DMB-430 (R 3/06)

MINOR STATE CAPITAL OUTLAY PROJECTS

REQUEST FOR PROPOSAL

This form is used for requesting proposals from professional service contractors for minor state capital outlay projects. (Authority: 1984 PA 131)

Professional Services for Armory Modifications

File No. 511/09187.CAK
Index No. 13931

Department of Military and Veterans Affairs
Lapeer Armory
Lapeer, Michigan

PROPOSAL DUE DATE: Thursday, February 26, 2009, 2:00 p.m., Local Time

MULTIPLIERS ABOVE 2.70 WILL NOT BE ALLOWED FOR AWARD OF FUTURE CONTRACTS BY THE DEPARTMENT OF MANAGEMENT AND BUDGET, FACILITIES ADMINISTRATION, DESIGN AND CONSTRUCTION DIVISION FOR THE PROFESSIONAL'S SERVICES OR FOR THE PROFESSIONAL'S CONSULTANT'S SERVICES.

ISSUING OFFICE

U.S. Mail Address

Department of Management & Budget
Facilities Administration
P.O. Box 30026
Lansing, MI 48909

Express Mail Address

Department of Management & Budget
Facilities Administration
530 W. Allegan Street
First Floor, Stevens T. Mason Building
Lansing, MI 48933

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Minor State Capital Outlay Projects
REQUEST FOR PROPOSAL
Part I - Technical Proposal
Part II – Cost Proposal
Professional Services for Armory Modifications

File No. 511/09187.CAK
Index No. 13931

Department of Military and Veterans Affairs
Lapeer Armory
Lapeer, Michigan

SECTION I GENERAL INFORMATION

I-1 Purpose

This Request for Proposal provides the prospective prime professional service contractor, hereafter referred to as the professional, with information to enable preparation of a proposal for Armory modifications at the Lapeer Armory in Lapeer, Michigan. The service to be completed should encompass as a minimum the following phase(s) from the Department of Management and Budget's attached Sample Standard Contract for Professional Services:

Phases	
100	Study
200	Program Analysis
300	Schematic Design
400	Preliminary Design
500	Final Design
600	Construction Administration - Office Services
700	Construction Administration - Field Services

I-2 Project/Program Statement

See attached project/program statement for more detailed information. The design professional, by submitting a Technical (Part I) and Cost (Part II) Proposal to the department for evaluation during the selection process, ascertains that they can and will provide a complete design based on the approved project/program statement. No increase in compensation fee to the design professional will be allowed unless there is a material change made to the scope of work of the project/program statement and the change to the project/program statement is approved, in writing, by Facilities Administration, Design and Construction Division.

I-3 Issuing Office

This Request for Proposal is issued by the Department of Management and Budget, hereafter referred to as the issuing Office. PROPOSALS SHALL BE RETURNED TO THE ISSUING OFFICE. The point of contact for this Request for Proposal is:

Chris Kulhanek, Project Director
Department of Management and Budget
Facilities Administration, Design and Construction Division
P.O. Box 30026
Lansing, MI 48909
Telephone Number: (517) 373-5686

I-4 Contract Award

Professionals are being requested to submit a proposal in two parts. These professionals will be evaluated based on their Technical Proposal - Part I, and Cost Proposal - Part II. Proposals will be evaluated based on the Technical Portion - Part I eighty percent (80%) and the Cost Proposal - Part II twenty percent (20%).

The Department of Management and Budget will offer a contract to the professional firm that has been recommended by the Advisory Committee after their evaluation of the combined Parts I - Technical and Part II - Cost Proposals.

Contract award will be undertaken by the state through the Department of Management and Budget within fifteen (15) days following the due date of the proposal being submitted to the issuing office with the professional firm whose proposal (Parts I and II) the Advisory Committee determines to be in the state's best interest.

Professional firms awarded contracts by Facilities Administration, must be certified by the Michigan Department of Civil Rights for compliance with State of Michigan nondiscrimination requirements. If submittal is made by a Joint Venture, BOTH FIRMS must be certified. **Attach a copy of the Certificate of Awardability to the returned proposal, along with one completed, signed Professional Contractor Demographics, Statistics and Certification form; one completed, signed Certification Regarding Debarment, Suspension, and other Responsibility Matters form.**

Due to recent processing improvements by the Department of Management & Budget (DMB) and the Department of Civil Rights (DCR) concerning Certificates of Awardability, consideration may be given to proposals received while final certification is still pending. In order to qualify for such consideration a professional who does not possess a Certificate of Awardability valid through the proposal due date must do each of the following:

- Notify MDCR in writing, by sending a facsimile (fax) to 313-456-3826 at least 3 business days prior to the proposal due date, that the professional has submitted a proposal contingent upon a pending Certificate of Awardability. Notice shall indicate for the proposal being submitted upon, the scheduled proposal due date, the name and phone number(s) of a contact person able to speak for the professional on the subject of awardability, and the date on which the professional's application for Certificate of Awardability was initially filed.

- Ensure that all information required on the application for Certificate of Awardability was provided to MDCR.

- The professional is responsible for securing all pertinent information from the Department of Civil Rights prior to submitting a proposal. Communications should be directed to:

Michigan Department of Civil Rights
Cadillac Place
3054 W. Grand Boulevard
Suite 3-600
Detroit, MI 48202
Telephone Number: (313) 456-3822 or 456-3700

I-5 Rejection of Proposals

The state reserves the right to reject any or all proposals, in whole or in part, received as a result of this Request for Proposal.

I-6 Incurring Costs

The state is not liable for any cost incurred by the professional prior to acceptance of a proposal and the award and execution of a contract and issuance of the state's contract order.

I-7 Mandatory Preproposal Meeting

A MANDATORY PREPROPOSAL MEETING will be conducted by the Issuing Office for this Request for Proposal at the Lapeer Armory, 2140 W. Genesee Street, Lapeer, Michigan, at 10:00 a.m. on Wednesday, February 18, 2009.

I-8 Economy of Preparation

Proposal should be prepared simply and economically, providing a straightforward, concise description of the professional's ability to meet the requirements of the Request for Proposal. ***Fancy bindings, three-ring binders,***

colored displays, promotional materials, and so forth, are not desired. Emphasis should be on completeness and clarity of content.

I-9 Responsibilities of Prime Professional Service Contractor

The prime professional service contractor will be required to assume responsibility for all professional services offered in their proposal whether or not they possess them within their organization. Further, the state will consider the professional to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the contract. The prime professional shall possess a license to practice in the State of Michigan pursuant to Public Act 299 of 1980, Article 20.

I-10 Proposals

The professional must submit a complete response to this Request for Proposal. Each proposal must be submitted in **four (4) copies** to the issuing office. No other distribution of proposals will be made by the professional. Part I and Part II of the proposal should be submitted at the same time. To be considered, proposals must arrive at the issuing office **on or before 2:00 p.m., local time, on Thursday, February 26, 2009.** Professionals mailing proposals should allow normal delivery time to ensure timely receipt of their proposals. Proposals received after this time will be returned unopened. The **outside envelope** should be clearly marked **"Lapeer Armory Modifications."** Proposal must be signed by an official authorized to bind the professional firm to its provisions. NO FACSIMILES OR E-MAILS OF THE REQUEST FOR PROPOSAL WILL BE ACCEPTED. **NOTE**: Parking is at a premium in the area of the Stevens T. Mason Building. Security measures may affect the delivery time of mail and packages sent via UPS, Fed Ex, and Airborne Express. Those hand-delivering their proposal should be prepared to present a pictured identification to the security guard on duty in the lobby of the Stevens T. Mason Building and allow extra time for their proposal to reach Facilities Administration. It remains the responsibility of the professional firm to submit request for proposals as specified. Please allow ample time to arrive at the office prior to the 2:00 p.m. deadline.

SECTION II PROPOSAL FORMAT - PART I - TECHNICAL

(Proposal must be submitted in the format outlined below):

II-I Business Organization

State the full name and address of the organization and, if applicable, the branch office, consultants or other subordinate elements that will provide or assist in providing the service. Indicate whether you operate as an individual, partnership or corporation; if as a corporation, include the state in which you are incorporated. State whether you are licensed to operate and practice in the State of Michigan.

II-2 Statement of the Problem and Budget

State in concise terms your understanding of the problem and, in summary, your plan for accomplishing the project within the initial construction allocation.

II-3 Management Summary and Work Plan/Schedule

Describe in narrative form your plan for accomplishing the project. Describe clearly and concisely each task required to complete the project. Include a detailed PERT-type display, or similar time sequenced-related but undated schedule, showing each task and phase in your work plan.

II-4 Personnel Staff

The professional must be able to staff a project team that possesses qualifications and all the expertise necessary to undertake the project. Include the full payroll signature names of all personnel by classification that will be employed in the scope of the work. Indicate which of these individuals you consider to be "Key Personnel" to the successful completion of the project. Identify "Key Personnel" by name and position/classification title. Resumes of qualifications for "Key Personnel" must be provided. No substitution of any "Key Personnel/Employee" will be made by the professional without the prior written consent of the department. Before any such substitution, the professional shall submit to the department a detailed written justification for such substitution, supported by the professional qualifications of any proposed replacement.

II-5 Organization Chart

Provide an organization chart outlining authority and communication lines for each "Key Personnel" and personnel staff.

SECTION III PROPOSAL FORMAT - PART II - COST

III-1 Instructions

Part II - Cost Proposal shall carefully interface with all phases/tasks of the work plan identified in the Part I - Technical Proposal. Total cost shall be estimated using direct payroll rates for personnel performing a direct service times a multiplier. The multiplier for direct payroll rates shall not normally exceed 2.5 All multipliers must be accompanied with accounting records prepared by a qualified accountant justifying the multiplier. (See attached guideline page for instructions regarding the "Overhead Items Allowed for Professional Service Contractor's Multiplier Calculation.") COST PROPOSALS WITHOUT THESE CERTIFIED ACCOUNTING RECORDS SHALL RECEIVE A REDUCED SCORE BY THE ADVISORY COMMITTEE.

Consultants providing services must submit a separate multiplier (with proper documentation) for services that they will provide. No mark-up of the consultants billing or direct payroll rates will be allowed.

Contracts will not be issued with a multiplier above 2.70.

The department will reimburse the professional for the actual cost of printing and reproduction of Phase 100 Survey and/or Study Reports, bidding documents/drawings and specifications and U.S. Mail regular shipping postage and handling of bidding documents, soil borings, site surveys and any required laboratory testing. No mark-up of these costs will be allowed.

All other costs, such as indirect labor, phones, miscellaneous reproduction, travel, etc., shall be included in the professional's multiplier.

If the project is further than 100 miles one-way from the professional firms office, Facilities Administration may entertain a proposal to include reimbursable costs for travel mileage to the project site at the State of Michigan's rates if the professional firm can demonstrate a cost savings to the State, if reimbursed for travel mileage in accordance with the current travel rates provided in the State of Michigan's "Schedule of Travel and Meal Reimbursement Rates" versus an adjustment to the professional's multiplier. If such a situation exists, the professional shall include with the proposal an estimated amount reflecting proposed travel costs and a schedule showing proposed frequency of such travel, including detailed itemized backup documentation indicating how this estimate was determined.

The design phase tasks shall cumulatively include any contingent services required for subsequent issuing and processing of bulletins arising from, but not limited to, design errors and/or omissions, code compliance (precipitating either from plan review or on-site/field observations), modification of existing structures or systems necessary to achieve the intent of the project statement.

The design phase services shall include either by cumulative allowance or by specific task, the furnishing of all project data and services necessary to legally implement the project. This includes but may not be limited to, code reviews and/or interpretations, project meetings, presentations, hearings, utility allocations requests, and/or connections, easements, or permits.

Any contract issued by the state pursuant to this proposal anticipates that the professional will provide, but shall not seek compensation for services necessary to respond to and resolve contractor claims arising wholly or in part from the professional's design errors or omissions or other aspects of the design or for any aspect of the professional's performance which is inconsistent with the professional or construction contracts. No task or part thereof may include costs for such efforts.

III-2 Identification of Personnel and Estimated Compensation

III-2-A. Primary Professional/Consultant - Position Classification and Employee Wage Information

Utilizing a format similar to the attached Form III-2-A, identify the architectural and/or engineering discipline service being provided and the primary professional/consultant's technical employee(s) names and position classifications for the project and their current hourly direct payroll rates and hourly billing rates at the beginning of

the project. Also, provide the technical employee(s) anticipated hourly direct payroll rates and hourly billing rates at the end of the project based on the professional's estimated schedule duration. This range of current and anticipated hourly direct payroll and billing rates shall reflect the actual costs currently being paid to all the primary professional/consultant's technical employees professional services within their specified position classification, and shall include any anticipated pay increases over the life of the professional/consultant's estimated contract schedule.

Multiplier

To determine your current billing rate, multiply the employee(s) current direct payroll rate times your firm's calculated multiplier. (See the attached guideline page for instructions regarding the "Overhead Items Allowed For Professional Service Contractor's Multiplier Calculation," and the attached "Sample Standard Contract For Professional Services," Article 2, Compensation Text.) The multiplier for a professional firm for direct payroll rates shall normally not exceed 2.5. Professional service contracts will not be issued to a professional firm with a multiplier above 2.70. ALL multipliers must be accompanied with accounting records prepared by a qualified accountant justifying their multiplier. Consultants providing professional services must submit a separate multiplier (with proper documentation) for services that they will provide. No mark-up of the consultants billing or rates will be allowed. ALL other costs, such as indirect labor, telephones, miscellaneous reproduction, travel, etc., shall be included in the professional's multiplier.

III-2-B. Utilizing a format similar to that shown in III-2-B, identify for each phase/task the estimated hours for each employee and include the direct payroll rate for the employee. Please note that employees of a separate professional firm or consultant, if proposed, should also be included and noted.

III-2-C. Utilizing a format similar to that shown in III-2-C, identify the phase number, firm name, address, description of the professional services to be provided and the total amount of all authorized direct expenses of a reimbursable nature.

III-2-D. Utilizing the format shown in III-2-D, carry forward the previously determined subtotal amounts for each phase and adjust those amounts utilizing a multiplier. The use of a multiplier for direct payroll should include, but not limited to, such items as fringe benefits, vacations, sick leave, insurance, meals, lodging, travel, all computer time, and clerical/secretarial services (not project related), telephone services, reproduction services for other than bid documents, employees not providing a direct service, other indirect costs and profit, etc. Similarly, indicate the multiplier that covers your handling fee for authorized reimbursable work. Repeat the above for each phase and summarize all phases using the format shown in III-2-E. The combination of all phases shall become the professional's maximum not-to-exceed cost for all design services. Compensation for each phase will be in accordance with the attached "Sample Standard Contract for Professional Services," Article 2, Compensation text.

III-2-E. Use for each phase of the project the following sample formats to establish your total compensation. Please note that the hours for each phase/task must be identified under III-2-B and that the phase/tasks must be based and referenced to your Part I - Technical Proposal.

III-2-A.

PROFESSIONAL/CONSULTANT
Position/Classification and Employee Wage Information

Firm Name _____
Discipline Services Provided _____
***Multiplier** 2.5

Position/Classification	Employee(s) Name	Hourly $ Pay Range Direct Payroll From $ - To $	Hourly $ Pay Range Billing Rate $From - To $
Principal/Project Manager**	Robert J. Hafel	37.00 - 40.70	92.50 - 101.75
Senior Architect	Donald E. McReynolds	29.00 - 31.90	72.50 - 79.75
Civil Engineer**	Ruby D. Riley	26.00 - 28.60	65.00 - 71.50
Structural Engineer**	Charles D. Gibson	33.00 - 36.30	82.50 - 90.75
Mechanical Engineer**	William D. Murphy	29.00 - 31.90	72.50 - 79.75
Senior Structural Engineer	Robert L. Hunter	30.00 - 33.00	75.00 - 82.50
Electrical Engineer	Carolyn M. Phillips	19.00 - 20.90	47.50 - 52.25
Draftsperson	As Selected	17.00 - 18.70	42.50 - 46.75
Quality Control/Assurance	William King	25.00 - 27.50	62.50 - 68.75
CADD Operator	Arnold T. Ross	13.00 - 14.30	32.50 - 35.75

The Direct Payroll and Billing Rate pay range shall reflect actual cost currently paid to all employees within their specified position/ classification, and shall include any anticipated pay increases over the life of the contract.

*Multiplier will be in accordance with the attached guideline page for instructions regarding the "Overhead Items Allowed for Professional Service Contractor's Multiplier Calculation," and the attached "Sample Standard Contract for Professional Services," Article 2, Compensation Text.

**Key Project Personnel

III-2-B. Direct Payroll Format

Phase 400 - Preliminary Design

EMPLOYEES NAME	POSITION/ CLASSIFICATION	HOURS FOR TASK ITEMS 401	403	404	410	TOTAL HOURS	DIRECT PAYROLL RATES $	SUBTOTAL AMOUNTS $	MULTI-PLIER	TOTAL AMOUNT $
Robert J. Hafel	Principal/Proj Mgr	12	8	2	8	30	37.00	1,110.00	2.86	3,174.60
Donald McReynolds	Senior Architect	1				1	29.00	29.00	2.86	82.94
Ruby D. Riley	Civil Engineer	1	8			9	26.00	234.00	2.86	669.24
Charles D. Gibson	Structural Engineer			8		8	33.00	264.00	2.87	754.04
William D. Murphy	Mech. Engineer.					0	29.00	0.00	2.86	0.00
Robert L. Hunter	Sr. Struct. Eng.					0	30.00	0.00	2.86	0.00
Carolyn M. Phillips	Electrical Engineer	6	8		8	22	19.00	418.00	2.86	1,195.48
As Selected	Draftsperson					0	17.00	0.00	2.86	0.00
William King	Quality Control					0	25.00	0.00	2.86	0.00
Arnold T. Ross	CAD Operator	2				2	13.00	26.00	2.86	74.36
	SUBTOTAL	22	24	10	16	72		$2,081.00		$5,951.66

III-2C. Authorized Reimbursable Services/Testing and $ Expenses

***Multiplier: 1.0**

Phase 500 - Final Design

NAME OF FIRM	DESCRIPTION OF SERVICES PROVIDED	TOTAL $ AMOUNT
XYZ Productions, Inc. Lansing, Michigan	Printing and reproduction of final design bidding documents, drawings, and Specifications	10,000.00
SUBTOTAL		$ 10,000.00

***MULTIPLIER DOES NOT INCLUDE AND THE STATE WILL PAY FOR (UNDER REIMBURSABLE COSTS):**

1. Printing and reproduction of Phase 100 Survey and/or Study Final Reports.

2. Printing and reproduction of Phase 500 Final Design Bidding Documents/Drawings, and Specifications.

3.* Travel mileage costs for projects in excess of 100 miles in each direction from the professional's office if the professional firm can demonstrate a cost savings to the State, if reimbursed for travel mileage in accordance with the current travel rates provided in the State of Michigan's "Schedule of Travel and Meal Reimbursement Rates" versus an adjustment to the professional's multiplier.

III-2-D. Phase Summary Format

Phase 500 - Final Design

ITEM	SUBTOTAL AMOUNTS	MULTIPLIER	TOTAL $ AMOUNT
Direct Payroll	$14,717.00	2.86	$42,090.62
Reimbursable	$10,000.00	1.00	$10,000.00
SUBTOTAL			$52,090.62

III-2-E. Phase Summary Format - (IF A MULTIPHASE PROJECT)

	PHASE								TOTAL	
	400		500		600		700			
	HOURS	$ COST	HOURS	$ COST	HOURS	$ COST	HOURS	$ COST	HOURS	$ COST
	30	3,174.60	79	8,042.32	50	5,291.00	62	6,560.84	218	23,068.76
	1	82.94	.62	5,142.28	20	1,658.80	8	663.52	91	7,547.54
	9	669.24	38	2,825.60	0	0.00	0	0.00	47	3,494.92
	8	755.04	54	5,096.52	9	188.76	6	566.28	70	6,606.60
	0	0.00	36	2,985.84	20	1,658.80	6	497.64	62	5,142.28
	0	0.00	49	4,204.20	8	686.40	0	0.00	57	4,890.60
	22	1,195.48	105	5.705.70	22	1,195.48	14	760.76	163	8,857.42
	0	0.00	124	6,028.88	0	0.00	0	0.00	124	6,028.88
	0	0.00	8	572.00	0	0.00	0	0.00	8	572.00
	0	0.00	0	0.00	0	0.00	134	10,347.48	134	10,347.48
	2	74.36	40	1,487.20	18	669.24	16	594.88	76	2,825.68
SUBTOTALS	72	5,951.66	592	42,090.62	140	11,348.48	246	19,991.40	1050	79,382.16

ESTIMATED REIMBURSABLE $ EXPENSES $10,000.00

TOTAL FEE $89,382.16

DMB-427 (R 3/06)

PROJECT STATEMENT

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
Facilities Administration
First Floor, Stevens T. Mason Building
P.O. Box 30026
Lansing, Michigan 48909

FILE NUMBER	INDEX NUMBER(S)	COMPTROLLER OBJECT	APPROVAL DATE
511/09187.CAK	13931		February 6, 2009

DEPARTMENT
Military and Veterans Affairs

AGENCY
Lapeer Armory

ADDRESS
Lapeer Armory, 2140 W. Genesee Street Lapeer, MI 48446

AGENCY CONTACT	TELEPHONE NUMBER
Brian Bushnell	517-481-7561

DEPARTMENT OF MANAGEMENT AND BUDGET PROJECT MANAGER	TELEPHONE NUMBER
Chris Kulhanek	517-373-5686

PROJECT DESCRIPTION
The Professional Services Contractor (PSC) will provide Phase 100 Study Services, Phase 200, Program Analysis, Phase 300 Schematic Design Services, Phase 400 Preliminary Design Services, Phase 500 Final Design Services, Phase 600 Construction Administration Office Services and Phase 700 Construction Administration Field Services to bring the armory up to the latest U.S. Department of Defense standards for Guard Facilities. For additional project description, see attached "Scope of Work".

SPECIAL WORKING CONDITIONS
Inside Occupied Military Facilities

DESIRED SCHEDULE OF WORK
Work to commence as soon as contract is issued

LOCATION OF WORK AREAS
Lapeer Armory, 2140 W. Genesee Street Lapeer, MI 48446

REFERENCE STANDARDS: This project will comply with all codes, standards, regulations, and workers' safety rules that are administered by federal agencies (EPA, OSHA, and DOT), state agencies (MIOSHA, DNR, and DCH), and any other local regulations and standards that may apply.

This form is required to be a part of the professional service contract. (Authority: 1984 PA 431)

Attachment(s): Scope of Work, DMVA Project Scope

File No.: 511/09187.CAK Index No.: 13922
Department of Military and Veterans Affairs
A & E Modifications
Lapeer Armory, Lapeer, Michigan

SCOPE OF WORK

The Professional Services Contractor (PSC) will provide Phase 100 Study Services, Phase 200, Program Analysis, Phase 300 Schematic Design Services, Phase 400 Preliminary Design Services, Phase 500 Final Design Services, Phase 600 Construction Administration Office Services and Phase 700 Construction Administration Field Services to bring the armory up to the latest U.S. Department of Defense standards for Guard Facilities. Included in the scope are improvements to the military vehicle compounds, supply rooms, vaults, IDIQ, building controls and lighting, kitchens, storage areas, shower/locker rooms, physical training rooms, family support areas, mail delivery and force protection modifications. The DMVA has developed a project scope that is attached for review. The PSC will need to become familiar with this document along with all standards and regulations that are referenced in it. The project scope will need to be studied to verify the proposed work is feasible and to identify major issues that would impact the program. Funding is limited and the PSC must be prepared to work with DMVA to prioritize which parts of the project, if any, will need to be deleted to stay within the budget throughout the design process.

Project
Armory Modifications-Lapeer Armory

A. General Bid Document Information.
B. Time line
C. Meetings / Site Meetings
D. NGB 415-5 standards (NGR 415-5)
E. Reviews
F. Site investigation Report (NGR 415-5)
G. Type C services
H. Submittal As-Builts Record Drawings
I. Commissioning requirements
J. Attachment "A" - Overview and Specific Requirements
K. Attachment "B" - Track Required / Proposed
L. Attachment "D" – Cad Standards
M. Attachment "G"---Sustainable Design Checklist (LEED)

Enclosures:

I. Small COE Kitchen. Cost data is out of date and should not be used for estimates. The AE should research current cost for pricing this project. Specifications provide the equipment characteristics (size, power requirements, finish, etc.); it is the Owner's intent to utilize these items with out change. If industry standard equipment exceeds those listed then these items can be used if approved by the Owner.
II. Original building plans will be copied and provided
III. Electronic building floor plan
IV. Design Guide, DG415-1, Army National Guard Readiness center Design Guide
V. NG PAM 415-12, Army National Guard Facilities Allowances
VI. MiARNG Reg 190-11 & AR190-11 Physical security

SECTION A
GENERAL PROJECT SCOPE AND BID DOCUMENT INFORMATION

a. This section describes the general requirements of the Lapeer armory modifications located at 2140 W. Genesee, Lapeer, MI. The purpose of the building is to train soldiers during weekends, food preparation for weekend soldiers, classes for civilian and soldiers, storage of unit equipment, minor maintenance of unit equipment and administration during weekdays by full-time soldiers.
Modifications to the armory may include;
Kitchen remodel
Supply room alterations
Physical training/workout space
Personal equipment storage space
Women's shower facilities
Indoor Air Quality improvements (IDIQ)
DDC controls
Force protection and security alterations
Windows
Boiler
Roofing
parking-dark lighting

Funding limit for the armory modifications is $740,000

b. The A-E is responsible for the accuracy and the completeness of a professionally prepared design package.

c. The DMVA-CFMO is responsible to review plans at each stage of submission for completeness, operational efficiency, environmental, safety, occupational health compliance, code compliance and force protection, and A-E errors and omissions.

d. Submittal data should include, when applicable, design analysis, calculations, drawings, specifications, cost estimate and other appropriate supporting data during the concept, preliminary, pre-final and final phases of the project process. A complete submittal package must be received before the review process begins.

e. All parties need to focus their attention to the <u>conceptual planning and design phase</u>, where the ability to influence the ultimate functionality, user satisfaction, and cost of the final product is the greatest. A&E will meet on site with, DMVA-CFMO, DMB, and on-site users to perform a design Charette (scoping/planning). By the end of the preliminary design phase you must have fully defined the project's scope, criteria, and cost estimates.

f. Document submissions and contract specifications shall address energy conservation.

(1) Design and construction standards for the Building Envelope (heating, ventilation, and air conditioning; lighting; and service water heating) are contained in ASHRAE Standard 90.1-1999. The guidelines of this standard or similar State code shall be followed and minimum requirements met unless there is a reasoned and intentioned need to not meet the standard. More specific standards shall be applied as appropriate to improve energy efficiency where they are deemed cost-effective.
(2) Additional efficiency standards and more specific guides exist for other and more specific building components. These include the Environmental Protection Agency (EPA) Energy Star Program for buildings and selected equipment, the Energy Policy Act of 1992 for electric motors, the National Renewable Energy Laboratory for solar and renewable energy sources, and the EPA Green Lights Program for lighting efficiency goals.
(3) In addition, States are encouraged to develop State specifications and standards to address such items as fluorescent lamp ballast standards (manufacturer, power factor, total harmonic distortion [THD]), power consumption), motors (efficiency ratings for various horsepower, power factor), thermostats (model and features). The intent is to develop statewide maintenance and vendor contracts that support a specific manufacturer line and consistent model time for repair and replacement standardization.

g. The requirement of the A&E is to develop 100% plans and specifications within the guidelines of this document, guidance from review comments, industry standards, and State, Federal and military codes, regulations and design guides.

h. A&E will design up to 2% over the Construction Budget amount and in such a manner as to ensure maximizing the use of the Construction Budget by utilizing alternates.

i. One primary and one alternate point of contact will be identified prior to signing the contract for the Design and Construction Phases. Either the primary, or alternate will be the AE project manager for the design contract initiation through design contract completion, and will be the AE project manager for the construction contract initiation through the construction contract completion.

j. All drawings and the cover page of bound documents shall have items 1–5 below. All correspondence shall have items 1–3.

1. **Project name**
2. **DMVA project number**
3. **Submittal date**
4. **State of Michigan Seal**
5. **Submittal phase (identify by percent or as interim)**
6. **Drawing sheets for submissions is included in CAD package**

The DMVA will furnish the standard electronic drawing sheet to be used on this project

k. The specifications will be in the CSI format 1000 through 16000, plus 17000 commissioning.

l. The AE must pay special attention to the following areas:

1. Ventilation for Acceptable Indoor Quality ANSI/ASHRE 62-2001
2. Energy Standard for Building Except Low-Rise Residential Buildings ANSI/ASHRAE 90.1-2001
3. ASHRAE A-46.25, Table 34 (use Gymnasium for Drill Halls and Work Bays)
4. Utilizing energy efficient equipment with an approximate payback of 15 years (examples are T8 lights, occupancy sensors, and heat exchangers in individual areas).
5. Unified Facility Criteria (UFC) 4-010-01
6. DG 415-5 Appendices 1-8
7. ARNG Life Cycle Analysis (LCCA) Summary

m. Definitions for this document

Construction Budget = (amount shown above)
Owner = Department of Military and Veterans Affairs / USPFO
Contractor = The party responsible for implementing the design documents and coordinating all construction trades. .
CFMO- Construction and facilities Maintenance Office-DMVA engineering

SECTION B
TIME LINE

The intent is to execute the construction contract in Fiscal Year 09 (i.e. execution prior to 15 July 2009). The following design submittals will be required Concept (`10%), Preliminary (35%), Pre Final (60%), Final (95%) and Revised Final (100%).

SECTION C
MEETINGS/SITE VISITS

A. Design Meetings:

a. Two days prior to regularly scheduled meetings the AE will furnish the Owner with an agenda. As a minimum, the agenda will address the following:
   Purpose; design versus project schedule; items causing delays; actions to correct schedule delays; current work; work to be completed in the next four weeks; outstanding issues, responsible person, action & date; new items, responsible person, action & date; review status and corrective actions; other significant events; A/E Change Order/Bulletin status; time & place of the next scheduled meeting; and time & place of special meeting (s).

b. AE will meet with the end users as required in order to understand their purpose and facility intent. In addition the AE will develop the equipment and furniture layouts. The intent for the layouts are to design the facility to accept government-furnished equipment and furnishings. It is not the intent for the AE to fully develop equipment and furniture bid document (example of design effort – treadmill requires single phase, 120v, xy connection, and occupy 2'X3' space).

c. AE will schedule meetings with the Owner to develop the bid documents' final intent and intermediate milestones for each phase. It should be the AE's understanding that each phase will be the foundation for follow-on submittals.

d. The AE shall meet with the Owner when the intent, milestones and/or progress are not being accomplished at no additional charge to the Owner and not counting towards AE contractually programmed meeting hours.

e. The AE shall have the appropriate design disciplines at meetings to ensure the AE Design Team has a full understanding of guidance and intent, and the Owner understands the AE's design process and concept.

f. AE will take notes and furnish copies to the Owner **within 3 days** after the meeting.

B. Construction Meetings/Site Visits:

a. The AE shall furnish a meeting agenda to the Owner and Contractor 2 days prior to the meeting. If there are new items that need to be addressed, then the AE will furnish to the meeting participants a new meeting agenda at the beginning of the meeting.

b. At a minimum, the meeting agenda shall address the following items:
   Safety issues; work versus project schedule; items causing delays, including administrative, technical (plans and specification), construction work force, weather and Owner; actions to correct schedule delays; detailed listing of current work; detailed listing of work to be completed in the next two weeks; Submittal Log review; RFI Log review; major commissioning requirements; outstanding issues, responsible person, action & date; new items, responsible person, action & date; other significant events; Change Order/Bulletin Log review; time & place of the next scheduled meeting; time & place of the special meeting (s); as-built review; site review notes. A pay request will be reviewed once a month at the end of the meeting.

c. AE shall maintain and provide a Submittal Log to the Owner and General Contractor 2 days prior to the meeting. The Submittal Log shall show the date of submittal, date of approval/approval with exception/disapproval, date returned to Contractor, date of re-submittal and date re-submittal was returned. Submittals that impact the Contractor's critical path will be noted. Turn-around time for submittals will be established prior to award of the construction contract.

d. AE shall maintain and provide an RFI Log to the Owner and General Contractor 2 days prior to the meeting that shall show the RFI submittal date, date response furnished or date a response will be furnished. RFI's that impact the Contractor's critical path will be noted.

e. AE shall maintain and provide a Change Order/Bulletin Log to the Owner and General Contractor 2 days prior to the meeting. It shall show the general description, amount and date the Contractor quoted, approved/disapproved and who/what/when actions are required.

f. AE will take notes and furnish copies to the Owner and General Contractor **within 3 days** after the meeting.

g. AE furnish and keep onsite at all times a bound diary to be handwritten in ink by the AE. The following items will be documented during all site visits: time, date, weather, identify names and position of persons talked with, decisions reached with the background information, significant events, trades onsite, construction occurring, items impacting work progression, verbal RFI's and safety issues.

h. AE should anticipate special meetings to resolve onsite problems, complex construction task, and multiple trade construction tasks that may cause difficulties in the execution of the construction process.

i. Special meetings to resolve conflicts that are bid document created will be at no additional charge to the Owner and will not count towards AE programmed meeting hours.

SECTION D

NGB 415-5 STANDARDS

As indicated below the submittals will include the following items where indicated: TABS A, B, C; Drawings; Specifications; and an Estimate. **Each submittal** will furnish the required number of hardcopy documents **and** an electronic copy. The electronic copy will be in the same format as the As-Built Record Drawings.
At no additional cost to the Owner and at the appropriate design time, the AE will prepare documents for and meet with State of Michigan Consumer and Industry Services, Bureau of Construction Codes as required for code compliance review. The AE shall prepare responses to code compliance comments and correct Bid Documents as required.

TAB A:

This tab provides a description of the proposed building alterations. It contains a general overview of the work to be performed at the facility and detailed description of each room in the facility. Required paragraphs follow:

a. **Project Title** – Armory Modifications, Lapeer Armory.
b. **Scope** –see above for overview, total scope by design Charette
c. **Maximum Construction Cost** ($740,000).
d. **Floor plans. Attach two distinct designs that are a simple, single line, floor plans with room numbers, room titles, and approximate room areas. Paper size will be a minimum of 24 inches x 36 inches. The spatial relationship between functions is the most important aspect of this floor plan, and it should reflect the input of all facility users.** If known include on the same plan or on an additional plan a layout of furniture, equipment, and utilities. These items serve to further highlight the special requirement of various room functions (this section can reference the bid documents).
e. **Number of Occupants**-4 daily, 122 weekends.
f. **Hours of Operation** – 7:45 a.m.-4:30 p.m. M-F.
g. **Room** number, title, functions, and special requirements. This paragraph and all subsequent paragraphs are used describe each room in the facility. For example, paragraph (8) describes room 100; paragraph (9) describes room 101. List room number and title, ensuring that number and title are coordinated with the number and title on the definitive floor plan. Room titles will reflect room function. Provide a brief functional description of each room. Subparagraphs (1) through (8) for each room are used to list special room requirements as follows:
   (1) **Architectural:** Special ceiling and floor heights; fenestration; door sizes; wall and roof treatments; and security requirements.
   (2) **Structural:** Special floor loadings; wall thickness; vaults (include class); hoist; and lifts.
   (3) **Mechanical:** List requirements for heating, ventilating, air conditioning, design temperature and humidity; compressed air; lavatories, urinals, sinks; showers, water closets; hoods/fans; eye wash/showers; floor drains; oil interceptors, neutralizers, process tanks, dust collectors, hazardous wastes.
   (4) **Electrical:** Special receptacles or power sources, Special lighting; grounding; lighting protection; security alarms,
   (5) **Communications:** Voice, Data, image communication, intercom, etc.
   (6) **Fire Protection:** Fire alarm systems; manual and/or automatic detection; suppression; automatic closing doors; and fire safety plan.
   (7) **Government furnished / Contractor installed and Government furnished /Government installed:** Provide size, weight and utility requirements.
   (8) **Refer to Section K, Appendix A for specific project requirements.**
   (9) **Special Requirements:** Exceptions to criteria and data processing equipment.
   (10) sound attenuation, etc.

TAB C:

Tab C lists calculations, assumptions and Life Safety Code Analysis.

a. Design data calculations and design bases for this submittal shall have the following disciplines included: architectural, structural, plumbing, fire protection, mechanical, electrical, and energy conservation (passive and active). This data should be in a clear, readily understandable manner and in sufficient detail to assure a uniform interpretation of the project scope. Reference to applicable codes and/or supplemental information should be provided to support project intentions.
b. Assumptions for this submittal shall have the following disciplines: civil, architectural, structural, plumbing, fire protection, mechanical electrical, and energy conservation (passive and active). This data should be in a clear,

readily understandable manner and in sufficient detail to assure a uniform interpretation of the project scope. Reference to applicable codes and/or supplemental information should be provided to support project intentions.

c. Life Safety Code Analysis.

TAB D:

Tab D lists the design criteria used by the A-E to develop the project

a. Design criteria used for developing the project.
   Design Charette
b. Owner furnished guides
   1. NG-Pam 415-12 – Army National Guard Facilities Allowances
   2. DG 415-1-Army National Guard Readiness Center Design Guide
   3. Ar 190-11 and MI-Arng 190-11-Physical Security of arms, ammunition and explosives
   4. Asbestos/lead survey of facility

ESTIMATE:

An estimate of construction cost is to be prepared on the basis of the proposed design of the project. The A-E's cost estimate shall be itemized by specification section/division. The costs of various building features and outside supporting facilities are to be listed separately for verification of the accuracy of the programming cost estimate and design control cost of the total project (the estimate should be by discipline). If the preliminary cost estimate exceeds the design control cost by ore than 5 percent, the items contribution to the additional costs or the reasons for the increase are to be identified for special review and resolution of any potential funding problem. All items in the project that exceed the general construction standards authorized for Federal support, as outlined in NGR 415-10, will be identified and listed as bid alternates to supported with other than Federal funds. The AE shall present proposals to the Owner to reduce the budget while staying within the project requirements. The AE will design to 2% over the Construction Budget and the designed items will be such that they can be bid as alternates.

CONCEPT DOCUMENTS (10%) This will consist of TABs A, C & D and Estimate

a. This phase is critical, because all parties need to agree on the requirements of criteria and the technical application of designs with respect to energy efficiency, sustainability, and force protection. Even when a submittal to NGB is not required, the State should spend considerable time with its A-E and the facility users to ensure that the outcome will be a functional, quality project within the approved scope of the programming documents.
b. A design and concept meeting (design Charette) will be conducted by the A&E at this stage to determine total project scope
c. No artwork or special graphics are required to enhance the appearance of the submittal. The accuracy, completeness, and quality of the information are more important than the appearance.
d. The concept design documents should be brief and schematic in nature with enough data to describe the project covering each engineering discipline in a narrative form on 8 ½"x 11" paper. The spaces represented should refer to NGB criteria and design guides for those spaces. The minimum submitted data should be the design narrative, design references, site location, utilities, environmental data (including the environmental baseline study), geotechnical properties, 2 architectural floor plan(s), and structural, mechanical, fire protection, and electrical requirements. The concept design submittal must be supported with a cost estimate.

PRELIMINARY DOCUMENTS (35%)

This will consist of Preliminary Documents that will have Bid Documents (plans and specifications), Estimate, TAB C & D and color charts for finishes. This submittal shall include documents that communicate in narrative and drawing format responses to previous review comments.

DMVA approval and guidance should be obtained prior to incurring any expenses for the preparation of Preliminary Documents (35%).

BID DOCUMENTS

Includes plans and specifications. .

a. The purpose of this submission is to ensure that the A&E is developing the project within DMVA criteria and the project approved scope and budget. These documents should expand and amplify the concept submittal and incorporate guidance from DMVA and regulations. The intent for these documents is they will be the foundation to

build, expand and amplify follow-on submittals. Follow-on submittals will rely on direction and assumptions of this submittal, and lead to 100% Design Documents, which meets DMVA's intent and are clear, concise and coordinated. Beyond the minimum requirements, the AE shall use his professional judgment in determining document needs to ensure intent, clarity, conciseness and coordination. Review of the Preliminaries by the Owner will be made in conjunction with the information provided by the Site Survey Report Data submitted in conformance with NGB 415-5, which must be received prior to, or simultaneously with the submission of the project's Preliminary submittal

c. At minimum the submission shall contain:

(1) Plans

(2) Specifications

(3) Supporting design data by each architectural/engineering discipline.

a. Plan Sheets: These should be submitted with sufficient data that adequately depict the basic design features being proposed for the project.

(1) **Cover** – At a minimum the following items will be included on this sheet: project name; standard abbreviations & symbols and architectural materials legends; vicinity and location maps; submittal phase and date; and sheet index. The sheet index shall list all sheets to be in the 100% design. The sheet index will have sheets submitted for this submittal in bold text and sheets for future submittals will be in normal text.

(2) **Civil / Site – (if Civil work part of scope)**At a minimum the following items will be included:

- (i) Standard Civil abbreviations and symbols legend
- (ii) *One sheet*: Existing utilities with sizes, *pressures,* rim elevations, invert elevations and volumes; existing walks, roads, parking areas, and fencing; vegetation within the limits of construction grouped by size and/or type; existing contours; property boundaries; streets; general area surrounding the site to include streams, rivers, lakes, wetlands, flood plains, adjacent property buildings or environmentally sensitive areas; location and finish floor elevation of proposed building using phantom lines; and existing buildings within the limits of construction.
- (iii) *Another sheet*: Existing and proposed utilities with sizes, pressures, rim elevations, invert elevations and volumes; location and finish floor elevation of proposed building; and walks, roads, parking areas, and fencing existing not being demolished
- (iv) *Another sheet:* Existing and proposed contours; limits of construction; environmentally sensitive areas; location and finish floor elevation of proposed building; and walks, roads, parking areas, and fencing existing not being demolished and proposed.
- (v) *Another sheet*: Items to be demolished or removed with the proposed building and supporting facilities overlaid on to the site.
- (vi) Elevations of finished floors.
- (vii) Area reserved for construction, expansion of facilities and supporting structures
- (viii) Schedule showing designed quantities of grading and seeding, paving and fencing, extension of utilities, roads and sidewalks compared to quantities authorized for Federal support.
- (ix) Location of wash racks, fuel storage and pollution control devices.
- (x) Location of historical or archeological sites.
- (xi) Utility company coordination: show contact names, telephone numbers, and mailing addresses of utilities that are impacted on this project. Determine if required utility services are available to satisfy design requirements.

(3) Plans to Include the following at a minimum:

- (i) A drawing including overall dimensions, room dimensions and functional use of each room. . Include individual room names, room numbers, programmed and proposed square footages. In multiple-unit armories, the units' assigned should further identify storage and administrative space.
- (ii) Fenestration (i.e., windows, skylights, clerestories, and other glazed apertures in the facility).
- (ii) Building gross area.
- (iii) Room finish schedule. The plans shall show substitutes for finishes authorized in the appropriate design guide as alternates.

(iv) Design data and calculation used for the determination of the overall heat transmission coefficient (U) for the exterior wall and roof construction proposed for the facility. If wall construction type varies, then calculation of individual U values will be required.

(v) Structural shall design all supports for roof penetrations and mechanical equipment.

(4) Evaluations to show the following:

(i) Elevations to show architectural relationships from at least two points of view and typical wall sections as follows:

(a) Mass relationship wall heights, architectural design treatment, and use of material from at least two points of view that provide the most information on the proposed design.

(c) Typical wall section to show foundations, floor systems, wall construction, window and eaves treatment, ceiling system structural support, and roofing system (including height of clearances form floor to ceiling and or roof structure and any difference in height of floor levels).

(d) Spot elevations at wall sections showing finish floor elevations and outside elevations.

(e) Intersections of any of the following: mechanical, electrical, architectural, civil, or structural.

(f) Roof system, roof structural members penetrations.

(ii) **Security equipment**: Alarms, sensors, vault standby power, etc.

(iii) Structural: Special floor loading, vaults, hoist, lifts, wall thickness

(iv) Plumbing: Lavatories, urinal, showers, water closets, eye wash/showers, floor drains, oil interceptors, neutralizers, etc.

(v) Fire Protection: Fire alarms, manual/automatic indicators, automatic door closing, etc,

(vi)Special features

(5) Building utility plans that include room numbers and functional use to show by single line schematic diagram:

(a) Heating and ventilation systems with type of energy source, the number, location, and estimate capacity of heating equipment, and the indoor/outdoor design temperature to be used. A single line drawing and initial schedule showing location and types and required power.

(b) A control schedule listing points that will be monitored will be furnished.

(c) Air conditioning or evaporative cooling systems, if authorized, and the indoor/outdoor design temperatures to be used. A single line drawing and initial schedule showing location and types and required.

(d) Electrical illumination systems showing the number and types (schedule) of lighting fixtures proposed, the required lighting intensity, and a reflective ceiling plan showing their positions. Include the lighting intensity in foot-candles for each area and the locations of electrical, data, telephone and intercom outlets and fixtures.

(e) Plumbing (sewer, storm, water) fixture schedule and location to be used on the plans. A single line drawing and initial schedule showing location and types.

(6) Building utility plans, which include room numbers and functional use to show by single-line schematic diagram:

(a) Heating and ventilating systems with type of energy source; the number, location, and estimated capacity of heating equipment.

(b) Air-conditioning or evaporative cooling systems, if authorized; the number, location, and estimated capacity of cooling equipment.

(c) Electrical illumination systems, showing the number and type (schedule) of lighting fixtures proposed, and the locations of electrical and telephone/data port outlets.

(d) Special features.

b. Specifications: These should be submitted with sufficient data to adequately depict the basic design and standard for features being proposed for the project.

(1) A specification brief is to be prepared outlining the technical sections that are to be included in the Final specifications. Each section should include a brief description of each system or piece of equipment to be used. Any substitutions of items or finishes authorized of items for Federal support will be listed as proposed alternates in the brief. The use of proprietary equipment or materials that would limit the number of bidders or require payment for permits, royalties, etc., are generally not authorized Federal funding support. Any Proposed use item must be specifically identified in the preliminary specifications with reasons and justifications presented in sufficient detail to support the items unique project requirements.

(2) Submittals that are requested within the specification shall be made available by the AE to the Owner upon request throughout the design stages at no additional charge.

b. **TAB C Supporting design data.** The AE shall submit this data for the following disciplines in a clear, readily understandable manner, sufficiently detailed to ensure that all reviewing DMVA staff interpret the project scope as the State intended and the A-E executed.

(1) Civil
- (a) Site description, narrative, and analysis, to include geo-technical properties, building layout, and other infrastructure (e.g., roads, access ways, and fences).
- (b) Design references, including codes, design guides, and publications.
- (c) Site utility systems, including water, sewer, electrical power and telecommunications.
- (d) Site survey report.

(2) Architectural
- (a) Architectural design narrative.
- (b) Building space layout and functional analysis.
- (c) Architectural space calculations.
- (d) Life safety code analysis.
- (e) Anti-terrorism/force protection risk and threat analysis.

(3) Structural
- (a) Structural design narrative.
- (b) Design references, to include codes and publications.
- (c) Preliminary load analysis and calculations.

(4) Mechanical
- (a) Mechanical design analysis and narrative.
- (b) Design references, to include codes, design guides and publications.
- (c) Design data and calculations used for the determination of the overall heat transmission coefficients ("U") for the type of exterior wall and roof construction proposed for the facility. (However, this may be included in the architectural division.)
- (d) Cooling/heating load calculations.
- (e) Heating, ventilation, and air-conditioning system load calculations and a simple, abbreviated life cycle cost analysis (LCCA).
- (f) Building ventilation/exhaust requirements, to include indoor air quality calculations.
- (g) Fixture units for plumbing systems (hot and cold water and sewer).
- (h) Fuel load.
- (i) Roof drainage calculations.
- (j) Preliminary site pressure data.
- (k) Fire water demand.
- (l) Equipment manufacturers' data.

(5) Electrical
- (a) Electrical system design analysis and narrative.
- (b) Design references, to include codes, design guides and publications.
- (c) Building lightning protection risk analysis.
- (d) Preliminary load calculations/code analysis.
- (e) Emergency power generator sizing.
- (f) Building illumination calculations.
- (g) Building preparation conduits and cable trays.
- (h) Coordination with State Director of Information Management (DOIM).
- (i) Equipment manufacturers' data.
- (j) Voltage level/phase count availability statement from the electrical utility and proximity to site

h. Prior to or simultaneously with the Preliminary Design submission, the AE shall provide Site Survey Report. The report is required for all projects that will have additions to the building or have other outdoor work accomplished. This report shall be for the actual location of the project, not for adjacent or similar locations, and include laboratory results that classify, grade, characterize, and determine the strength of the surface land subsoils for supporting building and pavement construction.

(1) The DMVA uses this report to review the suitability of the site for Federal funding support.
(2) The report shall describe the existing conditions and discuss the site investigation. It shall pay special attention given to any features of the site that may either affect its suitability for construction or have a significant impact on project costs.
(3) The report shall include laboratory results that classify, grade, characterize, and determine the strength of the surface land subsoils for supporting building and pavement construction. The soils engineer preparing the site survey report shall sign a Declaration of Soil Bearing Capacity
(4) At minimum the report shall contain:
(a) A description of existing ground surface conditions. It shall address how much and what in the site are wooded, clearings, streams, marshes, rock ledges or outcroppings, and the approximate percent of ground slope.
(b) A layout plan of a sufficient number of soil borings to adequately determine the general subsoil conditions existing at the site in the areas of proposed construction. The plans should indicate the location of the borings in reference to the site boundaries and the ground surface elevation at the borings together with a log of the soil type and ground water levels encountered.
(c) Laboratory test results as necessary, to determine classification, grading, characteristics, and strength of the surface and subsoils as regards support for building and pavement construction.
(d) A Declaration of Soil Bearing Capacity.
(e) A discussion and summary of the site investigation with special attention given to any features of the site that may either affect its suitability for construction or have a significant impact on project costs.

PRE-FINAL DOCUMENTS (60%)

This will consist of Preliminary Documents that will have Bid Documents (plans and specifications), Estimate, TAB C & D and two identical color charts including exterior and interior colors (a colored exterior building profile will be included). This submittal shall include documents that communicate in a narrative or drawing format responses to Preliminary review comments.

DMVA approval of the Preliminary Documents (35%) and guidance should be obtained prior to incurring any expenses for the preparation of Pre-Final Documents (60%).

These documents should expand and amplify the Preliminary submittal and incorporate guidance from DMVA. The documents intent is to be the foundation to build, expand and amplify follow-on submittals, which rely on direction and assumptions of this submittal, and lead to Revised Final Documents (100%) that meet DMVA's intent and are clear, concise and coordinated. The AE shall use his professional judgment to determining document needs for ensuring the intent, clarity, conciseness and coordination. All sheets listed on the Preliminary Drawing Index sheet and Specification sheet shall be part of these documents and expanded upon.

FINAL DOCUMENTS (95%)

This will consist of Final Documents that will have Bid Documents (plans and specifications), Estimate, TAB C & D, Bidding & General Specifications, and 2 color charts for the exterior and interior. This submittal shall include documents that communicate in a narrative or drawing format responses to Pre-Final review comments.

DMVA's approval and guidance of Pre-Final Documents (60%) should be obtained prior to incurring any expenses for the preparation of Final Documents (95%).

The purpose of this submission is to ensure that the State developed the project within DMVA criteria and the project approved scope and budget. They shall explicitly describe the quantity and quality of work to be performed by the construction contractor the will result in a complete and usable facility suited for the purpose intended without recourse to subsequent contract modifications or changes. The Final Project Design should be in conformance with comments provided by DMVA on the review of Pre-final (60%) and the construction standards authorized Federal support, as outlined in NGB 415-1. The Final Documents are to be submitted for review when the design and contracting

documents are substantially complete. These can be incorporated into the design at a later date in conjunction with adjustments normally required to conform to NGB criteria and standards. Final Bid Documents must be stamped by an AE licensed to practice within the State.

a. At minimum the A&E's submission shall contain:
   (1) Plans
   (2) Bidding documents (to include general specifications)
   (3) Technical specifications
   (4) The A-E's cost estimate itemized by specification section/division, further broken into labor and materials whenever possible.
   (5) Supporting design data by each architectural/engineering discipline.
   (6) CFMO code compliance certificates (if required for State/local code documentation). See Appendix K for a sample.

Final Drawings

Final Bid Documents will include the necessary plans, elevations, sections, schedules and notes prepared in sufficient detail to assure:

a. Complete construction of all elements of the project building and exterior supporting facilities.
b. Coordination between drawings and specifications to eliminate omissions, conflicts, or ambiguities.
c. Coordination of between drawings to eliminate omissions, conflict and ambiguities.
d. Completion of all details referenced in specifications.
e. Completion of all details referenced in specifications.
f. Clear and uniform interpretation of project scope and complexity by all qualified bidders.
g. Conformance to DMVA comments on Preliminary Plans.
h. Complete delineation of any alternate bid items, and substitutes designated as "Contractor Options".
i. The submission shall be separated into titled sections by architectural/engineering discipline.
j. Complete construction of all elements of the project buildings and exterior supporting facilities.

Final Technical Specifications

For convenience of reference, the technical specifications are to be separated into titled sections by trade of specialty and in conjunction with the plans, must include a complete identification of materials and equipment to be used and description of the methods of construction, installation, or application, as appropriate, for each type of work. Final Specifications must incorporate a clear and accurate description of the technical requirements of the material or product required in the completed project. Such product descriptions will not, in competitive bidding, contain features, which unduly restrict competition. The description may include a statement of the qualitative nature of the material or project specified or when necessary, may set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. When it is impractical or uneconomical to develop a clear and accurate description of the technical requirements, a 'branch name or equal' description may be used as a means to define the performance of other salient requirements of specified item. In addition, a single manufacturer can be defined as a "Quality Conditions" providing a statement is added that other manufacturers with a similar degree of quality will be acceptable. In all cased when a brand name is specified, the specific features of the named branch must be met by the contractor must be clearly stated in the completed specifications.

Final Cost Estimate

The AE shall submit a final cost estimate, broken down by specification section

Final Bidding and General Specifications

a. These consist of instructions to bidders, conditions of the contract, contract forms, the bid form, special requirements, and similar type items. These are boilerplate items to be prepared in accordance with State or Federal contracting procedures (as appropriate).
b. The front end spec sections will be "michspec", and will be furnished to the A&E. Michspec requires installation of bid dates, walk-thru dates, bid alternates, additive and deductive bid allowances and etc. all items will be filled in by A&E
c. All items that are believed to be in excess of the available funding will be bid as a deductive alternate to the contract.

TAB D Supporting Design Data

Supporting Design Data. The A&E shall submit this data for the following disciplines in a clear, readily understandable manner, sufficiently detailed to ensure that all reviewing CFMO staff interpret the project scope as the State intended and the A-E executed.

a. Civil
   (1) An updated site description & narrative
   (2) Design references, including codes, design guides, and publications.
   (3) Description and analysis of site utilities systems and connections: water, storm, sewer, drainage, fire protection, electricity, natural gas, and telecommunications. Certify that utility size and types are available fro required utility connections.
   (4) Storm water pollution prevention plans.
   (5) Paving design sheets, calculations, and test data.
   (6) Soil Erosion and Sediment control Calculations

b. Architectural
   (1) An updated architectural design narrative.
   (2) Building design analysis.
   (3) Architectural space calculations.
   (4) Anti-terrorism/force protection risk and threat analysis.
   (5) Life safety code analysis.

c. Structural
   (1) An updated structural design narrative.
   (2) Structural load analysis.
   (3) Structural load calculation.

d. Mechanical
   (1) An updated mechanical systems design narrative.
   (2) Heating, ventilating, and air-conditioning equipment selection data.
   (3) Heating, ventilating, and air-conditioning system ductwork calculations.
   (4) Heating, ventilating, and air-conditioning system piping and hydronic calculations.
   (5) Fire protection system hydraulic calculations.
   (6) Plumbing system fu/flow rate calculations.
   (7) Plumbing system hot water system calculations.
   (8) Fuel gas systems piping sizing calculations.

   (9) Compressed air/vacuum system calculations.

e. Electrical
   (1) An electrical systems design narrative.
   (2) Facility power system load analysis.
   (3) Site lighting calculations/selection.
   (4) Building lightning/surge protection analysis.
   (5) Building emergency power system generator size calculation.
   (6) Building illumination (foot-candle) calculations.

REVISED FINAL DOCUMENTS (100%)

This will consist of Preliminary Documents that will have Bid Documents (plans and specifications), Estimate and TAB C. This submittal shall include documents that communicate in a narrative or drawing format responses to Final review comments.

DMVA's approval and guidance of Final Documents (90%) should be obtained prior to incurring any expenses for the preparation of Final Documents (100%).

a. The Revised Final Documents (100%) should be documents with the incorporation of NGB, DMVA and Code Review comments into the Final Document (95%), so the need for addenda to be issued during the bidding period is minimized. If items have been designated as being in excess of authorized still remain in the project, but have not been listed or adequately identified for separate bidding, NGB will calculate a reasonable cost for the item (after bids have been opened if necessary) to determine the amount of reduction and the final cost supported by Federal funding.
b. The AE shall assist the Owner in the bidding process by responding to verbal and written Contractor and Owner questions and coordinating and issuing addenda as required to execute the Construction contract. There will be no

additional cost associated for time issuing addenda or answering questions because of incomplete bid documents, poor coordination, poor document clarity or missing requirements. In addition, the AE should anticipate some design effort; feedback to the Owner and issuance of addenda to ensure the Owner gets maximum use of construction funds. As required the AE shall assist the Owner to evaluate bids and for completeness, accuracy and cost.

c. Revised Final Bid Documents must be stamped by an AE licensed to practice within the State and be submitted to the Department of Labor and Economic Growth (DLEG) for plan review. All comments from DLEG to be commented on, and addressed on the drawings by the A&E.

SECTION E
REVIEWS
Document review procedures.

a. Owner Review:
   i. The Owner will review the following submittals: 10%, 35%, 60%, 95% and 100%.
   ii. The reviews will take 5 working days.
   iii. Owner comments will be combination of narrative and marked-up drawings. **Marked-up drawings will be returned to the Owner with the next submittal, signed and dated by the Contractor**. The each comment on the drawings must indicate that it has been addressed and a narrative must be generated for the comments.
b. Exact Document submittal times will be negotiated in conjunction with Section B, Timelines.

SECTION F
SITE INVESTIGATION REPORTS

In conjunction with the Concept and Preliminary design efforts the AE shall ensure a Survey and Soil Investigation are completed. **Preliminary Review will not occur without the Site Investigation Reports being submitted.**

The following items will be included in the reports:

a. A site survey with topography, utilities and any other structurers.
b. Descripton of existing ground surface conditions –vegetation,approximate ground slope, surface material.
c. Layout plan of a sufficient number of soil borings to adequately detemine the general subsoil conditions existing at the site in the areas of proposed improvements. The plans should indicate the location of the borings reference to the site boundaries and the ground surface elevation at the borings together with a log of the soil types and characteristics and encountered ground water levels.
d. Labortory test results as necessary, to detemine classification, grading characteristics, CBR and strength of the surface land subsoils as regards to support building and pavement construction.
e. A declaration of Soil Bearing Capacity Declaration in conformance with the wording of the declaration provided in Appendix "C" Soils Declaration (document verbage can not be altered).
f. Depending on soil conditions a Uniformity of Soil Declarton may be required by the AE at no additional cost to the Owner.
g. Discussion and summary of the site investigation with special attention given to any features of the site that may either affect its suitabiity for construction or have a significant impact on project costs.
h. AE will povide a Building Environmental Accessment Phase I for any buildings to be deomolished (Not Applicable for this Project).
i. Any Survey data provide is for job pricing only. All items shall be verified to their correctness and accuracey and be incorporated into the bidding documents. Cost for errors or ommisions related to the survey shall be the responsibility of the AE/Contractor at no additional cost to the Owner.
j. Any Soil Boring data provide is for job pricing only. It is the Owner's intent that these borings provide insight into the soil make-up and characteristics, but the AE/Contractor shall make a professional decision as to the number s, depth and location of borings. All items shall be verified to their correctness and accuracey and be incorporated into the bidding documents. Cost for errors or ommisions related to the borings shall be the responsibility of the AE/Contractor at no additional cost to the Owner.

Enclosures:

I. Boundary Survey-legal description furnished by DMVA for projects with exterior alterations as part of the project.

SECTION G
TYPE C SERVICES

These are the AE's responsibility during construction in additon to the other contract requirements during Type C Services.

a. **Shop Drawings/Submittals:** Throughout the construction phase the AE shall be responsible for reviewing and approving/disapproving shop drawings and submittals for bid document compliance. The turn-around date for this process will be established prior to the AE contract execution. Distribution shall be the AE's responsibility.

b. **Inspections**: In conjunction with the scheduled and special meetings the AE shall visit the construction site to become familiar with construction quantity compared to the submitted work schedule and the quality compared to bid documents, industry standards, approved shop drawings/submittals and approved sample construction. AE should be present for initial item placement to ensure the project standards are intial met (window, paint, overhead door, etc.). The AE will break the areas down for these types of visits prior to AE contract execution. If it is part of the scheduled or special meetings then minimum cost should be associated with it. During peak periods of construction the AE should visit the site to ensure compliance. All site visits shall be recorded as required by Section C, for Construction Meetings/Site Visits.

c. **Contractor Close Out:** The AE will conduct a Pre-punch List inspection and a Substntial Completion/Punch-List inspection in conjunction with the Owner and Contractor.
   (1) The Pre-Punch List will occur when the Contractor notifies in writing that the project is ready for a pre-punch list inspection. The AE and Owner will perform a cursory project review to ensure that level of completion is worth the effort to perform the pre-punch list inspection. The document produced from this inspection will locate and identify non-conforming contract reqirements that are communicated to the partys with a narrative, digital pictures and references to bid documents, codes and industry standards. The AE may demonstrate conforming/non-conforoming areas using examples or preapproved sample construction. This demonstration must be documented in the communication document. The intent of the pre-punch list is to narrow the amount of items on the punch list that are non-conforming and shall not be used to change acceptable standards.
   (2) The Substantial Completion/Punch List will occur when the Contractor notifies in writing that the project is ready for a punch list inspection. The AE and Owner will perform a cursory project review to ensure that level of completion is worth the effort to perform the punch list inspection. The document produced from this inspection will locate and identify non-conforming contract reqirements that **are communicated to the partys with a narrative, digital pictures and references to bid documents, codes and industry standards**. The AE may demonstrate conforming/non-conforoming areas using examples or preapproved sample construction. This demonstration must be documented in the communication document. In addition to non-conforming construction the punch list will include all close-out requirements (warranties, permits, demonstations, etc.), including any DMB and DMVA requirments.

SECTION H
AS-BUILT RECORD DRAWINGS

As-Built Drawings will be submitted in both electronic and hard copy format (the electronic format is also the format for all submittal phases).

a. DRAWING ELECTRONIC FORMAT:

(1) As-built drawings in electronic format will be in Autodesk [redacted] *At no additional cost, the AE will furnish the Owner licensed network capable programs to make the submitted documents useable with* [redacted].

(2) These drawings shall be in a user-friendly format accompanied with all xref drawings embedded or linked in such a way that they can be used together, anywhere.

(3) All drawings that use additional software (i.e. survey software) to create the drawing, shall list all software used for reference. Currently DMVA does not have any additional software that runs with AutoCAD. This leads to drawing objects not linked. See the "Proxy Information" dialog box at below for an example.

(4) [redacted]

(5) All Horizontal Controlled Survey work for DMVA projects shall be provided in North American Datum (NAD 83) or (WGS 84) expressed in international feet along with any Vertical Control to be in North American Vertical Datum (NAVD 88) and expressed in internal feet.

(6) All drawings shall have "As-Built" Stamped and corresponding "Completion Date" on them, as well as being marked, "FINAL RECORD."

(7) These computer drawings shall be coordinated with the hard copy set submitted referenced below.

(8) Layer 0 shall contain no items.

(9) Settings (i.e. ltscale, dimscale) [redacted]

(10) Plotting scale default settings ATTACHMENT "Plotting Scales and Text Sizes" [redacted]

(11) Layering Standards shall be -"National CAD Standard, version 2.0, by National Institute of Building Sciences"

(12) A detailed list of project layout shall be provided to DMVA demonstrating how external reference files (XREFs) are attached/linked to drawing sheets that are delivered in electronic format. I.E. the named file/files that are xrefed, overlaid or attached to the existing sheet files in any given set. "

b. DRAWING HARDCOPY FORMAT:

(1) Submit a full size hard copy set of As-Built black-line drawings. All drawings shall have "As-Built" Stamped on them.

(2) Each drawing shall have the corresponding Completion Date on them, as well as being marked, "FINAL RECORD".

(3) These hard copy drawings shall be coordinated with the electronic set submitted referenced above

c. SPECIFICATION ELECTRONIC FORMAT:

As-built specifications in electronic format, compatible with [redacted]. At no additional cost, the AE will furnish the Owner licensed network capable programs to make the submitted documents useable with [redacted].

d. SPECIFICATION HARDCOPY FORMAT:

Submit a bound copy on 81/2 X 11-inch sheets. The cover shall be dated and marked with "As-Built" and "FINAL RECORD".

e. See also section O CADD Standards

SECTION I
COMMISSIONING PROCESS

Design Documents shall incorporate Building Commissioning. This will include, but is not limited to, Section 17000. Development of 17000 will include, but is not limited to, installation submittals, functionality test, installation checklist, and construction Contractor commissioning meeting attendance. The Owner's intent is to act as the 'Commissioning Agent' and no other entity will be used for this purpose. It is the intent to make the commissioning process an extension of the Owner's building construction superintendent's responsibilities by formalizing milestones and helping ensure construction coordination occurs. The Owner will not direct Contractor work method or means. The AE will

work with the Owner to make the documents project specific and shall ensure plans and other specification sections coordinate with these documents.

SECTION K
DMVA SOIL EROSION & SEDIMENT CONTROL

1. The Contractor's Means And Methods Shall Meet The Requirements Of The SESC Provisions Included Within The Plans And Specifications And Provide Compliance With The Provisions Of Part 91 Of Pa 451 Of 1994, As Amended

2. Prior To The Start Of Earthwork, The Contractor Must Submit A Soil Erosion And Sedimentation Control (SESC) Implementation Plan To The Michigan Department Of Military & Veterans Affairs Soil Erosion And Sedimentation Control Program. The Intent Of This Plan Is To Ensure That The Contractor Has Reviewed And Understands The SESC Provisions Within The Plans And Specifications. The Check List Included In The Specifications Will Provide The Contractor With Guidance And Assistance In Creating The SESC Implementation Plan.

3. Upon Approval Of The Contractors Plan, An "Authorization To Proceed With Earth Change" Will Be Issued By The DMVA SESC Section.

4. Note: DMVA Is An Authorized Public Agent And Shall Be The Self Permitting/Regulating Agent.

Submit The Items To: Gary Hoffmaster, SESC Program Manager
Department Of Military & Veterans Affairs
Reserve Forces Support Center
3421 N. Martin Luther King Jr. Blvd..
Lansing, Mi. 48906

See Section "P" Attachment "E" – DMVA Soil Erosion & Sedimentation Control -Program Guidebook

SECTION L
ATTACHMENT: "A"
OVERVIEW AND SPECIFIC REQUIREMENTS

I. PURPOSE
II. EXTERIOR
- **a. Building**
- **b. Security**

III. INTERIOR
- **A. General**
- **B. Classroom**
- **C. Multi-Purpose**
- **D. Administration**
- **E. Vault**
- **F. Common Area**
- **G. Dining/Kitchen**
- **H. Other**
- **I. Mechanical**

IV. OTHER
V. MECHANICAL & ELECTRICAL
- **a. Mechanical**
- **b. Lighting**

I. PURPOSE:

Primary purpose is to instruct, feed and administrate military students. Secondary purpose is to train, instruct, feed and administrate civilian students (FBI, police, businesses, etc.). Tertiary purpose is to host meeting and/or social events. Emphasis will be placed on computer oriented and digitally presented formats. A standard COE small kitchen with modifications will be utilized. The administrative area will be a mixture offices and modular offices. Building mechanical, electrical and security controls will be computer driven and monitored. Security and safety will be a primary focus of the entire building and site design, to include direct fire weapons, explosives, gases, theft, vandalism and personal attack.
The appearance shall blend in with surrounding facilities. Handicap accessibility shall be in areas required that are considered publicly accessible (Multi Purpose, Dining, Lobby, bathrooms). Consideration for expansion administrative and classrooms shall be considered.
Mechanical and electric systems shall develop and utilize energy conservation methods. Sound requirements for mechanical systems will be from 1999 ASHRAE Standards, section 46.25, table 34. The Table's RC(N); QAI levels will be met unless another level is identified. Fire system shall allow verbal (mechanical and human) conveyance of a fire or storm.
An electronic card system shall be planned and utilized if funding allows.
Areas described are for additions to facilities or are to be incorporated as well as current facility allows.

II. EXTERIOR:

A. BUILDING EXTERIOR-if addition to building is required

1. Masonry construction colored and sealed throughout (similar to Dry Block), Exterior to closely match existing. (no DriVit, or similar material).
2. Windows-Laminated, low-E coating, tinted, thermally broken glazing, thermally broken aluminum frames (equal to AMMA DH-45), include Drip cap above windows
3. Doors and frames material and thickness as specified in design guide. Doors shall be foam filled by manufacturer at the factory. Storefront to have aluminum doors (Cross). All doors meet security regulations.
4. Provide vestibule area at entrances.
5. Roof flat areas shall be min 45-mil PVC, fully adhered, 20-year warranty with winds up to 68 mph standard (similar to IBR). Roof deck tapered for drainage. Tapered insulation will only be used around roof drains.

Penetration of deck screws to be no more than ½ inch past the minimum recommended by roofing manufacturer. Color will be white.

6. Primary roof drains will not be scuppers .
7. Sloped roof to have dimensional shingles to match adjacent buildings, 5/12 pitch. Emphases on appearance at main entrance.
8. Bollards should be placed to protect the building from accidental hits (service truck backing into the building) and intentional hits (security from vehicle attack).
9. Main entrance
   a. The building front area should consider the effects of blast and over-blast.
10. After Final Acceptance, four service applications by an established lawn and shrub care company shall be applied:
    a. Lawn:
       i. April – Dry application, crabgrass and fertilizer
       ii. May – Dry application, broadleaf and fertilizer
       iii. June/July – Dry application, broadleaf, fertilizer and spot treat weeds
       iv. September – Liquid application, broadleaf and fertilizer

B. SECURITY

1. 82 foot perimeter:
   a. Parking will remain 82 feet from the building. The only vehicles to enter within this limit zone must go through an access that allows stopping and searching of vehicles. Vehicle entry will be limited to deliveries, supply/equipment loading/unloading, troop transportation loading/unloading and maintenance vehicles.
   b. Vulnerable and high payoff targets shall incorporate one of the following: (1) A three foot reinforced concrete wall in integral the exterior CMU and interior finish (create a brick ledge and raise the concrete behind it covered by the interior finish); (2) A three foot reinforced wall off the exterior wall. (3) Concrete filled pipe or architectural bollards depending on the location.
   c. Movement to the vehicle accesses shall not allow straight, fast approach from vehicles. A combination of landscaping, berms, depressions and barriers will be utilized to protect the accesses by slowing, turning and stopping vehicles.
   d. The 82-ft perimeter shall not allow straight, fast approach from vehicles. A combination of landscaping, berms, depressions and barriers will be utilized to protect the accesses by slowing, turning and stopping vehicles.
2. Pedestrian traffic
   a. Access to the 82 ft perimeter should be limited
   b. Shall channel pedestrians to specific points.
   c. Architectural emphasis of pedestrian entrances, particularly main entrances, should be incorporated in order to draw attention to these areas for newly arriving soldiers.
   d. A pedestrian perimeter should further channel pedestrian traffic and act as a visual early warning system. A combination of landscaping and barriers will be utilized to channel pedestrians, limit movement and act as an early warning system.
3. Clear zone 30 ft from the building will not have any vegetation higher then 6 inches.
4. Design must incorporate reducing the direct line of site from roads.
5. Ease of landscaping maintenance shall be considered.

III. INTERIOR:

A. GENERAL:

1. Lobby walls to be of similar material and pattern as the exterior.
2. Thermal performance shall be R17 @ WALLS, with 3" extruded polystyrene in masonry cavities, and fiberglass batting in stud walls. R32 @ CEILING.
3. Sound levels to be below STC ASHRAE 46.25.
4. Vestibules will have inlaid floor mat area (all the same size); the exception to this is the Service Entrance will have open grate for removing and trapping larger solids and sand from soldiers' boots.
5. In general, windows shall be narrow to reduce ease of entry and shootings. Windowsills will be sloped away from the building to reduce the likelihood of items being laid near the windows.

B. CLASSROOMS:

PURPOSE: Instruction by hands–on computer instruction, computer presentation, overhead presentation, lectures with marker board instruction, VCR presentation or video conferencing. Utilize by large or small classes or meetings. Utilized for military or civilian student/instructors. Provide NGB-AR authorizations.

1. Utilize with adjoining classroom to create one large classroom or two small classrooms separated by a moveable partition.
2. Incorporate storage for instructional equipment (projectors, extension cords, computer, etc.)
3. Each small classroom will have the following:
   a. Utilize wireless technology for computers and printers
   b. 4 hardwired computer connections per classroom other than those at the power point projector, the Counseling area, floor box, or the sound cart connection area. These are to be utilized if the wireless technology is not working. Incorporate power 120 volt receptacles with these.
   c. Be prepared to accept ceiling power point projector centrally located within the room (supports, power, and computer connection).
   d. Be prepared for 2 electronic screens.
   e. Lighting
      (1) Control of adjoining small classroom lights should be by either small classroom when the partitions are open only.
   f. Marker boards and map rail.
   g. Floor box centrally located to the screen with 120v power receptacles, a connection to the Power point projector and computer connection.
   h. Prepared for future ability to broadcast video.
   i. Area ready to accept audio/visual cart for presentations (CD, VCR, amplifier, microphone, DVD, speaker connections).
4. Floor Finish – per DG
5. Wall Finish – CMU, painted with latex or oil
6. Ceiling Finish – Acoustical tile.
7. RC(N) maximum 30

C. ADMINISTRATION

1. OFFICES
   a. Critical to closely coordinate with users for furniture layout.
   b. 12-ft maximum spacing for 120 volt receptacles, but room shape and furniture will dictate actual number and placement. Incorporate hardwired telephone/data receptacles
   c. Junction Boxes located to allow easy access and easy connection for modular furniture power pole connection.
   d. Ceiling finish – Acoustical tile
   e. Wall finish – 5/8inch GWB with latex paint
   f. Floor finish – Carpet
2. Areas with modular furniture shall have electrical wall 120 volt power receptacles and voice/data outlets. Electrical junction boxes will be placed in the ceiling to accommodate power pole connections to modular furniture.
3. Designate area for copy and fax machines. Install separate circuits for copy machines and other high power drawing equipment.

4. MAIL ROOM
   a. Located on exterior wall near a hallway double door and electronically opened exterior double door. Hardened interior walls and ceiling
   b. Blow out wall. This will require blast protection for soldiers if it is located near a high-density area.
   c. Kill switch for HVAC. Negatively pressurized. Stand alone exhaust system.
   d. Size and layout to be determined.
5. Floor Finish – Carpet
6. Wall Finish – CMU reinforced to roof deck. Latex paint.
7. Ceiling Finish – Acoustical Tile @ 8 ft

D. SUPPLY / VAULT:

PURPOSE: Secure common unit equipment, issue equipment and sensitive items.

1. Designed to NGB standards.
   a. Walls
      i. Concrete: 8 inches reinforced with 2 layers of No. 4 bars, 9 inches on center each direction and offset 4.5" from the other..
      ii. CMU: 8-inch concrete block with No. 4 bars threaded through block cavities filled with mortar or concrete and with horizontal joint reinforcement at each course.
   b. Ceiling / Roof: Reinforcing bar spacing shall form a grid so that the area of any opening does not exceed 96 square inches using No, 4 bars or larger. The ceiling or roof shall be of concrete construction. The thinnest section shall not be less then 6 inches.
   c. Floors: If on grade will be a minimum of 6 inch concrete with 6 inch by 6 inch, W4 by W4 mesh, or equivalent bars. Where the floor slab acts as the ceiling of an under lying room or area the ceiling standards apply.
   d. Doors: Will be GSA approved Class 5-armory door with a built-in group S&G 7R changeable combination lock. Frames will meet the same standard as the door. Doors will be Diabold, Mosler, or Hamilton
   e. Opening: Any opening 96 square inches will have one of the following: (1) 3/8 inch or larger hardened steel bars provided the vertical bars are not more than 4 inches apart with horizontal bars welded to the vertical bars so that the openings do not exceed 32 square inches; (2) Number 8-gauge high carbon manganese steel mesh with 2-inch diamond grid; (3) Number 6 gauge steel mesh with 2-inch diamond grid when number 8 in (2) above is not available. Bars or steel mesh will be securely embedded in the structure of the building or welded to a steel frame that will be securely attached to the wall with fastenings inaccessible from the exterior of arms storage facility.
   f. Dehumidification is required for this area. A portable dehumidifier is not allowed. This shall be considered in the load calculation for AHUs.
   g. The walls will require several eyehooks, at two levels, embedded the walls and one in the floor.
2. Intrusion detection system independent of any other system will be furnished and installed by the owner for the Supply and Vault area. Items installed as part of A&E contract
   a. 4' x4' x ¾" fire retardant plywood on inside of vault to the opening side of door
   b. (1)120v dedicated circuit at board
   c. (4) ¾" conduits from top of board through roof of vault and into 4"x4" x12" trough.
   d. ¾" conduits from trough to 4"x 4" box above all doors into supply room
   e. ¾" conduit from trough to 4" x 4" box in ceiling of supply room, location as directed by DMVA
   f. ¾" conduit to from trough 4" x 4" box on opening side of supply room door
   g. ¾" conduit from trough to phone d-marc, if new construction this conduit to be under slab.

3. Layout will ensure ease of issue and turn-in.
4. Layout will ensure security during issue and turn-in
5. Protection from the weather elements.

E. COMMON AREA

PURPOSE: Utilize for informal meetings, breaks.

LOBBY/ ENTRANCE:

1. Front wall of building designed to avoid taking full blast force (sloped and/or reinforce).
2. Lobby to carry exterior color scheme, pattern and construction material from exterior
3. Public areas to meet ADA.
4. Area should easily accommodate awards and historical items with built-in cabinets and display areas. This shall incorporate electrical outlets and lighting.
5. Lighting should be utilized in this area to enhance architectural features and their uses for enhancing the appearance shall have a higher priority then other portions of the building. lighting, indirect lighting, skylights). Lighting should be controlled by occupancy sensors coupled with photo switches

6. Ceiling fans should be considered for circulating air and appearance.
7. This area should be air-conditioned.

CORRIDORS:

Sound attenuation in corridors is required.
Floors: Per DG
Ceilings-suspended ceiling to hide fire piping, communication and coax wiring
Walls cmu painted, GWB 5/8" above 4' and high strength below 4', vinyl chair rail at 4'
All areas below 4' to have splatter paint, both wall systems to have sound attenuation as a priority
Lighting shall be controlled by local switches at corridor ends and ceiling mounted occupancy sensors

I. KITCHEN

PURPOSE: Utilize for feeding and food preparation area. Transient soldiers, civilian and military students, instructors and administrative staff will use the area. Food preparation may be by either military or contracted civilian.

KITCHEN
1. Small kitchen layout modified.
2. Kitchen should feed 300 soldiers per hour
3. The area will be air conditioned
4. Ceiling Finish – GWB with epoxy. Lay-in type ceiling for kitchens may also be considered
5. Finish – masonry with epoxy
6. Floor Finish - quarry tile

J. SERVICE ENTRANCE (S):

1. These areas present one of the highest security risks because vehicles require close proximity to the building, which allows for penetration by stationary and mobile bombs and frequent pedestrian traffic allows for individual penetration. The design shall deny straight vehicle fast approach to the any access.
2. Food Delivery
3. Mail Delivery.
4. Field Entrance

IV. OTHER:

1. Vinyl Composition Tile
   a. Fire Performance Characteristics: Provide resilient floor tile with the following fire performance characteristics as determined by testing products per ASTM test method indicated below by UL or another testing and inspecting agency acceptable to DMVA.
   b. Critical Radiant Flux - 0.45 watts per sq. cm. or more per ASTM E 648.
   c. Smoke Density - Less than 450 per ASTM E 662.
   d. Products complying with ...ASTM F1066 ...FS SS-T-312/Type IV, factory waxed commercial grade, Class 1 (solid color), Class 2 (marbleized), with complete pattern penetration, smooth **or embossed** wearing surface, 1/8" thickness x 12" x 12" size. The Department of Military & Veterans' Affairs from manufacturer's current range will select color, pattern, and surface.
   e. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits of any kind

2. Carpet Tiles
   a. Allowed manufacturers or equal are the following: Armstrong World Industries, Inc., Bigelow Sanford, Inc., Collins and Aikman Couristan Inc., Guliston Carpet - J.P. Stevens Co.
   b. Materials: Size 18" x 18" tile, or sheet goods
      Pitch 351
      Rows per inch 10

Pile height	.135"
Face yarn weight	20 ozs.
Yarn size	1225/2
Fiber content	100% continuous filament nylon w/static control
Interliner	3.2 ozs. polypropylene
Sealant coat	Vinyl
Backing height	130"
Back plate	Formulated vinyl
Total weight	2.50 lbs/tile, total weight variation not to exceed +- 5%

c. Adhesives - Provide manufacturers recommended adhesive, produced expressly for use with selected carpet cushion, water resistant, and mildew-resistant.
d. Carpet edge guard - Extruded or molded heavy-duty vinyl or rubber carpet edge guard, minimum 2" wide anchorage flange.
e. Repair minor holes, cracks, depressions, and rough areas using material recommended by carpet or adhesive manufacturer.
f. Comply with manufacturer's recommendations for installation of carpet; maintain uniformity of carpet direction and lay of pile. Recommended procedures for installation are furnished in each roll or bundle of carpet by the manufacturer and shall be closely followed.

3. Vinyl Base will utilize preformed corners.

4. Quarry tile, glazed tile and masonry units will utilize bullnose and corner units.

5. Architect will submit color board of all new finishes as part of design process.
The Owner shall approve interior and exterior colors

6. Signage
   a. Include room number and name
   b. Include Occupied/Unoccupied as required

7. Water coolers: 2 heights, ADA standards, Halsey Taylor

8. Exterior doors shall be designed to be programmable. For this project a 2" x4" box with ¾" conduit into ceiling area is required

9. Keying:
   a. Metal keys shall meet existing DMVA standards. These keys are BEST of Michigan, patented keyway
   b. Electronic keying will be planned to control exterior doors, specialty rooms along with other rooms mentioned within this document.

10. The appropriate amount of extra materials per the DG for vct tile, bulbs, paint of each color, carpet and acoustical tile will be furnished at the end of the project for repairs.

V. MECHANICAL AND ELECTRICAL

1. Building design temp 72 deg winter, 74 deg summer

2. Assume the use of hydronic heat and chilled water-cooling. The most efficient system based the payback method of **Life Cycle Cost.**

3. General
   i. Not a four-pipe system (2 heat, and 2 cooling)
   i. Each room individual zoned
   ii. No electric heat or reheat
   iii. Meets code fresh air requirements, fresh air to be demand controlled
   iv. Meets ASHRAE most current standards
   v. Payback method is **Life Cycle Cost.**

4. All areas air-conditioned except storage areas, vault area may be air conditioned for humidity control

5. Winter unoccupied
   i. FA damper closed
   ii. Fan /heat coil cycle as required to maintain setback temperature

6. Winter occupied-by time clock or override button at zone
   i. FA damper opens to minimum position, fan on, hot water coil cycles to maintain occupied temperature
   ii. As CO2 levels rise above set point FA damper/RA damper modulate as required to satisfy requirements, meeting demand FA/RA damper modulate toward minimum position
   iii. Overpressure relief in rooftop unit

e. Summer unoccupied
   i. Boiler locked out (if boiler is used)
   ii. FA damper closed, fan/chilled water cycle to maintain setup temperature

f. Summer occupied-by time clock or override button at zone
   i. FA damper opens to minimum position, fan on, chilled water coil cycles to maintain occupied temperature
   ii. As CO2 levels rise above set point FA/RA damper modulate as required to satisfy requirements on meeting demand FA/RA dampers modulate toward minimum position
   iii. First stage AC economizer-FA damper modulates to full open excess pressure relieved at roof top unit

7. Most rooms to have individual control zoning

8. Air to Air heat exchangers to be used in areas with less than 15 year Life cycle costing.

9. Intermittent use areas – for example, (latrines, supply rooms, personal storage, etc.) shall have control mechanical systems with occupancy sensors.

10. Building Management System: System to be DDC and is to be incorporated into existing system (If building has existing DDC system). System to have multiple layer penetration graphics. Schedules shall be window driven and graphically displayed.

    a. Mechanical Points List to include:
       i. Outdoor
          Humidity
          Temperature
       ii. Boiler(s) (if applicable)
          ON/OFF
          Status
          Enable
          Water temp (supply)
          Water temp (return)
          Hot water reset temp
       iii. Circulation pumps
          On/off heating
          On/off chilled water
          Status heat
          Status chilled water
          On/off Domestic
          Status Domestic
       vi. Typical points
          Status
          RA/FA damper position
          Hot water coil position
          Chilled water coil position (hot/chilled water coils to not operate simultaneously)
          Supply air temp
          Return air temp

Smoke detector/status
NOX and CO in vehicle areas for deluge air
Fan on/off
Fan status
Zone setpoint (each)
Zone damper positions (each)

b. Lighting points list to include:
   i. Parking lot light-photocell and schedule
   ii. Hallway lighting-schedule

c. Graphics
   i. Overall site plan
   ii. Overall floor plan with zone temperatures displayed, clicking zone temperature brings up associated unit
   iii. Overall floor plan clearly delineates zones
   iv. Unit diagram shows all items listed above and all zone items associated with unit

a. Scheduling to be done in windows and by point and click method
b. Drawings to include point by point schematics for DDC system.

11. The Fire Protection System shall meet current State requirements.
    a. Fire panel will be located near the check-in desk.
    b. The hallway doors within the billeting area shall be magnetically held open. The magnetic hold will be connected to the fire protection system to allow the doors to stay open when not in alarm and close when in alarm.
    c. The fire panel shall include zones for the kitchen; break areas and maximum 10 single billeting room's zone. per

12. Mechanical Equipment
    a. DDC control
       i. PC size and configuration to operate system
       ii. Printer for alarms
    b.
       i. Boiler (if used)
       i. High efficiency condensing boiler 86%-93%
       ii. IRI gas train
       iii. Full modulating burner
       iv. Natural gas fired
       v. Boiler management system to maximize boiler efficiency
       vi. Aerco Benchmark
    c. Rooftop air handler
       i. Air mixing box w/ modulating FA/RA damper
       ii. Cooling coil w/ valve actuator
       iii. Heating coil w/valve actuator
       iv. Supply air fan
       v. Pressure relief in mixing box (air to air exchanger as economically feasible)
       vi. Smoke detector
       vii. CO2 detector
       viii. Hinged doors
       ix. Painted to match building
       x. Curb mounted
       xi. AAON or Trane
    f. Exhaust fans
       i. Curb mounted
       ii. Stainless steel
       iii. Belt driven
       iv. Cook
    g. Kitchen RTU
       i. Curb mounted

ii. Chilled and hot water coil, or DX - for general heat and AC.

h. Kitchen exhaust hood
   i. Water wash preferred type
   ii. 100% make-up air (direct fired) Captive-Air

13. Domestic hot water
    a. Enough capacity to meet peak demand
    b. 140-degree tank holding temperature.
    c. Hot water will not be heated by electricity.
    d. Circulation pumps are required.
    e. Pump loop will 110 degrees but the temperature will be adjustable by central mixing valve.
    f. BMS will monitor loop temperature out flow and inflow temperatures

14. Water
    a. All water except fire risers to be filtered for solids and minerals (may not be required for local water)
    b. All water except fire risers to be softened on demand (may not be required for local water)

15. All fans over ½ H.P. to be high efficiency

16. Installed gas and electrical meters shall be placed and protected from accidental damage and ease of maintenance.

17. Electrical Equipment
    a. Install disconnects and change over apparatus to be used for manual energizing of generator during power outage and are to de-energize main with key interlock system.
    b. Primary to building shall be underground.
    c. Transformers to be higher than standard efficiency (per NEMA TP-1)
    d. Electrical circuits shall be specifically labeled with the termination locations and meet code requirements.
    e. Power outlets to be labeled with panel and circuit numbers

18. Lighting: The lighting design shall meet, at a minimum, ASRAE Standard 90.1-2001. In addition to the ASRAE standards, the lighting design shall follow the following:
    a. Interior lighting to be 4', T8, electronic ballast (total harmonic distortion <10%) with 4100K lamps
    b. Number of different lamp types to be held to a minimum. Incandescent lighting shall NOT be specified.
    c. Fluorescent lighting fixtures equal to Lithonia-surface LB, recessed lighting GT with A12.125 lens thickness.
    d. Classrooms, multi-purpose, dining hall, and auditorium to have dimming ballast. Classroom and conference room lighting should be controlled from a point convenient to the speaker, as well as at the door. One (1) dimmer control located at the speakers platform may be used for lighting fixtures.
    e. Rooms with partitions will operate room only with partition closed and entire room with partitions open.
    f. Occupancy sensors shall be utilized though out the building including but not limited to individual offices, latrines, break room, PT room, conference rooms, corridors, janitor's closets, locker rooms, communication room, offices, classrooms, and storage rooms.
    g. Exterior lighting to be high-pressure sodium. All exterior lighting shall be controlled by a time clock/photo sensor circuit(s) with overall control by the building management (DDC) system.
    h. Sidewalk lighting will be used for safety and aesthetics.
    i. Vehicle storage area to have "dark lighting". [1]
    j. Exit signs to be L.E.D with green letters.
    k. Low usage rooms (individual offices, latrines, break room, PT room, conference rooms, etc.) shall use occupancy sensor and meet ASRAE 90.1.
    l. Drill Hall lighting shall be fluorescent with multiple switches to allow a low level/walk-thru lighting level in addition to the overall (higher) lighting level listed below.
    m. Design lighting levels:
       1. Classrooms, learning center, library, band rehearsal, music library, COMSEC material & direct support activities (CMDSA): 70 FC.
       2. Serving & scullery corridors, food storage, battery room: 30 FC.
       3. Food preparation: 70 FC.
       4. Scullery: 50 FC.

5. Offices, administrative areas, medical exam suites: 50 FC.
6. Drill hall: 40 - 45 FC.
7. Corridors (other than scullery): 10 FC.
8. Unit storage (including vault and unheated unit storage), training aid storage, locker room, toilet/shower, maintenance/custodial, flammable material storage, band instrument storage, maintenance supply room, lobby, stairways, and mechanical equipment room: 20 FC.

19. Cable for CCTV.
    a. CCTV and video broadcasting will be Coax RG-6.
    b. Both ends of the coax shall be terminated by the contractor utilizing F-type connectors.
    c. An individual CCTV coax shall be routed from the comm room to <u>each</u> CCTV outlet. Provide six (6) foot of extra coax coiled at the top of the backboard in the comm room for each CCTV run.
    d. Provide an empty 2" conduit (a minimum of one) under-slab into the comm room for CCTV utility use.

20. Voice/Data system
    a. Voice system shall utilize copper cables and shall be terminated on the users' end and in the comm room.
    b. Voice and data cables shall be unshielded twisted pair (UTP) cable that is category 6e rated and has a total of four (4) pair of copper conductors. <u>The voice cable and data cable shall be separate cables.</u>
    c. Voice and Data Cable Jacket Color: Jacket color for the voice cable shall be yellow in color. Jacket color for the data cable shall be blue in color.
    d. The wiring code of the cable will follow the EIA-T568B (AT&T), option B standards.
    e. Voice/data Connectors: All category 6E UTP cabling (Wall Jacks) shall be terminated into snap-in 110 type RJ-45 connectors and meet T1A/EIA-568-B1 Clause 11, Cabling Transmission Performance and Test Requirements. Products from Panduit are preferred.
        1. Voice jacks shall be white in color.
        2. Data jacks shall be orange in color.
    f. Voice and Data faceplate color shall match the electrical device plate color. If the electrical device plate is metallic, then the voice and data faceplate shall be ivory (thermoplastic) in color.
    g. Voice and Data cables shall have labeling provided at each end of each cable with a permanent wrap.
    h. Voice and Data faceplates shall have each jack location identified with a permanent label. This label will include the category of use, and the cable number (EX. To-001); coordinate labeling with DMVA telecommunications mechanic.
    i. Provide an empty 3" conduit (a minimum of one) under-slab into the comm room for telephone utility use.

21. Comm room equipment: Comm room equipment shall be included within the contract including power and grounding connections to the following equipment:
    1. RACK: Basis-of-Design, Hoffman E19SWM25U20.
    2. PATCH PANEL: Basis-of-Design: Hubbell P5E24BF patch panels.
    3. A **50 pair** copper line will be run underground to the phone room in a 3" conduit.
    4. If the building is multi-story, multiple comm rooms shall be designed into the facility and these rooms shall be stacked above each other. Multiple conduits shall be routed between comm rooms (vertically) and cable tray routed between comm rooms if on the same level.
    5. Cable trays shall route into the comm rooms and end over the backboards.

22. Fiber optic cabling requirements:
    a. A **12** fiber line will be run underground (underslab) to the phone room in a 3" conduit from the exterior of the building.
    b. Fiber cables will be terminated on the users' end and in the comm room.

23. LOW VOLTAGE SCHEDULE WITH A DRAWING IS REQUIRED. At a minimum the schedule shall include the following: Wire purpose, Rack number, Panel numbering, Port number, Room name/number, & Jack number.

24. Telephone System Requirements:
    1. Paging shall occur through the message board and the through the phones in the Administrative areas, Offices and Front Desk.

25. Cable Tray System:

1. Install cable trays throughout hallways. Cable trays to be sized for voice, data, fire alarm, CCTV, security, and BMS cables. Areas other than hallways to utilize cable rings.
2. CABLE TRAY: Basis-of-Design, Snake Tray by Cable Management Solutions, Inc., double 201 series or 501 series tray. List of possible cables in the project and their colors are:

a.	Fiber	Orange inner duct.
b.	Fire alarm	Red
c.	Building BMS	White
d.	Data	Blue
e.	Telephone	Yellow
f.	Security	Green
g.	CCTV	Black

26. Public Address Systems
    1. Speaker and microphone cables shall be in separate conduits.

27. Wire for data, phone and TV.
    d. Data and phone 2 CAT 5E copper Coax RG58
    e. TV and video broadcasting will be Coax RG58
    f. Speaker and microphone wire shall be in separate conduits.
    g. Install cable trays throughout hallways. Cable trays to be sized for data, fire, coax and BMS cables. Other areas to utilize cable rings.

28. Phones/Data lines
    d. Room shall be approximately 40 sqft of floor space and 64 sqft of useable wall space.
    e. Copper and fiber lines will be terminated on the users' end and I n the phone/data room. Circuits will be specifically labeled in the Phone/Data room.
    f. Data wire will be blue and the jack will be orange.
    g. Phone wire will be yellow and the jack will be white.
    h. A 50 pair copper line will be run underground to the phone room.
    i. A 12 pair fiber line will be run underground to the phone room.

29. LOW VOLTAGE SCHEDULE WITH A DRAWING IS REQUIRED. At a minimum the schedule shall include the following: Wire purpose, Rack, Panel, Port, Room, Box, Jack t A

30. Paging shall occur through the message board and the through the phones in the Administrative areas, Offices and Front Desk.

31. Air filters will be replaced at the end of the job, one filter for <u>each</u> unit requiring a filter will be furnished and a list of filter sizes and locations will be furnished on a single sheet.

32. Room air flow:
    a. Air temperature stratification will be considered for occupied rooms. Air temperature shall not vary by more then 3 degrees.
    b. Supply air ducts will be located in the ceiling and return air ducts will be located low (near the floor).

33. Air Handling Units must have emergency shut-off switches similar to fire pull stations. They are intended to allow quick shut of AHU in the event chemical or biological agents are introduced into the building.

34. RC(N); QAI levels:
    a. Standard shall be met anywhere and at any height in the room (i.e. floor, ceiling, grills, etc.).
    b. The maximum level will be evaluated.
    c. Calibration will be by the instrument's manufactures standard.
    d. Level I instrument.
    e. Measuring instruments shall be equivalent to a Simpson 1T832 meter and a 1T831 calibrator.

12. Basic Requirements:
    a. All connections must be compliant with EIA/TIA 568B and TIA 569 standards

b. All connections from the server room to communications closets will be fiber cable. See special requirements for quantities and type.
c. All data and voice connections from communications closets to offices and modular offices will be CAT 6e cable, with 2 connections to each office/modular office in the same jack. The wiring should be:
   (1) Data: BLUE wire with ORANGE jack
   (2) Voice: YELLOW wire with WHITE jack.
d. Each TV connection will have 1 RG 6 Coax connection.
e. All locations receiving RG 6 coax connections must be within 100 feet of a communications closet.
f. A low voltage schedule identifying all voice, network and video connections shall be included in final drawings.
g. Vault Alarm -Each vault requires 2 drops run in conduit and terminated (1 in vault, 1 in alarm box) using GREEN CAT 6e cable.
h. At completion of project all lines shall be terminated, labeled and tested and an as-built of entire cable system furnished to owner

13. Fire Suppression System – need recommendation

14. ISDN Connections for STE phone or secure VTC

    a. The following rooms need at least one ISDN drop for STE telephone: A114, A113, A111, A110, A106, A105, A104.
    b. Secure VTC in Conference Room will require 3 ISDN connections in same faceplate/box.
    c. The ISDN jack for the ISDN connections should be yellow in color.

SECTION M
ATTACHMENT: "B"
TRACK REQUIRED / PROPOSED

In spreadsheet format present the following information:

Project Name	1390/91 Name	Floor Finish	Base Finish	Wain Finish	Wall Finish	Ceiling Finish	Elect Required	Light Required	Phone/Data Required	Heat	Cool	Dehumidify	Security	SQFT Proposed	SQFT Programmed	SQFT Percent Diff
D.H.	D.H.	EXP	GSU	epoxy	exp-p	EXP	120v 240v	30fc	yes	yes	no	no	na	3000	2500	20
Ready	Admin	VCT	RB	na	exp-p	ACST	120v	70fc	yes	yes	yes	no	na	100		
clerk	Admin	CPT	RB	na	exp-p	ACST	120v	70fc	yes	yes	yes	no	na	100		
supply	Admin	CPT	RB	na	exp-p	GWB-P	120v	70fc	yes	yes	yes	no	na	125		
Gen	Admin	VCT	GSU	na	exp-p	GWB-P	120v	70fc	yes	yes	yes	no	na	275		
														600	625	-4

Utilize NGB 415-1 abbreviation, Tbl 2-2

Group by 1390/91 name

A **similar spreadsheet shall be created for the exterior** showing concrete/ bituminous thickness, controlling factor for thickness, designed quantities (linear feet, sf, sy, cy) programmed quantities and percent difference. It will also indicate light requirements.

SECTION N
ATTACHMENT: "C"
Exhibit 1-1 Required Statement of Uniformity

DG 415-5
18 MAY 2005

Exhibit 1-1. Required Statement of Uniformity

DECLARATION OF UNIFORMITY OF AREA SOIL CONDITIONS*

STATE: _____ DATE: _____

SITE LOCATION: _____

ADDRESS: _____

PROJECT: _____

I, hereby, declare, on the basis of my knowledge of soil conditions within this area and in conjunction with review of published geological data for this region, that the soil conditions and characteristics existing at the subject site for the proposed project are not peculiar to the site but are, in my judgment, the same type and nature of soils that are prevalent throughout the area (within at least a five mile radius of the subject site) to such an extent that it would not be reasonable to expect that the requirement for special foundation work needed for the proposed facilities at this site could be avoided by relocation of the project to another area within the five Mile radius.

_____
(Signature of Soils Engineer)

_____
(Firm Name)

NOTES:

* The wording of this Declaration is not to be changed, since it has been reviewed by legal council and the Geotechnical Association for proper terminology and to avoid undue liability for the soils engineer.

SECTION N
ATTACHMENT: "C"
Exhibit 1-2 Soil Bearing Capacity Declaration

DG 415-5
18 MAY 2005

Exhibit 1-2. Required Statement of Bearing Capacity

SOIL BEARING CAPACITY DECLARATION

STATE: _____ DATE: _____

LOCATION: _____

PROJECT: _____

"On the basis of our surface and subsurface investigation, and on generally accepted practices and procedures of the geotechnical engineering profession, I, hereby, declare to the best of my professional opinion, that the existing soil conditions at the site for this project are of a nature and classification which determine that the undisturbed soils at elevation _____ feet (elevation of the bottom of the proposed footing) when considered in conjunction with the supporting capability of the underlying soil strata, are rated at an allowable design bearing capacity of not less than _____ pounds per square foot for a spread footing type of building foundation."

Signature: _____

Soils Engineer Name: _____

Title: _____

Firm's Name: _____

NOTES:

1/. A soil bearing capacity declaration is not required for rehabilitation work, small light-weight facilities,and minor additions when existing soils surveys and/or the performance of the existing building(s) provide the A-E sufficient evidence to make a sound design. The A-E must make a statement on the preliminary plans stating the justification that additional soils studies are not required for the project under consideration.

2/. The wording of this document is not to be changed since it has been revised by legal council and the Geotechnical Association for proper terminology to avoid undue liability for the soils engineer.

SECTION O
ATTACHMENT: "D"
CADD STANDARDS

CADD Standards Manual

This Manual will provide guidance and procedures for preparing computer-aided design and drafting (CADD) products for the Department of Military and Veterans Affairs. The purpose of this manual is to set a basic CADD standard to ensure a consistent electronic deliverable product to the Director of Installations, D.M.V.A.

This manual sets a CADD standard specifically for the architectural, engineering, and construction disciplines of facilities development and civil works projects. This standard is intended to be neither static nor all-inclusive and thus will be updated and enhanced as appropriate. Suggestions for improvements are encouraged so that subsequent updates will reflect the input and needs of CADD users.

Software Guidelines

All Software used to follow this Standard must follow the guidelines of the DMVA approved software list.

- General and Civil CAD – AutoCAD 2007
- Architectural – Architectural Desktop 2007
- Mechanical and Electrical – Autodesk Building Systems 2007

If a Software other than the three listed above are used in Design or drafting, they must be an Autodesk product; and a licensed network copy must be furnished to Department of Military and Veterans Affairs.

Drawing File

Units

All work is to be produced in "real world" units, Architectural (feet and inches) and engineering (feet and tenths).

Origin

The origin is the position within every electronic drawing file. Standardizing the location of the origin of a drawing is important because it serves as the point of reference from which all other elements are located. **The global origin will be 0, 0, 0.**

Survey

All Survey's will be furnished in an original file and will ***not*** be exploded. From that point they can be used as an external reference file for all work

Model Files and Sheet Files

- **Model files (Base Drawings)** are created for the use of "Xrefing" them into sheet files. A model file will contain the physical components of a building. The Model file will be drawn

at full scale. The general rule is that anything you see at the site after construction will be placed in this type of drawing. No text entities will be created in the Model files. A model file can be considered a "work in progress." A mechanical engineer may reference the architect's floor plan model file to begin development of the HVAC ductwork layout model file. Meanwhile, the architect can continue developing the floor plan to meet new requirements. Any changes to the floor plan would be immediately accessible to the mechanical engineer. The viewing of real-time updates eliminates a great deal of frustration for other disciplines because it allows for on-the-spot- rather than after the fact modifications.

- **Sheet Files** are synonymous with a plotted CADD drawing file and will be used to generate plots, one plot per sheet file. A sheet file is a selected view or portion of the model file(s) within a title block. Sheet files plotted one to one with scaled viewports. Each sheet file will represent only one contract drawing. There will be no multiple generations of plots or tabs from one sheet file. For example, you cannot plot the Architectural Floor Plan and the reflected Ceiling Plan from the same Sheet file. Sheet files will reference (XREF) files in Model space and Borders (Title Block) in Paper space. All title blocks are inserted at 0,0.

XREF Files:

Reference files (external references or XREFs) enable designers to share drawing information electronically, eliminating the need to exchange had copy drawings between the design disciplines. Referencing electronic drawing information makes any future changes made by the architect apparent to the structural designer. This real-time access to the work of others ensures accuracy and consistency within a set of drawings and helps promote concurrent design efforts. No longer does one discipline have to wait until another discipline is nearly finished before they begin their drawings.

The use of reference files is a key component in the successful use of the layer assignments.

Graphic Concepts

Layer Naming Guidelines

All graphics will be created "bylayer".
No assignment of lineweight (LWT) to layers will be used.
The creation of layer names shall follow the National Cad Standard layer naming conventions.

The 1-4-4-4 format shown in the AIA guideline shall be followed. With one exception; the first letter of each group will be Capitalized.

i.e. A-Wall-Full-Demo

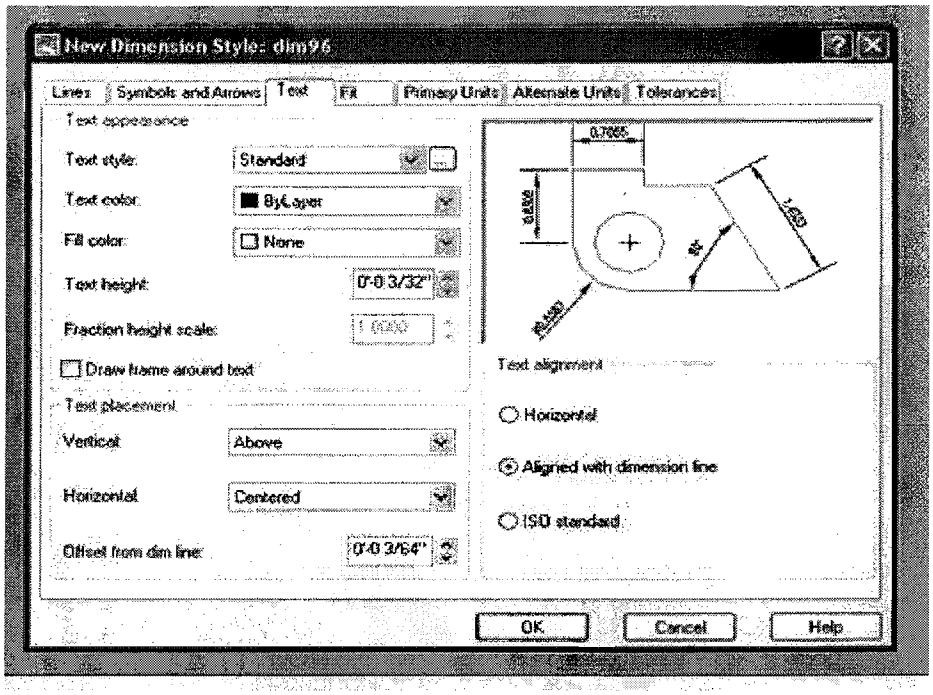
- The First place is a discipline designator letter. By default it is one character long. Two characters may be used if the designator calls for it.
- The second place is the Major Group. It is four characters long preceded by a dash. No more – no less. It identifies the major building systems and components.
- The third and fourth place is a Minor Group field modifier preceded by a dash. You may use one or both of these fields at your discretion when creating a new layer name. This field delineates further the Major Group. Both fields are also four characters long.

Text Style / Font Standards.

- The Standard text size shall be 3/32". All text shall be UPPERCASE. G-Anno is the general layer for all text. The color shall be 7.
- All text shall use the font "ROMANS" or "ROMAND" where a bold font is desired. All general text shall be a plotted height of 3/32".
- Text heights for Titles shall be 1/4" with a ROMAND font. Text height for Matchline text shall be 3/16"
- All Text Styles shall define font with a Height of 0, a Width Factor of .80 and an Oblique Angle of 0.
- TEXTFILL variable should be set to "ON"
- Standard text height for a full scale drawing should be 3/32". This text height factors according to the plot scale. Text sizes are to be set at the time the text is placed with the Mtext, Dtext and Text commands. This allows for simple text editing, sizing and manipulation, without the need to create Styles for each text size.

Usage	Text Height	Color No.	Pen Width	Style Name (font)
General Text, Notations and Dimensions	3/32"	7	.010	TEXT ROMANS
Matchline Text	3/16"	7	.010	TEXT ROMANS
Notation Titles & General Titles included with Graphics, Details, Plans Sections, Elevations, Etc.	1/4 "	2 (forced)	.014	TEXTD ROMAND
Drawing Name and Titles	1/4"	2 (forced)	.014	TEXTD ROMAND
Sheet Numbers in Title Block	3/8"	2 (forced)	.014	TEXTA (ARIAL FONT)

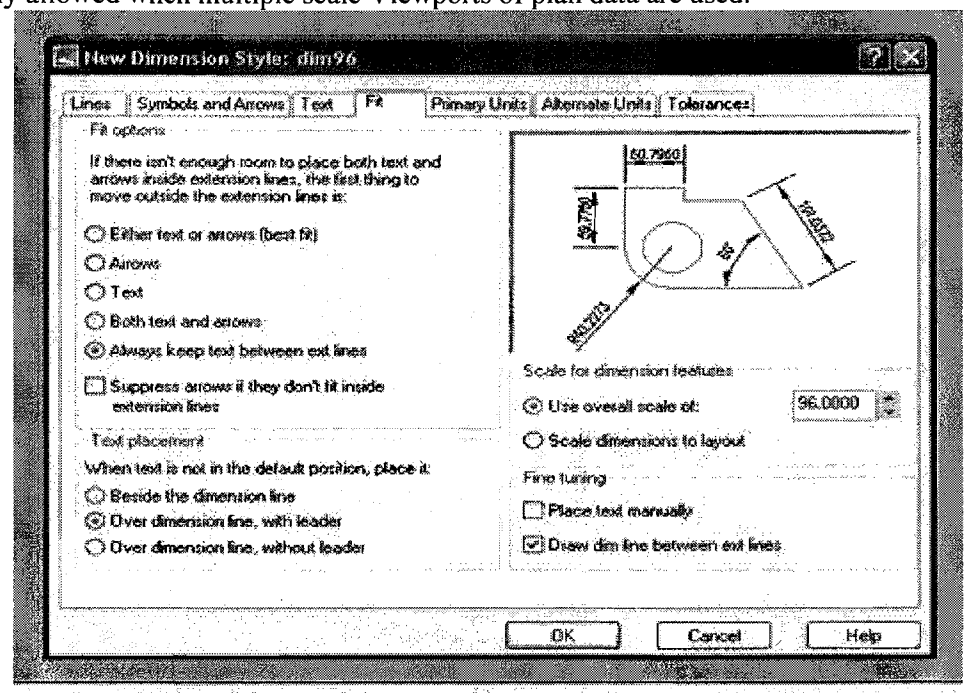
Dimensions
Dimensional Precision examples for Plans, Sections, and Elevations



Dimensions will be placed in Model Space of the Sheet file.

NO DIMENSIONS OR DIMENSION TEXT IS ALLOWED IN THE MODEL FILE WHICH IS XREFED.

Dimensions and Dimension text is sometimes placed in Paper Space of the Sheet file. This is only allowed when multiple scale Viewports of plan data are used.



- Dimension line terminators shall be either Architectural Ticks or Closed Filled Arrowheads. Dimension line terminator size shall be set to 1/8" or .125.
- Dimension text shall be ROMANS font with a plotted height of 3/32" and shall plot at the same pen weight as other text and notations by forcing it to color RED (forced color).

- Each Dimension Style shall be a copy of a standard/default Dimension style for a one-to-one scale but will vary only in the "Overall Scale Factor" (Dimscale) which will match the viewport scale (ex. 48, 120, etc.)
- Leaders will be used to flag items for Annotation. Only Standard AutoCAD "out of the box" line terminators can be used.

Dim Style Names

Each Dimension Style Name shall include the "Overall Scale Factor"

- Arch Units Example: Dim32 = 3/8" = 1'
  Dim48 = 1/4" = 1'
  Dim128 = 3/32" = 1'

- Decimal Units Example: Dim10 = 1" = 10'
  Dim40 = 1" = 40'
  Dim200 = 1" = 200'

SECTION P
ATTACHMENT: "E"
DMVA-SESC PROGRAM GUIDEBOOK

SECTION R
ATTACHMENT: "G"
SUSTAINABLE DESIGN CHECKLIST (LEED) RATING TOOL