Fort Leonard Wood

Final Work Plan

Construct Site Prep
For
Modular Clinic
January 2009

W91278-07-D-0059/0001

TABLE OF CONTENTS

PART I (SUMMARY)

Introduction

The objective of this document is to develop the necessary requirements specifically identified in Contract W91278-07-D-0059/0001, Modular Construction for Category 500 Medical Facilities, Work Plan-Construct Site Prep for Modular Clinic, General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

The Work Plan is provided as a single document with three separate tabbed components addressing (1) the overall contract/task order and all general requirements as Part I, (2) those specific requirements relating to the Site Work as Part II and (3) finally those specific requirements relating to the Modular Clinic (Option 1) as Part III. This will permit the government to approve the Part II site prep portion independently from the Part III modular clinic which currently is identified as Option 1 and has not been awarded.

A place holder identified in the table of contents as Work Plan Review Comments is included and will be used to address all review comments received to be recorded in the Final Work Plan Submittal.

Work Plan Review Comments

Following are the comments and responses from the Work Plan Review Process for Contract W91278-07-D-0059/0001, Modular Construction for Category 500 Medical Facilities, Work Plan-Construct Site Prep for Modular Clinic, General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

SUMMARY OF COMMENTS:

1. **MODULAR CLINIC GOVERNMENT APPROVED DRAWINGS**

   Signed Approved Drawings Included

2. **COLORS**

   Exterior

   - Roofing - Polar White
   - Guttering (mansard will have built-in gutters)
   - Mansard Boxed Trim – Light Stone
   - Walls - Light Stone
   - Downspouts - Light Stone
   - Doors - KOKO Brown
   - Bollards - KOKO Brown Interior
   - Wall Covering - Tasia Seamist, 6ML/54", 326110 OMNOVA VCT - #51858
   - Sandrift White Wall Base - Brown

3. **ELECTRICAL**

   - One (1) 600 AMP Main
   - Five (5) panels in the building at 120/240 Single Phase, 100 AMP.
   - The AIC rating is standard 10,000 at the MDP.
   - See Part III drawing pages A1 and E 1.1 for additional details.

FOLLOWING ARE COPIES OF THE WORK PLAN REVIEW COMMENT MESSAGES ADDRESSING THE ABOVE ISSUES.

GOVERNMENT APPROVED MODULAR CLINIC DRAWINGS

-----Original Message-----
From: Williams, Glen D Mr GLWACH
[mailto:Glen.Williams1@US.ARMY.MIL]
Sent: Wednesday, June 11, 2008 1:37 PM
To: Bill Beyers
Classification: UNCLASSIFIED
Caveats: NONE

Bill

We are approving the attached drawings as is with the exception that we want tile in the admin room shown on sheet A2 instead of carpeting.

Glen Williams
Electrical Engr Tech
EOC, Logistics
GLWACH
573 596-0484

NOTE:

GOVERNMENT APPROVED DRAWINGS are included in PART III (Work Plan - Modular Clinic) Drawings Section (Page 61).

EXTERIOR AND INTERIOR COLORS

-----Original Message-----
From: Williams, Glen D Mr GLWACH
[mailto:Glen.Williams1@US.ARMY.MIL]
Sent: Friday, June 20, 2008 4:40 PM
To: Batchelor, Mark L SAM
Cc: Douglas, Barry R Mr GLWACH; Bill Beyers;
Gann, David R Mr GLWACH
Subject: FW: CTMC Modular Clinic
(UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Mark

We are wanting the extrior and interior colors listed
below for the modular clinic.

Exterior
Roofing - Polar White
Guttering- Polar White
Walls - Light Stone
Doors - KOKO Brown
Bollards - KOKO Brown

Interior
Wall Covering - Tasia Seamist, 6ML/54", 326110
OMNOVA VCT - #51858
Sandrift White Wall Base - Brown

Glen Williams
Electrical Engr Tech
EOC, Logistics
GLWACH
573 596-0484

EXTERIOR AND INTERIOR COLORS
(Continued)

-----Original Message-----
From: Gann, David R Mr GLWACH
[mailto:David.Rayfield.Gann@us.army.mil]
Sent: Monday, July 14, 2008 10:50 AM
To: Williams, Glen D Mr GLWACH
Cc: Batchelor, Mark L SAM; Bill Beyers
Subject: RE: CTMC Modular Clinic
(UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Glen,

Spoke with Dan James about the color for the "mansard boxed trim" and downspouts and he stated to have make them the "Light Stone" color as the body.

David R. Gann
Project Manager
Health Facility Solutions/Contractor
Fort Leonard Wood, MO. 65473
(573)596-0131 Ext. 69710
Cell: (573)528-1511
david.gann1@amedd.army.mil

Couple of questions on the colors.

They have asked for Polar White for the "Roofing." Should we assume that this is the top mansard boxed trim that is covered with the steel siding?

Also, they have asked for Polar white gutters. The mansard will have built-in gutters, with the only visible part being the downspouts. Given that they have asked for Light Stone on the body, would it make sense toprovide Light Stone downspouts?

Dan McGinnis
Account Manager
(303) 801-1617 direct
(303) 726-4162 cell

MODULAR ELECTRICAL SERVICE REQUIREMENTS

-----Original Message-----
From: Bill Beyers [mailto:bbeyers@Meltechcorp.com]
Sent: Tuesday, March 25, 2008 5:01 PM
To: glenn.williams@amedd.army.mil
Cc: jacalyn.m.jenkins@sam.usace.army.mil; Batchelor, Mark L SAM; Braden, Roy E.; Steve Krishack
Subject: FW: Electrical Service Modular Clinic (UNCLASSIFIED)

Glen,
Finally received the electrical information. Please let me know if there is anything else.

MELTECH CORP., INC.

Bill Beyers
Sr. Project Manager

-----Original Message-----
From: McGinnis, Daniel J. [mailto:djmcginn@Willscot.com]
Sent: Tuesday, March 25, 2008 4:35 PM
To: Bill Beyers
Subject: RE: Electrical Service Modular Clinic (UNCLASSIFIED)

There are (5) panels in the building at 120/240 Single Phase, 100 AMP.
The AIC rating is standard 10,000 at the MDP.

See pages A1 and E1.1 (Drawing Sheets) for details.

Dan McGinnis
Williams Scotsman
Modular Buildings
(303) 663-4343 Phone
(303) 663-3925 Fax
(303) 726-4162 Cell
www.willscot.com

Project Location

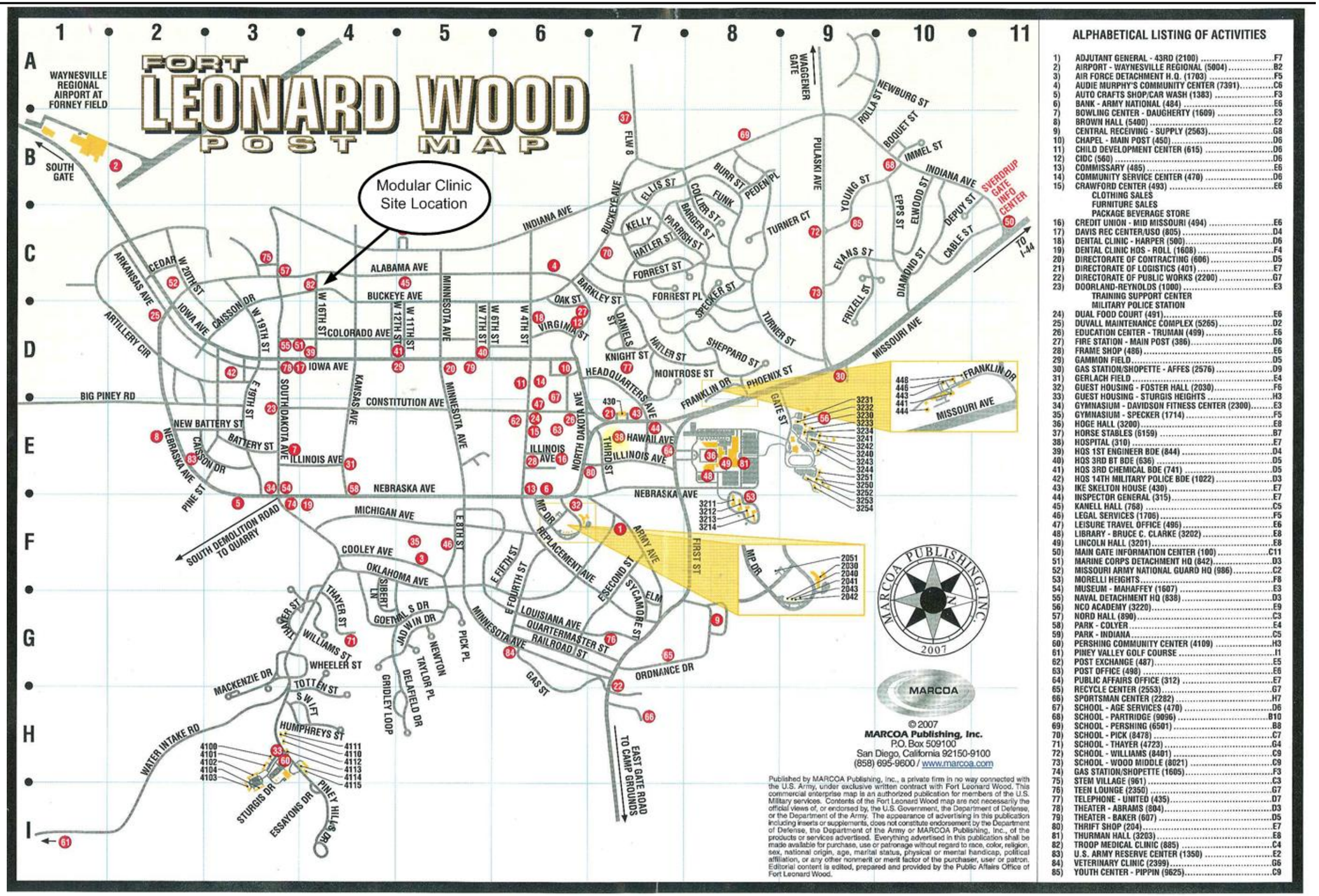
Fort Leonard Wood is located in Pulaski County, Missouri approximately 120 mile southwest of St Louis and is easily accessible from Interstate Highway 44. Bordering the installation to the north are the towns of Waynesville and St. Robert

Executive Summary (Brief Description of Work)

The project includes preparing a Work Plan and performing the required site prep for a 4800 sf (60' x 80') relocatable modular clinic for the General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri in accordance with all Fort Leonard Wood Regulations and all State and Federal codes and laws. The location is currently a parking lot approximate 45 ft wide and in excess of 150 ft in length at the intersection of W. 16th St. and Buckeye Ave. Building 885 is an existing Troop Medical Clinic that faces W. 16th St., with the proposed new modular clinic located across the street. For orientation, W. 16th St. runs between the existing clinic and the new clinic, Buckeye Ave is to the East and Alabama Ave is the road to the West of the project area. (See the location identified on the Fort Leonard Wood Post Map on the following Page)

The site preparation will require the installation of new sanitary sewer and water lines. The new lines will terminate at a point that will be 5 feet from the future modular clinic wall. The site work also includes all earthwork, erosion control, grading to ensure adequate storm drainage around the new clinic, replacement of curbs and pavement at the utility road crossings, and the appropriate reseeding and/or sod work. Traffic control and temporary road closures/permits will be obtained from the installation prior to commencement of work.

Base power is provided by a privately owned company that will install the Primary Service (Transformer) under their service contract. The secondary service lines between the transformer and the clinic will be part of the modular clinic construction with the actual connections made at the transformer station by the power company



ALPHABETICAL LISTING OF ACTIVITIES

Site Security & Access Requirements

Site security shall be in accordance with Ft Leonard Wood procedures. Currently access is unrestricted; a valid driver's license will provide sufficient documentation for entry. Entry to the Post for this project will be through the Sverdrup Gate along Missouri Avenue from the direction of I-44. Two weeks prior to construction the contractor will confirm the requirements and provide any necessary documentation necessary for base entry

Narrative Description of Work Required

Project

The project task order involves preparation of a Work Plan for site prep and for a future modular clinic and execution of all site prep requirements for the future clinic at Fort Leonard Wood, Missouri. The new clinic will be placed on an existing asphalt parking lot with the building's entrance lined up with the existing Troop Medical Clinic entrance directly across the street (W 16th Street). Part I of the work Plan provides the overall requirements that are used and must be met to develop the details for both the Site Prep (Part II) and the future Modular Clinic (Part III).

Site Prep

Part II addresses the site preparation work that will require the installation of new sanitary sewer and water lines. The new utility lines will terminate at a point that will be 5 feet from the future modular clinic wall. Existing water lines run along both Alabama and Buckeye Avenues. For this project, the new water line will cross Buckeye Avenue and connect to the existing line east of the new clinic. The sewer line connection manhole (existing 8 inch line, approximately 9 ft deep) is across Alabama Avenue within a fenced military equipment parking area approximately 35 feet inside the fence line. No gas is available at the site, requiring heat for the new clinic to be electric. The site work also includes all earthwork, erosion control, grading to ensure adequate storm drainage around the new clinic, replacement of curbs and pavement at the utility road crossings, and the appropriate reseeding and/or sod work. Traffic control and temporary road closures/permits will be obtained from the installation prior to commencement of work. Base power is provided by a privately owned company that will install the Primary Service (Transformer) under their service contract. The secondary service lines between the transformer and the clinic will be part of the modular clinic construction with the actual connections made at the transformer station by the power company.

Modular Clinic

Part III of this document addresses the detailed requirements for a future 4800 sf (60' x 80') relocateable modular clinic for the General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri in accordance with all Fort Leonard Wood Regulations and all State and Federal codes and laws that would be awarded at a later date and is identified as Option 1. This portion of the Work Plan consists of dimensioned floor plans for the future modular clinic indicating, room layout, power, communications, mechanical HVAC systems, plumbing, sewer and final connection to the base utility systems. The new clinic will not have a sprinkler or fire alarm system (See Part I – Addition design Guidance, Contracting officer Clarifications). Prior to the relocatable clinic being installed/assembled on site, the new sanitary sewer and water lines will have been constructed to within the 5 foot line of the proposed new modular Clinic under a Site Preparation Task Order and will require the final connection at the clinic. The electrical secondary service lines between the transformer and the clinic will be part of this modular clinic with the actual connections made at the transformer station by the power company.

Modification 02 was also awarded that required that 25 pair of 24 gauge exterior type Cat 3 copper cable and 6 strand 62.5 micron single mode exterior type fiber be installed between B-885 and the new modular clinic.

Work Schedule

Prior to any work being performed on site, a pre-construction and pre-installation meeting will be scheduled with the Facility Manager and MEDCOM Support Team. Project Schedules are provide as described below:

1. See PART II for Site Prep Project Schedule
2. See PART III for Modular Clinic (Option 1) and Modification 02 (Communications) combined Project Schedule

Drawings

Drawings for Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri are provided in the Drawing Sections of the Work Plan that specifically addresses the Site Prep and the Relocatable Modular Clinic.

Site Prep Drawings are provided in Part II. (See Part II, Work Plan – Site Prep, Drawings Section)

Relocatable Modular Clinic Drawings are provided in Part III. (See Part III, Work Plan – Modular Clinic, Drawings Section)

Construction Standards

Site Prep

The Site Prep General Notes on Leo A. Daly Drawing Number C-2, Titled, Site Renewal and Layout Plans address both the Engineering and Construction Requirements. (See Part II, Work Plan – Site Prep, Drawings Section)

Modular Clinic

The Modular Clinic Specifications are provided in a table format on the AMTEX Drawing Number A-1 Titled Cover Sheet / Specifications. (See Part III, Work Plan - Modular Clinic, Drawings Section)

Exterior Closure and Interior Finish Requirements for the Modular Clinic will follow the Guidelines in Part III. (See Part III, Work Plan - Modular Clinic, Construction Standards Section)

Engineering Calculations and Analysis

Site Prep

The Site Prep General Notes on Leo A. Daly Drawing Number C-2, Titled, Site Renewal and Layout Plans address both the Engineering and Construction Requirements. (See Part II, Work Plan – Site Prep, Drawings Section)

Modular Clinic

The Modular Clinic Specifications are provided in a table format on the AMTEX Drawing Number A-1 Titled Cover Sheet / Specifications. (See Part III, Work Plan - Modular Clinic, Drawings Section)

Building Envelope, Lighting and Mechanical Compliance Certificates for the Missouri region that includes Fort Leonard Wood are also provided in Part III. (See Part III, Work Plan - Modular Clinic, Engineering Calculations and Analysis Section)

Project Scope of Work

The following Guidance is attached that provides the basis for developing the Work Plan covering the Site Prep and the new Relocatable Modular Clinic (Option 1) for Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

- Original Scope of Work (23 May 2007)
- Additional Design Guidance
- Clarification from the Contracting Officer – Questions & Answers
- DPW Provided Contour and Utility Drawings
- Other Building Design Requirements
- Scope of Work Modifications
    - Modification 01 (3 December 2007)
    - Modification 02 (27 October 2008)

Original Scope of Work

Following is a copy of the original scope of work dated 23 May 2007 awarded with the task order.

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SCOPE OF WORK
MODULAR CONSTRUCTION FOR CATEGORY 500 MEDICAL FACILITIES
WORK PLAN-CONSTRUCT SITE PREP FOR MODULAR CLINIC
GENERAL LEONARD WOOD ARMY COMMUNITY HOSPITAL
FORT LEONARD WOOD, MISSOURI
23 May 2007

1.0 TASK ORDER SUMMARY

1.1 Work Plan-Construct Site Prep for Modular Clinic at General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

2.0 DESCRIPTION

2.1 Description of Work: The objective of this project is for the Contractor to provide all labor and materials necessary to prepare a Work Plan and perform the required site prep for a future modular clinic at the facility in accordance with all installation, State and Federal codes and laws, and the Relocateable (4800 sf).ppt floor plans/documents referenced in paragraph 6.0 below.

2.1.1 The Work Plan shall consist of detailed dimensioned floor plans for the future modular clinic indicating, but not limited to, room layout, power, communications, Fire Alarm, mechanical HVAC systems, plumbing, sewer and sprinkler systems. Also included in the Work Plan shall be detailed drawings and specifications with all construction details required for site preparation to receive the future modular clinic to include, but not limited to, grading and all required utilities to support the modular clinic.

2.1.2 Option 1 – Furnish, deliver, set up and connect to all utilities for the modular clinic in accordance with the Final approved Work Plan.

2.1.3 The Work Plan, furnish, delivery, set up and connection to all utilities for the modular clinic portion of the Task Order is classified as Service. The site prep portion is classified as Construction.

2.2. Work Plan Requirements. The Work Plan shall be in accordance with the primary contract Work Plan (DID05).

2.2.1. A final copy of the Work Plan must be approved by the government prior to beginning any Repair work.

2.2.2. Work Plan Submittal Requirements.

2.2.2.1. Interim Work Plan Submittal. In accordance with the task order schedule below the

Contractor shall submit a Interim (60% complete) Work Plan submittal in hard copy and electronic format.

2.2.2.2. Interim Work Plan Submittal Government Review and Comment. The government will review and provide written comments on the Preliminary Final Work Plan submittal. Subsequently, the contractor shall reply with a formal response to the government indicating the intended disposition of each comment. Accepted comments shall become a part of the scope and repair requirements.

2.2.2.3. Preliminary Final Work Plan Submittal. In accordance with the task order schedule below the Contractor shall submit a Preliminary (95% complete) Work Plan submittal in hard copy and electronic format.

2.2.2.4. Preliminary Final Work Plan Submittal Government Review and Comment. The government will review and provide written comments on the Preliminary Final Work Plan submittal. Subsequently, the contractor shall reply with a formal response to the government indicating the intended disposition of each comment. Accepted comments shall become a part of the scope and repair requirements.

2.2.2.5. Final Work Plan Submittal. In accordance with the task order schedule below the Contractor shall submit a Preliminary (95% complete) Work Plan submittal in hard copy and electronic format.

2.2.2.6. Government Back-check Review and Comment. Following receipt of the 100% submittal the government will complete a final Back-check Review to insure that all comments from the previous review have been satisfactorily incorporated. If necessary, the government will identify previous comments that may not have been satisfactorily incorporated into the final Work Plan. Accepted comments shall become a part of the scope and construction/installation effort.

2.2.2.7. Government Approved Work Plan Submittals. The approval of submittals by the government shall not be construed as a complete check, but will indicate only that the Work Plan is in conformance with the task order requirements. Approval will not relieve the Contractor of the responsibility for any error that may exist, as the Contractor is responsible for the Work Plan and all Repair work.

2.3. Site prep for the installation of the future modular clinic be in accordance with the government approved final Work Plan.

2.4. Technical Criteria: Technical criteria for all the above-described work shall be as defined in the contract.

2.5 Technical Point of Contact is the MEDCOM Support Team, Larry T. Miniard, U.S. Army

Corps of Engineers, Mobile, AL, (251) 690-3494, cell phone (251) 604-0240. Facility point of contact is Mr. Barry Douglas, Leonard Wood Hospital, Fort Leonard Wood, Missouri, (573) 596-0484.

3.0 SERVICES TO BE PERFORMED: Services listed shall be in accordance with the primary contract except as amended herein.

3.1 Site Visit: The Contractor shall be allowed to visit the site to investigate and verify the accuracy of the drawings provided.

3.2 Price Proposal: The contractor shall submit a Price Proposal in accordance with the generic Price Proposals (DID09) defined in the primary contract.

3.3 Construction Action: The Contractor shall prepare the site and install all utilities required for the support of the modular clinic as indicated on the Work Plan documents.

3.3.1 If Option 1 is exercised, the contractor shall furnish, deliver, set up and connect to all utilities the modular clinic in accordance with the Final approved Work Plan.

3.4 Payment estimate shall be signed by facility manager prior to payment.

4.0 SITE SECURITY AND SAFETY: Site security shall be in accordance with primary contract and/or as further defined/instructed by the Contracting Officer. Site safety shall be in accordance with the primary contract and the approved site safety and health plan as modified by the project adapted site safety and health plan.

5.0 DOCUMENT SCHEDULE

5.1 Activities (Deliverable) All activities required by this task order shall be completed no later than XXX days after NTP.

5.1.1 Work Plan-Construct Site Prep for Modular Clinic Schedule

Deliverable	Due Date
Interim (60%) Work Plan Submittal	XX days after NTP
Government Comments on Interim Work Plan	XX days after NTP
Preliminary (95%) Work Plan Submittal	XX days after NTP
Government Comments on Preliminary Work Plan	XX days after NTP
Final Work Plan Submittal	XX days after NTP
Government Back Check Review	XX days after NTP
Begin Construction Effort	Not later than 30 Dec 2007
Task Order Closeout	XX days after NTP

5.1.2 Provide As-Built drawings for the site prep and modular clinic in electronic form, Autodesk ® AutoCAD® format. Close out documents shall be as indicated below.

a. The Contractor shall provide a record that the required closeout documentation has been submitted and accepted by the Government in accordance with this contract and the project task order. The Contractor shall submit along with the final request for payment, an acknowledgement of receipt listing all required closeout documents, signed and dated by the Contracting Officer's Representative.

b. Required close-out documentation includes, but is not limited to, signed certification of completion, project as-built/final drawings, an electronic copy and a hard copy of the completed DD Form 1354 (Criteria for Transfer and Acceptance of Military Real Property) – prepared in accordance with UFC 1-900-02, equipment and construction warranties, commissioning plan and reports (s), training program and required documentation, identification of standard equipment and service organizations, O&M manuals, monthly progress reports, any remaining QC reports, and certification(s) of computer media and electronic devices. All submittal documentation shall include, but not be limited to, the date the submittal was provided to the Government, the associated transmittal number, and the date the submittal was approved by the Government.

c. Unless otherwise specified in the task order, as-built drawings and the above documentation shall be submitted to the Government not later than forty-five (45) days after substantial completion of the work effort. Final acceptance and close-out documentation shall be submitted and approved before final payment will be given for any project.

5.1.2.1 Each Work Plan submittal set of documents shown in 5.1.1 above shall be supplied in bound binders with 8½" x 11" sheets and a full size set of drawings. In addition, a final copy of the approved Work Plan documents and drawings shall be supplied on CD in PDF format, and an addition CD supplied with a copy of the drawings in Autodesk ® AutoCAD® format.

5.1.3 The Contractor shall perform the requirements of the Presite Meeting Checklist, Precon Meeting Checklist and supply the information required by the MEDCOM Weekly Report Template referenced in paragraph 6.0 below. Instructions on completing the MEDCOM Weekly Report Template are also included at the ftp site.

5.2 Presentations and meetings (Review): A pre-construction and pre-installation meeting will be scheduled with the Facility Manager and MEDCOM Support Team, on a date to be determined by the Contracting Officer.

5 .3 SUBMITTAL LIST

The Contractor shall submit the indicated number of copies of all deliverable listed in Paragraph

5.1 to the following agencies:

Agencies	Number Of Copies

a. MEDCOM Support Team.....2
U.S. Army Corps of Engineers-Mobile
ATTN: CESAM-EN-DE (Mr. Larry T. Miniard)
109 St. Joseph Street
Mobile, Alabama 36602
1-800-543-2031

b. Facility Point of Contact.....2
Facility Manager
ATTN: Mr. Barry Douglas
General Leonard Wood Army Community Hospital
Fort Leonard Wood, Missouri 65473-8922
(573) 596-0484

6.0 ENCLOSURE: Relocateable (4800 sf).ppt, MEDCOM Weekly Report Template.xls (with 10 Weekly Reporting Instructions.ppt and 00 Weekly 1 Page Instructions.ppt), Presite Meeting Checklist.doc and Precon Meeting Checklist.doc are located at:

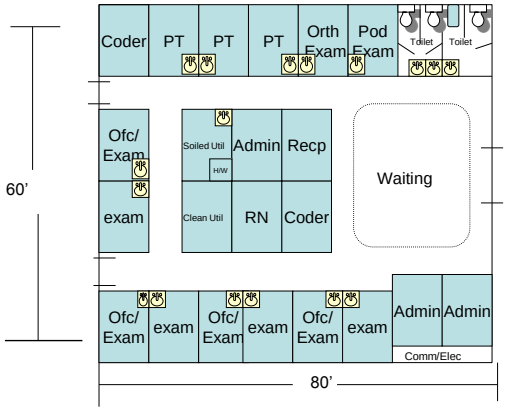
ftp://155.82.160.103/Fort%20Leonard%20Wood/Work%20Plan-Construct-Install%20Modular%20Clinic/

If the link does not take you to the site please cut and paste into Internet Explorer address bar.

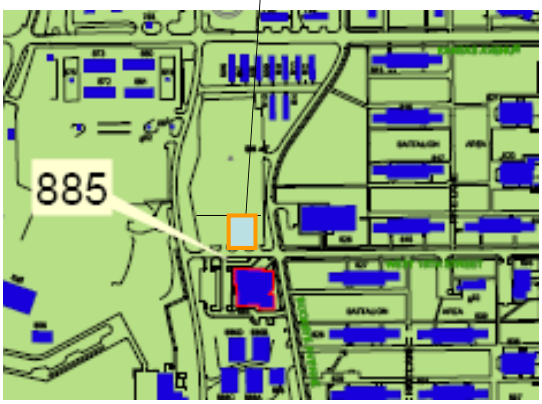
The site requires a Username and password to access.
The username and password is:
Username: k5medcom
Password: Med99com-= (case sensitive, 10 digits, the last 2 are dash, equal)

Additional Design Guidance

The following information was provided via the government ftp site. (Relocatable (4800 sf).ppt (see paragraph 6 of the SOW)



Location



Coordination with DPW

- Transformer to be set on southeast corner by Laclede Electric.
- Plan for 208/120 3 Phase 300-400 Amps
- Plan for sinks as indicated on drawing, plus one drinking fountain.
- Sewer line must go across Alabama Ave. The one the CTMC is tied into is too small.
- Ensure that all electric is in accordance with Article 517.13

Clarification from the Contracting Officer – Questions & Answers

Summary of Contracting Officer Clarifications requested by Meltech Corporation: (Responses provided in messages dated 12 & 15 June 2007)

1. Site work to be performed only includes bringing the utilities to the site (water and sanitary sewer)? Transformer and electrical primary power are the responsibility of the power company and not funded or included under this SOW?

A: Yes to both questions but please include bringing data/phone to the site.

2. Site work does not include any modular clinic foundation work?

A: The change in scope dated 23 May 2007 ask for an Option 1 price for "Furnish, deliver, set up and connect to all utilities for the modular clinic in accordance with the Final approved Work Plan." This would include modular clinic foundation work.

3. Codes would not require the building to have a sprinkler system installed. Is there a base/installation requirement that would require the sprinkler system?

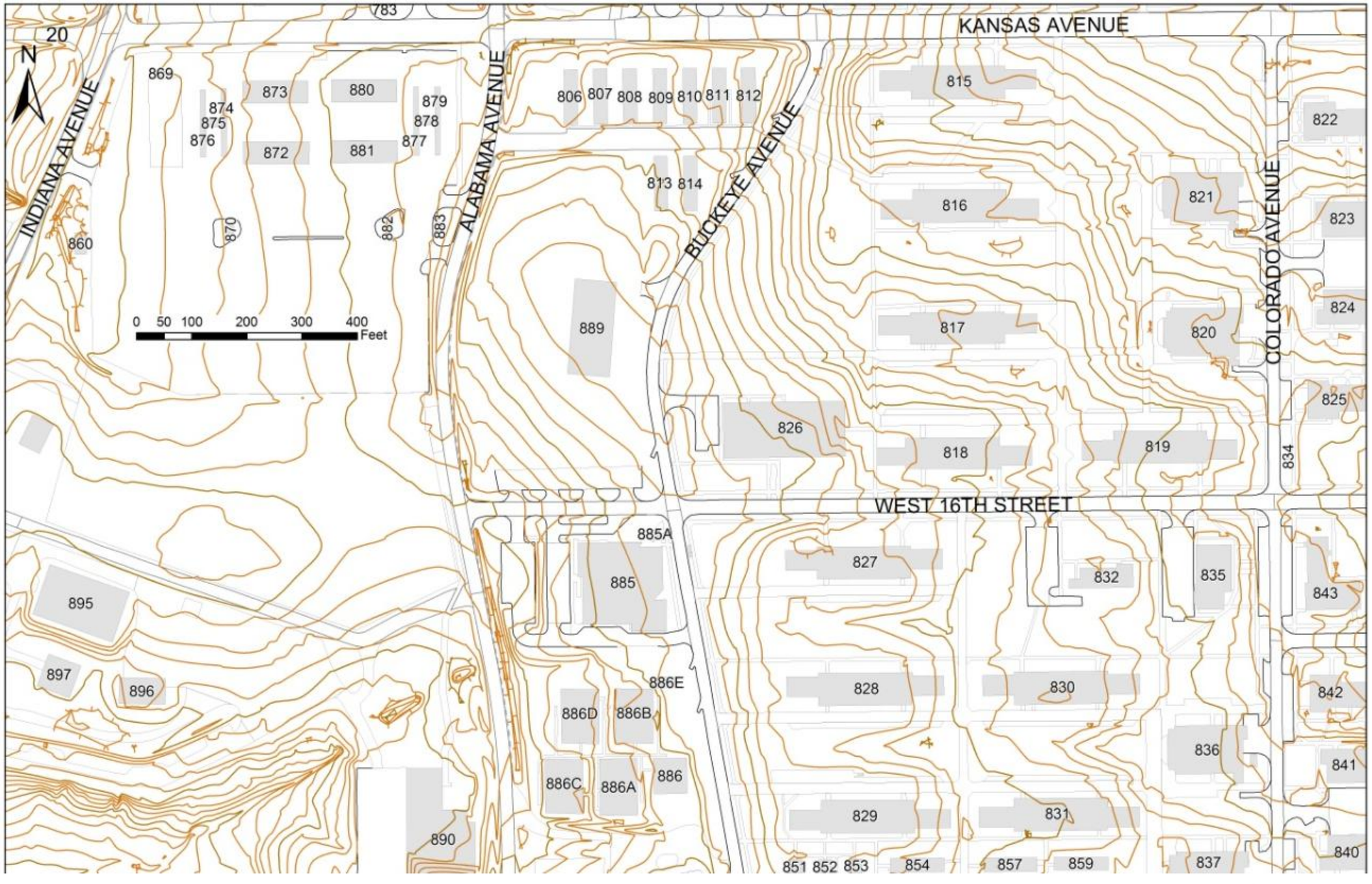
A; Fire Department comment: Not required per NFPA 101 section 38.3.5 for Business occupancy and IBC 903.

4. Is a fire alarm system required? (site personnel recommended a Monaco transmitter and mass notification).

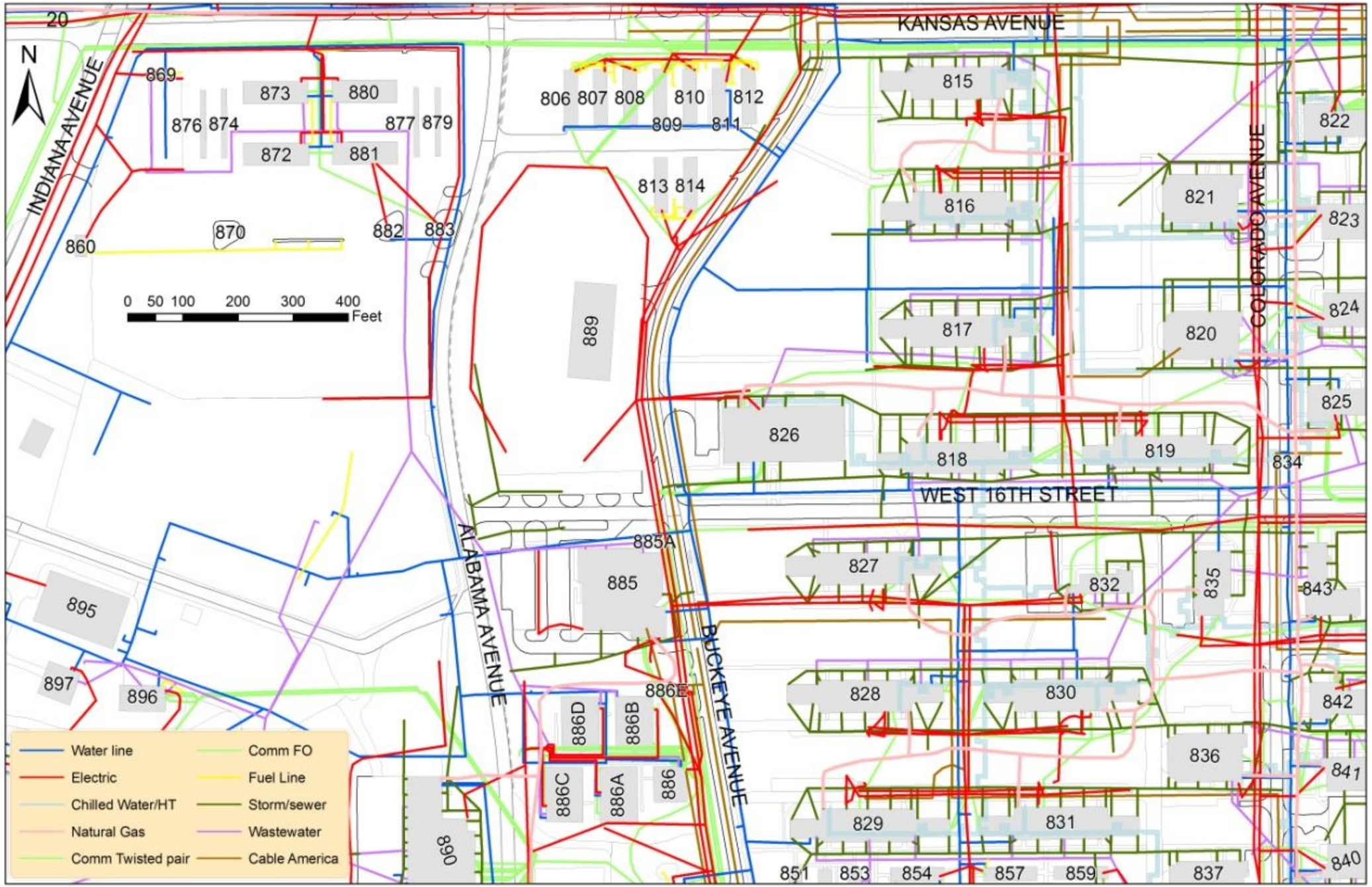
A: Fire Department comment: Not required per NFPA 101 section 38.3.4.1 for Business occupancy and IBC 907.2.2. If clinic has high dollar equipment, would recommend installing.

DPW Provided Contour and Utility Drawings

Contour and utility drawings provided by the Fort Leonard Wood DPW are on the next two sheets.



Contour Drawings



Utility Drawings

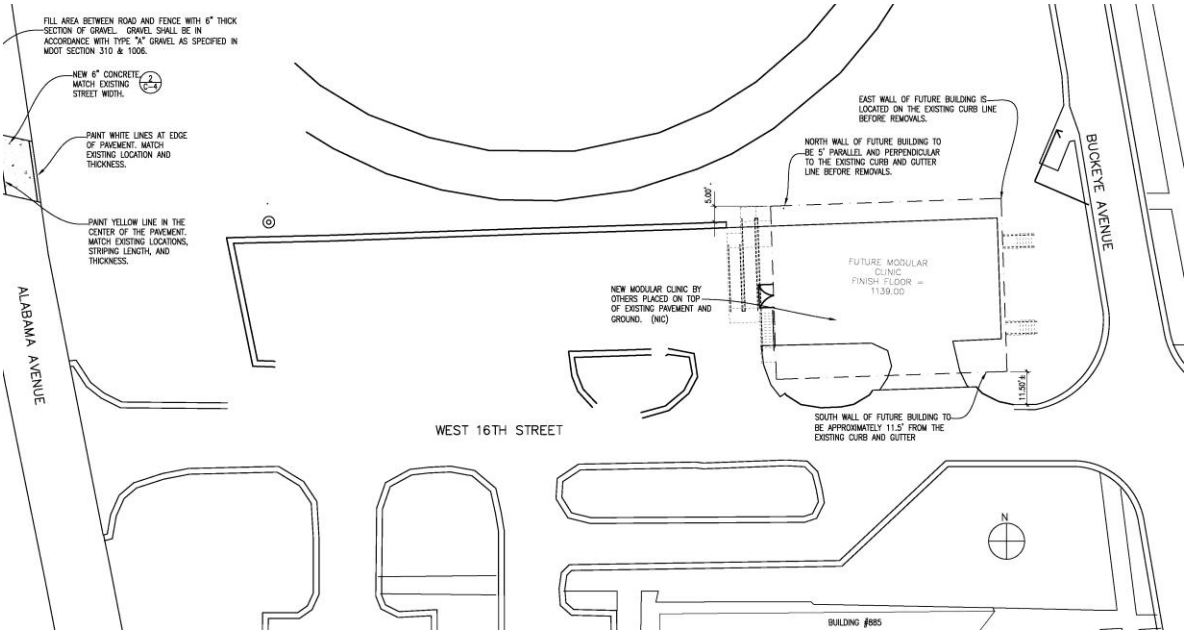
Other Building Design Requirements

Design to meet codes NFPA, ADA etc.

Exact location – The 80ft x 60ft Modular Clinic will be placed on the East end of the existing parking lot adjacent to West 16th Street, near the intersection of West 16th Street and Buckeye Avenue.

Clinic Orientation – The 80ft dimension of the clinic will be parallel to West 16th Street and the entrance will face West towards Alabama Avenue.

Location and Orientation as shown below:



Project Scope of Work Modifications

The following Modifications are attached that provides the basis for developing the Final Work Plan covering the Site Prep and the new future Relocatable Modular Clinic (Option 1) for Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

Scope of Work Modifications

Scope of Work – Modification 01 (3 December 2007)

Scope of Work – Modification 02 (27 October 2008)

Modification 01

Following is a copy of the scope of work for Modification 01 dated 3 December 2007.

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SCOPE OF WORK
MODULAR CONSTRUCTION FOR CATEGORY 500 MEDICAL FACILITIES
WORK PLAN-CONSTRUCT SITE PREP FOR MODULAR CLINIC
GENERAL LEONARD WOOD ARMY COMMUNITY HOSPITAL
FORT LEONARD WOOD, MISSOURI
3 December 2007

1.0 TASK ORDER SUMMARY

1.1 Work Plan-Construct Site Prep for Modular Clinic at General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

2.0 DESCRIPTION

2.1 Description of Work: The objective of this project is for the Contractor to provide all labor and materials necessary to prepare a Work Plan and perform the required site prep for a future modular clinic at the facility in accordance with all installation, State and Federal codes and laws, and the Relocateable (4800 sf).ppt floor plans/documents referenced in paragraph 6.0 below.

2.1.1 The Work Plan shall consist of detailed dimensioned floor plans for the future modular clinic indicating, but not limited to, room layout, power, communications, Fire Alarm, mechanical HVAC systems, plumbing, sewer and sprinkler systems. Also included in the Work Plan shall be detailed drawings and specifications with all construction details required for site preparation to receive the future modular clinic to include, but not limited to, grading and all required utilities to support the modular clinic.

2.1.2 Option 1 – Furnish, deliver, set up and connect to all utilities for the modular clinic in accordance with the Final approved Work Plan.

2.1.3 The Work Plan, furnish, delivery, set up and connection to all utilities for the modular clinic portion of the Task Order is classified as Service. The site prep portion is classified as Construction.

2.2. Work Plan Requirements. The Work Plan shall be in accordance with the primary contract Work Plan (DID05).

2.2.1. A final copy of the Work Plan must be approved by the government prior to beginning any Repair work.

~~*** 2.2.2. Interim Work Plan Submittal. In accordance with the task order schedule below the Contractor shall submit a Interim (60% complete) Work Plan submittal in hard copy and electronic format. ***~~

2.2.3. Work Plan Submittal Requirements.

2.2.3.1. Final Work Plan Submittal. In accordance with the task order schedule below the Contractor shall submit a Final Work Plan submittal in **hard copy** and electronic format.

2.2.3.2. Government Back-check Review and Comment. Following receipt of the 100% submittal the government will complete a final Back-check Review to insure that all comments from the previous review have been satisfactorily incorporated. If necessary, the government will identify previous comments that may not have been satisfactorily incorporated into the final Work Plan. Accepted comments shall become a part of the scope and construction/installation effort.

2.2.3.3. Government Approved Work Plan Submittals. The approval of submittals by the government shall not be construed as a complete check, but will indicate only that the Work Plan is in conformance with the task order requirements. Approval will not relieve the Contractor of the responsibility for any error that may exist, as the Contractor is responsible for the Work Plan and all Repair work.

2.3. Site prep for the installation of the future modular clinic be in accordance with the government approved final Work Plan.

2.4. Technical Criteria: Technical criteria for all the above-described work shall be as defined in the contract.

2.5 Technical Point of Contact is the MEDCOM Support Team, Mark Batchelor, U.S. Army Corps of Engineers, Mobile, AL, (251) 694-3646, cell phone (251) 604-0240. Facility point of contact is Mr. Barry Douglas, Leonard Wood Hospital, Fort Leonard Wood, Missouri, (573) 596-0484.

3.0 SERVICES TO BE PERFORMED: Services listed shall be in accordance with the primary contract except as amended herein.

3.1 Site Visit: The Contractor shall be allowed to visit the site to investigate and verify the accuracy of the drawings provided.

3.2 Price Proposal: The contractor shall submit a Price Proposal in accordance with the generic Price Proposals (DID09) defined in the primary contract.

3.3 Construction Action: The Contractor shall prepare the site and install all utilities required for the support of the modular clinic as indicated on the Work Plan documents.

3.3.1 If Option 1 is exercised, the contractor shall furnish, deliver, set up and connect to all utilities the modular clinic in accordance with the Final approved Work Plan.

3.4 Payment estimate shall be signed by facility manager prior to payment.

4.0 SITE SECURITY AND SAFETY: Site security shall be in accordance with primary contract and/or as further defined/instructed by the Contracting Officer. Site safety shall be in accordance with the primary contract and the approved site safety and health plan as modified by the project adapted site safety and health plan.

5.0 DOCUMENT SCHEDULE

5.1 Activities (Deliverable) All activities required by this task order shall be completed no later than 120 days after NTP.

*** 5.1.1 Work Plan-Construct Site Prep for Modular Clinic Schedule

Deliverable	Due Date	
Final Work Plan Submittal (Site Prep)	30 days after NTP	
Final Work Plan Submittal (Modular Construct)	60 days after NTP	
Government Back Check Review	40 days after NTP	
Begin Construction Effort	Not later than 30 Dec 2007	
Task Order Closeout	NLT 15 Feb 08	***

5.1.2 Provide As-Built drawings for the site prep and modular clinic in electronic form, Autodesk ® AutoCAD® format. Close out documents shall be as indicated below.

a. The Contractor shall provide a record that the required closeout documentation has been submitted and accepted by the Government in accordance with this contract and the project task order. The Contractor shall submit along with the final request for payment, an acknowledgement of receipt listing all required closeout documents, signed and dated by the Contracting Officer's Representative.

b. Required close-out documentation includes, but is not limited to, signed certification of completion, project as-built/final drawings, an electronic copy and a hard copy of the completed DD Form 1354 (Criteria for Transfer and Acceptance of Military Real Property) – prepared in accordance with UFC 1-900-02, equipment and construction warranties, commissioning plan and reports (s), training program and required documentation, identification of standard equipment and service organizations, O&M manuals, monthly progress reports, any remaining QC reports, and certification(s) of computer media and electronic devices. All submittal documentation shall include, but not be limited to, the date the submittal was provided

to the Government, the associated transmittal number, and the date the submittal was approved by the Government.

c. Unless otherwise specified in the task order, as-built drawings and the above documentation shall be submitted to the Government not later than forty-five (45) days after substantial completion of the work effort. Final acceptance and close-out documentation shall be submitted and approved before final payment will be given for any project.

5.1.2.1 Each Work Plan submittal set of documents shown in 5.1.1 above shall be supplied in bound binders with 8½" x 11" sheets and a full size set of drawings. In addition, a final copy of the approved Work Plan documents and drawings shall be supplied on CD in PDF format, and an addition CD supplied with a copy of the drawings in Autodesk ® AutoCAD® format.

5.1.3 The Contractor shall perform the requirements of the Presite Meeting Checklist, Precon Meeting Checklist and supply the information required by the MEDCOM Weekly Report Template referenced in paragraph 6.0 below. Instructions on completing the MEDCOM Weekly Report Template are also included at the ftp site.

5.2 Presentations and meetings (Review): A pre-construction and pre-installation meeting will be scheduled with the Facility Manager and MEDCOM Support Team, on a date to be determined by the Contracting Officer.

5 .3 SUBMITTAL LIST

The Contractor shall submit the indicated number of copies of all deliverable listed in Paragraph 5.1 to the following agencies:

	Agencies	Number of Copies	
***	a. MEDCOM Support Team	1	***

U.S. Army Corps of Engineers-Mobile
ATTN: CESAM-EN-DE (Mr. Mark Batchelor)
109 St. Joseph Street
Mobile, Alabama 36602
251-694-3646

b. Facility Point of Contact.....2
Facility Manager
ATTN: Mr. Barry Douglas
General Leonard Wood Army Community Hospital
Fort Leonard Wood, Missouri 65473-8922
(573) 596-0484

6.0 ENCLOSURE: Relocateable (4800 sf).ppt, MEDCOM Weekly Report Template.xls (with 10 Weekly Reporting Instructions.ppt and 00 Weekly 1 Page Instructions.ppt), Presite Meeting Checklist.doc and Precon Meeting Checklist.doc are located at:

ftp://155.82.160.103/Fort%20Leonard%20Wood/Work%20Plan-Construct-Install%20Modular%20Clinic/

If the link does not take you to the site please cut and paste into Internet Explorer address bar.

The site requires a Username and password to access.
The username and password is:
Username: k5medcom
Password: Med99com-= (case sensitive, 10 digits, the last 2 are dash, equal)

Modification 02

Following is a copy of the scope of work for Modification 02 dated 27 October 2008.

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SCOPE OF WORK
MODULAR CONSTRUCTION FOR CATEGORY 500 MEDICAL FACILITIES
WORK PLAN-CONSTRUCT SITE PREP FOR MODULAR CLINIC
GENERAL LEONARD WOOD ARMY COMMUNITY HOSPITAL
FORT LEONARD WOOD, MISSOURI
27 October 2008

1.0 TASK ORDER SUMMARY

1.1 Work Plan-Construct Site Prep for Modular Clinic at General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

2.0 DESCRIPTION

2.1 Description of Work: The objective of this project is for the Contractor to provide all labor and materials necessary to prepare a Work Plan and perform the required site prep for a future modular clinic at the facility in accordance with all installation, State and Federal codes and laws, and the Relocateable (4800 sf).ppt floor plans/documents referenced in paragraph 6.0 below.

2.1.1 The Work Plan shall consist of detailed dimensioned floor plans for the future modular clinic indicating, but not limited to, room layout, power, communications, Fire Alarm, mechanical HVAC systems, plumbing, sewer and sprinkler systems. Also included in the Work Plan shall be detailed drawings and specifications with all construction details required for site preparation to receive the future modular clinic to include, but not limited to, grading and all required utilities to support the modular clinic.

2.1.2 Option 1 – Furnish, deliver, set up and connect to all utilities for the modular clinic in accordance with the Final approved Work Plan.

2.1.3 The Work Plan, furnish, delivery, set up and connection to all utilities for the modular clinic portion of the Task Order is classified as Service. The site prep portion is classified as Construction.

*** **2.1.4 The Contractor shall provide 25 pair of 24 gauge exterior type Cat 3 copper cable and 6 strand 62.5 micron single mode exterior type fiber between B-885 and the new modular clinic.**

1. **Routing for the 25 pair copper cable and 6 strand single mode fiber from the Comm Room of B-885 to the east exterior wall shall be via EMT conduit. A separate conduit shall be required for each of the required cables on the interior of B-885. Two properly sized weather heads shall be mounted on the east exterior wall of the mechanical room at B-885 and the cables shall be properly anchored to the exterior wall and an appropriate drip loop shall be provided for each cable.**

2. **The Contractor shall extend the copper and fiber cables overhead from B-885 to distribution power pole 6-80-215 (this will be a slack span), then north overhead to the Modular Clinic electrical service pole (6-80-203).**
3. **The copper cable and fiber optic cable shall extend down the service transformer power pole in separate riser pole conduits and extend underground (two separate underground conduits) to the northeast corner of the Modular Clinic.**
4. **The underground conduits/cabling shall come out above grade approximately 1' from the northeast corner of the Modular Clinic and shall be routed in conduits attached to the underneath side of the Modular Clinic to the communications room in the northwest corner of the building.**
5. **All above grade conduit shall be properly sized rigid galvanized steel conduit and all below grade conduit shall be PVC electrical conduit. All below grade conduit shall be installed at a minimum of 2' below finished grade to top of conduit. The required conduit that is to be attached to the underneath side of the Modular Clinic shall be EMT conduit.**
6. **A Communications/Fiber Optic warning tape shall be installed continuous at 1' above each respective underground conduit to indicate communications utilities cables exist at that underground location. The Contractor shall provide an appropriately sized messenger/support cable between distribution poles 6-80-203 and 6-80-215. The messenger /support cable shall be sagged to match existing cable TV line and shall be spaced at 9" below existing Cable TV line. The required copper cabling and fiber optic cabling shall be lashed to the messenger/support cable between poles 6-80-203 and 6-80-215.**
7. **The Contractor shall provide a properly sized backup down guy on poles 6-80-203 and 6-80-215 to provide appropriate support for the weight/tension of the cables between the inline distribution power poles.**
8. **The Contractor shall provide a 10' service loop in the communications room of B-885 and in the communications room of the Modular Clinic for each respective cable.**
9. **Terminations for all copper cable conductors and the all fiber optic cable conductors shall be made at the communications rack in the communications room of B-885 and on a communications rack in the Comm Room (northwest corner) of the Modular Clinic. The copper cable shall be terminated on each end by others. The fiber optic cables shall be pre- terminated on each end with ST type connectors.**
10. **The fiber optic terminations shall be tested after terminations with a TDR and the test results shall be in compliance with EIA/TIA 568B-B-3 Annex A and shall indicate less than 26dB return loss of signal. Return loss of signal greater than 26dB shall require correction of the problem and re testing will be required until a reading of less than 26dB can be achieved.**
11. **All copper cabling terminations shall be tested in accordance with EIA/TIA 568-B.2.**
12. **All testing shall be scheduled with the Government with a minimum of 72 hours advance notice.**

***

2.2. Work Plan Requirements. The Work Plan shall be in accordance with the primary contract Work Plan (DID05).

2.2.1. A final copy of the Work Plan must be approved by the government prior to beginning any Repair work.

2.2.3. Work Plan Submittal Requirements.

2.2.3.1. Final Work Plan Submittal. In accordance with the task order schedule below the Contractor shall submit a Final Work Plan submittal in hard copy and electronic format.

2.2.3.2. Government Back-check Review and Comment. Following receipt of the 100% submittal the government will complete a final Back-check Review to insure that all comments from the previous review have been satisfactorily incorporated. If necessary, the government will identify previous comments that may not have been satisfactorily incorporated into the final Work Plan. Accepted comments shall become a part of the scope and construction/installation effort.

2.2.3.3. Government Approved Work Plan Submittals. The approval of submittals by the government shall not be construed as a complete check, but will indicate only that the Work Plan is in conformance with the task order requirements. Approval will not relieve the Contractor of the responsibility for any error that may exist, as the Contractor is responsible for the Work Plan and all Repair work.

2.3. Site prep for the installation of the future modular clinic be in accordance with the government approved final Work Plan.

2.4. Technical Criteria: Technical criteria for all the above-described work shall be as defined in the contract.

2.5 Technical Point of Contact is the MEDCOM Support Team, Mark Batchelor, U.S. Army Corps of Engineers, Mobile, AL, (251) 694-3646, cell phone (251) 604-0240. Facility point of contact is Mr. Barry Douglas, Leonard Wood Hospital, Fort Leonard Wood, Missouri, (573) 596-0484.

3.0 SERVICES TO BE PERFORMED: Services listed shall be in accordance with the primary contract except as amended herein.

3.1 Site Visit: The Contractor shall be allowed to visit the site to investigate and verify the accuracy of the drawings provided.

3.2 Price Proposal: The contractor shall submit a Price Proposal in accordance with the generic Price Proposals (DID09) defined in the primary contract.

3.3 Construction Action: The Contractor shall prepare the site and install all utilities required for the support of the modular clinic as indicated on the Work Plan documents.

3.3.1 If Option 1 is exercised, the contractor shall furnish, deliver, set up and connect to all utilities the modular clinic in accordance with the Final approved Work Plan.

3.4 Payment estimate shall be signed by facility manager prior to payment.

4.0 SITE SECURITY AND SAFETY: Site security shall be in accordance with primary contract and/or as further defined/instructed by the Contracting Officer. Site safety shall be in accordance with the primary contract and the approved site safety and health plan as modified by the project adapted site safety and health plan.

5.0 DOCUMENT SCHEDULE

*** **5.1 Activities (Deliverable):**

5.1.1 Work Plan-Construct Site Prep for Modular Clinic Schedule

Deliverable	**Due Date**
Final Work Plan Submittal (Site Prep)	**30 days after NTP**
Final Work Plan Submittal (Modular Construct)	**90 days after NTP**
Government Back Check Review	**60 days after NTP**
Begin Construction Effort	**NLT 30 Dec 2007**
Task Order Closeout	**NLT 31 Jan 09** ***

5.1.2 Provide As-Built drawings for the site prep and modular clinic in electronic form, Autodesk ® AutoCAD® format. Close out documents shall be as indicated below.

a. The Contractor shall provide a record that the required closeout documentation has been submitted and accepted by the Government in accordance with this contract and the project task order. The Contractor shall submit along with the final request for payment, an acknowledgement of receipt listing all required closeout documents, signed and dated by the Contracting Officer's Representative.

b. Required close-out documentation includes, but is not limited to, signed certification of completion, project as-built/final drawings, an electronic copy and a hard copy of the completed DD Form 1354 (Criteria for Transfer and Acceptance of Military Real Property) – prepared in accordance with UFC 1-900-02, equipment and construction warranties,

commissioning plan and reports (s), training program and required documentation, identification of standard equipment and service organizations, O&M manuals, monthly progress reports, any remaining QC reports, and certification(s) of computer media and electronic devices. All submittal documentation shall include, but not be limited to, the date the submittal was provided to the Government, the associated transmittal number, and the date the submittal was approved by the Government.

c. Unless otherwise specified in the task order, as-built drawings and the above documentation shall be submitted to the Government not later than forty-five (45) days after substantial completion of the work effort. Final acceptance and close-out documentation shall be submitted and approved before final payment will be given for any project.

5.1.2.1 Each Work Plan submittal set of documents shown in 5.1.1 above shall be supplied in bound binders with 8½" x 11" sheets and a full size set of drawings. In addition, a final copy of the approved Work Plan documents and drawings shall be supplied on CD in PDF format, and an addition CD supplied with a copy of the drawings in Autodesk ® AutoCAD® format.

5.1.3 The Contractor shall perform the requirements of the Presite Meeting Checklist, Precon Meeting Checklist and supply the information required by the MEDCOM Weekly Report Template referenced in paragraph 6.0 below. Instructions on completing the MEDCOM Weekly Report Template are also included at the ftp site.

5.2 Presentations and meetings (Review): A pre-construction and pre-installation meeting will be scheduled with the Facility Manager and MEDCOM Support Team, on a date to be determined by the Contracting Officer.

5 .3 SUBMITTAL LIST

The Contractor shall submit the indicated number of copies of all deliverable listed in Paragraph 5.1 to the following agencies:

Agencies	Number of Copies
a. MEDCOM Support Team U.S. Army Corps of Engineers-Mobile ATTN: CESAM-EN-DE (Mr. Mark Batchelor) 109 St. Joseph Street Mobile, Alabama 36602 251-694-3646	1
b. Facility Point of Contact Facility Manager ATTN: Mr. Barry Douglas	2

General Leonard Wood Army Community Hospital
Fort Leonard Wood, Missouri 65473-8922
(573) 596-0484

6.0 ENCLOSURE: Relocateable (4800 sf).ppt, MEDCOM Weekly Report Template.xls (with 10 Weekly Reporting Instructions.ppt and 00 Weekly 1 Page Instructions.ppt), Presite Meeting Checklist.doc and Precon Meeting Checklist.doc are located at:

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If the link does not take you to the site please cut and paste into Internet Explorer address bar.

The site requires a Username and password to access.
The username and password is:
Username: k5medcom
Password: Med99com-= (case sensitive, 10 digits, the last 2 are dash, equal)

Catalog Cuts and Equipment Specifications

Manufacturer's data for the Modular Clinic Mechanical, Electrical, Restrooms and Exam Room Sinks are included in Part III. (See Part III, Work Plan - Modular Clinic, Catalog Cuts and Equipment Specifications Section)

Outline of Training

Training Requirements

Training of Facility Management and O&M support personnel is one of the final steps in the project. The contractor approach is to have qualified persons ensure that the appropriate facility personnel are trained in the Operation and Maintenance of the new contractor provided equipment and systems.

Training instruction will occur after the final acceptance tests to educate the operating staff about the systems. The training will cover system operation, preventive and corrective maintenance, and all information contained in the O&M Manuals. These sessions are to be hands-on and will include software and/or hardware instructions as deemed necessary. A training schedule shall be provided and include the following:

Contractual obligation to our client is to provide Training for Facility Personnel (ER-25-345-1) as part of the project close out requirements.

- Training for Facility Personnel
  - Training for Facility Personnel shall be given after the completion of the following:
    - The Startup of Equipment
    - O & M Material is delivered to the Facility
  - Project Manager shall schedule with the Facility Manager a date and classroom for training after equipment startup.
  - Project Manager shall schedule with subcontractors and/or equipment suppliers to have a manufacturer's technical representative for instruction in operations and maintenance of equipment after a date has been scheduled with the Facility Manager.
  - Facility Manager shall schedule the Facilities Maintenance Personnel for training after the date has been established.
  - Contractor shall develop the final specific Training Outline details.

Outline of O&M Documentation

O&M Requirements

The contractor will submit before final completion three copies of their Operations and Maintenance (O&M) equipment data for inclusion into a project O&M Manual. It is preferred that the manuals and data material be pre-punched for insertion into 3-ring binders. Manual information for all specified equipment and major components should have the following:

O&M Manual Outline

The Operation and Maintenance Manual shall contain the following information as listed below:

- Contractors and Vendors List
- Name of the Trade or Equipment
  - Name of Company for the Major Contractors or Equipment Suppliers
  - Street Address
  - Telephone and Fax Numbers
  - E-Mail Address (If Available)
  - Contact Person
- Master Equipment List (MEL)
  - Information obtained from the Equipment Nameplate
    - Equipment Manufacture's Name
    - Model Number
    - Serial Number
    - Capacity (Tons, MBH, BTU, CFM, GPM, KVA, KW …..)
- Warranty
  - Project Warranty Date:
    - One-year warranty is provided on all work performed and for equipment not covered by extended warranties. The Project Warranty Date begins at completion/turnover or when the

project is substantiality completed and beneficial use is obtained by the Owner. The Construction Manager will coordinate the Project Warranty Date based on project turnover dates with the Facility Manager.

- Major Equipment:
    - After the successful startup of the equipment, the Construction Manager shall coordinate/establish the equipment warranty date with the subcontractor, vendor and Facility Manager.
    - The appropriate warranty information must be provided for equipment with extended warranties,
- Equipment Section
    - Preventive Maintenance Schedule:
        - A matrix listing maintenance requirements and the frequency of maintenance will be provided. This data is extracted from the equipment manufacture's maintenance manual.
    - Shop Drawing or Submittal Data
        - Shop Drawings consist of drawings, diagrams, illustrations, schedules, performance charts, brochures and other appropriate information, which illustrate how specific equipment shall perform.
    - Installation, Operation and Maintenance Manual
        - Manufactures technical literature containing pertinent instructions for the installation, operation and maintenance of the equipment will be provided.
        - Five original copies of manufactures technical literature are required (FAX COPIES OF MATERIAL ARE NOT ACCEPTABLE).The

literature will include the appropriate instructions as listed below:

Safety Precautions
Operation Instructions
Emergency Operations
Lubrication Data
Preventive Maintenance Schedule and Procedures
Troubleshooting Guide and Diagnostics
Repair Procedures
Replacement Instructions
Wiring Diagrams
Spare Parts List
Testing Equipment
Special Tool Requirement

- Project Drawings
  - A copy of the Project's Drawings will be included in the O&M Manuals for informational purpose only (to show facility layout, location of equipment etc). Demolition drawings are not included in this set of drawings.
  - Record Drawings (As-Built) are provided when available.

Site Pictures

Following are a series of site pictures that provide a panorama view of the location for the Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

The photos in the following panorama file are taken from approximately the proposed center of the new Modular Clinic starting by facing the existing Troop Medical Clinic (Building 885) on W 16th Street and rotating clockwise towards Alabama Avenue, the temporary structures, Buckeye Avenue and ending again facing Building 885 on W 16th Street.

Facing South towards W. 16th Street and Troop Medical Clinic (Bldg 885)

Facing Southwest between Bldg 885 and Alabama Avenue (Parking lot vicinity of New Modular Clinic)

Facing West towards Alabama Avenue with view of Military Equipment Parking

Facing Northwest towards open area and temporary structures

Facing North towards open area and temporary structures

Facing Northeast with open area along Buckeye Avenue

Facing East towards Buckeye Avenue

Facing Southeast towards intersection of Buckeye Avenue and W. 16th Street

End - Again Facing North towards W. 16th Street and Troop Medical Clinic

Site Specific Health and Safety Plan

Following is the Site Specific Health and Safety Plan for Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

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Work Plan-Construct Site Preparation for Modular Clinic at General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri

Site Health and Safety Plan:

PREPARED BY: Charles Rossi, Gen Const Manager, (301)773-3450

APPROVED BY: Michael Bretz, Health and Safety Director, (301) 773-3450

CONCURRED BY: Stephan Krishack, Meltech Corporation, Inc., (301) 773-3450

Table of Contents

1. Signature Sheet

2. Background Information

2.a. Contractor

Meltech Corporation, Inc.
3321 75th Avenue, Suite G
Landover, MD 29785-1519

2.b. Contract Number

W91278-07-D-0059, Task Order 0001. The Task Order directs Meltech to complete a Work Plan and Site Preparation for a future modular clinic of approximately 4800 square feet at Ft. Leonard Wood, Missouri.

2.c. Project Name

Modular Medical Clinic, Fort Leonard Wood, Missouri. A diagram of the project site is shown at Attachment O "Project Location Plan," to this Site Health and Safety Plan (SHSP).

2.d. Meltech Corporation, Inc. Accident Experience/Corporate Safety Trend Analysis

2.d.(1) Meltech Corporation, Inc. is pro-active in establishing and promoting a safe work environment. Job site safety is a continuous concern that has the endorsement and support of all levels of management. Meltech Corporation, Inc. currently has an enviable safety record. Meltech remains current with the OSHA guidance and in accordance with 29 CFR Part 1904 and 29 CFR 1952, Section 1952.4 that became effective on January 1, 2002, the current recording keeping forms are included in this material at Attachment I.

2.e. Activity Hazard Analysis

2.e.(1) An Activity Hazard Analysis has been prepared for approval by the Government's Designated Authority and is included as Attachment L – Activity Hazard Analyses. This Activity hazard analysis identifies specific or potential hazards anticipated for each construction activity, the control measures to be implemented to eliminate or reduce each hazard to an acceptable level, the equipment required, the inspection requirements, the training required, and the designated enforcement individual.

2.e.(2) Additional activity hazard analysis will be prepared prior to a construction activity commencing if and when an activity is identified as a potential hazard during construction.

2.e.(3) The continuous enforcement of controls for potential hazards is the responsibility of the Meltech on site Superintendent, Mr. (TBD). Refer to paragraph 7 "Health and Safety Inspections" for inspection requirements and paragraph 8 "Health and Safety Expectations, Incentive Programs, and Compliance" for compliance enforcement.

2.e.(4) The activity hazard analysis will be discussed by the Meltech Superintendent at the site preparation Kick-Off meeting with all parties involved in performing that task as well as be used as a training tool during the weekly safety meetings.

3. Statement of Health and Safety Policy

3.a. It is the policy of Meltech Corporation, Inc. to conduct all operations with a maximum of safety. Our organizational structure to effect safety on this job site is shown at Attachment S - Safety Organization Chart. No phase of this company's operations or administration is considered more important than accident prevention. Our objective is to eliminate work-related personal injury, property damage, and the needless suffering and expenses, which may follow a loss.

3.b. Planning for safety begins with this company's proposal and continues through the purchasing, fabrication, construction, and maintenance phases of each and every job. Loss control measures shall be integrated into the daily operating functions of all jobs and will be continuously reviewed to adapt to changing work conditions and hazard exposures.

3.c. In cooperation with our insurance carrier, a comprehensive safety program has been developed and implemented by our company. Those requirements set forth in the program should be considered the minimum acceptable standards that this company will abide by. Subcontractors of Meltech Corporation, Inc. will be subject to the same stringent requirements of this program. A copy of these job safety requirements is included with this section (Attachments A-1 through A-4). Refer to paragraph 7 "Health and Safety Inspections" for inspection requirements and paragraph 8 "Health and Safety Expectations, Incentive Programs, and Compliance" for compliance enforcement.

3.d. Meltech Corporation, Inc. is proud of its high standards for our work, our people, and our efforts in providing a safe work environment.

3.e. The requirements contained herein should be considered to include all applicable safety regulations as established by OSHA Requirements (29 CFR 1910 and 1926), Army Corps of Engineers Safety and Health Requirements Manual (EM 385-1-1), U.S. Army Corps of Engineers Huntsville Center Supplement 1 to EM 385-1-1 (dated May 2000), JCAHO Standards, EPA regulations, State health and safety programs, and Meltech Corporation, Inc.

3.f. This Site Health and Safety Plan (SHSP) describe the process of implementing each element of the SHSP to eliminate or minimize actions and conditions that can cause injuries and/or property damage. Contact the company Corporate Health and Safety Director, Michael Bretz (301) 773-3450 for any situations not outlined in this or other referenced material.

4. Responsibilities and Lines of Authority

4.a. Identification and Accountability

4.a.(1) The Meltech Corporate Health and Safety Director, Michael Bretz (see Attachment S - Safety Organization Chart, SHSP Organization Chart) is responsible for the administration and management of Meltech's safety program. He will provide technical assistance to all employees of the Company and participate directly in

problem solving processes designed to minimize risks and exposures for injury. The potential for loss will be monitored and refinements made to the Safety Program addressing new or unexpected hazards. He will attend or have a representative present at the project start-up meeting to discuss safety-related issues.

4.a.(2) The on site Superintendent, Bill Beyer is responsible for the administration of the safety program on site with full authority to stop unsafe work practices. He will hold weekly safety meetings with all staff and contractors as required. He will monitors all Pre-Task meetings and checks the Job Hazard Analysis forms for completeness. Bill beyer will act as the liaison between the Health and Safety Director and the on site project staff and subcontractors.

4.a.(3) Employees - Each individual is responsible for conducting work activities in the safest possible manner while creating minimal risk to fellow employees. Each person shall be knowledgeable in the safety procedures of this company and implement them into their daily work habits. Every employee should see the importance in reporting all unsafe conditions to a supervisor and making corrections to these conditions when able. Complete cooperation in implementing both new and revised safety procedures is expected.

4.b. Lines of Authority

4.b.(1) Refer to Attachment S - Safety Organization Chart for Lines of Authority.

5. Subcontractors and Suppliers

5.a. The following subcontractors will be used for this project:

- VW International, Inc (Work Plan Preparation and QC for Site/Modular Clinic)
- Williams Scotsman (Modular Clinic Design, Manufacture and Installation)
- Leo A Daly (Site Preparation Design)
- Bloomsdale Excavating (Site Preparation)

5.b. Subcontractors will be advised of this Company's safety program and will be required to abide by Meltech Corporation, Inc.'s rules and procedures and this SHSP. Refer to Attachment D - Subcontractor Documentation. If a subcontractor does not have an acceptable safety program of its own (one that compares with or exceeds Meltech's requirements), the subcontractor will be required by contract to adopt the Meltech Corporation, Inc. Health and Safety Plan. Refer to paragraph 7 "Health and Safety Inspections" for inspection requirements and paragraph 8 "Health and Safety Expectations, Incentive Programs, and Compliance" for compliance enforcement.

5.c. Meltech's on site superintendent (acting as the Safety Officer) will oversee and enforce safety requirements as an oversight function of the site preparation and modular clinic installation effort. Meltech's superintendent will conduct job site inspections of Subcontractor's employees and work operations noting any deficiencies for immediate correction. In addition, the Meltech Corporation, Inc. Health and Safety Director, Michael Bretz, may periodically visit the site to conduct safety inspections of Subcontractor's employees and work operations. Refer to paragraph 7 "Health and Safety

Inspections" for inspection requirements and paragraph 8 "Health and Safety Expectations, Incentive Programs, and Compliance" for compliance enforcement. A partial list of the most common job site deficiencies is included in Paragraph 15.e. Conditions and exposures may require the implementation of additional precautions and controls to be added to this list.

5.d. Subcontractors will be advised of this Company's safety program and SHSP and are required to abide by Meltech Corporation, Inc.'s rules and procedures. For this project subcontractor responsibilities include, but are not limited to:

5.d.(1) Read and acknowledge they understand all requirements in this SHSP.

5.d.(2) Ensure all employees conduct work that is in compliance with the health and safety requirements in this accident prevention plan.

5.d.(3) Supply their workers with any PPE required to perform the work in a safe manner.

5.d.(4) Maintain their work area in a neat and orderly fashion.

5.d.(5) Assure all of their employees receive indoctrination prior to conducting work.

5.d.(6) Maintain material safety data sheets on any chemical products being used on the jobsite.

5.d.(7) Assure that their workers are attending a weekly safety meeting by either conducting a safety meeting, or having their employees attend the meeting held by Meltech.

5.d.(8) Supply Meltech's site superintendent the information needed to report the accident exposure data.

5.d.(9) Report any accidents/incidents to the Meltech site superintendent immediately.

5.d.(10) Submit Activity Hazard Analyses (AHA) to the Meltech site superintendent prior to performing specific tasks.

5.d.(11) Refer to Paragraph 6.d for Meltech's subcontractor weekly safety meeting requirements.

5.e. The following subcontracting activities may be used for this project:

5.e.(1) Demolition (to include possible limited abatement)

5.e.(2) Trenching, Excavation and Shoring

5.e.(3) Electrical and Plumbing Rough-In

5.e.(4) Plumbing, pipe brazing

5.e.(5) Piping Supports, Hangers and Anchors

5.e.(6) Insulation (of pipes)

5.e.(7) Modular Clinic Installation

6. Training

6.a. Subjects for Weekly Training

6.a.(1) Confined Space Hazards:

- Disorientation
- Lack of Communication
- Fumes and Air Quality
- Head Injuries

6.a.(2) Falls from Elevations:

- Falls from Portable Straight Ladders
- Falls from Stepladders
- Falls from Scaffolds while Working
- Falls from Scaffolds during Erection and Disassembly
- Falls from Roof Openings
- Falls from Edges
- Falls from Vehicles and Construction Equipment

6.a.(3) Electrical Hazards:

- Hazards from Electric Arc Welding
- No GFCI
- Contact with Live Wires
- No Grounding
- Live Wire Contact with Heavy Equipment
- Damaged Power Tools and Equipment

6.a.(4) Fire and Explosion Hazards:

- Flammable and Combustible Liquids
- Flammable and Explosive Gases
- Explosions

6.a.(5) Personal Protective Equipment:

- Hard Hats
- Eye and Face Protection
- Hearing Protection
- Foot Protection
- Hand Protection

- Breathing apparatus

6.a.(6) Materials Handling:

- Manual Handling of Materials
- Backs and Lifting

6.a.(7) Trench and Excavation Hazards

6.a.(8) Welding, Cutting, Soldering Hazards:

- Welding Hazards
- Compressed Gas Cylinder Hazards
- Hot Metal Hazards

6.a.(9) Health Hazards:

- Lead Hazard (not anticipated)
- Hazardous Substances
- Infection Control
- Heat Stroke
- Heat Exhaustion and Heat Cramps
- Working Under the Influence of Alcohol or Drugs

6.a.(10) Other Hazards:

- Vehicle Driving Hazards
- Poor Housekeeping
- Missing Portable Tool Guards
- Struck by Falling Objects
- Clothing Caught in Equipment
- Struck by Equipment
- Uncontrolled Sources of Energy (Lockout/Tag-out)

6.b. Mandatory Training & Certification

6.b.(1) Mandatory training and certification/re-certification are required in the following areas:

- Each new Meltech Corporation, Inc. employee must successfully complete the ten (10) hour Occupational Safety and Health Training Course which is conducted by Meltech Corporation, Inc.'s Health and Safety Director.
- Training and certification/re-certification is also required for fork lift operators, aerial lifts operators, elevated work platform operators, crane operators, and vehicle operators. Refer to Attachment D - Subcontractor Documentation.

6.c. Emergency Response Training

6.c.(1) Each Meltech "on-site" Superintendent is required to be trained and certified by the Meltech Health and Safety Director in First Aid and Cardiopulmonary Resuscitation (CPR).

6.c.(2) Each subcontractor "on-site" Superintendent is required to be trained and certified by a qualified person in First Aid and Cardiopulmonary Resuscitation (CPR).

6.c.(3) All supervisory personnel and employees are required to attend the weekly safety meetings conducted by the on-site Safety Officer.

6.d. Safety/Training Meetings

6.d.(1) The Meltech site superintendent will conduct the project start-up meeting and will discuss safety-related issues. During site preparation and modular facility erection, the "Training/Orientation" of new employees begins when the employee arrives on-site . Refer to Attachment A- Jobsite Safety Package, Attachment B - Safety Equipment/Supply List For Job Training, and Attachment C - Meltech Employee Orientation Form

6.d.(2) Meltech Corporation, Inc. requires employees to participate in weekly safety talks. These safety meetings will be conducted by Meltechs site superintendent. Upon completion of the meeting, each party present is required to sign an attendance sheet, which is to be maintained at the project office.

6.d.(3) Subcontractors of Meltech Corporation, Inc. are expected to participate in their own weekly meetings with copies of the topics discussed and a list of those in attendance provided to the Meltech Corporation, Inc. project office. In the event a company does not have a program for safety meetings, they will be asked to participate with Meltech Corporation, Inc. or be provided with copies of the topics for their own discussion.

7. Health and Safety Inspections

7.a. Internal Inspections

7.a.(1) Daily Inspections: Meltech's on-site superintendent is responsible for the day-to-day management and administration of the safety program and has the authority to stop unsafe work practices. Immediate resolution is required of any safety infraction. In the event a discrepancy is observed, a representative of the subcontractor will be notified and immediate correction of the problem will be expected. A written report summarizing the visit will then be completed with copies being distributed to participating companies and for filing by Meltech. Any hazard or deficiencies will be identified, and a person assigned as responsible for their resolution. An abatement date will be established if necessary, and a date for the follow-up inspection to verify correction. The visit report will document the inspections, the follow-up inspections and the details of the findings if any. Repetitive deficiencies may result in Meltech Corporation, Inc. taking direct action to abate the condition with all incurred expenses being transferred to the responsible company. Individuals noted for repetitive violations may be removed from the job site and not allowed to return.

7.a.(2) Periodic Inspections.

- The Health and Safety Director, Michael Bretz, or his designee, will conduct periodic safety inspections throughout the construction period. During each visit, a thorough inspection of the work areas will be conducted. In the event a discrepancy is observed, a representative of the responsible party will be notified and immediate correction of the problem will be expected. A written report summarizing the visit will then be completed with copies being distributed to participating companies and for filing by Meltech. Any hazard or deficiencies will be identified, and a person assigned as responsible for their resolution. An abatement date will be established if necessary, and a date for the follow-up inspection to verify correction. The visit report will document the inspections, the follow-up inspections and the details of the findings if any. Repetitive deficiencies may result in Meltech Corporation, Inc. taking direct action to abate the condition with all incurred expenses being transferred to the responsible company. Individuals noted for repetitive violations may be removed from the job site and not allowed to return.
- The Meltech Corporation, Inc.'s Insurance Carrier may also visit the site. In the event a discrepancy is observed, a representative of the responsible party will be notified and immediate correction of the problem will be expected. A written report summarizing the visit will then be completed with copies being distributed to participating companies and for filing with the safety office. Any hazard or deficiencies will be identified, and a person assigned as responsible for their resolution. An abatement date will be established if necessary, and a date for the follow-up inspection to verify correction. The visit report will document the inspections, the follow-up inspections and the details of the findings if any. Repetitive deficiencies may result in Meltech Corporation, Inc. taking direct action to abate the condition with all incurred expenses being transferred to the responsible company. Individuals noted for repetitive violations may be removed from the job site and not allowed to return.

7.a.(3) Certifications of Inspectors may be found at Attachment T – Inspector Certifications.

7.b. External Inspections

7.b.(1) OSHA Inspections: To participate in an OSHA inspection, one must first understand the process. An inspection may take place for three reasons: 1) the inspection is random; 2) an inspector observed violations while passing a site; or 3) the inspector may be there to follow-up on a complaint. Upon arrival, the inspector will always "ask" to enter the job site. It is the policy of Meltech Corporation, Inc. to allow them to enter upon showing proper credentials. The inspection process involves an opening conference, which is attended by representatives of all contractors on the site, a walk through inspection, and a closing conference with all who attended the opening conference. Following the closing conference, reports will be completed and citations issued if deficiencies were observed.

7.b.(2) Procedures to follow in the event of an inspection:

- Visually inspect the inspector's credentials.

- Inform the inspector; you must contact your safety officer or Health and Safety Director for them to be present. The inspector will have no problem allowing one hour. Someone from management should come for the inspection.
- Establish one person who will attend the opening, the inspection and the closing conference. That person has the authority to correct any deficiencies found on the site.
- Provide accurate concise explanations to all questions.
- When the inspector takes notes or pictures, attempt to take the same notes and pictures. This is to be done so that others, not present, can understand any problems that may arise from the inspection.
- Never mislead or provide false information that cannot be verified.
- Attend the closing conference taking detailed notes of all deficiencies cited for each contractor.
- Forward copies of all information immediately to Meltech's office (via email or fax).
- The intent of OSHA is to assist in providing a safe workplace through the enforcement of government standards. Meltech Corporation, Inc. cooperates fully with this process, but asks each employee to address safety concerns or issues with your supervisor prior to an OSHA inspection. Every effort will be made to provide a safe work environment, and eliminate unsafe work conditions. Cooperation in reporting and correcting both unsafe acts and unsafe conditions will benefit individual employees as well as the company.

8. Health and Safety Expectations, Incentive Programs, and Compliance

8.a. Safety Program Goals: Refer to Paragraph 3 for Meltech Corporation, Inc.'s safety program goals and objectives for this project and to Paragraph 2.d for the Company's accident experience.

8.b. Incentive Safety Awards Program: Meltech Corporation, Inc.'s Incentive Safety Awards Program provides an incentive to all Superintendents (Safety Officers) who have no lost time accidents for the calendar year.

8.c. Compliance Enforcement: Meltech Corporation, Inc. requires a written report for both Meltech and Subcontractor employee safety violations. The reports are placed in the employees' personnel file and they are disciplined as follows:

8.c.(1) First Violation – Verbal warning.

8.c.(2) Second Violation – Written warning.

8.c.(3) Third Violation – Employee may be terminated or sent home without pay, depending on the severity of the violation.

8.d. Compliance Enforcement for Meltech Managers and Supervisors: Meltech managers and supervisors are also held accountable for safety as outlined in Paragraph 8.c above.

9. Accident Reporting

9.a. Exposure Data: OSHA Form 300 (Attachment D-4) listing all current injuries, will be maintained and posted at all construction job sites for review. These forms, signed by the superintendent, will be submitted to the health and safety director.

9.b. All accidents shall be reported within 24 hours to the Contracting Officer (CO) and Contracting Officer Representative (COR) by the Meltech Health and Safety Director. If the accident is serious as described in 9.c below, then the Meltech Health and Safety Director will notify the CO and COR immediately, with follow-up official documentation as described below.

9.c. Reportable Accidents: All significant accidents which include:

9.c.(1) Lost Time: A doctor determines the person cannot return to do any portion of his work,

9.c.(2) Accidents resulting in a fatality, the hospitalization of three or more persons, property damage of $2,000 or greater, and injuries and illnesses resulting in lost workdays will have a complete Accident Investigation Report, USACE Form 3394, (Attachment D-1) completed and submitted to the Government's Designated Authority within five (5) working days of the accident. The on site Superintendent will fax the report to the Health and Safety Director, Meltech, within 16 hours so the report can be reviewed for completeness before forwarding to government personnel.

9.c.(3) Reports: All injuries or property damage of any size will be documented using a Meltech Incident Report Form, Attachment D-2. The Incident Report Form will be delivered within 24 hours to the Health and Safety Director, Michael Bretz. Any significant injury will include a doctor's evaluation and will not rely solely on the opinions of tradesmen.

9.c.(4) Investigation/Notification: In the event any (minor or major) injury or property damage occurs on the job, the Meltech Corporation, Inc. Superintendent, Bill Beyer is to be notified immediately. He will investigate the incident and take steps to prevent future injuries and property damage and will inform the Health and Safety Director, Michael Bretz that an incident occurred: This should be done by e-mail after the Superintendent has preliminary information about what occurred and when it occurred.

10. Medical Support

10.a. On-Site Medical Support: First aid kits will be provided and maintained in a clean and stocked condition on the job site by Meltech Corporation, Inc. and each subcontractor. On-site Superintendents and/or Supervisors trained in First Aid and CPR will provide the initial on-site emergency medical support. Refer to Paragraph 12.b for the Emergency Response Plan.

10.b. On-site personnel with CPR and First-Aid training are:

Name	Certification
Meltech	CPR and First Aid
Bloomsdale Excavating	CPR and First Aid

Williams Scotsman	CPR and First Aid

10.c. For emergencies contact the following:

General Leonard Wood Army Community Hospital	
Medical 911	* Ambulance (911)*
	(573) 596-2156
Fire	* 911 *
Military Police	* 911 *

10.d. Off-Site Medical Arrangements: Arrangements will be made with the military hospital for receipt of employees needing medical care for life-threatening injuries, until the injured employee is stabilized for transportation to the nearest civilian hospital located in the area. The Pulaski County Memorial Hospital, Waynesville, MO is the nearest available off-installation medical facility. Following initial triage by the installation medical staff, injured/ill contractor personnel may be referred to external facilities. Refer to Paragraph 12.b for the Emergency Response Plan.

11. Personal Protective Equipment (PPE)

11.a. PPE Management

11.a.(1) The on-site Superintendent, as the on site manager/administrator of the safety program, is the overall individual who will conduct surveys and determine the PPE required at the project site. Refer to paragraph 7 "Health and Safety Inspections" for inspection requirements and paragraph 8 "Health and Safety Expectations, Incentive Programs, and Compliance" for compliance enforcement. The construction activities requiring PPE, the PPE to be used, the PPE training required, and PPE enforcement is outlined in Attachment L – Activity Hazard Analyses.

11.b. PPE Training

11.b.(1) Training on the when, which, and how to use a PPE item will be conducted by the Meltech or subcontractor on-site Superintendent. The training will take place at either the weekly safety meeting or prior to the construction activity in question taking place.

11.c. Protective Eyewear

11.c.(1) Meltech Corporation, Inc. has adopted a policy of 100% eyewear for each of our job sites. This policy also applies to our subcontractors. This policy is for all employees whether they are field employees or management which may be visiting the job site.

11.c.(2) Supervision in particular is aware of this requirement as they will be directly responsible for the implementation and enforcement of eyewear on the job site.

11.c.(3) 100% eyewear means every person will be wearing some form of eye protection. Eye protection will comply with ANSI Z87.1-2003 (including side shields).

11.c.(4) Face shields are required any time there may be chipping, grinding, or drilling overhead, which may create airborne debris.

11.c.(5) Face shields are required for those persons assisting or working near another person chipping or grinding.

11.c.(6) When soldering, brazing, or cutting, properly tinted eyewear is to be used to protect eyes from UV radiation. Many sunglasses do not provide protection for this.

11.c.(7) Many numerous styles and types of eyewear are available. Failure to participate in this program is grounds for warnings and ultimately can lead to termination of employment.

11.c.(8) Minimum Clothing Requirements: The minimum clothing requirement is long trousers, short-sleeved shirts, and leather or protective shoes or boots.

11.c.(9) Additional PPE Requirements: Refer to Attachment M - Personal Protective Equipment for additional Meltech Corporation, Inc. PPE requirements.

12. Plans (Programs, Procedures) Required by the Safety Manual

12.a. Layout Plans:

12.a.(1) Refer to Attachment O - Project Location Plan.

12.b. Emergency Response Plan

12.b.(1) General

Emergency communication devices will be tested in the work area for functionality, prior to the start of work for each shift.

12.b.(2) Procedures and Tests

The following procedure shall be implemented in the event of a major accident or fire involving serious injury, trapped personnel, or extensive damage to equipment and or property.

- Notify the site superintendent by the quickest means available. Information should include the exact location of the accident or fire, number of people injured, the type of major injuries if known, and if people are trapped, what types of equipment will be needed to free them.
- The superintendent will notify the ambulance service or fire department, giving them all available information about the injured and the exact location of the accident or fire. Emergency phone numbers are posted in the construction office. DIAL 9-1-1
- The ranking supervisor will take charge of the scene until the superintendent arrives.

- The person in charge shall designate someone to meet the ambulance or fire department and direct them to the scene. The designated individual shall be instructed to keep ALL unauthorized personnel from entering the scene.
- Job site first aid personnel will proceed to the scene and will be in charge of first aid and rescue operations until the arrival of the ambulance. Injured persons should not be moved unless further injury is imminent.
- In the case of fire or other major incidents, employees must report to their Superintendent. The Superintendent will determine if any of his personnel are missing and report his findings to the Meltech Superintendent. (It is recommended that a specific area or location, such as office trailer, staging area, etc. be designated as the area for employees to report.)
- Superintendent will keep all employees away from emergency scene and keep the area clear for emergency personnel. They must also remain alert for requests of equipment or assistance from first aid personnel.
- The Superintendent shall call the Meltech office as soon as possible and notify the Meltech Corporate Health and Safety Director or another Meltech Corporate Officer.
- An accident investigation, as outlined in "Accident Reporting" on page 10, should be conducted as soon as possible.

First Aid:

- All employees should be instructed to report to first aid treatment for all injuries, no matter how trivial they may appear.
- In order to treat minor injuries at the job site, a properly stocked first aid kit shall be provided. It is the superintendent's responsibility to see that his job site has a first aid kit and that it is periodically checked and restocked as needed.
- Although the project work site is near the Hospital, other urgent requirements may prevent response in less than five minutes. Accordingly, medical trained persons will be on site during all working hours. If emergency medical assistance is required, first response should be requested (by personal contact or telephone) from the local Hospital medical staff. As noted below, the emergency room telephone number is (TBD).
- Subcontractors at any tier are responsible for first aid supplies and services to their respective employees.

Emergency Transportation:

- Arrangements for transportation of injured employees to medical facilities will be maintained at all times when work is in progress. In most cases, a company vehicle can be used to transport a person with minor injuries. Do not use personal vehicles of employees for transport with the exception of an employee who wishes to drive his own car. Employees who have sustained a head injury or require treatment for eye injury should not be allowed to drive.

12.b.(3) Spill Plans

- All operations, materials, and equipment will be evaluated to determine the presence of hazardous environments or if hazardous or toxic agent could be released into the work environment. These evaluations will be conducted by the Activity Hazardous Analysis (AHA).

12.b.(4) Firefighting Plan

- In the case of fire, employees will report to their supervisor. The supervisor will determine if any of his personnel are missing and report his findings to the Meltech Superintendent in charge. A specific area or location, such as office trailer, staging area, etc. will be designated as the area for employees to report.
- 10 pound ABC fire extinguishers will be provided along corridors (in areas controlled by Meltech) on red painted board with signage identification.
- If existing fire/smoke detection, alarm, or suppression systems are impaired, a temporary but equivalent system will be installed and subject to the approval by the local fire marshal having responsibility for protection of that facility.
- All workers will be trained in appropriate fire fighting and reporting procedures.
- Fire drills will be conducted no less than semi-monthly in coordination with the building fire marshal.

12.b.(5) Emergency Phone Numbers:

- The project site is at the following military facility:

General Leonard Wood Army Community Hospital	
Medical (911)	Ambulance (911)
	(673) 596-2156
Fire	* 911 *
Military Police	* 911 *

- **Note: Emergency Numbers Will Be Posted In Conspicuous Locations On The Job Site.**

12.b.(6) Wild Land Fire Prevention Plan (Not Applicable)

Not applicable since this project is not in a "wild land" area.

12.b.(7) Man Overboard/Abandon Ship Plan (Not Applicable)

12.c. Hazard Communications Program

12.c.(1) Policy: The policy of Meltech Corporation, Inc. is to perform work in the safest manner possible. Meltech Corporation, Inc. will provide the safest possible working conditions for its employees' workplace.

12.c.(2) Purpose: The purpose of the Meltech Corporation, Inc. Hazard Communication Program is to inform its employees of the Occupational Health and safety

Administration (OSHA) Regulation which requires that employees be informed concerning hazards from chemicals that they may encounter at the workplaces and appropriate protective measures that they can take. The objective of the Hazard Communication program is:

- To safeguard our employee's health by providing a management guide for safe compliance.
- To provide our employees, subcontractors and licensed vendors with necessary information concerning health and physical hazards of the chemical materials in use at the workplace.

12.c.(3) Program Elements: The major elements of the Meltech Corporation, Inc. Hazard Communication Program include the following:

- Listing of all chemical products used at company workplaces or stored on company property.
- Hazard identification of all chemicals in use or stored at company workplaces.
- Labeling of all containers of all chemicals used. [1]
- Provide ready availability of Material Safety Data Sheets (MSDS) for hazardous chemicals used by the company.
- Identify operations or tasks in the employee's work areas that use hazardous chemicals.
- Training of employees in the safe handling and use of chemicals.

12.c.(4) Chemical Lists:

- A list of chemicals used or stored on site will be assembled and maintained within the site office trailer and will be available to the employees upon request.

12.c.(5) Labels and Other Forms of Warning:

- Each container of hazardous chemicals regardless of size, will be labeled, tagged, or otherwise marked to show the identity of the hazardous chemicals and the appropriate hazard warnings. Employees will be trained on how to read and interpret warning labels.[2]
  - ◊ The Superintendent or designated job site Superintendent will be responsible for seeing that all containers delivered at company workplaces are properly labeled.
  - ◊ All incoming labels will be checked for identity, hazard warning, and name and address of manufacturer or supplier.
  - ◊ Each supervisor will be responsible for seeing that all portable containers used in their work area are labeled with identity and hazard warning. [3]

[1] *Exceptions to this rule are made only for very small containers filled by the person using the material, which will then be used/emptied by that person during the same shift. Such containers need not be labeled.*

[2] *Ibid*
[3] *Ibid*

12.c.(6) Material Safety Data Sheets (MSDS):

- This hazard communication program relies on Material Safety Data Sheets (MSDS) from suppliers for purposes of hazard determination. Employees will be trained in the use of Material Safety Data Sheets to include their location and availability, in order to avoid and/or lessen potential hazards.
- Copies of MSDS' for all hazardous chemicals used by Meltech, to which employees may be exposed, will be kept at the workplace (either the local field office or the main work area). MSDS' will be available for review to all employees.

12.c.(7) Training:

- Employees will be trained according to a written hazard communication training plan that is part of Meltech Corporation, Inc.'s overall hazard communication program. Training will extend to non-routine tasks, as necessary, and to foreseeable hazards.
- Orientation training will be provided to all new hired employees who will be routinely exposed to hazardous materials provided by the employer. When an employee is reassigned or transferred to a different workplace where the employee may be exposed to a different set of hazardous chemicals, provided by the employer, reorientation training will be provided.
- The training provided will include the following items according to individual requirements:
  - ◊ Explanation of the Hazard Communication Standard;
  - ◊ Employee rights and responsibilities;
  - ◊ Introduction to the written Hazard Communication Program;
  - ◊ Dissemination of Hazard Information Availability and interpretation of MSDS';
  - ◊ Labeling procedures;
  - ◊ Physical and health hazards of chemical in workplaces;
  - ◊ Flammable materials;
  - ◊ Corrosive materials;
  - ◊ Toxic materials;
  - ◊ Explosives;
  - ◊ Oxidizers;
  - ◊ Carcinogens;
  - ◊ Adhesives;
  - ◊ Lubricants;
  - ◊ Irritants;

- ◊ Sensitizers;
- ◊ Protective procedures;
- ◊ Protective equipment;
- ◊ Procedures for non-routine tasks.

- After attending the training class each employee will sign a form stating that they received training in accordance with the Meltech Corporation, Inc.'s Hazard Communication Program.

12.c.(8) Hazardous Non-Routine Tasks:

- Prior to starting work on a hazardous, non-routine task, each employee will be given information about hazards involved. This information will include specific chemical hazards.

12.c.(9) Reporting Requirements:

- Community Right-To-Know Reporting Requirements per HCS.

12.c.(10) Hazardous Materials List:

- The list of hazardous materials will be updated as the material in use at Meltech Corporation, Inc. projects change.

12.c.(11) Administrative Responsibility:

- Corporate administrative responsibilities for this program are delegated to the Health and Safety Director. The Health and Safety Director will be responsible for the execution of this program and possess the necessary authority to perform his/her responsibilities.
- Refer to paragraph “7.a Internal Inspections” for inspection requirements and paragraph 8.c for compliance enforcement.

12.d. Respiratory Protection Plan

12.d.(1) Introduction:

- While most air is safe to breathe, there are some processes, which necessitate the use of respiratory protection. The Occupational Safety and Health Standard for General Industry (29 CFR Part 1910, Subpart I, Subsection 1910.134) establishes permissible practices and requirements for a minimal acceptable program.
- The "Employee Respiratory Protection Program" is designed to set forth the accepted practices for respirator use, as well as to provide information for training and guidance on the proper selection, use and care of respirators.

12.d.(2) Meltech and Employee Responsibility:

- The Meltech Health and Safety Director will serve as the program administrator of Meltech's Respiratory Protection Program.
- Meltech Responsibility:
  - ◊ Respirators shall be provided by the employer when necessary.

- ◊ The employer shall provide the respirator that is applicable and suitable for the intended purpose.
- ◊ The employer shall be responsible for the establishment and maintenance of a written respiratory protection program, which includes selection of the correct respirator for the hazard(s) involved.
- ◊ Subcontractors requiring the use of respirators will have the required trained personnel to meet OSHA regulations

- Employee Responsibility:
  - ◊ The employee shall use the respiratory protection in accordance with instructions and training received.
  - ◊ The employee shall guard against damage to the respirator.
  - ◊ The employee shall report any trouble or malfunction of the respirator to his supervisor.
  - ◊ A copy of Appendix D - Sec. 1910.134 of OSHA Regulations (Standards –29 CFR) will be given to you to read should you decide to wear a dust type respirator. In addition, if employee voluntarily uses a dust mask, he/she must sign the form "Voluntary Respirator Use" prior to use on the project site. Both Appendix D Sec. 1910.134 and the "Voluntary Respirator Use" form are located in Attachment N - Voluntary Respirator Use.

12.d.(3) Maintenance and Care of Respirators:

- Inspections:
  - ◊ All respirators will be inspected before and after each use by employee.
  - ◊ Respirators kept for emergency use will be inspected before and after each use, and at least monthly to ensure that they are in satisfactory working condition by employee.
  - ◊ A record will be kept of inspection dates and findings for respirators maintained for emergency use.
- Respirator inspection will include:
  - ◊ Check the tightness of connections and the condition of the face piece.
  - ◊ Check the headbands.
  - ◊ Check the valves.
  - ◊ Check the connecting tube and canisters.
  - ◊ Check the rubber or elastic parts for pliability and deterioration.
- Cleaning and Disinfecting:
  - ◊ Respirators shall be cleaned after each use.
  - ◊ Cleaning Procedure:
    - * Remove any filters, cartridges and headbands

- Wash all respirator parts (except cartridges and elastic headbands) in a cleaner-disinfectant solution at not more than 120 degrees F. Use a hand brush to remove dirt, if necessary.
- Rinse completely in clean, warm water
- Air-dry in a clean area
- Inspect all parts, if defective, replace those parts.
- Reassemble the respirator and insert new filters or cartridges, if required. Make sure the seal is tight.
- Disinfect all facial contact areas.
- Place the respirator in a new plastic bag and seal it for storage.

- Repair of Respirators:
  - Repair or replacement will be done only by experienced persons with parts designed for the respirators, and provided by the manufacturer of that particular respirator.
  - No attempt will be made to replace components, make adjustments, or repair beyond the manufacturer's recommendation.
  - Reducing or admission valves or regulators will be returned to the manufacturer or to a trained technician for adjustment or repair.
- Storage of Respirators:
  - After inspection, cleaning, and necessary repairs, respirators will be stored to protect them against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals.
  - Respirators placed at stations and work areas for emergency use will be stored in compartments built for this purpose, and be quickly accessible at all times, and be clearly marked.
  - Routinely used respirators, such as dust respirators, will be placed in plastic bags during periods of non-use.
  - Respirators will not be placed in places such as lockers or toolboxes unless they are in plastic bags.

12.d.(4) Medical Limitations:

- Persons will not be assigned tasks requiring the use of respirators unless they are physically able to perform the work and use the equipment.
- The respirator user's medical status will be reviewed annually by the company first aid personnel or designated physician.

12.d.(5) Selection, Issuance, and Training Practices:

- Selection of Respirator:
  - The on site Superintendent, will select respirator type and make.

- ◊ Only respirators approved by the National Institute of Occupational Safety and Health, U.S. Bureau of Mines, or agency acceptable to the U.S. Department of Labor will be used.
- ◊ The proper type of respirator for the specific hazard involved will be selected in accordance with the manufacturer's instructions.

- Issuance of Respirators:
  - ◊ The on site Superintendent will determine if a respirator is needed.
  - ◊ Air sampling data will be taken and will be the determining factor in the case of a disagreement between Meltech and employee on whether a respirator is needed.
  - ◊ Employees may be required to wear breathing zone-sampling apparatus for periods of time when air-sampling studies are being carried out. These studies will be done from time to time to assert that respirators may or may not be necessary.
- Training Practices by Superintendent:
  - ◊ Instruction in the nature of the hazard, and an honest appraisal of what may result if the respirator is not being used.
  - ◊ An explanation of why engineering controls (ventilation, etc.) are not immediately possible and that effort is being made to eliminate the need for respirator.
  - ◊ An explanation of why this is the proper type of respirator for the particular hazard encountered.
  - ◊ An explanation of the care and cleaning program.
  - ◊ A discussion of the respirator's capabilities and limitations.
  - ◊ Instruction and training in actual use, and close and frequent supervision to assure the proper use.
  - ◊ Any other emergency or special instructions needed.

12.d.(6) Operating Procedures for Respirators:

- The company will provide for the proper storage and cleaning of respirators. They will also repair or replace all damaged units.
- Whenever respirators are not in use during the shift, they will be stored in the clean plastic bag in which they were issued, and in the proper area.
- Before and after using respirators, the employee or immediate supervisor will make an inspection for tightness of connections and the condition of the face piece, headband, valves, filter holders and filters. If any questionable items are found, they will be corrected immediately.
- To assure proper protection, the face piece fit will be checked by the wearer before each entry into a contaminate atmosphere.

- ◊ Positive pressure test: Close off the inlet openings of cartridge with the palm of your hand. Breathe air lightly into mask. The face fit is satisfactory if some pressure can be built up inside the mask without any air leaking between the mask and the face of the wearer.
- ◊ Negative pressure test: Close off the inlet openings of cartridge with the palm of your hand. Some masks may require that the filter holder be removed to seal off the intake valve. Inhale gently so that a vacuum occurs within the face epic. Hold your breath for 10 seconds. If the vacuum remains, and no inward leak is detected, the respirator properly fits.
- ◊ Note: Care will be taken not to push the face piece onto the face, as this may give a better seal during the test than can be obtained in normal use.

12.d.(7) Toxic Atmospheres:

- During normal operations where toxic atmospheres are present, established work procedures will be followed.
- Atmospheres immediately dangerous to life or health (IDLH). In emergency situations where an atmosphere exists in which the wearer of the respirator could be overcome by a toxic or oxygen-deficient atmosphere, the following procedure will be followed:
  - ◊ Never enter a dangerous atmosphere without first obtaining the proper protective equipment and permission to enter from the person in charge of the respirator program.
  - ◊ Never enter a dangerous atmosphere without at least one additional person present. At least one person will remain in the safe atmosphere.
  - ◊ Never wear air-purifying (cartridge or canister) respirators in IDLH (Immediate Danger to Life and Health) atmospheres.
  - ◊ Communications (voice, visual, or signal line) will be maintained among all personnel present.
  - ◊ The person remaining in the safe atmosphere will have the proper equipment to enable them to aid the person in the dangerous atmosphere if problems are encountered.
  - ◊ Review and implement confined space entry procedures.

12.d.(8) Air Supply:

- Quality:
  - ◊ Compressed air or liquid air, and compressed oxygen use for respiration will be of high purity. (29 CRF 1910.134(d)).
- Compressors:
  - ◊ The compressor for supplying air will be equipped with necessary safety and stand-by devices.
  - ◊ A breathing air-type compressor will be used.

- ◊ Air intakes will be properly protected via location and filters installed to avoid air contaminants.
- ◊ If an oil-lubricated compressor is used, it will have a high temperature or carbon monoxide alarm or both. If only high temperature alarm is used, the air from the compressor will be frequently tested for carbon monoxide.

12.e. Health Hazard Control Program

12.e.(1) All operations, materials, and equipment shall be evaluated to determine the presence of hazardous environments or if hazardous or toxic agents could be released into the work environment.

12.e.(2) Refer to the Work Plan sections and the installation/facility/site (as applicable) "Asbestos and/or LB Paint Abatement" and "Asbestos and/or LB Paint Specifications" for evaluations of any potential hazardous materials, environmental and/or HAZMAT agents.

12.e.(3) Refer to Attachment L – Activity Hazard Analyses, "Activity Hazard Analysis" for any HAZMAT evaluations/analysis and control measures.

12.f. Lead Abatement Plan (not applicable)

12.g. Asbestos Abatement Plan (not applicable)

12.h. Abrasive Blasting (not Applicable)

12.i. Confined Space

12.i.(1) Purpose: To prevent serious injury or death of employees or subcontractors who will enter confined space (whether permit or non-permit required), from deficient oxygen, or explosion from combustible gases or vapors.

12.i.(2) Scope: This procedure will provide the steps required to properly enter any confined space, which requires human occupancy for work to be accomplished.

12.i.(3) Reference:

- OSHA 1910.146
- OSHA 1926.21
- OSHA 1926.103
- OSHA 1926.353

12.i.(4) Requirements:

- Definition: Is any space that could contain actual or potential safety or health hazards, (hazardous gases, deficient oxygen, etc.) makes ready escape difficult (prevents normal walking position, inverted entrance, etc.), and restricts entry for rescue purposes.
- Confined Spaces may include but are not limited to the following:
  - ◊ Air and Gas Ducts

- ◊ Air Receivers
- ◊ Boilers
- ◊ Storage Tanks, Vaults, Manholes and Condensers
- ◊ Generators
- ◊ Stacks, Sumps and Pulverizers

12.i.(5) Classification of Confined Spaces:

- Class "A" - Oxygen concentration less than 19.5% or greater than 21.4%,
  - ◊ or Combustible gases or vapors in concentrations exceeding 10% of the lower explosive limit (LEL).
  - ◊ or Toxic substance in concentrations exceeding those specified in 29 CFR 1910.1000 (Table Z) or exceeding current ACGIH TLV levels:
  - ◊ and safe levels cannot be achieved by forced or natural ventilation.
- Class "B" - Oxygen concentration of 19.5% to 21.4%
  - ◊ and Combustible gas/vapor concentrations less than 10% of the LEL;
  - ◊ and Toxic substance concentrations less than those specified in 29 CFR 1910.1000 or in ACGIH TLV's;
  - ◊ and safe conditions maintained only by forced ventilation.
- Class "C" - Oxygen concentrations of 19.5% to 21.4%
  - ◊ and Combustible gases and vapor concentration less than 10% of the LEL;
  - ◊ and Toxic substance concentrations less than those specified in 29 CFR 1910.1000 or ACGIH TLV's;
  - ◊ and safe conditions maintained by natural ventilation.

12.i.(6) Initial Evaluation of Space:

- The on site Superintendent will ensure that the following requirements are met before the space is entered, either for the purpose of classifying the space or for performing any work in the space. The confined entry permit will be used as a guide for completing required steps.
- The requirements of the Tagging Procedure will be fully implemented to isolate the space.
- Pressurized systems will be vented/drained and opened with caution.
- If the space is thought or known to contain a hazardous atmosphere it will be purged with fan or blower prior to further evaluation.
- Contaminants will be exhausted into a safe area that will not endanger personnel or equipment.
- Purging will be performed for a period of time that will replace the atmosphere at least SEVEN TIMES.

- For purging combustible gas or vapor, the Superintendent will ensure that only equipment approved for such use is employed. (Look on nameplate for explosion-proof listing.)
- Prior to allowing entry into a confined space for any reason, the Superintendent will verify that all the employees who will be making the entry, operating and monitoring the instruments, or acting as Standby Person to possess the appropriate qualifications as discussed in later sections under paragraph "12.i.(20) Qualifications for Confined Space Work"
- Appropriate protective equipment will be worn.
- Using approved equipment; a qualified employee will measure oxygen levels OUTSIDE the space. Sample the area just outside the point of entry to the space, to detect any gas/vapor "feather" which might exist, then inside using extensions to reach as far into the space as possible while remaining outside.
- Entry into confined spaces with combustible gas or vapor concentrations on excess of 25% of their Lower Explosive Limit (LEL) is prohibited, except by professional fire-fighting personnel or experienced gas emergency crews.
- If the initial results are satisfactory, the qualified employee (with the assistance of a Standby Person who will remain outside) will proceed into the space and test the space IN ITS ENTIRETY. Preparations will be made for the emergency removal of the employee performing the air sampling before initial entry.
- If at any time the measuring instruments indicate the presence of combustible gas or oxygen deficiency, the employee performing the test will immediately exit the space. Re-entry of the space may occur only after additional purging and/or donning of the appropriate respiratory protection.
- Record oxygen and combustible gas levels on the Confined Space Entry Permit and Air Monitoring Report (Attachment K-3 - Confined Space Entry Permit and Attachment K-4 - Air Monitoring Report).
- If the initial results are not satisfactory, ventilate and retest where feasible.
- If toxic substances are known to exist or are suspected, notify the Superintendent. Appropriate tests will be performed and results entered on the Permit by the person performing the test(s).

12.i.(7) Classification Procedure:

- The Superintendent will: Use the criteria listed in classifications of space to determine whether or not the area to be worked is to be subject to the controls for Confined Spaces.
- Warning: While some jobs may not be ultimately considered as Confined Spaces, some of the Confined Space requirements may still be appropriate. For example: a welder working in a physically confining area may need wristlets attached to lifeline in order to be extracted in the event of an accident/emergency.
- The ultimate decision for determination of a confined space rests with the Superintendent and the next level of supervision.

- Use the criteria in earlier sections to classify each confined space as a Class "A", Class "B" or Class "C."
- Classifications will be based on:
  - ◊ The results of air sampling within the space
  - ◊ The engineering controls which will be implemented
  - ◊ The expected effect of the work process on the atmosphere within the space.
- Your goal is to try and achieve the lowest classification, through the use of engineering and/or environmental controls. For example:
- If the space is initially identified as a Class "A" Confined Space, forced ventilation will be employed where possible to reduce the hazard to a Class "B."
- Enter the classification of the confined space on the Confined Space Entry Permit by circling A, B, or C in the appropriate column.
- Post signs at all points of entry to the confined spaces whether work will proceed immediately or not. Use only approved signs.
- Ensure that once the classification has been made any revision to the work is reviewed to determine its impact on the space classification or limitations on the work process.

12.i.(8) Preparations for Confined Space Entry:

- The Superintendent will ensure that the following requirements are met for confined space entry. The Confined Space Entry Permit (Attachment K-3 - Confined Space Entry Permit) will serve as a guide. The Superintendent will initial each applicable requirement to indicate that the requirements have been satisfied.

12.i.(9) Notifications:

- Prior to entering a work area that has been determined to be a confined space, certain notifications will be made by the Superintendent as follows:
- Superintendent - Verbal notification of intent to work in Class "A" Confined Space will be made to the Facility Manager of the MTF.

12.i.(10) Tools and Equipment:

- Matches or open flames will not be used for illumination.
- Temporary lighting will not exceed 12 volts unless all of the following conditions are met:
  - ◊ Lights are installed out of the normal reach of employees.
  - ◊ Lights are guarded to prevent possible contact with live circuits.
  - ◊ Lights are connected to a GFCI.
- Electric Power tools will only be used if pneumatic tools are not available and if the power tools are connected to a GFCI or are double insulated.

- Compressed gas cylinders will remain outside the confined space at all times unless they are part of approved breathing apparatus or fire extinguishers.
- The Superintendent will evaluate the need for and the safety of scaffolds, or platforms, or guardrails and ensure that scaffolds, platforms, or guardrails are installed as needed.
- All equipment that may be used in a flammable atmosphere will be approved as explosion-proof or intrinsically safe for the confined space atmosphere by a recognized testing laboratory such as U.S. Bureau of Mines, MSHA, the Underwriters Laboratories, or Factory Mutual.

12.i.(11) Personal Protective Equipment:

- Respiratory protection will be used in accordance with applicable safe work practices. If employees are performing work within a Class "A" Confined Space or are required to use respiratory protection in a Class "B" Confined Space, at least two self-contained breathing apparatus will be located immediately outside the confined space for rescue purposes.
- Hearing protection will be worn as required if work is in area with above normal noise levels.
- The job supervisor will evaluate the need for other protective devices such as goggles and face shields.

12.i.(12) Emergency Equipment:

- The Superintendent will evaluate the confined space to determine:
  - ◊ The types of emergencies that would be most likely to occur for the specific space and work process.
  - ◊ The emergency equipment that will be needed for those emergencies.
  - ◊ The Superintendent will ensure that the appropriate emergency equipment is brought on the job for easy access.
  - ◊ Each employee entering a Class "A" confined space will wear an approved full body harness or wristlets attached to an approved lifeline.
  - ◊ The Standby Person will monitor a maximum of two (2) lifelines.

12.i.(13) Designate a Standby Person:

- The Superintendent will assign a qualified person to:
  - ◊ Remain outside the confined space at all times, (except when relieved by another standby person to permit the execution of rescue duties, or to make an emergency notification).
  - ◊ Maintain continuous communication with the persons working within the confined space.
  - ◊ Initiate emergency action as agreed-upon during the Job Briefing.

12.i.(14) Conducting a Job Briefing:

- The Superintendent will conduct a Job Briefing to ensure that all employees involved in the job understand their roles during normal work and in the event of an emergency. As a minimum, the job briefing will include the following:
  - ◊ Job and Purpose
  - ◊ Methods to be employed and tools to be used.
  - ◊ Existing and possible hazards and remedial actions.
  - ◊ Plans and specific roles during work.
  - ◊ Questions and suggestions concerning the specific job.
  - ◊ Emergency equipment and emergency procedures. (Consult the applicable Emergency Response Plan for emergency notification procedures.)
  - ◊ Communication methods to be employed.

12.i.(15) Posting of Signs:

- The Superintendent will ensure that each point of access to the confined space is posted with the appropriate sign to caution other workers against unauthorized entry. Exceptions will be determined by the Superintendent and noted in the permit.

12.i.(16) Implement Continuous Monitoring:

- All confined spaces will be continuously monitored in order to be able to detect changes in the atmosphere.
- Exceptions to the continuous monitoring requirement may only be made by the Superintendent after consulting with the MTF's Facility Manager. All exceptions will be documented by inserting a brief note in the permit.

12.i.(17) Implement Means of Continuous Communications:

- The Superintendent will ensure that the means of continuous communication, which was agreed upon during the job briefing is implemented. Exceptions will be determined by the Superintendent and noted in the permit.

12.i.(18) Conducting Practice Drills:

- Required prior to entry for work for all Class "A" confined spaces.
- Recommended for Class "B" and Class "C" confined spaces under the following conditions:
  - ◊ The job is unusually complex.
  - ◊ The work is in an unusually difficult to reach area.
  - ◊ The job will span more than six (6) working days.
- Practice Drills will:
  - ◊ Consist of an actual rescue utilizing the equipment and methods discussed during the job briefing.
  - ◊ Simulate the most likely type(s) of emergency for the specific job:

- ◊ Be conducted in such a way that minimizes risk of injury to all participants.

12.i.(19) Permission to Enter:

- The Superintendent, upon completing the front of the Confined Space Entry Permit, will:
  - ◊ Carefully review each step to ensure that applicable precautions have been instituted.
  - ◊ List any exceptions that were made in implementing the confined space requirements and the reasons for each exception on the permit.
  - ◊ Grant permission for entry to personnel assigned to the job for which he/she is responsible by signing the permit.
- The Standby Person will:
  - ◊ Maintain a log in the permit for each person entering and exiting the confined space.
  - ◊ Ensure that every person who entered under the permit has exited the confined space before leaving the entrance for breaks or end of shifts.

12.i.(20) Qualifications for Confined Space Work

- PRIOR TO ENTRY of a confined space, all employees will possess the following qualifications:
  - ◊ Medically approved and "Qualified" to perform work in confined spaces and to wear respiratory protection.
  - ◊ Current annual certification in Cardiopulmonary Resuscitation (CPR).
  - ◊ Current training in confined space/rescue.
  - ◊ Each individual will first complete the Initial Training and maintain qualifications by attending a re-qualification program at least every fifth year.

  Note: This option applies only to confined space entries of up to 15 minutes duration for the purpose of inspection. Employees, such as Engineers, who will make short-duration entries for inspection purposes will participate fully in the Job Briefing and be accompanied by a fully qualified individual.
- At least two of the employees on a confined space job will have current certification in Standard First Aid Training. First Aid training will be renewed every 3 years.
- Standby Persons will possess all of the above qualifications in addition to a full understanding of:
  - ◊ Their duties during normal work
  - ◊ Their duties during emergencies
  - ◊ Locations and instructions for use of Public Address Systems or Phone
  - ◊ Rescue equipment and procedures

- Employees who operate oxygen/gas analyzers will complete the Initial Confined Space Rescue Training and, re-qualification course every fifth year.

12.i.(21) Contractors:

- Any employee of Meltech Corporation, Inc. who makes arrangements for a contractor to perform work, which is known to, or has the potential to be, Confined Space work, is responsible for the following:
  - ◊ Informing the contractor in the Contract Safety Specifications that the work will likely be considered Confined Space Work.
  - ◊ Informing the contractor via the Safety Specifications of the requirements for confined space work as noted.
  - ◊ Verifying that confined space requirements, including required training, are planned for and implemented by the contractor.
  - ◊ Explaining requirements and answering contractor questions regarding the safe completion of confined space work and the use of the permit.
- The following requirements will be satisfied by contractors performing confined space work:
  - ◊ Submit a written plan for the safe execution of confined space work.
  - ◊ Certify, in writing, that contractor employees are trained for confined space work.
  - ◊ Adherence to Occupational Safety & Health regulations.
  - ◊ Casual Labor, such as temporary help from Manpower, or Peak Load Labor, will be prohibited from entering confined spaces.

12.j. Hazardous Energy Control Plan (Lockout/Tag-Out)

12.j.(1) Purpose:

- To establish minimum safety requirements for employees while working with energized electrical circuits, hydraulic lines and air pressurized lines, also to ensure the safety of all other persons associated with the work in the area of testing.

12.j.(2) Scope:

- Applies to all Meltech Corporation, Inc. employees and subcontractor personnel working on our projects.

12.j.(3) References:

- OSHA 1926.416 & 417 (Subpart K)
- OSHA 1910.147 (Subpart J)

12.j.(4) Requirements:

- Personnel working on energized equipment, hydraulic lines or air pressurized lines shall have a second qualified person in the immediate area and be fully

aware of the operations underway so he may provide proper assistance in the event of an emergency.

- Personnel will not work on any energized or charged equipment lines without first consulting and receiving approval from the site superintendent or his designated alternate.
- The equipment lines or circuit will be carefully analyzed prior to starting any work.
- All employees affected by the work must be notified that a lockout/tag-out procedure is in effect.
- All work which includes planned outages must be coordinated through the superintendent who will decide what trades should be notified.
- The energy-isolating device should be opened so that the equipment is isolated from its source. Secondary energy sources should be checked and isolated and stored energy bled off.
- Once the energy sources have been turned off, the switch or valve should be locked with a padlock used only for lockout/tag-out. The person working on the equipment shall have the key to the padlock. Personnel working on other sections of the equipment may also install their locks as well to insure the system is not turned on without their knowledge.
- All applicable switches will be marked, tagged and locked with a "DANGER DO NOT TURN ON" tags. These tags will be signed and dated as required.
- All tested lines and energy sources should be checked visually and with applicable meter or other test devices tested prior to starting the operation.

12.j.(5) Responsibilities:

- The On-site Meltech Superintendent willl perform daily safety inspections, ensure compliance to the plan by all working personnel, and will ensure that only trained, equipped and competent personnel manage the lock-out and tag-out system.
- Lock-Out and Tag-Out Manager – *Lockout Manager, company TBD* As the supervising electrician/lock-out and tag-out manager will have day-to-day oversight of the system and will ensure that only authorized personnel have access to energize or de-energize the system. The manager will ensure that the provisions of this plan are adhered to by all field workers.

12.j.(6) Enforcement:

- All violations to approved safety regulations and the provisions of this plan will be brought to the attention of the safety officer for his review and investigation. Repeat or gross violations will result in penalties up to and including termination.

12.j.(7) Hazard Identification and Prevention:

- Hazard Identification:

- ◊ During the course of electrical demolition and installation, some circuits will be required to be turned off. During this time, a lock-out and tag-out program is required to prevent any hazardous energy release to workers.

- General Sequence of Lock-Out:
  - ◊ Coordinate lock-out/tag-out operations with Facility Management.
  - ◊ Notify all affected workers that a lock-out and tag-out system is to be used, and why. The system manager will determine the type and magnitude of energy that the equipment uses and will familiarize himself with the hazards involved.
  - ◊ Shut down operating equipment. Verify all power sources to equipment are shut off.
  - ◊ Isolate all power sources and bleed power reserves. Ensure that the system is effectively grounded.
  - ◊ Perform lock-out with assigned locks and with tags identifying sources and controls.
  - ◊ Verify that lock-out procedures are effective by turning on equipment operating switches. If equipment operates, isolate power sources and perform step c to e. If equipment does not operate, turn off switches. Perform circuits testing to verify condition.
  - ◊ Equipment is now locked out.
- Restarting General Sequence:
  - ◊ After completion of operations, notify on-site supervisor of schedule for restart. Provide notification to workers that power is to be reapplied.
  - ◊ Check that all affected personnel remain clear, tools removed, guards installed and all temporary devices removed or verified.
  - ◊ Remove lock-out devices and re-energize. Perform test of system to verify proper power restoration.
- Specific Procedures:
  - ◊ System manager to notify on-site supervisor of shut down and system lock-out. Shut off panel for hook up.
  - ◊ The breaker switch supplying power will be turned off and a lock-out tag will be secured to the switch and panel.
  - ◊ A lock will be placed on the breaker.
  - ◊ The de-energized circuit will be effectively grounded. The circuit will be tested with a voltage tester to verify condition.
  - ◊ The manager will inform the on-site supervisor that the system is now locked out.

- ◊ Upon completion of the tie-in work, the manager will inform the on-site supervisor that power is to be restored. The on-site supervisor will inform all workers of the power restoration.
- ◊ The manager will verify that personnel remain clear during power restoration procedures. The lock and tags will be removed and the breaker will be re-activated.
- ◊ The new electrical equipment will be turned on. The manager will ensure that all power systems are working.

12.j.(8) Inspection Systems:

- The on-site supervisor will visually inspect the locked out switchboard in the electrical room to verify that the system is locked out.

12.j.(9) Personnel Training:

- Training will be conducted by Michael Bretz (Meltech) and * Insert Sub's Trainer Name, Company in Properties *.

12.k. Critical Lift Procedures (not Applicable)

Not applicable since critical lifts are not a part of the construction process for this project.

12.l. Contingency Plan for Severe Weather (not Applicable)

12.m. Access and Haul Road Plan (not Applicable)

12.n. Demolition Plan

12.n.(1) Only site preparation surface materials demolition will be affected by this effort.

12.o. Emergency Rescue (Tunneling) (not Applicable)

Not applicable since underground tunnel construction is not a part of this project.

12.p. Underground Construction Fire Prevention and Protection Plan (not Applicable)

Not applicable since underground construction is not a part of this project.

12.q. Compressed Air Plan (not Applicable)

Not applicable since this project does not require work to be accomplished under a compressed air environment.

12.r. Formwork and Shoring Erection and Removal Plans (not Applicable)

Not applicable since Formwork and Shoring are not part of this project.

12.s. Jacking Plan (not Applicable)

Not applicable since lift-slab operations are not a part of this project.

12.t. Health and Safety Plan (for hazardous waste operations) (not Applicable)

Not applicable since this project does not include hazardous waste site cleanup operations.

12.u. Blasting Plan (not Applicable)

Not applicable since explosives are not planned for use in the site preparation effort for this project.

12.v. Diving Plan (not Applicable)

Not applicable since this project is not a water related project.

12.w. Alcohol and Drug Prevention Plan

12.w.(1) Drug Free Work Plan

- In order to assure a safe, healthy and productive work environment for employees; to protect Company property and to foster efficient operations, the Company has adopted a drug-free work place plan. From time to time the Company may unilaterally, at its discretion, amend, supplement, modify, or change any part of the policy for any reason including compliance with collective bargaining agreements applicable to those represented by unions.
- The possession, transfer, manufacture, distribution, sale, or use of drugs and/or alcoholic beverages at the workplace, on Company property, or at a time when the use of such substances affects job performance is not tolerated by the Company and is inconsistent with its goal of operating in a safe and productive manner. Therefore, no employee, subcontractor or visitor will use or have in their possession drug, drug paraphernalia or alcoholic beverages on Company property or job sites. Nor will any employee report to work or be allowed to continue to work if under the influence of drugs or alcohol. Any employee violating this policy is subject to disciplinary action up to and including termination.

12.w.(2) Testing

- Pre-Employment: All applicants for employment may be required to take a substance abuse test as a condition of employment. This applies to represented field employees in accordance with the collective bargaining agreement and/or the requirements of the project contract. An applicant who tests positive will not be hired and remains ineligible for hire for a period of 6 months.
- Post-Incident: All employees will be expected to take a substance abuse test within 24 hours of the occurrence of one or more of the following events. Failure to do so may result in disciplinary action up to and including termination.
    - ◊ Any event which occurs on Company property or in the course of conducting business that results in bodily injury to another person.

- ◊ Any event which occurs on Company property or in the course of conducting business that results in major property damage to either Company or third party property.
- ◊ Any event which occurs on Company property or in the course of conducting Company business that results in medical treatment, other than first aid, to an employee.
- ◊ Possession of suspected drugs/alcohol or related paraphernalia on Company property.

- Reasonable Suspicion: All employees will be expected to submit to a substance abuse test when a supervisor or safety representative, trained in detecting the signs and symptoms of drug or alcohol use, has a reasonable suspicion that an employee may be under the influence of alcohol or drugs. Failure to submit to the test may be grounds for disciplinary action up to and including termination.
- Random: Random testing will be required for all employees on jobs where stipulated in the contract and for those affected by DOT regulations.

12.w.(3) Disciplinary Action

- The Company considers substance abuse a serious violation of its commitment to provide a safe work environment for the employees, and in some instances a violation of law, and will take swift disciplinary action against those who violate the laws and policy. Appropriate disciplinary action is at the discretion of management and can range from written reprimands to termination. The employee being disciplined does have an appeal right and can request to present his/her case to an appeal committee at the Corporate office.

12.w.(4) Company Assistance

- The Company recognizes that chemical dependency is a serious health problem and encourages all employees to seek assistance for such problems. For non-represented employees the Company will provide an Employee Assistance Program (EAP) provider and will pay for the initial referral. Employees entering a treatment program should check with the health plan to determine the availability of coverage for the treatment. Represented employees will be provided a list of substance abuse counseling providers.

12.x. Fall Protection Plan

12.x.(1) Fall Protection

- **Handrails**
  - ◊ Handrails will have a vertical height of 42” + 3” from the top of the rail to the floor. If cable is used tension will be maintained, no more than 3 inches of deflection is allowed in any direction.
  - ◊ Anyone who takes down a handrail will do so only after attaining permission from the superintendent and will replace it as soon as possible.
  - ◊ Handrails will not be used as tie off for safety harnesses.

- ◊ Handrails will be able to sustain a 200-lb. static force in the outward or downward direction.

- **Floor Openings**
  - ◊ Floor openings will be guarded by a standard railing and toe boards or cover. A railing will be installed on all sides of the opening, except at the entrance to stairways. Hole is 2" in least dimension.
  - ◊ Ladder way floor openings or platforms will be guarded by standard railings with standard toe boards on all exposed sides, except at the entrance to the opening, with passage through the railing either provided with a gate or so offset that a person cannot walk directly into the opening.
  - ◊ Where there is a danger of falling through a skylight opening, it will be guarded by a fixed standard railing on all exposed sides.
  - ◊ Pits and trap door openings will be guarded by floor opening covers of standards strength and construction, cleated or nailed in place
  - ◊ Standard manhole covers will guard manhole floor openings. While the cover is not in place, standard railing will protect the manhole opening.
  - ◊ Temporary floor openings will have standard railings or floor hole covers.
  - ◊ Where doors or gates open directly on a stairway, a platform will be provided.
  - ◊ Floor hole covers will not be removed unless other means of protection are provided.
  - ◊ Whenever a protection is lowered or removed from a floor opening, it will be replaced as soon as that operation is complete.

- **Guarding of Wall Openings**
  - ◊ Wall openings, from which there is a drop of more than 4 feet will be guarded with a standard or intermediate rail that, will effectively reduce the danger of falling through. A wall opening (height > 30" & width < 18.")
  - ◊ A standard toe board will protect the bottom of a wall opening that is less than 4 inches above the working surface.
  - ◊ An extension platform outside a wall opening onto which materials can be hoisted for handling will have guide rails or equivalent guards of standard specification. One side of the platform may have removable rails.

- **Open Sided Rails**
  - ◊ Every open-sided floor or platform 6 feet or more above or adjacent to floor or ground level will be guarded by a standard railing on all open sides. The railing will be provided with a standard toe board.
  - ◊ Where employees entering upon runways become exposed to machinery, electrical equipment, or other dangers, not a falling hazard, additional guarding will be provided.

- **Stairway Railings and Guards**
  - ◊ Every flight of stairs having 4 or more risers will be equipped with standard stair railings or standard handrails.

- **Protection from Falling Objects**
  - ◊ No materials or equipment except masonry and mortar will be stored within 4 feet of working edges. Excess mortar, broken or scattered masonry, debris and materials will be removed at regular intervals. During roofing work, materials and equipment will not be stored within 6 feet of a roof edge unless guardrails are erected at the edge and materials piled, grouped or stacked near a roof edge are stable and self-supporting.
  - ◊ When used as protection from falling objects, canopies will be strong enough to prevent collapse and to prevent penetration by objects that may fall onto them.
- **Personal Fall Arrest Systems**
  - ◊ Personal fall arrest systems will consist of anchorage, connectors, and safety harness and may include a deceleration device, lifeline, or suitable combinations. If a personal fall arrest system is used for fall protection, it will do the following:
    - * Limit maximum arresting force on an employee to 900 lbs. when using a body belt;
    - * Limit maximum arresting force on an employee to 1,800 lbs. when used with a body harness;
    - * Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5’; and
    - * Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6’ or the free fall distance permitted by the system, whichever is less.
  - ◊ Personal fall arrest systems will be inspected prior to each use for wear damage, and other deterioration. Defective components will be removed from service. Snap hooks will be sized to be compatible with the member to whom they will be connected, or will be of a locking configuration.
  - ◊ Body belts used for positioning will not be used as part of a fall arrest system.
  - ◊ Lanyards and vertical lifelines will have a minimum breaking strength of 5,000 lbs.
- **Positioning Device Systems**
  - ◊ These body belt or body harness systems are to be set up so that a worker can free fall no further than 2’. They will be secured to an anchorage point capable of supporting at least twice the potential impact load of an employee’s fall\or 5,000 lbs., whichever is greater. Requirements for Snap hooks, Dee rings, and all other components used with positioning device systems will meet the same criteria as those for personal fall arrest systems.
  - ◊ Body belts are not to be used as part of a fall arrest system.
- **Safety Monitoring System**
  - ◊ When no other alternative fall protection has been implemented, the employer will implement a safety monitoring system. Employers will appoint a

competent person to monitor the safety of workers and the employer will ensure that the safety monitor:

- ∗ Is competent in the recognition of all hazards;
- ∗ Is capable of warning workers of fall hazard dangers and in detecting unsafe work practices;
- ∗ Is operating on the same walking\working surfaces of the workers, and can see them all; and
- ∗ Is close enough to work operations to communicate orally with workers and has no other duties to distract from the monitoring function.

◊ Mechanical equipment will not be used or stored in areas where safety-monitoring systems are being used.

◊ All workers in a controlled access zone will be instructed to promptly comply with fall hazard warnings issued by safety monitors.

- **Warning Line System**
  - ◊ Warning line systems consist of ropes, wires, or chains, and supporting stanchions and are set up as follows:
    - ∗ Flagged at not more than 6' intervals with high visibility material;
    - ∗ Rigged and supported so that the lowest point including sag is not more than 34" from the walking/working surface, and the highest point is not more than 39" above the walking/working surface.
    - ∗ Stanchions, after being rigged with warning lines, will be capable of resisting, without tipping over, a force of at least 16 lbs. applied horizontally against the stanchion.
    - ∗ The rope, wire, or chain will have a minimum tensile strength of 500 lbs. and after being attached to the stanchions, will support without breaking, the load applied to the stanchions as prescribed above.
    - ∗ The rope, wire, or chain will be attached to each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in another section before the stanchion tips over.
  - ◊ Warning lines will be erected around all sides of roof work areas. Where mechanical equipment is being used, the warning line will not be erected less than 6' from the roof edge parallel to the direction of operation, and not less than 10' from the roof edge perpendicular to the direction of equipment operation.
  - ◊ When mechanical equipment is not being used the warning line will be erected not less than 6' from the roof edge.
- **General: Fall Protection Requirements**
  - ◊ Fall protection is required when fall hazards exist which are > 6'.
  - ◊ All unprotected sides and edges will have guardrail, safety net, or personal fall arrest systems.

- ◊ All leading edges will have guardrail, safety net or personal fall arrest systems. Exception: If personal fall arrest systems are infeasible or a greater hazard, employer will develop and implement a fall protection plan specific to that area.
- ◊ Hoist areas will use guardrail or personal fall arrest systems (will be rigged to allow employer movement of the employee only as far as the edge of the walking/working surface.)
- ◊ Form Work and reinforcing steelworkers will use personal fall arrest, positioning device or safety net systems.
- ◊ Ramps, runways, and other walkways will have a guardrail system.
- ◊ Excavations: fall protection is required when the excavation is not readily seen because of plant growth or other visual barrier. Guardrail, fences, or barricades will provide protection.
- ◊ Overhand bricklaying and related work will have a guardrail, safety net, personal fall arrest systems, or work in a controlled access zone. This also includes working >10" below walking/working surfaces.
- ◊ Walking/working surfaces not otherwise addressed will have guardrail, safety net or personal fall arrest systems in place.
- ◊ Protection from falling objects will require hard hats and either:
  - ∗ toe boards, screens or guardrail.
  - ∗ canopy structure to keep objects far enough from the edge.
  - ∗ Barricade area, prohibit employee entry, and keep objects far enough away from the edge.

- **Training Requirements: 1926.503**
  - ◊ Employers will provide a training program for each employee who might be exposed to fall hazards.
  - ◊ Training will enable each employee to recognize the hazards of falling and know the correct procedures to be followed in order to minimize fall hazards.
  - ◊ Training will be conducted by a competent person qualified in:
    - ∗ the nature of fall hazards in the work area
    - ∗ correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems used
    - ∗ use and operation of all protection systems used
    - ∗ employee roles in safety monitoring system, if used
    - ∗ limitations on use of mechanical equipment during low slope roof work
    - ∗ correct procedures for material and equipment storage and handling and the erection of overhead protection
    - ∗ roles of employee in fall protection plans, if used

- ◊ Training will be verified by a written certification record:
  - employee names, training dates, and trainer/employer signature
  - will determine adequacy of prior training
- ◊ Re-training required when:
  - changes in work place
  - changes in fall protection systems or equipment
  - inadequacy in employee knowledge or use of fall protection systems or equipment

12.x.(2) Ladder Safety

- Stepladders are not to be used while leaning and unopened. These ladders are designed to be opened, cross braces secured, and all four legs placed evenly on a level surface.
- The top two steps of a stepladder are not to be stood upon. This creates the condition of being top heavy and may cause the ladder to topple.
- Never "straddle" the top of a ladder to sit on the top step. This again creates the condition of being top heavy.
- Ladders with damaged rungs or cracked legs should be destroyed and removed from the job site. Never try to "fix" a ladder by evening a leg or shortening it, in the event of a broken rung.
- When placing a straight ladder for use, remember the ladder should be at a ratio of 1:4 from the wall and should extend 36" above the landing. Always secure the ladder when possible. If ladder cannot be secured, a co-employee shall hold the ladder in place.
- Metal or conductive ladders will not be used near energized lines or equipment.

12.y. Steel Erection Plan (not Applicable)

Not Applicable since there is no steel erection on this project.

12.z. Night Operations Lighting Plan

12.z.(1) Minimum light requirements for night operations will be:

- General indoor construction areas – 55 lux (lx)
- General Outdoor construction areas – 33 lux (lx)

12.z.(2) Means of Egress:

- Means of egress will be illuminated, with emergency and non-emergency lighting, to provide a minimum of one (1) footcandle (fc) (lumens per square foot (lm/ft2) (11 lux (lx), measured at the floor.
- The illumination will be arranged so that the failure of any single lighting unite, including the burning out of an electric bulb, will not leave any area in total darkness.

12.z.(3) Lamps and fixtures will be guarded and secured to preclude injury to personnel. Open fluorescent fixtures will be provided with wire guards, lenses, tube guards and locks, or safety sockets that require force in the horizontal axis to remove the lamp.

12.z.(4) Lamps for general illumination will be protected from accidental contact or breakage. Protection will be provided by elevation of at least seven (7) feet (2.1m) from normal working surface or suitable fixture or lamp holder with a guard.

12.aa. Site Sanitation Plan

12.aa.(1) Drinking Water

- An adequate supply of drinking water will be provided; cool water shall be provided during hot weather.
- Drinking water will be provided at fixed facilities according to the requirements of the Safe Drinking Water Act, as amended, and all applicable Federal, State, and local regulations.
- Only approved potable water systems will be used for the distribution of drinking water.
- Portable drinking water dispensers will be designed, constructed, and serviced to ensure sanitary conditions; will be capable of being closed; and will have a tap. Containers will be clearly marked as "DRINKING WATER" and will not be used for other purposes. Water will not be dipped from containers.
- Use of a common cup (a cup shared by more than one worker) is prohibited without the cup being sanitized between uses.
- Unused disposable cups will be kept in sanitary containers and a waste receptacle will be provided for used cups.
- Nonpotable water – Outlets dispensing nonpotable water will be conspicuously posted "CAUTION – WATER UNSAFE FOR DRINKING, WASHING, OR COOKING."
- Cross-connection – open or potential – between a system furnishing potable water and a system furnishing nonpotable water is prohibited.

12.aa.(2) Toilets

- Sanitary sewers are not available and portable toilets will be provided.
  - ◊ Each toilet facility will be equipped with a toilet seat and toilet seat cover. Each toilet facility – except those specifically designed and designated for females – will be equipped with a metal, plastic, or porcelain urinal trough. All will be provided with an adequate supply of toilet paper and a holder for each seat.
  - ◊ Toilet facilities will be constructed so that the occupants will be protected against weather and falling objects; all cracks will be sealed and the door will be tight-fitting, self-closing, and capable of being latched.

- ◊ Adequate ventilation will be provided and all windows and vents screened; seat boxes will be vented to the outside.
- ◊ Toilet facilities will be constructed so that the interior is lighted.
- ◊ Since toilet rooms will be occupied by no more than one person at a time, the room can be locked from the inside, and contain at least one toilet seat, separate toilet rooms for each sex will not be needed.

- Provisions for routinely servicing and cleaning all toilets and disposing of sewage will be established before placing toilet facilities into operation. The method of sewage disposal and location selected will be in accordance with Federal, State, and local health regulations.

12.aa.(3) Washing Facilities

- Washing Facilities will be provided at toilet facilities and as needed to maintain healthful and sanitary conditions. Washing facilities for persons engaged in the application of paints, coatings, herbicides, insecticides, or other operations where contaminants may be harmful will be at or near the work site and will be adequate for removal of the harmful substance.
- A washing site will be provided outside designated egress points to the crawl-space during the demolition and removal phase of the sanitary and waste pipes.

  Each washing facility will be maintained in a sanitary condition and provided with:

  - ◊ Water (either hot and cold running water or tepid running water), soap, and individual means of drying

12.aa.(4) Waste Disposal

- Receptacles used for liquid waste material will be so constructed to prevent leakage and to allow thorough cleaning and sanitary maintenance. These receptacles will be equipped with a solid tight-fitting cover.
- Solid and liquid waste will be removed in a way that avoids creating a menace to health and as often as necessary to maintain a sanitary environment.

12.aa.(5) Vermin Control

- Enclosed workplaces will be constructed and maintained, as far as practical, to prevent the entrance or harborage of rodents, insects, and other vermin. An effective extermination program will be instituted where the presence of such vermin is detected.
- Entry to the crawl space presents the risk of snakes. Prior to entering the crawl space, care will be taken to inspect the immediate area about the area to ensure no snakes are present. Inspection will be performed using a bright flashlight. If a snake is observed, the local Facility Manager will be contacted for its removal.

12.bb. Fire Prevention Plan

12.bb.(1) An annual survey of the suitability and effectiveness of fire prevention and protection measures and facilities will be made by Michael Bretz. Records of the survey findings and recommendations will be retained on file at the project or installation.

12.bb.(2) Open flame devices will not be left unattended.

12.bb.(3) All sources of ignition will be prohibited within 50 ft. of operations with a potential fire hazard. The area will be conspicuously and legibly posted "NO SMOKING, MATCHES, OR OPEN FLAME."

12.bb.(4) Smoking will be prohibited in all areas within the building parameters. Where flammable, combustible, or oxidizing materials are stored, "NO SMOKING, MATCHES, OR OPEN FLAME" signs will be posted.

12.bb.(5) A barrier having a fire resistance rating equivalent to a listing of at least 1 hour will segregate DOT-identified non-compatible materials that may create a fire hazard.

12.bb.(6) A good housekeeping program that provides for the prompt removal and disposal of accumulations of combustible scrap and debris will be implemented on the site. Self-closing containers will be used to collect waste saturated with flammable or combustible liquids. Only non-combustible or UL labeled nonmetallic containers will be used to dispose of waste and rubbish.

12.bb.(7) Paint-soiled clothing and drop cloths when not in use, will be stored in well-ventilated steel cabinets or containers.

12.bb.(8) Insulating material with a combustible vapor barrier will be stored at least 25 ft. from buildings or structures. Only the quantity required for one day's use will be permitted in the building.

12.bb.(9) Disposal of combustible waste materials will be in compliance with applicable fire and environmental laws and regulations.

12.bb.(10) Burning operations will not be permitted on the construction site.

12.bb.(11) A written agreement or a memorandum of record stating the terms of the arrangement and the details for fire protection services will be provided to the Government.

12.bb.(12) Fire lanes providing access to all areas will be established and maintained free of obstruction.

12.bb.(13) Hazardous locations

- Electrical lighting will be the only means of artificial illumination in areas where flammable liquids, vapors, fumes, dust, or gases are present.
- Globes or lamps will not be removed or replaced nor will repairs be made on the electrical circuit until it has been de-energized.

12.bb.(14) Fire protection in the construction process.

- Fire cut-offs will be retained until operations require their removal.

- During demolition or alterations, existing automatic sprinkler systems will be retained in service as long as reasonable. Modification of sprinkler systems to permit alterations or additional demolition will be expedited so that the system will be returned to service as quickly as possible. Sprinkler control valves will be checked daily at close of work to ascertain that the protection is in service. The operation of sprinkler control valves is permitted only when approved by the Government.

13. Contractor Information

13.a. Applicable section of EM385-1-1, dated November 3, 2003 are addressed in paragraphs above.

14. Site-Specific Hazards and Controls

14.a. Refer to Attachment L – Activity Hazard Analyses for site-specific hazards and controls for each activity of this project's operation.

15. Additional Meltech Health and Safety Plans, Programs and Procedures.

15.a. Definitions

15.a.(1) **Competent Person** – means one who is capable of identifying existing and predictable hazards in the surrounding, or work conditions which are unsanitary, hazardous, or dangerous to employees outside personnel and who has the authorization to take prompt corrective measures to eliminate them.

15.a.(2) **Qualified Person** – means one whom by education, experience or training has the ability to operate, repair or supervise others in their discipline.

15.a.(3) **Confined Spaces** – Any place which is not designed for human occupation, restricted entry or exits, could have a hazardous atmosphere (hot, cold, etc.), toxic gases (chemicals, gas or other contaminants), or any potential safety and health hazard.

- Air and gas ducts
- Boilers
- Sumps
- Trenches (when more than 4 feet deep)
- Oxygen deficient areas or spaces
- Tunnels, crawl spaces or attics

15.b. Interim Life Safety Measures (ILSM)

15.b.(1) The purpose of the ILSM is to assure appropriate steps are taken to protect the workers, staff, patients, and others from injury while construction/repairs are made to a facility or specific space which is of an unusual nature. The continuous enforcement of Interim Life Safety Measures is the responsibility of the Meltech on

site Superintendent. Refer to paragraph 7 "Health and Safety Inspections" for inspection requirements and paragraph 8 "Health and Safety Expectations, Incentive Programs, and Compliance" for compliance enforcement, and Attachment J - Interim Life Safety Measures for daily inspection documentation.

15.b.(2) Specific areas of concern working in an operating medical treatment facility are as follows:

- Protection of the staff
- Protection of the patients and visitors
- Electrical systems
- Medical gas systems
- Isolation of the construction area
- Housekeeping
- Fire Protection
- Daily Checklist

15.b.(3) Protection of the staff:

- Materials into and out of the area being repaired will be transported during the time, which is considered "off hours" and will be coordinated with the staff.
- Access into and out of the area being repaired by workmen will be coordinated with the medical staff.
- Refer to paragraph 15.k for the Infection Control Plan.

15.b.(4) Protection of the patients and visitors:

- Transportation of materials into and out of the facility will be coordinated with the medical staff.
- Transportation of the materials will normally be during "off hours."
- Passenger elevators will not be used for transportation of tools and materials.
- An escort will be used when transporting materials into and out of the facility.
- Refer to paragraph 15.k for the Infection Control Plan.

15.b.(5) Electrical systems:

- Power tools will only utilize "normal power" circuits if available. All receptacles that will furnish electrical power will be protected with Ground Fault Circuit Interrupters (GFCI).
- All disconnection's and connections to the electrical branch circuits will first be coordinated with the medical staff.
- Refer to paragraphs 15.f and 15.h.

15.b.(6) Medical gas systems:

- Any work associated with the medical gas system will be in strict accordance with NFPA 99, Chapter 4-3.1, Level 1, Piped Gas Systems; Chapter 4-3.2 Piped Vacuum Systems; Chapter 4-3.3 Waste Anesthetic Gas Disposal Systems; and Chapter 4-3.4 Performance Criteria and Testing.
- Purity checks, which test for contamination of the medical gas lines, shall be conducted prior to commencing work on each work area.
- Prior to turnover of the area completed, the Meltech Superintendent shall verify all tests were performed in strict accordance with NFPA 99 and shall present such certifications to the Medical Treatment Facility designee.

15.b.(7) Isolation of the construction area:

- The construction area will be identified by signs stating "DANGER— Construction Area, Authorized Personnel ONLY" or similar signs to preclude unauthorized entry.
- Temporary partitions will be constructed with studs and gypsum board, with all joints sealed.
- All penetrations leading to a sterile area will be sealed air tight.
- All tools and equipment will be stored in an approved area.
- Refer to paragraph 12.n

15.b.(8) Housekeeping:

- All debris will be continually accumulated in a neat manner, packaged, and removed during the approved material handling period.
- Access into and out of the work area will remain unobstructed.
- Refer to paragraph 12.n

15.b.(9) Fire Protection:

- Appropriate, fire-fighting equipment will be located in prominent, easily accessible locations.
- If existing fire/smoke detection, alarm, or suppression systems are impaired, a temporary but equivalent system will be installed and subject to the approval by the local fire marshal having responsibility for protection of that facility.
- All workers will be trained in appropriate fire fighting and reporting procedures.
- Fire drills will be conducted no less than semi-monthly in coordination with the building fire marshal.
- Refer to paragraph 12.b emergency procedures.

15.b.(10) Interim Life Safety Measures shall be reviewed by the Meltech on site Superintendent each day. A checklist (Attachment J - Interim Life Safety Measures) shall be completed each day and will be maintained on-site.

15.c. Operational Requirements

15.c.(1) The following operating procedures and policies are to be implemented by the Meltech site Superintendent and followed throughout the construction proceedings in order to maintain a safe and healthful work environment (refer to paragraph 7 "Health and Safety Inspections" for inspection requirements and paragraph 8 "Health and Safety Expectations, Incentive Programs, and Compliance" for compliance enforcement.):

- Vehicular and pedestrian access into and out of this facility will be maintained free of obstruction during construction.
- Utility service will be maintained within the facility at all times. When outages are required to perform the work, seven (7) days prior notification shall be given for coordination and approval from the owner's representative. Should alternative utility source(s) be required, the method of implementing the alternative source(s) will be coordinated with and approval obtained from the owner's representative.
- Should service interruptions or outages be required which affect delivery of heating, cooling, electrical, plumbing, or medical gases within the buildings, the request will be submitted a minimum of seven (7) days prior to the required date for approval by the owner's representative. After owner's approval, the outage will be reconfirmed a minimum of twice (twenty-four (24) and four (4) hours in advance) of the approved outage.
- All debris and trash removal from the buildings will be hauled in approved containers.

15.d. Job Safety Standards

15.d.(1) To better provide for the safety of Meltech Corporation, Inc. employees and its subcontractors and to protect the property of this company, basic safety standards have been developed and adopted for the purpose of reducing the frequency of accidents while minimizing the impact of the related losses. All persons on the project site are to comply with these standards. Meltech Corporation, Inc. reserves the right to halt work operations, which may contradict these safety guidelines and to remove from the workplace any and all individuals who do not comply with these standards and guidelines.

15.d.(2) Basic Safety Standards

- These Basic Standards are neither all inclusive nor do they supersede the requirements of this SHSP nor EM 385-1-1. Each subcontractor of Meltech performing work on this project will be required by the Meltech on site Superintendent to comply with all statutory safety and environmental requirements as applicable to its work processes. In executing the work subcontractors shall meet the Meltech requirements as noted below and as detailed in paragraph 7 "Health and Safety Inspections" for inspection requirements and paragraph 8 "Health and Safety Expectations, Incentive Programs, and Compliance" for compliance enforcement.
- Hardhats shall be provided by each subcontractor to its employees and worn by all individuals on the job site 100% of the time. Hard hats will comply with

ANSI Z89.1-2003. Refer to paragraph 11 and Attachment M - Personal Protective Equipment for additional requirements.

- Protective safety-toed boots, with hard rubber or leather soles, must be worn by all individuals entering the job site. Refer to paragraph 11 and Attachment M - Personal Protective Equipment for additional requirements.
- Proper clothing (no shorts or tank tops) is to be worn on the job. Minimum suitable clothing includes long trousers, short sleeve shirt and protective work shoes or boots. Refer to paragraph 11 and Attachment M - Personal Protective Equipment for additional requirements.
- Safety deficiencies must be corrected immediately. Refer to paragraph 7 "Health and Safety Inspections" for inspection requirements and paragraph 8 "Health and Safety Expectations, Incentive Programs, and Compliance" for compliance enforcement.
- Protective eyewear shall be required 100% of the time. Eye protection will comply with ANSI Z87.1-2003 (including side shields). Operations such as grinding or chipping require the use of a full, face shield. Refer to paragraph 11 and Attachment M - Personal Protective Equipment for additional requirements.
- First aid kits will be provided by each subcontractor and maintained in a clean and stocked condition on the job site. Refer to paragraph 10, and paragraph 12.b.
- Safety meetings shall be conducted on a weekly basis with mandatory attendance. Subcontractors must submit written details of the topic discussed and those in attendance to Meltech Corporation, Inc.'s on-site representative. Refer to paragraph 2.3 and Attachment A thru Attachment D.
- Each subcontractor must submit a copy of their Safety Program and Hazard Communication Program including a complete catalog of MSDS for materials used on site to the Meltech Superintendent prior to beginning work. Refer to paragraphs 5.b, 12.c, and Attachment A thru Attachment D.
- Meltech Corporation, Inc. must be notified prior to the use or storage of any materials classified as hazardous on the job site. Refer to paragraph 12.c.
- Harnesses and shock absorbing lanyards will be required in accordance with OSHA 1926, Subpart "M", Fall Protection Requirements for Construction. Equipment should be regularly inspected for damage and wear to ensure their proper working order. Upon inspection, harnesses and lanyards shall be color-coded in conjunction with those colors used in the Meltech Corporation, Inc. Assured Grounding Program. . Refer to paragraph 11 and Attachment M - Personal Protective Equipment for additional requirements.
- Open holes shall be barricaded or provided with alternative protection as approved by the Meltech Corporation, Inc.'s on-site superintendent whenever work in a given area has stopped and at the end of each day.
- Trucks and equipment entering or operating on the job site shall be equipped with an operating back-up alarm to provide audible warnings to individuals in the area.

- Good housekeeping practices shall be maintained throughout the job site with the prompt removal of waste material and debris. This includes the orderly storage of bulk work materials. Refer to paragraph 15.b.(8).
- Fire extinguishers, of the appropriate type, size, and number, must be provided and placed in areas with clear access and signs indicating exact locations. Refer to paragraph 15.b.(9).
- Standing water and wet floor surfaces must be drained and dried prior to work being conducted in that area.
- Individuals under the influence or in the possession of alcoholic beverages or illegal drugs shall be immediately removed from the job site. Refer to paragraph 12.w.(1).
- Possession of dangerous weapons shall be grounds for immediate removal from the job site.
- All additional safety regulations of the installation shall be complied with as well as those established by Federal, State and Local agencies
- All temporary power for power tools used on the job site will be GFI protected. This will be accomplished by GFI pigtail cords or GFI protected circuits.

15.e. Common Job Site Deficiencies That Must Be Corrected

15.e.(1) The following general list of deficiencies is not in any order of importance or consideration nor are they all inclusive. They also do not supersede other requirements of this SHSP nor EM 385-1-1 (Refer to paragraph 7 "Health and Safety Inspections" for inspection requirements and paragraph 8 "Health and Safety Expectations, Incentive Programs, and Compliance" for compliance enforcement):

- Operating elevated work platforms (scissors lifts and man lifts) without securing protective chains which act as railings over the entrance/exit.
- Working too closely to the lifting mechanism of elevated work platforms. OSHA defines employees working within six feet of an elevated platform as a potential hazard.
- Employees, who have not been instructed by the employer on the recognition and avoidance of unsafe conditions applicable to his work environment. Refer to paragraph 6 and Attachment A thru Attachment D.
- Compressed gas cylinders in storage without valve protection caps in place. Refer to paragraph 15.i.
- Failure to store compressed gas cylinders with oxygen and acetylene being separated by a minimum distance of 20' or separated by a barrier having a fire-resistance rating of at least 1/2 hour. Storage cages which separate cylinders by using plate steel is unacceptable, the steel transfers sufficient heat to ignite materials on the other side. Refer to paragraph 15.i.
- Compressed gas cylinders not being secured and stored in an upright position. Refer to paragraph 15.i.

- Damaged or missing ground prongs from power cords and power tools. Refer to paragraph 15.f and 15.h.
- Damaged or frayed power cords which expose the insulated interior wiring. Refer to paragraph 15.f and 15.h.
- Poor housekeeping practices, particularly in those areas which may be used as walkways or exits in the event of an emergency. Refer to paragraph 15.b.(8).
- Employees, involved in heating operations and not wearing any protective eyewear. Refer to paragraph 15.g.
- Failure to utilize welding screens to protect fellow employees from the direct rays or flash of the arc. Refer to paragraph 15.g.
- Failure to maintain a fire extinguisher in a state of readiness for instant use in areas where welding, cutting or heating was being performed. Refer to paragraph 15.g.
- Improper use of a step-ladder. Refer to paragraph 12.x.(2).
- Leaning step-ladders against objects for use. Refer to paragraph 12.x.(2).
- Utilizing ladders while in a damaged condition. Refer to paragraph 12.x.(2).
- Using the top two steps of a ladder, which creates an unstable work surface. Refer to paragraph 12.x.(2).
- Failure to label, tag or mark all containers of hazardous chemicals in the workplace with the appropriate hazard warning. For example: (gasoline). Refer to paragraph 12.c.
- Failure to label, tag, or mark all containers in the workplace with the accurate identity of their contents.
- All storage trailers should be equipped with stairs, railings, and a decking to prevent potential falls due to difficulty in access.

15.f. Assured Grounding Program

15.f.(1)Purpose: The purpose of this program is to minimize injuries related to faulty or inadequate electrical grounding while maintaining electrical cords and power tools in a good safe working order.

- As established by OSHA Standard 1926.400, Meltech Corporation, Inc. has implemented a company-wide Assured Grounding Program. Thorough inspection and testing of all electrical equipment is conducted on a quarterly basis in the field and prior to any new piece of equipment being placed into service. In the event damaged conditions are observed, the equipment is to be removed from the job site for repairs and testing prior to the equipment being returned to use.
- All temporary power for power tools used on the job site will be GFI protected. This will be accomplished by GFI pigtails cords or GFI protected circuits.

15.f.(2) Meltech Corporation, Inc.'s assured grounding program is addressed in Paragraph 15.h.

15.g. Welding, Burning and Heating Operations

15.g.(1) Employees involved in welding and burning must always remember they must not only protect themselves, but they must protect their fellow workers from the hazards of these operations. Creation of welding flash, metal fumes, and the potential of fire are only a few of the most common problems when using a torch.

15.g.(2) Fire extinguishers should be readily accessible at all times. This should mean within 30' of the welding process or immediately present if there would be complications in accessing one otherwise. Maintain charged extinguishers in the job box at all times in the event of fire.

15.g.(3) Welding screens should be placed around all welding areas to prevent other personnel in the area from being exposed to welding flashes. If this is not practical, signs should be placed throughout the area, warning of welding operations.

15.g.(4) A full face welding shield and long sleeve protection shall be used during all welding operations and by all welding assistants.

15.g.(5) Welding shall not be permitted in an area with little or no ventilation. Direct inhalation of metal fumes may cause dizziness or nausea. Fans or blowers should be used in areas with poor ventilation.

15.g.(6) Tinted eyewear (minimum shade No. 2) is required during any heating operation including soldering. The radiant energy from the flame may cause eye irritation or damage.

15.g.(7) Employees involved in welding and burning operations will submit a welding, burning permit (copy attached - Attachment E - Welding, Burning Permit) to their supervisor prior to start of work. All welding/burning operations will be coordinated with and approved by the facility manager.

15.h. Assured Equipment Grounding Program

15.h.(1) Meltech Corporation, Inc. and designated subcontractors shall enforce and abide to the Occupational Health and safety Act on Ground Fault Circuit Interrupters (Section 1926.400 (H) (2)) and Assured Equipment Grounding Conductor Program (Section 1926.400 (H) (3)). In an effort to provide the maximum protection for our employees, this company may require the use of both options in conjunction with the other. A copy of these 1926.400 standards is included in this program for reference purposes. It is a Corp of Engineer requirement that all construction, including maintenance activities, have Ground Fault Circuit Interrupters (GFCI) on all circuits whether supplied through permanent wiring or construction systems.

15.h.(2) Purpose: The purpose of this program is to minimize injuries related to faulty or inadequate electrical grounding while maintaining electrical cords and power tools in a good safe working order.

15.h.(3) Ground Fault Circuit Interrupters:

- All construction outlets will be equipped with Ground Fault Circuit Interrupters (GFCI's). GFCI protections will be provided on all circuits serving electric power tools. Temporary electrical power cords from permanent building wiring will also be equipped with GFCIs.

- The OSHA standard reads as:
  - ◊ 1926.400(H)(2) - All 120-volt, single-phase, 15 and 20 ampere receptacle outlets on construction sites, which are not a part of the permanent wiring of the building or structure and which are in use by employees, shall have approved ground fault circuit interrupters for personal protection.
  - ◊ 1926.400 (H)(3) Assured Equipment Grounding Conductor Program: This company has established and implemented an assured grounding program for all construction sites covering cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and electrically powered equipment connected by cord or plug available for use by employees. This Program must comply with the following minimum requirements.
  - ◊ While this regulation is an option according to OSHA Standards, Meltech Corporation, Inc. implements its use in addition to ground fault circuit interrupters

15.h.(4) No equipment shall be used prior to testing and inspection.

15.h.(5) All equipment-grounding conductors shall be tested for continuity and shall be electrically continuous.

15.h.(6) Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment grounding conductor at the following intervals:

- Prior to first use.
- Prior to equipment being returned to service following repairs.
- Before equipment is returned to service following any incident which can be reasonably suspected to have caused damage.
- At intervals not to exceed 3 months, except those cord sets and receptacles which are fixed, and not exposed to damage which shall be tested at intervals not exceeding 6 months.

15.h.(7) All receptacles, cords, plugs, and attachment caps shall be tested in the following manner:

- While in service with a receptacle circuit tester.
- While not in service use a continuity tester.

15.h.(8) A four-color code system shall be used to designate verification and completion of testing for all tools, cords, plugs, and receptacles. This system will provide for easy visual confirmation of testing with each color representing 3 calendar months during the year.

Color Code System

Period	Color
January – March	White
April – June	Green
July – September	Red

October – December	Orange

15.h.(9) Due to the number of cords and amount of equipment to be inspected, an inspection period of two weeks will be allowed at the beginning of each new quarter. During this period, either applicable color will be acceptable.

15.h.(10) Visual Inspection. All cords, plugs, and equipment shall continuously be visually inspected for any signs of physical damage and to ensure proper color-coding prior to use. No employee shall use equipment or cords without proper color-coding and all signs of damage should be reported to the job Superintendent so the damaged item may be removed from service for repairs.

Note: Supervisors should confirm the scheduling of the color code system against the color codes used by other companies on the same job site. In the event of any discrepancies, a uniform code should be developed and documented as part of this program.

15.i. Compressed Gas Cylinders

15.i.(1) Each day it is likely some form of compressed gas will be used on one of our job sites. Responsibility for handling and storage of these materials falls on each person on the job site because of the serious hazards involved.

15.i.(2) As an overview, the following items are the most commonly found deficiencies regarding compressed gases. Many of these may seem so simple; one may not realize they were being done improperly.

15.i.(3) Oxygen, acetylene, and nitrogen are NEVER to be stored together, whether in groups or individually. Each material should be placed or stored with its own kind.

15.i.(4) All cylinders must be securely capped unless in the process of being used. The exception to this may be 40 lb. bottles not designed for caps.

15.i.(5) All cylinders must be secured in an upright position. No cylinders, whether full or empty, should be laid on its side. When securing cylinders, utilize a device or material of substantial composition and strength.

15.i.(6) When storing cylinders, each gas must be secured at least 20' from other types of gases, or they must be separated by a barrier with a fire rating of 1/2 hour.

- ***Metal partitions are NOT acceptable due to the materials ability to transfer heat.***

15.i.(7) The storage of gas bottles in job boxes is not allowed.

15.i.(8) Keep all cylinders away from heat or electrical sources which could provide a potential ignition source.

15.j. Removal of Miscellaneous Hazardous Materials

15.j.(1) The Work Plan (if applicable to any site identified hazardous materials) section "Asbestos and/or LB Paint Abatement" and Specification sections contains information about this project's, Removal of Miscellaneous Hazardous Materials Plan.

15.k. Infection Control Plan

15.k.(1) The ideal process for an Infection Control Risk Assessment (ICRA) is for the process to be initiated during the programming phase of the project and continue thru construction and job completion. The ICRA should be developed by an interdisciplinary "Team" that is convened by the Owner at the beginning of the project design. For this project, however, the ICRA requirement was not implemented until the Work Plan stage. It is recommended the Owner convene an ICRA Team to accomplish this work effort. In the interim, an ICRA is attached and is being submitted for review by the ICRA Team (refer to Attachment Q - Infection Control Plan)

Attachment A- Jobsite Safety Package

Contents and Instructions

1. Copy of current Meltech Safety Program.

   A. Review company Safety Standards with all new or reassigned employees on the job site.
   B. Review the employee orientation form and have each new employee sign.
   C. Post a second copy of the Program for employee review in a common area.

2. Employee right-to-know Program (hazard communication). To be reviewed with each new employee and checked on the orientation form.

   A. Program – Includes instructions and procedures.
   B. Chemical inventory – lists potentially hazardous materials which may be found on the job site.
   C. MSDS Catalog – Product and emergency information of potentially hazardous materials.

3. Accident investigation report forms. (sample: completed form inside the safety program).

   A. All injuries or losses must be reported the same day in which the occur.
   B. Detailed accident investigation forms are to be submitted to the Health and Safety Director no later than two days after the accident.

4. MCA Blue Safety Package (29 CFR 1926 Codes) (available on the Internet)

   A. Review contents guide and instructions for use of materials.
   B. Fill in and post all safety related posters and information in plain employee view.

** Upon completion of each job, all original posters and publications should be returned to the Safety Package. Please maintain the materials in good condition for use on future job sites.

Package issued to:
Date issued:
Job #:

Attachment B - Safety Equipment/Supply List For Job Training

To Be Issued To All Superintendents

- First aid kit including rubber gloves.
- Fire extinguisher (2) minimum 8 lbs.
- Employee orientation forms.
- Accident investigation forms.
- Hazcom/right-to-know program, chemical inventory and MSDS catalog.
- MCA Safety Program (blue book) (29 CFR 1926 Codes, available on the Internet)
- EM 385-1-1 Corp of Engineers Safety Manual
- ENG. 3394 Forms, Accident Investigation Report
- OSHA Form 300 and 300A which replace former OSHA Form 200).
- Electrical outlet tester.

Attachment C - Meltech Employee Orientation Form

It is the objective of Meltech to conduct all operations of this company in the safest possible manner. Each of you must be made aware of specific company rules, policies, and programs which are intended to provide education of job related hazards and to minimize the potential for injuries or losses.

To complete the orientation process, a representative of Meltech will explain and review the safety related requirements associated with this job site. Reference to several of these requirements are provided below.

Upon completion of the orientation, each of you will be asked to acknowledge your participation in the process and that you understand or received each of those items checked [X] below. The lower portion of this page will be maintained in your employee file with the top of the page being returned to you.

[X] Received and reviewed a copy of the Meltech safety guidelines.

[X] Safety glasses and a hard hat have been issued to me and are to be worn 100% of the time.

[X] Familiar with the Hazard Communication {Hazcom] standard and know where MSDS may be found in the job office.

[X] Failure to abide with the safety policies of this Company may result in termination from employment.

TOP – EMPLOYEE

BOTTOM – EMPLOYER

I acknowledge I have read, understood and accepted all of the information and requirements outlined above.

_____ _____

JOB NAME EMPLOYEE SIGNATURE

_____ _____

COMPANY REPRESENTATIVE DATE

Attachment D - Subcontractor Documentation

Sign Off Sheet

Insure that every subcontractor has the following:

	Submitted	
1. The subcontractor's Safety Plan	Yes ___	No ___
2. Insurance forms complete	Yes ___	No ___
3. Safety Representative/First Aider	Yes ___	No ___
4. Emergency Contacts	Yes ___	No ___
5. MSDS on site and turned in	Yes ___	No ___
6. Activity Hazard Analysis (before any work begins)	Yes ___	No ___
7. Tool Box talks Documentation	Yes ___	No ___
8. Orientation Documentation (safety)	Yes ___	No ___
9. Drug Testing (as applicable)	Yes ___	No ___
10. Personal Protective Equipment supplied	Yes ___	No ___
11. Fire Extinguishers Training	Yes ___	No ___

Be sure the following is done before equipment is used. Document the training:

12. Forklift training (operator qualified)	Yes ___	No ___
13. Aerial platform training	Yes ___	No ___
14. Scaffold Training	Yes ___	No ___

[* Following may be applicable *]

15. Confined Space Rescue Training (every 5 years)	Yes ___	No ___
16. CPR Qualification (every Year)	Yes ___	No ___
17. First Aid Certification (every 3 Years)	Yes ___	No ___
18. Respiratory Protection Certification (every 5 years)	Yes ___	No ___

Stop the work of any subcontractor who does not have those items.

Prior to Start of Work
Test Walkie-Talkie/Cell phones from within crawl space area (done daily) Yes ____ No ___

Attachment E - Welding, Burning Permit

Project:

Affected Area: _____ Room No: _____
Date of Work Proposed:
_____
Time:
_____
Duration:
_____

Work Description:
Nature of Burning/Welding Demo: _____
Describe: _____ Pipe: _____
_____ Equipment _____
_____ Structure: _____
_____ Other: _____

Is space occupied: Yes _____ No _____
Will special ventilation be required: Yes _____ No _____
If yes, will it be in place prior to start: Yes _____ No _____

Type of temporary ventilation: _____
_____
_____
The following precautions will be taken: _____
_____
_____
Restrictions: _____
_____

The above precautions should prevent any patient disturbances.

Requested by: _____ _____ _____
(Print) (Sign) (Sign)

Disapproved by: _____ _____ _____
(Print) (Sign) (Sign)

Meltech QC Approved by: _____ _____ _____
(Print) (Sign) (Sign)

Facility QC Approved by: _____ _____ _____
(Print) (Sign) (Sign)

Work Completed by: _____ _____ _____
(Print) (Sign) (Sign)

Attachment F – Accident Investigation Report

U.S. Army Corps of Engineers, Accident Investigation Report, ENG FORM 3394, Mar 1999

(For Safety Staff only)	REPORT NO.	EROC CODE	UNITED STATES ARMY CORPS OF ENGINEERS ACCIDENT INVESTIGATION REPORT *(For Use of this Form See Help Menu and USACE Suppl to AR 385-40)*	REQUIREMENT CONTROL SYMBOL: CEEC-S-8(R2)

1. ACCIDENT CLASSIFICATION

PERSONNEL CLASSIFICATION	INJURY/ILLNESS/FATAL	PROPERTY DAMAGE	MOTOR VEHICLE INVOLVED	DIVING
GOVERNMENT ☐ CIVILIAN ☐ MILITARY	☐	☐ FIRE INVOLVED ☐ OTHER	☐	☐
☐ CONTRACTOR	☐	☐ FIRE INVOLVED ☐ OTHER	☐	☐
☐ PUBLIC	☐ FATAL ☐ OTHER		☐	

2. PERSONAL DATA

a. Name *(Last, First, MI)*	b. AGE	c. SEX ☐ MALE ☐ FEMALE	d. SOCIAL SECURITY NUMBER	e. GRADE

f. JOB SERIES/TITLE	g. DUTY STATUS AT TIME OF ACCIDENT	h. EMPLOYMENT STATUS AT TIME OF ACCIDENT
	☐ ON DUTY ☐ TDY ☐ OFF DUTY	☐ ARMY ACTIVE ☐ ARMY RESERVE ☐ VOLUNTEER ☐ PERMANENT ☐ FOREIGN NATIONAL ☐ SEASONAL ☐ TEMPORARY ☐ STUDENT ☐ OTHER *(Specify)*

3. GENERAL INFORMATION

a. DATE OF ACCIDENT *(month/day/year)*	b. TIME OF ACCIDENT *(Military time)* hrs	c. EXACT LOCATION OF ACCIDENT	d. CONTRACTOR'S NAME (1) PRIME: (2) SUBCONTRACTOR:

e. CONTRACT NUMBER	f. TYPE OF CONTRACT	g. HAZARDOUS/TOXIC WASTE ACTIVITY
☐ CIVIL WORKS ☐ MILITARY ☐ OTHER *(Specify)*	☐ CONSTRUCTION ☐ SERVICE ☐ A/E ☐ DREDGE ☐ OTHER *(Specify)*	☐ SUPERFUND ☐ DERP ☐ IRP ☐ OTHER *(Specify)*

4. CONSTRUCTION ACTIVITIES ONLY *(Fill in line and corresponding code number in box from list - see help menu)*

a. CONSTRUCTION ACTIVITY	(CODE)	b. TYPE OF CONSTRUCTION EQUIPMENT	(CODE)
	#		#

5. INJURY/ILLNESS INFORMATION *(Include name on line and corresponding code number in box for items e, f & g - see help menu)*

a. SEVERITY OF ILLNESS/INJURY	(CODE)	B. ESTIMATED DAYS LOST	C. ESTIMATED DAYS HOSPITALIZED	D. ESTIMATED DAYS RESTRICTED DUTY
	#			

e. BODY PART AFFECTED	(CODE)	g. TYPE AND SOURCE OF INJURY/ILLNESS	(CODE)
PRIMARY	#		
SECONDARY	#	TYPE	#
f. NATURE OF ILLNESS / INJURY	(CODE)	SOURCE	(CODE) #
	#		

6. PUBLIC FATALITY *(Fill in line and correspondence code number in box - see help menu)*

a. ACTIVITY AT TIME OF ACCIDENT	(CODE)	b. PERSONAL FLOATATION DEVICE USED?
	#	☐ YES ☐ NO ☐ N/A

7. MOTOR VEHICLE ACCIDENT

a. TYPE OF VEHICLE	b. TYPE OF COLLISION	c. SEAT BELTS	USED	NOT USED	NOT AVAILABLE
☐ PICKUP/VAN ☐ AUTOMOBILE ☐ TRUCK ☐ OTHER *(Specify)*	☐ SIDE SWIPE ☐ HEAD ON ☐ REAR END ☐ BROADSIDE ☐ ROLL OVER ☐ BACKING ☐ OTHER *(Specify)*	(1) FRONT SEAT			
		(2) REAR SEAT			

8. PROPERTY/MATERIAL INVOLVED

a. NAME OF ITEM	B. OWNERSHIP	C. $ AMOUNT OF DAMAGE
(1)		
(2)		
(3)		

9. VESSEL/FLOATING PLANT ACCIDENT *(Fill in line and correspondence code number in box from list - see help menu)*

a. TYPE OF VESSEL/FLOATING PLANT	(CODE)	b. TYPE OF COLLISION/MISHAP	(CODE)
	#		#

10. ACCIDENT DESCRIPTION *(Use additional paper, if necessary)*

See attached page.

ENG FORM 3394, MAR 99 Version 2 EDITION OF SEP 88 IS OBSOLETE. Page 1 of 4 pages (Proponent: CESO)

ATTACHMENT F (continued)

11. CAUSAL FACTOR(S) *(Read Instruction Before Completing)*

a. (Explain YES answers in item 13)	YES	NO
DESIGN: Was design of facility, workplace or equipment a factor?	☐	☐
INSPECTION/MAINTENANCE: Were inspection & maintenance procedures a factor?	☐	☐
PERSON'S PHYSICAL CONDITION: In your opinion, was the physical condition of the person a factor?	☐	☐
OPERATING PROCEDURES: Were operating procedures a factor?	☐	☐
JOB PRACTICES: Were any job safety/health practices not followed when the accident occurred?	☐	☐
HUMAN FACTORS: Did any human factors such as, size or strength of person, etc., contribute to accident?	☐	☐
ENVIRONMENTAL FACTORS: Did heat, cold, dust, sun, glare, etc., contribute to the accident?	☐	☐

a. *(CONTINUED)*	YES	NO
CHEMICAL AND PHYSICAL AGENT FACTORS: Did exposure to chemical agents, such as dust, fumes, mists, vapors or physical agents, such as, noise, radiation, etc., contribute to accident?	☐	☐
OFFICE FACTORS: Did office setting such as, lifting office furniture, carrying, stooping, etc., contribute to the accident?	☐	☐
SUPPORT FACTORS: Were inappropriate tools/resources provided to properly perform the activity/task?	☐	☐
PERSONAL PROTECTIVE EQUIPMENT: Did the improper selection, use or maintenance of personal protective equipment contribute to the accident?	☐	☐
DRUGS/ALCOHOL: In your opinion, was drugs or alcohol a factor to the accident	☐	☐

b. WAS A WRITTEN JOB/ACTIVITY HAZARD ANALYSIS COMPLETED FOR TASK BEING PERFORMED AT TIME OF ACCIDENT?
☐ YES *(If yes, attach a copy.)* ☐ NO

12. TRAINING

a. WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK?	b. TYPE OF TRAINING.	c. DATE OF MOST RECENT FORMAL TRAINING.
☐ YES ☐ NO	☐ CLASSROOM ☐ ON JOB	(Month) (Day) (Year)

13. FULLY EXPLAIN WHAT ALLOWED OR CAUSED THE ACCIDENT; INCLUDE DIRECT AND INDIRECT CAUSES *(See instruction for definition of direct and indirect causes.) (Use additional paper, if necessary)*

a. DIRECT CAUSE

See attached page.

b. INDIRECT CAUSE(S)

See attached page.

14. ACTION(S) TAKEN, ANTICIPATED OR RECOMMENDED TO ELIMINATE CAUSE(S).

DESCRIBE FULLY:

See attached page.

15. DATES FOR ACTIONS IDENTIFIED IN BLOCK 14.

a. BEGINNING (Month/Day/Year)	b. ANTICIPATED COMPLETION (Month/Day/Year)

c. SIGNATURE AND TITLE OF SUPERVISOR COMPLETING REPORT	d. DATE *(Mo/Da/Yr)*	e. ORGANIZATION IDENTIFIER *(Div, Br, Sect)*	f. OFFICE SYMBOL
CORPS _____ CONTRACTOR _____			

16. MANAGEMENT REVIEW *(1st)*

a. ☐ CONCUR b. ☐ NON CONCUR c. COMMENTS

SIGNATURE	TITLE	DATE

17. MANAGEMENT REVIEW *(2nd - Chief Operations, Construction, Engineering, etc.)*

a. ☐ CONCUR b. ☐ NON CONCUR c. COMMENTS

SIGNATURE	TITLE	DATE

18. SAFETY AND OCCUPATIONAL HEALTH OFFICE REVIEW

a. ☐ CONCUR b. ☐ NON CONCUR c. ADDITIONAL ACTIONS/COMMENTS

SIGNATURE	TITLE	DATE

19. COMMAND APPROVAL

COMMENTS

COMMANDER SIGNATURE	DATE

Page 2 of 4 pages

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ATTACHMENT F (continued)

10.	ACCIDENT DESCRIPTION *(Continuation)*

13a.	DIRECT CAUSE *(Continuation)*

ATTACHMENT F (continued)

13b.	INDIRECT CAUSES *(Continuation)*

14.	ACTION(S) TAKEN, ANTICIPATED, OR RECOMMENDED TO ELIMINATE CAUSE(S) *(Continuation)*

Attachment G - Incident Report

Meltech

3321 75th Avenue, Suite G
Landover, MD 20785-1519

Type of Injury

[ ] Injury Only [ ] Both
[ ] Property Damage

Job Name, Number and Address

Name, Address of Employee

Date of Accident Time Date & Time Reported to Superintendent

Did employee return to work? When? Date of Birth Social Security Number

Job Title Date of Hire Experience on this Job PPE Used

Accident Location (Where on Premises)

Description of Injury

Did employee seek medical attention? Where?

How did accident happen? (In Detail)

Describe Property Damage

Type of Damage

Steps taken to prevent reoccurrence (what & when)

Evaluate & comment on the following factors

a) Unsafe act by individual _____

b) Unsafe work condition _____

c) Environmental (rain, cold, etc.) _____

_____ _____

Name of Superintendent Injured Worker's Signature

_____ _____

Signed by Superintendent

_____ Date _____

Attachment H - Medical Treatment Report

Supervisor – Complete the following before sending employee to the doctor or emergency clinic for treatment.

Employee Name - _____

Jobsite - _____ **Phone -** _____

Supervisor -_____

ACCIDENT DESCRIPTION

_____

_____

_____

STATEMENT TO TREATING AGENCY –

The person named above is an employee of Meltech. Please render necessary First Aid/First Time Emergency care only. Treat this injury as a Worker's Compensation claim. The employee has been provided with a panel of physicians should they require further care. Do not refer to other doctors without our authorization. Please call **1-(301) 773-3450**. All correspondence and invoices are to be sent to Meltech, 3321 75th Avenue, Suite G, Landover, MD 20785-1519.

STATEMENT TO TREATING PHYSICIAN:
The employer offers all injured employees light duty with full pay. We will abide by any work restrictions imposed by the treating physician. Please call the above number provided and speak with the corporate insurance manager. All employees are expected to return to work if possible. Please complete the below report:

Physician's Name - _____

Phone - _____ Date of Treatment - _____

Return Appointment - _____

Diagnosis - _____

Work Restrictions - _____

Refuses Treatment - _____

Date - _____ Physician Signature - _____

MEDICAL INFORMATION RELEASE

Please obtain medical releases from the patient in order to provide the employer with proper medical reports. The employer will require reports before paying for treatment or returning the employee to duty.

Attachment I - OSHA Forms 300

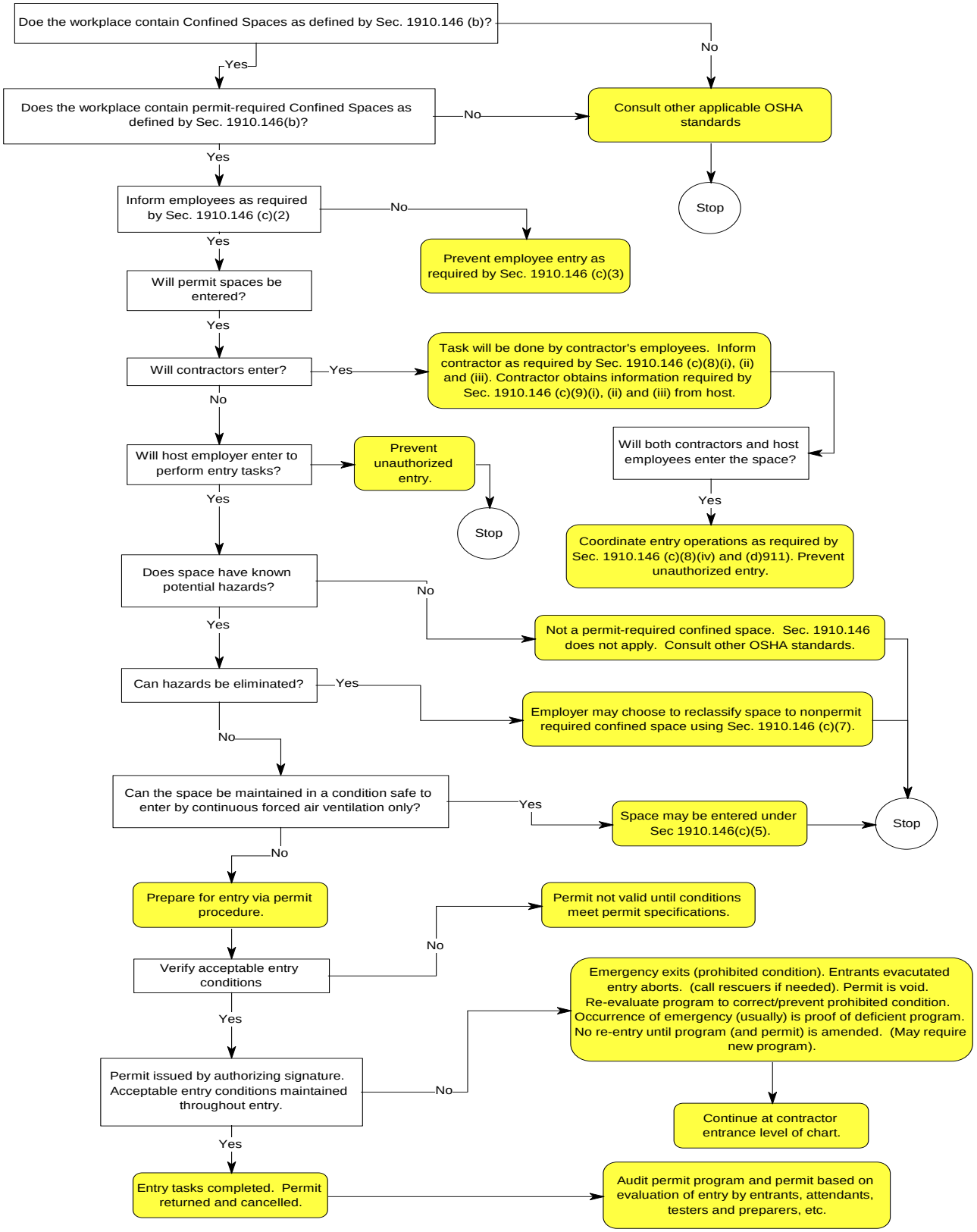
OSHA Form 300, OSHA Injury and Illness Log, OSHA Form 300A, Summary, and OSHA Form 301, Supplementary Record of Occupational Injuries and Illness are enclosed. These Forms replace previously used Forms as part of a comprehensive revision of the OSHA injury and illness record keeping system.

Attachment J - Interim Life Safety Measures

Date: (daily)

_____Yes	_____No	Fire exits free from debris and equipment.
_____Yes	_____No	Free and unobstructed access to emergency departments/services by emergency forces.
_____Yes	_____No	Fire alarm, detection and suppression systems maintained.
_____Yes	_____No	Temporary partitions maintained and smoke tight.
_____Yes	_____No	Smoking prohibited in all construction areas.
_____Yes	_____No	Fire-fighting equipment prominently displayed and maintained in working order.
_____Yes	_____No	Combustible fire load minimized by debris removal practices.
_____Yes	_____No	All materials are transported into and out of the work area in an approved manner and timeframe.
_____Yes	_____No	Proper escorts used during transporting of tools and materials.
_____Yes	_____No	All required tests witnessed and verified.
_____Yes	_____No	Daily test of hand-held radios prior to entry into crawl space.
_____Yes	_____No	Daily inspection for any vermin prior to entry into crawl space.

Attachment K Confined Spaces Decision Flow Chart



Attachment K-2 -Pre-Entry Checklist for Permit Required Confined Space Entry

	Confined Space Location and Identification Number:	Write Yes or No Below	Attendant Entrant	Entry Supervis or Initials
1	Is entry necessary?			
2	Are the instruments used in atmospheric testing properly calibrated?			
3	Was the atmosphere in the confined space tested?			
4	Was the oxygen level 19.5% and not more than 23.5%?			
5	Were toxic, flammable, or oxygen-displacing gases/vapors present?			
6	Will the atmosphere in the space be monitored while work is going on? Continuously Periodically			
7	Has the space been cleared before entry?			
8	Has the space been ventilated before entry?			
9	Will ventilation be continued during entry?			
10	Is the air intake for the ventilation system located in an area that is free of combustible dusts, vapors, and toxic substances?			
11	If atmosphere was found unacceptable and then ventilated, was it re-tested before entry?			
12	Has the space been isolated from other systems?			
13	Has electrical equipment been locked out?			
14	Has mechanical equipment been blocked, chocked, and disengaged when necessary?			
15	Have lines under pressure been blanked and bled?			
16	Is special clothing required?			
17	Is rescue equipment and/or communications equipment required?			
18	Are spark-proof tools required?			
19	Is respiratory protection required?			
20	Have all entrants been trained in proper use of a respirator, and been medically qualified and fit tested?			
21	Have all attendants received First Aid/CPR training?			
22	Have all entrants been trained in confined space entry and do they know what danger to look for?			
23	Will there be a standby person on the outside in constant visual or auditory communication with the person on the inside?			
24	Has the standby person been trained in rescue procedures?			
25	Are all participants familiar with emergency rescue procedures?			
26	Has a confined space entry permit been issued?			
27	Does the permit include a list of emergency telephone numbers?			

Attachment K-3 - Confined Space Entry Permit

Project Title and Location: _____

Date: _____ Time: _____ Expiration: _____

Location and description of confined space:

_____

_____

Purpose of entry:

_____

_____

Subcontractor: _____ Project Superintendent: _____

Atmospheric Tests	Acceptable Levels	Instrument Reading
Oxygen (O_2)	Greater than 19.5% Less than 23.5%	
COMBUSTIBLE GASES		
% of L.E.L.	Less than or equal to 10%	
Carbon Monoxide	Less than or equal to 35 ppm	
Hydrogen Sulfide (H2S)	Less than or equal to 10 ppm	
Sulfur Dioxide (So2)	Less than or equal to 2 ppm	
Chlorine (CL2)	Less than or equal to .5 ppm	
Chlorine Dioxide (CLO2)	Less than or equal to .1 ppm	
Ammonia (NH3)	Less than or equal to 25 ppm	
Methane (CH4)	Less than or equal to 10 ppm	
Nitrogen (N)	Less than or equal to 5 ppm	
Nitric Oxide (NO)	Less than or equal to 25 ppm	
Temperature	Less than 110 degrees F	

Test performed by: _____ Date: _____

Attachment K-3 (Continued)

Confined Space Entry Permit

	YES	NO	N/A
Hot work permit required?			
Vessel cleaned and drained?			
All inlets and outlets closed or secured?			
Pipes blanked or valves closed & locked?			
Pumps, agitators, power supply, radiation source locked out?			
Observer available?			
Does observer know:			
1. Emergency procedures?			
2. Location of nearest person for help?			
3. CPR/First Aid			
Is emergency S.C.B.A. available?			
Safety harness and lifeline available?			
Low voltage or battery lighting or ground fault?			
Portable electric tools grounded?			
Protective clothing worn?			
Respirator required?			
Ladders or scaffolding erected safely?			
Mechanical ventilation available?			
Ventilation source adequate?			
Fire extinguisher available?			

All persons entering confined space and observers are to sign below. This permit is for ensuring the safety of employees and not a waiver of any rights.

Review and checked by supervisor in charge: _____

Permit issued by: _____ Date: _____

I have received instruction on the safety procedures and hazards of the confined space to be entered:

1. _____
2. _____
3. _____
4. _____
5. _____

Attachment K-4 - Air Monitoring Report

Job Title -
Location: _____

Job Number: _____

DATE	OXYGEN	COMBUSTIBLES	CO/H_2S	TESTED BY	LOCATION

Attachment L – Activity Hazard Analyses

Activity Hazard Analysis: Demolition

Project: Site Preparation and Modular Clinic
Date: [TBD]

Project Number: W912-07-D-0059
Location: Ft. Leonard Wood, MO

Activity: **Demolition**

Enforcement: **Site Superintendent & Subcontractor's Superintendent**

Activity	Potential Hazards	Recommended Controls
Demolition	1. Clean Site	a. All hazardous materials including Asbestos and Lead-Based Materials are to be removed from the area, PRIOR to the completion of demolition.
	2. Foot/Leg Injury	a. Keep work areas clear of debris. b. Be aware of surroundings.
	3. Dust Inhalation	a. Use dusts down to prevent over exposure.
	4. Head/Eye Injury	a. Wear proper personal protective equipment.
	5. Electrocution	a. Have qualified electrician disconnect, cap or lockout/tagout all energized circuits.

Activity Hazard Analysis: Installing Pipe

Project: Site Preparation and Modular Clinic
Date: [TBD]

Project Number: W91278-07-D-0059
Location: Ft. Leonard Wood, MO

Activity: Installing Pipe

Enforcement: **Site Superintendent & Subcontractor's Superintendent**

Activity	Potential Hazards	Recommended Controls
Placing pipe	1. Back Strains	a. Use proper equipment to help place pipe b. Work with another worker on larger pipe c. Use chainfall or lifts to raise heavy pipe d. Make sure clamps are properly tightened
Installing lubricant on fittings	1. Lubricant in Eyes 2. Pipe slips in hands	a. Use of proper eye protection as required b. Clean excess lubricant off pipe c. Wear gloves where applicable
Scissors Lift	1. Fall from same 2. Hydraulic/Electrical Failure	a. Stay within safety rails, no climbing or leaving from rails b. Use bypass switch to lower safely (locate before use)
Core Drilling	1. Injury to workers below from falling cores 2. Sprains from loose machine 3. Slips on residue water/sludge	a. Properly barricade area off (red barricade tape) b. Make sure machine is properly bolted or otherwise secured to prevent movement c. Dam area up around machine d. Clean up all water waste immediately after operation
Smoldering copper pipe	1. Burns on hands and face 2. Fire	a. Wear proper eye protection with correct tinting for operation b. Wear long sleeve shirts, keep top button buttoned c. Have a fire extinguisher within 30' of operations d. Fill out **Hot Work Permit** as required e. Clean area up before beginning operations with open flame
Welding/Cutting Pipes	1. Flash Burn to Eyes 2. Burns to skin 3. Breathing welding fumes 4. Fire	a. Wear proper eye protection with proper tinting b. Wear long sleeved shirts along with gloves c. Provide for proper ventilation and monitor d. Use fans to help keep air moving e. Same as above (fire extinguisher)
Grinding of Pipe	1. Eye injury from metal shaving 2. Cuts from grinder	a. Wear a full-face shield as required b. Keep guards in place c.

Activity Hazard Analysis: Installing Pipe (Cont)

Project: Site Preparation and Modular Clinic Project Number: W91278-07-D-0059
Date: [TBD] Location: Ft. Leonard Wood, MO

Activity: **Installing Pipe)** Enforcement: **Site Superintendent & Subcontractors**

Equipment To Be Used	Inspection Requirements	Training Requirements
Scissors Lift	1. Daily for damage, leaks 2. Keep inspection logs	a. Proper training in the safe operation of this equipment
Core Drilling Machine	1. Check for damaged bits, cords 2. Check for machine secured	a. Use and safe operation of tool
Ladder	1. Inspect daily for damage	a. Proper use of step ladders
Hammer Drill	1. Daily inspection of cord for damage	a. Proper use of tool
Welding Machine	1. Daily inspection of components 2. Inspection of cables	a. Proper operation of machine b. What to look for in regards to cable damage
Grinders	1. Inspect daily, wheel, guard and abrasive wheels	a. Proper use to prevent injury
Acetylene	1. Inspect valves and tank daily	a. Proper storage and use of compressed gas cylinders
Oxygen/Acetylene Cutting	1. Inspect valves, hoses and torch for damage	a. Proper use and storage of compressed gas cylinders including use of fire extinguisher as required
Forklift	1. Daily and documented as required	a. Training in proper operations of forklift, carry license
Pipe Carts	1. For broken wheels, platform	a. How to safely move around work areas
Roust-A-Bout	1. Check for damage	a. Same as above
Chain Fall	1. Check hooks, chains, cable, etc. for kinks or other damage	a. Proper use and storage

Activity Hazard Analysis: Material/Equipment Handling

Project: Site Preparation and Modular Clinic
Date: [TBD]

Project Number: W91278-07-D-0059
Location: Ft. Leonard Wood, MO

Activity: **Material/Equipment Handling**

Enforcement: **Site Superintendent & Subcontractors**

Activity	Potential Hazards	Recommended Controls
Transporting Material/Equipment in Building Erection	1. Dropping materials/equipment on employees	a. Train all workers in proper procedures for loading and unloading with rigging b. Inspect all rigging for damage or excessive wear, remove if damaged c. Keep travel area clear and clean, pay attention to other workers in area d. If view is blocked, have another worker walk along and when necessary warn other workers to stay clear
Placement of Materials/ Equipment in Building Erection	1. Material falling onto workers 2. Overexertion/back or muscle strain	a. Provide chocks/barricades to prevent accidental movement of materials b. Store all materials from holes and edges of buildings by at least 10' c. Provide mechanical means to move all equipment/material when required

Equipment To Be used	Inspection Requirement	Training Requirement
Forklift	1. Daily inspections documented	a. Competent/trained workers only (must have card)
Pallet Jack	1. Daily inspection	a. Proper use of and maintenance
Johnson Bars	1. Daily Inspection	a. Proper use of tool to prevent falls or strains

Activity Hazard Analysis: Installing Hangers

Project: Site Preparation and Modular Clinic
Date: [TBD]

Project Number: W91278-07-D-0059
Location: Ft. Leonard Wood, MO

Activities: **Installing Building Elements** Enforcement: **Site Superintendent & Subcontractors**

Activity	Potential Hazards	Recommended Controls
Step Ladder Use	1. Fall/Slip	a. Instruct employees in proper use of ladders b. Inspect ladders for damage, grease or other substances which could result in possible injury c. Do not stand on top two rungs of ladder d. Only one person on ladder at a time, be sure ladder is rated for workers weight
Drill Anchors	1. Sprains to arms, eye injury 2. Breathing concrete dust 3. Dust from drilling 4. Electric shock	a. Use Hammer Drill properly, do not try one handed drilling b. Wear proper safety eye protection including full-face shield c. Inspect tool for damage d. Inspect cord for damage
Cut All-Thread	1. Cuts to hands 2. Eye injury	a. Proper use of Band Saw b. Wear gloves if not an additional hazard c. Wear eye protection
Install Hangers	1. Falls from ladder 2. Debris in Eyes	a. See above Ladder Use b. Wear proper eye protection at all times

Equipment To Be used	Inspection Requirements	Training Requirements
Ladder	1. Inspect daily for damage 2. Remove from service if damaged	a. Proper use of stepladders
Port-a-band Saw	1. Daily inspection of tool and cord (repair if required)	a. Proper use and handling of electrical tools
Electric Hammers/ Drills	1. Daily inspection of tool and cord 2. Remove for repair if damaged	a. Same as above

Activity Hazard Analysis: Plumbing Fixture

Project: Site Preparation and Modular Clinic
Project Number: W91278-07-D-0059
Date: [TBD]
Location: Ft. Leonard Wood, MO

Activity: **Plumbing Fixture**
Enforcement: **Site Superintendent & Subcontractors**

Activity	Potential Hazards	Recommended Controls
Distributing Fixtures	1. Dropping fixture 2. Injury to employees hands/feet	a. Keep area clear of debris b. Wear safety shoes and gloves c. Inspect rigging equipment daily
Placement of pipe in building	1. Pipe slipping/rolling onto employees	a. Choke pipe to prevent excess movement b. Use chocks to lock into place
	2. Back Strain/Sprain	a. Use lifting devices (dolly, grasshopper, or other mechanical lifting devices) b. Bend at knees lift with legs keep back straight
	3. Running into openings in floor	a. Inspect and cover all floor openings

Equipment To Be Used	Inspection Requirements	Training Requirements
Electric Hammer	1. Daily inspection of housing and cord	a. Proper use of tool
Ladders	1. Daily check for broken rungs/rails	a. Proper way to use ladders
Prest-o-lite Outfit	1. Cuts/holes in hose, broken gauges	a. Proper connections/use of torch
Oxy-Act Cutting Outfit	1. Daily for broken gauges, damaged hoses	a. Proper set-up and use including PPE
Chain Fall	1. Check daily: hooks, chain, cable, etc.	a. Use of equipment within weight classification
Roust-A-Bout	1. Check for kinks, damage	a. Same as above
Scissors Lift	1. Check hydraulics, rails and function	a. Proper use and safety requirements
Forklift	1. Daily inspections of all items listed in the checklist	a. Training in the proper operations/operators card
Crane	1. Check certifications, lines and location of crane (must be level ground) 2. Placement of swing radius barrier	a. Understanding of lifts, signals b. Where to install barrier on crane
Pipe Carts	1. For broken wheels, platform	a. How to safely move around areas

Activity Hazard Analysis: Painting

Project: Site Preparation and Modular Clinic
Project Number: W91278-07-D-0059
Date: [TBD]
Location: Ft. Leonard Wood, MO

Activity: **Painting (Interior & Exterior)**
Enforcement: **Site Superintendent & Subcontractors**

Activity	Potential Hazards	Recommended Controls
Painting	1. Exposure to over spray	a. Wear respirator as required when spraying b. Wear proper clothing and head covering c. Wear proper personal protective equipment
	2. Fire Hazard	a. Keep all flammable liquids sealed b. Make sure area is well ventilated c. Have fire extinguisher in area
Using ladders	1. Ladder falling/slipping	a. Keep area clean of debris and material, make sure ladder is fully open b. Proper placement of extension ladder c. Tie-off extension ladder d. Keep ladder clean
Use scaffolding	1. Scaffold falling/slipping	a. Keep area clean and free of material b. Use planking labeled for scaffolding c. Insure erected correctly d. Do not overload

Equipment To Be Used	Inspection Requirements	Training Requirements
Ladders	1. Inspect daily for damage	a. Proper use of step and extension ladders
Scaffolding	1. Inspect daily for damage	a. Proper use of scaffolding

Activity Hazard Analysis: General Work

Project: Site Preparation and Modular Clinic
Date: [TBD]

Project Number: W91278-07-D-0059
Location: Ft. Leonard Wood, MO

Activity: **General Work**

Enforcement: **Site Superintendent & Subcontractors**

Activity	Potential Hazards	Recommended Controls
General Work	1. Falling, tripping/slipping	a. Practice good housekeeping, keep all aisles and work areas clear of trash and debris b. Make sure all fire exits are unobstructed and has open access from within the building
	2. Electrical Shock	a. Make sure all circuits (power) have a GFCI installed b. Inspect all tools and cords daily for damage c. Remove and tag damaged tools and cords
	3. Falls from heights	a. All perimeter, floor openings, shafts are properly protected with safety rails b. When required, a fall restraint system will be worn
	4. Floor Openings	a. Covers must be installed over all floor openings 2'' and larger. Covers must be rated a minimum of 2 times the intended load. Also, it must be secured and marked with the word "HOLE" at all times
	5. Fires	a. Keep all combustible materials stored safely away from ignition sources b. Flammable liquids and gases should be stored outside or where there are no ignition sources c. Keep fire extinguishers in visible areas, make sure all exits/entrances have a functional fire extinguisher d. Keep a fire extinguisher near all stairways and label e. Provide a fire excavation plan f. Provide training on fire extinguisher

Attachment M - Personal Protective Equipment

PURPOSE: To prevent injuries to site personnel from flying particles, or falling materials, etc.

SCOPE: All personnel working on or visiting Meltech Corporation, Inc. construction sites shall use PPE (Personal Protective Equipment).

REF: OSHA 1926.101 (Subpart E)
OSHA 1926.951 (Subpart V)

REQUIREMENTS:

1. Hard hats shall meet OSHA requirements and be worn 100% of the time on all job sites. Hard hats will comply with ANSI Z89.1-2003.

2. Hard hats will not be worn on top of baseball caps, sweat shirt hoods, etc. The hard hat shall fit securely on the head. Brim forward.

3. Broken or missing suspension systems in the hard hat shall render them unacceptable and will have a new suspension system installed or the hard hat replaced.

4. Hearing protection will be worn as required in the form of disposable ear plugs or conventional earmuff type. Cotton balls are unacceptable as ear protection.

5. Leather work y-toed boots must be worn on all job sites, they shall be maintained in good condition so as not to pose a hazard to the person wearing them. Canvas or tennis shoe type safety shoes are not acceptable and will not be allowed on site.

6. Eye protection in the form of approved safety glasses will be worn 100% of the time when working. Eye protection will comply with ANSI Z87.1-2003 (including side shields). Additionally whenever drilling, chipping or doing any other operation that may result in flying particles or dust a full face shield shall be worn.

7. Respiratory protection will be provided and worn as required. See Program.

8. Safety Harnesses/Lanyards/Lifelines will be used whenever there is a fall exposure. When moving along form work or shear walls etc., above 6', 100% tie off will be required.

9. It is the individual's responsibility to check his own safety harness and lanyard prior to each use for cuts, breaks, etc. If using a personal safety harness it should be checked by the Superintendent/Superintendent and meet all OSHA requirements.

10. Gloves should be worn whenever working with oily, slippery or sharp objects. Always replace them when a buildup of oil or grease makes them unsafe to use. Never wear gloves during rigging operations where there is a chance that fingers/hand might get caught in rigging. Clothing worn on our projects must be free from tears which might

catch on equipment or materials in area causing possible injuries.

11. Crawl Space PPE. During demolition and removal of sanitary and waste piping, the following equipment will be worn by all workers to minimize exposure to hazards from blood or fluid borne pathogens:

- Full face masks (similar to that in ERs)
- Latex/vinyl gloves (underneath work gloves) -- exposure to waste may require disposal of the work gloves
- Disposable Tyvek "jump suits" over work clothes
- Establishment of a changing area on site (near the egress point(s)) with bio-hazard waste can for disposing of gloves, jump suits upon exit of area (if exposed to waste fluids)
- Establishment of a wash point near the egress points into the crawl space.
- Development of plan for exposure event (POCs on-site, access to wash point, etc.)

WEAR YOUR HARDHAT, SAFETY GLASSES AND WORK BOOTS TO PROTECT YOURSELF FROM INJURY

Attachment N - Voluntary Respirator Use

Regulations (Standards - 29 CFR)
(Mandatory) Information for Employees Using Respirators When not Required Under Standard. - 1910.134 App D

- Part Number: 1910
- Part Title: Occupational Safety and Health Standards
- Subpart: I
- Subpart Title: Personal Protective Equipment
- Standard Number: 1910.134 App D
- Title: (Mandatory) Information for Employees Using Respirators When not Required Under Standard.

Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.

3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

I have received a copy of Appendix "D" of the Respiratory Standard for my use. I have read and understand all the hazards related to use of a dust/particle mask.

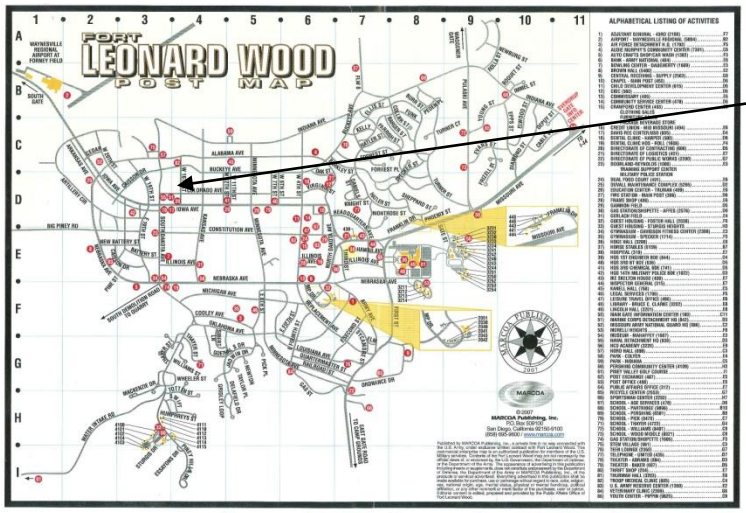
I am voluntarily using a dust mask, which I have asked for and received from VW International, Inc

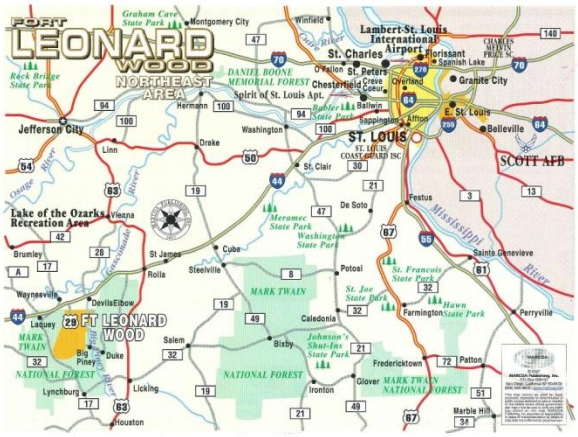
Signature	Date
Print Name	
Superintendent's Signature	Date
Project Location - Title	Project Number

Attachment O - Project Location Plan

Project Location

Fort Leonard Wood is located Pulaski County, Missouri approximately 120 mile southwest of St Louis and is easily accessible from Interstate Highway 44. Bordering the installation to the north are the towns of Waynesville and St. Robert





Attachment P - Hazardous Materials Site Investigation Report

This project does not involve the removal and disposal of asbestos containing/contaminated materials and building components containing lead-based paint.

Attachment Q - Infection Control Plan

1.0 Applicable Regulations And Guidelines:

1.0.1 Joint Commission on Accreditation of Healthcare Organization (JCAHO).

EC.1.7 - Environment of Care Standards on utility management
EC.3.2.1 - Environment of Care Standards on demolition, construction, and renovation

1.0.2 AIA 2001 Guidelines for the Design and Construction of Hospital and Healthcare Facilities

1.0.3 CDC - Guidelines on Environmental Infection Control on air, water, environmental services, laundry and bedding, animals in healthcare facilities, and regulated medical wastes.

1.1 General Information:

1.1.1 Environmental disturbances caused by construction and/or renovation and repair activities (e.g., removing ceiling tiles, running cables through the ceiling, structural repairs) in and around healthcare facilities markedly increase the airborne *Aspergillus* ssp. spore counts in the indoor air of such facilities. The risk for healthcare-associated aspergillosis among high-risk patients is, thereby, increased. Construction, renovation, repair, and demolition activities in healthcare facilities require substantial planning and coordination to minimize the risk of airborne infection during project construction.

1.1.2 Three major topics are to be addressed before initiating any construction or repair activity:

- **Design and Function** of the new structure or area.
- **Infection Control Risk Assessment** of airborne disease and opportunities for prevention.
- **Construction** measures to contain dust and moisture.

1.2 DESIGN AND FUNCTION:

1.2.1 **Planning** of healthcare facilities (in addition to space and operational needs) also includes provisions for infection control and protection of patients and staff. Design and Function has considered the following to assure that a planned structure or area can be easily serviced and maintained for environmental infection control:

- Location of sinks and handwashing dispensers
- Types of faucets (aerated vs. non-aerated)
- Air handling systems engineered for optimal performance and easy maintenance and repair
- ACH and pressure differentials to accommodate special patient care areas
- Location of fixed sharps containers
- Types of surface finishes (non-porous vs. porous)
- Well-caulked walls with minimal seams
- Location of adequate storage and supply areas
- Appropriate location of medicine preparation areas

- Appropriate location and type of ice machines (preferable single-use vs. chest-type dispensers)
- Appropriate materials for sinks and wall coverings
- Appropriate traffic flow (no "dirty" movement through "clean" areas)
- Appropriate flooring (e.g., seamless floors in dialysis units)
- Sensible use of carpeting (e.g., no carpeting in special care areas likely to become wet)
- Convenient location of soiled utility areas
- Properly engineered areas for linen services and waste management
- Installation guidelines for wallboard

1.3 Infection Control Risk Assessment (ICRA):

1.3.1 ICRA Team:

The ideal process is for the project to be designed in compliance with an ICRA that has been developed by an interdisciplinary "Team" that was convened by the Owner at the beginning of the project design. For this project, however, the ICRA requirement was not implemented until the Work Plan stage. It is recommended the Owner convene an ICRA Team consisting of representatives in the following areas for the remainder of this project:

- Infection control, including hospital epidemiologists
- Laboratories
- Facility administration
- Director of Engineering
- Risk management
- Directors of specialized programs (e.g., transplantation, oncology, intensive care unit)
- Employee safety/regulatory affairs
- Environmental services
- Information systems
- Construction administrators
- Architect/Engineer
- Superintendents
- Contractors
- Industrial Hygienists

1.3.2 ICRA Parameters:

The ICRA that has been developed during the Work Plan phase of the project will be updated as the project proceeds through design review and construction. In general, the ICRA addresses the following:

- Disruption of essential services to patients and employees.
- Patient placement or relocation.

- Placement of effective barriers to protect susceptible patients from airborne contaminants.
- Determination of the required number of airborne infection isolation or protective environment rooms.
- Protection of the domestic water system to limit waterborne pathogens like Legionella.
- Protection of patients from construction project hazards such as planned or unplanned power outages, demolition, and movement of debris, managing changes in ventilation and water systems, cleanup, certification, etc.

1.3.3 **Project ICRA:**

The attached ICRA for this project consists of the ICRA responses to the following fourteen (14) data gathering and risk determination steps:

- **Step 1 -** Identify the **Type** of Construction Project Activity (Type A, B, C, or D).
- **Step 2 -** Identify the **Patient Risk Group** (Low Risk, Medium Risk, High Risk, or Highest Risk).
- **Step 3 –** By matching the Type of Construction Project Activity with the Patient Risk Group, determine the **Class of Precaution** to identify the required infection control precautions.
- **Step 4 –** Assess the potential impact of the surrounding areas (to include areas above and below) of the project.
- **Step 5 -** Identify specific site of activity (e.g., Patient Rooms, Medication Room, etc.).
- **Step 6 -** Identify issues related to: ventilation, plumbing, electrical in terms of the occurrence of probable outages.
- **Step 7 -** Identify containment measures, using prior assessment (e.g., solids wall barriers).
- **Step 8 -** Determine potential risk of water damage (e.g., wall, ceiling, roof damage risk).
- **Step 9** - Determine construction work hours (e.g., during or outside of patient care hours).
- **Step 10 -** Determine adequate number of isolation/negative airflow rooms.
- **Step 11 -** Determine the required number and type of handwashing Sinks.
- **Step 12 -** Confirm the minimum number of sinks for this project with the Infection Control Staff.
- **Step 13 -** Confirm the types and areas for Clean and Soiled Utility Rooms with the Infection Control Staff.
- **Step 14 -** Determine the requirements for containment issues (e.g., traffic flow, housekeeping, debris removal).

Attachment Q (Continued)

Infection Control Plan

1.4 Construction:

1.4.1 The specific construction-related requirements of the ICRA are included in the design documents for implementation into the renovation/construction project by the construction contractor.

1.4.2 **External Demolition and Construction:**

External demolition and dirt excavation generate considerable dust and debris that can contain airborne microorganisms. The following strategies for minimizing the intrusion of dust and moisture into the building are being implemented:

- **HVAC systems** Consult with facility engineer on pressure differentials and air circulation options while keeping the facility air pressure positive relative to outside air.
- **Filters** Assure filters are properly installed; change roughing filters frequently to prevent dust build-up on high efficiency filters.
- **Windows** Sealed and caulked to prevent entry of airborne fungal spores.
- **Doors** Keep closed; do not prop open; seal and caulk unused non-emergency exit doors; use tacky mats at entrances.
- **Water pipes** Located in relation to construction area to prevent intrusion of dust into water systems.
- **Immunocompromised patients** Use respiratory barriers to prevent airborne infections from demolition dust; use walkways protected from demolition-construction sites; avoid roof tops.
- **Truck traffic** Re-route or arrange for frequent street cleaning.
- **Education/awareness** Encourage reporting of incidents associated with construction.

1.4.3 **Internal Demolition, Construction, Renovations, and Repairs:**

The focus for infection control during interior construction is containment of dust and moisture. In general, this objective is achieved by:

- Educating construction workers about the importance of control measures.
- Preparing the site properly.
- Notifying and issuing advisories for staff, patients, visitors, and construction workers.
- Moving and relocating staff and patients as needed.
- Issuing standards of practice and precautions during activities and maintenance.
- Monitoring for adherence to control measures during construction.
- Monitoring HVAC performance.
- Implementing daily clean-up; terminal cleaning and removal of debris upon completion.

Attachment Q (Continued)

Infection Control Plan

The specifics on infection control measures are outlined in the ICRA for this project (refer to Paragraph 1.3.3, attached ICRA forms, and Infection Control Permit).

1.4.4 **Infection Control Construction Permit:**

An Infection Control Construction Permit for this project (based on the ICRA) is attached for approval by the Authority Having Jurisdiction. This permit outlines the steps of the ICRA, documents the project parameters, and requires a sign-off of the project requirements.

1.4.5 **Responsibilities and Lines of Authority:**

The responsibilities and lines of authority outlined in Paragraph 1.3 of the Site Health and Safety Plan (SHSP) are also applicable to the implementation of the Infection Control Plan.

1.4.6 **Training:**

Training will be by ICRA Team representative(s) and includes the following:

- Maintenance personnel, construction workers, and healthcare staff are to be trained in minimizing dust and moisture intrusion from construction sites into patient areas.
- Visual and printed educational materials will be provided as appropriate in the language of the workers.
- Staff and construction workers will be made aware of the potential catastrophic consequences of dust and moisture intrusion when an HVAC system or water system fails during construction or repair.
- Construction personnel will be trained at the Weekly Training and Safety Meetings (refer to Paragraph 2.3 of the SHSP) to discuss topics relevant to exposure or job site conditions (e.g., dust control, indoor air quality, noise levels, vibrations, complaint resolution, lines of communication, etc.).

1.4.7 **Inspections:**

The inspection procedures outlined in paragraph 7 "Health and Safety Inspections" of the SHSP are also applicable to the implementation of the Infection Control Plan.

1.4.8 **Phasing:**

The Phasing Plan includes the following:

- Considerations for minimizing disruption of existing patient care areas also and providing a safe environment in patient care areas.
- Provisions for clean to dirty airflow, criteria for interruption of protection, written notification of interruptions, and communication authority.
- Considerations for noise and vibration control that result from construction activities.

- Includes renovation areas that are isolated from occupied areas during construction using airtight barriers and exhaust airflow is sufficient to maintain negative air pressure in the construction zone.
- Assures that existing air quality requirements for occupied areas are maintained.

1.4.9 **Commissioning:**

- Commissioning is a quality process used to achieve, validate, and document that facilities and component infrastructure systems are planned, constructed, installed, tested and are capable of being operated and maintained in conformity with the design intent or performance expectations.
- Commissioning is a process that extends through all phases of a new or renovation project from conceptual design to occupancy and operation. Checks at each stage of the process are made to assure validation of performance to meet the Owner's design requirements. Commissioning is to be performed by an entity that is independent from the installing contractor.
- Acceptance criteria for mechanical systems are specified. Crucial ventilation specifications for air balance and filtration will be verified by a third party before Owner acceptance. Areas requiring special ventilation include protective environments, airborne infection isolation rooms, and local exhaust systems for hazardous agents.

Appendix R - Safety Checklist & Safety Inspection Report

Job Name and Location:
Superintendent _____ Audit Performed By _____

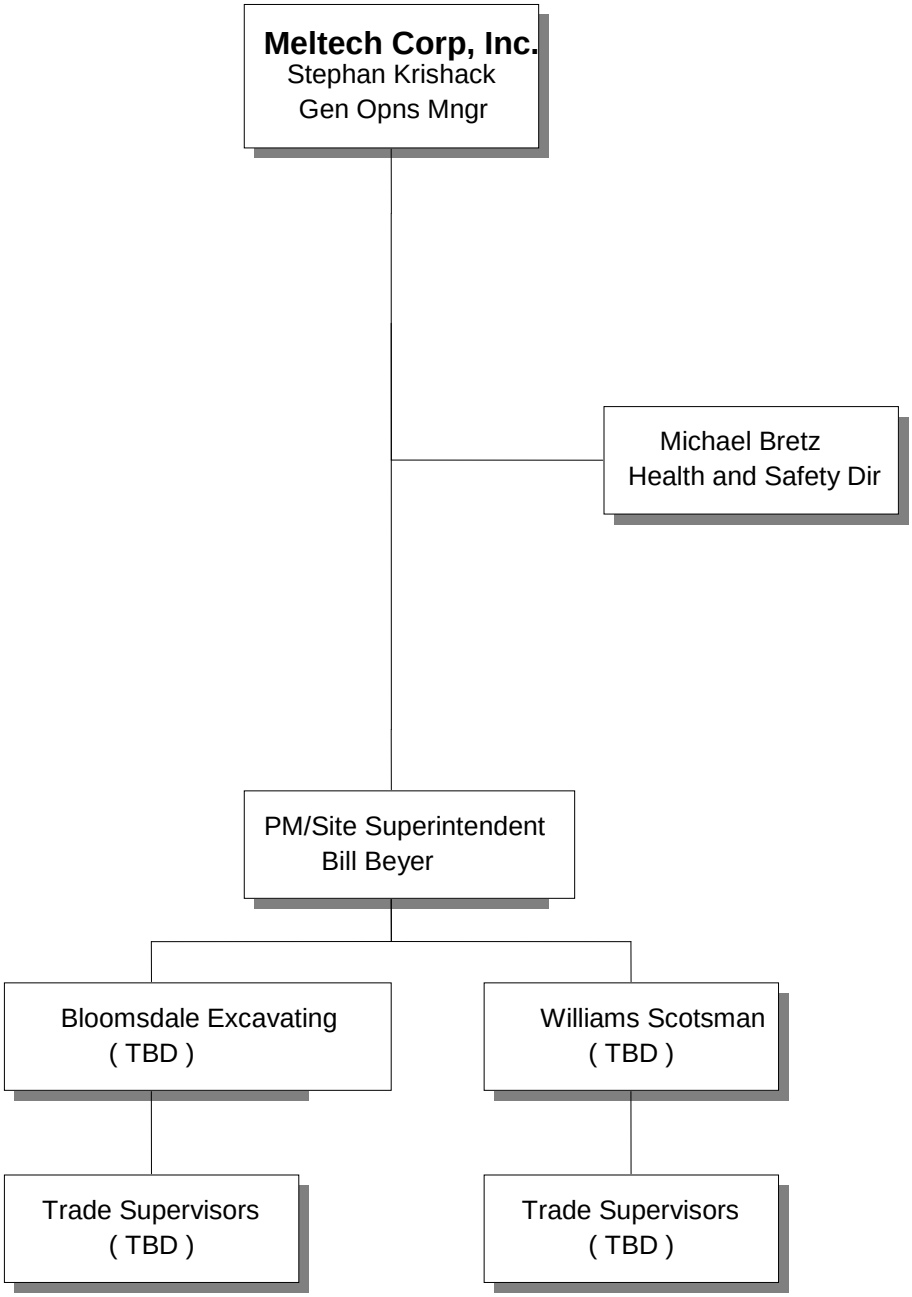
Date _____

N/A	Yes	No	
			A. Safety Meetings and Record keeping requirements
			Weekly toolbox meetings being held with Subcontractors and being documented?
			AHA's being discussed during preparatory meetings for each definable feature of work?
			All required Federal and State posters posted in conspicuous place?
			"Hard Hats Required" signs posted on Jobsite?
			B. First Aid
			Are there at least two people certified in First Aid and CPR on the jobsite?
			A First Aid Kit onsite that is capable of servicing the amount of people onsite?
			An Inventory sheet located near the First Aid kit for people to sign when they take something out of the kit?
			C. Orderliness and Material Storage
			Each subcontractor is routinely cleaning their work area?
			Trash containers onsite?
			Nails removed or bent down?
			Drinking water fresh daily and plenty of cups provided?
			Materials properly stored and stacked?
			Appropriate measures being used for dust protection?
			Sanitary facilities onsite?
			D. Fire Prevention/Protection
			Sufficient number and type of fire extinguishers onsite?
			Approved Flammable/Combustible material containers being used?
			Fire extinguishers located near any hot work and on each piece of motorized equipment?
			E. Personal Protective Equipment
			Approved Hard Hats, worn correctly and in good condition?
			Approved safety glasses being worn by all employees?
			Face shields and/or goggles worn when required?
			Hearing protection worn when required?
			Appropriate fall protection being used for any work greater than 6 feet?
			Proper footwear being worn?
			Proper clothing being worn for the tasks being performed including hand protection?
			F. Confined Space Procedure
			Before entry, all employees trained on confined space?
			Signs posted to identify confined spaces?
			Personal Protective Equipment Specified for confined space work?
			Standby person identified?
			Competent person identified?
			Confined space permit obtained?
			Air monitored before and during occupancy with a calibrated gas monitor?
			All required signatures for entry and documentation on testing?
			G. Hoists, Cranes, Derricks, and Rigging
			Copy of annual inspection onsite?
			Pre-use inspection performed and documentation onsite?
			Operators properly trained and licensed?

N/A	Yes	No	
			Crane Chart in the cab?
			Tag line used on all lifts?
			Correct rigging used and rigging equipment inspected prior to use?
			Area where crane is operated barricaded off to prevent entry by unauthorized personnel?
			Communication between watch person and operator discussed and understood?
			No lifts being made in close proximity to power lines?
			H. Heavy Equipment
			Pre-use inspection performed and documentation onsite?
			Operators properly trained and tested? Forklift operators certified?
			Back up alarms operable on equipment?
			Fire extinguishers on any gasoline, diesel, or propane powered equipment?
			Seat belts being worn on any equipment equipped with rollover protection systems.
			I. Electrical
			Adequate wiring, well insulated and protected?
			Breaker switches identified in the breaker boxes?
			Breaker boxes have covers?
			Temporary/Permanent lighting adequate and protected?
			J. Hand Tools
			Proper tools being used for the job?
			Tools inspected, defective ones removed from service?
			Tools stored when not in use?
			K. Power Tools/Cords/GFCI
			GFCIs available for extension cords and power tool use?
			GFCIs tested weekly to ensure they operate correctly and the inspection documented?
			All tools and equipment have ground plug in place?
			Extension cords placed along the walls or elevated 7 feet?
			L. Barricades/Guardrails/Stairs
			Floor/wall openings covered?
			Construction areas barricaded?
			Trenches and excavations barricaded?
			Stairs kept free of debris?
			Stairs four steps or more equipped with a handrail?
			M. Scaffolding
			Erected by competent person?
			Working areas free of debris, ice, mid, or grease?
			Mud sills and base plates being used?
			Workers protected from fall objects from above?
			Guardrails installed on scaffolds 10 feet or taller and working levels fully decked?
			Unless cleated, do planks extend at least 6” but no more than 12” over the edges of the scaffolding?
			Scaffolds with height to base ratio of 4:1 tied to structure to keep it from turning over?
			Casters locked on rolling scaffolding?
			All cross bracing in place?
			N. Welding and Cutting
			Welding hoses, leads, and cords elevated or out of walkways?
			Welding shields and spark/slag catching blankets in place?
			Power cords, leads and hoses protected and good repair?
			Fire watches in place with proper fire extinguisher?
			Hot work permit issued?
			Gas cylinders kept upright, and oxygen and acetylene tanks stored separately by at least 20’ or 1-hour firewall.
			Cylinder caps in place when regulators are off?
			O. Excavation and Shoring
			Competent person onsite at all times?
			Dig permits issued?

N/A	Yes	No	
			All underground utilities marked?
			Proper shoring/sloping techniques used for soil type in excavation 4 feet or deeper?
			Ladder or ramp every 50 feet for excavations 5 feet or deeper?
			Employees working near vehicle traffic wearing orange warning vests?
			Minimum or a daily inspection of excavation or when soil conditions have changed?
			Spoil pile 2 feet minimum from edge of excavation?
			Adjacent structures properly shored?
			Adjacent roads and sidewalks supported and protected?
			P. Concrete Work
			Forms properly installed and braced?
			Concrete truck wheels chocked when on a slope?
			If heating devices are used, are asphyxiation hazards identified?
			Adequate runways and scaffolds free of debris and properly constructed?
			Protection from cement dust and concrete contact?
			Stripped form material stored properly?
			Rebar caps in place on all impalement hazards?
			Q. Steel Erection
			Pre-erection meeting held?
			Fall protection being used on any work 6 feet or higher?
			Perimeter guardrail and flagging?
			Floor openings covered or barricaded?
			Ladders, stairs, or other access provided?
			Two tightened connected bolts at each end prior to disconnect?
			Containment of fire sparks and slag?
			R. Demolition
			Operation preplanned?
			Shoring of adjacent structures?
			Trash chutes, hoppers, barrels provided?
			Sidewalks barricaded from the public?
			Clear operating space for trucks/other vehicles?
			Adequate access ladders/stairs?
			S. Manlifts, Mobile
			Trained operators and in-vehicle operator's manual?
			Fall protection being worn 100% of time?
			Gates closed and secured on scissor lifts?
			T. Other (Safety Items Not Listed Above)

Attachment S - Safety Organization Chart



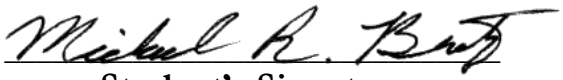
Attachment T – Inspector Certifications

(Insert copy of Training Certificates)

America's OSHA Training & Compliance Experts

Certificate of Course Completion

Michael R Bretz	OSHA - 10 Hour General Industry Outreach Training Program	08/01/07
Student's Name	Course Title	Course Completion Date



Student's Signature

709105

Certificate Number

10

# of hours approved

I hereby attest that I have completed the above named safety course in accordance with the ethical guidelines defined by Osha Pro's, Inc. I acknowledge that I consumed all information and took all Pertinent quizzes and/or final tests.

OSHA Pro's, Inc.
2704 Wooded Acres Drive,
Arlington, TX, 76016.
Tel: 866-442-6742
Support: 800-442-1149

Site Specific Quality Control Plan

Following is the Site Specific Quality Control Plan for Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

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PART II (WORK PLAN – SITE PREP)

Narrative Description of Work Required

This portion of the project task order involves preparation of the site for the future installation of a 4,800 SF (60' X 80") relocatable modular clinic at Ft. Leonard Wood. The new clinic will be placed on an existing asphalt parking lot with the building's entrance lined up with the existing Troop Medical Clinic entrance directly across the street (W 16th Street). The site preparation will require the installation of new sanitary sewer and water lines. The new utility lines will terminate at a point that will be 5 feet from the future modular clinic wall. Existing water lines run along both Alabama and Buckeye Avenues. For this project, the new water line will cross Buckeye Avenue and connect to the existing line east of the new clinic. The sewer line connection manhole (existing 8 inch line, approximately 9 ft deep) is across Alabama Avenue within a fenced military equipment parking area approximately 35 feet inside the fence line. No gas is available at the site, requiring heat for the new clinic to be electric. The site work also includes all earthwork, erosion control, grading to ensure adequate storm drainage around the new clinic, replacement of curbs and pavement at the utility road crossings, and the appropriate reseeding and/or sod work. Traffic control and temporary road closures/permits will be obtained from the installation prior to commencement of work.

Base power is provided by a privately owned company that will install the Primary Service (Transformer) under their service contract. The secondary service lines between the transformer and the clinic will be part of the modular clinic construction with the actual connections made at the transformer station by the power company.

Work Schedule

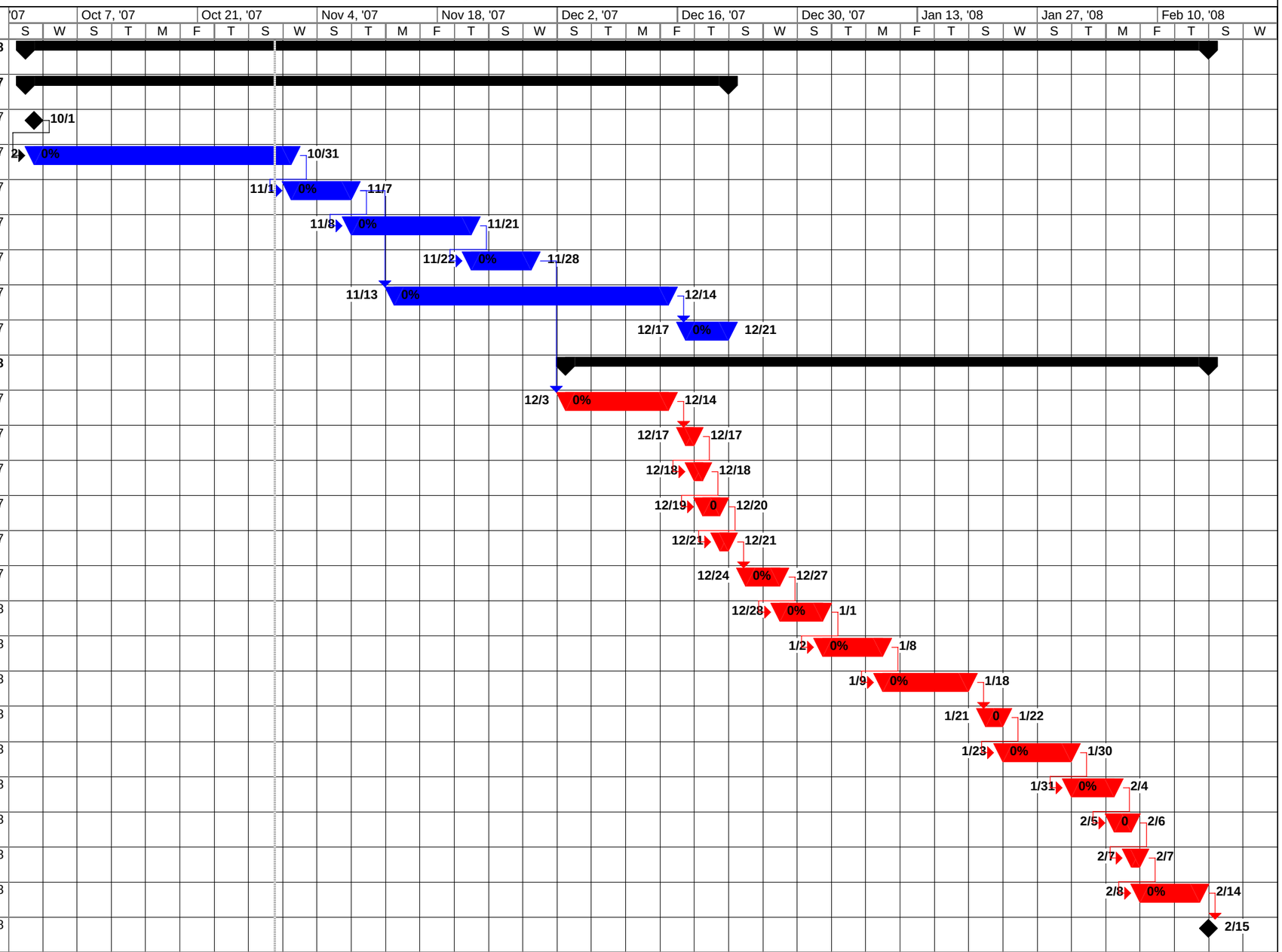
The Project Schedule for the Site Prep Work provides durations for the Work Plan submittals (activities 2 through 9) and Part II (Construction activities 10 through 26).

Site Prep Work Project Schedule

See the following attached Progress

Construct Site Prep for Modular Clinic at General Leonard Wood Army Community Hospital, Fort Leonard Wood, MO

ID	Task Name	Duration	Start	Finish
1	**PROJECT**	**101 days**	**Mon 10/1/07**	**Fri 2/15/08**
2	**SUBMITTALS**	**61 days**	**Mon 10/1/07**	**Fri 12/21/07**
3	NTP	1 day	Mon 10/1/07	Mon 10/1/07
4	Submit Interim Work Plan	22 days	Tue 10/2/07	Wed 10/31/07
5	Govt Review	5 days	Thu 11/1/07	Wed 11/7/07
6	Submit Final Site Work Plan	10 days	Thu 11/8/07	Wed 11/21/07
7	Govt Review of Final Site Plan	5 days	Thu 11/22/07	Wed 11/28/07
8	Submit Final Work Plan	25 days	Tue 11/13/07	Fri 12/14/07
9	Govt Review	5 days	Mon 12/17/07	Fri 12/21/07
10	**SITE CONSTRUCTION**	**55 days**	**Mon 12/3/07**	**Fri 2/15/08**
11	Pre-Con	10 days	Mon 12/3/07	Fri 12/14/07
12	Mobilize	1 day	Mon 12/17/07	Mon 12/17/07
13	Dig Permit / Mark Utilities	1 day	Tue 12/18/07	Tue 12/18/07
14	Site Survey	2 days	Wed 12/19/07	Thu 12/20/07
15	Remove existing curb/fence	1 day	Fri 12/21/07	Fri 12/21/07
16	Set up Traffic Control	4 days	Mon 12/24/07	Thu 12/27/07
17	Cut Roadway	3 days	Fri 12/28/07	Tue 1/1/08
18	Install Water Line	5 days	Wed 1/2/08	Tue 1/8/08
19	Install Sewer Line	8 days	Wed 1/9/08	Fri 1/18/08
20	Test Utilities	2 days	Mon 1/21/08	Tue 1/22/08
21	Patch Pavement / Install new c	6 days	Wed 1/23/08	Wed 1/30/08
22	Fine Grade Area	3 days	Thu 1/31/08	Mon 2/4/08
23	Install Seed & Straw	2 days	Tue 2/5/08	Wed 2/6/08
24	Pre-Final Inspection	1 day	Thu 2/7/08	Thu 2/7/08
25	Complete Punchlist / Closeout	5 days	Fri 2/8/08	Thu 2/14/08
26	Project Complete	1 day	Fri 2/15/08	Fri 2/15/08



Project: Fort Leonard Wood 10-30-07
Date: Tue 10/30/07

Task	Critical Task Progress	Rolled Up Task	Rolled Up Progress	Project Summary
Task Progress	Milestone	Rolled Up Critical Task	Split	Group By Summary
Critical Task	Summary	Rolled Up Milestone	External Tasks	Deadline

MELTECH., CORP., INC.
3321 75th Ave Suite G
Landover, MD 20785

Construction Sequence

Traffic Control

Two trenches will be required to cross major roads for the site prep work to permit connection to the existing base utilities. One trench will cross Alabama Avenue for the sanitary sewer and one will cross Buckeye Avenue for the water line connection.

To insure a continuous flow of traffic at both locations, only one half of the road will be closed at a time. After one side is excavated, the line installed and backfilled, the work will proceed to the second half of the road. During this portion of the construction work, traffic control will consist of Road Work Ahead and Flagman Signs. Cones will be used to close the appropriate lane of the road and Flagmen will be present to direct traffic. Any permits required will be obtained prior to the road crossing work.

Water Line Connection

A new 6 inch water line will be installed by boring under Buckeye Avenue and then connecting to an existing water line running parallel to Buckeye Avenue.

A request must be coordinated and made for a temporary isolation and shutdown of the water line along Buckeye Avenue during the connection process. If the line cannot be shut down, an alternate solution is a hot tap to the existing water line.

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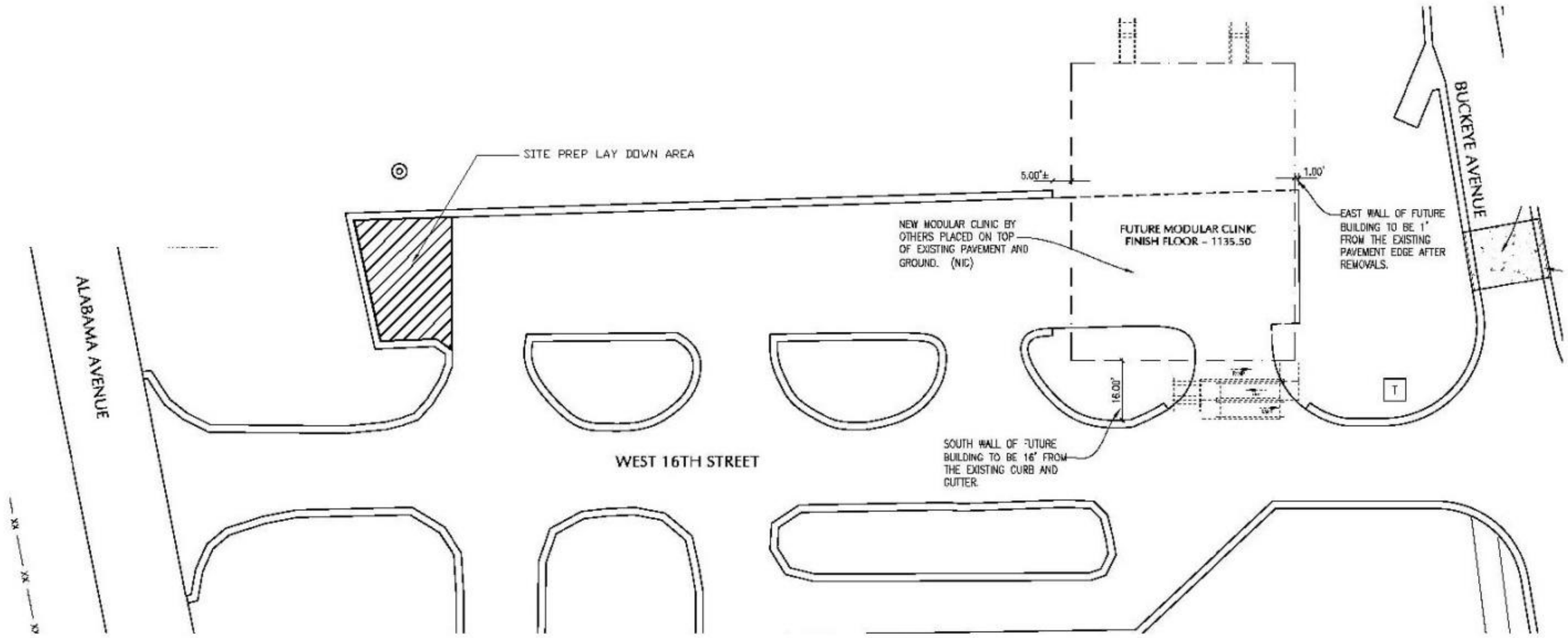
Lay Down Area

The proposed Site Prep storage and assembly work area requested is the western portion of the parking lot along W 16th Street. (See the hatched area on the sketch below.)



Drawings

Following are the Site Prep Drawings for Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

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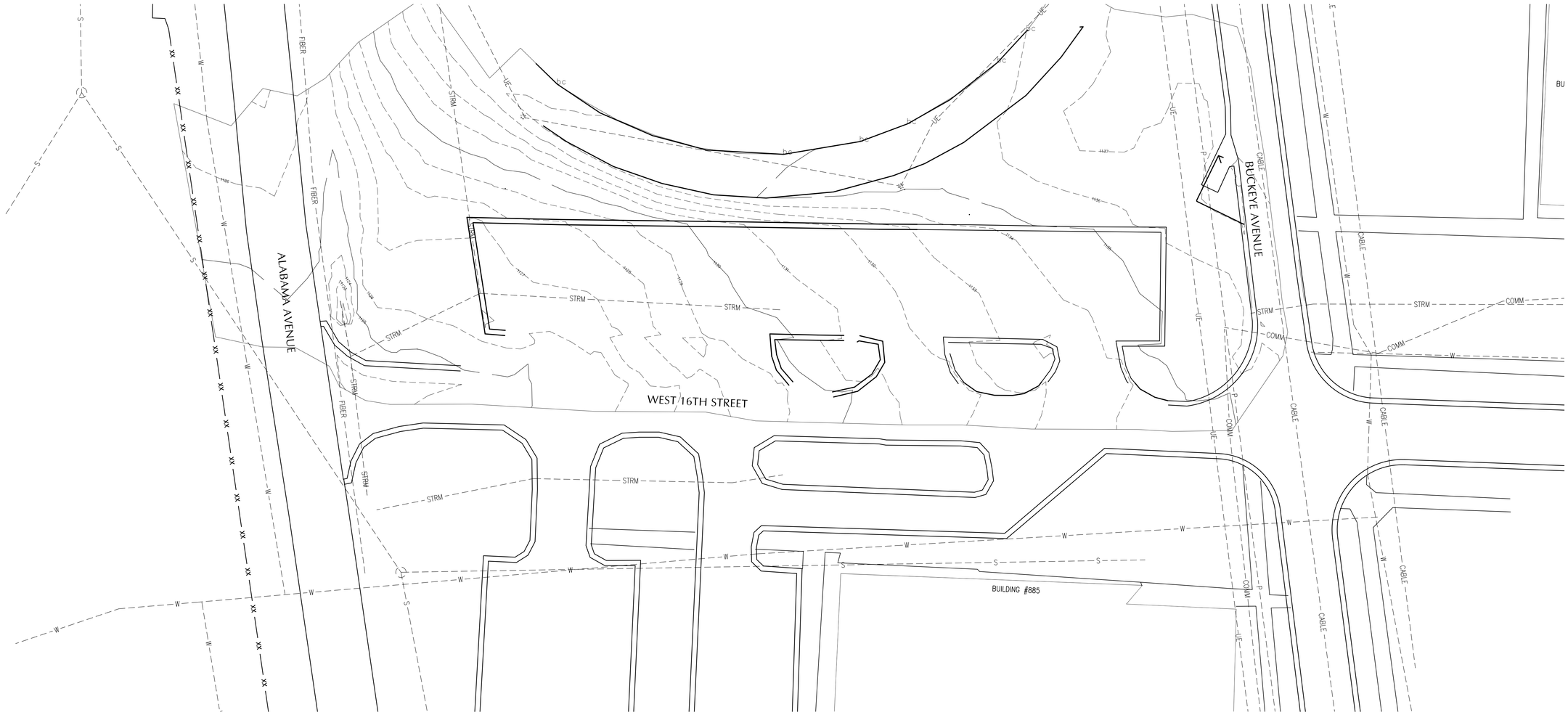

1 SITE SURVEY
C-1 SCALE: 1"=20'

LEGEND

	EXISTING	NEW
BUILDING		
CURB LINE		
SANITARY SEWER	S MH	SAN MH
STORM SEWER	STRM MH	N/A
WATER LINE	W	W
OVERHEAD POWER LINE	P	N/A
UNDERGROUND ELECTRICAL	UE	ELEC
CABLE LINE	CABLE	N/A
COMMUNICATIONS LINE	COMM	N/A
FIBER OPTIC LINE	FIBER	N/A
MAJOR CONTOURS	150	150
MINOR CONTOURS	146	146
POWER POLES		N/A
GRAVEL		
CONCRETE		
CHAIN LINK FENCE	XX XX	N/A

MODULAR CLINIC
GENERAL LEONARD WOOD ARMY COMMUNITY HOSPITAL
Fort Leonard Wood, Missouri 65473

LEO A DALY
PLANNING
ARCHITECTURE
ENGINEERING
INTERIORS
EST. 1915

8600 Indian Hills Drive
Omaha, NE 68114-4039 USA
Tel 402-391-8111 Fax 402-391-8564

Primary Consultant Line1
(This is inserted on Defpoints)
Project Address
Project City, State Zip

KEY PLAN

REVISIONS

NO.	DESCRIPTION	DATE
1	BUILDING RE-ORIENTATION	01/22/08

FILE LOG

ACTIVITY	BY
Manager	DTD
Design	DTD
Draw	DTD
Check	AAH

STAMP

10' 0 10' 20'
SCALE: 1"=20'-0"

N

Project No. 002-10078-000
October 30, 2007

SITE SURVEY

C-1

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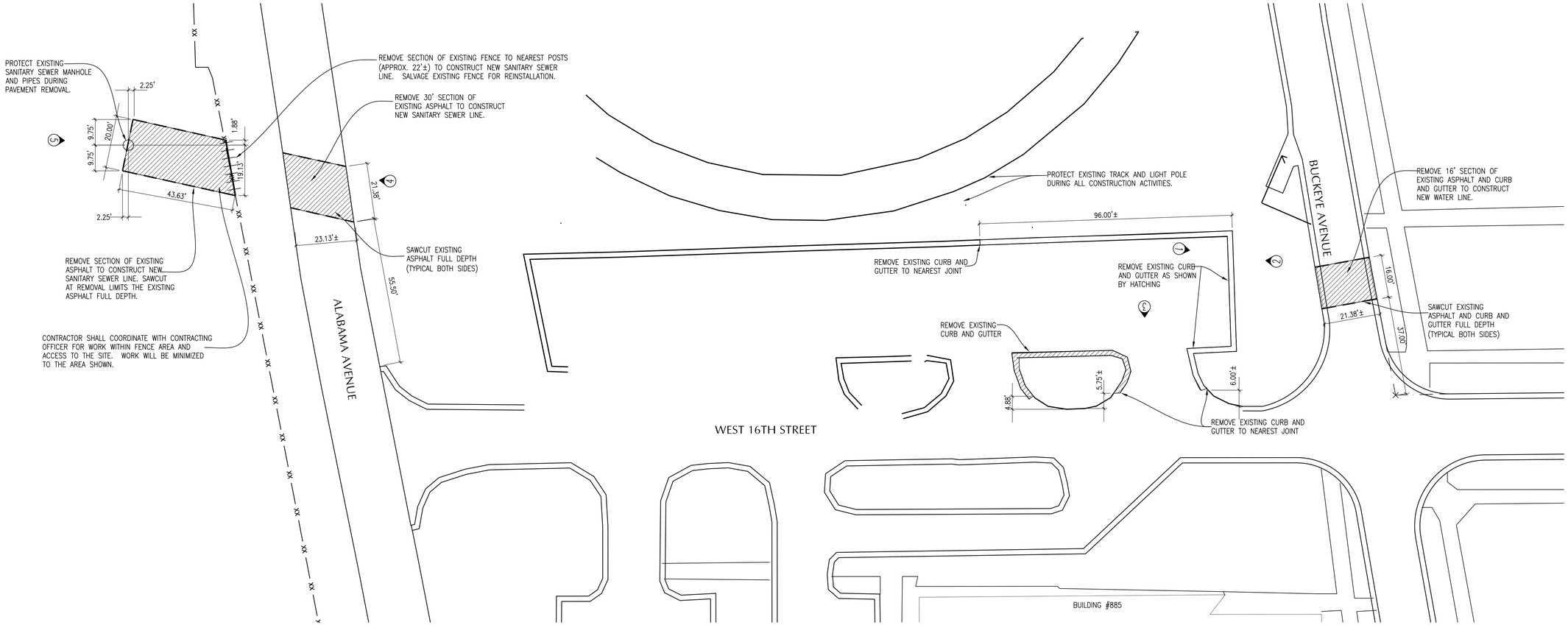


1 / C-2 SITE REMOVAL PLAN
SCALE: 1"=20'

PROTECT EXISTING POWER POLE, FIRE HYDRANT, AND OTHER UTILITY FEATURES DURING REMOVAL OPERATIONS.

REMOVE EXISTING CURB AND GUTTER AND ASPHALT PAVEMENT AS SHOWN ON REMOVAL PLAN.

PHOTO #1

PROTECT EXISTING LIGHT POLES DURING ALL CONSTRUCTION ACTIVITIES.

REMOVE EXISTING SILT FENCE STAKES IN SAME LOCATION AS THE CURB AND GUTTER REMOVAL. ATTACH NEW SILT FENCE FABRIC TO EXISTING POSTS THAT ARE TO REMAIN IN PLACE.

REMOVE EXISTING CURB AND GUTTER AND ASPHALT PAVEMENT AS SHOWN ON REMOVAL PLAN.

PHOTO #2

REMOVE EXISTING CURB AND GUTTER AND ASPHALT PAVEMENT AS SHOWN ON REMOVAL PLAN.

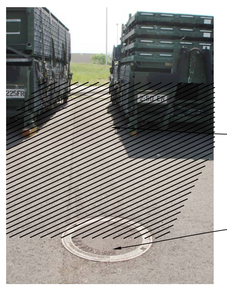
PHOTO #3

CONTRACTOR SHALL COORDINATE WORK IN THE YARD WITH THE CONTRACTING OFFICER TO CLEAR THE AREA OF VEHICLES.

REMOVE AND SALVAGE EXISTING FENCE PANELS AS NECESSARY TO CONSTRUCT NEW SANITARY SEWER LINE. FENCE TO BE REINSTALLED AFTER PAVEMENT IS INSTALLED.

REMOVE EXISTING ASPHALT PAVEMENT AS SHOWN ON REMOVAL PLAN.

PHOTO #4



REMOVE EXISTING ASPHALT PAVEMENT AS SHOWN ON REMOVAL PLAN.

PROTECT EXISTING SANITARY SEWER MANHOLE DURING CONSTRUCTION ACTIVITIES.

PHOTO #5

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Fort Leonard Wood, Missouri 65473

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FILE LOG

ACTIVITY	BY
Manager	DTD
Design	DTD
Draw	DTD
Check	AAH

STAMP

10' 0 10' 20'
SCALE: 1"=20'-0"

N

Project No. 002-10078-000
October 30, 2007

SITE REMOVAL PLAN

C-2

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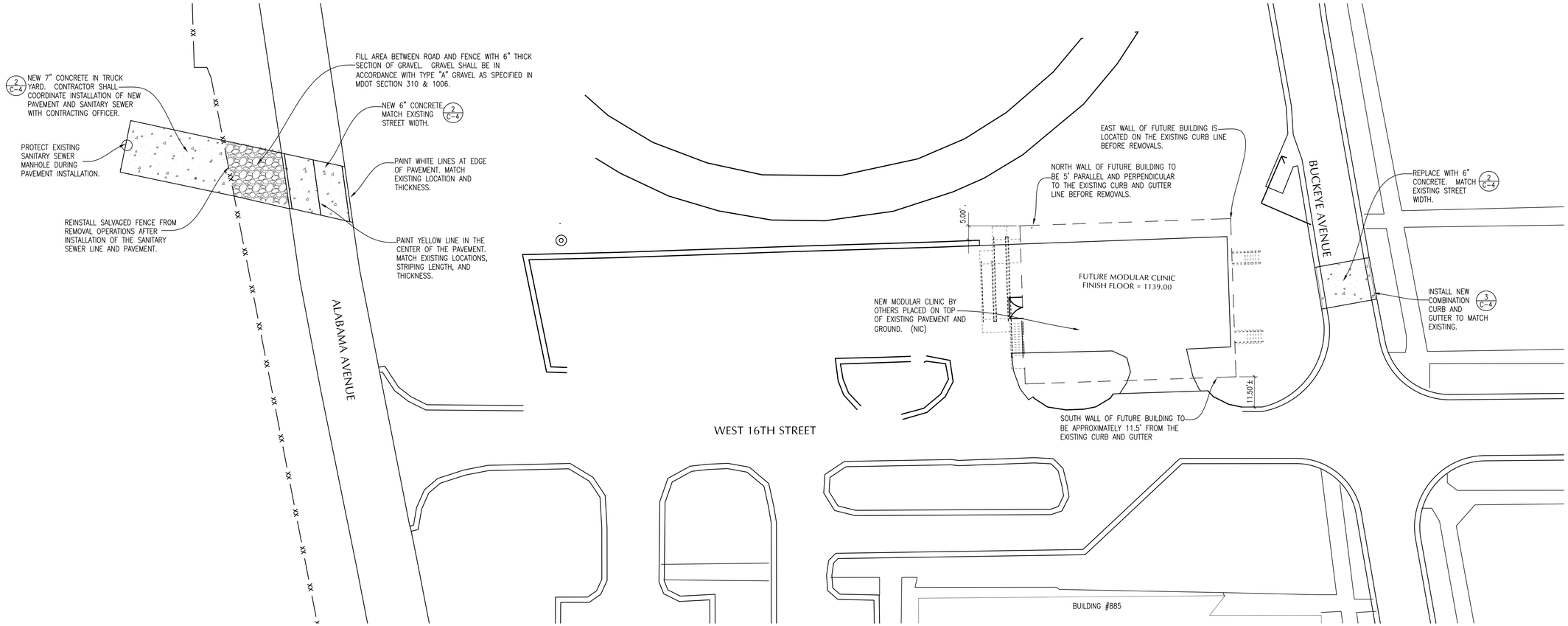

1 C-3 SITE LAYOUT PLAN
SCALE: 1"=20'

CIVIL GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE PLANS AND AS PER THE MISSOURI DEPARTMENT OF TRANSPORATION (MDOT) HIGHWAY SPECIFICATIONS, 2004 EDITION.

2. THE LOCATIONS OF ALL AERIAL AND UNDERGROUND UTILITY FACILITIES ARE APPROXIMATE OR MAY NOT BE INDICATED IN THESE PLANS. UNDERGROUND FACILITIES, WHETHER INDICATED OR NOT, SHALL BE LOCATED PRIOR TO CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES, PAVEMENT AND OTHER IMPROVEMENTS. ANY DAMAGE TO EXISTING UTILITIES AND/OR PAVED STREETS CAUSED BY CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

3. THE CONTRACTOR SHALL CALL FOR THE EXISTING UTILITY LOCATION STAKES 48 HOURS PRIOR TO DIGGING. CALL LOCATING SERVICE AND ALL APPLICABLE UTILITY COMPANIES AS NECESSARY.

4. MECHANICAL, ELECTRICAL, AND ARCHITECTURAL ELEMENTS SHOWN ON THE CIVIL PLANS ARE FOR INFORMATION ONLY. REFER TO THE APPROPRIATE DISCIPLINE DRAWINGS FOR DETAILS OF THESE ITEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING ALL REQUIRED EMBEDDED ITEMS AND OPENINGS WHETHER OR NOT SHOWN ON THE CIVIL DRAWINGS.

5. ELEVATIONS SHOWN ARE BASED OFF USGS MAP. CONTRACTOR TO VERIFY EXISTING LOCATIONS OF PAVEMENTS AND UTILITIES PRIOR TO ANY INSTALLATIONS. CONTRACTOR SHALL COORDINATE WITH THE POST TO FIND AN EXISTING BENCHMARK AND ELEVATION NEAR THE PROJECT SITE.

6. ALL DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS SHALL BE HAULED OFF-SITE AND DISPOSED OF PROPERLY AT THE CONTRACTOR'S EXPENSE.

7. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES, WARNING SIGNS, LIGHTS AND FLAGMEN AS PER THE BASE STANDARD REQUIREMENTS. COST SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

8. PROTECT BY WHATEVER MEANS REQUIRED ALL FENCES, SIGNS, STRUCTURES, DRIVES, SIDEWALKS, STREETS, BUSHES, TREES, ETC. WHICH ARE NOT DESIGNATED FOR REMOVAL; OR ARE OUTSIDE THE LIMITS OF CONSTRUCTION.

9. PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREA. DO NOT ALLOW WATER TO POND IN EXCAVATION AREAS, AND MAINTAIN ALL EXISTING DRAINAGE PATTERNS.

10. ALL EXISTING UTILITIES AND SERVICE LINES SHALL BE KEPT IN SERVICE AT ALL TIMES DURING CONSTRUCTION OF THIS PROJECT, UNLESS OTHERWISE AUTHORIZED BY OWNER.

11. THE CONTRACTOR SHALL ADJUST TO GRADE ALL WATER AND GAS VALVE BOXES, MANHOLES, AND OBSERVATION WELLS THAT FALL WITHIN THE LIMITS OF THIS CONTRACT. THE CONTRACTOR SHALL KEEP ALL SAID WATER, GAS AND EXISTING SEWERS AND THEIR APPURTENANCES FREE OF DEBRIS AND OPERABLE AT ALL TIMES DURING CONSTRUCTION.

12. A DIAMOND EDGE SAW BLADE SHALL BE USED FOR CUTTING ALL REQUIRED PAVEMENT REMOVAL.

13. PAVEMENT REMOVALS SHALL BE TO THE NEAREST DIMENSIONED JOINT.

14. THE CONTRACTOR SHALL CONSTRUCT ALL PAVEMENTS TO CONFORM WITH THE CORRECT LINES, AND FINISHED GRADES AS INDICATED ON THE PLANS. NO PONDING OF WATER WILL BE ALLOWED.

15. THE CONTRACTOR SHALL PAY ALL PERMIT AND OTHER ASSOCIATED FEES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES.

16. ALL DIMENSIONS ARE MEASURED FROM BACK OF CURB, FACE OF BUILDING, OR AS INDICATED.

17. CONTRACTOR SHALL SOD ALL DISTURBED AREAS. IF CONSTRUCTION ENDS AND IT IS NOT PLANTING SEASON (MARCH 15TH TO MAY 15TH), CONTRACTOR SHALL INSTALL TEMPORARY SEED COVERAGE SUCH AS WINTER WHEAT WITH AN EROSION MAT.

19. CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL ITEMS NECESSARY TO ACCOMMODATE THE PROPOSED IMPROVEMENTS WHETHER SPECIFICALLY CALLED OUT BY NOTE OR NOT.

20. ALL DIMENSIONS/ELEVATIONS SHOWN WITH AN ASTERIK(*) NEED TO BE FIELD VERIFIED. IF DIMENSION/ELEVATION VARIES SIGNIFICANTLY FROM THAT SHOWN, CONTACT ENGINEER IMMEDIATELY.

21. CONTRACTOR SHALL WORK WITH THE CONTRACTING OFFICER WHEN CONSTRUCTING THE WATER AND SEWER LINES AS ALABAMA AVENUE AND BUCKEYE AVENUE WILL NEED TO BE CLOSED. AT NO TIME WILL BOTH STREETS BE CLOSED AT THE SAME TIME. THE PROJECT MUST BE PHASED SO ONE STREET IS OPEN AT ALL TIMES.

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Draw	DTD
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10' 0 10' 20'
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Project No. 002-10078-000
October 30, 2007

SITE LAYOUT PLAN

C-3

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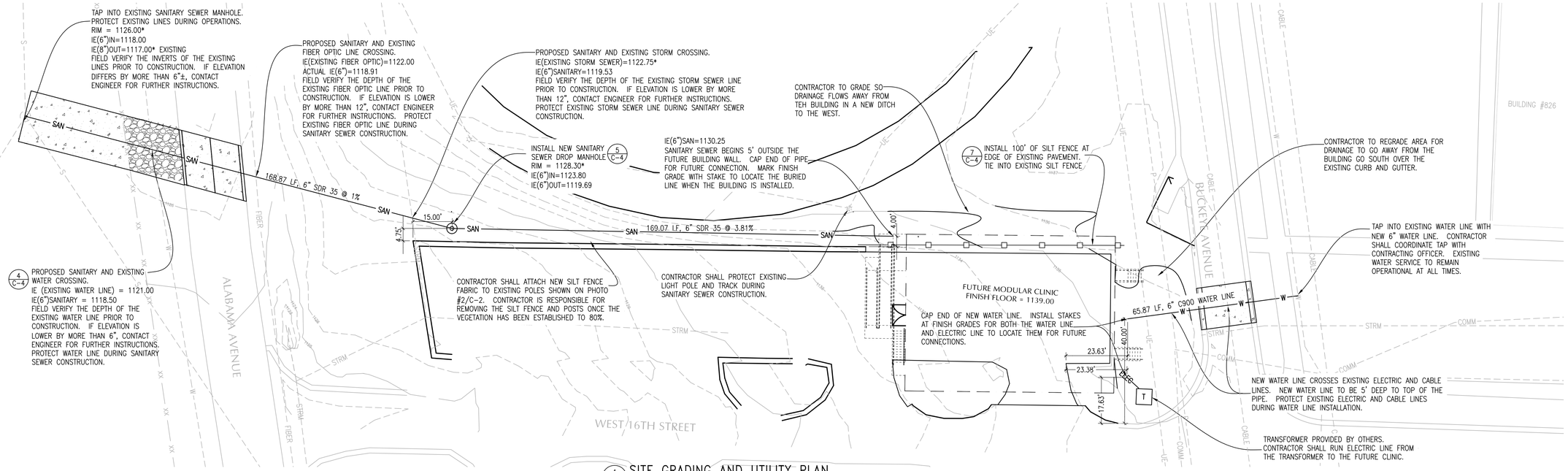
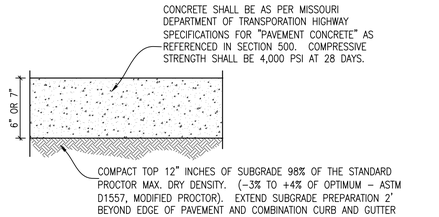


1/C-4 SITE GRADING AND UTILITY PLAN
SCALE: 1"=20'



2/C-4 CONCRETE PAVEMENT SECTION
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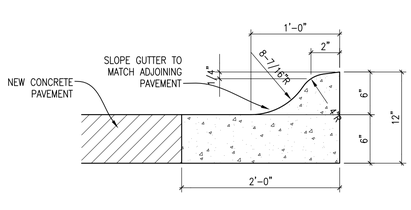
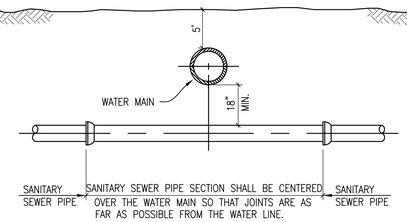
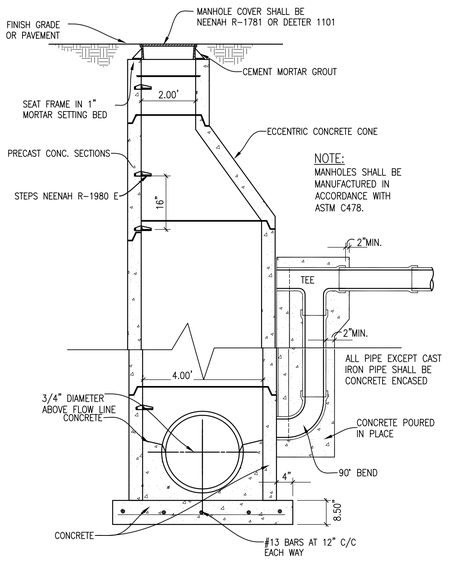
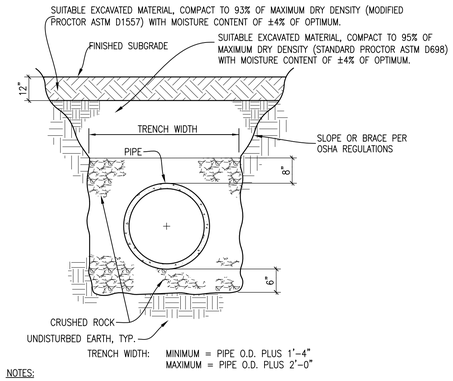




SEWER CROSSING UNDER WATER MAIN



5/C-4 SANITARY SEWER DROP MANHOLE
SCALE: NO SCALE



NOTES:

1. CRUSHED ROCK PIPE BEDDING FOR PIPES 27 INCHES AND SMALLER SHALL CONFORM TO GRADATIONS AS FOLLOWS:

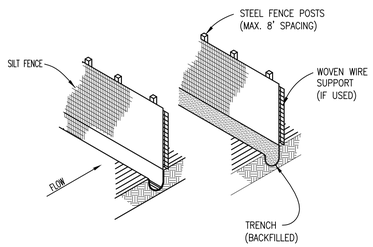
SIEVE SIZE	PERCENTAGE PASSING
3/4 INCH	100
3/8 INCH	60 ± 15
NO. 4	30 ± 15
NO. 10	15 ± 10
NO. 200	5 ± 5

2. IF UNSTABLE TRENCH BOTTOM SUBGRADE CONDITIONS ARE ENCOUNTERED, ADDITIONAL CRUSHED ROCK FOR BEDDING AND EXTENT SHALL BE AS DIRECTED BY THE GEOTECHNICAL ENGINEER. (THE COST, MEASUREMENT, AND PAYMENT FOR ADDITIONAL CRUSHED ROCK FOR UNSTABLE TRENCH BOTTOM SUBGRADE PIPE BEDDING CONDITIONS SHALL BE PAID FOR PER SECTION 1 OF THE CONTRACT SPECIFICATIONS.)

3. TRENCH SHALL BE BRACED, SHEETED OR SLOPED AS NECESSARY FOR THE SAFETY OF WORKMEN AND PROTECTION OF OTHER UTILITIES IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

3/C-4 COMBINATION CURB AND GUTTER
SCALE: NO SCALE

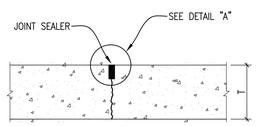
6/C-4 PIPE BEDDING DETAIL
SCALE: NO SCALE



NOTES:

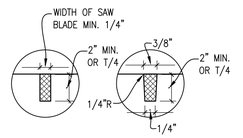
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH SHOULD BE A MINIMUM OF 6" DEEP AND 3"-4" WIDE TO ALLOW FOR THE SILT FENCE TO BE PLACED IN THE GROUND AND BACKFILLED.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN IT HAS SERVED ITS USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE UNIFORMLY DISTRIBUTED ON THE SOURCE AREA PRIOR TO TOPSOILING.

7/C-4 SILT FENCE DETAIL
SCALE: NO SCALE

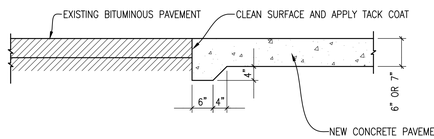


CONTRACTION JOINT

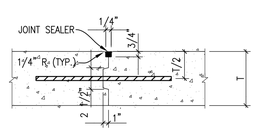
MAX. CONTRACTION JOINT SPACING:
TRANS. -MAXIMUM 1.25 X LONGITUDINAL SPACING
LONG. - MAXIMUM 2 X PAVEMENT THICKNESS (T)



DETAIL "A"



THICKENED EDGE
AT EXISTING ASPHALT TIE-INS



LONGITUDINAL CONST. JOINT
BETWEEN CURB AND GUTTER AND CONCRETE

NOTE: JOINT SEALER TO BE BITUMINOUS HOT POURED JOINT SEALANT. USE 0.25IN CLOSED CELL CROSS-LINKED POLYETHYLENE BACKER ROD CAPABLE OF WITHSTANDING THE HEAT OF THE HOT POURED JOINT SEALER.

8/C-4 CONCRETE PAVEMENT JOINT DETAILS
SCALE: NO SCALE

MODULAR CLINIC
GENERAL LEONARD WOOD ARMY COMMUNITY HOSPITAL
Fort Leonard Wood, Missouri 65473

LEO A DALY
PLANNING ARCHITECTURE ENGINEERING INTERIORS
EST. 1915

8600 Indian Hills Drive
Omaha, NE 68114-4039 USA
Tel 402-391-8111 Fax 402-391-8564

Primary Consultant Line1
(This is inserted on Defpoints)
Project Address
Project City, State Zip

KEY PLAN

REVISIONS

NO.	DESCRIPTION	DATE
1	BUILDING RE-ORIENTATION	01/22/08

FILE LOG

ACTIVITY	BY
Manager	DTD
Design	DTD
Draw	DTD
Check	AAH

STAMP

10' 0 10' 20'
SCALE: 1"=20'-0"

N

Project No. 002-10078-000
October 30, 2007

SITE GRADING AND UTILITY PLAN AND DETAILS

C-4

J:\002-10078-000\E Design SD-DD-CD\01 Drawings\04 Civil\FLWC-4.dwg January 23, 2008 - 10:23am dtdanley

Site Specific Health and Safety Plan

See PART I Site Specific Health and Safety Plan.

Site Specific Quality Control Plan

See PART I - Site Specific Quality Control Plan.

PART III (WORK PLAN –MODULAR CLINIC)

Narrative Description of Work

This portion of the task order (project) includes preparing a Work Plan for a 4800 sf (60' x 80') relocateable modular clinic (for future award currently identified as Option 1) for the General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri in accordance with all installation, State and Federal codes and laws. The Work Plan consists of dimensioned floor plans for the future modular clinic indicating, room layout, power, communications, mechanical HVAC systems, plumbing, sewer and final connection to the base utility systems. The new clinic will not have a sprinkler or fire alarm system (See Part I – Addition design Guidance, Contracting officer Clarifications). Communications will be installed in accordance with Modification 02 Scope of Work.

New sanitary sewer and water lines have been constructed to within the 5 foot line of the proposed new modular Clinic under a Site Preparation Task Order. Base power is provided by a privately owned company that will install the Primary Service (Transformer) under their service contract. The secondary service lines between the transformer and the clinic will be part of this modular clinic construction with the actual connections made at the transformer station by the power company.

The location is currently a parking lot approximate 45 ft wide and in excess of 150 ft in length at the intersection of W. 16th St. and Buckeye Ave. Building 885 is an existing Troop Medical Clinic that faces W. 16th St., with the proposed new modular clinic located across the street. For orientation, W. 16th St. runs between the existing clinic and the new clinic, Buckeye Ave is to the East and Alabama Ave is the road to the West of the project area. The detailed location and clinic orientation (main entrance facing towards Alabama Ave.) is identified on the Leo A Daly drawings C-3 and C-4 in the Part II Work Plan – Site Prep Drawing Section.

Construction Sequence

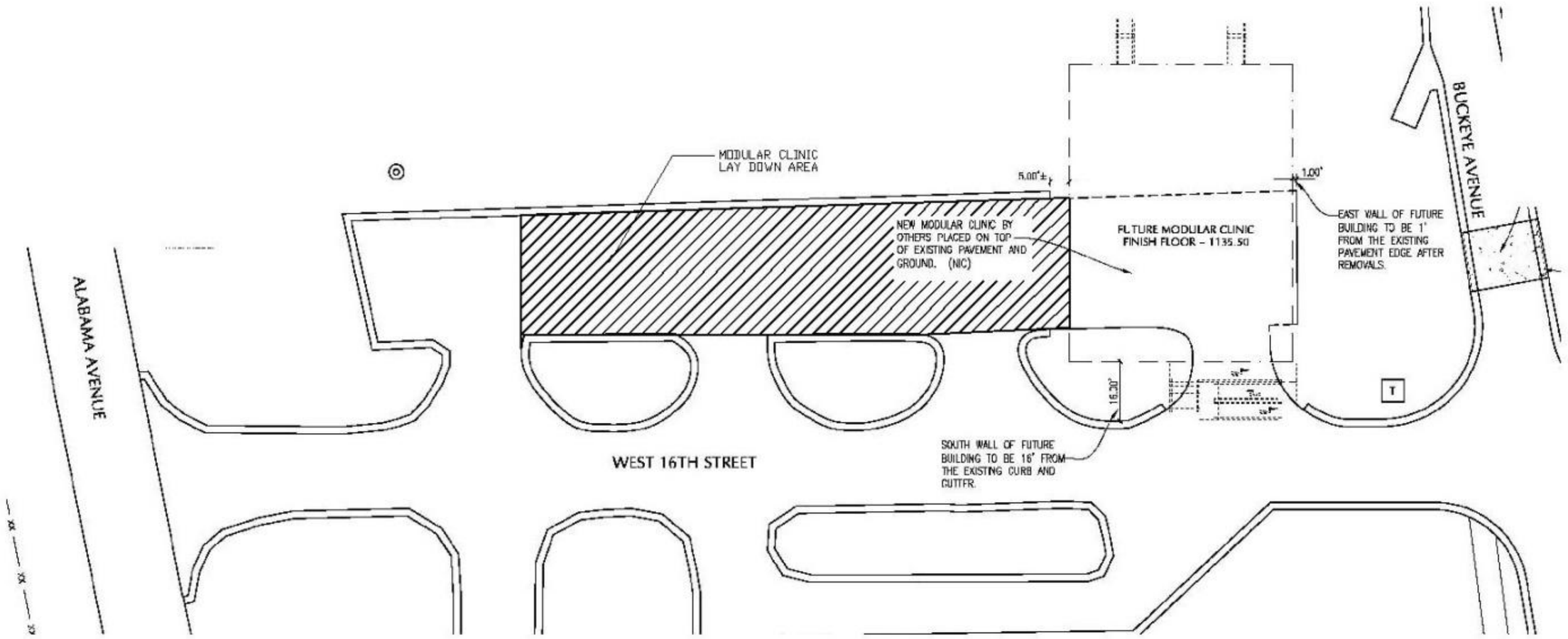
Technical Approach

The Building Exterior will match other modular structures on Fort Leonard Wood and follow the Guidance in the Relocatable Building Policy document.

Efforts will be made to deliver the modular units on a just-in-time basis, so that the modules arrive on-site in the proper sequence and at the time the building is being erected. Further efforts will be made to ensure minimal disruption to the areas adjacent to the site while executing the delivery and assembly of the structure A staging area/lay down area will be needed during the assembly process. It is requested that the parking area adjacent to the Modular Clinic be used as shown on the drawing below.

Lay Down Area

The proposed Modular Clinic Assembly work area requested is the portion of the parking lot adjacent to the future new modular clinic. (See the hatched area on the sketch below.)



Work Schedule

The Project Schedule addresses all work required for the Modular Clinic fabrication and installation (Option 1) and Modification 2 (Communications).

Modular Clinic and Communications Project Schedule

See the following attached Progress

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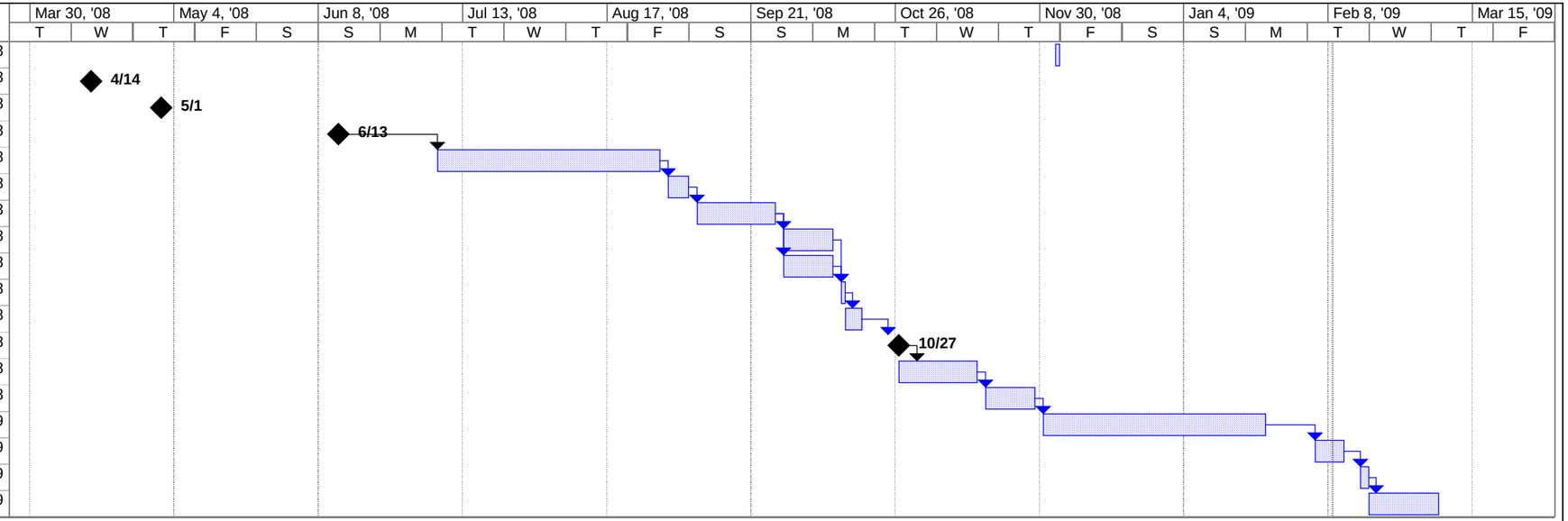
ID	Task Name	Duration	Start	Finish
1	Modular Cinic Construction	1 day?	Thu 12/4/08	Thu 12/4/08
2	Award Option 1	0 days	Mon 4/14/08	Mon 4/14/08
3	NTP	0 days	Thu 5/1/08	Thu 5/1/08
4	Building Drawing Approval	0 days	Fri 6/13/08	Fri 6/13/08
5	Building Off-Line at Factory	40 days	Mon 7/7/08	Fri 8/29/08
6	Building Delivery to Site	5 days	Mon 9/1/08	Fri 9/5/08
7	Building Set-up	15 days	Mon 9/8/08	Fri 9/26/08
8	Skirting, Decks, Ramps	10 days	Mon 9/29/08	Fri 10/10/08
9	Electrical, Plumbing, Finishing	10 days	Mon 9/29/08	Fri 10/10/08
10	Final Inspection	1 day	Mon 10/13/08	Mon 10/13/08
11	Building Completion/Turnover	4 days	Tue 10/14/08	Fri 10/17/08
12	Mod 02 Communications NTP	0 days	Mon 10/27/08	Mon 10/27/08
13	Communications Design	15 days	Mon 10/27/08	Fri 11/14/08
14	Design Approval	10 days	Mon 11/17/08	Fri 11/28/08
15	Communications Installation	40 days	Mon 12/1/08	Fri 1/23/09
16	Testing/Final Inspection	5 days	Thu 2/5/09	Wed 2/11/09
17	Acceptance & Turnover	2 days	Mon 2/16/09	Tue 2/17/09
18	Contract Closeout	13 days	Wed 2/18/09	Fri 3/6/09



Project: Clinic Communications Cond
Date: Mon 2/9/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Drawings

Following are the Government Approved Modular Clinic Drawings for Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

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DESIGN CRITERIA:

PROJECT NAME: **WILLIAMS SCOTSMAN - WS6084-3**
BUILDING SQ. FOOTAGE: 4700 SQ. FT.
2000 IBC
2000 IPC
2000 IMC
2000 IECC
1999 NEC
ADAAG
USE GROUP: B
CONSTRUCTION TYPE: IBC: V-B
OCCUPANT LOAD: 47
PERMISSIBLE GAS TYPE: ☐LP ☐NATURAL ☒N/A

DESIGN LOADS:

ROOF LIVE LOAD: 20 PSF
FLOOR LIVE LOAD: **100 PSF**
CONC. FLOOR LIVE LOAD: 2000 LBS
WIND LOAD: **(90 MPH 3-SEC GUST)**
EXPOSURE: **B**
SEISMIC DESIGN CATEGORY **1-B**

SPECIAL CONDITIONS AND / OR LIMITATIONS:

1. HANDICAP ACCESS & SIGNAGE TO BE PROVIDED AS REQUIRED BY OTHERS AS APPLICABLE.
2. THE BUILDING IS TO BE LOCATED PER THE REQUIREMENTS OF TABLE 602 OF THE 2003 IBC
3. FIRE EXTINGUISHER(S) SHALL BE INSTALLED ON-SITE BY OTHERS.
4. ANY REQUIRED ALARM SYSTEM SHALL BE INSTALLED ON-SITE BY OTHERS.
5. ANY REQUIRED FLOOR DRAIN FOR THE RESTROOM SHALL BE INSTALLED ON-SITE BY OTHERS.
6. ANY REQUIRED 18" VERTICAL GRABBER SHALL BE & SUPPLIED INSTALLED ON-SITE BY OTHERS.
7. ANY REQUIRED EXTERIOR EMERGENCY LIGHTING SHALL BE INSTALLED ON-SITE BY OTHERS.

FOUNDATION NOTES:

1. FOUNDATION AND ANCHORING ARE SUBJECT TO ACCEPTANCE AND INSPECTION BY LOCAL AUTHORITY HAVING JURISDICTION.
2. TIE-DOWN ANCHORING: SEE SHEET S-2
3. CRAWL SPACE VENTILATION TO BE PROVIDED BY OTHERS ON-SITE PER 1203.3.1 OF THE 2003 IBC

SCOPE OF WORK

NOT INCLUDED IN THE SCOPE OF WORK
1. UTILITIES AND UTILITY CONNECTIONS
2. POURED CONCRETE (DRIVEWAY, SIDEWALK, SLABS, FOOTINGS, ETC).
3. SITE PREPARATION
4. TAX OF ANY KIND.
5. *BUILDING PERMITS.*

SITE WORK
1. OWNER IS TO EXAMINE THE SITE AND SHALL VERIFY ALL EXISTING CONDITIONS, NO PROVISION FOR SITE WORK HAS BEEN INCLUDED. IT IS PRESUMED THAT THE SITE WILL PROVIDE CLEAR ACCESS FOR TRUCKS AND MODULARS.
2. ALL ELECTRICAL, PLUMBING, SEWER & GAS SERVICE CONNECTIONS AND ALL CONCRETE WORK AT THE SITE, TO INCLUDE POURED PIERS, FOUNDATIONS, SLABS, SIDEWALKS, DRIVEWAYS OF WHATEVER KIND ARE THE RESPONSIBILITY OF THE OWNER.

IDENTIFICATION:

STATE DECAL: **TDLR DECAL AND DATA PLATE PLACED IN PANEL BOX**

DECAL: **WILLIAMS SCOTSMAN [MO.]**

FRAME / CHASSIS:

OUTRIGGERS: 48" O.C.
CROSSMEMBERS: 48" O.C.
BEAM: 12 1/2" JR. I-BEAM
HITCH: DETACHABLE HITCH
AXLES: FIVE W/ NEW BRAKES ON THREE AXLES
TIRES: F (12-PLY)
FRAME: MEDIUM

FLOOR:

BOTTOM BOARD: ROLL, POLYETHYLENE FIBER MESH
INSULATION: **R-19 UNFACED**
JOISTS: 2x8 No. 2 SYP OR BTR. AT 16" O.C.
SIDEBAND JOISTS: DOUBLE 2x8 SYP No 2 OR EQUAL
DECKING: 3/4" T&G EDGE GOLD
FLOOR COVER: 1/8" TILE **COLOR:**_____
26oz. *CARPET* **COLOR:**_____
COVE BASE: 4" VINYL **COLOR:**_____

EXTERIOR WALLS:

SIDEWALL HEIGHT: REFERENCE SHEET A-3
STUDS: 2x4 No. 2 SPF OR BTR AT 16" O.C. W/ 1x2 BELTRAIL @ EVERY 36" O.C.
BOTTOM PLATE: SNGL 2x4 SPF No. 3 OR BTR
TOP PLATE: DBL 2x4 SPF No. 3 OR BTR
HEADERS: DOUBLE 2x4 WITH 1/2" PLYWOOD FILLER
FIRE BLOCKS: 2x MIN. AT CLG LINE AS REQ'D.
INSULATION: R-11 FACED
SHEATHING: 15# FELT OR EQUIV.
SIDING: .0179 26GA R-PANEL **COLOR:**_____
EXT TRIM: 26GA R-PANEL - TOP, BOTTOM, CORNERS & WINDOWS/DOORS **COLOR:**_____
MANSARD COLOR: **COLOR:**_____
SKIRTING: **[33] SHEETS OF 4'x8' 26GA R-PANEL**

INTERIOR WALLS:

WALL HEIGHT: REFERENCE SHEET A-3
FULL HT. WALLS @ 1-HR. FIRE RATED SOILED UTIL.
STUDS: 2x4 SPF No. 2 OR BTR AT 16" O.C.
BOTTOM PLATE: SNGL 2x4 SPF No. 3 OR BTR
TOP PLATE: DBL 2x4 SPF No. 3 OR BTR
HEADERS: SINGLE 2x4 FLAT
FIRE BLOCKS: 2x MIN. AT CLG LINE AS REQ'D.
COVERING: 5/8" V.C.G. **COLOR:**_____
TRIM: STD. V.C.G.
FRP: 4' TALL - ALL WALLS IN RESTROOMS
6' TALL - FIRE RATED ALL WALLS IN SOILED UTIL.
FRP COLOR: IVORY
INSULATION: **R-11 UNFACED IN ALL INTERIOR WALLS**

WINDOWS:

SIZE/TYPE 1: [13] 24" X 48" V.S. BRONZE/CLEAR
BRAND: H-R
MISC: [13] SETS OF 23" STEEL MINIBLINDS **ALABASTER**
SIZE/TYPE 2: [01] 46" X 40" H.S. BRONZE/CLEAR
BRAND: PHILLIPS

DOORS:

EXTERIOR: [03] 36"x80" STEELCRAFT W/ PEEPHOLE **COLOR:**_____
[01] 72"x84" STOREFRONT - BRONZE/CLEAR
EXTERIOR HARDWARE: GRADE II @ STEELCRAFT ONLY
[03] PASSAGE @ STEELCRAFT ONLY **(CALROYAL GRADE II LEVERS)**
[04] DEAD BOLT **(CALROYAL)**
[03] H.D. HYD. CLOSER @ STEELCRAFT **(TELL)**
[02] HYD. CLOSER @ STOREFRONT **(TELL)**

INTERIOR: [25] 36"x80" MOHAWK - SOLID CORE
[01] 36"x80" MOHAWK - SOLID CORE W/ 20 MIN. LABEL & S.C. HINGES
[01] 32"x80" MOHAWK - SOLID CORE W/ 45 MIN. LABEL & S.C. HINGES
INTERIOR HARDWARE **CALROYAL**
[24] PASSAGE **(LEVERS)**
[02] PUSH/PULL W/ (2) EA. S.C. HINGES
REDI-FRAME (BRONZE STEEL)
MISC: [26] WALL MTD. DOOR STOPS

ROOF:

RAFTERS: 2x6 #2 SYP. OR BTR. @ 24" O.C. (TRANSVERSE)
RIM MBR: SNG. 2x6 SYP #2
RIDGE BEAM: 3 LAYER - 28" HEIGHT & 80' LENGTH
2 LAYER @ SIDEWALLS
CEILING: 2'x4' ACOUSTIC TILE, LAYIN @ 7'-9" A.F.F.
DBL. 5/8" GYP ON UNDERSIDE OF RAFTER @ SOILED UTIL ONLY
INSULATION: **R-30 UNFACED COMPRESSED**
SHEATHING: 7/16" FR DECK W/ H-CLIPS
ROOFING: .045 EPDM (UL-R13850)
(.25 IN 12 PITCH)
MANSARD: HIGH HEEL - 30" HT. W/ 6" PROJECTION @ ENDS OF BUILDING & ALONG SIDES W/ GUTTERS & (3) EA. DOWNSPOUTS @ ENDS

ELECTRICAL:

SERVICE: 120/240V SINGLE PHASE
LOAD CENTER: [05] 100 AMP, INT. MOUNT LOAD CTR. **MODEL: SQUARE 'D'**
ENTRANCE: 1-1/2" STUB-DN
WIRING: EMT W/ #12 WIRE & MC CABLE FIXTURE WHIPS (REDUNDANT GROUND)
LIGHTS: [28] 48" T-8 2 TUBE FLOURESCENT TROFFERS W/ DIFFUSED LENS
[31] 48" T-8 4 TUBE FLOURESCENT TROFFERS W/ DIFFUSED LENS
[04] PORCH LT. W/PHOTO-CELL FLUORESCENT
[03] EMERGENCY/EXIT LIGHT W/ BATTERY BACKUP
[02] EXIT LIGHT W/ BATTERY BACKUP
FANS: [02] 180CFM EXHAUST FAN
RECEPTS: [134] STD. 120V DUPLEX RECEPTACLES **WHITE**
[05] GFI 120V DUPLEX RECEPTACLES **WHITE**
[02] DEDICATED 120V DUPLEX RECEPTACLES
[02] W.P. EXT. GFCI 120V RECEPTACLE
SWITCHES: SEE SHEET E-1
J-BOXES: [44] W/ 3/4" ENT STUBBED ABOVE CEILING
MISC: THE GROUNDING ON-SITE IS TO BE IN ACCORDANCE WITH NEC 250-96.

PLUMBING:

WATER SUPPLY: CPVC
WASTE: PVC SCHEDULE 40 [MULTIPLE DROPS]
WATER HEATER: [01] 30 GALLON
WATER CLOSET: [02] H.CAP ELONGATED BOWL W/ TANK
[01] STD. ELONGATED BOWL W/ TANK
PREFINISHED METAL PARTITIONS (WHITE)
URINAL: [01] H.CAP W/ MODESTY PARTITON (WHITE)
LAVATORY: [16] WALL HUNG AT HANDICAP HT. W/ DUAL LEVER FAUCET. INSULATE HOT SUPPLY AND DRAIN TAILPIECE.
SINKS: [01] 22"X25" BAR SINK MTD. IN C. TOP @ H.C. HT. W/ SINGLE LEVER FAUCET. INSULATE HOT SUPPLY AND DRAIN TAILPIECE
MISC: INSTALL 2-SETS OF S.S. GRAB BARS
[03] T.P. HOLDERS, [16] FRAMED MIRRORS
A SERVICE SINK SHALL BE AVAILABLE ON-SITE OR BE INSTALLED AS REQUIRED BY LOCAL OFFICIALS.
DRINKING FOUNTAIN SHALL BE AVAILABLE ON-SITE OR BE INSTALLED BY OTHER AS REQUIRED BY LOCAL OFFICIALS.
ALL FIXTURE MOUNTING HEIGHTS PER T.A.S.

HVAC:

HVAC: [05] 4-TON WALL MTD. WITH 10 KW HEAT STRIP -BARD OR EQUIVALENT- **GREY**
THERMOSTAT: [05] PROGRAMMABLE
DUCTS: FIBERGLASS
[02] FIRE / SMOKE DAMPERS
[01] 6" SCOOP W/ COLLAR
[06] 8" SCOOP W/ COLLAR
SUPPLY: **24"x24" ADJUSTABLE DAMPERS**
RETURN-AIR: ABOVE PLENUM WALL W/ DUCTED RETURN & JUMP DUCTS W/ FLEX
MISC: FRESH AIR VENTILATION IS PROVIDED THRU MANUAL AIR DAMPER IN THE HVAC SYSTEM.

FURNITURE OR MISC:

COUNTER TOP: 6 L.F. POST FORMED **FROSTY WHITE**
BASE CABINET: [01] B18, [01] SB36
ALL FUNRITURE / FIRE EXTINGUISHERS TO BE PROVIDED & INSTALLED ON-SITE BY OTHERS

DRAWING INDEX:

LTR	REVISION	BY	DATE	DRAWN BY: M.L.S.	PROJECT: WILLIAMS SCOTSMAN	TITLE: COVER SHEET / SPECIFICATIONS		AMTEX CORP. 832 EAST WALNUT GARLAND, TX 75040
				DATE: 10/19/07	SCALE: N.T.S.	DWG. NO. WS6084-3	SHEET A-1	(972) 276-7626 FAX: (972) 276-5105 Email: engineering@amtexcorp.com

Site Prep is included in the contract 6-13-08 Glen Williams

Drawing Approved 6-13-08 Glen Williams

ENERGY DESIGN INFORMATION:

CLIMATE ZONE: 10b window and glazed door area 10 percent or less

HDD [HEATING DEGREE DAYS]: 4758

R-VALUES TO COMPLY WITH TABLE: 802.2(24)
ACTUAL INSULATION R-VALUES IN BUILDING:
CEILING: ALL WOOD JOIST / TRUSS – R-30
FLOOR: ALL WOOD JOIST / TRUSS – R-19
WALLS WOOD FRAME, ANY SPACING – R-11

WINDOW U-FACTOR: 1.13
WINDOW SHGC: 0.78

GLASS DOOR U-FACTOR: 0.92
GLASS DOOR SHGC: 0.87

SOLID DOOR U-FACTOR: 0.70

SWITCHING SCHEMES SHALL BE PER ELECTRICAL PLAN

LIGHT FIXTURES: 48" 4-TUBE T-8 W/ ELEC. BALLAST AT 122 WATTS
PORCH LIGHT FLUORESCENT W/ ELEC. BALLAST AT 13 WATTS
EXIT LIGHT 27 WATT INCANDESCENT
EMERGENCY/EXIT LIGHT 40 WATT INCANDESCENT

EQUIPMENT EFFICIENCIES: HVAC MUST COMPLY WITH SECTION 803 AND TABLE 803.2.2(1) OF THE 2003 IECC [MIN. 9.7 SEER]. WATER HEATING COMPONENTS SHALL BE PER SECTION 804 AND TABLE 804.2 OF THE 2003 IECC TO BE CONSISTENT WITH THE NATIONAL APPLIANCE ENERGY CONSERVATION ACT OF 1987.

SYSTEM CONTROLS: HEATING AND COOLING SYSTEMS SHALL BE PROVIDED WITH PROGRAMMABLE THERMOSTAT PER SECTION 803.2.3.1 OF THE 2003 IECC.

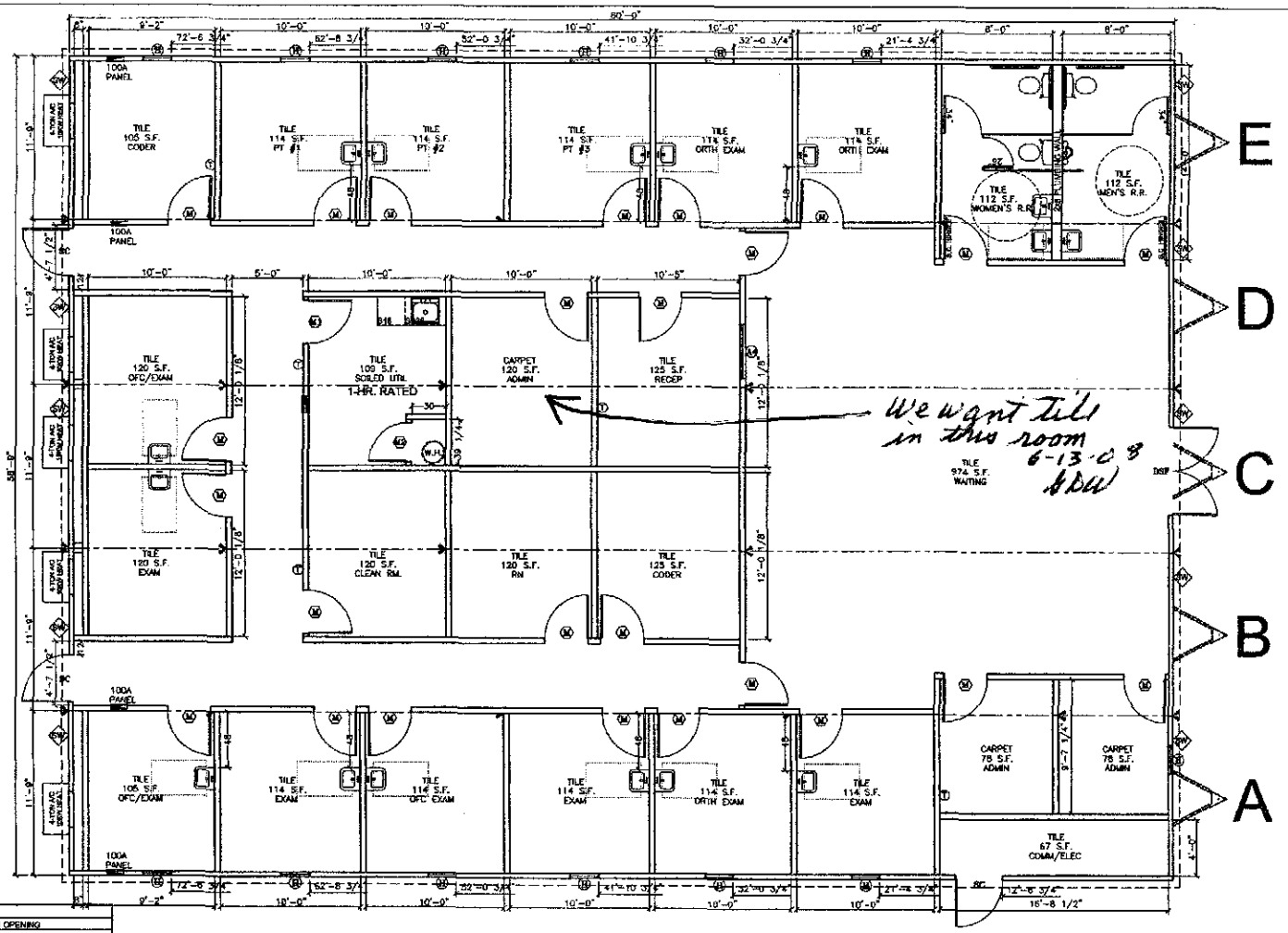
OUTDOOR AIR VENTILATION RATES SHALL COMPLY WITH TABLE 403.3 OF THE 2003 IMC: 20 CFM PER PERSON

DUCT INSULATION SHALL COMPLY WITH SECTION 803.2.8 OF THE 2003 IECC:
R-5 INSULATION WHEN LOCATED IN UNCONDITIONED SPACE
R-8 INSULATION WHEN LOCATED OUTSIDE BUILDING ENVELOPE

DUCT SEALING MUST COMPLY WITH SECTION 803.2.8 OF THE 2003 IECC.

LTR	REVISION	BY	DATE	DRAWN BY:	PROJECT:	TITLE:		AMTEX	832 EAST WALNUT GARLAND, TX 75040
				M.L.S.	WILLIAMS SCOTSMAN	ENERGY DESIGN INFORMATION			
				DATE: 10/19/07	SCALE: N.T.S.	DWG. NO. WS6084-3	SHEET A-1.1	(972) 276-7626 FAX: (972) 276-5105 Email: engineering@amtexcorp.com	

approved 6-13-08
Glen Williams



SCHEDULE \ LEGEND

KEY	ITEM DESCRIPTION	SIZE	ROUGH OPENING
SC	36" X 80" STEELCRAFT W/ 10x10 PANE	3680	40 1/2" X 82 1/2"
DSP	DBL. 36" X 84" STOREFRONT	72X84	76" X 88"
M	36" X 80" MOHAWK - SOLID CORE	3680	37 1/4" X 81"
M1	36" X 80" MOHAWK - SOLID CORE W/ 60 MIN. LABEL & S.C. HINGES	3680	37 1/4" X 81"
M2	36" X 80" MOHAWK - SOLID CORE W/ 90 MIN. LABEL & S.C. HINGES	3680	37 1/4" X 81"
H	46" X 80" PHILIPS - H.M. BRONZE/CLEAR	4680	48 1/2" X 48" UP 36"
H1	24" X 36" H-R - V.S. BRONZE/CLEAR	2436	24 1/2" X 38 1/2" UP 43 1/2"
SW	= SHEARWALL (REF. AMTEX DESIGN MANUAL, SECTION 07.101.001 FOR FASTENING)		

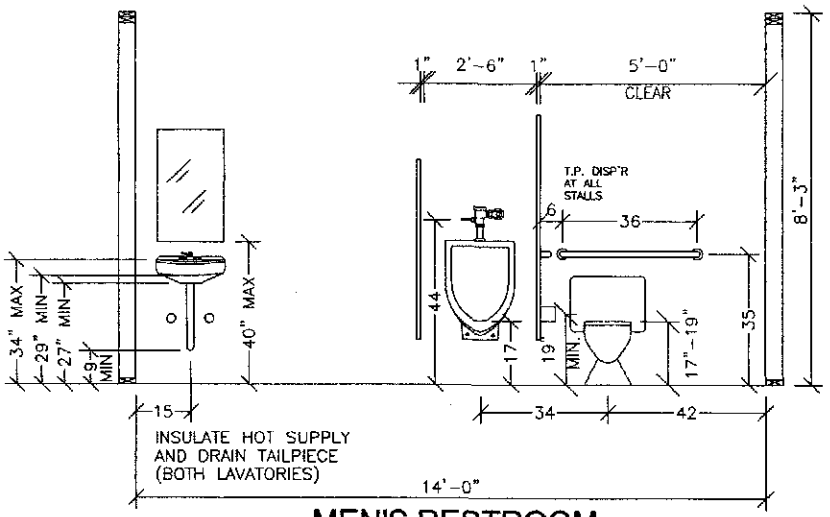
= MINIMUM 3-2x4 STUD SYP No. 2 COLUMNS WITH MIN. 2-20ga X 1-1/4" STRAPS FASTENED WITH MINIMUM 6-EACH No 8 SCREWS EACH END OF EACH STRAP.

NOTE:
1. R-11 UNFACED INSULATION IN ALL INTERIOR WALLS.

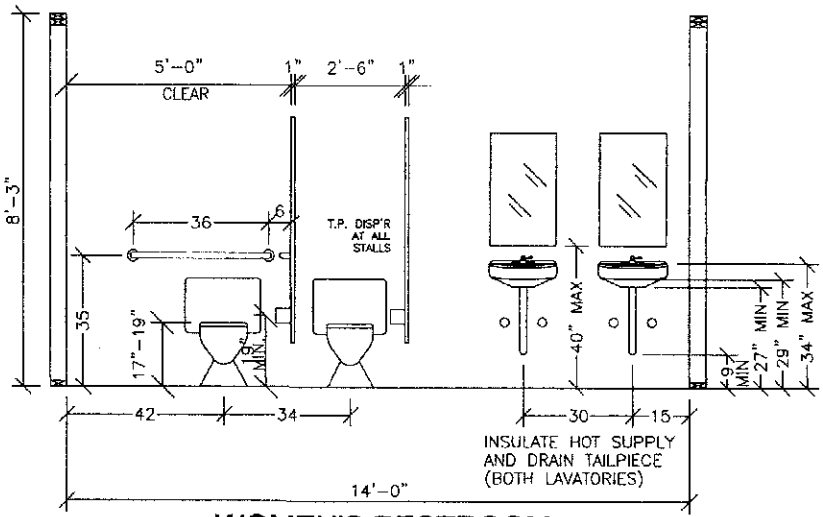
LTR	REVISION	BY	DATE

DRAWN BY: M.L.S.	PROJECT: WILLIAMS SCOTSMAN	TITLE: FLOOR PLAN		AMTEX 832 EAST WALNUT GARLAND, TX 75040
DATE: 10/19/07	SCALE: 1/8"=1'-0"	DWG. NO. WS6084-3	SHEET A-2	(972) 276-7626 FAX: (972) 276-5105 Email: engineering@amtexcorp.com

Approved with the exception of admin area.
We want tile in the admin area instead of carpet.
6-13-08 Glen Williams



MEN'S RESTROOM

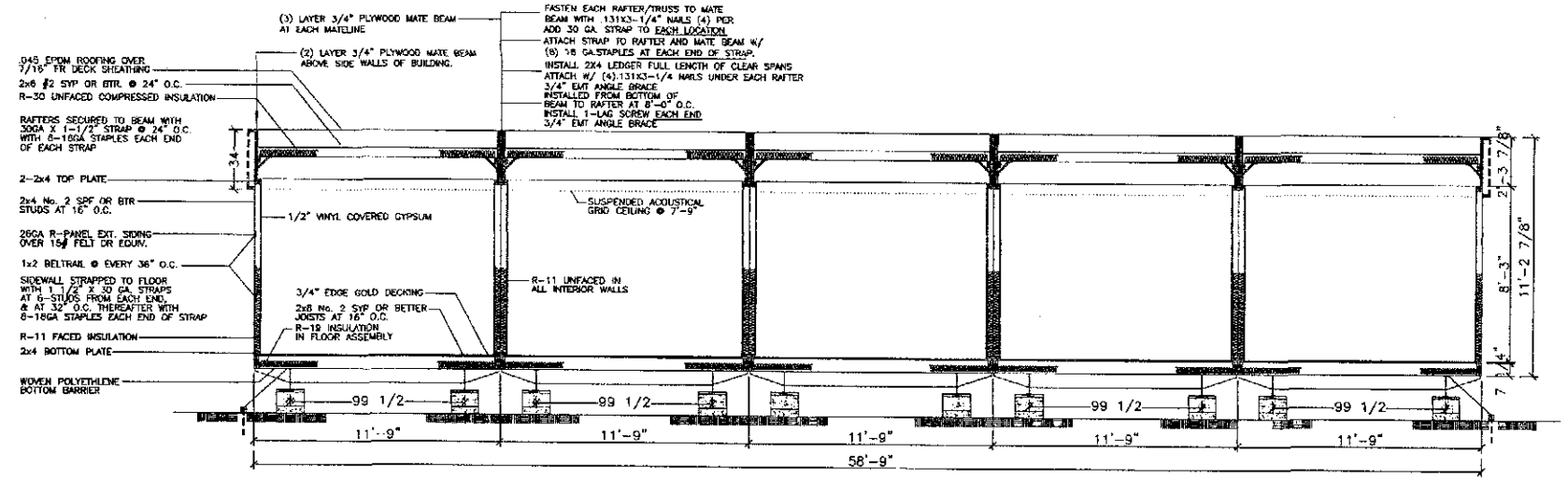


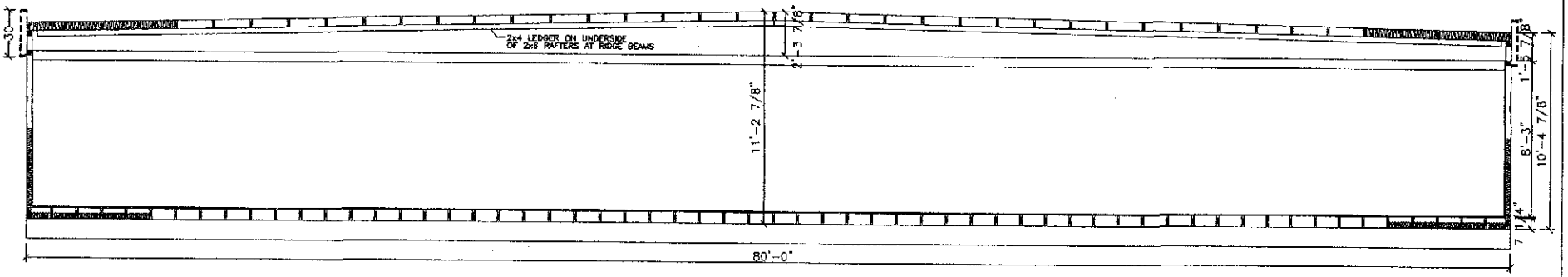
WOMEN'S RESTROOM

JOE STEEDE, P.E.
13999 GOLDMARK, SUITE 374
DALLAS, TX 75250 PHONE: (972) 238-1611

LTR	REVISION	BY	DATE	DRAWN BY: M.L.S.	PROJECT: WILLIAMS SCOTSMAN	TITLE: RESTROOM / CABINET ELEVATION		AMTEX CORP. 832 EAST WALNUT GARLAND, TX 75040
				DATE: 10/19/07	SCALE: N.T.S.	DWG. NO. WS6084-3	SHEET A-2.1	(972) 276-7626 FAX: (972) 276-5105 Email: engineering@amtexcorp.com

Approved 6-13-08
Glen Williams





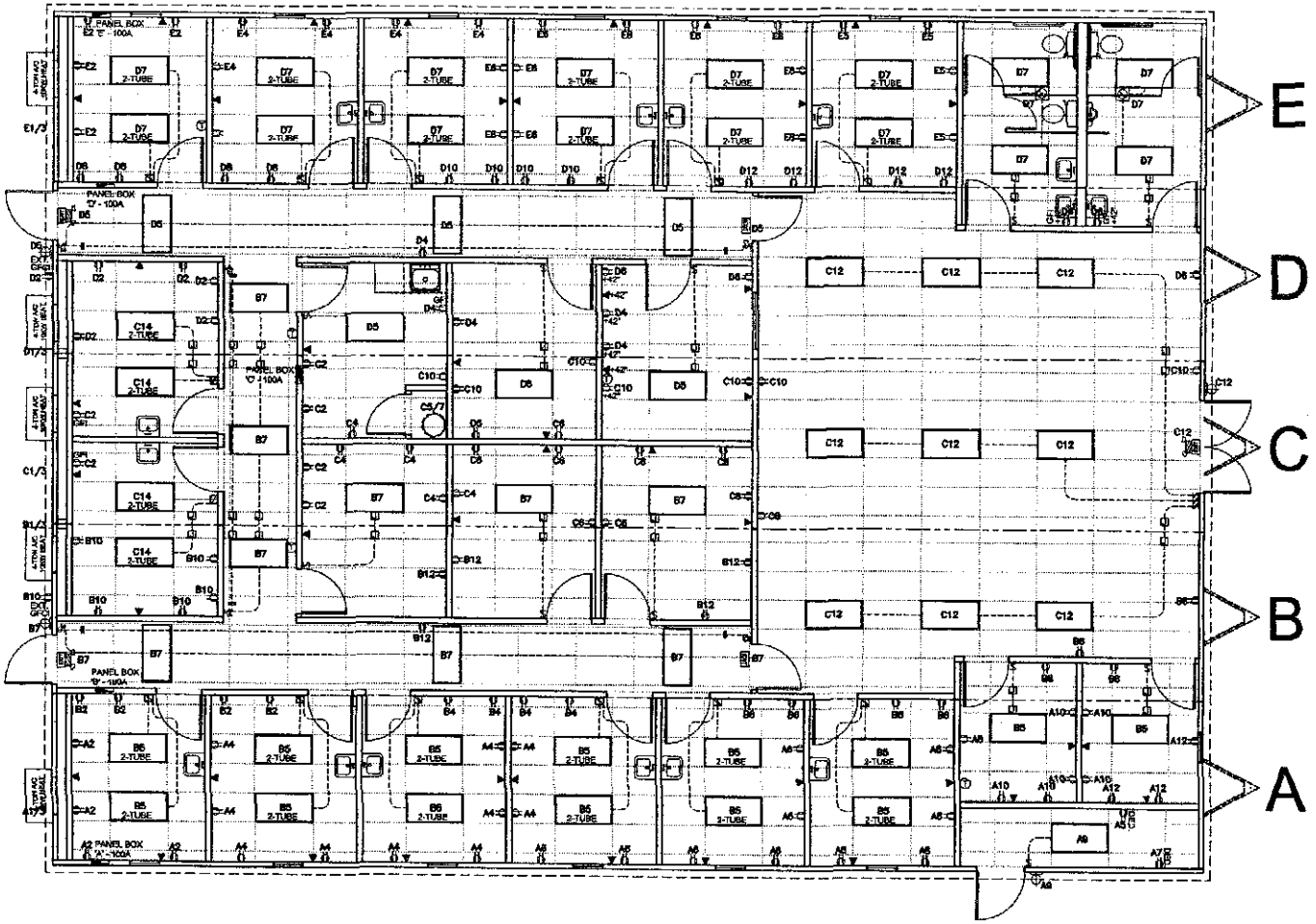
TRANSPORTATION HT: 14'-6"

LTR	REVISION	BY	DATE

DRAWN BY: M.L.S.	PROJECT: WILLIAMS SCOTSMAN	TITLE: CROSS SECTION	
DATE: 10/19/07	SCALE: 3/16"=1'-0"	DWG. NO. WS6084-3	SHEET A-3

AMTEX CORP.
832 EAST WALNUT
GARLAND, TX 75040
(972) 276-7626 FAX: (972) 276-5105
Email: engineering@amtexcorp.com

approved 6-13-05
Ken Williams



SYMBOL LEGEND

2'x4' T-8 4 TUBE TROFFER W/ DIFFUSED LENS	EXT. PORCH LIGHT W/ PHOTO CELL	120v DOUBLE TOGGLE SWITCH	120V DUPLEX RECEP.	200 AMP LOAD CENTER	EXIT LIGHT W/ BATT. BACKUP
1800CFM EXHAUST FAN ONLY	PHONE / DATA JACK STUB-IN 1CTN	120v SINGLE TOGGLE SWITCH	INTERIOR DOME LIGHT	THERMOSTAT LOCATION (+48")	EMER./EXIT W/ BATT. BACKUP

LTR	REVISION	BY	DATE

DRAWN BY: M.L.S.
DATE: 10/19/07
PROJECT: WILLIAMS SCOTSMAN
SCALE: 1/8"=1'-0"
TITLE: ELECTRICAL
DWG. NO. WS6084-3
SHEET E-1

AMTEX CORP
832 EAST WALNUT
GARLAND, TX 75040
(972) 276-7626 FAX: (972) 276-5105
Email: engineering@amtexcorp.com

Approved 6-13-08
Glen Williams

PANEL BOX 'A' 100 AMP

WIRE	CIRCUIT	AMP			AMP	CIRCUIT	WIRE
#6	HVAC UNIT	60 2P	1	2	20	RECEPTACLES	#12
			3	4	20	RECEPTACLES	#12
#12	DEDICATED RECEP.	20	5	6	20	RECEPTACLES	#12
#12	DEDICATED RECEP.	20	7	8	20	RECEPTACLES	#12
#12	LIGHTS	20	9	10	20	RECEPTACLES	#12
				12	20	RECEPTACLES	#12

GROUND BAR — NEUTRAL

PANEL BOX 'A' LOAD CALCULATION

01 4-TON AC W/10KW (HEATING CONTROLS)	10624 WATTS
OTHER LOADS:	
01 FOUR TUBE FLR. LIGHT AT 122 WATTS EACH X 125%	153 WATTS
01 FLUORESCENT PORCH LIGHT AT 13 WATTS EACH X 125%	16 WATTS
34 120v RECEPTACLES AT 180 WATTS EACH	6120 WATTS
02 DEDICATED 120v RECEP. AT 1400 WATTS	1400 WATTS
	18313 WATTS

TOTAL LOADS:
18313 WATTS÷240 = 76 AMPS

PANEL BOX 'B' 100 AMP

WIRE	CIRCUIT	AMP			AMP	CIRCUIT	WIRE
#6	HVAC UNIT	60 2P	1	2	20	RECEPTACLES	#12
			3	4	20	RECEPTACLES	#12
#12	LIGHTS	20	5	6	20	RECEPTACLES	#12
				8	20	RECEPTACLES	#12
#12	LIGHTS	20	7	10	20	RECEPTACLES	#12
				12	20	RECEPTACLES	#12

GROUND BAR — NEUTRAL

PANEL BOX 'B' LOAD CALCULATION

01 4-TON AC W/10KW (HEATING CONTROLS)	10624 WATTS
OTHER LOADS:	
17 FOUR TUBE FLR. LIGHT AT 122 WATTS EACH X 125%	2593 WATTS
01 FLUORESCENT PORCH LIGHT AT 13 WATTS EACH X 125%	16 WATTS
26 120v RECEPTACLES AT 180 WATTS EACH	4810 WATTS
01 W.P. EXT. GFCI 120v RECEP. AT 180 WATTS	180 WATTS
01 EXIT SIGN W/ BATTERY BACKUP AT 27 WATTS X 125%	34 WATTS
01 EMER/EXIT SIGN W/ BATT. BACKUP AT 40 WATTS X 125%	50 WATTS
	18107 WATTS

TOTAL LOADS:
18107 WATTS÷240 = 75 AMPS

PANEL BOX 'C' 100 AMP

WIRE	CIRCUIT	AMP			AMP	CIRCUIT	WIRE
#6	HVAC UNIT	60 2P	1	2	20	RECEPTACLES	#12
			3	4	20	RECEPTACLES	#12
				6	20	RECEPTACLES	#12
#10	WATER HEATER	30 2P	5	8	20	RECEPTACLES	#12
				10	20	RECEPTACLES	#12
			7	12	20	LIGHTS	#12
				14	20	LIGHTS	#12

GROUND BAR — NEUTRAL

PANEL BOX 'C' LOAD CALCULATION

01 4-TON AC W/10KW (HEATING CONTROLS)	10624 WATTS
OTHER LOADS:	
11 FOUR TUBE FLR. LIGHT AT 122 WATTS EACH X 125%	1678 WATTS
01 FLUORESCENT PORCH LIGHT AT 13 WATTS EACH X 125%	16 WATTS
26 120v RECEPTACLES AT 180 WATTS EACH	4680 WATTS
02 GFI 120v RECEPTACLES AT 180 WATTS EACH	360 WATTS
01 EMER/EXIT SIGN W/ BATT. BACKUP AT 40 WATTS X 125%	50 WATTS
01 30-GALLON WATER HEATER AT 4500 WATTS	4500 WATTS
	21908 WATTS

TOTAL LOADS:
21908 WATTS÷240 = 91 AMPS

PANEL BOX 'D' 100 AMP

WIRE	CIRCUIT	AMP			AMP	CIRCUIT	WIRE
#6	HVAC UNIT	60 2P	1	2	20	RECEPTACLES	#12
			3	4	20	RECEPTACLES	#12
#12	LIGHTS	20	5	6	20	RECEPTACLES	#12
				8	20	RECEPTACLES	#12
#12	LIGHTS	20	7	10	20	RECEPTACLES	#12
				12	20	RECEPTACLES	#12

GROUND BAR — NEUTRAL

PANEL BOX 'D' LOAD CALCULATION

01 4-TON AC W/10KW (HEATING CONTROLS)	10624 WATTS
OTHER LOADS:	
16 FOUR TUBE FLR. LIGHT AT 122 WATTS EACH X 125%	2440 WATTS
01 FLUORESCENT PORCH LIGHT AT 13 WATTS EACH X 125%	16 WATTS
24 120v RECEPTACLES AT 180 WATTS EACH	4320 WATTS
04 GFI 120v RECEPTACLES AT 180 WATTS EACH	720 WATTS
01 W.P. EXT. GFCI 120v RECEP. AT 180 WATTS	180 WATTS
01 EXIT SIGN W/ BATTERY BACKUP AT 27 WATTS X 125%	34 WATTS
01 EMER/EXIT SIGN W/ BATT. BACKUP AT 40 WATTS X 125%	50 WATTS
02 180CFM EXHAUST FAN AT 156 WATTS EACH	312 WATTS
	18696 WATTS

TOTAL LOADS:
18696 WATTS÷240 = 78 AMPS

PANEL BOX 'E' 100 AMP

WIRE	CIRCUIT	AMP			AMP	CIRCUIT	WIRE
#6	HVAC UNIT	60 2P	1	2	20	RECEPTACLES	#12
			3	4	20	RECEPTACLES	#12
#12	RECEPTACLES	20	5	6	20	RECEPTACLES	#12
-	OPEN	-	7	8	20	RECEPTACLES	#12

GROUND BAR — NEUTRAL

PANEL BOX 'E' LOAD CALCULATION

01 4-TON AC W/10KW (HEATING CONTROLS)	10624 WATTS
OTHER LOADS:	
24 120v RECEPTACLES AT 180 WATTS EACH	4320 WATTS
	14944 WATTS

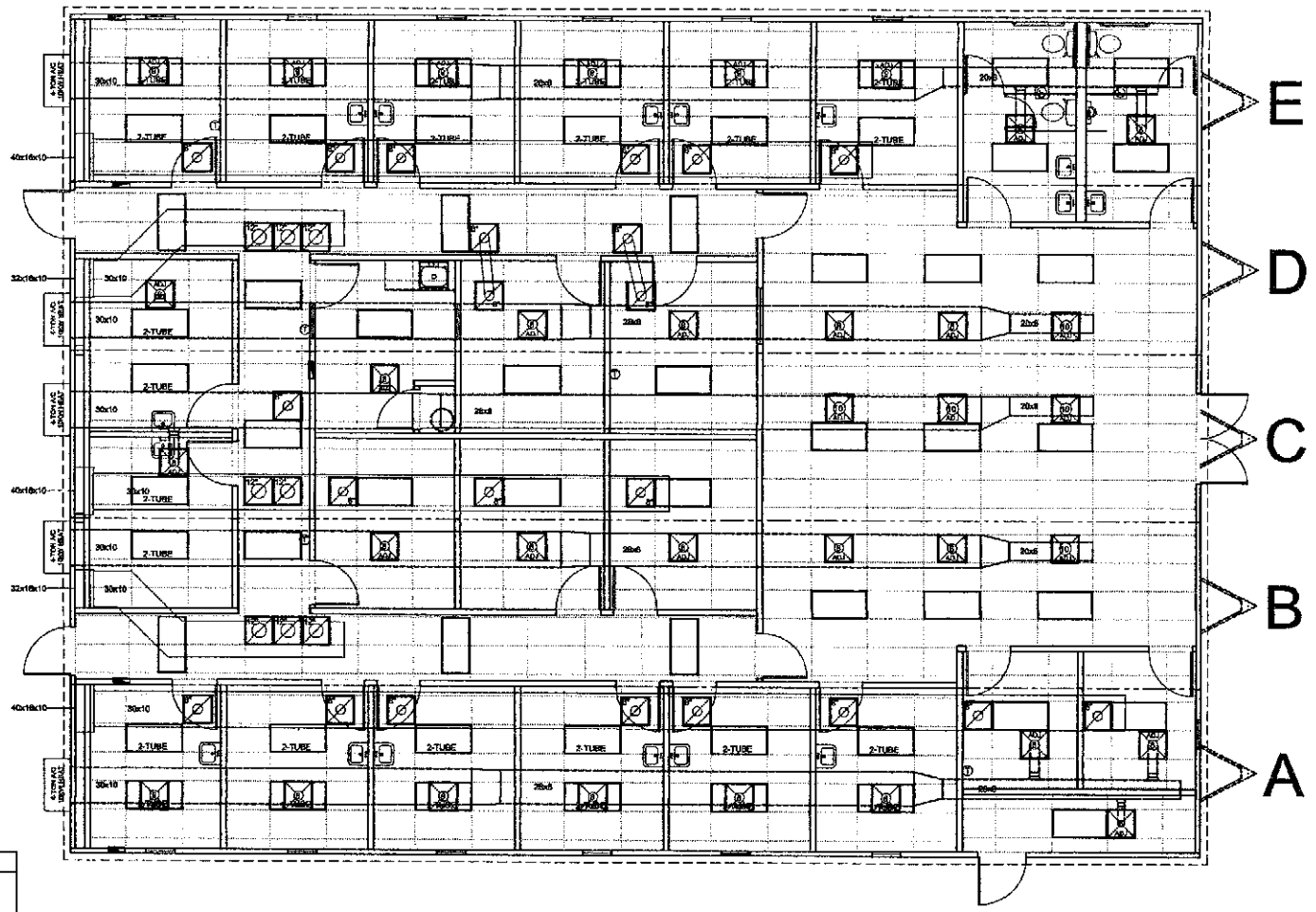
TOTAL LOADS:
14944 WATTS÷240 = 62 AMPS

LTR	REVISION	BY	DATE

DRAWN BY: M.L.S.
DATE: 10/19/07
PROJECT: WILLIAMS SCOTSMAN
SCALE: N.T.S.
TITLE: PANEL BOX & ELECTRICAL CALCS.
DWG. NO. WS6084-3
SHEET E-1.1

AMTEX CORP
832 EAST WALNUT
GARLAND, TX 75040
(972) 276-7626 FAX: (972) 276-5105
Email: engineering@amtexcorp.com

Approved 6-13-08
Glen Williams



SYMBOL LEGEND

- 24" X 24" DIFFUSER ADJUSTABLE
- JUMP DUCT
- SCOOP W/ COLLAR
- FIRE / SMOKE DAMPER

LTR	REVISION	BY	DATE

DRAWN BY: M.L.S.	PROJECT: WILLIAMS SCOTSMAN	TITLE: CEILING & HVAC LAYOUT	
DATE: 10/19/07	SCALE: 1/8"=1'-0"	DWG. NO. WS6084-3	SHEET M-1

AMTEX CORP.
832 EAST WALNUT
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Email: engineering@amtexcorp.com

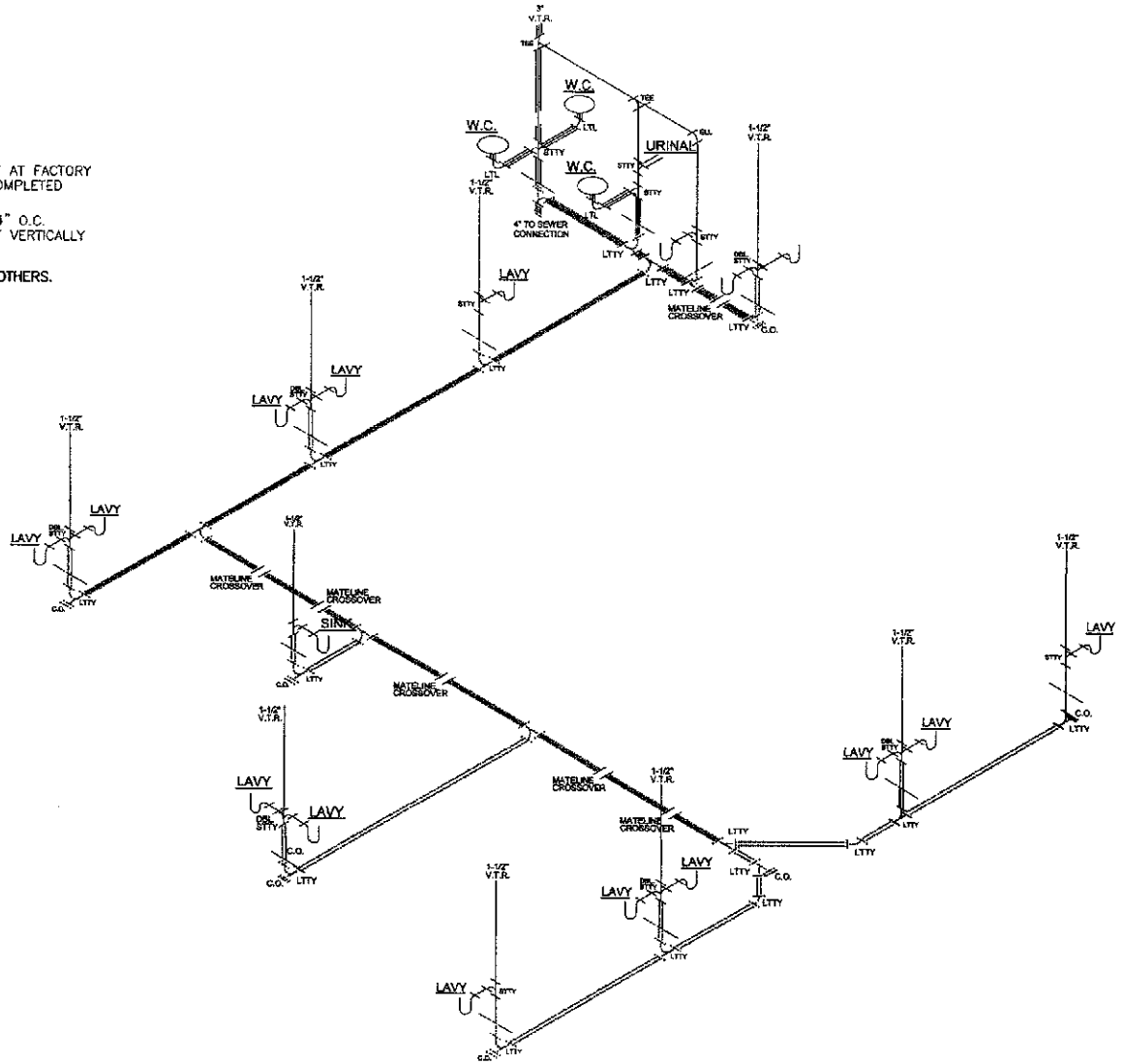
Approved 6-13-08
Glen Williams

DWV PIPING LEGEND	
	1 1/2" DWV LINE
	2" DWV LINE
	3" DWV LINE
	4" DWV LINE

NOTE: DRAIN 'TREES' ARE STUBBED THRU FLOOR ONLY AT FACTORY AND FINAL CONNECTION TO SEWER IS TO BE COMPLETED ON-SITE BY OTHERS.

PIPING 2" OR SMALLER SHALL BE SUPPORTED 4" O.C. HORIZONTALLY @ FLOOR, CEILING, & MID-STORY VERTICALLY PER TABLE 308.5 FOOT B OF THE 2003 IPC

MANIFOLD PROVIDED & INSTALLED ON-SITE BY OTHERS.



LTR	REVISION	BY	DATE

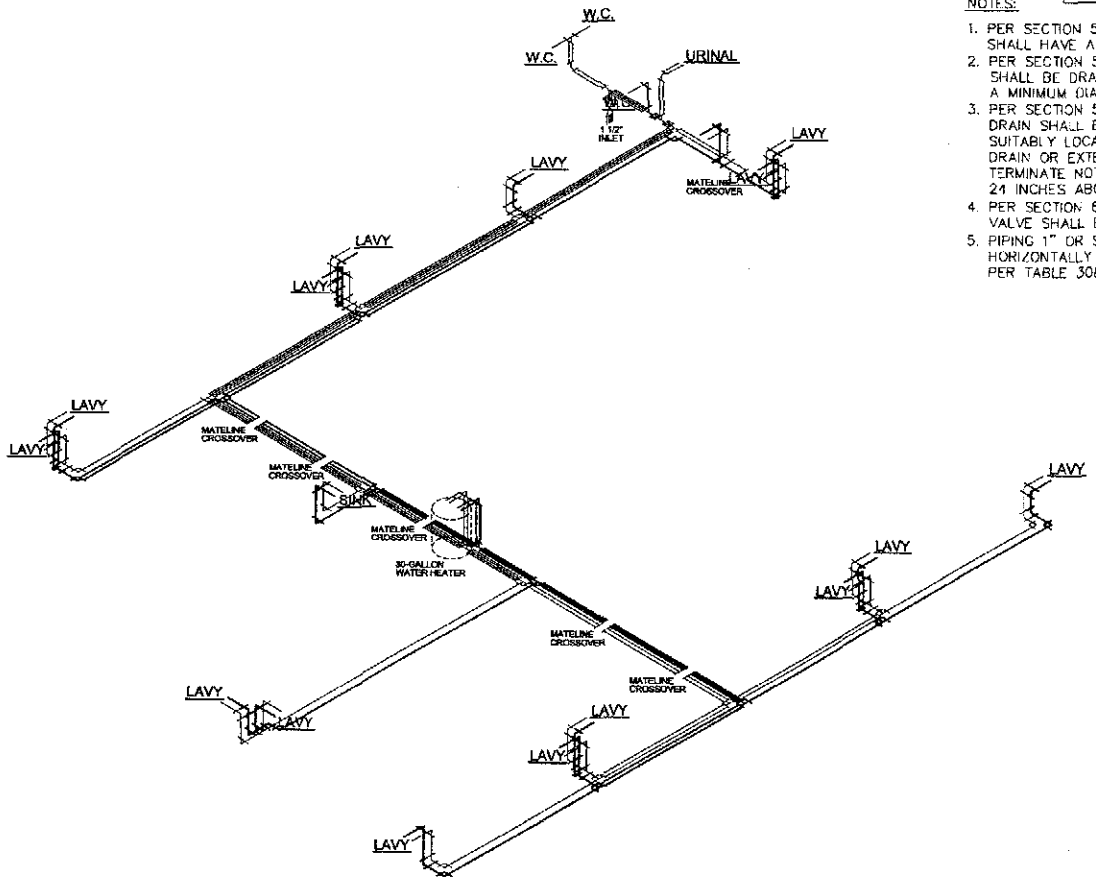
DRAWN BY: M.L.S.	PROJECT: WILLIAMS SCOTSMAN	TITLE: PLUMBING - DRAIN		AMTEX CORP.	832 EAST WALNUT GARLAND, TX 75040
DATE: 10/19/07	SCALE: 1/8"=1'-0"	DWG. NO. WS6084-3	SHEET P-1	(972) 276-7626 FAX: (972) 276-5105 Email: engineering@amtexcorp.com	

Approved 6-13-08
Glen Williams

WATER LINE LEGEND	
	1/2" WATER LINE
	3/4" WATER LINE
	1" WATER LINE
	1-1/2" WATER LINE

NOTES:

1. PER SECTION 504.5 OF THE 2003 IPC. WATER HEATERS SHALL HAVE A TEMP/PRESSURE RELIEF VALVE INSTALLED.
2. PER SECTION 504.7.1 OF THE 2003 IPC. THE DRIP PAN SHALL BE DRAINED BY AN INDIRECT WASTE PIPE HAVING A MINIMUM DIAMETER OF 3/4".
3. PER SECTION 504.7.2 OF THE 2003 IPC. THE DRIP PAN DRAIN SHALL EXTEND FULL-SIZE AND TERMINATE OVER A SUITABLY LOCATED INDIRECT WASTE RECEPTOR OR FLOOR DRAIN OR EXTEND TO THE EXTERIOR OF THE BUILDING AND TERMINATE NOT LESS THAN 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE ADJACENT GROUND SURFACE.
4. PER SECTION 606.2 OF THE 2003 IPC. A SHUT-OFF VALVE SHALL BE INSTALLED AT EACH FIXTURE & WATER HEATER.
5. PIPING 1" OR SMALLER SHALL BE SUPPORTED 3' HORIZONTALLY @ FLOOR, CEILING, & MID-STORY VERTICALLY PER TABLE 308.5 FOOTNOTE B OF THE 2003 IPC.



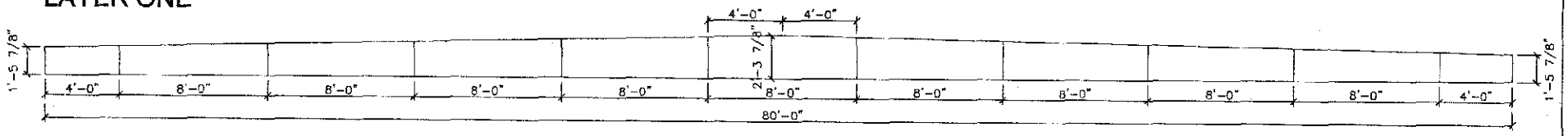
LTR	REVISION	BY	DATE

DRAWN BY: M.L.S.	PROJECT: WILLIAMS SCOTSMAN	TITLE: PLUMBING - WATER	
DATE: 10/19/07	SCALE: 1/8"=1'-0"	DWG. NO. WS6084-3	SHEET P-2

AMTEX CORP. 832 EAST WALNUT GARLAND, TX 75040
(972) 276-7626 FAX: (972) 278-5105
Email: engineering@amtexcorp.com

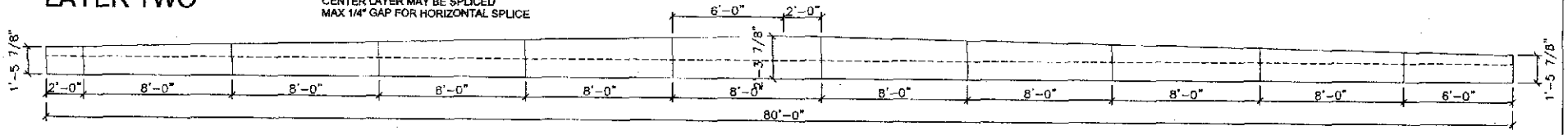
Approved 6-13-08
Glen Williams

LAYER ONE

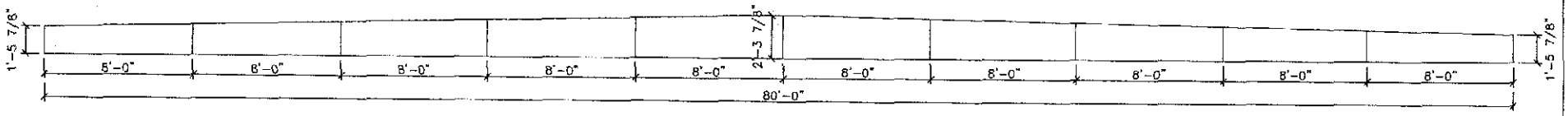


LAYER TWO

CENTER LAYER MAY BE SPLICED
MAX 1/4" GAP FOR HORIZONTAL SPLICE



LAYER THREE

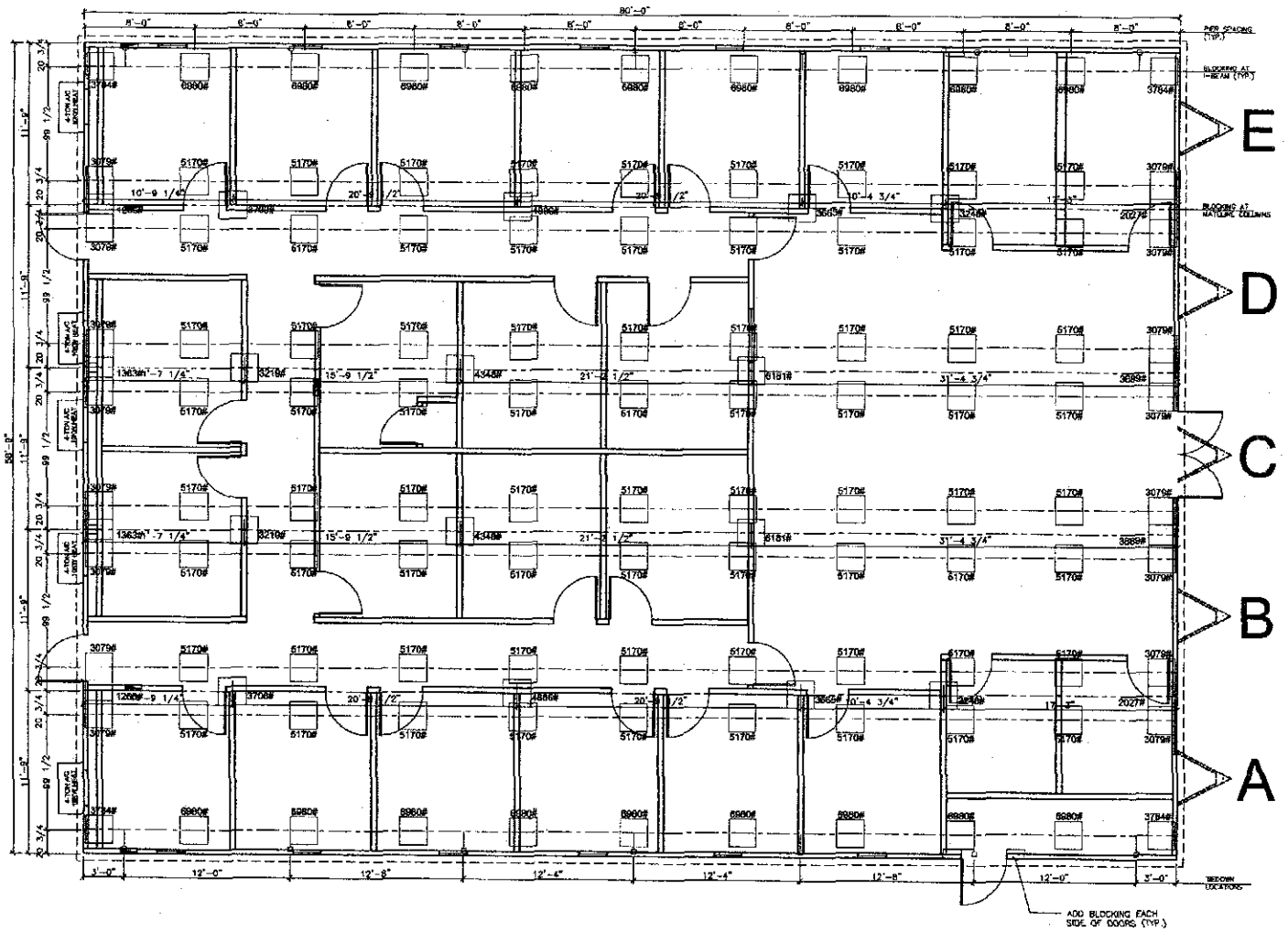


RIDGE BEAM NOTES:

1. RIDGE BEAM CONSTRUCTION IS THE SAME FOR BOTH SIDES OF UNIT (MIRRORED).
2. RIDGE BEAM IS CONSTRUCTED WITH 3/4" 5-PLY, 5-LAYER GROUP 1 SPECIES PLYWOOD.
3. RIDGE BEAM CONSTRUCTION SHALL BE IN ACCORDANCE WITH APA PLYWOOD DESIGN SPECIFICATION, SUPPLEMENT 5.

LTR	REVISION	BY	DATE	DRAWN BY: M.L.S.	PROJECT: WILLIAMS SCOTSMAN	TITLE: RIDGE BEAM	AMTEX CORP. 832 EAST WALNUT GARLAND, TX 75040
				DATE: 10/19/07	SCALE: 3/16"=1'-0"	DWG. NO. WS6084-3 / SHEET S-1	(972) 276-7626 FAX: (972) 276-5105 Email: engineering@amtexcorp.com

approved 6-13-08
Glen Williams



NOTES:

1. SOIL CAPACITY IS ASSUMED TO BE 2500 PSF.
2. PIER SPACING BASED ON ASSUMED PAD SIZE OF 24" X 24".
3. BLOCKS ADDED EACH SIDE OF EXT. DOORS (TYP.)

LTR	REVISION	BY	DATE

DRAWN BY: M.L.S.	PROJECT: WILLIAMS SCOTSMAN	TITLE: BLOCKING / TIE DOWN	AMTEX CORP. 832 EAST WALNUT GARLAND, TX 75040
DATE: 10/19/07	SCALE: 1/8"=1'-0"	DWG. NO. WS6084-3	SHEET S-2

(972) 276-7626 FAX: (972) 276-5105
Email: engineering@amtexcorp.com

Approved 6-13-08
Ken Williams

Construction Standards

Following are the Exterior Closure and Interior Finish Requirements for the Modular Clinic (Option 1) for Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

AR 42-18

RELOCATABLE BUILDING POLICY, 20 Dec 06,
APPENDIX 5-B, PHOTOS AND LAYOUT

The above policy is typically what the facility expects to see. A copy is also located on the ftp site referenced in the scope of work

US Army Health Facility Planning Agency Finishes for Modular Buildings - May 2005

Following are standards for finishes.

US Army Health Facility Planning Agency
Finishes for Modular Buildings
May 2005

1 GENERAL

.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

.2 GENERAL

This section covers only the color of the exterior and interior materials and products that are exposed to view in the finished construction. The word "color" as used herein includes surface color and pattern. Requirements for quality and method of installation are covered in other appropriate sections of the specifications for individual task orders. Specific locations where the various materials are required are shown on the drawings. Items not designated for color in this section may be specified in other sections. When color is not designated for items, the Contractor shall propose a color for approval.

.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only.

SD-14 Samples

Color board; GA
Three sets of color boards, 90 days after the Contractor is given Notice to proceed, complying with the following requirements:

a. Color boards shall reflect all actual finish textures, patterns, and colors required for this contract.

b. Materials shall be labeled with the finish type, manufacturer's name, pattern, and color reference.

c. Samples shall be on size A4 or 8-1/2 by 11 inch boards with a maximum spread of size A1 or 25-1/2 by 33 inches for foldouts.

d. Samples for this color board are required in addition to samples requested in other specification sections.

e. Color boards shall be submitted to the following addresses:
U.S. Army Health Facility Planning Agency Corporate Interior
Design Management Program
109 St. Joseph Street
Mobile, AL 36602
Attn: Interior Design, Room 4000

2 PRODUCTS

.1 REFERENCE TO MANUFACTURER'S COLOR

Where color is shown as being specific to one manufacturer, an equivalent color by another manufacturer may be submitted for approval. Manufacturers and materials specified are not intended to limit the selection of equal colors from other manufacturers.

.2 COLOR SCHEDULE

The color schedule lists the colors, patterns and textures required for exterior and interior finishes, including both factory applied and field applied colors.

Exterior Walls – Not Applicable
Exterior Trim – Not Applicable
Exterior Roof – Not Applicable

.1 Interior Floor Finishes

Flooring materials shall be provided to match the colors listed below.

a. Carpet:

(CPT-1) Mannington Carpet, 12' – 0" Broadloom, "R & D", Color:

b. Vinyl Composition Tile:

(VCT-1) Congoleum "Alternatives" vinyl composition tile, Color: Pearl White #AL-11 (Neutral), 12" x 12" tile
(VCT-2) Congoleum "Alternatives" vinyl composition tile, Color: Washed Cornsilk #AL-71 (Warm Accent), 12" x 12" tile
(VCT-3) Congoleum "Alternatives" vinyl composition tile, Color: Sante Fe #AL-64 (Warm Accent), 12" x 12" tile
(VCT-4) Congoleum "Alternatives" vinyl composition tile, Color: Multi-Navy #AL-99 (Cool Accent) 12" x 12" tile
(VCT-5) Congoleum "Alternatives" vinyl composition tile, Color: Spruce #AL-86 (Cool Accent) 12" x 12" tile
(VCT-6) Congoleum "Alternatives" vinyl composition tile, Color: Plum #AL-01 (Cool Accent) 12" x 12" tile
(VCT-7) Congoleum "Alternatives" vinyl composition tile, Color: Pewter Shadow #AL-31 (Neutral) 12" x 12" tile
(VCT-8) Congoleum "Alternatives" vinyl composition tile, Color: Medium Stone Grey #AL-32 (Dark Neutral) 12" x 12" tile

c. Sheet Vinyl Flooring:

(SVF-1) Armstrong, Medintech, Color: Ixia Warm White #86476 (Neutral)

.2 Interior Base Finishes

Base materials shall be provided to match the colors listed below.

a. Resilient Base and Edge/Transition Strips:

(RB-1) Domco Tarkett CB-78 Taupe Wall base, 4”

b. Sheet Vinyl Flooring:

(SVF-1) Armstrong, Medintech, Color: Ixia Warm White #86476 (Neutral)

.3 Interior Wall Finishes

Interior wall color shall apply to the entire wall surface, including reveals, vertical furred spaces, grilles, diffusers, electrical and access panels, and piping and conduit adjacent to wall surfaces unless otherwise specified. Items not specified in other paragraphs shall be painted to match adjacent wall surface. Wall materials shall be provided to match the colors listed below.

a. Paint:

(PT-1) ICI, MP#40YY 65/061 Canvas Cloth (Neutral)
(PT-2) ICI, MP#30YY 63/231 Kansas Corn (Warm Accent)
(PT-3) ICI, MP#50YR 34/228 French Country (Warm Accent)
(PT-4) ICI, MP#50BB 26/130 Windmill Blue (Cool Accent)
(PT-5) ICI, MP#30GY 30/100 Main Street USA (Cool Accent)
(PT-6) ICI, MP#10RR 16/156 Glorious Plum (Cool Accent)
(PT-7) ICI, MP#50YY 47/053 Pewter Grey (dark neutral)

b. Vinyl Wall Covering:

(WC-1) Eykon Wallsource, Type II, Color: Oyster #YA1401 (Neutral)
(WC-2) Eykon Wallsource, Type II, Color: Maize #YA1404 (Warm Accent)
(WC-3) Eykon Wallsource, Type II, Color: Terracotta #YA1409 (Warm Accent)
(WC-4) Eykon Wallsource, Type II, Color: Copen #YA1413 (Cool Accent)
(WC-5) Eykon Wallsource, Type II, Color: Celadon #YA1411 (Cool Accent)
(WC-6) Eykon Wallsource, Type II, Color: Blueberry #YA1420 (Cool Accent)

c. FRP Wall panels:

(FRP-1) Glasteel Fiberglass Reinforced Panel wall & ceiling liner, “Ivory”

.4 Interior Ceiling Finishes

Ceiling colors shall apply to ceiling surfaces including soffits, furred down areas, grilles, diffusers, registers, and access panels. Ceiling color shall also apply to joist, underside of roof deck, and conduit and piping where joists and deck are exposed and required to be painted. Ceiling materials shall be provided to match the colors listed below.

a. Acoustical Ceiling Tile and Grid:

(ACT-1) USG “Radar” #2310 ceiling tile, 2’ x 4’ x 5/8” units, white finish, square edge

b. Painted Finish

(P-8) ICI MP#98YY 82/022 White High-Hiding RM (white) – flat finish for ceilings

c. Acoustical Ceiling Tile:

USG Donn “DX” 15/16” ceiling grid for tiles and lighting fixtures, white finish

.5 Interior Trim

Interior trim shall be provided to match the colors listed below.

a. Doors:

(S-1) Mohawk 2000 Pre-finished interior doors, Birch wood with Brown stain

b. Door Frames:

(PT-1) ICI Paint, MP#4044 65/061 Canvas Cloth (semi-gloss)

c. Fire Extinguisher Cabinets: White

d. Wood Stain for miscellaneous wood items:

(S-1) Wood to match Mohawk’s 2000 Pre-finished interior doors, Birch wood with Brown stain

.6 Interior Window Treatment

Window treatments shall be provided to match the colors listed below.

a. Horizontal Blinds:

(HB-1) Horizontal Aluminum Blinds, Metro Blind & Shades 1” slats, color: Alabaster

b. Cubicle Curtain Fabric:

(CC-1) Maharam, Leaflet 502407, 001 Sunset (Warm Accent)
(CC-2) Maharam, Calando 502403, 001 Arroyo (Warm Accent)
(CC-3) Maharam, Leaflet 502407, 003 River (Cool Accent)
(CC-4) Maharam, Calando 502403, 005 Sky (Cool Accent)

.7 Interior Miscellaneous

Miscellaneous items shall be provided to match the colors listed below.

a. Toilet Partitions and Urinal Screen:

(PL-1) Ampco Toilet partitions, High Pressure Laminate series, Formica, #929 Oyster Grey

b. Casework:

(PL-2) Laminate base cabinets and upper cabinets: Wilsonart # D72-60 “Featherstone”, matte finish

(PL-3) Countertops: Wilsonart #4634-60 “Storm Nebula”, matte finish

c. Wall Protection:

(VWP-1) Acrovyn #262 Driftwood, Pebblette Texture (light neutral)

d. Wall Switch Handles and Standard Receptacle Bodies: White

e. Electrical Device Cover Plates and Panels: White

3 EXECUTION (Not Applicable)

--End of Section—

Engineering Calculations and Analysis

The following Certificates are attached for the Modular Clinic for Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

- Envelope Compliance Certificate
- Lighting Compliance Certificate
- Lighting Application Worksheet
- Mechanical Compliance Certificate
- Mechanical Requirements Description

COMcheck Software Version 3.4.0

Envelope Compliance Certificate

2003 IECC

Report Date: 10/25/07

Data filename: C:\Program Files\Check\COMcheck-EZ\Projects\Williams Scotsman\WS6084-3.cck

Section 1: Project Information

Project Title: WS6084-3

Construction Site:

Owner/Agent:
WILLIAMS SCOTSMAN

Designer/Contractor:
MICHAEL SCHNEIDER
AMTEX CORP.
832 E. WALNUT
GARLAND, TX 75040
972.276.7626
michael.schneider@amtexcorp.com

Section 2: General Information

Building Location (for weather data):	**Saint Louis, Missouri**
Climate Zone:	**10b**
Heating Degree Days (base 65 degrees F):	**4758**
Cooling Degree Days (base 65 degrees F):	**1534**
Project Type:	**New Construction**
Vertical Glazing / Wall Area Pct.:	**4%**

Building Type	Floor Area
Medical and Clinical Care	4700

Section 3: Requirements Checklist

Envelope PASSES: Design 27% better than code

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Roof 1: All-Wood Joist/Rafter/Truss	4700	30.0	0.0	0.035	0.056
Exterior Wall 1: Wood Frame, Any Spacing	2642	11.0	0.0	0.103	0.103
Window 1: Metal Frame:Single Pane, Clear, SHGC 0.78	104	---	---	1.130	0.642
Door 1: Solid	100	---	---	0.500	0.160
Floor 1: All-Wood Joist/Truss	4700	19.0	0.0	0.049	0.066

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- ☐ 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- ☐ 2. Windows, doors, and skylights certified as meeting leakage requirements.
- ☐ 3. Component R-values & U-factors labeled as certified.
- ☐ 4. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.
- ☐ 5. Stair, elevator shaft vents, and other dampers integral to the building envelope are equipped with motorized dampers.
- ☐ 6. Cargo doors and loading dock doors are weather sealed.

☐ 7. Recessed lighting fixtures are: (i) Type IC rated and sealed or gasketed; or (ii) installed inside an appropriate air-tight assembly with a 0.5 inch clearance from combustible materials and with 3 inches clearance from insulation material.

☐ 8. Building entrance doors have a vestibule and equipped with closing devices.
Exceptions:

Building entrances with revolving doors.

Doors that open directly from a space less than 3000 sq. ft. in area.

☐ 9. Vapor retarder installed.

Section 4: Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2003 IECC requirements in COM*check* Version 3.4.0 and to comply with the mandatory requirements in the Requirements Checklist.

MICHAEL SCHNEIDER — Name - Title

Signature

10/25/07 — Date

COMcheck Software Version 3.4.0

Lighting Compliance Certificate

2003 IECC

Report Date: 10/25/07

Data filename: C:\Program Files\Check\COMcheck-EZ\Projects\Williams Scotsman\WS6084-3.cck

Section 1: Project Information

Project Title: WS6084-3

Construction Site:

Owner/Agent:
WILLIAMS SCOTSMAN

Designer/Contractor:
MICHAEL SCHNEIDER
AMTEX CORP.
832 E. WALNUT
GARLAND, TX 75040
972.276.7626
michael.schneider@amtexcorp.com

Section 2: General Information

Building Use Description by:
Project Type: **New Construction**

Building Type	Floor Area
Medical and Clinical Care	4700

Section 3: Requirements Checklist

Interior Lighting:

☐ 1. Total actual watts must be less than or equal to total allowed watts.

Allowed Watts	Actual Watts	Complies
5640	5368	YES

☐ 2. Exit signs 5 Watts or less per side.

Exterior Lighting:

☐ 3. Efficacy greater than 45 lumens/W.
Exceptions:

Specialized lighting highlighting features of historic buildings; signage; safety or security lighting; low-voltage landscape lighting.

Controls, Switching, and Wiring:

☐ 4. Independent controls for each space (switch/occupancy sensor).
Exceptions:

Areas designated as security or emergency areas that must be continuously illuminated.

Lighting in stairways or corridors that are elements of the means of egress.

☐ 5. Master switch at entry to hotel/motel guest room.

☐ 6. Individual dwelling units separately metered.

☐ 7. Each space provided with a manual control to provide uniform light reduction by at least 50%.
Exceptions:

Only one luminaire in space;

An occupant-sensing device controls the area;

The area is a corridor, storeroom, restroom, public lobby or guest room;

Areas that use less than 0.6 Watts/sq.ft.

☐ 8. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.
Exceptions:

Areas with only one luminaire, corridors, storerooms, restrooms, or public lobbies.

☐ 9. Photocell/astronomical time switch on exterior lights.
Exceptions:

Lighting intended for 24 hour use.

☐ 10. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).
Exceptions:

Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

Section 4: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2003 IECC, Chapter 8, requirements in COM*check* Version 3.4.0 and to comply with the mandatory requirements in the Requirements Checklist.

MICHAEL SCHNEIDER — Name - Title

Signature

10/25/07 — Date

COMcheck Software Version 3.4.0

Lighting Application Worksheet

2003 IECC

Report Date:

Data filename: C:\Program Files\Check\COMcheck-EZ\Projects\Williams Scotsman\WS6084-3.cck

Section 1: Allowed Lighting Power Calculation

A	B Floor Area	C Allowed Watts / ft2	D Allowed Watts
Medical and Clinical Care	4700	1.2	5640
		Total Allowed Watts =	5640

Section 2: Actual Lighting Power Calculation

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Linear Fluorescent 1: 2'x4' FLOURESCENT TROFFER / 48" T8 32W / Electronic	4	44	122	5368
			Total Actual Watts =	5368

Section 3: Compliance Calculation

If the Total Allowed Watts minus the Total Actual Watts is greater than or equal to zero, the building complies.

Total Allowed Watts =	5640
Total Actual Watts =	5368
Project Compliance =	272

Lighting PASSES: Design 5% better than code

COMcheck Software Version 3.4.0

Mechanical Compliance Certificate

2003 IECC

Report Date: 10/25/07

Data filename: C:\Program Files\Check\COMcheck-EZ\Projects\Williams Scotsman\WS6084-3.cck

Section 1: Project Information

Project Title: WS6084-3

Construction Site:

Owner/Agent:
WILLIAMS SCOTSMAN

Designer/Contractor:
MICHAEL SCHNEIDER
AMTEX CORP.
832 E. WALNUT
GARLAND, TX 75040
972.276.7626
michael.schneider@amtexcorp.com

Section 2: General Information

Building Location (for weather data):	**Saint Louis, Missouri**
Climate Zone:	**10b**
Heating Degree Days (base 65 degrees F):	**4758**
Cooling Degree Days (base 65 degrees F):	**1534**
Project Type:	**New Construction**

Section 3: Mechanical Systems List

Quantity	System Type & Description
5	HVAC System 1: *Heating: Central Furnace, Electric / Cooling: Other, Capacity <65 kBtu/h, Air-Cooled Condenser / Single Zone*

Section 4: Requirements Checklist

Requirements Specific To: HVAC System 1 :

None

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- ☐ 1. Load calculations per 2001 ASHRAE Fundamentals
- ☐ 2. Plant equipment and system capacity no greater than needed to meet loads
  - Exception: Standby equipment automatically off when primary system is operating
  - Exception: Multiple units controlled to sequence operation as a function of load
- ☐ 3. Minimum one temperature control device per system
- ☐ 4. Minimum one humidity control device per installed humidification/dehumidification system
- ☐ 5. Thermostatic controls has 5 degrees F deadband
  - Exception: Thermostats requiring manual changeover between heating and cooling
- ☐ 6. Automatic Controls: Setback to 55 degrees F (heat) and 85 degrees F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
  - Exception: Continuously operating zones
  - Exception: 2 kW demand or less, submit calculations
- ☐ 7. Automatic shut-off dampers on exhaust systems and supply systems with airflow >3,000 cfm
- ☐ 8. Outside-air source for ventilation; system capable of reducing OSA to required minimum

☐ 9. R-5 supply and return air duct insulation in unconditioned spaces R-8 supply and return air duct insulation outside the building R-8 insulation between ducts and the building exterior when ducts are part of a building assembly

- Exception: Ducts located within equipment
- Exception: Ducts with interior and exterior temperature difference not exceeding 15 degrees F.

☐ 10. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics

- Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification

☐ 11. Mechanical fasteners and sealants used to connect ducts and air distribution equipment

☐ 12. Operation and maintenance manual provided to building owner

☐ 13. Balancing devices provided in accordance with IMC 603.15

☐ 14. Stair and elevator shaft vents are equipped with motorized dampers

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2003 IECC requirements in COM*check* Version 3.4.0 and to comply with the mandatory requirements in the Requirements Checklist.

MICHAEL SCHNEIDER — Name - Title

Signature

10/25/07 — Date

COMcheck Software Version 3.4.0

Mechanical Requirements Description

2003 IECC

Report Date:

Data filename: C:\Program Files\Check\COMcheck-EZ\Projects\Williams Scotsman\WS6084-3.cck

The following list provides more detailed descriptions of the requirements in Section 4 of the Mechanical Compliance Certificate.

Requirements Specific To: HVAC System 1 :

None

Generic Requirements: Must be met by all systems to which the requirement is applicable:

1. Design heating and cooling loads for the building must be determined using procedures in the ASHRAE Handbook of Fundamentals or an approved equivalent calculation procedure.
2. All equipment and systems must be sized to be no greater than needed to meet calculated loads. A single piece of equipment providing both heating and cooling must satisfy this provision for one function with the capacity for the other function as small as possible, within available equipment options.
   - Exception: The equipment and/or system capacity may be greater than calculated loads for standby purposes. Standby equipment must be automatically controlled to be off when the primary equipment and/or system is operating.
   - Exception: Multiple units of the same equipment type whose combined capacities exceed the calculated load are allowed if they are provided with controls to sequence operation of the units as the load increases or decreases.
3. Each heating or cooling system serving a single zone must have its own temperature control device.
4. Each humidification system must have its own humidity control device.
5. Thermostats controlling both heating and cooling must be capable of maintaining a 5 degrees F deadband (a range of temperature where no heating or cooling is provided).
   - Exception: Deadband capability is not required if the thermostat does not have automatic changeover capability between heating and cooling.
6. The system or zone control must be a programmable thermostat or other automatic control meeting the following criteria:a) capable of setting back temperature to 55 degrees F during heating and setting up to 85 degrees F during coolingb) capable of automatically setting back or shutting down systems during unoccupied hours using 7 different day schedulesc) have an accessible 2-hour occupant overrided) have a battery back-up capable of maintaining programmed settings for at least 10 hours without power.
   - Exception: A setback or shutoff control is not required on thermostats that control systems serving areas that operate continuously.
   - Exception: A setback or shutoff control is not required on systems with total energy demand of 2 kW (6,826 Btu/h) or less.
7. Outdoor-air supply systems with design airflow rates >3,000 cfm of outdoor air and all exhaust systems must have dampers that are automatically closed while the equipment is not operating.
8. The system must supply outside ventilation air as required by Chapter 4 of the International Mechanical Code. If the ventilation system is designed to supply outdoor-air quantities exceeding minimum required levels, the system must be capable of reducing outdoor-air flow to the minimum required levels.
9. Air ducts must be insulated to the following levels:a) Supply and return air ducts for conditioned air located in unconditioned spaces (spaces neither heated nor cooled) must be insulated with a minimum of R-5. Unconditioned spaces include attics, crawl spaces, unheated basements, and unheated garages.b) Supply and return air ducts and plenums must be insulated to a minimum of R-8 when located outside the building.c) When ducts are located within exterior components (e.g., floors or roofs), minimum R-8 insulation is required only between the duct and the building exterior.
   - Exception: Duct insulation is not required on ducts located within equipment.
   - Exception: Duct insulation is not required when the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15 degrees F.
10. All joints, longitudinal and transverse seams, and connections in ductwork must be securely sealed using weldments; mechanical fasteners with seals, gaskets, or mastics; mesh and mastic sealing systems; or tapes. Tapes and mastics must be listed and labeled in accordance with UL 181A or UL 181B.
    - Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification.
11. Mechanical fasteners and seals, mastics, or gaskets must be used when connecting ducts to fans and other air distribution equipment, including multiple-zone terminal units.

12. Operation and maintenance documentation must be provided to the owner that includes at least the following information:a) equipment capacity (input and output) and required maintenance actionsb) equipment operation and maintenance manualsc) HVAC system control maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions; desired or field-determined set points must be permanently recorded on control drawings, at control devices, or, for digital control systems, in programming commentsd) complete narrative of how each system is intended to operate.
13. Each supply air outlet or diffuser and each zone terminal device (such as VAV or mixing box) must have its own balancing device. Acceptable balancing devices include adjustable dampers located within the ductwork, terminal devices, and supply air diffusers.
14. Stair and elevator shaft vents must be equipped with motorized dampers capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems. All gravity outdoor air supply and exhaust hoods, vents, and ventilators must be equipped with motorized dampers that will automatically shut when the spaces served are not in use. Exceptions: - Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height above grade. - Ventilation systems serving unconditioned spaces.

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Catalog Cuts and Equipment Specs

The following equipment manufacturer's data sheets are attached for the Modular Clinic for Contract/Task OrderW91278-07-D-0059/0001, Work Plan – Construct Site Prep for Modular Clinic at Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri.

- HVAC
- Restrooms details
- Restroom sinks, toilets & Urinals

THE WALL-MOUNT™ AIR CONDITIONERS - WA (60HZ)

WA-SERIES **60Hz**
1.5 to 5 Ton (18,300 to 57,500 Btuh)
Right Side Control Panel **Refrigerant 22**

The Bard Wall-Mount Air Conditioner is a self contained energy efficient system, which is designed to offer maximum indoor comfort at a minimal cost without using valuable indoor floor space or outside ground space. This unit is the ideal product for versatile applications such as: new construction, modular offices, school modernization, telecommunication structures, portable structures or correctional facilities. Factory or field installed accessories are available to meet specific job requirements.

MEA # 357-93-E

Engineered Features

Aluminum Finned Copper Coils:
Grooved tubing and enhanced louvered fin for maximum heat transfer and energy efficiency.

Twin Blowers:
Move air quietly. Most models feature multispeed blower motors providing airflow adjustment for high and low static operation. Motor overload protection is standard on all models.

Air Conditioner Compressor:
Reciprocating compressors with crankcase heater and discharge muffler are standard on 1.5 and 2 ton models.

Scroll Compressors eliminate need for crankcase heater. Standard on 2.5 to 5 ton, and available on 2 ton models.

Phase Rotation Monitor:
Standard on all 3 phase scroll compressors. Protects against reverse rotation if power supply is not properly connected. Not required on reciprocating compressors.

Galvanized 20 Gauge Zinc Coated Steel Cabinet:
Cleaned, rinsed, sealed and dried before the polyurethane primer is applied. The cabinet is handsomely finished with a baked on textured enamel, which allows it to withstand 1000 hours of salt spray tests per ASTM B117-03.

Electrical Components:
Are easily accessible for routine inspection and maintenance through a right side, service panel opening. Features a lockable, hinged access cover to the circuit breaker or pull disconnect switch.

Electric Heat Strips:
Features an automatic limit and thermal cut-off safety control. Heater packages can be factory or field installed for all 1.5 through 5 ton models.

One Inch, Disposable Air Filters:
Are standard equipment. Optional one inch washable filters available and filter racks permit the addition of 2" pleated filter. Factory or field installed.

Condenser Fan and Motor Shroud Assembly:
Slides out for easy access.

Barometric Fresh Air Damper:
Standard on all units. Allows up to 25% outside fresh air.

Built-in Circuit Breakers:
Standard on all electric heat versions of single (230/208 volt) and three phase (230/208 volt) equipment. Toggle disconnects are standard on all electric heat versions of three phase (460 volt) equipment.

Slope Top:
Standard feature for water run-off.

Full Length Mounting Brackets:
Built into cabinet for improved appearance and easy installation. NOTE: Bottom mounting bracket included to assist in installation.

Top Rain Flashing:
Standard feature on all models.

Ventilation System Packages

All packages are designed to meet your specific ventilation requirements utilizing one of five ventilation options for the product. The ventilation package is mounted within the unit eliminating the need for an exterior mounted hood or damper assembly on the unit. All assemblies can be factory installed, installed in the field at time of installation or as a retrofit system after installation.

- Standard - Barometric Fresh Air Damper
- Optional - Motorized Fresh Air Damper
- Optional - Blank off Plate
- Optional - Commercial Room Ventilator w/Exhaust
  - CRV - Spring Return
  - CRVP - Power Return
- Optional - Economizer w/ Exhaust
- Optional - Energy Recovery Ventilator

- Complies with efficiency requirements of ANSI/ASHRAE/IESNA 90.1-2007.
- Certified to ANSI/ARI Standard 390-2003 for SPVU (Single Package Vertical Units).
- Commercial Product - Not intended for Residential application.

Form No. S3208-1108
Supersedes S3208-908

Capacity and Efficiency Ratings

MODELS	WA182	WA242	WA253	WA302	WA372	WA423	WA484	WA602	WA605
Cooling Capacity BTUH ①	18,300	23,400	23,000	30,000	36,000	42,000	47,500	57,500	56,500
EER ②	9.20	9.20	9.80	9.30	9.20	9.20	9.60	8.70	9.00
SEER ③	10.20	10.50	11.00	10.60	10.00	10.60	11.00	10.20	10.20

① Capacity is certified in accordance with ANSI/ARI Standard 390-2003 and tested in accordance with ARI Standard 210/240-2008.
② EER = Energy Efficiency Ratio and is certified in accordance with ANSI/ARI Standard 390-2003.
③ SEER = Seasonal Energy Efficiency Ratio and is tested in accordance with ARI Standard 210/240-2008.
All ratings based on fresh air intake being 100% closed (no outside air introduction).

Specifications 1-1/2 Ton through 3 Ton

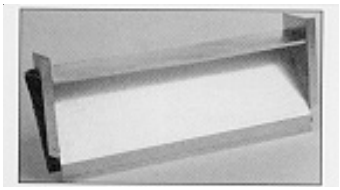
MODELS	WA182-A	WA242-A	WA242-B	WA242-C	WA253-A	WA253-B	WA302-A	WA302-B	WA302-C	WA372-A	WA372-B	WA372-C
Electrical Rating--60 Hz	230/208 - 1	230/208 - 1	230/208 - 3	460 - 3	230/208 - 1	230/208 - 3	230/208 - 1	230/208 - 3	460 - 3	230/208 - 1	230/208 - 3	460 - 3
Operating Voltage Range	197-253	197-253	197-253	414-506	197-253	197-253	197-253	197-253	414-506	197-253	197-253	414-506
Compressor--Circuit A												
Voltage	230/208	230/208	230/208	460	230/208	230/208	230/208	230/208	460	230/208	230/208	460
Rated Load Amps	7.0/8.0	9.5/10.0	6.6/6.9	3.6	8.6/9.5	6.5/7.0	12.2/12.9	8.4/8.4	4.2	16.5/17.3	10.5/11.0	5.2
Branch Circuit Selection Current	9.0	10.0	7.0	4.0	10.3	7.1	14.1	9.0	4.5	17.3	11.0	5.5
Lock Rotor Amps	49/49	56/56	51/51	25	54/54	45/45	73/73	63/63	31	100/100	77/77	37
Compressor Type	Recip.	Recip.	Recip.	Recip.	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Fan Motor & Condenser												
Fan Motor--HP--RPM	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075
Fan Motor--Amps	1.2	1.2	1.2	1.4	1.2	1.2	1.5	1.5	1.4	1.5	1.5	1.4
Fan--DIA/CFM	18" - 1600	18" - 1600	18" - 1600	18" - 1600	18" - 1600	18" - 1600	20" - 2100	20" - 2100	20" - 2100	20" - 1900	20" - 1900	20" - 1900
Blower Motor & Evap.												
Blower Motor--HP-RPM-SPD	1/6-1100-1	1/6-1100-1	1/6-1100-1	1/3-1100-2	1/6-1100-1	1/6-1100-1	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2
Blower Motor--Amps	1.0	1.0	1.0	1.1	1.0	1.0	2.2	2.2	1.1	2.2	2.2	1.1
CFM Cooling & E.S.P. w/Filter (Rated-Wet Coil)	650 - .40	800 - .20	800 - .20	800 - .20	800 - .20	800 - .20	1000 - .40	1000 - .40	1000 - .40	1100 - .30	1100 - .30	1100 - .30
Filter Sizes (inches) STD.	16x25x1	16x25x1	16x25x1	16x25x1	16x25x1	16x25x1	16x30x1	16x30x1	16x30x1	16x30x1	16x30x1	16x30x1
Shipping Weight --LBS.	300	300	300	300	300	300	355	355	355	355	355	355

Specifications 3-1/2 Ton through 5 Ton

MODELS	WA423-A	WA423-B	WA423-C	WA484-A	WA484-B	WA484-C	WA602-A	WA602-B	WA602-C	WA605-A	WA605-B	WA605-C
Electrical Rating--60 Hz	230/208-1	230/208-3	460-3	230/208-1	230/208-3	460-3	230/208-1	230/208-3	460-3	230/208-1	230/208-3	460-3
Operating Voltage Range	197-253	197-253	414-506	197-253	197-253	414-506	197-253	197-253	414-506	197-253	197-253	414-506
Compressor--Circuit A												
Voltage	230/208	230/208	460	230/208	230/208	460	230/208	230/208	460	230/208	230/208	460
Rated Load Amps	19.3/21	11.8/11.8	6.1	20.2/20.8	11.9/12.3	6.2	26.0/28.5	18.1/18.4	6.8	25.0/26.0	15.1/15.7	7.5
Branch Circuit Selection Current	21	12.5	6.5	21.8	12.9	6.5	29.0	19.0	9.0	29.0	18.0	9.0
Lock Rotor Amps	127/127	88/88	42	131/131	91/91	46	148/148	137/137	62	148/148	123/123	62
Compressor Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Fan Motor & Condenser												
Fan Motor--HP-RPM-SPD	1/3-825-2	1/3-825-2	1/3-825-1	1/3-825-2	1/3-825-2	1/3-825-1	1/3-850-2	1/3-850-2	1/3-850-2	1/3-1100-1	1/3-1100-1	1/3-1100-1
Fan Motor--Amps	2.5	2.5	1.3	2.5	2.5	1.3	2.5	2.5	1.3	4.0	4.0	1.7
Fan--DIA/CFM	24" - 2600	24" - 2600	24" - 2600	24" - 2600	24" - 2600	24" - 2600	24" - 2600	24" - 2600	24" - 2600	24" - 2800	24" - 2800	24" - 2800
Blower Motor & Evap.												
Blower Motor--HP-RPM-SPD	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2
Blower Motor--Amps	3.3	3.3	1.9	3.3	3.3	1.9	3.3	3.3	1.9	3.3	3.3	1.9
CFM Cooling & E.S.P. w/Filter (Rated-Wet Coil)	1400 - .30	1400 - .30	1400 - .30	1550 - .20	1550 - .20	1550 - .20	1700 - .30	1700 - .30	1700 - .30	1700 - .30	1700 - .30	1700 - .30
Filter Sizes (inches) STD.	20x30x1	20x30x1	20x30x1	20x30x1	20x30x1	20x30x1	20x30x1	20x30x1	20x30x1	20x30x1	20x30x1	20x30x1
Shipping Weight --LBS.	500	500	500	500	500	500	500	500	500	500	500	500

Ventilation System Packages

Bard Wall-Mounts are designed to provide optional ventilation packages to meet all of your ventilation and indoor air quality requirements. All units are equipped with a barometric fresh air damper as the standard ventilation package. All ventilation packages can be built-in at the factory or field-installed at a later date.



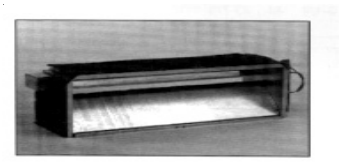
Barometric Fresh Air Damper

BAROMETRIC FRESH AIR DAMPER - BFAD — STANDARD

The barometric fresh air damper is a standard feature on all models. It is installed on the inside of the service door and allows outside ventilation air, up to 25% of the total airflow rating of the unit, to be introduced through the air inlet openings and to be mixed with the conditioned air. The damper opens during blower operation and closes when the blower is off. Adjustable blade stops allow different amounts of outside air to be introduced into the building and can be easily locked closed if required.

BLANK OFF PLATE - BOP — OPTIONAL

A blank off plate is installed on the inside of the service door. It covers the air inlet openings, which restricts any outside air from entering the unit. The blank off plate should be utilized in applications where outside air is not required to be mixed with the conditioned air.



Motorized Fresh Air Damper

MOTORIZED FRESH AIR DAMPER - MFAD — OPTIONAL

The motorized fresh air damper is internally mounted behind the service door and allows outside ventilation air, up to 25% of the total airflow rating of the unit, to be introduced through the air inlet openings and to be mixed with the conditioned air. The two position damper can be fully open or closed. The damper blade is powered open by a 24VAC motor with spring return on power loss. The damper can be controlled by indoor blower operation or can be field connected to be managed based on building occupancy.

NOTE: The above vent systems are intake only without built-in exhaust capability. Building will likely require separate field installed barometric relief or mechanical exhaust elsewhere within the conditioned space. Balancing dampers in the return air grille may be required to achieve specified amount of outdoor air intake.

Commercial Room Ventilator

COMMERCIAL ROOM VENTILATOR - CRV — OPTIONAL

The built-in commercial room ventilator is internally mounted behind the service door and allows outside ventilation air, up to 50% of the total airflow rating of the unit, to be introduced through the air inlet openings. It includes a built-in exhaust air damper.

The commercial room ventilator (CRV) is a simple and innovative approach to improving the indoor air quality by providing fresh air intake and exhaust capability through the CRV. The damper can be easily adjusted to control the amount of fresh air supplied into the building. The CRV can be controlled by indoor blower operation or field controlled based on room occupancy. Two versions available (except on 1.5 and 2-Ton models). The CRV and CRVS are power open - spring return on power loss, and CRVP is power open and power close. Complies with ANSI/ASHRAE Standard 62.1 “Ventilation for Acceptable Indoor Air Quality”.

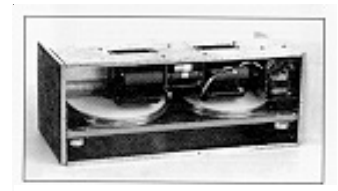
Economizer

ECONOMIZER - EIFM — OPTIONAL

The built-in economizer system is internally mounted behind the service door and allows outdoor air to be introduced through the air inlet openings. The amount of outdoor air varies in response to the system controls and settings defined by the end user. It includes a built-in exhaust air damper. The economizer is designed to provide “free cooling” when outside air conditions are cool and dry enough to satisfy cooling requirements without running the compressor. This in turn provides lower operating costs, while extending the life of the compressor.

Standard Features:

- One Piece Construction - Easy to install with no mechanical linkage adjustment required.
- Exhaust Air Damper - Built in with positive closed position. Provides exhaust air capability to prevent pressurization of tight buildings.
- Actuator Motor - 24 volt, power open, spring return with built in torque limiting switch.
- Proportioning Type Control - for maximum “free cooling” economy and comfort.
- Moisture Eliminator & Prefilter - permanent, washable aluminum construction.
- Enthalpy Control - adjustable to monitor outdoor temperature and humidity.
- Minimum Position Potentiometer - adjustable to control minimum damper blade position for ventilation purposes.
- Mixed Air Sensor - to monitor outside and return air to automatically modulate damper position.



Energy Recovery Ventilator

WALL-MOUNT ENERGY RECOVERY VENTILATOR - WERV — OPTIONAL

The wall-mount energy recovery ventilator (WERV) is a highly innovative approach to meeting indoor air quality ventilation requirements as established by ANSI/ASHRAE Standard 62.1. The WERV allows from 200 to 450 CFM (depending upon model) of fresh air and exhaust through the unit while maintaining superior indoor comfort and humidity levels. In most cases this can be accomplished without increasing equipment sizing or operating costs. Heat transfer efficiency is up to 67% during summer and 75% during winter conditions.

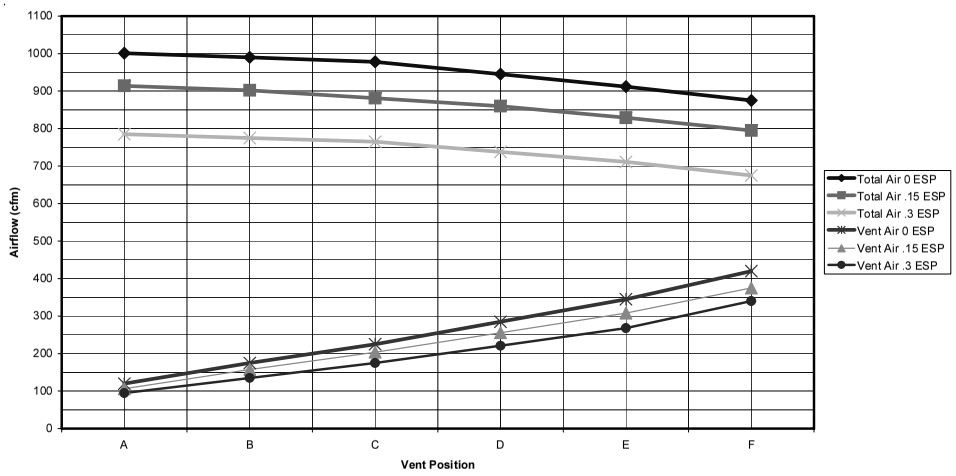
The WERV consists of a unique “rotary energy recovery cassette” that provides effective sensible and latent heat transfer capabilities during summer and winter conditions. Various control schemes are addressed including limiting ventilation during building occupancy only.

The WERV is designed to be internally mounted behind the service door in the WA, WH or WL model wall-mount units. It can be built-in at the factory or field installed as an option. WERV-*3C and WERV-*5C can be independently adjusted for intake and exhaust rates.

Manufactured under U.S. Patent Nos. 5,485,878; 5,301,744; 5,002,116; 4,924,934; 4,875,520; 4,825,936; 6,310,330.

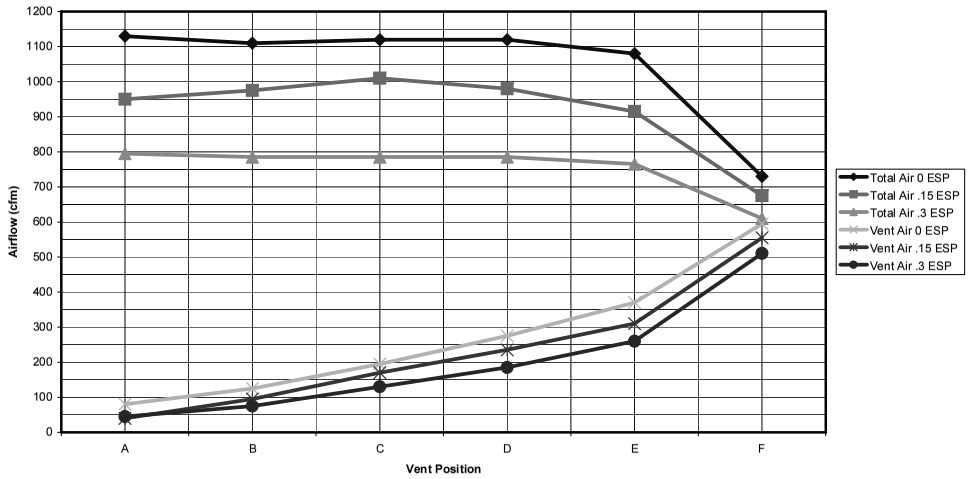
Commercial Room Ventilator Performance Data - CRV-2

WA18, WA24 & WA25 TOTAL AND VENTILATION AIRFLOW

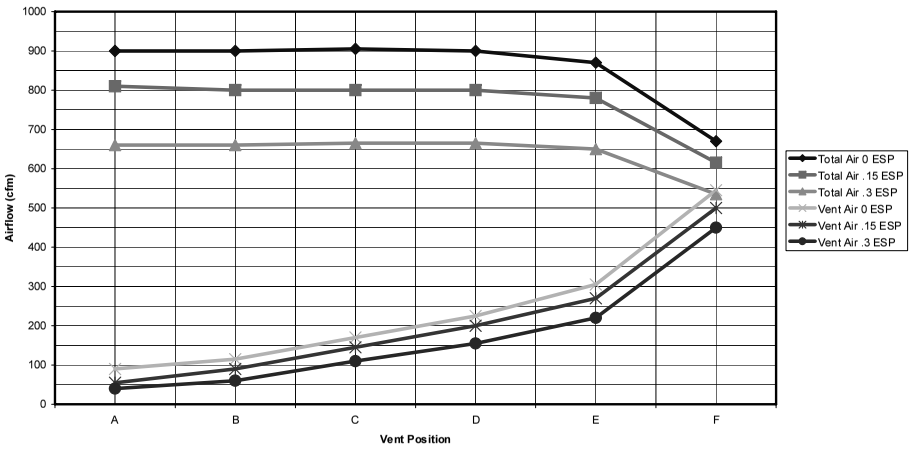


Commercial Room Ventilator Performance Data - CRVS-3 and CRVP-3

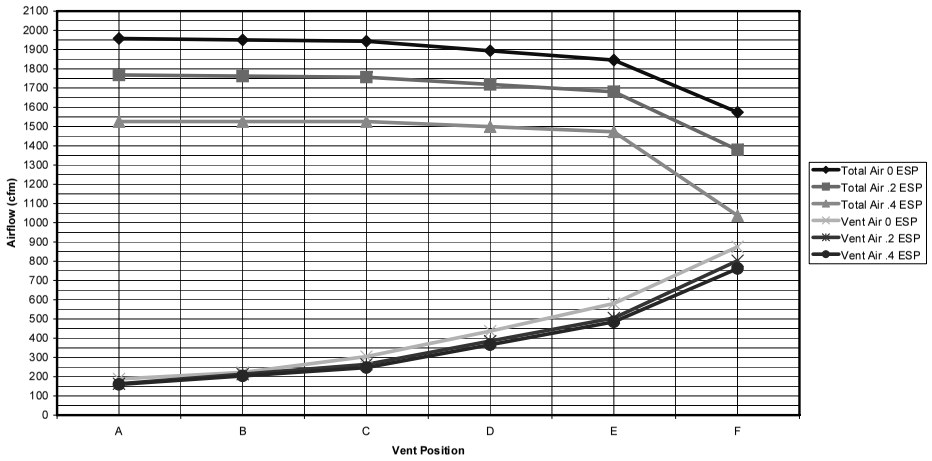
WA30 & WA37 HIGH SPEED TOTAL AND VENTILATION AIRFLOW



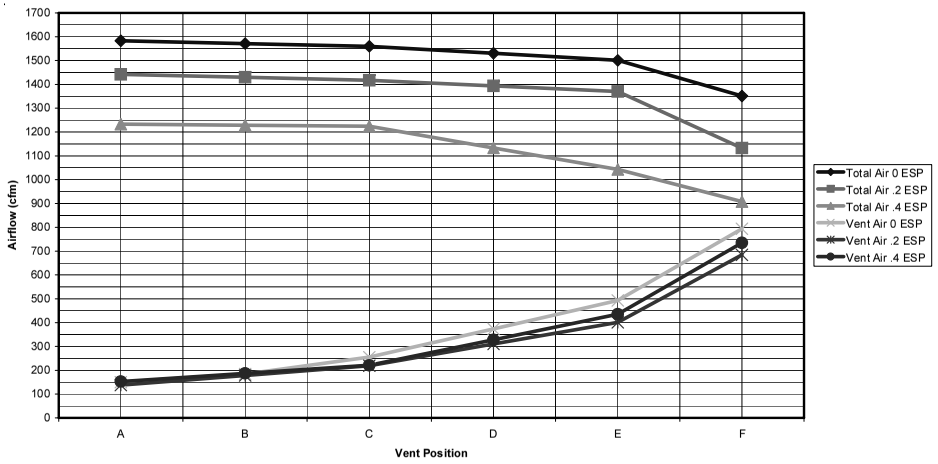
WA30 & WA37 LOW SPEED TOTAL AND VENTILATION AIRFLOW



WA42 & WA48 HIGH SPEED TOTAL AND VENTILATION AIRFLOW

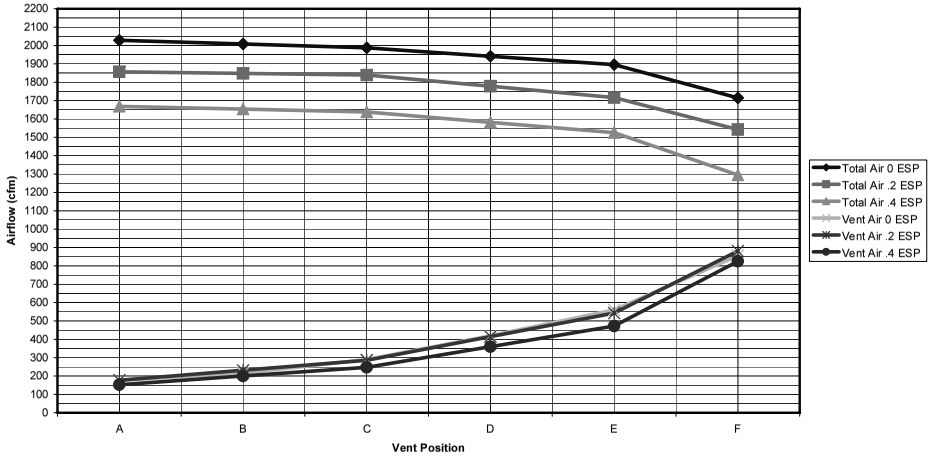


WA42 & WA48 LOW SPEED TOTAL AND VENTILATION AIRFLOW

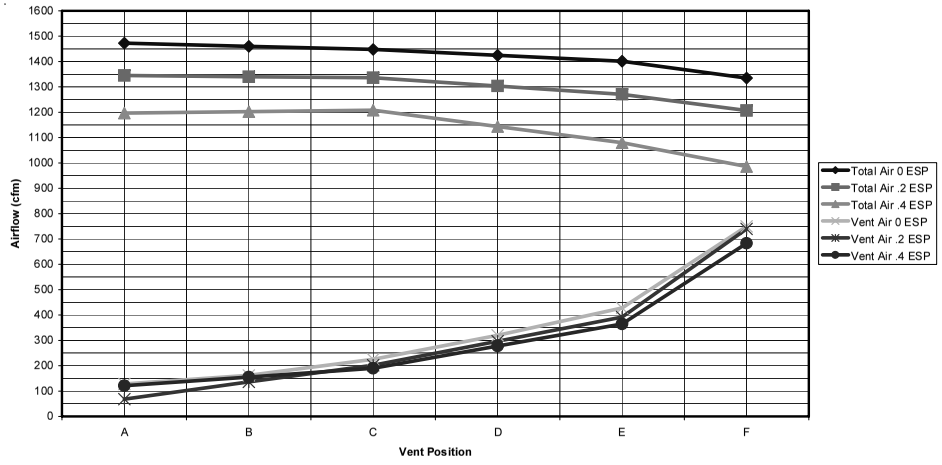


Commercial Room Ventilator Performance Data - CRVS-5 and CRVP-5

WA60 HIGH SPEED TOTAL AND VENTILATION AIRFLOW



WA60 LOW SPEED TOTAL AND VENTILATION AIRFLOW



Performance and Application Data- WERV-*2B

SUMMER COOLING PERFORMANCE
(INDOOR DESIGN CONDITIONS 75°DB/62°WB)

Ambient O.D.		VENTILATION RATE -- 250 CFM 62% EFFICIENCY						VENTILATION RATE -- 225 CFM 63% EFFICIENCY						VENTILATION RATE -- 200 CFM 63% EFFICIENCY					
DB/ WB	F	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL
	75	11925	8100	1325	7394	5022	822	10727	7287	3441	6758	4591	2168	9540	6480	3060	6010	4082	1928
105	70	8100	8100	0	5022	5022	0	7287	7287	0	4591	4591	0	6480	6480	0	4082	4082	0
	65	8100	8100	0	5022	5022	0	7287	7287	0	4591	4591	0	6480	6480	0	4082	4082	0
	80	17550	6750	10800	10881	4185	6696	15788	6072	9716	9946	3826	6121	14040	5400	8640	8845	3402	5443
	75	11925	6750	5175	7394	4185	3209	10727	6072	4655	6758	3826	2933	9540	5400	4140	6010	3402	2608
100	70	6863	6750	113	4255	4185	70	6173	6072	101	3889	3826	64	5490	5400	90	3458	3402	56
	65	6750	6750	0	4185	4185	0	6072	6072	0	3826	3826	0	5400	5400	0	3402	3402	0
	60	6750	6750	0	4185	4185	0	6072	6072	0	3826	3826	0	5400	5400	0	3402	3402	0
	80	17550	5400	12150	10881	3348	7533	15788	4858	10930	9946	3060	6886	14040	4320	9720	8845	2722	6124
	75	11925	5400	6525	7394	3348	4046	10727	4858	5870	6758	3060	3698	9540	4320	5220	6010	2722	3289
95	70	6863	5400	1463	4255	3348	907	6173	4858	1315	3889	3060	829	5490	4320	1170	3458	2722	737
	65	5400	5400	0	3348	3348	0	4858	4858	0	3060	3060	0	4320	4320	0	2722	2722	0
	60	5400	5400	0	3348	3348	0	4858	4858	0	3060	3060	0	4320	4320	0	2722	2722	0
	80	17550	4050	13500	10881	2511	8370	15788	3643	12145	9946	2295	7651	14040	3240	10800	8845	2041	6804
	75	11925	4050	7875	7394	2511	4883	10727	3643	7084	6758	2295	4463	9540	3240	6300	6010	2041	3969
90	70	6863	4050	2813	4255	2511	1744	6173	3643	2530	3889	2295	1594	5490	3240	2250	3458	2041	1417
	65	4050	4050	0	2511	2511	0	3643	3643	0	2295	2295	0	3240	3240	0	2041	2041	0
	60	4050	4050	0	2511	2511	0	3643	3643	0	2295	2295	0	3240	3240	0	2041	2041	0
	80	17550	2700	14850	10881	1674	9207	15788	2429	13359	9946	1530	8416	14040	2160	11880	8845	1361	7484
	75	11925	2700	9225	7394	1674	5720	10727	2429	8298	6758	1530	5228	9540	2160	7380	6010	1361	4649
85	70	6863	2700	4163	4255	1674	2581	6173	2429	3744	3889	1530	2359	5490	2160	3300	3458	1361	2098
	65	2700	2700	0	1674	1674	0	2429	2429	0	1530	1530	0	2160	2160	0	1361	1361	0
	60	2700	2700	0	1674	1674	0	2429	2429	0	1530	1530	0	2160	2160	0	1361	1361	0
	75	11925	1350	10575	7394	837	6557	10727	1214	9513	6758	765	5993	9540	1080	8460	6010	680	5330
	70	6863	1350	5513	4255	837	3418	6173	1214	4959	3889	765	3124	5490	1080	4410	3458	680	2778
80	65	2363	1350	1013	1465	837	628	2125	1214	911	1339	765	547	1890	1080	810	1190	680	510
	60	1350	1350	0	837	837	0	1214	1214	0	765	765	0	1080	1080	0	680	680	0
	70	6863	0	6863	4255	0	4255	6173	0	6173	6889	0	3889	5490	0	5490	3458	0	3458
75	65	2363	0	2363	1465	0	1465	2125	0	2125	1339	0	1339	1890	0	1890	1190	0	1190
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

WERV-*2B WINTER HEATING PERFORMANCE
(INDOOR DESIGN CONDITIONS 70°F DB)

Ambient O.D.	VENTILATION RATE 250 CFM 74% EFF.		225 CFM 75% EFF.		200 CFM 75% EFF.	
DB/°F	WVL	WHR	WVL	WHR	WVL	WHR
65	1350	999	1214	911	1080	810
60	2700	1998	2429	1822	2160	1620
55	4050	2997	3643	2733	3240	2430
50	5400	3996	4858	3643	4320	3240
45	6750	4995	6072	4554	5400	4050
40	8100	5994	7287	5465	6480	4860
35	9450	6993	8501	6376	7560	5670
30	10800	7992	9716	7287	8640	6480
25	12150	8991	10930	8198	9720	7290
20	13500	9990	12145	9108	10800	8100
15	14850	10989	13359	10019	11880	8910

NOTE: Sensible performance only is shown for winter application.

LEGEND:

VLT = Ventilation Load - Total
VLS = Ventilation Load - Sensible
VLL = Ventilation Load - Latent
HRT = Heat Recovery - Total
HRS = Heat Recovery - Sensible
HRL = Heat Recovery - Latent
WVL = Winter Ventilation Load
WHR = Winter Heat Recovery

Performance and Application Data- WERV-*3C

SUMMER COOLING PERFORMANCE
(INDOOR DESIGN CONDITIONS 75°DB/62°WB)

Ambient O.D.		VENTILATION RATE -- 400CFM 63% EFFICIENCY						VENTILATION RATE -- 325 CFM 64% EFFICIENCY						VENTILATION RATE -- 250 CFM 65% EFFICIENCY					
DB/WB	F	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL
105	75	19080	12960	6120	12020	8164	3855	15502	10530	4972	9921	6739	3182	11925	8100	3825	7751	5265	2486
	70	12960	12960	0	8164	8164	0	10530	10530	0	6739	6739	0	8100	8100	0	5265	5265	0
	65	12960	12960	0	8164	8164	0	10530	10530	0	6739	6739	0	8100	8100	0	5265	5265	0
100	80	28080	10800	17280	17690	6804	10886	22815	8775	14040	14601	5616	8985	17550	6750	10800	11407	4387	7019
	75	19080	10800	8280	12020	6804	5216	15502	8775	6727	9921	5616	4305	11925	6750	5175	7751	4387	3363
	70	10980	10800	180	6717	6804	113	8921	8775	146	5709	5616	93	6862	6750	112	4460	4387	73
	65	10800	10800	0	6804	6804	0	8775	8775	0	5616	5616	0	6750	6750	0	4387	4387	0
	60	10800	10800	0	6804	6804	0	8775	8775	0	5616	5616	0	6750	6750	0	4387	4387	0
95	80	28080	8640	19440	17690	5443	12247	22815	7020	15795	14601	4492	10108	17550	5400	12150	11407	3510	7897
	75	19080	8640	10440	12020	5443	6577	15502	7020	8482	9921	4492	5428	11925	5400	6525	7751	3510	4241
	70	10980	8640	2340	6917	5443	1474	8921	7020	1901	5709	4492	1216	6862	5400	1462	4460	3510	950
	65	8640	8640	0	5443	5443	0	7020	7020	0	4492	4492	0	5400	5400	0	3510	3510	0
	60	8640	8640	0	5443	5443	0	7020	7020	0	4492	4492	0	5400	5400	0	3510	3510	0
90	80	28080	6480	21600	17690	4082	13608	22815	5265	17550	14601	3369	11232	17550	4050	13500	11407	2632	8774
	75	19080	6480	12600	12020	4082	7938	15502	5265	10237	9921	3369	6552	11925	4050	7875	7751	2632	5118
	70	10980	6480	4500	6917	4082	2835	8921	5265	3656	5709	3369	2340	6862	4050	2812	4460	2632	1828
	65	6480	6480	0	4082	4082	0	5265	5265	0	3369	3369	0	4050	4050	0	2632	2632	0
	60	6480	6480	0	4082	4082	0	5265	5265	0	3369	3369	0	4050	4050	0	2632	2632	0
85	80	28080	4320	23760	17690	2721	14968	22815	3510	19305	14601	2246	12355	17550	2700	14850	11407	1755	9652
	75	19080	4320	14760	12020	2721	9298	15502	3510	11992	9921	2246	7675	11925	2700	9225	7751	1755	5996
	70	10980	4320	6660	6917	2721	4195	8921	3510	5411	5709	2246	3463	6862	2700	4162	4460	1755	2705
	65	4320	4320	0	2721	2721	0	3510	3510	0	2246	2246	0	2700	2700	0	1755	1755	0
	60	4320	4320	0	2721	2721	0	3510	3510	0	2246	2246	0	2700	2700	0	1755	1755	0
80	75	19080	2160	16920	12020	1360	10659	15502	1755	13747	9921	1123	8798	11925	1350	10575	7751	877	6873
	70	10980	2160	8820	6917	1360	5556	8921	1755	7166	5709	1123	4586	6862	1350	5512	4460	877	3583
	65	3780	2160	1620	2381	1360	1020	3071	1755	1316	1965	1123	842	2362	1350	1012	1535	877	658
	60	2160	2160	0	1360	1360	0	1755	1755	0	1123	1123	0	1350	1350	0	877	877	0
75	70	10980	0	10980	6917	0	6917	8921	0	8921	5709	0	5709	6862	0	6862	4460	0	4460
	65	3780	0	3780	2381	0	2380	3071	0	3071	1965	0	1965	2362	0	2362	1535	0	1535
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Performance and Application Data- WERV-*5C

SUMMER COOLING PERFORMANCE
(INDOOR DESIGN CONDITIONS 75°DB/62°WB)

Ambient O.D.		VENTILATION RATE 450 CFM						VENTILATION RATE 375 CFM						VENTILATION RATE 300 CFM					
DB/WB	F	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL
105	75	21465	14580	6884	13952	9477	4475	17887	12150	5737	11805	8018	3786	14310	9720	4590	9587	6512	3075
	70	14580	14580	0	9477	9477	0	12150	12150	0	8018	8018	0	9720	9720	0	6512	6512	0
	65	14580	14580	0	9477	9477	0	12150	12150	0	8018	8018	0	9720	9720	0	6512	6512	0
100	80	31590	12150	19440	20533	7897	12635	26325	10125	16200	17374	6682	10692	21060	8100	12960	14110	5427	8683
	75	21465	12150	9314	13952	7897	6054	17887	10125	7762	11805	6682	5123	14310	8100	6210	9587	5427	4160
	70	12352	12150	202	8029	7897	131	10293	10125	168	6793	6682	111	8235	8100	135	5517	5427	90
	65	12150	12150	0	7897	7897	0	10125	10125	0	6682	6682	0	8100	8100	0	5427	5427	0
	60	12150	12150	0	7897	7897	0	10125	10125	0	6682	6682	0	8100	8100	0	5427	5427	0
95	80	31590	9720	21870	20533	6318	14215	26325	8100	18225	17374	5345	12028	21060	6480	14580	14110	4341	9768
	75	21465	9720	11744	13952	6318	7634	17887	8100	9787	11805	5345	6459	14310	6480	7830	9587	4341	5246
	70	12352	9720	2632	8029	6318	1711	10293	8100	2193	6793	5345	1447	8235	6480	1755	5517	4341	1175
	65	9720	9720	0	6318	6318	0	8100	8100	0	5345	5345	0	6480	6480	0	4341	4341	0
	60	9720	9720	0	6318	6318	0	8100	8100	0	5345	5345	0	6480	6480	0	4341	4341	0
90	80	31590	7290	24300	20533	4738	15794	26325	6075	20250	17374	4009	13365	21060	4860	16200	14110	3256	10854
	75	21465	7290	14175	13952	4738	9213	17887	6075	11812	11805	4009	7796	14310	4860	9450	9587	3256	6331
	70	12352	7290	5062	8029	4738	3290	10293	6075	4218	6793	4009	2784	8235	4860	3375	5517	3256	2261
	65	7290	7290	0	4738	4738	0	6075	6075	0	4009	4009	0	4860	4860	0	3256	3256	0
	60	7290	7290	0	4738	4738	0	6075	6075	0	4009	4009	0	4860	4860	0	3256	3256	0
85	80	31590	4860	26730	20533	3159	17374	26325	4050	22275	17374	2672	14701	21060	3240	17820	14110	2170	11939
	75	21465	4860	16605	13952	3159	10793	17887	4050	13837	11805	2672	9132	14310	3240	11070	9587	2170	7416
	70	12352	4860	7492	8029	3159	4870	10293	4050	6243	6793	2672	4120	8235	3240	4995	5517	2170	3346
	65	4860	4860	0	3159	3159	0	4050	4050	0	2672	2672	0	3240	3240	0	2170	2170	0
	60	4860	4860	0	3159	3159	0	4050	4050	0	2672	2672	0	3240	3240	0	2170	2170	0
80	75	21465	2430	19035	13952	1579	12372	17887	2025	15862	11805	1336	10469	14310	1620	12690	9587	1085	8502
	70	12352	2430	9922	8029	1579	6449	10293	2025	8268	6793	1336	5457	8235	1620	6615	5517	1085	4432
	65	4252	2430	1822	2764	1579	1184	3543	2025	1518	2338	1336	1002	2835	1620	1215	1899	1085	814
	60	2430	2430	0	1579	1579	0	2025	2025	0	1336	1336	0	1620	1620	0	1085	1085	0
75	70	12352	0	12352	8029	0	8029	10293	0	10293	6793	0	6793	8235	0	8235	5517	0	5517
	65	4252	0	4252	2764	0	2764	3543	0	3543	2338	0	2338	2835	0	2835	1899	0	1899
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

WERV-*3C WINTER HEATING PERFORMANCE
(INDOOR DESIGN CONDITIONS 70°F DB)

Ambient O.D.	VENTILATION RATE					
	400 CFM 75% EFF.		325 CFM 76% EFF.		250 CFM 77% EFF.	
DB/°F	WVL	WHR	WVL	WHR	WVL	WHR
65	2160	1620	1755	1333	1350	1039
60	4320	3240	3510	2667	2700	2079
55	6480	4860	5265	4001	4050	3118
50	8640	6480	7020	5335	5400	4158
45	10800	8100	8775	6669	6750	5197
40	12960	9720	10530	8002	8100	6237
35	15120	11340	12285	9336	9450	7276
30	17280	12960	14040	10670	10800	8316
25	19440	14580	15795	12004	12150	9355
20	21600	16200	17550	13338	13500	10395
15	23760	17820	19305	14671	14850	11434

NOTE: Sensible performance only is shown for winter application.

LEGEND:

VLT = Ventilation Load - Total
VLS = Ventilation Load - Sensible
VLL = Ventilation Load - Latent
HRT = Heat Recovery - Total
HRS = Heat Recovery - Sensible
HRL = Heat Recovery - Latent
WVL = Winter Ventilation Load
WHR = Winter Heat Recovery

WERV-*5C WINTER HEATING PERFORMANCE
(INDOOR DESIGN CONDITIONS 70°F DB)

Ambient O.D.	VENTILATION RATE					
	450 CFM		375 CFM		300 CFM	
DB/°F	WVL	WHR	WVL	WHR	WVL	WHR
65	2430	1944	2025	1640	1620	1328
60	4860	3888	4050	3280	3240	2656
55	7290	5832	6075	4920	4860	3985
50	9720	7776	8100	6561	6480	5313
45	12150	9720	10125	8201	8100	6642
40	14580	11664	12150	9841	9720	7970
35	17010	13608	14175	11481	11340	9298
30	19440	15552	16200	13122	12960	10627
25	21870	17496	18225	14762	14580	11955
20	24300	19440	20250	16402	16200	13284
15	26730	21384	22275	18042	17820	14612

NOTE: Sensible performance only is shown for winter application.

Electrical Specifications

Model	Rated Volts and Phase	No. Field Power Circuits	Single Circuit				Dual Circuit							
			③ Minimum Circuit Ampacity	① Maximum External Fuse or Ckt. Brkr.	② Field Power Wire Size	② Ground Wire	③ Minimum Circuit Ampacity		① Maximum External Fuse or Ckt. Brkr.		② Field Power Wire Size		② Ground Wire Size	
							Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B
WA182 - A00, A0Z	230/208-1	1	16	20	12	12								
A05		1	30	30	10	10								
A08		1	45	45	8	10								
A10		1	56	60	6	10								
WA242 - A00, A0Z	230/208-1	1	17	20	12	12								
A05		1	30	30	10	10								
A08		1	45	45	8	10								
A10		1	56	60	6	10								
WA242 - B00, B0Z	230/208-3	1	13	15	14	12								
B06		1	22	25	10	10								
WA242 - C00, C0Z	460-3	1	8	15	14	14								
C06		1	11	15	14	14								
WA253 - A00, A0Z	230/208-1	1	18	25	10	10								
A05		1	30	30	10	10								
A08		1	45	45	8	10								
A10		1	56	60	6	10								
WA253 - B00, B0Z	230/208-3	1	14	20	12	12								
B06		1	22	25	10	10								
WA302 - A00*, A0Z*	230/208-1	1	24	35	8	10								
A05*		1	31	35	8	10								
A08		1	47	50	8	10								
A10*		1	57	60	6	10								
A15		1 or 2	83	90	4	8	57	26	60	30	6	10	10	10
WA302 - B00*, B0Z*	230/208-3	1	17	20	12	12								
B06		1	23	25	10	10								
B09*		1	32	35	8	10								
B15		1	50	50	8	10								
WA302 - C00*, C0Z*	460-3	1	10	15	14	14								
C06		1	12	15	14	14								
C09*		1	17	20	12	12								
C15		1	26	30	10	10								
WA372 - A00*, A0Z*	230/208-1	1	28	35	8	10								
A05*		1	32	35	8	10								
A08		1	47	50	8	10								
A10*		1	58	60	6	10								
A15		1 or 2	84	90	4	8	57	26	60	30	6	10	10	10
WA372 - B00*, B0Z*	230/208-3	1	20	25	10	10								
B06		1	24	25	10	10								
B09*		1	33	35	8	10								
B15		1	51	60	6	10								
WA372 - C00*, C0Z*	460-3	1	11	15	14	14								
C06		1	12	15	14	14								
C09*		1	17	20	10	10								
C15		1	26	30	10	10								
WA423 - A00, A0Z	230/208-1	1	35	50	8	10								
A05		1	35	50	8	10								
A10		1	59	60	6	10								
A15		1 or 2	85	90	4	8	59	26	60	30	6	10	10	10
A20		1 or 2	110	110	2	6	59	52	60	60	6	6	10	10
WA423 - B00, B0Z	230/208-3	1	24	35	8	10								
B09		1	34	35	8	10								
B15		1	52	60	6	10								
B18		1	60	60	6	10								
WA423 - C00, C0Z	460-3	1	13	15	14	14								
C09		1	17	20	12	12								
C15		1	26	30	10	10								
WA484 - A00, A0Z	230/208-1	1	36	50	8	10								
A05		1	36	50	8	10								
A10		1	59	60	6	10								
A15		1 or 2	85	90	4	8	59	26	60	30	6	10	10	10
A20		1 or 2	110	110	2	6	59	52	60	60	6	6	10	10
WA484 - B00, B0Z	230/208-3	1	25	35	8	10								
B09		1	34	35	8	10								
B15		1	52	60	6	10								
B18		1	60	60	6	10								
WA484 - C00, C0Z	460-3	1	13	15	14	14								
C09		1	17	20	12	12								
C15		1	26	30	10	10								
WA602 - A00, A0Z	230/208-1	1	44	60	8	10								
A05		1	44	60	8	10								
A10		1	59	60	6	10								
A15		1 or 2	85	90	4	8	59	26	60	30	6	10	10	10
A20		1 or 2	110	110	2	6	59	52	60	60	6	6	10	10
WA602 - B00, B0Z	230/208-3	1	32	45	8	10								
B09		1	34	45	8	10								
B15		1	52	60	6	10								
B18		1	60	60	6	10								
WA602 - C00, C0Z	460-3	1	16	20	12	12								
C09		1	17	20	12	12								
C15		1	26	30	10	10								
WA605 - A00, A0Z	230/208-1	1	46	60	8	10								
A05		1	46	60	8	10								
A10		1	59	60	6	10								
A15		1 or 2	85	90	4	8	59	26	60	30	6	10	10	10
A20		1 or 2	110	110	2	6	59	52	60	60	6	6	10	10
WA605 - B00, B0Z	230/208-3	1	32	45	8	10								
B09		1	34	45	8	10								
B15		1	52	60	6	10								
B18		1	60	60	6	10								
WA605 - C00, C0Z	460-3	1	16	20	12	12								
C09		1	18	20	12	12								
C15		1	27	30	10	10								

① Maximum size of the time delay fuse or HACR type circuit breaker for protection of field wiring conductors.
② Based on 75C copper wire. All wiring must conform to the National Electrical Code and all local codes.
③ These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to the National Electrical code (latest version), Article 310 for power conductor sizing.

Caution: When more than one field power circuit is run through one conduit, the conductors must be derated. Pay special attention to note 8 of Table 310 regarding Ampacity Adjustment Factors when more than three (3) current carrying conductors are in a raceway.

*** Top outlet supply option is available only factory installed and only on the selected models.**

IMPORTANT: While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses & conductor wires in accordance with the National Electrical Code and all local codes.

Indoor Blower Performance - CFM at 230 or 460 Volts

ESP in H_2O	WA182 WA242 WA253	WA302 WA372		WA423 WA484		WA602 WA605	
	Dry/Wet Coil	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil
0	1020/975	1395/1315	950/935	1885/1800	1650/1600	2200/2000	1600/1450
.1	960/905	1340/1270	930/915	1770/1665	1550/1500	2100/1900	1525/1375
.2	865/800	1285/1190	910/885	1635/1550	1450/1400	2000/1800	1465/1200
.3	820/735	1205/1100	855/830	1500/1400	1350/1300	1875/1700	-/-
.4	735/650	1110/1000	800/755	1370/1285	1300/1175	1775/1600	-/-
.5	615/535	1005/870	-/-	1250/1150	-/-	1650/1475	-/-

Above data is with 1" standard throwaway filter and 1" washable filter.
For optional 2" pleated filter - reduce ESP by .15 in.
See installation instructions for maximum ESP information on various KW application.

Electric Heat Table - Refer to Electrical Specifications for Availability by Unit Model

Nominal KW	At 240V (1)				At 208V (1)				At 480V (2)			At 460V (2)		
	Kw	1-Ph Amps	3-Ph Amps	Btuh	Kw	1-Ph Amps	3-Ph Amps	Btuh	Kw	3-Ph Amps	Btuh	Kw	3-Ph Amps	Btuh
5.0	5.0	20.8		17,065	3.75	18.0		12,799						
6.0	6.0		14.4	20,478	4.50		12.5	15,359	6.0	7.2	20,478	5.52	6.9	18,840
8.0	8.0	33.3		27,304	6.00	28.8		20,478						
9.0	9.0		21.7	30,717	6.75		18.7	23,038	9.0	10.8	30,717	8.28	10.4	28,260
10.0	10.0	41.7		34,130	7.50	36.1		25,598						
15.0	15.0	62.5	36.1	51,195	11.25	54.1	31.2	38,396	15.0	18.0	51,195	13.80	17.3	47,099
18.0	18.0		43.3	61,434	13.50		37.5	46,076	18.0	21.7	61,434	16.56	20.8	56,519
20.0	20.0	83.3		68,260	15.00	72.1		51,195						

(1) These electric heaters are available in 230/208V units only.

(2) These electric heaters are available in 480V units only.

Heater Packages - Field Installed

- Designed for adding Electric Heat to 0 KW Units
- Circuit Breaker Standard on 230/208V Models
- Toggle Disconnect Standard on 460V Models
- UL Listed
- CUL Listed

Air Conditioner Models	-A00 Models 230/208-1		-B00 Models 230/208-3		-C00 Models 460-3	
	Heater Model #	KW	Heater Model #	KW	Heater Model #	KW
WA182	EHWA02-A05 EHWA02A-A08 EHWA02A-A10	5 8 10	N/A		N/A	
WA242 WA253	EHWA02-A05 EHWA02A-A08 EHWA02A-A10	5 8 10	EHWA24-B06	6	EHWH24B-C06①	6
WA302	EHWA03-A05 EHWA03-A08 EHWA03-A10 EHWA03-A15	5 8 10 15	EHWA03-B06 EHWA03-B09 EHWA03-B15	6 9 15	EHWC03A-C06 EHWC03A-C09 EHWA03A-C15	6 9 15
WA372	EHWA03-A05 EHWA03-A08 EHWA03-A10 EHWA03-A15	5 8 10 15	EHWA03-B06 EHWA03-B09 EHWA37-B15	6 9 15	EHWC03A-C06 EHWC03A-C09 EHWA03A-C15	6 9 15
WA423 WA484	EHWA05-A05 EHWA05-A10 EHWA05-A15 EHWA05-A20	5 10 15 20	EHWA05-B09 EHWA05-B15 EHWA05-B18	9 15 18	EHWA05A-C09 EHWA05A-C15	9 15
WA602 WA605	EHWA60-A05 EHWA05-A10 EHWA05-A15 EHWA05-A20	5 10 15 20	EHWA60-B09 EHWA05-B15 EHWA05-B18	9 15 18	EHWA05A-C09 EHWA05A-C15	9 15

NOTE: Field installed Heater Packages are not approved for use with top supply opening models.

① Model WA242 only.

Cooling Application Data - Outdoor Temperature ①

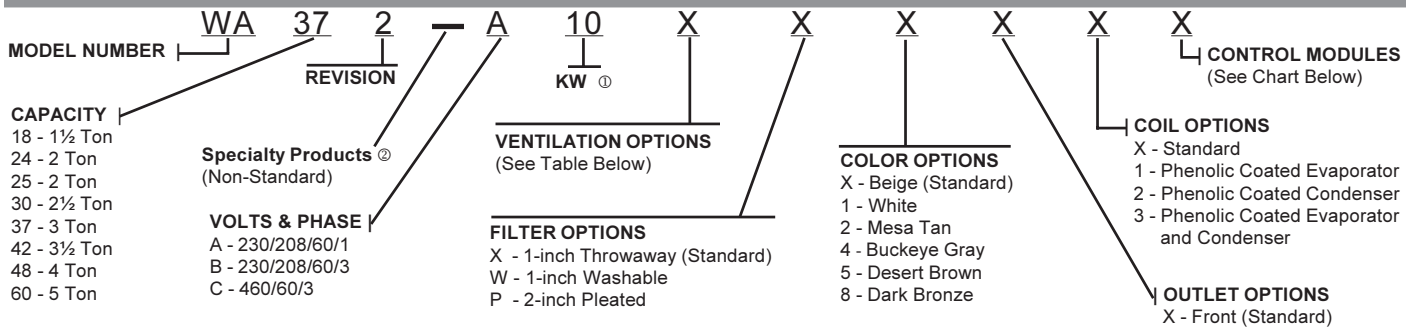
Model	D.B./W.B. ②	Cooling Capacity	75°F	80°F	85°F	90°F	95°F	100°F	105°F	110°F	115°F	120°F	125°F
WA182	75/62	Total Cooling	19,600	18,675	17,725	16,825	15,925	15,050	14,175	13,325	12,500	11,700	11,100
		Sensible Cooling	14,825	14,700	14,475	14,190	13,830	13,390	12,880	12,300	11,640	10,700	10,150
	80/67	Total Cooling	20,975	20,360	19,710	19,020	18,300	17,540	16,750	15,920	15,060	14,400	13,800
		Sensible Cooling	14,625	14,465	14,300	14,135	13,970	13,640	13,230	12,720	12,125	11,600	11,000
	85/72	Total Cooling	24,950	23,780	22,620	21,460	20,315	19,180	18,050	16,930	15,815	14,700	13,600
		Sensible Cooling	14,750	14,620	14,400	14,090	13,690	13,190	12,610	11,930	11,155	10,400	9,650
WA242	75/62	Total Cooling	24,200	23,300	22,300	21,400	20,400	19,600	18,800	17,900	17,100	16,300	15,500
		Sensible Cooling	18,500	18,300	18,000	17,500	17,100	16,500	15,800	15,100	14,400	13,400	12,500
	80/67	Total Cooling	25,800	25,300	24,700	24,100	23,400	22,800	22,100	21,300	20,500	19,700	18,900
		Sensible Cooling	17,900	17,900	17,800	17,500	17,200	16,800	16,200	15,600	14,900	14,000	13,100
	85/72	Total Cooling	30,800	29,600	28,400	27,200	26,000	25,000	23,900	22,700	21,600	20,500	19,500
		Sensible Cooling	18,400	18,200	17,900	17,400	16,900	16,300	15,500	14,700	13,800	12,700	11,600
WA253	75/62	Total Cooling	23,400	22,600	21,800	21,000	20,100	19,200	18,300	17,400	16,400	15,400	14,300
		Sensible Cooling	19,100	18,700	18,400	17,900	17,600	17,100	16,600	16,200	15,600	15,100	14,600
	80/67	Total Cooling	24,900	24,600	24,200	23,700	23,000	22,300	21,500	20,700	19,700	18,600	17,400
		Sensible Cooling	18,500	18,300	18,200	17,900	17,700	17,400	17,000	16,700	16,200	15,800	15,300
	85/72	Total Cooling	29,700	28,800	27,800	26,800	25,600	24,400	23,200	22,100	20,700	19,400	17,900
		Sensible Cooling	19,000	18,600	18,300	17,800	17,400	16,900	16,200	15,700	15,000	14,300	13,600
WA302	75/62	Total Cooling	30,900	29,700	28,500	27,400	26,100	25,100	24,000	22,900	21,900	20,800	19,700
		Sensible Cooling	25,700	25,300	24,900	24,400	23,900	23,300	22,700	22,200	21,500	20,800	20,100
	80/67	Total Cooling	33,000	32,300	31,600	30,900	30,000	29,200	28,300	27,300	26,300	25,200	24,000
		Sensible Cooling	24,900	24,800	24,600	24,400	24,100	23,700	23,300	22,900	22,300	21,700	21,100
	85/72	Total Cooling	39,300	37,800	36,300	34,900	33,400	32,000	30,500	29,100	27,700	26,200	24,700
		Sensible Cooling	25,500	25,200	24,700	24,300	23,700	23,000	22,200	21,500	20,600	19,600	18,700
WA372	75/62	Total Cooling	37,300	35,700	34,200	32,800	31,400	30,100	28,900	27,800	26,700	25,700	24,600
		Sensible Cooling	28,100	27,700	27,300	26,800	26,400	25,800	25,200	24,500	23,800	22,900	22,100
	80/67	Total Cooling	39,800	38,900	38,000	37,000	36,000	35,100	34,100	33,100	32,100	31,100	30,000
		Sensible Cooling	27,200	27,100	27,000	26,800	26,600	26,200	25,800	25,300	24,700	24,000	23,200
	85/72	Total Cooling	47,400	45,500	43,700	41,800	40,000	38,400	36,800	35,200	33,800	32,300	30,900
		Sensible Cooling	27,900	27,500	27,200	26,600	26,100	25,400	24,600	23,700	22,800	21,700	20,600
WA423	75/62	Total Cooling	43,200	41,700	40,100	38,400	36,600	34,800	33,000	31,000	29,000	26,900	24,700
		Sensible Cooling	35,000	34,300	33,500	32,800	32,000	31,200	30,200	29,300	28,300	27,200	26,100
	80/67	Total Cooling	46,100	45,400	44,500	43,400	42,000	40,500	38,900	37,000	34,900	32,600	30,100
		Sensible Cooling	33,900	33,600	33,200	32,800	32,300	31,700	31,000	30,300	29,400	28,500	27,500
	85/72	Total Cooling	54,900	53,100	51,100	49,000	46,700	44,300	42,000	39,400	36,700	33,900	31,000
		Sensible Cooling	34,700	34,100	33,400	32,600	31,700	30,700	29,600	28,400	27,100	25,800	24,400
WA484	75/62	Total Cooling	48,200	46,300	44,650	43,070	41,300	39,340	37,190	34,840	32,300	30,900	29,500
		Sensible Cooling	39,120	38,520	37,680	37,510	37,000	36,130	34,910	33,330	31,400	30,000	28,700
	80/67	Total Cooling	51,440	50,440	49,640	48,750	47,500	45,890	43,920	41,590	38,900	38,100	37,250
		Sensible Cooling	37,950	37,800	37,600	37,400	37,300	36,740	35,800	34,490	32,800	32,050	31,350
	85/72	Total Cooling	59,900	58,650	57,240	55,350	52,700	49,700	46,700	43,800	40,850	39,100	37,450
		Sensible Cooling	38,750	38,250	37,450	37,230	36,600	35,570	34,150	32,320	30,100	28,700	27,500
WA602	75/62	Total Cooling	60,350	57,500	54,630	52,320	50,000	47,660	45,290	42,910	40,500	N/A	N/A
		Sensible Cooling	45,170	43,700	42,180	41,110	40,000	38,840	37,640	36,390	35,100	N/A	N/A
	80/67	Total Cooling	64,600	62,750	60,690	59,190	57,500	55,610	53,540	51,260	48,800	N/A	N/A
		Sensible Cooling	43,950	42,960	41,830	41,150	40,400	39,570	38,660	37,670	36,600	N/A	N/A
	85/72	Total Cooling	76,800	73,300	69,610	66,740	63,800	60,780	57,700	54,530	51,300	N/A	N/A
		Sensible Cooling	44,900	43,470	41,970	40,840	39,600	38,260	36,810	35,260	33,600	N/A	N/A
WA605	75/62	Total Cooling	57,200	55,400	53,500	51,400	49,200	47,000	44,500	41,900	39,100	N/A	N/A
		Sensible Cooling	44,600	43,800	42,900	42,000	41,000	39,900	38,800	37,600	36,300	N/A	N/A
	80/67	Total Cooling	61,100	60,400	59,400	58,100	56,500	54,700	52,500	50,000	47,100	N/A	N/A
		Sensible Cooling	43,200	42,900	42,500	42,000	41,400	40,600	39,800	38,800	37,800	N/A	N/A
	85/72	Total Cooling	72,800	70,600	68,200	65,600	62,800	59,800	56,600	53,200	49,500	N/A	N/A
		Sensible Cooling	44,300	43,600	42,700	41,700	40,600	39,300	37,900	36,400	34,800	N/A	N/A

① Below 65°F (18.3C), unit requires a factory or field installed low ambient control.
② Return air temperature.

Capacity Multiplier Factors

% of Rated Airflow	-10	Rated	+10
Total BTUH	0.975	1.0	1.02
Sensible BTUH	0.950	1.0	1.05

Air Conditioning Wall-Mount Model Nomenclature



① For 0KW and circuit breakers (230/208 Volt) or toggle disconnects (460 Volt) applications, insert 0Z in the KW field of the model number.
② Insert "D" for dehumidification with hot gas reheat — Models WA42, 48 & 60 only. See Form F1742 for complete details.

Ventilation Options

Models	WA182, WA242, WA253		WA302, WA372		WA423, WA484, WA602, WA605	
Description	Factory Installed Code No.	Field Installed Part No.	Factory Installed Code No.	Field Installed Part No.	Factory Installed Code No.	Field Installed Part No.
Barometric Fresh Air Damper - Standard	X	BFAD-2	X	BFAD-3	X	BFAD-5
Blank-Off Plate	B	BOP-2	B	BOP-3	B	BOP-5
Motorized Fresh Air Damper	M	MFAD-2	M	MFAD-3	M	MFAD-5
Commercial Ventilator - Spring Return w/Exhaust	V	CRV-2	V	CRVS-3	V	CRVS-5
Commercial Ventilator - Power Return w/Exhaust	---	---	P	CRVP-3	P	CRVP-5
Economizer - Fully Modulating ①	E	EIFM-2B	E	EIFM-3C	E	EIFM-5C
Economizer - Fully Modulating ①②	D	N/A	D	N/A	D	N/A
Energy Recovery Ventilator - 230 Volt	R	WERV-A2B-✳	R	WERV-A3C-✳ ③	R	WERV-A5C-✳ ③
Energy Recovery Ventilator - 460 Volt	N/A	N/A	R	WERV-C3C-✳ ③	R	WERV-C5C-✳ ③

① Low ambient control is required with economizer for low temperature compressor operation.
② For use only with "V" Control Module and TCS23 Controller.
③ Intake and exhaust can be independently adjusted.
✳ Color option must be specified to match unit (X = Beige, 4 = Buckeye Gray)

Air Conditioning Control Modules

WA182, WA242, WA302, WA372, WA423 Models

AVAILABLE CONTROL OPTIONS										
TDR ①	HPC ②	LPC ③	CCM ④	LAC ⑤	ALR ⑥	SK ⑦	ODT ⑧	DDC ⑨	Factory Installed Code	Field Installed Part
●									D	CMA-5
				●					E	CMA-6
	●	●	●						G	CMA-10A
	●	●	●	●					H	CMA-13A
●				●					I	CMA-12
	●	●	●	●	●				J	Factory Only
	●	●	●	●		●			K	CMA-13A & CMC-15
	●	●	●	●	●	●			M	Factory Only
						●			Field Installed Only	CMC-15
							●		Field Installed Only	CMA-14
	●	●	●	●	●			●	V ⑩	Factory Only
								●	Field Installed Only	CMA-23 ■

Air Conditioning Control Modules

WA253, WA484, WA602, WA605 Models

AVAILABLE CONTROL OPTIONS										
TDR ①	HPC ②	LPC ③	CCM ④	LAC ⑤	ALR ⑥	SK ⑦	ODT ⑧	DDC ⑨	Factory Installed Code	Field Installed Part
	STD	●	STD						G	CMA-16A
	STD	●	STD	●					H	CMA-18A
Does	STD		STD	●					I	CMA-6
Not	STD	●	STD	●	●				J	Factory Only
Apply	STD	●	STD	●		●			K	CMA-13A & CMC-15
To	STD	●	STD	●	●	●			M	Factory Only
These	STD		STD			●			Field Installed Only	CMC-15
Models	STD		STD				●		Field Installed Only	CMA-14
	STD	●	STD	●	●			●	V ⑩	Factory Only
	STD		STD					●	Field Installed Only	CMA-24 ▲

STD = Standard equipment for these specified models.
① TDR. Time delay relay only for compressor is fixed 5-minute delay-on-break to prevent short cycling. Not needed if HPC or LPC are used. See notes ②, ③ and ④.
② HPC. High pressure control is auto reset. Always used with compressor control module (CCM) which is included. See note ④.
③ LPC. Low pressure control is auto reset. Always used with compressor control module (CCM) which is included. See note ④.
④ CCM. Compressor control module has adjustable 30-second to 5-minute delay-on-break timer. On initial power-up, or any time the power is interrupted, the delay-on-make will be 2-minutes plus 10% of the delay-on-break setting. There is no delay-on-make during routine operation of the unit. The module also provides the lockout feature (with 1 retry) for high and/or low-pressure controls, and a 2-minute timed bypass for low-pressure control.
⑤ LAC. Low ambient control permits cooling operation down to 0°F
⑥ ALR. The alarm relay has a set of normally open and normally closed dry contacts to provide the ability to signal a condition of shutdown on either high or low pressure controls.
⑦ SK. Start kit can be used with all -A single phase models only. Is not used or available for -B or -C three phase models.
⑧ ODT. Outdoor thermostat is adjustable from 0 to 50°F. It is suitable for use as a compressor cut-off thermostat.
⑨ DDC. Incorporates 4 additional sensors: discharge air temperature, indoor blower airflow, compressor current, and dirty filter. These sensing devices function to input analog data such as temperature, as well as digital data such as airflow, compressor status or filter status.
⑩ "V" control module should be ordered in conjunction with direct digital controller (DDC) model TCS23. Refer to DDC specification sheet S3280 for more information.
■ Use CMA-24 for Model WA423. ▲ Use CMA-23 for Models WA253.

Clearances Required for Service Access and Adequate Condenser Airflow

MODELS	LEFT SIDE	RIGHT SIDE
WA18, WA24, WA25, WA37	15"	20"
WA42, WA48, WA60	20"	20"

NOTE: For side by side installation of two (2) WA models there must be 20" between units. This can be reduced to 15" by using a WL model (left side compressor and controls) for the left unit and WA (right side compressor and controls) for right unit.
See WL Specifications S3279.

Minimum Clearances Required to Combustible Materials

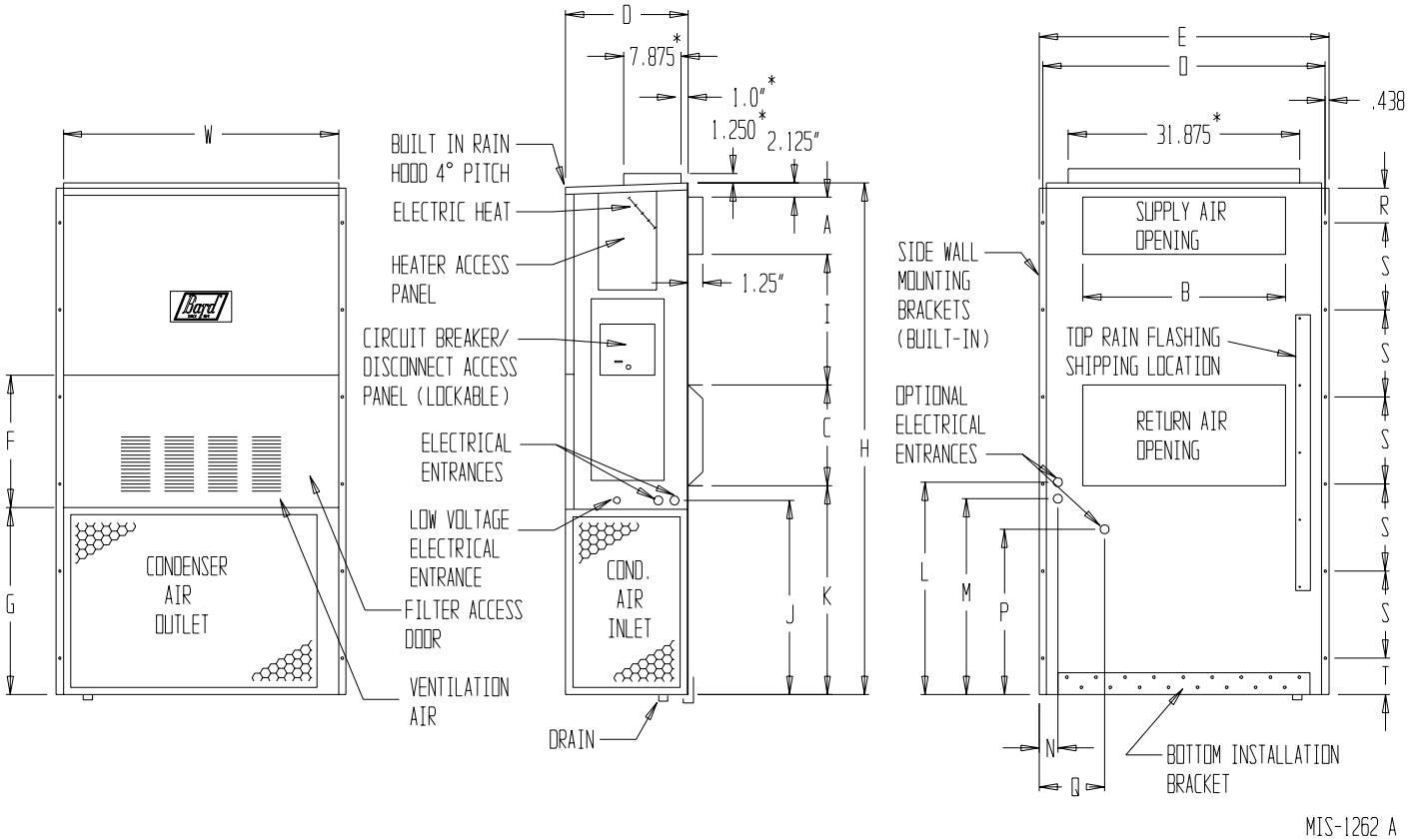
MODELS ①	SUPPLY AIR DUCT FIRST THREE FEET	CABINET
WA18, WA24, WA25	0"	0"
WA30, WA37	1/4"	0"
WA42, WA48, WA60	1/4"	0"

① Refer to the Installation Manual for more detailed information.

Dimensions of Basic Unit for Architectural and Installation Requirements (Nominal)

MODEL	WIDTH (W)	DEPTH (D)	HEIGHT (H)	SUPPLY		RETURN																
				A	B	C	B	E	F	G	I	J	K	L	M	N	O	P	Q	R	S	T
WA18 WA24 WA25	33.300	17.125	70.563	7.88	19.88	11.88	19.88	35.00	18.50	25.75	20.56	26.75	28.06	29.25	27.00	2.63	34.13	22.06	10.55	4.19	12.00	5.00
WA30 WA37	38.200	17.125	70.563	7.88	27.88	13.88	27.88	40.00	18.50	25.75	17.93	26.75	28.75	29.25	27.00	2.75	39.13	22.75	9.14	4.19	12.00	5.00
WA42 WA48 WA60	42.075	22.432	84.875	9.88	29.88	15.88	29.88	43.88	19.10	31.66	30.00	32.68	26.94	34.69	32.43	3.37	43.00	23.88	10.00	1.44	16.00	1.88

All dimensions are in inches. Dimensional drawings are not to scale.



FRONT VIEW **SIDE VIEW** **BACK VIEW**

*Optional top outlet (factory installed only) for WA30 and WA37 models only.

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Form No. S3208 November, 2008

Supersedes S3208-908

The Whitman™

19” x 17”
Wall-Mounted Lavatory

6619

FEATURES

- Anti-splash rim
- Stain-resistant vitreous china
- 2 convenient soap depressions
- Concealed front overflow
- 5-year warranty

AVAILABLE COLOR

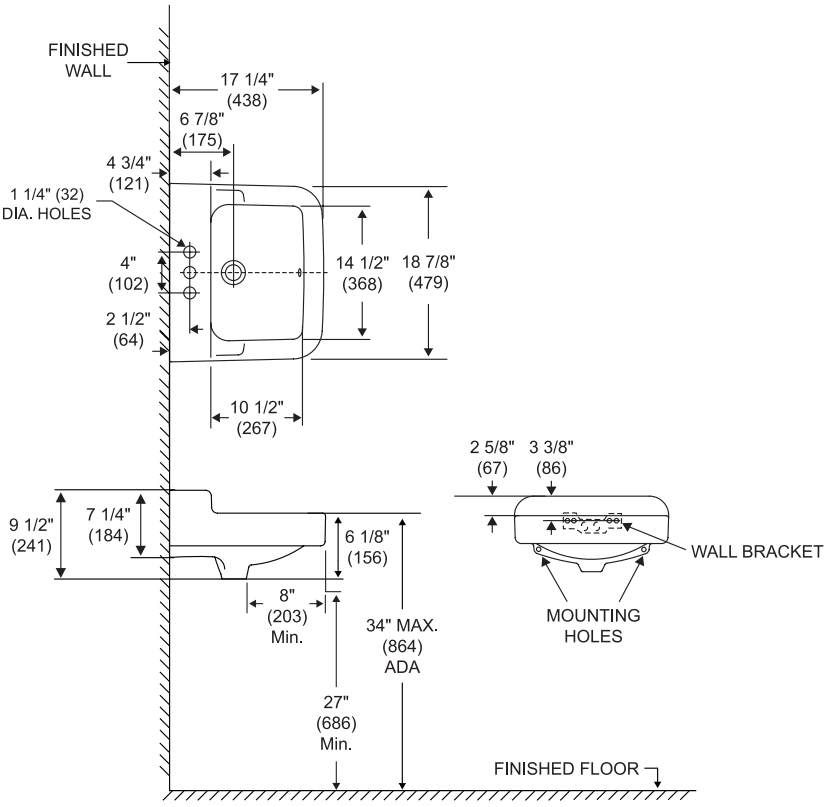
WHITE (130)

SPECIFICATIONS

- Model 6619: 4” centers; consists of wall-mounted lavatory basin, 31 lb

INSTALLATION

- Installation instructions supplied
- Wall hanger included for easy installation
- Installable under ADA standards



Dimensions may vary (+) or (–) 1/4”. Dimensions shown in parentheses are in millimeters: 25.4 mm = 1 inch. Note: Fixture dimensions are nominal and conform with dimension and performance requirements of ASME/ANSI Standards A112.19.2M. Dimensions subject to change or cancellation without notice. Briggs is not responsible for the use of superseded or voided specification information.

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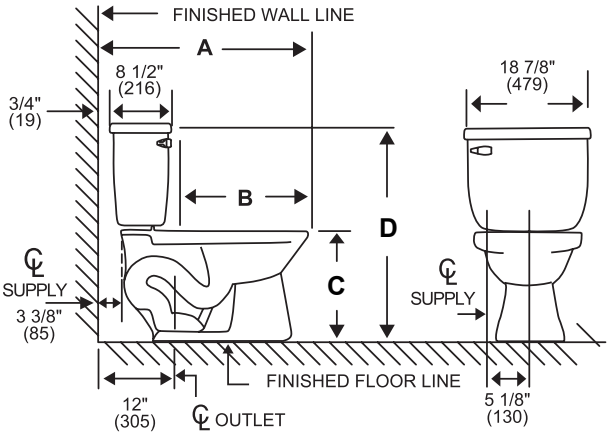
Two-Piece Toilet

4759/4764/4231



	4759	4764	4231
A	27-3/4" (705)	29-1/2" (749)	30-1/2" (775)
B	16-1/2" (419)	18-1/2" (470)	18-1/2" (470)
C	14-1/2" (368)	14-1/2" (368)	17" (432)
D	28-7/8" (733)	28-7/8" (733)	31" (787)

Dimensions may vary (+) or (–) 1/4". Dimensions shown in parentheses are in millimeters: 25.4 mm = 1 inch. Note: Fixture dimensions are nominal and conform with dimension and performance requirements of ASME/ANSI Standards A112.19.2M. Dimensions subject to change or cancellation without notice. Briggs is not responsible for the use of superseded or voided specification information.

FEATURES

- New wider, more substantial rim
- Stain-resistant vitreous china
- Anti-siphon ballcock
- Wide 2" trapway
- Thetford loop trapway design
- Sanitary bar on bowl for ease of cleaning
- Color-matched trip levers
- Generous 5-year warranty

AVAILABLE COLORS

WHITE (130) BISCUIT (235) BONE (733)

SPECIFICATIONS

- Model 4759: 12" rough-in round toilet, 69 lb, consists of bowl (Model 4855) and tank (Model 4440)
- Model 4764: 12" rough-in elongated toilet, 72 lb, consists of bowl (Model 4857) and tank (Model 4440)
- Model 4231: 12" rough-in elongated ComfortFit ADA toilet, 77 lb, consists of bowl (Model 4878) and tank (Model 4440)
- Model 7469: Tank lid for Models 4440/4443, 12 lb

OPTIONS

- Model 4441: 12" rough-in tank and lid w/lid lock, 34 lb
- Model 4442: 12" rough-in tank and lid w/right-hand lever, 34 lb
- Model 4443: 12" rough-in insulated tank and lid, 34 lb
- Model 4443L: 12" rough-in insulated tank and lid w/lid lock, 34 lb
- Model 4444: 10" rough-in tank and lid, 36 lb
- Model 4445: 14" rough-in tank and lid, 35 lb

INSTALLATION

- Installation instructions supplied
- Quick-connect system for easy tank-to-bowl installation

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The Hilton™

1.0 gpf/ 3.8 lpf
Siphon-Jet Urinal

7517

FEATURES

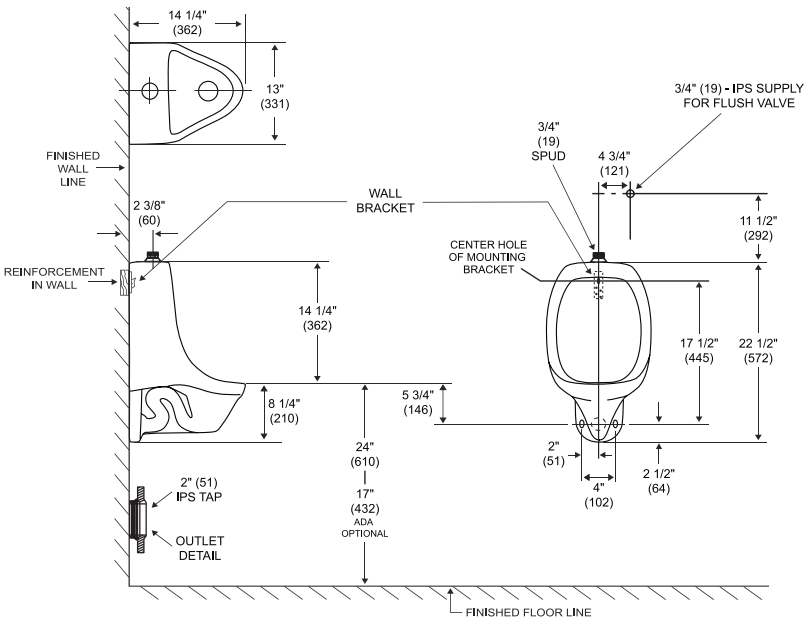
- Stain-resistant vitreous china
- Siphon-jet flushing action
- Wall-hung design
- 3/4” top inlet spud
- Integral flushing rim
- Hanging bracket included
- Flush valve sold separately
- Generous 5-year warranty

AVAILABLE COLOR

WHITE (130)

SPECIFICATIONS

- Model 7517: Siphon-jet ADA urinal, 31 lb



Dimensions may vary (+) or (–) 1/4”. Dimensions shown in parentheses are in millimeters: 25.4 mm = 1 inch. Note: Fixture dimensions are nominal and conform with dimension and performance requirements of ASME/ANSI Standards A112.19.2M. Dimensions subject to change or cancellation without notice. Briggs is not responsible for the use of superseded or voided specification information.

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Communications

General

Modification 02 requires installation of 25 pair of 24 gauge exterior type Cat 3 copper cable and 6 strand 62.5 micron single mode exterior type fiber between Building B-885 and the new modular clinic.

Details

The following installation requirements must be met:

- Routing for the 25 pair copper cable and 6 strand single mode fiber from the Communications Room of B-885 to the east exterior wall shall be via EMT conduit. A separate conduit shall be required for each of the required cables on the interior of B-885. Two properly sized weather heads shall be mounted on the east exterior wall of the mechanical room at B-885 and the cables shall be properly anchored to the exterior wall and an appropriate drip loop shall be provided for each cable.
- The copper and fiber cables shall be extended overhead from B-885 to distribution power pole 6-80-215 (this will be a slack span), then north overhead to the Modular Clinic electrical service pole (6-80-203).
- The copper cable and fiber optic cable shall extend down the service transformer power pole in separate riser pole conduits and extend underground (two separate underground conduits) to the northeast corner of the Modular Clinic.
- The underground conduits/cabling shall come out above grade approximately 1' from the northeast corner of the Modular Clinic and shall be routed in conduits attached to the underneath side of the Modular Clinic to the communications room in the northwest corner of the building.
- All above grade conduit shall be properly sized rigid galvanized steel conduit and all below grade conduit shall be PVC electrical conduit. All below grade conduit shall be installed at a minimum of 2' below finished grade to top of conduit. The required conduit is to be attached to the

Communications
Details (Continued)

underneath side of the Modular Clinic shall be EMT conduit.

- A Communications/Fiber Optic warning tape shall be installed continuous at 1' above each respective underground conduit to indicate communications utilities cables exist at that underground location. The Contractor shall provide an appropriately sized messenger/support cable between distribution poles 6-80-203 and 6-80-215. The messenger /support cable shall be sagged to match existing cable TV line and shall be spaced at 9" below existing Cable TV line. The required copper cabling and fiber optic cabling shall be lashed to the messenger/support cable between poles 6-80-203 and 6-80-215.
- A properly sized backup down guy on poles 6-80-203 and 6-80-215 will be provided for appropriate support for the weight/tension of the cables between the inline distribution power poles.
- A 10' service loop shall be provided in the communications room of B-885 and in the communications room of the Modular Clinic for each respective cable.
- Terminations for all copper cable conductors and the all fiber optic cable conductors shall be made at the communications rack in the communications room of B-885 and on a communications rack in the communications room (northwest corner) of the Modular Clinic. The copper cable shall be terminated on each end by others. The fiber optic cables shall be pre-terminated on each end with ST type connectors.
- The fiber optic terminations shall be tested after terminations with a TDR and the test results shall be in compliance with EIA/TIA 568B-B-3 Annex A and shall indicate less than 26dB return loss of signal. Return loss of signal greater than 26dB shall require correction of the problem and re testing will be required until a reading of less than 26dB can be achieved.

Communications
Details (Continued)

- All copper cabling terminations shall be tested in accordance with EIA/TIA 568-B.2.
- All testing shall be scheduled with the Government with a minimum of 72 hours advance notice.

Site Specific Health and Safety Plan

See PART I Site Specific Health and Safety Plan.

Site Specific Quality Control Plan

See PART I Site Specific Quality Control Plan.

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