Audit Report

OFFICE OF THE INSPECTOR GENERAL

CONSTRUCTION OF THE U.S. ARMY RESERVE CENTER AT STURTEVANT, WISCONSIN

Report Number 92-113

June 30, 1992

Department of Defense

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2884

June 30, 1992

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Audit Report on the Construction of the U.S. Army Reserve Center at Sturtevant, Wisconsin (Report No. 92-113)

This is the final report on the project to construct an Army Reserve Center at Sturtevant, Wisconsin, for reconsideration of your position and additional comments. The audit showed that documentation supporting the need to construct a new Army Reserve Center was not accurate and did not substantiate that adequate consideration was given to alternative methods of satisfying requirements. The audit was performed as part of our Audit of Construction Projects for Training Facilities, Project No. 1RB-0029.

The Department of the Army provided comments on the draft report on May 7, 1992. However, the comments did not conform to the provisions of DoD Directive 7650.3 which require that the finding, potential monetary benefits and each recommendation be specifically addressed. Rather, the Army stated that construction at Sturtevant was the more favorable alternative in meeting training requirements without providing details supporting the economic benefit of this alternative.

DoD Directive 7650.3 requires that all audit recommendations be resolved promptly. Therefore, the Army is requested to provide detailed comments in response to this final report that specifically address the finding, each recommendation and the potential monetary benefits. The "Status of Recommendations" section at the end of the finding identifies the unresolved issues and the specific requirements for your comments. In view of the planned award of the construction project in the near future, we request that you assist in resolving the matter promptly by providing comments by July 31, 1992. In the interim, contract award should be deferred.

The courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please contact Ms. Mary Lu Ugone at (703) 692-3320 (DSN 222-3320) or Mr. Timothy J. Tonkovic at (804) 766-3319. Distribution of this final report is listed in Appendix E.

Robert J. Lieberman

Robert J. Lieberman
Assistant Inspector General
for Auditing

cc:
Secretary of the Army

Office of the Inspector General

AUDIT REPORT NO. 92-113 **June 30, 1992**
(Project No. 1RB-0029.04)

CONSTRUCTION OF THE U.S. ARMY RESERVE CENTER AT STURTEVANT, WISCONSIN

EXECUTIVE SUMMARY

Introduction. During our Audit of Construction Projects for Training Facilities, we reviewed the proposed construction of an Army Reserve Center at Sturtevant, Wisconsin. Congress appropriated $4.8 million for the FY 1992 construction project and $750,000 for off-site improvements.

Objective. The objective of the audit was to evaluate the data on which the Army based construction requirements for the Reserve Center and to determine if alternatives to new construction were fully considered.

Audit Results. Documentation supporting the construction of a new Army Reserve Center at Sturtevant, Wisconsin, was not accurate and did not reflect adequate consideration of all alternatives. Square footage requirements were overstated and an economic analysis was not performed to consider construction of an addition to the existing facility and joint use of nearby National Guard property. The proposed construction of the new facility was not necessary to accomplish training objectives and achieve mission readiness.

Internal Controls. Procedural weaknesses in the construction approval process within DoD will be addressed in a planned audit report on the overall Audit of Construction Projects for Training Facilities.

Potential Benefits of Audit. As much as $3.7 million (see Appendix C) can be saved if the planned construction project at Sturtevant, Wisconsin, is canceled. The exact amount of monetary savings will be determined when an engineering evaluation is performed by the Army Corps of Engineers on the existing Army Reserve training building at Racine, Wisconsin.

Summary of Recommendations. We recommended that an economic analysis be performed by the Army Corps of Engineers that considers the continued use of the existing training facility by constructing an addition to the training building and a second organizational maintenance shop, and the joint use of nearby National Guard property. We also recommended that the planned construction project be canceled.

Management Comments. Management comments did not adequately address the finding and recommendations. The Army did not provide details to support its conclusion that construction at

Sturtevant was more favorable and economical than the alternative we recommended. In response to the final report, we requested that the Army respond to each recommendation, providing proposed actions, completion dates, and cost data derived from an economic analysis performed by the Army Corps of Engineers, in conformance with Army Regulation 140-483. Details on management comments are provided in Part II of this report, and the complete text of management's comments is in Part IV.

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This report was prepared by the Readiness and Operational Support Directorate, Office of the Assistant Inspector General for Auditing, DoD. Copies of the report can be obtained from the Audit Planning and Technical Support Directorate at (703) 614-6303.

PART I - INTRODUCTION

Background

Training facilities are the third most frequent type of facility built by DoD, and those facilities account for about 14.5 percent of the dollar value of the nonfamily housing facility construction program. In fiscal years 1988 through 1991, DoD received $2.3 billion in appropriations for construction of training facilities. Of the $2.3 billion, the active Army received $364 million, and the Army Reserve received $289 million. Construction projects for training facilities included firing ranges, armories, Reserve Centers, training support centers, and classroom buildings.

The Military Departments either renovate or construct training facilities to meet essential training requirements and are required to expeditiously complete the facilities so that the training missions and readiness capabilities are not impaired. Training facility requirements must be sufficiently defined, validated, and periodically revalidated before construction begins.

During our Audit of Construction Projects for Training Facilities, Project No. 1RB-0029, we found that the Army Reserve planned to build an Army Reserve Center at Sturtevant, Wisconsin. Congress appropriated $4.8 million for this FY 1992 construction project.

The proposed Sturtevant project would replace an existing Army Reserve Center at Racine, Wisconsin. Built in 1957, the Army Reserve Center is an 11,543-square-foot permanent, brick facility with an adjacent 2,474-square-foot organizational maintenance shop. It is located on 3 acres of Government-owned land.

Objectives

The objective of the audit was to determine whether the Army based construction requirements on valid data, fully considered using existing facilities, and consolidated building requirements where possible. We also evaluated the adequacy of internal controls as they related to the proposed construction of this training facility.

Scope

The audit focused on the proposed construction of a new Army Reserve Center and organizational maintenance shop building. At a programmed cost of $4.8 million and $750,000 for surrounding streets and utilities, the approved construction project would include a new 23,858-square-foot training facility and a 9,896-square-foot organizational maintenance shop building. Construction of the two buildings would be single story, concrete

slab with concrete block and brick masonry walls. We visited the existing Reserve Center at Racine, Wisconsin, and the proposed construction site at Sturtevant, Wisconsin. We also visited various Army offices responsible for the construction approval and execution process.

At those locations, we reviewed procedures for developing facility requirements and obtained available project documentation dated from 1982 to 1992 on project initiation, development, validation, and approval. Site visits were made in November 1991 and January 1992. The activities we visited or contacted are listed in Appendix D.

This economy and efficiency audit was made in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD, and accordingly included such tests of internal controls as were considered necessary.

Internal Controls

Procedural weaknesses in the construction approval process within DoD will be addressed in the audit report on the overall Audit of Construction Projects for Training Facilities.

Prior Audits and Other Reviews

In the past 5 years, the Army Audit Agency provided significant audit coverage of construction of training facilities for the Army Reserve and National Guard. Findings in those reports included a lack of accurate documentation or justification for the proposed construction projects, justifications based on erroneous data, and failure to consider alternatives to new construction. Recommendations were made to improve the justification process and to strengthen internal controls. Management generally agreed with the recommendations except to cancel, downscope, or consolidate construction projects. The reports questioned a total of $297 million in construction costs.

In January 1988, the Army Audit Agency issued Report No. HQ 88-200, "Army National Guard Armory Construction and Renovation," which found that the Army National Guard needed to place greater emphasis on participating in armory construction projects to be used jointly with units of other Reserve Components. The auditors found that adequate consideration had not been given to combining construction requirements because some State Joint Service Reserve Component Facility Boards had not adequately evaluated joint-use alternatives. The Army Audit Agency recommended and the National Guard Bureau agreed to clarify guidance encouraging States to participate in joint use of armory projects and facilities.

PART II - FINDING AND RECOMMENDATIONS

ALTERNATIVES TO NEW CONSTRUCTION

The Army Reserve planned to construct a new Army Reserve Center at Sturtevant, Wisconsin, that was not needed to accomplish training objectives and to achieve mission readiness. This condition occurred because the Army Reserve project documentation overstated storage and personnel requirements and did not adequately consider alternatives to new construction to include joint use of nearby National Guard property. As a result, as much as $3.7 million could be spent unnecessarily if the Army proceeds with the proposed new construction.

DISCUSSION OF DETAILS

Background

DoD Directive 1225.7, "Reserve Component Facilities Programs," July 6, 1990, states that it is DoD policy to maximize both joint construction and common-use areas within joint facilities when practicable and economically advantageous. It also requires the Military Departments to jointly use facilities to the fullest practicable extent.

Army Regulation 140-483, "Army Reserve Land and Facilities Management," June 26, 1991, establishes policy and sets forth procedures for the management of U.S. Army Reserve land and facilities and includes provisions for major construction. It is Army policy to provide functional facilities necessary for the development, training, operation, support, and maintenance of Reserve units in the most economical manner. The Regulation provides standard space allowances, which are the maximum allowable. In planning construction, an activity is not automatically entitled to a maximum amount of space, but should base space requirements on actual utilization or need.

As required by Army Regulation 140-483, an economic analysis must be prepared in order to meet facility requirements in the most cost-effective way. The economic analysis should compare existing facilities to new construction and should consider additions to existing facilities.

Also, the Regulation defines facility modernization as major repairs, alterations, and additions to an existing facility with minimal changes in functional purpose and size. An addition is defined as a physical increase that adds to the overall external dimensions of the facility. The Army Reserve plans to build an Army Reserve Center at Sturtevant, Wisconsin, that would replace an existing center at Racine, Wisconsin.

Existing Reserve Center

Built in 1957, the existing Racine Reserve Center (Center) is located on 3 acres of Government-owned land and includes an 11,543-square-foot permanent, brick training building and a 2,474-square-foot organizational maintenance shop. Two Reserve units are assigned to the Center: an Engineer Company with 160 authorized Reservists; and a Basic Training Battalion with 99 authorized Reservists. The Engineer Company is authorized 61 pieces of heavy equipment (road graders, bulldozers, front-end loaders, etc.). Only 46 pieces of heavy equipment are actually in use at the Center.

Project documentation stated that the existing Center was overcrowded. Space for unit administration, individual and unit training, and equipment and weapon storage was insufficient. Additionally, the organizational maintenance shop did not have sufficient work bays or office or storage space. Project documentation also stated that operations and training under these conditions affected retention and recruiting and degraded the mobilization readiness of the assigned units.

Proposed Reserve Center

Project history. The project was initiated in 1982 and was classified as a modernization/addition to the Center. The project would have added 11,617 square feet to the existing Center at an approximate cost of $1.9 million. By February 1984, the Army Reserve planned to demolish the existing training building and replace it with a new one-story 25,530-square-foot building.

Site selection process. In early 1985 when the project was 65-percent designed, a preliminary site survey team determined that the existing 3-acre site was inadequate because of a lack of parking space for privately owned vehicles. The Wisconsin National Guard had verbally agreed to allow construction of a parking lot on its property, but Army Reserve officials determined the area offered was too small. Subsequently, the construction project was rescoped to reflect the need for a new site.

By early 1989, a 10-acre site in Sturtevant, Wisconsin, was selected, approved, and purchased for $157,000. The city of Sturtevant requested that the Government finance construction of off-site improvements such as roadways, utility lines for water, sanitary and storm sewers, and a storm water retention pond with increased capacity to service a future industrial park area. The National Defense Authorization Act for fiscal years 1992 and 1993 added an additional $750,000 to the programmed $4.8 million. In February 1992, the estimated cost of the off-site improvements was $1.1 million.

Overstated requirements. The proposed Reserve center is designed as a 300-member training facility (23,858 square feet)

with an organizational maintenance shop (9,896 square feet). Our audit showed that the design was slightly overstated by about 4,500 square feet, because requirements were based primarily on unneeded storage and an overstated number of Reservists attending drills.

Army criteria state that space allowances for many functional areas will be based on the authorized drilling strength of the largest drill weekend. We found that this methodology overstates requirements, since the number of Reservists that actually trained at the Center was lower than the authorized drilling strength of 160 Reservists. During the 12-month period ended September 1991, the actual highest weekend drill attendance was 135 Reservists. Because Army Reserve criteria for functional areas provide space in increments of 50 Reservists, we found some slight overstatements in space requirements for the proposed new center. When considered separately, none of the overstatements were significant. Appendix A provides details on our computations of space requirements as compared to the Army's project design space requirements.

Alternatives to new construction. An economic analysis was not performed in compliance with Army Regulation 140-483, so a comparison of the costs for additions to the existing facility with costs for new construction was not available. During our audit, we reviewed facility inspection and annual inspection reports for 1988 through 1990. The reports did not disclose any structural problems at the Center. Also, during FY 1989, the military equipment parking lot was partially paved and new energy-efficient windows were installed in the training building. The January 1990 inspection report rated the overall condition of the facility as good and commended the facility for its overall appearance.

Addition to existing Center. Rather than build a new facility, the construction of a two-story, 11,576-square-foot addition to the existing training building at the Center would satisfy the training objectives of the Engineer Company and the Basic Training Battalion. The addition would satisfy space requirements authorized for the current Center population. The chart below shows the required additional square footage by functional area.

Required Space for Addition

Functional Area	Square Feet
Unit Common Administration [1]	2,280
New Kitchen	620
Arms Vault and Armorer	650
Education Areas	555
Storage Areas	4,466
Drafting Room	250
Support Areas	826
Subtotal	9,647
Circulation Space and Structure [2] (20 percent of Subtotal)	1,929
Total Requirement	11,576

[1] Administrative space common to both units.
[2] Hallways, wall thickness, stairways, and other miscellaneous space.

This alternative requires that the existing Center be converted to full-time and unit-exclusive adminstrative offices to include those functions not in the proposed addition. Storage cages that occupy space in the drill hall and in other existing offices can be removed. This alternative would also require construction of an additional 5,723 square-foot organizational maintenance shop. The existing organizational maintenance shop has only two work bays; however, Army criteria allow four bays and a wash rack. The second organizational maintenance shop would add two drive-through work bays and two wash racks. Square footage requirements for the additional organizational maintenance shop are shown below.

Space Requirements for Organizational Maintenance Shop

Functional Area	Square Feet
Shop Office	360
Unisex Toilet	75
Tool Storage	384
Flammable Storage	100
Mechanical/Custodial	133
Work Bays/Wash Racks	3,528
Exterior Storage	623
Subtotal	5,203
Circulation Space and Structure (10 percent of Subtotal)	520
Total Requirement	5,723

Some storage cages in the existing organizational maintenance shop can be removed so the work bays can be fully utilized for their intended purposes.

Alternative costs. The Army Reserve can minimize its costs for facilities by continuing to use the existing Center and by building an addition to the training building and a second organizational maintenance shop. Using new construction costs (per square foot) from the proposed project, since actual costs for the addition were not available, we estimated that costs could be reduced by about $3.7 million by building an addition to the existing training building and a second organizational maintenance shop.

Renovation and support facility costs cannot be estimated until an economic analysis based on actual requirements is performed by the Army Corps of Engineers. However, we believe that those costs would not significantly offset the $3.7 million, since the January 1990 inspection report rated the overall condition of the facility as good. Appendix B compares new construction costs to costs for constructing an addition and a second organizational maintenance shop. We discussed our conclusions with officials from the 84th Division (Training) and Reserve Center full-time staff, who agreed the proposed alternative to new construction would satisfy requirements.

Joint use of National Guard Armory. DoD Directive 1225.7 requires Joint Service Reserve Component Facility Boards to review each proposed Center component construction project and to comment on its joint use potential. The Joint Service Reserve Component Facility Board and the Army Reserve did not fully consider joint use of the Wisconsin National Guard Armory (the Armory) property, located across the street from the Center, for military equipment parking. The Armory is underutilized since it is used only one weekend and one Sunday afternoon per month by the National Guard. In addition, vacant land is available on Armory property.

Wisconsin National Guard officials told us they would formally approve joint use of the Wisconsin National Guard Armory facility. As of the time of our audit, the Reservists used the Armory's classrooms, kitchen facilities, drill hall, and rifle range; in return, the Reservists provided carpentry and other support to the National Guard. Sufficient area to satisfy requirements for military equipment parking does not exist at the Center. However, by rearranging parking areas at the Armory and at the Center and by constructing additional paved areas at the Armory, parking requirements for Reserve military equipment can be met.

Based on Army criteria, the Center is authorized a minimum of 54 privately-owned vehicle parking spaces. However, the adjacent Armory has approximately 60 spaces, which are already used by Army Reservists on drill weekends. Both facilities are located

in an urban area where Reservists have utilized on-street parking since the Center opened in 1957. For these reasons, our cost comparision shown in Appendix B did not include construction of additional privately owned vehicle parking on Government land.

Wisconsin National Guard personnel agreed that joint use of Armory property in Racine, Wisconsin, with Army Reservists was possible. National Guard personnel also verbally agreed to allow construction of additional military equipment parking on Armory property.

Other issues. Army plans did not provide for the assignment of other units to the existing Center if the proposed Sturtevant center is built. Additionally, we were informed that local Racine city officials and the Wisconsin National Guard had no interest in acquiring the existing Center facility. If the Sturtevant center is built, the Army Reserve will have a vacant facility that would require continued operational and maintenance costs until disposal could be arranged.

RECOMMENDATIONS, MANAGEMENT COMMENTS, AND AUDIT RESPONSE

We recommend that the Chief, Army Reserve:

1. Formalize an agreement with the Wisconsin National Guard to construct additional parking areas on Racine National Guard Armory property that will meet Armory and Reserve Center requirements.

Management comments. The response from the Chief, Army Reserve, stated that expansion of the Center and formulation of a joint-use agreement to use the Wisconsin Army National Guard facility was previously addressed, and the alternative was not favorably considered.

Audit response. We consider management's comments nonresponsive. Management's comment that we recommended joint use of Army National Guard facilities is incorrect. We recommended that the Army Reserve enter into a joint use agreement with the National Guard to construct additional parking areas on Armory property. Square footage calculations for the addition to the existing Center show that it can fully meet training requirements, if the alternative parking area is built.

2. Request the Army Corps of Engineers to perform an economic analysis in conformity with Army Regulation 140-483 that includes:

a. An engineering evaluation of the existing Army Reserve training building at Racine, Wisconsin, to determine renovation and support facility costs; and

b. An evaluation of an alternative to construct a two-story addition and a second organizational maintenance shop at the

existing Racine Reserve Center based on established minimum space allowances, and to construct additional parking areas required on the Racine National Guard Armory property.

Management comments. The Chief, Army Reserve, stated that since the audit was initiated, his office had performed and completed an economic analysis that considered alternatives. Management stated that the economic analysis favored construction of new facilities in Sturtevant, Wisconsin; that the existing Center could not provide necessary space for the assigned units; and that any addition to the Center would result in costly environmental and energy conservation upgrades.

Audit response. We consider managements comments to be nonresponsive. The Army Reserve did not provide the cost details demonstrating the most economical alternative. Moreover, management's comments indicate that the Army Corps of Engineers was not requested to perform the engineering evaluation and economic analysis as recommended.

We disagree with management that the existing Center and the proposed addition do not provide the necessary space for assigned units. During the audit, we found that the Army Reserve originally justified the construction project as an addition to the existing Center. The planned addition included more square footage than is shown in the updated project design. In 1985, at the 65-percent design level, the project was canceled only because sufficient land was not available for privately owned vehicle parking. As shown in Appendix A of this report, an addition to the existing Center would satisfy training and square footage requirements in accordance with Army space guidelines. Army Reserve comments did not address our square footage calculations.

We also take exception to the Army Reserve claim that any addition will result in costly environmental and energy conservation upgrades. As stated in the report, we reviewed 1988 through 1990 facility inspection and annual inspection reports. The reports disclosed no structural or environmental problems at the Center. Additionally, energy efficient windows were installed at the Center in 1989.

During the audit, we reviewed a similar construction project for a Navy Reserve Center training building that was about the same age and type of construction as the Center building. Design, environmental and renovation costs for the significantly larger 24,000-square-foot facility totaled about $1.3 million, or about $55 per square foot.

3. Cancel U.S. Army Reserve Center construction project No. CAR 92-04028 at Sturtevant, Wisconsin.

Management comments. The Chief, Army Reserve, stated that alternatives to new construction were fully considered and that requirements support new construction at Sturtevant, Wisconsin.

Audit response. We consider management's comments to be nonresponsive since it did not directly respond to the recommendation to cancel the construction project at Sturtevant, Wisconsin, or support its conclusion that construction at Sturtevant was more economical.

In response to the final report, we request that the Chief, Army Reserve, respond to each recommendation, state proposed actions and estimated dates of completion, and provide specific cost savings derived from its economic analysis. We also request that the Chief, Army Reserve, provide us the results of the Army Corps of Engineers economic analysis and engineering evaluation to support the most economical alternative.

Other management comments. Management also raised other issues in its comments.

The Chief, Army Reserve, stated that the Village of Sturtevant has acquired the necessary acreage to allow the construction of the storm water retention pond needed to support drainage and sewer lines. A recent conversation we held with the President of the Village of Sturtevant disclosed that the property had not been acquired but that the Village was negotiating to buy the property and was awaiting State of Wisconsin approval of the transaction.

The Chief, Army Reserve, also stated our assertion that the Army Reserve overstated personnel requirements was not accurate. The Army Reserve stated design and construction of facilities is based on the authorized personnel strength of assigned units. We found that square footage requirements were slightly overstated because the number of Reservists attending drill was overstated. In the finding discussion, we identified about 4,500 square feet that was not needed. Our analysis showed that fewer than 1,000 square feet was attributed to personnel overstatements, and the remaining 3,500-square-foot excess was caused mainly by unneeded storage. The finding paragraph was revised in the final report to reflect that storage needs, in addition to personnel requirements, were overstated. The Army Reserve is correct in citing criteria which state facilities should be based on the authorized drilling strength of the largest drill weekend. However, in some cases, this methodology overstates square footage requirements. To accurately state square footage requirements, the actual highest weekend drill attendance should be used as the basis for determining square footage requirements.

Comments that necessary parking spaces are needed for security and safety of privately owned vehicles were not supported. The Racine Reservist population has had on-street residential parking since the Center opened in 1957. The Army Reserve did not provide documentation to support the security and safety issues raised. Available documentation reviewed during the audit showed that on-street parking did not violate any city ordinance.

Additionally, the Army Reserve stated that the J.I. Case Company, which owns land bordering the Center, has no immediate plans to vacate its facility west of the Center. This comment is not germane to the issues raised in the audit finding. Adjacent to and south of the Center, the J.I. Case tractor factory owns a large paved parking area that is available for Government use. If an agreement cannot be reached to park military equipment on the nearby National Guard property, Case tractor factory officials indicated a willingness to offer the Army Reserve a 25-year lease on the paved parking area on an acre-by-acre basis.

On August 16, 1989, the Deputy Secretary of Defense issued a memorandum addressing the DoD internal audit resolution and follow-up process. He stated that, "preemptive action, such as proceeding with activities questioned in unresolved audit reports, shall be avoided." After the issuance of our draft report, the Chief, Army Reserve, issued a bid solicitation for construction of the new center at Sturtevant. Additionally, in March 1992, the Secretary of Defense announced proposed Reserve unit reductions or inactivations during the next 2 years. Included in the proposal was a unit located at the Center. If the unit, the 339th Armor Battalion/1st Brigade/84th Division with an authorized strength of 99 Reservists, is relocated or inactivated, square footage requirements would decrease. Pending the outcome of the Secretary's proposals and demonstration that an adequate economic analysis has been done, we consider any further contractual actions to be premature.

STATUS OF RECOMMENDATIONS

		Response to Final Report Should Include			
Number	Addressee	Reconsideration of Position	Proposed Action	Completion Date	Related Issues*
1.	Chief, Army Reserve	X	X	X	NR
2.a.	Chief, Army Reserve	X	X	X	NR
2.b.	Chief, Army Reserve	X	X	X	NR
3.	Chief, Army Reserve	X	X	X	M

* M= Monetary Benefits

NR= None Required

PART III - ADDITIONAL INFORMATION

Appendix A - New Reserve Center Square Footage Requirements

Appendix B - Comparison of Costs for New Construction Versus the Alternative

Appendix C - Summary of Potential Benefits Resulting from Audit

Appendix D - Activities Visited or Contacted

Appendix E - Report Distribution

APPENDIX A: NEW RESERVE CENTER SQUARE FOOTAGE REQUIREMENTS

	Square Footage Requirements		
	Per Proposal	Per Design	Per Audit
Functional Area			
Administration			
Full-time	720	668	600
Unit Exclusive	2,370	2,328	2,370
Unit Common	2,460	2,553	2,280
Retention Office	250	233	250
Administrative Support	240	221	180
Subtotal	6,040	6,003	5,680
Assembly Areas			
Assembly Hall	3,000	3,006	3,000
Chair and Table Storage	300	287	300
Kitchen	620	679	620
Arms Vault	550	535	550
Armorer	300	243	100
Subtotal	4,770	4,750	4,570
Educational Areas			
Classrooms	1,200	1,209	900
Library Reading Room	300	293	225
Learning Center	200	196	150
Library Storage	120	115	90
Training Aid Storage	120	106	90
Communications Security Training	150	150	150
Subtotal	2,090	2,069	1,605
Storage Areas			
Unit and Individual	3,936	3,360	3,360
Staging	394	659	336
Supply Offices			
961st Engineer Company	120	120	120
339th Basic Training Battalion	600	576	600
Communications Security Storage	50	50	50
Janitorial Storage	50	65	50
Subtotal	5,150	4,830	4,516

APPENDIX A: NEW RESERVE CENTER SQUARE FOOTAGE REQUIREMENTS (Cont'd)

	Square Footage Requirements		
	Per Proposal	Per Design	Per Audit
Special Training Area			
Drafting Room	250	233	250
Subtotal	250	233	250
Support Areas			
Men's Toilets	450	438	450
Women's Toilets	225	175	225
Mechanical	366	424	332
Electrical	100	89	100
Telephone	100	90	100
Subtotal	1,241	1,216	1,207
Total Net Area	19,541	19,101	17,828
Circulation Space/Structure *	4,055	4,757	3,565
Total Gross Area	23,596	23,858	21,393
Organizational Maintenance Shop			
Shop Office	300	300	360
Unisex Toilet	75	130	75
Tool Storage	480	483	384
Parts Storage	480	483	384
Battery Storage/Charge	125	185	0
Flammable Storage	125	193	100
Mechanical/Custodial	169	173	188
Work Bays	4,968	4,968	4,968
Exterior Storage		623	623
Storage Mezzanine		1,905	
Subtotal	6,722	9,443	7,082
Circulation Space/Structure *	672	453	708
Total Organizational Maintenance Shop Gross Area	7,394	9,896	7,790
Total Space Requirements			
Reserve Center	23,596	23,858	21,393
Organizational Maintenance Shop	7,394	9,896	7,790
	30,990	33,754	29,183

* Hallways, wall thickness, stairways, and other miscellaneous space.

APPENDIX B: COMPARISON OF COSTS FOR NEW CONSTRUCTION VERSUS THE ALTERNATIVE

Item	New Construction Square Feet	New Construction Cost (000)	Alternative Square Feet	Alternative Cost (000)
Primary Facilities				
Training Center Building	23,858	$2,229 1/	11,576	$1,082 1/
Organizational Maintenance	9,896	682 2/	5,723	394 2/
Subtotal	33,754	$2,911	17,299	1,476
Support Facilities		853 3/		TBD 4/
Renovation of Existing Facility				TBD 4/
Off-site Improvements		1,108 5/		0
Subtotal (Primary, Support, and Off-site)		$4,872		$1,476
Budget Contingency (5 percent)		244		74
Subtotal		$5,116		$1,550
Supervision and Administration (6 percent)		307		93
Estimated Military Construction Cost for the Army Reserve		5,423		$1,643
6 Percent Redesign Cost		0		99
Total Cost		$5,423 6/		$1,742
Estimated Cost Differential			$3,681 7/	

NOTES:

1/ Estimated unit cost per square foot - $93.43.
2/ Estimated unit cost per square foot - $68.88.
3/ Includes earthwork, paving, storm sewer, sidewalks, etc.
4/ TBD - To be determined. Costs for earthwork, paving, storm sewers, sidewalks, and renovation to the existing training building are unknown pending completion of the economic analysis and evaluation of our alternative. We believe support facilities for our alternative will be no more than 50 percent of the $853,000 estimated for new construction.
5/ Includes street improvements and installation of water mains and storm sewers in Sturtevant, Wisconsin.
6/ Programmed amount is $5.5 million.
7/ Actual savings will be determined after completion of the economic analysis.

APPENDIX C: SUMMARY OF POTENTIAL BENEFITS RESULTING FROM AUDIT

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
1.	Economy and Efficiency. Parking for military equipment at the adjacent National Guard facilities will maximize use of existing Federal and State facilities.	Monetary benefit is shown under Recommendation 3.
2.	Economy and Efficiency. Performance of an economic analysis will evaluate alternatives to new construction, consider use of existing facilities, and determine required renovation costs.	Monetary benefit is shown under Recommendation 3.
3.	Economy and Efficiency. Cancellation of the construction project will result in funds put to better use.	As much as $3.7 million in FY 1992 military construction funds not required. The exact amount is subject to offset costs for renovation of existing training building and for support facilities at Racine Reserve Center.

APPENDIX D: ACTIVITIES VISITED OR CONTACTED

Office of the Secretary of Defense

Assistant Secretary of Defense (Reserve Affairs), Washington, DC

Department of the Army

Chief, Army Reserve, Washington, DC
Army Reserve Command, Fort Gillem, GA
Headquarters, 84th Division (Training), U.S. Army Reserve, Milwaukee, WI
U.S. Army Reserve Center, Racine, WI
Wisconsin Army National Guard, Madison, WI
Army National Guard Armory, Racine, WI

Non-Government Activities

Planning and Zoning Commission, Racine, WI
J.I. Case Company, Racine, WI
President of Village of Sturtevant, WI

APPENDIX E: REPORT DISTRIBUTION

Office of the Secretary of Defense

Assistant Secretary of Defense (Force Management and Personnel)
Assistant Secretary of Defense (Production and Logistics)
Assistant Secretary of Defense (Public Affairs)
Assistant Secretary of Defense (Reserve Affairs)
Comptroller of the Department of Defense
Deputy Assistant Secretary of Defense (Installations)
Director, Joint Staff

Department of the Army

Secretary of the Army
Inspector General, Department of the Army
Auditor General, U.S. Army Audit Agency

Department of the Navy

Secretary of the Navy
Assistant Secretary of the Navy (Financial Management)
Auditor General, Naval Audit Service

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Auditor General, Air Force Audit Agency

Other Defense Activities

Defense Base Closure Commission
Defense Logistics Studies Information Exchange
Inspector General, Defense Intelligence Agency
Inspector General, National Security Agency

Non-DoD Federal Organizations

Office of Management and Budget
U.S. General Accounting Office, NSIAD Technical Information Center

Chairman and Ranking Minority Member of the Following Congressional Committees:

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Subcommittee on Military Construction, Committee on Appropriations
Senate Committee on Armed Services
Senate Subcommittee on Manpower and Personnel, Committee on Armed Services
Senate Subcommittee on Readiness, Sustainability, and Support, Committee on Armed Services

APPENDIX E: REPORT DISTRIBUTION (Cont'd)

Chairman and Ranking Minority Member of the Following Congressional Committees: (cont'd)

Senate Committee on Governmental Affairs
Senate Subcommittee on Oversight of Government Management, Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Subcommittee on Military Construction, Committee on Appropriations
House Committee on Armed Services
House Subcommittee on Military Installations and Facilities, Committee on Armed Services
House Subcommittee on Military Personnel and Compensation, Committee on Armed Services
House Subcommittee on Readiness, Committee on Armed Services
House Committee on Government Operations
House Subcommittee on Legislation and National Security, Committee on Government Operations

PART IV - MANAGEMENT COMMENTS

Department of the Army

DEPARTMENT OF THE ARMY COMMENTS

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF, ARMY RESERVE
WASHINGTON, DC 20310-2400

REPLY TO ATTENTION OF

DAAR-EN (140-483) 17 April 1992

MEMORANDUM THRU

DIRECTOR OF THE ARMY STAFF DAVID R. GALLAY, LTC, GS ADAG

~~ASSISTANT SECRETARY OF THE ARMY (MANPOWER AND RESERVE AFFAIRS), SAMR, WASHINGTON, DC 20310-0111~~ P.W. Johnson 1 MAY 1992
Deputy Assistant Secretary of the Army (Installations and Housing)
OASA (I, L&E)

~~DEPARTMENT OF THE ARMY, THE INSPECTOR GENERAL,~~ SAIG-PA, WASHINGTON, DC 20310-1700

FOR DEPARTMENT OF DEFENSE INSPECTOR GENERAL, 400 ARMY NAVY DRIVE, ARLINGTON, VA 22202-2864

SUBJECT: Draft Audit Report on the Construction of the U.S. Army Reserve Center at Sturtevant, Wisconsin (Project No. 1RB-0029.04)

1. After a thorough review of the DOD IG draft audit report on the Sturtevant, Wisconsin, Military Construction, Army Reserve, (MCAR), project to construct a new U.S. Army Reserve center and organizational maintenance shop, we want to provide our thoughts and rationale for the project.

2. This project has been in the MCAR program since the early 1980s. The initial project was developed to build an addition to the Racine, Wisconsin, USAR center and construct additional organizational maintenance shop bays on acreage we were trying to acquire.

3. The project progressed through the design process until we reached the 60 percent design milestone, at which time, a decision was made to cancel the expansion project because we could not acquire the acreage required to support the expansion project at Racine.

4. A project was developed to construct a new U.S. Army center and organizational maintenance shop. Acreage was identified and acquired from the Village of Sturtevant (approximately six miles from Racine). The site acquired is a 10-acre plot of land that will adequately support our total space requirements for assigned units.

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SUBJECT: Draft Audit Report on the Construction of the U.S. Army Reserve Center, Sturtevant, Wisconsin (Project No. 1RB-0029.04)

5. The DOD IG draft report recommends that we expand our Racine, WI center and enter into a joint-use agreement with the Wisconsin Army National Guard whereby we can use the ARNG armory facility (located across the street from the Racine USAR center). This alternative was addressed and not favorably considered by the 84th Division (Training) and Fourth U.S. Army while developing the Sturtevant project. If we expanded the Racine center, we could not provide the required space for our units. The units assigned to this center are authorized 24,817 square feet in the training center and 7,394 square feet in the organizational maintenance shop for a total of 32,211 square feet (IAW AR 140-483). The MCAR project programmed at Sturtevant has 23,858 square feet in the training center and 7,368 square feet in the organiztional maintenance shop for a total 31,226 square feet (985 square feet below authorized by AR). The DOD IG team's comment that we had overstated our personnel requirements is not accurate. We design and construct facilities based on the authorized personnel strength of assigned units. Army criteria determine the space allowances for many functional areas based on the authorized drilling strength of the largest drill weekend. All calculations are carried out using approved methodologies

6. The Village of Sturtevant has acquired the necessary acreage to allow the construction of the storm water retention pond, the drainage and sewer lines that support the total area.

7. Since the DOD IG initiated its audit, we have performed an economic analysis considering different alternatives. Two of the alternatives are to expand the Racine center, and to construct facilities at Sturtevant. The economic analysis favors the construction of new facilities in Sturtevant primarily because the Racine center can not provide the necessary space for the assigned units, and any addition to that 35-year old building will result in costly environmental and energy conservation upgrades.

8. Currently, the units in question perform their training in a severely overcrowded center in Racine. A site visit there on 3 April 1992, by representatives of this agency's Engineer Office, highlighted the fact that there is no dedicated exclusive-use office space for anyone. The two commanders share their office space, and the unit sergeant major and battalion staff officers and personnel support center for the training battalion work out of common use areas with portable room partitions separating their operation. The commanders indicate that this disrupts efficiency and cohesive unit operations. The center has only one

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dedicated classroom; the second classroom is being utilized for unit operations. At the time of our visit, it was being utilized by Company B, 961st Engineer Battalion for Preparation for Overseas Movement of unit members to Panama. Presently, the units use the ARNG classrooms and assembly hall across the road for overflow; however, this option is only acceptable when the ARNG units are not training. The ARNG also indicates that this arrangement is only temporary and its mission must dictate how long this use of the ARNG facility can continue. During the site visit, the Case Company was contacted regarding its plans for the site that borders the USAR property on the West side. Officials of the Case Company indicated that they had no immediate plans to vacate their site and if they do decide to vacate in the future the Racine School District has requested that they have the first opportunity to reclaim the Case Company site (the site was a school previously).

9. The unit members currently park their privately owned vehicles on the Center Street, directly in front of the Racine center. Without additional acreage, we can not provide the necessary parking space needed for security and safety of privately owned vehicles. With the construction of the Sturtevant facilities, the small military equipment park at Racine could be converted to privately owned vehicle parking.

10. The United States Army Reserve Command intends to modify its Command Plan to retain the 1st Battalion, 339th Regiment, 1st Brigade of the 84th Division (Training) and Company B, 961st Engineer Battalion, currently assigned to the Racine center. These units will move into the new center at Sturtevant, Wisconsin. The Army Reserve Command is currently evaluating a possible relocation of a unit to Racine as part of its Milwaukee urban stationing plan.

11. We have fully considered the alternatives to construction of the Sturtevant project. The economic and engineering analyses of the Racine center as well as unit mission requirements all support the construction of the new facility at Sturtevant, Wisconsin.

DAAR-EN (140-483) 17 April 1992
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FOR THE CHIEF, ARMY RESERVE:

for DOUGLAS J. LAMUDE
COL, GS
Executive Officer

FRANK A. EDENS
COL, GS
Chief, Programs & Liaison Office

cf:
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Commander, U.S. Army Reserve Command, AFRC-CG, Fort McPherson, GA 30330-5000
Commander, 84th Division (Training), 4828 W. Silver Spring Drive, Milwaukee, WI 534218-3498

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