

# County of Glenn Admin Building.

821 E. South St. Orland, CA 95963

Approx area of Low slope including Jail, 42 Sqs.

Approx Area of Steep Slope, 96 Sqs.

Gutter Perimeter, Approx 570 Feet.

Wind Calc Area:

## Legend

- 821 E South St
- Glenn County



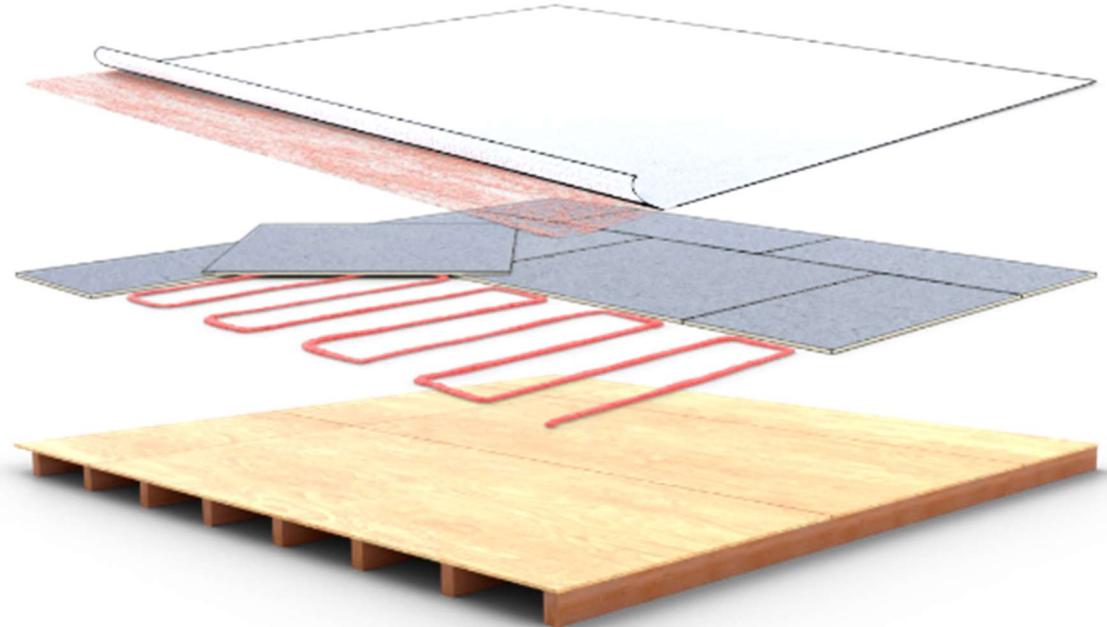
3-part Specification

# County of Glenn Administration Building.

BOTH LOW AND STEEP SLOPE AREAS.

821 E. South St.  
Orland, CA 95963

Prepared for: Samantha Grundy | County of Glenn, Admin  
Prepared by: Joseph Bristow



## PART 1 GENERAL

### 1.1 SUMMARY

- A. Membrane Type: PVC thermoplastic membrane with fleece
  - 1. Roll Width: 120" (Installed widths may vary)
  - 2. Membrane Color: White
  - 3. Attachment Type: Adhered
  - 4. Adhesive: Fleece Membrane Adhesive [Splatter Pattern]
- B. Cover Board Type: Fiberglass-Faced Primed Roof Board 1/4-Inch

1. Attachment Type: Adhered
  2. Adhesive: Low-Rise Foam Insulation Adhesive [Ribbon Adhered]
- C. Deck Type: Low slope areas are Plywood Deck (19/32 in.) Steep Slope is 1"x12" plank board.
- D. Prefabricated flashings, corners, parapets, stacks, vents, and related details.
- E. Fasteners, adhesives, and other accessories are required for a complete roofing installation.
- F. Traffic Protection.

## 1.2 REFERENCES

- A. ASTM INTERNATIONAL (ASTM)
  1. (2019) Standard Test Methods for Coated Fabrics (D751)
  2. (2021) Standard Specification for Poly(Vinyl Chloride) Sheet Roofing (D4434/D4434M)
  3. (2022) Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board (C1289)
  4. (2020) Standard Test Methods for Fire Tests of Roof Coverings (E108)
  5. (2020) Standard Test Methods for Fire Tests of Building Construction and Materials (E119)
- B. UL SOLUTIONS (UL)
  1. (2021) UL Roofing Systems (TGFU.R10128)
- C. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)
  1. (2007) Minimum Design Loads for Buildings And Other Structures (ASCE Standard - ASCE/SEI 7-05)
  2. (2014) Minimum Design Loads for Buildings and Other Structures (ASCE Standard - ASCE/SEI 7-10)
  3. (2017) Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE Standard - ASCE/SEI 7-16)
- D. NATIONAL ROOFING CONTRACTORS' ASSOCIATION (NRCA)
  1. (2019) NRCA Roofing Manual - Membrane Systems

## 1.3 SYSTEM DESCRIPTION

- A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.
- C. Sustainability:

1. Conform to NSF/ANSI Standard 347, "Sustainability Assessment for Single-Ply Roofing Membranes. Minimum certification level: Gold.
  2. Type III product-specific Environmental Product Declaration.
  3. Membrane is recyclable at end of use.
- D. Physical Properties (must meet or exceed):
1. Roof products must meet the requirements of Type III PVC sheet roofing as defined by ASTM D4434. Fiberglass scrim will not be accepted.
  2. Thickness: 60 mil (90 mil including fleece), nominal, in accordance with ASTM D751.
  3. Thickness over Scrim:  $\geq$  32 mil in accordance with ASTM D7635.
  4. Breaking Strength:  $\geq$  546 lbf. (machine direction) and  $\geq$  490 lbf. (cross machine direction) in accordance with ASTM D751 Grab Method.
  5. Elongation at Break:  $\geq$  20% (machine direction) and  $\geq$  39% (cross machine direction) in accordance with ASTM D751 Grab Method.
  6. Seam Strength:  $\geq$  539 lbf. in accordance with ASTM D751 Grab Method.
  7. Tear Strength:  $\geq$  104 lbf. (machine direction) and  $\geq$  192 lbf. (cross machine direction) in accordance with ASTM D751 Procedure B.
  8. Low Temperature Bend: Pass at -40 °F in accordance with ASTM D2136.
  9. Heat Aging: Pass after being conditioned for 56 days in oven maintained at 176 °F in accordance with ASTM D3045.
  10. Accelerated Aging: Pass after 10,000 hours of total test time in accordance with ASTM G155.
  11. Dimensional Stability: Change of 0.15% (machine direction) and 0.15% (cross machine direction) in accordance with ASTM 1204.
  12. Water Absorption: < 2.1% at 158 °F for 168 hours in accordance with ASTM D570.
  13. Static Puncture Resistance:  $\geq$  33 lbf. in accordance with ASTM D5602.
  14. Dynamic Puncture Resistance:  $\geq$  14.7 ft-lbf. in accordance with ASTM D5635.

E. Cool Roof Rating Council (CRRC) (Membrane must be listed on the CRRC website):

1. Solar Reflectance (Initial):  $\geq$  87%
2. Solar Reflectance (3-Year Aged):  $\geq$  69%
3. Thermal Emittance (Initial):  $\geq$  90%
4. Thermal Emittance (3-Year Aged):  $\geq$  89%
5. Solar Reflectance Index (SRI) (Initial):  $\geq$  110%
6. Solar Reflectance Index (SRI) (3-Year Aged):  $\geq$  84%

#### 1.4 SUBMITTALS

- A. Product data sheets to be used, with the following information included:
1. Preparation instructions and recommendations
  2. Storage and handling requirements and recommendations

3. Installation methods
  4. Maintenance requirements
- B. Sustainability Documentation:
1. NSF/ANSI Standard 347 Certificate
  2. Type III product-specific Environmental Product Declaration
- C. Shop Drawings: Indicate insulation pattern, overall membrane layout, field seam locations, joint or termination detail conditions, and location of fasteners.
- D. Provide verification samples for each product specified (two samples representing each product, color and finish):
1. 4-inch by 6-inch sample of roofing membrane, of color specified.
  2. 4-inch by 6-inch sample of walkway pad.
  3. Termination bar, fascia bar with cover, drip edge, and gravel stop if to be used.
  4. Each fastener type to be used for installing membrane, insulation/recover board, termination bar and edge details.
- E. Installer Certification: Certification from the roofing system manufacturer that the Installer is approved, authorized, or licensed by manufacturer to install roofing system.
- F. Manufacturer's warranties.

#### 1.5 QUALITY ASSURANCE

- A. Perform work in accordance with manufacturer's installation instructions.
- B. Manufacturer Qualifications: A manufacturer specializing in the production of PVC membranes systems and utilizing a Quality Control Manual during the production of the membrane roofing system that has been approved by and is inspected by Underwriters Laboratories.
- C. Installer Qualifications: Company specializing in installation of roofing systems like those specified in this project and approved by the roofing system manufacturer.
- D. Source Limitations: Obtain components for membrane roofing system from roofing membrane manufacturer.
- E. There shall be no deviations from the roof membrane manufacturer's specifications or the approved shop drawings without the prior written approval of the manufacturer.

#### 1.6 REGULATORY REQUIREMENTS

- A. Conform to applicable code for roof assembly fire hazard, wind uplift, and cool roof requirements.
- B. Fire Hazard Requirements: Provide membrane roofing materials with the following fire-test-response characteristics. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
  1. Class A
  2. Fire-test-response standard: Comply with ASTM E108 for application and roof slopes indicated.

3. Fire-Resistance Ratings: Comply with ASTM E119 for fire-resistance-rated roof assemblies of which roofing system is a part.
  4. Conform to applicable code for roof assembly fire hazard requirements.
- C. Wind Uplift Requirements: Roofing System Design: Provide a roofing system designed to resist uplift pressures calculated according to the current edition of ASCE/SEI 7, Minimum Design Loads and Associated Criteria for Buildings and Other Structures.
- D. Cool Roof Requirements: Conform to IECC (International Energy Conservation Code) and IGCC (International Green Construction Code) cool roof requirements.

#### 1.7 PRE-INSTALLATION MEETING

- A. Convene meeting not less than one week before starting work of this section.
- B. Review methods and procedures related to roof deck construction and roofing system including, but not limited to, the following:
  1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing installer, roofing system manufacturer's representative, deck installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
  2. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  3. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
  4. Review structural loading limitations of roof deck during and after roofing.
  5. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
  6. Review governing regulations and requirements for insurance and certificates if applicable.
  7. Review temporary protection requirements for roofing system during and after installation.
  8. Review roof observation and repair procedures after roofing installation.
  9. Review existing roof manufacturer's recycling program and return roofing system to the manufacturer for recycling.

#### 1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Store roof materials and place equipment in a manner to avoid permanent deflection of deck.
- E. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

#### **1.9 WARRANTY**

- A. Contractor's Warranty: The contractor shall warrant the roof application with respect to workmanship and proper application for two (2) years from the effective date of the warranty issued by the manufacturer.
- B. Manufacturer's Warranty: Must provide for completion of repairs, replacement of membrane or total replacement of the roofing system at the then-current material and labor prices throughout the life of the warranty. In addition, the warranty must meet the following criteria:
  - 1. Warranty Period: 20 years from date issued by the manufacturer.
  - 2. First 15 years:
    - a. Must provide for completion of repairs, replacement of membrane or total replacement of the roofing system at the then-current material and labor prices.
    - b. No exclusions for incidental or consequential damages. (Inside Damage to building structure, carpets, walls, ceiling tiles or sheetrock.)
  - 3. Last 5 years:
    - a. Excludes incidental and consequential damages.
  - 4. Issued direct from and serviced by the roof membrane manufacturer.
  - 5. Transferable for the full term of the warranty.

### **PART 2 PRODUCTS**

#### **2.1 MANUFACTURER**

- A. All roofing system components are to be provided or approved by roof system manufacturer.
- B. Basis of Design:
  - 1. Duro-Last, Inc.

#### **2.2 ROOFING SYSTEM COMPONENTS**

- A. Roofing Membrane:
  - 1. Properties:
    - a. Type III: PVC thermoplastic membrane with fleece

- b. Roll Width: 120" (Installed widths may vary)
- c. Membrane Color: White
- d. Attachment Type: Adhered
- e. Adhesive: Fleece Membrane Adhesive [Splatter Pattern]

2. Features:

- a. ASTM D4434, Type III
- b. Polyester Fabric-reinforced, PVC.
- c. Minimum NSF 347 Gold certified.

B. Cover Board:

1. Properties:

- a. Type: Fiberglass-Faced Primed Roof Board 1/4-Inch
- b. Attachment Type: Adhered
- c. Adhesive: Low-Rise Foam Insulation Adhesive [Ribbon Adhered]

2. Features:

- a. Glass-mat facer with specially treated core
- b. Enhanced to provide a broader compatibility and higher performance with roofing adhesives.
- c. Excellent fire, mold, and moisture resistance
- d. Manufactured to meet ASTM C1177

C. Deck Type:

1. Properties:

- a. Type: Plywood Deck (19/32 in.) Main Roof Low Slope areas only.
- b. 1"x12" plank at steep slope areas only.
- c. Concrete substrate with Lightweight sloping concrete oved Jail Area.

D. Accessory Materials: Provide accessory materials supplied by or approved for use by roof system manufacturer:

- 1. Sheet Flashing: Manufacturer's standard Polyester reinforced PVC 60 mil nominal Minimum sheet flashing.
- 2. Prefab Flashings: Manufactured using standard Polyester reinforced PVC membrane. 50 Mil Nominal minimum.
  - a. Inside and Outside Corners
  - b. Stack Flashing
  - c. Curb Flashing
- 3. Fleece Adhesives: Compatible with roofing system and supplied by roof system manufacturer.
  - a. Fleece Membrane Adhesive [Splatter Pattern]
- 4. Insulation Adhesives: Compatible with roofing system and supplied by roof system manufacturer.

- a. Low-Rise Foam Insulation Adhesive [Ribbon Adhered]
- b.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that the surfaces and site conditions are ready to receive work.
- B. Verify that the deck is supported and secured.
- C. Verify that the deck is clean and smooth, free of depressions, waves, or projections, and properly sloped to roof edges, valleys, eaves, or gutters.
- D. Verify that the deck surfaces are dry and free of standing water, ice or snow.
- E. Verify that all roof openings or penetrations through the roof are solidly set.
- F. If substrate preparation is the responsibility of another contractor, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Surfaces shall be clean, smooth, free of fins, sharp edges, loose and foreign material, oil, grease, and bitumen.
- D. Tearing off Existing Built-Up Roofing at Low Slope, Tearing off Existing Composition and Built-Up Gravel at Steep Slope Areas. Overlay single layer of Capsheet roofing at Jail area.
  - 1. Remove all existing Layers of Bituminous roofing whether Hot Asphalt or composition shingle membranes. Dispose of properly to be recycled if recycling facilities are within a 50-mile radius from jobsite.
  - 2. The only section of roofing to remain is the capsheets roofing at Jail Roof.

### 3.3 INSTALLATION

- A. Cover Board:
  - 1. General Requirements
    - a. Install cover board in accordance with the roof manufacturer's requirements.
  - 2. Fiberglass-Faced Primed Roof Board 1/4-Inch
    - a. Use only insulation adhesive acceptable to the roof manufacturer that meets applicable design requirements.
    - b. Attach insulation boards with insulation adhesive in parallel courses with end joints staggered 50% and adjacent boards butted together with no gaps greater than  $\frac{1}{4}$  inch.

- c. Adhere to wood substrate using Ribbon pattern no greater than 6" on both Low and Steep Slope Areas.
- d. Apply at the required rate in smooth, even ribbon coatings without voids, globs, puddles, or similar irregularities.

B. Roofing Membrane:

- 1. General Requirements
  - a. Install membrane in accordance with the roof manufacturer's requirements.
  - b. Cut membrane to fit neatly around all penetrations and roof projections.
- 2. PVC thermoplastic membrane with fleece
  - a. Read the adhesive's Safety Data Sheet (SDS) prior to using the adhesive.
  - b. Follow application guidelines outlined in the adhesive's Product Data Sheet.
  - c. Inspect the surface of the deck/substrate. The deck/substrate must be clean, smooth, dry, and free of sharp edges, dust, contaminants, oil, grease, and loose, foreign material that may affect the installation of the roofing system and its performance.
  - d. Unroll roofing membrane and position with a minimum 6-inch overlap.
  - e. Fold the roof section back onto itself to expose half of the roof area to be covered by that section.
  - f. Apply adhesive in front of the fold along its length. Apply at the required rate in smooth, even Splatter coatings without voids, globs, puddles or similar irregularities. Use care not to contaminate the area of the membrane where hot air welding will occur.
  - g. Lift the top layer of membrane and, starting at the fold, use a stiff squeegee or broom to push the membrane into the adhesive.
  - h. Repeat previous steps for the second half of the roof section.
- C. Weld overlapping sheets together using hot air. Minimum weld width is 1-1/2 inches.
- D. Check field welded seams for continuity and integrity and repair all imperfections by the end of each workday.
- E. Flashings: Complete all flashings and terminations as indicated in the Scope of Work, and in accordance with the membrane manufacturer's requirements.
  - 1. Provide securement at all membrane terminations at the perimeter of each roof level, roof section, curb flashing, skylight, expansion joint, interior wall, penthouse, and other similar condition.
    - a. Do not apply flashing over existing thru-wall flashings or weep holes.
    - b. Secure flashing on a vertical surface before the seam between the flashing and the main roof sheet is completed.

- c. Extend flashing membrane a minimum of 6 inches (152 mm) onto the main roof sheet beyond the mechanical securement.
- d. Use care to ensure that the flashing does not bridge locations where there is a change in direction (e.g., where the parapet meets the roof deck).

2. Penetrations:

- a. Flash all pipes, supports, soil stacks, cold vents, and other penetrations passing through the roofing membrane as indicated on the Drawings and in accordance with the membrane manufacturer's requirements.
- b. Utilize custom prefabricated flashings supplied by the membrane manufacturer.
- c. Existing Flashings: Remove when necessary to allow new flashing to terminate directly to the penetration.

3. Pipe Clusters and Unusual Shapes:

- a. Clusters of pipes or other penetrations which cannot be sealed with prefabricated membrane flashings shall be sealed by surrounding them with a prefabricated vinyl-coated metal pitch pan and sealant supplied by the membrane manufacturer.
- b. Vinyl-coated metal pitch pans shall be installed, flashed, and filled with sealant in accordance with the membrane manufacturer's requirements.
- c. Pitch pans shall not be used where prefabricated, or field fabricated flashings are possible.
- d. All sealants are to be included in the warranties for the full life of the warranty.
- e. No additional maintenance costs to the owners for sealants.

F. Roof Drains: Coordinate installation of roof drains and vents.

1. Drain Assemblies with Clamping Rings:

- a. Remove existing roofing system materials from drain bowl and clamping ring.
- b. The membrane must extend beyond the inside of the clamping ring.
- c. Use a manufacturer supplied or approved sealant (1/2 tube minimum) between the membrane and drain bowl assembly.
- d. After the membrane is properly installed onto the bowl and the clamping ring set in place, all bolts securing the ring must be installed to provide constant, even compression on the sealant. If bolts are broken or missing, replacements must be installed.

2. Drain Boots:

- a. Remove existing flashing and asphalt at existing drains in preparation for sealant and membrane.

- b. Use a manufacturer supplied or approved sealant (1/2 tube minimum) to the outside of the drain boot and insert it into the drain.
- c. Fasten membrane around the perimeter of the drain with the same fastening pattern as the field membrane, no less than 1 fastener per drain.
- d. Install a pair of composite drain rings (CDRs) to compress the boot to the pipe. Ensure the CDR openings face in opposite directions.
- e. Secure the manufacturer's drain guard over the opening by heat welding the attachment tabs to the roof membrane.

G.

H. Edge Details:

- 1. Provide edge details as indicated in the scope of work.
- 2. Install in accordance with the membrane manufacturer's requirements.
- 3. Join individual sections in accordance with the membrane manufacturer's requirements.
- 4. Coordinate installation of metal flashing and counter flashing.
- 5. Manufactured Roof Specialties: Coordinate installation of copings, counter flashing systems, gutters, downspouts, and roof expansion assemblies.

I. Walkways:

- 1. Install walkways in accordance with the membrane manufacturer's requirements.
- 2. Provide walkways, indicated in the Scope of Work.
- 3. Install walkway pads at roof hatches, access doors, rooftop ladders and all other traffic concentration points regardless of traffic frequency. Provided in areas receiving regular traffic to service rooftop units or where a passageway over the surface is required.
- 4. Do not install walkways over flashings or field seams until manufacturer's warranty inspection has been completed.

J. Water Cut-Offs:

- 1. Provide water cut-offs on a daily basis at the completion of work and at the onset of inclement weather.
- 2. Provide water cut-offs to ensure that water does not flow beneath the completed sections of the new roofing system.
- 3. Remove water cut-offs prior to the resumption of work.
- 4. The integrity of the water cut-off is the sole responsibility of the roofing contractor.
- 5. Any membrane contaminated by the cut-off material shall be cleaned or removed.

### 3.4 FIELD QUALITY CONTROL

- A. The membrane manufacturer's representative shall provide a comprehensive final inspection after completion of the roof system. All application errors shall be addressed, and final punch list completed.

### 3.5 PROTECTION

- A. Protect installed roofing products from construction operations until completion of project.
- B. Where traffic is anticipated over completed roofing membrane, protect from damage using durable materials that are compatible with membrane.
- C. Repair or replace damaged products after work is completed.

## SCOPE OF WORK

821 East South St.

Orland, California 95963

### **Existing Roof Assembly Steep Slope:**

- 1. Two Layers of Composition Shingles over one layer of Built-up Pea gravel roof system, Over a wood plank substrate.

### **Existing Roof Assembly Low Slope:**

- 1. Two layers of Built-Up Roofing, over a ½" plywood deck.

### **Bid Scope for both Steep Slope and Low Slope roof areas, Excluding Low Slope over Sheriff's office, Northwest Corner:**

- 1. Remove all layers of existing roofing, whether Composition shingles or Built-up roofing, down to the wood substrate.
- 2. Gutter, Downspouts and outside 2" x 12" fascia will remain in place.
- 3. Dispose of all debris as required by the City of Orland or the County of Glenn.
- 4. Remove HVAC units, existing duct work, exhaust piping, which includes pipe brackets to the Staging Areas shown in Bid Documents.
- 5. All the HVAC Units are to be re-installed including existing duct work, pipe, and brackets.
- 6. All existing metal base flashings associated with existing duct as it passes through the wood substrate will be replaced with New 24 Gauge Galvanized metal. Base flashing will be made an 1/8" smaller than original to allow for clearance of new membrane base flashing. Existing Duct will drop over new membrane material and be sealed to prevent air leakage.
- 7. Remove all wood Sleeper beams, including metal caps from under HVAC units and replace with new treated wood lumber of like size and type. After all roofing has been removed under existing sleeper, ensure new lumber is set back down on the substrate in the exact position the existing rested. This will ensure the load of the existing HVAC is resting back on the structural members below substrate framing.
- 8. Box in wood sleepers to make one solid HVAC wood curb using new 2x Doug fir and new 3/4" plywood. Load carrying framing lumber for walls and top, shall be framed at no greater distance than 16" O.C.

9. Provide and install a new 24-gauge metal cap, which will fit the curb with no gap distance of more than  $\frac{1}{4}$ " on all sides. 2" down leg of new metal cap will be hemmed with a  $\frac{1}{4}$ " kick.
10. All sheet metal seams will be riveted and soldered, not caulked.
11. Remove all existing wood perimeter fencing and metal components. Recycle when possible. Removal will include all wood framing, metal corner posts, all metal support brackets. Re-frame hole in substrate if posts drop below wood deck.
12. Remove **ALL** unused metal platforms, abandoned pipe flashings, including all perimeter metal flashings separating the low slope and steep slope areas. Dispose of properly.
13. Re-frame abandoned holes with new wood framing of like size and type.
14. Remove and re-position any low voltage wire that may be attached to the abandoned fence.
15. Re-configure electrical conduit pipe at existing roof hatch to exit roof substrate vertically, not horizontally as it is now.
16. Replace all low profile non-powered roof vents with a new 0.25, two-piece assembly base and cap.
17. Use U-Anchor 2400 non-penetrating anchor to mount all uni-strut legs which hold up existing electrical power shut-off boxes, at all locations.

**Dry Rot Repair, Written Change Order form is in bid documents.**

1. A Written change order must be approved prior to doing wood replacement, or any other work not called out in this scope.
2. Before and after wood replacement photos will be required.
3. Remove and replace all dry rot found with "Like" Materials.

**Class "A" Primed Cover Board.**

1. Install one layer of  $\frac{1}{4}$ " approved Primed Cover board over the entire wood substrate. Areas include Steep Slope, and Low Slope areas. (See Bid Scope for Low Slope over Sharif's office).
2. Install using Low rise adhesive at a rate of 6" O.C. throughout entire substrate.

**Roof Membrane Installation.**

1. Adhere one layer of the specified membrane, adhering membrane to primed cover board using the specified splatter spray method.
2. Ensure that the Steep slope membrane is buckle free with no splices or end to end cuts where T Patches are required.
3. At Ridge and valley areas, use a single layer of specified 8", 60 mil. Membrane to finish detail.
4. The Head Wall area where Steep Slope meets the Low Slope, will be a singular piece of specified Fleeceback material adhered to a primed cover board, adhered to the solid wood substrate. Membrane will be free of wrinkles, and buckles.

5. The top transition of where the two slopes meet requires no metal. Materials can be heat welded to ensure a complete Monolithic roof system.
6. Install all Manufactured Pipe stacks, Corners, Term bars, to Duro-Last Specifications.
7. Install two Safety Walk Pad at opening of the roof hatch door. Install no less than 2 safety walk pads around all HVAC units at the Maintenance sides.

**In-Set Gutters and Downspouts:**

1. Clean existing metal gutters and downspouts thoroughly using a power washer to expose deformities in the metal joints. Also, wash the back metal wall where roof system will terminate.
2. Carefully remove existing Gutter straps but do not remove too many to cause warpage or sagging in the gutter body itself. Gutter is unsupported from underneath.
3. Replace all Gutter straps using the same spacing, gauge, and size. Straps will be attached to the existing gutter as existing but will turn down at an approximate 90-degree angle at the back wall where the new straps will be fastened to the new roofing system termination bar. No straps will go under the new roof system.
4. Turn down roof membrane a minimum of 1-1/2" into the back of the gutter. Provide a back-seal of caulk as per manufacturers requirements for terminating into a gutter.
5. Install a Termination Bar to the back-sealed membrane, Fasten at 6" minimum.
6. Install new Galvanized gutter strap on top of termination bar penetrating through the membrane, back-seal, into the metal gutter.

**Bid Scope for Low Slope over Sheriff's office, Northwest Corner:**

1. Existing roof assembly is a single layer of Cap Sheet Built-up roofing, over 3" of EPS Styrofoam insulation, over 2" (plus or minus), of Lightweight concrete for slope, over structural concrete.
2. No total roof tear off is required in this 400 Sqft area.
3. Carefully Remove cast iron ring at drain.
4. Remove existing gravel stop metal, which is embedded into the cap sheet roof, by cutting back 6" from the edge of the roof, in a straight line. Do not rip and tear off built up cap where the edge is left jagged, so the new cover board doesn't sit right.
5. Remove all existing vent pipe stack flashings by removing the lead jacket.
6. Remove all Cone type flashings. Clean off all asphalt debris at the pipe to ensure asphalt doesn't encounter the new membrane.
7. Install a new primed cover board approved by manufacturer. Adhered to existing cap sheet roofing with ribbons spacing of no greater than 6" O.C. as approved by manufacturer.
8. Install one layer of Fleeceback 60 mil which meets all requirements set forth in the bid specifications.
9. Terminate Duct and HVAC unit as required by the manufacturer.

10. Low Slope perimeter metal shall be a rated ES-1 designed metal provided by the manufacturer for adhered roof systems.
11. Lower perimeter metal shall be removed and discarded, a new 24-gauge Kynar metal cap with the same size and shape as existing.
12. Seams shall be mated together with pop rivet and two independent beads of caulking which meets the requirements of "No Maintenance bond" set forth in the warranty section of the bid Specification.

**Inspections:**

1. The final roof inspection shall have the following people in attendance: Manufacturer Roofing Technical Inspector. Roofing contractor accompanied by roofing foreman. All shall be present during the final inspection. A punch list shall be generated from the final inspection and the punch list shall be completed within 5 days of the final inspection.
2. All necessary permits to be drawn from the City or County who has jurisdiction, at No Extra Cost to the Owner.
3. All City and State Codes and guidelines must be followed for this Reroof.
4. All electrical utilities used during the Reroof must be supplied by Roofing Contractor.

**Responsibilities and Warranty.**

1. Owner will not be responsible for providing Drinking Water, Electrical Power, or Restrooms.
2. The Manufacturers 20-year NDL roofing warranty with Consequential damages included, shall be signed by the Duro-last Inspector and Given to the Owner prior to release of retention.

**GENERAL REQUIREMENTS**

- 1.) This building will be occupied throughout the entire project and the safety of the residences, visiting Population and Personnel is a top priority. The Contractor shall be always responsible during new installation to always keep the roof area and interior of the building watertight.
- 2.) No staging will be allowed over the new single ply membrane.
- 3.) Absolutely, No driving of vehicles of any kind over lawns, new landscaping. Building must be loaded from asphalt surfaces.

**End of Section.**