responsible to ensure that all waste haulers coming onto the site have appropriate vehicles and operating practices to prevent spillage or leakage of material from occurring en route.

Timing of Controls/Measures

See Sequence of Major Activities. The stabilized construction entrance and structural sediment control measures will be constructed prior to clearing or grading of any other portions of the site. After the project is complete, all areas will be permanently stabilized with appropriate vegetation.

Certification of Compliance with Federal, State and Local Regulations

The storm water pollution prevention plan incorporates City of Westfield requirements for storm water management and erosion and sediment control. The plan was generated in accordance with guidance provided by the federal government, and in accordance with Storm Water Management requirements of the National Pollutant Discharge Elimination System permit program.

Maintenance/Inspection Procedures

- All operations will be restricted to the areas of work shown on contract drawings and areas which must be entered for construction of temporary or permanent facilities.
- If construction materials are washed away during construction, they will be removed from fouled areas.
- In addition to the controls shown on the site preparation drawings, the engineer has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and fill operations and to direct immediate permanent or temporary pollution control measures to prevent contamination of any stream or wetlands, including construction of temporary berms, dams, sediment basins, slope drains, and temporary mulches, mats or other control devices or methods as needed to control erosion.
- All control measures will be inspected at least once each week and following any storm event of 0.5 inches or greater.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of report.
- Built up sediment will be removed from the silt fence when it has reached one-third the height of the fence.
- Silt fence will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- Personnel selected for inspection and maintenance responsibilities will receive training from the site superintendent. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used on-site in good working order.
- A maintenance inspection report will be made after each inspection.

Inventory for Pollution Prevention Plan

The materials or substances listed below are expected to be present on-site during construction:

- Concrete
- Detergents
- Paints
- Petroleum based products (gasoline, diesel fuel, kerosene fuels and others)
- Roofing materials
- Cement/Lime
- Metal products
- Fertilizers
- Cleaning Solvents
- Treated wood products
- Masonry Materials
- Paving Materials
- Automotive Fluids

Spill Prevention

Material Management: Good Housekeeping

The following good housekeeping practices will be followed on-site during the project:

- Material deliveries will be coordinated with installation to ensure minimum holding time for items that are hazardous, flammable, easily damaged or sensitive to deterioration.
- Deliveries will be scheduled to reduce long term on-site storage prior to installation and/or operation. Under no circumstances will equipment be delivered to the site more than one month prior to installation, unless written authorization is provided by the engineer.
- Materials stored on-site will be stored in manufacturer's original sealed containers or other packing systems, complete with instructions for handling, storing, unpacking, protecting and installing.
- Adequate equipment and personnel will be provided to ensure materials can be safely handled.

Hazardous Products:

The following practices will be used to reduce the risks associated with hazardous materials on-site:

- All shipments will be promptly inspected to assure that products comply with requirements, and items are undamaged.
- Products will be stored and protected in accordance with the manufacturer's instructions, with seals and labels intact and legible.
- Products will be stored in a secure location and access to the materials will be provided to authorized personnel only.

Miscellaneous (Petroleum Products, Concrete Trucks)

The following additional practices will be employed:

- Loose, granular materials will be stored on solid flat surfaces in a well-drained area, and segregated to prevent mixing with foreign matter.
- Cement and lime will be stored under a roof and off the ground to be kept completely dry at all times. Petroleum products will be stored in a secure location under control of the site superintendent.
- Mechanical and electrical equipment will be stored in a weatherproof structure.
- Concrete trucks will be required to wash down on pads where rinsate may be captured and filtered prior to discharge.

Spill Control Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and

cleanup supplies.

- Materials and equipment necessary for spill cleanup will be kept in the materials storage area on-site. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, absorbent pellets, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous materials, at or greater than reportable quantities, will be reported to the appropriate state or local government agency.
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
- The Site Superintendent is the designated responsible party for day to day operations and spill cleanup coordinator. He/she will designate a spill response team, who will be trained in spill prevention and spill cleanup procedures.

Pollution Prevention Plan Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed:

Contractor's Certification

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Signature	**For (company name)**	**Responsible For**

APPENDIX 6

LIST OF HAZARDOUS MATERIALS

2000 HAZARDOUS MATERIAL DATA SHEET AASF #2, WESTOVER ARB

DESCRIPTION / LOCATION: NON-FLAMMABLE CABINET # B

SITE #	SHELF #	NIIN	FSC	NOMENCLATURE	MIL.SPEC	MFGR. OR P/N	MSDS PAGE NO.	CN SIZE	TYPE	D/D/D	LOT #
BAY 7	1	00-149-7431	9150	HYDRALIC FLUID	MIL-PRF-83282D	HULS AMER.	1	QT	CN	Feb-01	23092
BAY 7	1	00-985-7099	9150	LUBRICATING OIL	MIL-PRF-23699F	HATCO CORP.	2	QT	CN	Apr-01	LOD5235
BAY 7	1	00-108-6266	9150	LUBRICATING OIL	MIL-L-23699E	HEXAGON ENTERP	3	OZ	CA	May-01	M5
BAY 7	1	00-935-4018	9150	GREASE,MOLYBEDENU	MIL-G-21164D	LOT 89-2	4	OZ	TU		
BAY 7	1	00-506-8497	9150	DRIVESHAFT COUPLING		NS-3913-G1	5	OZ	TU		
BAY 7	1	01-262-3358	9150	GREASE	MIL-G-81322E	4Y429	6	OZ	TU		
BAY 7	1	00-252-6383	9150	HYDRALIC FLUID	MIL-H-5606F	TECHNOLUBE PRO	7	QT	CN		
BAY 7	2	00149-1593	9150	GREASE, BEARING		DOD-G-24508A	8	LB	CN		
BAY 7	2	00-944-8953	9150	GREASE, AIRCRAFT	MIL-G-81322D	MOBIL OIL CORP	9	LB	CN	May-00	B130
BAY 7	2	00-105-0270	8030	ANTI-SEIZE COMPOUND	MW39210	BOSTIK INC.	10	LB	CA	Sep-02	MW39210
BAY 7	2	00-543-7220	9150	LUBRICATING OIL	DOD-L-25681D		11	LB	CA	Mar-98	29
BAY 7	2	00-856-9222	1560	FIBERGLASS REP KT	81996 S1607-7021	PART A	12	OZ	KT	Nov-00	
BAY 7	2	00-856-9222	1560	FIBERGLASS REP KT	81996 S1607-7021	PART B	13	OZ	KT	Nov-00	
BAY 7	2	00-059-2761	8030	ANTI-SEIZE COMPOUND	MIL-A-907E		14	LB	BT	Feb-01	740402
BAY 7	2	00-087-8630	8030	ANTI-SEIZE COMPOUND	MIL-T-83483A	ARMITE	15	LB	CN	Nov-00	K7
BAY 7	3	00-269-8255	9150	GREASE	MIL-G-4343C	G-392	16	LB	CN	May-00	95-2
BAY 7	3	00-985-7246	9150	GREASE	MIL-G-23827B	G-354	17	LB	CN		
BAY 7	3	00-250-0926	9150	PETROLATUM	UNI-KEM	78369	18	LB	CN	Apr-00	Q135PT
BAY 7	3	00-250-0926	9150	PETROLATUM	UNI-KEM	78369	18	LB	CN	Jun-00	100590PT
BAY 7	3	00-784-3475	8030	ANTI-SEIZE COMPOUND		EASEOFF 990	19	QT	CN	Nov-03	1803
BAY 7	3	00-597-5367	8030	ANTI-SEIZE COMPOUND	MIL-PRF-907E	JET LUBE INC	20	LB	CN	May-03	40402
BAY 7	3	00-145-0268	9150	GREASE	MIL-G-81322D	ROYAL LUBE	21	LB	CN	Jan-01	92-39
BAY 7	4	01-260-2534	9150	LUBRICATING OIL	MIL-L-23398D	S-749	22	OZ	CN		
BAY 7	4	00-621-1620	6850	LEAK DETECTION COMP	MIL-L-25567D	AMERICAN GAS	23	OZ	BT	Oct-01	?
BAY 7	4	00-062-6950	8030	CORROSION PREVEN	C-16173E	VAVOLINE	24	OZ	CN	Mar-02	9576
BAY 7	4	01-053-6688	9150	BREAK FREE	L-63460D	BREAK FREE	25	GL	BT	Mar-01	
BAY 7	5	00-142-9279	8010	EPOXY PRIMER PART A		KOP-COAT	26	PT	KT	Feb-02	
BAY 7	5	00-142-9279	8010	EPOXY PRIMER PART B		KOP-COAT	27	PT	KT	Feb-02	
BAY 7	5	00-231-2353	8030	CORROSION PREVEN	C-11796C	TEC4YL 437	28	LB	CN	Mar-01	10038002
BAY 7	5	00-935-5851	9150	GREASE AIRCRAFT	G-81322D	ROYAL LUBE	29	LB	CN	Mar-01	92-21
BAY 7	5	00-273-8697	8040	ADHESIVE	MMA-A-16173	RALRUBE	30	GL	CN		
BAY 7	5	00-985-6911	7930	DETERGENT	MIL-D-16791	LHB INDUSTRIES	31	5 GL	CN		

2000 HAZARDOUS MATERIAL DATA SHEET AASF #2, WESTOVER ARB

DESCRIPTION / LOCATION: NON-FLAMMABLE CABINET # F-1

SITE #	SHELF #	NIIN	FSC	NOMENCLATURE	MIL.SPEC	MFGR. OR P/N	MSDS	CN SIZE	TYPE	DRODATE
BAY 6	1	005-62-5382	8010	FLAT BLACK		37038		OZ	CN	
BAY 6	1	002-90-6984	8010	GLOSS BLOCK LAGUER		17038		OZ	CN	
BAY 6	1	00-079-3752	8010	GLOSS BLACK ENAMEL				OZ	CN	
BAY 6	1	008-10-8154	8010	BLACK		37038		OZ	CN	
BAY 6	1	000-67-5437	8010	FLAT BLACK ENAMEL				OZ	CN	
BAY 6	1	00-941-8712	8010	PAINT OLIVE DRAB						
BAY 6	1	005-84-3149	8010	OLIVE GREEN		14064		OZ	CN	
BAY 6	1	000-79-3760	8010	RED ENAMEL		11136		OZ	CN	
BAY 6	2	001-41-2952	8010	RED LAGUER		11136		OZ	CN	
BAY 6	2	00-848-9272	8010	OLIVE DRAB ENAMEL						
BAY 6	2	008-16-9144	8010	GRAY		36231		OZ	CN	
BAY 6	2	005-16-2467	8010	CLEAR LAGUER		A-A-885		OZ	CN	
BAY 6	2	00-721-9747	8010	BLUE						
BAY 6	2	001-41-2950	8010	YELLOW LAGUER		13655		OZ	CN	
BAY 6	2	008-52-8033	8010	YELLOW ENAMEL		13538		OZ	CN	
BAY 6	2	00-616-8181	8010	PRIMER COATING GRAY						
BAY 6	3	005-84-3148	8010	ORANGE LAGUER		12197		OZ	CN	
BAY 6	3	00-584-3150	8010	FLAT WHITE						
BAY 6	3	001-62-9356	8010	WHITE LAGUER		37875		OZ	CN	
BAY 6	3	008-99-8625	8010	ZINC CHRO		34151		OZ	CN	
BAY 6	3	002-97-0593	8010	ZINC CHROP RIMER		1575		OZ	CN	
BAY 6	3	010-41-1596	8030	CORR PREV COMP	MIL-C-85054A			OZ	CN	
BAY 6	3	009-58-8147	8010	FLOURESCENT RED		A-A-713		OZ	CN	
BAY 6	3	00-079-3750	8010	SILVER						
BAY 6	4	000-67-5434	8010	FERRIC OXIDE PRINER		A-A-1552		OZ	CN	
BAY 6	4	007-21-9742	8010	BROWN		81693		OZ	CN	
BAY 6	4	00-142-2951	8010	GREEN LACQUER						
BAY 6	4	00-183-7698	7510	YELLOW STENCIL						
BAY 6	4	004-19-9564	7510	INK STENCIL		37875		OZ	CN	
BAY 6	4	004-88-7810	7510	INK- STENCIL		37038		OZ	CN	
BAY 6	4	001-83-7697	7510	INK- STENCIL		31136		OZ	CN	
BAY 6	4	009-30-6311	6810	TRICHLOROETHANE		52599		OZ	CN	
BAY 6				GREEN LOW	IR-280	34031				
BAY 6		00-721-9754	8010	GRAY LACQUER						
BAY 6		00-721-9751	8010	SILVER LACQUER						
BAY 6		00-938-1947	8030	CPC						
BAY 6		01-347-0979	8030	CPC						

BAY 6		00-616-9143	8010	LUSTERLESS BLACK									
BAY 6				CROWN POWER PK									
BAY 6				MARSH STENCIL INK									
BAY 6				RVT SEALENT		732							
BAY 6				RVT SEALENT		157							
BAY 6				RVT SEALENT		102							

Cabinet 5-1

2000 HAZARDOUS MATERIAL DATA SHEET AASF #2, WESTOVER ARB

DESCRIPTION / LOCATION; NON-FLAMMABLE CABINET # F-2

SITE #	SHELF #	NIIN	FSC	NOMENCLATURE	MIL.SPEC	MFGR OR P/N	MSDS	CN SIZE	TYPE	DRDDATE
BAY 6				MD RED PAINT						
BAY 6				YELLOW RUST-OLEUM		Y-2548				
BAY 6		00-641-0218	8010	GRAY ARTICLE						
BAY 6		00-641-0427	8010	NON-SKID WALKWAY						
BAY 6		00-111-8004	8010	DCSCRT SAND CAMOU						
BAY 6		00-297-0560	8010	PAINT OLIVE DRAB						
BAY 6				CLEAR WOOD PRESER						
BAY 6		00-552-5318	8010	PRIMER, GREEN		34151				
BAY 6				ENG PAINT GRAY						

2000 HAZARDOUS MATERIAL DATA SHEET AASF #2, WESTOVER ARB

DESCRIPTION / LOCATION: NON-FLAMMABLE CABINET # C

SITE #	SHELF #	NIIN	FSC	NOMENCLATURE	MILSPEC	MFGR. OR P/N	MSDS	CN SIZE	TYPE	D/D/D	LOT #
BAY 7	1	00-081-2325	8030	SEALING COMPOUND	S-22473E	GS-10F-405-36	1	CC	BT	Oct-00	704073
BAY 7	1	00-680-2041	8030	SEALING COMPOUND	S-8784B	COURT	2	OZ	KT	Oct-00	C85688
BAY 7	1	00-292-1102	8030	THREAD COMPOUND	T-22361	RALRUBE	3	OZ	TU	Dec-00	24
BAY 7	1	00-880-7616	6850	SILICONE COMPOUND	S-8660C	R H CARLSON	4	OZ	TU	Oct-01	RHC-01
BAY 7	1	00-965-2437	8030	SEALING COMPOUND	S-11030F	GEN. SEALANTS	5		RL	BATCH 188	
BAY 7	1	00-262-9011	8040	ADHESIVE,RUBBER	A-1617	RALRUBE	6	OZ	PT	Apr-00	97-289
BAY 7	3	00-670-8553	8030	SEALING COMPOUND	DOD-C-24176	BONDED PRO	7	LB	KT	May-00	9903
BAY 7	1	00-275-8114	8030	SEALING COMPOUND	S-11030F	GEN. SEALANTS	8	PT	CN	Jul-00	GSL072781
BAY 7	2	00-190-0918	9150	GREASE,GRAPHITE	VV-G-671F	SUMMIT LAB	9	LB	CN	Aug-01	MI-M295
BAY 7	3	00-231-2345	8030	CORROSION PREVENT	C-16173E	RALRUBE	10	GL	CN	Oct-01	M015077
BAY 7		00-281-1965	6850	CLEANING COMPOUND		GEN. SEALANTS	11	GL	CN	GS-10F-47944	
BAY 7	3	01-163-3461	8040	ADHESIVE	EA9309.3NA	WATKINS ASSO.	12	QT	KT	Dec-00	8314-1
BAY 7	2	00-851-0211	8040	ADHESIVE SEALENTS	MIL-A-46106B	ACCUMETRIC	13	OZ	KT	Nov-00	119487
BAY 7	2	00-670-8556	8030	ADHESIVE	MMM-A-1754	UNITED RESIN	14			Oct-00	7263/7216
BAY 7	3	00-664-4966	8030	PUTTY GP		BAKER	15	LB	CN		
BAY 7	5	01-104-7929	6850	CLEANING COMPOUND	C-43616C	6062/4124	16	GL	CN		
BAY 7	3	00-118-2695	8040	ADHESIVE	MIL-A-46146B		17	OZ	KT		
BAY 7	2			ADHESIVE		DEXTER HYSOL					

2000 HAZARDOUS MATERIAL DATA SHEET AASF #2, WESTOVER ARB											
DESCRIPTION / LOCATION: NON-FLAMMABLE CABINET # BOLCK POL STORAGE 1											
SITE #	SHELF #	NIIN	FSC	NOMENCLATURE	MIL.SPEC	MFGR. OR P/N	MSDS	CN SIZE	TYPE	DRDDATE	LOT #
1	A1	00-149-7431	9150	HYDRALIC FLUID	PRF-83282D	23092		QT	CN	1-Feb-01	
1		00-231-2353	8030	CORROSIVE COMP	C-11796C			GL	CN	1-Sep-05	
1		00-833-9563	8040	ADHESIVE	A-46106B					1-Mar-04	
1		00-941-9984	8040	ADHESIVE	A-46106B					1-Jun-00	
1		00-152-0022	8030	SEALING COMP	S-8784B					1-Jan-01	
1		00-152-0017	8040	ADHESIVE		70869021				1-May-00	
1	B1	00-985-7099	9150	LUBRICATION OIL	PRF-23699F	0-156					
1		00-108-6266	9150	LUBRICATION OIL	L-23699E	M5					
1		00-478-0055	9150	GREASE	G-25537C	400MP8				1-May-03	
1		01-262-3358	9150	GREASE	G-81322E	644MP8				1-Feb-03	
1		00-159-5012	9150	ASSEMBLY FLUID		13113				NODEREC	
1		00-889-3522	9150	LUBRICATION OIL	L-46000C	818				1-May-03	
1	C	00-250-828	9150	PETROLIUM		K6006A				1-Apr-03	
1		00-670-8553	8030	SEALING COMP						1-Nov-01	
1		00-546-8637	8030	CORROSIVE COMP						1-Apr-04	
1		00-597-5367	8030	ANTI-SEIZE COMP						1-May-04	
1		00-139-5297	6850	RAIN REPELANT	W-8862F					NODEREC	
1		00-543-7220	9150	LUBRICATION OIL		621-4				1-Sep-03	
1		00-231-6669	9150	LUBRICATION OIL		812				1-Aug-02	
1		00-965-2437	8030	SEALING COMP						1-Jun-01	

APPENDIX 7

LIST OF PREPARERS

APPENDIX 7 LIST OF PREPARERS

This Final Environmental Assessment/Environmental Impact Report (FEA/EIR) for the Massachusetts Army National Guard Army (MAARNG) Aviation Support Facility at Barnes Municipal Airport was prepared by S E A Consultants Inc. and its subconsultants on behalf of MAARNG. This section briefly describes the responsibilities and backgrounds of the key individuals who were involved in the preparation or review of the FEA/EIR.

S E A Consultants Inc.

Paul E. Orr

Project Manager – Environmental Permitting

Mr. Orr managed all aspects of the preparation of the FEA/EIR and was responsible for its compliance with EA/EIR regulations. He also served as the primary liaison with regulatory agencies and other interested parties. A Principal Scientist at S E A, Mr. Orr is an environmental permitting specialist with more than 10 years experience. He has prepared permits and managed the permitting process for a number of complex projects including the Central Artery/Tunnel Project in Boston, Massachusetts. Mr. Orr has served as MEPA Program Coordinator for the Executive Office of Environmental Affairs and has extensive experience in preparing Environmental Notification Forms (ENFs) and Environmental Impact Reports (EIRs). In addition, Mr. Orr has served as Co-Chair on the Conservation Commission in Salem, MA, and has intimate familiarity with the Wetlands Protection Act Regulations and their administrative procedures. Mr. Orr holds a Bachelor of Science degree in Anthropology from Hunter College, City University of New York.

Betsy C. Frederick, CHMM

Project Scientist

Ms. Frederick prepared the Massachusetts Contingency Plan section of this FEA/EIR. A Principal Scientist at S E A, Ms. Frederick is a Certified Hazardous Materials Manager (CHMM) and Environmental Planner with over 8 years experience in the environmental planning field, including management and implementation of environmental site investigations, regulatory compliance program development, reporting and permitting, regulatory negotiation, land use studies, growth management and strategic planning. Ms. Frederick holds a Bachelor of Arts in History from Boston College; a Master of Arts in Resource Preservation Planning from Boston University; and a Certificate in Environmental Regulatory Management from Northeastern University in Boston, Massachusetts.

Linda W. Forbush

Project Permitting Specialist

Ms. Forbush prepared the response to comments section of this report. Ms. Forbush is an environmental permitting specialist with more than 10 years experience. She has prepared permits and managed NEPA and MEPA compliance for a number of complex projects. She designed, implemented and directed the use of a computerized permit tracking system for the Central Artery/Tunnel Project in Boston. Ms. Forbush holds a Bachelor of Arts, cum laude, Phi Beta Kappa from Wheaton College; a Paralegal Certificate from Boston University; and a Master of Business Administration from Simmons College Graduate School of Management in Boston, Massachusetts.

Peter G. Newton

Project Hydrogeologist

Mr. Newton prepared the section on groundwater. He is charged with evaluating hydrogeological conditions and potential project impacts both on-site and in the surrounding area, and developing recommendations for mitigation and monitoring. His years of experience as a hydrogeologist include completing hydrogeologic and groundwater contaminant studies, and providing field services in connection with remediation of petroleum impacted sites. In addition, he has conducted compliance reviews, wastestream evaluations, and risk assessments. He has considerable experience regarding removal and/or replacement of underground Storage Tank (UST) systems. Mr. Newton holds both Bachelor of Science in Management Systems and Master of Science in Hydrogeology degrees from Rensselaer Polytechnic Institute in Troy, New York.

William D. Wight, AIA

Project Architect

As Project Architect, Mr. Wight manages the production of design and construction documents. Mr. Wight is a registered Architect with over 13 years experience in a wide variety of projects involving building condition studies, designs and construction overview on all building systems for a number of Federal facilities. Mr. Wight holds a Bachelor of Science in Architecture from Wentworth Institute of Technology in Boston, Massachusetts.

Virginia L. Leal

Senior Permitting Specialist

Ms. Leal prepared the Section 61 finding and assisted in preparation of responses to comments received on the SDEA. She has managed the permitting and MEPA processes for projects with potential to affect groundwater, among others, and has developed permitting strategies and prepared permits for a variety of construction projects. She has assisted in evaluating construction and post-construction impacts of complex infrastructure projects with regional impacts. Ms. Leal holds a Bachelor of Arts degree from Mount Holyoke College in South Hadley, Massachusetts, and is a candidate for a Master of Arts/Master

of Science degree in Environmental Health/Urban and Environmental Policy and Planning from Tufts University in Medford, Massachusetts.

Matthew D. Cyr

Planner/Permitting Specialist

Mr. Cyr prepared the Status of Prior Mitigation section. He is a planner and permitting specialist with diverse experience on a variety of projects, including support for permitting, facility conditions assessments, urban and campus planning, and preservation planning efforts. He also acts as Project Administrator on complex projects where he has performed tasks such as field data collection and management of word processing and data base systems. Mr. Cyr holds a Bachelor of Arts in Political Science from Grinnell College in Grinnell, Iowa, and a Master of Arts in Preservation Planning from Boston University.

Edwards & Kelcey

James M. Falvey, P.E.

Project Manager – Site Design

Mr. Falvey provided responses to comments related to site design. As the Project Manager for the site design, Mr. Falvey's responsibilities have included the design and layout of the roadways, parking lots, aircraft parking apron, aircraft taxiways, site grading and drainage, and all site utilities. Mr. Falvey has also led the project coordination efforts with the Barnes Municipal Airport and the City of Westfield. Mr. Falvey, a Senior Associate with Edwards and Kelcey, Inc.'s Airports Division, is a licensed Professional Engineer with over fourteen years of airport facility design and construction management experience. He holds a Bachelor of Science degree in Civil Engineering from the University of New Hampshire in Durham.

John R. Blackburn, E.I.T.

Assistant Engineer – Site Design

Mr. Blackburn assisted in providing responses to comments and site plans for this document. He assisted in the design and layout of the roadways, parking lots, aircraft parking apron, aircraft taxiways, site grading and drainage, and all site utilities. His prior experience includes design and layout for an Army National Guard Aviation Support Facility in New Hampshire, as well as roadway and drainage reconstruction, traffic signal analysis and design for various public clients. Mr. Blackburn holds a Bachelor of Science degree in Civil Engineering with a concentration in transportation from Rensselaer Polytechnic Institute in Troy, New York.

Harris Miller Miller and Hanson, Inc.

Mary Ellen Eagan

Project Manager - Aviation Noise

Ms. Eagan reviewed relevant sections of the SDEA for consistency with FAA Order 5050.4A and other current federal, state and local noise regulations and guidance. Her findings are presented in the Noise section with the narrative she prepared on the effects of helicopter noise on people. She also responded to comments on noise impacts. Ms. Eagan has managed airport environmental evaluations and specialized noise abatement projects at several airports nationwide, and has conducted numerous studies of helicopter noise. She serves as consultant to the Federal Interagency Committee on Aviation Noise (FICAN), a group of federal researchers tasked with improving communication between federal agencies, the general public, and other aviation interests. She was the principal author of FICAN's *Report on Aviation Noise Research Conducted by U.S. Federal Agencies* (1994, 1998) and *Annual Reports* (1994 through 1999). Ms. Eagan holds a Bachelor of Science degree in Operations Research and Industrial Engineering from Cornell University and is a candidate for a Master of Business Administration degree (award expected in 2001) from the Graduate School of Management at Simmons College in Boston, Massachusetts.