

DESIGN/BUILD CRITERIA MANUAL
For
YOST FIELD - RESTROOM AND PAVILION

City of Mount Pleasant
Isabella County, MI

OHM - Advisors
2502 University Park Drive Suite D-200
0075-12-0031
Mount Pleasant, MI 48858



August 23, 2013

CITY OF MOUNT PLEASANT

YOST FIELD – RESTROOM AND PAVILION

DIVISION 0

Procurement and Contract Requirements

**SECTION 00 01 10
TABLE OF CONTENTS**

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

- 00 10 00 Table of Contents
- 00 10 01 Notice to Bidders

Procurement Requirements

- 00 10 05 General Conditions
- 00 11 19 Request for Proposals
- 00 43 23 Proposal Form

Contracting Requirements

- 00 52 53 Standard Form of Agreement between Owner and Design-Builder – AIA A141, 2004
- 00 60 00 Project Forms
 - Lien Waiver – Sample Form
 - Design-Builder's Payment Application Checklist
 - A312 Performance Bond
 - A312 Payment Bond

DIVISION 01 – GENERAL REQUIREMENTS

- 01 11 00 Summary of the Work
- 01 51 00 Temporary Facilities
- 01 60 00 Product Requirements
- 01 77 00 Closeout Procedures Criteria
- 01 78 23 Operation & Maintenance Data Criteria
- 01 78 36 Warranties Criteria

DIVISION 02 – 16 – UPDATED CATALOG CUTS AND FIXTURE REQUIREMENTS

DIVISION 02 – 16 - TECHNICAL REQUIREMENTS

- 02 00 00 Site Work
- 03 00 00 Concrete
- 04 00 00 Masonry
- 05 00 00 Metals
- 06 00 00 Carpentry
- 07 00 00 Moisture Protection
- 08 00 00 Doors, Windows, and Glass
- 09 00 00 Finishes
- 10 00 00 Specialties
- 15 00 00 Mechanical
- 16 00 00 Electrical

END OF SECTION

NOTICE TO BIDDERS

Restroom – Pavilion Design Build Yost Field

August 2013

The City of Mt. Pleasant is requesting sealed Bids at the Office of the City Clerk, City Hall, 320 W. Broadway St., Mt. Pleasant, MI 48858 until 1:30 pm on September 3, 2013, at which time and place the bids will be publicly opened and read. All bids shall be submitted in a sealed envelope, plainly marked "Bid Enclosed - Yost Field Restroom & Pavilion Project – September 2013."

Proposals are solicited on a lump sum basis for complete construction of a park restroom pavilion facility connected to city sewer and water.

To view and download complete plans and specifications at no charge, visit the City of Mt. Pleasant website at www.mt-pleasant.org/bids or for a non-refundable fee of \$25.00 at the Department of Parks and Public Spaces, 320 W. Broadway Street, Mt. Pleasant, Michigan 48858, Monday through Friday, 8:00 a.m. to 4:30 p.m. A non-refundable \$30.00 fee is required for plans and specifications that are mailed.

A mandatory pre-bid meeting will be held Thursday, August 29, 2013 at 2:00 p.m. at Yost Field, 1304 Fessenden Avenue, Mt. Pleasant, MI 48858. All interested bidders must promptly attend this pre-bid conference to have their bid considered valid.

The City of Mt. Pleasant reserves the right to accept or reject any or all bids and award the contract to other than the lowest bidder, to waive any irregularities or informalities or both; and in general to make the award of the Contract in any manner deemed by the City.

Chris Bundy
Director of Parks & Public Spaces
(989) 779-5328

Jeremy Howard
City Clerk

Dated: August 26, 2013

**SECTION 00 10 05
GENERAL CONDITIONS**

PART 1 - GENERAL

1.01 DOCUMENTS

- A. "The General Conditions of the Contract for Construction", AIA Document A-201, 2007, form a part of these Contract Documents and shall have the same effect as if bound herein.
 - B. This document is modified as described in Section 001010, Supplementary Conditions.
 - C. It is the responsibility of all Contractors to obtain the Document in original form, to review it in detail and to determine how it is affected by the Supplementary Conditions.
1. Copies are available for purchase from AIA at <http://www.aia.org> .

END OF SECTION 00 10 05

**SECTION 00 11 19
REQUEST FOR PROPOSAL**

Project Name: YOST FIELD – RESTROOM AND PAVILION

Owner: City of Mount Pleasant

1.1 Requirements of Pricing and Technical Proposal

- A. Each Proposer shall submit the following information with their Technical Proposal:
1. Completed Proposal Form indicating Guaranteed Maximum Price for the Work. Refer to section 00 43 23.
 2. Performance & Bid Bond. Refer to section 00 61 13.13
 3. Identify of all major consultants/subcontractors, including Architects, Engineers, and subcontractors. Include company resumes for each consultant/subcontractor. Refer to section 01 11 00 for requirements of consultants and/or subcontractors.
 4. Identify of all key personnel and personal resumes, including Architect, Engineer, Project Manager, Superintendent, etc.
 5. Written narrative describing proposed improvements and any alternates provided.
 6. Proposed floor plan for the restroom/storage portion and also for the pavilion portion of the building, along with elevations.
 7. Identify all proposed equipment, fixtures, furniture, etc. with specification and catalog information. Refer to section 01 60 00 for product requirements.
 8. Identify all proposed materials and finishes.
 9. Identify all proposed temporary facilities, including temporary utilities required.
 10. Identify the Project Schedule from start of Preconstruction services through completion of Construction. Refer to section 01 11 00 for Milestones to be incorporated into the overall Project Schedule.
 11. Identify all Work excluded in the Technical Proposal.

1.2 Technical Proposal Submission

- A. Due Date: September 3, 2013 at 1:30pm.
Submit Sealed Bids to: Office of the City Clerk, Mt. Pleasant City Hall,
320 W. Broadway Street, Mt. Pleasant, MI, 48858
Attn.: Yost Field-Restroom & Pavilion Project September 2013
- B. Number of Copies: Three (3)

1.3 Pre-Bid Conference

- A. A **“MANDATORY”** pre-bid conference will be held on August 29, 2013 at 2:00, meeting at Yost Field, (1304 Fessenden Ave., Mt. Pleasant, MI 48858), to discuss the goals of the project and review examples of desired finishes to match the existing facilities in other City Parks.

**SECTION 00 43 23
PROPOSAL FORM**

1.1 PROPOSAL SUBMITTED BY:

(Design Builder)

DATED: _____, 20____

1.2 Submit Sealed Bids to:

Office of the City Clerk, Mt. Pleasant City Hall,
320 W. Broadway Street, Mt. Pleasant, MI, 48858
Attn.: Yost Field-Restroom & Pavilion Project September 2013

1.3 Having carefully reviewed the Instructions to Proposers, Drawings, Specifications and other Criteria Documents for the Project entitled:

Yost Field – Restroom and Pavilion

and likewise having inspected the site and the conditions affecting and governing the Project and confirmed the location of the site utilities and all existing structures, the undersigned hereby proposes to furnish all design, materials, and labor necessary to complete the Project on a timely basis and in accordance with the Contract Documents regardless of whether expressly provided for such Specifications and Drawings.

1.4 Before completing the Proposal Form, the undersigned represents that it has carefully reviewed the Criteria Documents. Failure to comply with provisions of the Criteria Documents may be cause for disqualification of the Proposal.

1.5 BONDS AND CONTRACT: If the undersigned is notified of Proposal acceptance, it agrees to furnish required bonds as indicated in the Instructions to Proposers.

1.6 COMPLETION OF WORK: In submitting a Proposal, the undersigned agrees to execute the Owner-Design-Builder Agreement in the form included in the Criteria Documents and to Substantially Complete its Work as required by the Criteria Documents.

NOTE A: The wording of the Proposal Form shall be used throughout, without change, alteration, or addition. Any change may cause it to be rejected.

NOTE B: Owners right to reject bids.

1. All proposals submitted shall remain firm for sixty (60) days.
2. The owner reserves the right to reject any and all bids.
3. The owner reserves the right to exercise discretion in awarding a contract, (even if the awarded contract is not low bid).

2.1 PROPOSAL:

ITEM 1. PROPOSAL PACKAGE 1: All Work described in the Criteria

Documents for the guaranteed maximum sum of \$ _____

(Proposal amount stated in words)

The Pre-construction Services Cost included in this Proposal Package is:

\$ _____

The Construction Phase Personnel Cost included in this Proposal Package is:

\$ _____

The General Conditions Cost included in this Proposal Package is:

\$ _____

The Subcontractor Work Cost included in this Proposal Package is:

\$ _____

The Self-Performed Work Cost included in this Proposal Package is:

\$ _____

The Contingency Cost included in this Proposal Package is:

\$ _____

The Design-Builder Fee included in this Proposal Package is:

\$ _____

1. EXPERIENCE QUESTIONNAIRE
TO BE FURNISHED BY BIDDER
CITY OF MOUNT PLEASANT, MICHIGAN

The signatory of this proposal guarantees the truth and accuracy of all statements and of all answers hereinafter made.

2. How many years have you been in business as a contractor under your present name? _____
2. How many years have you been a principal officer of a firm under a different name?
 Name of Firm _____
3. What projects of a similar nature has your organization contracted for within the past five years? (NOTE: Fill out each blank completely.)

Name of Owner Name/Address/Phone #	Location of Person in Charge of as Reference	Type Work	Value Work	Date Completed
1.				
2.				
3.				
4.				
5.				
6.				

3.1 INSTRUCTIONS FOR SIGNING

- A. The person signing for a sole proprietorship must be the sole proprietor or his authorized representative. The name of the sole proprietor must be shown below.
- B. The person signing for a partnership must be a partner or his authorized representative.
- C. The person signing for a corporation must be the president, vice president, or other representative; or he must show authority, by affidavit, to bind the corporation.
- D. The person signing for some other legal entity must show his authority, by affidavit, to bind the legal entity.

4.1 PROPOSER CERTIFICATIONS. The Proposer hereby acknowledges that the following are representative in this Proposal are material and not mere recitals:

- A. The Proposer acknowledges that this is a public project involving public funds, and that the Owner expects and requires that a successful Proposer adhere to the highest ethical and performance standards. The Proposer by submitting its Proposal pledges and agrees that (a) it will act at all times with absolute integrity and truthfulness in its dealings with the Owner, (b) it will use its best efforts to cooperate with the Owner on the Project and at all times will act with professionalism and dignity in its dealings with the Owner, (c) it will assign only competent supervisors and workers to the Project, each of whom is fully qualified to perform the tasks that are assigned to him/her, and (d) it has read, understands and will comply with the terms and conditions of the Criteria Documents.
- B. The Proposer represents that it has had a competent person carefully and diligently inspect and examine the entire site for the Project and the surrounding area, including all parts of the site applicable to the Work for which it is submitting its Proposal, including the location, condition and layout of the site and the location of utilities, and carefully correlate the results of the inspection with the requirements of the Contract Documents. The Proposer agrees that its Proposal shall include all costs attributable to site and surrounding area conditions that would have been discovered by such careful and diligent inspection and examination of the site and the surrounding area, and the Proposer shall not be entitled to any additional compensations, or additional time on account of conditions that could not have been discovered by such an investigation.
- C. The Proposer and each person signing on behalf of the Proposer certifies, and in the case of a Proposal by joint venture, each member thereof certifies as to such member's entity, under penalty of perjury, that to the best of the undersigned's knowledge and belief; (a) the Base Proposal, any Unit Prices and any Alternate Proposal in the Proposal have been arrived at independently without collusion, consultation, communication or agreement, or for the purpose of restricting competition as to any matter relating to such Base Proposal, Unit Prices or Alternate Proposal with any other Proposer; (b) unless otherwise required by law, the Base Proposal, any Unit Prices and any Alternate Proposal in the Proposal have not been knowingly disclosed by the Proposer and will not knowingly be disclosed by the Proposer prior to the Proposal opening, directly or indirectly, to any other Proposer

who would have any interest in the Base Proposal, Unit Prices or Alternate Proposal; (c) no attempt has been made or will be made by the Proposer to induce any other Person to submit a Proposal for the purpose of restricting competition; and (d) the statements made in this Proposal Form are true and correct.

- D. The Proposer will execute the form of Owner/Design-Builder Agreement in the form included with the Criteria Documents, if a Contract is awarded on the basis of this Proposal, and if the Proposer does not execute the Contract Form for any reason, other than as authorized by law, the Proposer and the Proposer's Surety are liable to the Owner.
- E. The Proposer certifies that upon the award of a Contract, the Design-Builder will ensure that all of the employees, while working on the Project site, will not purchase, transfer, use or possess illegal drugs or alcohol or abuse prescription drugs in any way.
- F. The Proposer agrees to furnish any information requested by the Owner's authorized representative to evaluate that the Proposer is the best Proposer and that the Proposal is responsive to the specifications.
- G. The Proposer certifies that it has no unresolved findings for recovery issued by the Auditor of State.

LEGAL NAME OF PROPOSER: _____

PROPOSER IS: _____
(sole proprietor, partnership, corporation or other legal entity)

NAME & TITLE OF PERSON LEGALLY AUTHORIZED TO BIND PROPOSER TO A CONTRACT:

_____	_____
Name	Title
DATE SIGNED: _____	SIGNATURE: _____
	ADDRESS: _____

	TELEPHONE: _____
	FAX: _____
	FEDERAL TAX I.D.# _____

When the Proposer is a partnership or a joint venture, state name and address of each partner in the partnership or participant in the joint venture below:

_____	_____
_____	_____
Name	Address
_____	_____

_____	_____
_____	_____
Name	Address
_____	_____

_____	_____
_____	_____
Name	Address
_____	_____

_____	_____
_____	_____
Name	

END OF SECTION 00 43 23

SECTION 00 52 53
DESIGN-BUILDER – OWNER AGREEMENT

PART 1- GENERAL

1.01 SUMMARY

A. The following Standard Form of Agreement between Design-Builder and Owner shall apply.

1. AIA Standard Form of Agreement between Design-Builder and Owner, A141, 2004.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION (not applicable)



AIA[®] Document A141[™] – 2004

Standard Form of Agreement Between Owner and Design-Builder

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

City of Mt. Pleasant
320 W. Broadway Street
Mt. Pleasant, MI 48858
Attn.: Chris Bundy

and the Design-Builder:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

Yost Field – Restroom and Pavilion

The Owner and Design-Builder agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Consultation with an attorney is also encouraged with respect to professional licensing requirements in the jurisdiction where the Project is located.

TABLE OF ARTICLES

- 1 THE DESIGN-BUILD DOCUMENTS
- 2 WORK OF THIS AGREEMENT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 MISCELLANEOUS PROVISIONS
- 8 ENUMERATION OF THE DESIGN-BUILD DOCUMENTS

TABLE OF EXHIBITS

- A TERMS AND CONDITIONS
- B DETERMINATION OF THE COST OF THE WORK
- C INSURANCE AND BONDS

ARTICLE 1 THE DESIGN-BUILD DOCUMENTS

§ 1.1 The Design-Build Documents form the Design-Build Contract. The Design-Build Documents consist of this Agreement between Owner and Design-Builder (hereinafter, the "Agreement") and its attached Exhibits; Supplementary and other Conditions; Addenda issued prior to execution of the Agreement; the Project Criteria, including changes to the Project Criteria proposed by the Design-Builder and accepted by the Owner, if any; the Design-Builder's Proposal and written modifications to the Proposal accepted by the Owner, if any; other documents listed in this Agreement; and Modifications issued after execution of this Agreement. The Design-Build Documents shall not be construed to create a contractual relationship of any kind (1) between the Architect and Owner, (2) between the Owner and a Contractor or Subcontractor, or (3) between any persons or entities other than the Owner and Design-Builder, including but not limited to any consultant retained by the Owner to prepare or review the Project Criteria. An enumeration of the Design-Build Documents, other than Modifications, appears in Article 8.

§ 1.2 The Design-Build Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral.

§ 1.3 The Design-Build Contract may be amended or modified only by a Modification. A Modification is (1) a written amendment to the Design-Build Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Owner.

ARTICLE 2 THE WORK OF THE DESIGN-BUILD CONTRACT

§ 2.1 The Design-Builder shall fully execute the Work described in the Design-Build Documents, except to the extent specifically indicated in the Design-Build Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice issued by the Owner.

(Insert the date of commencement if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

If, prior to the commencement of Work, the Owner requires time to file mortgages, documents related to mechanic's liens and other security interests, the Owner's time requirement shall be as follows:
(Insert Owner's time requirements.)

§ 3.2 The Contract Time shall be measured from the date of commencement, subject to adjustments of this Contract Time as provided in the Design-Build Documents.
(Insert provisions, if any, for liquidated damages relating to failure to complete on time or for bonus payments for early completion of the Work.)

§ 3.3 The Design-Builder shall achieve Substantial Completion of the Work not later than N/A days from the date of commencement, or as follows:
(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. Unless stated elsewhere in the Design-Build Documents, insert any requirements for earlier Substantial Completion of certain portions of the Work.)

All work shall be complete by December 6, 2013, ready for occupancy and final payment

Portion of Work	Substantial Completion Date
-----------------	-----------------------------

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Design-Builder the Contract Sum in current funds for the Design-Builder's performance of the Design-Build Contract. The Contract Sum shall be one of the following:
(Check the appropriate box.)

Stipulated Sum in accordance with Section 4.2 below;

(Paragraphs deleted)

§ 4.2 STIPULATED SUM

§ 4.2.1 The Stipulated Sum shall be (\$), subject to additions and deductions as provided in the Design-Build Documents.

§ 4.2.2 The Stipulated Sum is based upon the following alternates, if any, which are described in the Design-Build Documents and are hereby accepted by the Owner:

§ 4.2.3 Unit prices, if any, are as follows:

Description	Units	Price (\$0.00)
-------------	-------	----------------

§ 4.2.4 Allowances, if any, are as follows:

(Identify and state the amounts of any allowances, and state whether they include labor, materials, or both)

Allowance	Amount (\$0.00)	Included Items
Utilities Allowance	\$10,000	Electric, water, & sewer

§ 4.2.5 Assumptions or qualifications, if any, on which the Stipulated Sum is based, are as follows:

§ 4.3 COST OF THE WORK PLUS DESIGN-BUILDER'S FEE

§ 4.3.1 The Cost of the Work is as defined in Exhibit B.

§ 4.3.2 The Design-Builder's Fee is:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Design-Builder's Fee and the method of adjustment to the Fee for changes in the Work.)

§ 4.4 COST OF THE WORK PLUS DESIGN-BUILDER'S FEE WITH A GUARANTEED MAXIMUM PRICE

§ 4.4.1 The Cost of the Work is as defined in Exhibit B, plus the Design-Builder's Fee.

§ 4.4.2 The Design-Builder's Fee is:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Design-Builder's Fee and the method of adjustment to the Fee for changes in the Work.)

§ 4.4.3 GUARANTEED MAXIMUM PRICE

§ 4.4.3.1 The sum of the Cost of the Work and the Design-Builder's Fee is guaranteed by the Design-Builder not to exceed (\$), subject to additions and deductions by changes in the Work as provided in the Design-Build Documents. Such maximum sum is referred to in the Design-Build Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Design-Builder without reimbursement by the Owner.

(Insert specific provisions if the Design-Builder is to participate in any savings.)

§ 4.4.3.2 The Guaranteed Maximum Price is based on the following alternates, if any, which are described in the Design-Build Documents and are hereby accepted by the Owner:

§ 4.4.3.3 Unit Prices, if any, are as follows:

Description	Units	Price (\$0.00)
-------------	-------	----------------

§ 4.4.3.4 Allowances, if any, are as follows:

(Identify and state the amounts of any allowances, and state whether they include labor, materials, or both.)

Allowance	Amount (\$0.00)	Included Items
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§ 4.4.3.5 Assumptions, if any, on which the Guaranteed Maximum Price is based, are as follows:

(Identify the assumptions on which the Guaranteed Maximum Price is based.)

§ 4.5 CHANGES IN THE WORK

§ 4.5.1 Adjustments of the Contract Sum on account of changes in the Work may be determined by any of the methods listed in Article A.7 of Exhibit A, Terms and Conditions.

§ 4.5.2 Where the Contract Sum is the Cost of the Work, with or without a Guaranteed Maximum Price, and no specific provision is made in Sections 4.3.2 or 4.4.2 for adjustment of the Design-Builder's Fee in the case of Changes

in the Work, or if the extent of such changes is such, in the aggregate, that application of the adjustment will cause substantial inequity to the Owner or Design-Builder, the Design-Builder's Fee shall be equitably adjusted on the basis of the Fee established for the original Work, and the Contract Sum shall be adjusted accordingly.

ARTICLE 5 PAYMENTS

§ 5.1 PROGRESS PAYMENTS

§ 5.1.1 Based upon Applications for Payment submitted to the Owner by the Design-Builder, the Owner shall make progress payments on account of the Contract Sum to the Design-Builder as provided below and elsewhere in the Design-Build Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received not later than the day of month, the Owner shall make payment to the Design-Builder not later than the day of the month. If an Application for Payment is received by the Owner after the application date fixed above, payment shall be made by the Owner not later than () days after the Owner receives the Application for Payment.

§ 5.1.4 With each Application for Payment where the Contract Sum is based upon the Cost of the Work, or the Cost of the Work with a Guaranteed Maximum Price, the Design-Builder shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner to demonstrate that cash disbursements already made by the Design-Builder on account of the Cost of the Work equal or exceed (1) progress payments already received by the Design-Builder, less (2) that portion of those payments attributable to the Design-Builder's Fee; plus (3) payrolls for the period covered by the present Application for Payment.

§ 5.1.5 With each Application for Payment where the Contract Sum is based upon a Stipulated Sum or Cost of the Work with a Guaranteed Maximum Price, the Design-Builder shall submit the most recent schedule of values in accordance with the Design-Build Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. Compensation for design services shall be shown separately. Where the Contract Sum is based on the Cost of the Work with a Guaranteed Maximum Price, the Design-Builder's Fee shall be shown separately. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule of values, unless objected to by the Owner, shall be used as a basis for reviewing the Design-Builder's Applications for Payment.

§ 5.1.6 In taking action on the Design-Builder's Applications for Payment, the Owner shall be entitled to rely on the accuracy and completeness of the information furnished by the Design-Builder and shall not be deemed to have made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Sections 5.1.4 or 5.1.5, or other supporting data; to have made exhaustive or continuous on-site inspections; or to have made examinations to ascertain how or for what purposes the Design-Builder has used amounts previously paid on account of the Agreement. Such examinations, audits and verifications, if required by the Owner, will be performed by the Owner's accountants acting in the sole interest of the Owner.

§ 5.1.7 Except with the Owner's prior approval, the Design-Builder shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 PROGRESS PAYMENTS - STIPULATED SUM

§ 5.2.1 Applications for Payment where the Contract Sum is based upon a Stipulated Sum shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.2.2 Subject to other provisions of the Design-Build Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of Ten percent (10 %) on the Work, other than services provided by design professionals and other consultants retained

directly by the Design-Builder. Pending final determination of cost to the Owner of Changes in the Work, amounts not in dispute shall be included as provided in Section A.7.3.8 of Exhibit A, Terms and Conditions;

- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of Ten percent (10 %);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Owner has withheld payment from or nullified an Application for Payment as provided in Section A.9.5 of Exhibit A, Terms and Conditions.

§ 5.2.3 The progress payment amount determined in accordance with Section 5.2.2 shall be further modified under the following circumstances:

- .1 add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Owner shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
(Section A.9.8.6 of Exhibit A, Terms and Conditions requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)
- .2 add, if final completion of the Work is thereafter materially delayed through no fault of the Design-Builder, any additional amounts payable in accordance with Section A.9.10.3 of Exhibit A, Terms and Conditions.

§ 5.2.4 Reduction or limitation of retainage, if any, under Section 5.2.2 shall be as follows:

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.2.2.1 and 5.2.2.2 above, and this is not explained elsewhere in the Design-Build Documents, insert here provisions for such reduction or limitation.)

(Paragraphs deleted)

§ 5.5 FINAL PAYMENT

§ 5.5.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Design-Builder no later than 30 days after the Design-Builder has fully performed the Design-Build Contract, including the requirements in Section A.9.10 of Exhibit A, Terms and Conditions, except for the Design-Builder's responsibility to correct non-conforming Work discovered after final payment or to satisfy other requirements, if any, which extend beyond final payment.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 The parties appoint the following individual to serve as a Neutral pursuant to Section A.4.2 of Exhibit A, Terms and Conditions:

(Insert the name, address and other information of the individual to serve as a Neutral. If the parties do not select a Neutral, then the provisions of Section A.4.2.2 of Exhibit A, Terms and Conditions, shall apply.)

§ 6.2 If the parties do not resolve their dispute through mediation pursuant to Section A.4.3 of Exhibit A, Terms and Conditions, the method of binding dispute resolution shall be the following:

(If the parties do not select a method of binding dispute resolution, then the method of binding dispute resolution shall be by litigation in a court of competent jurisdiction.)

(Check one.)

[] Arbitration pursuant to Section A.4.4 of Exhibit A, Terms and Conditions

Init.

Litigation in a court of competent jurisdiction

Other (*Specify*)

§ 6.3 ARBITRATION

§ 6.3.1 If Arbitration is selected by the parties as the method of binding dispute resolution, then any claim, dispute or other matter in question arising out of or related to this Agreement shall be subject to arbitration as provided in Section A.4.4 of Exhibit A, Terms and Conditions.

ARTICLE 7 MISCELLANEOUS PROVISIONS

§ 7.1 The Architect, other design professionals and consultants engaged by the Design-Builder shall be persons or entities duly licensed to practice their professions in the jurisdiction where the Project is located and are listed as follows:

(Insert name, address, license number, relationship to Design-Builder and other information.)

Name and Address	License Number	Relationship to Design-Builder	Other Information
------------------	----------------	--------------------------------	-------------------

§ 7.2 Consultants, if any, engaged directly by the Owner, their professions and responsibilities are listed below:

(Insert name, address, license number, if applicable, and responsibilities to Owner and other information.)

Name and Address	License Number	Responsibilities to Owner	Other Information
------------------	----------------	---------------------------	-------------------

§ 7.3 Separate contractors, if any, engaged directly by the Owner, their trades and responsibilities are listed below:

(Insert name, address, license number, if applicable, responsibilities to Owner and other information.)

Name and Address	License Number	Responsibilities to Owner	Other Information
------------------	----------------	---------------------------	-------------------

§ 7.4 The Owner's Designated Representative is:

(Insert name, address and other information.)

§ 7.4.1 The Owner's Designated Representative identified above shall be authorized to act on the Owner's behalf with respect to the Project.

§ 7.5 The Design-Builder's Designated Representative is:

(Insert name, address and other information.)

§ 7.5.1 The Design-Builder's Designated Representative identified above shall be authorized to act on the Design-Builder's behalf with respect to the Project.

§ 7.6 Neither the Owner's nor the Design-Builder's Designated Representative shall be changed without ten days written notice to the other party.

§ 7.7 Other provisions:

§ 7.7.1 Where reference is made in this Agreement to a provision of another Design-Build Document, the reference refers to that provision as amended or supplemented by other provisions of the Design-Build Documents.

§ 7.7.2 Payments due and unpaid under the Design-Build Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

percent (%)

(Usury laws and requirements under the Federal Truth in Lending Act, similar state and local consumer credit laws and other regulations at the Owner's and Design-Builder's principal places of business, the location of the Project and elsewhere may affect the validity of this provision. Legal advice should be obtained with respect to deletions or modifications, and also regarding requirements such as written disclosures or waivers.)

ARTICLE 8 ENUMERATION OF THE DESIGN-BUILD DOCUMENTS

§ 8.1 The Design-Build Documents, except for Modifications issued after execution of this Agreement, are enumerated as follows:

§ 8.1.1 The Agreement is this executed edition of the Standard Form of Agreement Between Owner and Design-Builder, AIA Document A141-2004.

§ 8.1.2 The Supplementary and other Conditions of the Agreement, if any, are as follows:
(Either list applicable documents below or refer to an exhibit attached to this Agreement.)

Document	Title	Pages
----------	-------	-------

§ 8.1.3 The Project Criteria, including changes to the Project Criteria proposed by the Design-Builder, if any, and accepted by the Owner, consist of the following:

(Either list applicable documents and their dates below or refer to an exhibit attached to this Agreement.)

Title	Date
-------	------

§ 8.1.4 The Design-Builder's Proposal, dated , consists of the following:
(Either list applicable documents below or refer to an exhibit attached to this Agreement.)

§ 8.1.5 Amendments to the Design-Builder's Proposal, if any, are as follows:
(Either list applicable documents below or refer to an exhibit attached to this Agreement.)

§ 8.1.6 The Addenda, if any, are as follows:
(Either list applicable documents below or refer to an exhibit attached to this Agreement.)

Number	Date	Pages
--------	------	-------

§ 8.1.7 Exhibit A, Terms and Conditions.
(If the parties agree to substitute terms and conditions other than those contained in AIA Document A141-2004, Exhibit A, Terms and Conditions, then identify such terms and conditions and attach to this Agreement as Exhibit A.)

§ 8.1.8 Exhibit B, Determination of the Cost of the Work, if applicable.
(If the parties agree to substitute a method to determine the cost of the Work other than that contained in AIA Document A141-2004, Exhibit B, Determination of the Cost of the Work, then identify such other method to determine the cost of the Work and attach to this Agreement as Exhibit B. If the Contract Sum is a Stipulated Sum, then Exhibit B is not applicable.)

§ 8.1.9 Exhibit C, Insurance and Bonds, if applicable.
(Complete AIA Document A141-2004, Exhibit C, Insurance and Bonds or indicate "not applicable.")

§ 8.1.10 Other documents, if any, forming part of the Design-Build Documents are as follows:
(Either list applicable documents below or refer to an exhibit attached to this Agreement.)

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

DESIGN-BUILDER (Signature)

(Printed name and title)

(Printed name and title)

Additions and Deletions Report for AIA[®] Document A141[™] – 2004

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 08:33:53 on 08/27/2013.

PAGE 1

City of Mt. Pleasant
320 W. Broadway Street
Mt. Pleasant, MI 48858
Attn.: Chris Bundy

...

Yost Field – Restroom and Pavilion

PAGE 3

§ 3.3 The Design-Builder shall achieve Substantial Completion of the Work not later than N/A days from the date of commencement, or as follows:

...

All work shall be complete by December 6, 2013, ready for occupancy and final payment

...

~~Cost of the Work Plus Design-Builder's Fee in accordance with Section 4.3 below;~~

~~Cost of the Work Plus Design-Builder's Fee with a Guaranteed Maximum Price in accordance with Section 4.4 below.~~

~~(Based on the selection above, complete either Section 4.2, 4.3 or 4.4 below.)~~

...

Utilities Allowance

\$10,000

Electric, water, & sewer

PAGE 5

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of Ten percent (10 %) on the Work, other than services provided by design professionals and other consultants retained directly by the Design-Builder. Pending final determination of cost to the Owner of Changes in the Work, amounts not in dispute shall be included as provided in Section A.7.3.8 of Exhibit A, Terms and Conditions;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in

advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of Ten percent (10 %);

PAGE 6

~~§ 5.3 PROGRESS PAYMENTS – COST OF THE WORK PLUS A FEE~~

~~§ 5.3.1 Where the Contract Sum is based upon the Cost of the Work plus a fee without a Guaranteed Maximum Price, Applications for Payment shall show the Cost of the Work actually incurred by the Design Builder through the end of the period covered by the Application for Payment and for which Design Builder has made or intends to make actual payment prior to the next Application for Payment.~~

~~§ 5.3.2 Subject to other provisions of the Design-Build Documents, the amount of each progress payment shall be computed as follows:~~

- ~~.1 Take the Cost of the Work as described in Exhibit B;~~
- ~~.2 Add the Design Builder's Fee, less retainage of — percent (— %). The Design Builder's Fee shall be computed upon the Cost of the Work described in the preceding Section 5.3.2.1 at the rate stated in Section 4.3.2; or if the Design Builder's Fee is stated as a fixed sum in that section, an amount which bears the same ratio to that fixed sum fee as the Cost of the Work in the preceding section bears to a reasonable estimate of the probable Cost of the Work upon its completion;~~
- ~~.3 Subtract the aggregate of previous payments made by the Owner;~~
- ~~.4 Subtract the shortfall, if any, indicated by the Design Builder in the documentation required by Section 5.1.4 or resulting from errors subsequently discovered by the Owner's accountants in such documentation; and~~
- ~~.5 Subtract amounts, if any, for which the Owner has withheld or withdrawn a Certificate for Payment as provided in the Section A.9.5 of Exhibit A, Terms and Conditions.~~

~~§ 5.3.3 Retainage in addition to the retainage stated at Section 5.3.2.2, if any, shall be as follows:~~

~~§ 5.3.4 Except with the Owner's prior approval, payments for the Work, other than for services provided by design professionals and other consultants retained directly by the Design Builder, shall be subject to retainage of not less than — percent (— %). The Owner and Design Builder shall agree on a mutually acceptable procedure for review and approval of payments and retention for Contractors.~~

~~§ 5.4 PROGRESS PAYMENTS – COST OF THE WORK PLUS A FEE WITH A GUARANTEED MAXIMUM PRICE~~

~~§ 5.4.1 Applications for Payment where the Contract Sum is based upon the Cost of the Work Plus a Fee with a Guaranteed Maximum Price shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment. The percentage of completion shall be the lesser of (1) the percentage of that portion of the Work which has actually been completed; or (2) the percentage obtained by dividing (a) the expense that has actually been incurred by the Design Builder on account of that portion of the Work for which the Design Builder has made or intends to make actual payment prior to the next Application for Payment by (b) the share of the Guaranteed Maximum Price allocated to that portion of the Work in the schedule of values.~~

~~§ 5.4.2 Subject to other provisions of the Design-Build Documents, the amount of each progress payment shall be computed as follows:~~

- ~~.1 Take that portion of the Guaranteed Maximum Price properly allocable to completed Work as determined by multiplying the percentage of completion of each portion of the Work by the share of the Guaranteed Maximum Price allocated to that portion of the Work in the schedule of values. Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section A.7.3.8 of Exhibit A, Terms and Conditions;~~
- ~~.2 Add that portion of the Guaranteed Maximum Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work, or if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing;~~
- ~~.3 Add the Design Builder's Fee, less retainage of — percent (— %). The Design Builder's Fee shall be computed upon the Cost of the Work described in the two preceding sections at the rate stated in Section 4.4.2 or, if the Design Builder's Fee is stated as a fixed sum in that section, shall be an amount~~

that bears the same ratio to that fixed sum fee as the Cost of the Work in the two preceding sections bears to a reasonable estimate of the probable Cost of the Work upon its completion;

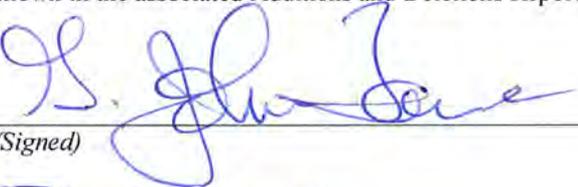
- ~~4~~ Subtract the aggregate of previous payments made by the Owner;
- ~~5~~ Subtract the shortfall, if any, indicated by the Design Builder in the documentation required by Section 5.1.4 to substantiate prior Applications for Payment, or resulting from errors subsequently discovered by the Owner's accountants in such documentation; and
- ~~6~~ Subtract amounts, if any, for which the Owner has withheld or nullified a Certificate for Payment as provided in Section A.9.5 of Exhibit A, Terms and Conditions.

~~§ 5.4.3~~ Except with the Owner's prior approval, payments for the Work, other than for services provided by design professionals and other consultants retained directly by the Design Builder, shall be subject to retainage of not less than —percent (—%). The Owner and Design Builder shall agree on a mutually acceptable procedure for review and approval of payments and retention for Contractors.

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 08:33:53 on 08/27/2013 under Order No. 2713444880_1 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A141™ – 2004, Standard Form of Agreement Between Owner and Design-Builder, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.



(Signed)

Project Manager

(Title)

8/27/13

(Dated)

WAIVER OF LIEN RIGHTS
AND ACKNOWLEDGEMENT OF _____ PAYMENT
(partial or final)

TO ALL WHOM IT MAY CONCERN:

IN CONSIDERATION of the payment of _____
_____ (\$ _____), the receipt of which is hereby acknowledged,
_____ ("Contractor") does hereby waive and relinquish all rights of lien which
it may have against the Property described as _____
Project and owned by the City of Mount Pleasant ("Owner") for work performed and materials supplied under
its agreement with _____ (other contracting party) related to the
construction of the project known as _____ (the "Project") to the extent that it
has received payment of the amount set forth above for labor and/or materials provided through
_____ ("Date"), which amount represents a _____
(indicate whether partial or final) payment under the contract between the Contractor and the other
contracting party.

IN WITNESS WHEREOF, the undersigned has caused this Waiver of Lien Rights and
Acknowledgement of _____ (indicate whether Partial or Final) Payment to be executed by its
authorized representative as of the ____ day of _____, 2013.

SIGNED AND ACKNOWLEDGED
IN THE PRESENCE OF:

Witness

BY: _____

(PRINT NAME)

Witness

(PRINT NAME)

ITS: _____

(PRINT NAME)

STATE OF MICHIGAN :
COUNTY OF _____ : ss,

Sworn to and subscribed before me this _____ day of _____, 2013 by _____
_____, the _____ of _____
(Contractor), on behalf of the Contractor

NOTARY PUBLIC

(SEAL)

My Commission Expires: _____

Prepared by: _____

Name:
Address:

**DESIGN-BUILDER'S PAYMENT APPLICATION CHECKLIST
CITY OF MOUNT PLEASANT**

THE DESIGN-BUILDER MUST COMPLETE THIS CHECKLIST AND SUBMIT IT TO THE CRITERIA ARCHITECT WITH ITS PAYMENT APPLICATION AND ALL REQUIRED DOCUMENTATION.

1. Design-Builder's Name: _____
2. Name, title, and telephone and fax numbers of Design-Builder's representative to contact regarding the Payment Application and required documentation:
Name: _____ Title: _____
Office Telephone No.: (____) _____ FAX No.: (____) _____
3. Payment Application Number and Date:
No. _____ Date: _____, 200____
4. The Design-Builder certifies that it has submitted the documentation listed below with its Payment Application. If the Design-Builder cannot do so, the Design-Builder should explain why in Paragraph 5.

- _____ .1 Five (5) copies of a properly completed and executed A.I.A. Document G702 (Application for Payment, most recent edition) with a properly completed and executed A.I.A. Document G703 (Schedule of Values, most recent edition) attached to each;
- _____ .2 Current list of the Design-Builder's subcontractors and suppliers showing their respective contract sums, amount paid, and amount due;
- _____ .3 A.I.A. Document G706 (Design-Builder's Affidavit of Payment of Debts and Claims);
- _____ .4 A.I.A. Document G706a (Design-Builder's Affidavit of Release of Liens) with lien releases in a format approved by the Owner for all the Design-Builder's subDesign-Builders and suppliers current through the date of the Design-Builder's previous Applications for Payment;
- _____ .5 Schedules of all materials and equipment stored on-site;
- _____ .6 For materials and equipment stored off-site:
 - _____ A list of the materials and equipment consigned and stored off-site in connection with the Project (which shall be clearly identified), giving the place of storage, together with copies of invoices and reasons why the materials and equipment cannot be delivered to the site;
 - _____ Certification that all items have been tagged for delivery to the Project and that they will not be used for any other purpose;
 - _____ A letter from the Design-Builder's surety bonding company indicating agreement to the arrangements and that payment to the Design-Builder shall not relieve either party of its responsibility to complete the facility;
 - _____ Evidence of adequate insurance covering the material and equipment in storage, which shall name the Owner as additional insured;

_____ Evidence that the Architect has visited the Design-Builder's place of storage and found that all the materials and equipment set forth in the payment request and represented to be stored off-site are stored at the place of storage (any costs incurred by the Architect to inspect material and equipment in off-site storage shall be paid by the Design-Builder); and

_____ Itemization of the materials and equipment and their cost, which were approved on previous Pay Applications and which remain in off-site storage.

_____ .7 Other documentation/information required by the Architect or Owner.

5. Reason why required documentation is not submitted:

NOTE: The failure to submit required documentation, regardless of the reason, may result in non-payment, partial payment, and/or late payment.

Signature

Printed Name

Date

CRITERIA ARCHITECT'S REVIEW

_____ Checklist and documentation complete.

_____ Checklist and documentation incomplete.

Signature

Printed Name

Date

**SECTION 00 60 00
PROJECT FORMS**

1.1 FORM OF AGREEMENT AND GENERAL CONDITIONS

- A. The following form of Owner/Contractor Agreement and form of the General Conditions shall be used for Project:
1. AIA Document A141, "Standard Form of Agreement between Owner and Design-Builder, Stipulated Sum."
 2. The Terms and Conditions included in the Criteria Manual.

1.2 ADMINISTRATIVE FORMS

- A. Administrative Forms: Additional administrative forms are specified in Division 01 General Requirements.
- B. Copies of AIA standard forms may be obtained from the American Institute of Architects; <http://www.aia.org/contractdocs/purchase/index.htm>; docspurchases@aia.org; (800) 942-7732.
- C. Preconstruction Forms:
1. Form of Performance Bond and Labor and Material Bond: AIA Document A312, "Performance Bond and Payment Bond."
 2. Form of Certificate of Insurance: AIA Document G715, "Supplemental Attachment for ACORD Certificate of Insurance 25-S."
- D. Payment Forms:
1. Schedule of Values Form: AIA Document G703, "Continuation Sheet."
 2. Payment Application: AIA Document G702/703, "Application and Certificate for Payment and Continuation Sheet."
 3. Form of Contractor's Affidavit: AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 4. Form of Affidavit of Release of Liens: AIA Document G706A, "Contractor's Affidavit of Payment of Release of Liens."
 5. Form of Consent of Surety: AIA Document G707, "Consent of Surety to Final Payment."

END OF DOCUMENT 00 60 00

DOCUMENT 00 61 13.13 PERFORMANCE BOND
(O.A.C. § 153:4-1-02.)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned

_____ as Principal
at _____ (address)
and _____ as Surety, are
hereby held and firmly bound unto the City of Mount Pleasant located in Isabella County, Michigan as
Obligee in the penal sum of _____ dollars,

For the payment of which well and truly to be made, we jointly and severally bind ourselves, our heirs,
executors, administrators, successors, and assigns.

SIGNED and SEALED this _____ day of _____, _____.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH that whereas the above named Principal did
on the _____ day of _____, _____, enter into a Contract with the Obligee,
which said Contract is made a part of this Bond the same as though set forth herein and which is more
fully described as:

Project Name: Yost Field Improvements
Contract Description: Design-Build

No, if the above-named Principal shall well and faithfully do and perform the things agreed by the
Principal to be done and performed according to the terms of the said Contract then this obligation shall
be void; otherwise the same shall remain in full force and effect; it being expressly understood and
agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal
amount of this obligation as herein stated.

The said surety hereby stipulates and agrees that no modifications, omissions, or additions in or
to the terms of the said Contract therefore shall in any way affect the obligations of said Surety on its
bond, and does hereby waive notice of any such modifications, omissions or additions in or to the terms
of the Contract.

(PRINCIPAL)

By: _____

Printed Name & Title: _____

(SURETY)

By: _____

Printed Name & Title: _____

Surety's Address: _____

Surety's Telephone Number: _____

Surety's Fax Number: _____

NAME OF SURETY'S AGENT

Surety's Agent's Address: _____

Surety's Agent's Telephone Number: _____

Surety's Agent's Fax Number: _____

END OF DOCUMENT

DRAFT AIA[®] Document A312[™] - 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)

« »
« »

SURETY:
(Name, legal status and principal
place of business)

« »
« »

OWNER:
(Name, legal status and address)

« »
« »

CONSTRUCTION CONTRACT

Date: « »

Amount: \$ « »

Description:
(Name and location)

«Template»

« »

BOND

Date:
(Not earlier than Construction Contract Date)

« »

Amount: \$ « »

Modifications to this Bond: None See Section 18

CONTRACTOR AS PRINCIPAL
Company: (Corporate Seal)

SURETY
Company: (Corporate Seal)

Signature: _____
Name and Title: « »

Signature: _____
Name and Title: « »

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

« »
« »
« »

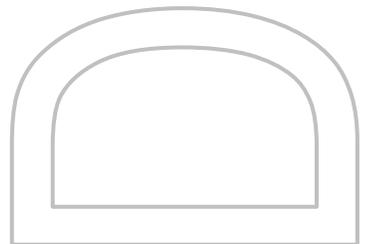
OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

« »
« »
« »
« »
« »
« »

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.



ELECTRONIC COPYING of any portion of this AIA[®] Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

<< >>

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)

SURETY

Company:

(Corporate Seal)

Signature:

Name and Title:

Address:

<< >><< >>

<< >>

Signature:

Name and Title:

Address:

<< >><< >>

<< >>

DRAFT AIA[®] Document A312[™] - 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

« »
« »

SURETY:

(Name, legal status and principal place of business)

« »
« »

OWNER:

(Name, legal status and address)

« »
« »

CONSTRUCTION CONTRACT

Date: « »

Amount: \$ « »

Description:

(Name and location)

«Template»

« »

BOND

Date:

(Not earlier than Construction Contract Date)

« »

Amount: \$ « »

Modifications to this Bond: None See Section 16

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

SURETY

Company: (Corporate Seal)

Signature:

Name and « »

Title:

(Any additional signatures appear on the last page of this Performance Bond.)

Signature:

Name and « »

Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

« »
« »
« »

OWNER'S REPRESENTATIVE:

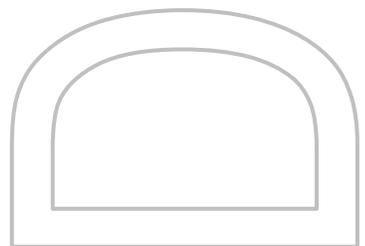
(Architect, Engineer or other party:)

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ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.



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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

« »

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	(Corporate Seal)	Company:	(Corporate Seal)
Signature:		Signature:	
Name and Title:	« »« »	Name and Title:	« »« »
Address:	« »	Address:	« »

W
A
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CITY OF MOUNT PLEASANT

YOST FIELD – RESTROOM AND PAVILION

DIVISION 1
General Requirements

**SECTION 01 10 00
SUMMARY OF THE WORK**

PART 1- GENERAL

1.01 SUMMARY

- A. The Work for involves the construction of a restroom and pavilion structure to provide the following:
 - 1. Two (2) single stall restrooms and storage area.
 - 2. Minimum 24' x 30' pavilion area attached to the restroom/storage area.
 - 3. The intent of the design and construction of the restroom and pavilion is to develop a floor plan and elevation that mimics the existing City of Mt. Pleasant restroom and pavilion facilities used in other parks, but with smaller overall footprint. Plans have been included with this project manual that represents the existing restroom floor plan and elevations, for the contractor's review and use in the bidding process. During the Mandatory pre-bid conference, the bidders will be taken to existing facilities to review the desired finishes and appearances of the proposed facility. A proposed preliminary floor plan and elevation of the proposed building is to be provided with the contractor's bid for review in the evaluation of the bids by the City.
 - 4. Related site work within 8' of the building envelop.

- B. The Work for the Project will be under a single Design-Build Contract with the Owner. The Design-Builder will manage the Preconstruction and Construction activities to include the following:
 - 1. Preconstruction Services
 - i. Design and documentation of all proposed work.
 - ii. Obtain all necessary plan approvals and/or permits required by local authorities having jurisdiction.

 - 2. Construction Services
 - i. All material and labor to construct all proposed new work as indicated in the approved design documents.
 - ii. Close out procedures.

1.02 ADMINISTRATIVE RESPONSIBILITIES OF DESIGN-BUILDER

- A. The Design-builder shall be responsible for the maintenance of the Project Schedule and the general supervision of every phase of the Work from Preconstruction through Project Close-out.

1.03 PERMITS, FEES, AND NOTICES

- A. The Design-Builder will secure approvals and pay for all Certificates of Plan Approval (General Building, Electrical, Plumbing, Health Department Permits, etc).

- B. The Design-Builder shall secure and pay for all other permits, governmental fees and licenses necessary for the proper execution and completion of its Work.

- C. The Design-Builder shall procure all certificates of inspection, use and occupancy, and licenses, pay all charges and fees and give all notices necessary and incidental to the due and lawful prosecution of the Work. Certificates of inspection, use and occupancy shall be delivered to the Owner upon completion of the work in sufficient time for occupation of the Project in accordance with the current progress schedule. The cost of such procurement, payment, and delivery are included in the Contract Sum.

1.04 LABOR AND MATERIALS

- A. The Design-Builder shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of his Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.
- B. The Design-Builder shall provide and pay for all design services to be provided by a Design Professional licensed by the State in the location of the project.

1.05 PROJECT COORDINATION

- A. The Design-Builder shall be fully responsible for the Work of each of its Subcontractors and for the coordination of the Work of each of its Subcontractors during both the Preconstruction and Construction Phases of the Project.
- B. There will be other work under separate contract being completed in the park, including improvements to the baseball field, and the construction of the new parking lot and site improvements surrounding this building. The contractor will be responsible for coordinating all activities to not interfere with other contractors activities.

1.06 VERIFICATIONS OF EXISTING CONDITIONS

- A. The Design-Builder shall verify existing conditions (including locating all existing utilities) prior to commencement of Design phase. All existing conditions shall be accounted for in preparation of the design documents.

1.07 PROJECT SCHEDULE

- A. The Project Schedule shall include the following milestone dates:
 - a. Project complete, ready for final payment and occupancy by December 6, 2013
- B. The overall Project Schedule will be established and maintained by the Design-builder.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION

3.01 DESIGN-BUILD SCOPE

- A. Scope of Work to include, but not limited to:
- B. Adhere to all current OSHA requirements.
- C. Provide all survey and layout for this work.
- D. Furnish all labor, materials, tools and equipment required by the project so as to provide a complete system.
- E. Provide all Project Closeout requirements.
- F. ***Include an allowance.*** This amount is to be included in the contract and used at the direction of the Design-builder. Any unused portion will be returned to the Owner at the completion of the project.
- G. Perform final cleaning of the entire project.

END OF SECTION

**SECTION 01 50 00
TEMPORARY FACILITIES CRITERIA**

PART 1 - GENERAL

1.01 GENERAL

- A. Furnish labor, materials, tools, equipment, and services for temporary facilities, including maintenance and their subsequent removal, in accordance with provisions of the Contract Documents and as required for the progress and completion of the Project. The term Contractor herein means subcontractor to the Design-Builder.
- B. Temporary facilities are to be maintained and kept in good operating condition. Maintenance personnel necessary to perform their work shall be provided. Maintenance work and repair shall be done in a timely manner causing minimal interference to their trades.
- C. Provide and maintain temporary facilities in compliance with governing rules, regulations, codes, ordinances, and laws of agencies and utility companies having jurisdiction over work involved in project.

1.02 TEMPORARY FIELD OFFICES AND STORAGE FACILITIES

- A. Storage Trailers: Provide suitable weather-tight storage facilities as required for storage of materials delivered to the Project site which are subject to weather damage, vandalism or theft. Facilities shall include lockable doors and floors above the ground.

1.03 TEMPORARY UTILITIES

- A. Existing permanent utilities may be used for the Project. Use charges shall be paid by Owner. If a temporary utility is required where no permanent utility exists, then it is the Design-Builder's responsibility to provide as required.

1.04 SPECIAL PRECAUTIONS AND REQUIREMENTS

- A. Do not interfere with normal use of existing active utility services, except as absolutely necessary to execute required work involving such services, and then only after proper arrangements have been made through the proper authority.

1.05 SAFETY AND PROTECTION

- A. Erect and maintain reasonable safeguards for safety and protection throughout the progress of construction activities.

1.06 TEMPORARY STORAGE

- A. Provide suitable storage facilities for materials delivered to site and protect materials from weather and damage.

1.07 TEMPORARY FIRST AID FACILITIES

- A. Provide first aid facilities as required by Federal, State, or Local Safety Regulations.

1.08 SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

- A. Safety requirements shall be governed by applicable provisions of Federal, State and local regulations for pertaining construction in the State in which the project is located.

1.09 UTILITY PROTECTION

- A. Existing utility lines and structures constructed for this Project shall be protected from damage during construction operations.
- B. Locate and flag lines all existing utilities prior to commencement of construction activities.
- C. Notify the Owner in advance of any existing utility interruption in service.
- D. Damage to existing utility lines or structures not indicated or known shall be reported immediately to the Design-Builder and the affected utility.

1.10 ENVIRONMENTAL PROTECTION

- A. Comply with applicable federal, state, and local laws, and regulations concerning environmental pollution control and abatement.
- B. Do not pollute water resources with fuels, oils, bitumens, calcium chloride, acids or harmful materials.

1.15 TEMPORARY ELECTRICAL POWER AND LIGHTING

- A. Owner will pay cost of all electrical power consumed prior to date of Substantial Completion.

1.16 VENTILATION

- A. Provide and pay for ventilation of the enclosed space as needed for their own workmen in accordance with applicable laws and as necessary for materials requiring ventilation in accordance with manufacturer's directions.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

**SECTION 01 60 00
PRODUCT REQUIREMENTS CRITERIA**

PART 1 - GENERAL

1.01 SUMMARY

- A. It is the intent to accomplish a complete installation in which there shall be installed new materials and products of the latest and best design and manufacturer. Workmanship shall be thoroughly first class and complete, executed by competent and experienced workmen.
- B. Equipment, specialties, and similar items shall be checked for compliance and fully approved prior to installation. .

PART 2 - PRODUCTS

2.01 PRODUCT STANDARDS AND QUALITY

- A. The Contract will be based on the materials, equipment and methods described in the Design-Builder's Technical Proposal.
- B. Do not substitute materials, equipment or methods unless such substitution has been specifically approved by the Owner.
- C. Availability of Specified Items:
 - a. Verify prior to submission of technical proposal that proposed items will be available in time for installation during orderly and timely progress of the Work.

2.02 MANUFACTURER'S DIRECTIONS

- A. Manufactured products shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's printed directions, unless herein specified to the contrary.

2.03 WARRANTIES

- A. Specific warranties or bonds shall be indicated in the Technical Proposal
- B. The Design-Builder shall and does hereby agree to warrant for a period of one year, or for longer periods, as evidenced by the date of Substantial Completion, products installed under the Contract to be of good quality in every respect and to remain so for periods described herein.
- C. Should defects develop in the aforesaid Work within the specified periods, due to faults in products or their workmanship, the Design-Builder hereby agrees to make repairs and do necessary Work to correct defective Work to the Owner's satisfaction.
- D. The manufacturer and supplier expressly warrants that each item of equipment furnished by him and installed in this Project is suitable for the application specified by the Design-Builder and includes features, accessories, and performing characteristics listed in the manufacturer's catalog in force on the date bids are requested for the Work. This

warranty is intended as an assurance by the manufacturer that his equipment is not being misapplied and is fit and sufficient for the service intended. This warranty is in addition to and not in limitation of other warranties or remedies required by law. It shall be the responsibility of the Design-Builder for the particular equipment to obtain this warranty in writing.

2.04 MATERIAL DELIVERY AND RESPONSIBILITIES

- A. The Design-Builder shall be responsible for materials he orders for delivery to the job site. Responsibility includes, but is not limited to, receiving, unloading, storing, protecting, and setting in place; ready for final connections.
 - a. The Owner will not be responsible for deliveries related to the construction or operation of the Design-Builder. The Owner cannot sign delivery forms for the Contractor.
- B. Contractors shall insure that products are delivered to the Project in accordance with the Construction Schedule of the Project.

2.05 PROTECTION

- A. The Design-Builder shall protect building elements and products when subject to damage. .
- B. The Design-Builder shall protect the products prior to installation and final acceptance. Storage shall be dry, clean, and safe. Materials or equipment damaged, deteriorated, rusted or defaced due to improper storage, shall be repaired, refinished, or replaced. Products lost through theft or mishandling shall be replaced by the Design-Builder without cost to the Owner.

2.06 ACCEPTANCE OF EQUIPMENT OR SYSTEMS

- A. The Owner will not accept the start of the warranty period on systems or equipment until Substantial Completion is issued for Owner's occupancy of the building, in part or whole.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

**SECTION 01 77 00
CLOSEOUT PROCEDURES CRITERIA**

PART 1 - GENERAL

1.01 SUMMARY

- A. Closeout is hereby defined to include general requirements near end of Contract Time in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner, and similar actions evidencing completion of the Work. Time of closeout is directly related to "Substantial Completion".

1.02 PREREQUISITES TO SUBSTANTIAL COMPLETION

- A. General: Prior to requesting inspection for Certificate of Substantial Completion, for either entire Work or portions thereof, complete the following and list known exceptions in request:
1. Advise Owner of pending insurance changeover requirements.
 2. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, agreements, final certifications, and similar documents.
 3. Obtain and submit releases enabling Owner's full and unrestricted use of the Work and access to services and utilities, including occupancy permits, operating certificates, and similar releases.
 4. Deliver tools, spare parts, extra stock of materials, and similar physical items to Owner.
 5. Complete start-up testing of systems and instructions of Owner's operating/maintenance personnel. Discontinue and remove from project site temporary facilities and services, along with construction tools and facilities, mock-ups, and similar elements.
 6. Complete final cleaning up requirements.

1.03 PREREQUISITES TO FINAL PAYMENT

- A. General: Prior to requesting Architect final inspection for certification of final payment complete the following:
1. Submit final payment request.
 2. Submit copy of the final punch list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance.
 3. Submit record drawings, maintenance manuals, and similar final record information.
 4. Certification of code compliance.
 5. Submit certification stating that no materials containing asbestos were incorporated into the Work.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 WARRANTY – CORRECTION OF WORK

- A. Prior to the expiration of the one year warranty period, the Owner will check to see if additional Work by the Contractor(s) is needed to make good on the warranties. An itemized list will be furnished to the Contractor for corrective or replacement work.
- B. This Work shall be completed immediately by the Design-Builder after receiving notification.

3.02 PROJECT RECORD DRAWINGS

- A. Update “Project Record Drawings” on separate prints set aside especially for this purpose on the job. Drawings shall incorporate changes made in the Work of the respective trades during the construction period. Such changes shall be indicated at the time they occur.
- B. Each of these project record documents shall be clearly marked “Project Record Copy”; maintained in good condition; available for observation by the Owner; and shall not be used for construction purposes. Mark up the document to show:
 - 1. Significant changes and selections made during the construction process;
 - 2. Significant detail not shown in the original contract Documents including change orders;
 - 3. The location of underground utilities and appurtenances dimensionally referenced to permanent surface improvements;
 - 4. The location of internal utilities and appurtenances concealed in building structures, referenced to visible and accessible features of the structures;
 - 5. When elements are placed exactly as shown on Drawings, so indicated; otherwise show changed location.
- C. Keep project record documents current. Do not permanently conceal work until the required information has been recorded.
- D. Prior to final payment on the Project, submit to the Owner the Project Record Drawings for changes recorded for the Work of Division 2 through Division 14.
 - 1. Each drawing shall be labeled “Project Record”; dated and signed by the Contractor(s).

3.03 MAINTENANCE AND OPERATING MANUALS

- A. Prior to Substantial Completion, each Contractor shall submit to the Architect one copy of a rough draft for a comprehensive Maintenance and Operating Manual presenting complete directions and recommendations for the proper care and maintenance of visible surfaces as well as maintenance and operating instructions for equipment items which he has provided.
- B. Operating instructions shall include necessary printed directions for correct operations, adjustment, servicing, and maintenance of movable parts. Also included shall be suitable parts lists, approved shop drawings, and diagrams showing parts location and assembly.
- C. Submit 3 completed copies of maintenance manuals to the Owner.
- D. Finished manuals shall be loose-leaf type with hardboard covers and titled tabs identifying each particular portion or item of the Work.

E. For each titled item or work portion, manual must provide the names, addresses, and phone numbers of the following parties:

1. Contractor / installer
2. Manufacturer
3. Nearest dealer / supplier
4. Nearest agency capable of supplying parts and service

F. Each manual label on front cover or spine shall indicate the following information:

1. Project name and address
2. Owner's name
3. Name and address of Design-Builder

END OF SECTION

**SECTION 01 78 23
OPERATION AND MAINTENANCE DATA CRITERIA**

PART 1 - GENERAL

1.1 SUMMARY

- A. Prepare operation and maintenance manuals, including the following:
 - 1. Emergency manuals.
 - 2. Operation manuals for systems, subsystems, and equipment.
 - 3. Maintenance manuals for the care and maintenance of products, materials, finishes, systems, and equipment.

PART 2 - PRODUCTS

2.1 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name, address, and telephone number of Contractor.
 - 6. Name and address of Architect.
 - 7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
 - 1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.

- b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
- 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
- 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
- 4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
- 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence

and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

END OF SECTION

**SECTION 01 78 36
WARRANTIES CRITERIA**

PART 1 - GENERAL

1.01 SUMMARY

- A. Submit Warranties, Bond, Service and Maintenance Contracts as specified in the respective Sections of the Specifications, "As Appropriate To This Project".

1.02 PREPARATION OF SUBMITTALS

- A. Obtain warranties and bonds, executed in duplicate by responsible subcontractor, suppliers, and manufacturers, within ten (10) days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial Completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.

1.03 TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten (10) days after acceptance.
- B. Make other submittals within ten (10) days after Date of Substantial Completion, prior to final Application for Payment.
- C. For items of Work when acceptance is delayed beyond Date of Substantial Completion, submit within ten (10) days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

DIVISION 2 - 16

Updated Catalog Cuts and Fixture Requirements

The following 17 pages are catalog cuts and specifications for various fixtures and appurtenances that may vary from the information outlined in the technical specifications. It is intended that the new construction include these fixtures for ease of maintenance and consistency for future maintenance. Below are the desired colors.

- 1) Sinks are Bradley Frequency Lavatory System FL-1L colors: *Coal* for the trap cover color and *Graphite* for the sink surface color
- 2) Hand Dryer XLERATOR Model XL-GR Color: *Graphite*
- 3) LED Exterior Restroom and Exterior shelter wall pack lighting is *Acuity Lithonia WSTM LED 2A 30K 120 DBLBXD*
- 4) LED Canopy Lighting for interior of the Shelter ViVidleds Low-Profile
- 5) MDF Wall Mount Fountain and Bottle Filler color: *Blue*

**LED Wall Pack, Bronze, 1200L, 3000K**

LED Wall Pack Item, 17 Watts, 1200 Lumens, Lumens Per Watt 72, Color Temp. 3000K, CRI 80, Voltage 120, Length 12-1/2 In., Width 7-1/2 In., Height 5-3/4 In., Housing Finish Bronze, Housing Material Cast Aluminum, Light Distribution Wide, Recommended Mounting Height 10 to 15 ft., Lens Material Diffused Glass Temp. Range -30 to 40 Degrees C, Rated Life 100, 000 hr. Replaces 70w MH/HPS, Standards UI Listed, Series WST, Warranty 5 Year

Grainger Item #	21YH33
Price (ea.)	\$254.75
Brand	ACUITY LITHONIA
Mfr. Model #	WSTM LED 2A 30K 120 DBLBXD
Ship Qty.	1
Sell Qty. (Will-Call)	1
Ship Weight (lbs.)	9.0
Availability	Typically in Stock
Catalog Page No.	N/A

Price shown may not reflect your price. Log in or register.

Additional Info

There is currently no additional information for this item.

Tech Specs

- **Item:** LED Wall Pack
- **Housing Finish:** Bronze
- **Housing Material:** Cast Aluminum
- **CRI:** 80
- **Color Temp.:** 3000K
- **Length:** 12-1/2"
- **Width:** 7-1/2"
- **Height:** 5-3/4"
- **Lumens:** 1200
- **Voltage:** 120
- **Watts:** 17
- **Lumens Per Watt:** 72
- **Temp. Range:** -30 to 40 Degrees C
- **Rated Life:** 100,000 hr.

- **Light Distribution:** Wide
- **Recommended Mounting Height:** 10 to 15 ft.
- **Lens Material:** Diffused Glass
- **Standards:** UL Listed
- **Series:** WST
- **Warranty:** 5 Year
- **Green Environmental Attribute:** Product Contributes to Reducing Energy Consumption

Notes & Restrictions

There are currently no notes or restrictions for this item.

MSDS

This item does not require a **Material Safety Data Sheet (MSDS)**.

Required Accessories

There are currently no required accessories for this item.

Optional Accessories

There are currently no optional accessories for this item.

Alternate Products

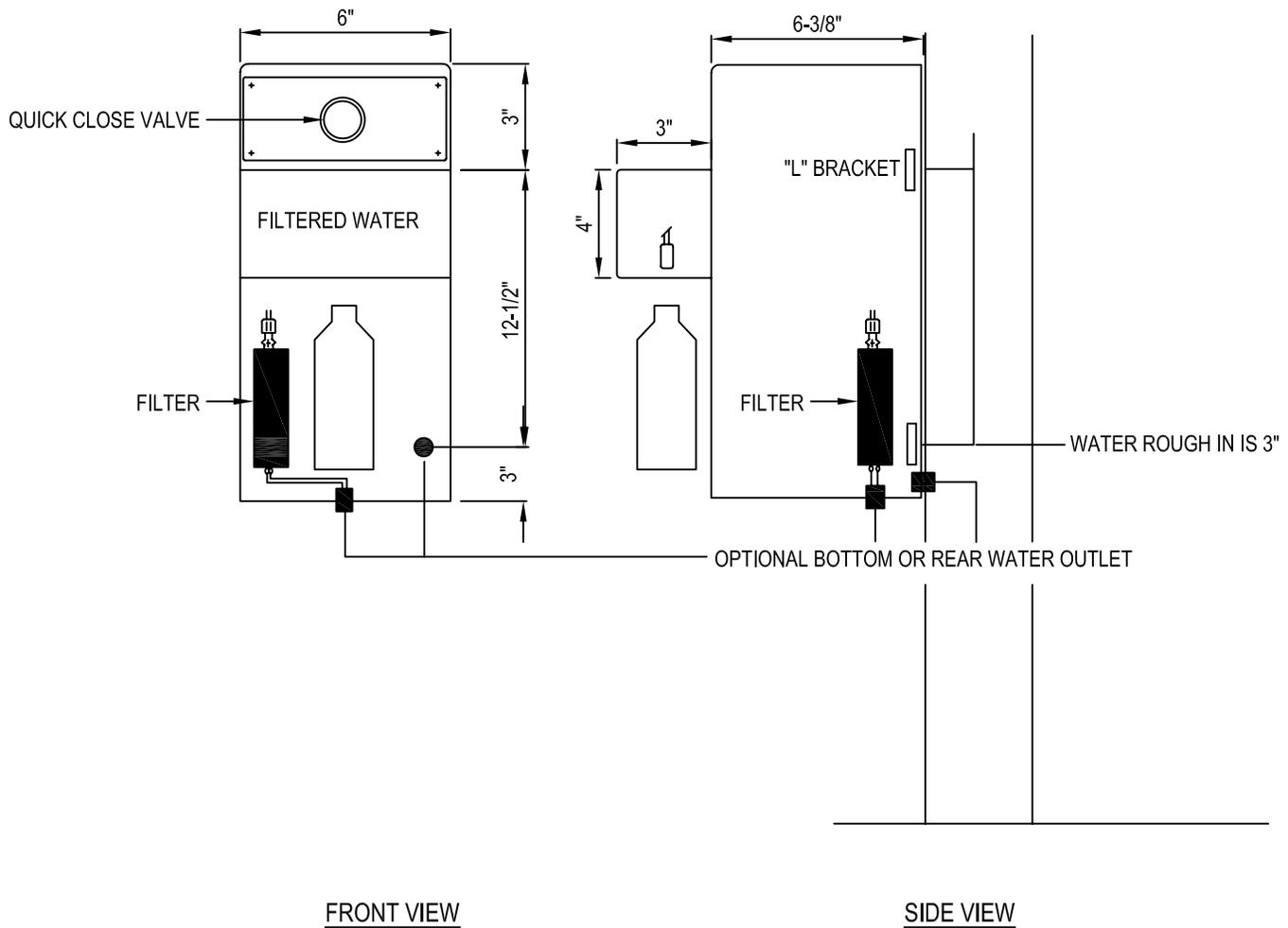
There are currently no alternate products for this item.

Repair Parts

A Repair Part may be available for this item. Visit our Repair Parts Center or contact your local branch for more information.



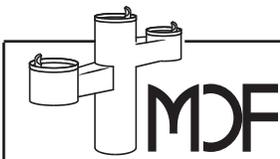
MOST DEPENDABLE FOUNTAINS INC.
 5705 COMMANDER DR. P.O. BOX 587
 ARLINGTON, TN 38002-0587
 TOLL FREE: 1-800-552-6331
 PHONE: (901) 867-0039
 FAX: (901) 867-0159
 www.mostdependable.com



NOTES:

1. MEETS ADA REGULATIONS.
2. DO NOT SCALE DRAWINGS.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.





PEDESTAL BOTTLE FILLER SPECIFICATIONS

WATER QUALITY (LEAD FREE)

Section 9, California Proposition 6 and the Federal Safe Drinking Water Act.

STANDARD PEDESTAL

304 schedule 10 stainless steel

RECEPTOR BOWL

18 gauge electro-polished stainless steel bowl. Bowl overlaps pedestal, preventing buildup of residue in visual drinking area. Optional stainless steel Bowl Strainer recommended for areas with sand. Not applicable on Model 10125 SMSS.

BUBBLER HEAD

Stainless steel anti-squirt head (weighing a pound and a half) mounted with a lock nut and washer to prevent tampering. Lock nut pin holds bubbler in locked position to prevent twisting or turning. The MDF bubbler head has a unique design that features a steady stream trajectory and a built in natural shield from contamination. (Most Dependable Fountains, Inc.™ encourages bubbler comparison.)

PUSH BAR

304 stainless steel with circumference exceeding 8.6". Mushroom style push bar overlaps and prevents sand and other objects from sticking push bar in the ON position. Stainless steel bubbler housing standard.

CONTROL VALVE

Requires less than 5 lbs to operate. Non-cartridge O-ring delivers steady stream of water through flow regulator. No adjustment necessary. This valve design is to operate and function at 30 to 80 PSI. Ideal operating pressure is 60 PSI.

FLOW REGULATOR

Designed to operate and function at 30 to 80 PSI. Ideal operating pressure is 60 PSI.

WATER SUPPLY (LEAD FREE)

Maintenance free reinforced nylobraid tubing that is NSF-61 certified. **This tubing is not plastic.** It is supplied with a 1/2" MIP threaded inlet with stainless steel strainer. Union fittings at every connection. Supply line stops above grade. Water Filter is standard on this model.

FINISH

Oven baked powder coat. Choice of colors are: green, blue, black, red, yellow, orange, white and chrome. Textured color choices: emerald, sapphire, pyrite, text-black, burgandy, gold vein, copper and sandstone. Stainless steel models are powder coated for added protection.

INSTALLATION

Surface Mount installation, is designed to be anchored on top of an existing surface (concrete, etc.) with anchor bolts through a mounting plate that is welded to the fountain. Surface Mount Fountains provide an access door with vandal resistant stainless steel screws. Surface mount carrier recommended for all surface mount installations. Access door standard on all pedestal fountains. The model 10115 WMSS is anchored to a wall with exterior bolts.

WINTERIZATION

Shut off water and drain down.

WARRANTY

One year warranty, labor not included.

SHIPPING WEIGHT

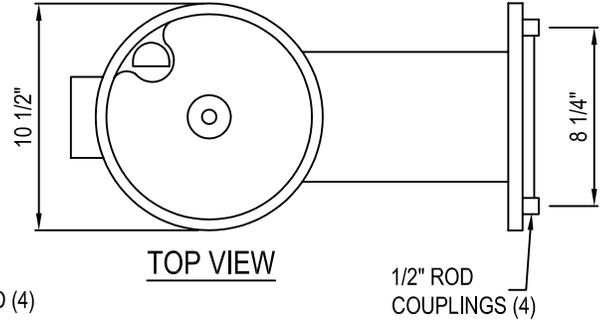
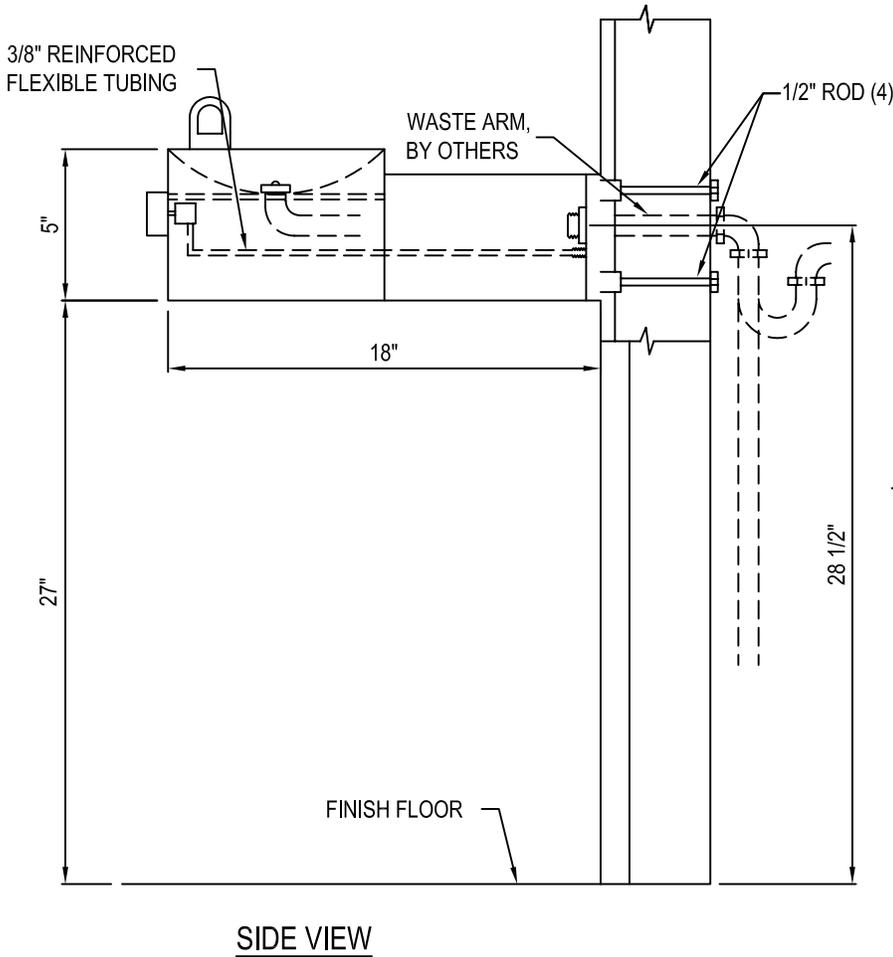
Model 10115 WMSS..... 20 lbs	Model 10125 SMSS..... 100 lbs
Model 10135 SMSS..... 150 lbs	Model 10145 SMSS..... 235 lbs
Model 10155 SMSS..... 185 lbs	

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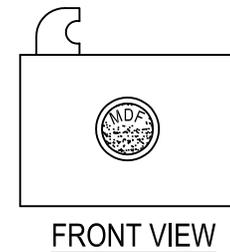
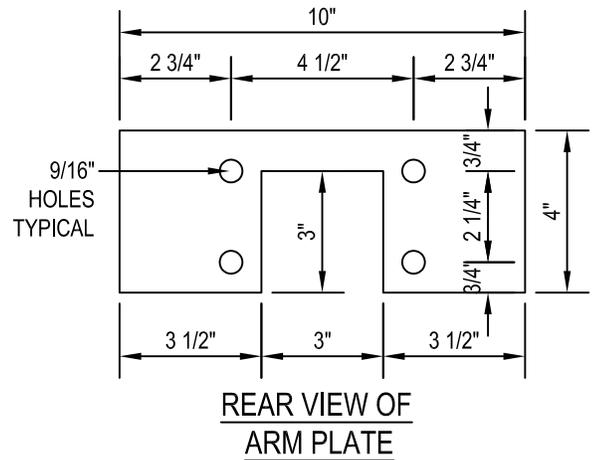




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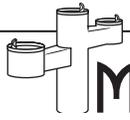
NOTE: 1/2" ROD COUPLINGS ARE USED WITHOUT CARRIER



NOTES:

1. MEETS ADA REGULATIONS.
2. DO NOT SCALE DRAWINGS.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. 450 CARRIER PLATE RECOMMENDED FOR PROPER INSTALLATION.
5. YOU MUST HAVE ACCESS TO BACK SIDE OF WALL, IF YOU ARE NOT USING A 450C SUPPORT CARRIER.





MDF 400 SERIES WALL MOUNTED DRINKING FOUNTAIN SPECIFICATIONS

WATER QUALITY (LEAD FREE)

Fountain meets NSF-61 requirements and has a UL approved label with a UL tracking number.

PEDESTAL

One piece weld construction with MDF standard $\frac{3}{16}$ " wall thickness **or optional** 304 schedule 10 stainless steel.

RECEPTOR BOWL

18 gauge electro-polished stainless steel bowl. Bowl overlaps pedestal by $\frac{9}{16}$ ". Prevents build-up of residue in visual drinking area. Optional SS Bowl Strainer recommended for areas with sand.

BUBBLER HEAD

Heavy-duty, stainless steel anti-squirt head mounted with lock nut and washer to prevent tampering. Designed to deliver a constant stream trajectory. Natural shield to prevent contamination.

PUSH BAR

304 stainless steel with $1\frac{1}{4}$ " x 2" stainless steel housing. Mushroom style push bar overlaps and prevents sand and other objects from sticking push bar in the ON position.

CONTROL VALVE

Non-cartridge stainless steel O-Ring valve delivers non-spurt, adjustable steady stream of water. Washerless.

WATER SUPPLY (LEAD FREE)

Maintenance-free reinforced nylobraid tubing and fittings, NSF-61 certified. This tubing is not plastic. It is supplied with a $\frac{1}{2}$ " MIP threaded inlet with a stainless steel strainer. Union fittings at every connection. Supply line stops above grade.

FINISH

Oven-baked powder coat. Color choices: green, blue, brown, black, red, yellow, orange, white and chrome. Textured color choices: emerald, sapphire, pyrite, text-black, burgundy, gold vein, copper and sandstone. Stainless Steel fountains are powder coated for added protection and all colors listed are available.

WASTE

Y drain

ACCESS

Working parts accessible through bowl of fountain for easy service.

INSTALLATION

The Wall Mounted drinking fountain is designed to be anchored to a wall (concrete, masonry, etc.) with anchor bolts through a mounting plate that is welded to the fountain. MDF offers standard wall mount and pedestal wall mount drinking fountains. An optional stainless steel carrier is recommended for all standard wall mounts. The Pedestal wall mount is flush with the ground and bolted to the wall. The pedestal wall mount works extremely well when specified for remodeling.

WINTERIZATION

Shut off water and drain down.

WARRANTY

One year warranty. Labor not included.

SHIPPING WT.

Model 450 WM*	40 lbs.	Model 410 WM (Pedestal)*	85 lbs.
Model 450 C (carrier).....	25 lbs.	Model 440 WM (HiLo Pedestal)*	100 lbs.
Model 475 WM (HiLo)*.....	95 lbs.	<i>* Meets ADA regulations</i>	
Model 475 DCP Kit (dual carrier).....	50 lbs.		

Note: When ordering, please specify installation by WM and stainless steel by SS. Always note your color choice and options where applicable. (Options are added at an additional cost to the customer.) Example: Specify 475 WMSS sapphire to order 475 Wall Mount Stainless Steel in sapphire. Please call MDF to assist you with ordering, quoting and shipping.

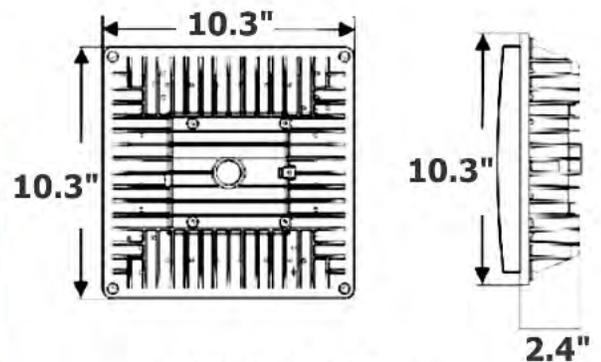
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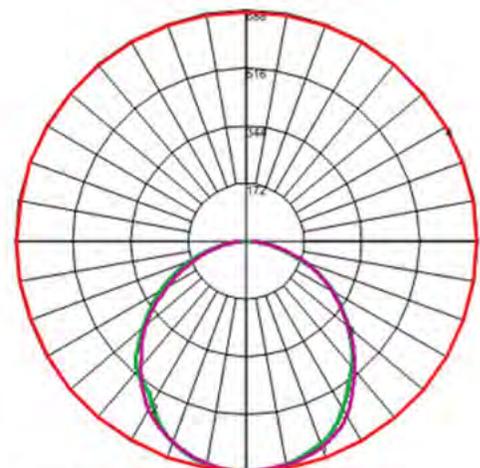
LED Features:

- Long life CREE XTE R2 LEDs
- UL and CUL Listed for wet locations - IP65
- Integrated one piece heatsink for better cooling
- Easy mount, contractor friendly mounting plate
- High quality die-cast aluminum housing
- Architectural bronze powdercoat finish
- Impact resistant sandblasted PC diffuser
- Silicone rubber gasket - No leakage
- Color Rendering Index: CRI RA>75
- High reflectance aluminum reflector
- Low Tj for long life and low lumen depreciation
- Best in class LED efficiency >95 Lm
- Low starting temperature: -25C
- IC controlled LED circuits
- 3 year system warranty

Garage / Canopy Design Canopy Series



Distribution



Maximum Candela = 688.49, Located At Horizontal Angle = 330, Vertical Angle = 3.5
 # 1 - Vertical Plane Through Horizontal Angles (0 - 180)
 # 2 - Vertical Plane Through Horizontal Angles (180 - 0)
 # 3 - Vertical Plane Through Horizontal Angles (45 - 225)
 # 4 - Horizontal Cone Through Vertical Angle (3.5) (Through Max. Cd.)



Easy Mounting
Solution



Models:

- VVD36435FR: 20 LEDS - 30W - 4700K - 2512 Lm - 500mA - 120-277 VAC

Ordering Example: VVD36435FR



- ADA & TAS Compliant (lower or "concave" stations only)
- Patented Molded One-Piece Design with Integral Bowl
- Constructed of Terreon® or Terreon®RE Solid Surface Material
- Trap and Transition Cover Enclosure
- Includes Capacitive Sensing Faucet
- Optional Electric Tankless Water Heater, Soap Dispenser and Plug-in Transformer

Specifications

With its patented design, the Frequency Lavatory System comfortably provides hand-washing access for adults, children, and those with disabilities. The "convex" or higher FL-1H provides a more ergonomically correct position for able-bodied users while the "concave" or lower FL-1L can be mounted to meet ADA or TAS guidelines. Accommodating one user at a time, the FL-Series features a solid surface countertop with a one-of-a-kind integral bowl. The unique bowl, with integral solid surface overflow, allows for greater knee clearance than other barrier free fixtures. The Frequency Lav System includes a "no-drip" edge and comes equipped with centershank capacitive sensing faucet with battery operation. Faucet includes an anti-rotation 4" trim plate. Optional deck-mounted soap dispenser, plug-in transformer and electric tankless water heater are available.

Construction

Counter Top/Bowl

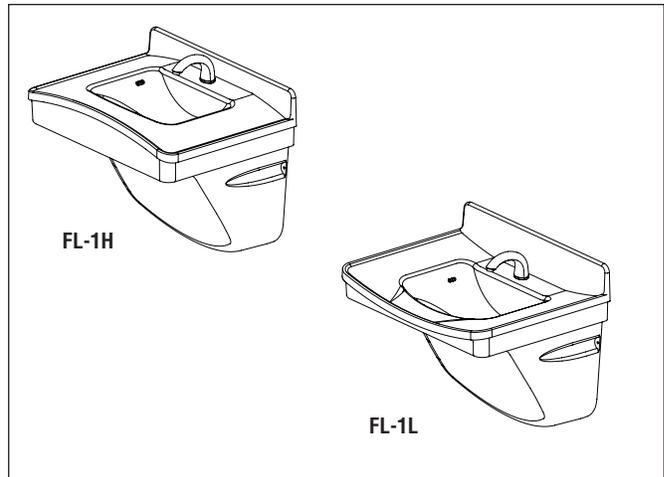
Constructed of Terreon, a densified solid surface material composed of polyester resin, or TerreonRE, a densified solid surface material composed of a bio-based resin and preconsumer recycled granules. Terreon and TerreonRE are resistant to chemicals, stains, burns and impact. Surface damage can be easily repaired with everyday cleansers or fine grit abrasives. Terreon and TerreonRE are certified by NAHB to meet ANSI Z124.3, Z124.6 and ANSI/ICPA SS-1. Terreon and TerreonRE are GREENGUARD® certified as low-emitting materials.

Trap Cover Enclosure

The trap and transition cover of the Frequency Lav System not only conceals plumbing and electrical connections, but also reduces time needed for installation and maintenance. Trap and transition cover are made from high impact polymer, available in three colors.

Mounting

The FL-Series includes heavy gauge stainless steel mounting brackets, eliminating the need for additional specifications and/or casework beneath the countertop. All Frequency Lavatory Systems meet or exceed industry standards for load testing. Refer to the installation manual for backing recommendations.



Code Compliance and Certifications

ANSI Standards

Terreon and TerreonRE are certified by NAHB to meet ANSI Z124.3, Z124.6 and ANSI/ICPA SS-1.

cUPC Approval

Frequency Lav Systems are Uniform Plumbing Code (UPC), International Plumbing Code (IPC) and National Plumbing Code of Canada (NPC) approved through the International Association of Plumbing and Mechanical Officials (IAPMO). Manufactured in compliance with IGC 156, CSA B45 Series (R08) & ASME A112.18.1/CSA B125.1.

- This plumbing fixture is designed for hand washing only. It is not Intended to dispense water for human consumption through drinking or for preparation of food or beverages.

Standard Height Mounting

The FL-1L is designed to be mounted to comply with all ADA guidelines on reaches and clearances. To comply with ADA, the rim height at the outside edge must be 34" max. above the finished floor. To be completely ADA compliant, the Frequency Lav System must be equipped with ADA-compliant faucets and trap cover enclosure.

- The FL-1H does not meet ADA Accessibility Guidelines. Always check local codes for compliance.

Juvenile Height Mounting

The FL-1L is designed to be mounted at various heights to comply with all ADA and TAS guidelines on reaches and clearances. To comply with ADA for children, the rim height at the outside edge must not exceed 31". Source: ADA Accessibility Guidelines for Buildings and Facilities (ADAAG) as amended through September 2002. To comply with Texas Accessibility Standards for children, the FL-1L must be mounted so the rim height at the outside edge does not exceed 30" or 32" based on age or grade level. For more information, contact the Texas Department of Licensing and Regulation.



Verify all rough-in dimensions prior to installation.

Consult local and national codes. Conformity and compliance to local and national codes is the responsibility of the installer.

Standard Equipment

Models FL-1H & FL-1L

Deck with lavatory, heavy gauge, stainless steel mounting brackets and battery-operated faucet described below. Trap cover to enclose the following fittings: offset drain; P-trap; flexible stainless steel supply connections; and ASSE 1070 Navigator® thermostatic mixing valve with stop valves.

Activation Control

Capacitive Sensing Technology

The Aerada 1200 Series CS faucet creates an omnidirectional detection zone utilizing capacitive sensing technology. The capacitive sensing field triggers faucet activation only when a significant change in the capacitive field occurs. Only human presence will create a significant change in the capacitive field. As such, inanimate objects will not trigger faucet activation. The faucet is unaffected by varying skin tones, other infrared presence and soap scum build-up.

Valve

The electronically activated motor driven valve provides reliable performance since there are few moving parts. The valve includes an in-line filter to trap debris and is unaffected by most chemicals and minerals found in municipal water supplies. Valve features a factory-set maximum water run-on duration of 15 seconds. Valve control module features a manual override control for applications requiring periodic flushing of the water lines. The valve and electronics are enclosed in a water-resistant housing mounted below the fixture.

Flow Control/Rate

Operating water pressure range is 20–80 psi. Flow regulator keeps flow rate constant at all pressures. The flow is laminar at a rate of .5 gpm.

Optional Equipment

Models FL-1H & FL-1L

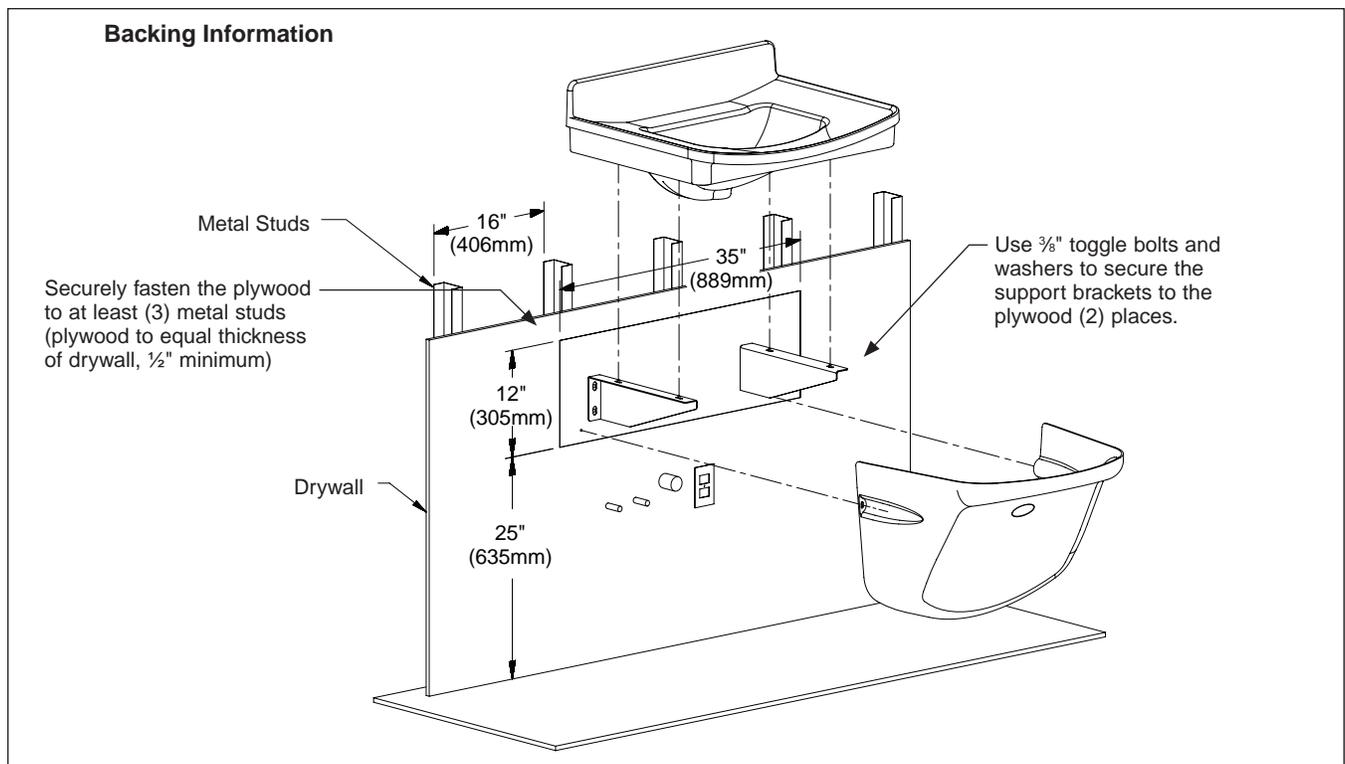
Liquid soap dispenser, 100–120 VAC plug-in transformer (to convert battery operated faucets) and electric tankless water heater (described below).

Thermostatic Electric Tankless Water Heater

The electric tankless water heater is equipped with a micro processing temperature control capable of maintaining outlet temperature accuracy of +/- 1°F. Flow switch activates heater only on demand with 99% efficiency. For easy service, the heater features a replacement cartridge element.

Model	KW	VAC	Amps	Temp. Rise @ .5 GPM
EX55TMLB	5.5	240/208*	23	75° F
EX60TMLB	6.0	277	22	81° F

*240 volt can also be rated 208 volts with a 25% reduction in power



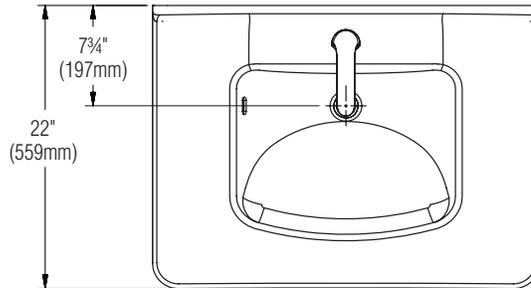
Verify all rough-in dimensions prior to installation.

Consult local and national codes. Conformity and compliance to local and national codes is the responsibility of the installer.

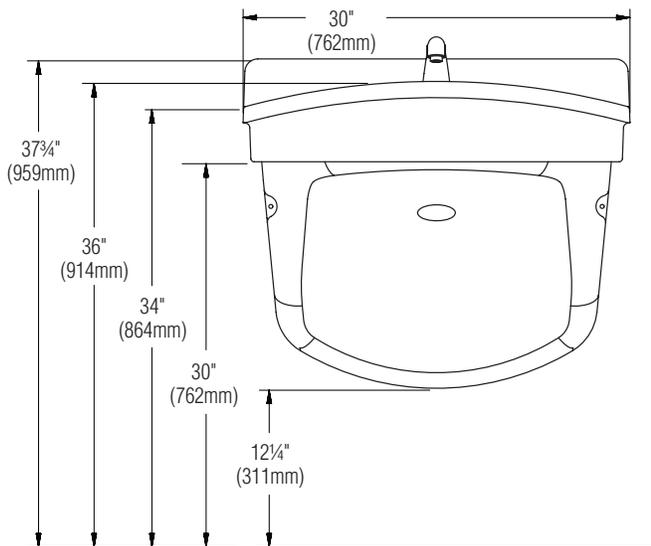
Protected by the following U.S. patent: D507,634. Other patents pending.

Dimensions – Front and Top Views

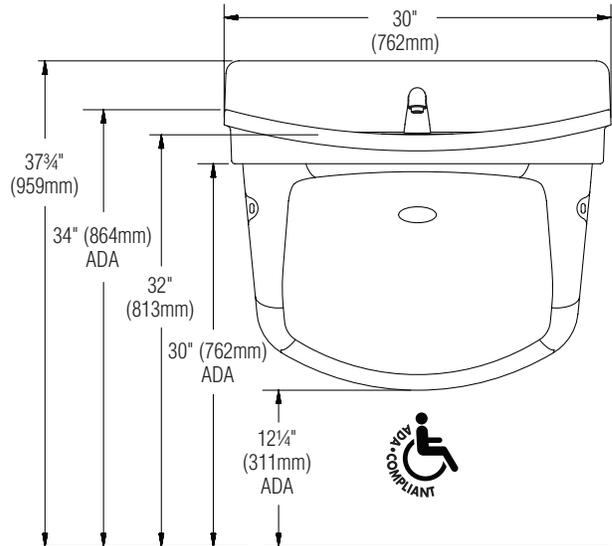
FL-1H shown
FL-1L is similar



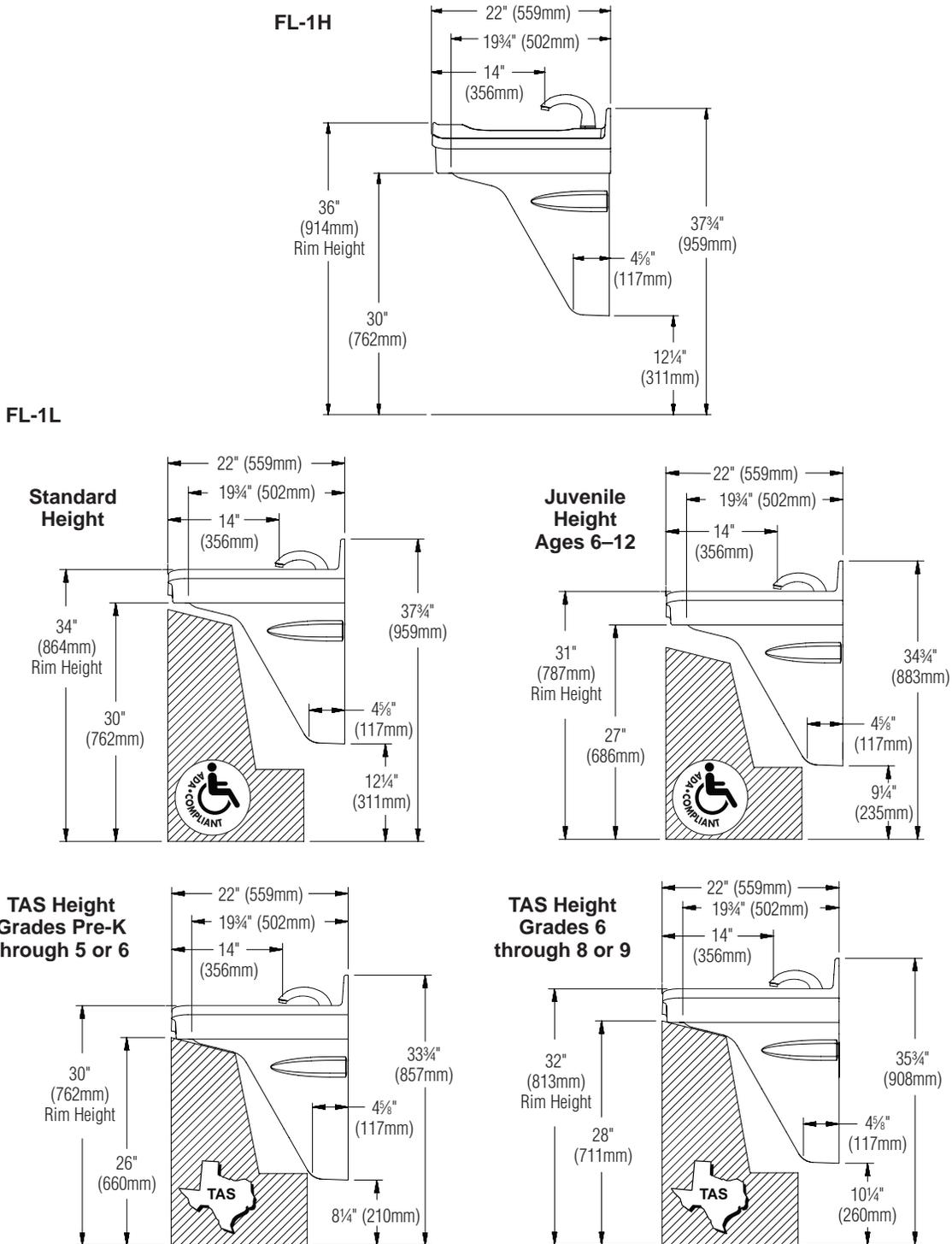
FL-1H



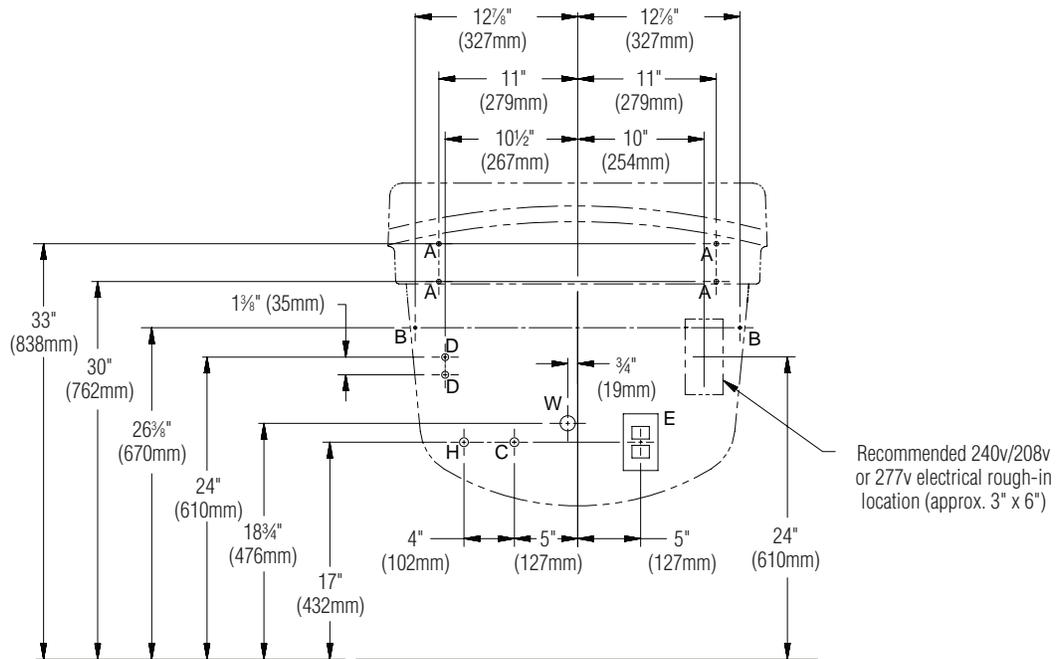
FL-1L



Dimensions – Side Views

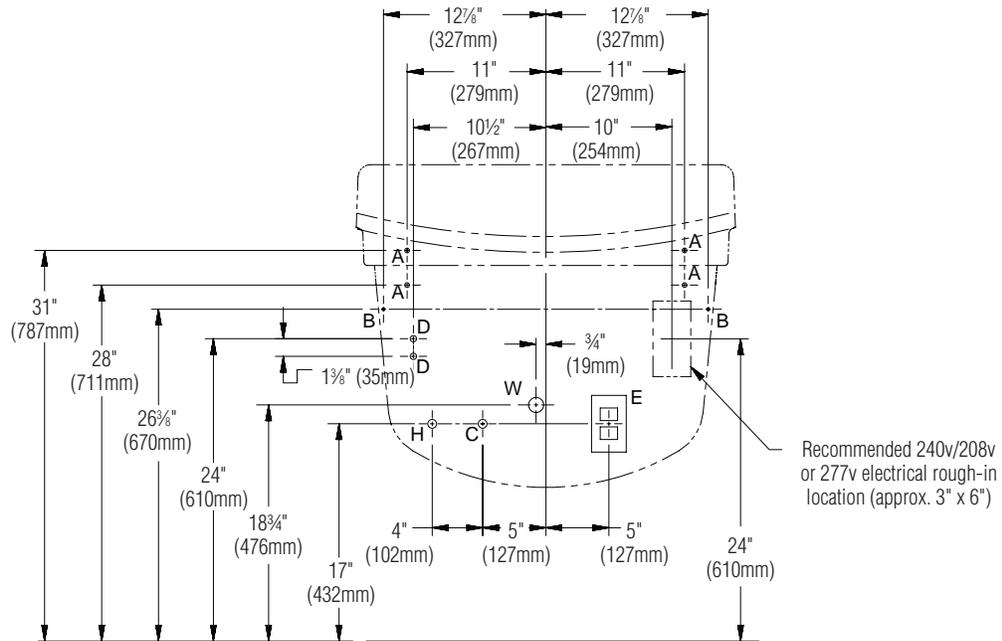


Rough-Ins for FL-1H



CODE	DESCRIPTION	QTY.
A	3/8" Lav Deck Anchors with a Minimum Pull-Out Force of 1,000 lbs.	4
B	#10 Wall Anchors/Fasteners for Mounting Trap Covers	2
H, C	1/2" Nominal Copper Tubing Hot/Cold Supplies, Stub-Out 2" From Wall	1
D	#10 Wall Anchors/Fasteners for Valve Mounting	2
E	110v GFI Protected Electrical Outlet	1
W	1 1/2" NPT Drain, Stub-Out 2" from Wall	1
RIM HEIGHT	VERTICAL HEIGHT ADJUSTMENTS FOR CODES A-E, H, C and W	FIXTURE STYLE
34"	None	Standard Height (non-ADA model)
30"	Subtract 4"	Juvenile Height (non-ADA model)

Rough-Ins for FL-1L



CODE	DESCRIPTION	QTY.
A	3/8" Lav Deck Anchors with a Minimum Pull-Out Force of 1,000 lbs.	4
B	#10 Wall Anchors/Fasteners for Mounting Trap Covers	2
H, C	1/2" Nominal Copper Tubing Hot/Cold Supplies, Stub-Out 2" From Wall	1
D	#10 Wall Anchors/Fasteners for Valve Mounting	2
E	110v GFI Protected Electrical Outlet	1
W	1 1/2" NPT Drain, Stub-Out 2" from Wall	1

RIM HEIGHT	VERTICAL HEIGHT ADJUSTMENTS FOR CODES A-E, H, C and W	FIXTURE STYLE
34"	None	Standard Height
32"	Subtract 2"	TAS, Grades 6 through 8 or 9
31"	Subtract 3"	TAS, Pre-K through Grades 5 or 6
30"	Subtract 4"	Juvenile Height

Model	Description
<input type="checkbox"/> FL-1H	Frequency Lavatory System, Single Station (high), includes battery-operated S53-315 faucets
<input type="checkbox"/> FL-1L	Frequency Lavatory System, Single Station (low), includes battery-operated S53-315 faucets

Standard Selections (Must select one from each category)

Supply (select one):

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> TMA | Navigator Thermostatic Mixing Assembly (Hot & Cold Supplies) |
| <input type="checkbox"/> TL | Single Tempered Line |
| <input type="checkbox"/> HEAT277 | Electric Tankless Water Heater, 277 Volts |
| <input type="checkbox"/> HEAT240-208 | Electric Tankless Water Heater, 240/208 Volts |

Soap Dispenser (select one):

- | | | | |
|------------------------------|-----------------------|------------------------------|-------------------|
| <input type="checkbox"/> LSD | Liquid Soap Dispenser | <input type="checkbox"/> NSD | No Soap Dispenser |
|------------------------------|-----------------------|------------------------------|-------------------|

Color of Terreon® Bowl/Deck(select one):

Standard Colors

- | | | | |
|----------------------------------|----------------|-----------------------------------|---------------|
| <input type="checkbox"/> E-GRAY | Empire Gray | <input type="checkbox"/> GRAPH | Graphite |
| <input type="checkbox"/> BONE | Mesa Bone | <input type="checkbox"/> LANNON | Lannonstone |
| <input type="checkbox"/> PEP-WHT | Peppered White | <input type="checkbox"/> COBBLE | Cobblestone |
| <input type="checkbox"/> SAND | Sandtrap | <input type="checkbox"/> WHT-SAND | White Sand |
| <input type="checkbox"/> DS-WHT | Designer White | <input type="checkbox"/> FIESTA | Fiesta |
| <input type="checkbox"/> CHAR | Charcoal Gray | <input type="checkbox"/> LONDON | London Gray |
| <input type="checkbox"/> JADE | Jade | <input type="checkbox"/> O-TAUPE | Organic Taupe |

Designer Colors* (available at an additional charge)

- | | | | |
|-----------------------------------|-------------|-----------------------------------|--------------|
| <input type="checkbox"/> ARC-CHIP | Arctic Chip | <input type="checkbox"/> COFFEE | Coffee Bean |
| <input type="checkbox"/> S-SAGE | Summer Sage | <input type="checkbox"/> CORN | Cornfield |
| <input type="checkbox"/> RIVER | Riverstone | <input type="checkbox"/> BLUESKY | Blue Sky |
| <input type="checkbox"/> MYSTIC-M | Mystic Moss | <input type="checkbox"/> HILLSIDE | Hill Side |
| <input type="checkbox"/> STAR-D | Stardust | <input type="checkbox"/> MOUNTAIN | Mountain Top |

TerreonRE Colors (available at an additional charge)

- | | | | | | |
|-------------------------------------|------------|-----------------------------------|-----------|-------------------------------------|------------|
| <input type="checkbox"/> BIRCH-BARK | Birch Bark | <input type="checkbox"/> MAIZE | Maize | <input type="checkbox"/> OCEAN-MIST | Ocean Mist |
| <input type="checkbox"/> DUSK | Dusk | <input type="checkbox"/> MOONDUST | Moon Dust | <input type="checkbox"/> OLIVE | Olive |
| <input type="checkbox"/> FERN | Fern | <input type="checkbox"/> OAT | Oat | | |

Element Colors

- | | | | |
|----------------------------------|----------------|---------------------------------|------------|
| <input type="checkbox"/> SS-GRAY | Soapstone Gray | <input type="checkbox"/> CA-TAN | Canyon Tan |
|----------------------------------|----------------|---------------------------------|------------|

Color of Trap Cover (select one):

- | | | | |
|-------------------------------|------|--------------------------------|-------|
| <input type="checkbox"/> GRAY | Gray | <input type="checkbox"/> PUTTY | Putty |
| <input type="checkbox"/> COAL | Coal | | |

Optional Selections

Transformer:

- | | |
|-----------------------------|---|
| <input type="checkbox"/> PT | 110-120VAC plug-in adapter to convert battery-operated S53-315 faucet |
|-----------------------------|---|

* Non-cancelable, non-returnable.

Verify all rough-in dimensions prior to installation.

Consult local and national codes. Conformity and compliance to local and national codes is the responsibility of the installer.

Product Description

Terreon® is a densified solid surface material made from a blend of acrylic modified polyester resin with UV stabilizer, alumina tri-hydrate and mineral fillers. Terreon®RE is a densified solid surface material composed of 8% bio-based resin and 25% pre-consumer recycled granules. The materials are then bound by a two-step catalyst that elevates the set-up temperature to 230° F. Terreon and TerreonRE are certified by NAHB to meet ANSI Z124.3, Z124.6 and ANSI/ICPA SS-1-2001. Terreon and TerreonRE are GREENGUARD® certified as low-emitting materials. Terreon and Terreon RE feature a 10-year warranty.

Product Qualities

Terreon and Terreon RE have a number of inherent qualities which allow the products to withstand high volume commercial traffic, as well as resist vandalism. These include, but are not limited to the following:

- Durable, long-lasting material
- Smooth, non-porous surface
- Easy to clean and maintain, absence of cracks or crevices prevent bacteria and mold from accumulating
- Chemical and stain resistant
- Impact and scratch resistant, therefore deterring vandalism
- Easy to repair; unlikely surface damage can be easily and inexpensively repaired using the Terreon and TerreonRE repair kits
- Resistant to heat and water damage
- Terreon and TerreonRE seam kits allow for flexibility on various applications where continuous surface lengths greater than 120" are specified
- 34 available colors allow versatility in design options
- Homogenous composition allows for even distribution of color throughout material
- UV light resistant, latest technology in UV light stabilizers
- Terreon and Terreon RE are workable using standard power tools
- Standard thickness of all Terreon and TerreonRE products is 1/2".

Care and Maintenance of Solid Surface

- For regular cleaning, use standard commercial or household products such as Formula 409® or Windex®.
- Remove tough stains with Ajax®, Comet® or Soft-Scrub® and a green Scotch-Brite® pad or lightly sand in a circular motion with 240 grit wet/dry sandpaper. The finish can be renewed with a maroon Scotch-Brite® pad.
- Remove scratches with a green Scotch-Brite® pad. The finish can be renewed with a maroon Scotch-Brite® pad. Remove hard water build-up with a mild solution of vinegar and water.
- Refresh and protect the surface with Hope's® Solid Surface Cleaner and Polish.
- Avoid contact with harsh chemicals such as paint remover, bleach, acetone, etc.
- Avoid unnecessary or prolonged contact with hot pans and objects.
- Do not use strong acid or alkaline chemicals and cleansers to clean Terreon. If these chemicals come in contact with the Terreon surface, wipe them off immediately and rinse the surface with soapy water.
- Bradley recommends additional care and maintenance for the darker colored Terreon. For more information, visit bradleycorp.com.
- Terreon repair kits are available. For more information and pricing, contact your Bradley representative or distributor.

- Use of brand names is intended only to indicate a type of cleaner. This does not constitute an endorsement.
- All products should be used in strict accordance with package instructions.

Physical Properties

Physical Properties	Test Result	Test Method
Liquid Absorption	0.025% 24 hours	ASTM D570
Izod Impact	0.44 ft. lb./in	ASTM D256, Method A
Tensile Strength	5000 psi	ASTM D638
Thermal Expansion	2.30 e-05 in/in/f	ASTM D696
Hardness	55-60	ASTM D2583, Barcol
Stain Resistance	No Effect	NEMA LD3
Boiling Water Resistance	No Effect	NEMA LD3-3.05
High Temperature Resistance	No Effect	NEMA LD3-3.06
Impact	No Fracture	ANSI Z124.3
Fire Resistance, Flame & Smoke	Class 1	ASTM E84
Fire Resistance, Flame & Smoke (CAN)	FSR = 5, SDC = 45	CAN/ULC-S102-10
Approximate Weight lbs./s.f. 1/2"	4.68	

ANSI Standards and the Terreon Comparison

Terreon meets the American National Standards Institute (ANSI) tolerances for plastic lavatories and plastic sinks, Z124.3 and Z124.6 respectively. Here's how Terreon and TerreonRE perform on critical test criteria:

Physical Properties	ANSI Test	Terreon
Surface Integrity	3.3	Free of cracks, chips and blisters
Subsurface Integrity	3.4	Free of blemishes and voids
Strength of Drain Connection (25 lbs at 24"—3 positions)	4.2	Free of cracks
Impact Load Resistance (1/2 lb. ball at 20")	4.3	Free of cracks
Cracks under Load (300 lbs)	4.4	No cracks
Colorfastness (200 hours, ASTM D2565-85)	5.1	No significant color change
Stain Resistance	5.2	Ten of ten stains removed, no loss of material thickness
Wear and Cleanability (10,000 cycles, & white light reflectance loss)	5.3	.019
Cigarette Burn Resistance	5.4	No effect after cleaning
Water Resistance (500 cycles)	6.3.2	Pass
Knife Drop (1 oz. steel, 24" height)	4.2.2	No cracks or chips
Skillet Drop (4 1/2 lb, 12" height)	4.2.3	No cracks or chips
Heated Pan (3 applications at 365° F)	5.6	No cracks, crazing or blisters
Hot Wax (10 oz., 365° F)	5.7	No cracks, crazing or blisters



FINALLY... A **FAST** HAND DRYER.



FAST! Dries Hands **Completely** in 10-15 Seconds

Excel's research team has developed the **XLERATOR**® with **patented technology** that delivers **three-times-faster** hand drying performance. Conventional hand dryers take from 30 to 45 seconds to get a user's hands totally dry, and very few of us are willing to wait that long. With the automatic sensor-activated **XLERATOR**, not only do your hands get dry in 10 to 15 seconds, but consumer test participants report that their hands also felt *warm, soft and really dry*.



3 Times Faster!

Uses 80% Less Energy.

Not only does the **XLERATOR** dry hands in one third of the time required by conventional hand dryers, our hand-drying system is designed to run on 15-amp service (making it great for older buildings). The combination of these two factors results in 80% less energy cost per use vs. conventional hand dryers.

GreenSpec® Approved and Qualifies for LEED® Credits.



XLERATOR is the first hand dryer to be GreenSpec Listed because it meets a number of GreenSpec standards; conserves energy, has low maintenance requirements and reduces waste.



XLERATOR helps your facility qualify for several different LEED (Leadership in Energy and Environmental Design) Credits in the new 2009 Rating Systems including EA Credit 1 - Optimize Energy Performance, now a mandatory credit for any LEED-certified facility.

XLERATOR also *lowers a facility's Carbon Footprint*. Ask to see our Life Cycle Assessment (LCA) Study Results.

95% Cost Savings vs. Paper Towels

Converting to the **XLERATOR** hand dryer will result in more than a 95% savings vs. paper towel costs. In addition to paper towels, the following costs are also eliminated: ordering, storing, replenishing, collecting and disposing of bacteria-laden paper towel waste. This results in a **Payback of Less Than One Year!**

Setting a New Standard

After a decade in the marketplace, the **XLERATOR** hand dryer has received numerous awards and designations, appeared in case study articles done by prestigious trade publications, and been featured on national television programs! Because of its proven performance and customer satisfaction, **XLERATOR** is being specified in many high-profile facilities and has become... **THE NEW INDUSTRY STANDARD!**



XLERATOR® IS RECEIVING A LOT OF ATTENTION

Ask about our Promotional Video
As seen on CNN Headline News
hosted by **Terry Bradshaw.**



(Available on CD. Or view this and other videos on our web site.)

TELEVISION APPEARANCES



AWARDS

Best New Product - Technology
(International Hotel, Motel and Restaurant Show)

Top Ten Green Product
(Environmental Building News)

Award for Design Excellence (ADEX)
(Design Journal ADEX Platinum Award)

Citation of Excellence
(Buildings Product Innovations Awards)

FEATURED ARTICLES

The Wall Street Journal
Architectural Record
American School and University
Environmental Design and Construction

GSA Contract Holder
#GS-07F-0017T

Excel Dryer has been awarded a contract by the GSA (General Services Administration) which offers special pricing to all Federal Government Agencies.



TIME TO THROW IN THE TOWEL.

XLERATOR® HAND DRYER

SPECIFICATIONS



Model XL-BW
Surface-mounted, Automatic,
White Polymer (BMC) Cover



Model XL-W
Surface-mounted, Automatic,
White Epoxy Painted Cover



Model XL-GR
Surface-mounted, Automatic,
Graphite Textured Painted Cover



Model XL-C
Surface-mounted, Automatic,
Chrome Plated Cover



Model XL-SB
Surface-mounted, Automatic,
Brushed Stainless Steel Cover



Model XL-SI*
Surface-mounted, Automatic,
Custom Special Image Cover

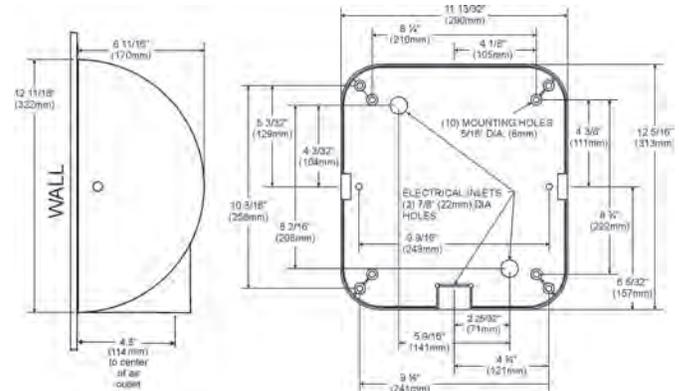
*Note: Exclusive digital image technology allows for the addition of Company, School or Team logos with any color, design or a 'green message'

Suggested Mounting Heights
From floor to Bottom of Dryer

	Hand Dryers
Mens'	45" (114 cm)
Ladies'	43" (109 cm)
Teenagers'	41" (104 cm)
Sm. Children	35" (89 cm)
Handicapped	37" (94 cm)

Units are 1500 Watts
and available as Specified in:

110/120V	12.5 Amp	60 Hz
208V	7.0 Amp	60 Hz
220/240V	6.5 Amp	60 Hz
277V	5.5 Amp	60 Hz
220/240V	6.5 Amp	50 Hz



Dimensions: 11 3/4" lg. X 12 11/16" high x 6 11/16" deep
(298 mm lg. X 322 mm high x 170 mm deep)

Weight: XL-BW - 15 lbs. (6.80 kgs.) XL-SB 16 lbs. (7.26 kgs.)
XL-W, XL-GR, XL-C, XL-SI - 17 lbs. (7.71 kgs.)

MECHANISM

- Motor shall be a thermally protected, series commutated, through-flow discharge vacuum motor/blower (5/8 hp / 20,000 rpm) which provides air velocity of up to 19,000 lfm (linear feet per minute) at the air outlet and 16,000 lfm at the hands (4 inches [102 mm] below air outlet).
- Heating element (970 w) is constructed of Nichrome wire and mounted inside the blower housing, thereby being vandal proof. It shall be protected by an automatic resetting thermostat, which shall open whenever air flow is cut off and shall close when flow of air is resumed. It shall produce an air temperature of up to 135°F (57°C) at a 72°F (22°C) ambient room temperature at the hands (4 inches [102 mm] below air outlet).
- Control assembly is activated by an infrared optical sensor located next to the air outlet. The dryer shall operate as long as hands are under the air outlet. There is a 35-second lockout feature if hands are not removed.

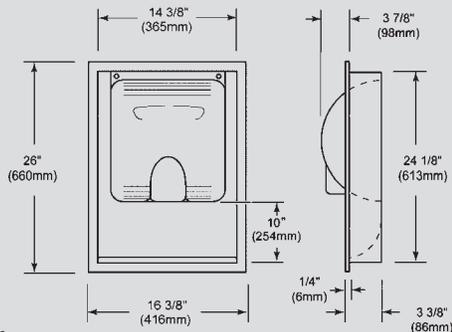
LIMITED WARRANTY

The dryer shall be guaranteed to be free from defects for a period of five (5) years. Warranty shall include labor performed at factory as well as the repair or exchange of defective parts, at manufacturer's option.

QUANTITY RECOMMENDATIONS

One dryer for every two washbasins is sufficient for most applications. If restroom traffic is unusually heavy, we suggest one dryer per washbasin in small installations and two dryers for every three washbasins in larger installations. When a 54" washfountain is used, we suggest four to five dryers.

Recess Kit - Meets ADA Protrusion Requirement of 4 inches (102 mm)



RECESS KIT (Optional)

Dimensions: 16 3/8" wide x 26" high x 3 3/8" deep
(416 mm wide x 660 mm high x 86 mm deep)
Weight: 11 lbs. (4.99 kgs.)

Note: Bottom of recessed wall box should be 10" (254 mm) below suggested mounting height for dryer (see chart).

XLERATOR® HAND DRYER

CONSTRUCTION

- Cover shall be one of the following: **Die-cast zinc alloy** - One-piece, heavy-duty, rib-reinforced, lightweight, unbreakable, rustproof and all exposed surfaces shall be bright chrome plated or finished with chip-proof, electrostatically applied epoxy paint. **Bulk Molding Compound (BMC)** - White reinforced thermoset polymer. **Stainless Steel** - with a brushed finish. **Special Image** - Digital image applied to cover using patented Kolorfusion Sublimation Decoration process. All covers will be fastened to a wall plate by two chrome plated tamper-proof bolts.
- Wall plate shall be equipped with (3) 7/8" (22 mm) diameter holes, one of which shall be suitable for use with surface conduit, for ease of wiring.
- All internal parts shall be coated according to Underwriters' Laboratories, Inc. requirements.
- Entire mechanism shall be internally grounded.
- Optional recess kit includes a wall box (22 ga) and dryer mounting plate (16 ga) made from 18-8 Type 304 brushed stainless steel. A stainless steel tether is connected to the dryer mounting plate to hold the dryer in position when servicing.



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EXCEL DRYER Inc.

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www.exceldryer.com



DIVISION 2 - 16

Technical Requirements

(The following technical specifications are being provided for information. They were used in the construction of the existing restroom and pavilion facilities at other City parks. The Contractor shall be responsible for meeting the current code requirements.)

City of Mt. Pleasant, Michigan

DIVISION 2 - SITE WORK

SECTION 2.20: EARTHWORK

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Excavation and backfill will be the responsibility of the General Contractor.
 - C. Related Work Specified in Other Sections.
 - (1) Excavation and Backfill for Mechanical Work (Division 15)
 - (2) Excavation and Backfill for Electrical Work (Division 16)
2. Alternates
 - A. Refer to Section 1.90 for Alternate Bids which may affect the work of this Section.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 2 - SITE WORK

SECTION 2.63: CONCRETE WALKS, PAVEMENT AND CURBS

This Section Reserved.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 3 - CONCRETE

SECTION 3.30: CAST-IN-PLACE CONCRETE

This Section Reserved.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 4 - MASONRY

SECTION 4.10: MORTAR

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Work Included. The Work of this Section includes the furnishing and installation of all mortar necessary to complete the unit masonry work indicted on drawings and specified herein.
 - C. Related Work Specified in Other Sections
 - (1) Unit Masonry (Section 4.20).
2. Alternates
 - A. Refer to Section 1.90 for Alternate Bids, which may affect the work of this Section.
3. Materials
 - A. Masonry cement shall conform to ASTM Specification C-270 Type S, non-staining, with a minimum compressive strength of 1800 psi.
 - B. Sand shall conform to ASTM Specification C-144 or MDSH 2NS and shall be sharp, clean and well graded.
 - C. Water. Clean, free of injurious amounts of oil, acids, alkalis, organic or other deleterious materials or direct from a municipal water supply system.
4. Brands of cementitious materials and the source of supply sand shall remain the same throughout the entire job and shall not be changed except by written approval of the Owner.
5. Storage of Materials. Cementitious materials and aggregates shall be stored in such manner as to prevent deterioration or intrusion of foreign material. Any material that has become unsuitable for good construction shall not be used.
6. Proportion and Mixing
 - A. Mortar shall be mixed in the proportion of 1 volume of masonry cement and between 2 ¼ and 3 volumes of loose mortar sand.

- B. Mix all cementitious materials and sand in a mechanical batch mixer for a minimum of five (5) minutes. Adjust the consistency of the mortar to the satisfaction of the Mason, but add only as much water as is compatible with convenience in using the mortar.
- C. Do not use mortar which has begun to set or if more than two (2) hours has elapsed since initial mixing. Re-tempering during the 2-hour period will be allowed, but only to replace water lost by evaporation.
- D. Admixtures will only be allowed if specifically approved by Owner, in which case they shall be used in strict accordance with manufacturer's written instructions.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 4 - MASONRY
SECTION 4.20: UNIT MASONRY

1. Scope

- A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
- B. Work Included. Work required under this Section consists of all unit masonry work and related items necessary to complete the work indicated on drawings and specified herein, including heavy aggregate concrete blocks, lightweight concrete blocks, sound absorbing concrete blocks, pre-faced concrete blocks, face brick, masonry reinforcing, metal masonry ties, and incidentals necessary to complete the work.
- C. Related Work Specified in Other Sections
 - (1) Mortar (Section 4.10)
 - (2) Miscellaneous Metalwork Built Into Masonry (Section 5.50)
 - (3) Caulking and Sealants (Section 7.70)
 - (4) Hollow Metal Doors and Frames (Section 8.11)

2. Alternates

- A. Refer to Section 1.90 for Alternate Bids which may affect the work of this Section.

3. Warranty

- A. Required, if work is subcontracted. Written warranty in approved form submitted in compliance with the related requirements of the Supplementary General Conditions, covering the work of this Section against defective materials and workmanship for a period of one (1) year after date of acceptance.

4. Materials

- A. Lightweight Concrete Block
 - (1) Blocks shall be modular units, approved by the Owner, and conforming to ASTM C-90, latest revision, governing hollow load bearing masonry units. All lightweight blocks shall be 12" x 8" x

16"; 10" x 8" x 16"; 8" x 8" x 16"; or 6" x 8" x 16" nominal size, Type 1, Grade N.

- (2) Lightweight blocks shall be manufactured from expanded shale, clay or slate aggregates conforming to Specifications for Lightweight Aggregates for Concrete Masonry Units, ASTM C-331, latest revision, and producing concrete having a dry weight between 70 and 105 lb. per cubic feet.
- (3) Provide bull nosed blocks at all exposed corners, jambs, etc., inside building, as required, and sufficient header blocks to satisfy and masonry bond requirements.
- (4) Solid bearings at least 8" high shall be provided under all wall bearing beams and lintels by using brick, or cores of hollow blocks shall be filled with concrete for two (2) courses below the bearing (16"); the latter method to be used where solid bearing must be exposed at the top of lightweight block walls.
- (5) Blocks shall be uniform in dimension and texture and free from surface pop-outs, and must be approved by the Owner before ordering. Blocks must be at least ten (10) days old before laying in walls.

B. Heavy Aggregate Concrete Block

- (1) All foundation walls below first floor level shall be heavy aggregate concrete block walls of sizes as called for on plans.
- (2) Standard weight concrete blocks shall be 12" x 8" x 16"; 10" x 8" x 16"; 8" x 8" x 16"; or 4" x 8" x 16" nominal size standard modular units, conforming to ASTM C-90, latest revision, governing hollow load-bearing masonry units, and shall have a minimum load bearing value of 1000 lb. per square inch. Blocks shall be manufactured from sand and gravel aggregate meeting ASTM C-33 and shall be uniform dimensions. Blocks shall be at least ten (10) days old before laying in walls, Type 1, Grade N.
- (3) Provide solid block or brick bearings under all concentrated loads, or fill the cores of hollow block with concrete. Total height of solid bearing shall be not less than eight (8) inches if brick, and sixteen (16) inches if cores of block are filled.

C. Common Brick

- (1) All common brick shall be approved new concrete brick or other approved hard-burned brick having a minimum compressive strength of 1600 lb. per square inch.

- (2) Common brick shall be used for beam and lintel bearings, for backup at brick headers, billing spaces between beams and masonry, between block and floor or roof construction, wherever same would not be exposed in finished rooms.

D. Specialty Block

- (1) Scored block, one score per block face with split faced texture. (See Plan for location and thickness).

E. Mortar. All mortar shall be as specified under Section 4.10.

F. Masonry Wall Reinforcement

- (1) Heavy duty "Dur-O-Wall", "Block-Truss", or "Lox-All" welded steel wall reinforcement of suitable dimension for wall thickness shall be installed in every third course of any block wall or any block and brick wall.
- (2) Wall reinforcement shall be mill galvanized. Zinc coating shall be not less than 0.40 oz. per square foot of wire surface.

G. Masonry Anchors to Wood Stud Backup

- (1) In general, one (1) wall tie or anchor shall be provided for each 2-1/2 square feet of wall area. The maximum vertical tie spacing is 24" o.c.
- (2) Ties or anchors shall be securely beaded in the masonry support wall.
- (3) 16 gauge corrugated metal ties shall be used only where specifically indicated on the drawings.
- (4) All ties and anchors shall be galvanized or copper.
- (5) Contractor shall provide sample of all anchors and ties to be used on this project to the Owner for approval prior to beginning work.

5. Installation

A. Protection of Materials and Work

- (1) Store all masonry materials on job so as to prevent the inclusion of any foreign materials and to prevent damage from weather on ground.
- (2) No broken, chipped, or cracked bricks shall be installed. Damaged units shall be removed and replaced as directed by the Owner.

- (3) Covering Work. The top of masonry work must be covered each day when discontinuing work so as to protect said masonry work against rainy, freezing, and icy weather conditions. This is required regardless of the season of the year.
- (4) Cold Weather. When leaving masonry units in cold weather, "Guide Specifications for Cold Weather Masonry Construction", as published by the International Masonry Industry All Weather Council, shall be adhered to, including temporary enclosures and heating to insure temperatures above 32 degrees F within protected areas.
- (5) Wetting. Masonry units with greater than 12% absorption shall be wetted twenty-four (24) hours before laying, except in winter.

B. Brick and Block Laying

- (1) Coursing. Masonry coursing shall be carefully studied as shown on the Plans and maintained accordingly.
- (2) All brick and block to be laid up in running bond unless otherwise shown. Provide alternating masonry bond between intersecting partitions and walls.
- (3) Joints. All fact brick and block work shall be laid with a concave tooled joint, as directed by the Owner, to produce a dense, slightly concave joint, well bonded to the brick at the edges.
- (4) Alignment. All masonry units shall be laid plumb, true to line, with level and accurately braced courses and reveals, with corners plumb and true, and with each course breaking joints with the course below. Bond must be kept plumb throughout. Cuts shall be made by sawing units.
- (5) Rake out joints at lintels and ledge plates and/or angles at control joints, and at other locations shown on drawings or as directed by Owner, and leave same clean and ready for application of joint filler and sealant in accordance with Section 7.70.
- (6) Contractor shall pay particular attention to the fact that some deflection will occur in brick walls supported on steel members. Adjacent brick supported on a foundation will not experience this deflection. The Contractor shall use care to insure that coursing matches between adjacent panels at vertical control joints with regard to the above.

- (7) No exterior brick work shall be permitted until the steel building frame has been plumbed and aligned and all the permanent bracing installed.
- (8) Where called for on plans, fill cores of concrete blocks solid with Portland Cement grout.
- (9) Solid Brick. Use solid brick wherever face will be exposed, such as sills, caps, open grilles, etc.

D. Building In Other Work

- (1) The mason shall build in all anchors, etc., as required by all other trades.
- (2) Work required to be built into the masonry, including reinforcing, shall be built in as erection progresses. Unless otherwise shown on the drawings or specified, reinforcing steel shall be furnished and installed under this division of the Work.
- (3) The Masonry Contractor shall set all Miscellaneous Iron and Steel that occurs in connection with masonry work. The Miscellaneous Iron Contractor or Structural Steel Contractor will furnish all said iron or steel to the Masonry Contractor for setting as the masonry is laid up.
- (4) Hollow metal frames, metal wall louvers, major items of miscellaneous metalwork, etc., shall be set by trades having jurisdiction, as masonry work progresses.

E. Chases, Recesses, Etc.

- (1) This Contractor shall provide all recesses, chases and openings for the Mechanical Work, as called for on the drawings and as directed.
- (2) The General Contractor shall examine Mechanical drawings for such locations, and construct masonry work accordingly, whether specifically indicated or not, and consult with Contractors installing such fixtures and pipe, so that complete job will be satisfactory in all respects.

6. Metal Flashings, Control Joints and Expansion Joints

- A. Provide control joints and expansion joints where shown on Plans. Same shall be an unbroken vertical separation through the thickness of the wall, including all facing materials and rigid finishes as detailed on Drawings.

- B. Build in rubber and/or waterstops, flashings and joint fillers and leave ready for caulking and sealant application per Section 7.70.

7. Pointing and Cleaning

- A. Cut out defective mortar joints and repoint them with mortar to match adjacent work.
- B. All exposed masonry shall be cleaned thoroughly. Before applying any cleaning agent to the entire wall, it shall be applied to a sample wall area of approximately 20 sq. ft. in a location approved by the Owner. No further cleaning work shall proceed until the sample area has been approved by the Owner, after which the same cleaning materials and method shall be used on the remaining wall area. If stiff brushes and water do not suffice, the surface shall be thoroughly wetted with clear water and then scrubbed with a solution of one part muriatic acid to ten parts water, followed immediately by a thorough rinsing with clear water. If masonry is cleaned with an acid solution, all sash, metal lintels, louvers and other corrodible parts shall be thoroughly protected.
- C. Concrete masonry units shall have all loose mortar cleaned off and all stains removed.

8. Fabric Flashing

- A. Furnish and install fabric flashing around exterior masonry walls as indicated on the wall sections.
 - (1) Unless otherwise indicated, fabric flashing shall be one of the following:
 - (a) Copper Armored Silsalkraft manufactured by St. Regis Corporation.
 - (b) Copper-Kraft manufactured by Sandell Manufacturing Co.
 - (c) Dryseal Copper Flashing manufactured by Revere Copper and Brass, Inc.
 - (d) Wasco Cop-R-Tex manufactured by American Cyanamid Company.
 - (e) Afco Vi-Seal manufactured by Afco Products, Inc.
 - (2) In general, fabric flashing shall extend at least 8" above floor line.

9. Weep Holes

- A. Where spandrel or other flashing or waterproofing turns out and terminates in horizontal mortar joints and over the top of steel lintels or shelf angles, provide weep holes in the mortar joints to permit water to drain from the wall. Space weep holes approximately 24" apart horizontally. Form weep holes by pressing short lengths of oil-soaked 5/16" diameter braided cotton sash cord into the mortar bed while soft. When mortar has set, pull the cords from wall.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 5 - METALS

SECTION 5.50: MISCELLANEOUS METALWORK

This Section Is Reserved.

-- End --

DIVISION 6 - CARPENTRY

SECTION 6.10: ROUGH CARPENTRY

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Extent. The work required under this Section consists of all carpentry and millwork and related items necessary to complete the work indicated on Drawings and described in the Specifications.
 - C. Items Included
 - (1) Labor and material for all partition and wall and miscellaneous blocking.
2. Alternatives. Refer to Section 1.90 for Alternate Bids which may affect the work of this Section.
3. Compliance With Standard and Industry Specifications

Any materials or operation specified by reference to the published specifications of a manufacturer, the AWI, NWMA, NLMA, SPIB, DFPA, HPI, WCLA, WPA, NHLA, SCMA, NDMA, CRA, CS, NOFA, UL, NWPA or other published standards, shall comply with the requirements of this standard listed. In case of conflict among the referenced specifications or standards, the one having the more stringent requirements shall govern.

The Contractor, if required, shall furnish an affidavit from the manufacturer certifying that the materials or products delivered to the project meet the requirements specified. Such certification shall not relieve the Contractor from the responsibility of complying with all added requirements specified herein.
4. Materials
 - A. Lumber
 - (1) Grade Marking. All lumber shall be identified by the grade mark of a recognized association or inspection agency.
 - (2) Studs, plates and other framing lumber. Standard or better grade Hemlock or White Fir.

- (3) Blocking, Grounds, and Furring. Standard grade Hemlock or Douglas Fir.
- (4) Sill Plates or Blocking in Contact With Masonry or Concrete. Standard grade west coast Hemlock or Fir, kiln dried or 10% maximum moisture content treated with osmosalts, etc.

B. Rough Hardware

- (1) Provide bolts, straps, joist hangers, anchors and nails as required and shown on the Drawings. Nails - sizes, spacing and number in accordance with Building Code, UBC Rules and Regulations.

C. Miscellaneous Sheathing

- (1) Protection. Plywood will be protected by water proof coverings during transportation and storage on the job.

5. Lumber Seasoning

- A. Untreated lumber shall be kiln dried and well seasoned, and the moisture content shall not exceed nineteen percent (19%). All lumber shall be air-seasoned not less than thirty (30) days before being covered with finishing materials.

6. Pressure Treatment

- A. General. The following items of lumber shall be pressure treated.

- (1) All nailers, bricks, grounds, blocking, or other framing members in contact with masonry, concrete or metal.

- B. Pressure treatment shall be in accordance with AWPI Standard LP-2, and each piece shall bear the AWPI Quality mark to indicate performance. All milling of lumber shall be done prior to pressure treatment.

7. Workmanship

- A. Entire work of this Section shall be performed in accordance with the best standards of practice relating to the trade and under the constant supervision of a competent foreman, who shall carefully plan and lay out the work as required to carry out the intent of the drawings, and to properly accommodate the work of other trades. All lumber shall be accurately saw-cut and fitted into the respective locations, true to line, grade, and level, as indicated or required, and permanently secured in proper position with spikes, nails, lag screws, bolts, or other fastenings and fitting as detailed, herein specified, or directed, to render the same substantial and rigid in all parts and connections.

8. Clean Up

- A. Upon completion of work under this Section, remove all implements of service, tools, excess materials, rubbish and debris, and leave the entire building in a clean, acceptable manner as approved by Owner.

9. Special Note

All roof penetrations are to be provided with pressure-treated lumber blocking four sides. All blocking shall be the work of this Section.

-- End --

DIVISION 6 - CARPENTRY

SECTION 6.11: FABRICATED WOOD TRUSSES

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Extent. The work required under this Section consists of:
 - (1) Fabricate, supply and erect wood trusses.
 - (2) Steel connectors and gussets, galvanized.
 - (3) Lateral support trusses.
 - C. Related Work in Other Sections
 - (1) Section 6.10. Rough Carpentry, Wood Blocking, Curbing, Miscellaneous Framing and Wood Decking.
2. Quality Assurance
 - A. Lumber used in the manufacture of trusses; grade stamp clearly visible, indicating conformance with NFPA.
3. References
 - A. PS1 - Construction and Industrial Plywood.
 - B. PS 20 - American Softwood Lumber Standard.
 - C. NFPA National Forest Products Association - National Design Specification for Stress Grade Lumber and Its Fastening.
 - D. ASTM A90 - Weight of Coating on Zinc-Coated (Galvanized) Iron or Steel Articles.
4. Shop Drawings and Product Data
 - A. Submit shop drawings prior to fabrication in accordance with Section 1.40.
 - B. Indicate truss framing plans; species and grades of lumber used; design loading and allowable stress increase; force analysis of each member; pitch, span and spacing of trusses; gauge thickness, nominal sizes and

locations of connectors at joints; bearing and anchorage details; framed openings; permanent bracing and bridging.

- C. Shop drawings to bear seal of Professional Engineer, registered in Michigan.
- D. Submit manufacturer's instructions on lateral bracing.

5. Materials

Stress Group. Southern Pine, 2050 and 1400 psi extreme fiber in bending or approved.

- A. Wood Chords and Webs. Graded to SFPA rules, dense select structural grade, and No. 2 dense grade, maximum moisture content of nineteen percent (19%).
- B. Plates. 20 gauge galvanized sheet steel.
- C. Lateral Support. Recommended by truss manufacturer and engineer.

6. Fabrication

- A. Ensure members are accurately cut to length, angle and true to line to ensure tight joints.
- B. Shop apply connectors and gussets.

7. Erection

- A. Set and secure wood trusses level, plumb, and in correct locations.
- B. Provide temporary bracing and anchorage to hold trusses in place until permanently secured.
- C. Ensure truss ends have sufficient bearing area.
- D. Install permanent bracing and bridging prior to application of loads.
- E. Cutting and altering of members is not permitted.

-- End --

DIVISION 6 - CARPENTRY

SECTION 6.20: CARPENTRY AND MILLWORK

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Work Included
 - (1) Carpentry.
 - (2) Furnishing and installing finish carpentry and millwork.
 - (3) Installation only of items furnished to the job under other trade sections, such as finish hardware.
 - C. Related Work Specified in Other Sections
 - (1) Rough Carpentry (Section 6.10).
 - (2) Finish Hardware (Section 8.60).
2. Alternates
 - A. Refer to Section 1.90 for Alternate Bids which may affect the work of this Section.
3. Shop Drawings and Samples
 - A. Prepare and submit shop drawings and samples in compliance with Section 1.40 of these Specifications.
 - B. Include Shop Drawings of the Following. Complete shop and erection drawings of millwork items included under this Section. Verify conditions at the site before submittal of shop drawings for approval and before starting fabrication of any items.
 - C. Submit duplicate color chains of plastic laminate for Owner's color choice.
4. Warranty
 - A. Required. Written warranty in approved form submitted in compliance with the related requirements of the Supplementary General Conditions, covering the work of this Section against defective materials and workmanship for a period of one (1) year after date of acceptance.

5. General Notes

A. Finish Carpentry

- (1) Cut moldings and shapes sharp and true.
- (2) Built-up items shall be glued as well as nailed.
- (3) Blind nail where possible.
- (4) Set finishing nails, used on exposed faces, to receive putty.
- (5) Install cornice and other running millwork in long lengths, with joints staggered and only where solid fastenings can be made.
- (6) Cope molded work at returns and interior angles. Miter corners. Shop miters which are over four inches (4") from heel to point shall be glued and locked.
- (7) Scribe, miter and join accurately and neatly to detail.
- (8) Kerf backs of wide flat members.
- (9) Assemble in as large units as possible at mill, ready for erection. Where necessary to fit at project, make ample allowance for cutting and fitting.
- (10) Construct paneling to allow movement of panels. Construct of edge-glued pieces narrow enough to prevent warping. Fasten panel retaining moldings to stiles and rails rather than to panels.
- (11) Machine sand with grain in shop, and finish with hand sanding.
- (12) Leave free from machine or tool marks that will show through finish.
- (13) Leave work free from defects in any exposed parts.

B. Cabinet Work

- (1) Fabricate counters, cabinets, and bookcases as detailed.
- (2) Fabricate from sound, kiln-dried lumber and plywood of species grades specified and noted on details.
- (3) Backs shall be 1/4" thick plywood unless specified otherwise.
- (4) Solid stile and rail construction shall be mortise and tenon, and shall be glued under pressure.

- (5) Doors shall be shop fitted, inserted into proper opening, and held in place with battens or clips until cabinetwork is installed.

6. Rough Hardware

- A. Provide and install all rough hardware and metal fastenings as shown on the drawings, specified herein or required for proper installation of carpentry and millwork. Nails, spikes, screws, bolts, and similar items shall be of sizes and types to rigidly secure members in place. See the various headings specified for sizes and type of rough hardware required.

7. Millwork and Trim

- A. Interior millwork and trim shall conform to design and details shown. Where practicable, work shall be finished and assembled at mill. All millwork and trim shall be finished smooth and free from machine or tool marks that will show through the finish. All nail heads shall be set to receive putty.
- B. Assemble panel work in such manner to allow free movement of panels.
- C. Prime or stain panels before framing into place.
- D. Provide as required blocking for securing work in place. Do not install any trim or paneling until all surfaces have been primed and backprimed.

8. Plastic Laminate. Standard grade, satin finish, melamine plastic laminate surfacing, 1/16" thick, complying with the requirements of NEMA Standard LP2-1951, or latest edition. Use postforming grade where required by the drawing details, thickness 0.051" +- 0.004". Color and pattern as designated by the Owner. Material may be patterned or plain color as selected by Owner.

A. Approved Trade Names

- (1) Formica.
- (2) Micarta.
- (3) Textolite.
- (4) Nevamar.
- (5) or, other as approved by Owner.

9. Seasoning and Moisture Content

- A. Finish Lumber. Thoroughly kiln-dried, moisture content seven percent (7%) to fourteen percent (14%) for exterior use and five percent (5%) to twelve percent (12%) for interior use at job site just prior to installation.

10. Verification of Dimensions

- A. Verify dimensions from the job when fabricated materials are required to conform to, and fit, adjacent walls, ceilings, and building surfaces.
- B. Verify dimensions of materials and equipment furnished under other Sections of the Specifications, for installation of same.

11. Restrictions on Starting Work

- A. No items of Finish Carpentry or Millwork shall be installed until all wet work has been completed and the building has dried out a reasonable number of days, to the satisfaction of the Owner.

12. Wood Shelves

- A. Wood Shelves. Three-quarter inch (3/4") thick of plastic-covered solid stock unless otherwise indicated. Shelves to be supported by K & E heavy duty adjustable shelving brackets and standards at four feet (4') o.c. maximum.

13. Installation of Finish Hardware

- A. Install hardware accurately fitted to doors and frames and adjusted to operate smoothly and without sticking and binding. After fitting, remove all hardware except butts, for painting and re-install and adjust after painting is completed and accepted. Adjust closers to properly control the rate of closing and latch the lock. Lubricate hardware in accordance with manufacturer's instructions where so required.
- B. Protection. After installation, provide such protection as will adequately protect all finish from injury until completion of the work. Upon completion and at the time the project is turned over to the Owner, hardware shall be without blemishes, clean, and in proper operating condition.
- C. Surface-mounted Hardware. Drill pilot holes for all screws. Holes shall be accurately and neatly made from templates and/or the finish hardware, furnished by hardware supplier. Screws in labeled fire doors shall be self-tapping, full thread sheet metal screws.

14. Shop Fabricated Cabinet Work

- A. The following items of millwork shall be fabricated in an accepted and approved custom millwork shop:
 - (1) Kitchen and craft cabinetry can be either custom or pre-manufactured.

15. Cabinets and Countertops (Millmade) Rooms

Fabricate counters and cabinets in accordance with details, and from sound kiln-dried lumber or plywood or species hereinbefore specified, all countertops shall be covered with Formica. Make countertops from 3/4" Novavaply or 3/4" timbcore.

Cabinet shelves shall not be less than five ply, 3/4" fir plywood.

Drawers shall have sides dove-tailed to front, grooved for backs, bottoms and guide strips. Drawer front shall match supporting cabinet work.

Wood shelving shall be supported on suitable adjustable metal supports as per details.

Erect cabinets straight, level and plumb, and securely anchor in place, scribe, and closely fit cabinetry to adjacent work.

Provide necessary grounds and anchors for securing work in place.

A. Pre-Fabricated Cabinetry

Provide and install where noted on drawings cabinets as manufactured by Merillat Industries, Adrian, Michigan, or equal. For base bid use 'OMNI' line of cabinets.

B. Application of Hardware

Receive, store and be responsible for all finished hardware.

Properly tag, index, and file all keys in key cabinet or as directed. Apply hardware in accordance with manufacturer's instructions, fit accurately, apply securely, and adjust carefully. Use care not to injure work when applying hardware. When necessary, remove and replace doors so they may have bottoms painted.

16. Special Notes

A. Shop fabrication to be in accordance with the "Standards of Premium Grade Casework of the Architectural Woodwork Institute", using materials specified herein above for site cabinets and casework.

B. Installation of shop fabricated items will be done by Finish Carpentry Contractor.

17. Clean Up

Upon completion of work under this Section, remove all implements of service, tools, and excess materials, rubbish and debris, and leave the entire building in a clean, acceptable manner as approved by the Owner.

-- End --

DIVISION 7 - MOISTURE PROTECTION

SECTION 7.20: SHINGLE ROOFING, ROOF ACCESSORIES AND FLASHING

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Work Included. Work of this Section consists of shingle roofing system complete including all accessory items as indicated on the drawings and as hereinafter specified.
 - C. Related Work Specified In Other Sections
 - (1) Rough Carpentry (Section 6.10). See note re: Treated Wood Nailers.
 - (2) Wood Trusses (Section 6.11)
2. Alternates
 - A. Refer to Section 1.90 for Alternate Bids which will affect the work of this Section with particular reference to the alternate dealing with the proposed re-roofing of the existing Multi-Purpose Building.
3. Asphalt Shingles
 - A. Shingles. Shall be shake shingles, 3'-0" x 12" with 5" exposure and 7" headlap. They shall be made of asphalt and felt, covered with mineral granules, and each bundle of shingles shall bear U.L. Label Class "C". Double shingles shall be used at eaves, and individual shingles shall be used to form hips and ridges. Johns-Manville Seal-O-Matic, Fiber-Glass III, or equal.
 - B. Felt Underlayment. Shall be 15 lb. per square of felt. Lay felt horizontal with joints and ends lapped minimum 3 inches. Secure felt along laps and ends so as to protect structure under and so as to preserve felt undamaged until asphalt is laid. Lap felt over all hips and ridges with 1' minimum lap. Under all valley flashings, the felt shall be run lengthwise. Joints shall be mopped with asphalt.
 - C. Nails. Shall be 1" x 11 gauge galvanized roofing nails, minimum head diameter shall be 3/8". All nails, rivets, screws, and similar fasteners shall be of best grade hard copper or copper alloy.

-
- D. Cement. Shall be a waterproof elastic compound subject to the approval of the Owner.
- E. Ice Sheathing. A layer of Bituthene rolled roofing 24" inside the interior of exterior walls (5' minimum).
- F. Metal Flashing and Edge Strips. Provide a strip 0.032" metal along the eaves. Strip shall have a drip edge and be fastened with aluminum nails spaced 10 inches on centers along the inner edge. Provide similar edge strips over top of felt underlayment at gable ends. Provide aluminum base and cap flashings at chimney, walls, and other vertical surfaces.
- G. Starter Strips at Eaves. Provide a 5' wide continuous starter strip of Bituthene ice shield roll roofing at eaves; nail at 6-inch intervals, 2 inches from eave edge. Over this apply a starter course of shingles, 9 inches wide with the tabs facing up the roof; nail so that heads will not be exposed in the cut-outs of the first regular course of shingles.
- H. Forming Ridges and Hips. Ridges and hips shall be covered with manufacturer's pre-formed shingles designed for this purpose and same type and color as roof shingles or the hips and ridges shall be covered with individual shingles cut from 12-inch by 36-inch square butt shingle strips, lapped 4 inches, and of color to match the roof shingles. Lay shingles with 5-inch exposure in accordance with manufacturer's directions.
- I. Mechanical Penetrations
- (1) Plumbing vent stacks shall be flashed by the Roofing Contractor and furnished by the Plumbing Contractor.
 - (2) Vent flashings shall be Genova Seal terminating six (6) maximum inches below top of vent pipe.
 - (3) Flange at roofing system shall be installed in strict accordance with Roofing Manufacturer's Standard Details.
- J. Roofing Guarantee. At the completion of the work, the Roofing Contractor shall furnish to the Owner the manufacturer's standard guarantee of watertightness. The guarantee shall cover the full cost of labor for one (1) year and the full cost of materials for five (5) years. The guarantee shall be fully paid for by the Contractor.
4. Downspouts
- Install downspouts of 0.032" aluminum where indicated on drawings on outside walls. Form downspouts to sizes shown in 8 to 10 foot sections with ends

telescoped 1 1/2" and longitudinal joint locked. Secure downspout to wall with cast aluminum anchors not more than 8' apart, fastened to brick work with stainless steel screws in lead sleeves. Close top of downspouts heads with copper wire screws.

5. Gutters

- A. Provide moulded gutters at eaves where shown on Drawings, Fabricate gutters from 0.040 aluminum, form gutters continuous sections. Provide expansion joints between all outlet tubes and where gutters end. Expansion joints shall provide for 1" movement in either direction, joint shall be fitted with cover strips or patented connection to provide water tight connections.
- B. Reinforce outer edge of gutter, support gutters on transverse braces 30" apart at ends. Attach braces to top edge of gutter, extend up under roofing and secure to sheathing. Form outlets of same materials as gutter. Upper end of tube shall be flanged, riveted to gutter. Extend tubes into downspouts at least three (3) inches.

6. Precast Concrete Splash Blocks

Provide and install precast concrete splashblocks at all downspouts.

7. Clean Up

- A. Effectively protect the building from damage by roofer's materials and/or operations consequent to the performance of the work. Take care to prevent bitumen or other materials from clogging drains and conductors.
- B. Bear the cost of repairs and/or restoration of work of other trades damaged by roofer's materials or operations.
- C. Upon completion, remove all rubbish and waste materials from the roof. Leave clean and in perfect condition.

-- End --

DIVISION 7 - MOISTURE PROTECTION

SECTION 7.54: GRILLES AND LOUVERS

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Work Included. Work of this Section includes the fabrication, furnishing and installation or fabrication and delivery to the job for installation by others, where so specified or required, stationary metal louvers and grilles, as shown on Drawings, including screen, blank panels, and insulated blank panels.
 - C. Related Work Specified in Other Sections
 - (1) Unit Masonry (Section 4.20).
 - (2) Painting (Section 9.80).
 - (3) Exterior Caulking and Sealing (Section 7.70).
2. Alternates
 - A. Refer to Section 1.90 for Alternate Bids which may affect the work of this Section.
3. Shop Drawings
 - A. Prepare and submit shop drawings in compliance with Section 1.40 of these Specifications.
 - B. Include shop drawings and erection drawings of all work under this Section in adequate time to permit adequate coordination of the work and to provide information required in preparation of shop drawings submitted under the work of other sections.
4. Warranty
 - A. Required. Written warranty in approved form submitted to compliance with the related requirements of the Supplementary General Conditions, covering the work of this Section against defective materials and workmanship for a period of one (1) year after date of acceptance.

5. Verification of Conditions
 - A. Verify at the site conditions affecting work of this Section, and obtain accurate dimensions covering all parts thereof for incorporation in shop drawings submitted for approval before fabrication of work.
 - B. Verify Dimensions shown on the contract drawings and/or shop drawings as may be necessary before fabricating materials to insure proper coordination and fit.

6. Louver Type and Manufacturer. Stationary Blade Type, galvanized steel as manufactured by:
 - A. Airlite Company.
 - B. Ventilouver Company, Inc.
 - C. Construction Specialties, Inc.
 - D. Dorn Industries.
 - E. Louvers and Dampers, Inc.
 - F. Airline Products Company.
 - G. Airstream Products Co., Inc.

7. Louver Construction
 - A. Frame. Galvanized steel or aluminum 4" x 1/2" x 18 gauge minimum inverted channel. Multiple section louvers furnished with mullion plates as required.
 - B. Blades. Galvanized 16 gauge minimum die formed with weatherstop on inside and outside edges and fixed at 45-degree angle.
 - C. Insect Screen. Anodized aluminum screen mesh with removable "U" frame binding fastened to rear of louver.
 - D. Blank Panels. Galvanized steel 18 gauge. Insulate panels where called for on drawings.

8. Painting
 - A. All Louvers shall be factory finished (color as approved by the Owner).

- B. Immediately after erection, touch up all scratches with matching paint. Paint shall not be applied until all rust has been removed.

-- End --

DIVISION 7 - MOISTURE PROTECTION

SECTION 7.70: CAULKING AND SEALANTS

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Work Included
 - (1) This Section contains general specifications pertaining to all weather-sealing and/or caulking throughout the project, except where otherwise provided, and becomes a part of all sections containing reference to this Section or where materials of the types specified in this Section are required and are applicable with the same force and effect as if written in full in each Section.
 - (2) Specific requirements which may be contained in the various trade sections making reference to this Section shall supersede general or conflicting requirements of this Section.
 - C. Related Work Specified in Other Sections
 - (1) Unit Masonry (Section 4.20).
 - (2) Hollow Metal Doors and Frames (Section 8.11).
2. Alternates
 - A. Refer to Section 1.90 for Alternate Bids which may affect the work of this Section.
3. Samples
 - A. Manufacturer shall submit samples of the various types (and colors, where applicable) of materials specified to the Owner for approval and/or testing by the Owner, prior to delivery of materials to the job for application.
 - B. Application shall not commence without approval of the Owner as to color and type of sealant to be used at each specific location.
4. Warranty
 - A. Required. Written warranty in approved form, submitted in compliance with the related requirements of the Supplementary General Conditions,

covering the work of this Section against defective materials and workmanship for a period of five (5) years after date of acceptance.

- B. Any failures that may occur within this warranty period due to defective application and/or materials shall, upon written notification of such failure, be repaired or replaced with proper materials and/or labor as approved by the Owner at no additional cost to the Owner.
- C. Furnish affidavit from manufacturer certifying that caulking compound conforms to Federal Specification TT-S-00227E, Type II for polysulfide sealants.

5. Type and Manufacturer

- A. Caulking Compound. One of the following brand names of caulking compound must be utilized in completing the base bid:
 - (1) Lasto-Meric
Tremco Manufacturing Co.
Cleveland, Ohio
 - (2) Dap Flexiseal
Dap Incorporated
Dayton, Ohio
 - (3) Dow Corning #790 or #732 Building Sealant for exterior work.
Down Corning #8644 Paintable Sealant for interior applications.
Down Corning Corp., Midland, Michigan.
- B. Joint filler, where required, shall be compatible with the caulking compound and installed in strict accordance with manufacturer's recommendations.
- C. Color to be selected by Owner from manufacturer's standards.

6. Application

- A. Clean and prime all joints in strict accordance with manufacturer's printed instructions.
- B. Position joint fillers accurately within joint to uniformly control depth of sealant.
- C. Apply sealant material in conformance with manufacturer's instructions. Apply sealant material with sufficient pressure to completely fill the void space and to assure complete wetting of contact area to obtain uniform adhesion. During application, keep tip of nozzle at bottom of joint, forcing the sealant to fill from bottom to top. Move tip along joint at a rate as to

completely fill joint. Finish joints smooth and flush with adjacent surface unless detailed to be finished below the surface.

7. Delivery of Material

- A. Deliver materials to the job in original, unopened containers bearing the manufacturer's name and product designation.

-- End --

DIVISION 7 - MOISTURE PROTECTION

SECTION 7.80: BUILDING INSULATION

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Work Included. Work in this Section includes the furnishing and installation of thermal insulation as indicated on drawings and specified herein.
 - C. Related Work Specified in Other Sections
 - (1) Unit Masonry (Section 4.20).
 - (2) Wood Studs (Section 6.00).
 - (3) Roof Insulation (Section 7.20).

1. Alternates
 - A. Refer to Section 1.90 for Alternate Bids which may affect the work of this Section.

3. Warranty
 - A. Required. Written warranty in approved form submitted in compliance with the related requirements of the Supplementary General Conditions, covering the work of this Section against defective materials and workmanship for a period of one (1) year after date of acceptance.

4. Foundation Wall Perimeter Insulation (Exterior)
 - A. Extending downward from bottom of siding to top of footing at all exterior block perimeter walls, install 2" Styrofoam SM brand insulation as manufactured by the Dow Chemical Company, or 2" Foamular Styrene Rigid Insulation as manufactured by U.S. Gypsum Company.
 - B. Provide horizontal, perimeter Styrofoam (2" x 2'-0") per drawings around entire perimeter of new foundation.

5. Batt Insulation

- A. Furnish and install full thick batt insulation as indicated on drawings in all noted stud walls, or in walls to roof deck that are indicated as insulated (typically all exterior walls and interior walls noted as sound walls).
- B. Insulation shall be Fiberglas or Rock-Wool batts with foil-faced vapor barrier on one side. Install insulation with vapor barrier toward heated space. (Use sound batts for sound walls.)
- C. Rolled or otherwise compacted batt insulation shall be used to pack voids at any location where insulation is not shown or specifically specified.

6. Interior Block Insulation (NOT USED)

- A. Provide 2" Styrofoam insulation with metal furring strips shot anchored into block wall behind. (Cover with 5/8" fire-rated gyp board.)
- B. Board insulation shall be attached to the block wall using Styrofoam Brand Mastic No. 11, applied according to manufacturer's instructions.

7. Ceiling Insulation

- A. All horizontal ceilings (except lower level ceiling) to be insulated with a (Class A fire-rated) blown Fiberglas insulation having a minimum "settled" thermal resistance factor of R-45.
- B. Ceiling insulation shall be blown to a uniform depth on top of the drywall ceiling with baffles at all eaves which will maintain a minimum of 2" air gap for venting purposes.
- C. An affidavit will be provided for the fire rating.
- D. Approved insulations are:
 - (1) Owens Corning - Fiberglass blowing wool.
 - (2) Casco - Rock Wool.
 - (3) Certainteed - Blown Fiberglass.
- E. Cathedral ceilings to be insulated with R-38 (9" max.) batt insulation with draft face and covered with 1" of R-7 foil faced ISOCYANURATE board insulation. Foil tape all ceiling joints in ISO insulation bd. (DO NOT TAPE EXTERIOR JOINTS OF EXTERIOR FOAM WALL SHEATHING.)

-- End --

DIVISION 8 - DOORS, WINDOWS & GLASS

SECTION 8.11: HOLLOW METAL DOORS AND FRAMES

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Work Included. Work of this section includes the furnishing and installation of all hollow metal doors and frames, including transoms, sidelites and items necessary to complete the work indicated on the drawings and specified herein.
 - C. Related Work Specified in Other Sections
 - (1) Finish Hardware (Section 8.60).
 - (2) Installation of Finish Hardware (Section 6.21).
 - (3) Finish Painting (Section 9.80).
 - (4) Caulking (Section 7.70).
 - (5) Glass and Glazing (Section 8.80).
2. Alternates
 - A. Refer to Section 1.90 for Alternate Bids which may affect the work of this Section.
3. Shop Drawings
 - A. Prepare and submit shop drawings in compliance with Section 1.40 of these Specifications.
 - B. Shop drawings shall fully describe and locate all items being furnished and shall include large scale details of principal construction features, including both typical and special conditions.
 - C. Obtain approval of shop drawings prior to fabrication.
4. Coordination of Work
 - A. Work of this Section shall be properly coordinated with the supplier of Finish Hardware. Templates shall be furnished by the Hardware Supplier to the Contractor for the work under this Section for use in the preparation

of shop drawings and for proper mortising and reinforcement of doors and frames.

5. Underwriters' Laboratories Labels

- A. Where labeled doors or frames are schedules or indicated on the drawings, they shall bear the Underwriters' Laboratories, Inc. label for the indicated class, and shall meet all requirements of governing codes.
- B. If any door or frame specified by the Owner to be fire-rated cannot qualify for appropriate labeling of its design, hardware of any other reason, the Owner shall be so advised before fabricating work on that item is started.

6. Approved Manufacturers

- A. Pioneer Industries, Inc.
- B. Republic Builders Products Corporation.
- C. Overly Manufacturing Co.
- D. Curries.
- E. Ceco Corporation.

7. Hollow Metal Frames (Match Existing)

A. Materials

- (1) Frames shall be made of commercial grade cold rolled steel conforming to ASTM A-366, not less than 16 gauge for interior frames.

B. Construction

- (1) Frames shall be pressed steel frames with integral stops of size and profile indicated on drawings.
- (2) Frames shall be set up, welded and ground smooth. Mitered corners shall have reinforcements with integral tabs for secure and easy interlocking of jambs to head.
- (3) All frames shall be provided with a steel spreader temporarily attached to the feet of both jambs to serve as a brace during shipping and handling.
- (4) Suitable anchors for jambs shall be provided as required by wall construction. Provide one (1) jamb anchor for each two feet (2') or

fraction thereof in height. In addition to jamb anchors, two (2) base anchors per frame welded to each jamb shall be supplied.

- (5) Mortise, reinforce, drill and tap for mortise or unit-type hardware in accordance with hardware schedule and templates furnished by Hardware Contractor.
 - (a) Minimum thickness of hardware reinforcing plates shall be as follows:
 - Hinge and pivot reinforcement: 7 gauge, 1 1/2" x 10" minimum size.
 - Strike reinforcement: 12 gauge.
 - Flush bolt reinforcement: 12 gauge.
 - Closer reinforcement: 12 gauge.
 - Surface-mounted hardware reinforcement: 12 gauge.
- (6) Where frames are installed in masonry, provide steel mortar guards over mortised hardware reinforcements.

8. Hollow Metal Doors

A. Materials

- (1) Doors shall be made of commercial quality, level, cold rolled steel conforming to ASTM A-366, and free of scale, pitting or other surface defects. Face sheets shall be not less than 16 gauge.

B. Construction

- (1) Doors shall be of types and sized indicated on drawings, and shall be fully welded seamless construction with no visible seams or joints on their faces or vertical edges.
- (2) All doors shall be strong, rigid and neat in appearance, free from warpage or buckle. Corner bends shall be true and straight and of minimum radius for the gauge of metal used.
- (3) Reinforce outer face sheets with continuous vertical formed steel sections occupying the full thickness of the interior space between face sheets. Stiffeners shall be not less than 22 gauge, nor spaced more than six inches (6") apart and securely attached to both face sheets by spot welds not more than four inches (4") on center. Spaces between stiffeners shall be sound deadened and insulated

the full height of the door with an inorganic non-combustible batt-type material.

- (4) Door faces shall be joined at their vertical edges by a continuous weld extending the full height of the door. All such welds shall be ground, filled and dressed smooth to make them invisible and provide a smooth flush surface.
- (5) Top and bottom edges of all doors shall be closed with a continuous recessed steel channel not less than 18 gauge, extending the full width of door and spot welded to both faces. Exterior doors shall have an additional flush closing channel at the top edge; where required for weatherstripping, a flush closure also at the bottom edge. Openings shall be provided in the bottom closure of exterior doors to permit the escape of entrapped moisture.
- (6) Doors shall be mortised, reinforced, drilled, and tapped at the factory for templated hardware only in accordance with the approved hardware schedule and templates provided by the Hardware Contractor. Where surface-mounted hardware is to be applied, doors shall have reinforcing plates only; all drilling and tapping shall be done by others.
- (7) Minimum gauges for hardware reinforcing plates shall be as follows:

Hinge and pivot reinforcement: 7 gauge.

Reinforcements for lock face, flush bolts, concealed holders, concealed or surface mounted closures: 12 gauge.

Reinforcements for other surface-mounted hardware: 16 gauge.

9. Finishes. After fabrication, thoroughly clean doors and frames removing all rust, scale, grease, oil, and rough spots. Chemically treat metal surfaces to insure maximum paint adhesion. Shop apply a rust inhibitive paint.
 - A. Backpaint. All frames abutting masonry construction shall be backpainted with one (1) coat of asphalt base primer.
10. Site Storage and Protection of Materials
 - A. It shall be the responsibility of the General Contractor to see that any scratches or disfigurements caused in shipment or handling are promptly cleaned and touched up with a rust inhibitive primer, and that materials are properly stored on planks or dunnage, out of water, and covered to protect them from damage due to any cause.

- B. Doors shall have their wrappings or coverings removed upon arrival at the building site and shall be stored in a vertical position, spaced by blocking to permit air circulation between them.

11. Installation

- A. Set frames in position, plumb, align and brace securely until permanent anchors are set. Anchor bottom of frames to floors with expansion bolts, or with power fasteners. Build wall anchors into walls or secure to adjoining construction as indicated or specified. Where frames require ceiling struts or overhead bracing, they shall be securely anchored to ceilings or structural framing.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 8 - DOORS, WINDOWS & GLASS

SECTION 8.20: HARDWARE SPECIFICATIONS

1.0 General

All hardware will match existing hardware on the rest room located within Island Park. All locks and deadbolts shall be keyed per Owner's specifications.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 8 - DOORS, WINDOWS & GLASS

SECTION 8.80: GLASS AND GLAZING

This Section is Reserved.

(See Drawing Details.)

-- End --

City of Mt. Pleasant, Michigan

DIVISION 9 - FINISHES
SECTION 9.25: GYPSUM DRYWALL

This Section Is Reserved.

(See Drawing Details.)

-- End --

City of Mt. Pleasant, Michigan

DIVISION 9 - FINISHES
SECTION 9.33: QUARRY TILE

This Section Is Reserved.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 9 - FINISHES

SECTION 9.50: ACOUSTICAL CEILINGS AND SUSPENSION SYSTEM

This Section Is Reserved.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 9 - FINISHES
SECTION 9.60: RESILIENT FLOORING

This Section Is Reserved.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 9 - FINISHES

SECTION 9.80: PAINTING

1. General Contractor will complete all painting and staining.
2. General Contractor will coordinate with City staff to ensure finish siding, fascia, soffit, and interior wood will have a minimum of one (1) coat of stain or sealant on all surfaces prior to installation.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 9 - FINISHES
SECTION 9.80: VINYL WALLCOVERING

This Section Is Reserved.

-- End --

DIVISION 10 - SPECIALTIES

SECTION 10.16: METAL TOILET PARTITIONS

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Work Included. Work of this Section includes the furnishing and installation of all metal toilet partitions, urinal screens, and miscellaneous fittings, complete, as required by the drawings and specified hereing.
 - C. Related Work Specified in Other Section
 - (1) Toilet and Bath Accessories (Section 10.50).
 - (2) Unit Masonry (Section 4.20).
2. Alternates
 - A. Refer to Section 1.90 for Alternate Bids which may affect the work of this section.
3. Shop Drawings
 - A. Prepare and submit shop drawings in conformance with Section 1.40 of these Specifications.
 - B. Shop drawings shall indicate plans, elevations, details of construction, anchoring and leveling details, metal thickness, protective coatings, finishes, colors, hardware, and accessories. Dimension locations of special backings required for support and attachment of partitions and screens.
 - C. Provide triplicate brochures of manufacturer's standard color chips for Owner's color selection.
4. Warranty
 - A. Required. Written Warranty in approved form submitted in compliance with the related requirements of the Supplementary General Conditions, covering the work of t his section against defective materials and workmanship for a period of one year after date of acceptance.

5. Verification of Conditions
 - A. Verify conditions which affect the work of this section, and obtain accurate dimensions at the site as required for incorporation in shop drawings.
6. Approved Manufacturers
 - A. Accurate Partitions, Inc.
 - B. General Partitions Manufacturing Corporation.
 - C. Global Steel Products Co., Inc.
 - D. Sanymetal Products Co., Inc.
7. Partition Types
 - A. Toilet Partitions. Floor mounted headrail-braced partitions with baked enamel finish over galvanized-bonderized steel.
 - B. Urinal Screens. Not used.
8. Workmanship
 - A. Perform work of this section in accordance with best shop and field practice relating to the trade. Construct panels, doors, and pilasters plumb, square and true with surfaces finished in true plane without warp or wind. Make connections with tight, close-fitting joints adequately reinforced. All exposed welds shall be ground smooth and flush.
 - B. Arrange and fit partition parts so as to permit ready assembly in proper position, in accordance with the approved shop drawings. Provide fastenings and anchorage devices of adjustable type arranged to conform with or compensate for irregularities in walls and floors to which the work is connected. Provide adequate strap steel or place reinforcements and install in all members as required to properly receive and engage hardware and fastenings.
 - C. Coordination. Contractor for the work under this Section shall acquaint himself with the work of other trades whose work abutts, adjoins, or in any manner affected by or affects the work of this Section. Consult the drawings and other Contractors and with them coordinate the work to avoid omissions and delays.
9. Toilet Partitions
 - A. Doors and Partition Panels. One-inch (1") thick, made of two sheets of galvanized-bonderized steel cemented under pressure to sound-

deadening core insulation. Partition panel plates shall be of not less than 10 gauge steel, and door panel plates of not less than 22 gauge steel. Face plates on all panels shall have formed edges, electrically welded together and finished with a continuous locking strip, mitered, welded and ground smooth at corners.

- B. Pilasters. One and one-quarter inch (1 1/4") thick with not less than 20 gauge galvanized-bonderized steel fact sheets. Pilaster construction shall be similar to that specified for door and partition panels. Brace pilasters to wall at front and free end by means of a 1" x 1 1/2" tubular steel bracing bolted to pilasters. Anchoring device at floor shall provide for support, leveling and plumbing the installation. This shall be accomplished by Jack-leveling screw. Friction leveling will not be acceptable. Anchoring device shall be concealed by a stainless steel pilaster shoe, 3" high, screened by concealed clips.

10. Urinal Screens

- A. Not less than 1" thick of construction similar to that specified above for partition panels. Face plates shall be of not less than 18 gauge galvanized-bonderized steel. Panels shall be bracket supported from walls - no floor braces.

11. Finish

- A. All units shall be thoroughly cleaned and given a coat of rust inhibitive primer of type standard with partition manufacturer. Finish coat shall be synthetic enamel, standard with partition manufacturer, baked on to produce a smooth finish free from manufacturing imperfections.
- B. Colors shall be selected from manufacturer's standard color chart.

12. Hardware and Fittings

- A. All Hardware and Fittings shall be of nickel-chrome brass or of stainless steel. Crews and attachments shall be nonferrous to match fittings, or of stainless steel. It is the intent that, within the options established, hardware and fittings shall be the manufacturers' standard or stock type. Where the manufacturer offers two grades of fittings, the better grade shall be furnished, i.e., cast or extruded fittings in lieu of wrought or built-up fittings. No aluminum hardware, fittings or accessories will be accepted.
- B. Attach dividing partitions to pilasters and walls with Type 302 stainless steel brackets with #4 finish, 0.1379" minimum thickness.

- C. All pilaster shoe fittings shall be stainless steel with #4 finish.
 - D. Hang doors on top and bottom gravity action, all brass, hinge assemblies. Hinges shall be adjustable to permit door to come to rest in any selected position, either closed or partially open, when not latched. Equip doors with all brass, life-free latch with stainless steel bolt, permitting quick emergency access, all brass keeper and rubber bumper, and coat hook with rubber-tipped bumper. All brass hardware shall be chromium plated. Stainless steel items shall have #4 finish.
13. Preparation of Compartments For Toilet Accessories
- A. Provide cut-outs and reinforcement as may be required for proper installation of toilet room accessories furnished under Section 10.50 - Toilet Room Accessories, for installation on toilet partitions. The installation of these accessories is not included in this Section.
14. Installation
- A. Erect toilet partitions plumb, square and true with walls and adjoining trim, true to line and level, and in accordance with the drawings and approved shop drawings. Each unit shall be rigidly secured to walls and ceilings and/or floors, and to each adjoining part or member, using "Molly" bolts, screws, bolts, expansion shields or other forms of anchorage as required to render the work permanently secure in precise location as approved by the Owner. Provide full finished cap nuts or "Theftproof" screws in all exposed locations.
 - B. Attach partitions to adjacent wall construction with appropriate stirrups, clips, hangers and other fastening devices as required, and as specified.
 - C. Hardware. Install neatly with necessary fastenings matching the specified finish. Hinges shall be properly set for the door swing to remain partially open when door is not latched and adjusted for proper operation. Hardware shall be free from scratches, dents, permanent discoloration and other defects.
 - D. Clearance. The gap between partition panels and between pilasters and the finished wall surface shall not be more than one-half inch (1/2"). The gap between pilasters and doors or panels shall not be more than one-quarter inch (1/4").

15. Cleaning

- A. Upon completion of the metal partition installation, remove manufacturer's temporary labels or marks of identification. Thoroughly wash enameled surfaces and remove oil, grease and other foreign material, and polish plated stainless steel surfaces. Leave the entire work in a neat, orderly, clean and acceptable condition, subject to approval of Owner.

-- End --

DIVISION 10 - SPECIALTIES
SECTION 10.17: TOILET ACCESSORIES

1. Scope
 - A. Applicable provisions of the General Conditions, Supplementary General Conditions, Detailed Specifications, all issued Addenda, and the existing Vet's Rest Room located in Island Park are a part of this Section.
 - B. Work Included. Work of this section includes the furnishing and installation of Toilet Room Accessories and similar related equipment as required by the drawings and specified herein.
 - C. Related Work Specified in Other Sections
 - (1) Metal Toilet Partitions (Section 10.16).
 - (2) Unit Masonry (Section 4.20).
2. Alternates
 - A. Refer to Section 1.90 for Alternate Bids which may affect the work of this Section.
3. Accessory List
 - A. Prior to start of Accessory Installation, and prior to framing and preparation of openings for recessed accessories, prepare and submit for Owner's approval a complete list of all accessories proposed for use and the rooms, identified by room number and room name, and number of accessories of each type in which they are to be installed. Include, where necessary for proper preparation of openings, rough-in drawings for recessed accessories and details of backing where required.
 - B. Submit Accessory List and details as may be required in compliance with the requirements of Section 1.40 - Shop Drawings.
 - C. Identify each item by name of manufacturer and manufacturer's catalog number or product designation.
4. Warranty
 - A. Required. Written warranty in approved form submitted in compliance with the related requirements of the Supplementary General Conditions covering the work of this section against defective materials and workmanship for a period of one (1) year after date of acceptance.

5. Approved Manufacturers

A. Products of the following manufacturers are specified hereinafter for various types of accessories. The listing of approved manufacturers under this article does not constitute blanket approval of all products of the manufacturer.

- (1) Bobrick Corporation (Bobrick)
(Represented by: Toonder & Ermatinger, Inc.
P. O. Box 446
Fenton, MI 48430)

B. All accessories shall be equal to Bobrick Company equipment.

- (1) Grab Bars. Five (5) sets of 6806 Series (size and configuration as shown on drawings).
- (2) Mirrors. Bobrick to match mirrors in existing north rest room in Island Park.
- (3) Feminine Napkin Receptacles. Three (3) Bobrick 373 (Toilet #107).

-- End --

DIVISION 15 - MECHANICAL
SECTION 15.01: BASIC REQUIREMENTS

1. Related Work
 - A. All parts of the Contract documents relate to the Work specified in this Section.
 - B. The provisions of this Section supplement the Division 1 - General Requirements as they apply to Division 15 - Mechanical. Provisions stated in Division 1 - General Requirements are generally not re-stated in this Section; therefore, it is imperative to read all of Division 1 - General Requirements (as well as all the rest of the Contract Documents) to fully understand the Work required by Division 15 - Mechanical. Among other things, provisions regarding scope of Work, allowances, change orders, alternates, coordination, cutting and patching, engineering, shop drawings, material and equipment, and substitutions may be found in Division 1 - General Requirements as well as the Conditions of the Contract.
 - C. Items of mechanical work may be found in other parts of the Contract Documents in addition to Division 15 - Mechanical.
2. Intent of Drawings
 - A. The drawings accompanying the Specifications are intended to show the general design and arrangement of the installation and in some cases are more or less diagrammatic. They are not intended to serve as shop drawings nor are they to be scaled for dimensions of exact locations of equipment.
3. Service
 - A. After installation is complete, provide the services of trained tradesmen to instruct the Owner's designated personnel in the proper care and operation of the systems installed. All instruction periods shall be scheduled through the Owner.
 - B. Service all portions of the systems for one (1) year from final acceptance of the building. Such service will include necessary adjustments, and/or replacement of all defective equipment and materials furnished. Replacement of throw-away type filters shall be at the Owner's expense, unless noted otherwise.
4. Acceptance

- A. As a precedent to requesting a final inspection, submit a letter indicating the following has been performed:
- (1) Complete all work required.
 - (2) Balance all air systems, furnishing typed data showing the final observed result after all adjustments have been made. Submit copies of the tests to the Owner for approval.
 - (3) Furnish a letter stating that all piping tests, duct tests, etc., required by these Specifications have been performed. Include a dated copy of all test results signed by the persons performing the test and the witnesses of the test.
 - (4) Submit a letter stating that the Owner's Representative has been instructed in the operation and maintenance of the mechanical systems. Indicate the date of the instructions and the name(s) of the Owner's Representative.
 - (5) Furnish a complete set of record "as built" drawings on mylar. As built drawings shall include all addenda and change orders as well as any and all changes required in the field.
 - (6) Furnish the required operating and maintenance instructions and wiring diagrams on all equipment and systems to the Owner's operating personnel.
 - (7) Furnish certificates of inspections from authorities having jurisdiction.
 - (8) Furnish a letter, with a copy sent to the local health authority, stating that the domestic water system piping has been disinfected in accordance with the requirements of the Michigan State Board of Health.
 - (9) Furnish a letter stating all ducts and pipes have been flushed and cleaned per the requirements of this Specification.
 - (10) Submit written guarantee and first year's service agreement.
 - (11) Furnish a listing of the various Mechanical Trades, their equipment suppliers, etc., including each firm's contact name, telephone number, emergency telephone number, etc., to the Owner for use during building guarantee period.
 - (12) Submit a preventive maintenance schedule itemized for all equipment for approval by the Owner.

6. Protection of Work
 - A. Pipe ends, conduit ends, and parts of equipment left unconnected shall be capped, plugged, or properly covered to prevent the intrusion of foreign matter.
7. Owing and Operating Manuals and Instructions
 - A. Printed instructions covering the operation and maintenance of all equipment furnished shall be prepared and bound into book form. Three (3) copies shall be furnished to the Owner for approval and distribution. The instruction shall include the following:
 - (1) Wiring diagrams.
 - (2) Lubrication charts with type and frequency indicated.
 - (3) Pertinent diagrams of equipment and main parts designated for identification.
 - (4) Manufacturer's data and capacity on all equipment, including all fan curves. Include model numbers installed and operating conditions.
 - (5) Operating instructions for all above equipment.
 - (6) Manufacturer's parts list with suppliers and telephone numbers listed.
 - (7) Maintenance procedures.
 - (8) Testing procedures and operating tests, including preliminary field measurements.
 - (9) Complete control diagrams keyed to the "as built" and showing normal positions and conditions.
 - (10) Complete set of "as built" drawings.
8. Shop Drawing Submittal
 - A. Submit shop drawings on each of the items listed under each Section of Division 15.
 - B. Submit a letter stating the miscellaneous materials that will be used as described under Section of Division 15.

9. Codes, Permits, Fees and Licenses

- A. Upon completion of the Work, secure and present to the Owner a certificate of inspection and approval from the departments having jurisdiction over the Work, if such be issued. Required inspections shall be coordinated with the Owner's Representative to enable the Owner and/or his representative to witness the inspection.
- B. Pay all fees in connection with the above requirements. Any changes in the drawings and/or specifications to conform to the above codes, laws, rules and/or regulations shall be submitted to the Owner's office before submitting a proposal. These changes shall be made without additional expense to the Owner.

10. Work Not Included In Mechanical Trades

- A. Items listed below will be coordinated with the Mechanical Trades but performed by other trades:
 - (1) All electrical work, including switches, conduit and wiring, except as indicated on the drawings and in the specifications.
 - (2) Temporary electrical utilities. See Division 1.
 - (3) Painting of mechanical equipment, piping, etc. Equipment touch-up with factory paint is the responsibility of the Mechanical Trades.

-- End --

DIVISION 15 - MECHANICAL

SECTION 15.05: MATERIALS AND METHODS

1. Access Plates and Doors
 - A. It is the intent of these documents to furnish a neat project with a finished appearance. Wherever holes in floors, walls or ceilings are required for cleanouts or pipe passage, such holes shall be covered with flush chrome plated covers or escutcheons.
 - B. Where access is required for mechanical devices such as fans, valves, traps, dampers, balance fittings, etc., concealed behind solid construction, provide access doors, prime coated, as manufactured by Darp Model DSC-214M (masonry, tile) DSC-214SM (drywall, plaster) or DSC-211FRT (rated walls and ceilings). Equal units by Boico or Milcor.
 - C. All required access doors shall be furnished by the Mechanical Trade and installed by the trades installing the respective wall or ceiling system. Three (3) sets of keys and/or operators shall be given to the Owner.
 - D. Access doors shall be sized adequately to enable servicing and shall be labeled with an indication of the item(s) located above.
2. Pipe and Equipment Identification
 - A. All piping shall be identified by Brady or Seton pressure sensitive, self-adhering vinyl color bands and lettered legends. Pipe markers shall be applied at intervals of not more than 20'0" apart on straight runs of pipe, at all valves and main branches, at each change in direction to provide complete identification including fluid temperatures and flow direction of all lines and shall be installed by the Trade responsible for the installation of the piping.
 - B. Provide laminated plastic name plates on all motor driven equipment. Labels shall generally give name and number of unit.
3. Installation of Mechanical Equipment (General)
 - A. All equipment requiring maintenance must be installed to permit same. Any revisions to piping, ducts, wiring, equipment locations, etc., necessary to provide required maintenance clearance shall be done with no additional expense to the Owner.

4. Manner of Running Piping (General)
 - A. All piping shall be run in the most direct, straight and mechanical manner. All pipes shall be properly graded and, in general, parallel with the lines of the building.
 - B. In the water lines, provide approved swing joints to take care of expansion and contraction of piping in a proper manner.
 - C. Particular attention shall be paid to the requirement for clearance and pipes shall not project beyond wall lines nor hang below joists more than absolutely necessary for making them up.
 - D. All pipes shall be supported from structural members.
5. Solder Joints
 - A. All solder joints on domestic water pipe shall be made with tin-antimony 95-5 solder with a maximum of 0.20% lead.
 - B. All solder joints are to be wiped and left with a finished appearance.
6. Insulated Fittings
 - A. Provide dielectric couplings or unions in all pipe connections between dissimilar metal piping materials (copper-steel). Fittings shall be Epco Mfg. Co.
7. Clamps
 - A. Supports for piping running below framing (joists, etc.) shall be "C" clamped to the framing and a hanger rod extended to the hanger.
8. Pipe Supports
 - A. All horizontal piping shall be properly supported by heavy malleable iron adjustable hangers with heavy wrought iron rods and adjustable to the drop required. Hangers and supports shall conform to the latest requirements of the ASA code for pressure piping B31-1.
 - B. All vertical drops shall be supported as to prevent sagging or swinging.
 - C. Manufacturers to be Elcen, Fee and Mason, Grinnel or Michigan Hanger Co.

- D. Pipe hangers shall be spaced as follows, unless otherwise noted:

<u>Soil Pipe</u>	<u>All sizes not over 5 ft. apart and at each joint</u>
Copper pipes 3/8" through 3/4"	Not over 4 ft. apart
Copper pipes 3/8" through 1"	Not over 6 ft. apart
Copper pipes 3/8" through 1 1/4"	Not over 7 ft. apart
Copper pipes 3/8" through 1 1/2"	Not over 8 ft. apart
Copper pipes 3/8" through 2"	Not over 8 ft. apart

- E. Hangers on copper pipe shall be Grinnel Fig. No. CT-65 or CT-269.

- F. All piping must be supported from structural members.

9. Anchors

- A. Anchors shall be provided to support risers and to maintain pipes in position and to properly distribute expansion.
- B. Anchors shall consist of heavy steel bands welded to the piping and welded or bolted to the building construction so as to prevent movement of piping and avoid injury to the building.

10. Sleeves

- A. Provide Schedule 40 galvanized steel sleeves for all pipes wherever they pass through building construction. Sleeves shall be either two pipe sizes larger or 2" larger than piping (including insulation), whichever is less. Space between sleeve and pipe shall be packed tight with Safing insulation and sealed with a silicone sealant. Where applicable, sealing material must be type approved by the State Fire Marshal's Office. All sleeves shall be large enough to receive the insulation on insulated pipes.
- B. Sleeves in fire rated walls must be sealed per details of appropriate U.L. assemblies.
- C. All sleeves must be square cut for a neat appearance and all sleeves not concealed behind construction must have a prime coat of paint.
- D. Sleeves through walls shall be set flush with the walls. Sleeves larger or smaller than necessary shall be replaced where directed by the Owner.
- E. Sleeves through non-rated and/or non-bearing walls may be Schedule 40 PVC pipe up through 4" in size if approved by Code.

- F. Provide cored holes for all pipes not sleeved.
11. Miscellaneous Supports
- A. Furnish and install all miscellaneous angle iron, channels, unistrut, threaded rod, etc., required to support equipment installed. Provide rust inhibitor primer on all supports prior to installing.
12. Thermometers and Gauges
- A. Install in a visible location, dial type thermometers with separable sockets having 2 degree Fahrenheit graduations 4 ½” dials with enameled figures, angle type, 0-250 degree Fahrenheit range. Thermometer shall be located where shown on the drawings. Thermometers shall be manufactured by Trecice Co., American Instruments Co., Taylor Co., or Ametek.
 - B. Thermometers shall have scale ranges compatible to the service on which it is installed.
13. Vibration Control
- A. Unless noted otherwise, all mechanical equipment shall be isolated from the structure with resilient vibration and noise isolators in accordance with the 1984 ASHRAE Guide and Data Book, Chapter 32, Tables 29 and 30.
 - B. Manufacturer shall be Consolidated Kinetics, Mason Industries, or Vibration Eliminator Co.
14. Unions
- a. Unions for ferrous pipe shall be malleable iron with machine ground ball and bronze insert seat; 250 psi minimum service. Fairbanks, Dart or approved railroad pattern.
 - B. Unions for copper tubing shall be cast brass with machine ground ball and brass or bronze seat; Nibco, Mueller or Cerro.
 - C. Unions shall be installed at each piece of equipment, wherever necessary for the dismantling of the equipment, and also at all of the locations shown on the plans.

15. Pipe Cleaning

A. Domestic Water Pipe Sterilization

- (1) After the domestic water lines have been tested and approved, the piping shall be sterilized. Sterilization shall conform to the requirements of the local Health Department.
- (2) Prior to chlorination, all water mains shall be thoroughly flushed out.
- (3) At the end of the sterilization, the water lines shall be flushed out until the chlorine content is less than 1 ppm. The local Health Department shall be contacted to obtain laboratory service.
- (4) After flushing, the lines shall remain filled with water for 24 hours after which time the local Health Department shall again be requested to perform a bacteriological examination of the water.
- (5) Submit a letter stating the above have been performed.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 15 - MECHANICAL

SECTION 15.10: VALVES

PART 1 - GENERAL

1. Related Work
 - A. All parts of the Contract Documents relate to the Work specified in this Section.
2. Description of Work
 - A. Provide all necessary material, labor, tools, equipment, etc., required for the complete installation of all valves required for the project as specified hereafter and as shown on the contract plans.
3. Submittals
 - A. A minimum of three (3) weeks prior to ordering any materials and/or starting any work on the project, each mechanical trade shall submit a letter to the Owner's office stating the valves which he is proposing to install on his piping system.

PART 2 - PRODUCTS

1. Valves (General)
 - A. All valves on a particular system shall be of one manufacturer and shall be approved standard weight suitable for a working pressure as specified.
2. Valves (Domestic Water)
 - A. Valves shall be Nibco, Milwaukee, Crane Co., Grinnell, W-K-M, Jenkins, Walworth, or Luchenheimer. Nibco catalog numbers are shown for comparison.
 - B. All valves 2" and below shall be all bronze body.
 - C. Bronze shut-off valves—solder end valves may be used up to 2" and they shall be bronze with renewable composition double wedge disc, rising stem, liberal sized stuffing box packed with Teflon packing. Valves shall have working pressure of 200 psi, water. The following type is approved: Nibco S-111.

- D. Stop and waste valves shall be identical to gate valves with the addition of an 1/8" drain and cap; Nibco option "D".
 - E. Ball valves shall be 200 lb. bronze body, stainless steel ball, Buna N or Teflon seats and seals, regular port, W-K-M "Dyna Seal 300" Model C.
 - F. Check Valves
 - 1. All check valves up to and including 2" in size shall be bronze 125 lb. renewable W.O.G. disc, swing check, Nibco S-413-W.
 - G. Drain Valves. Valves shall have hose end connections and vacuum breaker. Chicago Faucet #998 and lock shield and removable tee handle.
1. Valves (Gas)
- A. Gas valves up to and including 2" size shall be Apollo, Contromatics, or Clayton "Mark" full line size ball valve. Lever handle to visually indicate open or close position. Valves shall be constructed of ductile iron with Teflon seats.

PART 3 - EXECUTION

1. General
- A. Valves shall be accessibly located and fully equal in area to the pipes upon which they are placed. Gate valves shall be used for shut-off. On pipe sized 2" and smaller, ball valves may be used for shut-off. All valve stems on horizontal pipes shall be located at a 45-degree angle from the vertical.
 - B. At all low points in each piping system, install drain valves so that systems may be completely drained.
 - C. Provide unions at all solder end and screwed valves for dismantling piping systems for maintenance.
 - D. Provide sectional shut-off valves for each runout to groups of fixtures, and equipment at each main branch and where shown on the drawings.
 - E. All valves located in pipe shafts, above ceilings, and at equipment shall be so located that they may be easily operated, maintained, and serviced.
 - F. All valves at equipment shall be located to permit dismantling and removal of motors, fans, filters, etc., as required for maintenance.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 15 - MECHANICAL

SECTION 15.25: INSULATION

PART 1 - GENERAL

1. Related Work
 - A. All parts of the Contract Documents related to the Work specified in this Section.
2. Description of Work
 - A. Provide all necessary material, labor, tools, equipment, etc., required for the complete installation of the insulation work for the project as specified hereafter and as shown on the contract plans.
 - B. Insulation work shall include but not be limited to the following:
 - (1) Domestic cold water and hot water.
 - C. All insulation to be installed shall be the type which does not contain any asbestos.
3. Submittals
 - A. A minimum of three (3) weeks prior to ordering any materials and/or starting any work on the project, the insulation trade shall submit a letter to the Owner's office stating the manufacturer, material, K-values, and sizes which he is proposing to install. Include a copy of the manufacturer's specification sheet and recommended installation procedures with the letter.

PART 2 - PRODUCTS

1. Manufacturers
 - A. Owens-Corning, Gustin-Bacon, Johns-Manville, Armstrong, or Knauf.
2. Pipe Insulation
 - A. Glass fiber insulation shall be noncombustible and conform to ANSI/ASTM C547. Insulation shall have a "K" value of 0.24 at 75 degrees Fahrenheit and a density of 3.0 lb. per cubic foot.
 - B. Cellular foam shall be a flexible plastic with a "K" value of 0.23 at 75 degrees Fahrenheit and a density of 5.0 lb. per cubic foot.

- C. Elastomeric foam shall have a "K" value of 0.27 at 75 degrees Fahrenheit, a flame spread rating of 25 or less, and a smoke developed rating of 50 or less.
 - D. Insulation other than C.) shall have a factory applied fire retardant jacket with reinforced foil backing and self-sealing joints. On pipe with fluid temperatures below 65 degrees Fahrenheit provide vapor barrier jacket.
 - E. Accessories shall include 3/4" wide x 0.007 thick aluminum bands, and 9 oz. per square yard untreated fibrous glass cloth.
3. General
- A. All insulation, jackets, accessories, adhesives, etc., must have a flame spread rating of 25 or less and smoke developed rating of 50 or less. Insulation must conform to NFPA 90A, 90B, and U.S. #181 erosion test.
 - B. All insulation at hangers shall be high density type.
 - C. All insulation at rated walls and floor must be of the type approved by the State Fire Marshal's Office.
4. Insulation Schedules
- | A. Pipe Insulation | Thickness |
|--|-----------|
| (1) Glass fiber insulation thickness | |
| (a) Domestic cold water pipe with vapor barrier jacket | 1" |
| (2) Elastomeric foam insulation thickness | |
| (a) Domestic cold water pipe | 3/8" |
| (b) Domestic hot water | 3/8' |

PART 3 - EXECUTION

- 1. Preparation
 - A. Verify piping has been tested and approved prior to installing insulation.
 - B. Clean surfaces for adhesives.
- 2. Installation (Pipe Insulation)
 - A. Install materials in accordance with manufacturer's instructions. Maintain ambient temperatures and conditions required by manufacturers of adhesive and insulation.

- B. In lieu of the above method, all fittings may be insulated using one piece premolded insulated fittings, or elastomeric foam, provided the system meets the flame spread and smoke developed requirements. Installation shall be per the manufacturer's recommendations.
- C. Do not use staples with vapor barrier insulation.
- D. Insulate valve bodies on piping systems.
- E. Seal all exposed ends on insulation for continuous vapor barrier.
- F. All vapor barrier jackets shall be sealed and continuous.
- G. Where hangers are located outside the insulation, provide a 12-gauge metal saddle three times the nominal pipe diameter and a minimum length of ten inches (10") under the insulation. Provide heavy density block insulation at the hangers, minimum of twenty-four inches (24") long.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 15 - MECHANICAL

SECTION 15.40: PLUMBING

PART 1 - GENERAL

1. Related Work
 - A. All parts of the Contract Documents relate to the Work specified in this Section.
 - B. Provide all necessary material, labor, tools, equipment, etc., required for the complete installation of the plumbing work for the project as specified hereafter and as shown on the Contract Plans. All systems described below shall be complete in every detail, including (but not limited to) valves, hangers, labels, thermometers, and appurtenances as drawn and specified. In general, the following systems shall be included in the Work.
 - (1) Sanitary drainage system, including all above and below floor drainage; waste and vent piping, plumbing fixtures.
 - (2) Domestic cold water system shall consist of new distribution piping in the building as indicated on the drawings.
 - (3) Domestic hot water system shall consist of hot water distribution supply piping, valves, etc., as indicated on the drawings.
 - (4) Gas system shall consist of connecting to new gas meter new distribution piping to all equipment shown on the drawings.
2. Submittals
 - A. Not required.

PART 2 - PRODUCTS

1. Cleanouts
 - A. Finished Floors (vinyl or asphalt tile): W-6000-TS cast iron cutoff ferrule, cast iron plug with lead gasket, adjustable cast iron housing and square nickel bronze frame and cover recessed for tile.
 - B. Finished Walls: W-8460-R cast iron cutoff ferrule, cast iron plug with lead gasket, and round stainless steel cover secured to plug with screw.
 - C. Above model numbers are as manufactured by Wade Co. Approved equals are Jay R. Smith, Zurn, Ancon, or Josam.

2. Wall Hydrants
 - A. Non-freeze, key-operated 3/4" wall hydrants shall be installed where indicated on the outside of the building. Woodford Model 65 with vacuum breaker.
3. Domestic Water Heating System
 - A. Furnish and install a domestic water heating system complete with storage tank, gas-fired burner, valves, controls, piping, insulation, supports, etc., for a complete and operable system.
 - B. Heater shall be gas-fired with storage tank and having capacities as scheduled.
 - C. Accessories to include: glass lined tank, minimum 2" thick enameled steel jacket, immersion type thermostat, draft diverter, ASME pressure and temperature relief valve, and gas pressure regulator.
 - D. Heater shall be ASME stamped, carry a three-year warranty, and meet energy requirements of ASHRAE Standard 90A-1980.
 - E. Manufacturer shall be Lochinvar, A. O. Smith or Rudd.
4. Plumbing Fixtures
 - A. Fixture shall be as scheduled below. Approved manufacturers are as follows: Vitreous China & Cast Iron Fixtures - Kohler, Crane, Eljer, or American Standard; Trim - Sloan, Delany, T & S Brass, Chicago Faucets, Delta, American Standard, or Crane.
 - (1) Water Closet (Wall Hung): Kohler "Kingston" K-4430-ET, 2 5/8" passage, elongated bowl, siphon jet, 1 1/2" top spud, wall hung, wall outlet, white open front Olsonite seat with check hinge. Delany 402-AVE flush valve, and bolt caps. Mounting height must meet Barrier Free Code where required.
 - (2) Urinal: Kohler "Dexter" K-5014-T, wall mounted, white vitreous china, 1 1/4" top inlet, siphon jet, wall hangers, and Delany 452-VB flush valve. Mounting height must meet Barrier Free Code where required.
 - (3) Lavatory (Countertop): Kohler "Pennington" K-2195, colored vitreous china, 20" x 18", self-rimming countertop, 4" centered, T & S Brass Model B-870-LF10 supply fitting with variflow insert (1.0 gpm), pop-up drain, aerator, and lever handles. Kohler K-7606 supplies and K-9000 1 1/4" trap. Mounting must meet Barrier Free Code where required.

- (4) Lavatory "3" (Wall Hung): Kohler "Greenwish" K-2032, vitreous china, 20" x 18" wall hung, 4" centers, K-9000 1 1/4" trap, K-7606 3/8" angle supply stops, T & S Brass Model 8870-FL10 supply fitting with vari-flow insert (1.0 gpm), pop-up drain, aerator, and lever type handles. Where applicable, the wall hung lavatory must meet the Barrier Free Code.
 - (5) Service Sink (Floor Mounted, Corner Type): Janitor's sink shall be equal to Kohler "Whitby" K-6710, enameled cast iron floor mounted, corner sink with rim guard, K-9146, 3" strainer, 28" x 28" size. Faucet shall be T & S Brass Model B-667-RC chrome Plated wall supply fitting with valvet units, vacuum breaker, threaded spout, pail hook, loose key stops, rubber hose, wall hook, and wall brace.
 - C. Drinking Fountain (Wall Mounted): Drinking fountain shall be a Most Dependable Fountain Model #450, blue color. Mounting must meet Barrier Free Code.
5. Plumbing Fixture Supports
- A. Carriers shall be compatible with the fixture supplied and shall be as manufactured by Wade, Zurn, or J. R. Smith.

PART 3 - EXECUTION

1. Location of Cleanouts
- A. Provide and set cleanout for sewer lines under the building every 50 feet, at the end of all branches, at changes in direction, at the base of all riser lines, on all exposed or accessible traps, and at all points of the system where so indicated on the drawings, or called for or required by code.
 - B. Cleanouts are to be full size of trap or pipe up to four inches (4") in diameter and not less than four inches (4") for larger traps or pipes. Full size "Y" and "T" branches shall be provided for all cleanouts on house drains and their branches. Cleanout riser shall be of cast iron pipe.
 - C. All cleanouts must be installed so as to be accessible without having to remove equipment, fixtures, etc.
2. Vacuum Breakers
- A. Vacuum breakers shall be installed on the water supply lines running to any fixture if the inlet terminates below the floor level rim or top of fixture, and elsewhere as required by the Plumbing Code. The vacuum breaker must be at least six inches (6") above the top of the fixture.

- B. A vacuum breaker must also be placed on all fixture outlets to which a hose may be connected.
 - C. The vacuum breakers must be placed on the discharge side of the control valve supplying water to the fixture.
3. Floor Drains
- A. Cooperate in setting floor drains in order that they may be placed at the proper elevation to insure the floor drainage by them. Obtain approval for final elevations prior to pouring the floor.
 - B. The floor drains shall be cast into the concrete at the time of pouring and shall be made watertight.
 - C. In general, the floor drains are placed in locations where they will receive sufficient water for sealing the traps. Where required by the Plumbing Inspector, provide water connection for insuring the seal.
4. Floor Drain Flashings
- A. Cooper flashing collars shall be provided and installed at each floor drain installed above the lowest floor level.
 - B. Collars shall be 20 oz. copper, 36 inches square, fastened under clamping rings and set in an approved sealant (top and bottom).
5. Flashing
- A. All pipes extending through the roof shall be flashed according to the recommendations of the roofing supplier.
6. Water Hammer Arrestors
- A. At ends of cold water branches in battery toilet installations with two (2) or more flush valve fixtures at ends of hot and cold water mains in accessible locations and wherever else indicated on the plans, install a Wade "Shock-stop" chamber. size and install per manufacturer's recommendations. Smith, Zurn, or Josam are approved equals.
7. Domestic Water Heating Systems
- A. Installation shall conform to the details shown on the plans. Provide all valves, controls, pipe wells, supports, etc., for a complete and operable system.
8. Gas Piping System

- A. Furnish a new gas piping system for the building, including all new pipes, valves, service, meter, regulators, etc., for a complete and operable system.
 - B. Provide and install gas shut-off valves in each branch pipe, at each piece of gas-fired equipment and where indicated on the drawings.
9. Plumbing Fixtures
- A. Install all fixtures, making all required supply waste, soil and vent connections, together with all fastenings, fittings, and supports, cocks, traps, etc.
 - B. Supply stops of the heavy compression type shall be furnished for each fixture on both the hot and cold lines.
 - C. All valves, traps, supply pipe, drain pipes, etc., must be chrome plated.
 - D. Metal finish on all plumbing fixtures and exposed fittings shall be one (1) part grey Portland Cement and two (2) parts sand, with joints raked and painted with white Portland Cement.
 - E. Provide concealed supports as required to strengthen the walls for support of fixtures.
 - F. Be responsible for the condition of all fixtures until completion and final acceptance of the building. After fixtures have been set, provide crates or other necessary protection as required. Caulk and seal joint at wall and fixture with a white silicone sealant.
10. Plumbing Fixture Supports
- A. Where plumbing fixtures occur on walls with pipe spaces back of same, the supports for fixtures shall consist of approved chair carriers. Where plumbing fixtures occur on walls with no pipe spaces back of same, the supports for fixtures shall consist of chair carriers built into the wall and bolts projecting through face of wall for attachment of fixture brackets. Each fixture shall be supported solidly and shall be sufficiently strong to withstand severe usage.
11. Connections
- A. Provide rough-in, installation, and final connection. Also furnish shut-off valves, traps, etc., for fixtures and equipment supplied by others, unless furnished with the equipment. Refer to other divisions of these specifications and drawings for specific items requiring rough-in and final connections. The size of all connections to plumbing fixtures shall be as follows (unless noted otherwise on drawings):

Fixture	Soil or Waste	Vent	Traps	HW	CW
Water closets (flush valve)	4"	2"	--	--	1"
Urinals	2"	2"	--	--	3/4"
Lavatories	1 1/4"	1 1/4"	1 1/4"	--	1/2"
Drinking fountains	1 1/4"	1 1/4"	1 1/4"	--	1/4"
Service sinks	3"	2"	3"	3/4"	3/4"

12. Testing

- A. All piping equipment installed under this contract shall be tested and proven in acceptable condition.
- B. In addition to the tests outlined in Section 15.990, the following must be performed:
 - (1) The flow of water to each fixture shall be regulated so that the faucet and flush valves operate satisfactorily without waste of water or objectionable noise.

13. Cleaning and Finishing

- A. After all tests have been made and the system pronounced tight, go over the whole system and clean all equipment, leaving the entire system in a clean and complete working order at completion of the building. All debris shall be removed from the site.

-- End—

City of Mt. Pleasant, Michigan

DIVISION 15 - MECHANICAL
SECTION 15.41: PLUMBING PIPE

PART 1 - GENERAL

1. Related Work
 - A. All parts of the Contract Documents relate to the Work specified in this Section.
2. Description of Work
 - A. Provide all necessary material, labor, tools, equipment required for the complete installation of the plumbing piping systems work for the Project as specified hereafter and as shown on the Contract Plans.

PART 2 - PRODUCTS

1. Materials Used in Piping Systems
 - A. Materials used in the piping system shall be as described below. Descriptions of the materials, methods of installation, ASTM Designation, etc., are given under the separate heading for various materials.
 - B. Sanitary Drainage System (inside of building). Standard weight "NO-HUB" cast iron soil pipe and fittings above ground and under floor. Schedule 40 PVC pipe and fittings are acceptable where approved by the governing authorities.
 - C. Sanitary Sewers (outside of building). Extra strength vitrified sewer tile, or "NO-HUB" cast iron soil pipe.
 - D. Domestic Water System. Cold water piping two inch (2") size and smaller, all sizes of hot water supply and return pipe shall be Type "L" hard copper with wrought copper solder fittings for above-ground and Type "K" for below-ground.
 - E. Water (outside underground). Cement-lined ductile cast iron pipe for service pipe.
 - F. Gas System. Schedule 40 black steel pipe with screwed fittings on piping two inches (2") and below. Wherever gas piping is concealed behind construction, all pipe sizes shall have welded fittings.
 - G. Condensate Lines. Schedule 40 PVC pipe.

- H. Combustible Air Intake and Exhaust. Schedule 40 PVC pipe.
2. Description of Pipe Materials
- A. Cast iron sewer pipe shall be service weight totally coated inside and out with coal tar pitch or similar non-scaling material. Cast Iron Soil Pipe Institute Specification 301-72 or ASTM C-564-70. Fittings shall be identically coated of like pattern, weight and construction CISPI Specification 301-72 or ASTM C-564-70. Joints shall be made with stainless steel clamps and neoprene gaskets.
 - B. Galvanized sewer pipe shall be Schedule 40 conforming to ASTM A-120-73, ANSI B-125.2.2-1972 with 125 lb. black enameled, cast iron, screwed, drainage fittings conforming to USA B-16.2-60.
 - C. PVC pipe shall be Schedule 40, NSF approved, DWV pipe and fittings conforming to ASTM D-2665. Fittings and joints shall be made with solvent weld and applied as recommended by the manufacturer.
 - D. Steel pipe shall conform to ASTM A-53 or A-120 and welded. Fittings shall be screwed pattern 150 lb. W.P. malleable iron, ANSI B-16.22 on piping two inches (2") and below. Concealed fittings on gas piping two inches (2") and below shall be welded.
 - E. Copper tubing shall conform to ASTM B-88 or ANSI H-23.1. Type "L" above grade, Type "K" below grade for domestic water. Fittings for above grade shall be solder joint, wrought copper meeting ANSI B-16.22. fittings located below the slab shall be solder joint. There shall be no joints below the floor except where above floor joints would be impossible to provide. Any joint below the floor shall be joined via using silver solder connections.

PART 3 - EXECUTION

1. Manner of Running Piping (Plumbing)
- A. For general piping items, see Section 15.05.
 - B. Horizontal waste piping shall have a uniform drop to not less than 1/8" per foot; downward bends and dips shall be avoided.
 - C. No exposed piping above fixtures or in other conspicuous places shall show tool marks or threads at fittings.
 - D. Install air chambers on hot and cold water piping on the end of each fixture branch or branch serving a group of fixtures. Air chambers shall be 18" in length and one pipe size larger than the line size serving each group.

- E. All exposed piping at fixtures, etc., shall be chrome plated.
 - F. Piping must be supported from structural members.
2. Manager of Running Piping (Combustion Air Intake and Exhaust)
- A. Horizontal combustion air exhaust piping shall have a uniform drop back to the furnace of not less than 1/4" per foot. Downward bends and dips shall be avoided.
 - B. All elbows shall be equal to Trane Model BAY69X141, 3" - 91 1/2".
 - C. Combustion air intake piping shall be standard Schedule 40 PVC fittings.
3. Vent Pipes
- A. Install all vents and revent pipes for fixtures as required by the Plumbing Code or necessary to prevent siphonage of back pressure of the traps.
 - B. All offsets in vent pipes where possible, shall be made by angle of not less than 45 degrees to the horizontal and all lines shall be connected at the bottom with a soil or waste pipe or drain to prevent accumulation of rust scale.
 - C. Where vent piping is indicated on the drawings in excess of code requirements, the drawings will govern.
 - D. Branch vent pipes will not be permitted lower than the outlets of the highest fixture in the groups. Vent piping in pipe spaces shall be offset to the wall to provide access for maintenance.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 15 - MECHANICAL
SECTION 15.66: HEAT GENERATION

1. Submittals
 - A. Provide shop drawing submittals on the following items.
 - (1) Furnaces.
2. Furnaces
 - A. Provide and install furnaces with all associated control wiring and piping.
 - B. Capabilities and characteristics of units shall be as scheduled on the drawing.
 - C. Standard features to include area: lifetime warrant, insulated cabinet, front service access, multi-speed direct drive blower assembly for automatic heat/cool air volume, air conditioning fan relay, 35 VA transformer, induced draft blower assembly, dual gas valve and regulator, limit and adjustable fan control, blower door safety switch, hot-surface ignitor system with safety control, vent proving pressure differential switch, flame roll out safety device, and flue temperature safety thermostat.
 - D. Manufacturer shall be Trane, Lennox or Rheem.

PART 3 - EXECUTION

1. Installation
 - A. Install units in accordance with manufacturer's instructions.
 - B. Install furnaces on non-combustible sub-base by furnace manufacturer.
 - C. Install flexible connections on supply and discharge of furnace.

-- End—

DIVISION 15 - MECHANICAL

SECTION 15.85: AIR HANDLING

PART 1 - GENERAL

1. Related Work
 - A. All parts of the Contract Documents related to the Work specified in this Section.
2. Description of Work
 - A. This division of the Specifications with the accompanying drawings are intended to provide for all material, labor and services necessary to install the air handling systems for the proposed project.
 - B. In general, the work to be included is shown on the drawings and/or herein specified. The work shall include every item necessary to make the system complete and operable. In general, the following systems shall be included in the work:
 - (1) Exhaust fans.
 - (2) Walls louvers.
 - (3) Filters.
3. Submittals
 - A. Provide shop drawings on the following items:
 - (1) Air filters.
 - (2) Exhaust fans.
 - (3) Louvers.

PART 2 - PRODUCTS

1. Inline Exhaust Fan
 - A. Provide duct mounted exhaust fans where shown on the drawings.
 - B. Fans shall be direct driven with speed controllers (see schedule), complete with dynamically balanced wheel, pre-lubricated ball bearings, disconnect switch, and backdraft damper. All direct drive fans are to have speed controllers and used for air balance.

- C. Fans shall have capacities and characteristics matching the existing fans located in the north rest room at Island Park.
 - D. Exhaust fans shall be as manufactured by Greenheck, Acme, ILG, or Loren Cook.
2. Air Filters
- A. Furnish and install air filters where shown on drawings.
 - B. Filters shall be high media type complete with filter housing and replaceable media.
 - C. Air filter shall be equal to Space Gard High Efficiency Air Cleaner Model 2200. Units to operate with a minimum inlet pressure.
3. Wall Louvers
- A. Louvers shall be four inches (4") deep, extruded aluminum, drainable blade, frame and birdscreen construction.
 - B. Louver finish to be by Owner.
 - C. Louver equal to Ruskin Model ELF375DD.
 - D. Louvers shall be of size indicated and as manufactured by Ruskin, American Warming, or Dowco.

PART 3 - EXECUTION

1. Installation
- A. Install all units in accordance with manufacturer's instructions.
 - B. Install exhaust fans on vibration isolators.
 - C. Do not operate fans for any purpose until duct work is clean, filters are in place, bearings lubricated, and fan has been test run under observation. Fans must be checked for proper rotation prior to operation. Install fans with resilient mountings and flexible electrical leads. Install flexible connections specified between fan inlet and discharge duct work. Flexible connectors shall not be in tension while running.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 15 - MECHANICAL
SECTION 15.88: AIR DISTRIBUTION

PART 1 - GENERAL

1. Related Work
 - A. All parts of the Contract Documents relate to the Work specified in this Section.
2. Description of Work
 - A. This division of the specifications with the accompanying drawings are intended to provide for all material, labor and services necessary to install the air distribution systems for the proposed project.
 - B. In general, the Work to be included is shown on the drawings and/or herein specified. The Work shall include every item necessary to make the system complete and operable. In general, the following systems shall be included in the Work:
 - (1) Supply, return, and exhaust grilles, registers, and diffusers.
 - (2) Supply, return, exhaust, combustion air, and outdoor air ducts.
 - (3) Volume dampers and fire dampers.
 - (4) Gas vents.

PART 2 - PRODUCTS

- 1 Sheet Metal Work (General)
 - A. Provide all sheet metal supply, return, and exhaust, air duct work for the heating and ventilating system, as shown on the drawings.
 - B. The Work shall be executed to conform with the best standard practice to contribute to efficiency of operation, accessibility, sightliness, and minimum maintenance.
 - C. All ducts shall be properly braced and stiffened to prevent sagging, buckling and undue vibration.
 - D. All duct work, unless otherwise noted, shall be per SMACNA, 1985, "Duct Construction Standards", 2 in. WC design and fabricated from prime quality, zinc coated steel. Provide any necessary supplemental stiffening as required to prevent "drumming" and provide a structurally sound

assembly. All ducts over 13" in either direction shall have all sides cross broken.

- E. All ducts shall be securely hung on approved hangers or saddles as required. Hanger sizes and spacing shall be per SMACNA as in (d).
- F. Access doors must be gasketed air tight and have turn-lock handles. Doors required for access at any inline duct mounted devices.
- G. Flexible connections shall be provided at all air handling equipment inlet and discharge connections. Materials shall be flameproof and made air tight by rubberizing or other approved method and shall be minimum of 6" in length. Flexible connections shall be Elgen #SDN-4-100-6 commercial grade neoprene impregnated with 0.025 galvanized steel.
- H. Sheet metal sleeves at fire dampers and fire partitions shall conform to State Fire Marshall's Office and SMACNA.

2. Balancing Dampers

- A. General. In all duct work systems, provide all dampers necessary for proper control and balancing of air distribution. Provide dampers for all branches from trunk ducts as indicated on drawings.
- B. Concealed dampers to have concealed damper regulator, Vent Lok #677. For accessible ducts, use Vent Lok self-locking regulators #641 for non-insulated ducts, and #644 elevated dial regulator for insulated ducts. All operator gears or linkage required shall be included.
- C. Single Blade Balancing Dampers. Field fabricate rectangular dampers eight inches (8") in height and below. Dampers shall be fabricated in accordance with SMACNA Manual. Regulators shall be as indicated above for Multi-Leaf Dampers.

3. Fire Dampers

- A. Provide all fire dampers indicated to be installed in the sheet metal system.
- B. Fire dampers shall be Underwriter's Laboratories approved for one hour fire rating in accordance with Standards for Safety U.L. No. 555-1979.
- C. Provide access doors to all fire dampers. Doors to be hinged with twist lock handles.
- D. All fire dampers shall be designed with all components out of the air stream, preserving 100% of the cross-sectional area of the duct.

- E. Dampers in a low velocity rectangular duct shall be equal to Air Balance, Inc., U.L. 119V, Type "B".
 - F. Fire dampers shall be as manufactured by Air Balance, American Warming, Louvers/Dampers, Inc., National Controlled Air, or Ruskin.
4. Access Panels
- A. Furnish an adequate number of properly sized access panels to adequately service and maintain the systems installed under this division of the Specifications. See Section 15.05.
5. Grilles, Registers, and Diffusers
- A. Provide all supply registers, all return air and exhaust air, registers and grilles as shown on the drawings. Diffusers, grilles and registers shall be as manufactured by Titus Mfg. Co., Metal-Aire, Tuttle & Bailey Co., Nailor-Hart, Airguide, or Krueger.
 - B. Supply registers located in ducts and in walls shall be constructed of steel with 1 1/4" wide beveled frames or edges with one set of sized horizontal bars set at a 45 degree angle and shall be complete with opposed blade key-operated damper. Frames shall be complete with counter-sunk screw holes. Supply registers shall be equal to Titus Model 272-RL. Registers shall have an off-white finish.
 - C. Rectangular return and exhaust air registers located in ducts and in walls shall be constructed of steel with 1 1/4" wide beveled frames or edges with one set of sized horizontal bars set at a 45 degree angle and shall be complete with opposed blade key-operated damper. Frames shall be complete with counter-sunk screw holes and air registers shall be equal to Titus Model No. 23-RL. Registers shall have an off-white finish.
6. Gas Vents and Flues
- A. Gas flues for water heaters shall be a U.L. listed double walled metal vent pipe as manufactured by Metalbestos or an approved equal. The installation shall be complete. The entire installation must be acceptable for natural draft application (see plans) and must be approved by the governing authority.
 - B. Flues from water heaters shall be equal to Metalbestos Model "B".

PART 3 - EXECUTION

1. Sheet Metal Work (General)
 - A. Sheet metal sleeves shall be provided where ducts pierce fire rated floors. Sleeves in fire rated floors must be sealed per requirements of the Fire Marshal's office.
 - B. Provide access doors in the duct work where required to service equipment.
 - C. Changes in direction in conventional duct work shall be made with full radius elbows or square elbows providing double thickness turning vanes are used with the proper number and spacing per ASHRAE and SMACNA standards for the size of the duct.
 - D. Rig and install all automatic control dampers in the casings or ducts and maintain damper motor maintenance. Frames shall be caulked air tight. Provide access doors in ducts.
 - E. Provide backdraft dampers on all exhaust fans.
 - F. Provide openings in duct work where required to accommodate thermometers and controllers. Provide pitot tube openings where required for testing of systems, complete with metal cap with spring device or screw to ensure against air leakage.
 - G. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.
2. Balancing Dampers
 - A. General. In all duct work systems, furnish all dampers necessary for proper control and balancing of air distribution. Furnish dampers for all branches from trunk ducts.
 - B. Do not use dampers provided in diffuser or outlet for balancing system. These are to be used only after all balancing is completed to control draft and ventilation in individual areas.
 - C. Install dampers tightly in ducts to prevent all rattles.
 - D. All damper operators and position indicators are to be clear of duct insulation. Ends of operator shafts to have groove sawed parallel to damper blade.
3. Fire Dampers
 - A. Install all fire dampers indicated to be installed in the sheet metal system.

- B. Provide removable access doors in serviceable locations for access to all fire dampers. Doors to be hinged with twist lock handles.
 - C. All fire dampers shall be designed with all components out of the air stream, preserving 100% of the cross-sectional area of the duct.
 - D. Fire dampers shall be compatible with the duct pressure classification in which they are being installed.
 - E. All fire dampers shall be installed in accordance with the details shown in the latest issue of General Installation Requirements as issued by the State Fire Marshal's office and as shown on the plans.
4. Access Panels
- A. Furnish an adequate number of properly sized access panels to adequately service and maintain the systems installed under this division of the specifications. Provide duct access doors for inspection and cleaning before and after fans, automatic dampers, volume dampers, fire dampers, and elsewhere as indicated. Provide minimum 10 x 10 inch size for hand access.
5. Grilles, Registers and Diffusers
- A. Install all supply diffusers, all supply registers, all return air and exhaust air, registers and grilles as shown and scheduled on the drawings.
6. Louvers
- A. All exterior wall louvers are to be furnished and installed by the Mechanical Trades.
7. Temperature Control Motorized Dampers
- A. Install motorized duct dampers where shown on the plans and as required for the operation of the building temperature control system.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 15 - MECHANICAL

SECTION 15.99: TESTING, ADJUSTING AND BALANCING

PART 1 - GENERAL

1. Related Work
 - A. All parts of the Contract Documents relate to the Work specified in this Section.
2. Description of Work
 - A. Provide all necessary labor, tools, equipment, etc., required to complete the requirements of the testing, adjusting, and balancing portion of this Project.
 - B. In general, the Work consists of, but is not limited to, the following:
 - (1) Pressure tests on all piping systems.
 - (2) Equipment (fans) operational test and balance.
 - (3) Balance tests on all supply, return, exhaust, and outdoor air duct systems.
3. Submittals
 - A. Submit reports of all pressure tests performed on all piping systems.
 - B. Submit reports on adjusting and balancing of all supply, return, and exhaust air duct systems.
 - C. Submit report of operational and balance test performed on all fans.

PART 2 - PRODUCTS

1. Testing and Balancing Trades
 - A. All pressure tests on piping systems shall be performed by the mechanical trade installing same.
 - B. All fans' performance and operational tests shall be performed by the mechanical trade installing same unless specified as requiring manufacturer's "Test, Check, and Start".

PART 3 - EXECUTION

1. General
 - A. All Work shall be tested as specified herein, provide facilities, water, test gauges, meters, other instruments, materials and labor in connection with testing, adjusting, and balancing.
2. Piping Tests
 - A. The complete installation, including piping and equipment, shall be subjected to pressure and operational tests to demonstrate specification conformance and satisfactory functional operational efficiency. Each piece of equipment shall be visually inspected in the field for specification conformance. All motors shall be cleaned and lubricated.
 - B. Owner shall be notified at least one week in advance of tests so that he may be on hand to witness test and approve installation. Any leaks or imperfections that develop during tests shall be remedied immediately to full satisfaction of Owner. All pressure tests shall be conducted before any piping is concealed or covered.
 - C. Sanitary System
 - (1) Provide a copy of the rules and regulations of the State and/or local plumbing boards on the job and conduct water, air or pepermit tests on the entire sanitary plumbing system or sections thereof to conform to these rules and regulations.
 - (2) Test drainage, including underground sewers, inside soil, waste and vent pipes with at least a 10-foot head of water.
 - D. Domestic Water System
 - (1) Pressure test the domestic water system with two times maximum main pressure or 100 psi, whichever is greater. Repair leaks and retest until system is tight. There shall be no measurable pressure loss in eight- (8) hour test.
 - E. Gas System
 - (1) All gas piping shall be tested at an air pressure of 100 lb. per square inch and a liquid soap solution applied to all joints for a duration of at least eight (8) hours, and any defects must be repaired immediately and the test reapplied.

- (2) Arrange for flow and alarm tests at a time convenient for regulatory personnel and Owner to witness. Provide certification for success of testing and submit four (4) copies to Owner.
 - F. Additional tests as required by Local and State Code requirements not mentioned in these Specifications shall also be performed at no additional expense to the Owner.
 - G. After tests have been completed, all systems shall be thoroughly cleaned, drained, and refilled.
 - H. Submit five (5) copies of each test to the Owner with signatures of all witnesses. Reports are to include date of tests, system tested, description of piping included in test, signature of witnesses, signature of person performing the test, test method, test pressures, test duration, pressure loss, and a statement of any problems, unusual conditions, or test result encountered.
3. Equipment Tests
- A. Start all motor-driven air delivering equipment.
 - (1) Determine air quantity and velocity.
 - (2) Adjust all fan sheaves or motor speed controllers to deliver the scheduled air quantities.
 - (3) Observe and report noise level indicating fan imbalance, excessive rpm or air velocity.
 - B. Perform the equipment balance and adjusting under each of the following conditions:
 - (1) Furnaces calling for full heating.
 - (a) Operation at 100% return air, 0% outdoor air.
 - (b) Operation at minimum outdoor air position. In addition to the data indicated above, also report the outdoor, and return, CFM quantities under each condition.
 - (2) Exhaust Fans
 - (a) Operate with companion air handling system operating with its outdoor air dampers at its minimum position.
 - C. Record the following items at each air handling unit and under each of the above conditions.

- (1) Fan RPM (Design and Actual).
- (2) Fan Inlet Static Pressure.
- (3) Fan Discharge Static Pressure.
- (4) Fan Total Static Pressure (Design and Actual).
- (5) Motor HP and BHP.
- (6) Motor rated amps.
- (7) System Supply Air CFM (Design and Actual).
- (8) System Return Air CFM (Design and Actual).
- (9) System Outdoor Air CFM (Design and Actual).
- (10) System Exhaust Air CFM (Design and Actual).

4. Air Balance

- A. Balance and adjust all systems with tests showing air quantities for each inlet and outlet; quantities shall not vary more than ten percent (10%) from those scheduled. Systems requiring air balance are as follows:
 - (1) Heating system.
 - (2) Exhaust fan.
- B. Air balance shall be performed with permanent filters in place, and outdoor air damper set at minimum position.
 - (1) Determine air velocity at outlets of conventional systems with anemometer, flow hoods or other approved method.
 - (2) Determine air velocity at fans and ducts with pitot tube, inclined manometer, electronic micromanometer, or other approved method.
 - (3) Obtain written approval of the equipment used, the method, and the locations where taking readings before starting air balance.
- C. Air balance reports shall include all fan data described under equipment tests plus the following:
 - (1) Supply air quantities at each outlet (Design and Actual).
 - (2) Return air quantities at each inlet (Design and Actual).

- (3) Exhaust air quantities at each inlet (Design and Actual).
- (4) Air quantities at each manual volume damper in duct systems where CFM's are indicated on the drawings.
- (5) Corresponding velocities at the above air quantities.

5. Additional Work

- A. Include in each report a one-line schematic drawing of each system balance. Air system drawings shall indicate furnace, each air measuring point in duct work, each motorized damper, each inlet and outlet, etc., associated with the air system. Where air quantities cannot be adjusted within plus ten percent (+10%) of scheduled amounts, for whatever reason, report such findings with corrective recommendations to the Owner. Include in the bid eight (8) hours for spot checking with the Owner after submittal of balance report. This time shall be used only upon written authorization from the Owner.

-- End --

City of Mt. Pleasant, Michigan

DIVISION 16 - ELECTRICAL

SECTION 16.01: SCOPE

1. General Notes
 - A. The Work covered by this Section of these Specifications is subject to all applicable state and local codes. Contractor and any Subcontractors concerned shall be responsible for and governed by all applicable requirements and provisions thereof.
 - B. This Division of the Contract includes all labor, material, tools, and equipment required to furnish and install all work of an electrical nature necessary to complete this building in accordance with the Drawings and these Specifications.
 - C. The Work shall be done in a first-class and workmanlike manner and shall be complete in all details.

DIVISION 16 - ELECTRICAL

SECTION 16.02: AS-BUILT DRAWINGS

1. Requirements
 - A. As-built drawings will be required for the following:
 - (1) Installation and layout for all conduit and wire (1/4" scale), including indication of all circuit numbers.

DIVISION 16 - ELECTRICAL

SECTION 16.03: PERMITS AND INSPECTIONS

1. Procedure
 - A. Install all electrical work in strict accordance with all State, County, and Municipal Ordinances and Regulations.
 - B. Obtain all permits and inspections covering this class of work as required by any applicable laws and ordinances, and post such permits and inspection certificates in a prominent place adjacent to the Work so that they may be examined by the Owner, his representative, or any other duly constituted legal authority. Contractor shall pay all permits and inspections fees.

- C. Do not cover any concealed work until final inspection has been made and approval certificates obtained. All certificates of final approval and inspection shall be furnished to the Owner before the work will be accepted.

DIVISION 16 - ELECTRICAL

SECTION 16.04: COORDINATION WITH OTHER CONTRACTORS

- 1. Schedule
 - A. Consult with the Contractors of the other trades on the job and arrange for installation of the conduit and equipment without interference with the work of other Contractors.
- 2. Problems
 - A. If difficulties prevent the installation of work in accordance with the Plans and Specifications, secure the Owner's written approval to make the necessary deviations.
- 3. Installation
 - A. All cutting of new steel, all chases in new masonry and all new masonry ducts that are required for the proper installation of the electrical work will be furnished or provided by the General Contractor, but this Contractor shall be responsible for the correct location and sizes of such chases.
 - B. If information is not given in proper time or is inaccurate, or if any cutting and patching is made necessary by negligence or failure to build work or otherwise cooperate, such cutting and patching shall be done by the Contractor whose work has been damaged, but shall be paid for by this Contractor with no additional expense to the Owner.
 - C. Do no cutting which, in the opinion of the General Superintendent or Owner, is liable to impair the strength of the building.

DIVISION 16 - ELECTRICAL

SECTION 16.05: CUTTING AND PATCHING

- 1. Procedure
 - A. All cutting of existing sidewalks, roads, lawns, etc., necessary for the electrical work shall be carefully done by the Electrical Contractor together with all patching as such work may require.
 - B. Patched work shall finish off to correspond with adjacent areas.

DIVISION 16 - ELECTRICAL**SECTION 16.10: BASIC MATERIAL AND METHODS**

1. Materials
 - A. All material, fixtures and equipment shall be new stock. Install all electrical equipment in accordance with the directions and recommendations of the manufacturer, or in the absence of manufacturer's directions, in accordance with the Drawings.
 - B. All electrical equipment that is used in this installation shall have the approval of, and bear the seal, label, or listing of the Underwriter's Laboratories, Inc.
2. Installation
 - A. All electrical work shall be performed by first class mechanics skilled at the electrical trades, and all work shall be first class in every respect.
 - B. Offset work as directed and as required in order to allow other Contractors to install their work to avoid interferences with other piping or ducts, to conceal conduits more readily, or to allow for greater headroom under the conduits.
3. Switching
 - A. The switching arrangement is shown on the Plans. Outlets shown connected together are for the purpose of designing switching arrangements only and are not necessarily the path of the circuit conductors.
4. General
 - A. Ordinarily, in these Specifications, when materials are indicated by trade names or catalog numbers of certain manufacturers, it is done for the express purpose of establishing a standard of quality and design and not to limit competition.
 - (1) All materials and equipment furnished shall be equal in quality and capacity to that specified and harmonious in design, as determined by the Owner.
 - (2) Wherever in these Specifications a particular product is designated by a single manufacturer with names of other manufacturers excluded or with the phrase "or an approved equal" excluded, Contractors wishing to bid materials or equipment different from that definitely named shall, in space provided on the Proposal

Form, list the manufacturer or trade name and state the difference in cost to the Owner for the substitute he proposes.

- (a) The substituted articles shall conform as closely as possible to the Specifications.
- (b) If accepted by the Owner, such substitutions will be included in the Contract. Otherwise, it will be assumed that the specified article will be installed.

DIVISION 16 - ELECTRICAL

SECTION 16.13: CONDUCTORS

- 1. Materials
 - A. All conductors shall be copper.
- 2. Installation
 - A. All conductors that cannot be placed within a studded area or must run in a block wall shall be installed in conduit and conduit fittings of the type as hereinafter specified.
 - B. All conductors shall be of sufficient length at the outlets so that connections may be made without straining.
- 3. Wiring
 - A. All wiring shall be stranded or non-metallic sheath cable.
 - B. Branch light (including switches), receptacle, and motor circuits shall be not smaller than the #12 AWG wire.
 - C. Temperature control wiring, where indicated, may be smaller than #12 AWG.
 - D. Building wire for all circuits, including power and lighting, shall consist of copper conductors, insulated with Underwriter's approved 600 volt insulation.
 - E. Run equipment ground wire to all receptacles and switches.
- 4. Splicing
 - A. No conductors shall be spliced between outlet boxes, and taps in branch circuits shall be made mechanically solid according to the best practice. All joints shall be then taped with plastic tape before enclosing all in the box.

DIVISION 16 - ELECTRICAL**SECTION 16.14: ELECTRICAL SUPPORTING DEVICES**

1. Inserts, Sleeves and Hangers
 - A. furnish, locate and install all necessary sleeves, inserts, hangers bolts, etc., that are necessary for the proper support of conduits or for conducting the conduit through the walls and floors. All horizontal conduit not underground or imbedded in concrete floors shall be supported on wall brackets or from the structure above.
 - B. Furnish and install all steel channels, wood blocking, etc., necessary to properly support lighting fixtures. Securely fasten channels and blocking.
 - C. This Contractor shall be responsible for the protection of sleeves and inserts while concrete is being poured.

DIVISION 16 - ELECTRICAL**SECTION 16.20: ELECTRICAL SERVICE SYSTEM**

1. Building Service Panels (use Square D, QO for all panels)
 - A. Install 200 amp service at 120/240 volts single phase. This is to be an Underground Service.
2. Construction Work Involving Building Electric Utilities
 - A. This Contractor shall provide temporary power boards (circuit breaker and GFI receptacles) sufficient in size and number of outlets as not to hinder construction. These temporary construction power panels are to be powered from existing service, new service, or alternate source provided and paid for by Electrical Contractor.

DIVISION 16 - ELECTRICAL**SECTION 16.25: GROUNDING SYSTEM**

1. Procedure
 - A. Ground all switch frames and all motor frames and starters.
 - B. Ground all outlets.
 - C. A separate Ground Conductor shall be used in each race way. The race way system shall not be used as the grounding conductor.
 - D. Ground and Neutral shall be bonded at the service entrance only. All other sub panels shall have separate neutrals and grounds.

- E. Grounding sub-panels to the water system is Not acceptable. Sub-panels shall be grounded to Service Ground.
- F. Water pipes shall be bonded to Service Entrance Grounding conductor.

DIVISION 16 - ELECTRICAL

SECTION 16.30: ELECTRICAL DISTRIBUTION SYSTEM

- 1. Panel Removals/Installations
 - A. Install one (1) 220 amp main breaker panel with 40 spaces.
- 2. Conduit Materials
 - A. All connections at motors and combustion controls shall be made with "Greenfield" type flexible conduit from outlet box to equipment, excepting that on certain indicated motors, use rubber covered chord from motor to outlet box and except that on motors outdoors use "Seal-Tite".
 - B. All other conduit up to and including 2" excepting service entrance conduit outside of the building, underground or in floor slabs, may be electric metallic tubing with suitable fittings.
 - C. All conduit up to and including 2" which is used for service entrance, conduit outside the building, underground or in floor slabs shall be heavy wall, hot dipped galvanized or Sherradized steel pipe with threaded connections. Threadless connectors may be used where permitted by Code.
 - D. All conduit 2 ½" and larger shall be heavy wall, hot dipped galvanized or Sherradized steel pipe with threaded connections. Threadless connectors may be used where permitted by Code.
- 3. Conduit Removals/Installation
 - A. Conduit may be exposed in the Mechanical Room.
 - B. All exposed conduit shall be run in neat symmetrical line parallel or at right angles to the walls of the rooms and shall be assembled with suitable approved conduit fittings.
 - C. Run all electrical conduit at least 6" clear of all water, waste and mechanical pipelines in such a manner as not to interfere with the proper installation of other mechanical or structural work.
 - D. All conduit joints shall be cut square, properly reamed, and made tight according to the best trade practices.

- E. Conduit 1 ¼" and larger shall terminate with two locknuts and a bushing with Bakelite insert. All other conduits shall terminate with two locknuts and one bushing.
- F. Contractor shall plug all conduits during construction with either wooden plugs or plastic "pennies" to keep conduit free of debris. All conduit shall be free of debris before wires are pulled.

DIVISION 16 - ELECTRICAL
SECTION 16.32: BRANCH CIRCUITS

- 1. Branch Lighting and Motor Panels
 - A. Panels shall be equipped with standard inverse current trip circuit breakers with ambient compensation.
 - B. The circuit breakers shall be trip indicating with the tripped position of the breaker handle midway between the ON and OFF position.
 - C. Provide two-pole and three-pole breakers as required. Do not use tie handles. No ½", twin, duplex or tandem breakers will be permitted.
 - D. Branch circuit wires are to be labeled with circuit number within two inches (2") of the end toward the circuit breaker and the end at the device or fixture. See directories inside panel doors, update to reflect changes from this project.
 - E. Circuit breakers used for switching light shall be rated as switch duty breakers.
- 2. Manual Starters as Disconnect Switches
 - A. Disconnect switches where required for motor equipment shall be Square D, Type M, integral horsepower manual starters with overload protection, in proper enclosure.
- 3. Lamps
 - A. Furnish and install lamps for all fixtures of the type and wattage as shown on the Drawings. Other incandescent lamps shall be standard inside frosted except as otherwise noted. Fluorescent lamp color shall match existing lamps and be of the energy saving type.
 - B. All lamps shall be General Electric Company, Sylvania, or Champion.
- 4. Lighting Fixtures

- A. Furnish and install new lighting fixtures for all outlets as indicated on the Drawings. Fixtures shall conform in every respect to the type and brands noted. Requests for substitutions must appear on the Proposal Form.
- B. All ballasts shall be CBM certified, ETL tested, Class P. In each classification, use ballast with the lowest available sound rating, highest available power factor. All ballasts for fluorescent shall be of the same make.
- C. All ballasts for exterior fixtures shall be rated for cold weather starting.

DIVISION 16 - ELECTRICAL
SECTION 16.34: WIRING DEVICES

1. Switches

- A. All local switches shall be Hubbell or Leviton, totally enclosed AC rated 120-277V., 20 amps, toggle switch, ivory handles and stainless steel cover plate.
- B. All switches for concealed work shall be installed in stamped steel boxes and for exposed work shall be install in cast aluminum alloy boxes.
- C. Where two or more switches occur at the same point, install a suitable gang box and cover plate to cover all the required switches.

2. Outlets

- A. All outlets, except as otherwise specified, shall consist of approved galvanized steel boxes, or pattern adapted to special requirements of each outlet, securely fastened in place in approved manner.
- B. Convenience outlets shall be Hubbell or Leviton, 20 ampere, 3 wire grounding type, ivory duplex receptacle, slotted screws and ivory colored covers.
- C. Ground Fault Interrupters. LEVITON 6599-I or approved equal, ivory colored plates interior and LEVITON 4990 plates exterior.

3. Telephone

- A. At each telephone location, provide single gang box with $\frac{3}{4}$ " EMT conduit riser inside wall and stubbed out above drop ceiling. Provide Bushing on stub end above ceiling.

4. Unused Openings

- A. Place blank covers over any unused openings.

DIVISION 16 - ELECTRICAL**SECTION 16.36: TESTS**

1. Procedure
 - A. Test all circuits as soon as the conductors have been installed and make final tests in the presence of the Engineer or Owner or their representative when complete.
 - B. If the circuits are not properly controlled at the time of testing, the necessary changes shall be made and the system tested again.
2. Inspection and Guarantee
 - A. Make available to the Owner copies of the Final Inspections and approval of the work by duly qualified legal authorities, and furnish Guarantee to the Owner that the work conforms to all requirements of the local public utility.

DIVISION 16 - ELECTRICAL**SECTION 16.43: SPECIAL SYSTEMS**

1. Motors and Equipment Wiring
 - A. Motor Wiring
 - (1) Electric motors required for the Mechanical System will be furnished and mounted by the Mechanical Contractor. In general, starters and relays, contactors, for these motors will be furnished by the Mechanical Contractor, starters for Air Handling Units are incorporated in each Air Handling Unit. Disconnects and power wiring by Electrical Contractor. Manual starters shall have thermal overloads. Mechanical Contractor will provide manual starters for cabinet unit heaters.
 - (2) Wiring of motors and starters shall be made by the Electrical Contractor. Mechanical contractor shall provide all the wiring diagrams required.
 - (3) Where Code calls for a disconnect switch in addition to or in place of a starter, and where such disconnect switch is not specifically called for in the Mechanical Specifications, then such disconnect switch shall be by the Electrical Contractor.
 - B. Temperature Control Wiring
 - (1) All temperature controls are to be provided and installed by Mechanical Contractor.

- (2) Electrical Contractor shall obtain diagrams from the Mechanical Trades and furnish all power wiring, including power wiring for control transformer required for control systems.

DIVISION 16 - ELECTRICAL

SECTION 16.44: TAGGING

1. Tagging

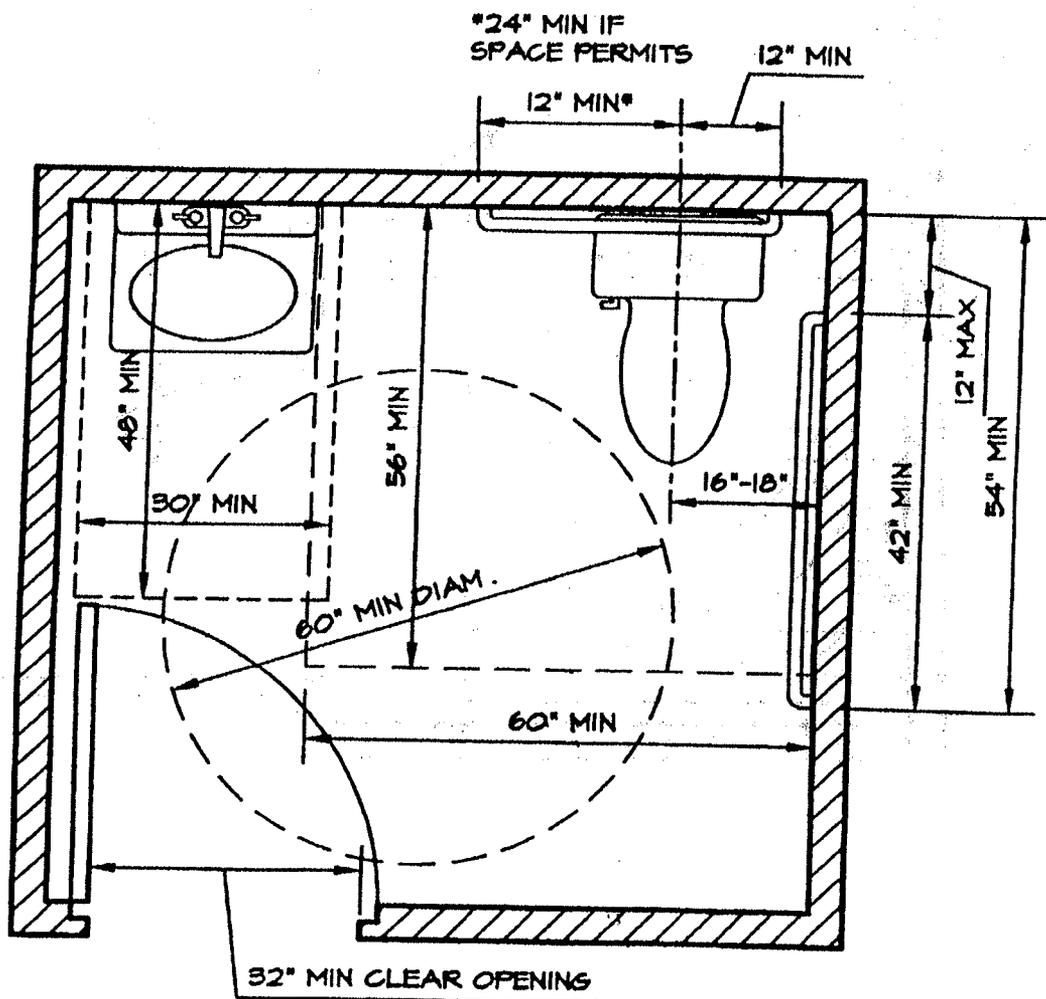
- A. Permanent tagging shall be completed before final payment will be made to the Electrical Contractor.
- B. The following shall be tagged with permanent, engraved plastic tags. Identification shall include circuit number, equipment or item number, a brief description of equipment, and location of service, or equipment serviced.
 - (1) Disconnects.
 - (2) Power Panels.
 - (3) Motor Starters.
 - (4) Pushbuttons and Control Stations
 - (5) Lighting and Distribution Panels (e.g. LP-C, Subfed from LP-B 28 & 30).
 - (6) Light Switches and Receptacles (e.g. C-38).

-- End --

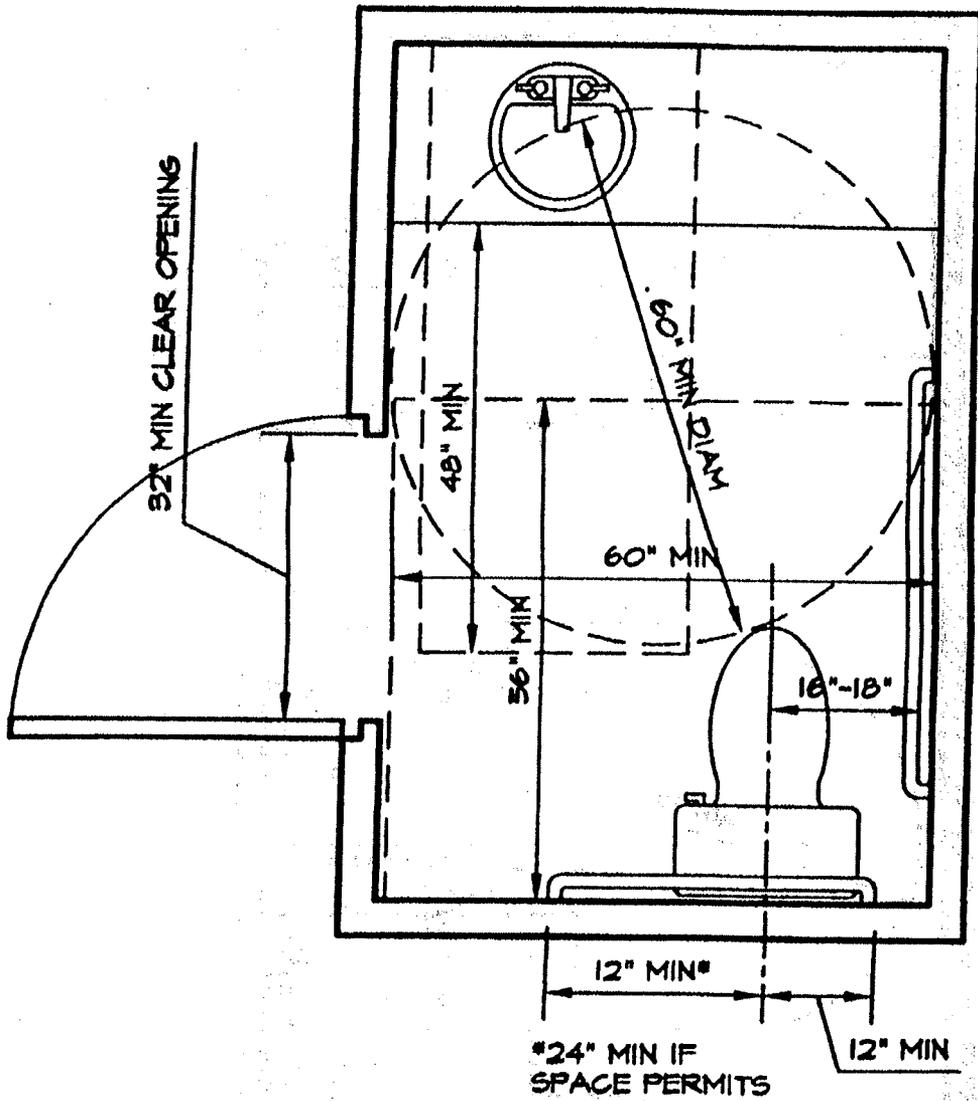
Appendix I

37

SAMPLE TOILET ROOMS



37 - Sample Toilet Rooms



37 – Sample Toilet Rooms

