

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE J	PAGE OF 1
2. AMENDMENT/MODIFICATION NO. 0002		3. EFFECTIVE DATE 29-Apr-2003	4. REQUISITION/PURCHASE REQ. NO. W22W9K-3080-7804	
6. ISSUED BY USA ENGINEER DISTRICT, LOUISVILLE ATTN: CELRL-CT 600 DR. MARTIN LUTHER KING PLACE ROOM 821 LOUISVILLE KY 40202		CODE DACA27	7. ADMINISTERED BY (If other than item 6) PROCUREMENT BRANCH ATTN: DEBRA C. BRUNER P. O. BOX 59 LOUISVILLE KY 40201-0059	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)			<input checked="" type="checkbox"/>	9A. AMENDMENT OF SOLICITATION DACA27-03-R-0014
			<input checked="" type="checkbox"/>	9B. DATED (SEE ITEM 11) 11-Apr-2003
				10A. MOD. OF CONTRACT/ORDER NO.
				10B. DATED (SEE ITEM 13)
CODE		FACILITY CODE		
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS				
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u> 1 </u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
12. ACCOUNTING AND APPROPRIATION DATA (If required)				
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.				
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.				
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).				
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:				
D. OTHER (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.				
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) Solicitation DACA27-03-R-0014 for the Design/Build USARC project located at North Canton, Ohio is hereby amended as follows: SEE ATTACHED				
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.				
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
			TEL: _____ EMAIL: _____	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)		05-May-2003

DACA27-03-R-0014

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:

AMENDMENT 0002

USARC/OMS/AMSA/STRG, North Canton, Ohio
Description of Changes for Amendment No. 2

1 May 2003

SCOPE : Miscellaneous Revisions

A) Specification Revisions:

1. 01010, Section 3.2: replace paragraphs 3.2.1 through 3.2.4 with new paragraphs 3.2.1 through 3.2.4. .
2. 01010, paragraph 3.2.4: add “UFC 3-400-01 Design: Energy Conservation” to All Design Disciplines.
3. 01010, paragraph 3.2.4: add “International Plumbing Code” to Mechanical/Plumbing references.
4. 01010, paragraph 3.2.4: add “NFPA 54 National Fuel Gas Code” to Mechanical/Plumbing references.
5. 01010: add new paragraph 3.2.5 and renumber the paragraphs that follow.
6. 01010: add new paragraph 3.2.12
7. 01010, paragraph 5.2.4.2.1: change the main carpet to “Mannington Strategies Earthenware – EAWA.”
8. 01010, paragraph 5.4.1.1: in the second sentence add “International Plumbing Code.”
9. 01010, paragraph 5.4.2.3: revise second to last sentence to read “Provide an air drop with shut off valve on either side of each vehicle entrance door and at the midpoint of drive-thru bays.”
10. 01010, paragraph 5.4.13.1: in the fourth sentence add “Level 4” to NICET certified fire protection specialist.
11. 01010, paragraph 5.4.22.5: in the first sentence add “two” after the word “Provide.”
12. 01010, Appendix D, item 5: new model number.
13. 01010, Appendix D, item 8: revise leg heights.
14. 01010, Appendix D, item 19: revise standard features items.
15. 01010, Appendix D, item 25: new model number. Revise standard features and accessories items.
16. 01010, Appendix D, item 29: add accessories item E.
17. 01010, Appendix D, item 30: add accessories item D.
18. 01010, Appendix D, item 34: revise standard features items.
19. 01010, Appendix D, item 35: revise standard features items.
20. 01010, Appendix D, item 44: revise standard features, accessories and notes items.
21. 01010, Appendix D, item 45: revise standard features, accessories and notes items.
22. 09310, Products, item 3: in the first sentence add “finish shall not be abrasive or contain metal particles.”
23. 09680, References: delete “AATCC 174 Antimicrobial Activity Assessment of Carpet.”
24. 10440, Products, item 3: replace “Unicor 2/90” with “Unicor Systems 2/90.”
25. 10440, Products, item 5.c: replace the first sentence with “Extruded aluminum door frame shall be of same finish as surrounding frame.”
26. 10440, Products, item 5.e: replace last sentence with “Finish and color shall be anodized aluminum as selected by the Architect and approved by the Government.”
27. 10530, Products, item 2: delete item in its entirety.
28. 10530, Products, item 4: add “(OMAR funded)” after Open Work Bench.
29. 11132, Products, item 1: in the fifth sentence replace “75 mm” with “3 inches.”
30. 11400, References, item 1: delete the metric references to “ACGIH-2092 Industrial Ventilation: A Manual of Recommended Practice (24th Edition).”
31. 11400, Products, item f.2: delete items b and c.
32. 11400, Products, item a: replace second to last sentence with “The back edge of the slide shall be turned down 1 inch at 90 degrees behind counter top.”
33. 11400, Products, item 13: add item b. “Tube Type Slide.”
34. 11400, Products, item 14.f.1: replace “3 inches” with “7 inches.”
35. 11400, Products, item 15.b.1: in first sentence replace “3 inches” with “6 inches.”
36. 11400, Products, item 15.b.6: in ninth sentence replace “13 mm” with “½ inch.”
37. 11400, Products, item 17.a: in second sentence replace “3 inches” with “6 inches.”
38. 12480, Submittals, item 1: add sentence “Manufacturer’s catalog data and printed documentation stating physical characteristics, durability, resistance to fading, and flame resistance characteristics for each type of carpet material and installation accessory.”
39. 12480, Products, item 1: replace “Floor mats” with “Entrance mats.” Remove “surface mats.”
40. 13930, Scope, item 4: replace “AT/FP requirements” with “NFPA 13 and Annexes.”
41. 13930, Scope: add new item 5.

B) Drawing Revisions:

1. Sheet A1.1.5, Detail 2: change the name for Room 211 to "Mechanical Mezzanine."

C)

1. Standard Form 1442, COST LIMITATION, for Line Item 11 is being amended to \$650,000.00.
2. SECTION 00100, 52.211-1, AVAILABILITY OF SPECIFICATIONS LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS, is hereby deleted in its entirety.
3. SECTION 00100, L CL-0214-1003, AWARD TO SINGLE BIDDER/OFFEROR is hereby incorporated in its entirety.
4. SECTION 00115, 2.3 PROPOSAL SUBMISSION REQUIREMENTS is deleted in its entirety and 2.3 (Amendment 0002) is hereby incorporated in its entirety.
5. SECTION 00115, PARAGRAPH 3.1.1.2, DESIGN FIRM EXPERIENCE, The projects should be relevant projects and could still be under construction and not necessarily completed.
6. SECTION 00115, PARAGRAPH 3.1.1.3A, SUBCONTRACTORS EXPERIENCE is deleted in its entirety and 3.1.1.3A (Amendment 0002) is hereby incorporated in its entirety.
7. SECTION 00115, 3.1.3, DELETE the Subcontracting Plan. NO SUBCONTRACTING PLAN IS REQUIRED on this project.
8. SECTION 00115, 3.1.3.1, PRO FORMA REQUIREMENTS is deleted in its entirety and 3.1.3.1. (Amendment 0002) is hereby incorporated in its entirety.
9. SECTION 00700, 52.211-2, AVAILABILITY OF SPECIFICATIONS LISTED IN THE DOD INDEX OF SPECIFICATIONS AND STANDARDS AND DESCRIPTIONS LISTED IN THE ACQUISITION MANAGEMENT SYSTEMS AND DATA REQUIREMENTS CONTROL LIST is hereby deleted in its entirety.
10. SECTION 00700, 52.211-15, DEFENSE PRIORITY is hereby incorporated in its entirety.
11. SECTION 00700, 52.219-8, UTILIZATION OF SMALL BUSINESS CONCERNS is hereby deleted in its entirety.
12. SECTION 00700, 52.219-14, LIMITATIONS ON SUBCONTRACTING is hereby incorporated in its entirety.
13. SECTION 00700, 52.236-21, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION is deleted in its entirety and 52.236-21 (Alternate I) is hereby added.
14. SECTION 00700, 52.243-5, CHANGES AND CHANGED CONDITIONS is hereby deleted in its entirety.
15. SECTION 00700, 52.245-1 PROPERTY RECORDS is hereby incorporated in its entirety.
16. SECTION 00700, 52.245-2, GOVERNMENT PROPERTY (FIXED PRICE CONTRACTS) is hereby deleted in its entirety.
17. SECTION 00700, 52.246-1, CONTRACTOR INSPECTION REQUIREMENTS is hereby deleted in its entirety.
18. SECTION 00700, 52.248-3, VALUE ENGINEERING-CONSTRUCTION is hereby deleted and 52.248-3 ALTERNATE I is hereby incorporated.
19. SECTION 00700, 52.249-2, TERMINATION FOR CONVENIENCE OF THE GOVERNMENT is hereby deleted in its entirety.
20. SECTION 00700, 252.219-7009, SECTION 8(A) DIRECT AWARD is hereby incorporated in its entirety.
21. SECTION 00700, 252.227-7022, GOVERNMENT RIGHTS UNLIMITED is hereby incorporated in its entirety.
22. SECTION 00700, 252.242-7000, POST AWARD CONFERENCE is hereby incorporated in its entirety.

- 23. SECTION 00800, 1.24b IDENTIFICATION OF GOVERNMENT FURNISHED PROPERTY is deleted in its entirety and 1.24b (Amendment 0002) is hereby incorporated in its entirety.
- 24. SECTION 01021, DESIGN SUBMISSION REQUIREMENTS AFTER AWARD is being replaced with the attached SECTION 01021.
- 25. SECTION 01021, 1.2 DESIGNER OF RECORD is hereby incorporated in its entirety.
- 26. SECTION 00800, SPECIAL CLAUSES is being replaced with the attached SECTION 00800.(Amendment 0002)

SECTION 00010 - SOLICITATION CONTRACT FORM

The following have been modified:

QUESTION REGARDING SOLICITATIO

QUESTIONS REGARDING THE SOLICITATION

Inquiries must be submitted in writing to Contracting Division, attention DEBRA BRUNER,

by fax 502-315-6194 or email to debra.c.bruner@lrl02.usace.army.mil

PROJECT NUMBER AND NAME: Design/Build for USARC, North Canton, Ohio
8(a) competitive for Region V
DACA27-03-R-0014

Date:

Organization:

Originator of Inquiry:

Telephone No:

Fax No.:

Email address:

Reference (Section #or Drawing #)

Question:

Answer:

FOR GOVERNMENT USE

Control # _____ *Answered by:* _____ *Phone:* _____

Has this inquiry resulted in: _____ *Clarification only, no need to change solicitation*
_____ *Need for amendment*

SECTION 00100 - BIDDING SCHEDULE/INSTRUCTIONS TO BIDDERS

The following have been added by full text:

LCL 0214-003 AWARD TO SINGLE BIDDER/OFFEROR.

Subject to the provisions contained herein, award will be made to a single bidder/offeror. Bids/offers must include unit prices for each item listed in order that bids may be properly evaluated. Failure to do this will be cause for rejection of the entire bid/offer. Bids will be evaluated on the basis of the estimated quantities shown, and award shall be made to that responsible bidder/offeror whose total aggregate price is low, subject to the requirements of the paragraph entitled, ADDITIVE OR DEDUCTIVE ITEMS, DFARS 252.236-7007, if applicable.

The following have been modified:

52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
6.1%	6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the --

- (1) Name, address, and telephone number of the subcontractor;
- (2) Employer's identification number of the subcontractor;
- (3) Estimated dollar amount of the subcontract;
- (4) Estimated starting and completion dates of the subcontract; and
- (5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is North Canton, Stark County, Ohio

(End of provision)

The following have been deleted:

- | | | |
|----------|---|----------|
| 52.211-1 | Availability of Specifications Listed in the GSA
Index of Federal Specifications, Standards and
Commercial Item Descriptions, FPMR Part 101-29 | AUG 1998 |
| 52.211-2 | Availability of Specifications Listed in the DoD
Index of Specifications and Standards (DODISS)
and Descriptions Listed in the Acquisition
Management Systems and Data Requirements
Control List, DOD 5010.12-L | DEC 1999 |

SECTION 00700 - CONTRACT CLAUSES

The following have been added by full text:

52.211-15 DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS (SEP 1990)

This is a rated order certified for national defense use, and the Contractor shall follow all the requirements of the Defense Priorities and Allocations System regulation (15 CFR 700).

(End of clause)

52.219-14 LIMITATIONS ON SUBCONTRACTING (DEC 1996)

(a) This clause does not apply to the unrestricted portion of a partial set-aside.

(b) By submission of an offer and execution of a contract, the Offeror/Contractor agrees that in performance of the contract in the case of a contract for--

- (1) Services (except construction). At least 50 percent of the cost of contract performance incurred for personnel shall be expended for employees of the concern.
- (2) Supplies (other than procurement from a nonmanufacturer of such supplies). The concern shall perform work for at least 50 percent of the cost of manufacturing the supplies, not including the cost of materials.
- (3) General construction. The concern will perform at least 15 percent of the cost of the contract, not including the cost of materials, with its own employees.

(4) Construction by special trade contractors. The concern will perform at least 25 percent of the cost of the contract, not including the cost of materials, with its own employees.

52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997) - ALTERNATE I (APR 1984

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor. Upon completing the work under this contract, the Contractor shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted.

(End of clause)

52.245-1 PROPERTY RECORDS (APR 1984)

The Government shall maintain the Government's official property records in connection with Government property under this contract. The Government Property clause is hereby modified by deleting the requirement for the Contractor to maintain such records.

(End of clause)

52.245-2 GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS) (DEC 1989)

(a) Government-furnished property. (1) The Government shall deliver to the Contractor, for use in connection with and under the terms of this contract, the Government-furnished property described in the Schedule or specifications together with any related data and information that the Contractor may request and is reasonably required for the intended use of the property (hereinafter referred to as "Government-furnished property").

(2) The delivery or performance dates for this contract are based upon the expectation that Government-furnished property suitable for use (except for property furnished "as is") will be delivered to the Contractor at the times stated in the Schedule or, if not so stated, in sufficient time to enable the Contractor to meet the contract's delivery or performance dates.

(3) If Government-furnished property is received by the Contractor in a condition not suitable for the intended use, the Contractor shall, upon receipt of it, notify the Contracting Officer, detailing the facts, and, as directed by the Contracting Officer and at Government expense, either repair, modify, return, or otherwise dispose of the property. After completing the directed action and upon written request of the Contractor, the Contracting Officer shall make an equitable adjustment as provided in paragraph (h) of this clause.

(4) If Government-furnished property is not delivered to the Contractor by the required time, the Contracting Officer shall, upon the Contractor's timely written request, make a determination of the delay, if any, caused the Contractor and shall make an equitable adjustment in accordance with paragraph (h) of this clause.

(b) Changes in Government-furnished property. (1) The Contracting Officer may, by written notice, (i) decrease the Government-furnished property provided or to be provided under this contract, or (ii) substitute other Government-furnished property for the property to be provided by the Government, or to be acquired by the Contractor for the Government, under this contract. The Contractor shall promptly take such action as the Contracting Officer may direct regarding the removal, shipment, or disposal of the property covered by such notice.

(2) Upon the Contractor's written request, the Contracting Officer shall make an equitable adjustment to the contract in accordance with paragraph (h) of this clause, if the Government has agreed in the Schedule to make the property available for performing this contract and there is any--

(i) Decrease or substitution in this property pursuant to subparagraph (b)(1) of this clause; or

(ii) Withdrawal of authority to use this property, if provided under any other contract or lease.

(c) Title in Government property. (1) The Government shall retain title to all Government-furnished property.

(2) All Government-furnished property and all property acquired by the Contractor, title to which vests in the Government under this paragraph (collectively referred to as "Government property"), are subject to the provisions of this clause. However, special tooling accountable to this contract is subject to the provisions of the Special Tooling clause and is not subject to the provisions of this clause. Title to Government property shall not be affected by its incorporation into or attachment to any property not owned by the Government, nor shall Government property become a fixture or lose its identity as personal property by being attached to any real property.

(3) Title to each item of facilities and special test equipment acquired by the Contractor for the Government under this contract shall pass to and vest in the Government when its use in performing this contract commences or when the Government has paid for it, whichever is earlier, whether or not title previously vested in the Government.

(4) If this contract contains a provision directing the Contractor to purchase material for which the Government will reimburse the Contractor as a direct item of cost under this contract--

(i) Title to material purchased from a vendor shall pass to and vest in the Government upon the vendor's delivery of such material; and

(ii) Title to all other material shall pass to and vest in the Government upon--

(A) Issuance of the material for use in contract performance;

(B) Commencement of processing of the material or its use in contract performance; or

(C) Reimbursement of the cost of the material by the Government, whichever occurs first.

(d) Use of Government property. The Government property shall be used only for performing this contract, unless otherwise provided in this contract or approved by the Contracting Officer.

(e) Property administration. (1) The Contractor shall be responsible and accountable for all Government property provided under this contract and shall comply with Federal Acquisition Regulation (FAR) Subpart 45.5, as in effect on the date of this contract.

(2) The Contractor shall establish and maintain a program for the use, maintenance, repair, protection, and preservation of Government property in accordance with sound industrial practice and the applicable provisions of Subpart 45.5 of the FAR.

(3) If damage occurs to Government property, the risk of which has been assumed by the Government under this contract, the Government shall replace the items or the Contractor shall make such repairs as the Government directs.

However, if the Contractor cannot effect such repairs within the time required, the Contractor shall dispose of the property as directed by the Contracting Officer. When any property for which the Government is responsible is replaced or repaired, the Contracting Officer shall make an equitable adjustment in accordance with paragraph (h) of this clause.

(4) The Contractor represents that the contract price does not include any amount for repairs or replacement for which the Government is responsible. Repair or replacement of property for which the Contractor is responsible shall be accomplished by the Contractor at its own expense.

(f) Access. The Government and all its designees shall have access at all reasonable times to the premises in which any Government property is located for the purpose of inspecting the Government property.

(g) Risk of loss. Unless otherwise provided in this contract, the Contractor assumes the risk of, and shall be responsible for, any loss or destruction of, or damage to, Government property upon its delivery to the Contractor or upon passage of title to the Government under paragraph (c) of this clause. However, the Contractor is not responsible for reasonable wear and tear to Government property or for Government property properly consumed in performing this contract.

(h) Equitable adjustment. When this clause specifies an equitable adjustment, it shall be made to any affected contract provision in accordance with the procedures of the Changes clause. When appropriate, the Contracting Officer may initiate an equitable adjustment in favor of the Government. The right to an equitable adjustment shall be the Contractor's exclusive remedy. The Government shall not be liable to suit for breach of contract for--

(1) Any delay in delivery of Government-furnished property;

(2) Delivery of Government-furnished property in a condition not suitable for its intended use;

(3) A decrease in or substitution of Government-furnished property; or

(4) Failure to repair or replace Government property for which the Government is responsible.

(i) Final accounting and disposition of Government property. Upon completing this contract, or at such earlier dates as may be fixed by the Contracting Officer, the Contractor shall submit, in a form acceptable to the Contracting Officer, inventory schedules covering all items of Government property (including any resulting scrap) not consumed in performing this contract or delivered to the Government. The Contractor shall prepare for shipment, deliver f.o.b. origin, or dispose of the Government property as may be directed or authorized by the Contracting Officer. The net proceeds of any such disposal shall be credited to the contract price or shall be paid to the Government as the Contracting Officer directs.

(j) Abandonment and restoration of Contractor's premises. Unless otherwise provided herein, the Government--

(1) May abandon any Government property in place, at which time all obligations of the Government regarding such abandoned property shall cease; and

(2) Has no obligation to restore or rehabilitate the Contractor's premises under any circumstances (e.g., abandonment, disposition upon completion of need, or upon contract completion). However, if the Government-furnished property (listed in the Schedule or specifications) is withdrawn or is unsuitable for the intended use, or if other Government

property is substituted, then the equitable adjustment under paragraph (h) of this clause may properly include restoration or rehabilitation costs.

(k) Communications. All communications under this clause shall be in writing.

(l) Overseas contracts. If this contract is to be performed outside of the United States of America, its territories, or possessions, the words "Government" and "Government-furnished" (wherever they appear in this clause) shall be construed as "United States Government" and "United States Government-furnished," respectively.

(End of clause)

52.248-3 VALUE ENGINEERING--CONSTRUCTION (FEB 2000) - ALTERNATE I (APR 1984)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP's, in accordance with paragraph (f) below.

(b) Definitions. "Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value engineering change proposal (VECP)" means a proposal that--

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only; or

(ii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) A separate, detailed cost estimate for (i) the affected portions of the existing contract requirement and (ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(5) A prediction of any effects the proposed change would have on collateral costs to the agency.

(6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) Government action. (1) The Contracting Officer shall notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer shall notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer shall notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing.

(1) Rates. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by (i) 45 percent for fixed-price contracts or (ii) 75 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to--

(i) Accept the VECP;

(ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and

(iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.

(g) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of \$50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(h) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering--Construction clause of contract , shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations."

If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

252.219-7009 SECTION 8(A) DIRECT AWARD (MAR 2002)

(a) This contract is issued as a direct award between the contracting office and the 8(a) Contractor pursuant to the Partnership Agreement dated February 1, 2002, between the Small Business Administration (SBA) and the Department of Defense. Accordingly, the SBA, even if not identified in the signature section of this contract, is the prime contractor and retains responsibility for 8(a) certification, for 8(a) eligibility determinations and related issues,

and for providing counseling and assistance to the 8(a) Contractor under the 8(a) Program. The cognizant SBA district office is:

[To be completed by the Contracting Officer at the time of award]

(b) The contracting office is responsible for administering the contract and for taking any action on behalf of the Government under the terms and conditions of the contract; provided that the contracting office shall give advance notice to the SBA before it issues a final notice terminating performance, either in whole or in part, under the contract. The contracting office also shall coordinate with the SBA prior to processing any novation agreement. The contracting office may assign contract administration functions to a contract administration office.

(c) The 8(a) Contractor agrees that--

(1) It will notify the Contracting Officer, simultaneous with its notification to the SBA (as required by SBA's 8(a) regulations at 13 CFR 124.308), when the owner or owners upon whom 8(a) eligibility is based plan to relinquish ownership or control of the concern. Consistent with Section 407 of Pub. L. 100-656, transfer of ownership or control shall result in termination of the contract for convenience, unless the SBA waives the requirement for termination prior to the actual relinquishing of ownership and control; and

(2) It will not subcontract the performance of any of the requirements of this contract without the prior written approval of the SBA and the Contracting Officer.

(End of Clause)

252.227-7022 GOVERNMENT RIGHTS (UNLIMITED) (MAR 1979)

The Government shall have unlimited rights, in all drawings, designs, specifications, notes and other works developed in the performance of this contract, including the right to use same on any other Government design or construction without additional compensation to the Contractor. The Contractor hereby grants to the Government a paid-up license throughout the world to all such works to which he may assert or establish any claim under design patent or copyright laws. The Contractor for a period of three (3) years after completion of the project agrees to furnish the original or copies of all such works on the request of the Contracting Officer.

(End of clause)

252.242-7000 POSTAWARD CONFERENCE (DEC 1991)

The Contractor agrees to attend any postaward conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation subpart 42.5.

(End of clause)

The following have been modified:

252.219-7010 ALTERNATE A (JUN 1998)

(a) Offers are solicited only from small business concerns expressly certified by the Small Business Administration (SBA) for participation in the SBA's 8(a) Program and which meet the following criteria at the time of submission of offer--

(1) The Offeror is in conformance with the 8(a) limitation set forth in its approved business plan; and

(2) The Offeror is in conformance with the Business Activity Targets set forth in its approved business plan or any remedial action directed by the SBA.

(b) By submission of its offer, the Offeror represents that it meets all of the criteria set forth in paragraph (a) of this clause.

(c) Any award resulting from this solicitation will be made directly by the Contracting Officer to the successful 8(a) offeror selected through the evaluation criteria set forth in this solicitation.

(d)(1) Agreement. A small business concern submitting an offer in its own name agrees to furnish, in performing the contract, only end items manufactured or produced by small business concerns in the United States. The term "United States" includes its territories and possessions, the Commonwealth of Puerto Rico, the trust territory of the Pacific Islands, and the District of Columbia. If this procurement is processed under simplified acquisition procedures and the total amount of this contract does not exceed \$25,000, a small business concern may furnish the product of any domestic firm. This subparagraph does not apply in connection with construction or service contracts.

(2) The **Contractor** will notify the U. S. **Army Corps of Engineers** Contracting Officer in writing immediately upon entering an agreement (either oral or written) to transfer all or part of its stock or other ownership interest to any other party.

(End of clause)

The following have been deleted:

52.219-8	Utilization of Small Business Concerns	OCT 2000
52.236-21	Specifications and Drawings for Construction	FEB 1997
52.243-5	Changes and Changed Conditions	APR 1984
52.245-2	Government Property (Fixed Price Contracts)	DEC 1989
52.246-1	Contractor Inspection Requirements	APR 1984
52.248-3	Value Engineering-Construction	FEB 2000
52.249-2	Termination For Convenience Of The Government (Fixed-Price)	SEP 1996
252.227-7023	Drawings and Other Data to become Property of Government	MAR 1979

(End of Summary of Changes)

OUTLINE SPECIFICATION

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SECTION 00115

PROPOSAL SUBMISSION REQUIREMENTS

1. WHO MAY SUBMIT. Firms formally organized as design-build entities, design firms and construction contractors that have associated specifically for this project, or any other interested parties may submit proposals. In the latter case, the association may be a joint venture or a subcontractor. For the purposes of this solicitation, no distinction is made between formally organized design-build entities and project-specific design-build associations. Both are referred to as the design-build offeror (or simply offeror) before award of a contract and as the design-build contractor (or simply contractor) after award.

2. GENERAL REQUIREMENTS

2.1 The intent of this solicitation is to select one contractor for the design and construction of the United States Army Reserve Center (USARC)/ Organizational Maintenance Shop(OMS)/ Area Maintenance Support Activity (AMSA)/ Storage (STRG) facility at North Canton, Ohio. Award of this Contract will be based on a Best Value determination, in that the Government may be willing to consider paying more for a higher quality proposal based on a trade-off analysis.

2.2. Offerors submitting proposals for this project should limit submissions to data essential for evaluation of proposals. However, in order to be effectively and equitably evaluated, the proposals must include information sufficiently detailed to clearly describe the offeror's experience, technical approach and management capabilities to successfully complete the project. Requirements stated in this RFP are minimums, unless otherwise stated. Innovative, creative or cost-saving proposals that meet or exceed these requirements are encouraged and will be rated accordingly.

*2 2.3 Offerors shall submit their proposals to the US Army Corps of Engineers, 600 Dr. Martin Luther King, Jr. Place, Room 821, Louisville, KY 40202-2230 no later than the time and date specified on Specification Section 00010, Standard Form 1442, Block 13. Offerors who present disorganized proposals or proposals with information that does not follow in the order of the Solicitation Tab Format (TAB A, TAB B, TAB C, ~~TAB D~~), assume the risk that the agency will not evaluate their proposal or will downgrade their proposal.

*2

2.4 All proposal materials shall be submitted in binders with a table of contents and tabbed section dividers. The sections shall parallel the submission requirements identified in paragraph 3.

2.4.1 Submit the original and five copies of the material required. The price proposal shall be submitted in original format only (no copies), and be placed in a separate envelope. Also, in that same envelope place the Representations & Certifications, and the Cost Breakout Sheet.

2.5. The Government has approved the conceptual design. In completing the design, the D/B Contractor will be allowed some latitude in manipulating the plans and elevations to accommodate

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structural, mechanical, electrical and other systems, and to allow flexibility for design/aesthetic expression. The spatial relationships and adjacencies, however, must be maintained, unless the Contractor recommends changes to the Government, and the Government approves such changes.

3. PROPOSAL SECTIONS.

3.1. This solicitation shall include: Construction Firm, Design Firm, and Subcontractors Experience; Past Performance of the Construction Firm, Design Firm, and Subcontractors; Price Proposal, and Technical Approach. These evaluation factors are listed in descending order of importance. All evaluation factors, other than price, when combined, are approximately equal to price.

3.1.1. Experience of the Prime Contractor, Design Contractor, and Subcontractor(s). Identify all projects that the team has accomplished together. **(TAB A)**

3.1.1.1. Construction Firm Experience:

Provide descriptions of building projects, up to seven examples, completed within the last five years, which are similar to this project in scope and dollar value. To exceed this requirement, provide Federal or Army Reserve building project examples, design-build projects, and design-build team projects. Provide one page per project. In each description, detail the work which was self-performed. Offeror should use the attached forms or the SF255, Block 8 description (see attachment to this RFP).

3.1.1.2. Design Firm Experience:

Provide descriptions of building projects, up to five examples, completed (designed and constructed) within the last five years, which are similar to this project in scope and dollar value. To exceed this requirement, provide Federal or Army Reserve building project examples, design-build projects, and design-build team projects. Provide one page per project. In each description, detail the work which was self-performed. Offeror should use the attached forms or the SF255, Block 8 description (see attached). Provide a list of up to five examples of projects fully designed using **AutoCAD**, completed within the last five years, which are similar to this project in scope and/or dollar value.

3.1.1.3. Subcontractors Experience: Provide submission of background information for the mechanical and electrical subcontractors. If this work is to be performed by the prime contractor, this shall be stated.

***2** A. To meet the requirement, provide descriptions of **building projects**, up to three examples, completed within the last five years, which are similar to this project in scope and dollar value. **One or two projects for mechanical; one or two projects for electrical; for a total of three examples.** To exceed this requirement, provide Federal or Army Reserve building project examples. Provide one page per project and a color photo is preferred. In each description, detail the work which was self-performed. Offeror should use the attached forms or the SF255, Block 8 description. ***2**

3.1.1.4. Individual Management Personnel - Identify key personnel to be assigned to this project:

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- (1) The Project Manager who will be responsible for both design and construction throughout the life of the project;
- (2) Construction Project Superintendent
- (3) Construction Quality Control Systems Manager
- (4) Design Project Manager
- (5) Lead Architect and/or Architect of Record
- (6) Lead Mechanical Engineer
- (7) Fire Protection Engineer

Offeror should use the attached format or SF255, Block 7 (attached) for resumes. Indicate under specific experience the role each individual had in any project examples cited. The requirement specified in Section 00800, paragraph 1.69 under Clause 52.236.25, Requirements for Registration of Designers shall be met. **Indicate which individuals will be the registered designers of record.**

3.1.2. Past Performance (TAB B).

3.1.2.1. Provide **Construction Firm** past performance information and evaluations on the projects listed under TAB A, including up to three references (Point of Contact and Phone Number.)

3.1.2.2. Provide **Design Firm** past performance information and evaluations on the projects listed under TAB A, including up to three references (Point of Contact and Phone Number.)

3.1.2.3. Provide **Subcontractor(s)** past performance information and evaluations on the projects listed under TAB A

3.1.3. Price Proposal

The offeror shall submit in a separate envelope, Standard Form 1442 and Form 336 (Proposal Bid Schedule), and the Cost Breakdown Sheet in an original only. Both of these forms are included in Section 00010, Solicitation, Offer, and Award of this solicitation.

*2 3.1.3.1. Pro Forma Requirements shall be submitted in original only and placed in a separate envelope labeled, "Pro Forma Requirements". This consists of Section 00600, Representations and Certifications, **Subcontracting Plan**, completed Standard Form 1442, Optional Form 336 (Bid Schedule), and the Cost Breakdown Sheets. *2

3.1.4. Technical Approach (TAB C)

3.1.4.1. Compose a clear, concise narrative for this North Canton project, describing all building features of design, indicating conformance with the RFP design requirements, including compliance with fire and life safety requirements, for all areas of the project. Narrative shall also note any deviations or exceptions taken, including an explanation.

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3.1.4.2. Mechanical System. Offeror shall provide a narrative of the proposed HVAC systems. The narrative shall describe the equipment intended to heat and cool each room or zone of each building, the supply and return air systems, the heating and cooling plant, the type of HVAC controls, and other associated equipment. Provide a description of the intended sequence of operations for each system HVAC controls.

3.1.4.3. Exterior Building Envelope for all Buildings. Provide narrative about the Roofing System, detailing concurrence with specifications, and compliance with the RFP in regards to manufacturer's data and warranty. Describe the exterior wall system. Describe the window/curtain wall system and all glazing.

3.1.4.4. Interior Design - offeror shall describe the intent of the interior design in a clear, concise narrative, indicating conformance with the RFP design requirements.

3.1.4.5. Project Management

3.1.4.5.1. Organizational Chart. Provide a project organizational chart depicting the organization described in your proposal. Indicate how the construction firm, design firm, and subcontractors interrelate, and show the appropriate authority levels. Clearly identify the line of authority. Identify subcontractors and clearly identify on-site from off-site personnel. Identify all personnel and subcontractors included on the chart and clearly delineate on-site from off-site personnel.

3.1.4.5.2. Designer Role - Submit narrative describing the role of the design team during the project from preparation of proposal in response to this solicitation through all phases of design, construction, commissioning, and warranty.

3.1.5. Pre-Award Information - One copy of the following information shall be provided:

- Proof of Financial Ability (Most recent financial statement covering assets and liabilities)
- Line of credit letter from financial institution (If needed for proof of Financial Capability)
- Name, address and telephone numbers of two credit/trade references.
- Name, address and telephone number of firm's bonding company.
- A statement of how many years the firm(s) have been in business.
- Any other pro-forma requirements indicated in Standard Form 1442 and this section

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- Documentation supporting Past Performance on Utilization of Small, Small Disadvantage and Women-Owned Small Business.

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*** SAFETY PAYS ***

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(Use continuation sheets, if needed)

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1. PRIME CONTRACTOR/SUBCONTRACTOR EXPERIENCE

Company name _____

Name of Project/Location _____

General Scope of Project _____

Role (prime, joint venture, subcontractor) and work your company self-performed, and # of years in this role _____

Construction Cost _____

Extent and type of work you subcontracted out _____

Original BOD _____ Final BOD _____

Customer Satisfaction _____

Lost time accidents _____

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Type and amount of modifications _____

Type and amount of liquidated damages _____

Original Contract Amount _____ Final Contract Amount _____

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*** SAFETY PAYS ***

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DESIGN EXPERIENCE

Company name _____

Name of Project/Location _____

General scope of project _____

Role (prime, joint venture, subcontractor) in the design and the work firm self-performed

Estimated Construction Cost _____

Design Fee _____

Extent and type of design work you subcontracted _____

Your performance evaluation _____

Original BOD _____ Final BOD _____

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SECTION 00800

SPECIAL CLAUSES

10/02

PART 1 GENERAL -

This specification section covers the Special Clauses which will be enforced during the construction phase of the contract. There are a few sections that will be enforced during the design phase. If it is intended to be followed during the design phase it will be noted in that paragraph.

1.1 REFERENCES - NOT USED

1.2 SUBMITTALS

Government approval/acceptance is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01331 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Pollution Prevention Plan;

Updated Network Analysis; G

Quality Control Plan; G,

SD-05 Design Data

Equipment-in-Place List;

Maintenance and Parts Data;

SF1413;

Notice of Soil Treatment;

Progress Photographs;

Dirt and Dust Control Plan; G

Construction and Demolition (C&D) Waste Management Plan; G

SD-07 Certificates

Warranties;

Insurance;

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DA Form 3337;

SD-11 Closeout Submittals

As-Built Drawings; G

Preliminary Network Analysis; G

Complete Network Analysis; G

Updated Network Analysis; G

1.3 COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK (APR 1984) FAR 52.211-10.

The Contractor shall be required to commence work (design phase) under this contract within 10 calendar days after the date the Contractor receives the notice to proceed, prosecute said work diligently, and complete the entire work ready for use not later than 860 calendar days after date of receipt of notice to proceed. The time stated for completion shall include as-built drawings, O&M manuals, operational tests/reports/training/instructions, equipment lists, and final cleanup of the premises. The contractor will receive a letter from the Government (after the design phase is complete) which will allow the construction phase to start.

1.4 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000) FAR 52.211-12.

a. If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of \$1,100 for each calendar day of delay until the work is completed or accepted.

b. If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

1.5 TIME EXTENSIONS (SEPT 2000) FAR 52.211-13 - NOT USED

1.6 EXCLUSION OF PERIODS IN COMPUTING COMPLETION SCHEDULES - NOT USED

24 Feb 92

1.7 CONTRACT DRAWINGS AND SPECIFICATIONS (AUG 2000) DFARS 252.236-7001

19 Sept 2000

a. At award, the Government will furnish the Contractor a compact disk containing all RFP documents. This disk will include a complete set of RFP drawing files and RFP technical specification files which have all amendments incorporated. The disk will contain drawing files in CADD format (MicroStation) and technical specifications in Word format.

The CADD files and the Word files are being provided for the Contractor's use in preparing the final contract documents.

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b. The Contractor shall--

- (1) Check all drawings furnished immediately upon receipt;
- (2) Promptly notify the Contracting Officer of any discrepancies;

c. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

d. The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

TABLE OF DRAWINGS

The drawing being provided are listed in Section 01010, "Statement of Work"

1.8 AS-BUILT DOCUMENTS - NOT USED

1.9 AS-BUILT DOCUMENTS FOR DESIGN BUILD PROJECTS

4 February 1999 (Version 2)

1.9.1 General

It is the scope of this section to provide guidance to the Contractor on preparing as-built drawings and as-built specifications. An as-built drawing is a construction drawing revised to reflect the final as-built conditions of the project as a result of modifications and corrections to the project design required during construction. The final as-built drawings shall not have the appearance of marked up drawings, but that of professionally prepared drawings as if they were the "as designed" drawings.

As-built specifications are the construction specifications as modified by changes (contract mods, ACO approved variations from the construction specifications which did not result in contract mods, and any additional details which were not fully developed at the time of completion of construction documents).

1.9.2 Maintenance of As-Built Drawings (Also used during design phase)

The Contractor shall keep a careful record set of blue line prints at the job site, marked in red, of all changes and corrections from the contract drawings. The Contractor shall enter changes and corrections on drawings promptly to reflect "Current Construction". This update shall be done no less frequently than on a weekly basis for the blue line prints and update

AMENDMENT NO. 2

no less frequently than a quarterly basis for the CADD files, which were prepared previously in accordance with Section 01021. A confirmation shall be included that the as-builts are up to date with the submission of the monthly project schedule. If the Contractor fails to maintain the as-built drawings as required herein, the Contracting Officer will deduct from the monthly progress payment, an amount representing the estimated monthly cost of maintaining the as-built drawings. Final payment with respect to separately priced facilities or the contract as a whole, will be withheld until proper as-built drawings have been furnished to, and accepted by the Contracting Officer. The marked-up set of plans shall reflect any changes, alterations, adjustments or modifications. Changes must be reflected on all sheets affected by the change. Changes shall include marking the drawings to reflect structural details, foundation layouts, equipment sized, and other extensions of design.

Typically, room numbers shown on the contract drawings are selected for design convenience and do not represent the actual numbers intended for use by the end user. But to ensure that the final as-built drawings shall reflect actual room numbers adopted by the end user the designer will coordinate the room numbers with the Using Agency at the start of design.

1.9.3 Maintenance of As-Built Specifications

As-built specifications shall be marked up no less frequently than on a weekly basis. Revised electronic files shall be done no less frequently than monthly.

1.9.4 Underground Utilities

The drawings shall indicate, in addition to all changes and corrections, the actual location, kinds and sizes of all sub-surface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or obscured, the as-built drawings shall show, by offset dimensions to two permanently fixed surface features, the end of each run including each change in direction. Valves, splice boxes and similar appurtenances shall be located by dimensioning along the utility run from a reference point. The average elevation of the top of each run or underground structure shall also be recorded.

1.9.5 Borrow Areas - NOT USED

1.9.6 Partial Occupancy

For projects where portions of construction are to be occupied or activated before overall project completion, including portions of utility systems, as-built drawings for those portions of the facility being occupied or activated shall be supplied at the time the facility is occupied or activated. This same as-built information previously furnished must also be shown on the final set of as-built drawings.

1.9.7 As-Built Conditions That are Different From the Contract Drawings

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All as-built conditions that are different from the contract drawings shall be accurately reflected on each drawing. If the as-built condition is accurately reflected on a shop drawing, then furnish that shop drawing shall be in CADD format. The final as-built drawing shall refer to the shop drawing file that includes the as-built information.

1.9.8 Additional As-Built Information that Exceeds the Detail Shown on the Contract Drawings:

These as-built conditions include those that reflect structural details, foundation layouts, equipment, sizes, mechanical room layouts and other extensions of design, that were not shown in the project design documents because the exact details were not known until after the time of approved shop drawings. It is recognized that these shop drawing submittals (revised showing as-built conditions) will serve as the as-built record without actual incorporation into the contract drawings. Furnish all such shop drawings in CADD format.

1.9.9 Final As-Built Drawings

At the time of Beneficial Occupancy of the project or at a designated phase of the project, final as-built CADD files shall be provided to the Contracting Officer in the following formats:

- (1) On CD-ROM in the format as specified in Section 01021
- (2) One full size original on photographic Mylars
- (3) The record set of blue line mark-ups

In the event the Contractor accomplishes additional work after this submittal, which changes the as-built conditions, the Contractor shall furnish a new CD-ROM, new full size original on photographic Mylars of affected sheets, and new blue line copy which depicts all the additional changes.

1.9.10 Title Blocks

Title Blocks shall be clearly marked to indicate final as-built drawings.

1.9.11 Final As-Built Specifications

Final as-built specifications shall be prepared in Word files and the electronic files shall be placed on the same CD-ROM that contains the as-built CADD files. The front sheet of the specifications shall contain an identification which clearly labels the specifications as representing as-built conditions and shall be dated with the date of the submittal.

1.9.12 Other As-Built Documents

All other documents such as design analysis, catalog cuts, certification documents that are not available in native electronic format shall be scanned and provided in an organized manner in Adobe.pdf format.

1.9.13 Final Payment

AMENDMENT NO. 2

No separate or direct payment will be made for the work specified herein. All costs associated with this work shall be included in the applicable contract prices for the items requiring as-built drawings listed in the bidding schedule.]

1.10 EQUIPMENT DATA

Real Property Equipment.

Contractor shall be required to make an **Equipment-in-Place list** of all installed equipment furnished under this contract. This list shall include all information usually listed on manufacturer's name plate. The form is part of SPECIAL CLAUSES and is included following the SPECIAL CLAUSES, so to positively identify the piece of property. The list shall also include the cost of each piece of installed property F.O.B. construction site. For each of the items which is specified herein to be guaranteed for a specified period from the date of acceptance thereof, the following information shall be given: The name, serial and model number address of equipment supplier, or manufacturer originating the guaranteed item. The Contractor's guarantee to the Government of these items will not be limited by the terms of any manufacturer's guarantee to the Contractor. Furnish the list as one (1) reproducible and three (3) copies to the Contracting Officer thirty (30) calendar days before completion of any segment of the contract work which has an incremental completion date.

Maintenance and Parts Data.

The Contractor will be required to furnish a brochure, catalog cut, parts list, manufacturer's data sheet or other publication which will show detailed parts data on all other equipment subject to repair and maintenance procedures not otherwise required in Operations and Maintenance Manuals specified elsewhere in this contract. Distribution of directives shall follow the same requirements as listed in paragraph above.

1.11 PHYSICAL DATA (APR 1984) FAR 52.236-4.
2 January 1996

Data and information furnished or referred to below is furnished for the Contractor's information. The Government will not be responsible for any interpretation or conclusion drawn from the data or information by the Contractor.

Physical Conditions indicated on the drawings and in the specifications are the result of site investigations by surveys, borings, test pits and probings.

Weather Conditions. The Contractor shall make his own investigations as to weather conditions at the site. Data may be obtained from various National Weather Service offices located generally at airports of principal cities, the nearest to this project being: Akron Airport

Historical data for all areas may be obtained from:

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U. S. Department of Commerce
National Climatic Center
Federal Building
Asheville, N. C. 28801

Transportation Facilities. Access ways shall be investigated by the Contractor to satisfy himself as to their existence and allowable use.

1.12 UTILITIES (APR 1984) FAR 52.236-14 (PARA. 1.12.A.(1) & 1.12.A.(2) ONLY).

a. Availability and Use of Utility Services

(1) The Contractor shall supply all utilities required to construct and maintain the project until final acceptance and/or Use and Possession prior to completion which ever occurs first.

1.13 QUANTITY SURVEYS (APR 1984) FAR 52.236-16 - NOT USED
24 February 1992

1.14 LAYOUT OF WORK (APR 1984) FAR 52.236-17

The Contractor shall be responsible for all lay out.

1.15 LINES, GRADES AND LIMITS

The Contractor shall be responsible for all layout required to properly control the work.

20 Feb 2002

1.16 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984) FAR 52.236-1

The Contractor shall perform on the site, and with its own organization, work equivalent to at least 15 percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government.

a. For purposes of this paragraph "WORK BY THE CONTRACTOR" is defined as prime Contractor direct contract labor (including testing and layout personnel), exclusive of other general condition or field overhead personnel, material, equipment, or subcontractors. The "TOTAL AMOUNT OF WORK" is defined as total direct contract labor (including testing and layout personnel), exclusive of other general condition or field overhead personnel, material, or equipment.

b. Within 7 days after the award of any subcontract, either by himself or a subcontractor, the Contractor shall deliver to the Contracting Officer a completed SF 1413, "Statement and Acknowledgment." The form shall include

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the subcontractor's acknowledgement of the inclusion in his subcontract of the clauses of this contract entitled "Davis-Bacon Act," "Contract Work Hours and Safety Standards Act-Overtime Compensation," "Apprentices and Trainees," "Compliance with Copeland Regulations," "Withholding of Funds," "Subcontracts," "Contract Termination-Debarment," and "Payrolls and Basic Records." Nothing contained in this contract shall create any contractual relation between the subcontractor and the Government.]

1.17 SUPERINTENDENCE OF SUBCONTRACTORS - NOT USED

1.18 IDENTIFICATION OF EMPLOYEES. - NOT USED

1.19 CONTRACTOR-PREPARED NETWORK ANALYSIS SYSTEM - SEE SPEC SECTION 01320 FOR REQUIREMENTS

1.20 WARRANTY OF CONSTRUCTION (MAR 1994) ALTERNATE 1 (APR 1984) FAR 52.246-21I.

a. General Requirements

(1) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph 1.20.a.(10) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(2) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(3) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of--

(a) The Contractor's failure to conform to contract requirements; or

(b) Any defect of equipment, material, workmanship, or design furnished.

(4) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(5) The Contracting Officer shall notify the Contractor, in writing, (see para. 1.20.b.(3) and 1.20.e) within a reasonable time after the discovery of any failure, defect, or damage.

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(6) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, (see para. 1.20.5) the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(7) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall--

(a) Obtain all warranties that would be given in normal commercial practice;

(b) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

(c) Provide names, addresses, and telephone numbers of all subcontractors, equipment suppliers, or manufacturers with specific designation of their area of responsibilities if they are to be contacted directly on warranty corrections; and

(d) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

(8) In the event the Contractor's warranty under paragraph of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(9) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(10) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(11) Defects in design or manufacture of equipment specified by the Government on a "brand name and model" basis, shall not be included in this warranty. In this event, the Contractor shall require any subcontractors, manufacturers, or suppliers thereof to execute their warranties, in writing, directly to the Government.

b. Performance Bond

(1) The Contractor's Performance Bond will remain effective throughout the construction warranty period and warranty extensions.

(2) In the event the Contractor or his designated representative(s) fails to commence and diligently pursue any work required under this clause, and in a manner pursuant to the requirements thereof, the Contracting Officer shall have a right to demand that said work be performed under the Performance Bond by making written notice on the surety. If the surety

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fails or refuses to perform the obligation it assumed under the Performance Bond, the Contracting Officer shall have the work performed by others, and after completion of the work, may make demand for reimbursement of any or all expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.

(3) Following oral or written notification of required warranty repair work, the Contractor will respond as dictated by para. 1.20.e. Written verification will follow oral instructions. Failure of the Contractor to respond will be cause for the Contracting Officer to proceed against the Contractor as outlined in the paragraph 1.20.b.(2) above.

c. Pre-Warranty Conference

Prior to contract completion and at a time designated by the Contracting Officer, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this clause. Communication procedures for Contractor notification of warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty shall be established/reviewed at this meeting. In connection with these requirements and at the time of the Contractor's quality control completion inspection, the Contractor will furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue warranty work action on behalf of the Contractor. This point of contact will be located within the local service area of the warrantied construction, will be continuously available, and will be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of his responsibilities in connection with other portions of this provision.

d. Equipment Warranty Identification Tags

(1) The Contractor shall provide warranty identification tags on all Contractor and Government furnished equipment which he has installed.

(a) The tags shall be similar in format and size to the exhibits provided by this specification, they shall be suitable for interior and exterior locations, resistant to solvents, abrasion, and to fading caused by sunlight, precipitation, etc. These tags shall have a permanent pressure-sensitive adhesive back, and they shall be installed in a position that is easily (or most easily) noticeable. Contractor furnished equipment that has differing warranties on its components will have each component tagged.

(b) Sample tags shall be submitted for Government review and approval. These tags shall be filled out representative of how the Contractor will complete all other tags.

(c) Tags for Warrantied Equipment: The tag for this equipment shall be similar to the following. Exact format and size will be as approved.

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EQUIPMENT WARRANTY
CONTRACTOR FURNISHED EQUIPMENT

MFG MODEL NO.
SERIAL NO.
CONTRACT NO.
CONTRACTOR NAME
CONTRACTOR WARRANTY EXPIRES
MFG WARRANTY(IES) EXPIRE

EQUIPMENT WARRANTY
GOVERNMENT FURNISHED EQUIPMENT

MFG MODEL NO.
SERIAL NO.
CONTRACT NO.
DATE EQUIP PLACED IN SERVICE
MFG WARRANTY(IES) EXPIRE

(d) If the manufacturer's name (MFG), model number and serial number are on the manufacturer's equipment data plate and this data plate is easily found and fully legible, this information need not be duplicated on the equipment warranty tag. The Contractor warranty expires (warranty expiration date) and the final manufacturer's warranty expiration date will be determined as specified by para. 1.20.1.

(2) Execution. The Contractor will complete the required information on each tag and install these tags on the equipment by the time of and as a condition of final acceptance of the equipment.

(3) Payment. The work outlined above is a subsidiary portion of the contract work, and has a value to the Government approximating 5% of the value of the Contractor furnished equipment. The Contractor will assign a value of that amount in the breakdown for progress payments mentioned in the Contract Clause: PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS.

(4) Equipment Warranty Tag Replacement. As stated in para. 1.20.1.4, the Contractor's warranty with respect to work repaired or replaced shall run for one year from the date of repair or replacement. Such activity shall include an updated warranty identification tag on the repaired or replaced equipment. The tag shall be furnished and installed by the Contractor, and

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shall be identical to the original tag, except that the Contractor's warranty expiration date will be one year from the date of acceptance of the repair or replacement.

e. Contractor's Response to Warranty Service Requirements. Following oral or written notification by the Contracting Officer or an authorized representative of the installation designated in writing by the Contracting Officer, the Contractor shall respond to warranty service requirements in accordance with the "Warranty Service Priority List" and the three categories of priorities listed below.

First Priority Code 1 Perform on site inspection to evaluate situation, determine course of action, initiate work within 24 hours and work continuously to completion or relief.

Second Priority Code 2 Perform on site inspection to evaluate situation, determine course of action, initiate work within 48 hours and work continuously to completion or relief.

Third Priority Code 3 All other work to be initiated within 5 work days and work continuously to completion or relief.

The "Warranty Service Priority List" is as follows:

- Code 2 Air Conditioning Systems
 - a. Recreational support.
 - b. Air conditioning leak in part of building, if causing damage.
 - c. Admin buildings with ADP equipment not on priority list.

- Code 1 Doors
 - a. Overhead doors not operational.

- Code 1 Electrical
 - a. Power failure (entire area or any building operational after 1600 hours).
 - b. Traffic control devices.
 - c. Security lights.

- Code 2 Electrical
 - a. Power failure (no power to a room or part of building).
 - b. Receptacle and lights.
 - c. Fire alarm systems.

- Code 1 Gas
 - a. Leaks and breaks.
 - b. No gas to family housing unit or cantonment area.

- Code 2 Heat
 - a. Medical storage.
 - b. Barracks.

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- Code 1 Intrusion Detection Systems
 Finance, PX and Commissary, and high security areas.
- Code 2 Intrusion Detection Systems
 Systems other than those listed under Code 1.
- Code 1 Kitchen Equipment
 - a. Dishwasher.
 - b. All other equipment hampering preparation of a meal.
- Code 2 Kitchen Equipment
 All other equipment not listed under Code 1.
- Code 2 Plumbing
 - a. Flush valves.
 - b. Fixture drain, supply line commode, or water pipe leaking.
 - c. Commode leaking at base.
- Code 2 Refrigeration
 Mess hall - other than walk-in refrigerators and freezers.
- Code 1 Roof Leaks
 Temporary repairs will be made where major damage to property is occurring.
- Code 2 Roof Leaks
 Where major damage to property is not occurring, check for location of leak during rain and complete repairs on a Code 2 basis.
- Code 2 Water (Exterior)
 No water to facility.
- Code 1 Water, Hot (and Steam)
 - a. Hospitals.
 - b. Mess halls.
 - c. BOQ, BEQ, barracks (entire building).
 - d. Medical and dental.
- Code 2 Water, Hot
 No hot water in portion of building listed under Code 1 (items a through c).
- Code 1 Sprinkler System
 All sprinkler systems, valves, manholes, deluge systems, and air systems to sprinklers.

(1) Should parts be required to complete the work and the parts are not immediately available, the Contractor shall have a maximum of 12 hours after arrival at the job site to provide the Contracting Officer or an authorized representative of the installation designated in writing by the Contracting

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Officer, with firm written proposals for emergency alternatives and temporary repairs for Government participation with the Contractor to provide emergency relief until the required parts are available on site for the Contractor to perform permanent warranty repair. The Contractors proposals shall include a firm date and time that the required parts shall be available on site to complete the permanent warranty repair. The Contracting Officer or an authorized representative of the installation designated in writing by the Contracting Officer, will evaluate the proposed alternatives and negotiate the alternative considered to be in the best interest of the Government to reduce the impact of the emergency condition. Alternatives considered by the Contracting Officer or an authorized representative of the installation designated in writing by the Contracting Officer will include the alternative for the Contractor to "Do Nothing" while waiting until the required parts are available to perform permanent warranty repair. Negotiating a proposal which will require Government participation and the expenditure of Government funds shall constitute a separate procurement action by the using service.

1.21 PAYMENT FOR MOBILIZATION AND PREPARATORY WORK (JAN 1997) DFARS 252.236-7003

a. The Government may make payment to the Contractor under the procedures in this clause for mobilization and preparatory work.

b. Payments will be made for actual payments by the Contractor on work preparatory to commencing actual work on the construction items for which payment is provided under the terms of this contract.

1.22 PAYMENT FOR MOBILIZATION AND DEMOBILIZATION (DEC 1991) DFARS 252.236-7004. - NOT USED

1.23 SALVAGE MATERIALS AND EQUIPMENT. - NOT USED

1.24 IDENTIFICATION OF GOVERNMENT-FURNISHED PROPERTY (APR 1984) FAR 52.245-3.

a. The Government will furnish to the Contractor the property identified in the Schedule to be incorporated or installed into the work or used in performing the contract. The listed property will be furnished at the place specified below. When the property is delivered, the Contractor shall verify its quantity and condition and acknowledge receipt in writing to the Contracting Officer. The Contractor shall also report in writing to the Contracting Officer within 24 hours of delivery any damage to or shortage of the property as received. All such property shall be installed or incorporated into the work at the expense of the Contractor, unless otherwise indicated in this contract.

*2 b. The Contractor is required to ~~accept delivery, pay any demurrage or detention charges, and unload and~~ transport the property to the jobsite at its own expense. *2

c. Each item of property to be furnished under this clause shall be identified in the Schedule by quantity, item, and description.

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Quantity	Item	Description
2	Plaques	Minute Man Plaques

1.25 AGGREGATE SOURCES - NOT USED

1.26 PROJECT SIGN - NOT USED

1.27 NOT USED

*2

1.28 WAGE RATES

The decision of the Secretary of Labor, covering rates of wages, including fringe benefits to be paid laborers and mechanics performing work under this contract, is attached hereto. The payment for all classes of laborers and mechanics actually employed to perform work under the contract will be specified in the following contract clauses: DAVIS-BACON ACT, CONTRACT WORK HOURS AND SAFETY STANDARDS ACT, and THE COPELAND ACT.

Wage decisions included are: OH20006 dated 04/04/2003

The building decision applies to construction of USARC Training Facility and Maintenance shop.

The work to be performed is located in the State of Ohio. *2

1.29 PURCHASE ORDERS - NOT USED

1.30 INTERFERENCE WITH TRAFFIC AND PUBLIC AND PRIVATE PROPERTY.

a. The Contractor at all times shall dispose his plant and conduct the work in such manner as to cause as little interference as possible with private and public travel. Damage (other than that resulting from normal wear and tear) to roads, shall be repaired to as good a condition as they were prior to the beginning of work and to the satisfaction of the Contracting Officer.

b. The Contractor shall provide and maintain as may be required by the State of Ohio, Department of Transportation, proper barricades, fences, danger signals and lights, provide a sufficient number of watchmen, and take such other precautions as may be necessary to protect life, property and structures, and shall be liable for and hold the Government free and harmless from all damages occasioned in any way by his act or neglect, or that of his agents, employees, or workmen.

1.31 SEQUENCE OF WORK. - NOT USED

1.32 GOVERNMENT FIELD OFFICE FACILITIES AND SERVICES. - SEE SECTION 01500

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1.33 COMPLIANCE WITH POST/BASE REGULATIONS. - NOT USED

1.34 EQUIPMENT AND OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995)
EFAR 52.231-5000. - NOT USED

1.35 LABOR, EQUIPMENT, AND MATERIAL REPORTS

Daily Equipment Report. The Contractor shall submit a daily report of all Contractor-owned or rented equipment at the jobsite. A similar report is required for all subcontractor equipment. The subcontractor's report may be separate or included with the Contractor's report provided the equipment is adequately identified as to ownership. The required equipment report shall include each item of equipment (hand-operated small tools or equipment excluded) on the job and shall specifically identify each item as to whether it is Contractor-owned or rented, shifts, hours of usage, down time for repairs, and standby time. Identification of the equipment shall include make, model and plant number of all items. Separate identification by a key sheet providing these data may be utilized with the daily report indicating the type of equipment and the equipment plant numbers. The format of the Daily Equipment Report will be as approved by the Government in the field.

Labor, Equipment & Material Reports for Extra Work/Cost. A Report shall also be submitted by the Contractor listing any labor, equipment and materials expended on and/or impacted by any change order directed by the Government and for which total price/time agreement has not been reached. These requirements also apply to subcontractors at any tier. The same Report is required at any time the Contractor claims or intends to claim for extra costs whether or not there is Government recognition (constructive changes). This requirement is in addition to any Contractor "Notice" or "Reservation of Rights". Submittal of such a report will not be construed as satisfying the "Notice" required under the "Changes" clause or any other clause. But, absence of such Reports submitted to the Government contemporaneously with the alleged extra work/cost will be considered as evidence that no such extra work/cost occurred that are chargeable to the Government.

The Report shall be detailed to the degree required by the Government in the field and shall contain the following as a minimum:

- a. The cause of the extra labor, equipment or materials costs.
- b. For extra labor - Indicate crew, craft, hours, location and cost. Describe nature or type of extra costs, i.e, extra work, overtime, acceleration, interference, reassignment, mobilizations and demobilizations, supervision, overhead, type of inefficiency, etc.
- c. For extra equipment - Indicate type and description, hours, location, cost; whether working, idle, standby, under repair, extra work involved, etc.

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d. For extra materials - Indicate type and description, where used, whether consumed, installed or multi-use, quantity, cost, extra work involved, etc.

e. Affected activities - Relate to Contract Schedule (Network Analysis); demonstrate whether delay or suspension is involved.

f. Segregate all entries by prime and each subcontractor.

g. Summarize costs daily and by cumulative subtotal or with frequency required by the Government.

This report will not be considered as evidence that any of the alleged extra costs actually occurred. The report will be used to check against over obligation of funds for change orders directed prior to price/time agreement and to track alleged extra costs the Contractor considers otherwise chargeable against the Government. The Government may respond at any interval to either challenge, amend or confirm the report. Absence of a Government response is not to be considered acquiescence or denial. The Government may order work stoppage if deemed necessary to avoid overobligation of funds. The frequency of the report shall be daily or as otherwise approved by the Government representative in writing.

1.36 ILLINOIS RETAILER'S OCCUPATIONAL TAX AND USE TAX. - NOT USED

1.37 INDIANA SALES AND USE TAX - NOT USED

1.38 OHIO SALES AND USE TAX

The contract price should not include any amount for the Ohio Sales and Use Tax for building and construction materials to be used in the structure. Contractors are exempt from the payment of the Ohio Sales Tax for building structures or improvements to real property under a construction contract with the United States. The exemption certificate shall be in such form as prescribed by the Rules of the Ohio Department of Taxation (Tax Commissioner's Rule 5703-9-03) and should be signed by the Contractor, the subcontractor, and the Corps' Contracting Officer. The certificate should then be furnished to the supplier by the vendee within the period within which the supplier is required to file a return for the period in which the sale is consummated, as provided in Ohio Revised Code Section 5739.03. The exemption certificate must specify the reason that the sale is exempt. The Contractor shall be responsible for obtaining the required exemption certificate and submitting it to the Contracting Officer for exemption.

1.39 PROGRESS PHOTOGRAPHS - NOT USED

1.40 PAYMENT FOR MATERIALS DELIVERED OFFSITE. (MAR 1995) EFARS 52.232-5000.

Pursuant to CONTRACT CLAUSE: PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS, materials delivered to the Contractor at locations other than the site of the work may be taken into consideration in making payments if included in payment estimates and if all the conditions of the CONTRACT

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CLAUSES are fulfilled. Payment for items delivered to locations other than the worksite will be limited to:

(1) Materials required by the technical provisions,

(2) Materials that have been fabricated to the point where they are identifiable to an item of work required under this contract.

Such payment will be made only after receipt of paid or receipted invoices or invoices with canceled check showing title to the items in the prime contract and including the value of material and labor incorporated into the item.

1.41 **INSURANCE--WORK ON A GOVERNMENT INSTALLATION (SEP 1989) FAR 52.228-5.**

The Contractor shall, at its own expense, provide and maintain during the entire performance of this contract at least the kinds and minimum amounts of insurance required in the Schedule or elsewhere in the contract.

(1) Coverage complying with State laws governing insurance requirements, such as those requirements pertaining to Workman's Compensation and Occupational Disease Insurance. Employer's Liability Insurance shall be furnished in limits of not less than \$100,000.00 except in states with exclusive or monopolistic funds.

(2) Comprehensive General Liability Insurance for bodily injury coverage shall be furnished in limits of not less than \$500,000 per occurrence.

(3) Comprehensive Automobile Liability Insurance for both bodily injury and property damage, shall be furnished in limits of not less than \$200,000.00 per person, \$500,000.00 per accident for bodily injury, and \$20,000.00 per accident for property damage. When the Financial Responsibility or Compulsory Insurance Law of the State, requires higher limits, the policy shall provide for coverage of at least those higher limits.

Before commencing work under this contract, the Contractor shall submit to the Contracting Officer in writing that the required insurance certification has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this contract is to be performed prescribe, or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

The Contractor shall insert the substance of this clause, including this paragraph, in subcontracts under this contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required in the Schedule or elsewhere in the contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

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1.42 IMPLEMENTATION OF GOVERNMENT RESIDENT MANAGEMENT SYSTEM

RMS shall be maintained in accordance with Section 01312A QUALITY CONTROL SYSTEM (QCS).

1.43 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER. ER 415-1-15
(31 OCT 89)

This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the contract clause entitled "Default: Fixed Price Construction". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
WORK DAYS BASED ON (5) DAY WORK WEEK

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
[16]	[13]	[8]	[5]	[4]	[4]	[4]	[4]	[4]	[4]	[7]	[13]

Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated listed above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the contract clause entitled "Default (Fixed Price Construction)".

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1.44 USE OF INCLINOMETER FOR LONG BED DUMP TRUCKS (DACF BULLETIN 25 MARCH 1993)

The recommendation of EM 385-1-1, Section 16.B.15, is mandatory for this project.

1.45 AVAILABILITY OF SAFETY AND HEALTH REQUIREMENTS MANUAL (EM 385-1-1).

As covered by CONTRACT CLAUSE "ACCIDENT PREVENTION", compliance with EM 385-1-1 is a requirement for this contract. Copies may be purchased for \$31.00 each at the following address:

United States Government Bookstore
Room 118, Federal Building
1000 Liberty Avenue
Pittsburgh, PA 15222-4003
Telephone: (412) 395-5021 FAX: (412) 395-4547

Or downloaded from the following website:

<http://www.usace.army.mil/inet/usace-docs/eng-manuals/em385-1-1/toc.htm>

1.46 FIRE PROTECTION DURING CONSTRUCTION (MIL-HDBK-1008C PARA. 1.6)

The Contractor is alerted to the requirements of Contract Clause "CLEANING UP" and more specifically to the requirements for fire protection during construction spelled out in EM 385-1-1 and NFPA No. 241 Building Construction and Demolition Operations. This item must be covered in the submittal required under Contract Clause "ACCIDENT PREVENTION".

1.47 HAUL ROADS - NOT USED**1.48 RADIOACTIVE MATERIAL/EQUIPMENT - NOT USED****1.49 CONSTRUCTION/SITE MANAGEMENT STANDARDS FOR CONSTRUCTION ON AMC INSTALLATIONS - NOT USED****1.50 CONSTRUCTION HAZARD COMMUNICATION**

The Contractor is required to comply with the requirements of the OSHA Hazard Communication Standard (29 CFR 1926.59). This standard is designed to inform workers of safe and appropriate methods of working with hazardous substances in the workplace. The standard has five requirements, and every hazardous or potentially hazardous substance used or stored in the work area is subject to all five. They are:

(1) Hazard Evaluation. Any company which produces or imports a chemical or compound must conduct a hazard evaluation of the substance to determine its potential health or physical hazard. The hazard evaluation consists of an investigation of all the available scientific evidence about the substance. The Contractor is required to assure that all producers

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(manufacturer/distributors) have performed these evaluations and transmit the required information with any hazardous materials being used or stored on the project site. From the hazard evaluation, a substance may be classified as a health hazard, or a physical hazard. These classifications are then further broken down according to type:

Health Hazards	Physical Hazards
Carcinogens	Combustible liquids
Irritants	Compressed gases
Sensitizers	Explosives
Corrosives	Flammables
Toxic substances	Organic peroxides
Highly toxic substances	Unstable substances
Substances harmful to specific organs or parts of the body	Water-reactive substances

(2) Warning Labels. If a chemical is hazardous or potentially hazardous, the producer or importer must affix a warning label to every container of that chemical before it leaves his facility. The Contractor must assure these labels are attached and legible. The label must identify the chemical, state the hazard, and give the name and address of the producer or importer. If the hazardous substance is transferred to another container, that container must then be labeled, tagged, or marked with the name of the chemical and the appropriate hazard warning. Warning labels should be replaced immediately if they are defaced or removed.

(3) Material Safety Data Sheets. The producer or importer must also supply a material safety data sheet (MSDS). The Contractor must keep these available in the work area where the substance is used, so that the people using the substance can easily review important safety and health information, such as:

The hazard possible from misuse of the substance
 Precautions necessary for use, handling, and storage
 Emergency procedures for leaks, spills, fire and first aid
 Useful facts about the substance's physical or chemical properties

(4) Work Area Specific Training. Because of hazardous substance may react differently depending on how it is used or the environment of the work area, the Contractor must conduct work area specific training; special training which takes the Contractor's operations, environment, and work policies into consideration. Work area training presents:

The hazardous substances which are present in the work place and the hazards they pose

Ways to protect against those hazards, such as protective equipment, emergency procedures, and safe handling

Where the MSDS's are kept, and an explanation of the labeling system
 Where the Contractor's written Hazard Communication Program is located

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(5) The Written Hazard Communication Program. In accordance with OSHA requirements, the Contractor must prepare a written Hazard Communication Program. This document will be included in the Contractor's Accident Prevention Plan. This document states how the Contractor plans to ensure that hazardous materials are appropriately labeled, how and where MSDS's will be maintained, and how employees will be provided with specific information and training.

1.51 ENVIRONMENTAL PROTECTION CLAUSE TANK CLEANING AND PAINTING (DLA NOV 1989) - NOT USED

1.52 MECHANICAL ROOM LAYOUT (ORL).

Detailed mechanical room layout drawings shall be submitted for approval in accordance with SD-04 Section 01331. Layout drawings shall show location and maintenance clearances for all mechanical room equipment, and all utility runs/chases for mechanical, electrical, telephone and other similar systems. Drawings shall be submitted at the same time as the submittals for the equipment to be located within the mechanical room.

1.53 RIGHTS IN TECHNICAL DATA--NONCOMMERCIAL ITEMS (NOV 1995)
252.227-7013 (JUN 1995).

(a) Definitions. As used in this clause:

(1) "Computer data base" means a collection of data recorded in a form capable of being processed by a computer. The term does not include computer software.

(2) "Computer program" means a set of instructions, rules, or routines recorded in a form that is capable of causing a computer to perform a specific operation or series of operations.

(3) "Computer software" means computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae and related material that would enable the software to be reproduced, recreated, or recompiled. Computer software does not include computer data bases or computer software documentation.

(4) "Computer software documentation" means owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the computer software or provide instructions for using the software.

(5) "Detailed manufacturing or process data" means technical data that describe the steps, sequences, and conditions of manufacturing, processing or assembly used by the manufacturer to produce an item or component or to perform a process.

(6) "Developed" means that an item, component, or process exists and is workable. Thus, the item or component must have been constructed or the process practiced. Workability is generally established when the item,

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component, or process has been analyzed or tested sufficiently to demonstrate to reasonable people skilled in the applicable art that there is a high probability that it will operate as intended. Whether, how much, and what type of analysis or testing is required to establish workability depends on the nature of the item, component, or process, and the state of the art. To be considered "developed," the item, component, or process need not be at the stage where it could be offered for sale or sold on the commercial market, nor must the item, component, or process be actually reduced to practice within the meaning of Title 35 of the United States Code.

(7) "Developed exclusively at private expense" means development was accomplished entirely with costs charged to indirect cost pools, costs not allocated to a government contract, or any combination thereof.

(i) Private expense determinations should be made at the lowest practicable level.

(ii) Under fixed-priced contracts, when total costs are greater than the firm-fixed-price or ceiling price of the contract, the additional development costs necessary to complete development shall not be considered when determining whether development was at government, private, or mixed expense.

(8) "Developed exclusively with government funds" means development was not accomplished exclusively or partially at private expense.

(9) "Developed with mixed funding" means development was accomplished partially with costs charged to indirect cost pools and/or costs not allocated to a government contract, and partially with costs charged directly to a government contract.

(10) "Form, fit, and function data" means technical data that describes the required overall physical, functional, and performance characteristics (along with the qualification requirements, if applicable) of an item, component, or process to the extent necessary to permit identification of physically and functionally interchangeable items.

(11) "Government purpose" means any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data for commercial purposes or authorize others to do so.

(12) "Government purpose rights" means the right to--

(i) Use, modify, reproduce, release, perform, display, or disclose technical data within the Government without restrictions; and

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(ii) Release or disclose technical data outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for United States government purposes.

(13) "Limited rights" means the rights to use, modify, reproduce, release, perform, display, or disclose technical data, in whole or in part, within the Government. The Government may not, without the written permission of the party asserting limited rights, release or disclose the technical data outside the Government, use the technical data for manufacture, or authorize the technical data to be used by another part, except that the Government may reproduce, release or disclose such data or authorize the use or reproduction of the data by persons outside the Government if reproduction, release, disclosure, or use is--

(i) Necessary for emergency repair and overhaul; or

(ii) A release or disclosure of technical data (other than detailed manufacturing or process data) to, or use of such data by, a foreign government that is in the interest of the Government and is required for evaluational or informational purposes;

(iii) Subject to a prohibition on the further reproduction, release, disclosure, or use of the technical data; and

(iv) The contractor or subcontractor asserting the restriction is notified of such reproduction, release, disclosure, or use.

(14) "Technical data" means recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation). The term does not include computer software or data incidental to contract administration, such a financial and/or management information.

(15) "Unlimited rights" means rights to use, modify, reproduce, perform, display, release, or disclose technical data in whole or in part, in any manner, and for any purpose whatsoever, and to have or authorize others to do so.

(b) Rights in technical data.

The Contractor grants or shall obtain for the Government the following royalty free, world-wide, nonexclusive, irrevocable license rights in technical data other than computer software documentation (see Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause of this contract for rights in computer software documentations):

(1) Unlimited rights.

The Government shall have unlimited rights in technical data that are-

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(i) Data pertaining to an item, component, or process which has been or will be developed exclusively with Government funds;

(ii) Studies, analyses, test data, or similar data produced for this contract, when the study, analysis, test, or similar work was specified as an element of performance;

(iii) Created exclusively with Government funds in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes;

(iv) Form, fit, and function data;

(v) Necessary for installation, operation, maintenance, or training purposes (other than detailed manufacturing or process data);

(vi) Corrections or changes to technical data furnished to the Contractor by the Government;

(vii) Otherwise publicly available or have been released or disclosed by the Contractor or subcontractor without restrictions on further use, release or disclosure, other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the technical data to another party or the sale or transfer of some or all of a business entity or its assets to another party;

(viii) Data in which the Government has obtained unlimited rights under another Government contract or as a result of negotiations; or

(ix) Data furnished to the Government, under this or any other Government contract or subcontract thereunder, with--

(A) Government purpose license rights or limited rights and the restrictive condition(s) has/have expired; or

(B) Government purpose rights and the Contractor's exclusive right to use such data for commercial purposes has expired.

(2) Government purpose rights.

(i) The Government shall have government purpose rights for a five-year period, or such other period as may be negotiated, in technical data--

(A) That pertain to items, components, or processes developed with mixed funding except when the Government is entitled to unlimited rights in such data as provided in paragraphs (b)(ii) and (b)(iv) through (b)(ix) of this clause; or

(B) Created with mixed funding in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes.

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(ii) The five-year period, or such other period as may have been negotiated, shall commence upon execution of the contract, subcontract, letter contract (or similar contractual instrument), contract modification, or option exercise that required development of the items, components, or processes or creation of the data described in paragraph (b)(2)(i)(B) of this clause. Upon expiration of the five-year or other negotiated period, the Government shall have unlimited rights in the technical data.

(iii) The Government shall not release or disclose technical data in which it has government purpose rights unless--

(A) Prior to release or disclosure, the intended recipient is subject to the non-disclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (DFARS); or

(B) The recipient is a Government contractor receiving access to the data for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Market with Restrictive Legends.

(iv) The Contractor has the exclusive right, including the right to license others, to use technical data in which the Government has obtained government purpose rights under this contract for any commercial purpose during the time period specified in the government purpose rights legend prescribed in paragraph (f)(2) of this clause.

(3) Limited rights.

(i) Except as provided in paragraphs (b)(1)(ii) and (b)(1)(iv) through (b)(1)(ix) of this clause, the Government shall have limited rights in technical data--

(A) Pertaining to items, components, or processes developed exclusively at private expense and marked with the limited rights legend prescribed in paragraph (f) of this clause; or

(B) Created exclusively at private expense in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes.

(ii) The Government shall require a recipient of limited rights data for emergency repair or overhaul to destroy the data and all copies in its possession promptly following completion of the emergency repair/overhaul and to notify the Contractor that the data have been destroyed.

(iii) The Contractor, its subcontractors, and suppliers are not required to provide the Government additional rights to use, modify, reproduce, release, perform, display, or disclose technical furnished to the Government with limited rights. However, if the Government desires to obtain additional rights in technical data in which it has limited rights, the Contractor agrees to promptly enter into negotiations with the Contracting Officer to determine whether there are acceptable terms for transferring such rights. All technical data in which the Contractor has granted the Government additional rights shall be listed or described in a

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license agreement made part of the contract. the license shall enumerate the additional rights granted the Government in such data.

(4) Specifically negotiated license rights.

The standard license rights granted to the Government under paragraphs (b)(1) through (b)(3) of this clause, including the period during which the Government shall have government purpose rights in technical data, may be modified by mutual agreement to provide such rights as the parties consider appropriate but shall not provide the Government lesser rights than are enumerated in paragraph (a)(13) of this clause. Any rights so negotiated shall be identified in a license agreement made part of this contract.

(5) Prior government rights.

Technical data that will be delivered, furnished, or otherwise provided to the Government under this contract, in which the Government has previously obtained rights shall be delivered, furnished, or provided with the pre-existing rights, unless--

(i) The parties have agreed otherwise; or

(ii) Any restrictions on the Government's rights to use, modify, reproduce, perform, display, or disclose the data have expired or no longer apply.

(6) Release from liability.

The Contractor agrees to release the Government from liability for any release or disclosure of technical data made in accordance with paragraph (a)(13) or (b)(2)(iii) of this clause, in accordance with the terms of a license negotiated under paragraph (b)(4) of this clause, or by others to whom the recipient has released or disclosed the data and to seek relief solely from the party who has improperly used, modified, reproduced, released, performed, displayed, or disclosed Contractor data marked with restrictive legends.

(c) Contractor rights in technical data.

All rights not granted to the Government are retained by the Contractor.

(d) Third party copyrighted data.

The Contractor shall not, without the written approval of the Contracting Officer, incorporate any copyrighted data in the technical data to be delivered under this contract unless the Contractor is the copyright owner or has obtained for the Government the license rights necessary to perfect a license or licenses in the deliverable data of the appropriate scope set forth in paragraph (b) of this clause, and has affixed a statement of the license or licenses obtained on behalf of the Government and other persons to the data transmittal document.

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(e) Identification and delivery of data to be furnished with restrictions on use, release, or disclosure.

(1) This paragraph does not apply to restrictions based solely on copyright.

(2) Except as provided in paragraph (e)(3) of the clause, technical data that the Contractor assets should be furnished to the Government with restrictions on use, release, or disclosure are identified in an attachment to this contract (see Attachment). The Contractor shall not deliver any data with restrictive markings unless the data are listed on the Attachment.

(3) In addition to the assertions made in the Attachment, other assertions may be identified after award when based on new information or inadvertent omissions unless the inadvertent omissions would have materially affected the source selection decision. Such identification and assertion shall be submitted to the Contracting Officer as soon as practicable prior to the scheduled date for delivery of the data, in the following format, and signed by an official authorized to contractually obligate the Contractor:

Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data.

The Contractor asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data should be restricted--

Technical Data to be Furnished With Restrictions*	Asserted Basis for Assertion**	Name of Person Rights Category***	Restrictions****
(LIST)	(LIST)	(LIST)	(LIST)

*If the assertion is applicable to items, components, or processes developed at private expense, identify both the data and each such item, component, or process.

**Generally, the development of an item, component, or process at private expense, either exclusively or partially, is the only basis for asserting restrictions on the Government's rights to use, release, or disclose technical data pertaining to such terms, components, or processes. Indicate whether development was exclusively or partially at private expense. If development was not at private expense, enter the specific reason for asserting that the Government's right should be restricted.

***Enter asserted rights category (e.g. government purpose license rights from a prior contract, rights in SBIR data generated under another contract, limited or government purpose rights under this or a prior contract, or specifically negotiated licenses).

****Corporation, individual, or other person, as appropriate.

Date _____

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Printed Name and Title _____

Signature _____

(End of identification and assertion)

(4) When requested by the Contracting Officer, the Contractor shall provide sufficient information to enable the Contracting Officer to evaluate the Contractor's assertions. The Contracting Officer reserves the right to add the Contractor's assertions to the Attachment and validate any listed assertion, at a later date, in accordance with the procedures of the Validation of Restrictive Markings on Technical Data clause of this contract.

(f) Marking requirements.

The Contractor, and its subcontractor or suppliers, may only assert restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data to be delivered under this contract by marking the deliverable data subject to restriction. Except as provided in paragraph (f)(5) of this clause, only the following legends are authorized under this contract: the government purpose rights legend at paragraph (f)(2) of this clause: the limited rights legend at paragraph (f)(3) of this clause: or the special license rights legend at paragraph (f)(4) of this clause, and/or a notice of copyright as prescribed under 17 U.S.C. 401 or 402.

(1) General marking instructions.

The Contractor, or its subcontractors or suppliers, shall conspicuously and legibly mark the appropriate legend on all technical data that qualify for such markings. The authorized legends shall be placed on the transmittal document or storage container and, for printed material, each page of the printed material containing technical data for which restrictions are asserted. When only portions of a page of printed material are subject to the asserted restrictions, such portions shall be identified by circling, underscoring, with a note, or other appropriate identifier. Technical data transmitted directly from one computer or computer terminal to another shall contain a notice of asserted restrictions. Reproductions of technical data or any portions thereof subject to asserted restrictions shall also reproduce the asserted restrictions.

(2) Government purpose rights markings.

Data delivered or otherwise furnished to the Government with government purpose rights shall be marked as follows:

GOVERNMENT PURPOSE RIGHTS

Contract No. _____

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Contractor Name _____

Contractor Address _____

Expiration Date _____

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(2) of the Rights in Technical Data--Noncommercial Items clause contained in the above identified contract. No restrictions apply after the expiration date shown above. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(3) Limited rights markings.

Data delivered or otherwise furnished to the Government with limited rights shall be marked with the following legend:

LIMITED RIGHTS

Contract No. _____

Contractor Name _____

Contractor Address _____

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(3) of the Rights in Technical Data--Noncommercial Items clause contained in the above identified contract. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings. Any person, other than the Government, who has been provided access to such data must promptly notify the above name Contractor.

(End of legend)

(4) Special license rights markings.

(I) Data in which the Government's rights stem from a specifically negotiated license shall be marked with the following legend:

SPECIAL LICENSE RIGHTS

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these data are restricted by Contract No. _____)Insert contract

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number) _____, License No. _____ (Insert license identifier) _____. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(ii) For purposes of this clause, special licenses do not include government purpose license rights acquired under a prior contract (see paragraph (b)(5) of this clause).

(5) Pre-existing data markings.

If the terms of a prior contract or license permitted the Contractor to restrict the Government's rights to use, modify, reproduce, release perform, display, or disclose technical data deliverable under this contract, and those restrictions are still applicable, the Contractor may mark such data with the appropriate restrictive legend for which the data qualified under the prior contract or license. The marking procedures in paragraph (f)(1) of this clause shall be followed.

(g) Contractor procedures and records.

Throughout performance of this contract, the Contractor and its subcontractors or suppliers that will deliver technical data with other than unlimited rights, shall--

(1) Have, maintain, and follow written procedures sufficient to assure that restrictive markings are used only when authorized by the terms of this clause, and

(2) Maintain records sufficient to justify the validity of any restrictive markings on technical data delivered under this contract.

(h) Removal of unjustified and nonconforming markings.

(1) Unjustified technical data markings.

The rights and obligations of the parties regarding the validation of restrictive markings or technical data furnished or to be furnished under this contract are contained in the Validation of Restrictive Markings on Technical Data clause of this contract. Notwithstanding any provision of this contract concerning inspection and acceptance, the Government may ignore or, at the Contractor's expense, correct or strike a marking if, in accordance with the procedures in the Validation of Restrictive Markings on Technical Data clause of this contract, a restrictive marking is determined to be unjustified.

(2) Nonconforming technical data markings.

A nonconforming marking is a marking placed on technical data delivered or otherwise furnished to the Government under this contract that is not in the format authorized by this contract. Correction of nonconforming markings is not subject to the Validation of Restrictive

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Markings on Technical Data clause of this contract. If the Contracting Officer notifies the Contractor of a nonconforming marking and the Contractor fails to remove or correct such marking within sixty (60) days, the Government may ignore or, at the Contractor's expense, remove or correct any nonconforming marking.

(I) Relation to patents.

Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other with otherwise granted to the Government under any patent.

(j) Limitation on charges for rights in technical data.

(1) The Contractor shall not charge to this contract any cost, including, but not limited to, license fees, royalties, or similar charges, for rights in technical data to be delivered under this contract when--

(I) The Government has acquired, by any means, the same or greater rights in the data; or

(ii) The data are available to the public without restrictions.

(2) The limitation in paragraph (j)(1) of this clause--

(I) Includes costs charged by a subcontractor or supplier, at any tier, or costs incurred by the Contractor to acquire rights in subcontractor or supplier technical data, if the subcontractor or supplier has been paid for such rights under any other Government contract or under a license conveying the rights to the Government; and

(ii) Does not include the reasonable costs of reproducing, handling, or mailing the documents or other media in which the technical data will be delivered.

(k) Applicability to subcontractors or suppliers.

(1) The Contractor shall ensure that the rights afforded its subcontractors and suppliers under 10 U.S.C. 2320, 10 U.S.C. 2321, and the identification, assertion, and delivery processes of paragraph (e) of this clause are recognized and protected.

(2) Whenever any technical data for noncommercial items is to be obtained from a subcontractor or supplier for delivery to the Government under this contract, the Contractor shall use this same clause in the subcontract or other contractual instrument, and require its subcontractors or suppliers to do so, without alteration, except to identify the parties. No other clause shall be used to enlarge or diminish the Government's, the Contractor's, or a higher-tier subcontractor's or supplier's rights in a subcontractor's or supplier's technical data.

(3) Technical data required to be delivered by a subcontractor or supplier shall normally be delivered to the next higher-tier contractor, subcontractor, or supplier. However, when there is a requirement in the

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prime contract for data which may be submitted with other than unlimited rights by a subcontractor or supplier, then said subcontractor or supplier may fulfill its requirement by submitting such data directly to the Government, rather than through a higher-tier contractor, subcontractor, or supplier.

(4) The Contractor and higher-tier subcontractors or suppliers shall not use their power to award contracts as economic leverage to obtain rights in technical data from their subcontractors or suppliers.

(5) In no event shall the Contractor use its obligation to recognize and protect subcontractor or supplier rights in technical data as an excuse for failing to satisfy its contractual obligation to the Government.

1.54 LIMITATIONS ON THE USE OR DISCLOSURE OF GOVERNMENT-FURNISHED INFORMATION MARKED WITH RESTRICTIVE LEGEND DFARS 252.227-7025 (JUN 1995)

(a)(1) For contracts requiring the delivery of technical data, the terms, "limited rights" and "Government purpose rights" are defined in the Rights in Technical Data--Noncommercial Items clause of this contract.

(2) For contracts that do not require the delivery of technical data, the terms "government purpose rights" and "restricted rights" are defined in the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause of this contract.

(3) For Small Business Innovative Research program contracts, the terms "limited rights" and "restricted rights" are defined in the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause of this contract.

(b) Technical data or computer software provided to the Contractor as Government furnished information (GFI) under this contract may be subject to restrictions on use, modification, reproduction, release, performance, display, or further disclosure.

(1) GFI marked with limited or restricted rights legends.

The Contractor shall use, modify, reproduce, perform, or display technical data received from the Government with limited rights legends or computer software received with restricted rights legends only in the performance of this contract. The Contractor shall not, without the express written permission of the party whose name appears in the legend, release or disclose such data or software to any person.

(2) GFI marked with government purpose rights legends.

The Contractor shall use technical data or computer software received from the Government with government purpose rights legends for government purposes only. The Contractor shall not, without the express written permission of the party whose name appears in the restrictive legend, use, modify, reproduce, release, perform, or display such data or software for any commercial purpose or disclose such data or software to a

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person other than its subcontractors, suppliers, or prospective subcontractors or suppliers, who require the data or software to submit offers for, or perform, contracts under this contract. Prior to disclosing the data or software, the Contractor shall require the persons to whom disclosure will be made to complete and sign the non-disclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (DFARS).

(3) GFI marked with specially negotiated license rights legends.

The Contractor shall use, modify, reproduce, release, perform, or display technical data or computer software received from the Government with specially negotiated license legends only as permitted in the license. Such data or software may not be release or disclosed to other persons unless permitted by the license and, prior to release or disclosure, the intended recipient has completed the non-disclosure agreement at DFARS 227.7103-7. The Contractor shall modify paragraph (1)(c) of the non-disclosure agreement to reflect the recipient's obligations regarding use, modification, reproduction, release, performance, display, and disclosure of the data of software.

(c) Indemnification and creation of third party beneficiary rights.

The Contractor agrees--

(1) To indemnify and hold harmless the Government, its agents, and employees from every claim or liability, including attorneys fees, court costs, and expenses, arising out of, or in any way related to, the misuse or unauthorized modification, reproduction, release, performance, display, or disclosure of technical data or computer software received from the Government with restrictive legends by the Contractor or any person to whom the Contractor has released or disclosed such data or software; and

(2) That the party whose name appears on the restrictive legend, in addition to any other rights it may have, is a third party beneficiary who has the right of direct action against the Contractor, or any person to whom the Contractor has released or disclosed such data or software, for the unauthorized duplication, release, or disclosure of technical data or computer software subject to restrictive legends.

1.55 NOT USED

1.56 VARIATIONS IN ESTIMATED QUANTITIES - SUBDIVIDED ITEMS (MAR 1995) EFARS 52.212-5001. - NOT USED

1.57 PARTNERING (PARAGRAPH APPLIES TO BOTH DESIGN AND CONSTRUCTION)

In order to most effectively accomplish this contract, the Government proposes to form a partnership with the Contractor to develop a cohesive building team. It is anticipated that this partnership would involve the Corps of Engineers, the Army Reserves, the Contractor/Designer, and primary subcontractors. This partnership would strive to develop a cooperative management team drawing on the strengths of each team member in an effort to achieve a quality project within budget and on schedule. This partnership would be bilateral in membership and participation will be totally

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voluntary. The Contractor and Government shall be responsible for their own labor and travel costs. The Contractor/Designer shall supply a meeting room at a local hotel (size to hold 20 people). It is anticipated the room will be required four times during the contract period. (Start of design, Start of Construction, 6 months into Construction and one year into construction.) These meetings are in addition to the design meetings called out in Section 00150 "THE DESIGN/BUILD PROCESS" and Section 01021 "DESIGN SUBMISSION REQUIREMENTS AFTER AWARD"

The cost of the facilitator to chair the first meeting will be shared equally between the Government and the contractor/designer. The team will determine if any of the other meetings will require formal facilitation.

It is anticipated that the local representatives will meet weekly to discuss progress, problems, concerns, etc. These meeting will be held at the job site during the construction phase. Additional meeting (if any) during the design phase will be as agreed by the parties.

1.58 ACTIVITY ENVIRONMENTAL ANALYSIS

1 February 1995

Before starting any major phase of the work, an Activity Environmental Analysis shall be developed by the contractor and reviewed with the Government Representative. A major phase of the work is defined as an operation involving a type of work not previously experienced which presents possible sources of adverse environmental effects. This analysis will evaluate potential environmental consequences of the activity and the techniques which will be utilized to accomplish the work in an acceptable manner. This analysis includes: (1) the phase or activity of work; (2) the potential environmental consequences of the activity; (3) precautionary actions to prevent adverse environmental impacts; (4) actions in the event of an environmental incident; and (5) the appropriate reference to Federal, State, or Local standards, regulations, or laws.

1.59 CONSTRUCTION AND DEMOLITION (C&D) WASTE MANAGEMENT PLAN

16 July 1999

a. The Contractor is required to submit for government approval a detailed C&D Waste Management Plan within 30 days after contract award and prior to initiating any site clearance or C&D work.

b. Specific elements to be addressed in the plan are as follows: Designated individuals on the contractor's staff who are responsible for C&D waste prevention and management.

(1) Actions that will be taken to reduce solid waste generation (including use of more efficient facility design and construction processes, reduced packaging and packing materials, supplier take-back programs, etc.). Description of the specific approaches to be used in recycling/reuse of the various materials generated, including, as appropriate, the specification of areas and equipment to be used for processing, sorting, and temporary storage of C&D wastes.

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(2) Characterization of the waste to be generated during the C&D project, to include types and quantities of waste materials. The characterization should address site waste materials, building materials, packaging, packing, wastes generated by construction equipment, wastes generated by site offices, and wastes generated by the workforce on-site.

(3) Landfill and/or incinerator name, tipping fee amounts, projected cost of disposing of all trash and waste materials in the landfill/incinerator, as if there would be no salvage or recycling on the project.

(4) Identification of local and regional reuse programs, including non-profit organizations such as schools, local housing agencies, and public arts programs that accept used materials (e.g., Habitat For Humanity, national materials exchange networks).

(5) A list of specific waste materials that will be salvaged for resale, salvaged and reused, and recycled; the recycling facilities that will be utilized; and copies of their permits and/or registrations.

(6) Identification of materials that cannot be recycled/reused with a written justification. All disposed materials including anticipated hazardous wastes must include names of haulers and disposal sites, and copies of their permits and/or registrations.

(7) Anticipated net cost savings determined by subtracting contractor program management costs and the cost of salvage (deconstruction), separating, and recycling from the following:

- (1) revenue from the sale of salvaged products and materials;
- (2) revenue from the sale of recycled products and materials;
- (3) revenue from the return of materials; and
- (4) incineration and/or landfill tipping fees saved due to diversion of materials.

(8) The plan must cover the following materials if the material is applicable to the specific project.

Asphalt	Gypsum
Concrete	Plastic
Soil	Polystyrene
Metal	Porcelain
Wood	Corrugated cardboard
Brick	Carpet

c. Firms and facilities used by the contractor for recycling, reuse, and disposal shall be appropriately permitted for the contractor's intended use, to the extent required by federal, state, and local regulations. The contractor shall maintain records of disposition of the materials, including all copies of manifests, origin, and disposal forms, and bills of lading. All facility, landfill, and hauler permits showing USEPA and state registration numbers shall be maintained and shall be available to the contracting officer when requested.

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d. The Contracting Officer shall review the C&D waste management plan in coordination with the environmental office within 7 calendar days of submittal. Where the contracting officer determines that the contractor has diligently explored all feasible methods to reduce C&D waste, the plan shall be approved, or approved with comment. Where it is determined that the contractor has not diligently explored all feasible methods, the contracting officer shall request a resubmittal.

e. All revenues generated by reusing, returning, salvaging, or recycling materials, as well as costs avoided by reduced tipping and incineration fees as compared to conventional disposal shall accrue to the contractor's benefit and be reported to the Contracting Officer. Where an on-site Army C&D landfill is the only available disposal facility, the Contractor will be charged the prevailing commercial rate.

1.60 NOT USED

1.61 CONTINUING CONTRACTS (MAR 1995) EFARS 52.232-5001. - NOT USED

1.62 OBSTRUCTION OF NAVIGABLE WATERWAYS - NOT USED

1.63 SIGNAL LIGHTS - NOT USED

1.64 LAKE OPERATION - NOT USED

1.65 PROPOSED BETTERMENTS - AUG 1997

a. The minimum requirements of the contract are identified in the Request for Proposal. All betterments offered in the proposal become a requirement of the awarded contract.

b. "Betterment" is defined as any component or system which exceeds the minimum requirements stated in the Request for Proposal. This includes all proposed betterments listed in accordance with Submittal Requirements of Section 00100 of the Proposal, and all Government identified betterments.

c. "Government identified betterments" include the betterments identified on the "List of Accepted Project Betterments" (see Paragraph 1.6 of Section 01010) prepared by the Proposal Evaluation Board and made a part of the contract by alteration, and all other betterments identified in the accepted Proposal after award.

1.66 SEQUENCE OF DESIGN/CONSTRUCTION

(a) The Contractor must submit for Government Approval a design Quality Control Plan in accordance with Section 01453, Paragraph 1.3 before design may proceed.

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(b) After receipt of the Contract Notice to Proceed (NTP), the Contractor shall initiate design, comply with all design submission requirements as covered under Section 01021 Design Submission Requirements After Award, and obtain government review of each submission. No construction may be start until the Government reviews the Final Design submission and determines it satisfactory for purposes of beginning construction. The ACO or COR will notify the Contractor when the design is cleared for construction. The Government will not grant any time extension for any design resubmittal required when, in the opinion of the ACO or COR, the initial submission failed to meet the minimum quality requirements as set forth in the contract.

(c) If the Government allows the Contractor to proceed with limited construction based on pending minor revisions to the reviewed Final Design submission, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted and are satisfactory to the Government.

(d) No payment will be made for any in-place construction until all required submittals have been made, reviewed and are satisfactory to the Government.

1.67 NOT USED

1.68 KEY PERSONNEL, SUBCONTRACTORS AND OUTSIDE ASSOCIATES OR CONSULTANTS
17 August 1998

In connection with the services covered by this contract, any inhouse personnel, subcontractors, and outside associates or consultants will be limited to individuals or firms that were specifically identified and agreed to during negotiations. The Contractor shall obtain the Contracting Officer's written consent before making any substitution for these designated inhouse personnel, subcontractors, associates, or consultants.

1.69 REQUIREMENTS FOR REGISTRATION OF DESIGNERS (APR 1984) FAR 52.236-25
25 February 1999

The design of architectural, structural, mechanical, electrical, civil, fire protection or other engineering features of the work shall be accomplished or reviewed and approved by architects or engineers registered to practice in the particular professional field involved in a State or possession of the United States, in Puerto Rico, or in the District of Columbia. All final drawings shall be signed and sealed by the registered professional responsible for the design.

1.70 DESIGN/BUILD CONTRACT - ORDER OF PRECEDENCE
17 August 1998

(a) The contract includes the standard contract clauses and schedules current at the time of contract award. It entails (1) the solicitation in its entirety, including all drawings, cuts, and illustrations, and any amendments, and (2) the successful offeror's accepted proposal. The contract constitutes and defines the entire agreement between the Contractor

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and the Government. No documentation shall be omitted which in any way bears upon the terms of that agreement.

(b) In the event of conflict or inconsistency between any of the provisions of this contract, precedence shall be given in the following order:

(1) Betterments: Any portions of the accepted proposal which both conform to and exceed the provisions of the solicitation.

(2) The provisions of the solicitations. (See also contract Clause: SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION.)

(3) All other provisions of the accepted proposal.

(4) Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, equipment installation drawings, etc. These are "deliverables" under the contract and are not part of the contract itself. Design products must conform with all provisions of the contract, in the order of precedence herein.

1.71 DESIGN CONFERENCES

17 August 1998

The requirements for design conferences are spelled out in Section 00150 "The Design Build Process" and Section 01021 "Design Submission Requirements after Award".

1.72 RESPONSIBILITY OF THE CONTRACTOR FOR DESIGN (REV. MAY 2002)

(a) The Contractor shall be responsible for the professional quality, technical accuracy, and the coordination of all designs, drawings, specifications, and other non-construction services furnished by the Contractor under this contract. The Contractor shall, without additional compensation, correct or revise any errors or deficiency in its designs, drawings, specifications, and other non-construction services and perform any necessary rework or modifications, including any damage to real or personal property, resulting from the design error or omission.

(b) The standard of care for all design services performed under this agreement shall be the care and skill ordinarily used by members of the architectural or engineering professions practicing under similar conditions at the same time and locality. Notwithstanding the above, in the event that the contract specifies that portions of the Work be performed in accordance with a performance standard, the design services shall be performed so as to achieve such standards.

(c) Neither the Government's review, approval or acceptance of, nor payment for, the services required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of the performance of this contract. The Contractor shall be and remain liable to the Government in accordance with applicable law for all damages to the Government caused by the Contractor's negligent performance of any of these services furnished under this contract.

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(d) The rights and remedies of the Government provided for under this contract are in addition to any other rights and remedies provided by law.

(e) If the Contractor is comprised of more than one legal entity, each entity shall be jointly and severally liable hereunder.

1.73 WARRANTY OF DESIGN (FIRM-FIXED PRICE DESIGN-BUILD CONTRACT) (MAY 2002)

(a) The Contractor warrants that the design shall be performed in accordance with the Contract requirements. Design and design related construction not conforming to the Contract requirements shall be corrected at no additional cost to the Government. The standard of care for design is defined in paragraph (b) of Special Contract Requirement "RESPONSIBILITY OF THE CONTRACTOR FOR DESIGN".

(b) The period of this warranty shall commence upon final completion and the Government's acceptance of the work, or in the case of the Government's beneficial occupancy of all or part of the work for its convenience, prior to final completion and acceptance, at the time of such occupancy.

(c) This design warranty shall be effective from the above event through the Statue of Limitations and Statute of Repose, as applicable to the state that the project is located in.

(d) The rights and remedies of the Government provided for under this clause are in addition to any other rights and remedies provided in this contract or by law.

1.74 CONSTRUCTOR'S ROLE DURING DESIGN (JUN 1998)

The Contractor's construction management key personnel shall be actively involved during the design process to effectively integrate the design and construction requirements of this contract. In addition to the typical required construction activities, the constructor's involvement includes, but is not limited to actions such as: integrating the design schedule into the Master Schedule to maximize the effectiveness of fast-tracking design and construction (within the limits allowed in the contract), ensuring constructability and economy of the design, integrating the shop drawing and installation drawing process into the design, executing the material and equipment acquisition programs to meet critical schedules, effectively interfacing the construction QC program with the design QC program, and maintaining and providing the design team with accurate, up-to-date redline and as-built documentation. The Contractor shall require and manage the active involvement of key trade subcontractors in the above activities.

1.75 VALUE ENGINEERING AFTER AWARD (JUNE 1999)

(a) In reference to Contract Clause 52.248-3, "Value Engineering - Construction", the Government may refuse to entertain a "Value Engineering Change Proposal" (VECP) for those "performance oriented" aspects of the Solicitation documents which were addressed in the Contractor's accepted contract proposal and which were evaluated in competition with other offerors for award of this contract.

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(b) The Government may consider a VECP for those "prescriptive" aspects of the Solicitation documents, not addressed in the Contractor's accepted contract proposal or addressed but evaluated only for minimum conformance with the Solicitation requirements.

(c) For purposes of this clause, the term "performance oriented" refers to those aspects of the design criteria or other contract requirements which allow the Offeror or Contractor certain latitude, choice of and flexibility to propose in its accepted contract offer a choice of design, technical approach, design solution, construction approach or other approach to fulfill the contract requirements. Such requirements generally tend to be expressed in terms of functions to be performed, performance required or essential physical characteristics, without dictating a specific process or specific design solution for achieving the desired result.

(d) In contrast, for purposes of this clause, the term "prescriptive" refers to those aspects of the design criteria or other Solicitation requirements wherein the Government expressed the design solution or other requirements in terms of specific materials, approaches, systems and/or processes to be used. Prescriptive aspects typically allow the Offerors little or no freedom in the choice of design approach, materials, fabrication techniques, methods of installation or other approach to fulfill the contract requirements.

1.76 DEVIATING FROM THE ACCEPTED DESIGN (JUN 2002)

(a) The Contractor must obtain the approval of the Designer of Record and the Government's concurrence for any Contractor proposed revision to the professionally stamped and sealed and Government reviewed and concurred design, before proceeding with the revision.

(b) The Government reserves the right to non-concur with any revision to the design, which may impact furniture, furnishings, equipment selections or operations decisions that were made, based on the reviewed and concurred design.

(c) Any revision to the design, which deviates from the contract requirements (i.e., the RFP and the accepted proposal), will require a modification, pursuant to the Changes clause, in addition to Government concurrence. The Government reserves the right to disapprove such a revision.

(d) Unless the Government initiates a change to the contract requirements, or the Government determines that the Government furnished design criteria are incorrect and must be revised, any Contractor initiated proposed change to the contract requirements, which results in additional cost, shall strictly be at the Contractor's expense.

(e) The Contractor shall track all approved revisions to the reviewed and accepted design and shall incorporate them into the as-built design documentation, in accordance with agreed procedures. The Designer of Record shall document its professional concurrence on the as-builts for any revisions in the stamped and sealed drawings and specifications.

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1.77 GOVERNMENT-FURNISHED RFP DRAWINGS, SURVEYS AND SPECIFICATIONS (JUL 2002)

This is to clarify that contract clause 252.236-7001, "Contract Drawings and Specifications", refers to any Government-furnished design or design criteria included in the Request for Proposal (RFP).

1.78 52.227-023 DRAWINGS AND OTHER DATA TO BECOME PROPERTY OF THE GOVERNMENT (DFARS, MAR 1979)

All designs, drawings, specifications, notes, and other works developed in the performance of this contract shall become the sole property of the Government and may be used on any other design without additional compensation to the Contractor. The Government shall be considered the "person for whom the work was prepared" for the purpose of authorship in a copyrightable work under 17 U.S.C. 201(b). With respect thereto, the Contractor agrees not to assert or authorize others to assert any rights or to establish any claim under the design patent or copyright laws. The Contractor for a period of three (3) years after completion of the project agrees to furnish all retained works at the request of the Contracting Officer. Unless otherwise provided in the contract, the Contractor shall have the right to retain copies of all works beyond such period.

1.79 POLLUTION PREVENTION PLAN

In accordance with the National Pollutant Discharge Elimination System (NPDES) Permit, a Pollution Prevention Plan (PPP) is required for this project. This plan shall be developed by the Contractor as part of the design process if this is a Design/Build contract or as a pre construction activity and must meet the erosion and sediment control requirements for the state of Ohio. The plan must identify the controls that will be used and include design, inspection, and maintenance information. A site plan with the existing and proposed grading shall be included, showing the controls being utilized. The permanent stabilization practices (permanent seeding, mulching, sodding, plants, erosion control blanket, riprap, etc.) should be shown on the final grading plan, with temporary controls (temporary gravel construction entrance/exit, silt fences, straw bales, temporary diversions, sediment basins or traps, etc.) shown on the existing grading plan. Use of straw bales alone is not considered an effective method of sediment control and should not be used. Prior to the start of construction, the Contractor shall submit the Pollution Prevention Plan to the Contracting Officer for review and approval. PPP must address compliance with all State laws regarding historic preservation and endangered species with State Letters attached. Along with the PPP submittal, the contractor shall provide a check made payable to the State of Ohio for the cost of the NPDES permit application. Once the PPP is approved by the Contracting Officer, the NOI will be prepared by the Corps of Engineers, utilizing information contained in the approved PPP. A Notice of Intent (NOI) will be forwarded to the State by the Corps of Engineers. Commencement/start of construction (ground disturbing activity) by the Contractor CANNOT start prior to the NPDES Permit and the letter of compliance being received. A copy of both the PPP and NPDES Permit must be kept at the construction site. (Also see Paragraph 6.4.5 of Section 01010 "Statement of Work".)

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1.80 NOT USED

1.81 NOT USED

1.82 NOT USED

PART 2 PRODUCTS NOT USED

PART 3 EXECUTION NOT USED

-- End of Document --

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SECTION 01010

STATEMENT OF WORK

PART 1 – GENERAL PROJECT DESCRIPTION

1.1 DESIGN OBJECTIVES

- 1.1.1 The objective of this solicitation is to obtain a facility in which the Using Units are able to effectively implement their Army Reserve Support and training missions. These activities require sufficient space with up-to-date furnishings and equipment to support the Units' approximately 400 full-time and Army Reserve personnel. The facility environment must meet or exceed U. S. Army Reserve (USAR) and other code and regulatory requirements as referenced in these documents.
- 1.1.2 It is the design intent to provide the Army Reserve with a Training Center Facility of design-award-winning caliber that meets or exceeds the specifications and requirements contained in this RFP. The Army Reserve considers functionality, durability, maintainability, first cost, operating cost and esthetics to be important factors.
- 1.1.3 The project conceptual design was developed jointly by the Army Reserve, the Corps of Engineers (COE) and a contracted A/E team; this conceptual design has been approved by the Government.
- 1.1.4 The conceptual design Drawings and Specifications, along with the other information in this RFP serve as requirements for Contractor building design and construction completion, along with other code, regulatory and professional practice requirements.

1.2 CONTRACTOR RESPONSIBILITY

- 1.2.1 The Contractor is to provide all labor, materials, equipment, supplies, permits, fees, and consultant services to design and construct this Training Center complex. The complex shall be a complete and usable facility meeting the requirements herein. The Contractor shall develop a complete site, building and interior design package.
- 1.2.2 Any discrepancies found in these RFP documents by the offeror shall be identified to the Louisville District, Corps of Engineers before the submittal of the offeror's proposal. The Design/Build Contractor as Architect/Engineer of Record, is solely responsible for the design intent and the accuracy of the D/B Contractor's proposal and its compliance with all RFP requirements and all referenced codes and criteria. All information provided in the Government-provided RFP package is to be considered schematic in nature and is to be verified by the D/B Contractor as part of the development of the project design and construction documents.

- 1.2.3 The Contractor's design professionals shall be the designers of record for the entire project; they must take full responsibility for the design and must satisfy themselves that the design meets professional and regulatory standards.

1.3 BACKGROUND

- 1.3.1 This Facility will serve as a Training Center and Organizational Maintenance Shop/Area Maintenance Support Activity (OMS/AMSA) for the 88th Reserve Support Command. It will house the 416th FETDA, the 192nd Co Petro Supp, the 762nd Trans Co, the 758th Maint, the 256th CSH Hub Det 2, the 79th QM Co Det 2, the 447th MP Co and the AMSA 3-Canal Fulton.
- 1.3.2 The AR units are currently housed in three Government-owned facilities, two leased facilities and one facility on leased land. This new facility will reduce operational costs to the Government while significantly improving unit readiness and mobilization as well as increasing the proficiency of service members. Approximately 400 reservists will work and train in this facility.
- 1.3.3 There will be approximately 35 people working in the building on a full-time basis Monday through Friday, and the largest drill weekend will have approximately 200 reservists using the facility. It is anticipated that the facility will be used three weekends per month for reserve training activities.

1.4 PROJECT DESCRIPTION – SITE

- 1.4.1 Existing Conditions
 - 1.4.1.1 The site is approximately 10 acres in Lake Township near North Canton, Ohio. The site is located in the Akcan Industrial parcel at the southwest quadrant of the intersection of Highland Park Street N.W. and Pleasantwood Avenue N.W. Meridian Street is also in place along the east side of the parcel. The parcel is approximately 10 acres in size.
 - 1.4.1.2 Water main, sanitary sewer and natural gas is in place along Highland Park Street Northwest. Utilities are in place along other sides of the parcel, however, utility contacts have directed that service for water main, sanitary sewer, and natural gas be obtained from the utilities in place along Highland Park Street NW. Street access is to Meridian Street along the east side of the parcel.
- 1.4.2 Site Improvements
 - 1.4.2.1 The improvements to the site include extending required utilities to the new buildings. The site will be graded and necessary soil preparation/improvements accomplished to provide support for building footings and site pavements. The site is to be graded for positive surface water drainage from building pad areas and pavements. On site detention of storm water runoff is to be constructed. Outlets to in-place drainage conveyances are to be constructed. Privately owned vehicle (POV) and military equipment parking (MEP) areas are to be paved.

Concrete curb and gutter and sidewalk are to be constructed near the training center and POV parking areas. Concrete aprons are to be constructed at vehicle maintenance doors, loading doors and ramps, wash platforms, and driveway entrances. Landscaping is required for the site.

1.5 PROJECT DESCRIPTION – BUILDINGS

1.5.1 Training Center and OMS/AMSA Building

1.5.1.1 The Training Center and OMS/AMSA comprise one building. The building is L-shaped with a two-story element at the connection of the two legs. The OMS/AMSA is in a one-story south wing. The unit storage and assembly hall spaces are in a one-story east wing.

1.5.1.1.1 The Training Center portion of the building houses offices and administrative spaces, caged unit storage, classrooms, library, learning center, physical readiness, engagement skills trainer, COMSEC training room, arms vault and armorer's room, assembly hall, kitchen, toilets, lockers, showers and building support functions.

1.5.1.1.2 The lobby is located on the north side of the two-story rectangle. The recruitment/retention office is accessed directly from the lobby. From the lobby, one corridor leads to the east wing and west to the mail room and family support. A second corridor leads south through the training center to offices, toilet rooms, mechanical spaces and to the OMS/AMSA.

1.5.1.1.3 The east wing contains the assembly hall, kitchen, unit storage and offices, arms vault and armorer's room and building support functions. The use of clerestory translucent panels in the unit storage allows the opportunity for daylighting and design expression.

1.5.1.1.4 The second level is accessed from an elevator at the lobby and from two stairs, one in each corridor. This level contains additional office and administration spaces, library, learning center, classrooms, engagement skills trainer, COMSEC training room, medical section, physical readiness, toilets, lockers, showers, break room and mechanical spaces.

1.5.1.2 The OMS/AMSA portion of the building houses office and administrative areas, tool and parts storage, 10 work bays, one welding bay, controlled and flammable storage, toilets and building support functions. The OMS functions are located to the north of the maintenance bays and the AMSA functions are located to the south. Exterior wash platforms are located at the south end of the OMS/AMSA.

1.5.1.2.1 The use of clerestory translucent panels in the maintenance bays allows the opportunity for daylighting and design expression.

1.5.2 Unheated Storage Building (STRG)

- 1.5.2.1 The Unheated Storage building is a long narrow building with two small enclosed spaces for the storage of fittings. The remainder of the building is open on one side and used for the storage of fuel bladders.
- 1.5.3 General Construction
- 1.5.3.1 The Training Center and OMS/AMSA building is assumed to use spread footings to support steel frame construction, either steel frame with steel joists, steel frame with concrete plank, or steel frame with composite deck. On grade floors will be poured concrete, and the exterior wall system will be masonry bearing wall with brick veneer. Exterior openings will receive steel or aluminum frame door systems, steel or aluminum windows, or aluminum curtainwall. The Contractor is encouraged to develop an attractive exterior design, and will be permitted to use varying brick, precast concrete, stone, tile, metal or translucent panels for exterior expression. The roof will be a sloped (4:12 minimum), non-structural standing seam metal roofing system (NSSSMRS). Gutters and downspouts shall be provided with heat tape.
- 1.5.3.2 Interior construction will be concrete block or steel stud and gypsum board walls, and acoustical panel or gypsum board ceilings.
- 1.5.3.3 The OMS/AMSA work bays open to the east and west, and are fronted by concrete aprons. One drive-through bay will be serviced by an overhead traveling crane as indicated on the drawings.
- 1.5.3.4 The Unheated Storage building is a pre-engineered metal building, with a slab-on-grade concrete floor. A 6" concrete curb is required on the three enclosed sides for secondary fuel containment in the fuel bladder storage area; the slab shall slope ¼" per foot toward the open side.

1.6 BETTERMENTS

- 1.6.1 The Contractor is encouraged to provide betterments to the design, while staying within the Project cost limitations. Such betterments may be Contractor suggested, or respond to Government desires listed below.
- 1.6.2 Betterments identified as desirable by the Government include the following:
1. Additional paved MEP space along the south side of the site, including security lighting.
 2. Additional STRG space for storage of fuel bladders, maximum size of any single STRG building is 5,000 SF.
 3. "Jiffy-lube" style 5-line fluid delivery systems for the AMSA with one distribution point for every two bays (7 total distribution points).
 4. Tilting flag pole.
 5. Higher quality finishes in the lobby and corridors.
 6. Free standing, open air, pre-engineered and prefabricated picnic pavilion. D/B Contractor to coordinate location with the Government.

- 7. Three minimum gas-fired cast resin forced draft boilers to provide heat for the building. Boilers shall be sized for the total calculated heating load, plus 10%.
- 8. Provide retractable tarp at open side of the STRG for weather protection for fuel bladder storage.

PART 2 – RFP DESIGN DOCUMENTS

2.1 The following design documents are included as a part of this RFP, as references, to provide information and criteria for the Contractor” completion of the design:

2.1.1 Reference Design Drawings

- G0.0 Cover Sheet
- C1.1 Topographic & Utility Survey
- C1.2 Not Used
- C1.3 Site Plan
- C1.4 Site Grading and Drainage Plan
- C1.5 Not Used
- C1.6 Site Utility Plan
- C1.7 Site Paving Plan
- C2.1 Loading Ramp Plans and Details
- A1.1 Training Center – Overall First Floor Plan
- A1.1.1 Training Center – First Floor Plan
- A1.1.2 Training Center – First Floor Plan
- A1.1.3 Training Center – First Floor Plan
- A1.1.4 Training Center – First Floor Plan
- A1.1.5 Training Center – Second Floor Plan
- A1.2 Unheated Storage Building – Plan and Elevations
- A2.1 Training Center – Roof Plan
- A3.1 Training Center – Elevations
- A4.1 Kitchen Plans and Equipment Schedule
- A4.2 Kitchen Plans and Elevations
- A4.3 Enlarged Kitchen Plans and Elevations
- A4.4 Enlarged Kitchen Plans and Elevations
- A5.1 Caging Details
- F1.1 Training Center – Overall First Floor Furniture Plan
- F1.1.1 Training Center – First Floor Furniture Plan
- F1.1.2 Training Center – First Floor Furniture Plan
- F1.1.3 Training Center – First Floor Furniture Plan
- F1.1.4 Training Center – First Floor Furniture Plan
- F1.1.5 Training Center – Second Floor Furniture Plan
- F2.1 Typical Office Furniture Types
- F2.2 Typical Office Furniture Types
- E0.1.1 Electrical One-Line Diagram

- 2.2 The RFP requirements shall be used in conjunction with the reference design drawings and other information to define the functional and esthetic Project Design/Build requirements. The project design as presented in this RFP shall be used without modification, except as allowed herein. The Contractor shall be responsible for the design and coordination necessary to provide a complete and useable facility in accordance with the RFP requirements. The RFP design documents are not intended to be construction documents. It is the Contractor's responsibility to investigate the RFP requirements, including existing field conditions, and independently further develop the design to sufficiently prepare a proposal and later construction documents, with the involvement of its subcontractors, including designers.

PART 3 – GENERAL PROJECT REQUIREMENTS

3.1 GENERAL REQUIREMENTS

- 3.1.1 This Project consists of the design and construction of an Army Reserve Training Center complex, which includes two buildings, site improvements, paving, and utilities. The Project shall be designed and constructed using English units of measurement.
- 3.1.2 The complete RFP package constitutes the Project requirements. The requirements of these documents are minimum standards and can be exceeded by the offeror. Deviations from the requirements of these documents may be approved if considered by the Government to be in its best interests. The extent of development of these requirements in no way relieves the successful offeror from responsibility for completing the design, construction documentation, and construction of the facility in conformance with applicable criteria and codes.
- 3.1.3 The site and building drawings are conceptual in nature and present site and building layouts which consider the Army Reserve program and the constraints on site development, and which have the approval of the Government. The Contractor's designers shall develop and refine the conceptual design in their completion of the construction documents. Such development shall be consistent with the criteria and acceptable to the Government. The building gross floor areas may not increase in size without Government approval.
- 3.1.4 The Contractor shall accommodate minor site and building plan changes by the Government in the early stages of the design process, as a normal part of the design development process. The Contractor may adjust spaces, within the overall and specific function area guidelines, as required to accommodate structural layout, and as necessary to provide adequate space for mechanical, electrical and communication spaces. The mechanical and electrical spaces must provide adequate space to safely and efficiently accommodate equipment operation and maintenance. Also see spec section 00115, paragraph 2.5.
- 3.1.5 The Contractor shall develop and refine the exterior image and esthetics of the building as part of the design development process. The basic materials for the

exterior are noted on the drawings. The Contractor shall utilize materials, detailing, fenestration, lighting and ornament to develop a high-quality exterior image for the facility. The conceptual elevations in the RFP drawings are not acceptable as finish elevations.

- 3.1.6 The Contractor’s architect or interior designer shall select the final palette of colors and materials for building interior and exterior, to produce a pleasing appearance, coordinated throughout.
- 3.1.7 The Technical Specifications Divisions 2 through 16 are provided in outline format. They shall be utilized as design criteria and minimum standards for the corresponding construction work, and shall be met or exceeded unless Contractor obtains specific Government approval for proposed reductions. These outline specifications shall not be considered complete and suitable for final construction specifications. Contractor’s designers shall expand the outline specifications to provide comprehensive, three-part, CSI-format Specifications and shall edit the Specifications to indicate actual products to be used in the construction. Final specifications shall include as a minimum, a description of the technical requirements, criteria for determining whether the criteria are met, and quality control requirements and procedures. All sections provided may not be used, and designers shall provide additional Specification Sections or items if necessitated by their final design or RFP requirements. The standards referenced in the outline specification establish minimum requirements for the final construction specifications.
- 3.1.8 Where Technical Specification Sections are more complete, these represent the Government’s preferred specification approach to this project. Contractor’s designers must still take complete responsibility for the design and specification of the project, and shall satisfy themselves that these Sections are complete and suitable for the final design. Most of the outline specification sections are adapted from the typical Government Unified Facility Guides Specifications (UFGS) and reflect Army Reserve-approved approaches and products. They shall be used as the basis for selection of construction materials, products, and systems.
- 3.1.9 The Contractor is responsible for the design and specification of the project furniture, fixtures and equipment, unless noted as Government-furnished, Government-installed (GFGI). In addition to the furniture, this includes all Unit Storage and other caging and shelving, Kitchen equipment, workbenches, cabinets, and physical training equipment.
- 3.1.10 **The Government will purchase and install the furniture and physical training equipment, using the Contractor’s design documents and information. See Section 01021 for requirements for design documents and information. Furniture and physical training equipment is shown and called out on the “F” series drawings. The Contractor is responsible for coordinating its work with the furniture and physical training equipment installation, and for connection of power and communications to the system furniture once it is installed. Contractor shall base the design of the office and unit common workstation furniture on Knoll products – see Sections**

01021 and 12705. The Government has already performed a study establishing Knoll as the provider for this project.

3.1.11 All materials, fixtures, equipment, systems, etc. to be used in the construction of this project shall be new, and purchased for the purpose of constructing this facility.

3.2 APPLICABLE CODES AND CRITERIA

3.2.1 * In order for a facility to be occupied by Department of Defense personnel, the design and construction must meet specific requirements. The Government's primary guidance on building codes, fire protection and life safety is UFC 1-200-01, Design – "General Building Requirements." Design and construction of AR real property improvements shall comply with UFC 1-200-01, and shall comply with the specific applicable requirements of IBC, NFPA 101, MIL HDBK 1008c and other commercial codes and standards that are referenced in UFC 1-200-01. The Contractor shall complete a Fire Protection/Life Safety Code Submittal for the project to demonstrate compliance. See Appendix F of this Section 01010 for Government format.**

3.2.2 Design and construction of AR real property improvements shall also comply with the requirements of this document and with the current edition of the industry and Federal Government standards listed below. Where UFC 1-200-01 or any other Federal Government standard refers to other Federal Government standards not listed below, the standards not listed do not apply. Use of the Unified Facility Guide Specifications (UFGS) is not required.

3.2.3 Some State and local code and regulatory agencies may not have jurisdiction over Federal Government construction on Federal property. However, the AR wishes to comply with State and local codes and regulations, and the Contractor remains responsible for such compliance. Therefore, design and construction of AR real property improvements shall also comply with all current and applicable State and local codes, and with all other applicable laws and regulations governing development, design and construction at the site. If certain of such requirements appear particularly onerous, or hamper AR-required functionality of the project, the Contractor may recommend the Government waive the requirement or implement a lesser requirement. The Government's approval of such recommendations is not assured.

3.2.4 Where any of the applicable requirements conflict, the most stringent shall govern. In no case shall building code, fire protection and life safety requirements be reduced below those required in UFC 1-200-01 and this document. ***

All Design Disciplines

ADA-AG	Americans with Disabilities Act – Accessibility Guidelines	
AR 190-11	Physical Security of Weapons, Ammunition, and Explosives	
DG 1110-3-107	Design Guide for U.S. Army Reserve Facilities	
ETL 1110-3-491	Sustainable Design for Military Facilities	
IBC	International Building Code	
IMC	International Mechanical Code	
OBC	Ohio Building Code	
OPC	Ohio Plumbing Code	
NFPA 101	Life Safety Code (as directed in MIL HDBK 1008c)	
MIL HDBK 1008c	Fire Protection for Facilities Engineering, Design and Construction	
UFC 1-200-1	Design: General Building Requirements	
*** UFC 3-400-01	Design: Energy Conservation	***
UFC 4-010-01	Department of Defense Minimum Antiterrorism Standards for Buildings	
UFAS	Uniform Federal Accessibility Standards	
ASCE 7-95	Minimum Design Loads for Buildings	
No number	USAR Design Process and Submittal Requirements	
No number	Lake Township Zoning Ordinance	
No number	Stark County Subdivision Engineering Department Storm Water Management Report Guidelines and Requirements	
No number	Stark County Subdivision Regulations	
All standards referenced in the outline specifications of this RFP.		

Civil/Site

TM 5-822-2	General Provisions and Geometric Design for Roads, Streets, Walks and Open Storage Areas
TM 5-822-5	Pavement Design for Roads, Streets, Walks and Open Storage Areas
TM 5-822-7	Standard Practice for Concrete Pavements
TM 5-822-8	Bituminous Pavements: Standard Practice
No number	Ohio Department of Transportation, Highway Design and Rehabilitation, 1999
Those listed under “All Design Disciplines” above.	

Architectural/Interior Design

AR 190-51	Security of Unclassified Army Property
ASHRAE Stnd 90.1	Energy Standard for Buildings – Except Low Rise Residential Buildings
Those listed under “All Design Disciplines” above.	

Structural

ACI 318 American Concrete Institute Building Code Requirements for Reinforced Concrete
SJI Tech Digest No.5 Vibration of Steel Joist-Concrete Slab Floors
Those listed under “All Design Disciplines” above.

Mechanical/Plumbing

TM 5-785 Engineering Weather Data
NFPA 13 Installation of Sprinkler Systems
NFPA 90A Installation of Air Conditioning and Ventilating Systems
*** **NFPA 54 National Fuel Gas Code** ***
ASHRAE Stnd 90.1 Energy Standard for Buildings – Except Low Rise Residential Buildings
*** **IPC International Plumbing Code** ***
Those listed under “All Design Disciplines” above.

Electrical

NFPA 70 National Electrical Code
NFPA 72 National Fire Alarm Code
MIL HDBK 1012/3 Telecommunications Premises Distribution - Planning, Design, and Estimating
ASHRAE Stnd 90.1 Energy Standard for Buildings – Except Low Rise Residential Buildings
Those listed under “All Design Disciplines” above.

Landscape Architecture

Those listed under “All Design Disciplines” above.

3.2.5 * The requirements of the International Mechanical Code (IMC) shall apply except as follows. Where conflicts exist between the IMC and the requirements of this document, this document shall govern. Where the IMC references the ICC Electrical Code, the NEC National Electrical Code shall be the applicable code. Where the IMC references the International Gas Code, the NFPA 54 National Fuel Gas Code shall be the applicable code. Where the IMC references the International Fire Code, the National Fire Codes published by the National Fire Protection Association (NFPA) shall be the applicable code. Where the IMC references the International Energy Code, the ASHRAE Standard 90.1 Energy Standard for Buildings – Except Low Rise Residential Buildings shall be the applicable reference. *****

3.2.6 The primary criteria and guidance for detailed design of Army Reserve Training Centers is Design Guide (DG) 1110-3-107 “Design Guide for U.S. Army Reserve Facilities.” The Contractor shall follow the guidance of DG 1110-3-107 in developing the project design, unless this RFP directs otherwise. When the DG references Government criteria documents not included in the list above, those criteria do not apply to this project.

- 3.2.7 The Government criteria listed above may be found at the following web sites:
TM and UFC – www.hnd.usace.army.mil/techinfo/engpubs.htm
MIL HDBK – www.hnd.usace.army.mil/techinfo/support.htm
DG and USAR Design Process and Submittal Reqmts – bc.cecer.army.mil/mds
AR – www.usapa.army.mil/USAPA_PUB_search_P.asp – search using the first 3 digits following the AR designation
- 3.2.8 Energy and Resources Conserving Features – Public Law 102-486, Executive Order 13123, and Federal Regulations 10 CFR 435 require Federal buildings to be designed and constructed to reduce energy consumption in a life-cycle, cost-effective manner using renewable energy sources when economical. Products designed to conserve energy and resources by controlling the amounts of consumed energy or by operating at increased efficiencies shall be considered.
- 3.2.9 Energy conservation techniques shall be considered as they relate to site design, site engineering, building design, and building engineering. Techniques which conserve energy, improve functionality, and can be justified by life cycle cost analysis as cost effective are encouraged. Integration of energy conservation systems with the building design (lighting, structure, mechanical systems, and aesthetics) is essential to facilitate functionality and maximum energy savings. If an alternative energy generation method is intended for use as the project's primary energy source, documentation shall be submitted to the Contracting Officer, verifying the system's reliability and ability to meet the project's peak demand.
- 3.2.10 Sustainable Design – Engineering Technical Letter (ETL) 1110-3-491 is the Government's criteria for sustainable design. The project shall be designed and constructed to obtain at least a "silver" rating in compliance with the ETL.
- 3.2.11 Accessibility – Design and construction must comply with ADA-AG and UFAS.
- 3.2.12 *** **Air Intakes – The location of ventilation air intakes and exhaust air intakes shall be designed to comply with the International Building Code (IBC). The conceptual design of the building as approved by the Government will not be required to comply with the requirements as stated in the Design Guide, paragraph 3.8.5.** ***

PART 4 – SITE/CIVIL DESIGN AND CONSTRUCTION REQUIREMENTS

- 4.1 The conceptual site drawings present a site design scheme which considers the restraints on the site and which has the approval of the Government. This does not preclude the Contractor from making improvements to the design so long as such improvements are consistent with the criteria and acceptable to the Government. The site development design is conceptual; the Contractor shall finalize all elements of the design, including exact dimensions.

4.2 SITE DEVELOPMENT CONSTRAINTS

- 4.2.1 The Government's primary guidance on physical security is Unified Facility Criteria (UFC) 4-010-01, DoD Minimum Antiterrorism Standards for Buildings. Site and building design shall comply with its requirements. The conceptual site plan has been developed in compliance with the minimum requirements of the document. The threat assessment for the site is "low."
- 4.2.2 The Lake Township Zoning Ordinance prescribes setbacks and other site and landscaping requirements. The conceptual site plan has been developed in compliance with its requirements.
- 4.2.3 The site has been identified as a potential summer habitat for the threatened Indiana bat. Cutting of trees may only occur between September 15 and April 15, unless a study is performed to verify that no Indiana bats are using the site as a nesting area. The Government may allow cutting of trees prior to authorization to proceed with construction if necessary to allow Contractor to clear the site in the September 15 to April 15 time period.

4.3 FIELD VERIFICATION OF EXISTING CONDITIONS

- 4.3.1 The Contractor shall field verify existing conditions prior to beginning work. A survey was performed by an independent A/E and is provided in these documents. The Contractor shall obtain any information required to provide a complete and useable design. The point of contact for the survey is:

Charles Hammontree
Hammontree & Associates, Ltd.
5233 Stoneham Road
North Canton, Ohio 44720
330-499-8817
800-394-8817

- 4.3.2 The Contractor shall perform its own geotechnical investigation to establish soil characteristics for site foundation, paving and cathodic protection design and construction. A preliminary geotechnical investigation has been performed by an independent A/E, and is provided for information only in Appendix E of this Section 01010. The point of contact for the preliminary geotechnical investigation is:

Pietro Bonanni
Professional Service Industries, Inc. (PSI)
5555 Canal Road
Cleveland OH 44125
216-447-1335

- 4.3.3 The Contractor and the designers of record shall be responsible for investigating all differing site conditions, discrepancies, and field related issues that are encountered during the design and construction process. The designers of record shall be responsible for providing guidance to the Contractor for the resolution of

all such issues. The Contractor shall provide notice to the Government of any such issues prior to proceeding and with sufficient time to avoid cost or schedule impacts.

- 4.3.4 The contractor and the designers of record shall be responsible for verifying the condition, location, and capacity for all utilities necessary for the project. The Contractor and designers of record shall further verify and shall provide evidence to the Owner that all utilities will meet the requirements of this project. The contractor shall obtain flow tests for water service for the project, and shall base the design of the domestic water and fire protection systems on the results of the tests.

4.4 SITE DEVELOPMENT COMPLIANCE REQUIREMENTS

- 4.4.1 The Contractor shall assure that the site development complies with all applicable local, State and Federal regulations. A list of known regulations is located in Section 6.4, Permits, and Regulatory Agency and Utility Coordination.

4.5 CONTRACTOR'S USE OF THE SITE

- 4.5.1 Except as required for utility service provider access, and for observation and oversight by the AR, COE and local regulatory officials, the Contractor shall have complete use of the site within final limits of construction to be recommended by the Contractor for Government approval.

4.6 HAZARDOUS MATERIALS

- 4.6.1 If known or suspected hazardous materials are discovered in the course of design or construction, the Contractor shall immediately notify the Contracting Officer, suspend work in the area of the hazardous materials, and await Contracting Officer direction.

4.7 GRADING

- 4.7.1 Building shall have a minimum grade of 2% away from the building exterior walls for positive drainage.
- 4.7.2 Design grades to provide required site lines related to traffic and roadway design.
- 4.7.3 Design grades to meet accessibility requirements where required.
- 4.7.4 The Contractor shall be responsible for any and all dewatering necessary for grading and other subsurface works necessary for the construction of the Project.

4.8 UTILITIES

- 4.8.1 Gas – Design site gas services from gas company site service point and meter set complete with fittings, valves, regulators, meters and appurtenances to provide the building mechanical systems with the required pressures and flows to properly operate equipment components provided for each system. Coordinate with gas utility to provide service to the limits of the site that meet project requirements.
- 4.8.2 Water – Design connections to the municipal water system for the on site water main including pipe, fittings, valves, hydrants, meters, and appurtenances. The water system shall provide service for domestic use and fire protection purposes. The system shall deliver the pressure and flows required to service building plumbing fixtures and fire protection system for proper operation.
- 4.8.3 Sanitary Sewer – Provide design of connections to collect sanitary flows to building fixtures, drains, traps and oil/water separators. Peaking factors shall be applied to service flows for system capacities.

4.9 ROADWAYS AND PAVEMENTS

- 4.9.1 Roadways shall be designed to accommodate the turning movements of a WB-62 vehicle (AASHTO).
- 4.9.2 Design traffic control signage and striping to allow for safe on site traffic control and routing. Traffic control signs and striping shall be reflectorized and meet DOT criteria for visibility.
- 4.9.3 Provide concrete-filled steel pipe bollards to protect any buildings, equipment, transformers, meters, etc. located within 3 feet of roadways, drives, and parking areas.
- 4.9.4 Concrete (rigid) or bituminous (flexible) pavement may be used. Sidewalks, driveway entrances and aprons are to be concrete. The equipment list of the Government units shall be reviewed and the designer shall verify that the equipment list needs are met by the project pavement design. Pavement designs for roadways, parking lots, MEP, aprons and sidewalks shall use the criteria specified in Section 3.2.
- 4.9.5 Design - The pavement shall be designed as outlined in the following table:

North Canton USARC/OMS/AMSA Pavement Design Criteria										
Description	Average Daily Traffic & Factor							TM 5-822-2 Chap. 5		Pavement Design Index *
	Cars & Pickup (1.0)	2-axle Trucks (2.0)	3-axle Trucks (2.0)	4-axle Trucks (2.0)	ADT Factored Total	Design Hourly Volume	Trucks as a % of Total	Truck Traffic Category	Street Classification	

Traffic in the privately owned vehicle (POV) parking lots will consist of pneumatic-tired vehicles only, with a mixture of passenger cars, panel trucks, pickup trucks, and two-axle single unit trucks or "Group 2" vehicles. In the POV areas, truck allowable weights will not exceeding 18,000 pounds for a single-axle. The traffic mixture shall be primarily cars, and light trucks, with less than 10% two-axle single unit trucks.	3000	300	0	0	5900	885	9%	II	B	2
Traffic at the site on the heavy duty, high ADT "Street Section" will consist of Pneumatic-tired vehicles only, with a mixture of passenger cars, panel trucks, pickup trucks, two-axle single unit trucks, three-axle tractor trailer, four-axle tractor trailer and five-axle tractor trailer trucks up to a wheel base of 19 meters, WB-62, or "Group 3" vehicles. Truck allowable weights on the Street Section will not exceed 18,000 pounds for single-axle or 32,000 pounds for tandem-axle trucks. Traffic mixture may be 25% trucks, but not more than 10% of total traffic will have three or more axles.	4000	750	200	200	11300	1695	22%	IV	A	5
Traffic at the site in the military equipment parking (MEP) areas will consist of mostly pneumatic-tired four-axle and five-axle tractor trailer trucks up to a wheel base of 19 meters, WB-62, or "Group 3" vehicles. Truck allowable weights in the MEP are based on loads not exceeding 18,000 pounds for single-axle and 32,000 pounds for tandem-axle trucks. The truck traffic will be more than 25% of the total. No "tracked" vehicles are in this unit.	500	500	1000	1000	5500	825	83%	IV-A	B	6

* Source: TM 5-822-5/AFM 88-7, Chapter 1, Table 3-1

4.10 DRAINAGE

- 4.10.1 Design storm sewer and channel (ditch) conveyance of storm water runoff from areas within the site. The standards established by the Stark County Regional Planning Commission shall be met.
- 4.10.2 Off-site drainage areas that will contribute to the site drainage system shall be confirmed, this drainage shall be diverted around or through the site and outlet downstream of the on site drainage discharge outlet point.

- 4.10.3 Site contours and drainage features shall ensure reasonable runoff volumes and travel times into individual catch basins and ditches, etc. Sewers shall be sized and sloped to adequately convey these flows with a minimum velocity of 3 fps .
- 4.10.4 A method of analysis acceptable to the Planning Commission for rainfall, runoff and sewer calculations shall be utilized to design the proposed site drainage system.
- 4.10.5 Appropriate criteria shall be applied in the design of the sewer inlets in ditches.
- 4.10.6 Coordinate and provide free-draining outlets into the storm sewer system for roof drains. Roof drains shall drain into the surface with splash block and stone erosion protection in discharge areas.
- 4.10.7 Design channel linings for long term stability under design flow conditions. Design energy dissipaters, rip rap scour protection, ditch blocks or weirs and inlets to maintain system in a stable configuration under operating conditions.
- 4.10.8 Design overall system to provide shallow (less than 1 foot in depth) stormwater detention in eastern portion of MEP. The drainage system shall collect and convey design flows to detention areas, inlets, channels and grates to provide flow capacity. Overflow provision shall be provided which prevents flooding of buildings and primary roadways.

PART 5 – GENERAL DESIGN AND CONSTRUCTION REQUIREMENTS

5.1 GENERAL CRITERIA

- 5.1.1 The conceptual building drawings present a building design scheme which considers the Army Reserve program and which has the approval of the Government. This does not preclude the Contractor from making improvements to the design so long as such improvements are consistent with the criteria and acceptable to the Government. The building designs are conceptual; the Contractor shall finalize all elements of the design, including exact dimensions. In completing the design, the Contractor will be allowed some latitude in manipulating the plans and elevations to improve functional layout, to accommodate structural, mechanical, electrical and other systems, and to allow flexibility for design/esthetic expression. The spatial relationships and adjacencies, however, must be maintained, unless the Contractor recommends changes to the Government, and the Government approves such changes.
- 5.1.2 This RFP and its referenced documents define the necessary criteria to plan, design and build the U.S. Army Reserve Training Center facility. Functional space requirements, including general lighting, power, tempered air requirements, and finishes, are contained in the Design Guide (DG 1110-3-107- Design Guide for U.S. Army Reserve Facilities). Typical functional space furniture layouts and inventories are provided in the design drawings; Contractor's designers shall adapt these to the final floor plans.

- 5.1.3 Design documents shall be produced using AutoCAD software, version 2000 or newer. Translation will not be permitted.
- 5.1.4 The outline technical Specification Divisions 2 through 16 shall be used as the basis for construction products and furniture. Contractor's designers shall provide comprehensive Specifications and shall edit the Specifications to indicate actual products to be used in the construction. All sections provided may not be used, and designers shall provide additional Specification Sections or items if necessitated by the RFP requirements.
- 5.1.5 The RFP provides basic finishes and a color palette for most spaces. Contractor's designers are encouraged to develop a more comprehensive finish and color palette for approval by the Government, including accent colors and finishes, especially for common-use areas of the building. Such finish and color palette shall include doors, door frames and window frames.
- 5.1.6 Functional space requirements are noted in Part 5.2 below; Contractor's designer is to coordinate the layout with Government. The Contractor shall develop restroom and locker room plan layouts in conformance with the requirements of this RFP and DG 1110-3-107, for the approval of the Government.
- 5.1.7 Provide furniture in all spaces as indicated on floor plans, furniture plans, in Section 5.2 below, and in Spec Section 12705.
- 5.1.8 Where Contractor is to provide schedules, labeling or key plans (for signage, lockset keying, electrical panel schedules, communications/data wiring, etc.), Contractor shall use final room numbers if different from Construction Document room numbers.
- 5.1.9 The roofing section shall consist of non-structural standing-seam metal roofing system (NSSSMRS) as specified. Structure may be joist or joist and purlin system.
- 5.1.10 The site has been identified as being in an area where average indoor radon concentration is likely to exceed the EPA action level of 4 picoCuries per liter. The Contractor shall incorporate the underfloor, vent stack, and power provisions for an Active Soil Depressurization (ASD) system into the design and construction of the building. At the completion of construction, and prior to occupancy, the Contractor shall perform radon testing to verify indoor radon concentration. If the testing shows level above the EPA action level, the Contractor shall install the fan required to activate the ASD system. The EPA document EPA/625/R-92/016, Radon Prevention in the Design and construction of Schools and Other Large Buildings provides guidance for the design of an ASD, and can be found at www.epa.gov/ordntrnt/ORD/NRMRL/Pubs/1993/air/EPA625r-92016.htm.

5.2 ARCHITECTURAL

- 5.2.1 The building design shall provide gross areas in approximate accordance with the values shown in the "Placed" column of the table below. The areas shown in the

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table are aggregate areas; areas for individual spaces are shown in the “Size” column of the table in Section 5.2.2 and are provided as a guideline. It is acceptable for the actual area of any space to vary from the values in the table by plus or minus 10%, except for the assembly hall, which cannot be larger than authorized. The total area of the Training/OMS/AMSA Building shall not exceed the total of the “Authorized” column below.

	Authorized	Approved	Placed	Difference Approved/Placed	Difference Authorized/Placed
Training Building					
A. Administrative Areas					
(1) Full Time	1560	1560	1482	-78	-78
(2) Unit Exclusive	70	1216	1147	-69	1077
(3) Unit Common	1242	2728	2806	78	1564
(4) Retention	250	312	300	-12	50
(5) Admin. Support	240	248	92	-156	-148
(6) NOC	440	476	338	-138	-102
(7) Lobby	480	512	713	201	233
(8) Mail Room	0	200	181	-19	181
B. Assembly Area					
(1) Assembly Areas	3000	3072	2555	-517	-445
(2) Chair & Table Storage	300	352	342	-10	42
C. Kitchens					
	811	880	838	-42	27
D. Weapons Area					
(1) Vault	770	960	840	-120	70
(2) Armorer	100	120	251	131	151
E. Educational Areas					
(1) Classrooms	1200	1280	1088	-192	-112
(2) Library Reading Room	300	360	342	-18	42
(3) Library Storage	120	96	92	-4	-28
(4) Learning Center	200	224	305	81	105
(5) Training Aid Storage	120	120	111	-9	-9
(6) COMSEC Training	300	448	441	-7	141
(7) COMSEC Storage	300	200	188	-12	-112
F. Storage Areas					
(1) Unit/Individual Equipment	8943	8864	8584	-280	-359
(2) Staging Areas	895	960	900	-60	5
(3) Supply Office	888	820	913	93	25
(4) Janitorial Storage	50	0	70		
(5) Facility Maintenance	800	320	329	9	-471

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	Authorized	Approved	Placed	Difference Approved/Placed	Difference Authorized/Placed
G. Special Training Areas					
(1) Weapons Simulator	650	648	621	-27	-29
(2) Medical Section Area	400	760	869	109	469
(3) Physical Readiness Area	1600	1664	1404	-260	-196
(4) Family Support	200	240	227	-13	27
H. Support Area					
(1) Men's Toilet & Showers	550	576	466	-110	-84
(2) Women's Toilet & Showers	225	672	466	-206	241
(3) Unisex Handicap Toilet	75	160	0	-160	-75
(4) Locker Room	2000	3304	2326	-978	326
(5) Vending Alcove	48	40	40	0	-8
(6) Break Area	220	256	315	59	95
(7) Mechanical/Custodial	2760	2880	3205	325	445
(8) Electrical	100	96	467	371	367
(9) Telephone	100	96	38	-58	-62
DS/GS					
A. DS/GS Special Areas					
(1) Work Bays	2400	0	0	0	-2400
(2) Small Arms	210	120	0	-120	-210
(3) Storage	384	0	0	0	-384
(4) Equipment Alcove	200	250	294	44	94
Organizational Maintenance Shop (OMS)					
(1) Shop Office	657	1624	1557	-67	900
(2) Tool & Parts Storage	388	960	604	-356	216
(3) Storage Room	388	640	732	92	344
(4) Battery Room	97	0	0	0	-97
(5) Flammable Storage	97	64	276	212	179
(6) Controlled Waste Storage	388	0	0	0	-388
Area Maintenance Support Activity (AMSA)					
(1) Shop Office	355	924	686	-238	331
(2) Men's Toilet	205	40	111	71	-94
(3) Women's Toilet	151	40	0	-40	-151
(4) Locker Room	161	0	0	0	-161
(5) Class Room/Break Area	205	224	355	131	150
(6) Tool Room	667	0	0	0	-667
(7) Supply Room	667	1252	1574	322	907
(8) Battery Room	355	168	157	-11	-198
(9) Flammable Storage	172	448	276	-172	104
(10) Controlled Waste Storage	592	640	356	-284	-236

	Authorized	Approved	Placed	Difference Approved/Placed	Difference Authorized/Placed
Joint Maintenance Areas (OMS/AMSA)					
(1) Work Bays	6243	9600	9633	33	3390
(2) Mechanical/Custodial	710	0	0	0	-710
Authorized areas Sub-total	47999	54714	52303	-2411	4304
Circulation Allowance	7349	5048	3838	-1210	-3511
Structural Allowance	4909		5120	5120	211
Total	61344	61083	61261	178	-83

5.2.2 Individual spaces shall meet the functional and environmental requirements based on the DG 1110-3-107 paragraph listed in the table below, as well as any applicable code requirements. Requirements in addition to those stated in the DG 1110-3-107 are noted in the Remarks column.

Rm#	Room Name	Individual Space Requirements	Size	Remarks
100	Elevator Equipment	No DG Requirements		- Interior finishes similar to DG 4.2.26
101	Recruitment/Retention Office	DG 4.2.4		
102	Janitor Closet	DG 4.2.23		
103	Recruitment/Retention Office	DG 4.2.4		
104	NOC	DG 4.2.6.3	160 SF	- Provide 4'x8' backerboard
104A	Electrical Room	DG 4.2.45	120 SF	
105	Family Support	DG 4.2.5		- Under-counter refrigerator
106	Mechanical Room	DG 4.2.44		
106A	Electrical Room	DG 4.2.45	160 SF	
106B	Telephone Room	DG 4.2.46		
107	Mail Room	DG 4.2.6.1		- 13 mail slots - 2 outgoing slots - Minimum 2'x12' cabinet/countertop - Wall adjacent to Family Support, room 105, shall be masonry.
107A	Mail Room	DG 4.2.6.1		- Wall adjacent to Family Support, room 105, shall be masonry.
108	Office	DG 4.3.1	120 SF	
108A	Storage Room	DG 4.3.4		
109	Unit Common	DG 4.2.3		- Minimum 2'x12' Admin Support cabinet/countertop, refer to DG 4.2.6.2.

Rm#	Room Name	Individual Space Requirements	Size	Remarks
				- Coordinate size of copier with Government. - Provide maintenance pad in front of copier for toner spills.
109A	Office	DG 4.2.1	120 SF	
109B	Office	DG 4.2.1	120 SF	
109C	Office	DG 4.2.1	230 SF	
109D	Office	DG 4.2.1	140 SF	
109E	Office	DG 4.2.1	140 SF	
109F	Office	DG 4.2.1	120 SF	
109G	Office	DG 4.2.1	120 SF	
109H	Office	DG 4.2.1	120 SF	
109J	Office	DG 4.2.1	120 SF	
109K	Office	DG 4.2.1	230 SF	
109L	Office	DG 4.2.1	120 SF	
109M	Office	DG 4.2.1	120 SF	
110	Office	DG 4.3.1	120 SF	
110A	Storage Room	DG 4.3.4		
111	Unit Common	DG 4.3.1		- Minimum 2'x12' Admin Support cabinet/countertop, refer to DG 4.2.6.2. - Coordinate size of copier with Government. - Provide maintenance pad in front of copier for toner spills.
111A	Office	DG 4.3.1	140 SF	
111B	Office	DG 4.3.1	120 SF	
111C	Office	DG 4.3.1	120 SF	
112	Office	DG 4.3.1	120 SF	
112A	Storage Room	DG 4.3.4		
113	Tool Storage	DG 4.3.3		
114	Maintenance Bay	DG 4.3.9/ DG 4.5.2		- Provide 20'x75'bridge crane located as indicated on drawings. - Card reader at door 114-P
114A	Equipment Alcove	DG 4.3.5		
115	Tool Storage	DG 4.3.3		
116	Tool Storage	DG 4.3.3		- Door 116-A: 42" Dutch door with ledge.
117	Welding Bay	DG 4.3.9.4		
117A	Vestibule	DG 4.3.9.4		
118	Battery Storage	DG 4.5.9		
119	Classroom/Break Room	DG 4.2.13/ DG 4.2.43/ DG 4.5.6.1		- 1 projection screen - 1 tack board - Minimum 2'x7' cabinet/countertop w/sink.

Rm#	Room Name	Individual Space Requirements	Size	Remarks
120	Electrical Room	DG 4.2.45		
121	Office	DG 4.3.1	120 SF	
122	NOC	DG 4.3.11	70 SF	- 4' x 8' backerboard
123	Office	DG 4.3.1	120 SF	
124	Office	DG 4.3.1	120 SF	
125	Flammable Storage	DG 4.3.7		- 8" deep containment well
126	Office	DG 4.3.1		
127	Flammable Storage	DG 4.3.7		- 8" deep containment well
128	Not Used			
129	Controlled Waste	DG 4.3.8		- 30" deep containment well
130	Assembly Hall	DG 4.2.8		- Gyp. Bd. walls with Kydex wainscoting 4'-0" high - Card reader at door 130-C - Walk-off mat at door 130-C, min. of 6'-0" in path of travel.
130A	Facility Maintenance Storage	DG 4.2.26		
130B	Chair Storage	DG 4.2.9		
130C	Kitchen	DG 4.2.10		
131	Unit Storage	DG 4.2.20/ DG 4.2.21		- See plan for caging layout - Exterior phone at door 131-C
131A	Armorer	DG 4.2.12		- Door 131A-A: 42" Dutch door with ledge. - 2 workbenches & 2 storage cabinets
131B	Vault	DG 4.2.11		
131C	Office	DG 4.2.22	120 SF	
131D	Office	DG 4.2.22	120 SF	
131E	Office	DG 4.2.22	150 SF	
131F	Office	DG 4.2.22	120 SF	
131G	Office	DG 4.2.22	120 SF	
131H	Office	DG 4.2.22	120 SF	
131J	Office	DG 4.2.22	120 SF	
131K	Office	DG 4.2.22	120 SF	
131L	Mechanical Room	DG 4.2.44		
131M	Electrical Room	DG 4.2.45		
150	Vestibule	DG 4.2.7		- Card reader at door 150-A - Exterior phone at door 150-A - Walk-off mat
151	Lobby	DG 4.2.7		- 1 (6' x 4') recessed trophy case - 1 building directory - 1 bulletin board, location to be coordinated with the Government.
152	Corridor	DG 4.2.47		- 1 bulletin board - Card reader at door 152-A - Walk-off mat at door 152-A, min. of 6'-0" in path of travel.

Rm#	Room Name	Individual Space Requirements	Size	Remarks
153	Vending Alcove	DG 4.2.42		
154	Corridor	DG 4.2.47		- 3 bulletin boards, location to be coordinated with the Government.
155	Corridor	DG 4.2.47		- 1 bulletin board, location to be coordinated with the Government. - Rubber flooring - Door 155-A: (2) 2'-6" wide doors
156	Corridor	DG 4.2.47		- Rubber flooring
157	Corridor	DG 4.2.47		- 1 bulletin board, location to be coordinated with the Government. - Rubber flooring
158	Corridor	DG 4.2.47		- Card reader at door 158-A - Walk-off mat at door 158-A, min. of 6'-0" in path of travel. - Rubber flooring
160	Stair	DG 4.2.47		- Use rubber stair tread with rubber flooring at landings.
161	Elevator	DG 4.2.47		
162	Stair	DG 4.2.47		- Use rubber stair tread with rubber flooring at landings.
170	Men's Toilet	DG 4.2.39		- See 5.2.4.8 below
171	Women's Toilet	DG 4.2.39		- See 5.2.4.8 below
172	Unisex Toilet	DG 4.3.2		
200	Break Room	DG 4.2.43		- 1 tack board - Minimum 2'x7' cabinet/countertop w/sink.
201	Library	DG 4.2.14		
202	Weapons Simulator	DG 4.2.27		- Government preference for athletic rubber flooring
203	Unit Common	DG 4.2.3		- Minimum 2'x8' Admin Support Cabinet/countertop, refer to DG 4.2.6.2. - Coordinate size of copier with Government. - Provide maintenance pad in front of copier for toner spills.
203A	Office	DG 4.2.1	200 SF	
203B	Office	DG 4.2.1	120 SF	
203C	Office	DG 4.2.1	120 SF	
203D	Office	DG 4.2.1	120 SF	
203E	Office	DG 4.2.1	120 SF	
203F	Office	DG 4.2.1	120 SF	
203G	Office	DG 4.2.1	120 SF	
203H	Office	DG 4.2.1	250 SF	

Rm#	Room Name	Individual Space Requirements	Size	Remarks
204	Learning Center	DG 4.2.16		- Room is to be used as a Unit Common. Refer to DG 4.2.3 for furnishings, finishes and layout.
204A	Library Storage	DG 4.2.15		- Room is to be used as an Office. Refer to DG 4.2.1 for furnishings, finishes and layout.
204B	Admin Support	DG 4.2.6.2		- Room is to be used as an Office. Refer to DG 4.2.1 for furnishings, finishes and layout.
205	Training Aid Storage	DG 4.2.17		
206	COMSEC Training	DG 4.2.18		
206A	COMSEC Storage	DG 4.2.19		
207	Classroom	DG 4.2.13		- Operable partition - 3 projection screens - 2 floor lecterns
208	NOC	DG 4.2.6.3	70 SF	- Provide 4'x8' backerboard
209	Physical Fitness	DG 4.2.36		- See Appendix B, section 01010.
210	Mechanical Room	DG 4.2.44		- Removable louver – size as required for equipment removal & replacement
210A	Electrical Room	DG 4.2.45		
211	Mezzanine	No DG Requirements		- Finishes similar to DG 4.2.44
212	Medical Section	DG 4.2.30		- Classroom layout, refer to DG 4.2.13 for furnishings, finishes and layout. - VCT flooring
212A	Office	DG 4.2.1	140 SF	
212B	Office	DG 4.2.1	140 SF	
250	Elevator Lobby	DG 4.2.47		- Door 250-A: 4'-0" wide on hold open.
251	Corridor	DG 4.2.47		
252	Corridor	DG 4.2.47		
253	Corridor	DG 4.2.47		- 2 bulletin boards, location to be coordinated with the Government.
260	Stair	DG 4.2.47		- Use rubber stair tread with rubber flooring on landings.
261	Elevator	DG 4.2.47		
262	Stair	DG 4.2.47		- Use rubber stair tread with rubber flooring on landings.
270	Men's Toilet/Locker Room	DG 4.2.39/ DG 4.3.41		- See 5.2.4.8 below - Provide coat rod & hat shelf within Locker Room.
271	Women's Toilet/Locker Room	DG 4.2.39/ DG 4.2.41		- See 5.2.4.8 below - Provide coat rod & hat shelf within Locker Room.

5.2.3 Building Exterior Design

5.2.3.1 The Army Reserve has approved the conceptual building plan and exterior designs, including the color scheme as discussed in Part 5.2.4. Any appreciable change to the building footprint requires Army Reserve approval.

5.2.3.2 The primary exterior wall system shall be an insulated masonry cavity wall, brick veneer with CMU backup.

5.2.3.2.1 The building envelope shall comply with ASHRAE Standard 90.1, Chapter 5.

5.2.3.3 The USARC/OMS/AMSA should be the primary visual focus of the project. The Unheated Storage Building color should be complementary to the USARC/OMS/AMSA color palette.

5.2.3.4 Exterior Signage

5.2.3.4.1 Facility monument sign and building mounted signage with the Army Reserve Minuteman plaque are minimum requirements.

5.2.3.4.2 Exterior signage should read “United States Army Reserve Center”

5.2.3.5 Exterior Colors

5.2.3.5.1 The following exterior materials/colors are provided as a basis for meeting the design intent:

Brick – 1	Belden Royalty Red
Brick – 2	Belden Beaver Blend Dart-Tex
NSSSMR	ColorKlad Slate Gray
Window Frames	Clear Anodized

5.2.4 Building Interior Design

5.2.4.1 Interior design guidelines are addressed in DG 1110-3-107, Section 3.6. Additional project specific requirements are listed below and in the table in 5.2.2 above.

5.2.4.2 Interior Colors

5.2.4.2.1 The Army Reserve has approved a rust color palette for the USARC/OMS/AMSA. The following interior materials/colors are provided as a basis for meeting the design intent:

***	Carpet	Mannington Strategies Earthenware - EAWA (Main)	***
	Carpet	Mannington Commercial Appointments 413A Russet (Accent)	
	VCT	Mannington Essentials #107 Bisque	
	Paint – 1	Sherwin Williams SW7001 Marshmallow (Ceilings)	
	Paint – 2	Sherwin Williams SW6093 Familiar Beige (Walls)	

Paint – 3 Sherwin Williams SW0039 Portrait Tone (Walls)
Paint – 4 Sherwin Williams SW6062 Rugged Brown (Accent)

5.2.4.3 Interior Doors

5.2.4.3.1 Refer to DG 1110-3-107, Section 3.5.5 for guidance on interior doors.

5.2.4.4 Door Hardware and Locksets

5.2.4.4.1 The individual space requirements in 5.2.2 above provide door hardware and lockset guidance.

5.2.4.5 Room Numbering

5.2.4.5.1 Refer to DG 1110-3-107, Section 3.5.3 for guidance on room numbering.

5.2.4.5.2 The room numbering shown on the drawings is consistent with the Design Guide. The Contractor should verify this information with the Government for room signage.

5.2.4.6 Interior Signage

5.2.4.6.1 Building directory, Army Reserve Minuteman plaque, room signage and directional signage are minimum requirements.

5.2.4.7 Floor Finishes

5.2.4.7.1 The individual space requirements in 5.2.2 above provide floor finish guidance.

5.2.4.8 Toilet/Shower/Locker Rooms

5.2.4.8.1 The fixture count is to be based on code requirements, accessibility requirements and the requirements of the Design Guide.

5.2.4.8.2 The number of lockers shall be based on the largest drill weekend consisting of approximately 233 reservists. A ratio of 30% female to 70% male can be applied. Provide a total of 40 full height lockers and the remainder half height.

5.2.4.9 Window Blinds

5.2.4.9.1 Provide window blinds at all exterior windows, except in Lobby and at door sidelights. Color should be off-white.

5.2.4.10 Corner Guards

5.2.4.10.1 Provide wall and corner guards in high-traffic areas to match wall color. In the Unit Storage provide steel angle corner guards or bollards at wall corners and overhead door.

5.3 STRUCTURAL

5.3.1 Structural Design Criteria:

5.3.1.1 Data corresponding to North Canton, Ohio (Stark County). Use the following data in conjunction with the 2002 Ohio Building Code (based on IBC 2000) and ASCE 7-95:

- a. Ground Snow Load = 25 psf
- b. Frost Protection Depth = 42"
- c. Basic Wind Speed = 90 MPH, Exposure B
- d. Seismic Data: $S_s = 0.17g$, $S_1 = 0.06g$, anticipated Site Classification D.

5.3.1.2 Building categories described in ASCE 7-95 Table 1-1 shall be modified as follows, per "EI 01S010 – Load Assumptions for Buildings".

- a. Add to the list of Category III buildings:
Buildings housing expensive items, i.e., aircraft, computer equipment, etc.
- b. Add to the list of Category IV buildings:
Facilities involving missile operations.
Facilities involving sensitive munitions, fuels, and chemical and biological contaminants.
Facilities involving strategic communications.

5.3.1.3 Soils correction, building design and building detailing shall be consistent with settlement criteria of 1/2" differential settlement and 1" total settlement. This assumption should be verified with the geotechnical report, with the geotechnical report superseding in the case of differences.

5.3.1.4 Provide movement joints between portions of the structure in accordance with good engineering practice.

5.3.2 Special Design Loads

5.3.2.1 Floor framing shall be designed to prevent excessive vibration by conforming to recommendations and procedures of SJI Technical Digest No. 5.

5.3.3 Structural Systems

5.3.3.1 Anticipated foundations will be standard spread foundations consisting of concrete masonry walls bearing on continuous strip footings and steel columns on isolated pad footings. The concrete masonry walls below grade shall be filled solid with corefill concrete to prevent water from accumulating. Floor slabs are anticipated to be soil supported and thickened below interior nonload-bearing concrete masonry partition walls. Floor slabs shall be reinforced with small deformed reinforcing bars at 12"-16" spacing in lieu of welded wire fabric. Anticipated construction as mentioned above should be verified with the geotechnical report, with the geotechnical report superseding in the case of differences.

5.3.3.2 The exterior wall shall be brick veneer with CMU backup. Exterior jambs and headers around maintenance bay doors shall be reinforced concrete frames for

increased strength and stiffness. Unless otherwise approved by the Government, the Training Center and OMS/AMSA building structural system shall be one of the following systems of steel frame construction:

- a. Steel frame with steel joists
- b. Steel frame with concrete plank and topping
- c. Composite steel frame with composite deck.

5.3.4 Provide a 7.5 ton overhead traveling crane with a minimum 16'-0" hook height in the OMS/AMSA building. Contractor shall design crane and structural support to operate in the space indicated. Coordinate hook coverage, hook vertical travel, and load test weight with 88th RSC. Crane shall be designed and constructed to MHI CMAA 70 Class C service requirements for operation in non-hazardous environment with hoist in accordance with ASME HST-1M.

5.3.5 A portion of the OMS/AMSA building floor slab (refer to plans for location) shall be designed to support an existing (to be relocated by the Government) 400 series, 9,000 lbs. capacity vehicle lift as manufactured by Rotary Lift Corporation. Coordinate required foundation load capacity and configuration and anchor rod size, embedment and placement pattern with installation instructions and the Government. The installation instructions are available at www.rotarylift.com.

5.4 MECHANICAL

5.4.1 Plumbing System Design Criteria.

5.4.1.1 *** Design and install (labor, material, permits, licenses, etc.) the plumbing system. Plumbing system shall be designed and installed in accordance with the International Mechanical Code, 2002 Ohio Plumbing Code, **International Plumbing Code**, and all associated local codes. All Electrical work performed by the Mechanical Contractor shall comply with the National Electrical Code (NFPA 70) for workmanship and installation requirements. ***

5.4.1.1.1 Obtain water hardness from local water department. Water softening equipment will be installed when the water analysis indicates a total hardness exceeding 15.4 g/gal.

5.4.1.1.2 Identification. Piping will be identified per ANSI requirements. Equipment is to be identified with engraved and laminated plastic nameplates or black lamicooid sheets with white lettering. VAV units are to be labeled at their underside to allow identification after installation.

5.4.1.2 Equipment and materials shall be as specified. Used equipment or materials are not acceptable. Installation shall meet the requirements specified. Contractor shall comply with seismic requirements in accordance with AT/FP requirements. All materials and equipment shall be the manufacturer's latest design. Equipment layout shall make provisions for recommended clearance and code requirements in accordance with UFC 4-010-01.

- 5.4.1.3 Provide a design narrative, which explains in summary form, all of the plumbing, including backup calculations. Fixture quantities will be included within the plumbing calculation. Indicate the building population (number of males and females), fixture determination; fixture units for drainage, venting, cold and hot water piping; roof areas used in determining storm drainage pipe sizes; and the capacities of all equipment and tanks. Calculations: Show sizing calculations clearly. Indicate the source of tables used for calculation. Calculations shall be checked for accuracy and initialed or signed by the design professional.
- 5.4.1.4 Systems requiring seasonal drainage shall not be used except for lawn irrigation.
- 5.4.1.5 Except for equipment serving the kitchen, no roof mounted equipment is permitted.
- 5.4.1.6 Access panels/doors shall be provided as required for valves and appurtenances of the plumbing system. Coordinate with the Architectural discipline to ensure that provisions for access panels/doors are provided.
- 5.4.1.7 The buildings shall have restrooms and other plumbing fixtures. The restrooms shall have all fixtures as outlined in the reference criteria. Freezeproof wall hydrants shall be located on the building exterior.
- 5.4.1.8 HVAC control schemes and sequences shall meet the requirements of ASHRAE Standard 90.1-2000, Energy Standard for Buildings – Except Low-Rise Residential Buildings.
- 5.4.1.9 The Contractor is responsible for obtaining any available rebates from the Utility and crediting those rebates to the Government in the bid.
- 5.4.2 Plumbing Systems.
- 5.4.2.1 High quality vitreous china, stainless steel, and porcelain enameled plumbing fixtures with chromium plated fittings as applicable will be provided in each building.
- 5.4.2.2 Domestic Water Heating. High efficiency storage type water heaters will be provided for each building. The sizes will be based on ASHRAE guidelines for the specific building occupancy and usage. Water heaters will comply with the energy conservation requirements of ASHRAE Standard 90.1 – Energy Standard for Buildings Except Low-Rise Residential Buildings.
- 5.4.2.3 *** Compressed Air. A duplex air compressor with storage tank will be provided for the building. Air piping will be distributed throughout the vehicle maintenance bays. **Provide an air drop with shutoff valve on either side of each vehicle entrance door and at the midpoint of drive-thru bays.** Coordinate quick disconnect requirements with the Government. ***
- 5.4.2.4 Plumbing Piping. The plumbing piping will be served by a separate domestic water service. Isolation shutoff valves will be provided. Plumbing piping is sized to accommodate flush valve plumbing fixtures. Copper piping will be provided for the domestic water system.
- 5.4.3 Domestic Water Supply.

- 5.4.3.1 Water service shall be brought into the Mechanical Room of the building.
- 5.4.3.2 The mechanical piping shall be extended to fixtures, outlets, and equipment. The domestic hot water and cold water piping shall be arranged and installed to permit draining. The supply line to each item of equipment or fixture, except faucets, flush valves, or other control valves, which are supplied with integral stops, shall be equipped with an accessible shutoff valve to enable isolation of the item for repair and maintenance without interfering with operation of other equipment or fixtures. Supply piping to fixtures, faucets, hydrants, shower heads, and flushing devices shall be anchored to prevent movement.
- 5.4.3.3 Provide line sized isolation valve at each branch connection. Locate valve as close as possible to branch takeoff. Where branch line serves single piece of equipment or fixture, provide isolation valve at each branch connection and at each fixture.
- 5.4.3.4 Provide high pressure wash system for the OMS/AMSA building wash bays.
- 5.4.4 Domestic Water Heating Systems.
 - 5.4.4.1 Domestic hot water system shall be sized as required to provide adequate hot water for the lavatories, sinks, showers, etc.
 - 5.4.4.2 Domestic water heating is to be a natural gas-fired, with an operating temperature of 140°F for the kitchen. The building water supply temperature shall be 120°F. The size of the hot water heaters shall be in accordance with the 1999 ASHRAE Applications Handbook. One hot water heater shall service the entire building, and one hot water heater shall serve the kitchen, and shall be located in the Mechanical Room. Water heaters shall be provided with fully automatic controls with safety shutoff relief valves and intermittent spark ignition. The water heater shall meet ASHRAE 90A Standards and have a minimum thermal efficiency of 80 percent.
 - 5.4.4.3 The domestic water system shall be served by a recirculation system to provide hot water at remote fixtures continuously. Provide blending valves as required for scald protection at each fixture or group of fixtures.
- 5.4.5 Industrial Water System.
 - 5.4.5.1 Provide industrial water system to provide water service to wheeled vehicle bays. Industrial water system shall be supplied from the domestic water system and be provided with a reduced pressure type backflow preventer between the industrial water system and domestic water system. Industrial water system shall be sized per the national standard plumbing code and shall meet all of the requirements of the domestic water system. Provide 3/4" diameter x 50 ft. hose and hose reel at each location. Provide a line size isolation valve upstream of each hose reel.
- 5.4.6 Sanitary Sewer.
 - 5.4.6.1 All lavatory and sink drains and P-traps shall be coordinated with architectural millwork to isolate drains. The building Sanitary Sewer shall be designed in accordance with the Ohio Plumbing Code. Coordinate location of floor sinks and floor drains with the structural discipline for floor sloping requirements. All

floor sinks and floor drains shall be equipped with trap primers. Provision shall be made to collect condensate from the condensate drains and drain to the sanitary sewer system.

- 5.4.6.2 Provide connections to trench drains as shown on drawings. Provide floor drain at low point in service bay. Trench drains and service bay floor drains shall be served by oil/water separators before discharging to the sanitary sewer. Provide floor drains in mechanical rooms near each boiler, air handling unit, pumps, and water heater.
- 5.4.7 Supply, Drain, Waste, and Vent Piping Systems.
- 5.4.7.1 Piping systems for water and sewer outside of the 5'-0" line of the building are to be as specified under the civil portion of the design criteria. Runs are to be kept as short as possible. Metallic vent piping shall be used through the roof from at least 6 inches below the roof to the required point of termination above the roof. All vents shall terminate within 12" of roof peak. Vents shall be designed to support snow load.
- 5.4.8 Natural Gas System.
- 5.4.8.1 Design, furnish, and install natural gas piping from new utility connection (gas meter) to mechanical gas fired equipment in the Vehicle Maintenance Facilities as required and as specified. Provide complete design and layout of piping system coordinated with new utilities.
- 5.4.8.2 Natural Gas Distribution System.
- 5.4.8.2.1 Provide natural gas piping. Natural gas piping shall be sized for a minimum pressure of 2 psi at inlet to the buildings. Natural gas piping shall be sized in accordance with NFPA 54. Utility (Dominion East Ohio) will provide and install meter and regulator at building. Design gas piping distribution system based on a 2 psi pressure downstream of the Utility provided regulator.
- 5.4.8.3 Exterior Natural Gas Piping.
- 5.4.8.3.1 Below ground natural gas piping shall be polyethylene with marker tape. Steel to polyethylene transition fittings shall be used with steel valves. Provide distribution system shutoff valves. Contractor to verify final locations of distribution system shutoff valves with Contracting Officer.
- 5.4.8.4 Gas Piping.
- 5.4.8.4.1 The complete gas piping installation shall conform in all respects to NFPA 54. The gas piping, from the gas meter and the low-pressure regulator to the equipment, shall be black steel conforming to ASTM A120 or ASTM A53 with fittings of malleable iron conforming to ANSI B16.3. Piping connections to all gas burning equipment shall be made with rigid pipe and fittings. All gas risers shall be anodeless.
- 5.4.8.5 Gas Shutoff Valves.

- 5.4.8.5.1 A ball type gas shutoff valve and coupling shall be provided in an easily accessible place in the gas line to each equipment item.
- 5.4.8.6 Meter and Regulator.
 - 5.4.8.6.1 A gas meter and pressure regulator shall be provided at the outside wall of the building. The gas meter shall have a maximum pressure drop across the meter of 1/2" W.C. The gas pressure regulator shall be sized to reduce the gas pressure from that in the service line to 2 psi. Gas risers outside of the building shall be anodeless and have a full coating protection using coal tar epoxy and wrapped up to 6 inches above grade. Provide canopy or other means of protection to protect meter from falling snow. Canopy shall be approved by Contracting Officer.
- 5.4.9 Compressed Air System.
 - 5.4.9.1 Compressed air system shall be at a minimum composed of compressor, receiver, dryer, distribution piping, outlet hose reels and filter regulator units. System compressor, dryer, and receiver shall be located on the Mezzanine of the Maintenance Bay. System shall be designed for a working pressure of 175 psi. The compressed air system shall be sized to accommodate the number of drops as required with a maximum total pressure drop of 5 psi. Each compressed air drop shall be sized to provide 0.5 cubic ft./minute. Compressor shall be sized for full connected load with a 60% diversity allowance. Provide 3/4" diameter x 50 feet long hose and hose reel at each location. Provide a line size ball type shutoff valve, pipe drip with ball valve drain, a line oiler, a coalescing oil/water filter, and a pressure regulator upstream of each hose reel or connection to equipment. Hose reels shall be provided with quick disconnects. Contractor shall coordinate quick disconnect requirements with the Contracting Officer.
- 5.4.10 Emergency Eyewashes and Showers.
 - 5.4.10.1 Provide combination emergency eyewash and shower stations throughout wheeled vehicle bays, and Battery Room as required to meet the requirements of ANSI Z358, and OSHA.
- 5.4.11 Vibration/Noise Isolation.
 - 5.4.11.1 Water hammer arrestors shall be used to minimize water system noise in accordance with the 2002 Ohio Plumbing Code. Velocities in Domestic Water piping shall be a maximum of 4 ft./s.
- 5.4.12 Fire Suppression Design Criteria.
 - 5.4.12.1 Fire suppression shall meet the following criteria.
 - 5.4.12.1.1 NFPA 13 – Installation of Sprinkler Systems.
 - 5.4.12.1.2 MIL – HDBK – 1008 C.
- 5.4.13 System Design.
 - 5.4.13.1 *** The entire facility shall be sprinkler protected in accordance with MIL HDBK 1008 C, NFPA 13 and Ohio Building Code. Sufficient hydraulic calculation sets

which will fully define the entire system sizing shall be provided. The Contractor shall solicit, independent of the project, a fire protection design firm to provide a layout of the entire fire protection system including hydraulic calculations. The drawings and calculations shall be done by a **NICET Level 4 certified fire protection specialist**. The Contractor shall be responsible for the installation, testing and field certifying of the entire system. The Contractor shall provide performance specifications, fire main routing, and zone delineation as a minimum to the fire protection design firm for use in design of the fire protection system. The hazard classification requirements for this facility with regard to sprinkler protection are defined per the following: ***

- 5.4.13.1.1 Ordinary Hazard Group 2 Classified Areas: Repair bays, scheduled maintenance bays, circulation bays, oil dispensing rooms, mechanical rooms.
- 5.4.13.1.2 Light Hazard Group Classified Areas: All areas not classified as ordinary hazard Group 2 areas including combustible attic space.
- 5.4.13.1.3 Sprinklers shall not be installed in electrical equipment rooms.
- 5.4.13.1.4 Protect elevator and elevator machine room in accordance with ANSI Elevator Safety Code.
- 5.4.13.2 Unheated Storage Building. Sprinkler coverage is not required. The Unheated Storage Building does not exceed 5,000 SF.
- 5.4.13.3 Recessed or concealed heads will be used in areas with ceilings. Upright or pendant heads will be used in exposed areas with no ceilings.
- 5.4.13.4 Flow test results are included in Appendix G to this section. The static, residual pressure and water flow included shall be used for the hydraulic calculation of the fire protection system. The City is to be contacted to determine if a separate fire protection water service and domestic water service for each building is required. Provide double check valve or RPZ backflow preventer
- 5.4.13.5 Wet chemical fire protection system will be provided for kitchen hood and exhaust duct system.
- 5.4.14 Heating, Ventilating, and Air Conditioning Design Criteria.
 - 5.4.14.1 Criteria Sources and References.
 - 5.4.14.1.1 Military Handbook 1110-3-107, Facility Design and Construction.
 - 5.4.14.1.2 Ohio Building Code, 2002 Edition.
 - 5.4.14.1.3 TM 5-785 Engineering Weather Data.
 - 5.4.14.1.4 American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).
 - 5.4.14.1.4.1 ASHRAE Standard 62 (Latest Edition).
 - 5.4.14.1.4.2 ASHRAE 90A (Latest Edition).

- 5.4.14.1.5 National Fire Protection Association (NFPA).
- 5.4.14.1.5.1 NFPA 90A Installation of Air Conditioning and Ventilating Systems (Latest Edition).
- 5.4.14.1.5.2 NFPA 54 National Fuel Gas Code (Latest Edition).
- 5.4.14.1.5.3 NFPA 88B Standard for Repair Garages (Latest Edition).
- 5.4.15 Energy Use Budget (EUB).
- 5.4.15.1 This project is subject to Department of Defense energy use limitations. The maximum allowable energy consumption will be 51,000 BTU/SF per year (type A1 Facility), 45,000 BTU/SF per year (type G Facility), 57,000 BTU/SF per year (type R Facility), 85,000 BTU/SF per year (type U1 Facility). The proposed design shall not exceed the area or the total building Energy Use Budget (EUB). These figures exclude energy used for process purposes. Contractors are encouraged to submit designs that will minimize energy consumption during the heating and cooling seasons.
- 5.4.15.2 The EUB calculation for the building shall include space cooling, space heating, domestic water heating, and ventilation and lighting loads, excluding process loads, in accordance with the planned Facility's operational hours. The area used in the EUB estimation is the gross floor area of the building. Makeup ventilation for vehicle exhaust system shall be considered process load.
- 5.4.16 Design Conditions, Heating/Cooling Load Calculations.
- 5.4.16.1 Outside Design Conditions. Obtain outside design conditions for cooling and heating from the TM 5-785, "Engineering Weather Data," and in accordance with DG-1110-3-107 "Facility Design and Construction."
- 5.4.16.2 Weather Region. Determine the weather region from ASHRAE Handbook – Fundamentals.
- 5.4.16.3 Load Calculations. Heat gain and loss calculations shall be, at a minimum, in accordance with the current edition of the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) Handbook of Fundamentals and the latest edition of the ASHRAE Cooling and Heating Load Calculation Manual. The load calculations shall be in accordance with ASHRAE nonresidential Cooling and Heating Load Calculations. Calculations shall be performed on a room-by-room basis. Heating load calculations shall not consider lights or internal loads as supplementing the heating system. Clearly describe the features of the systems being used. Demonstrate compliance with ASHRAE 90.1 by completing the proper compliance forms available from ASHRAE. Summarize the outdoor and indoor design conditions used. State the design objectives and design assumptions. Outline design decisions made that affect the operation and maintenance of the systems. Provide all calculations used to size all equipment. Calculations shall be checked for accuracy and initialed or signed by the design professional. The method of zoning the building spaces used for computerized building load calculation input shall be clearly shown as part of the calculations.

- 5.4.16.4 Cooling - Design Conditions: 75 degrees F at 50% relative humidity. This does not apply to storage rooms, lockers, toilets, showers, and arms vault rooms, which do not receive direct comfort cooling.
- 5.4.16.5 Heating - Design Conditions: 68 degrees F occupied, 55 degrees F unoccupied. This does not apply to storage rooms, mechanical, electrical, and telephone rooms, which are heated to 55 degrees F.
- 5.4.16.6 Occupancy Loads. The sensible and latent loads for the occupied spaces will be in accordance with the ASHRAE Handbook – Fundamentals. The number of people is determined by using DG 1110-3-107 and ASHRAE recommendations.
- 5.4.16.7 Lighting Load. Fixture count and heat release data will be used to calculate the lighting loads in each space.
- 5.4.16.8 Equipment Loads. A 1.5 watt per square foot allowance will be included for open office and classroom spaces. A 450 watt allowance will be included for each workstation in private and semi-private offices.
- 5.4.16.9 Toilets and showers will be exhausted at a minimum of 10 air changes per hour. Mechanical rooms will be provided with a minimum of 2 air changes per hour or as required to remove excessive heat. Unit storage is ventilated at 1 air change per hour. The arms vault and other specific areas are designed in accordance with DG 1110-3-107. Exhaust ventilation is provided within vehicle maintenance bays at a rate of 1.5 CFM/sq. ft.
- 5.4.17 HVAC Systems - Training Centers and Similar Buildings.
- 5.4.17.1 A minimum of two gas-fired cast iron forced draft boilers will provide heat for the building, each boiler sized for 65% of the total calculated heating load plus 10%. This allows some standby capability when a boiler is down for service. Each boiler will have an inline primary boiler circulation pump. Heat will be delivered to the various spaces with a secondary building heating pump through the hot water heating piping system. A standby secondary building heating pump will be provided. Both secondary pumps will be provided with a variable frequency drive. Propylene glycol will be used to provide heating water freeze protection in climates where freezing can occur. Contractor will install proper percentage of glycol antifreeze as required for specific outdoor design conditions; applicable system use; and in accordance with glycol manufacturer's recommendations for application freeze or burst protection. The hot water supply temperature is 190 degrees F, and the hot water return temperature is 160 degrees F and is to be automatically reset based on outdoor air temperature.
- 5.4.17.2 Provide separate dedicated airflow systems for mail rooms in accordance with UFC 4-010-01.
- 5.4.17.3 An air-cooled rotary screw packaged water chiller, located on grade adjacent to the building, will provide cooling for the building. A primary chiller pump will circulate water through the chiller. A secondary building chilled water pump will distribute chilled water through the piping system to cooling coils. No standby secondary building chilled water pump will be provided. The secondary pump will be provided with a variable frequency drive. Propylene glycol will be used

to provide chilled water freeze protection in climates where freezing can occur. Contractor will install proper percentage of glycol antifreeze as required for specific outdoor design conditions; applicable system use; and in accordance with glycol manufacturer's recommendations for application freeze or burst protection. The chilled water supply temperature is 44 degrees F and the chilled water return temperature is 58 degrees F.

- 5.4.17.4 Heating, cooling and ventilation for the building is to be provided through VAV air-handling units by means of an outside air duct connected to each unit mixing box module. The outside air shall connect to the top of the mixing box, and the return air shall connect to the bottom of the mixing box. The outside air and relief air ducts will be sized for economizer operation of the air-handling units. Supply air is to be distributed to each zone using VAV terminals, each with a terminal reheat coil. The VAV terminal modulates the airflow into the zone to maintain the zone space temperature setting. Return air is transferred from each room into the corridor ceiling return plenum and returned to each unit through branch return air ductwork via a return/exhaust fan. The return/exhaust fan relieves air from the building and returns the remaining air to the air-handling unit. The building will be maintained at a slight positive pressure. Ventilation will comply with ASHRAE Standard 62 – Ventilation for Acceptable Indoor Air Quality. Contractor shall utilize alternate ventilation exception to reduce outside air requirements in Assembly Room.
- 5.4.17.5 The toilet and shower areas will not be directly cooled. Air will be transferred from the ceiling plenum space into these areas using a recessed cabinet unit heater. Exhaust fans will relieve air from these spaces maintaining a slight negative pressure for odor control.
- 5.4.17.6 Provide dedicated split system DX refrigerant air conditioning for the telephone rooms and computer server rooms. Recirculating air conditioning unit will be located in ceiling space of rooms. Air-cooled compressor/condenser will be located at grade.
- 5.4.17.7 The storage areas will be ventilated during the summer using a wall-mounted outdoor air intake damper and wall-mounted exhaust fans. Space-mounted hot water unit heaters will provide heat to the area.
- 5.4.17.8 Kitchen areas have a number of exhaust hoods. Outdoor air makeup ventilation will be supplied to the kitchen via a natural gas direct-fired makeup air unit. The kitchen area will be maintained slightly negative with respect to the surrounding rooms.
- 5.4.17.9 Vault areas will have an automatic self-contained portable dehumidifier.
- 5.4.17.10 A direct digital control (DDC) automatic temperature control system will be provided in each building to control and monitor all HVAC systems.
- 5.4.18 HVAC Systems – OMS, AMSA and Similar Buildings.
- 5.4.18.1 Gas-fired infrared radiant heaters suspended from the roof structure will provide heat for the maintenance bays.

- 5.4.18.2 Hydronic in-floor heating system is to be provided in addition to infrared heating. In-floor heating system to include dedicated hot water boilers and slab piping manifolds and controls.
- 5.4.18.3 Office, administration, heating and cooling are to be provided through single zone gas-fired furnace fan coil units with DX refrigerant cooling and remote grade mounted air-cooled condenser. Ventilation for units to be supplied through outside air connection to furnace fan coil unit return duct. Toilet rooms located at perimeter of building to have supplemental electric baseboard heating.
- 5.4.18.4 The controlled waste and flammable storage rooms are to be heated using explosion-proof electric unit heaters with remote wall-mounted thermostats.
- 5.4.18.5 Tool, parts and supply rooms are to be heated with a single zone gas-fired furnace. Ventilation for units to be supplied through outside air connection to furnace.
- 5.4.18.6 The NOC and other information technology (IT) spaces will be cooled with a dedicated split system air conditioning unit with an air-cooled condensing unit located on grade, adjacent to the building. Temperature sensors and remote alarm lights will be provided for the spaces. Electric baseboard radiation to be provided for rooms located at perimeter of building.
- 5.4.18.7 Individual suspended vehicle tailpipe exhaust fans and trunk hose reels at each vehicle bay will be included for the maintenance bays. Makeup air for the individual vehicle tailpipe exhaust is to be provided by a wall-mounted intake louver and interlocked damper.
- 5.4.18.8 Outdoor air makeup ventilation will be supplied to the maintenance bays with natural gas direct-fired makeup air units. Carbon monoxide and VOC sensors will initiate space exhaust fan operation.
- 5.4.18.9 Provide Battery Rooms with a dedicated exhaust fan interlocked with the battery charger so that the charger will not operate without ventilation. Provide fan motors outside the duct and battery room. Each blower shall have a non-sparking fan. Size the exhaust fan as follows:
 - $Q = 0.025 \times I \times N$
 - where,
 - Q = required ventilation rate in Liters/sec
 - I = 0.21 x capacity of the largest battery in amp-hrs
 - or
 - I = 0.25 x maximum obtainable amperes from the charger whichever is greater
 - N = the number of 2-volt cells (A 12-volt battery has six 2-volt cells)
- 5.4.18.10 Exhaust fans interlocked with ducted outside air dampers will provide ventilation for the non air-conditioned areas.
- 5.4.18.11 Provide exhaust fan for the radon ventilation system, if required. Refer to paragraph 5.1.10, this Section.

- 5.4.19 HVAC Systems – Unheated Storage Buildings. There are no mechanical heating or ventilating system requirements within these buildings.
- 5.4.20 Hydronic, Refrigerant Piping Locations.
 - 5.4.20.1 Hydronic piping shall be designed to be efficient, easily hydraulically balanced, and accessible. Riser piping located in interior partition or exterior walls is prohibited. Refrigerant pipe risers shall be installed within two-hour rated chases.
- 5.4.21 Water Quality and Treatment.
 - 5.4.21.1 The Contractor shall provide an automatic water treatment system for heating solution boilers and heating solution feed water and makeup water systems.
- 5.4.22 Exhaust Systems.
 - 5.4.22.1 Exhaust vents shall not be located near outdoor air intakes to prevent short-circuiting of exhaust air, nor shall they be located less than 3 m (10 feet) above grade.
 - 5.4.22.2 Vehicle exhaust system shall be provided with drops. Provide minimum of two vehicle exhaust fans per wheeled vehicle bay, with a total of 20 exhaust fans. Each fan shall be controlled by a manually operated switch located within the wheeled vehicle bay served by the fan.
 - 5.4.22.3 Provide general exhaust system for each vehicle bay. General exhaust system shall be sized for a minimum of 1-1/2 CFM sq. ft. Direct Digital Control (DDC) System shall start general exhaust system when either the level of carbon monoxide is detected above set point, or the level of nitrogen dioxide is detected above set point as determined by gas monitor.
 - 5.4.22.4 Makeup air system shall be provided with 10 percent more capacity than exhaust system. Makeup air system shall temper outside air to the space design heating temperature at a minimum.
 - 5.4.22.5 *** Provide **two** welding exhaust arm hoods in Welding Bay. Welding arm hoods shall be sized for an airflow rate of 150 CFM. Welding hood exhaust fan shall be sized for pressure drop through welding arm hood and duct, including louver for exhaust of air to the outside. ***
- 5.4.23 Gas Monitor System.
 - 5.4.23.1 Provide gas monitoring system to monitor wheeled vehicle bays for carbon monoxide and nitrogen dioxide. Provide minimum of one carbon monoxide sensor, and one nitrogen dioxide sensor for each 5,000 sq. ft. of floor area.
- 5.4.24 Equipment.
 - 5.4.24.1 All materials and equipment shall be the standard cataloged product of manufacturers regularly engaged in production of such materials and equipment, and shall be the manufacturer's latest standard design.

- 5.4.25 Access Panels.
 - 5.4.25.1 Access panels/doors shall be provided as required for valves and appurtenances of the HVAC system. Coordinate location with the Architectural discipline to ensure provisions for access panels/doors.
- 5.4.26 Duct System Design.
 - 5.4.26.1 The ductwork shall be sized using the static regain design method. Duct locations shall be coordinated with all disciplines.
 - 5.4.26.2 Flexible duct shall be insulated metallic and shall be limited to 5'-0" spans.
- 5.4.27 Fire Dampers.
 - 5.4.27.1 Fire dampers shall be fire rated according to the areas being protected. Fire dampers shall conform to the requirements of NFPA 90A, UL 555, and UBC. Fire dampers shall be installed in accordance with NFPA 90A.
- 5.4.28 Diffusers, Grilles and Registers.
 - 5.4.28.1 Air distribution devices shall be factory-fabricated of steel, corrosion-resistant steel, or aluminum and shall distribute the specified quantity of air evenly over space intended without causing noticeable drafts.
- 5.4.29 Testing, Adjusting, and Balancing.
 - 5.4.29.1 Testing, adjusting, and balancing shall be for HVAC and hydronic heating systems.
- 5.4.30 Commissioning.
 - 5.4.30.1 Commissioning of HVAC systems.

5.5 ELECTRICAL

- 5.5.1 General.
 - 5.5.1.1 Design Criteria. Comply with the requirements and recommendations of DG 1110-3-107, Design Guide for U.S. Army Reserve Facilities.
 - 5.5.1.2 Conformance to Code. The electrical system shall be designed in compliance with the rules and recommendations of ANSI C2, National Electrical Safety Code; NFPA 70, National Electrical Code (NEC); NFPA 101, Life Safety Code; and applicable state and local codes.
 - 5.5.1.3 Design Analysis (DA). Provide a Design Analysis explaining the systems required by DG 1110-3-107 and as otherwise required for the project. Include the calculations required by DG 1110-3-107 and as otherwise required to substantially justify the systems design. As a part of the Design Analysis, demonstrate that the design complies with ASHRAE Standard 90.1, Chapters 8, 9, and 10.

- 5.5.1.4 Seismic Protection. Provide seismic protection for electrical equipment and electrical systems as required for the project seismic zone in accordance with applicable local code.
- 5.5.1.5 Materials and Equipment. All materials and equipment shall be the standard catalogued products of manufacturers regularly engaged in the production of such equipment and material, and shall be the manufacturer's latest design. All equipment and material shall conform to the requirements of American National Standards Institute (ANSI), American Society of Testing and Materials (ASTM), National Electrical Manufacturer's Association (NEMA), National Fire Protection Association (NFPA) or other national trade association as applicable. Where standards exist, materials and equipment shall bear the label and be listed by Underwriters Laboratories, Inc. (UL) or other Nationally Recognized Testing Laboratory (NRTL) per the NEC.
- 5.5.1.6 Provide a nylon pull cord in empty conduits, sleeves, and similar provisions, and in telephone and data system conduits whether they are empty or contain cables.
- 5.5.2 Electric Power Distribution.
- 5.5.2.1 Dedicated Electrical Equipment Space. The main electric room will be sized and organized to accommodate the main switchboard, space for an additional (future) distribution section, metering equipment, distribution transformer(s), distribution board(s), panelboard(s), space for 20% (not less than one) additional (future) panelboard(s), fire alarm control panel, lighting control equipment, and additional equipment as required. Coordinate access and egress requirements and location relative to the service transformer. Electrical equipment dedicated space and working space will be in compliance with the NEC.
- 5.5.2.1.1 Satellite electrical closets will be sized and laid out to accommodate the electrical equipment required and space for additional (future) panelboard(s). Coordinate locations for most efficient distribution. Stacked closets are preferred if practical. Electrical equipment dedicated space and working space will be in compliance with the NEC.
- 5.5.2.2 Nonlinear Loads. In all areas with raised floors and in areas (including but not limited to open office spaces and computer center) where nonlinear load type equipment predominates, such as computers, printers, uninterruptible power supply (UPS), motors with variable speed drives, electronic ballasts and dimmers and other similar loads, IEEE Std. 1100 "Power and Grounding Sensitive Electronic Equipment", and IEEE Std. 519 "Practices and Requirements for Harmonic Control in Electrical Power Systems" shall be used as design guides. Provide "K" factor rated transformers as required for the anticipated harmonic load. Identify the "K" factor rating for each transformer.
- 5.5.2.3 Coordinate electric power service with the local electric service provider. Confirm in writing the service provider's requirements for an underground primary line, pad-mounted transformer, metering, and underground secondary service. Provide the local service provider with load calculations, current characteristic requirements, dimensioned site plan, and additional information as required to properly coordinate and order electric service to the facility. Pay required design and installation fees; initiate application for service; and assist

the Government in completing application for service, accepting installation of service, and start-up of service. Coordinate meter location at the transformer or on the exterior building outside of the MEP fence.

- 5.5.2.3.1 The local electric service provider is Ohio Power, a division of American Electric Power (AEP). The point of contact for engineering related issues is Mr. Ray Zitney, Ohio Power Engineering, 301 Cleveland Avenue SW, Canton, Ohio 44701. Telephone: (330) 438-7718.
- 5.5.2.3.2 Preliminary coordination with Ohio Power indicated that the facility will probably be fed from an existing pole along Pleasantwood Avenue NW.
- 5.5.2.3.3 Preliminary coordination with Ohio Power indicated that the utility will provide the following (Contractor shall verify specific locations, conditions and requirements and finalize coordination with Ohio Power):
 - 5.5.2.3.3.1 Trenching from the pole to the transformer.
 - 5.5.2.3.3.2 Conduit from the pole to the transformer.
 - 5.5.2.3.3.3 Conductors from the pole to the transformer.
 - 5.5.2.3.3.4 Transformer pad and grounding electrode system.
 - 5.5.2.3.3.5 Transformer.
 - 5.5.2.3.3.6 Primary cable terminations at the transformer and at the pole.
 - 5.5.2.3.3.7 Meter cabinet and meter socket.
 - 5.5.2.3.3.8 Meter.
 - 5.5.2.3.3.9 Furnish, but do not install, the CTs (current transformers).
- 5.5.2.3.4 Preliminary coordination with Ohio Power indicated that the Contractor shall be required to provide the following(Contractor shall verify specific locations, conditions and requirements and finalize coordination with Ohio Power):
 - 5.5.2.3.4.1 Conduit from the transformer to the main switchboard.
 - 5.5.2.3.4.2 Conductors from the transformer to the main switchboard.
 - 5.5.2.3.4.3 Secondary cable terminations at the transformer.
 - 5.5.2.3.4.4 Install the CTs.
 - 5.5.2.3.4.5 CT cabinet per Ohio Power's Specifications.
- 5.5.2.3.5 The Contractor is responsible for obtaining any available rebates from the Utility and crediting those rebates to the Government in the bid.
- 5.5.2.4 The service for the training center will be sized for the load calculated per the NEC and with 25% excess capacity, rounded up to the next standard service size, for future growth.

- 5.5.2.5 Provide grounding electrode system as called out in DG 1110-3-107 such that the resistance of any individual made electrode has a resistance to ground of 25 ohms or less and the grounding electrode system has a resistance to ground of 5 ohms or less.
- 5.5.2.6 Main Switchboard. The training center main switchboard will have circuit breakers serving large loads such as distribution boards, panelboards, motor control centers, elevators, and large equipment.
 - 5.5.2.6.1 The main switchboard will be service entrance rated and have the neutral bus connected to the ground bus by a properly sized main bonding jumper.
- 5.5.2.7 Panelboards. Locate in the main electric room, satellite electrical closets, kitchen storage areas, and out-of-the-way corridors. Electrical equipment dedicated space and working space will be in compliance with the NEC.
 - 5.5.2.7.1 Panelboards shall be located to minimize voltage drop, efficiently serve equipment, and provide system flexibility. Coordinate locations with other disciplines to avoid conflicts. Electrical equipment dedicated space and working space will be in compliance with the NEC.
- 5.5.2.8 Distribution Transformers. Size for the load calculated per the NEC and with 25% excess capacity. Refer to paragraph 5.5.2.2 for non linear load requirements. Locate in electrical rooms and provide proper ventilation and cooling.
 - 5.5.2.8.1 Provide energy efficient transformers meeting NEMA TP-1 Standards.
 - 5.5.2.8.2 Distribution transformers constitute separately derived systems and will have the neutral bonded at the transformer or at the first overcurrent device in accordance with the NEC. The bonding point will be connected to the nearest suitable standing electrode with a grounding electrode conductor per the NEC.
- 5.5.3 Motors.
 - 5.5.3.1 Motor Efficiencies. Minimum motor efficiencies shall be either Energy Star or in accordance with DOE Buying Energy Efficient Products Recommendations (refer to www.eren.doe.gov/femp/procurement for recommended efficiencies). Provide premium efficiency motors where possible. Premium efficiencies shall meet or exceed the specifications of Baldor Super-E Products. Applications which require definite purpose, special purpose, special frame, or special mounted polyphase induction motors are excluded from these efficiency requirements.
 - 5.5.3.2 120 volt motors will be specified to have integral thermal overload protection when available. If integral thermal overload protection is not available, provide manual thermal overload starters. Provide combination motor starter–disconnect controllers for polyphase motors. Provide reduced voltage starters for motors over 25 HP. Coordinate type with motor design and starting torque requirements.
 - 5.5.3.3 Provide disconnect switches for all motors and equipment in accordance with the NEC. Provide motor-rated toggle switches for 120 volt motors with integral thermal overload protection. The manual starter may serve as the disconnect for

120 volt motors without integral thermal overload protection when properly located. Combination motor starter-disconnect controllers may serve as the disconnect for polyphase motors when properly located. Provide additional non-fused disconnect switches within sight of the motor when the starter-disconnect cannot be placed within sight of the motor.

- 5.5.3.4 Provide a Motor Control Center (MCC) for mechanical rooms or equipment rooms/areas where there are four or more polyphase motors and/or equipment that require starters. Locate the MCC in the mechanical room or equipment area.
- 5.5.4 Receptacles and Branch Circuits.
 - 5.5.4.1 General Purpose Receptacles. General purpose receptacles are in addition to the special purpose and dedicated outlets for special equipment.
 - 5.5.4.1.1 Provide a minimum of one general purpose 120 volt, 20 ampere duplex receptacle outlet in each room.
 - 5.5.4.1.2 Offices. Provide a minimum of one general purpose receptacle on each wall. In offices where walls exceed 12 feet, provide an additional duplex receptacle for each additional 12 feet of wall or fraction thereof. Receptacle spacing shall not exceed 12 feet.
 - 5.5.4.2 Provide receptacles or power connections for utilization equipment included in the project as well as equipment furnished by the Government and others associated with the project. Government furnished utilization equipment may include (but is not limited to) computers, fax machines, printers, photo-copy machines, office equipment, vending machines, kitchen equipment, computer network equipment, security system equipment, card readers, motorized gates, general maintenance equipment, vehicle maintenance equipment, battery chargers, and military equipment. Equipment furnished by others may include (but is not limited to) vending machines.
 - 5.5.4.2.1 The following 120 volt existing equipment will be relocated from the existing facility: Air compressor, drill press, filter crusher, steam cleaner, brake drum lathe, pressure washer (needs a dedicated 20 amp circuit), two (2) tool grinders, two (2) parts washers, and 30 battery chargers.
 - 5.5.4.2.2 The following 208 volt, existing equipment will be relocated from the existing facility: Plasma cutter (80.6 full load amps (FLA) at 200 volts), MIG welder (30 FLA at 208 v), arc welder (96 FLA at 230 v, 48 FLA at 480 v, (18 kW, 22 kVA)), lift (17 FLA at 208 v (2 HP)), and a tire changer that requires a 30 amp, 208 v, single phase circuit.
 - 5.5.4.3 Receptacles located in hazardous areas shall be mounted at a minimum of 18 inches above finished floor in vehicle maintenance, battery, and flammable storage areas. Electrical outlets, devices and equipment located in battery or flammable storage areas or mounted at or below 18 inches AFF in vehicle maintenance areas shall meet NFPA 70, Article 511, Class 1, Division 2.
 - 5.5.4.4 Provide multi-outlet raceway above workbenches with receptacles 12 inches on center in computer (ARNET/NOC/RCAS), Armorer and electrical/

- communication/repair rooms. Provide a dedicated, isolated ground circuit for each multi-outlet raceway.
- 5.5.4.5 Provide two (2) double duplex receptacles for each telephone rack and each data communications rack. Provide each of these receptacles with a dedicated, isolated ground circuit for each rack.
- 5.5.4.6 Workstations.
- 5.5.4.6.1 Provide each stand-alone, non-system furniture workstation with an additional adjacent duplex receptacle on an independent single phase, 20 ampere, 120 volt circuit having not more than four duplex receptacles and a nonshared neutral.
- 5.5.4.6.2 Provide each stand-alone, system furniture workstation with an additional adjacent double-duplex receptacle on an independent single phase, 20 ampere, 120 volt circuit having not more than five duplex receptacles and a nonshared neutral.
- 5.5.4.6.3 Provide each group of four (or fraction thereof) modular, system furniture workstations with an eight (8) wire furniture feed consisting of a normal “dirty” power circuit triplet (three (3) independent single phase, 20 ampere, 120 volt circuits with shared neutral and normal equipment ground) and a “clean” power circuit (one (1) independent, single phase, 20 ampere, 120 volt circuit with separate neutral and an isolated equipment ground).
- 5.5.4.6.4 Provide power through adjustable, multiple service floor outlets or fire rated poke-throughs for equipment and appliances in the Unit Commons areas when the equipment is to be placed on worktables, counters, systems furniture, or cabinets that are not against fixed walls.
- 5.5.4.7 Provide heat trace with thermostatic and manual controls in downspouts and gutters.
- 5.5.4.8 Provide power and manual controls for radon exhaust system, if required. See paragraph 5.1.10, this Section.
- 5.5.5 Exterior Lighting. Exterior lighting shall comply with state and local codes, IES recommendations, and DG 1110-3-107. POV parking area lighting for IES “enhanced security” level is required for this project. Provide IES “enhanced security” light levels on sidewalk at front of building. The flagpole shall be properly illuminated.
- 5.5.6 Interior Lighting.
- 5.5.6.1 Efficiency. Interior lighting will be both efficient and color corrected. Color Rendering Index (CRI) of 85 or better and a standard lighting color of 3500 K are required. Minimum efficiency standards for lighting are as follows:
- 5.5.6.1.1 Fluorescent tubes, 4 feet and longer: 90 lumens/watt.
- 5.5.6.1.2 Fluorescent tubes less than 4 feet: 80 lumens/watt.
- 5.5.6.1.3 Compact fluorescent and other lamps: 50 lumens/watt.

- 5.5.6.2 Lighting levels for the individual areas shall conform to those indicated in DG 1110-3-107 and IES recommendations. The light fixtures to be used for each functional area are scheduled in Appendix C of this Section 01010. The fixtures scheduled represent the minimum quality and type for each functional area. Additional types of fixtures and fixtures of higher quality may be introduced as necessary to meet the design intent and to accommodate specific user needs.
- 5.5.6.3 Batteries for emergency lighting fixtures and battery fluorescent ballasts shall have a minimum warranty of five years and a minimum expected battery life of 10 years.
- 5.5.6.4 Battery fluorescent ballast shall provide a minimum of 1100 lumens continuously for 90 minutes.
- 5.5.6.5 The security light required outside the Arms Vault shall be vandal-resistant and shall be equipped with a backup power source. It shall not be switched.
- 5.5.6.6 Light switches shall be 20 amp, 120/277 volt AC, specification grade.
- 5.5.7 Fire Alarm System.
 - 5.5.7.1 Provide Fire Alarm Control Panel (FACP), Remote Annunciator Panel (FAA), alarm initiating devices, alarm notification appliances, signaling devices, wiring, and testing in accordance with DG 1110-3-107, NFPA 72, NFPA 101 and MIL HDBK 1008C.
 - 5.5.7.2 FACP: Provide a complete UL listed addressable system with full control, supervisory, alarm, signal, display, and battery backup features in compliance with NFPA 72. Locate in the main electrical room. Comply with MIL HDBK 1008C.
 - 5.5.7.3 FAA: Provide a Remote Annunciator Panel that indicates alarm conditions by device and with alarm silence control. Locate in the main entrance lobby, unless directed otherwise by the Local Authority Having Jurisdiction.
 - 5.5.7.4 Alarm Initiating Devices: Provide addressable alarm initiating devices in compliance with NFPA 72 including:
 - 5.5.7.4.1 Double action manual pull stations located at main exit, kitchen exit, exits adjoining assembly occupancies, and boiler room exit.
 - 5.5.7.4.2 Heat detectors for elevator machine room and hoistway.
 - 5.5.7.4.3 Photoelectric smoke detectors for fire-rated door hold-opens, fire shutter control, elevator recall, and one above the FACP.
 - 5.5.7.4.4 Photoelectric duct smoke detectors in all HVAC main supply ducts and in return ducts when system is greater than 15000 CFM. Provide duct smoke detectors to control fire/smoke dampers. An alternative to duct smoke detection is area smoke detection of associated smoke compartments. This may be included in the design when more economical than multiple duct smoke detectors.

- 5.5.7.5 Notification Appliances: Provide audible and visual notification appliances in compliance with MIL HDBK 1008C and NFPA 72 including:
- 5.5.7.5.1 A weatherproof alarm bell or horn located on the outside of the building at the fire protection water service “Siamese” connection in accordance with NFPA 13.
 - 5.5.7.5.2 Alarm horns located in accordance with the Americans with Disabilities Act – Accessibility Guidelines (ADA-AG).
 - 5.5.7.5.3 Visual notification appliances in common use spaces such as corridors, open office space, toilet rooms, break rooms, and similar spaces in accordance with the ADA-AG.
 - 5.5.7.6 Signaling devices will typically include a telephone auto dialer with two dedicated telephone lines to communicate with a central station monitoring service. The Government is responsible for contracting for central station monitoring service. The Contractor is responsible for coordinating with the Government’s selected vendor and assisting the Government with establishing service. Some locations may require a signal sent directly to the Fire Department via radio. Radio transponder units require a dedicated telephone line backup.
 - 5.5.7.7 Provide all fire alarm system initiation, notification, signal, and control wiring in conduit.
 - 5.5.7.8 Alarm initiating devices will be connected to Signal Line Circuits (SLC), Style 5 or 6, in accordance with NFPA 72.
 - 5.5.7.9 Alarm notification appliances will be connected to notification appliance circuits (NAC), Style Z, in accordance with NFPA 72.
 - 5.5.7.10 Provide signals to elevator controller for elevator recall, shutdown and supervision, in accordance with NFPA 72 and ASME A17.1.
 - 5.5.7.11 Provide power to the FACP from a locking circuit breaker.
 - 5.5.7.12 Provide magnetic door holders at the locations indicated in the table in 5.2.2 of this Section as a minimum.
 - 5.5.7.13 Provide acceptance testing. Preliminary testing as required to complete and submit the Certificate of Completion, in accordance with NFPA 72. Final testing to complete and submit the Inspection and Testing Form, in accordance with NFPA 72.
- 5.5.8 Communications – Telephone System.
- 5.5.8.1 Provide a complete telephone system. Provide the services of a Registered Communications Distribution Designer (RCDD) to design the system in compliance with MIL HDBK 1012/3.
 - 5.5.8.2 Coordinate telephone service with the local telephone service provider. Confirm in writing the service provider’s requirements for an underground copper cable telephone service. Provide the service provider with the number of active lines required, the number of wire pairs required, system features required,

dimensioned site plan, and additional information required to properly coordinate and order telephone service to the facility. Pay required design and installation fees; initiate application for service and assist the Government in completing application for service; accepting installation of service; start-up of service; and activation of specific telephone numbers and dedicated lines for fire alarm, security, and elevator services.

- 5.5.8.2.1 The local telephone service provider is SBC Ameritech. The point of contact for engineering related issues is Mr. Jim Siegmund, SBC Ameritech Engineering, 50 West Bowery Street, Room 601, Akron, Ohio 44308. Telephone (330) 384-3947. The point of contact for service activation is Customer Growth Group (888) 901-2779.
- 5.5.8.2.2 Preliminary coordination with SBC Ameritech indicated that the facility will probably be fed from an existing pole along Pleasantwood Avenue NW.
- 5.5.8.2.3 Preliminary coordination with the utility indicated that the utility will provide the following (Contractor shall verify specific locations, conditions and requirements and finalize coordination with SBC Ameritech):
 - 5.5.8.2.3.1 Telephone cables from the pole to the demarcation point in the telephone room.
 - 5.5.8.2.3.2 Terminate telephone cables in the building.
 - 5.5.8.2.4 Preliminary coordination with the utility indicated that the Contractor shall be required to provide the following (Contractor shall verify specific locations, conditions and requirements and finalize coordination with SBC Ameritech):
 - 5.5.8.2.4.1 4" conduit from a pole on Pleasantwood Avenue NW to the telephone room for copper telephone cable service.
 - 5.5.8.2.4.2 4" conduit from the property line on Pleasantwood Avenue NW to the telephone room for future fiber optic cable service.
- 5.5.8.3 Telephone service shall include a multi-pair copper cable in direct buried conduit. The cable shall be sized based on the number of jumpers. The number of jumpers will be equal to the number of installed telephone instruments plus the number of dedicated lines required for fire alarm, security system(s), elevator, and other project specific requirements. The number of jumpers is multiplied by two to determine the number of copper pairs for the telephone service cable. The number of active lines is equal to the number of jumpers noted above.
- 5.5.8.4 Provide backboards, equipment racks, 110 type punchdown blocks, conduit sleeves, and corridor cable tray system. Size pathway system, racks and equipment for complete utilization of the service entrance cables and all telephone and data outlets plus room for minimum of 50% growth. Provide a minimum of two equipment racks at the head end and one minimum in each satellite closet.
- 5.5.8.5 Provide telephone outlets in spaces noted in DG 1110-3-107.
 - 5.5.8.5.1 Provide a minimum of one (1) telephone outlet per workstation.

- 5.5.8.5.1.1 Recruitment/Retention Office requires two (2) telephone outlets per workstation.
- 5.5.8.5.1.2 Provide telephone services through adjustable, multiple service floor outlets or fire rated poke-throughs for telephone outlets in the Unit Commons areas when the telephone is to be placed on worktables, counters, systems furniture or cabinets that are not against fixed walls.
- 5.5.8.5.2 Provide a minimum of two (2) telephone outlets in each private office.
- 5.5.8.5.3 Telephone outlets for workstations shall be mounted in a standard, dual telephone/data outlet. This standard outlet consists of a telephone jack on the bottom half of a cover plate and a data jack on the top half of the same cover plate. Provide two-gang, deep, backboxes with two 1-inch minimum conduit stubbed into accessible corridor/common area ceiling space adjacent to cable tray. Provide minimum of two 1¼-inch flexible connection to modular furniture.
- 5.5.8.5.4 Provide 8-pin, RJ-45 Type, Category 6 connectors at each telephone outlet including those in modular furniture.
- 5.5.8.6 Provide a Category 6, unshielded, twisted pair, 8 conductor copper cable from each voice jack to the nearest telecommunications closet. Label each end of each cable per the Government's direction.
- 5.5.8.7 Terminate telephone cables at the jack and the punchdown block in the main telecommunications room in accordance with ANSI/TIA/EIA-568-B configuration T568-A. Test cables in accordance with ANSI/TIA/EIA-568-B.
- 5.5.8.8 Provide copper Category 6 backbone cable between each telecommunications closet and the main telecommunications room (NOC/RCAS/ARNET). The number of pairs is determined by MIL HDBK 1012/3 for the number of outlets served by the satellite telephone closets. Test cables in accordance with ANSI/TIA/EIA-568-B.
- 5.5.8.9 Provide all jumpers, cross connects, patch cords, and accessories necessary for a complete telephone system.
- 5.5.8.10 Provide a minimum of 60 telephone instruments.
- 5.5.8.11 Provide multi-line, executive type, desktop speaker phones for approximately 12 private offices. Provide type compatible with and supported by the local service provider system.
- 5.5.8.12 Provide single line, desktop, standard telephones for designated workstations.

- 5.5.8.13 Provide single line, wall mount standard telephones for designated locations.
- 5.5.8.14 Provide exterior type (wet location listed) telephone at doors 151A and 131C.
- 5.5.8.15 Government required telephone system features for each active line: Private voice mail; voice mail transfer; voice mail forward/copy; direct, four digit extension dial within facility; multi-line executive type speaker phone support.
- 5.5.8.16 Provide a minimum #6 copper equipment grounding electrode conductor from the electrical service ground bus to the telephone equipment backboard in the telephone room. Provide this wire with no splices and with adequate slack to reach any point in the telephone room.
- 5.5.8.17 The requirements of MIL HDBK 1012/3 Appendix A shall also apply to Category 6 cabling.
- 5.5.9 Communications – Data Cabling System. Provide the services of a Registered Communications Distribution Designer (RCDD) to design the data cabling system in compliance with MIL HDBK 1012/3.
 - 5.5.9.1 Data Wide Area Network (WAN) or Internet service will be via the local telephone service. See contact information and coordination requirements listed under Communications - Telephone System above.
 - 5.5.9.2 Provide equipment racks, and 110 type patch panels. Conduit sleeves and cable tray are as described for the telephone system. See system sizing under Communications – Telephone System above. Provide a minimum of two data racks at the head end and one in each satellite closet.
 - 5.5.9.3 Provide data outlets in spaces noted in DG 1110-3-107.
 - 5.5.9.3.1 Provide a minimum of one (1) data outlet per workstation.
 - 5.5.9.3.1.1 Recruitment/Retention Office requires two (2) data outlets per workstation.
 - 5.5.9.3.2 Provide a minimum of two (2) data outlets in each private office.
 - 5.5.9.3.2.1 Maintenance Office 123 requires two (2) data outlets at the workstation.
 - 5.5.9.3.2.2 Maintenance Office 121 requires four (4) data outlets at the workstation.
 - 5.5.9.3.2.3 Maintenance Office 124 requires three (3) data outlets at the workstation.
 - 5.5.9.3.2.4 Maintenance Office 126 requires seven (7) data outlets at the counter workstation.
 - 5.5.9.3.2.5 Each tool and parts storage room in the AMSA requires one (1) data outlet.
 - 5.5.9.3.3 Provide data cables through adjustable, multiservice floor outlets or fire rated poke-throughs for data outlets in the Unit Commons areas when the network device is to be placed on worktables, counters, systems furniture or cabinets that are not against fixed walls.

- 5.5.9.3.4 Provide 8-pin, RJ-45 Type, Category 6 connectors at each data outlet including those in modular furniture. The data and telephone outlets may share a common backbox with separate conduits for each system. See description of standard, dual telephone/data outlets listed under Communications – Telephone System above.
- 5.5.9.4 Provide Category 6, unshielded, twisted pair, 8 conductor copper cable from each data jack to the nearest telecommunications closet. Label each end of each cable per the Government's direction.
- 5.5.9.5 Terminate data cables at the jack and the patch panels in the main telecommunications room in accordance with ANSI/TIA/EIA-568-B configuration T568-A. Test cables in accordance with ANSI/TIA/EIA-568-B.
- 5.5.9.6 Provide 24 strand single mode fiber optic backbone cable between each telecommunications closet and the main telecommunications room. Terminate cables in fiber optic patch panels at both ends. Test circuits for insertion loss at both ends at 1310 and 1550 nm. Perform high-resolution Optical Time Domain Reflectivity (OTDR) tests on each fiber at one end.
- 5.5.9.7 The Government to provide Local Area Network and Wide Area Network system design, hardware, software, and interconnections to complete an operational system.
- 5.5.9.8 Provide a minimum #6 copper equipment grounding electrode conductor from the electrical service ground bus to the NOC/ARCAS/ARNET and to each satellite data closet. Provide these wires with no splices and with adequate slack to reach any point in the respective rooms.
- 5.5.9.9 The requirements of MIL HDBK 1012/3 Appendix A shall also apply to Category 6 cabling.
- 5.5.10 Cable Television (CATV).
- 5.5.10.1 Coordinate CATV service with the local CATV service provider. Confirm in writing the service provider's requirements for an underground cable distribution line service. Provide the local service provider with a dimensioned site plan and additional information as required to properly coordinate and order CATV service to the facility. Pay required installation fees; initiate application for service; assist the Government in completing application for service, accepting installation of service, and start-up of service.
- 5.5.10.1.1 The local CATV service provider is Time-Warner Cable. The point of contact for engineering related issues is Mr. Steve Weaver, Time-Warner Engineering, 5520 Whipple Avenue, North Canton, Ohio 44720. Telephone (330) 494-9200 ext. 3524. The point of contact for service activation is Mr. Gary McManis, Commercial Roadrunner Services, 530 South Main Street, Suite 1751, Akron, Ohio 44311. Telephone (330) 633-9203 ext. 6434.
- 5.5.10.2 Preliminary coordination with Time-Warner Cable indicated that the facility will probably be fed from an existing pole along Pleasantwood Avenue NW.

- 5.5.10.3 Preliminary coordination with the utility indicated that the utility will provide the following:
 - 5.5.10.3.1 Distribution line type CATV cables from the pole to the telephone room.
 - 5.5.10.3.2 Termination of CATV cables in the building.
- 5.5.10.4 Preliminary coordination with the utility indicated that the Contractor shall be required to provide the following:
 - 5.5.10.4.1 Conduit from a pole on Pleasantwood Avenue NW to the telephone room.
- 5.5.10.5 Provide the following CATV outlets: two (2) in Assembly Hall, two (2) in each Classroom, and one (1) each in each Breakroom, Physical Fitness Room, and the Library. Outlets shall be prewired in accordance with all local cable TV company requirements.
- 5.5.11 Special Requirements.
 - 5.5.11.1 Lightning Protection. If a lightning protection system is required per the calculation indicated in DG 1110-3-107, provide a UL Master Label System.
 - 5.5.11.2 Public Address (PA) Systems. In addition to the PA system required by DG 1110-3-107 for the Assembly Hall, an AT/FP type PA system is required by UFC 4-010-01. Locate both systems in the Facility Maintenance Room.
 - 5.5.11.2.1 AT/FP type PA system shall be a single zone, all call, public address system independent from, but accessed by, the telephone system. It shall annunciate clearly in all interior spaces and in the MEP area. The AT/FP PA system shall mute the Assembly Hall PA system and annunciate in that space via separate speakers.
 - 5.5.11.3 Electronic Security Systems. There are two (2) separate security systems for this project, a Government provided IDS and a Contractor provided ESS.
 - 5.5.11.3.1 IDS: Provide empty conduit system for intrusion detection system (IDS) in arms vaults. Provide backboxes and conduit for sensors, switches, controllers, and alarms as required. Provide conduit for exterior alarm bell. Provide continuous rigid conduit from controller to NOC or telephone room as required. Provide power supply for the Government provided IDS controller. Coordinate locations and requirements with the using agency. Locate alarm control junction box outside caged area, but within vault. The IDS is furnished and installed by the Government.
 - 5.5.11.3.2 ESS: Provide an entry control Electronic Security System (ESS). This is a complete system provided by the Contractor with the following major components:
 - 5.5.11.3.2.1 Microprocessor Control: Provide central station equipment including a digital computer with the necessary memory, power supply, clock, parts, keyboard, mouse, disk storage, modem, CD-ROM drive, printer, UPS, and software to control, operate, and annunciate the system.

- 5.5.11.3.2.2 Entry Control Local Processor: Provide local entry control processing hardware, software devices, and wiring to communicate between the central station equipment and entry control devices such as card readers, door contact switches, and electric door strikes.
- 5.5.11.3.2.3 Card Readers: Provide proximity type card readers at selected exterior doors. Provide credential cards and card modification equipment.
 - 5.5.11.3.2.3.1 Provide card readers and associated equipment for entry control at the following doors: 151A, 152A, 130C, 114P, and 158A.
- 5.5.11.3.2.4 Door Contact Switches: Provide Balanced Magnetic Switch (BMS) assemblies at all exterior doors.
- 5.5.11.3.2.5 Electric Door Strikes: Coordinate with door hardware. Provide power and control wiring as required to support the selected entry control scheme.
- 5.5.11.3.2.6 Provide hardware, software, wiring, devices, control interfaces, credential cards, and testing as required for a complete system acceptable to the Government.
- 5.5.11.4 Battery Room Exhaust. Provide an electrical interlock system for the battery room exhaust fan/receptacle power wiring. The system shall include the following:
 - 5.5.11.4.1 Light switch on outside of the battery room shall energize the lights and exhaust fan in the room simultaneously.
 - 5.5.11.4.2 Within the duct for the exhaust fan provide a sail switch that shall be connected to the receptacle power wiring.
 - 5.5.11.4.3 Interlock Battery Room exhaust fan with battery charger receptacles to deactivate and prevent charging upon loss of airflow.
 - 5.5.11.4.4 Eliminate the possibility of an explosion in the battery room caused by someone plugging a battery charger into a live receptacle in a room filled with explosive gas.
- 5.5.11.5 Provide industrial type door bell system consisting of a weatherproof heavy duty pushbutton in a surface mount, die cast housing typical of Edwards B-8493 series, mounted next to the southwest MEP gate; and three (3) heavy duty indoor buzzers typical of Edwards 340A series mounted in Corridor 155, Corridor 157 and Maintenance Bay 114.

5.6 LANDSCAPE ARCHITECTURE

- 5.6.1 All open areas which are not used or improved for required parking areas, drive or storage shall be landscaped with a combination of overstory trees, understory trees, shrubs, flowers and ground cover materials. The minimum landscape value of the proposed trees, shrubs, flowers, ground covers, sod, turf seed, native grass seed, mulch, edging and irrigation shall not be less than 1% of the total project cost (ie – building construction, site preparation, and site improvements).

- 5.6.2 A reasonable attempt shall be made to preserve as many existing trees as is practicable and to incorporate them into the landscape plan. All site areas not covered by buildings, sidewalks, parking lots, driveways, patios or similar hard surface materials shall be covered with sod or native wildflower and grass seed mixtures.
- 5.6.3 In order to provide for adequate maintenance of landscaped areas, an underground sprinkler system shall be provided for all sodded areas and primary entry landscape features. Native wildflower and grass areas shall not receive irrigation.
- 5.6.4 The Contractor shall be responsible for maintenance of the landscaping during a one-year warranty period, and shall replace all plant materials which do not show healthy growth during the warranty.

PART 6 – ADDITIONAL PROJECT REQUIREMENTS

6.1 SUBMITTAL REGISTER AND SHOP DRAWING REVIEW AND APPROVAL

- 6.1.1 The individual Specification Sections indicate the shop drawings and other submittals required for this Project. The Contractor shall prepare a Shop Drawing Submittal Register, in both electronic and hard copy format, for Government approval, using Form 4288. See Spec Section 01331.
- 6.1.2 Following Submittal Register approval, the Contractor shall have all required submittals prepared and submitted to the Contractor’s designers-of-record, using Form 4025.
- 6.1.3 The Contractor’s designers shall review the submittals and recommend Contractor approval or disapproval, designating one of the following three actions to be taken. Designers of record shall sign approved submittals.
 - 6.1.3.1 “Approved” – Straight approval only; items meet all requirements of the plans and specifications.
 - 6.1.3.2 “Approved as noted.” – Approved subject to corrections noted on the submitted data or the submittal form, which will result in compliance with all requirements of the plans and specifications.
 - 6.1.3.3 “Not approved – resubmit” – Items do not meet all requirements of plans and specifications; designer is to note reasons for disapproval on the submittal form.
- 6.1.4 Equipment or material which does not meet all requirements of the plans and specifications shall not be approved. Requests to substitute equipment or material may be considered by the Government only if proposed by the Contractor, and accompanied by:

- 6.1.4.1 A written explanation describing all points in which it differs from the Project requirements.
- 6.1.4.2 A written description of how its substitution will affect other items.
- 6.1.4.3 The reason for the submittal.
- 6.1.4.4 The amount of credit (or increase) in the construction contract amount should the Government approve the substitution.
- 6.1.5 Contractor shall maintain an up-to-date copy of the Submittal register at all times, along with copies of all submittals and designer responses. Contractor shall promptly provide Government with two complete copies of all approved submittals, For Information Only (FIO).

6.2 Not Used

6.3 WARRANTIES

- 6.3.1 Required warranties are indicated in the Specifications. Contractors are encouraged to offer extended warranties on mechanical equipment and controls, roofing, and other items or systems, either as a part of their proposal (betterment) or an addition to the proposal cost. If Contractor offers as an addition to the proposal cost, such extended warranties will not be a part of the Government's evaluation and selection process.

6.4 PERMITS, AND REGULATORY AGENCY AND UTILITY COORDINATION

- 6.4.1 The Contractor is responsible for making all applications and obtaining required municipal and regulatory agency coordination, reviews, permits, inspections and approvals, and is responsible for payment of any associated fees or charges. If Government information, signatures, names or addresses are required for applications, approvals or permits, the Contractor is responsible for obtaining same. This is a Federal Government project, therefore some reviews, permits, inspections and approvals are not required. The Contractor is responsible for identifying such requirements for a commercial project and verifying with the Government which of these will be waived. Permit requirements which have been identified are listed below. This list is not all-inclusive, and Contractor is responsible for verifying that information below remains accurate.
- 6.4.2 By Ohio State law, most State and local governmental agencies do not have jurisdiction over Federal construction on Federal land. It is the intention of the Army Reserve to be a "good neighbor" to the State and local governmental agencies, and to comply with applicable State and local codes and regulations. The Contractor is required to comply with local codes and regulations, as noted

in Section 3.2. The Contractor shall strive to keep local governmental agencies informed of the design and construction progress of the project.

- 6.4.3 Contractor shall not contact the agency personnel listed below during the preparation of proposals.
- 6.4.4 Streets, Street Rights-of-Way, and Street Access
 - 6.4.4.1 Lake Township has jurisdiction for the streets surrounding the site. Preliminary discussions have been held with Mr. Rick Criss, Lake Township Street Superintendent, 330-877-8418.
 - 6.4.4.2 The Contractor shall coordinate its work with Lake Township. In addition, the Contractor shall implement traffic control and staging for work in public roadways and for construction access to the site, and shall establish site entrance(s) for construction vehicles.
 - 6.4.4.3 A permit is required for each curb cut or utility installation in the right-of-way. Contractor shall obtain all necessary permits. Rick Criss has indicated that the permits cost \$2 each, and that a bond will be required in the amount of 15% of the construction cost estimate for the work involved.
- 6.4.5 Drainage and Storm Sewer, and National Pollution Discharge Elimination System (NPDES) Storm Water Permit Associated with Construction Activities
 - 6.4.5.1 Drainage and storm sewer plans for the site are to be submitted for review and approval by the Stark County Regional Planning Commission. Preliminary discussions have been held with Joseph Underwood, Subdivision Engineer, Stark County Regional Planning Commission, 330-451-7403.
 - 6.4.5.2 The Contractor is responsible for coordinating the design and installation of drainage and storm sewers with the Stark County Regional Planning Commission. The standard permit fee is \$700.
 - 6.4.5.3 All work associated with the installation of the drainage and storm sewers is the responsibility of the Contractor.
 - 6.4.5.4 The Stark County Soil and Water Conservation District has jurisdiction for stormwater management of the site. Preliminary discussions have been held with Ms. Julie Berbari, SWCD, 330-489-9764.
 - 6.4.5.5 The Contractor is responsible for compliance with the requirements of NPDES and the Stark County Erosion/Sediment Control (ESC) regulations.
 - 6.4.5.6 The Contractor shall file the required Notice of Intent, provide the Erosion/Sediment Control Plan, and obtain required permits. The fee for the NPDES permit is \$200 plus \$20 per acre; the fee for the ESC permit is \$200 plus \$20 per acre.
- 6.4.6 Planning and Zoning

- 6.4.6.1 Lake Township has zoning jurisdiction for the project site. Preliminary discussions have been held with Ms. Veronica Buetel, Lake Township Planning Department, 330-877-9479. The site is zoned I-2, Industrial District, General, and Ms. Buetel has indicated that the proposed use by the Army Reserve is acceptable in this district.
- 6.4.6.2 The Stark County Regional Planning Commission (RPC) has planning jurisdiction for the project site. Preliminary discussions have been held with Ms. Reva Butera, Chief of Planning Administration, RPC, 330-451-7389.
- 6.4.6.3 The Contractor is responsible for making a planning application to the RPC. The filing/review fee has been identified as \$50 plus \$5 per acre for planning, and \$100 plus \$50 per acre for subdivision engineering. The filing requires 15 copies of the application, site plan information, and storm drainage calculations. See application and requirements at the end of this section.
- 6.4.6.4 Application must be made by the 17th of the month in order to be on the planning commission and subdivision engineering agendas for the next month's meetings. The Contractor's designers shall attend the meeting at which the project will be discussed and shall provide a minimum of three weeks notice to the Government to allow Government personnel the opportunity to also attend this meeting.
- 6.4.6.5 The RPC will distribute 14 copies of the application and attached information to the following parties for their review. All parties' comments, if any, will be reviewed at the subsequent subdivision engineering and planning meetings.
- Stark County Subdivision Engineering Department
 - Stark County Sanitary Engineering Department
 - Stark County Health Department
 - Stark County Engineer
 - Stark County House Numbering
 - Stark County Soil and Water Conservation District
 - Lake Township Zoning Department
 - Lake Township Fire Protection Department
 - City of North Canton Water Department
 - Electrical utility provider
 - Natural gas utility provider (2 copies)
 - Telephone utility provider
 - U.S. Post Office
- 6.4.7 Building
- 6.4.7.1 Stark County has building code jurisdiction over the project site. Preliminary discussions have been held with Mr. Ed Stetz, Chief Building Official, Stark County, 330-451-2370. Mr. Stetz confirmed that, by Ohio State law, the County does not have jurisdiction over Federal construction on Federal property. Therefore, no construction document code review or building permit will be required by the County, and no construction inspections will be performed. However, the Contractor shall offer Mr. Stetz the opportunity to review and comment on the construction documents, and shall review any comments with

the Government for incorporation into the project. The Building Code is the 2002 Ohio Building Code, which is based on IBC 2000.

6.4.8 Fire Protection

6.4.8.1 Lake Township has fire protection jurisdiction over the project site. Preliminary discussions have been held with Mr. Danielle Kemp, Fire Protection Officer, Lake Township, 330-877-9479. Mr. Kemp confirmed that, by Ohio State law, the County does not have jurisdiction over Federal construction on Federal property. However, Lake Township will provide fire protection services to the completed facility. The Contractor shall offer Mr. Kemp the opportunity to review and comment on the construction documents, and shall review any comments with the Government for incorporation into the project.

6.4.8.2 Mr. Kemp has identified the 2000 Ohio Fire Code as the applicable fire code, but this code is based on the BOCA Building Code. Mr. Kemp recommends that the design and construction comply with the fire protection requirements of the Ohio Building Code, which is now based on the International Building Code.

6.4.9 Water for Domestic Use and Fire Protection

6.4.9.1 Water service to the site is provided by the City of North Canton. Preliminary discussions have been held with Nick Meyers, Plumbing Inspector, 330-499-5557.

6.4.9.2 The Contractor is responsible for coordinating the design and installation of the water service with the City.

6.4.9.3 The City of North Canton will provide and install a water meter for domestic service. All other work associated with installation of the water service is the responsibility of the Contractor.

6.4.9.4 The following fees and charges for water service have been identified.

Water Access Charge (WAC) - \$7,950
Permit - \$15
Meter - \$975 for 2"; \$683 for 1 ½"; and \$308 for 1"

6.4.10 Sanitary Sewer

6.4.10.1 Sanitary sewer service to the site is provided by Stark County Metropolitan Sewer. Preliminary discussions have been held with Steve Bellamy, 330-451-2304.

6.4.10.2 The Contractor is responsible for coordinating the design and installation of the water service with Stark County. A permit is required at a cost of \$700; a Sewer Access Charge (SAC) is required, but has not yet been calculated.

6.4.10.3 All work associated with the installation of the sanitary sewer service is the responsibility of the Contractor.

6.4.11 Natural Gas

- 6.4.11.1 The natural gas service supplier for the site is Dominion East Ohio Gas. Preliminary discussions have been held with Ms. Donna Knotts, Local Builder's Representative, 330-478-3124.
- 6.4.11.2 The Contractor is responsible for coordinating the design and installation of the water service with Dominion. The preliminary discussions have indicated that no charges or fees are required.
- 6.4.11.3 Contractor work and service provider work associated with installation of the natural gas service are described in Section 02556.
- 6.4.12 Electrical
 - 6.4.12.1 Electrical service to the site is provided by Ohio Power (American Electric Power – AEP). Preliminary discussions have been held with Mr. Ray Zitney, Ohio Power Engineering, 330-438-7718. Once an application for service has been filed, a Customer Service Representative will be assigned. The application for electrical service will require a Government signature. The Contractor is responsible for assisting the Government with the preparation and submittal of the application.
 - 6.4.12.2 The Contractor is responsible for coordinating the application, design and installation of the electrical service with AEP. AEP has indicated that approximately one month is required for review and approval. Preliminary discussions have indicated that a fee of \$25,000 to \$40,000 will be required for AEP design and installation work, dependent on location and size of service transformer, and routing of primary cable.
 - 6.4.12.3 Contractor work and service provider work associated with installation of the electrical service are described in Section 5.5.2.3.
 - 6.4.12.4 AEP requires an easement, described as ten feet each side of the underground primary service from pole to transformer, and 10 feet around the transformer. AEP wishes to prepare the easement and easement language. The Contractor is responsible for assisting the Government in coordinating the easement with AEP.
- 6.4.13 Telephone
 - 6.4.13.1 Telephone service to the site will be provided by SBC Ameritech. Preliminary discussions have been held with Mr. Jim Siegmund, Engineering, 330-384-3947, and Mr. Tim Eames, Engineering, 330-384-2237. The Customer Growth Group number is 888-901-2779.
 - 6.4.13.2 The Contractor is responsible for coordinating the design and installation of the telephone service with SBC Ameritech. Drawings are to be provided to Customer Growth Group, which will coordinate with their Engineering group. It is estimated that approval will require two to three weeks.
 - 6.4.13.3 The application for new telephone service will require a Government signature. The Contractor is responsible for assisting the Government with the preparation

and submittal of the application. A nominal design fee may be required, and an installation fee may be required based on the length of service cable.

- 6.4.13.4 Contractor work and service provider work associated with installation of the telephone service are described in Section 5.5.8.
- 6.4.14 Cable Television
 - 6.4.14.1 Cable television service to the site will be provided by Time Warner Commercial Roadrunner Services. Preliminary discussions have been held with Steve Weaver, Engineering, 330-494-9200, extension 3524, and Gary McMannis, Commercial Roadrunner Services, 330-633-9203, extension 6434.
 - 6.4.14.2 The Contractor is responsible for coordinating the design and installation of the cable television service with Time Warner. Drawings are to be provided to Commercial Roadrunner Services. It is estimated that approval will require two to three weeks after the request for service.
 - 6.4.14.3 Contractor work and service provider work associated with installation of the cable television service are described in Section 5.5.10.
 - 6.4.14.4 Time Warner requires an easement for their service, and typically uses a blanket easement and installs in the same easement required for electrical service. Time Warner also requires a right-of-entry agreement. The Contractor is responsible for assisting the Government in coordinating the easement and right-of-entry with Time Warner.
 - 6.4.14.5 Time Warner is responsible for assisting the Government in making the application for cable service. An installation fee may be required, depending on the type of service cable, and whether the length of service cable exceeds 200 feet.

6.5 GOVERNMENT REAL ESTATE FORM 1354

- 6.5.1 Contractor shall provide draft Form 1354, and associated equipment lists, for Government approval, and shall assist the Government in finalizing the Form. Contractor is responsible for verifying with the 88th RSC the categories and items to be included, and for providing area and cost information required. See Appendix A for a Sample Form 1354.

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APPENDIX A

SAMPLE FORM 1354

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APPENDIX B

PHYSICAL TRAINING EQUIPMENT

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APPENDIX C

LIGHT FIXTURE SCHEDULE
AND CUT SHEETS

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APPENDIX D

KITCHEN EQUIPMENT CUT SHEETS

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APPENDIX E

PRELIMINARY GEOTECHNICAL REPORT

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APPENDIX F

FIRE PROTECTION / LIFE SAFETY CODE SUBMITTAL

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APPENDIX G

FIRE FLOW DATA

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SECTION 01021

DESIGN SUBMISSION REQUIREMENTS AFTER AWARD

PART 1 GENERAL

1.1 INTRODUCTION

This section contains information needed after the successful Offeror has been selected. The information contained in this section applies to the design required for the USARC/OMS/AMSA/STRG at North Canton, Ohio.

***2 DESIGNER OF RECORD**

The Design/Build Contractor shall identify, for approval, the Designer of Record for each area of work. One Designer of Record may be responsible for more than one area. All areas of design disciplines shall be accounted for by a listed, Professional Registered Designer of Record. The Designers of Record shall stamp, sign, and date each design drawing under their responsible discipline for the Part II design submittal stage and final construction documentation stage. Designers of Record shall either be contracted directly by the Prime Contractor or an employee of a design firm that is contracted directly by the Prime Contractor. The Designer of Record shall not be an owner, employee, agent, or consultant of a construction sub-contractor hired for this project.

***2**

PART 2 – (Not Applicable)

PART 3 - EXECUTION

3.1 CONTRACTOR DESIGN REQUIREMENTS AFTER AWARD

a. The Contractor shall design and detail a complete and useable facility before construction begins. Fast track design and construction will not be permitted on this project. The Contractor shall design and construct the facility in Imperial (English) units.

b. The design shall consist of four submittals, as required in the **U.S. Army Reserve Design Process and Submittal Requirements Manual** (website <http://bc.cecer.army.mil/mds/>). These submittals are the Charette Design Phase, the Interim Design Phase, the Final Design Phase, and the Corrected Final Design Phase. The certified final design is when ALL review

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comments have been addressed, incorporated into the design, and the final design has been approved, and ready for construction.

c. The submittals shall include specifications, drawings, design analysis, permit applications, confirmation notices and submittal registers. The government will assist the contractor in finalizing the DD1354. The complete requirements for each submittal is described in the **U.S. Army Reserve Design Process and Submittal Requirements Manual**.

d. The design shall be completed in accordance with the codes and standards itemized in this RFP.

3.2 SUBMISSION OF DESIGN DOCUMENTS

a. The Contractor shall submit design documents with cover letter by overnight mail in accordance with the requirements of Section 00150. The letter shall indicate the project name, due date of comments, and where to send the comments. All drawings shall be half-size. Specifications, submittal register, design analysis and other technical information shall be bound.

b. The Predesign Meeting and each Design Review Meeting will be held at a hotel conference room to accommodate 25 people. The contractor shall be responsible for selecting the hotel in the North Canton area, and making the arrangements and payment for the room. The design reviews will be held to discuss review comments on the Charette, Interim, and Final Design Submittals.

c. Design Reviews shall not be taken as an approval and does not relieve the Contractor from responsibility for compliance with the RFP solicitation, Code Regulations, or betterments listed with the contractor's proposal or identified during proposal evaluation.

d. Once the Government has reviewed and approved the contractor's final design, no further changes to the design shall be made without the written approval of the Government. All costs for submitted variances, after Final Design Approval, shall be borne by the Contractor at no cost to the Government.

3.3 GENERAL DESIGN REQUIREMENTS

a. The Contractor is required to independently prepare and submit for approval a complete Design. The Contractor's Design Professionals shall independently confirm and be responsible for the technical accuracy and adequacy of all aspects of the project design.

b. The project design shall include the items listed in paragraph 3.1.

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- c. The submission requirements outlined herein are the MINIMUM requirements necessary.
- d. Document quantities and delivery addresses are specified at the end of this specification section. Quantities and addresses apply for each submittal.
- e. Not Used.
- f. Not Used.
- g. CADD Requirements
 - (1) All drawings shall be in AutoCAD 2000 or newer.
 - (2) Provide a separate electronic drawing file for each project drawing. Each file shall contain all the data for one complete drawing, including the date and border. Each drawing file must be completely independent of any data in any other file. Drawing files with external references such as reference file attachments or special fonts will not be acceptable. All displayable graphic elements on all levels of the drawing file must be part of the project drawing image. The drawing file may not contain any graphic element that is not part of the drawing image.
 - (3) Provide a list of all drawings in the set of project drawings together with the name of the electronic file that contains the data for each drawing.
 - (4) Submitted hard copy drawings must be plotted directly from the electronic file.
- h. Specifications and Reports
 - (1) Provide project specifications and reports in a single electronic document file in Microsoft Word (version 7.0), Windows 98, or NT format. The complete document: including title sheet, table of contents, submittal checklist, and all specification sections; must be assembled into a single electronic document in Word format.
 - (2) Provide independent page numbering for each specification section. The page number shall incorporate the specification section number (e.g. 15000-1).
 - (3) Submitted hard copy documents must be printed directly from the electronic file.
- i. Electronic Data

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(1) Electronic data of all design documents must be provided with the Certified Final Design documents. Data shall be on CD ROM 5-1/4 inch disc.

(2) All furnishings' data including interior signage is to be provided in Microsoft Excel spreadsheet.

j. Submittal Register: The contractor will be required to prepare a Submittal Register Engineering Form 4288 identifying all construction submittals. Each submittal item shall be identified and coded in accordance with Section 01331. A completed Engineering Form 4288, approved by the Contracting Officer, will be required prior to commencement of construction.

3.4 SUBMITTAL REQUIREMENTS

3.4.1 Design Phase

All design submission requirements are defined in the **U.S. Army Reserve Design Process and Submittal Requirements Manual**. Each discipline is provided the requirements for the Charette, Interim, Final, and Corrected Final Design Submittals. All aspects will be followed, except for the requirement to design the project using the Modular Design Software (MDS). The only requirement is to design the project in AutoCAD version 2000, or newer version.

a. The Charette Design Phase is defined in the **U.S. Army Reserve Design Process and Submittal Requirements Manual, Paragraph 2.4. The deliverables for this phase are described in Paragraph 2.4. of the Manual.** The decisions from the Charette Review Meeting will be incorporated into the Interim Design Submittal. It is not necessary to provide a completed charette design phase document.

b. The Interim Design Phase is defined in the **U.S. Army Reserve Design Process and Submittal Requirements Manual, Paragraph 2.5. The deliverables for this phase are described in Paragraph 2.5. of the Manual.**

c. The Final Design Phase is defined in the **U.S. Army Reserve Design Process and Submittal Requirements Manual, Paragraph 2.6 The deliverables for this phase are described in Paragraph 2.6. of the Manual.** This submittal shall designate what equipment manufacturers the contractor plans to use for all pieces of equipment.

d. The Corrected Final Design Phase is defined in the **U.S. Army Reserve Design Process and Submittal Requirements Manual, Paragraph 2.7,** shall be considered a formal submittal to all reviewers. This submittal shall incorporate the review comments in the submittal and become the final product for construction.

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e. The Comprehensive Interior Design (CID) and Structural Interior Design (SID) submittals shall follow these documents:

U.S. Army Reserve Design Process and Submittal Requirements Manual
Furniture Procurement Package Requirements for Army Reserve Centers*
USAR Furniture Design Guidelines*
U.S. Army Reserve Furniture Standards Knoll Product Criteria*

* Located as attachment files to this RFP.

Note: The furniture will be GFGI (government furnished-government installed). The contractor will be responsible for all power, data, and voice hookups.

f. Comments will be input into a web based system called DR CHECKS. The Contractor will be given access to this system and will be required to respond to all comments in the program. The Contractor shall print and distribute review sets as shown on the attached list and be prepared to discuss the comments and preliminary responses at the review meeting which will be held at a hotel selected by the contractor near North Canton, OH for each part of the design. The Contractor will keep the minutes of the meetings and forward the minutes and annotated comments to all reviewers within 14 days of the meeting. The annotations will be detailed enough to indicate exactly what the Contractor will do to comply with the comments. The contractor shall assemble the comments received into a complete package. The complete package of comments and responses shall be transmitted to all offices that received the design submitted.

g. The Government's review is not to be considered a quality control review; the contractor shall provide his own internal quality control as required by contractor Design Quality Controls Plan before the design is submitted to the Government. It is very important the contractor's entire team agrees with the design before it is submitted to the Government. Each design submittal shall be stamped "approved" by the contractor, major constructors and by the design team prior to submission for review. The Government's review or approval does not relieve the contractor of his responsibility to provide a safe, functional project in accordance with the terms of the contract. All final drawings shall be signed and sealed by the Design Professional. Quality control procedures shall consist of design and/or checking by registered professionals and a review completed by a separate professional. Complete names of designers, checkers, and reviewers shall appear in the drawing title block. The Contractor shall submit the Design Quality Checklist from the Louisville District AE Design Guide with their Final Design Phase submissions.

h. The Government's review will likely result in a significant number of comments. The Contractor shall respond to each comment with a response that clearly indicates what action will be taken in Dr. Checks. Comments that, in the Contractor's opinion, require effort outside the

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scope of the contract will be clearly indicated as such by the Contractor. The Contractor shall not proceed with work outside the contract until a modification to the contract is properly executed.

3.4.2 Construction Phase

- a. A Letter of Design Completion will be issued upon completion and approval of the corrected final design submittal. This will provide authorization begin onsite construction efforts.
- b. As the first item of work during the construction phase, the Contractor shall furnish to the Government 15 half-size sets and 5 full size sets of the certified final drawings and 20 sets of the approved specifications for its use during construction.
- d. No construction will be allowed on work for which the design has not been reviewed and approved.

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e. The Contractor shall provide renderings of the project, as specified in the attachment, no later than 90 days after design completion.

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LIST OF ADDRESSES FOR REVIEWS

ORGANIZATION	ABBREVIATION	COPIES		
		(1)	CID	SID
Army Corps of Engrs, Louisville ATTN: Mary Ann Just, ED-MA 600 Dr. M. L. King Jr. Place Louisville, KY 40202	CELRL	8 HS	1	1
Project Officer ATTN: MAJ Dave Quivey 1421 Jefferson Davis Hwy, Suite 11200 Arlington, VA 22202-3259	OCAR	1 HS		
	OCAR	1 HS		
Al Frye 106 Nomini Bay Dr. Montross, VA 22520				
88 th RSC ATTN: Bob Wendler, AFRC-CMN-EN 506 Roeder Circle Ft. Snelling, MN 55111-4009	RSC	4 HS	1	1
	RSC	1 HS	1	1
U.S. Army Reserve ATTN: Barney Kemter 88 th RSC Facility Management Specialist 165 N. Yearling Road Whitehall, OH 43213				
Army Corps of Engineers Columbus Resident Office ATTN: Dave Sennett, CELRL-CD-W-C Bldg 330, Pershing Ave.	RE	3 HS	1	1

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- (1) All 60% and 100% design submittal items (drawings, specifications, analyses, etc.) identified herein that are not included in the CID & SID requirements.**
- (2) Note: FS = Full size plans, HF = Half size plans.**

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Project:

Final Design and Certified Final Design Checklist
(Edit as needed)

1. GENERAL:

- a. Have all documents been prepared in accordance with the QC Plan?
- b. Have drawings and specifications been coordinated between engineering disciplines?.....
- c. Have drawings and specifications been checked and initialed by reviewer and designer?.....
- d. Have drawings and specifications been reviewed by a qualified engineer to assure fire protection engineering is in conformance with applicable portions of NFPA regulations and national, state, and local building codes?..
- e. Are drawings, design analyses, etc., signed and dated?.....
- f. Are Government review comments on preliminary and/or concept design submittals annotated and incorporated into final drawings and specifications?.....
- g. Are annotated review comments included in each package?.....
- h. Is construction bar chart included?.....
- i. Are "Engineering Consideration and Instructions to Field Personnel" included?.....

(NOTE: For projects containing metal buildings a special note to the field shall be included, requiring a "presubmittal" meeting with Construction field personnel, Contractor, metal building supplier and Engineering Division representatives to discuss the specifications and submittal requirements.)

- j. ITR certification sheet signed and included?.....

2. DRAWINGS:

- a. Has CADD quality been checked to assure legible reproduction?.....
- b. Does location plan include location of borrow pits, disposal areas, areas for contractor's office and storage, haul routes, location of Resident/Area Engineer and DEH office?.....
- c. Have deductive alternates (if appropriate) been identified on the drawings and coordinated with the unit price schedule?.....
- d. Have signature blocks been properly prepared?.....
- e. Has Quality Control Procedures been performed to assure that translated files are fully useable, complete and represent the design

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3. SPECIFICATIONS:

- a. Were latest guide specifications used?.....
- b. Are specifications prepared in accordance with the manual, Louisville District Design Guide for Military Construction, using required weight of paper, Standard Elite or other acceptable type face, the proper format, and with proper submittal notations in margin?.....

Name of person supervising specifications preparation:.....

- c. Has unit price schedule been prepared in conformance with the example shown?.....
- d. Have payment paragraphs been checked and coordinated with the Unit Price Schedule?.....

4. COST ESTIMATE:

- a. Have cost estimates been prepared in accordance with manual, Louisville District Design Guide for Military Construction?.....
- b. Is cost estimate within CCL? Have recommendations been made for cost reductions including deductive alternatives? Are deductives clearly delineated on the drawings and unit price schedule?.....

5. MISCELLANEOUS:

- a. Have construction permits been applied for as required by the Clean Air Act and Clean Water Act Amendments?
- b. Has the Certified Final (aka 100% revised) submittal been made in accordance with every requirement of the Appendix A to your contract?..... (If not, explain deviations on a separate sheet attached to this form.)

SIGNATURE AND DATE

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RENDERING FORM

PROJECT TITLE United States Army Reserve Center/OMS/AMSA/STRG, North Canton, Ohio

1. GENERAL

Each rendering will be matted, mounted, labeled, and framed with non-glare glass ready for hanging and to be shipped/delivered. Rough 8 1/2 x 11 "block out" sketch will be forwarded to DAAR-EN for approval prior to proceeding to a final rendering.

2. QUANTITY/DISTRIBUTION

<u>Original</u>	<u>Full Size Color Framed Copy</u>
<u> 1 </u> Project Location	<u> </u> U.S. Army, Pacific (Attn: APEN)
	<u> </u> U. S. Army Reserve Command (Attn: AFRC-EN)
	<u> 1 </u> U. S. Army Reserve Command (Attn: <u> AFRC-EN </u>)
	<u> 1 </u> OCAR Engineering office (Attn: DAAR-EN)
	<u> 2 </u> CELRL-ED-MA
	<u> </u> (Other) _____

3. PARTICULARS:

a. Size, approximated. (Check one of the following)

- | | | |
|-------------------------|-------------------------|-------------------------|
| <u> </u> 36" x 36" | <u> </u> 30" x 24" | <u> </u> 24" x 24" |
| <u> </u> 36" x 30" | <u> </u> 30" x 20" | <u> </u> 24" x 18" |
| <u> X </u> 36" x 24" | | |

b. Orientation:

- | | |
|---------------------|---------------------|
| <u> </u> Front | <u> </u> Left |
| <u> X </u> Aerial | <u> </u> Right |
| <u> </u> Other | _____ |

c. Labeling/Title:

- (1) USAR Center Dedication Name or Greenbook Project Title / DDForm 1391 Project Title (first line) _____
(second line) _____
- (2) Location (City/ State) North Canton, OH
- (3) Description (i.e. 600 Member USARC/OMS) _____
- (4) Label/Title Location: top center X **bottom center**
 (other) _____
- (5) Frame Material: wood X aluminum plastic
 black metal (with non-glare glass)
- (6) Matte light gray taupe white off white other
 X **color selected by renderer to match colors**
- (7) Other Reprographics (indicate quantity)
 10 color photograph (8 x 10), 6 framed, 4 unframed 1 35 mm slide
 transparency reprint
 1 electronic (_____
 1 digital photograph in jpg or kdc format.

List specific items to be shown on the rendering. (ie. Humvee or people dressed in army green)
Flagpole

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(Items in bold represent the frequently used selections. Items listed above to be forwarded to CELRL-ED-MA, unless noted otherwise.)

ITEM NO.: 1 (1 SET) REQUIRED
ITEM: DISHTABLE, SOILED (MCAR)
MANUFACTURER: FABRICATOR
MODEL NO.: CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.
PROVIDE:

- A. Integral stainless steel scrapping trough 152 mm wide by 89 mm deep at water inlet ends and 127 mm deep at disposal sink end. Trough to be integrally welded to disposal sink
- B. Disposal sink 508 mm wide x 508 mm wide x 203 mm deep.
- C. Disposal (Item # 4) collar to be welded integrally to disposal sink
- D. Hole for vacuum breaker to be mounted through backsplash
- E. Hole(s) for pre-rinse assembly (Item # 5) through backsplash
- F. Bracket for disposal (Item #4) controls

ITEM NO.: 2 (1) REQUIRED
ITEM: SILVER SOAK SINK (OMAR)
MANUFACTURER: PIPER PRODUCTS INC
MODEL NO.: 337-3474
STD FEATURES:
A. Lever handle drain
B. Stainless steel
ACCESSORIES:
A. Silver chute

Mobile Under Counter Soak Sink



JOB _____ ITEM # _____

MODEL NUMBER

- 337-3474 - 24-1/2" x 24-1/2" x 30" (with chute)
- 337-3477 - 24-1/2" x 24-1/2" x 18" (without chute)

DIMENSIONS

- ◆ 18" or 30" height
- ◆ 24-1/2" width
- ◆ 24-1/2" length

Bowl size: 24" x 24" x 8" deep

NOTE: Furnished standard with lever handle drain.

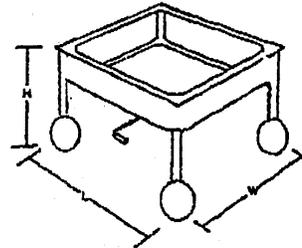
The Piper heavy-duty Under Counter Soak Sink is designed to fit under most counters that allows silverware or similar products to be placed into for soaking purposes.

SOAK SINK SPECIFICATIONS

Model#	(A) Length	(B) Width	(C) Height
337-3474	24-1/2"	24-1/2"	18"
337-3477	24-1/2"	24-1/2"	30"

STANDARD FEATURES

- ◆ Heavy gauge stainless steel sink has coved corners on a 1-3/4" radius
- ◆ Sink bottom is sloped toward the center of the compartment and fitted with a lever handle drain
- ◆ Sink bowl is mounted on four stainless steel legs
- ◆ All welds are ground smooth
- ◆ Four swivel stem casters, two with brakes



Celebrating
Piper
 PRODUCTS
60 years

300 S. 84th Avenue
 Wausau, WI 54401
 Phone: 800-544-3057
 Fax: 715-842-3125
 www.piperonline.net

ITEM NO.: 3 (1) REQUIRED
ITEM: OVERHEAD RACK SHELF, SLANTED (MCR)
MANUFACTURER: FABRICATOR
MODEL NO.: CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.
PROVIDE:

- A. Approximately 1575 mm long, 535 mm wide minimum, to accommodate three 508 x 508 mm dishwasher racks

ITEM NO.: 4 (1) REQUIRED
ITEM: GARBAGE DISPOSER (MCAR)
MANUFACTURER: HOBART
MODEL NO.: FD3-300-D-2 (208/60/3)
STD FEATURES:

- A. Dual directional grinding
- B. Hardened and replaceable stainless steel cutter blocks

ACCESSORIES:

- A. Group D accessories, includes nitrite rubber silver-saver splash guard ring, 178 mm I.D. stainless steel weld-in adapter for sink, fixed direction water inlet for sink and vacuum breaker
- B. Group 2 electric control includes magnetic contactors, pushbutton start and stop automatic reversing, NEMA 12 enclosure and solenoid valve



**FD3-150 FD3-200
FD3-300
FOODWASTE DISPOSERS**

**MEDIUM SIZE
FAST, ECONOMICAL**

In a profitable foodservice operation, there's no space, time or budget allowance for inefficient food waste handling. Here are the medium sized disposers that can end food waste storage, removal and clean-up – fast, economically.

SPECIFICATIONS

Listed by Underwriters Laboratories Inc. and meets requirements of A.S.S.E. Standard No. 1009 (50 Hz. Electrical Specifications not U L Listed).

MOTORS: Continuous duty rating, equipped with manual reset thermal overload inherent protection. Permanently lubricated ball bearings for upper and lower shaft support.

HOUSINGS: Heavy aluminum grind and discharge housings. Four bolts fasten the motor unit to the grind chamber, permit easy removal.

LEGS: Tubular stainless steel with bullet feet to support housing. Adjustable to 3 inches in either direction.

MOUNTING: All Hobart Disposers fasten to 7" I.D. (throat opening) cones. A vinyl isolating ring eliminates metal-to-metal contact at the cone mounting, reduces vibration and noise transmission.

STATIONARY SHREDDER RING: Abrasion resistant, Ni-Hard, 2¼" high, 4 machine ground primary action breaker bars, 42 secondary action grinding teeth.

FLYWHEEL: Offset breaker blade, mounted at center, speeds grinding, prevents objects from "riding" at center. Two hardened stainless steel cutter blocks (fastened to flywheel with nylon locking screws) are replaceable, can be indexed for new cutting edges. Corrosion resistant Ni-Resist flywheel is 7¾" diameter, slots undercut the shredder ring to assure that particles are cut to proper size before passing to the drain line.

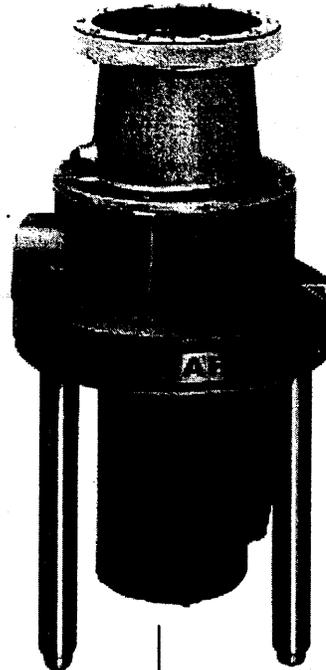
MOTOR SHAFT SEAL: Face-type seal consists of sintered bronze mating ring and spring loaded carbon ring insert in chemical resistant neoprene bellows. Mating surfaces are protected from grit or fibers by being recessed into flywheel. Should any moisture pass this seal, a flinger and drain tube are provided to insure immediate removal. In addition, a lip-type oil seal (located beneath the bearings) is an "added protection" water seal.

DRAIN CONNECTOR: The removable outlet flange is tapped for 2" pipe connection.

DUAL DIRECTIONAL GRINDING: Hobart Disposers operate in either direction of flywheel rotation. Direction of rotation can be controlled by the operator (to increase life and efficiency of grinding elements – back flywheel free of a "jam") when installed with Control Groups 2 or 3.

WEIGHT: Shipping – Approx. 95 lbs. (does not include accessory group or controls).

As continued product improvement is a policy of Hobart, specifications are subject to change without notice.



**FD3-150 FD3-200
FD3-300
FOODWASTE DISPOSERS**



ACCESSORY GROUPS

GROUP A



Nitrile Rubber Scrapping Ring



Stainless Steel Silver-Saver Sleeve with Side Feed Hole



Water Swirl



Vacuum Breaker

GROUP B



Nitrile Rubber Silver-Saver Splash Guard Ring



Water Swirl



Vacuum Breaker

GROUP C



Nitrile Rubber Silver-Saver Splash Guard Ring



Vacuum Breaker



Pre-Rinse Spray with Wall Bracket

GROUP D



Nitrile Rubber Silver-Saver Splash Guard Ring



7" I.D. Stainless Steel Weld-in Adapter for Sink



Fixed Direction Water Inlet for Sink



Vacuum Breaker

ACCESSORY COMPONENTS

CONES-SINK - Stainless Steel

Part No.



Cone 15" I.D. w/whole for water swirl inlet 204007
Cone 18" I.D. w/whole for water swirl inlet 204004
Cone 15" I.D. w/out swirl hole 204006
Cone 18" I.D. w/out swirl hole 204003



Sink 16" x 20" x 7" (7" opening) w/whole for water inlet 204015-2

WATER INLETS



Cone Water Swirl Inlet 1/2" N.P.T. 204380



Fixed Direction Water Inlet (for sinks or troughs) 1/2" N.P.T. 204346

FLOW CONTROL



8 Gallons per minute for Models FD3-150 through FD3-300 3/4" N.P.T. 204368

CONE COVER - STAINLESS STEEL



15" Cone Cover w/feed hole 204024
18" Cone cover w/feed hole 204023

CONE FEEDING ACCESSORIES

Part No.



Nitrile Rubber Scrapping Ring ... 202113



Stainless Steel Silver-Saver Sleeve with side feed hole 203870

SILVER-SAVER SPLASH GUARD RING



Nitrile Rubber Silver-Saver and Splash Guard Ring (for 7" opening cones, sinks and adapter) 202120

SINK ADAPTER - Standard Group D Accessory



7" I.D. Stainless Steel Adapter for Welding to Sink or Trough 204853

VACUUM BREAKERS - Luster Chrome Plated



3/4" 74338

PRE-RINSE SPRAYS

PR-3 Heavy duty Flexible Pre-rinse Spray (38" high with wall bracket) ML-32333



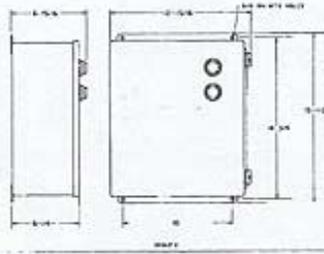
PR-4 Utility Spray (with wall bracket) ML-32334

Adapters are available to install Hobart Disposers on existing cones. See Form F-7543.



FD3-150 FD3-200 FD3-300 FOODWASTE DISPOSERS

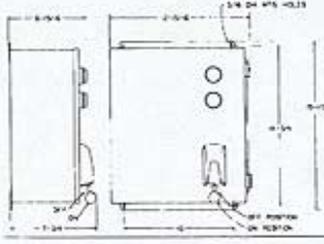
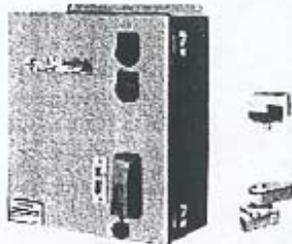
ELECTRICAL CONTROL GROUPS Listed by Underwriters Laboratories Inc., for use with FD3 Disposers (50 Hz. Electrical Specifications not UL listed)



Group 2 - For all Models

- Includes:*
 Magnetic Contactors
 Pushbutton Start and Stop
 Automatic Reversing
 NEMA 12 Enclosure
 Solenoid Valve

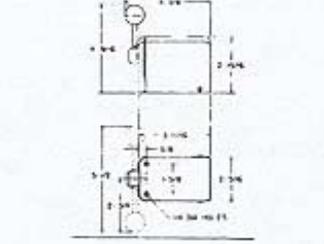
Approximate
Shipping Wt. 31 lbs.



Group 3 - For all Models

- Includes:*
 Magnetic Contactors
 Pushbutton Start and Stop
 Automatic Reversing
 Low Water Pressure Cut-off
 Time Delay for water after shut-off
 Line disconnect
 Solenoid Valve
 NEMA 12 Enclosure

Approximate
Shipping Wt. 33 lbs.



Group 4 - For Model FD3-150 and FD3-200

- Includes:*
 Manual Reversing Switch
 NEMA 1 Enclosure or NEMA 4 Enclosure
 Not available above 250 volts
 Optional Solenoid Valve

Approximate
Shipping Wt. 11 lbs.

Model	H.P.	Ph.	Hz.	Volts	Rated Amps
FD3-150	1/2	1	60	120/208-240	17.2/8.2/8.6
	1/2	3	60	208-240/480	4.8-4.8/2.4
FD3-200	2	1	60	120/208-240	20.0/10.0
	2	3	60	208-240/480	6.8-6.5/3.3
FD3-300	3	3	60	208-240/480	9.0-8.0/4.0
FD3-150	1/2	1	50	110-120/220-240	See customer service
	1/2	3	50	220-240/380-415	5.7-6.1/2.7-2.7
FD3-200	2	1	50	110-120/220-240	See customer service
	2	3	50	220-240/380-415	6.7-7.0/3.4-3.4
FD3-300	3	3	50	220-240/380-415	9.0-8.7/4.8-4.6

The start (S) indicates the dual voltage operation accomplished by motor lead connection; follow connecting diagram on motor.

SAMPLE SPECIFICATION

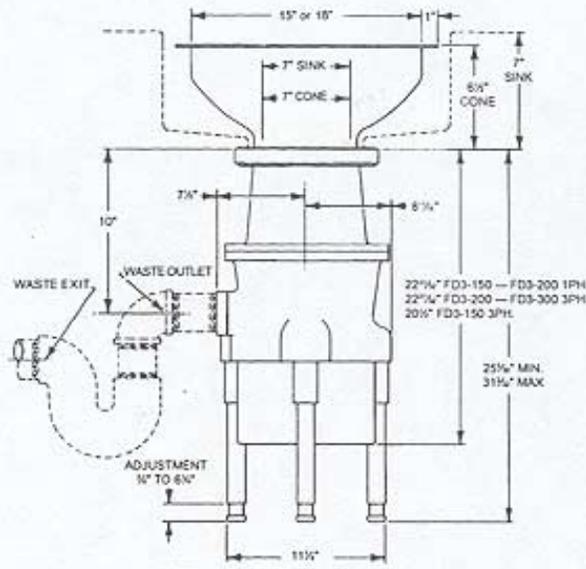
FD3-200 — B — 2 (240/60/3)
 |
 | Electrical Specifications
 |
 | Electrical Control Group
 |
 | Accessory Group
 |
 | Model Number

Cut hole 19" for 18" cone. Hole to be 16" for 15" cone.
 Solenoid must be installed in upright position.
 Disposer may be easily rotated for better drain line connection.
 Center line at wall outlet of trap should not be higher than center line of disposer discharge opening
 If water pressure is in excess of 60 P.S.I. install a pressure reducing valve.

**FD3-150 FD3-200
FD3-300
FOODWASTE DISPOSERS**

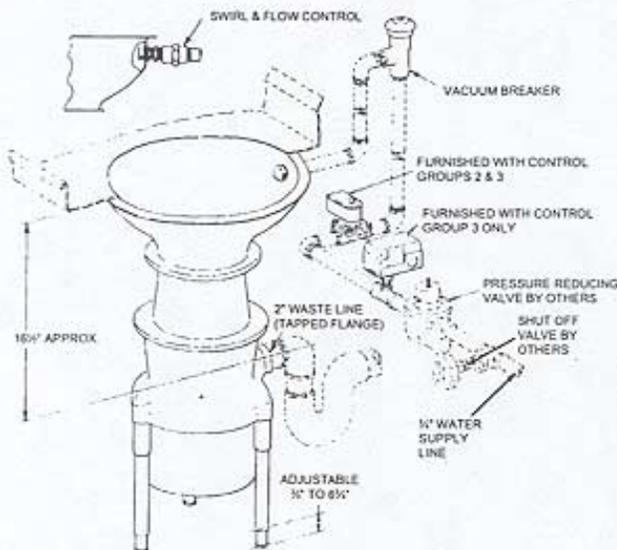


DETAILS AND DIMENSIONS



NOTE: Specify 15" or 18" Cone When Desired.

TYPICAL INSTALLATION



EXECUTIVE OFFICES
701 RIDGE AVENUE
TROY, OHIO 45374-0001

LITHO IN U.S.A. (H-01)

FORM F-8560 (REV. 495)

ITEM NO.: 5 (3) REQUIRED
ITEM: PRE-RINSE SPRAY ASSEMBLY (MCR)

MANUFACTURER: T & S BRASS AND BRONZE WORK

*** MODEL NO.: **B-0133** ***

STD FEATURES:

- A. Center backsplash mounted faucet
- B. 457 mm riser
- C. Spray valve
- D. Finger hook
- E. 863 mm stainless steel hose length

ACCESSORIES:

- A. Wall bracket
- B. Vacuum breaker



T&S BRASS AND BRONZE WORKS, INC.
 2 SADDLEBACK COVE / P.O. BOX 1088 / TRAVELERS REST, SC 29690
 PHONE 800-476-4103 FAX 864-834-3518

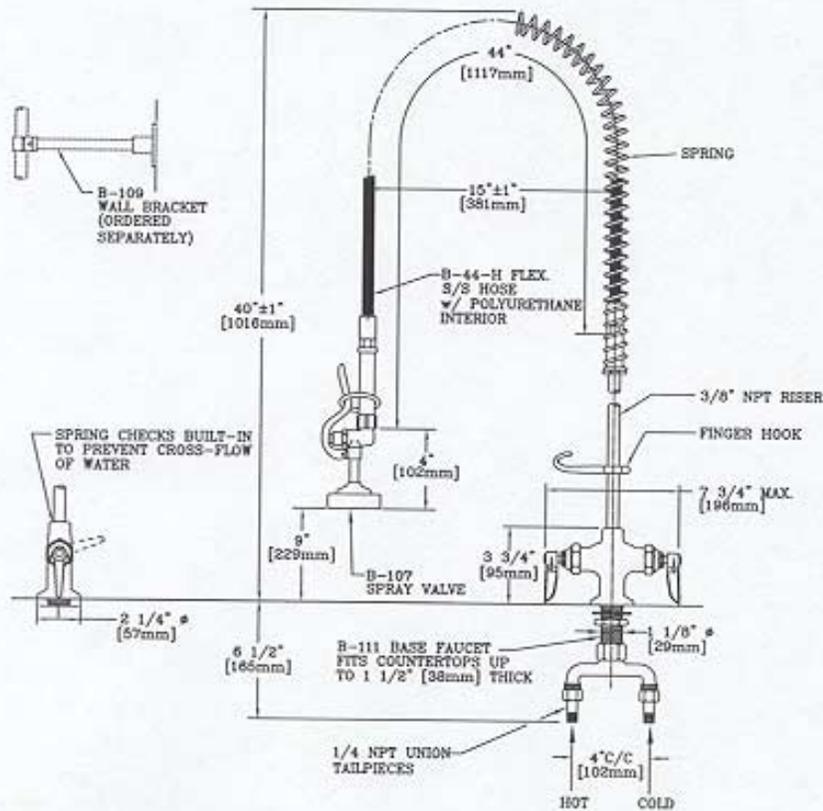


Model No.
 B-0113
 Item No.:

Job Name:

Architect/Engineer Approval:

Notes:



Product Description:

PRE-RINSE UNIT

Drawn:

WJS

Checked

MVW

Scale:

1 : 8

Approved

MVW

Date:

8-2-00

ITEM NO.: 6 (1) REQUIRED
ITEM: CONDENSING HOOD FOR DISHWASHER ITEM # 7
(SEE MECHANICAL DRAWINGS AND
SPECIFICATIONS) (MCAR)
MANUFACTURER: GREENHECK
MODEL NO.: GC
STD FEATURES:
A. Removable condensate baffles
B. Full perimeter welded gutter
C. Stainless steel drain
D. All 1.3 mm stainless steel construction
ACCESSORIES:
A. None

ITEM NO.: 7 (1) REQUIRED
ITEM: DISHWASHER (MCAR)
MANUFACTURER: HOBART
MODEL NO.: AM-14
STD FEATURES:

- B. Electric immersion heat
- C. LED displays (fill, wash, rinse) and temperature
- D. Low water consumption - 4.5 liters per rack
- E. 1 H.P. magnetically controlled motor
- F. Stainless steel
- G. Straight-through operation with third door for inspection
- H. Features flexible timing for special applications

ACCESSORIES:

- A. Five each heavy duty all-plastic peg compartment rack, 508 mm x 508 mm
- B. Five each heavy duty all-plastic combination rack, 508 mm x 508 mm

Item # _____

Quantity _____

C.S.I. Section 11400



AM-14/AM-14C DISHWASHERS

HOBART

STANDARD FEATURES

- 53 racks per hour – hot water sanitizing
- 16 gauge stainless steel tank, chamber, doors, frame and feet
- Stainless steel front panel (AM14)
- Microcomputer controls with LED cycle/temperature display
- Manual by-pass controls
- Field adjustable control box height
- Left hand or right hand controls (AM14)
- 90° controls (AM14C)
- Revolving upper and lower anti-clogging wash arms
- Revolving upper and lower anti-clogging rinse arms
- Scrap screen and bucket system
- Self-draining, high efficiency pump with Ni-resistant impeller
- Automatic fill
- Door actuated drain closure
- Spring counterbalanced doors with nylon door guides
- Vent fan control (gas units only)
- Pass-through or corner installation
- Hot water or chemical sanitation

VOLTAGE

- 208-240/60/1
- 208-240/60/3
- 480/60/3



MODELS

- AM-14
- AM-14C

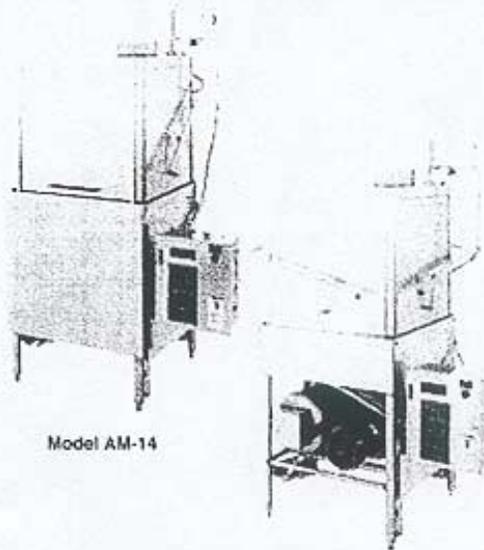
OPTIONS AT EXTRA COST

- 70° rise electric booster heater
- Flanged feet

ACCESSORIES

- Vent fan control field installed kit (electric heat)
- 3/4" pressure regulator valve
- Peg rack
- 3/4" Pressure regulator valve
- Peg racks
- Combination racks
- Stainless steel tray rack

Specifications, Details and Dimensions on Inside and Back.



Model AM-14

Model AM-14C

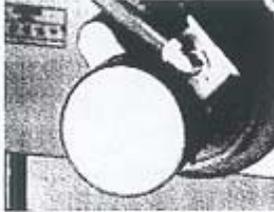
AM-14/AM-14C DISHWASHERS

AM-14 AM-14C DISHWASHERS

HOBART

FOOD EQUIPMENT

STANDARD DESIGN FEATURES



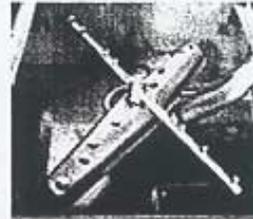
PUMP: High efficiency self-draining pump assures maximum cleanliness and sanitation.



UPPER WASH & RINSE ASSEMBLY: Wash arm — all stainless steel (Hobart exclusive design) provides improved washability. Interchangeable with lower wash arm. Revolving upper rinse arm assures efficient, effective rinse coverage.



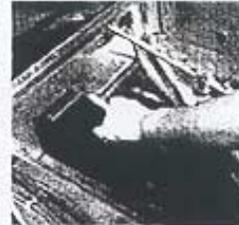
CONTROL BOX: Mounted on right or left side (AM14) or 90° (AM14C) of machine, below table level, to provide easy access to the microcomputer controls. Field adjustable in height from table $1\frac{1}{8}$ " to $10\frac{1}{8}$ ".



LOWER WASH AND RINSE ARMS: Wash arm — all stainless steel, interchangeable with upper wash arm. Lower revolving rinse arm assures effective rinse coverage.



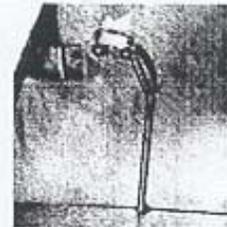
DOOR CYCLE SWITCH: Automatically starts the wash-rinse timer program when doors are closed. Door cycle switch turns off power to pump if doors are opened while machine is operating and resets timer program to start position.



REMOVABLE SCRAP BASKET: Stainless steel, self-flushing strainer pan and removable scrap basket for easy cleaning.



AUTOMATIC TEMPERATURE CONTROL AND POSITIVE LOW-LEVEL WATER PROTECTION: The stainless steel probe contains a thermistor sensor for water temperature control and a reed switch works in conjunction with the float (below the probe) for positive low-level water protection.



AUTOMATIC DRAIN SHUT-OFF: Door actuated, automatically closes drain when doors are lowered.

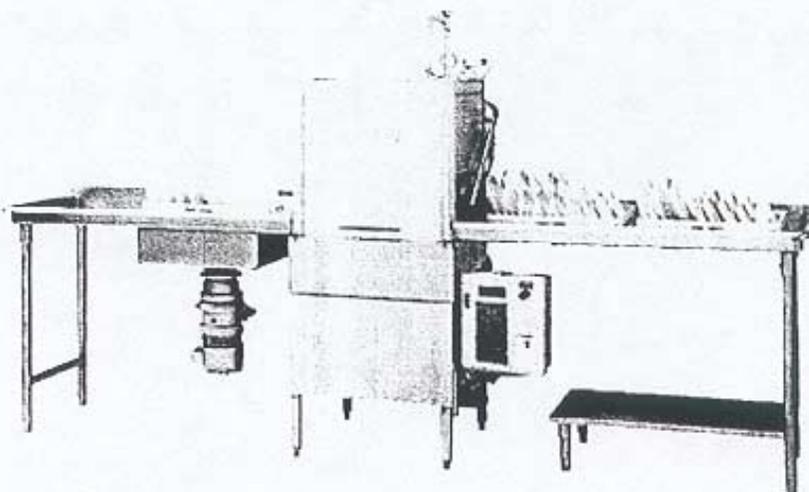


AM-14 AM-14C DISHWASHERS

MICROCOMPUTER CONTROLS FOR RELIABILITY AND PERFORMANCE

The new microcomputer control provides LED digital display of cycle (Fill, Wash, Rinse) and temperature. Built-in, self diagnostics makes service fast and easy, if it should ever be needed.

The AM-14 is field convertible to either hot water or low temperature chemical sanitizing and features "flexible timing for special applications". Capacity varies from 52 racks per hour to 80 racks per hour depending on operating mode. Unit has equal capacity to some two-rack fill and dump dishwashers, but requires only half the space and consumes less water.



STANDARD EQUIPMENT		OPTIONAL ACCESSORY GROUPS (at extra cost)
1 H.P. Magnetically Controlled Motor	208-240/60/1, 208-240/60/3 and 480/60/3 all with solid state motor protection	* 200-240/50/3, 380-415/50/3 all with solid state motor protection
Choice of Heat	Electric with automatic temperature control	Gas immersion tube style with energy-saving solid state ignition, temperature control and stainless steel flue
Control System	Microcomputer control system Door cycle switches Solid state water temperature sensor Positive low water protection Stainless steel water-protected control box and switching Magnetic power switch LED display on control box for monitoring wash and final rinse temperatures Manual override switches for wash and rinse	13KW, 70° rise electric hot water booster heater Left or right hand mounted control panel
Construction	16 gauge welded stainless steel tank, legs and frame unit 16 gauge welded stainless steel upper chamber Model AM-14 - 3 door, straight thru with inspection door and stainless steel "snap-in" front enclosure panel Model AM-14C - 2 door for corner installations	
Racks		Peg compartment, Plate racks, glass and silverware racks

(*These electrical specs not submitted for UL Listing)

AM-14 ELECTRIC



WARNING

ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.
PLUMBING CONNECTIONS MUST COMPLY WITH APPLICABLE SANITARY, SAFETY, AND PLUMBING CODES.

- LEGEND**
- CONNECTION INFORMATION**
1/4" AFF - ABOVE FINISHED FLOOR
- E1 ELECTRICAL CONNECTION - MOTORS & CONTROLS (INCLUDING ELECTRIC HEAT) 1" OR 1 1/2" CONDUIT HOLE, 18-7/16" AFF
 - E2 ELECTRICAL CONNECTION - HEAT FAN CONTROL 1/2" CONDUIT HOLE, 26" AFF
 - E3 ELECTRICAL CONNECTION - DETERGENT FEEDER & SANITIZER FEEDERS 1/2" CONDUIT HOLE, 22" AFF
 - E4 ELECTRICAL CONNECTION - ELECTRIC BOOSTER 1" CONDUIT HOLE, 18" AFF
 - P1 COMMON WATER CONNECTION - W/HD ELECTRIC BOOSTER: 1/2" WATER W/IN. HOT WATER SANITIZING; 1/2" WATER W/IN. CHEMICAL SANITIZING-NORMA DUTY; 3/4" WATER W/IN. CHEMICAL SANITIZING-LIGHT DUTY; 3/4" AFF, 25" AFF
 - P2 COMMON WATER CONNECTION - W/HD ELECTRIC BOOSTER: 1/2" WATER W/IN. HOT WATER SANITIZING; 3/4" AFF, 21-1/2" AFF
 - P3 DRAIN 2" DIA., 8-1/4" AFF PLUS 1/4" SLOPE BY HOBART
 - P4 DETERGENT PROBE SENSOR - W/HD BOOSTER; REMOVE CAP AND STUD ASSEMBLY TO ACCESS 7/8" HOLE, 13-1/4" AFF
 - P5 DETERGENT PROBE SENSOR - W/HD BOOSTER; REMOVE CAP AND STUD ASSEMBLY TO ACCESS 7/8" HOLE, 13-1/4" AFF
 - P6 DETERGENT FEEDER - REMOVE CAP PLUG TO ACCESS 7/8" HOLE, 23-7/16" AFF
 - P7 BLEND AGENT FEEDER - 1/2" AFF, REMOVE 1/2" AFF PIPE PLUG TO ACCESS TAPPED HOLE, 38-1/16" AFF
 - P8 SANITIZER FEEDER - NORMAL LIGHT DUTY 1/2" AFF, REMOVE 1/2" AFF PIPE PLUG TO ACCESS TAPPED HOLE, 38-1/16" AFF

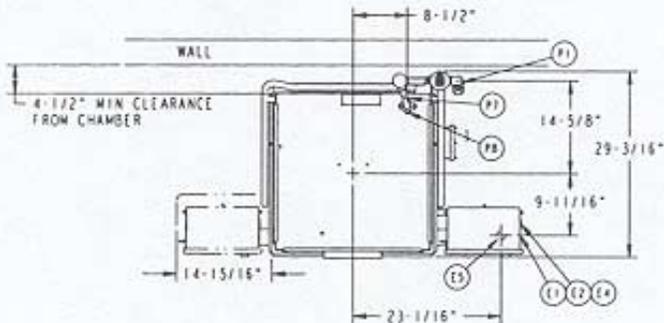
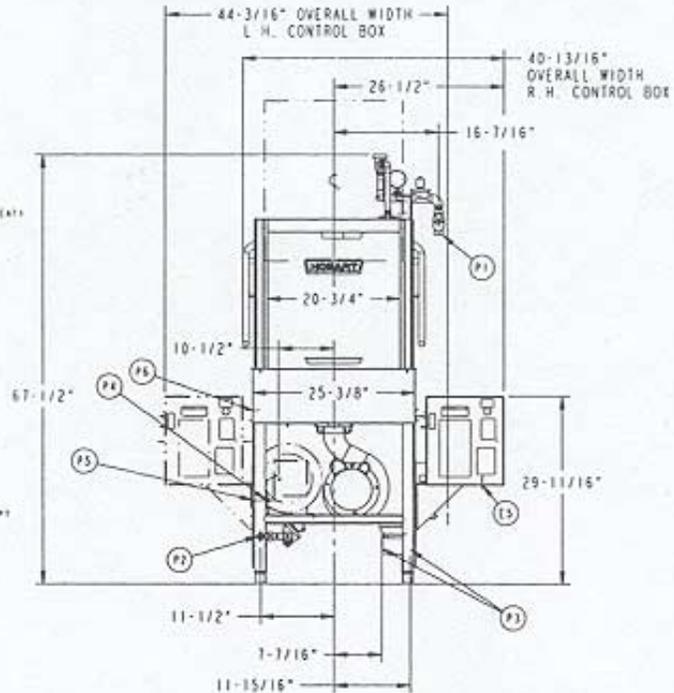
PLUMBING NOTES

WATER HAMMER ARRESTOR (MEETING ASSE-1010 STANDARDS OR EQUIVALENT) TO BE SUPPLIED BY OTHERS IN COMMON WITH SUPPL. & LINE AT SERVICE CONNECTION.
RECOMMENDED WATER HARDNESS TO BE 2-8 GRAINS FOR BEST RESULTS.
RECOMMENDED BUILDING FLOWING WATER PRESSURE TO THE DISHWASHER IS 20-25 PSI. IF PRESSURES HIGHER THAN 25 PSI ARE PRESENT, A PRESSURE REGULATING VALVE WITH INTERNAL THERMAL EXPANSION OF PASS. MUST BE SUPPLIED BY OTHERS IN THE WATER LINE TO THE DISHWASHER.

FOR CONVENIENCE WHEN CLEANING, WATER TAP SHOULD BE INSTALLED NEAR MACHINE WITH HEAVY DUTY HOSE AND SOFTENED WATER.

MISCELLANEOUS NOTES:

- ALL DIMENSIONS TAKEN FROM FLOOR LINE UNLESS OTHERWISE STATED OR INCREASE 1/2" DEPENDING ON LEG ADJUSTMENT.
- NET WEIGHT OF MACHINE: 281 LBS W/HD BOOSTER
- DOMESTIC SHIPPING WEIGHT: 387 LBS W/HD BOOSTER
- NET WEIGHT OF MACHINE: 350 LBS W/BOOSTER
- DOMESTIC SHIPPING WEIGHT: 455 LBS W/BOOSTER
- SIZE OF RACKS: 18-3/4" x 18-3/4"
- DRAIN LEVER LOCATED INSIDE TANK.
- HEAT HOOD (IF REQUIRED) TO PROVIDE 100 CFM EXHAUST @ 1 P.MOTOR
- * CONTROL BOX SHIPPED 6-1/2" BELOW DISH TABLE ADJUSTMENT: 1/16" TO 1/16" BELOW DISH TABLE



AM-14 WITH ELECTRIC HEAT			
ELEC. SPECS.	RATED AMPS	MINIMUM SUPPLY CIRCUIT CONDUCTOR CAPACITY	MAXIMUM OVERCURRENT PROTECTIVE DEVICE
208-240/50/3	28.9	30	50
208-240/40/3	23.9	30	50
480/60/3	12	15	15

MACHINE ELECTRICAL SPECIFICATIONS

- 208-240/50/3
- 208-240/60/3
- 480/60/3
- * 200-240/50/3
- * 300-415/50/3
- * THESE ELECTRICAL SPECIFICATIONS ARE NOT SUBMITTED FOR UL LISTING

BOOSTER CAPACITY RATINGS 130W			
ELEC. SPECS.	RATED AMPS	MINIMUM SUPPLY CIRCUIT CONDUCTOR CAPACITY	MAXIMUM OVERCURRENT PROTECTIVE DEVICE
208/60/1	67.5	80	60
240/60/1	54.2	80	60
208/60/3	36.1	30	50
240/60/3	31.3	30	50
480/60/3	15.6	25	25

BOOSTER ELECTRICAL SPECIFICATIONS

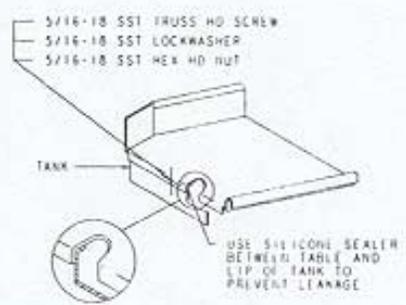
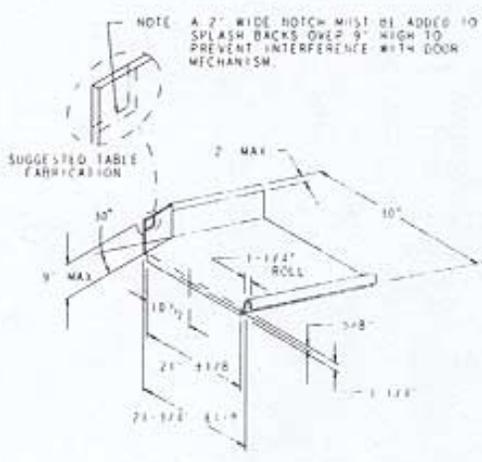
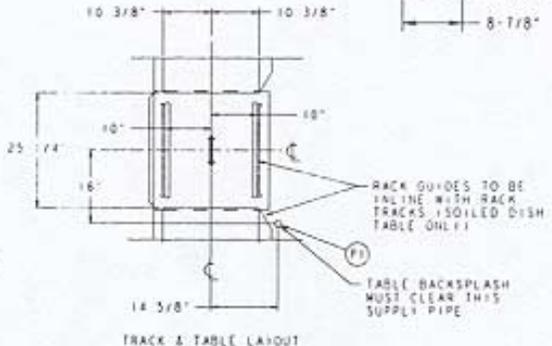
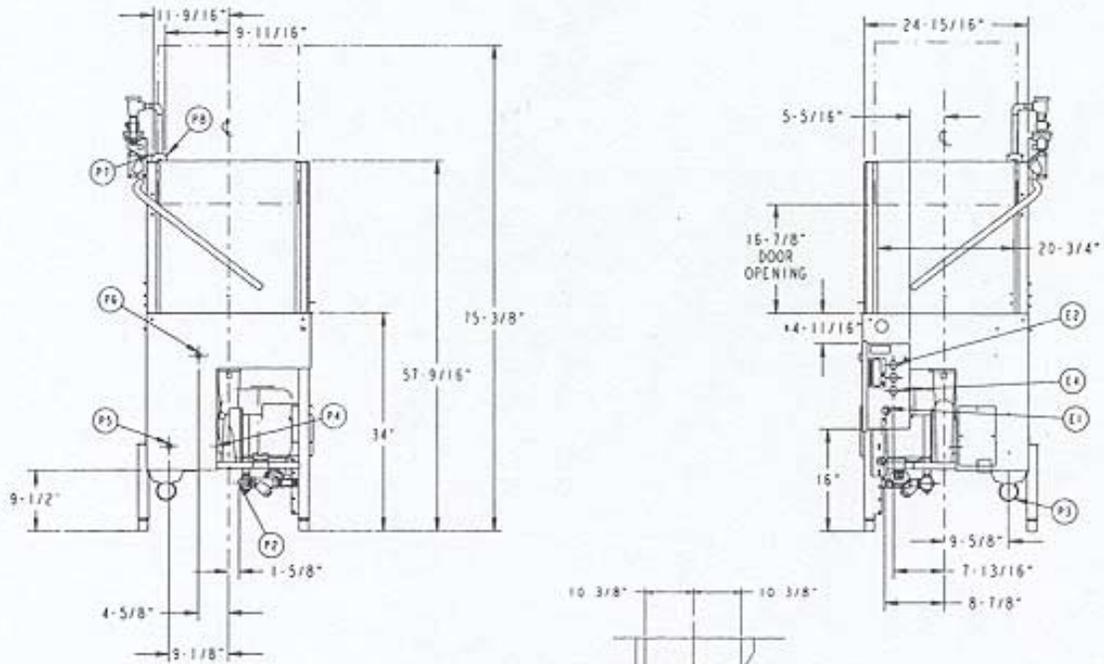
- 208/60/1
- 240/60/1
- 208/60/3
- 240/60/3
- 480/60/3
- * 200/50/3
- * 300-415/50/3
- * THESE ELECTRICAL SPECIFICATIONS ARE NOT SUBMITTED FOR UL LISTING

MODEL:
AM-14 W/HD ELECTRIC HEAT
DD-892013
REV C

HOBART

FOOD EQUIPMENT

AM-14 ELECTRIC



AM-14/AM-14C DISHWASHERS



The microcomputer-based control system is built into the AM-14 Series Dishwashers. Model AM-14 is for straight thru operation with a third (front) door for inspection, and AM-14C for corner installation. Each is available in standard electrical specifications of 208-240/60/1, 208-240/60/3, 480/60/3 and all are equipped with a reduced voltage pilot circuit transformer.

***CAUTION: CERTAIN MATERIALS, INCLUDING SILVER, ALUMINUM AND PEWTER ARE ATTACKED BY SODIUM HYPOCHLORITE (LIQUID BLEACH) IN THE CHEMICAL SANITIZING DISHWASHER MODE OF OPERATION. WATER HARDNESS MUST BE CONTROLLED TO 2-6 GR. FOR BEST RESULTS.**

CONSTRUCTION: Tank and wash chamber constructed of #16 gauge stainless steel, arc-welded. Unitized welded stainless steel tank, frame and stainless steel feet. Wash chamber and front of tank above motor compartment are polished satin finish. Stainless steel snap-in front panel – no fasteners required.

DOOR LIFT: Doors coupled by stainless steel door handle, spring counterbalanced (except the front inspection door). All doors guided for ease of operation and long life.

PUMP: With Ni-Resist impeller, integral with motor assures alignment and quiet operation. Pump shaft seal with stainless steel parts and a carbon ceramic sealing interface. Easily removable impeller housing permits ease of inspection. Capacity 160 GPM. Pump is completely self-draining.

MOTOR: Built for Hobart, 1 H.P., with inherent thermal protection, grease-packed ball bearings, splashproof design, ventilated. Single-phase is capacitor-start, induction-run type. Three-phase is squirrel-cage, induction type.

MICROCOMPUTER CONTROL SYSTEM: Hobart microcomputer controls, assembled within water-protected enclosure, provide built-in performance and reliability.

The microcomputer control, switches and contactors are housed in a single stainless steel enclosure, mounted on right-hand or left-hand side (AM14) or 90° (AM14C) of dishwasher below table level. Control enclosure is field adjustable to an alternate lower position of 10 1/4" from table. The line voltage electrical components are completely wired with 105°C, 600V thermoplastic insulated wire with stranded conductors and routed through listed electrical conduit. Low-voltage electrical components are wired with type ST cord. Line disconnect switch NOT furnished.

CYCLE OPERATION: The microcomputer timing program is started by closing the doors, which actuates the door cycle switch. The microcomputer energizes the wash pump motor contactor during the wash portion of the program. After the wash, a dwell permits the upper wash manifold to drain. At the end of the dwell, the final rinse solenoid valve is energized, after the final rinse valve closes, Sani-Dwell (Hot Water Mode only) permits sanitization to continue. The Rinse LED remains on during this period, completing the program. If the microcomputer is interrupted during a cycle by the door-cycle switch, the microcomputer is reset to the beginning of the program. Hot Water Sanitizing – 62 seconds (AM14: 53 Racks/hr.; AM14C: 52 Racks/hr.); 40 Second Wash, 4 Second Dwell, 9 Second Rinse, 9 Second Sani-Dwell. Chemical Sanitizing (Normal Duty) – 53 Seconds (AM14: 62 Racks/hr.; AM14C: 60 Racks/hr.); 40 Second Wash, 4 Second Dwell, 9 Second Rinse. Chemical Sanitizing (Light Duty) – 40 Seconds (AM14: 80 Racks/hr.; AM14C: 76 Racks/hr.); 27 Second Wash, 4 Second Dwell, 9 Second Rinse (130°F Minimum). All of the above programs and many more can be pre-selected by your Hobart service technician.

WASH: Hobart revolving stainless steel wash arms with unrestricted openings above and below provide thorough distribution of water jets to all dishware surfaces. Arms are easily removable for cleaning and are interchangeable. Stainless steel tubing manifold connects upper and lower spray system.

RINSE: Upper revolving rinse arm with eight rinse spray nozzles. The stainless steel upper and lower rinse arms are easily removable without tools. Lower revolving rinse arm with eight nozzles lifts out for inspection. Diaphragm-type rinse control solenoid valve mounted outside machine. Machine is equipped with special hot water vacuum breaker on downstream side of rinse valve – mounted 6" above uppermost rinse opening. Easy open brass line strainer furnished.

FILL: Microcomputer controlled fill valve installed on upstream side of rinse vacuum breaker. Ratio fill method is used giving the correct fill at any flowing water pressure. (20 PSIG necessary for proper rinsing.)

DRAIN AND OVERFLOW: Large bell type automatic overflow and drain valve controlled from inside of machine. Drain automatically closed by lowering doors. Drain seal is large diameter, high temperature "O" ring. Cover for overflow is integral part of stainless steel strainer system.

STRAINER SYSTEM: Equipped with large, exclusive self-flushing, easily removable perforated stainless steel strainer and large capacity soil basket. Submerged soil basket minimizes frequent removal and cleaning.

HEATING EQUIPMENT: Standard tank heat is 5KW electric immersion heating element. Regulated power immersion tube gas burner system is optional at extra cost. A solid-state ignitor board controls the gas valve and provides flame ignition. A transformer steps the control circuit voltage down to 24 volts to power the ignitor board and gas valves. Gas Heated Dishwasher: For natural gas, gas pressure (customer connection) not to exceed 7" W.C. For liquefied petroleum, gas pressure to burner (customer connection) not to exceed 11" W.C. If gas pressure is higher than 7" W.C. natural or 11" W.C. LP, a pressure regulating valve must be supplied (by others) in the gas line to the dishwasher. Water temperature regulation is controlled by thermistor sensor in combination with microcomputer controls. The tank heat and positive low water protection microcomputer circuits are automatically activated when the main power switch is turned "on". If tank is accidentally drained, low water protection device automatically turns heat off. Gas immersion tube is additionally protected by a high limit device mounted on the surface of the tube. These features are standard with the Hobart Microcomputer Control System.

STANDARD EQUIPMENT: In addition to the standard features listed on the front are the following—latest design door cycle switch, ratio fill, stainless steel adjustable feet. Adjustable height control panel. Chamber, tank and all doors of 16 gauge stainless steel. Detergent injector and sensing connections provided as well as connection in fill line for rinse agent and sanitizer dispensing. Manual by-pass switch.

OPTIONAL EQUIPMENT AT EXTRA COST – ELECTRIC BOOSTER HEATER: Electric booster adequately sized to raise 110°F inlet water to 180°F (not available on gas heat machines). Pressure gauge for incoming water.

CONTROLS: Optional 90° controls on C models.

ACCESSORIES: 19 1/4" x 19 1/4" Peg and Combination All-Plastic Dishracks. Desirable functional accessories can be furnished at added cost. See listed options and accessories on this specification sheet. Write to the factory for special requirements not listed above.

As continued product improvement is a policy of Hobart, specifications are subject to change without notice.

701 S Ridge Avenue, Troy, OH 45374 • 937-332-3000 • 1-800-333-7447

ITEM NO.: 8 (1) REQUIRED
ITEM: BOOSTER HEATER FOR DISHWASHER ITEM # 7 (MCAR)
MANUFACTURER: HATCO
MODEL NO.: #C-12
STD FEATURES:

- A. "Pilot Light"
- B. On and off switch
- C. Low water cut-off
- D. Heating capacity 454 lph for 22-degree C temperature rise
- E. 23 liter storage capacity

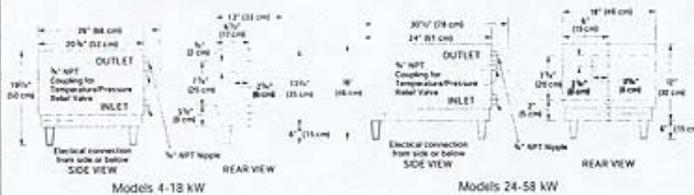
ACCESSORIES:

- A. All stainless steel body and base
- B. *** 150 to 190 mm (6" to 7 1/2") adjustable stainless steel legs ***



COMPACT ELECTRIC BOOSTER WATER HEATERS

Models C-4, -5, -6, -7, -9, -12, -13, -15, -17, -18, -24, -27, -30, -36, -39, -45, -54, -58



DIMENSIONS

4kW to 18kW: 13"W x 20 1/2"D (26") x 13 1/4"H without legs (33 x 53 (66 cm²) x 35 cm).
 24kW to 58.5kW: 18"W x 24"D (30 1/2") x 12"H without legs (46 x 61 (78 cm²) x 30 cm).
 † Includes Temperature/Pressure Relief Valve.

VOLTAGE

208, 240 and 480 volts available. Export voltages available.

SPECIFICATIONS

Model	kW	1-Phase		3-Phase		Shipping Weight	
		Volts	Amps	Breaker/Fuse Size	Amps		Breaker/Fuse Size
C-4	4	208	19	30	-	-	105 lbs. (48 kg)
		240	17	30	-	-	
		480	8	15	-	-	
C-5	5	208	24	30	-	-	105 lbs. (48 kg)
		240	21	30	-	-	
		480	10	15	-	-	
C-6*	6	240	25	40	25*	40	118 lbs. (54 kg)
		480	-	-	11*	15	
		208	34	50	29*	40	
C-7*	7	240	29	40	25*	40	118 lbs. (54 kg)
		480	-	-	13*	20	
		208	43	60	38*	50	
C-9*	9	240	38	50	33*	50	118 lbs. (54 kg)
		480	-	-	16*	20	
		208	58	90	33	50	
C-12	12	240	50	70	29	40	120 lbs. (54 kg)
		480	-	-	14.5	20	
		208	65	90	38	50	
C-13	13.5	240	56.3	90	33	50	120 lbs. (54 kg)
		480	-	-	16.3	30	
		208	72	90	41.7	60	
C-15	15	240	62.5	90	36.1	50	120 lbs. (54 kg)
		480	-	-	18.1	30	
		208	85.5	125	-	-	
C-17†	17.2	208	-	-	47.9	60	120 lbs. (54 kg)
		208	85.5	125	-	-	
		240	75	100	43.4	60	
C-18‡	18	240	75	100	43.4	60	120 lbs. (54 kg)
		480	-	-	21.7	30	
		208	-	-	-	-	

Model	kW	1-Phase		3-Phase		Shipping Weight	
		Volts	Amps	Breaker/Fuse Size	Amps		Breaker/Fuse Size
C-24	24	208	115.4	150	67.7	90	142 lbs. (64 kg)
		240	100	125	57.8	90	
		480	-	-	29.9	40	
C-27	27	208	129.8	175	75	100	142 lbs. (64 kg)
		240	112.5	150	65	90	
		480	-	-	32.5	50	
C-30	30	208	144	200	83.3	125	142 lbs. (64 kg)
		240	125	175	72.3	100	
		480	-	-	36	50	
C-36	36	208	173	225	100	125	142 lbs. (64 kg)
		240	150	200	86.7	125	
		480	-	-	43.3	60	
C-39	39	208	187.5	250	108	150	142 lbs. (64 kg)
		240	163.5	225	94	125	
		480	-	-	47	60	
C-45*	45	208	-	-	125	175	142 lbs. (64 kg)
		240	188	250	108	150	
		480	-	-	54	70	
C-54**	54	208	-	-	150	200	142 lbs. (64 kg)
		240	-	-	130	175	
		480	-	-	65	90	
C-58**	58.5	208	-	-	162.5	225	142 lbs. (64 kg)
		240	-	-	141	200	
		480	-	-	71	90	

* Only 6, 7 & 9kW Models, 208 and 240 volts only, can be field converted to single phase (units are shipped 3-phase open delta). Larger branch circuit required than for balanced 3-phase of equal kW. (Balanced 3-phase available, consult factory.)

† 17.2kW Models available in 208V 3-phase only.

‡ 18kW Models not available in 208V 3-phase.

* Not available in 208V single phase.

** Not available in 208V or 240V single phase.

OPTIONS (NOT FOR RETROFIT)

- All Stainless Steel Body and Base
- Slide Brackets (in lieu of Standard 6" (15 cm) Legs)
- Adjustable Stainless Steel Legs 6" to 8" (15 to 20 cm)
- Brass Pressure Reducing Valve with Bypass

- Floor Mounting Hardware

ACCESSORIES

- Blended Phosphate Water Treatment System
- Shock Absorber - To Reduce Water Hammer

ARCHITECT SPECS

Electric Booster Water Heater

The Electric Booster Water Heater to supply the final 180°F (82°C) rinse for the dishwasher shall be a Hatco ... Model No. ... as manufactured for commercial use by the Hatco Corporation, Milwaukee, WI 53234 U.S.A.

The booster shall have the capacity to heat ...gph (lph) from 120°F to 180°F (49°C to 82°C) and it shall be rated at ...kW, ...volts, ...phase. The tank shall be designed for a working pressure of 150 psi (1034 kPa) and hydrostatically tested at 300 psi (2069 kPa) with a Hatco Castone® lining.

The heater shall be complete with all internal plumbing, including 1/2" NPT pipe and fittings for inlet and outlet. All controls shall be built-in, including contactors and wired in accordance with

UL #1453 and NEC 422-27. Proper surface mounting circuit breaker or fused disconnect switch shall be provided by electrical contractor.

Electric heating elements shall be metal sheathed, controlled by a close tolerance immersion thermostat. The booster shall be protected with high-temperature limit switch (ECO) and low water cut-off.

The heater shall consist of stainless steel body, base and stainless steel adjustable legs or stainless steel front and silver-gray hammertone body with standard 6" (15 cm) legs.

The heater shall include a temperature/pressure relief valve, high-temperature pressure reducing valve with bypass, two indicating temperature/pressure gauges and shock absorber.

HATCO CORPORATION P.O. Box 340500 Milwaukee, WI 53234-0500 U.S.A. • (800) 558-0607 • (414) 671-6350
 Fax (800) 543-7521 • Int'l. Fax (414) 671-3976 • Web Site: www.hatcocorp.com • E-mail: equipsales@hatcocorp.com

ITEM NO.: 9 (1) REQUIRED
ITEM: OVERHEAD SHELF, FLAT (MCAR)
MANUFACTURER: FABRICATOR
MODEL NO.: CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.
PROVIDE:

A. Approximately 1070 mm long, 535 mm wide minimum

ITEM NO.: 10 (1) REQUIRED
ITEM: CLEAN DISHTABLE (MCAR)
MANUFACTURER: FABRICATOR
MODEL NO.: CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.

ITEM NO.: 11 (2) REQUIRED
ITEM: HAND SINK (SEE PLUMBING SPECIFICATIONS)
(MCAR)

MANUFACTURER:

MODEL NO.: (SEE PLUMBING SPECIFICATIONS)

STD FEATURES:

- A. Stainless steel sink
- B. Wrist action faucet

ACCESSORIES:

- A. Soap and towel dispenser with Mirror (see Toilet Accessory Section Item A20)

ITEM NO.: 12 (3) REQUIRED
ITEM: AIR CURTAIN (MCAR)
MANUFACTURER: MARS
MODEL NO.: 42C
STD FEATURES:

ACCESSORIES:

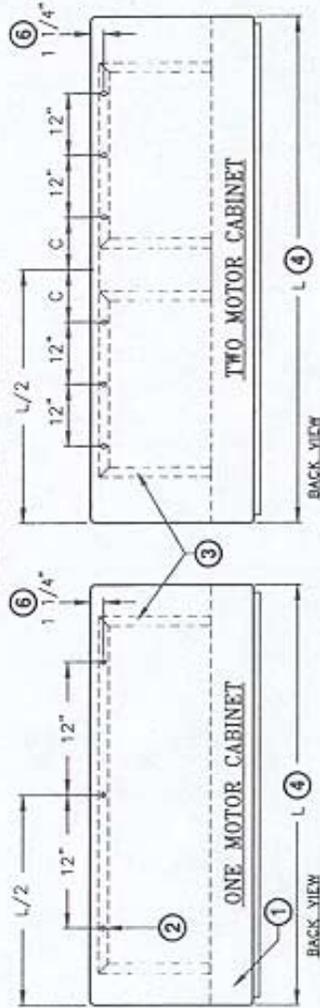
- A. Wall mounted control panel for one (1) motor, mounted on wall right of door
- B. White finish

NOTES:

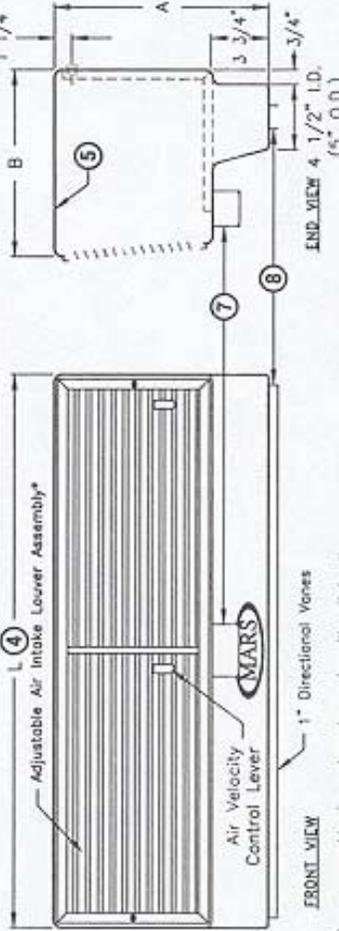
- ① This product is designed to comply with the National Electric Code (NEC) and is U.L. Listed and CSA Certified.
- ② 7/16" mounting holes. (3) provided on one motor models, (6) provided on two motor models.
- ③ Cabinets contain an internal steel bracket with sufficient strength to provide cabinet rigidity and fastening to wall.
- ④ Model number indicates length of unit in inches, which is denoted as "L".
- ⑤ All units have a self contained one piece molded white high density polyethylene cabinet. Cabinets feature a self-extinguishing characteristic and are resistant to high humidity, chemical and climate exposures.
- ⑥ Wall mounting hole location. Model number 96C is 3 3/4".
- ⑦ One watertight junction box per motor mounted on bottom center of each motor/fan assembly. Specify for alternate locations.
- ⑧ Units is to be installed such that air flow is unobstructed. Air discharge nozzle containing adjustable air directional vanes with 40° sweep front to back.
- ⑨ Optional motor control panel. Overloads are factory preset. Panels are to be shipped loose for remote mounting.
- ⑩ Circuit protection as per N.E.C. by others.
- ⑪ Microswitch is field installed and is to be wired to the control panel. Switch to be mounted such that air curtain turns on as door starts to open.



Air Curtain Mounting Bracket



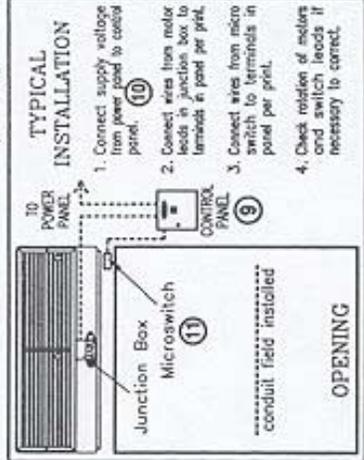
Air Curtain Cabinet



FRONT VIEW 1" Directional Vanes

*NOTE: Lower assembly size and number varies with unit length.

MODEL NUMBER ④	NUMBER OF MOTORS	HEIGHT A	DEPTH B	MOUNTING HOLE SPACING C
36C	1	14 3/4"	12 3/4"	-
38C	1	14 3/4"	12 3/4"	-
42C	1	14 3/4"	12 3/4"	-
48C	1	14 3/4"	12 3/4"	-
60C	1	14 3/4"	12 3/4"	-
60C-2	2	14 3/4"	12 3/4"	4 3/4"
72C	2	14 3/4"	12 3/4"	5"
96C	2	18"	15"	12"



PROJECT	MODEL NO.
LOCATION	DRAWING NO.
ARCHITECT	DATE
ENGINEER	SHEET OF
	DRAWN BY
	CHECKED BY
	PROJECT NO.

MARS
Air Doors
BRAND AIR CURTAIN

14716 S. BROADWAY • GARDENA, CA 90248
Phone: (310) 532-1555 • (800) 421-1266 • Fax: (310) 324-3030

C COMMERCIAL UNHEATED MODELS

JOB: ARCHITECT/ENGINEER: _____
 CONTRACTOR: _____

DRWG.: _____ of _____ DATE: _____
 SHEET _____ of _____

MARK	C MODEL NUMBER	NO. REQ'D	LENGTH	NET WEIGHT (lbs)	HP 1750 RPM	VOLTS & PHASE	MOTOR FAN DATA						REMARKS	
							AMPS SINGLE PHASE		AMPS THREE PHASE		MAX FPM at Nozzle	MAX CFM at Nozzle		dBA Measured 10 Ft. from Nozzle
							115V	208V 230V	208V 230V	460V				
	36C		3'	50	1/2		5.1	2.5	1.2	.6	2275	1700	56	
	38C		3' 2"	52	1/2		5.1	2.5	1.2	.6	2150	1700	56	
	42C		3' 6"	55	1/2		5.1	2.5	1.2	.6	1950	1700	56	
	48C		4'	60	1/2		5.1	2.5	1.2	.6	1700	1700	56	
	60C		5'	65	1/2		5.1	2.5	1.2	.6	2040	2550	56	
	60C-2		5'	95	Two 1/2		10.2	5.1	2.4	1.2	2720	3440	63	
	72C		6'	105	Two 1/2		10.2	5.1	2.4	1.2	2275	3440	63	
	96C		8'	130	Two 1/2		10.2	5.1	2.4	1.2	1700	3440	63	

EQUIPMENT SPECIFICATIONS - Standard Features
 Air curtain shall be a Mars® Air Doors brand air curtain: Type "C" Commercial Unheated Models.

APPROVALS
 Air curtain shall be Underwriters Laboratories Listed (specify if for outdoor), Canadian Standard Association Certified and meet the requirements of the National Electric Code.

CABINET
 Cabinet shall be a self contained one piece molded white high density polyethylene material. Cabinets shall feature self-extinguishing characteristics and be resistant to high humidity and climatic exposures. Cabinets to contain an internal steel bracket with sufficient strength to provide cabinet rigidity and fastening to the wall. Cabinet to have mechanically field adjustable variable air intake louver assembly capable of reducing outlet air velocity up to 60% with louvers in totally closed position. Discharge air outlet nozzle shall be wedged shaped containing adjustable air directional vanes with a 40° sweep front to back. Motor/Fan assembly to be easily accessible for maintenance.

MOTORS AND BLOWER WHEELS
 Motor(s) shall be totally enclosed air over (TEAO) type suitable for continuous heavy duty, all angle operation. Construction shall include sealed lifetime pre-lubricated ball bearings, resilient mounted and protected by an automatic reset thermal overload switch. Motor(s) to have quick disconnect plugs for fast easy removal of motor/fan assembly for inspection and cleaning. Motor(s) to have double extended shaft and direct drive, double inlet, dynamically balanced forward curved squirrel cage blower wheels.

ELECTRICAL WIRING
 Each motor to have a watertight junction box mounted on bottom center of each motor/fan assembly. Specify for alternate locations.

GUARANTEE
 Shall be five years on all parts.

An equipment specification can be prepared by combining the standard features with the checked boxes below indicating the selection of the optional features.

OPTIONAL FEATURES
 When checked below, the air curtain will be supplied with the following special features

- Explosion proof motor(s)
- Two speed motor(s) (Available in single phase only)
- Door microswitch(s) (20 amp) for automatic on/off control. Turns air curtain on when door is opened and off when door is closed. Field installed.
- Plunger type
- Roller type

Note: Mars® recommends the use of a motor control panel on 3 phase motors whenever a door microswitch is used to start and stop the air curtain. One door microswitch is used to directly control, one or two 1/2 HP single phase motors without the need for a motor control panel.

Wall mounted control panel Factory mounted control panel on air curtain
 Indicate the total number of motors to be powered through panel
 1 2 3 4

- Washable aluminum air filter
- In lieu of adjustable inlet air louver
- In conjunction with adjustable inlet air louver

Cabinet Color
 Gray Gold Beige Dark Bronze
 Other _____

MADE WITH PRIDE IN THE U.S.A.

C COMMERCIAL UNHEATED MODELS

ITEM NO. : 13 (1) REQUIRED
ITEM: CAN WASH (SEE CIVIL AND PLUMBING
DRAWINGS) (MCR)
MANUFACTURER :
MODEL NO. : CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.

ITEM NO.: 14 (1) REQUIRED
ITEM: BOOSTER HEATER FOR 3-COMPARTMENT
SINK ITEM # 17 (MCAR)

MANUFACTURER: HATCO
MODEL NO.: #C-15

STD FEATURES:

- A. "Pilot Light"
- B. On and off switch
- C. Low water cut-off
- D. Heating capacity 572 lph for 22-degree C temperature rise
- E. 23 liter storage capacity

ACCESSORIES:

- A. All stainless steel body and base
- B. 150 to 200 mm adjustable stainless steel legs



COMPACT ELECTRIC BOOSTER WATER HEATERS

Models C-4, -5, -6, -7, -9, -12, -13, -15, -17, -18, -24, -27, -30, -36, -39, -45, -54, -58

The Hatco Compact Electric Booster Water Heater provides all the 180°F (82°C) final rinse water required to sanitize and flash-dry dishes and flatware.

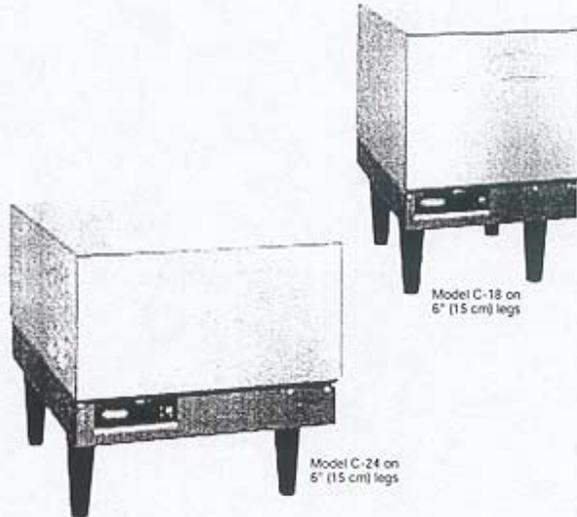
FLEXIBILITY

The space saving Compact is easy to install next to the dishwasher with slide brackets or on 6" (15 cm) legs. The storage capacity is 6 or 8 gallons (23 or 30 liters).

QUALITY

The following features assure the finest performance for years to come:

- All models include a Castone® lined tank with a 10-year limited warranty.
- Features include a temperature/pressure relief valve, a cast iron pressure reducing valve, two temperature/pressure gauges, a high-temperature limit control, pilot indicator light, on-off switch and a low water cut-off to prevent element burnout due to a low water condition.
- Available with slide brackets for mounting under a dishtable.
- Each booster has fiberglass insulation to minimize heat loss.
- Hatco electric booster heaters are factory pre-plumbed and pre-wired with calibrated immersion thermostat and high-temperature limit switch.
- A stainless steel front panel and powder-coated silver-gray hammertone body is standard on all Compact models.
- Removable front panels make access to controls easy and convenient.



Water Temperature Recovery Table

Compact Model	40°F (22°C) Rise	70°F (39°C) Rise
C-4	40 gph (151 lph)	23 gph (87 lph)
C-5	50 gph (189 lph)	29 gph (110 lph)
C-6	60 gph (227 lph)	34 gph (129 lph)
C-7	70 gph (265 lph)	40 gph (151 lph)
C-9	90 gph (341 lph)	52 gph (197 lph)
C-12	120 gph (454 lph)	69 gph (261 lph)
C-13	135 gph (511 lph)	77 gph (292 lph)
C-15	151 gph (572 lph)	86 gph (326 lph)
C-17	173 gph (655 lph)	99 gph (375 lph)
C-18	181 gph (685 lph)	103 gph (390 lph)
C-24	241 gph (912 lph)	138 gph (522 lph)
C-27	271 gph (1026 lph)	155 gph (587 lph)
C-30	301 gph (1139 lph)	172 gph (651 lph)
C-36	361 gph (1367 lph)	206 gph (780 lph)
C-39	391 gph (1480 lph)	224 gph (848 lph)
C-45	452 gph (1711 lph)	258 gph (977 lph)
C-54	542 gph (2052 lph)	310 gph (1174 lph)
C-58	588 gph (2226 lph)	335 gph (1268 lph)

WATER QUALITY REQUIREMENTS

Incoming water in excess of 3.0 grains of hardness per gallon (GPG) [75 grains of hardness per liter] must be treated and softened before being supplied to booster heater(s). Water containing over 3.0 GPG (75 GPL) will decrease the efficiency and reduce the operating life of the unit.

Note: Product failure caused by liming or sediment buildup is not covered under warranty.



HATCO CORPORATION P.O. Box 340500 Milwaukee, WI 53234-0500 U.S.A.
 (800) 558-0607 • (414) 671-6350 • Fax (800) 543-7521 • Int'l. Fax (414) 671-3976
 Web Site: www.hatcocorp.com • E-mail: equipsales@hatcocorp.com

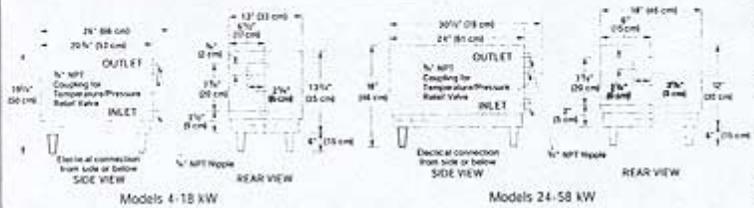
Form No. C-1002(S)

Printed in U.S.A.



COMPACT ELECTRIC BOOSTER WATER HEATERS

Models C-4, -5, -6, -7, -9, -12, -13, -15, -17, -18, -24, -27, -30, -36, -39, -45, -54, -58



DIMENSIONS

4kW to 18kW: 13"W x 20 1/4"D
(26" H) x 13 3/4"H without legs
(33 x 53 (66 cm²) x 35 cm),
24kW to 58.5kW: 18"W x 24"D
(30 1/2" H) x 12"H without legs
(46 x 61 (78 cm²) x 30 cm),
Includes Temperature/Pressure
Relief Valve.

VOLTAGE

208, 240 and 480 volts available.
Export voltages available.

SPECIFICATIONS

Model	kW	Volts	1-Phase		3-Phase		Shipping Weight
			Amps	Breaker/ Fuse Size	Amps	Breaker/ Fuse Size	
C-4	4	208	19	30	-	-	105 lbs. (48 kg)
		240	17	30	-	-	
		480	8	15	-	-	
C-5	5	208	24	30	-	-	105 lbs. (48 kg)
		240	21	30	-	-	
		480	10	15	-	-	
C-6*	6	208	29	40	25*	40	118 lbs. (54 kg)
		240	25	40	22*	30	
		480	-	-	11*	15	
C-7*	7	208	34	50	29*	40	118 lbs. (54 kg)
		240	29	40	25*	40	
		480	-	-	13*	20	
C-9*	9	208	43	60	38*	50	118 lbs. (54 kg)
		240	38	50	33*	50	
		480	-	-	16*	20	
C-12	12	208	58	90	33	50	120 lbs. (54 kg)
		240	50	70	29	40	
		480	-	-	14.5	20	
C-13	13.5	208	65	90	38	50	120 lbs. (54 kg)
		240	56.3	90	33	50	
		480	-	-	16.3	30	
C-15	15	208	72	90	41.7	60	120 lbs. (54 kg)
		240	62.5	90	36.1	50	
		480	-	-	18.1	30	
C-17†	17.2	208	-	-	47.9	60	120 lbs. (54 kg)
		240	86.5	125	-	-	
		480	-	-	-	-	
C-18‡	18	208	75	100	43.4	60	120 lbs. (54 kg)
		240	75	100	43.4	60	
		480	-	-	21.7	30	

Model	kW	Volts	1-Phase		3-Phase		Shipping Weight
			Amps	Breaker/ Fuse Size	Amps	Breaker/ Fuse Size	
C-24	24	208	115.4	150	67.7	90	142 lbs. (64 kg)
		240	100	125	57.8	90	
		480	-	-	29.9	40	
C-27	27	208	129.8	175	75	100	142 lbs. (64 kg)
		240	112.5	150	65	90	
		480	-	-	32.5	50	
C-30	30	208	144	200	83.3	125	142 lbs. (64 kg)
		240	125	175	72.3	100	
		480	-	-	36	50	
C-36	36	208	173	225	100	125	142 lbs. (64 kg)
		240	150	200	85.7	125	
		480	-	-	43.3	60	
C-39	39	208	187.5	250	108	150	142 lbs. (64 kg)
		240	163.5	225	94	125	
		480	-	-	47	60	
C-45*	45	208	-	-	125	175	142 lbs. (64 kg)
		240	188	250	108	150	
		480	-	-	54	70	
C-54**	54	208	-	-	150	200	142 lbs. (64 kg)
		240	-	-	130	175	
		480	-	-	65	90	
C-58**	58.5	208	-	-	162.5	225	142 lbs. (64 kg)
		240	-	-	141	200	
		480	-	-	71	90	

* Only 6, 7 & 9kW Models, 208 and 240 volts only, can be field converted to single phase (units are shipped 3-phase open delta). Larger branch circuit required than for balanced 3-phase of equal kW. (Balanced 3-phase available, consult factory)

† 17.2kW Models available in 208V 3-phase only.

‡ 18kW Models not available in 208V 3-phase.

* Not available in 208V single phase.

** Not available in 208V or 240V single phase.

OPTIONS (NOT FOR RETROFIT)

- All Stainless Steel Body and Base
- Slide Brackets (in lieu of Standard 6" (15 cm) Legs)
- Adjustable Stainless Steel Legs 6" to 8" (15 to 20 cm)
- Brass Pressure Reducing Valve with Bypass

- Floor Mounting Hardware

ACCESSORIES

- Blended Phosphate Water Treatment System
- Shock Absorber - To Reduce Water Hammer

ARCHITECT SPECS

Electric Booster Water Heater

The Electric Booster Water Heater to supply the final 180°F (82°C) rinse for the dishwasher shall be a Hatco ...Model No. ...as manufactured for commercial use by the Hatco Corporation, Milwaukee, WI 53234 U.S.A.

The booster shall have the capacity to heat ...gph (lph) from 120°F to 180°F (49°C to 82°C) and it shall be rated at ...kW, ...volts, ...phase. The tank shall be designed for a working pressure of 150 psi (1034 kPa) and hydrostatically tested at 300 psi (2069 kPa) with a Hatco Castone® lining.

The heater shall be complete with all internal plumbing, including 1/2" NPT pipe and fittings for inlet and outlet. All controls shall be built-in, including contactors and prewired in accordance with

UL #1453 and NEC 422-27. Proper surface mounting circuit breaker or fused disconnect switch shall be provided by electrical contractor.

Electric heating elements shall be metal sheathed, controlled by a close tolerance immersion thermostat. The booster shall be protected with high-temperature limit switch (ECO) and low water cut-off.

The heater shall consist of stainless steel body, base and stainless steel adjustable legs or stainless steel front and silver-gray hammertone body with standard 6" (15 cm) legs.

The heater shall include a temperature/pressure relief valve, high-temperature pressure reducing valve with bypass, two indicating temperature/pressure gauges and shock absorber.

HATCO CORPORATION P.O. Box 340500 Milwaukee, WI 53234-0500 U.S.A. • (800) 558-0607 • (414) 671-6350
Fax (800) 543-7521 • Int'l. Fax (414) 671-3976 • Web Site: www.hatcocorp.com • E-mail: equipsales@hatcocorp.com

ITEM NO.: 15 (1) REQUIRED
ITEM: SANITIZING SINK HEATER FOR
3-COMPARTMENT SINK ITEM # 17 (MCAR)

MANUFACTURER: HATCO
MODEL NO.: 3CS-9B

STD FEATURES:

- A. On and off switch with indicating light
- B. Energy cut-off wired into the electrical circuit
- C. Dual reservoir system
- D. Side drain
- E. Sanitizing temperature indicator
- F. Low water light
- G. Balanced 3-phase electrical power

ACCESSORIES:

- A. All stainless steel body and base
- B. Rinse temperature monitor

NOTE:

- A. Mounted under rinse compartment of 3-Compartment Sink,
Item # 17



3CS SANITIZING SINK HEATERS

Models 3CS-3, 3CS-4, 3CS-6, 3CS-9, 3CS-3B, 3CS-4B, 3CS-6B, 3CS-9B

The Hatco 3CS Sanitizing Sink Heater makes manual warewashing faster and more convenient. It maintains a continuous supply of sanitizing rinse water without taking up valuable sink space.

FLEXIBILITY

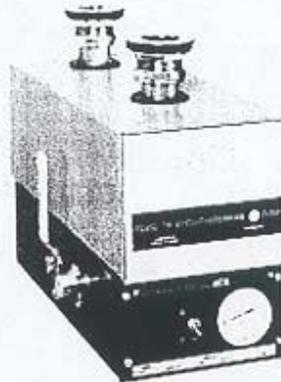
Designed to fit under the center of the sink, the 3CS is perfect for 3- or 4-compartment sinks, pot and pan sinks and bar sinks.

The 3CS features a unique dual reservoir system. One reservoir contains the heating element and should always be filled with water. The other reservoir traps and collects soil carried from other sink compartments. This reservoir is easily emptied after each use by a convenient drain.

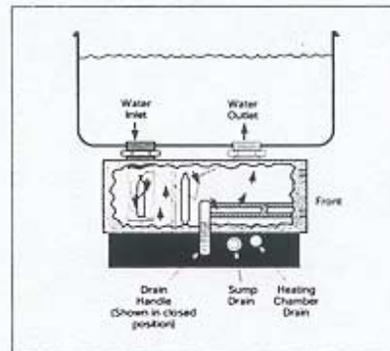
QUALITY

The following features assure the finest performance for years to come:

- All models include stainless steel front, powdercoated silver-gray hammertone body and convenient side drain.
- Every Hatco 3CS is equipped with an ECO (Energy Cut-Off) wired into the electrical circuit. This built-in protection "breaks" the power to the elements if the temperature of the water goes above the normal thermostat setting.
- An on-off toggle switch activates the heater and a yellow light indicates when power is on. A red light is an overtemp indicator pointing out the need to refill the unit with water and reset the unit.
- Each 3CS model features a stainless steel tank with a five-year warranty.
- Available with an optional temperature monitor or temperature light that indicates when water reaches the sanitizing temperature.
- The 3CS is shipped ready to install with all gaskets and fittings.
- Meets NSF Standard of 180°F (82°C) for dish sanitizing.



3CS-6 with optional temperature monitor



WATER QUALITY REQUIREMENTS

Incoming water in excess of 3.0 grains of hardness per gallon (GPG) (75 grains of hardness per liter) must be treated and softened before being supplied to water heater(s). Water containing over 3.0 GPG (75 GPL) will decrease the efficiency and reduce the operating life of the unit.

Note: Product failure caused by liming or sediment buildup is not covered under warranty.



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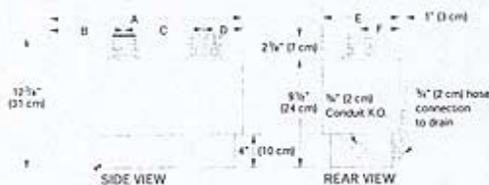
Form No. 3CS-1002(S)

Printed in U.S.A.



3CS SANITIZING SINK HEATERS

Models 3CS-3, 3CS-4, 3CS-6, 3CS-9, 3CS-3B, 3CS-4B, 3CS-6B, 3CS-9B



DIMENSIONS

Single or 3-Phase: 6 7/8" W x 16 7/8" D x 12 5/8" H (17 x 43 x 32 cm).
Balanced 3-Phase: 8" W x 17 3/8" D x 12 5/8" H (20 x 44 x 32 cm).

Model	A	B	C	D	E	F
1- or 3-phase	16 7/8"	5 1/2"	8 1/2"	2 1/8"	6 3/4"	3 3/8"
	43 cm	14 cm	22 cm	7 cm	17 cm	9 cm
Bal. 3-phase	17 3/8"	4 5/8"	8 1/2"	4"	8"	4"
	44 cm	12 cm	22 cm	10 cm	20 cm	10 cm

VOLTAGE

208 or 240 volts, 50/60 Hz standard. 480 volts and CSA wiring for Canada available.

Export voltages available.

ELECTRICAL RATINGS

SPECIFICATIONS

Model	kW	Phase	Sink Area	Shipping Weight
3CS-3	3	1	15" (38 cm) Sq. or less	24 lbs. (11 kg)
3CS-4	4.5	1	16"-18" (41-46 cm) Sq.	24 lbs. (11 kg)
3CS-6	6	1 or 3*	19"-21" (48-53 cm) Sq.	27 lbs. (12 kg)
3CS-9	9	1 or 3*	21"-25" (53-64 cm) Sq.	27 lbs. (12 kg)
3CS-3B†	3	3	15" (38 cm) Sq. or less	30 lbs. (14 kg)
3CS-4B†	4.5	3	16"-18" (41-46 cm) Sq.	30 lbs. (14 kg)
3CS-6B†	6	3	19"-21" (48-53 cm) Sq.	30 lbs. (14 kg)
3CS-9B†	9	3	21"-25" (53-64 cm) Sq.	30 lbs. (14 kg)

* Open delta on 3-phase. Larger circuit required than for balanced 3-phase of equal kW.

† Balanced 3-phase.

SIZING INFORMATION

For a Sink Heater: 2000 watts per sq. ft. (2.2 watts per sq. cm) of vessel top.

3CS Sink Heaters are sized based on 140°F (60°C) supply water with a 30-minute preheat period to reach the sanitizing temperature. Sink Heaters are mounted in the center of the third compartment sink with standard plumbing fittings provided. Two 2" (5 cm) diameter holes are required for these fittings and a full-size template is provided to locate holes in the sink. The 3CS Sink Heater is easily attached to the plumbing fittings with self-contained unions.

208 Volts kW Rating	Phase	Amps	Wire Size AWG	Fuse or Circuit Breaker
3.0	1	14.5	12	20
4.5	1	22	10	30
6.0	1	29	8	40
6.0	3*	25	10	40
6.8	3 (Bal.)	18.8	10	30
9.0	1	43	4	60
9.0	3*	37	6	50
9.0	3 (Bal.)	25	10	40

240 Volts kW Rating	Phase	Amps	Wire Size AWG	Fuse or Circuit Breaker
3.0	1	12.5	12	20
4.5	1	19	10	30
6.0	1	25	10	40
6.0	3*	22	10	30
6.0	3 (Bal.)	14.4	12	20
9.0	1	38	6	50
9.0	3*	33	8	40
9.0	3 (Bal.)	22	10	30

480 Volts kW Rating	Phase	Amps	Wire Size AWG	Fuse or Circuit Breaker
3.0	1	6.3	14	15
4.5	1	9.4	14	15
6.0	1	12.5	12	20
6.0	3*	10.8	14	15
6.0	3 (Bal.)	7.2	14	15
9.0	1	18.8	10	30
9.0	3*	16.2	12	20
9.0	3 (Bal.)	10.8	14	15

* Open Delta - standard construction (Amperage higher than balanced 3-phase).

OPTIONS (NOT FOR RETROFIT)

- All Stainless Steel Body and Base
 Temperature Monitor (Not available with Light)

- Temperature Light (Not available with Monitor)
 Wiring to CSA Specifications

ARCHITECT SPECS

Sanitizing Sink Heater

The electric heater to maintain the final sanitizing rinse in a third compartment sink shall be a Hatco Model 3CS as manufactured by the Hatco Corporation, Milwaukee, WI 53234 U.S.A.

The Third Compartment Sink Heater shall be rated at ... kW, ... volts, ... phase. The heater shall be complete with all internal plumbing and wiring ready for external installation to the bottom of sink.

The heater tank shall be of stainless steel construction and dual reservoir design; one reservoir to contain a permanently submerged heating element, the other to trap and collect soil which can be emptied easily by a convenient drain.

The sink heater shall be equipped with an on-off reset switch and optional indicator lights (or gauge) to signal operating conditions.

The heater shall consist of stainless steel front and powder-coated silver-gray hammertone body (or stainless steel jacket and base).

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ITEM NO. 16 (1) REQUIRED
ITEM: CONDENSING HOOD FOR 3-COMPARTMENT
SINK, ITEM # 17 (SEE MECHANICAL
DRAWINGS AND SPECIFICATIONS) (MCAR)
MANUFACTURER: GREENHECK
MODEL NO.: GC
STD FEATURES:
A. Removable condensate baffles
B. Full perimeter welded gutter
C. Stainless steel drain
D. All 1.31 mm stainless steel construction
ACCESSORIES:
A. None

ITEM NO. 17 (1) REQUIRED
ITEM: SINK, 3-COMPARTMENT (MCAR)
MANUFACTURER: FABRICATOR
MODEL NO.: CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.
PROVIDE:

- A. Bracket for Disposal (Item #18) controls
- B. Disposal cone sink (accessory with Item #18) integrally welded to drainboard
- C. Holes for Pre-Rinse Assembly (Item # 5) and vacuum breaker in backsplash
- D. Two faucets (see Plumbing Specification)
- E. Drain assembly each compartment
- F. Hot tap faucet at rinse compartment (see Plumbing Specification)
- G. I.D. plate "warning 180-degree F water" mounted on backsplash at rinse compartment

ITEM NO.: 18 (1) REQUIRED
ITEM: GARBAGE DISPOSER FOR 3-COMPARTMENT
SINK ITEM # 17 (MCAR)

MANUFACTURER: HOBART
MODEL NO.: FD3-300-B-2 (208/60/3)

STD FEATURES:
A. Dual directional grinding
B. Hardened and replaceable stainless steel cutter blocks

ACCESSORIES:
A. Cone sink 381 mm I.D. with hole for water swirl inlet
B. Group B accessories includes nitrite rubber silver-saver splash guard ring, water swirl and vacuum breaker
C. Group 2 electric control includes magnetic contactors, pushbutton start and stop automatic reversing, NEMA 12 enclosure and solenoid valve



FD3-150 FD3-200 FD3-300 FOODWASTE DISPOSERS

MEDIUM SIZE FAST, ECONOMICAL

In a profitable foodservice operation, there's no space, time or budget allowance for inefficient food waste handling. Here are the medium sized disposers that can end food waste storage, removal and clean-up – fast, economically.

SPECIFICATIONS

Listed by Underwriters Laboratories Inc. and meets requirements of A.S.S.E. Standard No. 1009 (50 Hz. Electrical Specifications not U.L. Listed).

MOTORS: Continuous duty rating, equipped with manual reset thermal overload inherent protection. Permanently lubricated ball bearings for upper and lower shaft support.

HOUSINGS: Heavy aluminum grind and discharge housings. Four bolts fasten the motor unit to the grind chamber, permit easy removal.

LEGS: Tubular stainless steel with bullet feet to support housing. Adjustable to 3 inches in either direction.

MOUNTING: All Hobart Disposers fasten to 7" I.D. (throat opening) cones. A vinyl isolating ring eliminates metal-to-metal contact at the cone mounting, reduces vibration and noise transmission.

STATIONARY SHREDDER RING: Abrasion resistant, Ni-Hard, 2 1/4" high, 4 machine ground primary action breaker bars, 42 secondary action grinding teeth.

FLYWHEEL: Offset breaker blade, mounted at center, speeds grinding, prevents objects from "riding" at center. Two hardened stainless steel cutter blocks (fastened to flywheel with nylon locking screws) are replaceable, can be indexed for new cutting edges. Corrosion resistant Ni-Resist flywheel is 7 1/8" diameter, slots undercut the shredder ring to assure that particles are cut to proper size before passing to the drain line.

MOTOR SHAFT SEAL: Face-type seal consists of sintered bronze mating ring and spring loaded carbon ring insert in chemical resistant neoprene bellows. Mating surfaces are protected from grit or fibers by being recessed into flywheel. Should any moisture pass this seal, a flinger and drain tube are provided to insure immediate removal. In addition, a lip-type oil seal (located beneath the bearings) is an "added protection" water seal.

DRAIN CONNECTOR: The removable outlet flange is tapped for 2" pipe connection.

DUAL DIRECTIONAL GRINDING: Hobart Disposers operate in either direction of flywheel rotation. Direction of rotation can be controlled by the operator (to increase life and efficiency of grinding elements – back flywheel free of a "jam") when installed with Control Groups 2 or 3.

WEIGHT: Shipping – Approx. 95 lbs. (does not include accessory group or controls).

As continued product improvement is a policy of Hobart, specifications are subject to change without notice.



**FD3-150 FD3-200
FD3-300
FOODWASTE DISPOSERS**



ACCESSORY GROUPS

GROUP A



Nitrile Rubber Scrapping Ring



Stainless Steel Silver-Saver Sleeve with Side Feed Hole



Water Swirl



Vacuum Breaker

GROUP B



Nitrile Rubber Silver-Saver Splash Guard Ring



Water Swirl



Vacuum Breaker

GROUP C



Nitrile Rubber Silver-Saver Splash Guard Ring



Vacuum Breaker



Pre-Rinse Spray with Wall Bracket

GROUP D



Nitrile Rubber Silver-Saver Splash Guard Ring



7" I.D. Stainless Steel Weld-In Adapter for Sink



Fixed Direction Water Inlet for Sink



Vacuum Breaker

ACCESSORY COMPONENTS

CONES-SINK – Stainless Steel
Part No.



- Cone 15" I.D. w/whole for water swirl inlet 204007
- Cone 18" I.D. w/whole for water swirl inlet 204004
- Cone 15" I.D. w/out swirl hole ... 204006
- Cone 18" I.D. w/out swirl hole ... 204003



Sink 16" x 20" x 7" (7" opening) w/whole for water inlet 204015-2

WATER INLETS



Cone Water Swirl Inlet 1/2" N.P.T. 204380



Fixed Direction Water Inlet (for sinks or troughs) 1/2" N.P.T. 204346

FLOW CONTROL



8 Gallons per minute for Models FD3-150 through FD3-300 3/4" N.P.T. 204368

CONE COVER – STAINLESS STEEL



- 15" Cone Cover w/feed hole 204024
- 18" Cone cover w/feed hole 204023

CONE FEEDING ACCESSORIES

Part No.



Nitrile Rubber Scrapping Ring ... 202113



Stainless Steel Silver-Saver Sleeve with side feed hole 203870

SILVER-SAVER SPLASH GUARD RING



Nitrile Rubber Silver-Saver and Splash Guard Ring (for 7" opening cones, sinks and adapter) 202120

SINK ADAPTER – Standard Group D Accessory



7" I.D. Stainless Steel Adapter for Welding to Sink or Trough 204853

VACUUM BREAKERS – Luster Chrome Plated



3/4" 74338

PRE-RINSE SPRAYS

PR-3 Heavy duty Flexible Pre-rinse Spray (38" high with wall bracket) ML-32333



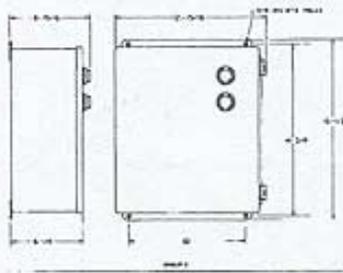
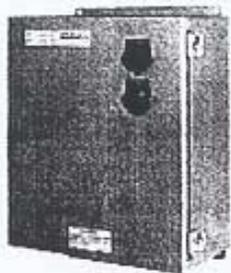
PR-4 Utility Spray (with wall bracket) ML-32334

Adapters are available to install Hobart Disposers on existing cones. See Form F-7543.



FD3-150 FD3-200 FD3-300 FOODWASTE DISPOSERS

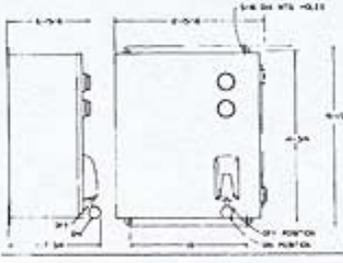
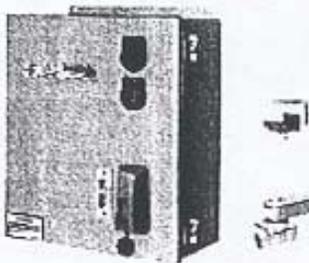
ELECTRICAL CONTROL GROUPS Listed by Underwriters Laboratories Inc., for use with FD3 Disposers (50 Hz. Electrical Specifications not UL listed)



Group 2 - For all Models

- Includes:*
Magnetic Contactors
Pushbutton Start and Stop
Automatic Reversing
NEMA 12 Enclosure
Solenoid Valve

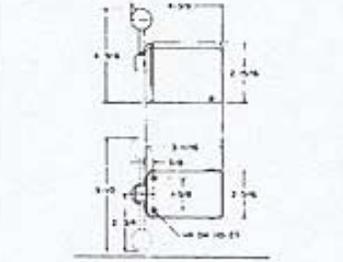
Approximate
Shipping Wt. 31 lbs.



Group 3 - For all Models

- Includes:*
Magnetic Contactors
Pushbutton Start and Stop
Automatic Reversing
Low Water Pressure Cut-off
Time Delay for water after shut-off
Line disconnect
Solenoid Valve
NEMA 12 Enclosure

Approximate
Shipping Wt. 38 lbs.



Group 4 - For Model FD3-150 and FD3-200

- Includes:*
Manual Reversing Switch
NEMA 1 Enclosure or NEMA 4 Enclosure
Not available above 250 volts
Optional Solenoid Valve

Approximate
Shipping Wt. 11 lbs.

Model	H.P.	Ph.	Hz.	Volts	Rated Amps
FD3-150	1/2	1	60	120/208-240	17.28-2-8.8
	1/2	3	60	208-240/480	4.8-4.8/2.4
FD3-200	2	1	60	120/208-240	20.0/10.0
	2	3	60	208-240/480	6.8-6.5/3.3
FD3-300	3	3	60	208-240/480	9.0-8.0/4.0
FD3-150	1/2	1	50	110-120/220-240	See customer service
	1/2	3	50	220-240/380-415	5.7-6.1/2.7-2.7
FD3-200	2	1	50	110-120/220-240	See customer service
	2	3	50	220-240/380-415	6.7-7.0/3.4-3.4
FD3-300	3	3	50	220-240/380-415	9.0-8.7/4.8-4.8

The slant (/) indicates the dual voltage operation accomplished by motor lead connection, follow connecting diagram on motor.

SAMPLE SPECIFICATION

FD3-200 — B — 2 (240/60/3)

Electrical Specifications

Electrical Control Group

Accessory Group

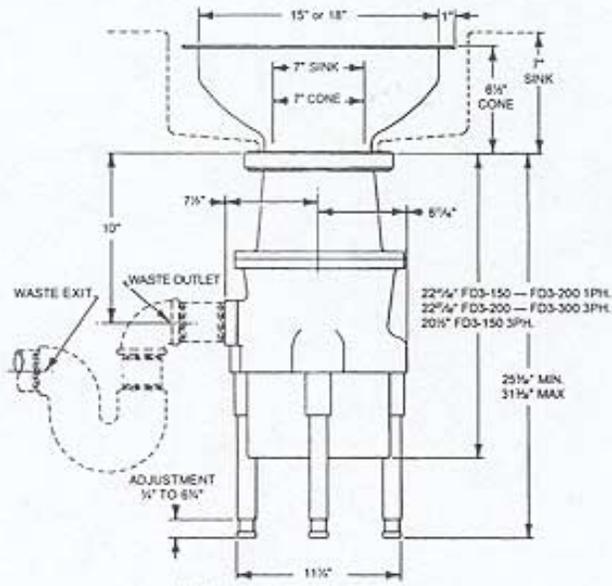
Model Number

Cut hole 19" for 18" cone. Hole to be 16" for 15" cone.
Solenoid must be installed in upright position.
Disposer may be easily rotated for better drain line connection.
Center line at wall outlet of trap should not be higher than center line of disposer discharge opening.
If water pressure is in excess of 60 P.S.I. install a pressure reducing valve.

**FD3-150 FD3-200
FD3-300
FOODWASTE DISPOSERS**

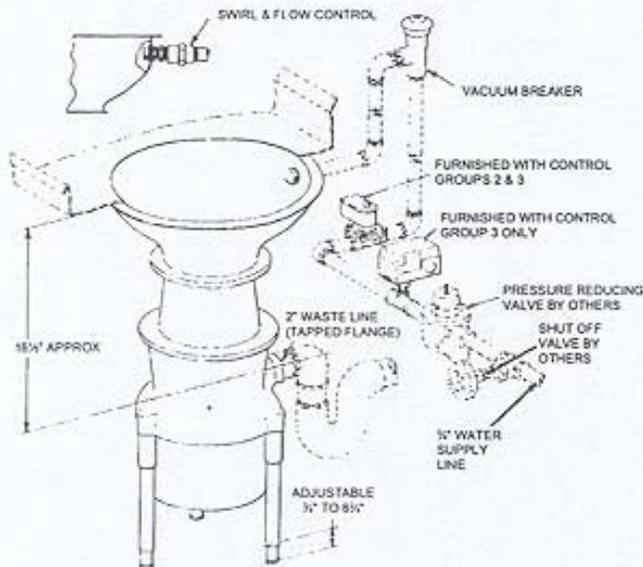


DETAILS AND DIMENSIONS



NOTE: Specify 15" or 18" Cone When Desired

TYPICAL INSTALLATION



FORM F-8560 (REV. 495)



EXECUTIVE OFFICES
701 RIDGE AVENUE
TROY, OHIO 45374-0001

LITHO IN U.S.A. (H-01)



ITEM NO.: 19 (1) REQUIRED
ITEM: WARMING, HOLDING CABINET (OMAR)
MANUFACTURER: ALTO-SHAAM
MODEL NO.: 1000 -UP SERIES
STD FEATURES:

- A. Double compartment holding cabinet
- B. Two on/off adjustable thermostats (60 to 200 degrees F) (15.5 to 93.3 degrees C), one for each compartment
- C. Two indicator lights
- D. Two holding temperature gauges to monitor inside air temperature
- E. Two chrome plated side racks designed to accommodate standard full-size pans
- F. Three chrome plated wire shelves for full-size sheet pans
- G. Halo-heat system
- H. One set of (5") (127 mm) heavy duty caster w/brakes
- I. All stainless steel construction ***

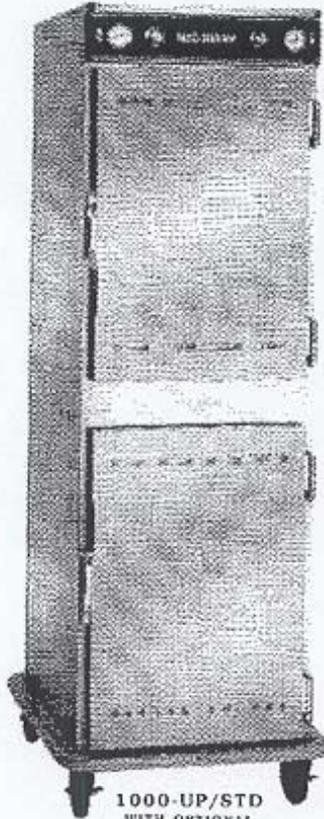
ACCESSORIES:

- A. None

#19

ALTO SHAAM. Hot Holding Cabinets

1000-UP SERIES



1000-UP/STD
WITH OPTIONAL
FULL-PERIMETER
BUMPER ASSEMBLY

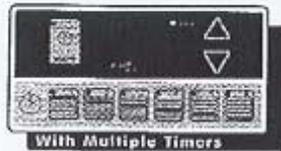
- ◆ **HALO HEAT** ... a controlled, uniform heat source that gently surrounds food for better appearance, taste, and longer holding life.
- ◆ Holds all types of food hot...meat, poultry, fish, potatoes, casseroles, vegetables, rolls, etc. — plus, you can use it as a proofing cabinet.
- ◆ Product moisture is retained without adding water.
- ◆ Close temperature tolerance and even heat application maintain ideal serving temperatures throughout the cabinet.
- ◆ Two separately controlled, insulated warming compartments allows closer control over a wider variety of products.
- ◆ Manual controls with adjustable thermostats: — 60° to 200°F (16° to 93°C).
- ◆ Holding temperature gauge monitors inside air temperature.
- ◆ Holds up to 8 sheet pans in each compartment for a total capacity of 16 full-size sheet pans.
- ◆ Casters provide easy mobility.

Electronic Control Options

- ◆ Solid state electronic control option simplifies temperature setting, has a clear, easy-to-read LED display, and includes our patented SureTemp™ heat recovery system. SureTemp™ reacts immediately to compensate for any loss of heat whenever the door is opened. If the door has been left open for more than three minutes, the control will beep as a reminder.
- ◆ Electronic control is also available with six independent multiple timers for each compartment to facilitate "first-in, first-out" product rotation.



Electronic Control



With Multiple Timers



1335



Sizes and Specifications



1000-UP/STD
WITH OPTIONAL DIGITAL
CONTROL AND
FULL-PERIMETER BUMPER

MODEL 1000-UP/STD HOLDING CABINET

Standard construction double compartment with a .040" stucco aluminum exterior casing and two (2) 22 gauge stainless steel doors with magnetic catch. Each compartment is separately controlled. The cabinet includes two (2) ON/OFF adjustable thermostats, 60° to 200°F (16° to 93°C); two (2) indicator lights; and two (2) holding temperature gauges to monitor inside air temperature. The cabinet includes one (1) set of 5" (127mm) heavy duty casters — two rigid and two swivel with brake.

1000-UPS/STD is the same cabinet as above in a pass-through design.

MODEL 1000-UP/HD HOLDING CABINET
Heavy duty construction with 22 gauge stainless steel exterior. Includes all the features and specifications of the Model 1000-UP/STD cabinet listed above.

1000-UPS/HD is the same cabinet as above in a pass-through design.

WINDOW DOOR OPTION

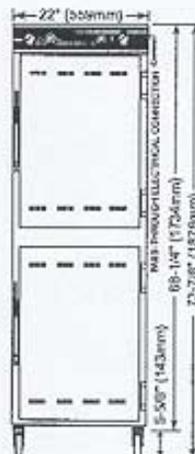
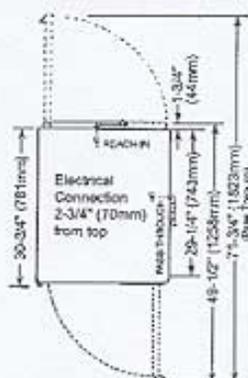
Model 1000-UP and 1000-UPS are both available with optional window doors. Window size is 11-3/4" x 15-3/4" (299mm x 400mm).

FACTORY INSTALLATION ONLY.

SPECIAL INFORMATION

- ◆ Right-hand door swing is standard. Left-hand doors are available as a special order.
- ◆ Pass-through cabinets cannot have both doors hinged on the same side.

OUTSIDE DIMENSIONS



MODEL	REACH-IN		PASS-THROUGH	
	1000-UP/STD	1000-UP/HD	1000-UPS/STD	1000-UPS/HD
PRODUCT CAPACITY	EACH COMPARTMENT: 120 lb (54 kg) maximum			
INTERIOR	22 gauge non-magnetic (non-corrosive) stainless steel — Four (4) chrome plated side racks spaced at 2-15/16" (75mm) centers			
INSIDE DIMENSIONS	W x D x H per compartment: 18-7/8" x 26-1/2" x 26-3/4" (479mm x 673mm x 680mm)		W x D x H per compartment: 18-7/8" x 27" x 26-3/4" (479mm x 686mm x 680mm)	
PAN CAPACITY	FULL-SIZE SHEET PANS (per compartment) — Eight (8) 18" x 26" x 1" TOTAL: 16 pans HALF-SIZE SHEET PANS (per compartment) — Sixteen (16) 18" x 13" x 1" TOTAL: 32 pans			
ELECTRICAL	120 V.A.C. — 60 Hz, 1 ph 2000 Watts, 16.0 Amps		NEMA L5-20P 20A, 125V Pkg	
	208-240 V.A.C. — 50/60 Hz, 1 ph — at 208V: 1500 Watts, 7.2 Amps — at 240V: 2000 Watts, 8.3 Amps		NEMA 6-15P 15A, 250V Pkg (for USA only)	
	230 V.A.C. — 50 Hz, 1 ph 1800 Watts, 8.0 Amps		CEE 7/7 120-230V Plat	
NET WEIGHT	241 lb (109 kg)	270 lb (122 kg)	264 lb (120 kg)	284 lb (129 kg)
SHIP WEIGHT	275 lb (125 kg)	303 lb (137 kg)	297 lb (135 kg)	318 lb (144 kg)
OPTIONS & ACCESSORIES	Electronic Control Specify on order as required Electronic Control with multiple timers Specify on order as required			
	Bumper, Full-perimeter Rubber Assembly with Seam Casters .. 44119		Steel, Stainless Steel Wire — Reach-In SH 2385 — Pass-Through SH 2346	
	Casters, 3" (76mm) 14227		Peri Grid, Stainless Steel Wire — 18" x 26" Pan Insert PN 2116	
	Door, Window 15148 FACTORY INSTALLATION ONLY			
	Fags, 6" (152mm) 5205			

ALTO SHAAM. HALO HEAT COOK/HOLD/SERVE SYSTEMS

161 N221 Water Street • P.O. Box 150 • Menomonie Falls, Wisconsin 53052-0450 • U.S.A.
PHONE: 262.251.3800 FAX: 262.251.7067 800.329.8744 (U.S.A. ONLY) WEBSITE: www.alto-shaam.com
800.558.8744 (U.S.A./CANADA) 262.251.1907 (INTERNATIONAL DIVISION)

#38 - 04/02

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

PRINTED IN U.S.A.



holding cabinets

about us
equipment
demo kitchen
chef's table
service area
trade show
contact us

1000-UP

Double compartment hot holding cabinet available in standard aluminum exterior construction or heavy duty 22 gauge stainless steel construction. Holds eight 18x26x1" deep full-size sheet pans per compartment. Solid state electronic control option simplifies temperature setting and includes our patented SureTemp heat recovery system. SureTemp reacts immediately to compensate for any loss of heat whenever the door is opened. Electronic control is also available with six independent multiple timers for each compartment to facilitate "first-in, first-out" product rotation.

Select a product.

1. English Product Sheet

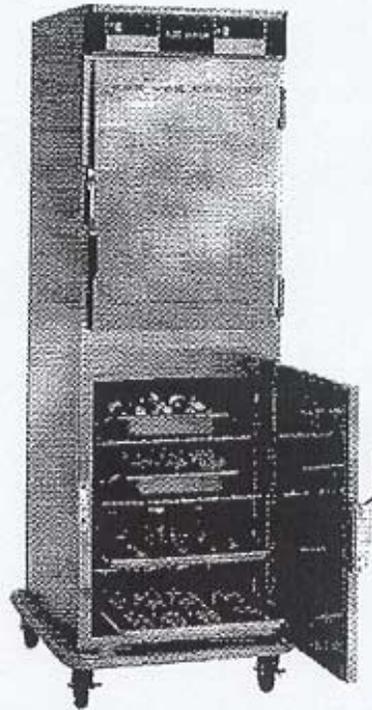


153.81
kb

2. Spanish Product Sheet



363.88
kb



ITEM NO.: 20
ITEM: MIXER
MANUFACTURER: HOBART
MODEL NO.: A-200-DT
STD FEATURES:

(1) REQUIRED
(OMAR)

- A. Stainless steel bowl guard
- B. ½ H.P. motor
- C. 15 minute timer
- D. Three fixed speeds
- E. 20-quart stainless steel bowl
- F. Flat "B" beater
- G. "D" wire loop whip
- H. 1830 mm cord and plug

ACCESSORIES:

- A. Deluxe finish

Item # _____

Quantity _____

C.S.I. Section 11400

HOBART
FOOD EQUIPMENT

**A-200
MIXER**

HOBART

STANDARD FEATURES

- ½ H.P. Hobart Designed Fixed Speed Motor
- Gear-Driven Transmission
- 15 Minute Timer
- Three Fixed Speeds
- Open Base
- Large, Easy-To-Reach Controls
- #12 Taper Attachment Hub
- Stainless Steel Bowl Guard
- Manual Bowl Lift
- 20-Quart Stainless Steel Bowl, "B" Flat Beater, "D" Wire Whip, Cord and Plug

MODEL

- A-200 – 20-Quart All Purpose Mixer
- A-200C – 20-Quart All Purpose Mixer with Maximum Security Correctional Package (115/60/1, Bench Model only)

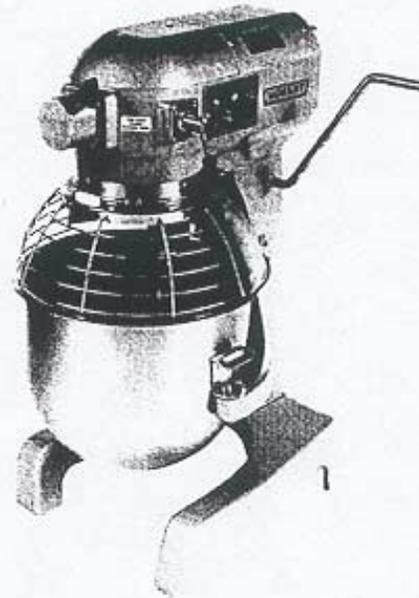
OPTIONS

- Deluxe Nickel Chrome Plate Finish (115/60/1 and 230/60/1, Bench Model only)
- Floor Model (Base is 21"W x 21½"D x 41¼"H)

Specifications, Details and Dimensions on Inside and Back.

ACCESSORIES

- Stainless Steel Bowl
- "B" Flat Beater
- Stainless Steel "B" Beater
- "C" Wing Whip
- "D" Wire Whip
- "E" Dough Hook
- "ED" Dough Hook
- "P" Pastry Knife
- Bowl Splash Cover
- Bowl Scraper
- 12 Quart Accessories
- Ingredient Chute
- 9" Vegetable Slicer
- Meat Chopper Attachment



A-200 MIXER

A-200 MIXER



SOLUTIONS/BENEFITS

½ H.P. Hobart Designed Motor

Durability

- Heavy-duty to meet the most demanding operations

15-Minute Electric Timer

Convenience, Ease of Use, Consistency

- Supports recipe mixing times
- Simplifies operation
- Provides accurate results and eliminates overmixing

Three Fixed Speeds

Flexibility, Reliability, Consistency

- For incorporating, blending, mixing ingredients
- Supports consistent results and thorough mixing

Bowl Guard

Protection

- Safety interlock prevents operation when front portion of guard is out of position

Gear-Driven Transmission

Durability, Reliability

- Ensures consistent performance and minimum downtime with positive drive under heavy loads

Hobart Attachments

Durability, Flexibility

- Hobart manufactured accessories are designed for long-term usage under heavy-duty conditions
- Large array of attachments provide multiple uses for recipe and product processing

A-200 MIXER CAPACITY CHART

Recommended Maximum Capacities - dough capacities based on 70°F. water and 12% flour moisture.

PRODUCT	AGITATORS SUITABLE FOR OPERATION	A-200
CAPACITY OF BOWL (QTS. LIQUID)		20
Egg Whites	D	1 qt.
Mashed Potatoes	B & C	15 lbs.
Mayonnaise (Qts. of Oil)	B or C or D	10 qts.
Meringue (Qts. of Water)	D	1½ pts.
Waffle or Hot Cake Batter	B	8 qts.
Whipped Cream	D or C	4 qts.
Cake, Angel Food (8-10 oz. cake)	C or I	15
Cake, Box or Slab	B or C	20 lbs.
Cake, Cup	B or C	20 lbs.
Cake, Layer	B or C	20 lbs.
Cake, Pound	B	21 lbs.
Cake, Short (Sponge)	C or I	15 lbs.
Cake, Sponge	C or I	12 lbs.
Cookies, Sugar	B	15 lbs.
Dough, Bread or Roll (Lt.-Med.) 60% AR	§	ED 25 lbs. [□]
Dough, Heavy Bread 55% AR	§	ED 15 lbs. [□]
Dough Pie		B & P 18 lbs.
Dough, Thin Pizza 40% AR (max. mix time 5 min.)	§‡	ED 9 lbs. [□]
Dough, Med. Pizza 50% AR	§‡	ED 10 lbs. [□]
Dough, Thick Pizza 60% AR	§‡	ED 20 lbs. [□]
Dough, Raised Donut 65% AR		ED 9 lbs.*
Dough, Whole Wheat 70% AR		ED 20 lbs.
Eggs & Sugar for Sponge Cake	B & C or I	8 lbs.
Icing, Fondant	B	12 lbs.
Icing, Marshmallow	C or I	2 lbs.
Shortening & Sugar, Creamed	B	16 lbs.
Pasta, Basic Egg Noodle (max. mix time 5 min.)		ED 5 lbs.

NOTE: % AR (% Absorption Ratio) - Water weight divided by flour weight. Capacity depends on moisture content of dough. Above capacities based on 12% flour moisture at 70°F water temperature.

□ 1st Speed

* 2nd Speed

§ If high gluten flour is used, reduce above dough batch size by 10%.

‡ 2nd Speed should never be used on 50% AR or lower products.

USE OF ICE REQUIRES A 10% REDUCTION IN BATCH SIZE.

1 gallon of water weighs 8.33 lbs.

NOTE: Attachment hub should not be used while mixing.



A-200 MIXER

SPECIFICATIONS

MOTOR:

½ H.P., Hobart designed, permanently lubricated ball bearings, splash-proof, fan cooled. Single-phase is capacitor-start, induction-run type.

Single Phase	115V	8.2 Amps
	230V	4.2 Amps

ELECTRICAL:

115/60/1 and 230/60/1 – U L Listed. Also available in 100/50/1, 220/50/1, 100/60/1 and 220/60/1 – not submitted for U L Listing.

CONTROLS:

Two-pole toggle switch with No Volt Release. A 15-minute electric timer is standard. Non-timed operation obtained by setting timer on "HOLD" position.

TRANSMISSION:

Gear-driven. Gears are constant mesh heat-treated alloy steel. Anti-friction ball bearings. A hardened steel worm and special worm wheel transmit power from motor to transmission. Grease lubricated.

SPEEDS:

Three positive speeds - Low, Intermediate, and High.

	Agitator (RPM)	Attachment (RPM)
Low	107	61
Intermediate	198	113
High	361	205

BOWL GUARD:

Heavy-duty stainless steel wire front and solid stainless steel rear portion. Front portion of guard rotates easily to add ingredients and install or remove agitator. It detaches in seconds for cleaning in dishwasher or sink. Rear portion of guard can be quickly cleaned in position. Guard must be in closed position before mixer will operate. The bowl support lock prevents the bowl from being lowered while mixer is running. Bowl support interlock provides further protection.

BOWL LIFT:

Hand crank operated, self-locking in any position.

FINISH:

Standard Metallic Gray finish, Polyurethane Enamel. Deluxe finish has nickel-chrome plating on transmission case, bowl support, pedestal and base.

STANDARD EQUIPMENT:

Consists of the mixer unit with cord and plug, one (1) 20-quart stainless steel bowl, one (1) "B" flat beater, one (1) "D" wire whip, stainless steel bowl guard, cord and plug.

ATTACHMENT HUB:

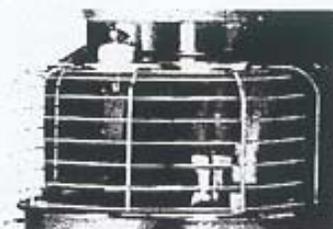
When specified, comes with front-mounted Hobart standard #12 taper attachment hub for use with #12 size attachments.

NOTE: Use of attachment hub during mixing operation may result in a negative impact on performance and longevity of mixer.

ATTACHMENTS AND ACCESSORIES:

The following are available at extra cost:

Stainless Steel Bowl	Bowl Splash Cover
"B" Flat Beater	Bowl Scraper
Stainless Steel "B" Beater	12 Quart Accessories
"C" Wing Whip	Ingredient Chute
"D" Wire Whip	9" Vegetable Slicer
"E" Dough Hook	Meat Chopper
"ED" Dough Hook	Attachment
"P" Pastry Knife	



Hobart Bowl
Scraper

Hobart Ingredient
Chute



LISTED BY: Underwriters Laboratories, Inc. and the National Sanitation Foundation.

A-200 MIXER



SPECIFICATIONS

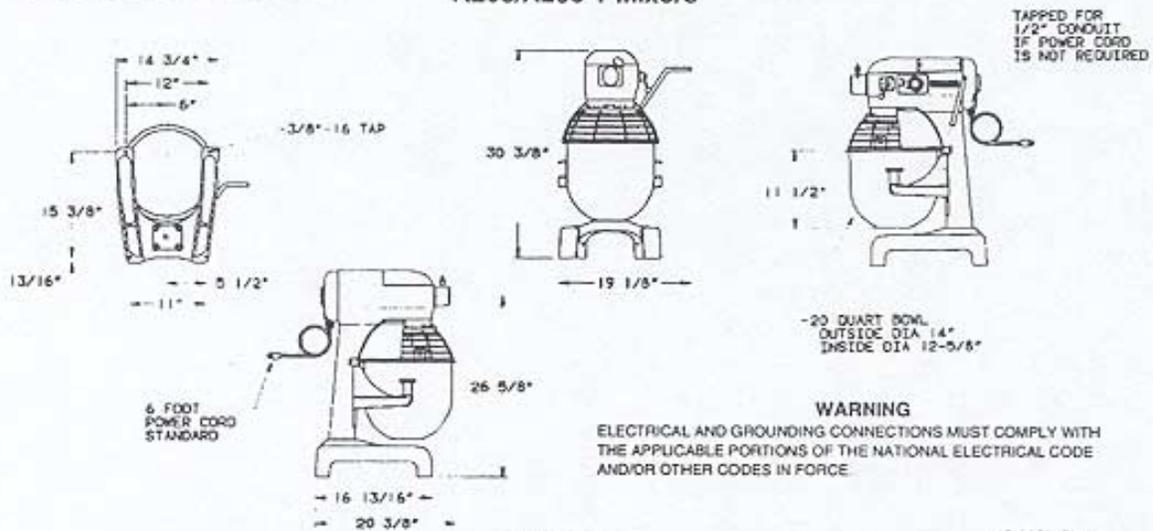
ELECTRICAL SPECIFICATIONS: 115/60/1 and 230/60/1 – U L Listed. Also available in 100/50/1, 220/50/1, 100/60/1 and 220/60/1 – not submitted for U L Listing.

WEIGHT: 204 lbs. net; 226 lbs. domestic shipping. Floor Model: 230 lbs. net; 296 lbs. domestic weight.

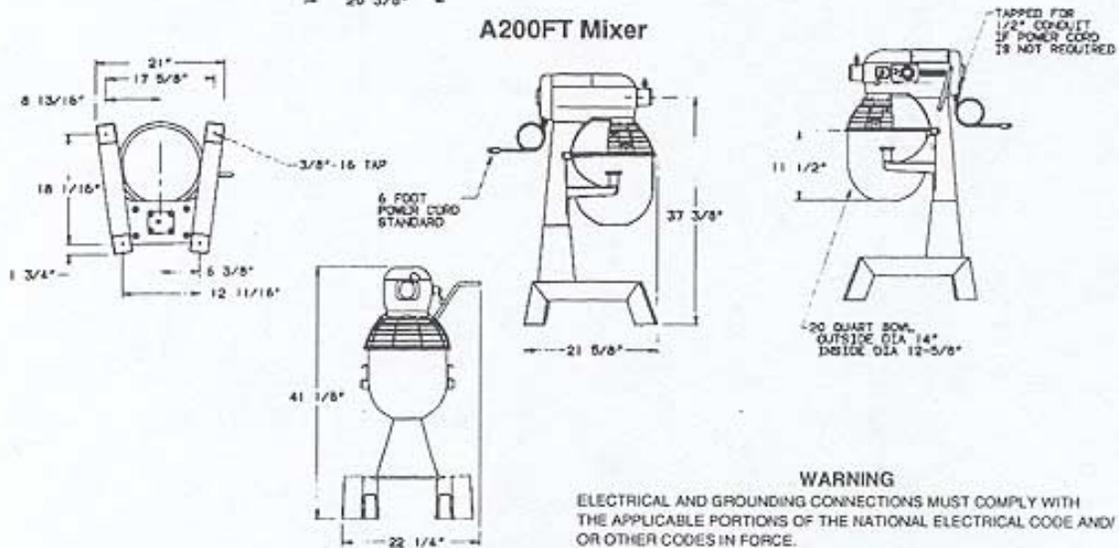
WARRANTY: Unit has full one-year warranty on parts, labor and mileage against manufacturer's defects. Service contracts are available.

DETAILS AND DIMENSIONS

A200/A200-T Mixers



A200FT Mixer



As continued product improvement is a policy of Hobart, specifications are subject to change without notice.

701 S Ridge Avenue, Troy, OH 45374 • 937-332-3000 • 1-800-333-7447

ITEM NO.: 21 (1) REQUIRED
ITEM: MIXER STAND FOR MIXER ITEM # 20 (OMAR)
MANUFACTURER: PIPER PRODUCTS INC
MODEL NO.: MX-29-TSS
STD FEATURES:

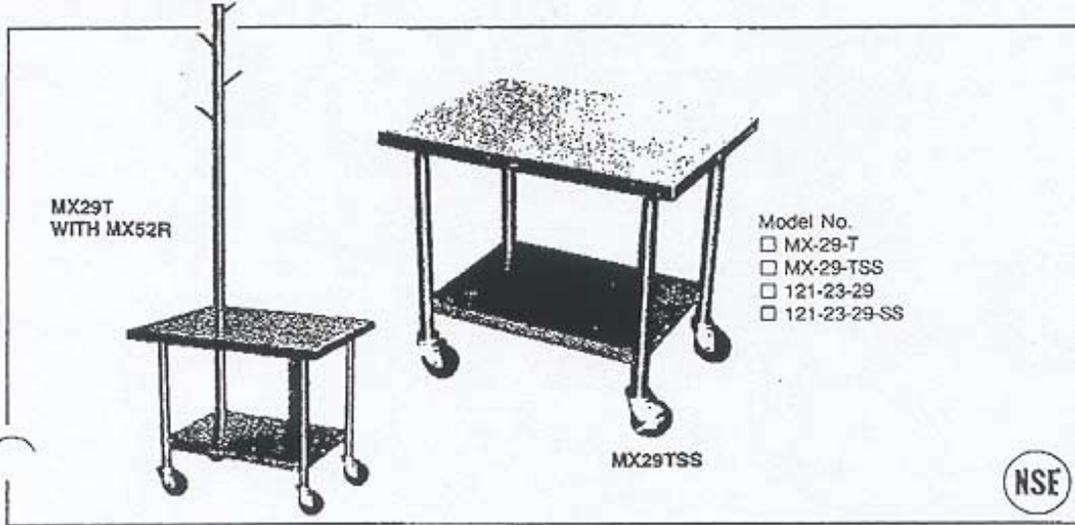
- A. Stainless steel undershelf
- B. Stainless steel legs

ACCESSORIES:

- A. MX-52-R stainless steel accessory rack
- B. Modify stainless steel leg with bullet feet #331-3429

Piper Products, Inc.
 300 South 84th Avenue
 Wausau, WI 54401
 PH: 800-492-3431 / 800-544-3057
 FAX: 715-842-3125

**PORTABLE MIXER
 OR TRAY STAND**



DETAILED SPECIFICATIONS

Mixer stand shall be manufactured by *Ripex*.

Top of stand shall be constructed of 14 gauge stainless steel with stainless steel plug over opening
 Top shall have a marine edge to retain any drippings.

Base of stand shall be of 1 1/2" O.D. steel tubing/legs with stainless steel or galvanized undershelf welded to Hammertone Gray or Stainless steel legs.

Each leg shall be furnished with 4" swivel, stem type casters, two with brakes, two without brakes.

MODEL NUMBERS

MX-29-T	23"W	29"L	28 1/2"H	
MX-29-TSS	23"	29"	28 1/2"	Stainless Steel Legs and Undershelf
121-23-29	23"	29"	23 1/2"	
121-23-29SS	23"	29"	23 1/2"	Stainless Steel Legs and Undershelf
MX-52-R	ACCESSORY RACK Height 52"			

Piper Products, Inc.
 300 South 84th Avenue
 Wausau, WI 54401
 PH: 800-492-3431 / 800-544-3057
 FAX: 715-842-3125

ITEM NO.: 22 (1) REQUIRED
ITEM: CONVECTION OVEN (MCAR)
MANUFACTURER: VULCAN-HART
MODEL NO.: VC66GD
STD FEATURES:

- A. Double section, deep depth gas convection ovens
- B. Stainless steel front and legs
- C. Adjustable feet
- D. Independently operated stainless steel 180 degree-swing doors with windows, two per section
- E. 44,000 BTU/h burner per section; 88,000 BTU/hr total input
- F. Electronic spark igniters
- G. ½ HP two speed oven blower-motor per section, 115/60/1 with two 1830 mm cord and plug, 9 amps
- H. Front, side mounted solid state temperature controls; range: 150 to 500-degrees F
- I. 60 minute timer with audible alarm
- J. Auxiliary fan switch for rapid cool down
- K. Two interior oven lights per section
- L. Cool touch door handles
- M. Stainless steel oven door gaskets
- N. Eleven-position nickel plated rack guides with positive rack stops per section
- O. Five heavy duty nickel plated racks per oven
- P. Non-sag insulation applied to top, rear, sides, bottom and doors
- Q. Single 19 mm gas connection with manual shut-off valve and regulator

ACCESSORIES:

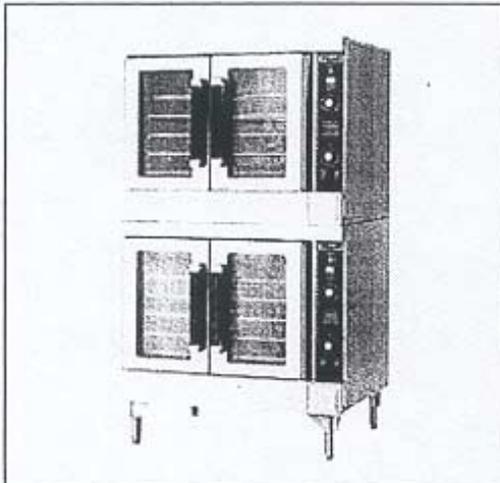
- A. Stainless steel drip pans
- B. Stainless steel interior cavity
- C. Stainless steel sides and top
- D. Stainless steel rear body enclosure panel.

VULCAN

Item # _____

MODEL VC66GD DOUBLE DECK, DEEP DEPTH GAS CONVECTION OVEN

C.S.I. Section 11420



SPECIFICATIONS:

Double section, deep depth gas convection oven, Vulcan-Hart Model No. VC66GD. Stainless steel front, sides, top and legs. Independently operated stainless steel doors with windows open a full 180°. Non-sag insulation applied to the top, rear, sides, bottom and doors. Porcelain enamel on steel oven interiors measures 29" w x 26 1/4" d x 20" h. Two interior oven lights per section. Five nickel plated oven racks per section measure 28 1/4" x 24 1/2". Eleven position nickel plated rack guides with positive rack stops. One 44,000 BTU/hr. burner per section. 88,000 BTU/hr. total input. Electronic spark igniters. Furnished with a two speed 1/2 H.P. oven blower-motor per section. Side mounted solid state temperature controls adjust from 150° to 500°F. 60 minute timer with audible alarm. Oven cool switch for rapid cool down. 115 volt, 60 Hz, 1 ph power supply required. 6' cord and plug. 9 amps total draw.

Exterior dimensions: 40" w x 45 1/2" d x 70" h on 8" legs. Depth measurement includes door handles.

CSA design certified. NSF listed.

SPECIFY TYPE OF GAS WHEN ORDERING.

SPECIFY ALTITUDE WHEN ABOVE 2,000 FT.

STANDARD FEATURES

- Stainless steel front, sides, top and legs.
- Stainless steel doors with windows.
- 44,000 BTU/hr. burner per section. 88,000 BTU/hr. total input.
- Electronic spark igniters.
- 1/2 H.P. two speed oven blower-motor. 115/60/1 with 6' cord and plug. 9 amps.
- Solid state temperature controls adjust from 150° to 500°F.
- 60 minute timer with audible alarm.
- Oven cool switch for rapid cool down.
- Porcelain enamel on steel oven interiors.
- Five nickel plated oven racks with eleven rack positions per section.
- 3/4" rear gas connection with gas pressure regulator and manual shut-off valve.
- One year limited parts and labor warranty.

OPTIONS

- Five hour timer in place of 60 minute timer.
- Roast & Hold control.
- Stainless steel rear enclosure.
- Casters.
- 208V or 240V, 60 Hz, 1 phase two speed blower-motor, 1/2 H.P.
- Second year extended limited parts and labor warranty.

ACCESSORIES

- Extra oven rack(s).
- Stainless steel drip pan.
- Flexible gas hose with quick disconnect and restraining device. Consult price book for available sizes.
- Down draft flue diverter for direct vent connection.

VULCAN-HART COMPANY, P.O. BOX 696, LOUISVILLE, KY 40201, TEL. 1-800-814-2028
502-778-2791 QUOTE & ORDER FAX: 1-800-444-0602

F-32438 (12/01)

VULCANASTM
ELECTRIC
VULCAN-HART CO.

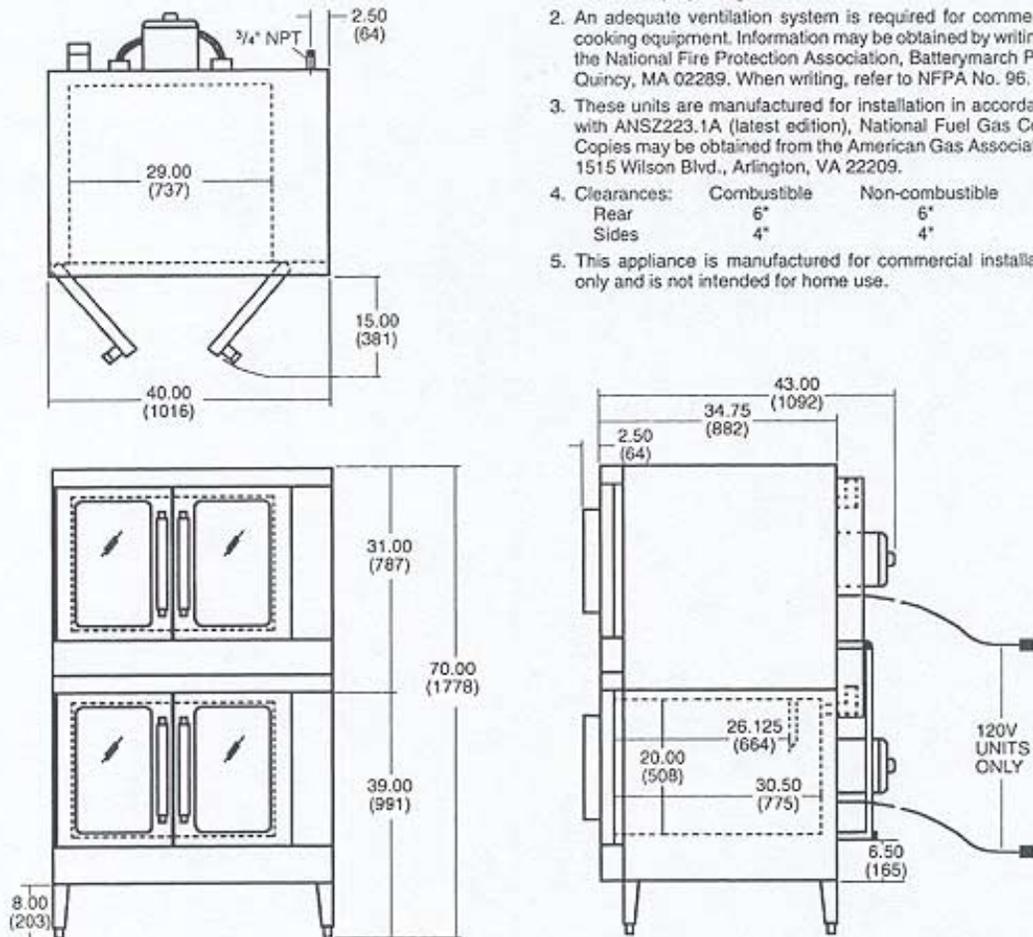


MODEL VC66GD
DOUBLE DECK, DEEP DEPTH
GAS CONVECTION OVEN

IMPORTANT

1. A gas pressure regulator for this unit is included. Natural gas 3.5" W.C., propane gas 10.0" W.C.
2. An adequate ventilation system is required for commercial cooking equipment. Information may be obtained by writing to the National Fire Protection Association, Batterymarch Park, Quincy, MA 02289. When writing, refer to NFPA No. 96.
3. These units are manufactured for installation in accordance with ANSZ223.1A (latest edition), National Fuel Gas Code. Copies may be obtained from the American Gas Association, 1515 Wilson Blvd., Arlington, VA 22209.
4. Clearances:

	Combustible	Non-combustible
Rear	6"	6"
Sides	4"	4"
5. This appliance is manufactured for commercial installation only and is not intended for home use.



MODEL NO.	WIDTH	DEPTH (INCLUDES HANDLES)	HEIGHT	BTU/HR. PER OVEN	TOTAL BTU/HR.	ELECTRICAL	APPROX. SHP. WT.	
							LBS.	KG
VC66GD	40"	45 1/2"	70"	44,000	88,000	115/60/1	1034	469

NOTE: In line with its policy to continually improve its products, Vulcan-Hart Company reserves the right to change materials and specifications without notice.

VULCAN-HART COMPANY, P.O. BOX 696, LOUISVILLE, KY 40201, TEL. 1-800-814-2028
 502-778-2791 QUOTE & ORDER FAX: 1-800-444-0602

ITEM NO.: 23 (1) REQUIRED
ITEM: RANGE WITH OVEN (MCAR)
MANUFACTURER: VULCAN-HART
MODEL NO.: GH45
STD FEATURES:

- A. Heavy duty four burner gas range with standard oven
- B. Stainless steel front
- C. Stainless steel front top ledge
- D. 152 mm stainless steel adjustable legs with bullet feet
- E. 32 mm diameter front gas manifold
- F. Four 30,000 BTU/hr heavy cast two piece "flame retention" burners with individual pilots and control valves
- G. Heavy cast iron aeration plates with deep bowls and removable cast top grates
- H. Oven controls located in cool zone
- I. Oven is porcelain enamel on steel hearth, door and side liners, 660.4mm w x 711.2 mm d x 355.6 mm h
- J. One oven rack
- K. Two rack positions
- L. 50,000 BTU/hr heavy cast "flame retention" burner with electronic pilot ignition
- M. Oven temperature range: 150 to 500-degrees F

ACCESSORIES:

- A. Stainless steel sides
- B. 19 mm rear gas connection
- C. "34BG" series 430 mm high stainless steel backguard

VULCAN

Item # _____

C.S.I. Section 11420

MODEL GH45 OPEN BURNER HEAVY DUTY GAS RANGE



Model GH45
Shown with 17" backguard and casters



SPECIFICATIONS:

Heavy duty four burner gas range with oven, Vulcan-Hart Model No. GH45. Stainless steel front, front top ledge and 6" adjustable legs. Sides finished in heat resistant paint. 1 1/4" diameter front gas manifold. Four 30,000 BTU/hr. heavy cast two piece "Flame Retention" burners with individual pilots and control valves. Heavy cast iron aeration plates with deep bowls and removable cast top grates. Oven interior measures 26" w x 28" d x 14" h. Porcelain enamel on steel hearth, door and side liners. One oven rack and two rack positions. 50,000 BTU/hr. heavy cast "Flame Retention" burner with pilot ignition. Thermostat adjusts from 150° to 500°F. Controls located in the cool zone.

Exterior dimensions: 34" w x 39 1/4" d x 36" working height on 6" legs.

CSA design certified. NSF listed.

SPECIFY TYPE OF GAS AND FINISH WHEN ORDERING.

SPECIFY ALTITUDE WHEN ABOVE 2,000 FT.

- GH45 Standard Oven
- GH45C Convection Oven
- GH45S Storage Base

STANDARD FEATURES

- Stainless steel front, front top ledge and 6" adjustable legs. Sides finished in heat resistant paint.
- 1 1/4" diameter front gas manifold.
- Four 30,000 BTU/hr. "Flame Retention" burners. Individual pilot for each burner.
- Heavy cast iron aeration plates with deep bowls and removable cast top grates.
- Oven controls located in the cool zone.
- Oven interior measures 26" w x 28" d x 14" h. Porcelain enamel on steel hearth, door and side liners. One oven rack and two rack positions. 50,000 BTU/hr. "Flame Retention" burner with pilot ignition. Thermostat adjusts from 150° to 500°F.
- One year limited parts and labor warranty.

OPTIONS

- Snorkel™ convection oven in place of standard oven. Add suffix "C" to the model number. Porcelain enamel on steel interior measures 26 1/4" w x 22 3/4" d x 14 1/4" h. Three oven racks and five rack positions. 32,000 BTU/hr. burner with pilot ignition. Thermostat adjusts from 200° to 500°F. 1/4 H.P. blower motor with 7 foot power cord and plug. 120/60/1, 5 amps.
- Cabinet storage base in place of standard oven. Add the suffix "S" to the model number.
- Stainless steel side(s).
- Stainless steel back finishing panel.
- Common front top ledge up to 102" wide. (Not for use on griddle tops, spreader plates and deep fat fryers.)
- Cap and cover manifold end(s). (No charge.)
- 1 1/2" stainless steel toe base - 31 1/2" working height.
- 4" stainless steel toe base - 34" working height.
- Set of four 5" diameter casters, two locking.
- Stainless steel dolly frame with casters, up to 102" wide.
- Cooling fan for Snorkel™ convection oven motor. Required when unit is installed with a back finishing panel or a toe base.
- Rear gas connection, 3/4" (single unit) or 1 1/2" (batteries up to 600,000 BTU/hr.)
- Second year extended limited parts and labor warranty.

VULCAN-HART COMPANY, P.O. BOX 696, LOUISVILLE, KY 40201, TEL. 1-800-814-2028
502-778-2791 QUOTE & ORDER FAX: 1-800-444-0602

F-31511 (7-00)

VULCAN

CSA

NSF

VULCAN

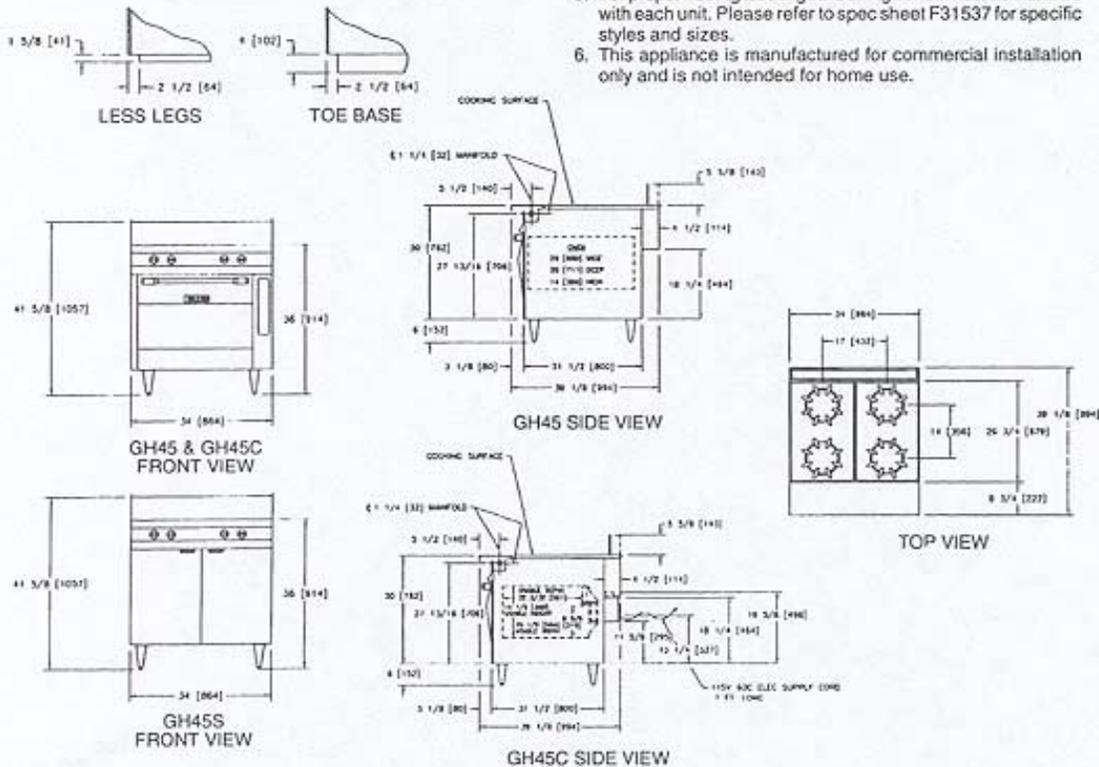
MODEL GH45 OPEN BURNER HEAVY DUTY GAS RANGE

ACCESSORIES

- 17" high stainless steel backguard. (Common backguards available up to 102" wide.)
- 23" high stainless steel single deck high shelf. (Common high shelves available up to 72" wide.)
- 35" high stainless steel double deck high shelf. (Common high shelves available up to 72" wide.)
- Additional oven rack(s).
- Gas pressure regulator (specify size and type of gas).
- Gas shut-off valve (specify size).
- Flexible gas hose with quick disconnect and restraining device. Consult price book for available sizes.

IMPORTANT

1. A gas pressure regulator suitable for battery or single unit application must be furnished and installed. Natural gas 6.0" W.C., propane gas 10.0" W.C.
2. An adequate ventilation system is required for commercial cooking equipment. Information may be obtained by writing to the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269. When writing refer to NFPA No. 96.
3. These units are manufactured for installation in accordance with ANSZ223.1a (latest edition), National Fuel Gas Code. Copies may be obtained from the American Gas Association, 1515 Wilson Blvd., Arlington, VA 22209.
4. All models require a 6" (152 mm) clearance at both sides and rear adjacent to combustible construction.
5. For proper flueing a backguard or high shelf must be installed with each unit. Please refer to spec sheet F31537 for specific styles and sizes.
6. This appliance is manufactured for commercial installation only and is not intended for home use.



MODEL	GAS RATED INPUT BTU/hr.			WIDTH	DEPTH	WKG. HEIGHT	APPX. SHP. WT.
	TOP	OVEN	TOTAL				
GH45	120,000	50,000	170,000	34"	39 1/2"	36"	570 lbs./299 kg
GH45C	120,000	32,000	152,000				630 lbs./326 kg
GH45S	120,000	—	120,000				420 lbs./191 kg

NOTE: In line with its policy to continually improve its products, Vulcan-Hart Company reserves the right to change materials and specifications without notice.

VULCAN-HART COMPANY, P.O. BOX 696, LOUISVILLE, KY 40201, TEL. 1-800-814-2028
502-778-2791 QUOTE & ORDER FAX: 1-800-444-0602

F-31531 (7-00)

Printed On Recycled Paper

ITEM NO.: 24 (1) REQUIRED
ITEM: STEAM JACKETED KETTLE (MCAR)
MANUFACTURER: CLEVELAND RANGE INC
MODEL NO.: KGT-12-T
STD FEATURES:

- A. 45 liter self contained gas tilting kettle
- B. Temperature range: 63- to 127-degree C
- C. "Splash proof" solid state control panel for temperature, low water and power on/off switch with L.E.D. indicators for heat cycle and low water warning
- D. Kettle and all exterior surfaces stainless steel with # 4 finish
- E. Energy efficient (65%), high performance gas-fired heating system for fast heat up and recovery time, 53,000 BTU firing rate and 34,500 BTU directly applied to the product
- F. Gas pressure regulator
- G. Self locking marine type tilting mechanism with balanced design for easy tilting, tilt handle mounted at right; double safety gas shut off turns off gas when unit is tilted
- H. Large heavy duty, rolled rim pouring lip
- I. "Splash proof" recessed pressure/vacuum gauge
- J. Steam jacket permanently filled with treated distilled water (venting and/or refilling not required); 50 PSI steam jacket rating with safety valve mounted toward the rear of kettle
- K. Automatic electronic spark ignition system
- L. 1830 mm cord and plug, 5 amps

ACCESSORIES:

- A. Model Number ST-28 stainless steel equipment stand with removable sliding combination drain drawer (with splash shield) and pan support; 31.75 mm square tubing construction, adjustable stainless steel feet
- B. Hot and cold water faucet (DPK) with bracket (FBKT)
- C. 316 stainless steel liner
- D. Lift off cover
- E. Self locking hand tilt mechanism (HTK)
- F. Kettle markings (KM)

Cleveland

A WELBILT® COMPANY

Steam Jacketed Kettles

TABLE TOP, GAS

6 OR 12 GALLONS (23 OR 45 LITERS)
2/3 STEAM JACKETED, TILTING
"SPASH PROOF SERIES"

MODELS: KGT- 6-T
 KGT-12-T

ITEM NUMBER _____

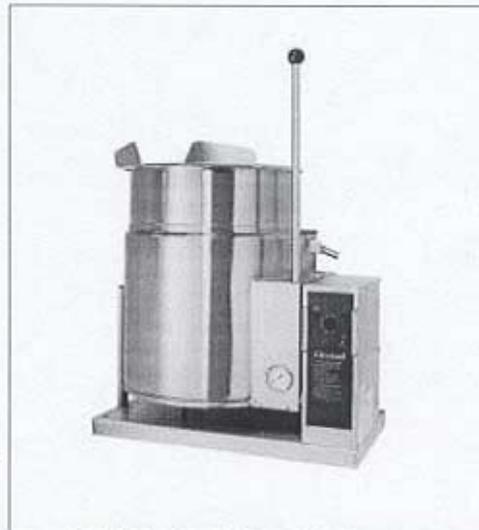
JOB NAME / NUMBER _____

Cleveland Standard Features

- Self contained gas tilting kettle is easily installed, only needs a gas connection and a 115 volt outlet.
- **Precise, consistent temperature control**, less than 1°C temperature variance (ideal for simmering). Operating temperature range from 145°- 260°F (63°C-127°C).
- **"Splash Proof" solid state control panel** for temperature, low water safety, and power "on/off" switch. Accurate L.E.D. indicators for heat cycle and low water warning.
- **Kettle and all exterior surfaces are a 304 Stainless Steel with a #4 finish.**
- **Energy efficient (65%), high performance gas-fired heating system for fast heat up and recovery time:**
 - Six gallon model with a 34,000 BTU firing rate, and 22,100 BTU directly applied to the product.
 - Twelve gallon model with a 53,000 BTU firing rate, and 34,450 BTU directly applied to the product.
- Supplied with Gas Pressure Regulator.
- Standard for natural gas operation.
- **Self locking marine type tilting mechanism** prevents accidental tilting. Balanced design makes it easy to tilt. The tilt handle easily mounts on left or right side. Double safety gas shut off turns off the gas when the unit is tilted.
- **Large pouring lip for easier, faster pouring.** Heavy duty Rolled Rim design provides strong reinforcement, prevents damages from abuse.
- **"Splash Proof" recessed pressure/vacuum gauge.**
- **Steam jacket permanently filled with treated distilled water**, venting and / or refilling is not required.
- **50 PSI Steam Jacket Rating.** Safety valve mounted toward rear of kettle to avoid tampering.
- **Automatic Electronic Spark Ignition System.**
- Supplied with cord and plug for 115 volt controls.

Options & Accessories

- Stainless Steel equipment stand with sliding drain drawer and splash shield (ST-28)
- Hot and cold water faucet (DPK), or Cold Water (SPK). Requires bracket (FBKT)
- 316 Stainless Steel Liner (316G)



SHORT FORM SPECIFICATION

Shall be CLEVELAND, gas kettle, Table Type, self-contained, tilting, Model KGT-____-T, _____ gallons, natural or LP gas, 2/3 steam jacketed, type 304 Stainless Steel and supports. Jacket rated at 50 psi with Safety Valve. Complete with solid state water level, temperature, and safety low water power cut off, including LED indicators. Option lift off cover.

- Cooking Baskets (BS)
- Food Strainers (FS)
- Measuring Strips (MS)
- Spray Hose (PRS-K)
- Lift Off Cover (CL)
- Propane Gas Operation (PG)
- Self Locking Hand Tilt Mechanism (HTK - 12 gallons only)
- Kettle Markings (KM)

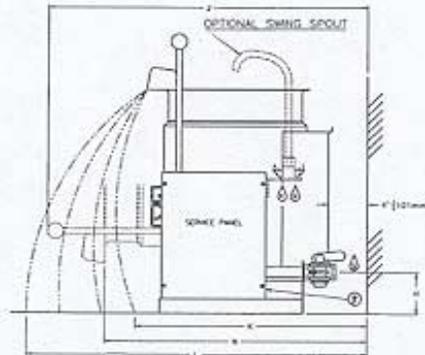
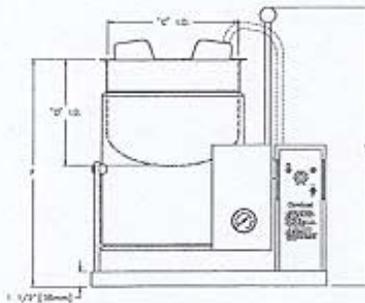
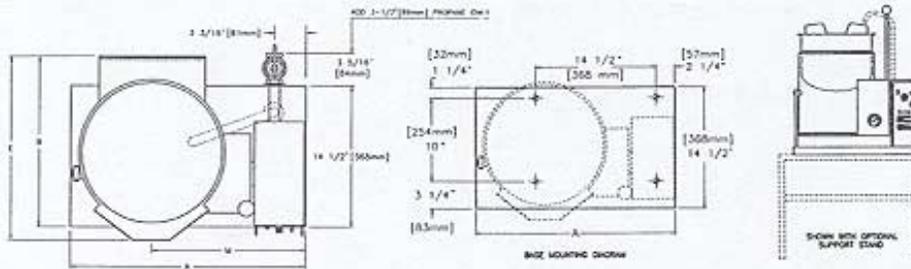
SECT. IX PAGE 5
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Cleveland Range Inc.

Ph: 1-216-481-4900 Fx: 1-216-481-3782

1333 East 179th St., Cleveland, Ohio, U.S.A. 44110
Visit our Web Site at www.clevelandrange.com

- CAPACITIES: (in 4 oz. servings) (Other sizes may be calculated.)
6 gallons / 23 liters192 servings
12 gallons / 45 liters352 servings
- Many local codes exist and it is the responsibility of the owner and installer to comply with those codes.
- Cleveland Range equipment is built to comply with applicable standards for manufacturers. Included among those approval agencies are: UL, A.G.A., NSF, ASME/N.Bd., CSA, CGA, ETL, and others.



KETTLE SIZE		A	B	C	D	E	F	G	H	J	K	L	M	N	
GALS.	LITERS														
6	23	INCHES	24	19K	13K	11	18K	23K	28K	4K	32K	24	37	15K	27K
		mm	610	490	340	279	476	594	730	108	826	610	940	400	692
12	45	INCHES	27	20K	16K	14 1/4	23	27	39	5 1/4	43	30	43	16 1/2	31
		mm	686	518	425	357	584	686	991	149	1092	762	1092	419	787

GAS			ELECTRIC	WATER	CLEARANCE
NATURAL piping: 3/4" NPT. Supply pressure: 4.5" W.C. minimum 14.00" W.C. maximum	PROPANE piping: 3/4" NPT. Supply pressure: 11.00" W.C. minimum 14.00" W.C. maximum	B.T.U. RATING 6 gal. 34,000 12 gal. 53,000	120V 1 ph 60 hz 6 ft. (1.8m) cord slw u-ground plug supplied. 5 amps	1/2" O.D. Copper Tube	RIGHT = 0" LEFT = 0" REAR = 4" (102mm)

Manufacturer must be notified if unit will be operated above 2,000 ft. (610m) altitude.

Cleveland Range reserves right of design improvement or modification, as warranted.

SCALE 5/8" = 1"
SECT. IX PAGE 6
0600
Litho in U.S.A.

ITEM NO.: 25 (1) REQUIRED
ITEM: BRAISING PAN (MCAR)
MANUFACTURER: VULCAN-HART
*** MODEL NO.: VG40 ***

STD FEATURES:

- A. 152 liter (40 gallon) gas tilting braising pan
- B. One 30,000 BTU/hr burner per each 304.8mm (12") pan width, 120,000 BTU/hr total input
- C. Burners shut off when pan is tilted 5-degrees
- D. Pan empties when raised to full tilt position
- E. Pan body 2 mm (14 gauge) stainless steel, front hinged, interior coved bottom and corners with etched gallon markings
- F. Cooking surface stainless steel bonded to 13 mm (1/2") thick carbon steel plate
- G. Full width front type formed pouring lip flanged 102 mm (4") on both sides with removable pouring lip strainer
- H. Drop away food pan receiving support mounts under pouring lip
- I. Stainless steel spring assist one piece cover with full width handle and full width rear drip lip; lift assist will hold cover open at any position; condensate lip on cover to reduce drip
- J. Water tight controls and enclosures
- K. Manually operated pan tilting mechanism with full width stainless steel bar folding swing-away handle
- L. Electronic ignition system for automatic burner light
- M. 60 minute timer
- N. On/off lighted rocker switch
- O. One snap acting thermostat adjustable from 37.7 to 232-degrees C (100 to 450-degrees F)
- P. 19 mm (3/4") rear gas connection and gas pressure regulator
- Q. Based enclosed by lift off panels, box type construction
- R. 305 mm (12") stainless steel 50 mm (2") diameter legs with stainless steel adjustable feet, feet flanged
- S. Exposed exterior stainless steel
- T. CSA design certified, classified by UL to NSF Std. #4
- U. 1830 mm (6'-0") cord and plug, 120/60/1, 3 amps

ACCESSORIES:

- A. 305 mm (12") double jointed double jpantry faucet ***

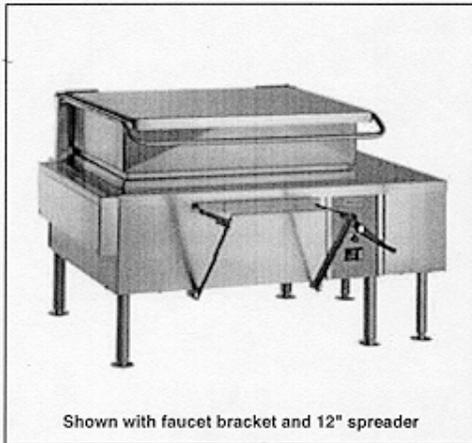
VULCAN

VG SERIES

MODULAR GAS TILTING BRAISING PAN

Item # _____

C.S.I. Section 11420



Shown with faucet bracket and 12" spreader



ANSI/NFPA Standard #4

SPECIFICATIONS:

Modular gas tilting braising pan, Vulcan-Hart Model No. (VG30) (VG40). _____" wide open base. Stainless steel front, sides and 12" legs with adjustable flanged feet. Stainless steel back. Front hinged polished stainless steel pan body with covered interior corners and embossed gallon markings. Stainless steel cooking surface bonded to 1/2" thick steel plate. Full width 4" return flange with formed pouring lip and removable strainer. Stainless steel spring assist cover with full width handle. Drop away food receiving pan support mounts under pouring lip. Manually operated pan tilting mechanism with folding swing away handle. Pan can be fully tilted to empty completely with approximately 30 crank revolutions. One 30,000 BTU/hr. burner for each 12" pan width. Burners shut off when pan is tilted 5°. Electronic ignition system for automatic burner light. Solid state temperature controls. Water tight controls and enclosures. Requires a 120/60/1 electrical power supply, 3.0 amps total draw. 3/4" rear gas connection and gas pressure regulator.

Exterior dimensions: _____"w x 35 1/2"d x 40 1/2"h on 12" legs.

CSA design certified. Classified by U L to NSF Std. #4.

SPECIFY TYPE OF GAS WHEN ORDERING.

SPECIFY ALTITUDE WHEN ABOVE 2,000 FT.

- VG30 36" wide open base.
- VG40 46" wide open base.

STANDARD FEATURES

- Stainless steel front, sides and 12" legs with adjustable flanged feet.
- Stainless steel back.
- Front hinged polished stainless steel pan body with covered interior corners and embossed gallon markings. Stainless steel cooking surface bonded to 1/2" thick steel plate. Full width 4" return flange with formed pouring lip and removable strainer.
- Stainless steel spring assist cover with full width handle.
- Drop away food receiving pan support mounts under pouring lip.
- Manually operated pan tilting mechanism with folding swing away handle. Pan can be fully tilted to empty completely with approximately 30 crank revolutions.
- One 30,000 BTU/hr. burner for each 12" pan width. Burners shut off when pan is tilted 5°. Electronic ignition system for automatic burner lighting.
- Solid state temperature controls.
- Water tight controls and enclosures.
- Requires a 120/60/1 electrical power supply, 3.0 amps.
- 3/4" rear gas connection with gas pressure regulator.
- One year limited parts and labor warranty.

OPTIONS

- Motor driven pan lift.
- 2" 90° draw-off valve with strainer on front left hand side.
- 2" straight draw-off valve with strainer on left hand side.
- Closed base.
- Set of four casters, (two locking).
- Standard prison package includes:
 - Security screws and tackwelds.
 - Includes securing crank handle, pan strainer and non-door type panels.
 - Controls protected by lockable cover.
 - Perforated flue cover.
- Second year extended limited parts and labor warranty.

ACCESSORIES

- Faucet bracket assembly (adds 3" to width).
- (12") (18") double jointed single pantry faucet.
- (12") (18") double jointed double pantry faucet.
- Double pantry washdown hose with 16" add-on faucet with backflow preventer.
- Double pantry washdown hose with backflow preventer.
- Double pantry pot filler and backflow preventer.
- Steaming pan insert rack to hold 12" x 20" pan. (Qty. _____)
- 12" x 20" x 4" stainless steel drain waste pan with clear plastic hose.
- Stainless steel spreader (6")(12").

VULCAN**MODELS: VG SERIES Modular Gas Tilting Braising Pan**

VULCAN

VG SERIES

MODULAR GAS TILTING BRAISING PAN

SERVICE CONNECTIONS:



GAS INPUT: 3/4" N.P.T., Nat. 6"-14" W.C., Propane, 11"-18" W.C. See capacity schedule.



ELECTRICAL CONNECTION: Control circuit 3/4" dia. (1/2" conduit), 120 volt, 1 phase, 3 amps with cord and plug.

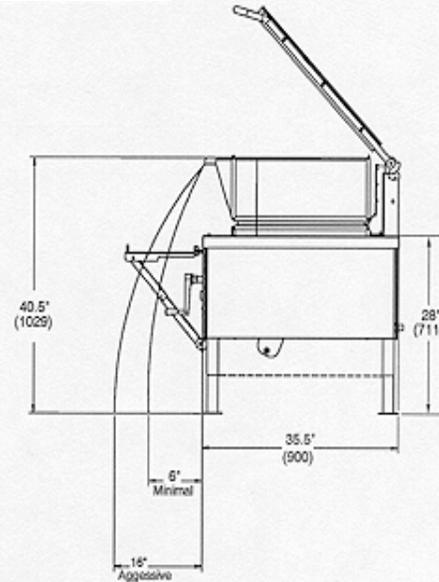
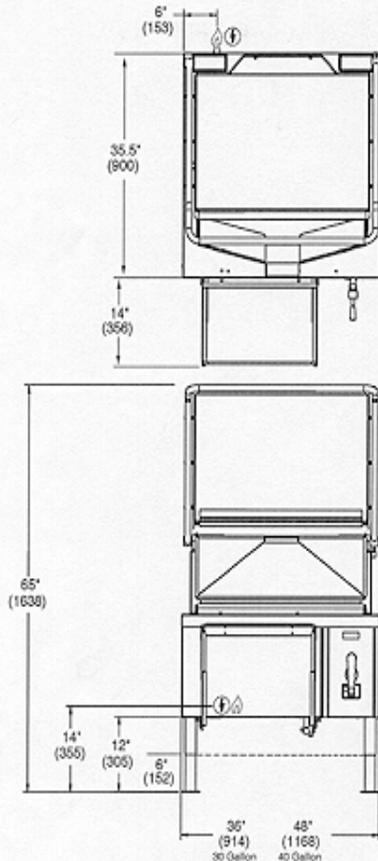
MODEL	Cooking Surface Area	Capacity	4 oz. Portions
VG30	29" x 23"	30 gal./114 liters	960
VG40	39" x 23"	40 gal./152 liters	1280

IMPORTANT

1. A pressure regulator sized for this unit is included. Natural gas 7" W.C., propane gas 11" W.C. supply pressure.
2. Gas line connecting to appliance must be 3/4" or larger. If flexible connectors are used, the inside diameter must be at least the same as the 3/4" iron pipe.
3. An adequate ventilation system is required for commercial cooking equipment. Information may be obtained by writing to the National Fire Protection Association, Batterymarch Park, Quincy, MA 02289. When writing, refer to NFPA No. 96.
4. These units are manufactured for installation in accordance with ANSZ223.1A (Latest edition), National Fuel Gas Code. Copies may be obtained from the American Gas Association, 1515 Wilson Blvd., Arlington, VA 22209.
5. Clearances:

	Combustible	Non-combustible
Rear	6	0
Sides	2	0
6. This appliance is manufactured for commercial installation only and is not intended for home use.

MODEL	BTU/hr. Input
VG30	90,000
VG40	120,000



Dash Line shows
Optional Cabinet Base

NOTE: In line with its policy to continually improve its products, Vulcan-Hart Company reserves the right to change materials and specifications without notice.

VULCAN-HART COMPANY, P.O. BOX 200, LEWISVILLE, OH 44641, TEL. 1-800-241-0000

ITEM NO. : 26 (1) REQUIRED
ITEM : DRAIN TROUGH (SEE PLUMBING SPECIFICATIONS) (MCR)
MANUFACTURER :
MODEL NO. :
STD FEATURES :
ACCESSORIES :

ITEM NO.: 27 (1) REQUIRED
ITEM: HOOD OVER COOKING AREA (SEE MECHANICAL
DRAWINGS AND SPECIFICATIONS) (MCAR)

MANUFACTURER: GREENHECK

MODEL NO.: GHAW

STD FEATURES:

- A. UL listed full compensating exhaust hood with air curtain supply
- B. UL listed vaporproof incandescent lights
- C. Fire damper in supply duct collar
- D. Full length grease trough with removable grease container
- E. Size as indicated

ACCESSORIES:

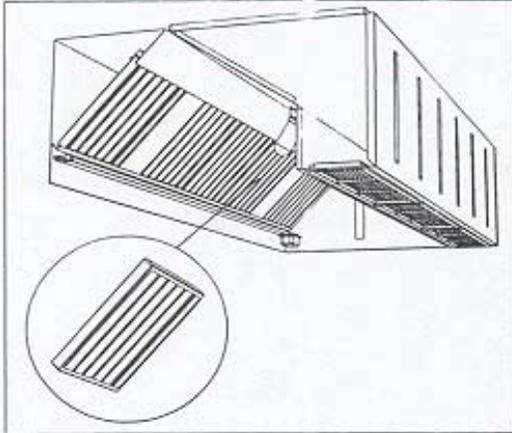
- A. All 1.6 mm stainless steel construction
- B. Stainless steel baffle-type removable grease filters
- C. Water Fire suppression system



Project Name:	Item #
---------------	--------

Mar. 2000

Baffle Filter Hoods / Wall Style Canopy



APPLICATION AND SPECIFICATION:

Provide Greenheck Exhaust Hood Model GHAW as shown on plans and in accordance with the following specification:

Kitchen ventilation hood(s) shall be Type I, exhaust canopy suitable for all types of cooking applications, with the capability to replace exhausted air with fresh outside air. A portion of the make-up air shall be provided at low velocity, through perforated panels located along the bottom front perimeter of the hood, with opposed blade dampers for precise volume control. Make-up air may provide spot cooling and fresh air to the breathing zone of the cooking staff. Hood(s) to be UL 710 Listed Without (With) Fire Dampers for 400°, 600°, or 700°F rated cooking appliances.

Hood(s) shall be constructed of a minimum 18 gauge type 304 stainless steel, with a #4 finish. The hood(s) shall be constructed using the standing seam method for optimum strength. Front and end panels shall have stamped vertical ribs, evenly spaced, to add additional strength and rigidity. All external seams shall be welded liquid tight in accordance with NFPA # 96. Lighter material gauges, alternate material types, finishes, and nonliquid tight welded construction are not acceptable. All unexposed interior surfaces shall be constructed of a minimum 18 gauge corrosion resistant steel including, but not limited to ducts, plenum, and brackets.

Hood(s) shall include UL 1046 Classified aluminum baffle filters, in sufficient number and sizes to ensure optimum performance as specified by the filter manufacturer. The filter housing shall terminate in a pitched, full-length grease trough, which shall drain into a removable grease container.

Vaporproof, UL Listed incandescent light fixtures shall be wired to a junction box. Wiring shall conform to the requirements of the National Electrical Code (NEC #70 - Latest Edition).

MODEL GHAW

Type - Air Curtain

- U.L. Listed without Fire Damper (UL File No. MH11726)
- U.L. Listed with Fire Damper (UL File No. MH10897)

STANDARD FEATURES:

- UL Listed and NSF Certified
- 18 Ga. 304 SS construction with continuously welded external seams in accordance with NFPA # 96
- UL 1046 Classified baffle filters
- Sizes - 36 in. to 192 in. lengths, 48 in. to 66 in. widths, 24in. or 30in. heights
- Make-up air introduced through perforated panels along the bottom front perimeter of the hood
- Vertical stamped ribs for added strength
- Complies with all National Codes and Standards, including UL / ULC, NSF, NFPA # 96, IMC, (including BOCA, SBCCI, and ICBO)

OPTIONS:

- Painted or galvanized steel hoods (stainless steel standard)*
- Stainless steel or non-stick baffle filters (aluminum baffle filters standard)
- Register(s) air curtain, (perforated panels standard)
- Duct collars shipped loose for field installation (factory attached standard)
- All stainless steel construction (18 Ga. 304 SS where exposed construction standard)
- Finished stainless steel back (for single island applications)
- Recessed fluorescent or recessed incandescent lights (globe incandescent lights standard)

ACCESSORIES:

- On / Off switches, hood mounted or remote mounted
- Filler panels for clearance to combustibles
- Stainless steel backsplash panel, insulated or non-insulated
- Enclosure Panels to span between hood and ceiling
- End Skirts for improved capture and performance
- Thermostatically controlled automatic fire damper (fusible link fire damper standard for hoods UL Listed with Fire Dampers)
- Filter removal tool

Due to continuous research Greenheck reserves the right to change specifications without notice.

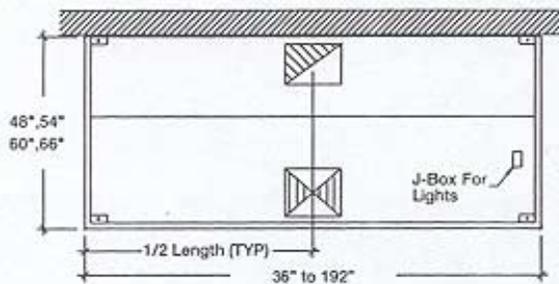
*Consult factory for possible restrictions

Code Information

Greenheck Kitchen Hoods are built in accordance with the following codes, standards, and recommended practices.

- UL 710 Listed
- NFPA 96
- BOCA
- NSF
- SBCCI
- IMC / UMC



Baffle Filter Hoods / Wall Style Canopy


* All dimensions appear in inches. *

CFM Requirements

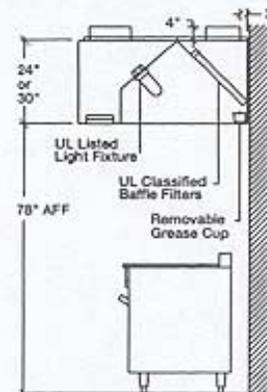
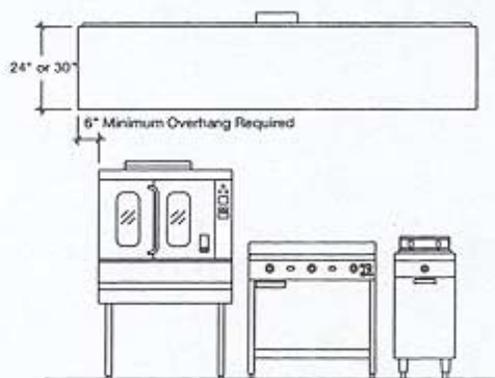
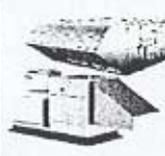
Exhaust air quantities vary depending on the type of cooking equipment used with the hood. Model GHAW meets UL minimum exhaust requirements for operation as follows:

400° F	135 CFM per lineal foot*
600° F	150 CFM per lineal foot*
700° F	270 CFM per lineal foot*

For the most efficient hood selection, the *Greenheck Cooking Equipment Ventilation Application and Design* manual should be consulted.

See the National Evaluation Report (NER) 436 for allowable values and/or conditions of use concerning materials presented in this document. (This report is subject to re-examination, revision, and possible closing.)

* Consult factory for possible restrictions


Complete Kitchen Ventilation Systems


Visit the Greenheck website for the most current information available

www.greenheck.com

Greenheck • P.O. Box 410 • Schofield, WI 54476-0410 • Phone (715) 359-6171 • Fax (715) 355-2399 • www.greenheck.com

GHAW Specification Sheet FS
 Rev. 1
 Mar. 2000

ITEM NO.: 28 (2) REQUIRED
ITEM: WORK TABLE, MOBILE (OMAR)
MANUFACTURER: FABRICATOR
MODEL NO.: CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.
PROVIDE:

- A. Four 127 mm diameter non-marking, ball bearing, stem-type casters
- B. Two casters with locking brakes
- C. 508 mm x 508 mm x 127 mm deep stainless steel drawer with removable inset

ITEM NO.: 29 (1) REQUIRED
ITEM: HOT FOOD WELL (OMAR)
MANUFACTURER: SERVOLIFT/EASTERN STEEL
MODEL NO.: 501-4
STD FEATURES:

- A. 900 watt heating system for each food pan well with adjustable control thermostat with "off" position and neon pilot light
- B. Four 127 mm diameter, heavy duty, double ball bearing swivel casters with non-marking rubber tires
- C. Two casters with brakes
- D. Removable 1500 mm cord and plug set
- E. 250 mm aluminum front and end aprons with factory bonded vinyl fabric (color selection below)

ACCESSORIES:

- A. Food protector, "Code FP"
- B. Food wells with individual drains manifolded to one 20 mm drain valve
- C. Cam-action latches with trigger release (used to join multiple units together)
- D. Front and end apron color - Royal Blue

- E. Provide hose to allow draining unit into a container (bucket)

(Design note: Include accessory #E if Hot Food Well item #29 is to be used where floor drain is not available)

PROJECT:

QUANTITY:

ITEM NO:

CAFETERIA • BUFFET • TRAY MAKE-UP

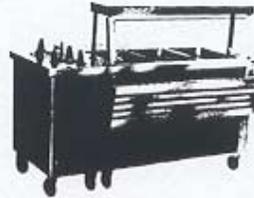
HOT FOOD SERVICE COUNTER

MODEL NO. 501



MODEL 501-3

Shown with optional food protector, tray slide, front and end panels.



MODEL 501-3

Shown with Model 515-2H heated plate dispenser.



MODEL	LENGTH	WIDTH	CLEAR OPENING	NO. OF PAN WELLS	TOTAL WATTS	VOLTS	PHASE	AMPS	SHIPPING WT.
<input type="checkbox"/> 501-2	35"	28½"	27"	2	1500	120	Single	12.5	175
<input type="checkbox"/> 501-3	49½"	28½"	41½"	3	2700	208	Single	13.0	215
<input type="checkbox"/> 501-4	62"	28½"	54"	4	3600	208	Single	17.3	260
<input type="checkbox"/> 501-5	76½"	28½"	68½"	5	4500	208	Single	21.7	325
<input type="checkbox"/> 501-6	92"	28½"	40½" (2)	6	5400	208	Three	15.0	375
<input type="checkbox"/> 501-2N	50½"	19"	42½"	2	1500	120	Single	12.5	180
<input type="checkbox"/> 501-3N	73"	19"	65"	3	2700	208	Single	13.0	235

SPECIFICATIONS

Models 501-2, 501-3, 501-4, 501-5, 501-6, 501-2N and 501-3N mobile hot food service counters.

FRAME: The supporting frame is constructed of "U" shaped 1" x 3" x ½" thick fluted, extruded aluminum tubing, with welded cross members for extra rigidity. The top of the frame includes a fully welded extruded aluminum perimeter angle with cross bracing for support of the top.

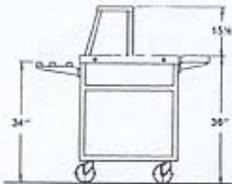
TOP: The top is fabricated of 16 ga., type 302 polished stainless steel, turned down 2" on edges, with all corners welded, ground and polished. The food pan wells are one-piece, die-stamped stainless steel sized to accommodate standard 12" x 20" x 6" maximum depth food pans. The top is turned down into the wells, with a sanitary raised bead around the full perimeter of each well.

APRON: The front and exposed ends are fitted with full length x 10" high aprons, formed of aluminum with factory bonded vinyl fabric on exterior. (For standard available colors - see color chart.) At the rear, a slanted stainless steel control panel is provided.

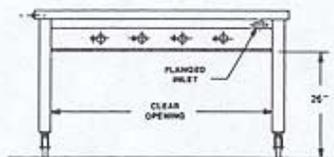
HEATING SYSTEM: Each food pan well is heated by means of a 900 watt heating system, and is furnished with an adjustable control thermostat with "off" position and neon pilot light. All wells are wired to a twist lock inlet which is set in a stainless steel recess on the right hand end facing the control panel. A 5' long removable cord set is provided. (See chart above and electrical info. sheet at end of this section.) All models are Underwriters Laboratories listed.

CASTERS: Units are mounted on four 5" diameter, heavy-duty, double ball bearing swivel casters with non-marking rubber tires. Two casters are fitted with brakes. (Six casters on Model 501-6.)

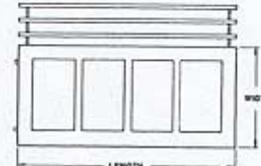
LOCKING DEVICE: Where required, cam-action latches with trigger releases are provided to join multiple units together at the top to form a unitized serving line.



END ELEVATION



REAR ELEVATION



PLAN

Specifications continued on other side.

SERVOLIFT EASTERN CORPORATION

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PAGE

C-3

PROJECT:

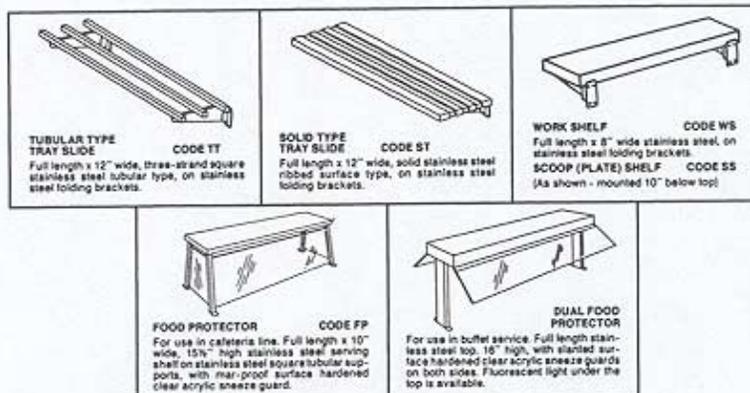
QUANTITY:

ITEM NO:

CAFETERIA • BUFFET • TRAY MAKE-UP HOT FOOD SERVICE COUNTER MODEL NO. 501

OPTIONAL ACCESSORIES

- Full length x 12" wide, three strand, square stainless steel tubular type tray slide set on stainless steel folding brackets. (Code TT)
- Full length x 12" wide, solid, stainless steel, ribbed type tray slide set on stainless steel folding brackets. (Code ST)
- Full length x 10" wide x 15 1/2" high food protector consisting of stainless steel uprights and top shelf, with mar-proof, surface hardened, clear acrylic plastic sneeze guards. (Code FP)
- Full length x 16" high dual food protector consisting of stainless steel top and two mar-proof, surface hardened, clear acrylic plastic sneeze guards. (Code DP)
- Fluorescent light under top of either food protector. (Code FL)
- Infra-red heat lamp under top of either food protector. (Code HL)
- Full length x 8" wide stainless steel work shelf on stainless steel folding brackets. (Code WS)
- Full length x 8" wide stainless steel work shelf with plastic top, on stainless steel folding brackets. (Code PS)
- Full length x 8" wide scoop (plate) shelf mounted 10" below top. (Code SS)
- Full front panel in lieu of front apron, with vinyl finish. (Code VF)
- Full front panel in lieu of front apron, stainless steel. (Code SF)
- Full front panel in lieu of front apron, with plastic laminate finish. (Code PF)
- Full end enclosure panel in lieu of apron, with vinyl finish. (Code VE)
- Full end enclosure panel in lieu of apron, stainless steel. (Code SE)
- Full end enclosure panel in lieu of apron, with plastic laminate finish. (Code PE)
- Full length x full width removable stainless steel undershelf. (Code US)
- Full length x full width stainless steel intermediate shelf. (Code IS)
- One or more convenience outlets set in rear control panel, for undercounter heated carts or adjacent heated dish dispenser. (Code EO)
- Casters with polyurethane tires. (Code Y)
- Stainless steel, adjustable, 6" high sanitary bullet feet in lieu of casters. (Code BF)
- Food wells with individual drains.
- Food wells with individual drains manifolded to one drain valve.



NOTE: When ordering, please specify:

- 1 — Type and color of aprons.
- 2 — Optional closure panels desired.
- 3 — Voltage and single or three phase wiring.
- 4 — Provide a plan of layout for proper alignment.

PAGE

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SERVOLIFT EASTERN CORPORATION

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ITEM NO.: 30 (1) REQUIRED
ITEM: COLD FOOD UNIT (OMAR)
MANUFACTURER: SERVOLIFT/EASTERN STEEL
MODEL NO.: 502-3RCW
STD FEATURES:

- A. Cold wall food unit
- B. Four 127 mm diameter, heavy duty, double ball bearing swivel casters with non-marking rubber tires
- C. Two casters with brakes
- D. Mechanical refrigeration
- E. NEMA 5-15p plug with 1500 mm three-wire cord UL listed
- F. 13 mm stainless steel drain with shut-off valve
- G. 343 mm aluminum front and end aprons with factory bonded vinyl fabric (color selection below)

ACCESSORIES:

- A. Display case, double deck, "Code DC", full length x 546 mm high, stainless steel uprights and top shelf, mar-proof hardened clear acrylic plastic center shelf, and two sneeze guards
- B. Cam-action latches with trigger release (used to join multiple units together)
- C. Front and end apron color - Royal Blue

- D. Provide hose to allow draining unit into a container (bucket)

(Design note: Include accessory #D if Cold Food Unit item #30 is to be used where floor drain is not available)

PROJECT:

QUANTITY:

ITEM NO:

CAFETERIA • BUFFET • TRAY MAKE-UP (Refrigerated)

COLD FOOD SERVICE COUNTER MODEL NO. 502-R

MODEL 502-R
Shown with optional tray slide,
display case, undershell,
front and end panels



MODEL	LENGTH	WIDTH	COLD PAN SIZE	PAN CAP. 12" x 20"	CLEAR OPENING	SHIPPING WT.
<input type="checkbox"/> 502-1R	49½"	28½"	38" x 20"	3	26"	250
<input type="checkbox"/> 502-2R	62"	28½"	50½" x 20"	4	39"	295
<input type="checkbox"/> 502-3R	76½"	28½"	63½" x 20"	5	54"	340
<input type="checkbox"/> 502-4R	92"	28½"	76½" x 20"	6	40½" (1) 25" (1)	385

SPECIFICATIONS

Models 502-1R, 502-2R, 502-3R and 502-4R mobile cold food counters (Mechanically refrigerated)

FRAME: The supporting frame is constructed of "U" shaped 1" x 3" x ½" thick fluted, extruded aluminum tubing, with welded cross members for extra rigidity. The top of the frame includes a fully welded extruded aluminum perimeter angle with cross bracing for support of the top.

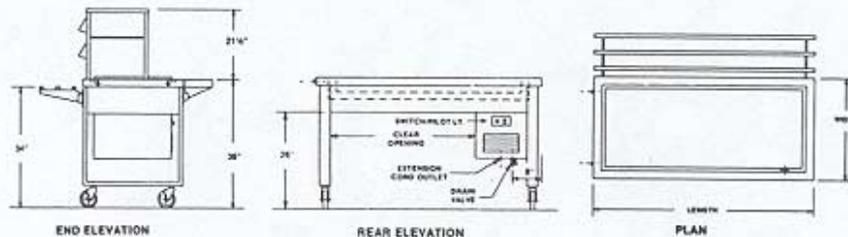
TOP: The top is fabricated of 16 ga. type 302 polished stainless steel, turned down 2" on edges, with all corners welded, ground and polished. The top is cut out for, and fitted with a 4" deep, polyurethane insulated, watertight, stainless steel cold pan with bottom pitched to a ½" stainless steel drain with shut-off valve. The cold pan is separated from the top by means of full perimeter plastic breaker strips.

APRON: All four sides are fitted with full length x 10" high aprons, formed of aluminum with factory bonded vinyl fabric on exterior. (For standard available colors - see color chart.)

MECHANICAL REFRIGERATION: The cold pan is refrigerated by means of a self-contained evaporative system which is composed of copper coils secured to the underside of the pan and connected to a 1/5 H.P., 120 volt (4.2 amps) single phase, fan-cooled, hermetically sealed condensing unit directly under. The system is a capillary tube type with temperature control. The condensing unit is enclosed in an aluminum housing with louvered access panels for ventilation. An on-off switch, pilot light and a 5' long three-wire cord with NEMA 5-15P plug are provided. All models are Underwriters Laboratories listed.

CASTERS: Units are mounted on four 5" diameter, heavy-duty, double ball bearing swivel casters with non-marking rubber tires. Two casters are fitted with brakes. (Six casters on Model 502-4R.)

LOCKING DEVICE: Where required, cam-action latches with trigger releases are provided to join multiple units together at the top to form a unitized serving line.



Specifications continued
on other side.

SERVOLIFT EASTERN CORPORATION

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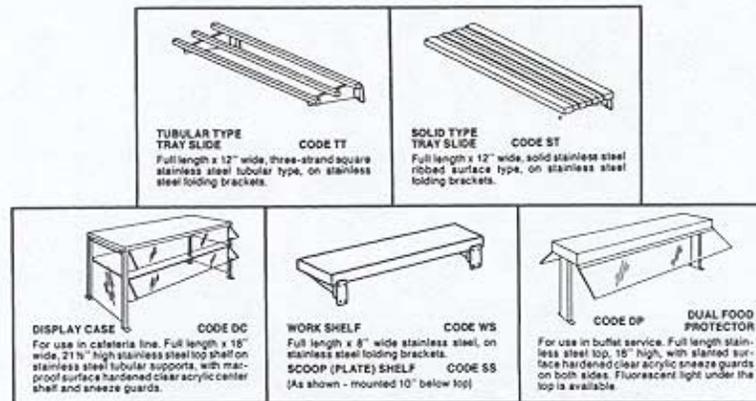
PAGE

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CAFETERIA • BUFFET • TRAY MAKE-UP (Refrigerated)

COLD FOOD SERVICE COUNTER MODEL NO. 502-R**OPTIONAL ACCESSORIES**

- Full length x 12" wide, three strand, square stainless steel tubular type tray slide set on stainless steel folding brackets. (Code TT)
- Full length x 12" wide, solid, stainless steel, ribbed type tray slide set on stainless steel folding brackets. (Code ST)
- Full length x 18" wide x 21½" high display case consisting of stainless steel uprights and top shelf, with mar-proof, surface hardened, clear acrylic plastic center shelf and two sneeze guards. (Code DC)
- Full length x 16" high dual food protector consisting of stainless steel top and two mar-proof, surface hardened, clear acrylic plastic sneeze guards. (Code DP)
- Fluorescent light under either display case or dual food protector. (Code FL)
- Full length x 8" wide stainless steel work shelf on stainless steel folding brackets. (Code WS)
- Full length x 8" wide stainless steel work shelf with plastic top, on stainless steel folding brackets. (Code PS)
- Full length x 8" wide scoop (plate) shelf mounted 10" below top. (Code SS)
- Full front panel in lieu of front apron, with vinyl finish. (Code VF)
- Full front panel in lieu of front apron, stainless steel. (Code SF)
- Full front panel in lieu of front apron, with plastic laminate finish. (Code PF)
- Full end enclosure panel in lieu of apron, with vinyl finish. (Code VE)
- Full end enclosure panel in lieu of apron, stainless steel. (Code SE)
- Full end enclosure panel in lieu of apron, with plastic laminate finish. (Code PE)
- Full length x full width removable stainless steel undershelf. (Code US)
- Stainless steel intermediate shelf. (Code IS)
- One or more 120V convenience outlets set in rear apron. (Code EO)
- Casters with polyurethane tires. (Code Y)
- Stainless steel, adjustable, 6" high sanitary bullet feet in lieu of casters. (Code BF)



NOTE: When ordering, please specify:
 1 — Type and color of aprons.
 2 — Optional closure panels desired.
 3 — Provide a plan of layout for proper alignment.

ITEM NO.: 31 (1) REQUIRED
ITEM: SLICER (OMAR)
MANUFACTURER: HOBART
MODEL NO.: 2712
STD FEATURES:

- A. Two speed automatic carriage slicer with front mounted controls and removable tilting carriage system
- B. Two speed carriage drive 52 strokes per minute for high speed; 36 strokes per minute for slow speed
- C. Contoured cast stainless steel "stay sharp" knife with sanitary hub
- D. Antimicrobial product protection
- E. Capacity up to 305 mm wide or 190 mm diameter
- F. Adjustable stainless steel fence
- G. Lifetime guaranteed, top mounted removable and submersible Borazon Stone sharpener
- H. Double-action indexing cam
- I. Permanently mounted knife ring guard
- J. Heavy gauge stainless steel top cover with integrated product deflector
- K. Lift lever
- L. Removable rear deflector
- M. Electroless nickel plated single slide rod with reservoir wick
- N. Stainless steel carriage, gauge plate and knife cover
- O. Ergonomic style handle
- P. Gauge plate with stainless steel ribbed face
- Q. Low fence
- R. Sanitary burnished aluminum base
- S. No tools required for proper cleaning
- T. 1800 mm three-wired cord and plug
- U. ½ H.P. permanently lubricated ball bearing knife drive motor, single phase capacitor-start, induction run
- V. Nylon carriage roller
- W. Hobart Poly V-belt knife drive, runs at 400 rpm for optimal performance
- X. Warranty - all parts and service for 1 year including knife

ACCESSORIES:

- A. None

Item # _____

Quantity _____

C.S.I. Section 11400

HOBART

FOOD EQUIPMENT

**2712
SLICER**

HOBART

STANDARD FEATURES

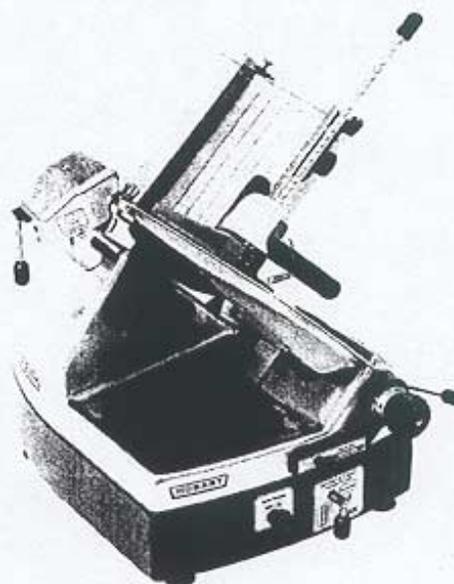
- MICROBAN® Antimicrobial Product Protection
- Two-Speed Automatic Carriage with Front Mounted Controls
- Exclusive Tilting, Removable Carriage System
- Contoured Cast Stainless Steel Stay Sharp™ Knife
- Top Mounted Borazon Stone Sharpener
- Hobart Poly V-Belt Drive System
- Sanitary Burnished Aluminum Base
- Double-Action Indexing Cam
- Permanently Mounted Ring Guard
- Heavy Gauge Stainless Steel Top Cover with Integrated Product Deflector
- Lift Lever
- Removable Rear Deflector
- ½ H.P. Knife Drive Motor
- Nylon Carriage Roller
- Electroless Nickel Plated Single Slide Rod with Reservoir Wick
- Stainless Steel Carriage and Knife Cover
- Ergonomic Style Handle
- Low Fence

ACCESSORIES

- Low Fence
- High Fence
- Food Chute
- Heavy Meat Grip with Clips
- Heavy Handle
- 4" Legs
- Product Tray

MODEL

- 2712 – Basic Automatic Slicer with the Works
- 2712C – Basic Automatic Slicer with Maximum Security Correctional Package (120/60/1 only)



2712 SLICER



701 S Ridge Avenue, Troy, OH 45374 • 937-332-3000 • 1-800-333-7447

HOBART

FOOD EQUIPMENT

**2712
SLICER****SPECIFICATIONS****MICROBAN® ANTIMICROBIAL PRODUCT**

PROTECTION: The Microban additive is built into the external plastic components to inhibit the growth of bacteria, mold, mildew and fungi, keeping the slicer "cleaner between cleanings." The additive is designed to last the life of the products in which it is incorporated and works continuously to maintain a lower level of odor and stain causing microorganisms.

TWO-SPEED AUTOMATIC CARRIAGE WITH

FRONT MOUNTED CONTROLS: Low Speed is 36 strokes per minute. 52 strokes per minute high speed for greater productivity. Carriage can be disengaged from power drive whether slicer is in operation or not. Automatic engagement and speed selector controls located in front of machine. Speed can be changed with slicer motor on or off. Carriage driven by DC gear-reduction motor and 4 bar synchronous linkage.

TILTING REMOVABLE CARRIAGE SYSTEM:

Positive angle carriage design enables operator to slice without manual feed. The stainless steel carriage system tilts back easily for midday cleaning and is removable for thorough cleaning and sanitation procedures. The carriage has 12½" manual travel.

CONTOURED CAST STAINLESS STEEL STAY

SHARP KNIFE: Hobart Stay Sharp, contoured cast solid stainless steel, 11¼" diameter with sanitary hub. Knife is protected by a permanently mounted ring guard with integrated product deflector. The stainless steel knife cover provides easy access for cleaning. Gauge plate protects knife edge when closed. Knife cover is quickly removed with a quarter turn of the spring loaded locking knob.

TOP MOUNTED BORAZON STONE SHARPENER:

One lever operation utilizing two Borazon stones to sharpen and hone in five seconds. Removable and top mounted. When sharpener is removed for cleaning, knife edge is shielded. Borazon stones have lifetime guarantee.

HOBART POLY V-BELT DRIVE SYSTEM: Knife is driven by a Hobart Poly V belt and runs at 400 rpm for optimal performance.

SANITARY BURNISHED ALUMINUM BASE:

One-piece base protects against possible growth of bacteria. All surfaces are durable and smooth, presenting no holes or crevices in which food can lodge.

DOUBLE-ACTION INDEXING CAM: First revolution of index cam for precision slicing; second revolution for thicker slicing selection. Indexing cam holds true to setting during slicing operation.

PERMANENTLY MOUNTED RING GUARD: Permanently mounted ring guard with integrated product deflector protects knife.

HEAVY GAUGE STAINLESS STEEL TOP COVER WITH INTEGRATED PRODUCT DEFLECTOR:

One piece design made of 12 gauge stainless steel, durable to maintain shape and ensure consistent fit. Spring loaded knob for quick removal and replacement.

LIFT LEVER: Lift lever facilitates raising slicer to tilted position for cleaning beneath the machine.

REMOVABLE REAR DEFLECTOR: No tools are required for removal of the deflector for thorough cleaning of the slicer.

KNIFE MOTOR: ½ H.P., permanently lubricated ball bearings. Single phase capacitor-start, induction run.

ELECTROLESS NICKEL PLATED SINGLE SLIDE ROD WITH RESERVOIR WICK: Transport slide rod is E-Nickel electroless plated. Slide rod bearings feature an oil reservoir/oil wick.

FINISH: Stainless steel carriage, gauge plate and knife cover. Burnished aluminum base.

ERGONOMIC STYLE HANDLE: Specially designed for ease of use during manual operation.

MEAT GRIP: Front mounted grip is high strength thermoplastic. Swings out of way when not in use.

ELECTRICAL SPECIFICATIONS: 120/60/1 and 240/60/1 (3 amps) – U L Listed. Also available in 100/50/60/1 and 230/50/1 (3 amps) – not submitted for U L Listing.

SWITCH: Moisture protected toggle type, operated by a push-pull rod.

CORD & PLUG: 6-foot, three-wire power supply cord and plug. Plug not furnished on export models.

CAPACITY: The carriage will take food up to 12" in width or 7½" in diameter.

GAUGE PLATE: Gauge plate is a heavy aluminum casting with ribbed laminated stainless steel face for smooth feeding. Adjustable to cut any thickness of slice up to 1".

WARRANTY: All parts and service coverage for one year including knife. Lifetime guarantee on Borazon stones in the sharpening system.

WEIGHTS FOR THE FOLLOWING ITEMS: Tubular Chute 9.1 lbs.; Swing Arm .61 lbs.; Heavy Front Meat Grip 2.76 lbs.; Heavy Handle 2.7 lbs.; Standard Meat Grip 2.34 lbs.

WEIGHT: Shipping 182 lbs., Net 140 lbs.

Microban® does not protect the user against food-borne bacteria. Always maintain good hygiene practices.

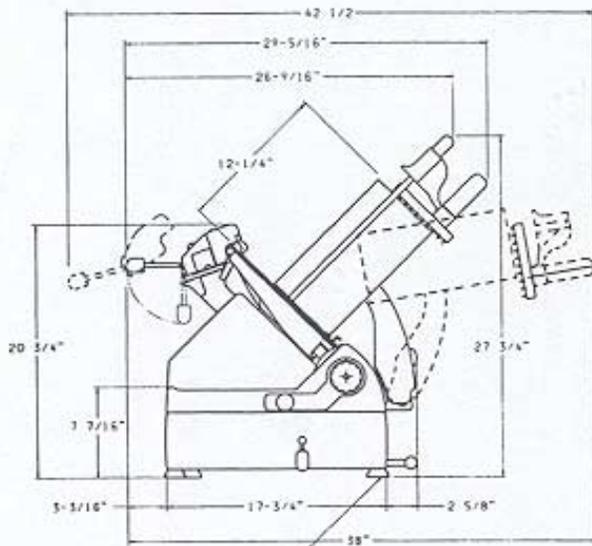
2712 SLICER

HOBART

FOOD EQUIPMENT

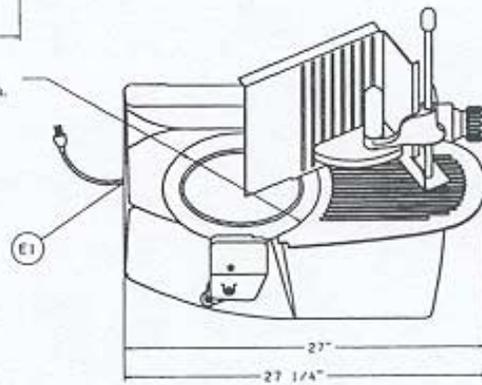
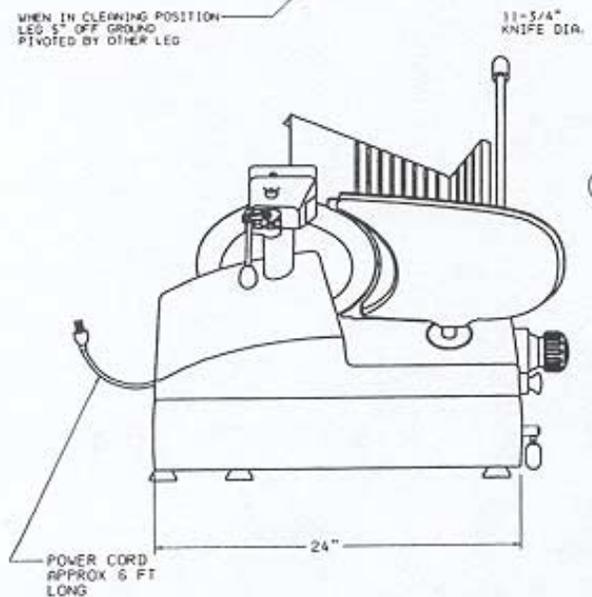
LISTED BY: UNDERWRITERS LABORATORIES INC AND NSF INTERNATIONAL.

DETAILS AND DIMENSIONS



WARNING

ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.



LEGEND

E1-ELECTRICAL CONNECTION,
APPROX 6 1/2" ABOVE
COUNTER TOP

Microban and the Microban symbol are registered trademarks of the Microban Products Company, Huntersville, NC.

As continued product improvement is a policy of Hobart, specifications are subject to change without notice.

701 S Ridge Avenue, Troy, OH 45374 • 937-332-3000 • 1-800-333-7447

F-39686 (REV 7/01)

LITHO IN U.S.A. (H-01) Printed On Recycled Paper

ITEM NO.: 32 (1) REQUIRED
ITEM: TABLE, FOOD PREPARATION WITH
POT & PAN RACK (OMAR)
MANUFACTURER: FABRICATOR
MODEL NO.: CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.
PROVIDE:

- A. Cantilever 2-bar stainless steel pot rack
- B. Pot rack constructed of 51 mm x 6 mm stainless steel bars welded to its uprights
- C. Pot rack with double point stainless steel sliding hooks 1 per approximately every 200 mm
- D. Pot rack supported by 41 mm O.D. 1.6 mm thick stainless steel uprights
- E. Uprights to extend through stainless steel gussets and opening in the table top
- F. 508 mm x 508 mm x 127 mm deep stainless steel drawer with removable inset
- G. Stainless steel undershelf

ITEM NO.: 33 (1) REQUIRED
ITEM: CAN OPENER (OMAR)
MANUFACTURER: EDLUND
MODEL NO.: 270
STD FEATURES:

- A. Removable knife and knife holder (no tools required)
- B. Gear and shield designed to prevent splash-back from entering interior (removable without tools)
- C. Heavy duty stainless steel construction
- D. Two-speed motor
- E. High volume capacity
- F. Weighted and balanced to lift heaviest # 10 can
- G. UL listed
- H. NSF certified
- I. 120/60/1, 1.2 amps

ACCESSORIES:

- A. None

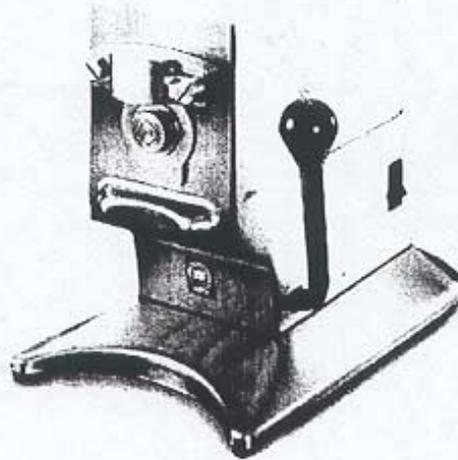


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Visit the Edlund
Interactive Kitchen!



Edlund 270 Can Opener



High volume operators who open different size cans require The New Edlund 270 Electric Can Opener, the only NSF Certified electric can opener available. If anyone can open cans, Edlund can.

Demand for higher volume opening requirements created the 270 electric opener. It's designed to meet the need of commercial and non-commercial operators alike.

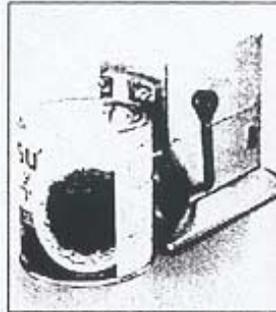
Our 270 electric is a real eye opener.



Knife assembly, gear and shield all remove without tools for easy cleaning and reassembly.

Specifications:

- 115 volt, 1.2 Amp 60 Hz
- 220 volt, 0.6 Amp 50-60 Hz



Opens most sizes and shapes of cans. Precisely weighted and balanced, the 270 lifts even the heaviest #10 can to the knife for easy opening.

Unit Dimensions:

- 270 - 6 3/4" x 11 1/2" x 10" (17.2cm x 29.2 cm x 25.4cm)
- 270C - 9 3/4" x 9 3/4" x 26 1/4" (27.8cm x 27.8 cm x 66.7cm)



The 270 C's easy-glide slid bar mounting allows all can larger than #10's to be opened easily. Ideal for most international can sizes.

Shipping Dimensions:

- 270 - 13 3/4" x 10 5/8" x 11 3/8" (34.9cm x 26.9 cm x 28.9cm)
- 270C - 13 3/4" x 13" x 32 1/2" (34.9cm x 33 cm x 82.6cm)

Shipping Weight:

- 270 - 20 lbs. (9kg)
- 270C - 30 lbs. (13.6kg)

Cube:

- 270 - 44 cubic feet (.03 cubic meters)
- 270C - 3.33 cubic feet (.01 cubic meters)

Recommended Usage:

- 100-200 cans per da

ITEM NO.: 34 (2) REQUIRED
ITEM: REFRIGERATOR, SELF-CONTAINED (OMAR)
MANUFACTURER: TRAUlsen
MODEL NO.: RHT232WUT-FHS (STAINLESS STEEL)
STD FEATURES:

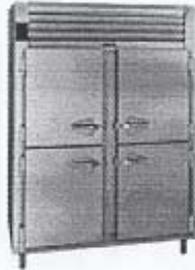
- A. Stainless steel front housing, ends and doors
- B. Stainless steel interior
- C. Three chrome plated adjustable shelves supported on shelf studs per section
- D. Exterior digital thermometer
- E. 10-foot three-wire cord and plug
- F. Self closing full length doors w/ stay open at 120 degrees
- G. 5 year compressor warranty
- H. Guaranteed for life CAM hinges
- I. Guaranteed for life horizontal work flow door handle
- J. Automatically activated incandescent lights
- K. Stainless steel breaker cups

ACCESSORIES:

- A. 6" adjustable stainless steel legs and feet

Project	Quantity	Item #
Model Specified:		CSI Section 11400

Reach-In Refrigerators/Self-Contained



Model RHT232WUT

R
SERIES

Models RHT132WUT, RHT232WUT & RHT332WUT

A
SERIES

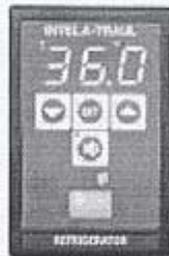
Models AHT132WUT, AHT232WUT & AHT332WUT

The R & A Series "W-Width" Refrigerator Line is designed to offer maximum storage capacity, along with wide doors for easy access. They are supplied standard with all the Traulsen top of the line features, such as balanced refrigeration systems, next generation INTELA-TRAUL® controls and stainless steel exteriors. Additionally, they offer the widest range of optional accessories, and can be modified for many applications, such as: correctional, export, etc.

Standard Features

- R-Series: Stainless Steel Exterior & Interior
- A-Series: Stainless Steel Exterior/Anodized Aluminum Interior
- Full or Half Length Doors
- Self-Closing Doors With Stay Open Feature At 120 Degrees
- Guaranteed For Life Cam-Lift Hinges
- Guaranteed For Life Horizontal Work Flow Door Handle
- Automatically Activated Incandescent Lights
- Stainless Steel Breaker Caps
- Three Chrome Plated Adjustable Shelves Supported On Shelf Studs Per Section
- Automatic Non-Electric Condensate Evaporator
- Magnetic Snap-In Door Gaskets
- Cord & Plug Attached
- 6" Adjustable Stainless Steel Legs
- 1 Year Parts And Labor Warranty
- 5 Year Compressor Warranty

The INTELA-TRAUL® Control System



KEY FEATURES

- 3-Digit LED Display
- Temperature Monitoring
- Internal Time Clock
- 72 Hour Data Storage
- °F or °C Temperature Display Capability
- Visual & Audible Alarm Warnings For:
 - (1) Hi/Lo Cabinet Temperature,
 - (2) Evaporator Coil Sensor Failure,
 - (3) Clogged Filter-Clean Condenser,
 - (4) Discharge Line Sensor Failure,
 - (5) Power Supply Interruption,
 - (6) Door Open (cycles and time)

Options & Accessories

- Heavy Duty 6" High Casters
- Stainless Steel Finished Back With Rear Louvers
- Re-Hinging Feature
- Tray Slides To Accommodate either (2) 12" x 20", (1) 18" x 26" or (2) 14" x 18" Sheet Pans
- Additional Chrome Plated Shelves
- Hinged Glass Doors/Fluorescent Lights
- Export 220/50/1 Voltage
- Stainless Steel Shelves
- Decorative Kool Klad Decor
- Two Year Service/Labor Warranty Available

Approval: _____



Listed by Underwriters Laboratories Inc., to U.S. and Canadian safety standards and Listed by NSF International.



TRAULSEN & CO., INC.
4401 BLUE MOUND RD.
PHONE 1 (800) 825-8220
Website: www.traulsen.com

FT. WORTH, TX 76106
FAX-MKTG. 1 (817) 624-4302

SECTION
1-1

Project	Quantity	Item #
Model Specified:		CSI Section 11400

Specifications

Construction, Hardware and Insulation

Cabinet exterior, including front, one piece sides, louver assembly and doors are constructed of heavy gauge stainless steel. Cabinet interior and door liners are constructed of stainless steel (anodized aluminum in the A-Series). Exterior cabinet top, back and bottom are constructed of heavy gauge aluminized steel. Adjustable 6" high stainless steel legs are included.

Doors are equipped with removable plug cylinder locks and guaranteed for life cam-lift, gravity action, self-closing metal, glide hinges with stay open feature at 120 degrees. Hinges include a switch to automatically activate the interior incandescent lighting. Guaranteed for life, work flow door handle is mounted horizontally over recess in door which limits protrusion from door face into aiseways.

Easily removable for cleaning, vinyl magnetic door gasket assures tight door seal. Anti condensate heaters are located behind each door opening.

Cabinet and door contains high density, non-CFC, foamed in place polyurethane insulation.

Refrigeration System

A top mounted, self-contained, balanced refrigeration system using R-134a refrigerant is conveniently located behind the one piece louver assembly. It features a plenum effect blower coil, large, high humidity evaporator coil located outside the food zone and a top mounted non-electric condensate evaporator. Standard operating temperature is 34 to 38°F.

Controller

The water resistant INTELA-TRAUL® digital microprocessor control is provided. It includes an RS485 port for communications ability, in addition to features such as visual and audio alarms and 72 hour data storage capability.

Interior

Standard interior arrangements include three (3) chrome plated wire shelves, mounted on shelf pins, per section. Recommended load limit per shelf should not exceed 225 lbs. Optional tray slides may be purchased in combination with, or in lieu of these.

Warranties

The standard warranty includes a five year compressor warranty and a one year parts and labor warranty on all components and the cabinet. Additional warranties are available at extra cost. The INTELA-TRAUL® Control is warranted by a two year parts and labor warranty.

DIMENSIONAL DATA	R/AHT132WUT	R/AHT232WUT	R/AHT332WUT
Net capacity cu. ft.	24.2 (686 cu l)	51.6 (1462 cu l)	79.0 (2238 cu l)
Length - overall in.	29 1/4 (75.9 cm)	58 (147.3 cm)	86 1/4 (218.6 cm)
Depth - overall in.	35 (88.8 cm)	35 (88.8 cm)	35 (88.8 cm)
Depth - over body in.	32 (81.3 cm)	32 (81.3 cm)	32 (81.3 cm)
Depth - with door open 90 degrees in.	57 1/4 (146.5 cm)	57 1/4 (146.5 cm)	57 1/4 (146.5 cm)
Clear door width in.	21 1/4 (53.6 cm)	21 1/4 (53.6 cm)	21 1/4 (53.6 cm)
Clear half-door height in.	27 1/2 (69.9 cm)	27 1/2 (69.9 cm)	27 1/2 (69.9 cm)
Clear full-door height in.	57 1/4 (146.3 cm)	57 1/4 (146.3 cm)	57 1/4 (146.3 cm)
Height - overall on 6" legs	83 1/4 (211.5 cm)	83 1/4 (211.5 cm)	83 1/4 (211.5 cm)
Shelf area sq. ft.	18.8 (1.75 sq m)	37.6 (3.49 sq m)	56.4 (5.23 sq m)
ELECTRICAL DATA			
Voltage	115/60/1	115/60/1	115/60/1
Feed wires with Ground	3	3	3
Full load amperes	8.0	10.4	10.9
Wattage ¹	644	837	878
REFRIGERATION DATA			
Refrigerant	R-134a	R-134a	R-134a
BTU/HR H.P. ²	2220 (1/2 HP)	4200 (1 1/2 HP)	4200 (1 1/2 HP)
SHIPPING DATA³			
Length - crated in.	35 (89 cm)	63 (160 cm)	91 (231 cm)
Depth - crated in.	43 (109 cm)	43 (109 cm)	43 (109 cm)
Height - crated in.	83 1/2 (212 cm)	83 1/2 (212 cm)	83 1/2 (212 cm)
Volume - crated cu. ft.	71 (2011 cu l)	131 (3711 cu l)	189 (5354 cu l)
RHT Net Wt. lbs.	380 (172 kg)	630 (286 kg)	880 (399 kg)
RHT Gross Wt. lbs.	470 (213 kg)	770 (349 kg)	1060 (481 kg)
AHT Net Wt. lbs.	330 (150 kg)	550 (249 kg)	760 (345 kg)
AHT Gross Wt. lbs.	420 (191 kg)	690 (313 kg)	940 (426 kg)

NOTES

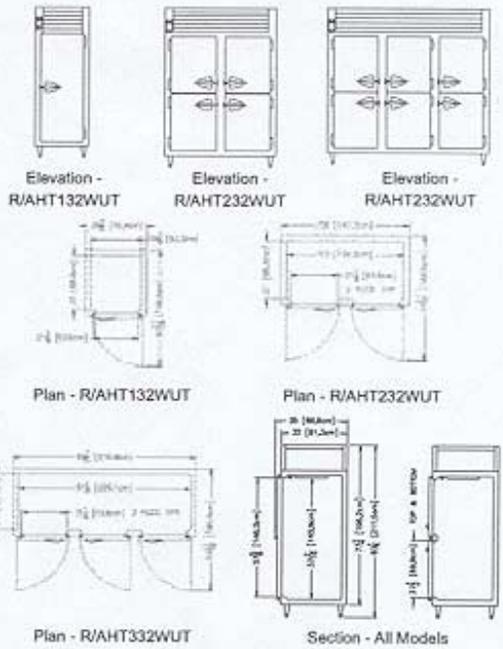
NOTE: Figures in parentheses reflect metric equivalents.
 1-Wattage is determined by listed amps X listed volts X an average run time of 70% for refrigerators and 80% for freezers.
 2-Based on a 90 degree F ambient and 20 degree F evaporator.
 3-For approximate remote weights deduct 40 lbs. from respective net or gross weight.
 For other information on remote models, please refer to spec sheet 12-2.



Equipped With One NEMA 5-15 P Plug

NOTE: When ordering please specify: Voltage, Hinging, Door Size, Options and any additional warranties. For fast order entry: Fax 1 (800) 765-8728.

Continued product development may necessitate specification changes without notice.
 Part No. TR-179 (revised 1/03)



Full load amps and plug style may vary depending on electrical options chosen and condensing unit employed.

NOTE: Freight charges are FOB destination for dock to dock delivery within the continental USA. Liftgate delivery charges are additional. For inside delivery charges, please consult factory.

SECTION 1-1	TRAUlsen & CO., INC. 4401 BLUE MOUND RD. PHONE 1 (800) 825-8220 Website: www.traulson.com	FT. WORTH, TX 76106 FAX-MKTYG. 1 (817) 624-4302	
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ITEM NO.: 35 (1) REQUIRED
ITEM: FREEZER, SELF-CONTAINED (OMAR)
MANUFACTURER: TRAUlsen
MODEL NO.: RLT132WUT-FHS
STD FEATURES:

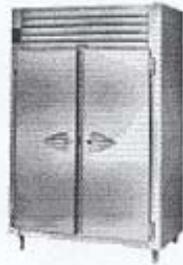
- A. Stainless steel front housing, ends and doors
- B. Stainless steel interior
- C. Three heavy duty chrome-plated steel wire shelves per section
- D. Exterior digital thermometer
- E. Condensing unit on top w/automatic non-electric condensate disposal
- F. R404a refrigerant
- G. 10-foot three-wire cord and plug
- H. 6" adjustable legs with stainless steel feet
- I. Standard operating temperature (0 to -5 degrees F) (-17.8 to -20.5 degrees C)
- J. Full height, self closing doors with stay open feature
- K. Automatically activated incandescent lights

ACCESSORIES:

- A. 150 mm (6") adjustable legs with stainless steel feet

Project	Quantity	Item #
Model Specified:		CSI Section 11400

Reach-In Freezers/Self-Contained



Model RLT232WUT

R
SERIES

Models RLT132WUT, RLT232WUT & RLT332WUT

A
SERIES

Models ALT132WUT, ALT232WUT & ALT332WUT

The R & A Series "W-Width" Freezer Line is designed to offer maximum storage capacity, along with wide doors for easy access. They are supplied standard with all the Traulsen top of the line features, such as balanced refrigeration systems, next generation INTELA-TRAUL® controls and stainless steel exteriors. Additionally, they offer the widest range of optional accessories, and can be modified for many applications, such as: correctional, export, etc.

Standard Features

- R-Series: Stainless Steel Exterior & Interior
- A-Series: Stainless Steel Exterior/Anodized Aluminum Interior
- Full or Half Length Doors
- Self-Closing Doors With Stay Open Feature At 120 Degrees
- Guaranteed For Life Cam-Lift Hinges
- Guaranteed For Life Horizontal Work Flow Door Handle
- Automatically Activated Incandescent Lights
- Stainless Steel Breaker Caps
- Three Chrome Plated Adjustable Shelves Supported On Shelf Studs Per Section
- Automatic Non-Electric Condensate Evaporator
- Magnetic Snap-In Door Gaskets
- Cord & Plug Attached
- 6" Adjustable Stainless Steel Legs
- 1 Year Parts And Labor Warranty
- 5 Year Compressor Warranty

 Equipped With One NEMA 5-15P Plug (1 Section Models Only)

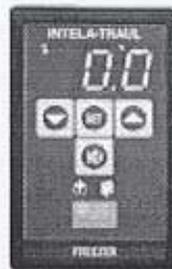
 Equipped With One NEMA 5-20P Plug (2 Section Models Only)

 Equipped With One NEMA L14-20P Plug (3 Section Models Only)



Listed by Underwriters Laboratories Inc., to U.S. and Canadian safety standards and Listed by NSF International.

The INTELA-TRAUL® Control System



KEY FEATURES

- 3-Digit LED Display
- Temperature Monitoring
- Internal Time Clock
- 72 Hour Data Storage
- °F or °C Temperature Display Capability
- Visual & Audible Alarm Warnings For:
 - (1) Hi/Lo Cabinet Temperature,
 - (2) Evaporator Coil Sensor Failure,
 - (3) Clogged Filter-Clean Condenser,
 - (4) Discharge Line Sensor Failure,
 - (5) Power Supply Interruption,
 - (6) Door Open (cycles and time)

Options & Accessories

- Heavy Duty 6" High Casters
- Stainless Steel Finished Back With Rear Louvers
- Re-Hinging Feature
- Tray Slides To Accommodate either (2) 12" x 20", (1) 18" x 26" or (2) 14" x 18" Sheet Pans
- Additional Chrome Plated Shelves
- Export 220/50/1 Voltage
- Stainless Steel Shelves
- Decorative Kool Klad Decor
- Two Year Service/Labor Warranty Available

Approval: _____



TRAUlsen & CO., INC.
4401 BLUE MOUND RD.
PHONE 1 (800) 825-8220
Website: www.traulsen.com

FT. WORTH, TX 76106
FAX-MKTG. 1 (817) 624-4302

SECTION
1-8

Project	Quantity	Item #
Model Specified:		CSI Section 11400

Specifications

Construction, Hardware and Insulation

Cabinet exterior, including front, one piece sides, louver assembly and doors are constructed of heavy gauge stainless steel. Cabinet interior and door liners are constructed of stainless steel (anodized aluminum in the A-Series). Exterior cabinet top, back and bottom are constructed of heavy gauge aluminized steel. Adjustable 6" high stainless steel legs are included.

Doors are equipped with removable plug cylinder locks and guaranteed for life cam-lift, gravity action, self-closing metal, glide hinges with stay open feature at 120 degrees. Hinges include a switch to automatically activate the interior incandescent lighting. Guaranteed for life, work free door handle is mounted horizontally over recess in door which limits protrusion from door face into aiseways.

Easily removable for cleaning, vinyl magnetic door gasket assures tight door seal. Anti condensate heaters are located behind each door opening.

Cabinet and door contains high density, non-CFC, foamed in place polyurethane insulation.

Refrigeration System

A top mounted, self-contained, balanced refrigeration system using R-404A refrigerant is conveniently located behind the one piece louver assembly. It features a plenum effect blower coil, large, high humidity evaporator coil located outside the food zone, top mounted non-electric condensate evaporator, and an automatic preset time activated electric defrost. Standard operating temperature is 0 to -5°F.

Controller

The water resistant INTELA-TRAU[®] digital microprocessor control is provided. It includes an RS485 port for communications ability, in addition to features such as visual and audio alarms, 72 hour data storage capability and defrost lock-outs.

Interior

Standard interior arrangements include three (3) chrome plated wire shelves, mounted on shelf pins, per section. Recommended load limit per shelf should not exceed 225 lbs. Optional tray slides may be purchased in combination with, or in lieu of these.

Warranties

The standard warranty includes a five year compressor warranty and a one year parts and labor warranty on all components and the cabinet. Additional warranties are available at extra cost. The INTELA-TRAU[®] Control is warranted by a two year parts and labor warranty.

DIMENSIONAL DATA	R/ALT132WUT	R/ALT232WUT	R/ALT332WUT
Net capacity cu. ft.	24.2 (686 cu l)	51.6 (1462 cu l)	79.0 (2238 cu l)
Length - overall in.	29 1/4 (75.9 cm)	58 (147.3 cm)	86 1/4 (218.8 cm)
Depth - overall in.	35 (88.8 cm)	35 (88.8 cm)	35 (88.8 cm)
Depth - over body in.	32 (81.3 cm)	32 (81.3 cm)	32 (81.3 cm)
Depth - with door open 90 degrees in.	57 1/4 (146.5 cm)	57 1/4 (146.5 cm)	57 1/4 (146.5 cm)
Clear door width in.	21 1/4 (53.6 cm)	21 1/4 (53.6 cm)	21 1/4 (53.6 cm)
Clear half-door height in.	27 1/2 (69.9 cm)	27 1/2 (69.9 cm)	27 1/2 (69.9 cm)
Clear full-door height in.	57 3/4 (146.3 cm)	57 3/4 (146.3 cm)	57 3/4 (146.3 cm)
Height - overall on 6" legs	83 1/4 (211.5 cm)	83 1/4 (211.5 cm)	83 1/4 (211.5 cm)
Shelf area sq. ft.	18.8 (1.75 sq m)	37.6 (3.49 sq m)	56.4 (5.23 sq m)
ELECTRICAL DATA			
Voltage	115/60/1	115/60/1	208-230/115/60/1
Feed wires with Ground	3	3	4
Full load amperes	11.5	14.9	11.0
Wattage ¹	1058	1371	1630
REFRIGERATION DATA			
Refrigerant	R-404A	R-404A	R-404A
BTU/HR H.P. ²	2160 (1/2 HP)	3790 (3/4 HP)	5220 (1 HP)
SHIPPING DATA³			
Length - crated in.	35 (89 cm)	63 (160 cm)	91 (231 cm)
Depth - crated in.	43 (109 cm)	43 (109 cm)	43 (109 cm)
Height - crated in.	83 1/2 (212 cm)	83 1/2 (212 cm)	83 1/2 (212 cm)
Volume - crated cu. ft.	71 (2011 cu l)	131 (3711 cu l)	189 (5354 cu l)
RLT Net Wt. lbs.	415 (188 kg)	705 (320 kg)	940 (426 kg)
RLT Gross Wt. lbs.	505 (229 kg)	845 (383 kg)	1120 (508 kg)
ALT Net Wt. lbs.	365 (166 kg)	625 (283 kg)	820 (372 kg)
ALT Gross Wt. lbs.	455 (206 kg)	765 (347 kg)	1000 (454 kg)

NOTES

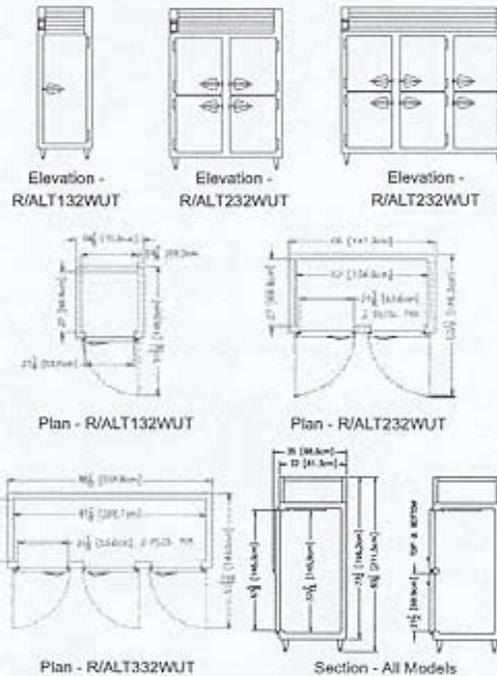
NOTE: Figures in parentheses reflect metric equivalents.

1*Wattage is determined by listed amps X listed volts X an average run time of 70% for refrigerators and 80% for freezers.

2*Based on a 90 degree F ambient and -10 degree F evaporator.

3*For approximate remote weights deduct 40 lbs. from respective net or gross weight.

For other information on remote models, please refer to spec sheet 12-2.



Full load amps and plug style may vary depending on electrical options chosen and condensing unit employed.

NOTE: Freight charges are FOB destination for dock to dock delivery within the continental USA. Liftgate delivery charges are additional. For inside delivery charges, please consult factory.

NOTE: When ordering please specify: Voltage, Hinging, Door Size, Options and any additional warranties. For fast order entry: Fax 1 (800) 765-8728.

Continued product development may necessitate specification changes without notice. Part No. TR-168 (revised 1/03)

SECTION
1-8

TRAU[®] & CO., INC.
4401 BLUE MOUND RD.
PHONE 1 (800) 825-8220
Website: www.traulsen.com

FT. WORTH, TX 76106
FAX-MKTG. 1 (817) 624-4302

Traulsen

ITEM NO.: 36 (1) REQUIRED
ITEM: ICE MACHINE (MCAR)
MANUFACTURER: MANITOWOC ICE INC
MODEL NO.: Q-Model Series 450, #QD-0453A
STD FEATURES:

- A. Dice cube size, 173 kgs/24hr
- B. Air cooled
- C. R404a refrigerant
- D. $\frac{3}{4}$ H.P.
- E. Stainless steel finish

ACCESSORIES:

- A. S-400 stainless steel bin with polyethylene seamless bin liner

Q-Model Series 450 Ice Cube Machine



*Q-Model Series 450
Ice Machine on S-400 Bin*

- *Up to 530* lbs. (241 kgs.) daily ice production*
- *Stackable, double daily ice production, 1,060* lbs. (482 kgs.)*
*Production rating outside the scope of ARI Standard 820
- *Only 30" (76.2 cm) wide*
- *Stainless steel exterior with the fit and finish of an appliance*
- *Rugged, corrosion-free base*
- *Patented cleaning and sanitizing technology*
- *New batch water system delivers better ice cube formation*
- *R-404A CFC-free refrigerant*
- *Warranty*
 - *5-year parts and 5-year labor coverage on ice machine evaporator*
 - *5-year parts and 3-year labor coverage on ice machine compressor*
 - *3 year parts-and-labor coverage on all other ice machine, dispenser, and storage bin components*



**ISO 9001
Quality
System
Certified**

THE RIGHT CLIMATE FOR LEADERSHIP

Manitowoc®

ICE CUBE MACHINES • ICE STORAGE BINS

Manitowoc Q-Model 450 Series

A seamless blend of thoughtful design, new technology and rugged construction.

Model	Cube size	Ice production 24 hours		Power kWh/100 lbs.
		lbs.	kgs.	
QR-0490A	regular	355	161	7.7
QR-0451W	regular	410	186	5.9
DD-0452A	dice	380	173	7.2
DD-0453W	dice	440	200	5.5
QY-0454A	half-dice	380	173	7.2
QY-0455W	half-dice	440	200	5.5
REMOTE AIR-COOLED WITH JC-0495A CONDENSER				
QR-0490N	regular	390	177	7.9
DD-0492N	dice	420	191	7.3
QY-0494N	half-dice	420	191	7.3

Water usage/100 lbs./45.4 kgs. of Ice
 Possible Water: 25.4 gallons, 99.83 liters • Water-cooled Condenser: 177 gallons, 670 liters
 Order ice storage bin separately. "A" or "W" following model number indicates "Air" or "Water" condensing unit. Ice storage bin and JC-0495A remote condenser must be ordered separately. Consult remote condenser specification sheet for details.

 Certified in Accordance with ARI Automatic Commercial Ice-Cube Machines (Batch-Type) Certification Program, which is based on ARI Standard 810

Ice Machine Electric

115/60/1 standard, (208-230/60/1 also available. For 230/50/1 see 50 cycle literature.) Remote only available in 115/60/1.
Minimum circuit ampacity: Air-cooled — 12.8 amps.
 Water-cooled — 11.9 amps. Remote — 13.6 amps.
Maximum fuse size: Air and Water-cooled — 20 amps.
 HACR-type circuit breakers can be used in place of fuses.

Specifications

BTU Per Hour:
 7,000 (average) 9,600 (peak)
Compressor:
 Nominal rating, 3/4 HP
Cupra-Nickel Condenser:
 (Water-cooled models)
 Adds protection from
 corrosive water elements.

Operating Limits:
 • Ambient Temperature Range:
 Air and water:
 35°-110°F (1.7°-43.3°C)
 Remote: -20°-120°F (-29°-49°C)
 • Water Temperature Range:
 33°-90°F (0.6°-32.2°C)

• Water Pressure for Maker
 Water In:
 Min. 20 psi (137.9 kPa)
 Max. 80 psi (551.1 kPa)
 • Condenser Inlet Water In:
 (Water cooled only)
 Min. 20 psi (137.9 kPa)
 Max. 150 psi (1,034.2 kPa)



Air Flow Top View



AuCS® Accessory



3 Cube Sizes Available



24-HOUR PRODUCTION †												lbs./kgs.	
AIR-COOLED UNIT				WATER-COOLED UNIT				REMOTE AIR-COOLED UNIT					
air temp	water temp			air temp	water temp			air temp	water temp				
F	50°	70°	90°	F	50°	70°	90°	F	50°	70°	90°		
C	10°	21°	32°	C	10°	21°	32°	C	10°	21°	32°		
70°	530	400	440	70°	520	450	420	-20° to 70°	490	440	400		
21°	241	218	200	21°	236	209	191	-29° to 21°	222	200	182		
80°	480	430	400	80°	510	450	410	90°	470	420	380		
27°	218	195	182	27°	232	204	186	32°	213	191	173		
90°	430	380	350	90°	500	440	400	100°	440	390	350		
32°	195	173	159	32°	227	200	182	38°	200	177	159		

†Production for Dice and Half Dice cubes. Regular cube is 3% less than chart and kWh/100 lbs. increases 3%.

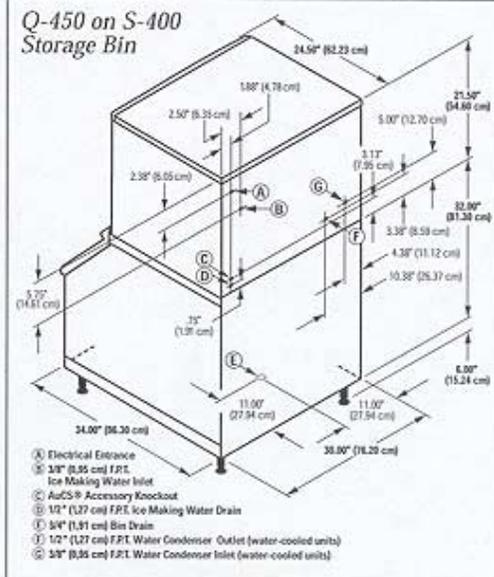
Space-Saving Designs



	Q-450 S-100	Q-450 S-570
Height	59.50" 151.13 cm	71.50" 181.61 cm
Width	30.00" 76.20 cm	30.00" 76.20 cm
Depth	34.00" 86.30 cm	34.00" 86.30 cm
Bin Storage	290 lbs. 131.7 kgs.	430 lbs. 195.2 kgs.

Height includes adjustable bin legs 6.00" to 7.00" (15.24 to 17.78 cm) set at 6.00" (15.24 cm). For comparison purposes multiply ARI capacity by 1.3 (00%) to arrive at approximate "Application Rating Capacity."

Q-450 on S-400 Storage Bin



Installation Note - Minimum Installation Clearance: Top/Sides are 8" (20.32 cm), Back is 5" (12.7 cm).

THE RIGHT CLIMATE FOR LEADERSHIP
 Contact your local Manitowoc Representative.

Manitowoc Ice, Inc.
 2110 South 26th Street, P.O. Box 1720 • Manitowoc, WI 54221-1720, USA
 Ph: 920-682-0161 • Fax: 920-683-7589
www.manitowocice.com



©2008 Manitowoc 3222C Fax: 339
 Certifying product performance may require change of specifications without notice.

ITEM NO.: 37 (3) REQUIRED
ITEM: MOBILE RACK (OMAR)
MANUFACTURER: CRES COR
MODEL NO.: 100-1841C
STD FEATURES:

- A. Multi-purpose storage cabinets of non-corrosive aluminum
- B. Full length reinforced door swings 270 degrees
- C. Card clip included to latch door to side of cabinet
- D. Holds 457 mm x 660 mm pan on 38 mm centers
- E. Heavy duty 127 mm swivel casters with neoprene tires; bearings sealed and permanently lubricated
- F. Front casters with brakes

ACCESSORIES:

- A. One piece wrap around, reinforced, non-marking rubber bumper, adds 51 mm to width and depth, Model Number 1405-0000



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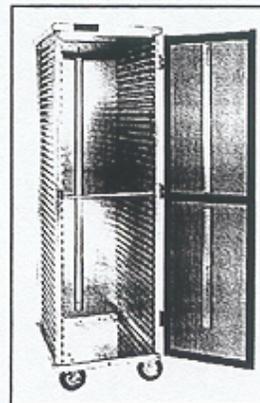
[Next](#)

NON-INSULATED TRANSPORT STORAGE CABINETS

100 SERIES

FEATURES AND BENEFITS:

- Non-insulated all purpose cabinet for transport and storage.
- Same size top and base extend past sidewalls to act as natural bumpers for protection. Extruded frame fully welded.
- Body constructed of non-corrosive, Hi-Tensile aluminum for strength and ease of mobility.
- Reinforced, full length door swings 270° and can be latched to the cabinet side for convenience. Card clip included.
- Gravity type latch secures door during transport.
- Corrugated sidewalls securely hold 18" x 26" pans on 1-1/2" centers without tipping. Provides added strength.
- Interior pan stops on door and back allow proper air flow.
- Heavy duty 5" swivel casters, two with brakes. Provides mobility when fully loaded.



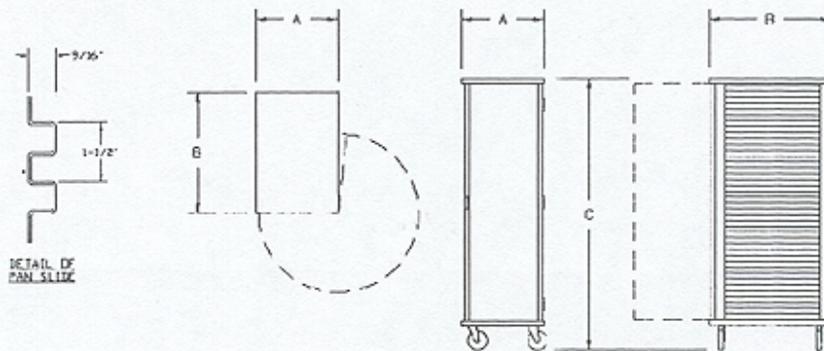
100-1841C



ACCESSORIES and OPTIONS (Available at extra cost):

- Lock Hasp
- Various Caster Options
- Corner Bumpers
- Perimeter Bumper
- Floor Lock (for use with 5" casters)
- Plexiglas Door
- Push Handle
- Left-Hand Hinged Door
- Pass-Thru version of 100-1841B
- Kold Keepers

Accessory Details



CRES-COR MODEL NO.	PAN		DIM "A"	DIM "B"	DIM "C"	INSIDE DIMENSIONS			WEIGHT ACT.		
	CAP	SIZE				WIDTH	DEPTH	HEIGHT			
100-1841C	40	18 X 26	IN	21	31	69-3/4	18-1/16	28-1/2	61-1/2	LBS	115
		45.7 X 66.0	CM	53.3	78.7	177.2	45.9	72.4	156.2	KG	52
100-1833C	32	18 X 26	IN	21	31	57-3/4	18-1/16	28-1/2	49-1/2	LBS	105
		45.7 X 66.0	CM	53.3	78.7	146.7	45.9	72.4	125.7	KG	48
100-1822C	22	18 X 26	IN	21	31	42	18-1/16	28-1/2	33-3/4	LBS	87
		45.7 X 66.0	CM	53.3	78.7	106.7	45.9	72.4	85.7	KG	39

NOTE: Send sample pan or tray with order when using any that are not an 18" x 26" pan with heavy beaded edge. When ordering bumpers, add 2" to overall dimensions.

ALL ALUMINUM CONSTRUCTION IS RIVETED, WELDED AND FINISHED.

CABINET:

- Posts: Extruded channels, 7/8 x 2-1/4 x .102, welded to top and base, form a solid frame.
- Sides: .063 corrugations riveted to posts.
- Back panel: Fitted into posts, riveted to top and reinforced.
- Tie rod: Applied at front of all cabinets 57-3/4" high and over.
- Top: One piece .100 aluminum.
- Pan stop channels: Mounted to inside rear of cabinet and door.

BASE:

- One piece construction, .190 aluminum.
- Casters: 5" dia., swivel, neoprene tires, 1-1/4 wide, load cap. 200 lbs. each, temp. range -20°/+160°F. Bearings are sealed and permanently lubricated. Front casters equipped with brakes.

DOOR:

- Panel: .063 brushed aluminum, fitted into door stile extrusions, 3/4 x 1-7/16 x .187.
- Reinforcement: 1/4 x 1-1/2 extruded bars riveted and welded horizontally to top, center and bottom.
- Latch: Gravity type, nickel plated steel.
- Swings 270° on 2 or 3 butt hinges, riveted to posts and stiles.

PAN SLIDES:

- Corrugations act as pan slides on 1-1/2" centers.

SHORT FORM SPECIFICATIONS

Cres-Cor Utility Cabinet Model 100-18 _____ C. Formed and welded .100 aluminum top, .190 aluminum base. No-tip .063 corrugated aluminum sides for (_____) 18" x 26" pans on 1-1/2" centers. Brushed .063 aluminum door, full frame welded construction. 5" swivel neoprene casters, permanently lubricated, sealed ball bearings. Load capacity 200 lbs. each. Provide the following accessories: _____. NSF listed. 2 year parts warranty.

ITEM NO.: 38 (5) REQUIRED
ITEM: SHELVING (OMAR)
MANUFACTURER: SERVOLIFT/EASTERN STEEL
MODEL NO.: SERIES 80-S
STD FEATURES:

- A. Approximate size: 1070 mm w x 460 mm d x 1625 mm h
- B. Two "free standing" units and five "add on" units required
- C. Angle bearer clips (used to connect multiple sections)
- D. Five solid-style shelves, 1.3 mm stainless steel
- E. Shelves with 32 mm high stop ledge on rear
- F. Adjustable sanitary bullet feet

ACCESSORIES:

- A. 25 mm O.D. stainless steel uprights with top caps

PROJECT:

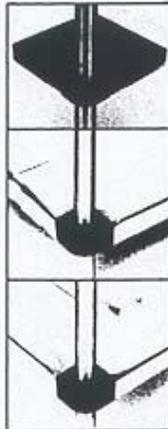
QUANTITY:

ITEM NO:

SHELVING - STANDARD DUTY SERIES 80

MOBILE OR STATIONARY

SOLID - SERIES 80S
Economical
Sanitary - no drop-through
to lower shelves

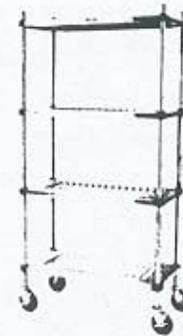


AEROFORM - SERIES 80A
Lengthwise channels for
air circulation
Sanitary - no drop-through
to lower shelves

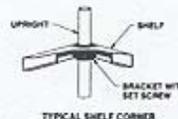
RIGIDFORM® - SERIES 80R
Slotted for air circulation



MODEL 80-S5



MODEL 80-R4-M



TYPICAL SHELF CORNER

SPECIFICATIONS

Series 80, standard duty shelving, mobile or stationary.

SHELVES:

SOLID:

Each shelf is press formed from a single sheet of 18 ga. stainless steel, 18 ga. galvanized steel or 16 ga. aluminum (as specified). It is flanged down 1-5/16" on all four sides and formed back at a 30° angle for rigidity. Each inside corner is fitted with an ABS black plastic bracket and sleeve to accommodate an upright. The bracket is securely crimped in place. The black plastic sleeve encloses the post and a set screw in the bracket locks the shelf at the desired height on the upright.

AEROFORM:

Each shelf is press formed from a single sheet of 18 ga. stainless steel, 18 ga. galvanized steel or 16 ga. aluminum (as specified). It is flanged down 1-5/16" on all four sides and formed back at a 30° angle on the long sides for rigidity. Raised channels, 3/4" wide x 5/32" high x 2" O.C., run the full length of the shelf and down each flanged end. Each inside corner is fitted with an ABS black plastic bracket and sleeve to accommodate an upright. The bracket is securely crimped in place. The black plastic sleeve encloses the post and a set screw in the bracket locks the shelf at the desired height on the upright.

RIGIDFORM:

Each shelf is press formed from a single sheet of 18 ga. stainless steel, 18 ga. galvanized steel or 16 ga. aluminum (as specified). It is flanged down 1-5/16" on all four sides and formed back at a 30° angle for rigidity. Die-stamped formed slots run down the middle, 1 1/4" O.C. Each inside corner is fitted with an ABS black plastic bracket and sleeve to accommodate an upright. The bracket is securely crimped in place. The black plastic sleeve encloses the post and a set screw in the bracket locks the shelf at the desired height on the upright.

UPRIGHTS: The uprights are 1" O.D. stainless steel or galvanized steel (as specified) fitted with top caps.

FEET: If stationary shelving is selected, each upright is fitted with an adjustable sanitary bullet foot.

CASTERS: If mobile shelving is selected, each upright is fitted with a 5" diameter, heavy-duty, double ball bearing swivel caster with non-marking rubber tire.

ANGLE BEARER CLIPS: When multiple stationary shelving sections are specified, formed stainless steel clips are provided to support adjoining shelves (see below). (Two uprights are omitted at each juncture).



NOTE: When multiple stationary sections are specified, please supply layout drawing.

Specifications continued
on other side.

SERVOLIFT **EASTERN**
CORPORATION

266 HANCOCK STREET, BOSTON, MASSACHUSETTS 02125
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PAGE
G-5
REV. 6-

ITEM NO.: 39 (1) REQUIRED
ITEM: VEGETABLE SINK (MCR)
MANUFACTURER: FABRICATOR
MODEL NO.: CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.
PROVIDE:

- A. One faucet (see plumbing specification)
- B. Drain assembly each compartment
- C. Goose-neck spray assembly with wall brace

ITEM NO.: 40 (2) REQUIRED
ITEM: TRAY BUSING RACK, DOUBLE (OMAR)
MANUFACTURER: CRES COR
MODEL NO.: 2213-1824B (see Notes)
STD FEATURES:

- A. Approximate size: 1070 mm w x 770 mm d x 1770 mm h
- B. Tray bussing rack of non-corrosive aluminum
- C. Extruded channels riveted in place and spaced 130 mm on center
- D. Channels designed to securely hold tray top and bottom (tray will not tip if half way out of the channel)
- E. Heavy duty 127 mm swivel casters with neoprene tires; bearings sealed and permanently lubricated
- F. Front casters with brakes

ACCESSORIES:

- A. Side enclosures
- B. Back enclosure
- C. Bottom enclosure
- D. One piece wrap around, reinforced, non-marking rubber bumper, adds 51 mm to width and depth

NOTES:

- A. Verify tray size with Contracting Officer before ordering item to ensure correct model number is ordered
- B. Item shall be from the same manufacturer as Item # 44 Dispenser, Cup and Glass, and #45 Dispenser, Silverware/Tray, with the same construction and styling

CRES COR[®]

[CresCor](#) [Index/Search](#) [Accessories](#)
[Home Page](#)

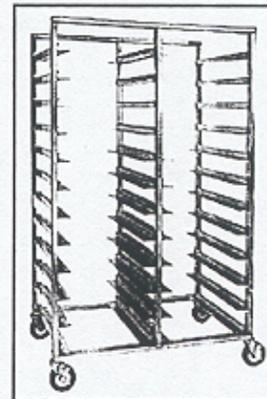
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CHANNEL SLIDE DOUBLE TRAY RACK

MODEL 2213-1824

FEATURES AND BENEFITS:

- Versatile double tray rack for transporting meal trays and bussing afterwards. Rack holds 14" x 18" trapezoid trays as well as 13" x 18", 14" x 18", and 18" x 26" standard pans.
- Rack can be enclosed on sides and back for use as an attractive tray return cart.
- Fully welded framework of structural aluminum extrusions for rigidity and durability.
- Constructed of non-corrosive, Hi-Tensile aluminum for strength.
- Special "sure-hold" extrusions, riveted in place on 5-1/8" centers, securely hold tray's top and bottom; will not tip even when pulled half way out.
- Heavy duty 5" swivel casters, two with brakes. Provides mobility when fully loaded.



2213-1824

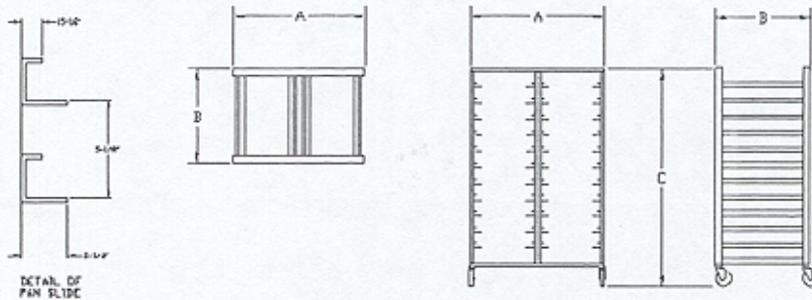


ACCESSORIES and OPTIONS (Available at extra cost):

- Top Enclosure
- Side Enclosure
- Back Enclosure
- Bottom Enclosure
- Pan Stops
- Push Handle
- Corner Bumpers
- Vertical Bumpers
- Perimeter Bumper
- Rotary Bumpers (for use with 5" casters)
- Floor Lock (for use with 5" casters)

- Various Caster Options

Accessory Details



CRES-COR MODEL NO.	PAN		DIM "A" WIDTH	DIM "B" DEPTH	DIM "C" HEIGHT	INSIDE DIMENSIONS			WEIGHT ACT.		
	CAP	SIZE				*WIDTH	DEPTH	HEIGHT			
2213-1824	48	13 x 18	IN	42-3/16	30-1/4	69-9/16	18-3/4	29-1/2	61-3/8	LBS	122
		33.0 x 45.7	CM	107.2	76.8	176.7	47.6	74.9	155.9	KG	53
	48	14 x 18	IN								
		35.6 x 45.7	CM								
	24	18 x 26	IN								
		45.7 x 66.0	CM								
	48	Trapezoid 14 x 18	IN								
		35.6 x 45.7	CM								

*Inside width dimension for each compartment. When ordering bumpers, add 2" to overall dimensions.

ALL ALUMINUM CONSTRUCTION IS RIVETED, WELDED AND FINISHED.

RACK:

- Posts: Closed post extrusions, 1-1/16 x 2.
- Top and bottom: Extruded channels, 1-1/16 x 2-3/8 x .188; welded to posts.
- Casters: 5" dia., swivel, neoprene tires, 1-1/4 wide, load cap. 200 lbs. each, temp. range -20°/+160°F. Bearings are sealed and permanently lubricated. Two casters equipped with brakes.

PAN SLIDES:

- Extruded channels, 15/16 x 1-7/16 x 2-1/2 x .100; riveted to posts on 5-1/8" centers.

SHORT FORM SPECIFICATIONS
Cres-Cor Double Tray Rack Model 2213-1824. Extruded aluminum welded construction with no-tip "C" type channel slides riveted on 5-1/8" centers. Capacity (48) 14" x 18" trapezoid or (24) 18" x 26" pans. 5" swivel neoprene casters, permanently lubricated, sealed ball bearings. Load capacity 200 lbs. each, temperature -20° to +160°F. Provide the following accessories: _____ . NSF listed.

ITEM NO.: 41 (1) REQUIRED
ITEM: STAINLESS STEEL TRAY SLIDE (MCR)
MANUFACTURER: FABRICATOR
MODEL NO.: CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.
PROVIDE:

- A. Stainless steel solid-style tray slide
- B. Tray slide surface ribbed

NOTE:

- A. Width includes wall / window sill thickness

ITEM NO.: 42 (1) REQUIRED
ITEM: COFFEE URN (MCAR)
MANUFACTURER: WILBUR CURTIS COMPANY INC
MODEL NO.: RU-150
STD FEATURES:

- A. Automatic coffee urn, single model 3 gallon capacity
- B. Automatic refill during brewing cycle
- C. Thermostatically controlled for near-instant recovery
- D. Closed-lid brewing
- E. Swing-spray head
- F. Electric operation
- G. Stainless steel filter basket with hold-down flaps
- H. Automatic agitator/aerator
- I. Manual agitator/aerator
- J. Emergency refill
- K. Brews up to 13 gallons coffee per hour
- L. UL listed
- M. NSF approved
- N. Hot water faucet

ACCESSORIES:

- A. Double check valve
- B. Half brew cycle
- C. Everpure water filter
- D. Low water cut off thermostat

SPECIFICATIONS

Finished Brew
Water Jacket
Coffee Production/Hr.
Dimensions (HxWxD)
STANDARD RATINGS AVAILABLE
220VAC Single Phase
Three Wire Plus Ground
(May be used on 208-240V Systems)
Specify Voltage & Wartsage when ordering
220VAC Three Phase**
Three Wire Plus Ground
Gas Heated (Nat. or LP)***
Water Inlet
Apx. Shipping Weight
Cup

SINGLE URNS		TWIN URNS	
RU-150 3 Gallons 8 Gallons Up to 13 Gallons see brochure	RU-225 6 Gallons 13 Gallons Up to 25 Gallons see brochure	RU-300 3 Gallons ea. side 13 Gallons Up to 25 Gallons see brochure	RU-600 6 Gallons ea. side 23 Gallons Up to 30 Gallons see brochure
5KW23A	7KW32A	8KW27A 8KW36A	8KW27A 8KW36A 10KW46A
5.25KW14A 42,000 BTU 1 1/4" Flare 80 lbs. 11.19 cu. ft.	7.5KW20A 42,000 BTU 1 1/4" Flare 95 lbs. 12.49 cu. ft.	7.5KW20A 8KW24A 82,000 BTU 1 1/4" Flare 95 lbs. 12.47 cu. ft.	10KW28A 15KW36A 82,000 BTU 1 1/4" Flare 120 lbs. 25.78 cu. ft.
			RU-1000 10 Gallons ea. side 33 Gallons Up to 50 Gallons see brochure
			8KW27A 8KW36A 10KW46A 10KW28A 15KW36A 82,000 BTU 1 1/4" Flare 170 lbs. 25.99 cu. ft.

** May be used on 208-240V Systems.
*** Due to the lower efficiency GAS heated urns tend to have lower recovery than electric. Connection to a hot water supply can help. A special inlet valve can be furnished for 140-180°F incoming water. Note: Filters are rated for up to 100°F only. Steam heated models are available in all sizes. Require 15-50 psi steam pressure. 120VAC/4.5A for controls. Special voltage: 380, 440, 480 volts available for 3 phase, 3 or 4 wire plus ground.

ITEM NO.: 43 (1) REQUIRED
ITEM: DRINK STAND, W/ DOLLY (MCAR)
MANUFACTURER: FABRICATOR
MODEL NO.: CUSTOM - SIZE AND SHAPE AS INDICATED AND SPECIFIED.
PROVIDE:

- A. Stainless steel construction
- B. 610 mm doors, pair, left approx. 2/3 of unit
- C. 457 mm doors, pair, right approx. 1/3 of unit
- D. Full length drip tray approx. 100 mm w x 100 mm d with 25 mm NPT drain
- E. Open bottom left 2/3 of unit (behind paired 610 mm doors)
- F. Closed bottom right 1/3 of unit (behind paired 457 mm doors) with intermediate shelf
- G. One each 254 mm w x 127 mm h cutout in back of stand (for access to electrical outlet and hose bib), coordinate location with electrical and plumbing connections
- H. One each stainless steel dolly minimum of 660 mm w x 660 mm d x 381 mm h (to accommodate five syrup tanks) with four 50 mm minimum diameter non-marring casters
- I. Full length solid ribbed tray slide 33 mm wide
- J. Two each 9.5 mm grommeted holes for water lines connected to Coffee Urn (Item # 42) and Soda Dispenser (NIC)
- K. Two galvanized eyelets rated for 68 kg with 25 mm I.D. located inside unit in front left corner located to accommodate chain for securing co2 tank

NOTES:

- A. Electric outlet on wall above stand for Coffee Urn Item # 42
- B. Electric outlet on wall below counter top at back of stand for Soda Dispenser (NIC)
- C. Hose bib on wall below counter top at back of stand for water connections to Coffee Urn Item #42 and Soda Dispenser (NIC)

ITEM NO.: 44 (3) REQUIRED
ITEM: DISPENSER, CUP AND GLASS (OMAR)
MANUFACTURER: SERVOLIFT
MODEL NO.: ACCA-ST-20 X 20
STD FEATURES:

- A. Cantilever style, mobile, adjustable cup and glass dispenser, 584 mm w x 787 mm d x 940 mm h (23"w x 31"d x 37"h)
- B. Dispensing mechanism raised by a series of coil springs attached to the frame; ball bearing guides and one steel aircraft type cable keep rack carrier level even with uneven load; cable runs over pre-lubricated plated steel pulleys
- C. Approximate capacity - up to 192 glasses or 175 cups
- D. Stainless steel tubular push handle
- E. Frame is all-welded heavy gauge steel finished with gray baked enamel over rust-resisting undercoat; mounted on 1.2 mm (12 gauge) stainless steel "Z" section base
- F. Body is 2 mm (20 gauge) stainless steel on all sides and top
- G. Rack carrier is all-welded 1.6 mm (16 gauge) stainless steel
- H. Front panel removable for adjustment access

ACCESSORIES:

- A. Heavy duty 127 mm (5") swivel double ball bearing casters with non-marking rubber tires
- B. Back two casters with brakes
- C. One piece wrap around, reinforced, non-marking rubber bumper, adds 51 mm (2") to width and depth
- D. For 508 mm x 508 mm (20" x 20")size dishwasher racks

NOTES:

- A. Verify dishwasher rack size with Contracting Officer before ordering item to ensure correct model number is ordered, especially if the Contractor substitutes a different manufacturer/model number dishwasher than as listed
- B. Item shall be from the same manufacturer as Tray Busing Rack, Double, Item # 40 And Dispenser, Silverware / Tray Item # 45, with the same construction and styling.

CUP AND GLASS DISPENSER

CANTILEVER STYLE, WALL MOUNTED
ADJUSTABLE



MODEL ACFW 

CAPACITY—
Up to 192 glasses
or 175 cups, in racks



MODEL 750 DOLLY (optional)

SPECIFICATIONS

Model ACFW wall mounted dispenser for cups or glasses in racks.

FRAME AND BODY: The frame is constructed of all-welded heavy gauge steel finished with gray baked enamel over a rust-resisting undercoat. The body is 20 ga. stainless steel on the front, sides and top. The front panel is removable for adjustment access. Holes for wall mounting are provided in the rear.

DISPENSING MECHANISM: The rack carrier, constructed of all-welded 16 ga. stainless steel, is raised by a series of coil springs attached to the frame. Ball bearing guides and a single stainless steel aircraft type cable keep the carrier level in all directions, even with an unbalanced load. The cable runs over pre-lubricated plated steel pulleys.

ADJUSTMENT: Adjustment for various weights is easily accomplished by removing the front panel, then engaging or disengaging individual springs as required.

OPTIONAL ITEM

- Model 750 Dolly. See page B-6 for specifications



NOTE: RACK SIZE
includes height of 1/2" bumper
on back top.

RACK SIZE	A	B
<input type="checkbox"/> 10 x 20	21	18
<input type="checkbox"/> 20 x 10	14	26
<input type="checkbox"/> 14 x 20	21	26
<input type="checkbox"/> 20 x 20	21	26

HEIGHT 31" — Other heights available
Shipping weight—125
Model 750 dolly is 40" high

CUP AND GLASS DISPENSER

CANTILEVER STYLE, MOBILE
ADJUSTABLE



MODEL ACCA-ST 

CAPACITY—
Up to 192 glasses
or 175 cups, in racks

SPECIFICATIONS

Model ACCA-ST mobile dispenser for cups or glasses in racks.

FRAME AND BODY: The frame is constructed of all-welded heavy gauge steel finished with gray baked enamel over a rust-resisting undercoat and mounted on a 1/2" gal. stainless steel "Z" section base. The body is 20 ga. stainless steel on all sides and top, and is fitted with a stainless steel tubular push handle. The front panel is removable for adjustment access.

DISPENSING MECHANISM: The rack carrier, constructed of all-welded 16 ga. stainless steel, is raised by a series of coil springs attached to the frame. Ball bearing guides and a single stainless steel aircraft type cable keep the carrier level in all directions, even with an unbalanced load. The cable runs over pre-lubricated plated steel pulleys.

ADJUSTMENT: Adjustment for various weights is easily accomplished by removing the front panel, then engaging or disengaging individual springs as required.

CASTERS: The unit is mounted on four 4" diameter, heavy-duty, double ball bearing casters with non-marking rubber tires.

OPTIONAL ITEMS

- One piece, wrap-around, non-marking, vinyl bumper. (Add 2" to length and width).
- 2 rigid casters in lieu of swivel.
- 2 casters with brakes.
- 5" diameter casters in lieu of 4". (Increase height by 1")
- Casters with polyurethane tires.



RACK SIZE	A	B
<input type="checkbox"/> 10 x 20	21	18
<input type="checkbox"/> 14 x 20	15	26
<input type="checkbox"/> 20 x 20	21	26

HEIGHT 32" — Other heights available.
Shipping weight—150.

SERVOLIFT EASTERN CORPORATION

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(617) 825-9000 • FAX: (617) 825-1292

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ITEM NO.: 45 (2) REQUIRED
ITEM: DISPENSER, SILVERWARE / TRAY (OMAR)
MANUFACTURER: SERVOLIFT
MODEL NO.: ATCA-ST-OSW8, TRAY SIZE 356 MM X 457 MM (14" x 18")
STD FEATURES:

- A. Cantilever style, mobile, adjustable tray and silverware dispenser, 483 mm w x 737 mm d x 1295 mm h (19"w x 29"d x 51"h)
- B. Top mounted stainless steel sloped overhead-type silverware dispenser, enclosed on all four sides with eight openings for round silverware cylinders
- C. Dispensing mechanism raised by a series of coil springs attached to the frame; ball bearing guides and one steel aircraft type cable keep rack carrier level even with uneven load; cable runs over pre-lubricated plated steel pulleys
- D. Approximate capacity - 100 to 150 trays, 35 to 40 pieces of silverware per cylinder
- E. Frame is all-welded heavy gauge steel finished with gray baked enamel over rust-resisting undercoat; mounted on 1.2 mm (12 gauge) stainless steel "Z" section base
- F. Body is 2 mm (20 gauge) stainless steel on all sides and top
- G. Tray carrier is all-welded 1.6 mm (16 gauge) stainless steel
- H. Front panel removable for adjustment access

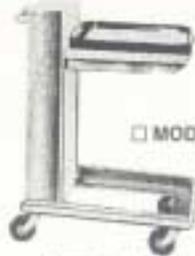
ACCESSORIES:

- A. Heavy duty 127 mm (5") swivel double ball bearing casters with non-marking rubber tires
- B. Back two casters with brakes
- C. One piece wrap around, reinforced, non-marking rubber bumper, adds 51 mm (2") to width and depth
- D. Eight nylon silverware cylinders

NOTES:

- A. Verify tray size with Contracting Officer before ordering item to ensure correct model number is ordered
- B. Item shall be from the same manufacturer as Tray Busing Rack, Double Item # 40 and Dispenser, Cup And Glass Item #44, with the same construction and styling

TRAY AND SHEET PAN
DISPENSERS
CANTILEVER STYLE, MOBILE
ADJUSTABLE



MODEL ATCA-ST

Shown with optional
wrap-around bumper



MODEL AZTCA-ST



MODEL ASCA-ST

CAPACITY— Approx. 100 to 150 trays
per carrier.

FOR 18 x 26 SHEET PANS
CAPACITY— Up to 75 pans

SPECIFICATIONS

Model ATCA-ST, AZTCA-ST or ASCA-ST cantilever style mobile tray and silverware dispensers.

FRAME AND BODY: The frame is constructed of all-welded heavy gauge steel finished with gray baked enamel over a rust-resisting undercoat and mounted on a 12 ga. stainless steel "Z" section base. The body is 20 ga. stainless steel on all sides and top, and is fitted with a stainless steel tubular push handle. Model AZTCA-ST is constructed similarly to Model ATCA-ST except that it consists of a double size frame and body mounted on a single "Z" section base, and has two independent tray carriers and dispensing mechanisms to accommodate two stacks of trays. Model ASCA-ST has stainless steel stops at the front of the carrier to allow it to handle extremely heavy loads. The front panel is removable for adjustment access.

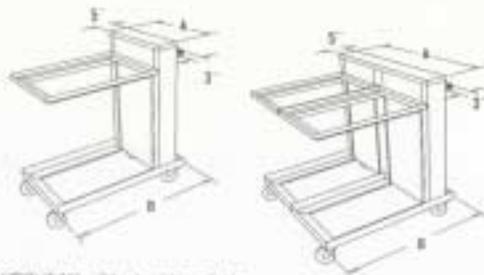
DISPENSING MECHANISM: The tray and pan carriers (two on Model AZTCA-ST), constructed of all-welded 16 ga. stainless steel, are each raised by a series of coil springs attached to the frame. Ball bearing guides and a single stainless steel aircraft type cable keep each carrier level in all directions, even with an unbalanced load. The cable runs over pre-lubricated plated steel pulleys.

ADJUSTMENT: Adjustment for various tray or pan weights is easily accomplished by removing the front panel, then engaging or disengaging individual springs as required.

CASTERS: Each unit is mounted on four 4" diameter, heavy-duty, double ball bearing casters with non-marking rubber tires.

OPTIONAL ITEMS

- One piece, wrap-around, non-marking, vinyl bumper. (Add 2" to length and width).
- 2 rigid casters in lieu of swivel.
- 2 casters with brakes.
- 5" diameter casters in lieu of 4". (Increase height by 1")
- Casters with polyurethane tires.



HEIGHT 36" — Other heights available.

TRAY SIZE	TCA-ST		ZTCA-ST		SCA-ST 1826	
	A	B	A	B	A	B
<input type="checkbox"/> 10 x 14	15	20	30	20		
<input type="checkbox"/> 12½ x 18½	14	25½	28	25½		
<input type="checkbox"/> 14 x 18	15	27	30	27		
<input type="checkbox"/> 15½ x 20½	17	29½	34	29½		
<input type="checkbox"/> 17½ x 21	18	30	36	30		
<input type="checkbox"/> 18 x 22	17	31	34	31		
<input type="checkbox"/> 18 x 26	—	—	—	—	19	25

Shipping weight ATCA-ST—150.
Shipping weight AZTCA-ST—280.
Shipping weight ASCA-ST—175.

SERVOLIFT EASTERN
CORPORATION

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ITEM NO 46 (1) REQUIRED
ITEM: GLASS FILLER ADDED TO ASSEMBLY
HALL EWC (SEE PLUMBING DRAWINGS
AND SPECIFICATIONS) (MCAR)
MANUFACTURER: T & S BRASS AND BRONZE WORKS
MODEL NO.: B1225
Std features:
A. COMBINATION GLASS AND PITCHER FILLER
B. PUSH BACK GLASS FILLER WITH VOLUME REGULATOR
C. SWING NOZZLE FOR PITCHERS

ACCESSORIES:
NONE



T&S BRASS AND BRONZE WORKS, INC
 2 SADDLEBACK COVE / P.O. BOX 1088 / TRAVELERS REST, SC 29690
 PHONE 800-476-4103

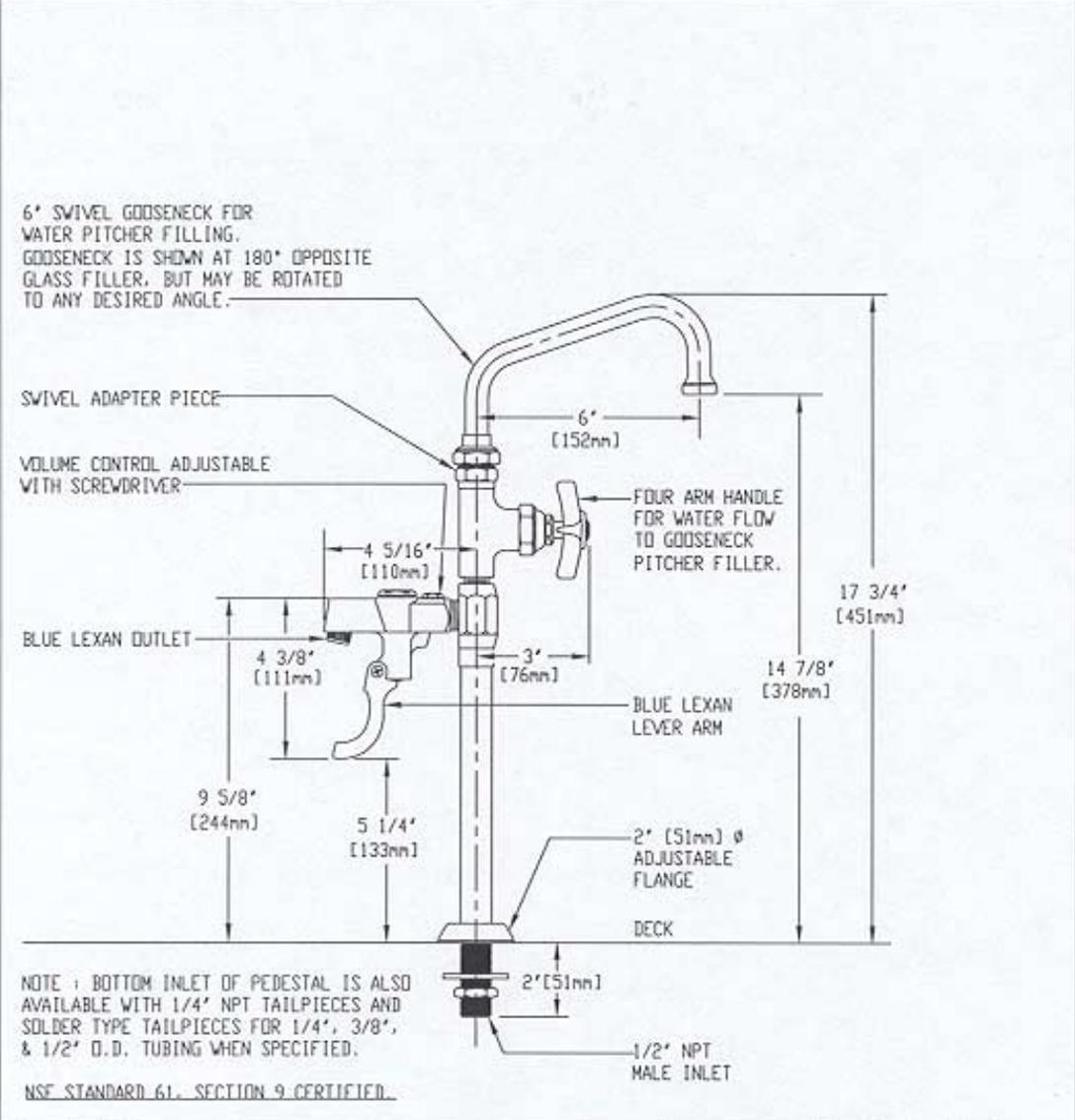


REG. #A2601
 ISO #5002

Model No.
 B-1225
 Item No.:

Job Name: _____ Architect/Engineer Approval: _____

Notes:



Product Description: COMBINATION GLASS & PITCHER FILLER, PUSH BACK DESIGN FOR GLASS, 6" SWING NOZZLE FOR PITCHER INDEPENDENT OPERATION, 1/2" NPT MALE SHANK	Drawn: WJS	Checked: ARD	Scale: 3"=1'
	Approved: CA	Date: 8/11/95	

ITEM NO.: 47 (1) REQUIRED
ITEM: MAKE-UP AIR UNIT (KMAU-1) AND KITCHEN
FAN (KF-1) FOR HOOD ITEM # 27 (SEE
MECHANICAL DRAWINGS AND
SPECIFICATIONS) (MCAR)
MANUFACTURER: GREENHECK
MODEL NO.: KSU ARRANGEMENT A
STD FEATURES:
A. As indicated and specified (see Mechanical drawings and
specifications)
ACCESSORIES:
A. As indicated and specified (see Mechanical drawings and
specifications)