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**CENTRAL WASHINGTON UNIVERSITY
SMALL WORKS PROJECT**

Black Hall Roof Replacement

CWU Contract No. 17485-01

Project Manual - Bid Documents

July 10, 2025

Prepared by:

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PROJECT DESCRIPTION: Black Hall Roof Replacement to include: Inspection of all roof section for any soft spots in the insulation or structural damage prior to install of new system. Any insulation or structural repair to be billed in addition to the contract price. Preparation of the existing roofing system prior to installation of new coating system. Install additional metal flashing at areas where metal roofing has a vertical change to reduce risk of leaking.

SMALL WORKS ROSTER PROCEDURE:

This campus project is being delivered using CWU's Small Works Roster process. Contractors interested in bidding must be listed on CWU's Small Works Roster and have a current Washington State Contractor's License. To register for the Small Works Roster, contractors must enroll at <https://cwu.gob2g.com/>

ELECTRONIC BID OPENING:

The electronic bid opening process shall consist of an email submitted to Joe Chanes, Joe.Chanes@cwu.edu. The email submission shall have the **Bid Form** (See **Section 00 2000**) attached in PDF format. The email with the Bid Form must be submitted prior to **3:00 PM, Pacific Time, Tuesday Jul 22, 2025** upon receipt of the electronic bid, the CWU Project Manager will reply to the email address and acknowledge receipt of the Bid Form.

BASE BID:

The base bid amount the Contractor submits shall be to furnish all labor, supervision, materials, services, and equipment required for **Black Hall Roof Replacement** in accordance with the Bid/Construction Documents.

PROJECT SCHEDULE:

July 10, 2025: Small Works Roster Contractors will be solicited by CWU to submit bids.
July 22, 2025: Bids must be received prior to **3:00 PM PST, Tuesday, July 22, 2025.**
November 28, 2025: Project shall be completed by November 28, 2025.

CWU CONTACT:

Direct all questions regarding the project to Joe Chanes , at Joe.Chanes@cwu.edu, or (509)963-3000.

SITE VISIT & PARKING:

The pre-planned site walk through is highly recommended and scheduled for **Tuesday July 15, 2025 at 10 am**. Interested bidders can meet at our Jongeward office, conference room 116. Jongeward is located on the CWU Ellensburg Campus, 205 E. 11th Avenue. Limited visitor street parking is available or daily passes (\$6.00) can be purchased at brown ticket dispensers located throughout campus or pre-purchased online at <https://www.cwu.edu/parking/> . Parking without a permit may result in receiving parking ticket that will not be reimbursed by the university.

BID/CONSTRUCTION DOCUMENT CLARIFICATIONS AND PRODUCT SUBSTITUTIONS:

Any clarifications requests to the Bid/Construction Documents must be submitted to the CWU Construction Coordinator at least five (5) working days prior to the bid opening. Substitutions on the mechanical manufacturer will not be accepted on this bid.

AMENDMENTS TO BID SPECIFICATIONS:

Any amendment(s) to or error(s) in bid documents (specifications, drawings, etc.) called to the attention of the Owner will be corrected and furnished to all Contractors holding bid documents.

CONTRACTOR QUALIFICATIONS:

All bidders must be listed on the CWU Small Works Roster and have a current Washington State Contractor's License. Bidders must have successfully performed work of a similar scope and nature. Qualifications of bidders will be evaluated when determining award of bid.

PREVAILING WAGE:

The Contractor shall pay prevailing wages in accordance with RCW 39.12. Before payment is made by the Owner to the Contractor for any work performed by the Contractor and subcontractors whose work is included in the application for payment, the Contractor shall submit a statement of Intent to pay prevailing wages approved by the Department of Labor and Industries, certifying the rate of hourly wage paid.

APPRENTICE UTILIZATION PLAN: JULY 2026 NEW SECTION****

In accordance with July 1st 2026 revisions to RCW 39.04.350 based on House Bill 1549 the winning bidder shall submit an apprentice utilization plan to the awarding agency before receiving the notice to proceed. Contractor is responsible for submitting project to LNI through the contractor portal (<https://lni.wa.gov/licensing-permits/docs/ContractorPortalInstructions.pdf>). Contractor shall utilize apprentice templated supplied by Labor and Industries (L&I) and provided completed apprentice utilization to L&I at completion of the project to obtain the Notice of Completion (NOC).

RESERVED RIGHTS:

The Owner expressly reserves the right: to accept or waive any and/or all irregularities in the bids submitted, to reject any and/or all bids, to base awards with due regard to quality, and to award to any bidder whose bid in the opinion of the Owner, is the lowest and best bid.

MINORITY AND WOMEN'S BUSINESS PARTICIPATION:

Minority and Women owned business are encouraged to submit bids. For assistance verifying certification, contact: Office of Minority and Women's Business Enterprises, 406 South Water, Mail Stop FK-11, Olympia WA 98504-4611, telephone (360) 753-9693.

DIVERSE BUSINESS INCLUSION:

The Owner is committed to providing the maximum practicable opportunity for participation by diverse businesses enterprises (DBE). DBE are defined as; small business, microbusiness, mini-business, minority owned business (MBE), and women owned business (WBE), as defined in RCW 39.26.010 and veteran-owned businesses as defined in RCW 43.60A.010. CWU strongly encourages contractors to work with DBE to meet or exceed the Owner's goals for each project of MBE 10%, WBE 6%, WA Small Business 5% and WA Veterans 5% participation. The successful bidder shall provide a plan to Michael Cox, CWU Construction Coordinator, for inclusion efforts undertaken to utilize DBE for any CWU goods and services contracted prior to commencing with the work.

CENTRAL WASHINGTON UNIVERSITY
Black Hall Roof Replacement
SMALL WORKS PROJECT
BID FORM

TOTAL BASIC BID (Not including Washington State Sales Tax):

The undersigned hereby proposes to furnish all labor, supervision, materials, services, and equipment required for the SURC Carpet Replacement on the campus of Central Washington University in Ellensburg, Washington, and to perform the Work for the General Contract in accordance with the project Bid/Construction Documents for the following lump sum of money:

A) TOTAL BASIC BID (NOT INCLUDING WASHINGTON STATE SALES TAX):

_____ Dollars (\$ _____)
(Print written dollar amount in space above) (Print numeric amount in space above)

TRENCH EXCAVATION SAFETY PROVISIONS:

If the project includes any work which requires trenching exceeding a depth of four feet, costs for safety systems need to be shown as a separate bid item in compliance with RCW 39.04 and to ensure that the bidder agrees to comply with trench safety requirements of RCW 49.17. The bid amount shall be considered as part of the total base bid set above. *If trench excavation safety provisions do not pertain to this project, put N.A. for the dollar amount. Failure to complete this requirement shall be considered as non-responsive to the bid solicitation.*

Trench Excavation Safety Provisions Only: \$ _____

B.) NO ALTERNATE BIDS

TIME FOR COMPLETION:

The undersigned hereby agrees to substantially complete all the work by November 28, 2025. Work may begin after Notice to Proceed.

LIQUIDATED DAMAGES

The undersigned acknowledges and agrees to abide by all provisions of the "Liquidated Damages" section 3.07 of the General Conditions as it pertains to the Contractor for all work under this contract. The undersigned further agrees to pay the Owner as liquidated damages the sum of \$500.00 for each consecutive calendar date that they fail to substantially complete work in the time specified in the contract documents.

ADDENDUM RECEIPT

Bidder acknowledges receipt, understanding and full consideration of the following addenda to the Contract Documents:

Addendum No. ____ Date _____

Addendum No. ____ Date _____

BID SECURITY:

Per RCW 39.08.010, no Bid Bond is required for projects under \$150,000. For projects over \$150,000, enclose a Bid Bond, certified check or cashier's check in the amount shown below, which shall be at least 5 % of the total bid.

LABOR AND INDUSTRIES FEES

In compliance with WAC 296-127 Contractor(s) shall pay to the Department of Labor and Industries required fee with each Statement of Intent to Pay Prevailing Wages or Affidavit of Wages Paid submitted to that department for certification and these costs shall be included in their bid.

Contractor Name _____

BID GUARANTEE

If written notice of acceptance of this bid is mailed, telegraphed or delivered to the undersigned within the time limit noted in the Instructions to Bidders sixty (60) calendar days after the date of bid opening, or any time thereafter before this bid is withdrawn, the undersigned will, within ten (10) days after the date of such mailing, telegraphing or delivering of such notice, execute and deliver a contract on the included Contract Forms to the Owner, together with satisfactory payment and performance bond in an amount equal to one hundred percent (100%) of the contract sum - base bid plus Owner accepted alternates (not including Washington State Sales Tax).

Name of Contractor: _____

Signed by: _____ Title: _____

Address: _____

Telephone: _____ Date: _____

Email address: _____

State of Washington Contractor's License No. _____

Federal Tax Identification No. _____

UBI Tax Number: _____

License Expiration Date: _____

The Firm represented by the above signature is:

Sole Proprietorship: _____

Partnership: _____

Corporation: _____

Other: _____

State of Incorporation: _____

END OF BID FORM

SCOPE OF WORK: The Contractor shall provide all labor, materials, and equipment necessary for the Black Hall Roof Replacement in accordance with the Bid Documents. As shown in attachment A, Bid Specs.

PROJECT SITE: To find the exact location of the project, refer to cwu.edu/map for an interactive online campus plan. The Contractor shall schedule and coordinate all of the work with Joe Chanes, Project Manager, Joe.Chanes@CWU.edu, (509)963-3000. The Contractor shall communicate with Joe Chanes for any CWU shop support assistance as needed.

DESIGN AND CONSTRUCTION STANDARDS (DACS): CWU has developed a resources of typical design and construction standards associated with campus projects. These standards follow industry CSI Master format specifications and should be referenced for general guidelines on expectations of various building components and systems. For questions regarding the DACS and any conflict or request for material substitution, please submit them to the CWU project point of contact prior to the bid opening. The DACS are available for review here:
<https://www.cwu.edu/about/offices/facilities/capital-planning-projects/design-construction-standards.php#accordion-08813969-ac05-471c-bb1e-ad991be5b916-0>

**SUPPLEMENTAL CONDITIONS
FOR WASHINGTON STATE FACILITIES CONSTRUCTION**
(Paragraphs keyed to the State's General Conditions)

2.02 Replaces Section 2.02 – INSURANCE COVERAGE LIMITS and CERTIFICATES

A. Insurance Coverage Certificates and Policies

The Contractor shall furnish acceptable proof of insurance coverage on the state of Washington Certificate of Insurance form SF500A, dated 07/02/92 or ACORD form, as well as copies of insurance policies.

B. Required Insurance Coverages

1. For a contract less than \$100,000.00, the coverage required is:

- a. Comprehensive General Liability Insurance – The Contractor shall at all times during the term of this contract, at its cost and expense, carry and maintain general public liability insurance, including contractual liability, against claims for bodily injury, personal injury, death or property damage occurring or arising out of services provided under this contract. This insurance shall cover claims caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns or servants. The limits of liability insurance, which may be increased as deemed necessary by the contracting parties, shall be:

Each Occurrence	\$1,000,000.00
General Aggregate Limits (other than products – commercial operations)	\$1,000,000.00
Products – Commercial Operations Limit	\$1,000,000.00
Personal and Advertising Injury Limit	\$1,000,000.00
Fire Damage Limit (any one fire)	\$50,000.00
Medical Expense Limit (any one person)	\$5,000.00

- b. If the contract is for underground utility work, then the Contractor shall provide proof of insurance for that above in the form of Explosion, Collapse and Underground (XCU) coverage.

- c. Employers Liability on an occurrence basis in an amount not less than \$1,000,000.00 per occurrence.

2. For contracts over \$100,000.00 but less than \$5,000,000.00 the contractor shall obtain the coverage limits as listed for contracts below \$100,000.00 and General Aggregate and Products – Commercial Operations Limit of not less than \$2,000,000.00.

3. Coverage for Comprehensive General Bodily Injury Liability Insurance for a contract over \$5,000,000.00 is:

Each Occurrence	\$2,000,000.00
General Aggregate Limits (other than products – commercial operations)	\$4,000,000.00
Products – Commercial Operations limit	\$4,000,000.00
Personal and Advertising Injury Limit	\$2,000,000.00

Fire Damage Limit (any one fire)	\$50,000.00
Medical Expense Limit (any one Person)	\$5,000.00

4. For all Contracts – Automobile Liability: in the event that services delivered pursuant to this contract involve the use of vehicles or the transportation of clients, automobile liability insurance shall be required. If Contractor-owned personal vehicles are used, a Business Automobile Policy covering at a minimum Code 2 “owned autos only” must be secured. If Contractor employee’s vehicles are used, the Contractor must also include under the Business Automobile Policy Code 9, coverage for non-owned autos. The minimum limits for automobile liability is: \$1,000,000.00 per occurrence, using a combined single limit for bodily injury and property damage.
5. For Contracts for Hazardous Substance Removal (Asbestos Abatement, PCB Abatement, etc.)
 - a. In addition to providing insurance coverage for the project as outlined above, the Contractor shall provide Pollution Liability insurance for the hazardous substance removal as follows:

<u>EACH OCCURRENCE</u>	<u>AGGREGATE</u>
\$500,000.00	\$1,000,000.00

or \$1,000,000.00 each occurrence/aggregate bodily injury and property damage combined single limit.

- 1) Insurance certificate must state that the insurer is covering hazardous substance removal.
- 2) Should this insurance be secured on a “claims made” basis, the coverage must be continuously maintained for one year following the project’s “final completion” through official completion of the project, plus one year following.

For Contracts where hazardous substance removal is a subcomponent of contracted work, the general contractor shall provide to the Owner a certificate of insurance for coverage as defined in 5a. above. The State of Washington must be listed as an additional insured. This certificate of insurance must be provided to the Owner prior to commencing work.

2.04 Replaces Section 2.04 - PAYMENT AND PERFORMANCE BONDS

Conditions for bonds: Payment and performance bonds for 100% of the Contract Award Amount, plus state sales tax, shall be furnished for the Work, using the Payment Bond and Performance Bond form published by and available from the American Institute of Architects (AIA) – form A312. Prior to execution of a Change Order that, cumulatively with previous Change Orders, increases the Contract Award Amount by 15% or more, the Contractor shall provide either new payment and performance bonds for the revised Contract Sum, or riders to the existing payment and performance bonds increasing the amount of the bonds. The Contractor shall likewise provide additional bonds or riders when subsequent Change Orders increase the Contract Sum by 15% or more.

No payment or performance bond is required if the Contract Sum is \$150,000 or less and the Contractor or General Contractor/Construction Manager agrees that Owner may, in lieu of the bond, retain 10% of the Contract Sum for the period allowed by RCW 39.08.010.

3.02 Replaces Section 3.02 B – CONSTRUCTION SCHEDULE

B. Form of Progress Schedule: The Progress Schedule shall be in the form of a Critical Path Method (CPM) logic network or, with the approval of the Owner, a bar chart schedule may be submitted. The scheduling of construction is the responsibility of the Contractor and is included in the contract to assure adequate planning and execution of the work. The schedule will be used to evaluate progress of the work for payment based on the Schedule of Values. The schedule shall show the Contractor's planned order and interdependence of activities, and sequence of work. As a minimum the schedule shall include:

1. Date of Notice to Proceed;
2. Activities (resources, durations, individual responsible for activity, early starts, late starts, early finishes, late finishes, etc.);
3. Utility Shutdowns;
4. Interrelationships and dependence of activities;
5. Planned vs. actual status for each activity;
6. Substantial completion;
7. Punch list;
8. Final inspection;
9. Final completion, and
10. Float time

The Schedule Duration shall be based on the Contract Time of Completion listed on the Bid Form. The Owner shall not be obligated to accept any Early Completion Schedule suggested by the Contractor. The Contract Time for Completion shall establish the Schedule Completion Date.

If the Contractor feels that the work can be completed in less than the Specified Contract Time, then the Surplus Time shall be considered Project Float. This Float time shall be shown on the Project Schedule. It shall be available to accommodate changes in the work and unforeseen conditions.

Neither the Contractor nor the Owner have exclusive right to this Float Time. It belongs to the project.

5.01 Replaces Section 5.01 B & D - CONTRACTOR CONTROL AND SUPERVISION

B. Competent Superintendent required: Performance of the Work shall be directly supervised by a competent superintendent who has authority to act for Contractor. The superintendent must be satisfactory to the Owner and shall not be changed without the prior written consent of Owner. Owner may require Contractor to remove the superintendent from the Work or Project site, at no cost to the Owner for delay or any other claim, if Owner reasonably deems the superintendent incompetent, negligent, or otherwise objectionable, provided Owner has first notified Contractor in writing and allowed a reasonable period for transition. Noncompliance with the Owner's request to remove and replace the superintendent for a material reason shall also be grounds for terminating the Contract for cause.

D. Contractor to employ competent and disciplined workforce: Contractor shall enforce strict discipline and good order among all of the Contractor's employees and other persons performing the Work. Contractor shall not permit employment of persons not skilled in tasks assigned to them. Contractor's employees shall at all times conduct business in a manner which assures fair, equal, and nondiscriminatory treatment of all persons. Owner may, by written notice, require Contractor to remove from the Work or Project site, at no cost to the Owner for delay or any other claim, any employee Owner reasonably deems incompetent,

negligent, or otherwise objectionable. Noncompliance with the Owner's request to remove and replace personnel at any level for a material reason shall also be grounds for terminating the Contract for cause.

5.02 Replaces Section 5.02 B – PERMITS, FEES AND NOTICES

- B. Allowances for permit fees: The actual cost of the general building permit (only) and the public utility hook-up fees will be a direct reimbursement to the Contractor or paid **directly to the permitting agency by the Owner. Fees for these permits should not be included by the Contractor in his bid amount**

Add New Section 5.02 D – PERMITS, FEES, AND NOTICES

- D. Contractor to submit copies: The General Contractor shall submit copies of each valid permit required on the project to the Owner's representative. Nothing in this part shall be construed as imposing a duty upon the Owner or A/E to secure permits.

5.04 Replaces 5.04, Section A – PREVAILING WAGES

- A. Contractor to pay Prevailing Wages or applicable Federal Wages: Contractor shall pay the prevailing rate of wages to all workers, laborers, or mechanics employed in the performance of any part of the Work in accordance with RCW 39.12 and the rules and regulations of the Department of Labor and Industries. The schedule of prevailing wage rates for the locality or localities of the Work, is determined by the Industrial Statistician of the Department of Labor and Industries. It is the Contractor's responsibility to verify the applicable prevailing wage rate. If applicable, the Contractor shall comply with all Federal Funding requirements of the Davis Bacon Act that will be addressed in a separate "DIVISION 00 SPECIAL CONDITIONS" specification section that will be based on the specific requirements of the funding source. .

5.04 Replaces 5.04, Section G – Certified Payrolls

- G. Certified Payrolls: Consistent with WAC 296-127-320, the Contractor and any subcontractor shall submit a certified copy of payroll records if requested. If applicable, the Contractor shall comply with all Federal Funding requirements of the Davis Bacon Act that will be addressed in a separate "DIVISION 00 SPECIAL CONDITIONS" specification section that will be based on the specific requirements of the funding source.

5.06 Replaces 5.06, Section A – NONDISCRIMINATION

- A. Discrimination prohibited by applicable laws: The Contractor and all Subcontractors shall comply with all applicable federal and state non-discrimination laws, regulations, and policies. No person shall, on the grounds of age, race, creed, color, sex, sexual orientation, religion, national origin, marital status, honorably discharged veteran or military status, or disability (physical, mental, or sensory) be denied the benefits of, or otherwise be subjected to discrimination under any project, program, or activity, funded, in whole or in part, under this Agreement.

5.07 Replaces 5.07, Section A – SAFETY PRECAUTIONS

- A. In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies, and equipment; and avoid work interruptions. For these purposes, the Contractor shall:
1. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific safety plan to the Owner's representative prior to the initial scheduled construction meeting.
 2. Provide adequate safety devices and measures including, but not limited to, the appropriate safety literature, notice, training, permits, placement and use of barricades, signs, signal lights, ladders, scaffolding, staging, runways, hoist, construction elevators, shoring, temporary lighting, grounded outlets, wiring, hazardous materials, vehicles, construction processes, and equipment required by all applicable state, federal, and local laws and regulations.
 3. Comply with the State Environmental Policy Act (SEPA), Clean Air Act, Shoreline Management Act, and other applicable federal, state, and local statutes and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources.
 4. Post all permits, notices, and/or approvals in a conspicuous location at the construction site.
 5. Provide any additional measures that the Owner determines to be reasonable and necessary for ensuring a safe environment in areas open to the public. Nothing in this part shall be construed as imposing a duty upon the Owner or A/E to prescribe safety conditions relating to employees, public, or agents of the Contractors.

5.20 Add New Paragraph A. 6. – SUBCONTRACTORS AND SUPPLIERS

6. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.

5.20 Replace Paragraph B – SUBCONTRACTORS AND SUPPLIERS

- B. Use qualified Subcontractors: Contractor shall utilize Subcontractors and suppliers, which are experienced and qualified, and meet the requirements of the Contract Documents, if any. Contractor shall not utilize any Subcontractor or supplier to whom the Owner has a reasonable objection, and shall obtain Owner's written consent before making any substitutions or additions.

7.02 Replace Paragraph B.7.c – CHANGE IN THE CONTRACT SUM, Change Order Pricing – Fixed Price, Components of Increased Cost

- c. Equipment costs: This is an itemization of the type of equipment and the estimated or actual length of time the construction equipment appropriate for the Work is or will be

used on the change in the Work. Costs will be allowed for construction equipment only if used solely for the changed Work, or for additional rental costs actually incurred by the Contractor. Equipment charges shall be computed on the basis of actual invoice costs or if owned, from the current edition of one of the following sources:

- (1) The National Electrical Contractors Association for equipment used on electrical work.
- (2) The Mechanical Contractors Association of America for equipment used on mechanical work.
- (3) The EquipmentWatch Fleet Manager Estimator Package (digital). The maximum rate for standby equipment shall not exceed that shown in the Associated General Contractors Washington State Department of Transportation (AGC WSDOT) Equipment Rental Agreement, current edition on the Contract execution date.

10.11 Add Part 10.11 – DIVERSE BUSINESS PARTICIPATION

The state of Washington encourages participation in all of its contracts by Diverse Businesses as found in RCW Chapters 39, 43, and WAC 326. The voluntary Diverse Business goal of 26%, which is an aggregate of: 10% Minority Business Enterprises (MBE), 6% Women Business Enterprises (WBE), 5% Veteran-owned Business, and 5% Washington Small Businesses self-identified in the Washington Electronic Business Solution (WEBS) <http://www.des.wa.gov/services/ContractingPurchasing/Business/Pages/WEBSRegistration.aspx>. Contractors are encouraged to meet or exceed the project goals in the advertisement by any level of participation, regardless of category.

DES reserves the right to adjust the voluntary participation goals.

Businesses are encouraged to register in WEBS, as well as registering as a state certified M/WBE/Veteran Business.

For reporting, Contractor is required to register and create an account in the DES Diversity Compliance Program (B2GNow) at <https://des.diversitycompliance.com/>.

Every month for the duration of your contract, and while your contract is active in the B2Gnow system, submit and accurately maintain the following information through B2Gnow:

- a. Payments received by the prime contractor from the Agency
- b. Payments paid to each first tier subcontractor
- c. Payments paid to each first tier supplier

You must also ensure the following information is reported in the B2Gnow system by your first tier subcontractors and suppliers for the duration of your contract:

- a. Confirmation of payments from the prime contractor to the first tier subcontractor
- b. Confirmation of payments from the prime contractor to first tier suppliers

10.12 Add Part 10.12 - MINIMUM LEVELS OF APPRENTICESHIP PARTICIPATION

In accordance with RCW 39.04.320, the State of Washington requires 15% apprenticeship participation for projects estimated to cost one million dollars or more.

- A. Apprentice participation, under this contract, may be counted towards the required percentage (%) only if the apprentices are from an apprenticeship program registered and approved by the Washington State Apprenticeship and Training Council (RCW 49.04 and WAC 296-05).

- B. Bidders may contact the Department of Labor and Industries, Specialty Compliance Services Division, Apprenticeship Section, P.O. Box 44530, Olympia, WA 98504-4530 by phone at (360) 902-5320, and e-mail at Apprentice@Lni.wa.gov, to obtain information on available apprenticeship programs.
- C. For each project that has apprentice requirements, the contractor shall submit a “**Statement of Apprentice and Journeyman Participation**” on forms provided by the Department of Enterprise Services, with every request for progress payment. The Contractor shall submit consolidated and cumulative data collected by the Contractor and collected from all subcontractors by the Contractor. The data to be collected and submitted includes the following:
 - 11. Contractor name and address
 - 12. Contract number
 - 13. Project name
 - 14. Contract value
 - 15. Reporting period “Beginning Date” through “End Date”
 - 16. Name and registration number of each apprentice by contractor
 - 17. Total number of apprentices and labor hours worked by them, categorized by trade or craft
 - 18. Total number of journeymen and labor hours worked by them, categorized by trade or craft
 - 19. Cumulative combined total of apprentice and journeymen labor hours
 - 20. Total percentage of apprentice hours worked
- D. No changes to the required percentage (%) of apprentice participation shall be allowed without written approval of the Owner. In any request for the change, the Contractor shall clearly demonstrate a good faith effort to comply with the requirements for apprentice participation.
- E. Any substantive violation of the mandatory requirements of this part of the contract may be a material breach of the contract by the Contractor. The Owner may withhold payment pursuant to Part 6.05, stop the work for cause pursuant to Part 3.04, and terminate the contract for cause pursuant to Part 9.01.

10.13 Add Part 10.13 – SPECIAL CONDITIONS

The Owner may have Federal Funding or other special requirements for this project. If applicable, the Contractor will be required to comply with the “DIVISION 00 SPECIAL CONDITIONS” section in the specifications that will be based on the specific requirements of the funding source.

00 7400 MODIFICATIONS TO THE GENERAL CONDITIONS

These Central Washington University Modifications to the General Conditions form a part of, and are incorporated in the Contract Documents and modify, delete, add, and replace provisions of the General Conditions. Provisions not altered remain in effect. All terms defined elsewhere in the Contract Documents shall have the same meaning here.

PART 1 - GENERAL PROVISIONS

- 1.01A Modify the sentence as follows:
"Application for Payment" means a written request submitted by contractor to Owner for payment of Work.

PART 2 - INSURANCE AND BONDS

- 2.01 Add the following:
The certificate holder shall be:
Central Washington University
Vice President for Business & Financial
Affairs
Ellensburg, WA 98926

PART 4 - SPECIFICATIONS, DRAWINGS, AND OTHER DOCUMENTS

- 4.01 Add to paragraph 4.02B
...changes and shall be available to Owner and A/E at all times.

PART 5 - PERFORMANCE

- 5.01 Add a new paragraph
G. Work During Off Hours
When work is to be performed during other than normal working hours or on Central Washington University holidays, Contractor shall give Owner 48 hour prior notice so that Owner's Police Department may be properly notified. Any construction activity between the hours of 7:00 p.m. to 7:00 a.m. PST is subject to approval of Owner.
- 5.02 Add a new paragraph 5.02E
E. Prior to Final Completion, the building permit and City-approved drawings, signed inspection card(s), and any appropriate occupancy permits shall be submitted to Owner.

PART 6 - PAYMENTS AND COMPLETION

- 6.02 Add a new subparagraph:
This schedule shall be based upon any cost loading required as a part of the progress schedule and shall allocate at least 1% of the contract sum (in addition to the statutory retainage described in Paragraph 6.06 to that portion of the work between Substantial and Final Completion.
- 6.03D Add a new subparagraph 6.03D(9):
9 For material stored off-site not in a warehouse, Contractor may request payment, provided that the remaining requirements of this paragraph and any additional requirements of Owner are met.
- 6.04A In the first sentence change "30 days" to "45 days."
6.09B Add the following:
Final Acceptance: Final Acceptance of the Work shall be by action of the Board of Trustees or its delegated representative.

PART 8 - CLAIMS AND DISPUTE RESOLUTION

- 8.01 Add new Paragraphs 8.01 G and 8.01 H:
G Notwithstanding 8.02 below, upon request by Owner, any claims between Owner and Contractor, Architect/Engineer and Contractor, Owner and Architect/Engineer, Owner and Contractor's Guarantor, or Contractor and its Subcontractors and Suppliers shall be submitted in a single forum and Owner may consolidate or join any of the above-named parties in the action. Other parties may be joined upon notice

by either Contractor or Owner with the consent of such third party.

Thereafter, such third parties shall be bound by the results of such dispute resolution process to the same extent as the original parties to the dispute.

- H Contractor agrees that any contract with a Sub-contractor to perform any portion of the work shall include a provision which contractually requires the Sub-contractor be joined, at the Owner's request, in the dispute process.

8.02 Replace the 8.02 A – E with the following:

DISPUTE RESOLUTION: In order to assist in the resolution of disputes or claims arising out of the work of this project, the Owner has provided for the following procedures in an escalating fashion.

- A Within 20 calendar days after receipt of a written directive from the Owner's Project Manager to proceed with the protested work, in accordance with Paragraph 8.01. D, the Contractor shall, if the Contractor still objects to such instruction, file a written protest with the Owner's Director of Facilities Management, clearly detailing all of the following:
1. The basis of the objection(s), and
 2. The contract provisions that support the protest, and
 3. The actual or estimated dollar cost, if any, of protested work and how that cost was determined, and,
 4. Estimates or actual amounts of additional time incurred, if any.
- B Within 20 calendar days of receipt of the contractor's appeal for review, the Owner shall arrange a meeting to include the Contractor's Senior Principal (or their designee) and the Owner's Business Manager (or his designee). Such meeting shall be held at a mutually agreed time on the Owner's Campus. Either party may request a Mediator be retained to participate in the dispute resolution process. Both must agree on the choice and share equally in the expense. If in disagreement, the parties agree to allow an independent third party such as the Yakima Dispute Resolution Center to pick one.
- C If the Owner and the Contractor are able to resolve their dispute through this process, the Owner will promptly process any contract changes, otherwise the Owner shall, after review of all the pertinent facts, make a written determination of the dispute and such determination shall be final.
- D If the Contractor disagrees with the final determination of the Owner, the Contractor may, within 45 calendar days, file a Complaint which shall be subject to judicial review as provided under State of Washington case law, in the Superior Court of Kittitas County, Washington, which shall have exclusive jurisdiction and venue over all matters in question between the Contractor. Failure to file such Complaint within the time prescribed shall be deemed acceptance by the Contractor.

PART 10 - MISCELLANEOUS PROVISIONS

10.11 Change to read as follows:

10.11 W/MBE

PARTICIPATION

Goals

CWU encourages participation in all of its contracts by Diverse Businesses as found in RCW Chapters 39, 43, and WAC 326. The voluntary Diverse Business goal of 26%, which is an aggregate of: 10% Minority Business Enterprises (MBE), 6% Women Business Enterprises (WBE), 5% Veteran-owned Business, and 5% Washington Small Businesses self-identified in the Washington Electronic Business Solution (WEBS). Contractors are encouraged to meet or exceed the project goals in the advertisement by any level of participation, regardless of category.

If Contractor has been unsuccessful in complying with these goals for any craft, Contractor shall broaden recruitment, training and job referral opportunities for minorities and women by undertaking each of the following:

- 1 Notify Owner;
- 2 Notify state and community organizations of opportunities for employment, and retain evidence of their responses. Trade associations maintain lists of community organizations that refer minority and women workers for employment in construction trade;
- 3 Maintain a file in which is recorded the name and address of each minority and woman worker referred to Contractor and specifically what action was taken with respect to each such referred worker. If such worker was not employed by Contractor, Contractor's file shall document this and the reason therefore;
- 4 Notify Owner whenever the union with which Contractor has a collective bargaining agreement has not

referred to Contractor a minority or woman worker requested by Contractor, or Contractor has other information that the union referral process has impeded Contractor's efforts to effect minority or women utilization. Contractor shall show what relief has been sought under the collective bargaining agreement or through appropriate federal and state agencies. Appropriate steps can include, but are not limited to, arbitration or administrative relief;

- 5 Hire directly on a non-discriminatory basis for performance of Work, if a court of competent jurisdiction finds that a union with which Contractor has a collective bargaining agreement racially or sexually discriminates in recruitment or dispatch of worker; and
- 6 Use of apprentices or other appropriate entry classifications up to limits allowed or required by applicable collective bargaining agreements to meet the goals.

B Reports

Contractor shall report monthly the total hours of employment on site by craft and category. Reports will be submitted on the form attached to this Section titled "Affidavit of Amount Paid MBA/WBE".

C Compliance Meetings

Upon Owner's request, Contractor and Owner will hold a conference to discuss affirmative action with regard to equal employment opportunity. Review will be made of Contractor's reports and evidence of good faith efforts.

D Definitions

- 1 "Minority is defined as Blacks, Asians (Japanese, Chinese, Filipino), American Indians, Spanish-Americans (includes Mexican-American, Puerto Rican and other people with Spanish surnames not otherwise reported) and other (including Korean, Polynesian, Indonesian, Hawaiian, Aleut, and Eskimo).
- 2 "Craft" is defined as a recognized construction trade for which minimum wage categories are established by the Department of Labor and Industries.

10.14 Add the Following:

10.14 ASBESTOS

A Asbestos Products

Contractor shall ensure that no Asbestos products in any form are incorporated into the Work.

B Good Faith Inspection

- 1 Owner has performed a good faith inspection to determine whether the materials to be worked on or removed contain Asbestos, and will make this inspection report available to all bidders. Contractor shall not commence Work without receiving a copy of this report.
- 2 Contractor shall keep the asbestos inspection report on site.
- 3 The usual policy of the Owner is to identify and abate Asbestos before the Work begins, unless Asbestos abatement is included in the scope of Work of these Contract Documents. In limited cases where Owner is reasonably certain that Asbestos will not be disturbed, Asbestos material are to remain intact in the work area. These materials would be identified in the Asbestos inspection report and Contractor advised of protective measures.
- 4 In some cases, where certain construction or demolition tasks must be performed before the Asbestos can be accessed for removal, or where phasing of the construction does not permit scheduled during the Contract Time. In such cases, Owner and Contractor must coordinate the scheduling of the work of the separate Asbestos contractor.

C Notice

If in the course of performing the Work Contractor encounters an Asbestos Project which was not specifically reference in the Contract Documents, or disturbs Asbestos, Contractor shall immediately stop work and notify Owner. Contractor shall not recommence work until authorized by Owner.

D Delays

Owner will use its best efforts to identify the scope of an Asbestos Project in the Contract Documents. Contractor acknowledges that the condition or scope of an Asbestos Project cannot be fully determined if it would result in disturbance or exposure of asbestos prior to undertaking the Work. If Contractor is significantly delayed during the course of performance because of the presence of Asbestos not identified in the Contract Documents, Contractor may request an equitable adjustment in the Contract Sum in accordance with the provisions of section 7.02.

E Permits

Contractor shall file a Notice of Intent to Remove Asbestos with the Department of Labor and Industries. Prior

to submitting such notice to the Department of Labor and Industries, Contractor shall submit for approval to Owner Contractor's proposed procedures for undertaking the Asbestos Project to assure compliance with Owner's performance standards and applicable regulations.

F Safety Precautions

Contractor shall provide, at Contractor's cost, appropriate clothing, caution sign, supply items, and safety equipment in order to perform the Asbestos Project in accordance with the Regulations and the performance standards of Owner.

During the course of performing an Asbestos Project, Contractor shall monitor the work place and adjacent areas in accordance with the regulations and the performance standards of Owner to ensure that permissible levels of airborne concentrations of asbestos fibers are not exceeded. The results of all monitoring shall be immediately provided to Owner. If the prescribed exposure limits are exceeded, Contractor shall immediately execute a compliance program of engineering and work practices approved by Owner.

G Certification

No Contractor or person shall undertake an Asbestos Project unless certified by the Department of Labor and Industries as a qualified asbestos contractor, supervisor, or worker in accordance with the requirements of WAC Chapter 296-65.

H Records

Contractor shall maintain complete records of personal and environmental monitoring. A copy of these records shall be provided to Owner before Final Acceptance. Contractor is also required by regulation to arrange for medical examinations for those employees who work on an Asbestos Project and to maintain those records for at least twenty years.

I Definitions

- 1 "Asbestos" includes different forms of chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.
- 2 "Asbestos Project" means the construction, demolition, repair, maintenance or renovation of any building, mechanical piping equipment or system involving the demolition, removal, encapsulation, salvage, or disposal of material which may release asbestos fibers into the air.
- 3 "Regulations". For purpose of this section Regulations shall mean the National Emission Standards for Hazardous Air Pollutants (40 CFR 61), Occupational Safety and Health Requirements Pertaining to Asbestos (29 CFR 1910), the Regulations of the Washington State Department of Labor and Industries, WAC Chapters 296-62, -65, -155, and Puget Sound Air Pollution Control Agency (PSAPCA) regulating Asbestos Projects as adopted or hereafter amended.

Attachment: "Affidavit of Amounts Paid MBE/WBE Participants"

END OF SECTION

AFFIDAVIT OF AMOUNTS PAID MBE/WBE PARTICIPANTS
(provide report monthly with each application for payment)

CONTRACTOR: _____ ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____ DATE: _____

STATE CONTRACT/AGREEMENT NO. JOB TITLE/DESCRIPTION _____

CONTRACT BID PRICE MBE COND. OF AWARD _____ WBE COND. OF AWARD _____

MBE/WBE PARTICIPANT NAME AND ADDRESS	WBE	MBE UTILIZATION	DESCRIPTION OF PARTICIPANTS	AMOUNT PAID
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AFFIDAVIT

I, the undersigned, do hereby certify that in connection with all work for the project for which this statement is submitted each MBE/WBE participant contacted by me has been paid the amounts as listed.

\$ _____
TOTAL WBE PARTICIPATION ACHIEVED

SIGNATURE

TITLE

Subscribed and sworn to me this _____ day of 20_

_____ Notary Public in and for the State of Washington residing

at _____

INSTRUCTIONS:

1. Complete this form in triplicate and have it notarized.
2. This form is required to be updated monthly and provided with each payment request from the General Contractor.

SECTION 01 0100 - SUMMARY OF WORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This Section includes the following:
 - 1. Work covered by the Contract Documents.
 - 2. Type of Contract.
 - 3. Permits, Fees and Bonds.
 - 4. Work sequence
 - 5. Owner's occupancy requirements.
 - 6. Contractor Use of Site and Premises.
 - 7. Work restrictions.
- B. Related Sections include the following:
 - 1. Division 1 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections apply to this Section.

1.03 PROJECT

- A. Project Name: Black Hall Roof Replacement
 - 1. Owner's Name: Central Washington University
 - 2. Architect's Name: N/A - CWU Capital Planning Project Manager – Joe Chanes
 - 3. The Project consists of the following:
 - a. Inspect all roof sections for any soft spots in the insulation or structural damage prior to install of new system. Any insulation or structural repair to be billed in addition to contract price.
 - b. Preparation of the existing roofing system prior to installation of new coating system on Black Hall at Central Washington University Campus.
 - c. Install additional metal flashing at areas where metal roofing has a vertical change to reduce risk of leaking.

1.04 CONTRACT DESCRIPTION

- A. Contract Type: Single General Construction Contract based on a single lump-sum price as described in Division 00.

1.05 PERMITS, FEES AND BONDS

- A. The Owner will apply for and obtain a general building permit from the City of Ellensburg, if applicable.
- B. Any other permits and fees necessary for the execution of this work shall be obtained and paid for by the Contractor.

1.06 WORK SEQUENCE

- A. The work will be a single project with one mobilization for completion within scheduled date.
- B. The Contractor shall schedule and supervise the work to minimize the time for each phase, to allow for Owner relocations between phases, and to accomplish completion of all phases within the contract time indicated.
- C. The Contractor shall schedule any work that impairs Owner's adjacent facility operations to after hours or weekends and only as approved by Owner.

1.07 OWNER OCCUPANCY

- A. The subject building will be fully occupied during the period established for the work of this contract.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.

C. Adjacent work by others: The Owner will be executing other construction work on the campus simultaneous to the work of this contract.

1.08 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
 - 1. Contractor's use of the premises will not impede or otherwise impact the work of other contractors and/or work adjacent to the project site.
- B. Arrange use of site and premises to allow:
 - 1. Work by Others.
 - 2. Work by Owner.
- C. Provide access to and from site as required by law.
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.

1.10 WORK RESTRICTIONS

- A. Hours of Operation: 7:00 am - 6:00 pm, Monday – Friday (5) days per week, unless otherwise agreed upon by CWU Project Manager.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated.
 - a. Provide Owner not less than 72 hours' notice in advance of proposed utility interruptions.
 - b. Do not proceed with utility interruptions without Owner's written permission.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARYS

A. Section Includes

1. Project Record Document submittal.
2. Operation and Maintenance manuals.
3. Warranties, Bonds, Extra Stock, and Permits manuals.

1.2 SUBMITTALS

A. Project Record Documents: Submit documents to A/E. The following submittal procedure shall occur prior to Final Acceptance.

1. Submit original copy of as-builts (drawings & specifications) to A/E for review.
2. Compile and organize any drawings or schedules in the Project Manual onto sheets of the same size as the Contract Drawings and submit with other record documents.
3. Contractor will be notified within 15 work days if the submitted documents are acceptable.
4. Should the submittal be unacceptable for any reason, the Contractor shall make requested modifications and resubmit to the A/E. Continue to resubmit as necessary until the submittal is acceptable.
5. Upon acceptance of the submittal, A/E will incorporate the Contractor's as-builts into the A/E's original Contract Documents.

B. Operation and Maintenance Data:

1. Submit one (1) copy of preliminary Operating and Maintenance Manuals for operational and non-operational equipment for review by A/E. Submit for each system upon attaining 50% system completion, together with respective training synopsis; refer to Section 017700. Upon review, A/E will return copy with comments.
2. Submit 1 copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with A/E comments. Revise content of all document sets as required prior to final submission.
3. Within 10 days following receipt of the A/E approval and comments, and prior to Owner training, Contractor shall prepare and transmit to the A/E one (1) final copy of each of the above manuals.

C. Warranties, Bonds, Extra Stock, and Permits:

1. Obtain and assemble executed certificates, warranties, bonds, receipts for extra stock, permits signed by any authorities having jurisdiction, and any required service and maintenance contracts from the respective manufacturers, suppliers, and Subcontractors. These may be tabbed in the front of the General Operation and Maintenance Manual provided they do not over-fill the binder.
2. Verify that documents are in proper form and contain full information.
3. Include originals of each in operation and maintenance manual, indexed separately on Table of Contents.
4. Co-execute submittals when required.

5. Submittal of warranties, bonds, extra stock and permit manual to match submittal requirements of Operation and Maintenance Manual.
6. Provide Table of Contents neatly typed, in complete and orderly sequence. Include complete information for each of the following:
 - a. Product or work item;
 - b. Firm, with name of principal, address, and telephone number;
 - c. Scope;
 - d. Date of beginning of warranty or service and maintenance contract;
 - e. Duration of warranty or service maintenance contract;
 - f. Proper procedure in case of failure;
 - g. Instances which might affect validity of warranty or bond; and
 - h. Contractor, name or responsible principal, address, and telephone number.
7. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
8. Make other submittals within ten days after Date of Substantial Completion.
9. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing the date of acceptance as the beginning of the warranty period.
10. Furnish one (1) executed copy for inclusion into Operation & Maintenance manuals.

PART 2 - PRODUCTS

2.1 PROJECT RECORD DOCUMENTS

- A. Project Record Documents include the following:
 1. Marked-up copies of Contract Drawings.
 2. Marked-up copies of Project Manuals, all volumes.
 3. Addenda.
 4. Reviewed and marked-up copies of shop drawings and product data.
 5. Newly prepared drawings.
 6. Change Orders, RFIs and other modifications to the Contract issued in printed form during construction.
 7. Architect's Clarifications and Proposal Request with all supporting documentation.
 8. Field Authorizations. Record Samples.
 9. Field records for variable and concealed conditions.
 10. Record information on Work that is recorded only schematically.
 11. Manufacturer's instruction for assembly, installation, and adjusting.
 12. Other miscellaneous record documents as listed below and applicable.
 - a. Field records on excavations and foundations.
 - b. Field records on underground construction and similar work.
 - c. Survey showing locations and elevations of underground lines.
 - d. Invert elevations of drainage piping.
 - e. Surveys establishing building lines and levels.
 - f. Authorized measurements utilizing unit prices or allowances.
 - g. Records of plant treatment.
 - h. Ambient and substrate condition tests.

- i. Certifications received in lieu of labels on bulk products.
- j. Batch mixing and bulk delivery records.
- k. Testing and qualification of tradesmen.
- l. Documented qualification of installation firms and/or personnel.
- m. Load and performance testing.
- n. Inspections and certifications by governing authorities.
- o. Leakage and water-penetration tests.
- p. Fire-resistance and flame-spread test results.
- q. Final inspection and correction procedures.

PART 3 - EXECUTION

3.1 PROJECT RECORD DOCUMENTS

A. Maintenance of Documents and Samples:

- 1. Store and maintain in field office apart from the Contract Documents used for construction, one complete set of record documents and samples which are used to record as-built conditions.
- 2. Do not use Project Record Documents for construction purposes; protect from deterioration and loss in a secure fire-resistant location. Maintain record documents in good order and in a clean, dry, legible condition.
- 3. Make record documents and samples available at all times for review by A/E and the Owner.
- 4. Record actual revisions to the Work concurrent with construction progress.
- 5. Ensure entries are complete and accurate, enabling future reference by Owner.
 - a. Following each monthly progress schedule meeting, Contractor shall meet with all major subcontractors whose work is in progress at the site, including but not limited to mechanical, plumbing, electrical, security, fire protection, civil, and as otherwise designated, to review all "as-built" revisions on the day-by-day working set of "Project Record Copy" and verify installed record information from the previous month is properly recorded on the day-by-day "Project Record Copy", with all revisions and pertinent information clearly indicated.

B. Record Drawings and Shop Drawings: A clean, undamaged set of Contract Drawings including coordination drawings and shop drawings shall be kept at the job site as as-built record documents. Record drawings shall be comprised of all sheets contained in the Contract Drawings, as well as all special equipment or systems drawings.

- 1. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawings that show conditions fully and accurately. Where shop drawings, RFI's or other communication record are used to identify a change, record a cross-reference at the corresponding location on the Contract
- 2. Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date. Items required to be marked include, but are not limited to, the following:
 - a. Indicate field changes of dimension and detail.
 - b. RFI's.
 - c. Depths of foundations below the first floor.
 - d. Horizontal and vertical measurements of underground services and utilities, referenced to the building or other permanent construction.
 - e. Note changes of directions and locations, by dimensions and elevations, as utilities are actually installed.

- f. Duct size and routing. Indicated locations of mechanical dampers, valves, reheat boxes, cleanouts, and other items that require maintenance.
 - g. Show measured locations of construction-concealed internal utilities and appurtenances referenced to visible and accessible features of the structure.
 - h. Record accurate locations of piping, valves, traps, dampers, duct work, equipment, and the like.
 - i. Revisions to electrical circuitry.
 - j. Indicate details not on original Contract drawings.
 - k. "X-out" conditions not constructed and appropriately annotate "not constructed" to convey the actual "as constructed" condition.
3. Mark record sets in a clear, legible manner, using red ink (no pencils); use other colors to distinguish between variations in separate categories of the work. Use 'whiteout' to erase errors.
 4. Mark new information that is important to Owner, but which was not shown on Contract Documents or Shop Drawings.
 5. Show addenda items, change orders, RFI, or other means of communication used in the construction process.
 6. Show and date revisions to drawings with a "cloud" drawn around the revision.
 7. Organize record drawing sheets in manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set. Where shop drawings, RFI's or other communication record are used as a reference, include a copy of them as part of the record drawings.
 8. Shop Drawings:
 - a. Maintain as record documents; legibly annotate to record changes made after review.
 - b. Include subcontractor reproducible shop drawings for all special equipment including as a minimum where applicable to the project, ductwork layout, fire sprinkler system layout, temperature control system, fire alarm system, intrusion alarm system, communications systems, data systems, detention security systems and others as deemed appropriate. Record Drawing shop drawings shall be easily reproducible; as appropriate and approved by the A/E.
 9. Project Manual(s): During the construction period, maintain one complete copy of the Project Manual(s), including Specifications, Detail Book(s), addenda, and one copy of other written construction documents, such as Change Orders and RFI's issued in printed form during construction.
 - a. Legibly mark these documents in red ink to show substantial variations in actual work performed in comparison with the text of the specification and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and product data. Record at each product section description of actual products installed, including the following:
 - 1) Manufacturer's name and product model and number.
 - 2) Product substitutions or alternates utilized.
 - 3) Changes made by Addenda and modifications.
 - b. Mark schedules, details, etc., to indicate the actual installation where the installation varies from that indicated in the documents and modifications issued. Complete information in accordance with paragraph below for all detail drawings.
 - c. Each prime contractor (Subcontractor) is responsible for marking up Sections that contain its own Work.
 - d. General Contractor shall be responsible for collecting marked-up record Sections from each of the other prime contractors. General Contractor shall also be

- responsible for collating these Sections in proper numeric order with its own Sections to form a complete set of record Specifications.
- e. General Contractor shall be responsible for submitting the complete set of record Specifications as specified.
10. Record Product Data:
 - a. Maintain one copy of each product data submittal, and mark-up variations in actual work in comparison with submitted information. Include both variations in product as delivered to site, and variations from manufacturer's instructions and recommendations for installation.
 - b. Give particular attention to concealed products and portions of the work which cannot otherwise be readily discerned at a later date by direct observation. Note related change orders and mark-up of record drawings and project manuals.
 - c. Note related Change Orders and mark-up of record Drawings, where applicable.
 - d. Upon completion of mark-up, submit complete set to Architect for Owner's records.
 - e. Where record Product Data is required as part of maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as record Product Data.
 - f. Each prime contractor (Subcontractor) shall be responsible for marking up and submitting record Product Data for its own Work.
 - g. Insofar as possible, insert record product data in individual sub-sections of O&M Manuals. Refer to 3.5 below.
 11. Record Sample Submittal: Immediately prior to date(s) of substantial completion, A/E will meet with Contractor at site, and will determine which (if any) of submitted samples maintained by Contractor during progress of the work are to be transmitted to Owner for record purposes. Comply with A/E's instructions for packaging, identification marking, and delivery to Owner's sample storage place.
 12. Miscellaneous Record Submittals: Refer to paragraph above for listing of miscellaneous record documents and to other Sections of these specifications for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the work. Immediately prior to date of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to A/E for Owner's records.
- 3.2 OPERATION AND MAINTENANCE DATA – GENERAL
- A. General: For all operational equipment installed, Contractor shall submit operation and maintenance documents in manuals as specified herein.
 - B. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
 - C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
 - D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
 - E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- 3.3 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS
- A. Content for Operational Equipment.

1. Product Data.
 - a. Compile product data and related information for Owner's maintenance and operation. All manufacturer literature shall be original printed matter; photocopies, printouts from websites or other non-original reproductions are not acceptable.
 2. Product data shall contain detailed information relative to the following:
 - a. Description of unit or system, and component parts.
 - b. Equipment functions, normal operating characteristics, and limiting conditions.
 - c. Assembly, installation, alignment, adjustment and checking instructions.
 - d. Operating instructions and sequences for start-up, break-in, routine and normal operation, regulation and control, shutdown, and emergency conditions. Include control diagrams and sequence of operation by controls manufacturer.
 - e. Routine procedures and guide for preventative maintenance and trouble shooting, including a schedule of recommended checks; disassembly, repair, and reassembly instructions.
 - f. Detailed servicing and lubrication schedule. Include list of lubricants required.
 - g. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
 - h. Complete nomenclature and model number of replaceable parts. Include with list manufacturer's current prices and recommended quantities to be maintained in storage.
 - i. Safety precautions and safety features.
 - j. Outline, cross-section and assembly drawings, engineering data, and color coded wiring diagrams as installed.
 - k. Test data and performance curves.
 - l. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
 - m. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
 - n. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
 - o. Test and balancing reports.
 3. Include only sheet pertinent to specific product.
 4. Annotate each sheet to:
 - a. Clearly identify specific product or part installed.
 - b. Clearly identify data applicable to installation.
 5. Delete references to inapplicable information.
- B. Drawings.
1. Supplement product data with drawings as necessary to clearly illustrate relations of component parts of equipment and systems.
 2. Coordinate drawings with information in Project Record Documents to ensure correct illustration of completed installation.
 3. Do not use Project Record Documents as maintenance drawings.
- C. Supplement product/installation data with written text.
1. Organize in consistent format under separate headings for different procedures.
 2. Provide logical sequence of installations for each procedure.
- D. Special Mechanical Subcontractor Requirements: Comply with Divisions 21 through 25 requirements.

- E. Special Electrical Subcontractor Requirements: Comply with Divisions 26 through 28 requirements.

3.4 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For all A/E non-operational products, applied materials and finish items installed, including but not limited to, floor coverings such as vinyl composition tile, acoustical ceiling panels, marker boards, etc., Contractor shall submit maintenance information as specified herein. Provide detailed information relative to the following:
 - 1. Manufacture's data, giving full information on products.
 - a. Catalog number, size, and composition.
 - b. Color and texture designations.
 - c. Information required for re-ordering special manufactured products.
 - 2. Instructions for care and maintenance.
 - a. Manufacturer's recommendation for types of cleaning agents and methods.
 - b. Cautions against cleaning agents and methods, which are detrimental to the product.
 - c. Recommended schedule for cleaning and maintenance.
 - d. Instructions and recommendations for repair of finish.
 - e. Moisture protection and weather-exposed products.
 - 1) Include product data listing applicable reference standards, chemical composition, and details of installation.
 - 2) Provide recommendations for inspections, maintenance, and repair.
- B. For additional requirements for maintenance data, see respective Specification Sections.
- C. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

3.5 OPERATION AND MAINTENANCE MANUALS

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products. Prepare data in the form of an instructional manual.
- B. Format of Operation and Maintenance Manuals
 - 1. Binders:
 - a. Commercial quality, stiff cover, metal-hinged 8-1/2 x 11 inch three D side ring binders with durable and cleanable plastic covers.
 - b. Provide suitable ring size for content with a 3-inch maximum size.
 - c. When multiple binders are used, correlate data into related consistent groupings.
 - 2. Cover and Spine: Identify the cover and spine of each volume with typed or printed title of the project, project number, and the words OPERATION AND MAINTENANCE INSTRUCTIONS.
 - 3. For Contractor produced pages, paper shall be 8-1/2" x 11", white, 20 pound minimum.
 - 4. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
 - 5. Text: Manufacturer's printed data, or typewritten data.
 - 6. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages and inset into prepared document sleeves.
 - 7. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.

8. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
 - a. Part 1: Directory, listing names, addresses, and telephone numbers of A/E, A/E Consultants, Contractor, Subcontractors, and major equipment suppliers.
 - b. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - 1) Significant design criteria.
 - 2) List of equipment.
 - 3) Parts list for each component.
 - 4) Operating instructions.
 - 5) Maintenance instructions for equipment and systems.
 - 6) Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - c. Part 3: Project documents and certificates, including the following:
 - 1) Shop drawings and manufacturer's printed product data.
 - 2) Air and water balance reports.
 - 3) Certificates.
 - 4) Photocopies of warranties and bonds.
 - 5) Materials Safety Data Sheets (MSDS) for each product used on the Project.
 - d. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.
 - e. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

3.6 WARRANTIES, BONDS, AND PERMIT MANUAL

A. Project Warranty - General:

1. If, within one (1) year after the Date of Substantial Completion of the Work, or designated portion thereof, or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor, and where applicable, his subcontractor that portion of the work, shall correct it promptly after receipt of a written notice from the Owner or Architect to do so. This obligation shall survive Termination of the Contract. The Owner will give such notice promptly after discovery of the condition.
2. Refer to Section 017836 for administrative and procedural requirements for tracking project warranty issues subsequent to date of Substantial Completion.

B. Categories Of Specific Warranties:

1. Warranties on the work are in several categories, including those of General Conditions, and including (but not necessarily limited to) the following specific categories related to individual units of work specified in the technical sections of these specifications.
 - a. Special Project Warranty (Guarantee): A warranty specifically written and signed by Contractor for a defined portion of the work; and, where required, countersigned by subcontractor, installer, manufacturer or other entity engaged by Contractor.
 - b. Specified Product Warranty: A warranty which is required by contract documents, to be provided for a manufactured product incorporated into the work; regardless of whether manufacturer has published warranty without regard for specific incorporation of product into the work, or has written and executed warranty as a direct result of contract document requirements.

- c. **Coincidental Product Warranty:** A warranty which is not specifically required by contract documents (other than as specified in this section); but which is available on a product incorporated into the work, by virtue of the fact that manufacturer of product has published warranty in connection with purchases and uses of product without regard for specific applications except as otherwise limited by terms of warranty.
 2. Refer to individual sections for the determination of units of work which are required to be specifically or individually warranted, and for the specific requirements and terms of those warranties (or guarantees).
- C. **Disclaimer and Limitations:** Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.
- D. **General Limitations:**
 1. It is recognized that specific warranties are intended primarily to protect Owner against failure of the work to perform as required, and against deficient, defective and faulty materials and workmanship, regardless of sources.
 2. Except as otherwise indicated, specific warranties do not cover failures in the work which result from: 1) Unusual and abnormal phenomena of the elements, 2) The Owner's misuse, maltreatment or improper maintenance of the work, 3) Vandalism after time of substantial completion, or 4) Insurrection or acts of aggression including war.
- E. **Related Damages & Losses:**
 1. **General:** In connection with Contractor's correction of warranted work which has failed, remove and replace other work of project which has been damaged as a result of such failure, or must be removed and replaced to provide access for correction of warranted work.
 2. **Consequential Damages:** Except as otherwise indicated or required by governing regulations, special project warranties and product warranties are not extended to cover damage to building contents (other than work of Contract) which occurs as a result of failure of warranted work.
- F. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.
- G. **Reinstatement Of Warranty Period:** Except as otherwise indicated, when work covered by a special project warranty or product warranty has failed and has been corrected by replacement or restoration, reinstate warranty by written endorsement for the time period starting on the date of acceptance of replaced or restored work and ending upon date original warranty would have expired if there had been no failure, with an equitable adjustment for depreciation.
- H. **Replacement Cost, Obligations:** Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. Contractor shall be responsible for the cost of replacing or restoring defective Work regardless of whether the Owner has benefited from use of the Work through a portion of anticipated useful service life.
- I. **Owner's Recourse:** Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, right, and remedies otherwise available

under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.

- J. Rejection of Warranties: Owner reserves the right, at time of final acceptance or thereafter, to reject coincidental product warranties submitted by the Contractor, which in opinion of Owner tend to detract from or confuse interpretation of requirements of Contract Documents.
- K. Contractor's Procurement Obligations: Do not purchase, subcontract for, or allow others to purchase or sub-subcontract for materials or units of work for project where a special project warranty, specified product warranty, certification or similar commitment is required, until it has been determined that entities required to countersign such commitments are willing to do so.
- L. Co-execute warranties when required. Provide originals of each for inclusion in each operation and maintenance manual.
- M. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 07 5617 – LIQUID COATING RECOVER SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 DESCRIPTION

- A. Remove Furnish and install an instant-setting, liquid-applied, roof membrane system complete, in place, specified herein, or needed for a complete and proper watertight and warrantable installation. A rubber liquid roof recover system shall be monolithically applied in one spray coat to the field and flashing areas at specified rate to create a membrane. Brush-Grade Rubber or equivalent is used as a patching and flashing reinforcement compound to the system as needed after it has cured. Apply a continuous energy efficient and sustainable elastomeric topcoat, to the entire roof surface for UV protection, water resistance, and thermal shock reduction.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Complete material list of all items proposed to be furnished and installed under this section along with product data sheets and SDS sheets for each
- B. Manufacturer's pre-review comments and other data required to demonstrate compliance with specified requirements.
- C. Moisture scan findings using a Tramex moisture meter or an infrared camera to check for pre-existing moisture in the old roofing system that will require replacement prior to installation of the liquid recover system.
- D. Adhesion test results for in-situ test at two locations.

1.4 QUALITY ASSURANCE

- A. Pre-Install Conference: Conduct conference at Project site in conjunction with roofing pre-installation conference identified in Division 7 Sections and to comply with requirements in Division 1 Section "Project Management and Coordination."
- B. Qualifications of Manufacturer: The core products used in the roofing work and included in this section shall be manufactured directly by the manufacturer and not through a third-party mixing company or private label. Quality control measures include testing and retaining samples of every product batch by the manufacturer.
- C. Qualifications of Installers: The Contractor and his personnel shall be currently approved by the manufacturer and only those spray technicians who have been certified through the manufacturer's training program are to spray the roof membrane.
- D. Roofing Inspections: Make all required notifications and secure all required inspections by the manufacturer of the approved materials to facilitate issuance of the specified roof warranty.
- E. Manufacturer's Pre-Review: The manufacturer shall review and approve the existing roof substrate that is to be recovered with the coating system with respect to the appropriateness of the substrate for use of their recover system on this project.
- F. Spray Equipment: The liquid roof membrane and topcoat may only be applied with spray equipment specifically recommended for the products and approved by the manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. 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.

1.6 PROJECT CONDITIONS

- A. Owner will occupy the building throughout construction. Conduct selective demolition so Owner's operations will not be disrupted.
- B. All building entrances are to remain operational at all times. Provide overhead protection, warning signs, and other means of protection as appropriate or required, when demolition activities occur above such entrances.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with materials removal.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.

1.7 ENVIRONMENTAL LIMITATIONS

- A. Do not remove existing roofing membrane when weather conditions threaten the integrity of the building contents or its continued occupancy.
- B. Maintain continuous temporary protection during and prior to installation of new roofing systems.

1.8 SCHEDULING

- A. Schedule work to coincide with commencement of installation of new roofing system. Remove existing roofing materials that can be replaced with new materials the same day as weather will permit.
- B. Existing surfaces shall be cleaned by pressure washing. Clean surfaces to a condition conducive to positive adhesion per manufacturer's requirements prior to application of the liquid-applied system. Unapproved curing compounds, form release agents, petroleum distillates, animal fats, and other contaminants shall not come into contact with approved substrate after cleaning. Contractor shall complete installation of the rubber membrane within two (2) days after cleaning of substrate.

1.9 WARRANTY

- A. SAs part of the work of this section, pay all required fees, secure all required inspections and testing, and complete all items necessary to secure and deliver to the Owner a manufacturer's warranty of 20 years.
- B. Contractor to provide photographs of areas to receive liquid membrane before start of work, during surface preparation, during spray application, and at completion of work for warranty acceptance.

PART 2 - PRODUCTS

2.1 General

- A. Minimum product requirements have been listed. All of these components must be used and bid. Products not supplied by the manufacturer are to be purchased from a manufacturer approved source.

2.2 Products Supplied by Warranty Manufacturer

- A. 2K Liquid Membrane – Two-Component, Cold Spray-Applied Synthetic Rubber . Basis of Design: Tritoflex 2K)

Spray-applied, instant-setting liquid-applied membrane, and applied by a manufacturer certified installer to create a waterproofing membrane. The liquid product is water-based and solvent-free. Product to be instant-setting seamless rubberized roof membrane. Waterproof within one hour once spray-applied to the substrate and catalyzed by an accelerator component. The liquid is spray-applied to achieve a minimum monolithic membrane thickness of 80 dry mils AND a 20-year warranty, and possess physical properties of no less than the values listed below:

Property	Test Method	Value
Solid Content	Vacuum cure	63%
Flame Exposure	ASTM E108	Class A, Self-Extinguishing
Water Vapor Permeability	ASTM E96	0.1 perms
Elongation	ASTM D412	1200% or greater
Tensile Strength	ASTM D412	500 psi or greater
Hydrostatic Pressure	BS EN 12390-8	Pass – No penetration
Impact and Hail Resistance	ASTM D3746	Pass
Dynamic Puncture Resistance	ASTM D5635	2.80 J/mm or greater
Pull-Off Adhesion to Cap Sheet (1000 hr UV)	ASTM D4541	700 psi or greater
1000 hr UV Exposure (Xenon)	ASTM G155	No effect
Cured to the Touch	After Sprayed	Instantly
VOC Content	--	None
Wind, Fire, Hail, Foot Traffic, UV	FM 4470	Pass (Class A, Severe Hail)

B. Patching and Flashing Membrane – One-Component, Brush-Applied Rubber

- i. Basis of Design: TritoFlex 1K Brush-Grade Rubber – Brush-applied, water-based, solvent-free, single-component waterproofing membrane manufactured by Triton Inc. Touch up patching and reinforcing of flashing areas with TritoFlex 2K membrane.

C. Reflective/ Protective Topcoat (Select the appropriate coating that meets the building requirements)

- i. Basis of Design: TritoCryl 2K: Highly reflective, instant-setting, water-based acrylic elastomeric topcoat manufactured by Triton Inc. It is spray-applied to the substrate using specialized equipment manufactured by Triton Inc. and catalyzed by an accelerator component. Available in white only.
- ii. Basis of Design: TritoCryl 1K: Highly reflective, water-based acrylic elastomeric topcoat. It is spray-applied using standard airless spray equipment, brush-applied, or roller-applied. Manufactured by Triton Inc. and typically provided in white, gray, or tan. Custom colors available upon request.

D. Catalyst (Accelerator)

- i. Basis of Design: 2K ACCELERATOR: Specialty non-toxic, food-grade Calcium Chloride (CaCl) and water mixture used as the catalyst component in conjunction with spraying the TritoFlex 2K Rubber and TritoCryl 2K Top Coat, allowing for the rapid build-up of the membrane to any thickness desired in one coat. The dry CaCl mixture is supplied by Triton, Inc. and the applicator mixes with water per the manufacturers' requirements on the job site. Alternate catalysts are in no way allowed, as they will cause damage to the final product.

E. Walkways

- i. Basis of Design: TritoWalk: Water-based acrylic elastomeric coating used as a seamless walkway coating. Contains on aggregate to form a textured, non-slip surface with high abrasion resistance. TritoWalk can be reinforced with polyester fabric to provide a higher level of protection from equipment damage in areas of high abuse. Available in gray or yellow; supplied by Triton, Inc.

F. Reinforcement Fabric

- i. Basis of Design: PolyFab: High-strength polyester fabric, used to reinforce high-stress and high-movement areas underneath the TritoFlex 2K product or within the TritoFlex 1K product.

- A. Spray machine and testing gauges/meters
 - i. Basis of Design: Triton High Production Spray Machine: dual-component spray rig consisting of spray gun, hoses, pumps, and cart, specifically manufactured and supplied by Triton, Inc.
 - ii. Basis of Design: TritoFlex 2K mil gauge for testing wet mil thickness while spraying the liquid membrane.
 - iii. Standard paint mil gauge for testing wet mil thickness of topcoat.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped or otherwise protected.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of removal required.
- C. When unanticipated mechanical, electrical, or structural elements conflict with material removal, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

3.2 PREPARATION

- A. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to remaining portions of buildings, adjacent buildings, and all other facilities to remain. Provide protection to ensure safe passage of people around work areas and to and from occupied portions of building.

3.3 PREPARATION FOR RE-ROOFING, GENERAL

- A. General: Remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations. Examine the existing roof conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work such as wet underlying insulation, loose membrane, peeling existing coating and severe degradation. Do not proceed until such conditions have been corrected. Remove existing roofing materials in the manner most effective for the existing system that does not damage the substrate or other elements to remain.
- B. Convey, collect, transport, and dispose of all material removed. Transport material removed to suitable collection points taking care to control dust, wind-blown debris, etc. Provide chutes or other containment to prevent migration of debris out of the collection/transport system.
- C. Except where identified to be reinstalled, remove demolished items and materials from project site promptly and legally dispose of them.
- D. Removed and Reinstalled Items:
 - 1. Clean and repair items to functional condition adequate for intended reuse.
 - 2. Protect items from damage during storage.
 - 3. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during re-roofing preparation operations. When permitted by Architect, items may be removed to a suitable, protected storage location and reinstalled in their original locations after re-roofing preparation operations are complete.

3.4 SELECTIVE REMOVAL PROCEDURES FOR SPECIFIC MATERIALS

Description

- B. Examine the existing roof conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work such as wet underlying insulation, loose membrane, peeling existing coating and severe degradation. Do not proceed until such conditions have been corrected.

3.5

Surface Conditions

- A. Surfaces scheduled to receive waterproofing are to be sound, clean, dry and free of any dust, grease, oil, laitance, and other contaminants.
- B. Substrate is to be free of sharp projections and free of loose components.
- C. All loose, peeling or flaking existing coating is to be removed to provide a suitable substrate.
- D. The existing roof system is to be scanned for moisture to locate and replace any wet areas of insulation, trapped moisture, or, if applicable, wet gypsum deck, with new insulation and membrane to match existing. Insulation and membrane replacement must be properly attached prior to application of Tritoflex 2K system.

3.6 Installation – Preparation of Substrate

- A. Protect all adjacent surfaces from overspray at all times. Taping off surfaces with painter plastic to prevent overspray onto surfaces and to establish clean straight edge termination lines on the new liquid membrane flashings is required. Use care when masking air intakes and HVAC units so as not to block all ventilation and potentially damage the unit.
- B. Repair all defects in existing substrates including; loose field membrane and flashings, open laps and corners, and severe alligating as required by manufacturer. Like materials to the existing roof type are recommended.
- C. All existing metal flashings that are specified to remain must be inspected for watertightness. Any flashing metal such as counterflashing, termination bar, coping caps, edge metal, etc., shall be properly repaired or replaced to achieve a watertight condition. Consult with Manufacturer for further clarification.
- D. Remove all dirt, debris, and loose materials from the surface of the roof.
- E. Existing surfaces shall be cleaned with pressure washing equipment to a condition conducive to positive adhesion of the Tritoflex 2K, per manufacturer's requirements prior to application of the liquid-applied system. Unapproved curing compounds, form release agents, petroleum distillates, animal fats, and other contaminants shall not come into contact with approved substrate after cleaning. Contractor shall complete installation of Tritoflex 2K membrane within two (2) days after cleaning of substrate. If more than two (2) days have passed, the substrate must be pressure washed again. The surface must be completely free of any residue, dust, or dirt after washing. No residue or debris should wipe off onto a cloth or hand.
- F. All loose, peeling or flaking existing coating is to be removed down to sound material.
- G. Verify the substrate is visibly dry on the surface and free of moisture within its components. Moisture meters, infrared scanning, or capillary moisture tested by plastic sheet method according to ASTM D-4263, may be necessary. If moisture is present on the substrate it must be allowed to dry prior to proceeding with Tritoflex 2K application. If moisture is present within the old roofing system components, they must be removed and replaced with same materials prior to installation of Tritoflex 2K. It is important that shrinkage or stress in the old roofing material be relieved after it is cut open to prevent additional movement/shrinkage after installation.
- H. Install one-way vents every 1,200 sq. ft. to allow relief of vapor pressure. Cut a hole through the existing membrane and insulation, but not through the deck. The hole should not be larger than the diameter of the venting space. Fill the hole with loose-fill insulation to prevent condensation. Place the flange of the one-way vent on top of the modified bitumen roofing membrane. Install a minimum of four fasteners in the flange if over a steel or wood deck. Set flanges in one-part pourable sealer if over a concrete, lightweight, or gypsum deck. Immediately seal to a watertight condition with Tritoflex 2K, Tritoflex 1K, or approved Mod-Bit flashing materials.

3.7 Installation of Liquid Membrane

- A. General:
 - i. Stir materials prior to application in accordance with manufacturer's instructions.
 - ii. Spray instant-set Tritoflex 2K and Accelerator as a continuous, monolithic membrane of uniform thickness, beginning at the lowest point and terminating at the highest point. Final membrane thickness after full cure must be a minimum, on all surfaces, 97 wet/60 dry mils for 10-year and 15-year warranties and 130 wet/80 dry mils for 20-year warranties.

- iii. When a spot repair is required during application, re-spray defect area within 15 minutes of initial spray application so entire membrane cures monolithically.

B. Horizontal and Vertical Application:

- i. Spray-apply one continuous layer of Tritoflex 2K Rubber waterproofing membrane, covering all areas of the field and flashings to achieve a cured dry mil membrane thickness of 60 or 80 mils, depending on warranty requirements.
- ii. Perform wet mil thickness tests (with a manufacturer supplied mil gauge) at regular intervals while spraying to assure a minimum of 97 wet mils throughout for 60 dry mils, and 130 wet mils for 80 dry mils. Immediately re-spray spots checked with gauge to fill in void.
- iii. If necessary, chalk-line or spray-paint a grid across the roof prior to application to gauge product use per drum within a particular section of the roof area. To achieve 60 dry mils, the average rate shall be 800 sq. ft per drum. To achieve 80 mil dry, the average rate shall be 600 sq. ft. per drum. This application rate will vary based on number of seams, penetrations, surface texture and conditions, etc.

Wet/Dry Mil Thickness	Coverage Rate Per Drum*
97/60	800 square feet
130/80	600 square feet

**does not include allowances for surface texture*

- iv. If reinforcement fabric is to be used, first apply a thin base layer of Tritoflex 1K (or Tritoflex 2K liquid with no Accelerator) on the surface. Embed 4" or 6" polyester fabric into the wet, coating and use a brush to smooth and saturate the fabric with the coating. Apply more product, if needed, to fully saturate the fabric, but not create any pooling. Immediately apply Tritoflex 2K with the Accelerator on top of the reinforcement to create the final membrane. Please consult with Manufacturer or Designer for details on where reinforcement is required.
- v. Refer to manufacturer's recommendations and details for proper membrane terminations.

3.8 Installation of Brush-Grade on Flashings, Penetrations, and Transitions

A. Transition Detailing and Flashing, including Pipes, 90-Degree Angles, Gutter Transitions, Penetrations, Curbs, Inside and Outside Corners, Etc.: All flashing details and transition changes shall be prepared as follows:

- i. After the Tritoflex 2K membrane is fully dry to the touch with no moisture coming out of the membrane when pressed by hand, all flashing transitions shall receive an additional brush application of Tritoflex 1K Brush-Grade. Additionally, apply Tritoflex 1K Brush-Grade to any visible voids, imperfections, or thin spots in Tritoflex 2K membrane prior to rinsing and applying top coatings. Tritoflex 1K Brush-Grade to be installed by brush or trowel at 97 wet mils to achieve 60 mils dry.
 - a. Brush apply a 97 wet mil course of Tritoflex 1K Brush-Grade to extend 3" on each side of all curb corner transitions, 90-degree angles, under metal flashings, base and top edge of all pipe penetrations.
 - b. The field of the roof shall be checked over for imperfections in the Tritoflex 2K spray application and Tritoflex 1K shall be brush-applied wherever needed to reinforce suspected thin spots or spray defects. Tritoflex 1K shall be allowed to cure fully prior to top coating applications. Typical cure time allowance is 24 hours with good weather conditions.

B. Roof Drain Flashing:

- i. Check existing drain ring bolts and ensure all are tight. After Tritoflex 2K roof membrane installation is completed on area outside of drain and after proper cure time and rinsing, Tritoflex 1K Brush-Grade shall be applied around inside and outside of the drain ring as well as within the drain bowl to fully seal under the existing membrane to prevent water back-up under the membrane.
 - a. Apply 97 wet mils to achieve 60 mils dry of Tritoflex 1K over Tritoflex 2K roof membrane, extending from inside of drain to 3" outside of clamping ring.

3.9 Installation of Topcoat and Final Check

- A. After the TritoFlex 2K and TritoFlex 1K products are fully dry to the touch with no moisture coming out of the material when pressed on with a hand, rinse and wash dried accelerator from all TritoFlex 2K surfaces with clean water until dried accelerator residue is rinsed completely off of the roof. The surface should be completely dry prior to applying top coatings. A pressure washer with a wide tip should be used.
- B. Following the application of TritoFlex 2K roof membrane described above, apply the specified reflective, sacrificial topcoat: TritoCryl 2K, TritoCryl 1K or TritoTherm. All topcoats are to be installed per Triton's guidelines to achieve a final minimum dry film thickness of 30 wet/20 dry mils for 10-year and 15-year warranties. 20-year warranties require a topcoat applied at 50 wet/30 dry mils.
 - i. TritoCryl 2K is instant-set and installed in one coat to the thickness required.
 - ii. TritoCryl 1K Topcoat is installed in two coats and the first coat is to be back-rolled when applying by sprayer, to assure full coverage to textured TritoFlex surface.
- D. Installation of top coating shall occur after the TritoFlex 2K membrane and TritoFlex 1K B flashings are fully dry, cured, and rinsing of Accelerator has dried. If top coating is performed later than three (3) days after completion of TritoFlex 2K membrane, pressure washing is required to remove dust, dirt, and debris accumulations.
- E. In certain climate zones, a reflective topcoat may not be required when approved in writing by Triton Inc. In this event, a thorough rinsing of dried Accelerator should still occur after TritoFlex 2K and TritoFlex 1K are applied and dry.
- F. If applying a granulated wear layer, broadcast 40-50 lbs. of roof granules per 100 sf in a 15 wet mil layer of TritoFlex 2K with no Accelerator over the entire surface. The granules must be supplied by Triton Inc. and approved for use in the specific climate zone and project location.

3.10

Field Quality Control

- A. Use of specialized equipment such as a mil gauge supplied by the manufacturer to check the liquid membrane thickness during application and a good quality digital camera to provide photos to manufacturer of installation is required.
- B. Contractor to provide photographs of areas to receive liquid membrane before start of work, during surface preparation, during spray application, and at completion of work for warranty acceptance.

3.11

Clean-Up

- A. All debris shall be removed from the premises promptly and the construction area left clean daily.
- B. All overspray of products must be cleaned from surfaces not scheduled to receive the waterproofing membrane.
- C. At the completion of the contract, Contractor is to remove and dispose of all equipment or temporary facilities related to their contract within 3 days.

3.5 TEMPORARY PROTECTION

- A. Provide temporary weather protection, during interval between removal of existing construction and new construction, to prevent water leakage and damage to building components and interior areas. In addition to those provisions listed herein, adhere to protection requirements specified in Division1 Section "Construction Controls."
- B. Provide temporary protective sheeting over uncovered roofing surfaces. Carry sheeting up and over parapets and curbing. Provide weights and fasteners as necessary to hold protective sheeting in place during periods of high wind. Provide for surface drainage from sheeting to existing drainage facilities.
- C. Do not permit traffic over unprotected roofing surfaces.

3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by re-roofing preparation operations. Return adjacent areas to condition existing before such operations began.

3.7 SCHEDULE OF EXISTING ROOFING

A. The following information is provided for convenience of bidders. It is the bidder's responsibility to verify existing conditions prior to submitting a bid on this Project. Submittal of bid constitutes acknowledgement that the bidder has verified existing conditions.

1. Low-Slope roofing:
 - a. Insulation: 4" Polyisocyanurate with tapered polyisocyanurate drainage crickets + 1/2" coverboard
 - b. Existing Roofing: 60-mil EPDM fully-adhered
 - c. Substrate Deck: Plywood, sloped .05/12
 - d.
2. High-Slope roofing:
 - a. Insulation: 4" Polyisocyanurate with plywood facing (Nail-Board)
 - b. Existing Roofing: Zinc standing seam metal over self-adhered high-temperature membrane underlayment
 - c. Substrate Deck: Plywood, sloped 12/12
 - d.
 - e.

END OF SECTION