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AUTHORITY

AGO D/A ltr, 29 Apr 1980

DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (10 Jun 70) FOR OT UT 701312 17 June 1970

SUBJECT: Operational Report - Lessons Learned, Headquarters, 538th Engineer Battalion, Period Ending 31 January 1970

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BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

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DEPARTMENT OF THE ARMY
Headquarters, 538th Engineer Battalion (Construction)
APO San Francisco 96232

THCON-AOP 31 January 1970

SUBJECT: Operational Report of the 538th Engr Bn (Const) for the Period Ending 31 January 1970 RCS CSFOR-65 (RI) UIC WBAN AA

THRU: Commanding General, United States Army Support, Thailand, ATTN: THOP-MH APO 96233

Commander in Chief, United States Army Pacific, ATTN: GROP-DT APO 96558

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D.C. 20310

1. SECTION 1. OPERATIONS: SIGNIFICANT ACTIVITIES

a. Mission:

(1) The 538th Engineer Battalion (Construction) MTOE 5-115E P03 P00269 continues to execute its assigned missions in Southeast Thailand as follows:

(A) Perform the troop construction portion of the Camp Samae San Cantonment and Depot Complex near Sattahip, Thailand.

(B) Perform selected MCP construction projects for the US Air Force at U-Tapao Royal Thai Navy Air Base (RTNAB).

(C) Accomplish civic action projects.

(D) Perform construction support missions for neighboring units in the area as directed.

b. Location:

(1) The 538th Engineer Battalion is located at Camp Samae San near Sattahip, Thailand (see Incl 1 & 2). Company D, 538th Engineer Battalion (Construction) is engaged in MCP construction projects at U-Tapao RTNAB (Incl 3) in addition to projects in Camp Samae San (Sect 1, para d2).

FOR OT UT
701312

c. Organization:

(1) The 538th Engineer Battalion (Construction) accomplishes its assigned missions utilizing the organization reflected in Inclosure 4. Officers currently assigned to the battalion are listed in Inclosure 5.

(2) Two significant changes in troop disposition have occurred since the last reporting period:

(A) On 1 November 1969 the 549th Engineer Detachment (Control and Advisory) was released from the control of COMUSMACTHAI and attached to the Battalion for ADCOM and OPCON, for further disposition under BANNER STAR.

(B) The 504th Engineer Detachment (Welding) was detached from the command and control of the 538th Engr Bn (Const) and assigned to Fort Belvoir, Virginia.

d. Significant Activities

(1) MCA Construction Mission, Camp Samae San, Thailand: The troop construction portion of the Camp Samae San Cantonment and Depot Complex, founded at a cost of over $5,000,000.00 remained the primary mission of the Battalion. The scope of this mission involved the following catagories of effort:

(A) Vertical Construction: Vertical building construction in the Camp Samae San Cantonment Area, Depot Complex and Facilities Engineer Complex comprised the major portion of the Battalion's operations during this reporting period. The majority of facilities under construction are semipermanent structures of concrete block, bolted timber trusses, corrugated asbestos-cement roofing, hardwood doors, and permanent glass windows, while other structures are pre-engineered steel buildings. All of the facilities have finished interiors to include acoustic ceiling treatment, ceramic tile walls and floors, quarry tiled kitchens and other special treatments as required. Structures have complete latrine facilities and electrical wiring and some are equipped with air-conditioning. Construction is similar to that in many of the newer CONUS installations. To date, the Battalion has completed 463,171 scuare feet of vertical construction at a total cost of $3,240,600.13. A plan layout showing status of construction is shown in Inclosure 6.

THCON-AOP 31 January 1970
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TABLE I
VERTICAL CONSTRUCTION COMPLETED TO DATE
CAMP SAMAE SAN

NO. OF BLDG'S	DESCRIPTION	COST
55	EM Billets, 28 Man	$887,424.00
6	Company HQ's Bldg's	97,000.00
2	Mess Halls, 750 Man	165,060.00
6	Motor Maint Bldg's	91,470.00
16	BOQ's	394,515.82
1	USO Club	25,000.00
1	PX Pascoe, Interim	7,193.00
1	Fire Station	33,840.00
1	Dispensary/Medical/Dental Bldg	59,280.00
17	Pascoe Bldg's	195,440.00
1	Thai Security Guard Mess Hall	10,440.00
1	Thai Security Guard Admin Bldg	8,070.00
11	Thai Security Guard Billets	237,490.00
1	Thai Security Guard Dayroom	9,122.00
1	Latrine Addition	3,167.00
	538th Base Camp	190,000.00
1	Quartermaster Sales Store	27,065.00
1	Library	36,600.00
1	Signal Bn HQ's Bldg	22,689.00
1	Signal Bn HQ's Bldg Extension	5,772.19
1	POL Laboratory (Deep Water Port)	27,825.00
1	APO Bldg	32,722.30
1	Finance Bldg	36,310.02
1	Provost Marshal Office Bldg	50,118.00
1	Facilities Engr Admin Bldg	57,562.00
1	CSA Latrine	17,043.80
1	Dial Central Office	41,130.00
1	Stock Control Bldg	41,200.00
1	9th Log HQ's Bldg w/Ext	140,800.00

TABLE I (CONTINUED)

NO. OF BLDG'S	DESCRIPTION	COST
4	Covered Storage, CSA Area	$ 83,000.00
1	ADPS Bldg	41,800.00
1	Chapel	71,292.00
1	Craft Shop	20,528.00
1	Area HQ's Bldg	41,292.00
4	Dayrooms	19,000.00
1	Pipe/Lumber Storage Bldg	6,096.00
1	Flammable Storage Bldg	6,243.00
	TOTAL	$3,240,600.13

TABLE II
CURRENT VERTICAL CONSTRUCTION PROJECTS
CAMP SAMAE SAN

DESCRIPTION	% COMPLETE
PX/Snack Bar	85
Ration Breakdown	8
Reefer Dock	30
SSSC	40
Dayrooms (7ea)	50
S4 Warehouse	71
MHE Repair & Maintenance Facility	35
Athletic Facilities	2
POL Distribution Point	36

(i) Company A (Equipment and Maintenance) continues to support the vertical construction effort by operating the Battalion concrete batch plant and providing special equipment, such as a ditching machine, earth auger, and 40T cranes, as required. The concrete batch plant, which became operational at the end of August, is a valuable asset to the construction effort, providing as much as 110 cubic yards of concrete a day. During this reporting period the plant produced and delivered 1996 cubic yards of concrete.(See Incl 11).

(ii) Company B completed the Area Troop Command Headquarters Building (formerly known as the Area Support Headquarters Building), the Chapel, and four (4) Dayrooms during this reporting period. Work continues on the PX/Snack Bar, together with the Ration Breakdown Reefer Dock and Self-Service Supply Center, which were started during the quarter. Construction of the PX/Snack Bar, with a floor area of 15,600 square feet and a roof structure spanning 64 feet, progressed from the basic foundation to a completely enclosed and roofed building. Current work on this project involves completion of the interior of the retail store, the concessions arcade, and the snack bar in preparation for installation of furnishings and equipment by the Pacific Exchange System (PACEX). The foundation of the Ration Breakdown Refrigeration Dock, requiring in excess of 1000 cubic yards of concrete, was started. The superstructure, concrete columns supporting 50' bolted wooden trusses and AC roofing, will shelter the Class I refrigeration plant for the Cantonment Area. On 26 January 1970 the construction of the Quartermaster Self-Service Center, was initiated by Second Construction Platoon, Company B. All the parts of the 30' X 60', 3-bay PASCOE building are prefabricated except the interior finishing, footing, and the concrete floor. The unit plans to erect the building in 15 working days. The Company B vertical construction platoons have also been involved in the construction of culverts, headwalls, and landscaping structures. (See Incl 12 to 18 for project descriptions and photographs).

(iii) Company C completed the Post Crafts Shop and POL Dispensing Point Office/Warehouse during this reporting period and began construction of the MHE Repair and Maintenance Building, Class I Ration Breakdown Warehouse, and the S-4 Warehouse. The center for post supply activities, the S-4 warehouse is a double 40' X 100' PASCOE structure with managerial and ship-

ment offices and security rooms for the handling of arms and ammunition. The building is surrounded by a 1000' chain link fence. Located in the Depot Complex, the MHE Repair and Maintenance Facility is planned as a maintenance center primarily for materials handling equipment. The structure is of 18' pilaster columns supporting 50' timber trusses, and houses an office, tool room, parts room, and has a grease pit. Four and two-thirds 30' X 60' P..SCOE pre-engineered structures will be joined together for the Ration Breakdown Warehouse. The interior layout includes storage areas to handle the distribution of food supplies for Camp Samae San. A continuing vertical mission of Company C is the construction of culverts, headwalls, and landscaping structures. (See Incl 19 to 25 for project descriptions and photographs).

(iv) Company D, with a significant vertical commitment on MCP Projects at U-Tapao Royal Thai Navy Air Base (RTNAB) (See Section 1, paragraph d, 1) completed two (2) 16-man BOQ's, located in the 6500 area, during this reporting period. The turnover of these officer billets brings to 16 the total number constructed, completing scheduled BOQ construction at Camp Samae San. During the quarter, construction was started on seven (7) dayrooms, located in the already completed troop billeting areas. The dayrooms are 20' X 48' concrete block structures with complete utilities, including provisions for future air-conditioning. (See Incls 26 and 27 for project descriptions and photographs).

(B) Horizontal Construction

(i) The horizontal construction mission of the Battalion during this reporting period involved the following categories of effort:

(a) Final preparation of additional secondary streets and roads.

(b) Filling large areas for motor pools, hardstands, and open storage areas.

(c) Preparation of foundation pads for vertical construction sites.

(d) Construction of comprehensive area drainage for the Camp Samae San Cantonment and the Depot Complex.

A total of 140,000 cubic yards of earth fill were hauled during the quarter, bringing the total amount of earthfill placed to date at Camp Samae San to over 3 million cubic yards. In addition, 16,000 cubic yards of sand were hauled and placed. The total funded cost of the horizontal construction effort to include earthfill, paving operations, and culvert installation is $991,654.00.

TABLE III
CURRENT EARTHMOVING PROJECTS
CAMP SAMAE SAN

DESCRIPTION	% COMPLETE
Company A	
Drainage, CSA Area	60
Company B	
Drainage, 6900 Area	45
Drainage, 7200 Area	90
Drainage, 7400 Area	93
Drainage, 7500 Area	40
Drainage, 7800 Area	92
Drainage, 7900 Area	45
Earthwork, 6500 Area	0
Earthwork, Athletic Facilities	60
Slope Stabilization	20
Company C	
Drainage, 6100 Area	40
Drainage, 6400 Area	42

TABLE III (CONTINUED)

DESCRIPTION	% COMPLETE
Drainage, 7600 Area	80
Drainage, BOQ Area	52
Earthwork, Deep Water Port	5

(ii) Company A (Equipment and Maintenance) continues to provide the Battalion with Engineer Direct Support Maintenance, organizational maintenance support, and special equipment in support of the horizontal construction mission. In addition, Company A supervises the Battalion laterite borrow pit operations. In response to continuing fill requirements and the gradual depletion of available developed resources, pit operations were increased in scope with the development of a new borrow area adjacent to the existing pit, identical in concept to the old borrow pit operation. A loading area utilizing scoop loaders was also developed to facilitate loading of dump trucks used to haul laterite for road construction. An additional horizontal construction mission assigned to Company A is the completion of the drainage structures within the Depot Complex. (See Incl 28 to 30 for project descriptions and photographs).

(iii) Company B completed the large 7800 Area motor maintenance project with the emplacement of over 78,000 cubic yards of fill, and the earthwork requirements for the Athletic Facilities area which required an additional 22,000 cubic yards of material. In addition, earth foundation pads for six (6) dayrooms and the Self-Service Supply Center Building were filled and brought to grade, and drainage structures in the 6300 and 6800 Areas were completed. Company B continued the upgrading of streets and roads by starting construction on the 6th Avenue Extension and upgrading Mountain Drive. Extensive work also continues on drainage structures and landscaping in the areas listed above Table III. (See Incl 31 to 33 for project descriptions and photographs.)

(iv) Company C directed primary earthmoving emphasis to the construction of the foundation pads for the buildings in the 7700 Area, placing 10,000 cubic yards of sand

bedding and 55,000 cubic yards of laterite fill. At the end of the quarter, work was started on grading and compaction at the Sattahip Deep Water Port for eventual utilization as a trailer-transfer point. Construction of drainage structures increased in scope as the entire Camp Samae San drainage system was upgraded. Company C began work on building and/or upgrading 50% of the drainage structures in the Cantonment Area, completing the 6200 Area and a large portion of the 6500 Area by the end of the reporting period. (See Incl 34 to 36 for project descriptions and photographs)

(v) The horizontal construction accomplished by Company D in Camp Samae San during this reporting period consisted of the completion of four (4) foundation pads for dayrooms.

(C) Utilities Systems: The installation of primary utilities systems at Camp Samae San is virtually complete. All programmed main lines in the potable water system and water-borne sewage and treatment system have been installed. The 12,000 volt primary electrical distribution system is finished. Construction of secondary utilities continued during this reporting period with the installation of water and sewer laterals, transformer banks, and secondary wiring above and below ground as buildings under construction were completed. Of particular note during this reporting period was the construction of the underground secondary electrical distribution system in the 6900 (Morale Facilities) Area by Company B. This system consisted of 300 feet of underground secondary electrical wire all in 4" conduit encased in concrete with the required manholes and a pad-mounted 225 KVA Transformer. Table IV below summarizes the current status of utilities construction at Camp Samae San.

TABLE IV

UTILITY SYSTEM	WORK IN PLACE	APPROX. COST	%COMPLETE
Potable water Distribution	13 miles underground asbestos cement pipe water mains and galvanized steel secondary laterals.	$302,000.00	99.5
Water-borne sewage Collection & Treatment	12 miles underground asbestos cement sewer mains and secondary laterals; one(1) main		

TABLE IV (CONTINUED)

UTILITY SYSTEM	WORK IN PLACE	APPROX. COST	% COMPLETE
	sewage pump station and five (5) auxiliary pump sta.; a 13 acre sewage lagoon.	$402,000.00	98.0
Primary/Secondary Electrical Distribution	14 miles 12,000 volt primary electrical distribution lines; secondary transformers, and 120/208 service drops to buildings.	291,000.00	99.0

(D) Security Fence and Lighting: Camp Samae San and the Depot Complex are to be inclosed by approximately ten (10) miles of chain link and barbed wire security fence. The entire perimeter, including the beach, will be illuminated with mercury vapor flood lights. The fence consists of chain link fabric 8 feet high mounted on precast reinforced concrete posts set in concrete footings. The top of the fence is surmounted by three (3) strands of barbed wire. During this reporting period, Company C completed 11,030 feet of fence around six (6) motor pools and the Communications Area in the Depot Complex. To date, over 10 miles of fence have been installed. Phase I of the construction of the perimeter lighting by Company C to complete the security package started in December and is now 70% complete. (See Incl 38 and 39)

(2) MCP Construction, U-Tapao RTNAB: On 1 October 1969, Company D assumed the responsibility for selected MCP Construction projects at U-Tapao RTNAB. Current scope of this mission and projects completed to date are as follows:

(A) Vertical Construction

(i) Revetments: During this reporting period, Company D completed the prefabrication, erection, and filling of eight (8) "ARMCO" steel revetments on Apron "A", the parking and service area for KC-135 jet tankers at U-Tapao RTNAB. Each revetment was constructed of bolted corrugated steel sections to

form a structure 130' long, 7.7' wide and 16' high. The structures were prefabricated in 20' long sections in a yard near the flight line prior to being transported to the apron for erection. Once erected in place the revetments were filled with compacted laterite by conveyor belt fed by dump trucks outloading from the Battalion borrow pit area (See Incl 40).

(ii) Air Rescue Facility: Started on 10 December 1969, the scope of this project includes the construction of the shell of a 50' X 100' BUTLER pre-engineered steel building with concrete floor and rough utilities in place. The building will eventually provide space for two (2) air rescue helicopters, ready rooms, office space, storage, maintenance facilities, latrine, and kitchen. At the time of this report the building is 80% complete. (See Incl 41)

(iii) Guard Towers: The D Company construction effort at U-Tapao RTNAB also includes 27 timber guard towers, 21 of which are currently being prefabricated prior to erection. Four (4) additional towers, originally constructed by the US Air Force are undergoing modification, and will be erected at strategic points along the perimeter road. Two (2) towers already in place will be modified at a later date. (See Incl 42)

(iv) Bailey Bridge: Early in this reporting period, heavy rains and excessive tides washed away a portion of the Air Force-constructed section of the perimeter road along the ocean boundary of the Air Base. To expediently span the gap left in the perimeter security road by the washout, Company D erected a Double-Single Bailey Bridge 90 feet long. Current plans require construction of a permanent bridge to replace the Bailey Bridge. (See Incl 43)

(B) Horizontal Construction: Work continues on the perimeter road portion of the MCP mission at U-Tapao RTNAB. The 6.65 mile road project consists of construction of 5.2 miles of new road with a travelled way of 12 feet, 5.5 miles of 300' wide sterlized clearing along the new and existing portions of the perimeter road construction, and all required drainage structures. During this reporting period, over 90,000 cubic yards of fill were hauled and emplaced for the roadway, and 9 culverts with headwalls were constructed. At the time of this report the perimeter road, clearing and drainage construction are 81% complete. (See Incl 44 and 45)

(3) Civic Action Projects: Civic Action is an area of continuing command interest in the activities of the Battalion. Aid in the form of engineer advisory assistance, equipment augmentation, and supply relief in the form of scrap materials is provided as time, equipment, and materials availibility permit. The Battalion Surgeon and his staff provide treatment daily for local Thai civilians. During this reporting period, 903 Local Nationals received medical aid. This unit also recently sponsored a soccer team composed of Local National employees and arranged matches with other teams in the area. The 538th Booters' initial match, played on the Ban Sattahip School soccer field constructed by Company C in January, 1969, ended in a 2-2 tie. (See Incl 46)

(4) Area Construction Support Missions: During this reporting period the 538th Engineer Battalion continued to provide construction support for neighboring units in the area. 485 cubic yards of concrete from the central batch plant were provided for local self-help projects, and 26 loads of sand were hauled for the 379th Signal Battalion for the sand bedding required in an underground cable installation. Other tasks included engineer equipment augmentation and technical assistance as required.

(5) Official Visits: During this reporting period the Battalion hosted many distinguished visitors. Among these were the following:

DATE	OFFICIAL
19 Nov 1969	COL G.W. GUTH, USARPAC ENGR SECT
26 Nov 1969	BG OTT, CG, USARSUPTHAI
11 Dec 1969	LTG CLARKE, CHIEF OF ENGINEERS
8 Jan 1970	MG SEITH, CG, MACTHAI/CHIEF JUSMAGTHAI and BG OTT, CG USARSUPTHAI
28 Jan 1970	MG F.L. SAMPSON, CHIEF OF CHAPLAINS, US ARMY.

Itineraries were prepared for each visitor to include a tour of the construction sites and a short briefing. (See Incl 47 to 49)

2. Lessons Learned: Commanders Observations, Evaluations, and Recommendations.

a. Personnel

(1) Battalion Disposition

(A) OBSERVATION:

(i) Present distribution of the enlisted grades in the Battalion is as follows:

	E9	E8	E7	E6	E5	E4	E3/1	TOTAL
AUTH	1	8	27	56	175	454	141	862
ASGD	1	7	34	36	134	318	246	776
PDY	1	7	31	33	125	297	224	718

(ii) Present distribution of the officers and warrant officers in the Battalion is as follows:

	OFFICERS	WARRANT OFFICERS
AUTH	33	10
ASGD	39	7
PDY	39	7

(iii) Critical MOS Shortages are as follow:

MOS	JOB TITLE	GR	AUTH	ASGD
621A	Engr Equip Rep Tech	WO	4	2
62F30	Crane Shovel Oper	E5	16	7
51C20	Structures Spec	E4	6	3
51D20	Mason	E4	12	6
51K20	Plumber	E4	19	4
71B20	Clerk/Typist	E5	6	2
71T20	Maint Data Spec	E4	6	3
73C20	Pay Dispersing Spec	E4	4	1

(iv) The following officers arrived in the command this quarter:

RANK	NAME	TITLE
CPT	Tanner, David E.	Bn S4 Officer
CPT	Lee, Stanley D.	Const Engr, S3 Sect
CPT	Wylie, Allan G.	CO, Co B
CW2	Byrd, Clarence F.	Maint Sect Ldr, Co A
CW2	Koebel, William M.	Unit Supply Tech, S4 Sect
CW2	McGhee, Raymond G.	Maint Sect Ldr, Co D
2LT	Josey, Ronald V.	Plt Ldr, Co A
2LT	Spradling, Dwight	Plt Ldr, Co C
2LT	Wolterding, Douglas T.	Plt Ldr, Co D
2LT	Cook, Henry E.	Const Engr, S3 Sect

(B) EVALUATION: During the past quarter, the 538th Engineer Battalion (Construction) continued to operate at approximately 90% of its authorized enlisted strength. Improvement was noted in several MOS shortage areas to include, most notably, acquisition of Engineer Equipment Repairmen (MOS 62B10). The Battalion, however, still experiences the critical shortages of Warrant Officer Maintenance Section Leaders (621A) as well as Supply NCO's (76Y40) and Clerks (71H20). The Warrant Officer positions are being filled by Lieutenants and Senior NCO's. Short-term E-5's with little supply experience are filling the (76Y40) position vacancies previously noted while the (71H20) clerk positions are being maintained by cross-trained enlisted personnel.

(C) RECOMMENDATION: That continued emphasis be placed on filling the critical MOS shortages in the Battalion and that Local Nationals continue to be used to augment the US work force as required.

b. Operations

(1) Preconstruction Conferences

(A) OBSERVATION: Pre-construction conferences on all projects have been successfully developed as a positive construction management technique.

(B) EVALUATION: As techniques for construction management developed it was found that due to the diversity of the Battalion mission, pre-construction conferences were an increasingly valuable management tool, not only at Battalion

level, but also at lower echelons of command. On vertical construction projects, conferences held with the platoon leader, platoon sergeant, and company operations officer cover all technical and procedural aspects of the project, review of CPM schedules, available resources, equipment requirements, etc. Similar areas are discussed on horizontal construction and utilities projects, with an additional job site conference to fully prepare the constructing unit for all project contingencies. At the same time, the master construction schedule of Battalion-wide projects and priorities is discussed relative to repective unit missions, in order to develop an awareness of the scope of the Battalion mission at the unit level. This approach as a management technique has proved invaluable in preparing units for new construction missions.

(C) RECOMMENDATION: That the pre-construction conference be developed as a management tool at all levels of command in engineer construction units.

(2) Earthfill Procedures

(A) OBSERVATION: A special subsurface drainage method utilizing a layer of compacted sand has proved successful in the construction of stable hardstand surfaces over weak, saturated silty-clay subgrades covered with large amounts of ground water.

(B) EVALUATION: Last quarter this unit developed a construction drainage method in order to successfully construct a trafficable stable hardstand surface over the swampy terrain at Camp Samae San. Initial efforts to fill areas by conventional methods resulted in areas with large soft spots caused by heavy equipment traffic pumping ground water up through the fill. To solve the problem, the following earthfill procedures were utilized:

(i) Construct initial perimeter drainage.

(ii) Place a two-foot layer of compacted sand over the entire area.

(iii) Fill with laterite in thin layers, compacting with the lightest equipment practicable.

The layer of sand functioned as a relief channel to the perimeter ditches for the ground water under the fill, preventing it from being pumped up into the laterite by the heavy equipment traffic above, eliminating numerous soft spots.

This method proved quite successful in the large 7800 Area fill project of over 200,000 cubic yards at an average depth of six (6) feet. The method was refined slightly in the 7700 Area fill by the placement initially of laterite to just above the ground water level, then placing 12" of sand, and finally filling to grade. The initial placement of laterite provides a more stable initial footing for D7E bulldozers and displaces to the perimeter ditches a great deal of ground water. Less sand is therefore required in the relief layer, and it is much easier to place and spread. To date, this method has proved superior to any yet utilized in the area.

(C) RECOMMENDATION: That similar methods of subsurface drainage be developed and utilized by units conducting fill operations in areas characterized by weak subgrade materials and considerable amounts of surface and subsurface water.

(3) Familiarization With National Building Codes and Commercial Construction Practices

(A) OBSERVATION: Criteria for construction projects assigned the 538th Engineer Battalion (Construction) at Camp Samae San are defined by national building codes and regulations, Corps of Engineers Guide Specifications and Technical Bulletins, and local Officer in Charge of Construction (OICC) Specifications.

(B) EVALUATION: Troop construction supervisors are trained to accomplish standard construction projects in accordance with US Army standards, ie TMs', FMs' and the like; and, through the process of schooling and on the job training, experienced in the types of construction defined therein, ie, Theater of Operations (TO) temporary construction (FM 5-302) and field expedient engineer construction (FM 5-34). Construction projects defined by contractor-oriented commercial standards, national codes, and specifications therefore "suffer in the translation". The primary problem areas in this respect are twofold: (1) the inability, through lack of experience and practice, to properly interpret and apply such codes; and, (2) the lack of familiarity of troop construction leaders with such codes and specifications and their practical application on the job site. The first problem area is solved on a commercial level through the establishment of municipal planning and zoning boards and commissions designed to continually monitor, update, and interpret codes and construction standards,

and the employment by construction firms of registered architects and engineers, familiar w/code requirements. The 538th Engr Bn (Const) has taken steps to alleviate the problem of interpretation and application by maximum utilization of commercially available texts and industrial bulletins, especially those written specifically to interpret and explain codes and specifications, and by consulting with local civilian engineers and contractors on accepted commercial engineering practices and standards, and local ground rules. The information accumulated from these sources is then passed on to troop construction leaders in an effort to eliminate the second problem area, that of lack of familiarity of these individuals with national codes and commercial specifications. Again in the construction industry, trade unions are organized through a program of training and on-the-job experience to familiarize construction personnel with codes and standards. A similar system has been set up in the Battalion to cope with the problem. A comprehensive program of classes and on-the-job training sessions geared to familiarizing troop construction leaders with construction techniques as defined in national codes and standard specifications has been started. Once these individuals have been thoroughly oriented, they, in turn, pass the information on to the job-site specialists (carpenters, masons, plumbers, electricians) who, though they are trained in the proper mechanical techniques, are not familiar with their applications as prescribed by minimum commercial standards. The information is also added to the Battalion Construction SOP as appropriate. Through the twofold process outlined above, a familiarity with commercially acceptable construction techniques has evolved, and has continued, despite troop rotation, through the continuing training program. To date, the Battalion work force has responded well, and the quality of construction is continually improving. At worst, the experience gained has been a process of trial and error, while at best the results attained have met the highest commercial construction criteria.

(C) RECOMMENDATION: That a program be developed oriented towards aligning construction unit capabilities with the requirements of mission assignments similar to that of this unit, specifically:

(i) Development of more comprehensive skill level training programs for construction supervisors.

(ii) Improved text and reference libraries for construction units, to include texts on national codes and the interpretation thereof.

(iii) Improved standard military texts oriented towards the tradesman, on construction practices and techniques, to include improved and/or updated standard drawings.

(iv) Incorporation in the unit TOE of additional technically trained specialists in the group MOS areas required by mission assignments.

(4) Operations and Training Section in the Equipment and Maintenance Company

(A) OBSERVATION: An interim Operations and Training Section has been established in the Equipment and Maintenance Company (Co A) of the 538th Engineer Battalion.

(B) EVALUATION: The scope of the mission assignments to the Equipment Platoon, Company A, has been expanded to include ditching and drainage construction, operation of the central concrete batch plant, supervision of paving operations and supervision of the Battalion laterite borrow pit. In addition, the Equipment Platoon, fully equipped, has the capability for quarry operations, including a crushing and screening plant. With these many varied missions, the assignment of an additional officer as Operations and Training Officer to head Operations and Training Section has proved beneficial in coordinating and controlling unit mission assignments and unit readiness providing a central location for operational records, and maximizing unit construction planning and scheduling.

(C) RECOMMENDATION: That engineer units with similar construction mission assignments consider establishing an Operations and Training Section in the Equipment and Maintenance Company.

c. TRAINING

(1) OBSERVATION: During this quarter the Battalion continued to conduct classes in basic military subjects as required by current regulations as well as mission oriented subjects.

(2) EVALUATION: In addition to required classes, training was directed toward mission-oriented subjects for officers and senior NCO's. These classes were given with the intent that platoon level classes would later be conducted by platoon leaders and platoon sergeants. Classes were given in TAERS and other subjects as required to improve unit readiness

and increase the efficiency of the Battalion Operation.

(3) RECOMMENDATION: That classes continue to be held on mission-oriented subjects in addition to those on basic military subjects.

d. Intelligence: N/A

e. Logistics:

(1) Local Procurement Procedures.

(A) OBSERVATION: The present procedure for local procurement requires the testing of the Army Supply System on all items for which a valid cancellation has not received within the last 21 days.

(B) EVALUATION: This procedure requires the testing of the supply system for items which include those that experience indicates are not in the supply system. The inventory control personnel are sufficiently familiar with the Army Supply System to know that certain requested items are of commercial manufacture only. These personnel are also aware that many of the requested items are invariably cancelled at Okinawa and are invariably locally purchased. The present regulation does not provide for flexibility in the procurement system and results in long lead times for items which are urgently needed to complete construction projects.

(C) RECOMMENDATION: That authority be granted at the depot level to approve local procurement of items which experience indicates are not in the Army Supply System without the requirement for cancellation from Okinawa.

(2) Weekly Command Operations and Logistics Conference

(A) OBSERVATION: This unit has developed a Weekly Command Operations and Logistics Conference to answer vital questions on status of construction, MCA supply requisitioning priorities.

(B) EVALUATION: A weekly command briefing with the S-4 Construction Supply Section and the S-3 Engineering Section was initiated early in the quarter to monitor the status of construction, changes in priorities, and problem areas from a supply standpoint. Construction schedules and predicted supply problems are discussed by the S-3 Officer, and the latest supply status of meterials for all projects is reported

by the S-4 Officer. Working with these up-to-date facts, priorities are set by the Battalion CO for the issue of critical supplies, substitutions suggested from the materials on hand, and some re-scheduling of construction progress is affected in order to work around the supply shortages and take advantage of excesses. To date, coordination between operational and supply requirements has improved and the number of last minute shortages and deficiencies has decreased markedly.

(C) RECOMMENDATIONS: That continued emphasis be placed on close liaison between unit operational and logistical elements commensurate with mission requirements.

f. Organization: N/A

g. Other

(1) Command Inspection

(A) OBSERVATION: During the past quarter a weekly Command Inspection was initiated by the Commander of the 538th Engineer Battalion (Construction).

(B) EVALUATION: The Command Inspections are conducted by the Battalion Commander and selected staff personnel. One company is inspected each week. These inspections provide the Battalion Commander and his staff and opportunity to evaluate the company in specified areas of interest. This same evaluation also provides the company commander an overall estimate of the efficiency of his unit. Specific areas of interest are inspected so that the company commander can determine the strong and weak points of his unit. The Command Inspection includes an inspection in ranks as well as inspections of the billets, company administration, supply, motor pool and maintenance, operations and training, physical security, communications, reenlistment, and public information. At the conclusion of the inspection, a critique is held with the inspecting personnel briefly discussing their findings and giving the commanders the overall rating of their area of interest. A more complete report is prepared to include the findings, evaluation, and recommended corrective action and is sent to the inspected unit where it is reviewed and appropriate corrective action is taken. A reply is then prepared outlining the correct measures implemented. It is felt that these inspections have been most effective in improving the overall operations of the units and was of great benefit in the preparation for the annual IG Inspection.

THCON-AOP 31 January 1970
SUBJECT: Operational Report of the 538th Engr Bn (Const) for the Period Ending 31 January 1970. RCS CSFOR-65 (RI) UIC WBAN AA

(C) RECOMMENDATION: That the regularized use of the Command Inspection techniques be considered as a management tool at all levels of command with particular emphasis given to Battalion-level units.

(2) Other: N/A

Bernard C Hughes

BERNARD C. HUGHES
LTC, CE
Commanding

Incl.
~~1. Map of Thailand~~
~~2. Unit Location Map~~
~~3. Area Map~~
~~4. Command and Staff Relationship Chart~~
~~5. Current Officer Roster~~
~~6. Map-Status of Construction~~
~~7. Aerial Photograph, Cantonment~~
~~8. Map-MCP Construction~~
~~9. - 45. Construction Photographs~~
~~46. Civic Action~~
~~47. - 49. Official Visits~~
~~50. Aerial Photograph, CSA Area~~
Incl 1 - 50 wd HQ, DA

THOP-OP (3 Feb 70) 1st Ind
SUBJECT: Operational Report of the 538th Engineer Battalion (Construction) for Period Ending 31 January 1970, RCS CSFOR-65 (R2) UIC WBANAA

DA, Headquarters, United States Army Support, Thailand, APO 96233

THRU: Commander-in-Chief, United States Army Pacific, ATTN: GPOP-DT, APO 96558

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

The Operational Report of the 538th Engineer Battalion (Construction) has been reviewed and is forwarded with the following comments:

a. Reference para 2a (1). The Personnel Management Division has continued to fill authorized position vacancies in accordance with instructions contained in the LOI pertaining to *BANNER STAR* operations in Thailand.

b. Reference para 2b (2). Concur with the recommendation. The recommendation is valid where similar conditions are encountered; however, economic feasibility of its application to any particular project would be contingent upon the availibility of these materials near a construction site.

c. Reference para 2b (3). Concur with the evaluation. The design standards of the projects constructed by the 538th Engineer Battalion (Construction) were considerably more sophisticated than prescribed for Theater of Operations construction by current doctrine. The design of projects, which are to be constructed by troop units, must be simplified and adapted to enable such construction.

d. Reference para 2b (4). Concur with the recommendation. This should be considered for incorporation in the next change to TOE 5-117.

e. Reference para 2e (1). Nonconcur with the recommendation. AR 725-50 requires testing of the supply system prior to initiating local procurement. The position of USARPAC is that a valid rejection of a requisition by 2d Log Command qualifies as testing of the supply system. Timely submission of fill/kill requisitions should permit rejection from 2d Log Command in sufficient time to permit local procurement.

f. Reference para 2e (2). Concur with recommendation. It is necessary to continuously evaluate a maintenance system in a unit in order to maintain a high state of logistic readiness. This headquarters will continue to evaluate this area during liaison visits throughout the command.

THOP-OP (3 Feb 70) 1st Ind 16 APR 1970
SUBJECT: Operational Report of the 538th Engineer Battalion (Construction) for Period Ending 31 January 1970, RCS CSFOR-65 (R2) UIC WBANAA

g. Concur with all other comments. Appropriate action will be taken to initiate recommended actions.

FOR THE COMMANDER:

[redacted]
[redacted] AGC
ASST ADJUTANT GENERAL

GPOP-DT (3 Feb 70) 2d Ind
SUBJECT: Operational Report of HQ, 538th Engineer Battalion (Construction) for Period Ending 31 January 1970, RCS CSFOR-65 (RI)

HQ, US Army, Pacific, APO San Francisco 96558 20 APR 70

TO: Assistant Chief of Staff for Force Development, Department of the Army, Washington, D. C. 20310

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

D.D. CLINE
2LT, AGC
Asst AG

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CO, 538th Engineer Battalion

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