MEMBRANE ROOFING

PART I - MATERIALS

- 1.1 Furnish and install roofing and waterproofing work complete including cant and incorporating other trades, flashing, sleeves and jacks.
- 1.2 Roofing shall meet Underwriters Laboratories Class "A" Standards as a fire retardant roofing assembly.
- 1.3 Weight of roofing assembly shall not exceed 250 pounds per 100 sg.ft.
- 1.4 Base sheets shall be nailed using not less than one fastener per 1-1/3 square feet on plywood decks. Ribbon or spot mopping with asphalt will not be allowed.
- 1.5 Built—up roofing to be Conglas ND—24A Cap as manufactured by Consolidated Fiber Glass Co. Inc. or an approved equal.
- 1.6 Summary of materials per 100 square feet:

Conbase Type W-1 - IV 1 Layer Conply Type A - IV 2 Layers Asphalt Concap 1 Layer Accessories	25 lbs. 22 lbs. 85 lbs. 75 lbs. As Required
Estimated Total Weight	207 lbs. '

PART II - APPLICATION

- 2.1 THE ROOF DECK: Shall be firm, clean, dry, and smooth. Plywood sheathing shall be supported on all edges and properly nailed. Ply clips are NOT allowed... Cross Blocking is allowed.
- 2.2 THE CANT STRIP: Shall be nailed to the deck with proper length mechanical fasteners 12" o.c.
- 2.3 CONBASE W-1-IV: Shall be applied at right angles to the continuous joints of the surface to be roofed. Conbase W-1 shall be lapped 2" on sides and 6" on ends. Lap so the flow of water is over or parallel to, but never against, the laps. Turn up 2" above top of cant on all walls and vertical surfaces. Mechanically fasten 9" o.c. on laps and stagger two (2) rows 18" o.c. Staple spacing shall comply with manufacturers requirements.
- 2.4 CONPLY A-IV: Shall be lapped so the flow of water is over or parallel to, but never against the laps. All end laps shall be at least 4" and adjacent end laps shall be at least 12"

2.5 EMBED:

- A. Two plies of CONPLY A-IV, lapping 2" into uniform solid mopping of hot asphalt.
- B. EMBED the full width of each sheet in hot asphalt applied at a nominal rate of 30 lbs. per 100 sq.ft. of roof area. Each ply shall be lightly broomed, using a moderately soft commercial push broom, as it is applied. All plies shall be turned up 2" above the cant and shall be solid mopped to the cant and vertical wall. Buckles or fishmouths shall be cut and repaired properly.
- 2.6 CONCAP: Shall be cut into 12' 18' lengths and allowed to flatten. Apply parallel to underlying roofing. Concap shall be lapped 2" on sides and 6" on ends. Adjacent end laps shall be staggered at least 3' apart. Lap so the flow of water is over or parallel to but never against, the laps. Embed the full width of each 12' - 18' length into a uniform solid mopping of hot asphalt applied at a nominal rate of 25 lbs. per 100 sq.ft. of roof area.
 - THERE MUST BE COMPLETE CONTACT BETWEEN CONCAP AND MOPPING
- 2.7 VALLEYS/WATERWAYS: Shall receive an extra layer of CONPLY A-IV which shall be at least 36" wide. It shall extend at least 8" up inclines out of valleys. This ply shall be laid on top of base sheet prior to application of other plies. Embed the full width of each sheet in a uniform mopping of hot asphalt applied at a nominal rate of 30 lbs. per 100 sq.ft. of roof area.
- 2.8 ON SLOPES: Exceeding 1—1/2" per foot hot asphalt shall be applied at a nominal rate of 25 lbs. per 100 sq.ft. of roof area. All BUR shall be applied parallel to the slope of the deck. On slopes 2" per foot and greater the ply sheets shall be "back nailed" to the deck or wood nailers (on insulated specifications) per the following schedule:
 - NAIL THESE DISTANCES FROM BACK EDGE PLY SHEETS
- A. Concap shall be back nailed with two (2) rows nails staggered 3" O.C.

FLASHING AND SHEET METAL

PART I - GENERAL

- 1.1 In addition to complying with pertinent codes and regulations, comply with pertinent recommendations contained in current editions of 'Architectural Sheet Metal Manual' published by Sheet Metal and Airconditioning Contractor National Association (SMACNA).
- 1.2 Standard commercial items may be used for flashing, trim, reglets, and similar purposes provided such items meet or exceed specified quality standards.
- 1.3 See drawings for roof accessory (smoke hatch domes, ventilators, and roof hatches) manufacturer and product

PART II - PRODUCTS

- 2.1 Where sheet metal is required, and no material or gage is indicated on drawings, provide highest quality and gage commensurate with referenced standards.
- A. Provide sheet metal or sheet iron of standard brand of openhearth copper-bearing steel, copper-molybdenum iron, or pure iron sheets.

2.2 Galvanizing:

- A. Where galvanizing is required, provide zinc coating by hotdip galvanize to all surfaces. (All downspouts and scuppers and mechanical equipment platforms shall be hot-dipped galvanized minimum 24 Ga. unless noted otherwise).
- B. Provide not less than 1-1/4 oz. per sq. ft., nor more than $1 \frac{1}{2}$ oz. per sq. ft., to surfaces required to be aalvanized.
- C. Comply with ASTM A123-84.
- 2.3 Use only soft iron rivets having rust-resistive coating, galvanized nails, and cadmium plated screws and washers in connection with galvanized iron and steel.
- 2.4 Where flux is required, use raw Muriatic Acid.
- 2.5 Where solder is required, comply with ASTM B32.
- 2.6 Where reglet is called for at high parapet walls and four hour parapet walls, provide 'Springlok' flashing system, type SM, surface mounted as manufactured by Fry Reglet, or provide an equal system approved in advance in writing by the architect.

PART III - EXECUTION

- 3.1 Form sheet metal accurately and to dimensions and shapes required, finishing molded and broken surfaces with true, sharp, and straight lines and angles and, where intercepting other members, coping to an accurate fit and soldering securely.
- A. Unless otherwise specifically permitted by architect, turn edges back 1/2". (HEM)
- B. Form, fabricate, and install sheet metal so as to adequately provide for expansion and contraction in finished work.

PART IV - WEATHERPROOFING

- 4.1 Finish watertight and weathertight where so required.
- 4.2 Make lock seam work flat and true to line, sweating full of
- A. Make lock seams and lap seams, when soldered, at least 1/2' B. Where lap seams are not soldered, lap according to pitch,
- but in no case less than 3".

C. Make flat and lap seams in direction of flow.

PART V - JOINTS

- 5.1 Join parts with rivets or sheet metal screws where necessary for strength and stiffness.
- 5.2 Provide suitable watertight expansion foints for runs of more than 40'-0", except where closer spacing is indicated on drawings or required for proper installation.

PART VI - NAILING

- 6.1 Whenever possible, secure metal by means of clips or cleats, without nailing through exterior metal.
- 6.2 In general, space nails, rivets, and screws not more than 8" apart and, where exposed to weather, use lead washers.
- 6.3 For nailing into wood, use barbed roofing nails 1-1/4" long by 11 gage.
- 6.4 For nailing into concrete, use drilled plusholes and plugs.

PART VII - SEALANT

7.1 Embed metal in connection with roofs in a solid bed of sealant, using materials and methods described in section 07920 of these specifications or other materials and methods approved in advance by architect.

PART VIII - SOLDERING

- 8.1 Thoroughly clean and tin joint materials prior to soldering.
- 8.2 Perform soldering slowly, with a well heated copper in order to heat seams thoroughly and to completely fill them with
- 8.3 Perform soldering with a heavy soldering copper of blunt design, properly tinned for use.
- 8.4 Make exposed soldering on finished surfaces neat, full flowing, and smooth.
- 8.5 After soldering, thoroughly wash acid flux with a soda

PART IX - TESTING

9.1 Upon request of architect, demonstrate by hose of standing water that flashing and sheet metal are completely water

STOREFRONT SYSTEM

PART I - GENERAL

- 1.1 SCOPE: Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified as necessary to complete the Contract, including, but not limited to these major items:
- A. All aluminum storefront work including specially shaped
- B. Entrance doors.
- C. Caulking and sealants for this work.
- D. Glazing accessories.

E. Installation of finish hardware.

- 1.2 RELATED WORK SPECIFIED ELSEWHERE:
- A. Glass and glazing.
- B. Furnishing finish hardware except as specified herein.

1.3 GENERAL REQUIREMENTS:

- A. Field conditions: Verify drawing dimensions with actual field conditions. Inspect related work and adjacent surfaces. Report to the Architect all conditions which prevent proper execution of this work.
- B. Shop drawings: Submit in accordance with Division 1, showing in complete detail all information required for fabrication, finishing and installation of this work.
- C. Samples: In accordance with Division 1, submit samples of door and framing sections with specified finish.

PART II - PRODUCTS

2.1 ALUMINUM WORK:

- A. Approved Manufacturers:
- 1. United States Aluminum Corporation
- B. Aluminum work shall be prefabricated and delivered in as large assembled units as practicable. Miter joints in exposed work and accurately fit with hairline joints. Screws, bolts and nuts and other fastening devices shall be of aluminum or nonmagnetic stainless steel, concealed where practicable. Exposed screws, where required and approved by the Architect, shall match the aluminum surface finish. Cutouts, recesses mortising or milling operations required for hardware shall be accurately made and reinforced with backing plates as required to insure adequate strength of
- 1. Protection of contact surfaces: Aluminum surfaces in contact with dissimilar metals or with incompatible materials such as concrete, masonry and plaster, shall be painted on contact surfaces with a protective coating of alkali-resist-bituminous paint before installation, or isolated in an approved manner with nonabsorptive tape or gaskets.
- 2. Expansion and contraction: Construct and install aluminum work so as to avoid objectionable distortion or overstress of parts and fastenings resulting from thermal expansion and contraction.

- 3. Welding: Aluminum neatly welded by expert aluminum welders, using inert gas shielded or fluxless resistant method. Grind welds on exposed surfaces smooth and flush with surrounding surfaces and finish to match adjacent surfaces. Locate welded joints necessary in assemblies to receive anodized finish inconspicuously to avoid discoloration in finished work that may occur in heat—affected zone. Design and construct aluminum assemblies so that faying surfaces are free rinsing and will not trap anodizing solutions.
- 4. Steel reinforcements: Furnish and install where indicated or required to job conditions. Securely anchor members to building construction and structural backing. Isolate from contact with aluminum by approved method.

C. Aluminum Store Front:

- 1. Door construction: Single or double acting, as indicated. Rails and stiles of extruded aluminum tubing not less than 0.125" thick, securely joined and reinforced by means of diecast structural corner assemblies. Lock hinge and meeting stiles shall be beveled 1/8". Corners of doors accurately joined and filled to flush hairline joints and welded along the concealed lines of contact. All welding shall be in unexposed sides to prevent pitting, discoloration, weld halo, or other surface imperfections after finishing. Glazing stops shall be not less than 0.50" thick, with sponge rubber glazing channel seals extending on both sides of glass, and shall be snap-in type of size and detail required for indicated glazing. No exposed screws permitted. Equip each door leaf with adjusting mechanism located in top rail near the lock style, providing for minor clearance adjustments after installation. All cutouts, recesses, mortising or milling for hardware preparation shall be accurately made and reinforced as required. Exterior doors shall be weatherstripped on three sides and at meeting rails of pairs with metal baked pile cloth, or similar approved weatherstripping standard with the manufacturer. Where scheduled on drawings, provide weatherstripping at sill of exterior doors, of type shown on drawings.
- 2. Store Front Construction: Framing members, transition members, mullions, base trim, fascia panels, spandrel panels, aluminum sheeting, coping, adapters and mounting shall be 6063—T5 extruded aluminum alloy. All screws concealed, miscellaneous fastening devices and internal components shall be of stainless steel. Glass framing member shall provide for flushing glazing on all sides with through sight lines, and no projecting stops or face joints.
- a. Wind load and deflection devices: Provide members of sizes shown, and of section designed to support 20 psf minimum wind load with maximum deflection of 1/175 of unsupported length. Provide bent place or rolled steel internal stiffeners wherever necessary to meet deflection requirements. Steel shall conform to applicable requirements of Miscellaneous Metal Section. Precoat stiffeners with hereby bituminous coating to isolate from aluminum.
- 3. Hardware: Finish hardware for entrance doors will be furnished under Finish Hardware Section, for installation and adjustment under this Section, except as here—in—after specified. Prepare doors and frames to receive finish hardware from templates or the physical hardware furnished by the hardware supplier.
- D. Finish of Aluminum: As indicated on drawings.

PART III - EXECUTION

- 3.1 INSTALLATION:
- A. General: Install the work in a secure, watertight manner, using skilled workmen. Erect all work in accordance with the drawings, specifications and approved shop drawings. Erect all framing members square, plumb, in true alignment with one another and with adjoining work, with surfaces free from dents, buckles, dimples or other defects. Provide secure fastening anchors in accordance with required safety factors. Where anchorage involves other trades, provide setting drawings for proper installation.
- B. Protection of Contact Surfaces: Protect aluminum surfaces in contact with dissimilar metals or with incompatible materials such as concrete, masonry and plaster, by painting contact surfaces with bituminous paint before installation or isolating in an approved manner with non-absorptive tape or gaskets.
- C. Expansion and Contraction: Install aluminum work so as to avoid objectionable distortion or overstress of parts and fastenings resulting from thermal expansion and contraction.

3.2 GLAZING:

- A. Setting: Determine glass sizes and edge clearance by measuring actual openings. Set glass on neoprene blocks (40-50 durometer), springs or other supports to equally support the full glass weight and prevent any give or fracture. Conceal tong marks on tempered glass.
- 3.3 CAULKING:
- A. Frame: At juncture between frames and adjacent materials, caulk and seal entire perimeter on both sides, using materials and methods specified under Caulking and Sealants Section.

3.4 FINAL CLEANING:

A. Perform final cleaning of aluminum surfaces strictly in accordance with the manufacturer's instructions. Use no

FINISH HARDWARE

PART I - GENERAL

- 1.1 Scope: Furnish materials and equipment and perform labor required to execute this work as indicated on the drawings, specified herein and necessary to complete the work of this section, including, but not limited to, the following principal items:
- A. This section includes furnishing and delivering, properly boxed and tagged, all finish hardware as hereinafter
- B. Furnish and deliver items not listed in the Schedule which are obviously required to finish the work.
- C. All hardware shall be guaranteed a minimum of 2 years against defective workmanship and material.

1.2 Related Work Specified Elsewhere:

- A. Installation of finish hardware.
- B. Hardware for toilet partitions
- C. Toilet accessories.

1.3 General Requirements:

A. Hardware not listed: Items of hardware not definitely specified herein and necessary for completion of the work shall be provided. Such items shall be of type and quality suitable to the service required and comparable to adjacent hardware. Where size or shape of members is such as to prevent the use of types specified, hardware shall be furnished to suitable types having as nearly as practicable the same operation and quality as the type specified, and shall be subject to the approval of the Architect.

B. Delivery and Marking:

1. Hardware shall be delivered to the job site as directed. Each item shall be packed separately, together with all necessary screws, fittings, trim, etc., complete and ready for installation. Each package shall be tagged, itemizing the contents and indicating the location or opening upon which the hardware will be applied.

C. Schedule Submittal:

- 1. Supplier shall submit to the Owner for approval five typewritten copies of the schedule of hardware which he proposes to furnish.
- 2. The following information shall be given for each item in the schedule to be submitted:
- a. Doors: Number involved, location, symbol, hand, material of door or frame, size and thickness.
- b. Hardware: Number of items, name of manufacturer, manufacturer's catalog number, size, material, finish, fastening and/or accessories.

D. Materials:

1. Furnish templates to proper suppliers when required for template hardware.

1.4 Detail Requirements:

- A. Finish: As specified by the Owner.
- B. Closers: Installed on wood doors with six bolts; on hollow
- metal doors with machine screws. C. Stops, Etc., Installed on Concrete: Provide flat head "Rawl
- D. Keying: To be confirmed with Owner prior to installation.

PART II - PRODUCTS

2.1 Approved Manufacturers:

Drives" or equal.

- A. Alarm Lock B. Adams Rite
- C. Builders' Brass Works BBW D. McGill Hardware
- E. McKinney Sales
- G. Schlage

F. Rixson

GLASS & GLAZING

PART I - GENERAL

- 1.1 Scope: Furnish materials and perform labor required to execute this work as indicated on the drawings, as specified and as necessary to complete the Contract, including, but not limited to, these major items:
- A. Glazing.
- B. Clear glass.
- C. Tempered glass.

D. Mirrors.

- 1.2 Related Work Specified Elsewhere:
- A. Store front and entrance framing.
- B. Glazing stops.
- 1.3 General Requirements:
- A. Field Conditions: Verify drawing dimensions with actual field conditions. Inspect related work and adjacent surfaces. Report to the Architect all conditions which prevent proper execution of this work.
- B. Samples: In accordance with Division 1, submit 4" x 6" samples of all glass except DSB.
- C. Glass: Each piece of glass shall be of domestic manufacture, labeled with the manufacturer's name and the grade or quality. Grade in compliance with FS DD-G-451C. Leave labels intact until completion of work or until removal is directed.

PART II - PRODUCTS

- 2.1 Materials:
- A. Clear Glass:
 - 1. Twin-ground polished plate or fire polished float glass, faces flat and parallel, 1/4" thick.
- 2. Sheet glass, flat drawn, DSB 1/8" thick or 3/16" thick heavy sheet glass, as indicated.

C. Glazing Sealant: Mono or Lasto-Meric by Tremco Mfg. Co., or

other as approved by the Architect. Colors to match

- Tempered Glass (where indicated): Fully tempered clear polished plate, 1/4" thick, tong marks not visible after installation. Herculite by PPG or Tuf—Flex by L.O.F.
- adjacent framing material. D. Mirrors: Conform to FS DD-M-411, 1/4" thick polished plate glass, silvering quality, electrolytic copper plating, backed by 1/4" thick hardboard, fully framed with stainless
- steel channel. Install with vandalproof fastening devices. E. Wire Glass. (None)
- F. Tinted Glass As indicated on drawings.

PART III - EXECUTION

- 3.1 Installation of Glass: A. Accurately cut and install glass in accordance with manufacturer's instructions and with applicable requirements
- glazing gaskets. B. Neoprene or vinyl gaskets: Install in strict accordance

3.2 Cleaning and Polishing:

A. Upon completion of the glazing, thoroughly clean and polish glass surfaces. Remove and replace broken, scratched, chipped or otherwise defective glass with new materials and

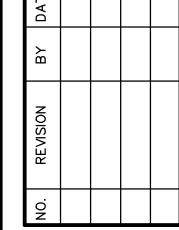
of "Glazing Manual" issued by Flat Glass Manufacturers

Association. Set glass in rabbets, using manufacturer's

standard glazing fittings, chairs, channels, stops and

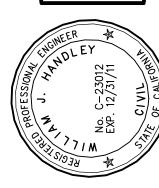
with manufacturer's directions and as detailed.

leave the entire installation in a neat, clean and



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DATE: 11/28/11 JOB NO: 11-23 DRAWN: WJH CHECKED: HLW SCALE: NONE

SHEETS

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