

Return to Danny

J u W

I Soils:

A. Alteration of Wetlands Regulations

<u>map symbol</u>	<u>Name</u>	<u>Comment</u>
BJ	Bibb + Johnston	Flood plain
CA	Capers	Flood plain
LM	Lynn Haven	upland
D	Murville	upland
LN	Leon	upland
Pm	Pamlico	Flood plain
RL	RAins	upland
TP	Torkunta	upland
	Pantego	
582	Leon	see above
833	Woodington	upland
853	Bladen	upland
870	Torkunta	upland
..... -> etc	Drains (streams) Water (ponds natural lakes etc.)	Flood plain Proposed drainage channelization etc.
W		

B. Barrier Islands : Capers, Duck Store,
Corolla, Beach, Newhan
Soils.

C. Erosion - Slopes, proximity to
streams, use of erosion control
Plan + structures/measures

1950

1951

1952

1953

1954

1955

1956

1957

1958

1959

1960

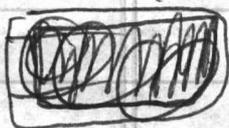
1961

II Restricted Air Space (FAA) changes and MCA S(H) New River

III Problems caused by not being able to operate 1700 Steam Plant at 100% ^{capacity} efficiency in compliance with Clean air act (permit).

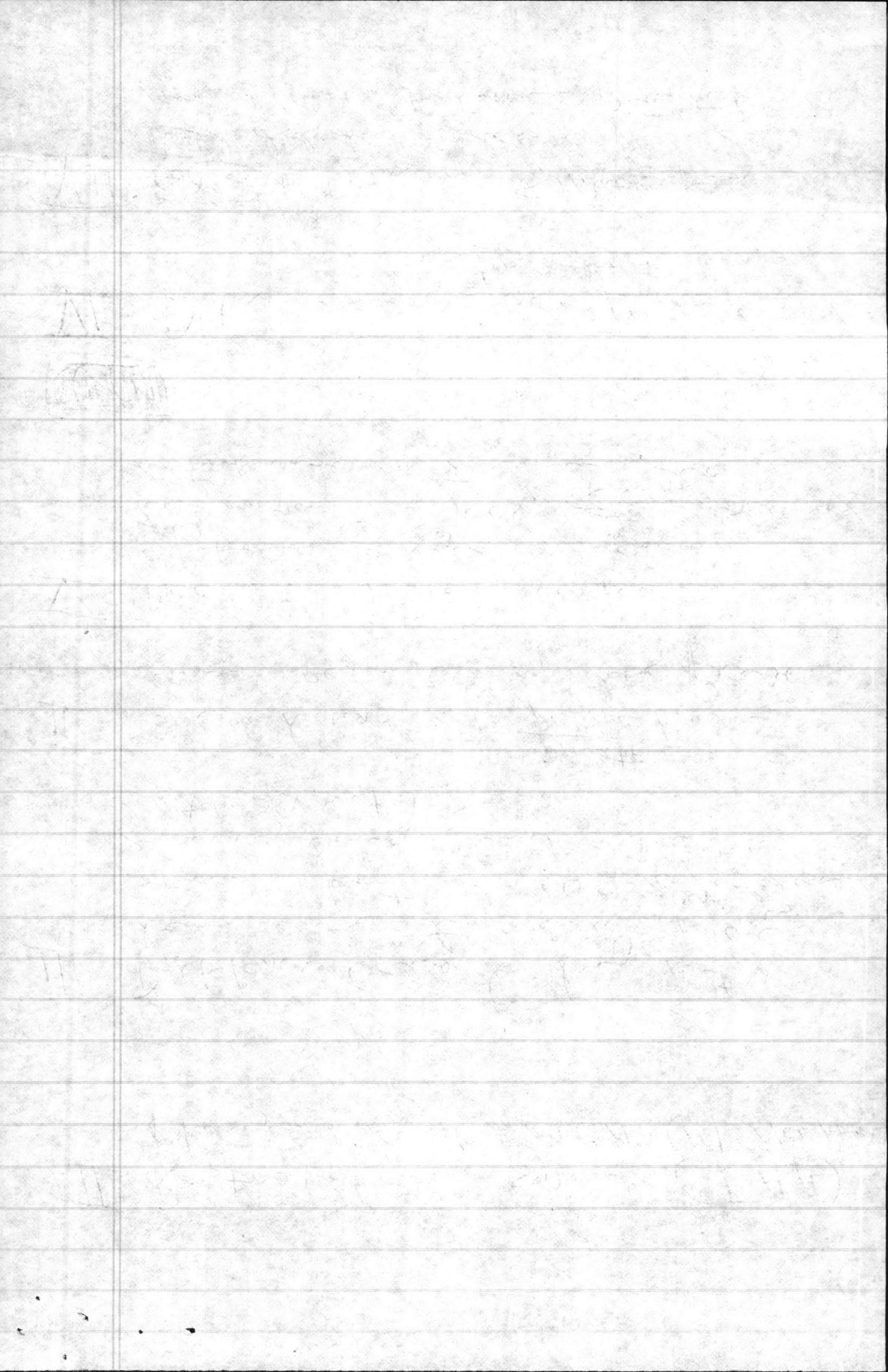
IV "Encroachment" of ^{private} public housing around perimeter of the base.

V Need to review configuration of some ranges in regard to impact zones, ~~and~~ influence/interference on training, etc.

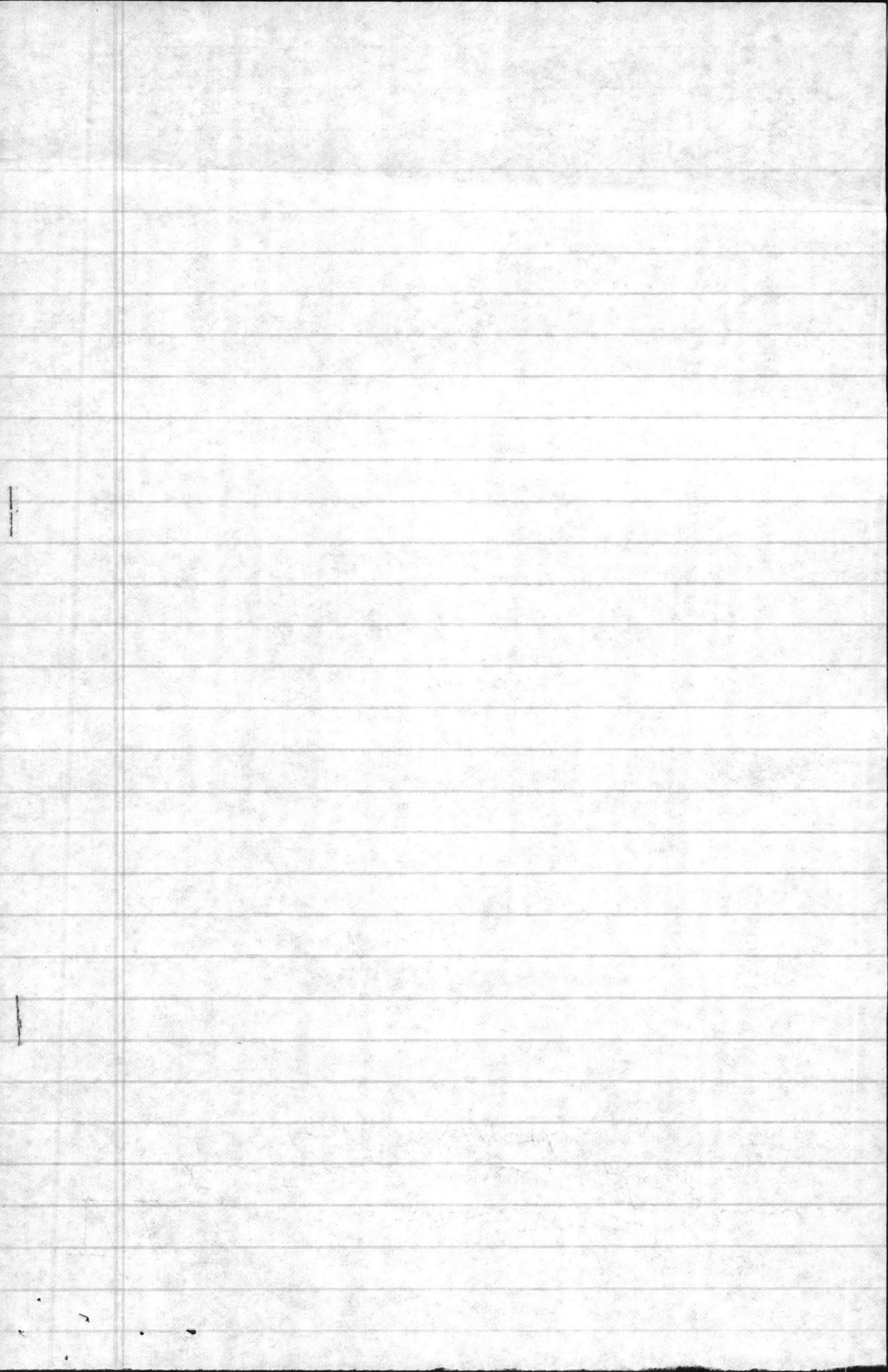


VI AICUZ (see II and IV above).

VII ~~Sprawl~~ Urban Sprawl from ~~Build~~ industrial areas begins to impact/restrict training potential.



VIII - Capacity of sewage
treatment after P-996
to absorb growth.





UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542

BO 11000.1A
MAIN/DDS/th
06 MAY 1981

BASE ORDER 11000.1A

From: Commanding General
To: Distribution List

Subj: Environmental Considerations in Marine Corps Actions; Camp Lejeune

Ref: (a) MCO P11000.8A (NOTAL)
(b) Pub. L. 91-190, 42 USC 4321-4347, 1 Jan 1970, as amended by Pub. L. 94-52, 3 Jul 1975, and Pub L. 94-83, 9 Aug 1975 (NOTAL)
(c) US Fish and Wildlife Service ltr of 19 March 1980 (NOTAL)
(d) BO 11015.2F
(e) OPNAVINST 6240.3E; Chap 4 (As revised on 5 Nov 1979) (NOTAL)

Encl: (1) Preparation of Preliminary Environmental Assessments
(2) Environmental Assessments, Necessity and Preparation

1. Purpose. To implement the President's Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) as provided by references (a), (b), (c), (d) and (e).

2. Cancellation. BO 11000.1.

3. Policy. It is the continuing policy of the Commanding General that:

a. All actions shall be planned, programmed and carried out in a manner that minimizes adverse impact on the environment. At the earliest feasible planning stage, action sponsors will assess all actions to determine the potential impact on the environment.

b. All practicable means and measures required for the prevention or mitigation of potential adverse environmental impact will be incorporated into all actions.

4. Background. The National Environmental Policy Act (NEPA) requires federal agencies to use all practicable means to conduct their respective missions in concert with the environment. Section 102 of NEPA requires each federal agency to document the environmental considerations utilized in the agencies decision making process. This documentation is known as the "Environmental Impact Statement" and is a public record. The volume of information and the degree of evaluation necessary to satisfy NEPA requirements are directly related to the significance of the potential impact on the environment. Enclosures (1) and (2) contain guidance for preparation of NEPA documentation.

5. Definitions. For the purpose of this Order, the following definitions are provided:

a. Action - includes, but is not limited to the establishment, modification or continuation of policies, regulations, projects, training and other acts not otherwise excluded, enclosure (2).

b. Camp Lejeune complex includes Marine Corps Base, Camp Lejeune; Marine Corps Air Station (Helicopter), New River, and Marine Corps Helicopter Outlying Landing Field, Oak Grove.

c. Environmental Impact Review Board - A board organized in accordance with reference (d) and consisting of representatives from Marine Corps Base, Camp Lejeune, Marine Corps Base Tenants and Marine Corps Air Station (H), New River.

d. Environmental Impact Assessment - The process of identifying probable effects upon the environment which would occur during the implementation of an action. Reference (e) breaks this process down into four phases, one or more of which would be required while assessing the proposed action. Each of these phases requires the preparation of a public document. The nomenclature for these documents is also used to identify the planning and decision making process utilized during each phase. The name and description of these documents and respective phases of environmental assessment are as follows:

(1) Preliminary Environmental Assessment (PEA) - is a document prepared by the action sponsor which provides sufficient information for determining if the action has the potential for environmental impact or controversy and for determining if an action should be subjected to further environmental review.

(2) Environmental Assessment (EA) - is a document which the action sponsor is responsible for preparing when the review of a PEA indicates potentially significant adverse impact on the environment, or when the review of a PEA indicates that the proposed action may cause significant public controversy. An EA is an in-depth study of the action and its environmental impact. The EA is utilized by CMC to determine if further environmental impact assessment is required by NEPA regulations. Enclosure (2) outlines environmental considerations to be addressed by the EA.

(3) Draft Environmental Statement (DES) - A document prepared for all actions having significant impact on

the quality of the human environment. The DES is filed with the Environmental Protection Agency (EPA) and is subjected to public review and comment. The decision to file a DES will originate at Headquarters Marine Corps. Specific instructions will be provided to action sponsors on a case by case basis.

(4) Final Environmental Statement (FES) - a completed statement, normally a separate and additional document from the DES, which incorporates all pertinent comments and information made as a result of review of the DES. The FES is also filed with the EPA and must contain a written response to each agency's comments on the DES.

e. Finding of No Significant Impact (FNSI) - a determination by the Headquarters Marine Corps Environmental Impact Review Board, after review of an EA, that a proposed action will neither have a significant effect on the human environment nor involve public controversy and that a DES will not be prepared.

6. Responsibilities

a. Action Sponsors will:

(1) Ensure that NEPA requirements have been satisfied prior to the implementation of any new action, not otherwise excluded, or any action which significantly modifies ongoing actions.

(2) Modify proposed or ongoing actions as required to incorporate means and measures required to minimize or mitigate potential adverse environmental impact.

(3) Prepare the preliminary environmental assessment for all actions and forward it to the Commanding General, Marine Corps Base.

(4) Effect the preparation of environmental assessments for review by Headquarters Marine Corps, when required.

(5) Coordinate the preparation of both draft and final environmental statements, when required.

(a). (6) Maintain cost records directly related to the preparation of NEPA documentation as directed by reference

(7) Retain all documents developed during environmental impact assessment as public documents.

b. Assistant Chief of Staff, Training, Marine Corps Base, has the following overall responsibilities:

(1) Implementation of NEPA requirements for all training actions aboard Camp Lejeune complex.

(2) Ensuring all practicable means and measures to prevent or mitigate adverse environmental impact are incorporated into training plans, procedures and training exercises.

c. Assistant Chief of Staff, Facilities, Marine Corps Base, has the following responsibilities:

(1) Ensuring that NEPA requirements are satisfied during the planning, programming and construction phases of actions initiated to provide or maintain facilities aboard the Camp Lejeune complex.

(2) Overall monitoring of all base programs to identify environmental deficiencies aboard the Camp Lejeune complex.

(3) Initiation of pollution abatement projects and related record keeping as outlined in reference (a).

d. Base Maintenance Officer will:

(1) Provide and coordinate surveys, as required, to identify pollution abatement deficiencies and to determine activity compliance with federal, state, and local environmental regulations and standards.

(2) Review pollution abatement reports reproduced by the Naval Environmental Protection Support Service (NEPSS) and make necessary changes.

e. Director, Natural Resources and Environmental Affairs Division, Base Maintenance Department will:

(1) Provide available information to action sponsors (such as soils maps, wetlands, endangered species and applicable environmental rules and regulations) required for environmental impact assessment and environmental protection.

(2) Serve as the point of contact with federal/state and local environmental regulatory agencies.

f. Public Works Officer/Resident Officer in Charge of Construction will:

(1) Maintain a pollution abatement report file on active projects.

(2) Initiate action to correct pollution abatement deficiencies by preparing necessary documentation of needed abatement projects for submission to CMC as outlined in reference (a).

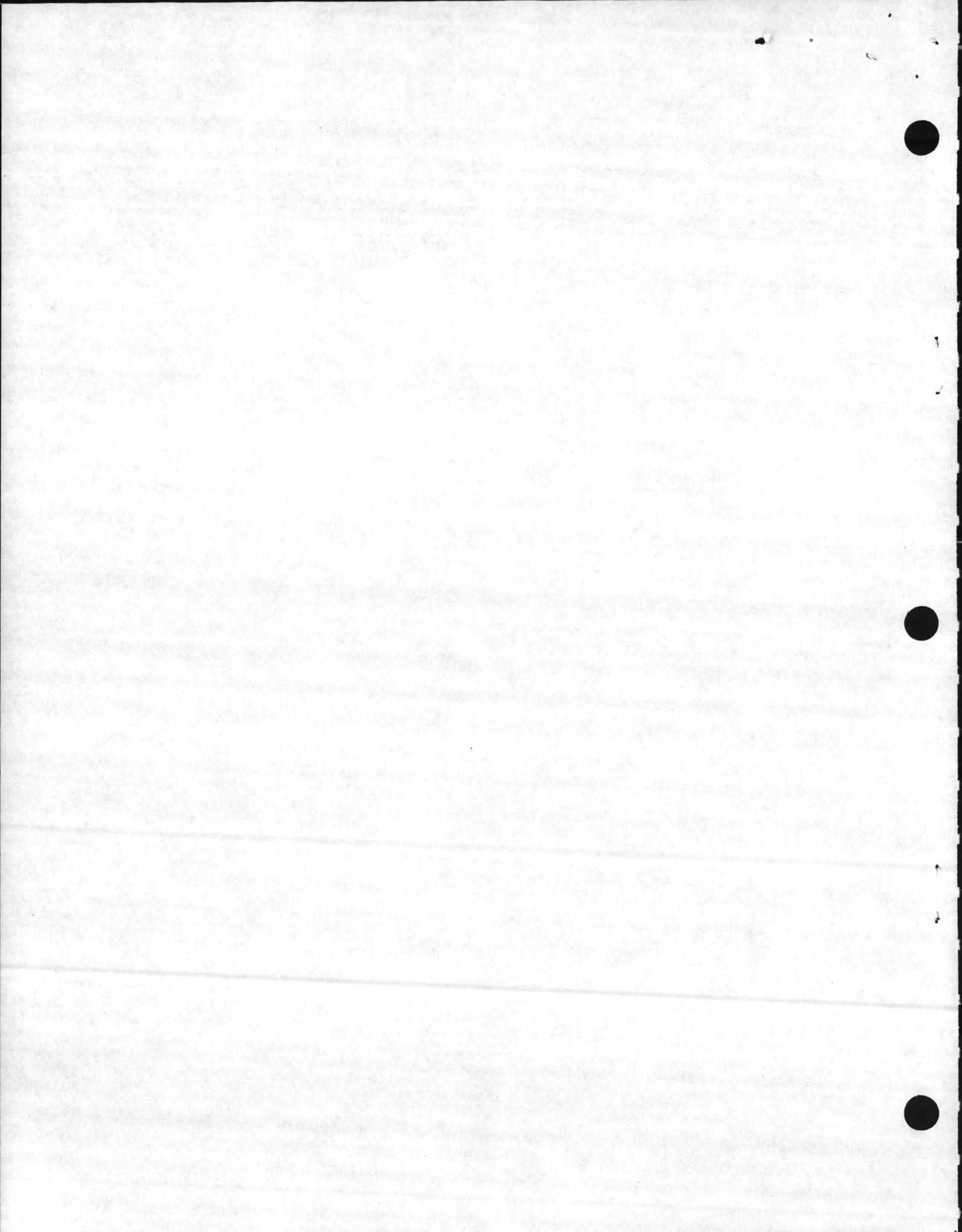
(3) Monitor compliance of private contractors with all applicable environmental rules and regulations. Report discrepancies to the Assistant Chief of Staff, Facilities and Director, Natural Resources and Environmental Affairs Division, Base Maintenance Department.

g. Chairman, Environmental Impact Review Board - will review all Environmental Impact Statements prepared by Marine Corps Base, tenant commands and Marine Corps Air Station (Helicopter), New River and determine adequacy of compliance with NEPA and other environmental laws and regulations.

7. Applicability. Having received the concurrences of the Commanding Generals, 2d Marine Division, FMF; 2d Force Service Support Group (Rein), Atlantic; 2d Marine Aircraft Wing, FMF, Atlantic (for those subordinate units located at Marine Corps Air Station, New River) and the Commanding Officers of Naval Regional Medical Center; Naval Regional Dental Center and Marine Corps Air Station (Helicopter), New River, this Order is applicable to those Commands.

J. R. Fridell
J. R. FRIDELL
Chief of Staff

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PREPARATION OF PRELIMINARY ENVIRONMENTAL ASSESSMENTS

1. General

a. The most important step in preparing a Preliminary Environmental Assessment (PEA) is the selection of the person(s) to conduct the assessment and prepare the documentation. In addition to the person having knowledge of environmental considerations, it is important that the person understand the purpose for the action and have practical knowledge of what is required to implement the action. The latter is required to properly project the impact upon the environment; the applicability of federal, state and local laws and regulations; and the means and measures required to minimize or mitigate adverse effects on the environment were the action implemented.

b. The action sponsor may determine early in the assessment process that an Environmental Assessment (EA) will be required. However, since the information included in a PEA is also needed for preparing an EA, the action sponsor is encouraged to carefully complete the PEA. The information contained in a properly prepared PEA is needed to incorporate environmental considerations into the preparation of EA's and/or the design of projects.

2. PEA Content. The following outline should be followed in reviewing the action and preparing the assessment documentation.

a. Action/Project Description

(1) Describe purpose and objective of action in terms of benefits to the installation's mission. List specific Marine Corps, Navy and other requirements affecting the sponsor's decision to propose the action.

(2) Describe the effects on the installation's mission were the proposed action not implemented.

(3) List permanent facilities (roads, buildings, culverts, ranges, fuel tanks, etc.) required.

(4) Describe site requirements (good drainage, vegetation height, area, potable water, sewage disposal, location, impact zone, etc.) needed to implement action.

(5) Describe ongoing activities (such as tank maneuvers, field firing, incinerator use, bivouacking, vehicle refueling, insect vector control, etc.) which may affect the environment.

b. Consideration of Alternatives and Site Selection

(1) List and briefly describe the alternatives and/or sites potentially suitable for accomplishing the objectives of the proposed action.

(2) List the alternative and/or site selected and briefly state why it was chosen over the remaining alternatives and/or sites. These reasons will include economic or management considerations as well as environmental constraints.

c. Compliance with federal, state and local environmental regulations and guidelines.

(1) Determine and briefly summarize the applicability of the following considerations to the alternative and/or site listed in b(2) above. Describe the proposed means and measures to control, prevent or mitigate adverse environmental effects.

(a) Endangered Species Act

(b) Clean Water Act

(c) Clean Air Act

(d) Coastal Zone Management Act

(e) Archaeological and Historic Preservation Act

(f) North Carolina Erosion and Sedimentation Regulations

(g) Hazardous Materials and Hazardous Waste Disposal, Spill Prevention and Spill Containment and Cleanup (Includes petroleum products and wastes)

(h) Protection of Wetlands, Executive Order 11990

(2) Discuss how sanitary waste and refuse disposal will be accomplished.

(3) Discuss other regulations applicable to the proposed action.

(4) List permit requirements of local, state and federal regulatory agencies.

(5) Prepare a site map showing the natural features of the project site; location of existing and planned roads, buildings, and other structures; location of environmental values to be addressed; planned means and measures to prevent, correct, or mitigate adverse effects of the proposed action upon the environment, etc.

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d. How does the proposed action impact on other base functions and missions?

(1) Describe effects of proposed action on other activities. Are these activities aware of the proposed action and its impact on their programs?

(2) Is the proposed action consistent with existing master plans for the Camp Lejeune complex? Discuss how this determination was made.

SAMPLE PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT

1. Action/Project Description

a. Project Description. The G-4A Range is assigned to the Explosive Ordnance Disposal Platoon for routine and emergency disposal of Class V(W)(A) material and improvised explosive devices. Range G-4A is located within Grid Square 9333 of the Camp Lejeune Special Map and was approved and designated by the Naval Sea System Command as a Class "B" Disposal Site in 1974.

b. A recent inspection by the Naval Sea System Command revealed that it no longer met criteria established by current regulations for conduct of disposal operations. To meet the requirements, the following modifications must be accomplished:

- (1) Survey to determine range perimeter and quantity-distance arc.
- (2) Clear disposal area of trees and vegetation for a radius of 500 feet from detonation point.
- (3) Fill existing craters to obtain flat, level detonation site.
- (4) Fortify existing personnel protective shelter.

c. Once established, the cleared area must be burned or graded annually, as required, to prevent revegetation of the area. Approximately 18-20 acres of land are involved. The exploding ordnance would impact on the cleared area. Noise levels are expected to continue at current rates.

2. Consideration of Alternatives and Site Selection. In that the G-4A Range was an existing facility located on a suitable site for accomplishing the Explosive Ordnance Disposal (EOD) mission, the most desirable alternative is to utilize the present location. The proposed site is immediately adjacent to the G-10 Impact Zone and consequently, well located in terms of land use. On 19 March 1971, EOD personnel reviewed the site with personnel from the Natural Resources and Environmental Affairs Division (NREAD), Base Maintenance Department. The purpose of the review was to determine if any significant environmental constraints were present which would indicate a need to consider relocation of the site. None were identified, consequently, no alternatives were evaluated.

3. Compliance with Federal, State and Local Environmental Regulations and Guidelines.

a. Endangered Species. Use of the cleared area by endangered species of animals (primarily the alligator and red-cockaded woodpecker) appears to be insignificant. The project has no apparent beneficial or adverse impact on any endangered or threatened species.

b. Clean Water Act. The level terrain and sandy soils result in a condition of low erosion potential. A 100-foot (plus) buffer zone of natural vegetation will be left around natural ponds in the area. There are no known residues of potential pollutants from the ordnance. Routine use of the area is of short duration and sanitary facilities have not been required. In the event of extended period of use, a porta-jon from Range Maintenance would be utilized. Sanitary facilities are also available at the Engineer Stockade located at map coordinates 920327.

c. Clean Air Act. Not applicable. No significant discharge of air pollutants.

d. Coastal Zone Management Act (CZMA). There is no direct or indirect impact on tidal marshes, beaches or other protected areas other than noise resulting from explosions. Due to approved use of the entire area for firing of large weapons and bombing (of which state officials are aware of), it is determined that CZMA is not applicable.

e. Archaeological and Historic Preservation Act. There are no structures in the immediate area which have been identified on state or national registers of historic sites. There are no visible remnant structures of homesites, artifacts, etc. which indicate that the site is covered by this Act. The area has been subject to previous disturbance from explosions.

f. North Carolina Erosion and Sedimentation Regulations. As discussed in 3(b) above, there is no significant potential for sediment leaving the site. Therefore these regulations are not applicable.

g. Hazardous Materials and Hazardous Waste Disposal. The residues remaining after demolition are non-hazardous metals. The area was formerly designated as a restricted EOD area on appropriate base maps. Access to the area is restricted by signs and other procedures. At this time, the current state and federal regulations regarding hazardous waste disposal do not appear applicable.

h. Protection of Wetlands, Executive Order 11990. Two small freshwater ponds are the only wetlands which the proposed action has the potential for impacting. There will be a 100-foot (plus) barrier left around these areas. The ponds are adequately protected, as required by the Executive Order.

i. Sanitary Waste and Refuse Disposal. See item 3(b) above for sanitary waste disposal. Refuse (i.e., cans, papers, etc.) will be collected by using personnel and disposed of at an approved refuse container at the sanitary landfill. Minimum volumes are expected.

j. Discuss Other Regulations Applicable. The proposed action do not involve any environmental regulations other than those discussed above.

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k. Permit Requirements. None

l. Site Map. See Appendix A to Enclosure (2).

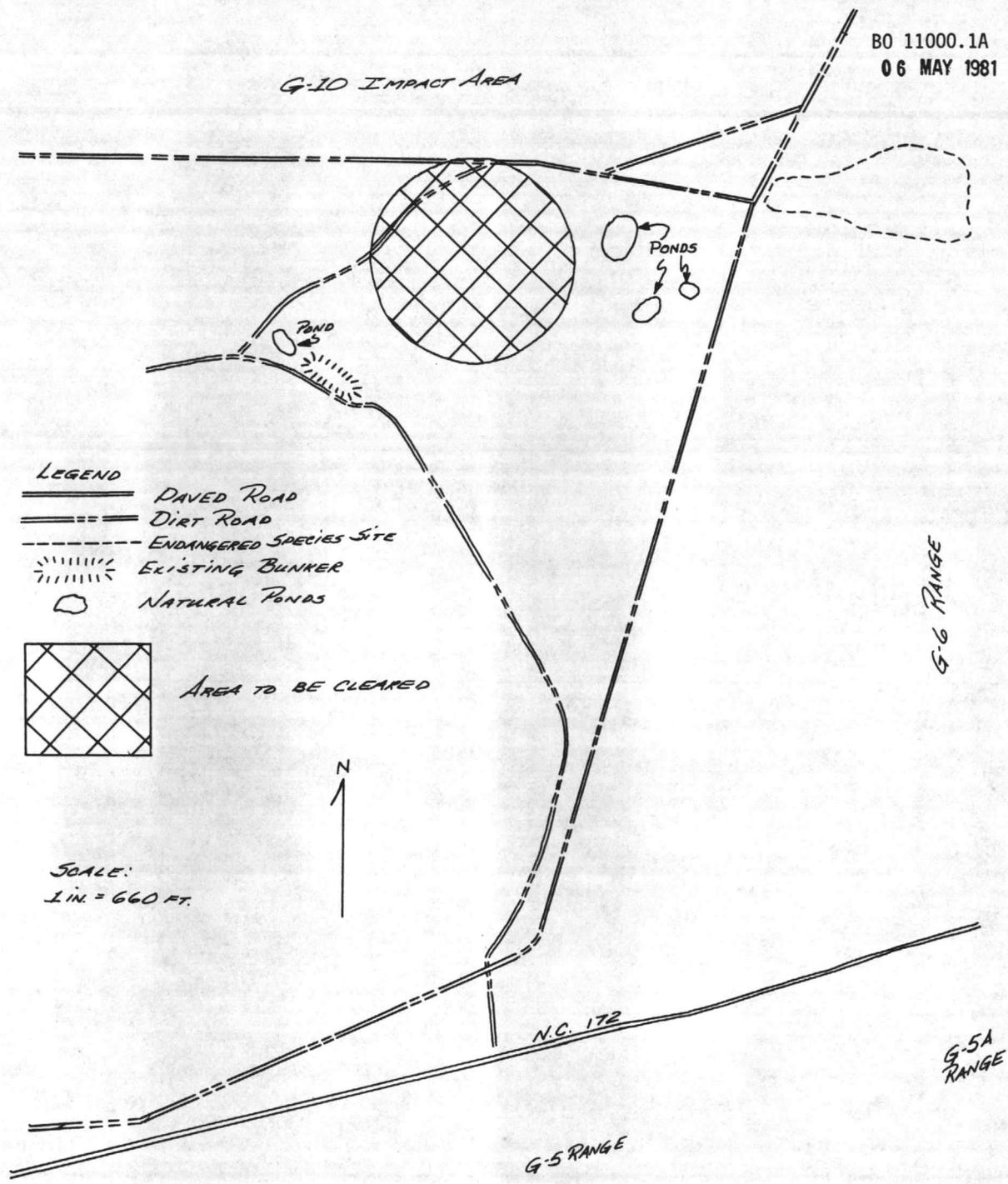
4. How does the Proposed Action Impact on Other Base Functions and Missions?

a. The G-4A Range, EOD Range, is properly identified on base training maps and instructions. The proposed modification will not alter the existing restricted areas. However, the disposal site is immediately adjacent to the outer limits on the firing fan on the G-6 Range which is currently being re-activated. Depending on the circumstances involved, firing on the G-6 Range may have to be suspended during use of the G-4A Range.

b. Consistency with Base Master Plan. This matter was discussed with Design Director, Public Works Department. The Director advised that the modification of the G-4A Range was consistent with the existing Master Plan and projected use of the surrounding area.

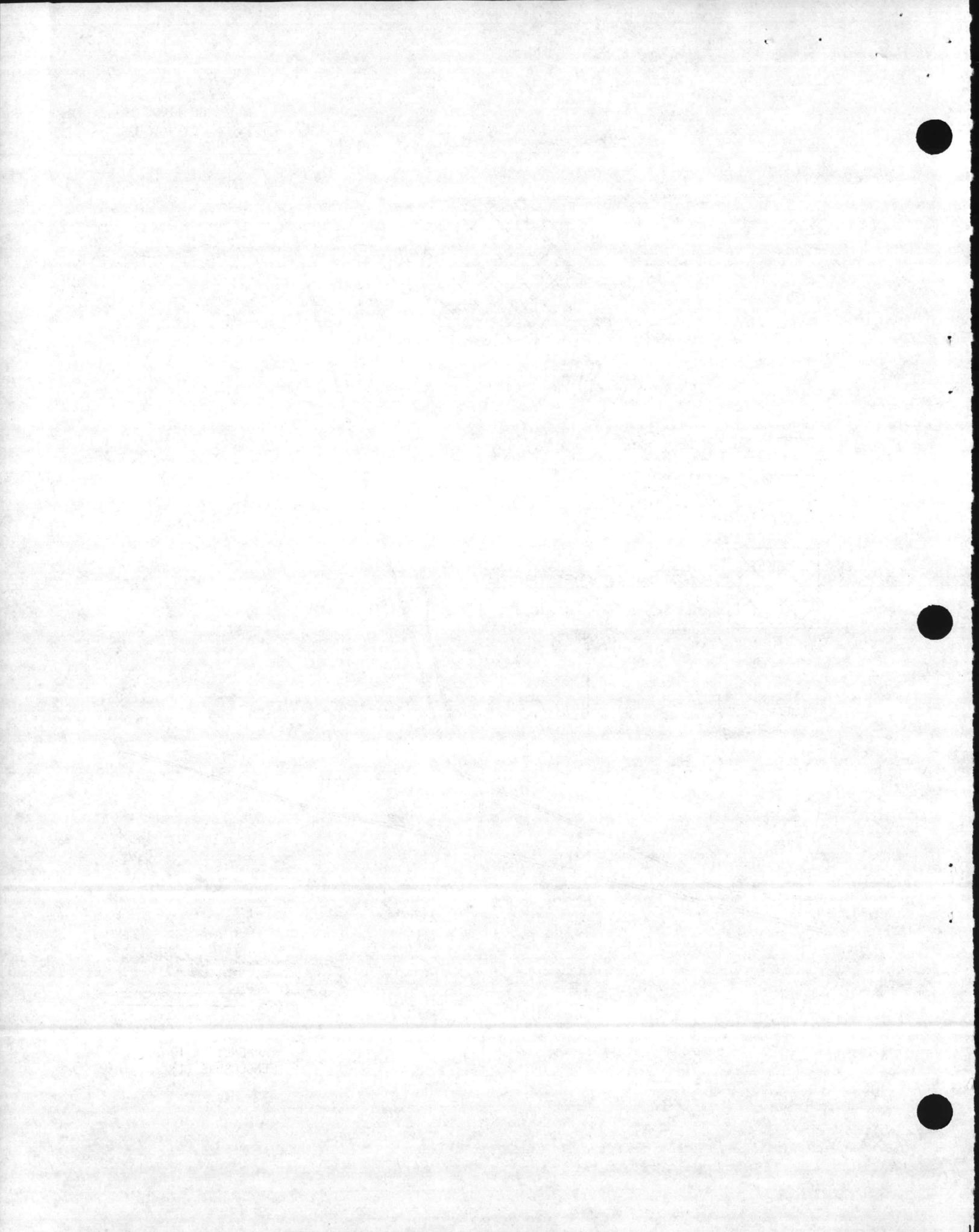
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G-10 IMPACT AREA



- LEGEND**
- ==== PAVED ROAD
 - DIRT ROAD
 - - - - ENDANGERED SPECIES SITE
 - ||||| EXISTING BUNKER
 - NATURAL PONDS
 - ▣ AREA TO BE CLEARED

SITE MAP FOR G-5A RANGE
MODIFICATION PROJECT
DRAWN BY: _____
DATE: _____



ENVIRONMENTAL ASSESSMENTS, NECESSITY AND PREPARATION

1. Discussion. As a general rule, an Environmental Assessment (EA) is prepared when the Commanding General has determined that an action will significantly affect the environment or be controversial with respect to environmental effects. An EA of an action shall be made by the action sponsor, unless it has been determined by the Commanding General, Marine Corps Base, that the action falls within the scope of one or more categorical exclusions.

2. Guidelines and Standards

a. Categorical Exclusions. A categorically excluded action is one which, based on the following criteria and past experience, does not normally significantly impact on the quality of the human environment. Categorical exclusions are granted for those kinds of actions, which, among other factors, minimally effect the quality of the human environment; do not result in any significant change, from the conditions existing at the site of their impact; and those whose effect is primarily economic or social. The following are examples of actions, which, under normal conditions, are categorically excluded from the necessity for an environmental assessment or statement:

(1) An action, the effects of which, are included in a previously written assessment, or draft or final environmental statement. A new evaluation of the effects of such an action is not required unless the environmental effects will be markedly different from those predicted in the original assessment or statement.

(2) Emergency activities (e.g. riot control or search and rescue (SAR) activities) do not require environmental assessments or statements. Emergency situations generating a response by Navy or Marine Corps authorities which result in significant harm to the environment shall be reported to the Commandant of the Marine Corps.

(3) Routine movement of mobile sources

(4) Routine maintenance and repair

(5) Reductions in force (RIFs)

(6) Continuing actions if there is no substantial, adverse change from previously existing conditions

(7) Minor training exercises on military property

(8) Land and facility transfers to another federal agency wherein the General Services Administration (GSA) is the action agency

(9) Regulations which do not significantly affect the quality of the human environment in their implementation

(10) Routine procurements

(11) Mission realignment wherein no substantive change to operations is proposed.

b. Required Assessments (EA's). Assessments will be made for those actions which normally have the potential for violation of environmental laws or could result in a degree of degradation of environmental quality. The following are examples of actions which, under normal conditions, would require preparation of an EA.

(1) Training exercises on non-military property

(2) Major training exercises on military property

(3) Dredging projects that increase water depth over previously dredged or natural depths, and/or require new spoil area designations except where prior negotiations with the Corps of Engineers indicate no EA required for the purposes of permit authorization.

(4) Proposed utilization of tidelands and freshwater wetlands.

(5) Real estate acquisitions or outleases of land, excluding agriculture or grazing lands, involving:

(a) New ingrats/outgrants only, i.e., not renewals or continuances wherein land usage remains the same.

(b) Fifty acres or more (when acreage exceeds 50 by slight amount consult the Commandant of the Marine Corps).

(c) Notwithstanding (5)(a) or (b), any acquisition of any size or ingrats/outgrants which may be considered environmentally controversial, regardless of the appropriation or intended utilization.

(6) Major (greater than 50 units with the same caveat as with 5(b)) family housing projects, noting the increment being addressed against the deficiency at the time of submission.

(7) New target ranges or range mission changes which would increase environmental impact.

(8) Exercises conducted at the request of States (as ship sinkings for artificial reefs) wherein environmental impact might be expected (negotiation of responsibilities for EA preparation would be in order).

(9) Low altitude aircraft training routes and/or special use airspace and warning areas wherein overflights impact persons, wildlife (particularly endangered species) or property.

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(10) Sale of substantial quantities of natural resources, When the Navy or Marine Corps is the contracting agency.

(11) Disposal of biological or chemical munitions, pesticides, herbicides, or other hazardous materials other than in the manner in which they are authorized for use or disposal.

(12) Mission changes, base or station closures/relocations/consolidations and deployments which would cause major long term population increases or decreases in affected areas.

(13) Any activity proposed in a designated or recommended "critical" habitat of an endangered species, except where prior negotiations with the Fish and Wildlife Service/National Fisheries indicates no EA required for the purposes of continued operations and compliance with the Endangered Species Act. (Note: Associated but separate need for a "biological assessment" and consultation in compliance with the Endangered Species Act may be required, reference (c).

(14) Any activity proposed which would adversely affect historical or cultural sites whether now cited on the National Register of Historical Places or deemed eligible for inclusion on the National Register.

(15) Closure or limitation of access to any areas that were open previously to public use, such as roads or recreational areas.

(16) Construction or any other action affecting an EPA designated aquifer or recharge zone (as specified by Section 1424(e) of the Safe Drinking Water Act, Pub. L. 93-523).

(17) Irreversible conversion of "prime or unique farmland" to other uses unless "other national interests override the importance of preservation or otherwise outweigh the environmental benefits derived from their protection." (Note: To ascertain if lands involved are appropriately classified, initial contact should be made with the U. S. Department of Agriculture (USDA) Land Use Committee in the affected State. This committee may be located by contacting either the chairman of the USDA rural development committee in the State or the State Soil Conservation Services (SCS) office).

(18) Transportation of hazardous substances, conventional munitions or other wastes for intentional disposal into the oceans.

(19) New, revised or established regulations, directives or policy guidance concerning activities that are likely to have significant environmental effects.

(20) Any action, the environmental effect of which is likely to become the subject of controversy by people who will be affected by the action.

3. Preparation of Environmental Assessments

a. To properly assess the environmental impact of an action, a variety of factors must be reviewed. In cases where adequate information is lacking to enable a definite environmental evaluation, it may be necessary to make provisions to obtain actual environmental data, especially since the current CEQ guidelines require that a statement:

" . . . should also succinctly describe the environment of the area affected as it exists prior to the proposed action."

b. It goes without saying that the better the assessment, the closer the installation will be achieving the goal as outlined in the CEQ guidelines for environmental impact statements.

c. The Environmental Assessment Outline, Appendix A to enclosure (2), lists factors which should be considered in determining whether an action has an environmental impact, or could become environmentally controversial. The listings should aid in evaluating the nature and degree of the impact, as well as in identifying other agencies which have an interest in the action. Since the listings should not be considered to be complete, those persons assessing actions and preparing or reviewing environmental statements will have to use a great deal of imagination in order to objectively consider the wide range of beneficial and detrimental environmental aspects. Appendix A should be used as a guide in setting up format of an EA.

ENVIRONMENTAL ASSESSMENT OUTLINE

- I. ACTION SUMMARY STATEMENT - Brief statement describing what the action is and why it has to be accomplished.
- II. ACTION SCHEDULE - Time schedule for the action and for those events preceding the action, which may have an environmental impact.
 - a. Date of initiating request for approval
 - b. Anticipated date of action approval
 - c. Action design or planning phase
 - d. Begin construction phase (or similar preparatory actions)
 - e. End construction phase (e.g., complete engine test cell)
 - f. Anticipated date of activity initiation (e.g., begin engine testing)
 - g. Anticipated date of activity completion
- III. ECONOMIC AND SOCIAL CHARACTERISTICS OF PROJECT SITE - Various factors of background information about the local area where the action is to take place.
 - a. Demographic Factors
 - (1) Installation population (identifying numbers that live on board)
 - (a) Military
 - (b) Dependents
 - (c) Civilian Employees
 - (2) Area Population
 - (a) Total Population
 - (b) Growth Trends
 - (c) Seasonal Variations
 - (d) Comparable Density Estimates
 - (e) Estimate of Affected Population
 - b. Governmental Organizations
 - (1) Local
 - (2) County
 - (3) Council of Governments
 - (4) Regional Planning Commissions
 - (5) State Government, i.e.,
 - (a) Utilities Commissions
 - (b) Natural Resources Board
 - (c) State Land Commission
 - (d) Department of Pollution Control
 - (e) State Transportation Department
 - (f) State Agricultural Department
 - (g) Water Resources Control Board
 - (h) State Planning Officer
 - (i) Consumer Services
 - (j) Water Management Districts

- (k) Air Quality Control Commission
- (l) Water Quality Control Commission
- (m) Public Health Department
- (n) State Highway Department
- (o) State Recreation and Parks Department
- (p) Fish and Game Department
- (q) Historical Commission
- (r) Legal Affairs (Attorney General)

- (6) Regional and Interstate Authorities
- (7) Regional and Local Offices of Federal Agencies with Jurisdiction and/or Special Expertise
- (8) International Implications

c. Socio-Economic and Cultural Factors

(1) Population Socio-Economic Characteristics

- (a) Rural
- (b) Urban

(2) Project Area Economic Base

- (a) Principal Area Resources
- (b) Navy and Marine Corps role in Area Economics

(c) Median Income levels: Military and civilian personnel associated with the Navy in the Area -
Civilian Population

- (d) Area Tax Revenue Resources
- (e) Federal Aid to the Area - Sources

(3) Aesthetic Aspects

- (a) Area Landscaping Effort
- (b) Architectural Features and Styles
- (c) Existence of Signs, Blighted Areas and Congestion in Action Area

(4) Historical and Archeological Sites

(5) Special Interest Groups Associated with the Action Site

(6) Area Housing and Medical Situation

(7) Area Educational Institutions

(8) Area Transportation Network

(9) Utilization of Area Parks, Woodlands and Recreation Facilities

IV. NATURAL ENVIRONMENT AND LAND USE OF PROJECT SITE

a. Physical Characteristics

(1) Geography

(a) General Project Setting

(b) Geographic Extent of Project Effect: Boundaries of Military Property Critical Locations that lie
Outside Military Property but Within Effects Zone

(2) Topography

- (a) General Characteristics, Slope, Covering, Etc.
- (b) Details on Critical Features that have Project Implications
- (3) Geology
 - (a) Soil Characteristics: Texture, in place density and depth; Particle, size distribution and stratification; Porosity, permeability and capillarity; Plasticity and cohesion; Chemical and Radioactive Material Constituents; Erosion Characteristics
 - (b) Geologic Formations: Bedding sequence and characteristics; Mineral resources; Permeability and ground Water Resources; Pertinent Water Quality Aspects
 - (c) Seismology
 - (d) Silt/Silting
- (4) Meteorology and Climatology
 - (a) Precipitation: Minimum, maximum, mean, median-daily, seasonally and yearly; Variability
 - (b) Relative Humidity
 - (c) Air Temperature: Daily and monthly - minimum, maximum, and mean; Variability, spatially and temporarily
 - (d) Wind Speed and Direction
 - (e) Excessive Condition Possibilities
 - (f) Solar Radiation; Inversion Frequency and Elevation
 - (g) Visibility
 - (h) Airborne Particulate and Gaseous Pollutants: CO, CO₂, NO_x, SO_x, O₃; photo chemical oxidants, hydrocarbons, particulate: soot, asbestos, oxides of beryllium and lead, etc.^x
- (5) Hydrology
 - (a) Stream Discharge: minimum, maximum, mean and median-daily, seasonal and annual; variability
 - (b) Stream velocity: minimum, maximum, mean and median-daily, seasonal and annual; variability; stream profile - vertical, longitudinal and x-section
 - (c) Base Flow
 - (d) Flood Flows: Return frequency; damage potential
 - (e) Stream channel characteristics; bottom materials, sedimentation
- (6) Oceanography
 - (a) Estuaries: Volume of tidal flows; velocity profiles; type of tide; salinity and temperature - variations; tidal heights - minimum, maximum and mean; contributing sources; mixing characteristics; tidal prism in cubic feet at high, low and mean
 - (b) Harbor Areas: Tidal heights, minimum, maximum, mean, seasonal variations; wave heights - return frequency; oscillatory velocity currents; turbulence; mixing characteristics; storm damage return frequency analysis
 - (c) Beach stability and characteristics
 - (d) Water quality and characteristics
 - (e) Bottom Characteristics
- (7) Radioactivity (Refer to Nuclear Power Directorate (NAVSEA 08) for information and clearance)
 - (a) Background levels and source discharge potential
- b. Land and Water Use
 - (1) Project Site Land-Use
 - (a) Present Land use and Land Quality
 - (b) Zoning Ordinance and Official Land-Use Designation
 - (c) Comprehensive Long-Range Plan

(2) Area Water and Land-Use (Military and Civilian)

(a) Commercial and Industrial: Navigation-water and airways; shell fish; commercial fisheries; cooling-water dilution; industrial processing; extractive operations

(b) Transportation and Utilities

(c) Residential

(d) Agricultural

(e) Vacant, Sanitary Landfill

(f) Municipal

(g) Recreational: Water sports and fishing; boating; waterfowl and wildlife habitat; refuges; wilderness areas, parks, wild-river zones; camping, cabins, hiking; field sports and playgrounds

(h) Historical and Archeological Sites

(3) Water Quality

(a) Minimum, maximum and mean concentrations - daily annual: Concentration of critical constituents; temperature profile - vertical, longitudinal and cross section; sediment load - bed load, suspended solids; floating solids, oils and grease; color and turbidity; taste and odor; phosphate, nitrate and trace-minerals content; CO₂, O₂, N₂, H₂S; detergents, organic content; specific conductance, total dissolved solids; background radioactivity; pesticides; soluble organics; toxic materials; pH.

c. Area Biosystems of Interest

(1) Identification of Pertinent Ecosystems and Habitat Associations

(2) Population Dynamics Endemic Species, Number, Variation, etc.

(3) Quality of Wildlife

(4) Endangered Species

(5) Food Chain and Life Cycle; Seasonal Variations

(6) Critical Inputs and Toxicity Levels, if any

V. ACTION FACTORS TO BE CONSIDERED, PROBABLE IMPACT - Factors which should be considered in assessing potential impact of various actions on environmental quality

a. Transportation of Hazardous Materials

(1) Type of Danger Involved

(a) Explosive

(b) Flammable

(c) Radioactive

(d) Toxicity: Liquid - Gaseous

(e) Communicable Diseases

(2) Safeguards and Precautions

(a) Safety Precautions

(b) Route Selection, Convoy

(c) Monitoring

(d) Backup Systems

(3) Likelihood of an Incident

(a) Previous History

(b) Sequence or Combination of Events that will Lead to an Incident

(c) Potential Damage and Mortality Associated with an incident: Military personnel; military employees; civilian population, plant and animal life; real property damage

- (4) Emergency Procedures
- (5) Alternatives
- (6) Compliance with Local, State and Federal Regulations
- (7) Controversy

b. Resources Depletion

- (1) Relative Magnitude - Amounts to be Used
- (2) Resource Being Depleted
 - (a) Groundwater; limited surface flows
 - (b) Mineral Utilization
 - (c) Sand and Gravel Deposits
 - (d) Oil and Petroleum Products; Natural Gas, Geothermal Sources, and Coal
 - (e) Archeological and Historic Sites
 - (f) Fish and Game Habitat
 - (g) Waterfowl Habitat
 - (h) Wetlands
 - (i) Beach lands
- (3) Cost-Benefit Analysis
- (4) Long-Term vs Short-Term Implications
- (5) Alternatives
- (6) Applicable State and Federal Regulations
- (7) Possibility of Recycling or Restoration
- (8) Controversy

c. Emissions, Effluents, Solid Wastes, Noise

(1) Airborne Emissions

(a) Sources at Project Site: Automobiles, trucks, and buses; open burning; incinerators; power generation; conventional and nuclear; heating; road-mix plants; solvent use; cooling towers; aircraft engine testing; aircraft operations; weapons training operations; firefighting school; construction; shipboard lagging of insulation; propellant combustion

(b) Parameters measured - minimum, maximum, mean, and variability: SO_x , NO_x , CO, CO_2 , O_2 , and O_3 ; hydrocarbons and photochemicals; visible emissions; color, odor, etc.; particulate matter^x

(2) Waterborne Effluents

(a) Sources at Project Site: Domestic wastewater; cooling water and cooling tower blowdown; industrial wastewater; oils; processing fluids; irrigation return - flow; recreation return - flow; runoff; seepage from waste disposal operations; accidental spills; silt/silting

(b) Treatment provided prior to Discharge: Chemical - precipitation, chlorination; sedimentation, gravity separation; filtration; aeration; aerobic bacterial treatment; anaerobic bacterial treatment; long-term holding; heat treatment; sonic treatment; radioactive treatment

(c) Physical and chemical characteristics - minimum, maximum, mean, variability: Volume-hourly, daily, seasonal, annual; color, odor, taste, turbidity; temperature and pH; oxygen demand-chemical and biological; total suspended solids; total dissolved solids, conductivity; volatile solids; CO_2 , O_2 , H_2S ; pathological organisms; phosphates, nitrates, trace nutrients; toxic materials; pesticides; floating solids; oils, grease; detergents; radioactivity; heavy metals

(d) Point of Effluent Discharge: Characteristics of receiving water; distribution and diffusion; mixing vertical and longitudinal; reactivity potential; chemical and biological; possibility of serious damage due to accidental release; other discharges-nature and quantities

(3) Solid Wastes

(a) Sources at Project Site: Domestic sources; commercial and industrial; weapons packaging materials, disposal of; hospital; mineral wastes; agricultural wastes; incinerator wastes

(b) Characteristics of Wastes - Minimum, maximum, mean, and variability: Pathogenic; organic content-combustibles, NH₃ volatile fractions; moisture content; oils and greases; density; volume-daily, weekly, seasonal, annual; recycle and salvage potential; radioactive materials and contaminated equipment; explosive materials

(c) Point of Discharge: Physical state; collection procedure and state; method of transportation; intended site for disposal; characteristics of disposal site; possibility of serious damage or health hazard being created by accidental release

(4) Noise Emissions

(a) Sources at Project Site: Construction equipment; drilling and blasting; motor vehicles; aircraft operation and testing; watercraft operations; weapons testing; industrial processing

(b) Noise levels - maximum, mean, variability: At the project site; closest non-military personnel; duration of project; duration of noise at each level indicated; CNR designation

(5) Alternatives to Uncontrolled Emissions, etc.

(6) Compliance with Local, State and Federal Standards and Regulations

d. Pesticides

(1) Purchase and Procurement

(a) Selection

(b) Effect on non-target organisms

(2) Storage and Transport

(a) Effect on humans

(b) Precautions and security

(3) Operations Effects

(a) Application methods

(b) Fumigation

(c) Wood preservation and treatment

(d) Aerial dispersal

(e) Soil treatment

(f) Disposal

e. Radiation

(1) Sources

(a) Power generation: Reactor operation; fuel cell reprocessing; radioactive waste handling

(b) Weapons testing

(c) Occupational exposure in laboratories and training facilities

(2) Source Characteristics

(a) State: Solid, liquid, gaseous; radioactive particle; energy emission

(b) Half-life

(c) Activity level

(d) By-products - secondary effects

(3) Likelihood of an Incident

(a) Previous history

- (b) Sequence or combination of events that will lead to an incident
 - (c) Possible property damage
 - (d) Possible exposure of military personnel and employees
 - (e) Possible exposure of civilian population
- f. Water and Land Use Implications
- (1) Uses with Potential Adverse Implications
 - (a) Storage of hazardous materials
 - (b) Disposal of hazardous materials
 - (c) Operations near residential areas, safety zones
 - (d) Operations that restrict or preclude recreational use of public lands, beaches and waterways
 - (e) Construction of new facilities: Added traffic congestion in the area; significant population density changes; reduction of park and recreation facilities; radical changes in architectural norm
 - (f) Industrial processing normally associated with noise, air pollution and water pollution
 - (g) Creation of blighted and slum areas by abandonment of facilities and installations
 - (2) Compliance with Local Code
 - (a) Housing and Building
 - (b) Subdivision
 - (c) Zoning
 - (3) Agreement with Long-Term Regional Master Plans
 - (4) Alternatives
 - (5) Long-Term Versus Short-Term Implications

VI. UNAVOIDABLE ENVIRONMENTAL IMPACT - Various categories of environmental impact which may occur as a result of specific actions or sequence of actions.

- a. Noise Pollution
- (1) Health and Welfare Significance
 - (a) Exposure of station/ship personnel to potentially hazardous noise levels
 - (b) Exposure of civilian communities to annoying noise levels resulting from: Aircraft operations; aircraft maintenance; industrial noise; vehicular noise resulting from changes in traffic density
 - (c) Anxiety of civilian community over aircraft safety manifested by noise complaints
 - (2) Economic Significance
 - (a) Changes in land values resulting from (1)(b)
 - (b) Direct and indirect costs associated with the following: Litigation; public relations; noise surveys (one-time and continuing); noise control and abatement "fixes"; relocations of equipment, personnel and/or facilities to take advantage of natural sound barriers; changes in job performance due to changes in noise levels
- b. Water Pollution
- (1) Health Significance
 - (a) Transmission of pathogenic disease: Potable water supply; shellfish; bathing and recreation waters; vegetables and irrigated crops
 - (b) Taste and odor in potable supply
 - (c) Toxic materials in potable supply: Pesticides and herbicides; heavy metals; arsenic, cyanides, sulfides; nitrates; fluorides

(2) Effects on Aquatic Life

(a) Direct Effects: Growth stimulated by addition of nutrients such as phosphates, nitrates, CO₂ and trace elements; elimination or growth impeded by limiting factors such as minimum oxygen tension, maximum temperature, color, pH range, NH₃, NO₂ and turbidity; toxicity of materials such as heavy metals (copper, zinc, silver, lead, mercury), detergents, chlorinated hydrocarbons, and oils and volatile petroleum based materials; interference with aquatic life by suspended solids, turbidity and color; disruption of the life cycle of aquatic life; silt/silting

(b) Indirect Effects: Food chain interruption; inhibition or stress during some phase of the life cycle; habitat destruction; change in competitor relationship; change in predator relationship

(3) Aesthetics

(a) Loss of sense of well-being

(b) Loss of confidence in society to cope with problems

(c) Lending credit to a feeling of ugliness that prevails in large urban areas

(4) Economic

(a) Loss to commercial fisheries

(b) Cost of water treatment before use

(c) Cost of developing alternate water supplies

(d) Lower agricultural productivity due to build-up of dissolved solids in irrigation water; shift to salt tolerant crops

(e) Loss of reservoir capacity due to sediment deposition

(f) Loss of use of a natural resource

(5) Recreation

(a) Pleasure of boating and water skiing is diminished due to floating solids, gas bubbles, odors and algae blooms

(b) Closing of public beaches and swimming areas because of potential disease transmission

(c) Loss to sport fishers due to fish kills and reduction in the population of quality fish by pollution, with more resistant trash fish replacing them

(d) Smaller wildlife and waterfowl populations

c. Air Pollution

(1) Health Significance

(a) Increased death and illness rates: SO_x, NO_x, and particulates with relative levels of each important overall health effect; linked with high mortality rates due to cancer and arteriosclerotic heart disease

(b) Increased incidence of chronic disease: Emphysema; Bronchitis; other respiratory ailments compounded by lung tissue damage; allergies; hay fever

(c) Eye irritation, nose irritation

(d) Reduce visual and mental acuity

(e) Toxic materials: Carbon monoxide-O₂ replacement in blood; beryllium - lung lesions; asbestos - lung scarring and lung cancer

(f) Increased susceptibility to disease

(g) Loss of sense of well-being

(h) Nuisance problems created-odor, visibility loss

(2) Economic Significance

(a) Corrosion and material deterioration: Paint darkening and peeling; metal corrosion; rubber cracking; erosion of building faces and statuary; color deterioration

(b) Soiling of food, clothes, automobiles and structures: Cleaning costs; dyeing costs; loss of prepared and canned foods; time, utilization and replacement costs

06 MAY 1981

(c) Vegetation and animal life: Tree and orchard blight; crop losses (particularly for leafy vegetables); chronic plant injury and chronic animal diseases; loss of incoming radiation needed for plant growth

(d) Increased accident costs

(3) Aesthetic Loss

(a) Visibility loss

(b) Generation of smog and haze

(c) Scenic beauty and skyline obscured

(4) Climatic Changes

d. Release of Toxic Materials

(1) Health Significance

(a) Exposure of humans to toxic levels due to accidental release

(b) Chronic effects due to concentration of materials in the human body

(c) Potential increased incidence of birth defects, genetic mutation and cancer

(d) Concentration to toxic levels via the food chains

(e) Fear of certain food because of possible contamination

(2) Biological

(a) Elimination of some species because of toxic effects

(b) Elimination of some species because of introduction of stress or weakening of the species during some phase of the life cycle

(c) Changes in variety and population in the ecosystem

(d) Selective breeding of resistance species

(e) Change of predatory and parasite relationships

(f) Severe leveling of population numbers

(3) Aesthetic and Recreational

(a) Loss of recreational opportunities: Elimination of certain species; over-production of certain species

(b) Development of large populations of nuisance organisms: Taste and odors; color; suspended biomass

e. Adverse Land and Water Use

(1) Sociological

(a) Urban congestion: Loss of some of the amenities of life; loss of diversity and opportunity for individualism; development of high crime rate areas

(b) Failure to include social costs could lead to ineffective projects that do not operate as intended, breakdown of public sector functions

(c) Loss of sense of "home" to the urban dweller in certain types of housing developments

(d) Loss of open areas and recreational facilities

(e) Lack of adequate low cost housing in certain urban areas

(f) Development of low tolerance to changes in lifestyles and increased impatience with interfering agents

(2) Health Significance

(a) Increased need for sanitation facilities

(b) Increased generation of solid wastes

(c) Increased need for sector control

- (d) Tensions due to increased tempo of life and increased stress
- (e) Creation of anxiety

(3) Aesthetic

- (a) Loss of sense of well-being in the community
- (b) Creation of an atmosphere of ugliness
- (c) Depreciation of the quality of life

(4) Economic

- (a) Tax burden shifts: Loss of property as a revenue source; increase in obligations to provide community services

VII. NATURAL RESOURCE DEPLETION

a. Irreversible Processes

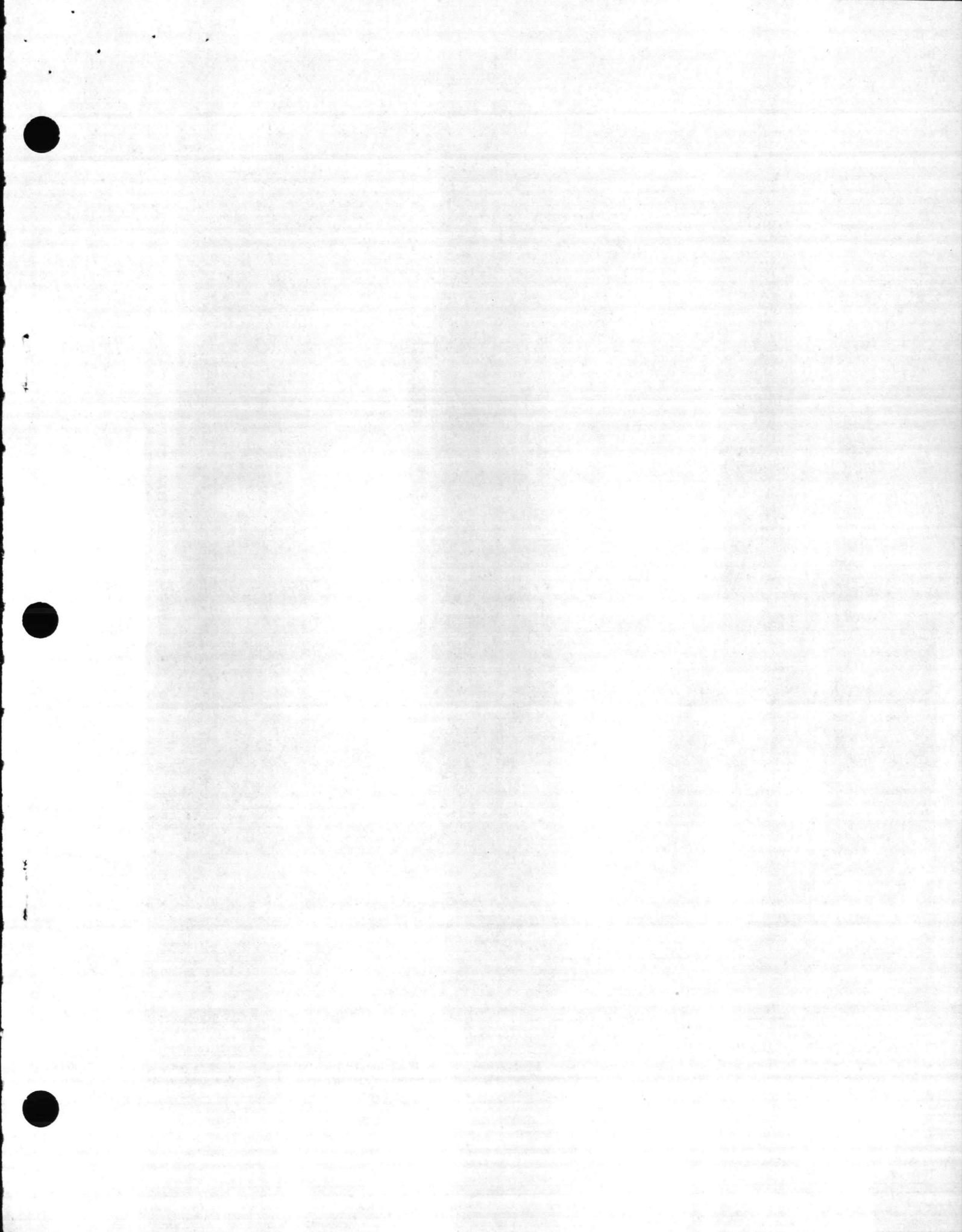
- (1) Lake Eutrophication
- (2) Loss of Certain Species of Biolife
- (3) Soil Erosion
- (4) Loss of Wet-Land Areas, Free-Flowing Streams and Canyons
- (5) Loss of Cold Regions Tundra
- (6) Permanent Modifications of Weather and Climate
- (7) Loss of Open Lands and Vista
- (8) Groundwater Pollution

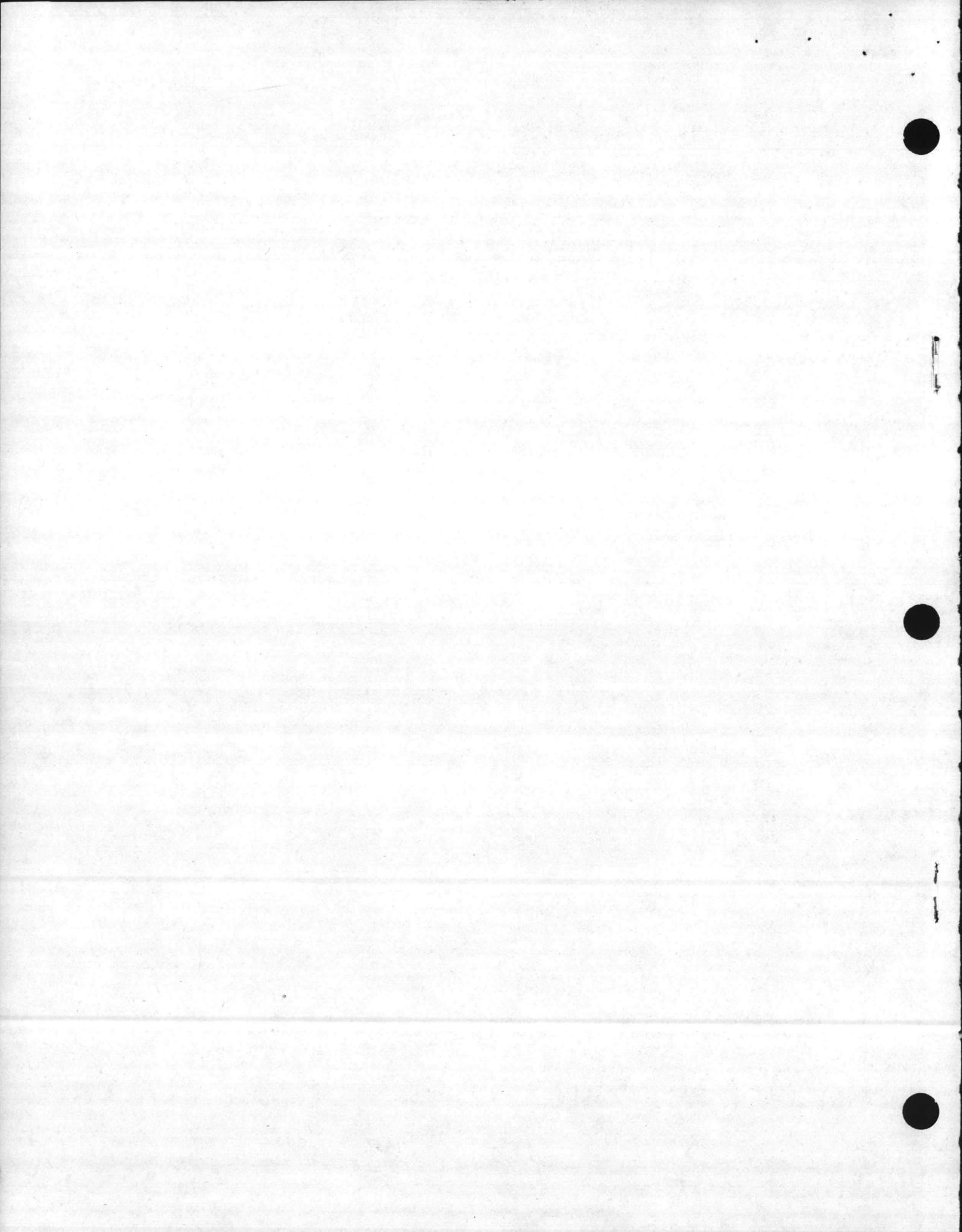
b. Slow Regeneration Processes

- (1) Timber Harvesting
- (2) Overgrazing of Land
- (3) Overproduction of Groundwater in Excess of Recharge
- (4) Temporary Change in the Ecosystem to Favor Certain Species

c. Economic

- (1) Cost of Developing Alternate Resource Due to the Depletion of Certain Resources
- (2) Long-Term Versus Short-Term Economic Considerations Where Viewed from Position of Long-Range National Goals Versus More Restricted Objectives







UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

BO 11090.1B
MAIN/DDS/th
28 May 1981

BASE ORDER 11090.1B

From: Commanding General
To: Distribution List

Subj: Oil Pollution Prevention and Abatement and Oil and Other Hazardous Substances Spill Contingency Plan

Ref: (a) MCO P11000.8A
(b) Resource Conservation and Recovery Act (RCRA) of 1976 (NOTAL)
(c) Clean Water Act (NOTAL)
(d) Oil Spill Prevention Control and Countermeasure Plan of 10 June 1978, Camp Lejeune, NC (NOTAL)

Encl: (1) Oil and Hazardous Material Spill Prevention, Containment, Cleanup and Disposal Guidelines
(2) Oil and Other Hazardous Material Spill Contingency Plan

1. Purpose. To revise existing oil and other hazardous material related pollution abatement and prevention procedures for Marine Corps Base, Camp Lejeune and Marine Corps Air Station (Helicopter) (MCAS(H)), New River and to assist the Commanding General in the implementation of reference (a) with respect to pollution abatement.

2. Cancellation. BO 11090.1A.

3. Policy. It is the continuing policy of the Commanding General to actively participate in environmental pollution abatement, to take positive planning and programming action to abate and correct oil and other hazardous materials, related pollution problems and to incorporate appropriate pollution control and prevention facilities in all new construction aboard this installation. The intent of this policy is to carry out the applicable measures of references (a), (b), (c) and (d) and to prohibit the discharge of oil, oily mixtures and other hazardous substances except in designated areas by authorized personnel.

4. Responsibilities

a. Base Maintenance Officer has overall responsibility for:

(1) Maintenance of water pollution abatement facilities and the central storage and related collection and transportation of waste petroleum products.

(2) Providing personnel required for routine monitoring, surveillance, upchannel reporting and enforcement of unauthorized discharges of oil and other hazardous materials and related significant environmental problems of an ongoing nature involving the handling and disposal of petroleum products and other hazardous materials regulated by references (a), (b) and (c).

b. Commanding Officers/Area Commanders are charged with the responsibility of preventing spillage and other unauthorized discharge of oil and other hazardous materials within their own areas and will develop and implement plans and procedures which are consistent with applicable regulations and enclosures (1) and (2) for preventing, reporting, containing and cleaning up such spillage or unauthorized discharge.

c. Director, Natural Resources and Environmental Affairs Division, Base Maintenance Department or his representative will assume responsibility of On-Scene Coordinator (OSC) upon arrival at the scene of an oil or other hazardous material spill in accordance with procedures outlined in references (a) and (b) and enclosure (2).

d. Base Fire Chief or his senior representative will provide initial response and other assistance with any spill of oil or other hazardous material as outlined in enclosure (2), until a verification is made that the reported spill has occurred in an aircraft operating area aboard MCAS(H), New River. If the latter situation exists, the Base Fire Chief will provide a standby crew to assist, if the crash crew MCAS(H), New River is unable to contain the spill within the aircraft operating area.

e. Crash Crew, MCAS(H), New River will develop and implement a written procedure for the initial response to and containment and cleanup of oil and other hazardous materials spills in aircraft operating areas aboard MCAS(H), New River. Procedures will be consistent with applicable regulations and enclosure (2).

5. Action. Discharge of oils or other hazardous materials on or into the grounds and streams of this installation is prohibited. Cognizant officers will take necessary action to assure compliance. Commanding Officers/Area Commanders shall conform to the standards and criteria set forth in enclosures (1) and (2).

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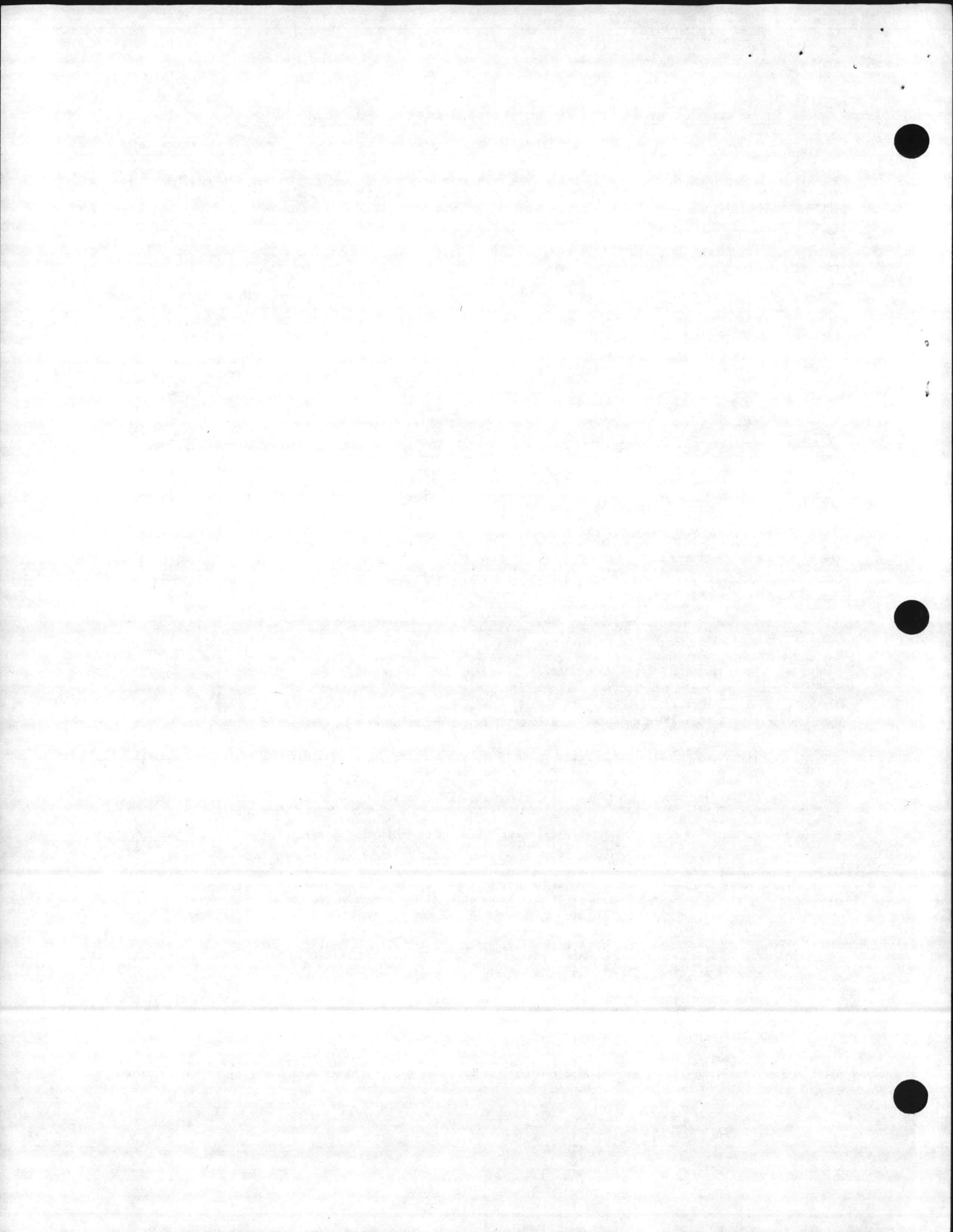
6. Applicability. Having received the concurrence of the Commanding Generals, 2d Marine Division, FMF; 2d Force Service Support Group, (Rein), FMFLANT; and the Commanding Officers of the Marine Corps Air Station (Helicopter), New River and tenant units; Naval Regional Medical Center; and Naval Regional Dental Center, this Order is applicable to those Commands.

J. R. Fridell
J. R. FRIDELL
Chief of Staff

DISTRIBUTION: A
BMAINO (100)

OIL AND HAZARDOUS MATERIAL SPILL PREVENTION, CONTAINMENT, CLEANUP, AND DISPOSAL GUIDELINES

1. The prevention of oil and hazardous-material spills and the resultant environmental damage is the responsibility of all Commanders.
2. All Commanders and Department Heads will publish and prominently post directives setting forth detailed policies and procedures for the control and prevention of oil and hazardous-substance pollution specifically applicable to their organization.
3. All Commanders and Department Heads will take the following actions:
 - a. Take positive measures to prevent spills of oil and hazardous substances to include a review of the Command's maintenance and operational procedures.
 - b. Conduct frequent inspections of areas and facilities assigned to ensure compliance with published procedures.
 - c. Establish immediate action procedures for the amelioration of pollution which may result from oil and hazardous-substance spills, to include the stocking of materials required to carry out the procedures.
 - d. Ensure that all personnel within their Command are thoroughly indoctrinated regarding the environmental impact of oil and hazardous substance spills and proper disposition of oil and hazardous substances.
 - e. Encourage maximum reuse of technically contaminated fuels by multifuel-engine powered tactical vehicles.
4. The following guidelines are generally applicable to garrison operations:
 - a. Contaminated fuels which cannot be burned in tactical vehicles and other used petroleum products, except gasoline, will be collected in a tank of at least 250-gallon capacity equipped with a funnel, strainer and cover to prevent entrance into the tank of trash, water and other foreign matter. When the container requires emptying, the Officer in Charge (OIC) will notify the Base Maintenance Department (Telephone 5909). The Base Maintenance Department will dispatch a vehicle to remove the waste oil. In the event of an emergency 55-gallon drums may be used as a temporary expedient storage container for waste oil.
 - b. Waste lubrication grease will be collected, stored in suitable containers and disposed of in accordance with instructions provided by Base Maintenance Department representative. Send request via Chain of Command to the Base Maintenance Officer.
 - c. Oil-saturated soil in the vicinity of oil and petroleum storage areas should be removed to the sanitary landfill and replaced with fresh earth.
 - d. To dispose of contaminated gasoline contact the Base Fire Department (Telephone 3004).
 - e. Disposal of hazardous waste and other hazardous substances such as acids, poisons and solvents through any drainage system to include sinks, wash racks, storm drains and natural drainage systems is specifically prohibited. These products will be segregated and stored in suitable containers and will be disposed of in accordance with instructions provided by Commanding General, Marine Corps Base, Camp Lejeune.
 - f. Petroleum products containers will be disposed of at the sanitary landfill, or recycled, if appropriate, with the exception of 55-gallon drums and durable metal containers which will be disposed of through the Defense Property Disposal Officer, Building 906.
 - g. Personnel changing private owned vehicle (POV) oil on Base will use established Base Special Service facilities and deposit waste oil in one of the authorized collection tanks on Base and the Air Station.
 - h. Oil and gasoline storage containers larger than 550-gallon capacity will be diked to include a drainage line and valve which will be locked. The latter will be operated only by personnel authorized by the Unit Commander.
5. Field operations will comply with the guidance enumerated in the following subparagraphs:
 - a. All tactical refueling systems installed on Base must first be approved by the Base Maintenance Officer.
 - b. Fuel stored in tactical refueling systems will be properly diked, as required by current regulations. As a general rule, the dike must be capable of containing at least the volume of the container stored within it.
 - c. When using fuel tanker vehicles:
 - (1) Hoses, nozzles and connections will be checked frequently for serviceability to avoid leakage of fuel.
 - (2) Refueler operators will stay with the vehicle during refueling operations.
 - (3) Tanker vehicles containing fuel will be parked in such a manner as to avoid the possibility of spilled fuel entering natural or man-made drainage systems.
 - (4) During recirculation operations, nozzles will be secured to the vehicle.
 - (5) All waste petroleum products generated during field exercises will be stored (55-gallon drums, etc.) and disposal instructions obtained from the Director, Natural Resources Division, Base Maintenance Department (451-5003).



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OIL AND OTHER HAZARDOUS MATERIAL SPILL CONTINGENCY PLAN

FOR

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

MARINE CORPS AIR STATION (HELICOPTER), NEW RIVER, JACKSONVILLE, NORTH CAROLINA

MARINE CORPS HELICOPTER OUTLYING FIELD, OAK GROVE, JONES COUNTY, NORTH CAROLINA

PREPARED

OCTOBER 1980

28 MAY 1981

1. Reporting Spills of Oil and Other Hazardous Substances

a. Materials Classification - The following products are examples of oil compounds or hazardous substances which must be reported if spilled on the ground or water in any amount:

Lube Oils	JP-4 & JP-5 Fuels	Paint Thinner	No. 6 Fuel Oil
Gasoline	Hydraulic Fluid	Organic Solvents	
Kerosene	Acids	Cleaning Solutions	
Lube Grease	No. 2 Fuel Oil	Poisonous Chemicals	

b. Reporting Procedures - All spills of oil or hazardous materials shall be reported immediately to the Base Fire Department Phone 3333 (on base) or 451-3333 (off base). The report shall include location (Building Number) of spill, substance spilled and the approximate amount. All spills occurring at Marine Corps Air Station (Helicopter), New River will also be reported to the Station S-4 (455-6068 - 455-6518) during normal working hours and to the Station Officer of the Day after normal working hours (455-6111).

c. Posting of Oil Spill Procedure - Signs shall be posted in every building, tank location and field service location where oil or hazardous materials are used. The sign shall have a yellow background with black lettering indicating the following information:

IN CASE OF AN OIL OR HAZARDOUS MATERIAL SPILL
CALL BASE FIRE DEPARTMENT
ON BASE 3333/OFF BASE 451-3333
NOTIFY YOUR COMMANDER/SUPERVISOR IMMEDIATELY

d. Initial Containment Procedure - Remain in area - - - Do Not Wash Down With Water - - - Keep Personnel Out of the Area - - - Block Runoff with Earth Materials to Prevent Spreading, when possible.

2. Response to Spill

a. Fire Department - Fire Department shall dispatch a regular fire fighting unit to the scene of a reported spill. The Base Fire Chief or his senior representative shall report to the scene as soon as possible. Dispatcher will immediately notify the Base Fire Chief or his senior representative who will perform the following duties:

- (1) Assume the role of On-Scene Coordinator (OSC).
- (2) Take all necessary immediate steps to contain the spill, eliminate any fire hazards and protect all personnel from exposure and request the assistance of the Base Safety Officer, if required (See page 4, Enclosure (2)).
- (3) Notify the Natural Resources and Environmental Affairs Director (Telephone 5003) of the spill location and the nature and quantity of spilled materials.
- (4) Evaluate the spill situation and request necessary logistical support from the Base Maintenance Officer to contain the spill and facilitate the cleanup and recovery of the spilled materials.
- (5) OSC duties shall transfer to the Director, Natural Resources and Environmental Affairs upon his arrival at the scene. (See page 4, Enclosure (2) for Personnel and Public Safety Coordination).

b. Base Maintenance Officer

- (1) Base Maintenance Officer shall maintain the inventory of materials and equipment as established in Appendix A of enclosure (2).
- (2) Base Maintenance personnel shall respond immediately to the request of the OSC with men and equipment requested.
 - (a) Direct supervision shall be from the OSC.
 - (b) Maintenance personnel shall remain at the spill scene until authorized to depart by the OSC.

c. Natural Resources and Environmental Affairs Division

- (1) The Director or his authorized representative shall proceed to the scene and assume the duties of the OSC. The duties shall include the following categories:
 - (a) Direct all containment and cleanup activities.
 - (b) Report oil spills that discharge into the inland waters or coastal waters to the following: Base Maintenance Officer; Assistant Chief of Staff, Facilities, Marine Corps Base; Marine Safety Officer, U. S. Coast Guard, Wilmington, North Carolina and the Environmental Regulatory Agencies, as required.
 - (c) Request U. S. Coast Guard assistance for spills into waters that cannot be contained promptly by joint efforts of the Fire Department and Base Maintenance crews.

(2) The Natural Resources and Environmental Affairs Division Director or his representative shall remain at the scene of the spill until all contaminant is properly contained and the danger of oil contamination of waterways is eliminated.

(3) At the conclusion of all cleanup operations, the official report submitted to the Environmental Protection Agency (EPA), Region IV, shall be prepared in accordance with requirements of Federal Water Pollution Control Act and EPA regulations in effect at the time. The report shall be transmitted to EPA through the directives of the Commanding General.

3. Spill Containment and Cleanup

a. Small Spills (less than one gallon)

(1) Cause: Gasoline or fuel oil spills at fueling locations occur by overfilling or blow back from the tank receiving the fuel.

(2) Reporting: This type of spill requires reporting to the Office of Natural Resources and Environmental Affairs (Phone 1-919-451-5003). The fuel spill must be promptly cleaned up by the person at the scene.

(3) Containment Procedures:

(a) DO NOT FLUSH INTO STORM SEWER OR DRAINAGE DITCH.

(b) Cover entire spill with sand or absorbent material from storage bin or container. Add material as liquid appears in the surface of the sand or absorbent material.

(c) Cleanup contaminated sand or absorbent material with broom and shovel placing it in a container (metal) for disposal or possible reuse. The container shall be labeled "Waste Oil Refuse".

(d) If storage bin of sand or absorbent material is less than one-half full after using, call Base Maintenance Department (3001) to inform them of the location needing additional material.

(e) Reapply a second coat of sand or absorbent material in a very light layer to assure all gasoline or fuel oils have been blotted up. Brush material back and forth over the area and then sweep up completely. This material can be replaced in the fresh storage bin rather than depositing it in the "Waste Oil Refuse" container.

b. Spills on Concrete Aprons (more than one gallon)

(1) Reporting: Call Base Fire Department

(2) Containment Procedures:

(a) DO NOT FLUSH INTO STORM SEWER OR DRAINAGE DITCH.

(b) The person on-site shall erect a two-to-three inch high sand or earth dam on the concrete or at the edge of the concrete below (downstream) the direction that the spill is flowing. This is the first step in containment.

(c) Apply sand or absorbent materials that are available around the perimeter of the spill until the Fire Department arrives. Keep other personnel away from the area.

(d) Fire Department shall continue abatement methods using equipment available until the Director of Natural Resources and Environmental Affairs Division or his representative arrives to determine further containment and cleanup requirements.

(e) Base Maintenance personnel shall install dams, straw barriers, pumping equipment and other abatement or cleanup equipment as directed by the OSC.

c. Spills on Ground (more than one gallon)

(1) Reporting: Call Base Fire Department

(2) Containment Procedures:

(a) DO NOT FLUSH INTO STORM SEWER OR DRAINAGE DITCH.

(b) The person on-site shall erect a minimum three-inch high sand or earth dam below (downstream) the direction that the spill is flowing. The dam should be made higher if the liquid pool behind the temporary dam rises to within two inches of the top. A trench or sump may be used in lieu of a dam. This is the first step in containment that must be taken promptly to prevent spreading into surface waters.

(c) Apply sand or absorbent materials that are available around the perimeter of the spill until the Fire Department arrives. Keep other personnel away from the area.

(d) Fire Department shall continue abatement methods using equipment available until the Director of Natural Resources and Environmental Affairs Division or his representative arrives to determine further containment and cleanup requirements.

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(e) Base Maintenance personnel shall install dams, straw barriers, absorbents, pumping equipment and other abatement or cleanup equipment as directed by the OSC.

d. Spills Entering Storm Drainage System

(1) Reporting: Call Base Fire Department and emphasize that the liquid has entered a catch basin, manhole, drainage ditch, or any structure (pit) below ground.

(2) Containment Procedures:

(a) DO NOT ADD WATER TO FLUSH OUT STORM SEWER OR STRUCTURE.

(b) The person on-site shall attempt to erect a sand or earth dam around or cover with polyethylene or other plastic materials the manhole or catch basin to prevent further entrance of liquid into the structure. This is the first step in containment that must be taken promptly to minimize the quantity of liquid that will be discharged into surface waters.

(c) The person on-site shall apply sand or absorbent materials that may be available around the perimeter of the spill and at the manhole or catch basin until the Fire Department arrives.

(d) Base Maintenance personnel shall place oil booms across storm drains to prevent further discharge. Public Works Department will develop maps of drainage systems required for siting booms. After spill is contained, cleanup will be initiated. Action may include the following:

1 Inspect downstream manholes for evidence of oil progression toward discharge. If storm system has a very low flow, install straw barrier or absorption dam inside manhole.

2 Where practical, install plug in upstream side of manhole, to contain in the pipe system.

3 If the drainage system has an open ditch, install straw bale dams or absorption dam to collect spilled materials.

4 Isolate streets with contaminated manhole to prevent fires or explosions.

(e) The Director, Natural Resources and Environmental Affairs Division, or his representative shall determine further containment and cleanup requirements after arriving on the scene.

(f) Base Maintenance personnel shall install dams, straw barriers, absorbents, pumping equipment and other abatement and cleanup equipment as directed by the OSC.

e. Spills Entering Surface Waters

(1) Reporting: Call Base Fire Department and emphasize that the liquid was discharged directly into the surface waters.

(2) Containment Procedure:

(a) Person at the site should check the source of discharge to be assured that no further discharge can occur. Close valves, remove hose, or isolate the source from causing any further release of materials.

(b) Do not allow boats or equipment to enter the surface waters where the spill has occurred. If surface type oil absorbents are available, begin spreading this material wherever an oil skim is observed. Do not enter the water to apply this material until the Fire Department arrives.

(c) Fire Department shall continue abatement methods using equipment available until the Director of Natural Resources and Environmental Affairs Division, or his representative arrives to determine further containment and cleanup requirements.

(d) Base Maintenance personnel shall install booms, skimmers, pumps and other abatement or cleanup equipment as directed by the OSC.

4. Responsibilities for Ensuring Personnel and Public Safety

a. Overall responsibility for ensuring the safety of personnel involved in the containment and cleanup of hazardous material spill is assigned to the Base Fire Chief or his senior representative. The Base Fire Chief representative shall continue to monitor the situation and will provide required standby personnel and equipment. The Base Fire Chief representative will request the assistance of the Base Safety Officer as needed. The Base Fire Chief representative shall keep the OSC informed of any safety considerations affecting the containment and cleanup of the spill. In the event of imminent hazard to personnel involved in the spill cleanup or to the public, Base Fire Chief representative shall take appropriate action. The OSC shall assist the Base Fire Chief representative implement safety procedures required.

b. Base Safety shall dispatch a safety representative to the spill scene upon request from the Base Fire Chief representative. The Base Safety representative will remain at the scene until advised by the Base Fire Chief representative that assistance is no longer required. Base Safety representative will monitor all activity at or near the spill and make appropriate recommendations to the Base Fire Chief representative.

MATERIALS AND EQUIPMENT FOR OIL SPILL
CONTAINMENT AND COUNTERMEASURE

<u>Item No.</u>	<u>Description</u>	<u>Quantity</u>
1.	Gasoline engine driven (portable) trailer mounted diaphragm pump with sectional suction and discharge hose - minimum capacity 25 gallons per minute.	2
2.	Sectional aluminum oil boom	
3.	Inflatable oil barrier, Whittaker Expandi self-inflating	300 L. F.
4.	Collapsible bag for field filling of collected oil-250 gallon capacity	2
5.	Oil skimmer (portable) type for water floating oil pick-up	1
6.	Baled hay or straw with wire or nylon baling (located at strategic areas)	200 Bales
7.	Steel fence stakes (6 feet long)	50 each
8.	Woven wire mesh (chicken wire) 3ft. width 4ft. width	200 L.F. 100 L.F.
9.	Sledge hammer - 10 lb. 5 lb. 2½ lb.	3 5 5
10.	Shovels - Long handle round point Long handle flat blade Short handle round point Short handle flat point	5 5 5 5
11.	Oil Absorbent Compound - for water spill clean up	2000 lbs.
12.	Oil Absorbent Compound for ground spill clean up - Randustrial P-218 Oil Absorbent (55-gallon drum)	25 drums
13.	Nylon rope - ½" diameter ¾" diameter 1" diameter	200 L.F. 400 L.F. 400 L.F.
14.	Oil Sorbent Material - 3M, Conwed or Grefco	500 lb.

