

AMENDMENT No. 2

Oscar G. Johnson VA Medical Center
Iron Mountain, MI
Expand Mental Health - 3C
VA Project No. 585-09-103



Issue Date: April 27, 2012

Owner: U.S. Department of Veterans Affairs
Engineer: MEP Associates, LLC

MEP Project No. U08.09.04

To: Prospective Bidders.

This Amendment forms a part of the Contract Documents and modifies the Bidding Documents dated April 6, 2012 and Amendment No. 1 dated 04.24.12, with amendments and additions noted below. This Amendment consists of 7 pages, and attachments.

Acknowledge receipt of this Amendment in the space provided on the Bid Form. Failure to do so may disqualify Bidder.

Index of Attachments

1. Responses to Bidder's Questions (3 pages).
2. New Specification Sections:
 - Section 07 21 13 - Thermal Insulation
2. Added Drawing Sheets:
 - G.102 - Code, ICRA and ILSM Plan - 2nd Floor
 - G.103 - Phasing Plan - 3rd Floor
 - G.104 - Phasing Plan - 2nd Floor
 - MD.133 - Third Floor Mechanical Temporary Corridor Plan
 - E.136 - Electrical - Details
3. Re-Issued Drawing Sheets:
 - G.001 (1 of 50), Title Sheet / Location Map / Drawing Conventions
 - G.101 (2 of 50), Code, ICRA and ILSM Plan – 3rd Floor
 - A.131 (6 of 50), Demolition Plan
 - A.132 (7 of 50), Floor Plan / Details
 - A.133 (8 of 50), Dimension Plan
 - A.134 (9 of 50), Equipment Plan / Schedule
 - A.135 (10 of 50), Reflected Ceiling Plan / Details
 - A.136 (11 of 50), Finish Plan / Schedules
 - A.201 (12 of 50), Interior Elevations

Amendment No. 2
April 27, 2012

Page 1 of 7

Department of Veterans Affairs
Expand Mental Health - 3C

engineers | consultants | commissioning

MEP Associates, LLC | 2720 Arbor Court, Eau Claire, WI 54701 | phone: 715.832.5680 fax: 715.832.5668 | www.mepassociates.com

- A.202 (13 of 50), Interior Elevations
- A.501 (14 of 50), Sections / Details
- A.502 (15 of 50), Sections / Details
- A.601 (16 of 50), Openings Schedule / Details
- FP.131 (17 of 50), Third Floor Fire Protection Demolition Plan
- FP.231 (18 of 50), Third Floor Fire Protection Plan
- PL.001 (19 of 50), General Plumbing Notes and Schedules
- PL.121 (20 of 50), Second Floor Plumbing Demolition Plan
- PL.131 (21 of 50), Third Floor Plumbing Demolition Plan
- PL.221 (22 of 50), Second Floor Plumbing Plan
- PL.222 (23 of 50), Second Floor Dental Gas Piping Plan
- PL.231 (24 of 50), Third Floor Plumbing Plan
- PL.232 (25 of 50), Third Floor Dental Gas Piping Plan
- PL.301 (26 of 50), Plumbing Isometrics
- PL.401 (27 of 50), Plumbing Details
- M.001 (28 of 50), Mechanical Notes, Symbols and Abbreviations
- MD.131 (29 of 50), Third Floor Mechanical Ductwork Demolition
- MD.132 (30 of 50), Third Floor Mechanical Piping Demolition
- MH.131 (32 of 50), Third Floor Mechanical Ductwork Plan - West
- MH.132 (33 of 50), Third Floor Mechanical Ductwork Plan – East
- MH.133 (34 of 50), Third Floor Mechanical Ductwork Plan – North
- MP.131 (35 of 50), Third Floor Mechanical Piping Plan
- M.501 (36 of 50), Mechanical Details
- M.502 (37 of 50), Mechanical Details
- M.503 (38 of 50), Mechanical Details
- M.601 (39 of 50), Mechanical Schedules
- M.602 (40 of 50), Mechanical Schedules
- M.603 (41 of 50), Mechanical Schedules
- M.604 (42 of 50), Temperature Control Diagrams & Sequence of Operation
- M.605 (43 of 50), Terminal Unit Controls Diagrams
- E.001 (44 of 50), Electrical – Notes, Symbols, Legends, Schedules and Abbreviations
- E.131 (45 of 50), Electrical – Demolition Plan Third Floor
- E.132 (46 of 50), Electrical - Partial Lighting Third Floor
- E.133 (47 of 50), Electrical - Partial Power and Distribution Third Floor
- E.134 (48 of 50), Electrical – Panel Schedule and Partial Riser Diagram Third Floor
- E.135 (49 of 50), Electrical - Details

CHANGES TO THE SPECIFICATIONS

Add the following attached new Specification Sections:

- Section 07 21 13 - Thermal Insulation

Section 00 01 10 - Table of Contents

1. Add the following to Division 7; "Section 07 21 13 - Thermal Insulation, 03-09M".

Section 01 00 00 - General Requirements

1. Par. 1.6, Sub-paragraph G. Phasing; revise the following sub-paragraphs to read as follows:

Phase I: Construct new entrance to Stair 3, and then work on Open Office Suite/Work Area (space 3246), and Canteen Storage (space 3245), which shall be completed and fully functional, before proceeding to next phase. At the completion of Phase I, the owner is required three (3) weeks to relocate the existing Canteen Storage (3215 and 3219) into the new Canteen Storage space (3245) before the Contractor can proceed to Phase II.

Phase II: Third floor Dental Suite areas North Wing of East side, including Clerk/Work Area (space 3225), Toilet Room (space 3225A), Waiting (space 3219); Third floor north center to include Restrooms, Waiting Areas and Mental Health areas up to Group Room (space 3113), which shall be completed and fully functional, before proceeding to Phase III.

Phase III: Third floor north west/center to include Mental Health Group Room (space 3117), and the Telehealth Rooms (spaces 3119 and 3123) shall be completed after Facility Staff have moved to the new check-in and waiting area. The Owner is required one (1) week to move staff into the new areas.

Phase IV: (Completed as required throughout all previous Phases):

1. All occupied, temporary and permanent, corridor work for third floor shall be completed during the evenings and/or weekends to minimize disruptions to normal facility functions.
2. All occupied Corridor work, work within existing Imaging Space (2nd Floor) and work within the existing Surgery Space (2nd Floor) shall be completed during the evenings and/or weekends to minimize disruptions to normal Facility functions.
 - a. All ceilings within occupied 2nd floor spaces and corridors shall be in place during normal business hours (Monday - Friday, 7:00AM – 5:00PM).
 - b. All work on 1st and 4th floors associated with this and other phases shall be in place during normal business hours (Monday – Friday, 7:00AM – 5:00PM).

CHANGES TO THE DRAWINGS

Revisions have been made to the following drawings and are issued in the form of full-size plans. Edits are indicated by a revision delta and a cloud surrounding the affected portion of the drawing.

Architectural

1. Make the following changes to Attachment A.131.
 - a. Provide additional work at existing window in existing room 3232B (new room Clean Storage 3238). See keynote RM.20.
 - b. Remove existing ceilings in Corridor 3199A-1 and Psychiatrist 3127 for new mechanical work as shown.
 - c. Provide additional work at Water Fountain in Corridor 3199A-1. See keynote RM.21.
 - d. Add general notes 6 and 7.
 - e. At detail 2, Revise ceilings to be removed and replace due to mechanical work occurring on the second floor. See keynotes RM.19 and RM.22.
 - f. Revise Keynote RS.1.
2. Make the following changes to Attachment A.132.
 - a. Provide additional work at existing window in new room Clean Storage 3238. See keynotes FP.7 and FP.8.
 - b. Provide additional work at Water Fountain in Corridor 3199A-1. Patch to Match existing conditions.
 - c. Door 3216.1 to swing into Corridor.
 - d. Add additional wall handrail outside of Clerk/Reschedule 3109.
 - e. Adjust size of Canteen Storage 3245 and Work Area 3246 accordingly. Provide 1 hour rated construction around room.
 - f. Add new wall type MS5A/1.49.
 - g. Revise wall type MS1A/0.00.
 - h. Revise General Floor Plan Notes.
3. Make the following changes to Attachment A.133.
 - a. Adjust size of Canteen Storage 3245 and Work Area 3246 accordingly.
4. Make the following changes to Attachment A.134.
 - a. Adjust size of Canteen Storage 3245 and Work Area 3246 accordingly.
 - b. Provide modifications to Schedule for Furniture - Fixtures - Equipment. Add or Omit Clouded items where required.
 - c. Omit printer from Reception 3105A.
5. Make the following changes to Attachment A.135.
 - a. Provide new ACT-1 in Corridor 3199A-1 and Psychiatrist 3127.
 - b. Adjust size of Canteen Storage 3245 and Work Area 3246
 - c. At detail 3. Provide UL listed Fire stop at 2 hour soffit detail.
6. Make the following changes to Attachment A.136.
 - a. Add General Note A under Schedule for Finishes.
 - b. Schedule for Finishes. Update floor finishes and base in marked rooms. Update plan accordingly.
7. Make the following changes to Attachment A.201.
 - a. Details 6, 7, 8 and 15. Update casework elevation accordingly. Provide and Install keyboard trays as shown.
8. Make the following changes to Attachment A.202.
 - a. Detail 1. Update casework elevation accordingly. Provide and Install keyboard tray as shown.

9. Make the following changes to Attachment A.501.
 - a. Add details 9 and 10 for work at existing windows.
 - b. Alter details 4 and 5 accordingly.
10. Make the following changes to Attachment A.502.
 - a. Adjust details 2 and 3 accordingly.
11. Make the following changes to Attachment A.601.
 - a. Schedule for Openings. Adjust door 3245.1 accordingly.

Fire Protection

1. Make the following changes to Attachment FP.131
 - a. Add piping showing demolition to drawing.
 - b. Revise/Add keyed notes.
2. Make the following changes to Attachment FP.231
 - a. Add piping showing new to drawing.
 - b. Revise/Add keyed notes.

Plumbing

1. Make the following changes to Attachment P.001.
 - a. Add S-3 to Plumbing Fixture Schedule
 - b. Revise/Add items to General and Renovation Notes.
 - c. Revise Gas Load Table to include locations of turrets. Add note #2.
2. Make the following changes to Attachment P.121.
 - a. Revise/Add Keyed Notes.
3. Make the following changes to Attachment P.131.
 - a. Revise/Add Keyed Notes.
4. Make the following changes to Attachment P.221.
 - a. Revise/Add Keyed Notes.
 - b. Add first floor plan to show piping serving 2" open site for vacuum pumps.
 - c. Revise sink to be S-3.
5. Make the following changes to Attachment P.222.
 - a. Revise/Add Keyed Notes.
 - b. Revise location of dental air
6. Make the following changes to Attachment P.231.
 - c. Revise/Add Keyed Notes.
 - d. Revise sink to be S-3.
 - e. Revise tie in location for new water mains.
7. Make the following changes to Attachment P.232.
 - a. Revise/Add Keyed Notes.
8. Make the following changes to Attachment P.301.
 - a. Revise Isometrics as required to accommodate changes made to floor plans.
9. Make the following changes to Attachment P.401.
 - a. Add Wall Mounted Water Closet Detail to plans.

Mechanical

1. Drawing M.001
 - a. Add and/or Revised General Notes 7, 16 and 25.
 - b. Revised Mechanical Sheet Index.
2. Drawing MD.131
 - a. Revised Keyed Demolition Notes.
 - b. Revised General Notes.
 - c. Revised Third Floor Mechanical Ductwork Demolition Floor Plan.
3. Drawing MD.132
 - a. Revised Keyed Demolition Notes.
 - b. Revised General Notes.
 - c. Revised Third Floor Mechanical Piping Demolition Floor Plan.
4. Drawing MD.133 – Third Floor Mechanical Temporary Corridor Plan
 - a. Added Sheet
5. Drawing MH.131
 - a. Added and/or Revised General Notes and Keyed Notes.
6. Drawing MH.132
 - a. Added and/or Revised General Notes and Keyed Notes.
 - b. Revised Third Floor Mechanical Ductwork Floor Plan.
7. Drawing MH.133
 - a. Added and/or Revised General Notes and Keyed Notes.
 - b. Revised Third Floor Mechanical Ductwork Floor Plan.
8. Drawing MP.131
 - a. Added and/or Revised General Notes and Keyed Notes.
 - b. Revised T-stat location in Canteen Storage Room 3245.
9. Drawing M.501
 - a. Revised Mechanical Details.
10. Drawing M.502
 - a. Revised Mechanical Details.
11. Drawing M.503
 - a. Revised Mechanical Details.
12. Drawing M.601
 - a. Added Existing Steam to Water Heat Exchanger Schedule.
 - b. Revised Schedule Sequence.
13. Drawing M.602
 - a. Revised Schedule Sequence. No schedule information was revised.
14. Drawing M.603
 - a. Revised Room Air Balance and Basis of Design Schedule.
15. Drawing M.604
 - a. Revised Controls General Notes.

Electrical

1. Drawing E.001
 - a. ADD General Note 9.
2. Drawing E.131
 - a. ADD A number of wall mounted devices in the corridors.
 - b. ADD Eight lights that need to be removed and replaced.
 - c. ADD Keyed Note 3 and General Note 5.

3. Drawing E.132
 - a. REVISED Keyed Note 3
4. Drawing E.133
 - a. REVISED Keyed Notes 9 and 10.
 - b. ADDED Keyed Notes 14 and 15.
 - c. CLARIFICATION Keyed Note 2
5. Drawing E.135
 - a. REMOVED 2nd floor lighting plan.
6. Drawing E.136
 - a. NEW Drawing

END OF AMENDMENT No. 2

VA Iron Mountain Expand Mental Health – 3C

Responses to Bidder's Questions

- 1) What is the floor & ceiling finish in rooms 3229, 3225, 3230, 3228, 3224, 3219, 3215, 3213, 3211, 3211A, 3209, 3207A, 3109, 3113A? No Demo notes on the plans in these rooms.

Response: Refer to re-issued drawing sheets for added RM.1 and RM.2 Keynotes.

- 2) In Room 3246 RM.13 is used but there is nothing on the Keynote Schedule. What should this note be?

Response: Note RM.13 has been removed.

- 3) What is the floor rail detail like for the High Density Shelving in Room # 3215 (RS.1)?

Response: The High Density Shelving System will be removed and relocated by the Government.

- 4) Who is responsible for removing the High Density Shelving in Room #3215 (RS.1) General Contractor or VA?

Response: The High Density Shelving System will be removed and relocated by the Government.

- 5) If the General is to remove the High Density Shelving where will it be moved to, does it need to be reinstalled in a different location, and will the files be removed before the construction starts?

Response: The High Density Shelving System will be removed and relocated by the Government.

- 6) Are the existing Door Frames Grouted?

Response: All door frames located in the tile walls are assumed to be grouted.

- 7) Are the existing walls clay tile or steel studs / GWB?

Response: Majority of walls are tile. The only walls which will consist of steel stud construction will be those located in the recently renovated Mental Health areas on the west side of the project.

- 8) What is going to be required for ICRA on the 2nd Floor for the Surgery rooms? How will this work be phased?

Response: Clarification on the phasing and ICRA Plans for this area is included within this Amendment. Since work in this High Risk Area will be significant, this can be considered CLASS IV project type in the Surgery Suite. The Contractor will be required to follow the identified precautions in Section 010110 - Infection Control for a CLASS IV Project.

9) What is going to be required for ICRA and Phasing in the corridor? How will this work be phased to maintain access to the Cantina and Elevators?

Response: Clarification on the Phasing for this area is included within this Amendment.

10) What is existing floor construction for RM.18 infill @ Removed Grease Trap?

Response: Concrete

11) (RM.14) Remove Concrete Floor Topping. Is this topping raised above the rest of the floors in the project area?

Response: Refer to re-issued drawings.

12) In existing room #3248 there are some demountable partitions not shown on the demolition plans. Who will be responsible for removing these partitions?

Response: The Government will remove the office partitions in this area.

13) Some of the wall details on Sheet A.132 are showing acoustical insulation, but there is no section included in the project manual. Will this specification section be added?

Response: Section 07 21 13 - Thermal Insulation has been added.

14) On Sheet A.132 in X-Ray 3228 please clarify if the entire south wall should be lead lined drywall or will the existing wall construction be adequate for the radiation protection?

Response: Entire south wall shall have lead lined drywall.

15) Will VA infection control and patient safety managers be inspecting construction site for critical barriers, cleanliness, negative air and mechanical duct isolation weekly?

Response: The site will be inspected by various VA Staff on a regular basis throughout construction to confirm conformance with the Safety and Infection Control requirements within the Contract Documents.

16) Is there another isolation monitor manufacturer besides Triatek acceptable to the VA to monitor negative air within construction areas?

Response: Contractor may propose alternate manufacturer, to be reviewed under the Submittal requirements of Section 01 33 23.

17) Once major demolition is done, will dumpster need to be relocated to the back north lot behind facility with general daily debris shuttled?

Response: Yes.

18) If changes in work are encountered, how many days are anticipated from time of submitting a proposal to approval of funding enabling contractor to move forward?

Response: This will vary from case to case.

- 19) Are there any areas within the building that material can be stored besides within the construction space? If not where should storage containers need to be placed?
Response: No. All storage will be within your construction area or within the Contractor's trailer parking area.
- 20) Who is responsible for final cleaning once construction is complete and to what extent?
Response: The Contractor is responsible for final cleaning upon completion.
- 21) Can phase 3 and phase 4 work be done simultaneously?
Response: Additional phasing clarification is included within this Amendment.
- 22) Will there be any joint commission inspections during this project that will cause additional labor to be incurred by the contractor?
Response: Joint Commission visits are un-scheduled. The Contractor will be responsible for meeting all requirements (safety, Infection Control, Etc.) included in the Construction Documents throughout the entire Contract.
- 23) Is there any plaster and lathing type ceiling that remains above acoustical ceiling? If so, who is responsible for removal?
Response: Contractor is responsible for removing any existing ceiling elements, including framing and supports required to accommodate new construction.
- 24) Is lead paint present on walls and ceilings scheduled for demolition?
Response: No lead paint is anticipated.
- 25) Do the metal window sills beneath existing plastic laminate sills need to be removed?
Response: No.

**SECTION 07 21 13
THERMAL INSULATION**

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. This section specifies thermal and acoustical insulation for buildings.
- B. Acoustical insulation is identified by thickness and words "Acoustical Insulation".

1.2 RELATED WORK

- A. Safing insulation: Section 07 84 00, FIRESTOPPING.

1.3 SUBMITTALS:

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
 - 1. Insulation, each type used
 - 2. Adhesive, each type used.
 - 3. Tape
- C. Certificates: Stating the type, thickness and "R" value (thermal resistance) of the insulation to be installed.

1.4 STORAGE AND HANDLING:

- A. Store insulation materials in weathertight enclosure.
- B. Protect insulation from damage from handling, weather and construction operations before, during, and after installation.

1.5 APPLICABLE PUBLICATIONS:

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - C270-08.....Mortar for Unit Masonry
 - C516-08.....Vermiculite Loose Fill Thermal Insulation
 - C549-06.....Perlite Loose Fill Insulation
 - C552-07.....Cellular Glass Thermal Insulation.
 - C553-08.....Mineral Fiber Blanket Thermal Insulation for
Commercial and Industrial Applications
 - C578-08.....Rigid, Cellular Polystyrene Thermal Insulation
 - C591-08.....Unfaced Preformed Rigid Cellular
Polyisocynurate Thermal Insulation

C612-04.....	Mineral Fiber Block and Board Thermal Insulation
C665-06.....	Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing
C728-05.....	Perlite Thermal Insulation Board
C954-07.....	Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Base to Steel Studs From 0.033 (0.84 mm) inch to 0.112 inch (2.84 mm) in thickness
C1002-07.....	Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs
D312-00 (R2006).....	Asphalt Used in Roofing
E84-08.....	Surface Burning Characteristics of Building Materials
F1667-05.....	Driven Fasteners: Nails, Spikes and Staples.

PART 2 - PRODUCTS

2.1 INSULATION - GENERAL:

- A. Where thermal resistance ("R" value) is specified or shown for insulation, the thickness shown on the drawings is nominal. Use only insulation with actual thickness that is not less than that required to provide the thermal resistance specified.
- B. Where "R" value is not specified for insulation, use the thickness shown on the drawings.
- C. Where more than one type of insulation is specified, the type of insulation for each use is optional, except use only one type of insulation in any particular area.
- D. Insulation Products shall comply with following minimum content standards for recovered materials:

Material Type	Percent by Weight
Perlite composite board	23 percent post consumer recovered paper
Polyisocyanurate/polyurethane	
Rigid foam	9 percent recovered material
Foam-in-place	5 percent recovered material
Glass fiber reinforced	6 percent recovered material
Phenolic rigid foam	5 percent recovered material
Rock wool material	75 percent recovered material

The minimum-content standards are based on the weight (not the volume) of the material in the insulating core only.

2.2 ACOUSTICAL INSULATION:

- A. Mineral Fiber boards: ASTM C553, Type II, flexible, or Type III, semirigid (4.5 pound nominal density).
- B. Mineral Fiber Batt or Blankets: ASTM C665. Maximum flame spread of 25 and smoke development of 450 when tested in accordance with ASTM E84.
- C. Thickness as shown; of widths and lengths to fit tight against framing.

2.3 SOUND DEADENING BOARD:

- A. Mineral Fiber Board: ASTM C612, Type IB, 13 mm (1/2 inch thick).
- B. Perlite Board: ASTM C728, 13 mm (1/2 inch thick).

2.4 RIGID INSULATION:

- A. On the inside face of exterior walls, spandrel beams, floors, bottom of slabs, and where shown.
- B. Mineral Fiber Board: ASTM C612, Type IB or 2.
- C. Perlite Board: ASTM C728.
- D. Cellular Glass Block: ASTM C552, Type I.

2.5 FASTENERS:

- A. Staples or Nails: ASTM F1667, zinc-coated, size and type best suited for purpose.
- B. Screws: ASTM C954 or C1002, size and length best suited for purpose with washer not less than 50 mm (two inches) in diameter.
- C. Impaling Pins: Steel pins with head not less than 50 mm (two inches) in diameter with adhesive for anchorage to substrate. Provide impaling pins of length to extend beyond insulation and retain cap washer when washer is placed on the pin.

2.10 ADHESIVE:

- A. As recommended by the manufacturer of the insulation.
- B. Asphalt: ASTM D312, Type III or IV.
- C. Mortar: ASTM C270, Type 0.

2.11 TAPE:

- A. Pressure sensitive adhesive on one face.
- B. Perm rating of not more than 0.50.

PART 3 - EXECUTION**3.1 INSTALLATION - GENERAL**

- A. Install insulation with the vapor barrier facing the heated side, unless specified otherwise.
- B. Install rigid insulating units with joints close and flush, in regular courses and with cross joints broken.
- C. Install batt or blanket insulation with tight joints and filling framing void completely. Seal cuts, tears, and unlapped joints with tape.
- D. Fit insulation tight against adjoining construction and penetrations, unless specified otherwise.

3.2 PERIMETER INSULATION:

- A. Vertical insulation:
 - 1. Fill joints of insulation with same material used for bonding.
 - 2. Bond polystyrene board to surfaces with adhesive or Portland cement mortar mixed and applied in accordance with recommendations of insulation manufacturer.
 - 3. Bond cellular glass insulation to surfaces with hot asphalt or adhesive cement.
- B. Horizontal insulation under concrete floor slab:
 - 1. Lay insulation boards and blocks horizontally on level, compacted and drained fill.
 - 2. Extend insulation from foundation walls towards center of building not less than 600 mm (24 inches) or as shown.

3.3 RIGID INSULATION ON SURFACE OF EXTERIOR WALLS, FLOORS, AND UNDERSIDE OF FLOORS:

- A. On the interior face of solid masonry and concrete walls, beams, beam soffits, underside of floors, and to the face of studs for interior wall finish where shown.
- B. Bond to solid vertical surfaces with adhesive as recommended by insulation manufacturer. Fill joints with adhesive cement.

- C. Use impaling pins for attachment to underside of horizontal surfaces. Space fastenings as required to hold insulation in place and prevent sagging.
- D. Fasten board insulation to face of studs with screws, nails or staples. Space fastenings not more than 300 mm (12 inches) apart. Stagger fasteners at joints of boards. Install at each corner.
- E. Floor insulation:
 - 1. Bond insulation to concrete floors in attic by coating surfaces with hot steep asphalt applied at rate of not less than 11.5 Kg per m² (25 lbs/100 sq. ft.), and firmly bed insulation therein.
 - 2. When applied in more than one layer, bed succeeding layers in hot steep asphalt applied at the rate of not less than 11.5 Kg per m² per m² lbs/100 sq. ft.).
 - 3. Contractors option: Insulation may be installed with nonflammable adhesive in accordance with the manufacturer's printed instructions when a separate vapor retarder is used.

3.4 ACOUSTICAL INSULATION:

- A. Fasten blanket insulation between metal studs and wall furring with continuous pressure sensitive tape along edges or adhesive.
- B. Pack insulation around door frames and windows and in cracks, expansion joints, control joints, door soffits and other voids. Pack behind outlets, around pipes, ducts, and services encased in wall or partition. Hold insulation in place with pressure sensitive tape or adhesive.
- C. Do not compress insulation below required thickness except where embedded items prevent required thickness.
- D. Where acoustical insulation is installed above suspended ceilings install blanket at right angles to the main runners or framing. Extend insulation over wall insulation systems not extending to structure above.
- E. Where semirigid insulation is used which is not full thickness of cavity, adhere to one side of cavity maintaining continuity of insulation and covering penetrations or embedments in insulation.
- F. Where sound deadening board is shown, secure with adhesive to masonry or concrete walls and with screws to metal or wood framing. Secure sufficiently in place until subsequent cover is installed. Seal all cracks with caulking.

- - - E N D - - -