

ASSISTANT CHIEF OF STAFF, FACILITIES  
HEADQUARTERS, MARINE CORPS BASE

DATE 7/7/87

TO:

BASE MAINT O  
PUBLIC WORKS O  
COMM-ELECT O

DIR, FAMILY HOUSING  
DIR, BACHELOR HOUSING  
BASE FIRE CHIEF

DIR., NAT. RESOURCES & ENV. AFFAIRS

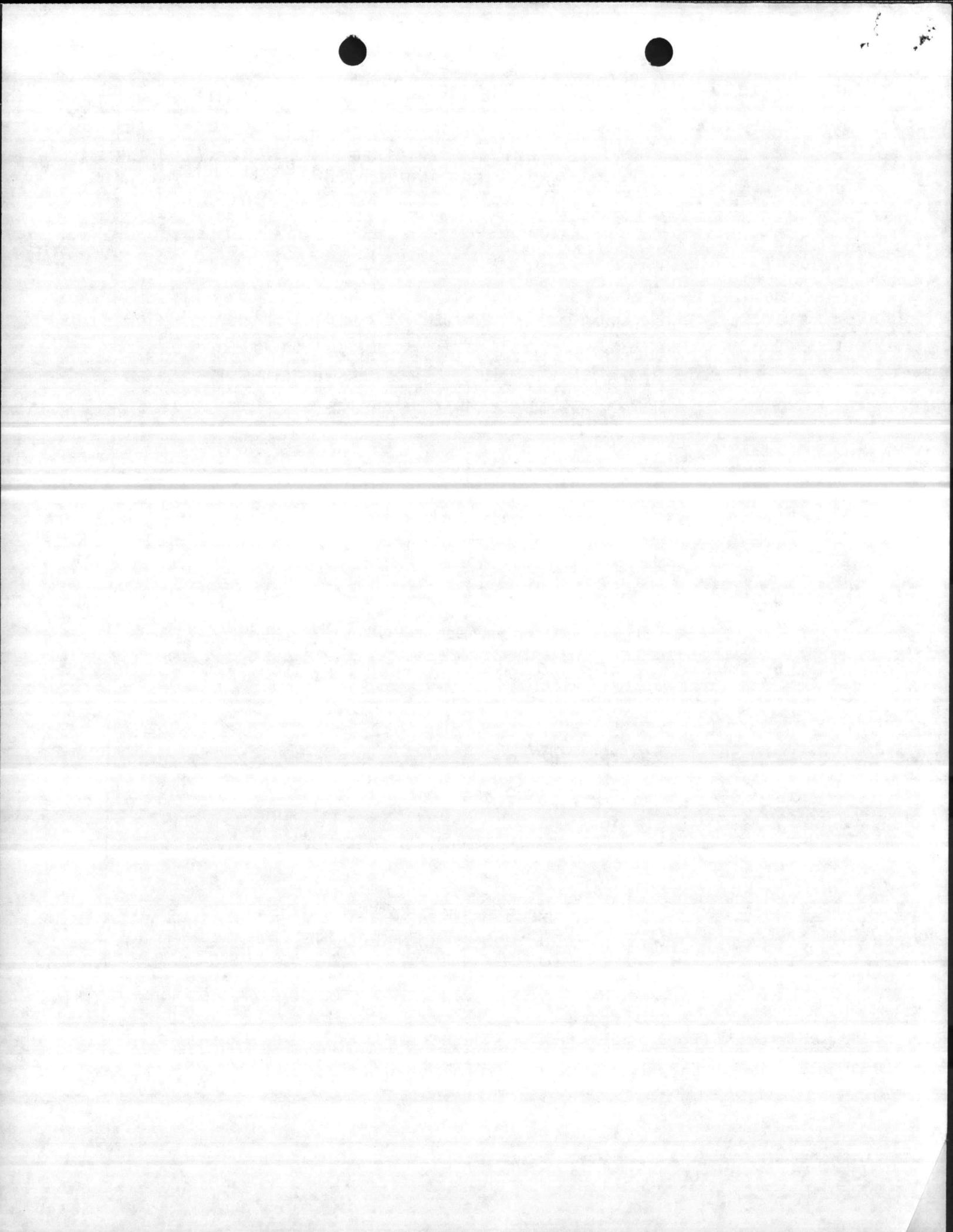
ATTN: Pete Black

1. What about "splash" points for the riverine operations mentioned. (both sides of the river)  
2. What about maintenance of roads?  
3. Increased use of New River.  
4. Bad weather "stop training"?

1. Attached is forwarded for info/action.  
*G-10/MMC info provided as you requested yesterday.*
2. Please initial, or comment, and return all papers to this office.  
*Requested yesterday.*
3. Your file copy.

*W  
Bot*

"LET'S THINK OF A FEW REASONS  
WHY IT CAN BE DONE"



1. PURPOSE AND NEED FOR THE ACTION

MMC

a. Purpose.

The Marine Corps interest in Mechanized/Maneuver Warfare and possible commitment to battlefield in Europe, Africa or the Middle East will require Marine Air Ground Task Force's (MAGTF) to operate in areas with extended (1000m to 5000m) fields of observation and fire. Success and survival on these battlefields will depend on a unit's ability to maneuver across open terrain with a minimum of casualties. The mission of the Second Marine Division is to maintain a state of operational readiness for prompt employment in an amphibious assault operation and such other operations as may be directed. Key to the training program conducted within the Division to support this mission is Mechanized Combined Arms Task Force operations.

The Mechanized Movement Course (MMC) is an integral part of this training program which is a result of the force modernization of the Marine Corps. A new family of fighting vehicles, the M1A1 tank and the Light Armored Vehicle (LAV) will be completely fielded during FY 89/90. When coupled with the Assault Amphibian (LVTP-7A1) the recently acquired High Mobility Multipurpose Wheeled Vehicle M998 (HMMWV) and the Armored Vehicle Launched Bridge (AVLB) the mobility of the Marine combat units will be greatly increased. The emphasis on maneuver to defeat an enemy vice fire power to attrite him has dramatically increased the need for larger and more trafficable training areas. The MMC will not be restricted to any vehicle or any unit. It will permit the 2d Marine Division to become expert in the art of mechanized warfare.

The following are the types of training conducted at Camp Lejeune.

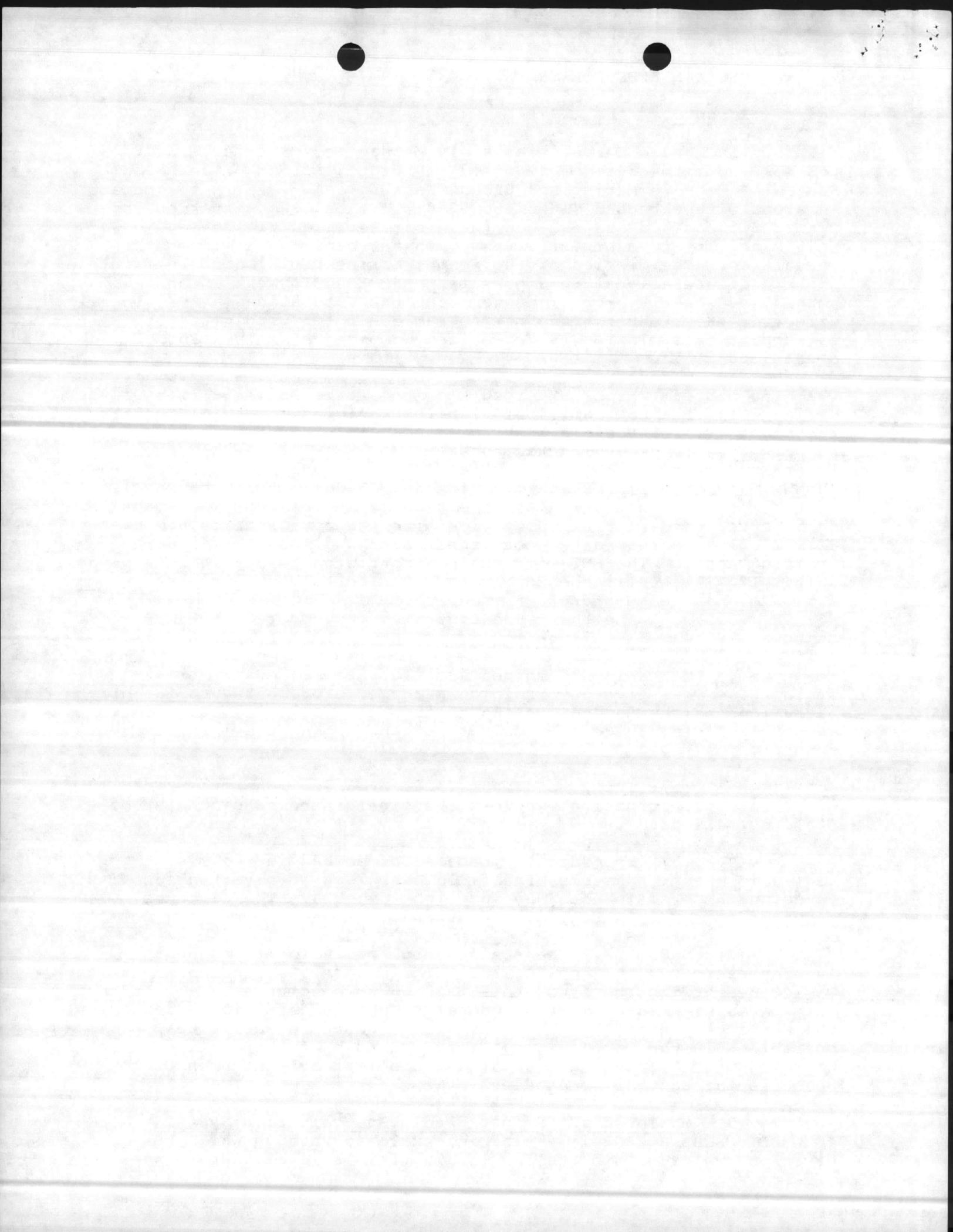
(1) Mechanized Combined Arms Task Force (MCATF) Block Training. This five-day training package is presented to infantry battalions by the Second Tank Battalion. The training is directed towards refining the execution of the tank/mechanized-infantry team concept.

(a) The first two days of training consists primarily of classroom instruction, whereas the final three days consist of field operations.

(b) In order to prepare for combat in the most realistic manner possible, the field exercises involve tanks, LVT's, LAV's and HMMWV's in both day and night attacks. The distance required is approximately 10,000 meters.

(2) BASCOLEX. The Basic School periodically conducts landing exercises at Camp Lejeune. The amphibious landing occurs on Onslow Beach with the students attacking on a northwest axis and now culminates with an assault on Combat Town (this area is indicated on the map in Appendix A). The scheme of maneuver necessitates operations in the MMC Training Area. Because of the configuration of Camp Lejeune, the only avenue of advance from a landing on Onslow Beach is through the area under review.

(3) Marine Corps Combat Readiness Evaluation System (MCCRES). The MCCRES is a training exercise through which the Division evaluates a battalion landing team's level of readiness.



Within the Division are nine infantry battalions, the Tank Battalion, LAV Battalion and Artillery Regiment each of which must ~~or will be~~ evaluated biennially. Thus, five to six MCCRES's are conducted annually. The scenario of this exercise is initially somewhat similar to that of the BASCOLEX, beginning with a landing on Onslow Beach and subsequent maneuver towards Combat Town and LZ Jaybird/Areas HA-HD.

(4) Demonstrations. Marine Air Ground Task Force (armor/mechanized infantry) demonstrations are frequently conducted. These demonstrations are conducted for such groups as visiting dignitaries, Field Medical Service School students, ROTC/JROTC groups, and various Marine Corps organizations. The area now used is LZ Bluebird, the landing point for the MMC.

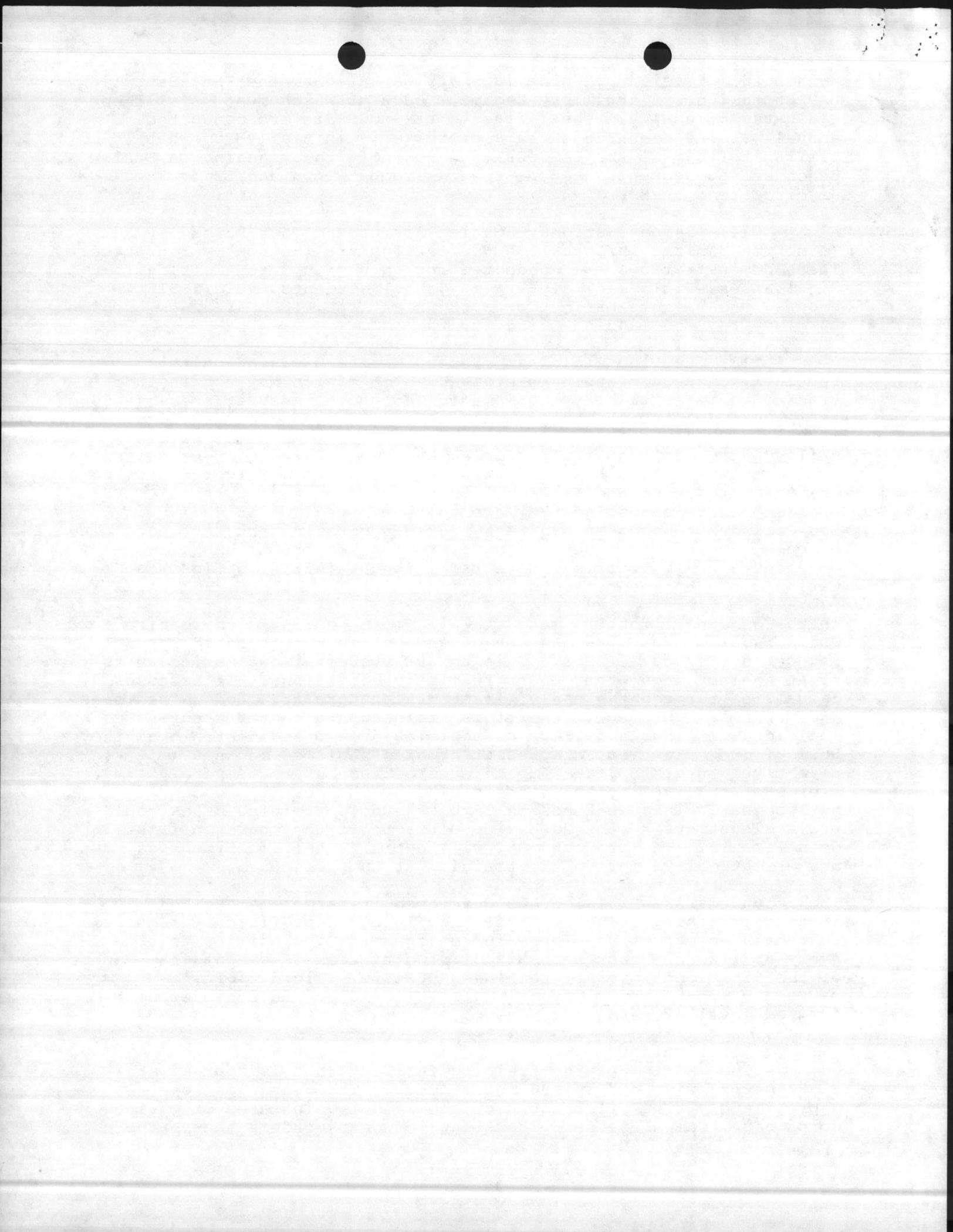
(5) Routine Training. Second Marine Division units routinely conduct training exercised which may or may not include tracked vehicles or heavy equipment. Adequate maneuver areas (9,000m to 11,000m deep) with long range fields of observation and fire (1000m - 4000m) as well as having the ability to conduct battle drills while dealing with multiple long range threats are required to satisfactorily conduct all of this training. As configured now, Camp Lejeune's training areas can not meet this requirement, nor MCCRES engagement standards, as they are too congested due to the Red-Cockaded Woodpecker habitats, dense vegetation and wetlands. The proposed action would develop sufficient areas for mechanized movement through trafficable terrain without infringing into the wetlands or the woodpecker's area.

In the ongoing effort to make training more realistic the Marine Corps is also expanding its use of the Multiple Integrated Laser Engagement System (MILES). This unique system allows Marine units to fight against each other under realistic conditions. It assesses casualties through the use of laser designators attached to vehicles and Marines. The benefits of this training are enormous as individual Marines and crews of vehicles are forced to train as they would fight. However, at present armored vehicles can not effectively use MILES at Camp Lejeune because of the severely limited fields of observation and fires caused by the heavily wooded environment. This weakness in Camp Lejeune's training areas could prove disastrous to the 2d Marine Division if they have to fight in open terrain. The proposed MMC will optimize the employment of MILES and dramatically improve the training at Camp Lejeune.

The Second Marine Division has developed its armor/mechanized infantry training to achieve the high level of proficiency required to remain an effective "force in readiness." The ability to effectively utilize the tank/mechanized-infantry team is an integral aspect of the Division's overall readiness posture. Field training exercises are the only effective training method to achieve the desired level of readiness.

b. Description.

The MMC is a large training facility that is approximately 3,500 meters wide and 10,000 meters deep. The center is located approximately five miles south of the Hadnot Point area of Marine Corps base, Camp Lejeune. The Atlantic Ocean borders the southern



end of this training area. The MMC covers almost 8,750 acres of gently rolling terrain, with several open spaces. The area is bounded on the east by Sneads Ferry Road, to the southeast and south by Highway 172, and to the west by Marine Road. In marshy areas where trafficability is poor multiple improved roads will be constructed. A laser activated target system named the Target Pop-up System (TAPS), will be emplaced representing Soviet Block vehicles. The roads will be permanent roads designed and maintained to withstand extensive, repetitive use and will be connected with each other to provide maximum freedom of maneuver and the ability to engage multiple long range threats. These areas would soon become untrafficable if vehicles roamed the area at will. Dismounted troops will be allowed to operate off the road network in all areas. Many defilable firing positions will be located adjacent to the roads. Mounted crews will engage targets during movement along the roads or from these designated defilade firing positions. Multiple target arrays will be presented to units attacking the Soviet Strong Point near LZ Jaybird. Crews/units will have to identify, prioritize and engage multiple targets. During force on force evolutions TAPS will not be used. This is a non-live fire area which will utilize MILES to simulate engagements.

The intent of the MMC is to create a dual purpose training area that can simulate a battle field environment for both a force on force training exercise and a single unit attacking a simulated enemy. Either scenario will encourage the use of MILES. Although the concept for the attack against the simulated enemy is standardized, the installation can site-adapt the complex to maximize the tactical realism needed. Course roads will be laid out to maintain proper tactical distance (50 - 100 meters) and to provide cover and concealment under the forest canopy or behind a fold in the earth. Timber will only be cleared, as required, to provide for road construction, target emplacement, line-of-sight from "firing" position to target location and sufficient maneuver area. Cleaned lanes will be sculptured to disguise target locations. Once constructed, the MMC must look as "natural" as possible to provide the desired tactical realism. A terrain analysis will be done by designers to ensure that targets can be engaged from the appropriate firing positions. Additionally, the terrain analysis will be used to ensure the proper functioning of the TAPS target system.

c. Operation<sup>5</sup>

This is a non live fire training area. Although no ordnance will be fired into the area, pyrotechnics and simulators will be used. Artillery firing positions are located throughout the proposed area and are utilized to fire into the G-10 impact area. They will remain and their presence will not affect usage of the MMC.

The MMC will be operated approximately 180 days each year, three to seven days a week, during the day and night. MILES equipped vehicles will be used to simulate the usage of various weapon systems during either force or force exercises or when a single unit attacks the TAPS array. Assaults on TAPS will be conducted to practice various battle drills and command and control procedures. Down times will occur as maintenance is required on targets, firebreaks and roads.

d. Maintenance. Ask Range Maintenance and Base Maintenance.

Forestry / Fire Prev'n  
Rg Maint  
Pd Maint

3  
w/lds  
Eros cont

FLAT

What is this?  
Roads

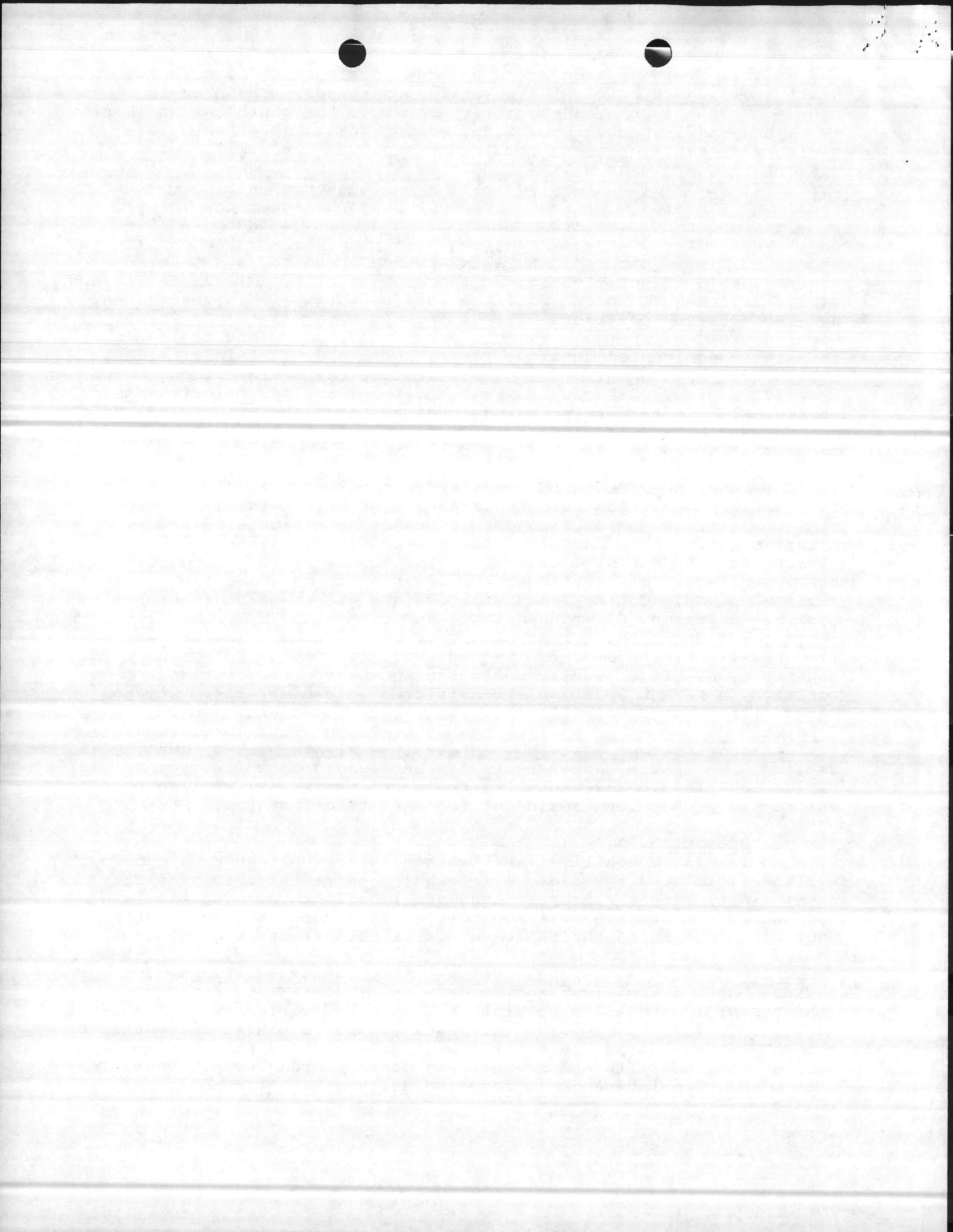
Add  
Stgpt  
P

Descr

Constr

site  
map

What about  
bad  
weather



*all CAPS*

## 2. Alternatives to the Proposed Action.

a. Considerations. A series of alternatives were developed to provide the 2d Marine Division with the modern training are necessary to maintain readiness. The preliminary evaluation in selecting a suitable site for armor/mechanized infantry was based on the following considerations.

- (1) Ability to meet military training objectives.
- (2) Availability of physical resources to conduct training.
- (3) Health and safety of personnel
- (4) Protection of endangered species
- (5) Protection of wetlands
- (6) Comparative Cost's
- (7) Marine Corps force modernization and composition

b. Assumptions. During the course of the evaluation several training assumptions were made:

- 1. Maintenance of the Area.*
- (1) Shortage of existing maneuver acreage is critical, CLNC must capitalize on limited assets available.
  - (2) Travel distance to the training area must be considered based on associated fuel and equipment cost.
  - (3) That training is significantly important to alter some of the natural tree growth at Camp Lejeune.
  - (4) That a suitable training area can be developed and still properly preserve the existing environment.

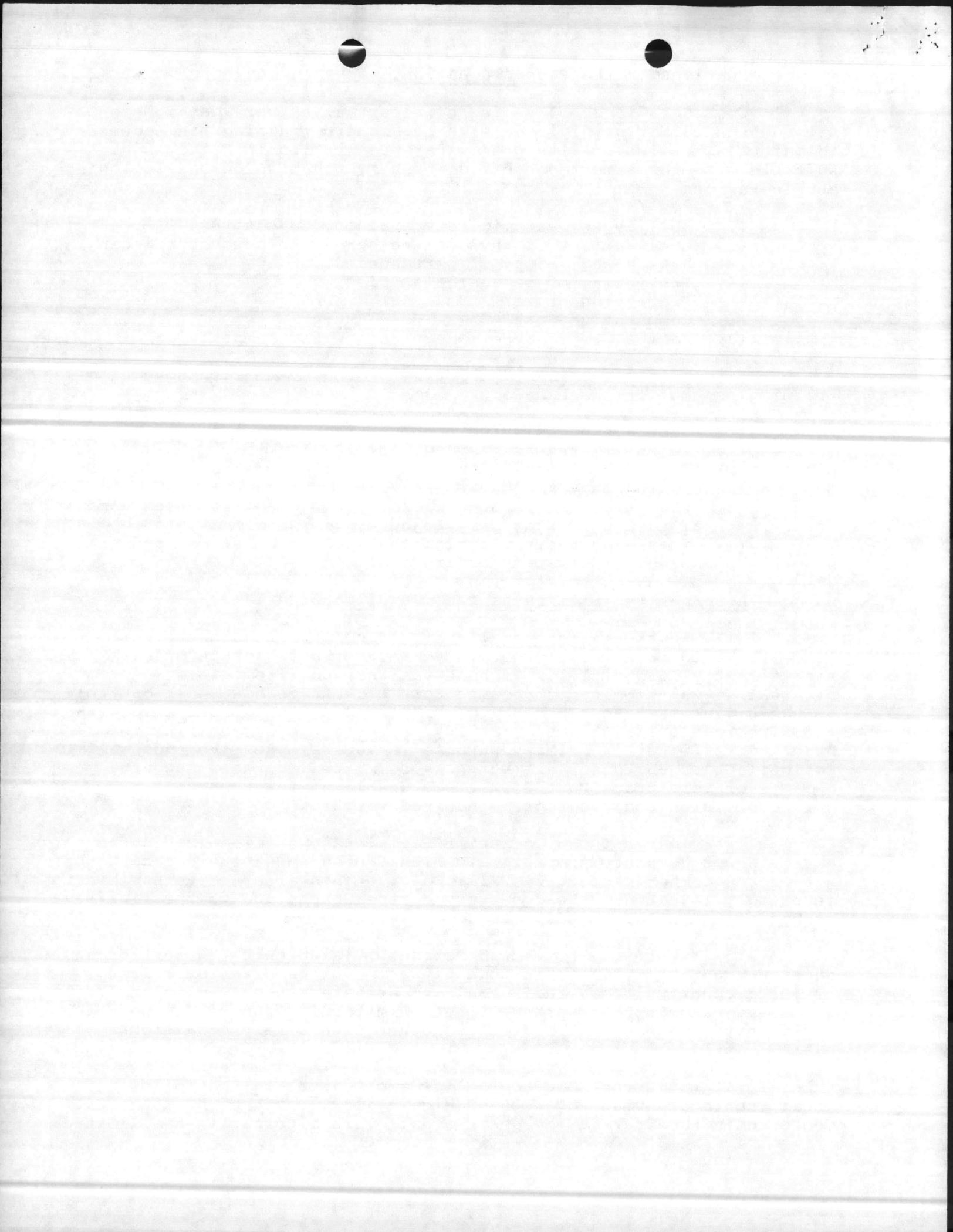
### c. Alternatives Eliminated from Detailed Study.

(1) Routinely rotate all units from Camp Lejeune to Fort Pickett, VA to train over superior terrain. Fort Pickett offers significantly longer fields of observations and fire. This alternative was eliminated because Fort Pickett is now under control of the U.S. Army Base, Fort Bragg, N.C. The units at Fort Bragg (the 82d Airborne Division) have recently begun to heavily utilize the base. Fort Pickett's primary purpose is to train Reserve and National Guard units and are strongly committed to their support. Because of this usage Fort Pickett is unable to fully support a Marine Division training for mechanized warfare.

(2) Increase the 2d Marine Divisions participation in the Marine Corps Combined Arms Exercise (CAX) program at the Marine Corps Air Ground Combat Center, 29 Palms Calif. This alternative has been repeatedly rejected by Headquarters Marine Corps, due to the finite number of CAX's that MCAGCC can accommodate.

(3) Routinely rotate 2d Marine Division units to Fort Bragg, NC or Fort Stewart, GA. Although these locations offer excellent training opportunities, their training areas are overly committed. Fort Bragg and Fort Stewart will not permit unit from 2d Marine Division to train in their areas on other than a very occasional basis.

(4) Construct MMC course in Camp Lejeune in the following area: north of Lyman Rd, west of Highway 172, south of NC Route 24. Centered in the Starrets Meadow's area. This alternative has limited



potential. There is limited ranges of observation and fields of fire, and the overall length and width of the course is restrictive to 2 axes of advance. The greatest limitation and reason for its elimination is the lack of access to Onslow Beach for amphibious operations. This is a mandatory requirement for any Marine Air Ground Task Force exercise. The lack of access to New River for riverine operations is also a significant draw back to the alternative.

(5) Construct the MMC in Camp Lejeune in the following area: south of the G-10 Impact area, east of Sneads Ferry Rd, west of G-6, G-5 Tank Gunnery Range. This alternative was eliminated because of the limited overall length and width of the course, the extremely poor terrain (one half is swamp), the lack of adequate fields of observation and fire and the lack of access to New River for riverine operations. This area would also require multiple crossing points across highway 172 and would conflict with G-4 Demolition range, G-5 Impact area expansion. Because of all the conflicts and limitations, this is not a viable alternative.

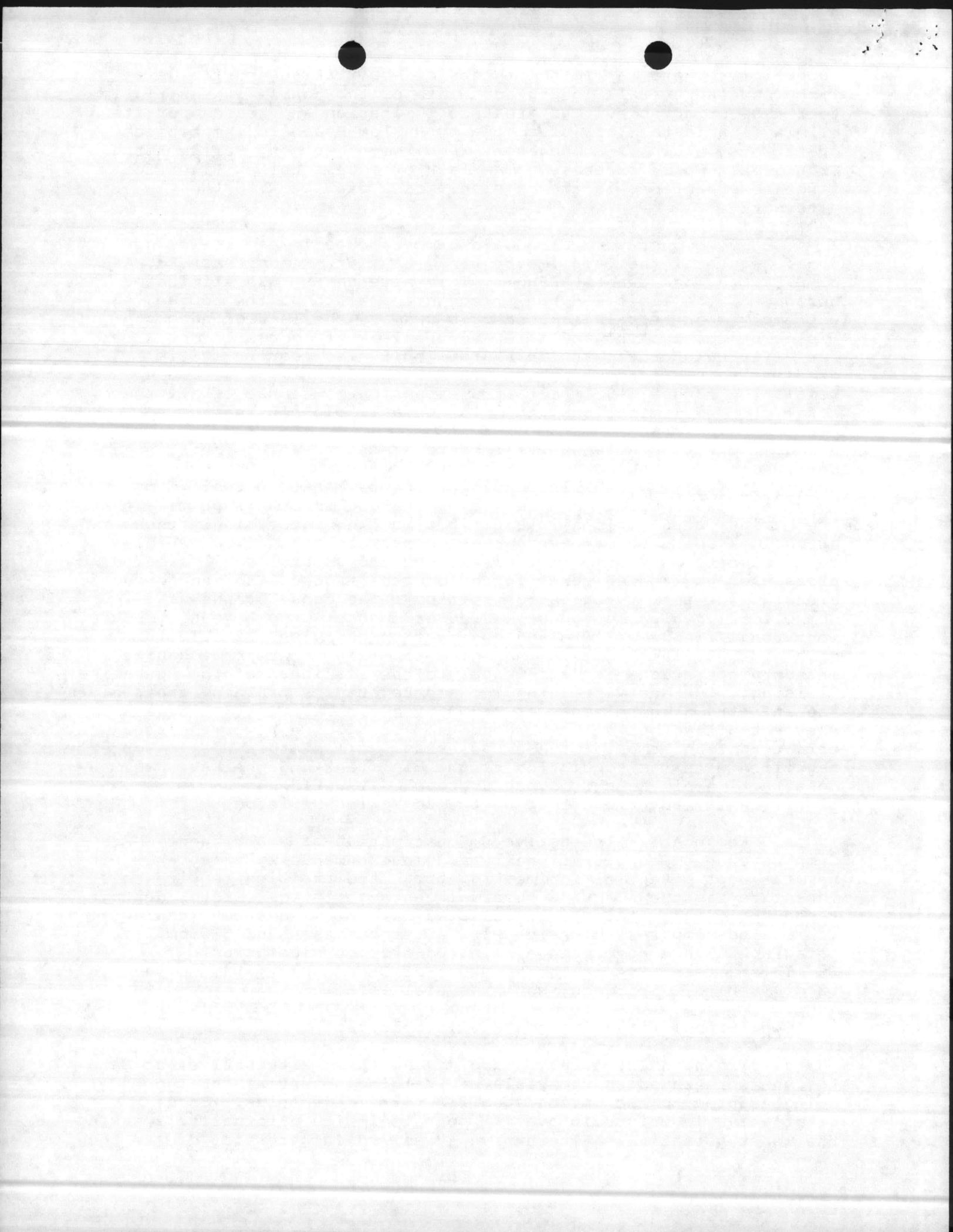
d. No Action Alternative. There are no training areas in Camp Lejeune that can support the maneuverability requirements of the new family of fighting vehicles coming into the Marine Corps. Camp Lejeune's training areas were designed along the WW II premise that the Marine Corps would always be foot mobile. Accordingly these areas lack adequate maneuver area. Currently mechanized vehicles are restricted to an intricate trail system and several small cleared areas used as landing zones for helo borne troops. As configured the areas do not permit realistic training. The dense stands of commercially valuable trees that cover most of Camp Lejeune obscure long range fields of fire and observation otherwise suitable for mechanized training. This inability to train in armor/mechanized infantry operations is detrimental to the readiness of the 2d Marine Division. Currently training in Camp Lejeune's training areas gives the infantry a false sense of security against armored attack and does not allow them to comprehend the speed, fire power and shock effect that an armored attack possesses. All of this will be greatly magnified with the acquisition of the M1A1 tank and the LAV. If construction of the MMC is not approved, it would have a significantly adverse effect on the 2d Marine Division.

e. Reasonable Alternative. Construction of a permanent MMC at Camp Lejeune on an operationally and environmentally acceptable site has the best potential for meeting projected training requirements. This site has the adequate physical characteristics (width, depth, topographic characteristics) selected for detailed study (table 1). Table also compares this site with alternatives 4 and 5 from paragraph C that have been eliminated from consideration.

This alternative is located west of Sneads Ferry Rd, north of LZ's Bluebird, albatross, south of Wiel Point.

### 3. Operational Effectiveness of Alternatives.

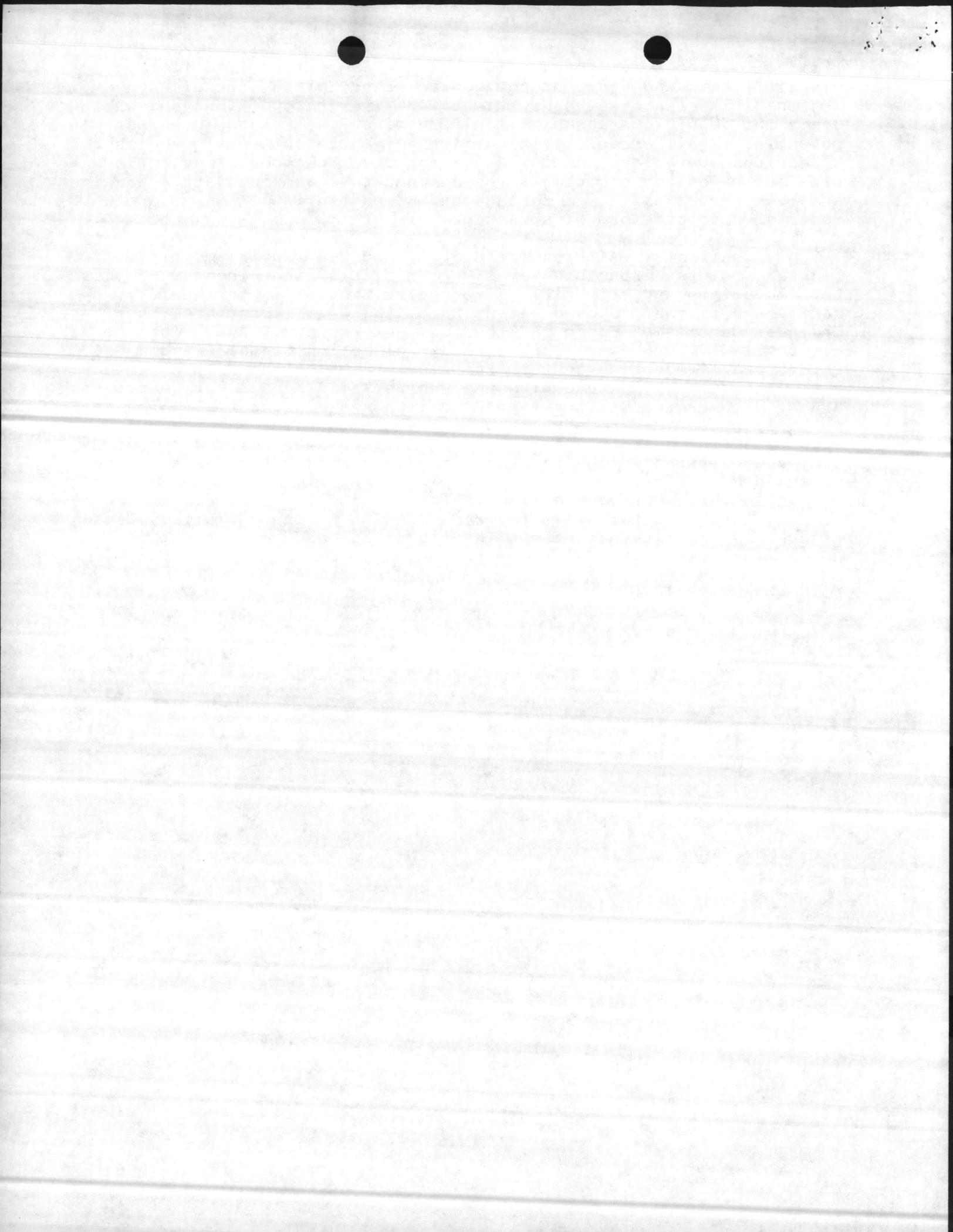
a. Training Potential. Each of the three alternatives at Camp Lejeune were rated on the basis of training potential for the MMC being adapted to the option specific terrain features. Each alternative is unique in overall potential with alternative 5 having the least potential. Alternative 4 was 2nd in potential due to the



limited distances for observation and fields of fire, the limited overall length and width of the course, the limited axes of attack and the lack of access to New River for riverine operations and Onslow Beach for amphibious assaults. Alternative 2.e has the greatest potential in all areas. \* It permits access to both Onslow Beach for amphibious operations and New River for riverine operations. The size of the course encourages the commander to use innovative tactics and to maneuver his units throughout the battlefield. Units are not restricted to one form of attack or axis of approach.

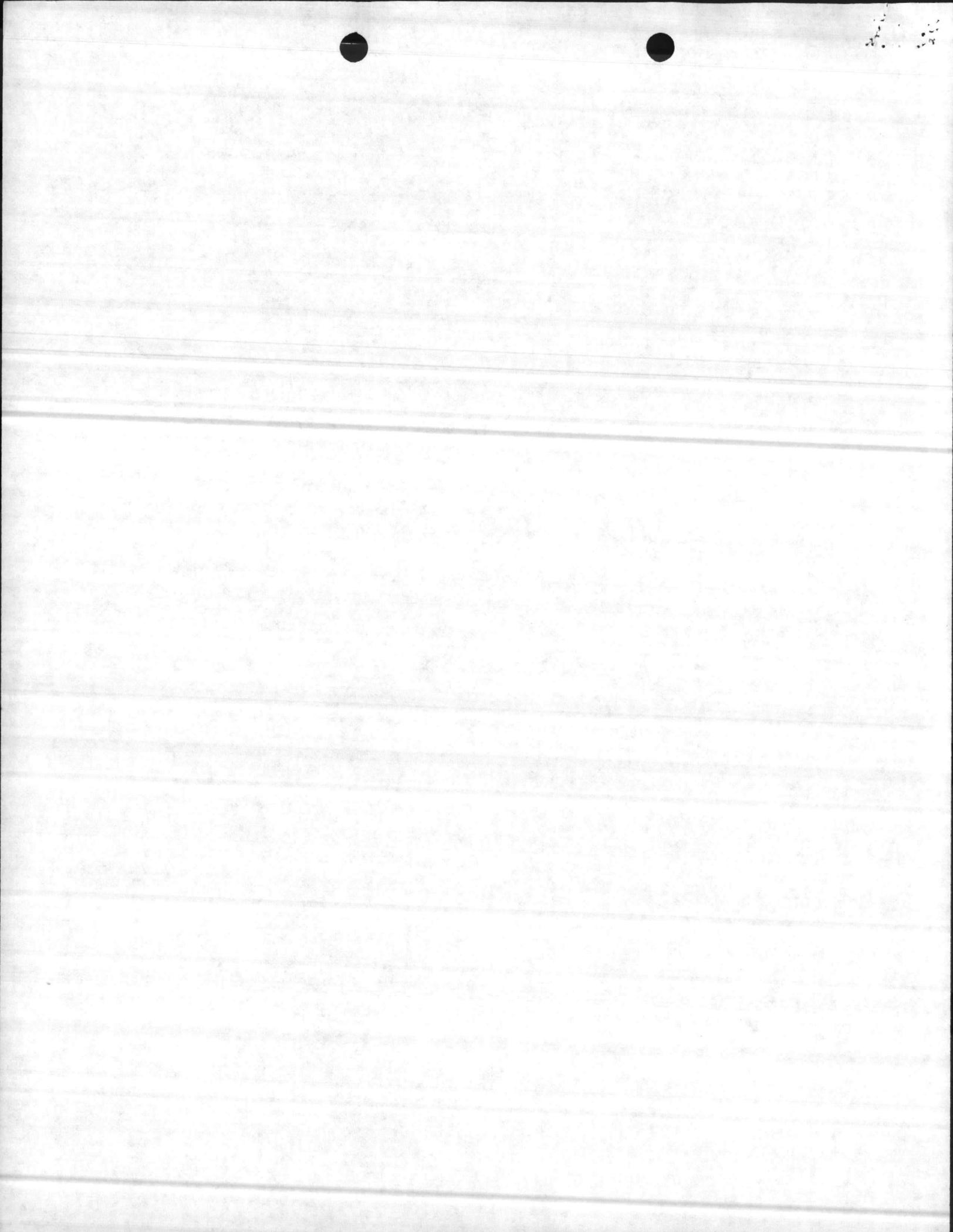
b. Conflicts. Alternative 2.c.(4) and 2.e require multiple crossing points across highway 172. This is a minor inconvenience for both motorists and the unit. Alternative 2.c.(5) is further restricted by the proposed extension of the G-10 impact area, the G-4 Engineer Demolition range and the G-6 Tank Gunnery Range. The use of alternative 2.c.(5) would require the relocation of the G-4 and G-6 ranges and a reduction in the expansion. Each of the Camp Lejeune alternatives must contend with the Red-Cockaded Woodpecker restricted areas. These areas will be viewed as impassable obstacles which has to be by passed or areas where vehicles are restricted to the road because of the terrain. Although these areas are limiting factors they are overshadowed by the tremendous training potential that the proposed MMC offers.

In summary when considering training and operational criteria the only reasonable alternative for construction of the MMC aboard Camp Lejeune is the alternative outlined in paragraph 2.e.



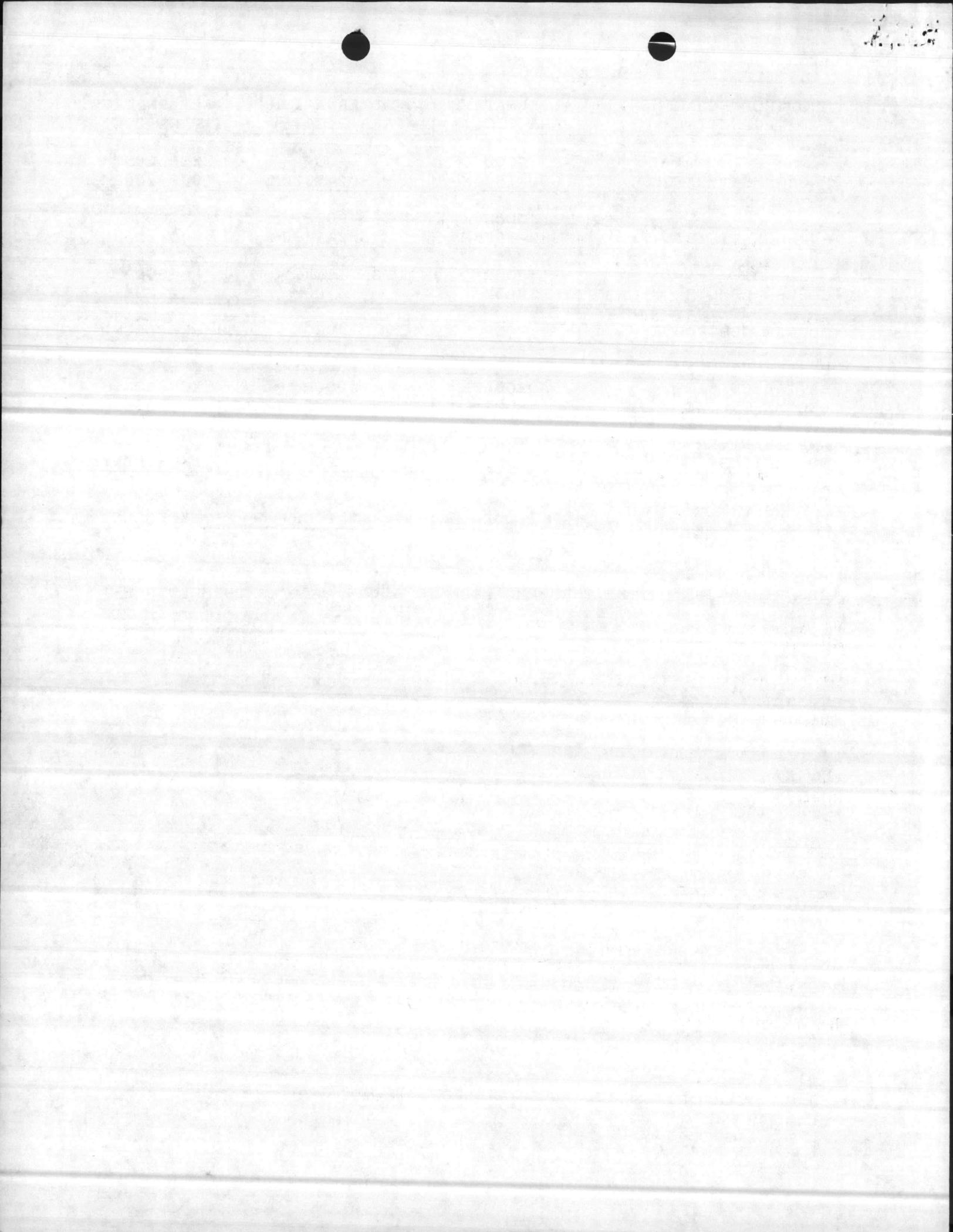
Add to paragraph 2.c

(4) <sup>Totally</sup> clear cut any of the three options areas. This is considered unnecessary as the air/mechanized infantry training would not receive any ~~to add~~ additional benefits and the damage ~~to~~ caused by erosion would ~~to~~ prove irreparable.



MULTIPLE ENGAGEMENT POTENTIAL	ALTERNATIVE PARA 2.C.(4)	ALTERNATIVE PARA 2.C.(5)	ALTERNATIVE PARA 2.E
ENGAGEMENT RANGES	GOOD 800-1500M	POOR 500-1000M	EXCELLENT 800-2000M
AVERAGE VISIBILITY	GOOD 800-1500M	POOR 500-1000M	GOOD 800-2000M
COURSE LENGTH	POOR 8000M	UNSATISFACTORY 6000M	GOOD 10,000M
*COURSE SUB-ROUTES	POOR	POOR	EXCELLENT
UNIT ACCOMODATION BATTALION SIZE REGIMENT SIZE	ADEQUATE POOR	POOR NO	EXCELLENT GOOD
AMPHIB/RIVER OPERATIONS	NONE	POOR	EXCELLENT
OVERALL TRAINING POTENTIAL	POOR	POOR	EXCELLENT

\*DESCRIBES 2-3 ROUTES THRU MMC AREA TO ALLOW ATTACKS ON MULTIPLE AXES.



MODERATE LIMITATION

Woodington, Lynchburg, Leon (fine sandy loam to fine sand)

Drainage: Poorly

Water table: Seasonal .5 to 1.5 ft.

Limitation to tracked vehicles:

1. Wetness
2. Ponding
3. Rutting and compaction during wet conditions
4. Intensive repairs required to prevent extensive damage

SEASONAL SEVERE AND MODERATE LIMITATION

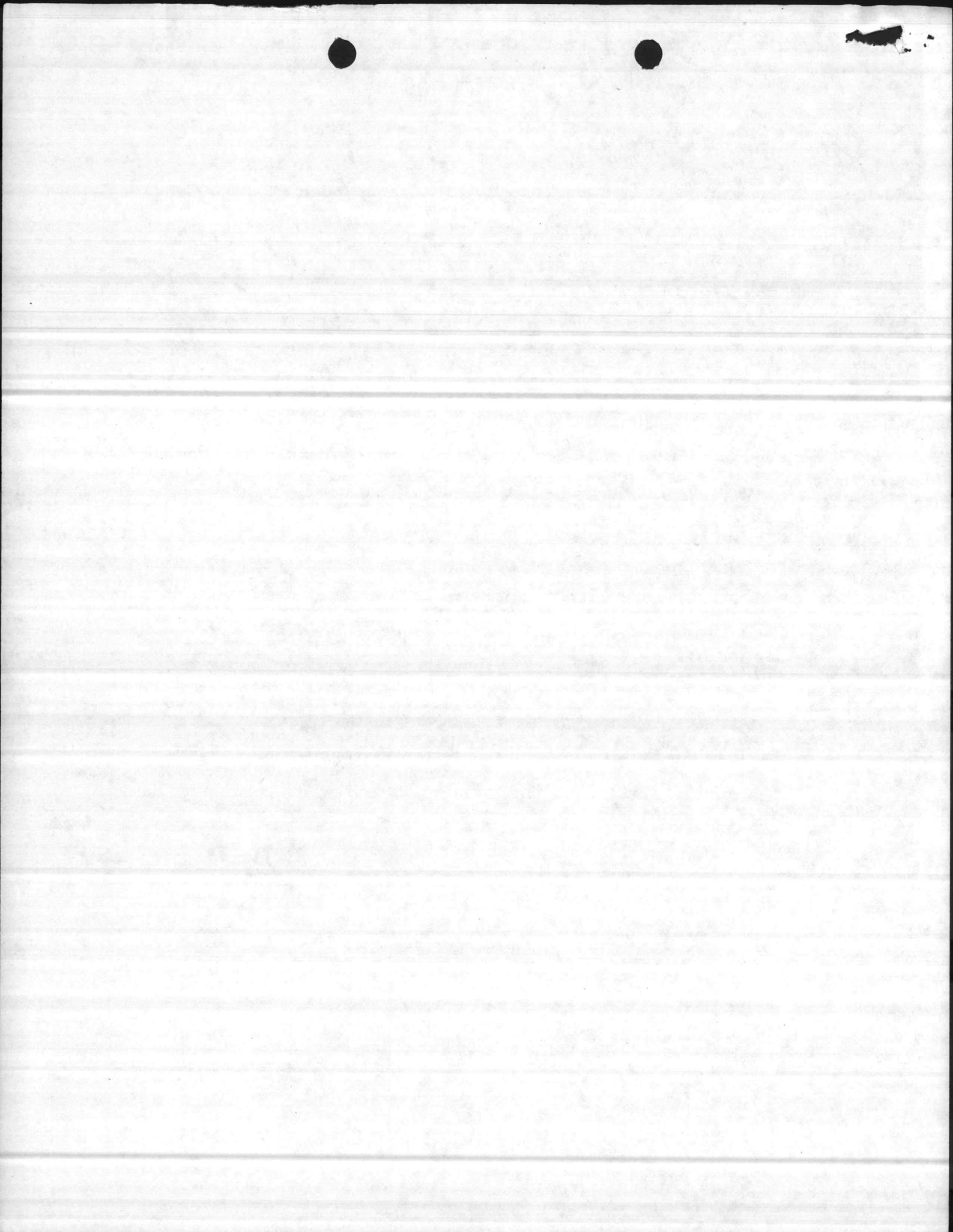
Norfolk, Onslow (loamy fine sand)

Drainage: Well/moderately well

Water table: Seasonal 1.5 to 6 ft.

Limitation to tracked vehicles:

1. Rutting and compaction during wet season
2. Compaction leads to soil becoming impervious
3. Repairs important and required to prevent permanent damage



SEVERE LIMITATION

A. Murville, Torhunta (fine sand, fine sandy loam)

Drainage: very poorly<sup>11</sup>

Water table: 0. to .5 ft.

Limitation to tracked vehicles:

1. Wetness
2. Ponding
3. Rutting
4. Low bearing strength when vegetative root mats are destroyed

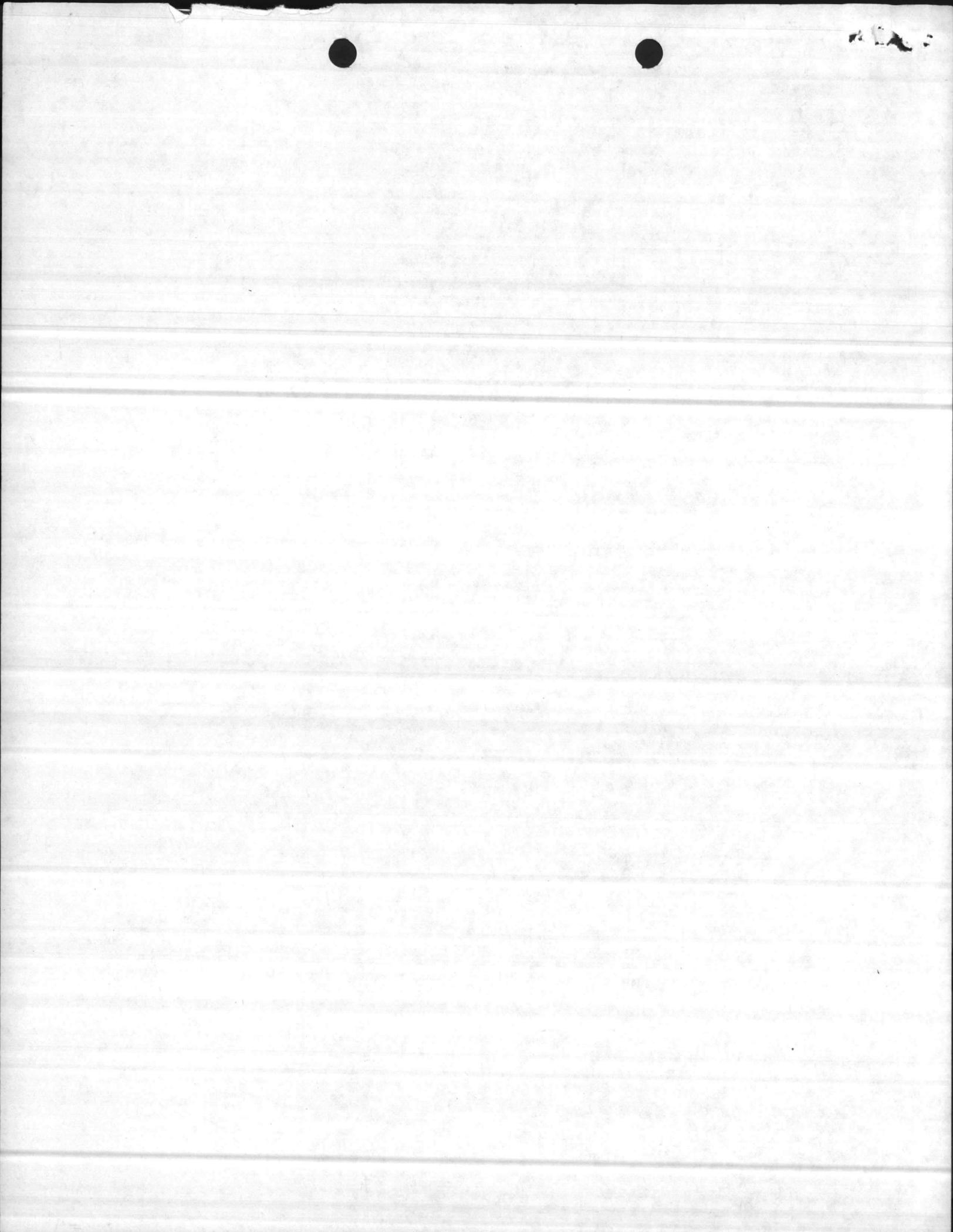
B. Muckalee, Bohicket (loam, silty clay loam)

Drainage: poorly/very poorly

Water table: Surface to 1.5 ft.

Limitation to tracked vehicles:

1. Flooding
2. Low bearing strength





UNITED STATES MARINE CORPS  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542-5001

IN REPLY REFER TO:

11000  
NREAD  
10 Sep 87

*MECH. Movement  
Course  
SECOND data  
set sent to  
USF&WS*

Mr. Gary Henry  
Endangered Species Field Office  
U. S. Fish and Wildlife Service  
100 Otis Street, Room 224  
Asheville, North Carolina 28801

Dear Mr. Henry:

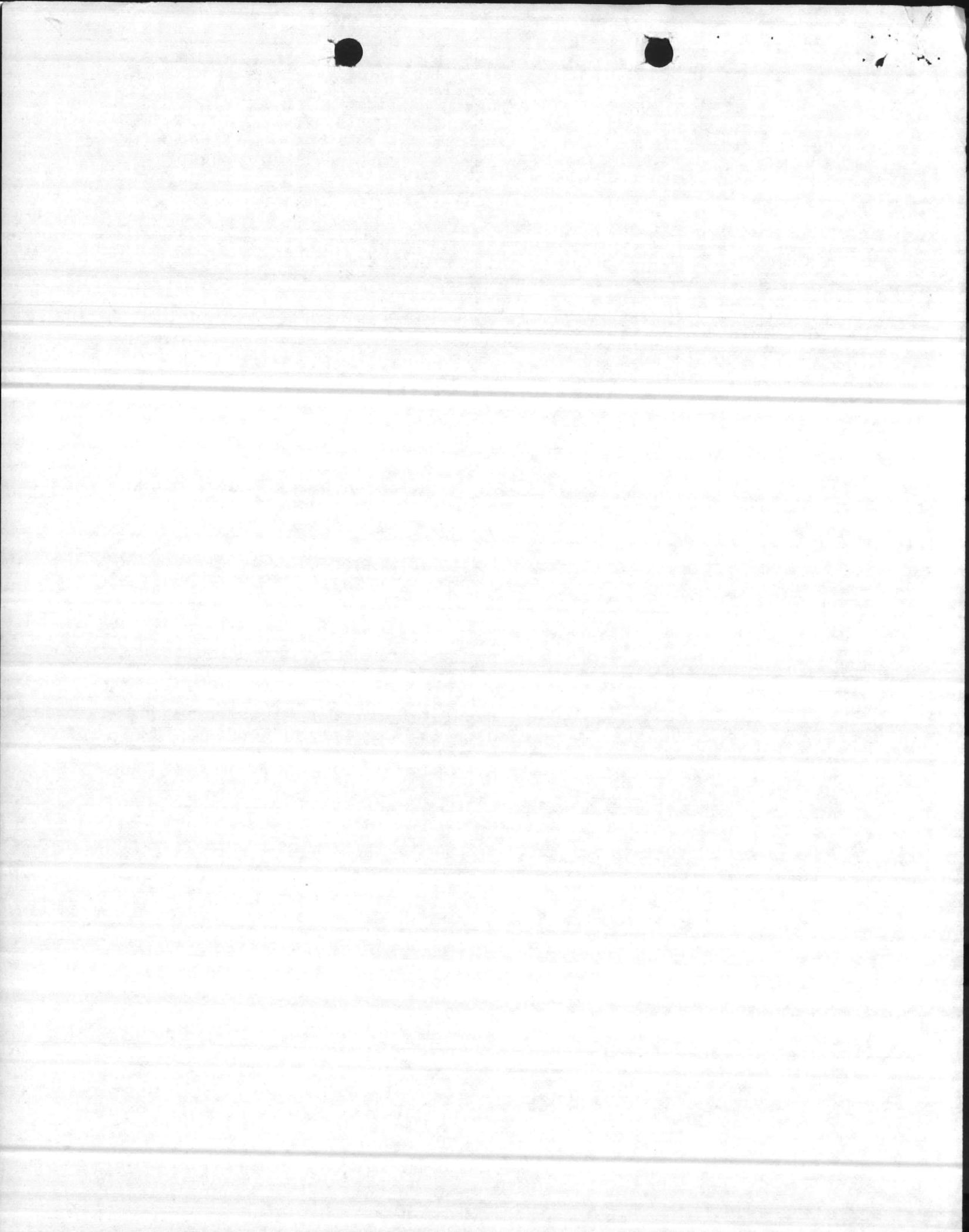
The attached information is provided as discussed during our meeting on 7 August 1987 at Camp Lejeune. The attachments have been re-formatted and are provided to allow an assessment as to the impact of the Mechanized Movement Course and G-10 Expansion Projects on the Red Cockaded Woodpecker, an endangered species.

Your assistance in this matter is greatly appreciated. If you have any questions, please contact me at (FTS) 676-5003/2083.

Sincerely,

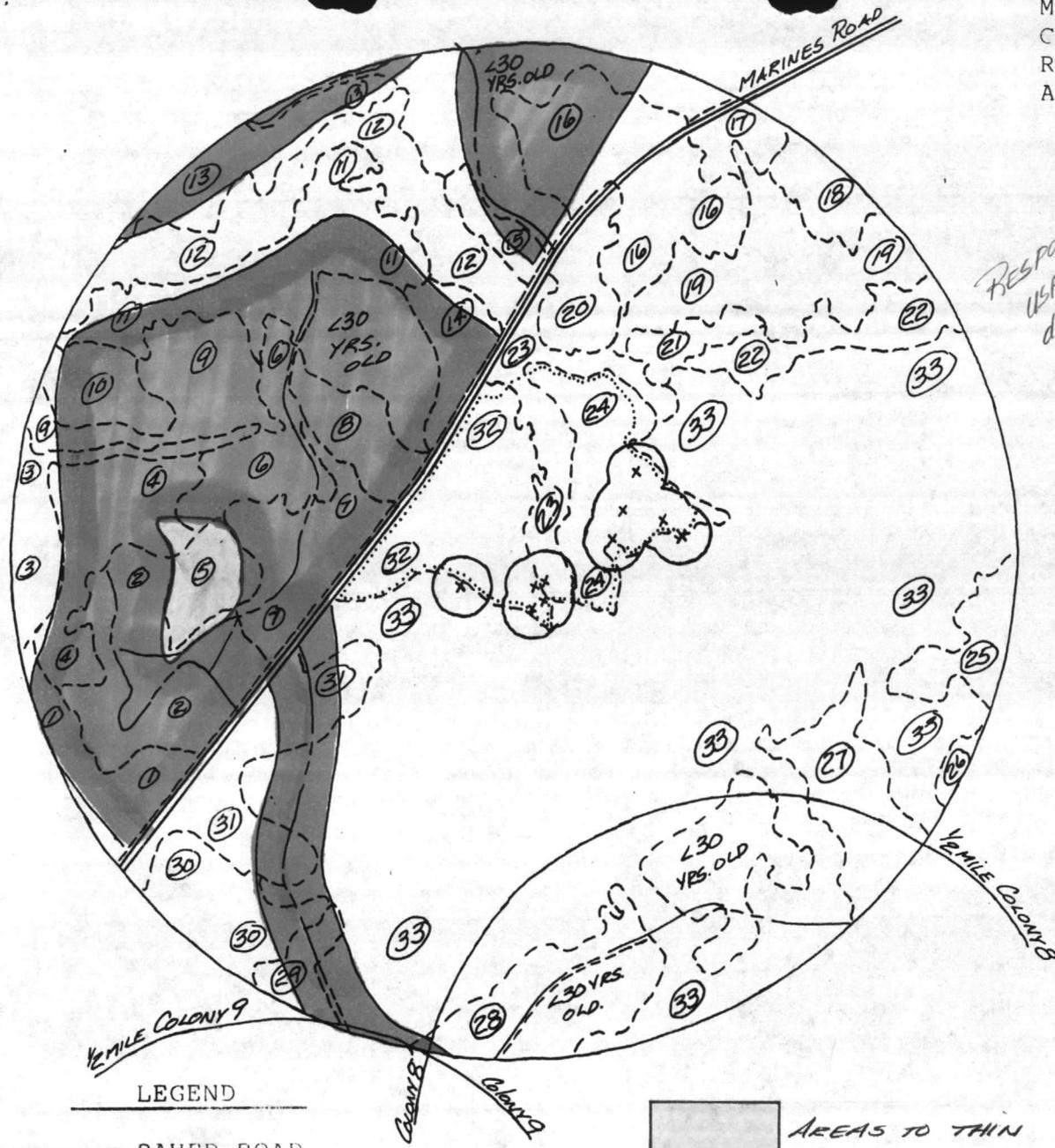
JULIAN I. WOOTEN  
Director, Natural Resources Division  
By direction of the Commanding General

Enclosure

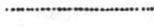
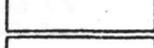
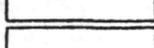
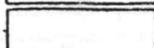


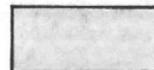
MAP #1  
 Colony 10 & 11  
 MECH MOVE  
 COURSE  
 RCW HABITAT  
 ANALYSIS

*RESPONSE by  
 USF&WS to second  
 data set*

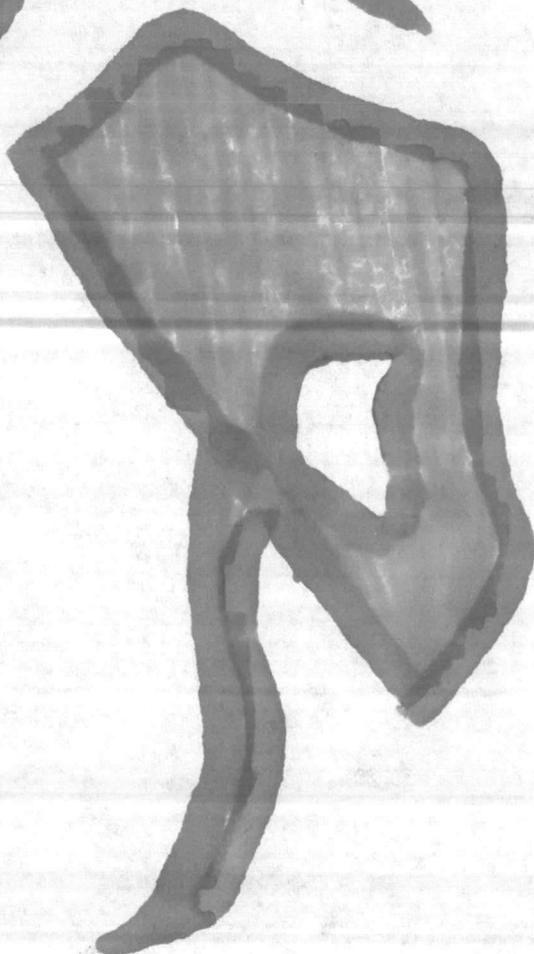


LEGEND

-  PAVED ROAD
-  DIRT ROAD
-  STAND BOUNDARY
-  CAVITY TREE AND BUFFER ZONE
-  CONTIGUOUS HABITAT BOUNDARY
-  AREA USED BY ONE COLONY
-  AREA USED BY TWO COLONIES
-  AREA USED BY THREE COLONIES
-  AREA TO BE CLEARED
-  AREA TO BE THINNED
-  CONTIGUOUS HABITAT

-  AREAS TO THIN
-  AREAS TO CLEAR
-  AREAS PROPOSED BUT CHANGED BY HABITAT APPRAISAL

SCALE:  
 1 in. = 1/4 mile



MECHANIZED MANEUVER COURSE BRIEFING NOTES

3 JANUARY 1992

1. Original Proposal: 26 May 1987
2. Information provided by AC/S Facilities: 7 July 1987  
- 3 alternatives
3. EIRB meeting to discuss G-10 Enlargement and Mechanized Movement Course: 17 July 1987  
- "may have potential adverse impacts"  
- requires advisory opinions by federal and state agencies
4. AC/S Facilities Memo for the record: 17 July 1987  
- proposed meeting and site visit with interested federal and state agencies
5. AC/S Facilities Memo for the record: 24 July 1987  
- proposed establishment of a working group to prepare an Environmental Assessment  
- project under direction of AC/S Training and Operations with technical assistance provided by Environmental Engineer.
6. AC/S Facilities Memo for the record: 14 August 1987  
- federal and state agencies site visit on 4 August 1987  
- issues of concern expressed during their out-briefing
  1. disturbance, erosion, and the lack of erosion control along the shoreline that already exist
  2. base needs to make future commitment to maintenance of roads and tank trails
  3. more detailed wetland information required before wetlands permits can be applied for
  4. wetlands soils which are seasonally flooded and require drainage measures, should be included in the project
  5. must include secondary impacts (New River water quality, utilization impacts on New River utilization by public)
  6. require agency reviews (Federal-USFWS, Ecological Services and Endangered Species offices ; NMFS; EPA, who retains ultimate approval authority. State- NC Division of Coastal Zone will coordinate)
  7. base needs to conduct public information efforts (especially concerned with navigable waters)
  8. existing adverse impacts (Duck Creek tank trail maintenance and bridge site)
  9. communicating environmental concern to rapidly changing military populations
  10. formal design of splash points
  11. consulting engineer should design road network to include erosion control, drainage and maintenance



12. archaeological issues and significant sites
  13. non-point source pollution (road construction and maintenance)
  14. agencies requested review of the EA prior to publication
- 
7. MCB letter to USFWS requesting informal consultation on MMC and G-10 Improvement projects: 10 September 1987
  8. USFWS response to MCB request for informal consultation: 6 November 1987
    - estimated loss of 3 clans from proposed MMC
    - would result in "jeopardy" opinion in formal consultation is initiated
  9. SJA memo to Counsel for the Commandant: 13 January 1988
    - request for comments concerning exemption from ESA
  10. Counsel for the Commandant memo to SJA: 19 February 1988
    - "neither a committee exemption under paragraph (h) or a presidential exemption under paragraph (i) is likely for either project"
  11. SJA memo to CG 2D Marine Division: 29 February 1988
    - counsel reports no exemption from ESA ever granted
    - "exemption is unlikely for either of these two projects"



The following information was obtained from the records of the  
 Department of the Interior, Bureau of Land Management, on the  
 subject of the above-captioned land. The land is situated in  
 the County of [County Name], State of [State Name]. The land  
 is owned by [Owner Name] and is being offered for sale to the  
 public. The land is located in the [Location] area and is  
 approximately [Area] acres in size. The land is being offered  
 for sale at a price of [Price] per acre. The land is being  
 offered for sale on a [Type of Sale] basis. The land is being  
 offered for sale to the public on a [Type of Sale] basis.

The land is being offered for sale to the public on a [Type of Sale] basis. The land is being offered for sale to the public on a [Type of Sale] basis. The land is being offered for sale to the public on a [Type of Sale] basis. The land is being offered for sale to the public on a [Type of Sale] basis. The land is being offered for sale to the public on a [Type of Sale] basis.