INVITATION TO BID

AND

SPECIFICATIONS

FOR

**Public Works Roof Rehabilitation-2016**

CITY OF ST. CHARLES

ILLINOIS

2016

SPECIFICATION # 160706

BID OPENING: July 6, 2016

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SPECIFICATION # 160706

BID OPENING : July 6, 2016

MWS:cjb

bids\Roof PW-Rehab

SECTION I

INVITATION TO BIDDERS

The City is seeking a qualified contractor to perform roof rehabilitation through urethane coating on a section of its Public Works Garage, located at 200 Devereaux Way. The roof section is approximately 170' x 200 (exact dimensions to be verified in the field by the contractor) with 62 skylights. The project includes the removal of the skylights and replacing them with metal panels, securing all fasteners, and coating the roof.

A mandatory pre-bid meeting will be held at 10:00 AM on Monday, June 27, 2016, at the Public Works Facility (200 Devereaux Way).

Sealed bids will be received at the Office of the Purchasing Manager, Two East Main Street, St. Charles, Illinois, **no later than** 2:00 p.m., Wednesday, July 6, 2016, for Public Works Roof Rehabilitation-2016.

Bids will be opened publicly and read aloud in the Council Chambers at 2:00 p.m., Wednesday, July 6, 2016.

These Bids are available via the City Website. Alternatively, specifications and bidder information may be obtained at the Office of the Purchasing Manager, City of St. Charles, 200 Devereaux Way, St. Charles, IL 60174.

**All sealed envelopes must be clearly marked for which proposal they pertain to.**

**CITY OF ST. CHARLES**
Mike Shortall
Inventory Control & Purchasing Manager

## SECTION II
## INFORMATION TO BIDDERS

1. **GENERAL CONDITIONS:**

A. Bids shall be submitted in a sealed envelope, inserted in a larger sealed envelope. Both envelopes shall be clearly marked with the word "Bid", and the name of the project or subject of the bid. (Sec. 2.33.200A of the St. Charles Municipal Code). The outer envelope shall be addressed "Purchasing Manager, City of St. Charles, Two East Main Street, St. Charles, IL 60174." Include a return address on both envelopes. Bids received after the specified time and date will be returned unopened. Bids shall be on City of St. Charles bid form and shall be returned attached to the original specification sheets. Copies are not acceptable. **All bids submitted are binding for sixty (60) calendar days following the date of the bid opening.**

B. All bid proposals must be signed with the firm name and by an authorized officer or employee of the company. One bid per bidder is allowed.

C. The award of bids shall be made, after determination of the successful bidder by the City Council, by issuance of a City purchase order from the City of St. Charles purchasing manager to the successful bidder.

D. The City of St. Charles reserves the right to waive minor specification deviations and reject any or all bids, and to accept the bid, which is in the opinion of the City Council, the lowest conforming bid from a responsible bidder as defined by state law and Sec. 2.33.230 of the St. Charles Municipal Code.

E. All bids must be quoted on the basis of delivery to the City storeroom, 200 Devereaux Way in St. Charles, IL. The price shall be stated in units and bids made on each item separately. In case of conflict, the unit price shall govern. The City reserves the right to award the bid in aggregate or on individual items.

F. All taxes, storage, handling and delivery costs incurred prior to receipt of the material by the City must be assumed by the successful bidder.

G. All taxes, storage, handling and delivery costs incurred prior to receipt of the material by the City must be assumed by the successful bidder.
The City of St. Charles is exempt from paying Illinois Use Tax, Illinois Retailers Occupation Tax, Federal Excise Tax, and Municipal Retailer's Occupation Tax.

The Illinois Department of Revenue tax exempt form can be obtained through the City of St. Charles Office of Purchasing.

The winning bidder will be required to complete the requested information included on this form. It is the purpose of this document to allow the winning bidder to purchase items for the bid project, tax free. It is the intent that the contractor will include the savings into the bid or quote.

Contractors will be responsible for utilizing this tax exempt form in a legal and responsible way. The contractor must sign a certification that the tax exempt form will be solely used for the purpose stated above. Abuse of the City's tax exempt status to avoid sales tax liability on other contractor purchases shall not be tolerated and may disqualify the contractor from being awarded future City contracts or business.

H. If applicable, material is to be delivered on a flatbed trailer and ready to be unloaded from the side of the trailer without driving a forklift onto the trailer. Advance notice of 48 hours is required by calling 630-377-4421. Deliveries can be made to the City between the hours of 7:00 a.m. - noon and 12:30 p.m. - 3:30 p.m.

I. Each bidder shall make an accurate statement in the proposal of the smallest number of calendar days in which delivery can be made after placement of the order.

J. Any firm bidding this/these unit(s) must have a full service shop which includes parts and service mechanics capable of making any adjustments or repairs as may be required. The firm must also have service truck capabilities.

K. Materials will be paid within 30 days of receipt/acceptance of same and receipt of invoice, or if a discount is allowed and is advantageous to the City, within five (5) days of receipt/acceptance of same and receipt of the invoice. Bids will be evaluated on both thirty (30) day and discount pricing.

**REQUIRED** ✓ **NOT REQUIRED** _____

L. Travel time (incl. on-site repairs and/or pick up and delivery) is included within the labor or service warranty.

**REQUIRED** ✓ **NOT REQUIRED** _____

2. **MATERIALS**:
Only new, unused, first quality material and/or equipment shall be offered by the bidder.

3. **BID RESULTS:**
The bidder must supply a self-addressed, stamped envelope for obtaining bid results. **NO** bid results will be given by telephone.

4. **ADDENDUM**
Any interpretation of the specifications will be mailed to each bidder receiving a set of the bid documents. Bidders shall acknowledge receipt of such addendum by returning the addendum form.

5. **BID DEPOSIT**
A 10% bid deposit (certified check, cashier's check, or bank draft) or bid bond **is** required to accompany this bid. Failure to do so will eliminate the bid.

**REQUIRED** ✓ **NOT REQUIRED** _____

6. **PERFORMANCE & PAYMENT BONDS**

A performance bond in the amount of 100% of the bid submitted **is** required within ten (10) calendar days of acceptance of the bidder's proposal by the City.

The performance bond of the successful bidder shall have a minimum "A" rating as defined in Best's Key Rating Guide, be conditioned on the faithful performance of the requirements of the contract, and shall have as surety a corporate surety authorized to act as such in Illinois. The performance and payment bonds shall cover payment for all labor and material, and insure completion of the project. The bidder will be responsible for all claims for injuries to persons or damages to property or premises arising out of or in connection with his or her operations prior to the acceptance of the finished work or supplies, and that he or she will promptly make payments to all persons supplying him or her or them with labor or materials in the prosecution of the work provided for in the contract; and shall guarantee to indemnify and save the City and its officers and employees harmless from all costs, damages, and expenses arising out of or by reason of the bidder's failure to comply and perform the work and complete the contract in accordance with the specifications.

The performance and payment bonds shall be in conformance with the requirements of the Illinois Act in relation to bonds of bidders entering into contracts for public construction. (Illinois Compiled Statutes Ch. 30, Sec. 550/1, et seq.)

**REQUIRED** ✓ **NOT REQUIRED** _____

7. **GENERAL GUARANTY**
The bidder agrees to (a) hold the City, its agents, and employees harmless from liability of any nature or kind for the use of any copyrighted or un-copyrighted

composition, secret process, patented or unpatented, invention, article, or appliance furnished or used in the performance of the contract in which the bidder is not the patentee, assignee, licensee, or owner; (b) protect the City against latent defective material or workmanship and to repair or replace any damages or marring occurring in transit or delivery; (c) pay for all permits, licenses, and fees and give all notices and comply with all laws, ordinances, and rules of the City and State of Illinois; (d) indemnify City against all claims for personal injury, death, and/or property damage arising out of the project.

8. **ASSIGNMENT**

Assignment of this contract or any part thereof, or any funds to be received thereunder by the bidder shall be subject to the approval of the City of St. Charles.

9. **DEFAULT**

The contract may be cancelled or annulled by the purchasing manager in whole or in part by written notice of default to the bidder upon nonperformance or violation of contract terms. An award may be made to the next lowest bidder, or articles specified may be purchased on the open market similar to those so terminated. In either event, the defaulting bidder (or his surety) shall be liable to the City for costs to the City in excess of the defaulted contract prices. The bidder shall continue the performance of this contract to the extent not terminated under the provisions of this clause. Failure of the bidder to deliver materials or services within the time stipulated on his or her bid, unless extended in writing by the purchasing manager, shall constitute contract default.

10. **INSURANCE**

Detailed insurance requirements are included under City of St. Charles Certificate of Insurance Requirements.

The bidder **shall** secure and maintain in effect at all times, at his or her expense, insurance of the following kinds and limits to cover all locations of the bidder's operations in connection with work on his or her company's projects, naming the City of St. Charles as an additional insured. The bidder shall furnish Certificates of Insurance to the City Finance Department Purchasing Office before starting construction or within 10 days after the execution of the contract, whichever date is reached first. All insurance policies shall include a non-cancellation clause provision preventing cancellation without 30 days written prior notice to the City. In case of insurance cancellation, bidder shall obtain a new insurance policy in compliance with this paragraph prior to the effective date of cancellation.

Certificates of insurance must be completed on the ACORD 25-S form, with the cancellation clause revised and revisions initialed. An example is enclosed.

**REQUIRED** √ **NOT REQUIRED** _____

For this **specific** project, the City of St. Charles is requiring a liability umbrella of $ 5,000,000 (aggregate for this project).

**REQUIRED** ✓ **NOT REQUIRED** _____

11. **CERTIFICATE OF COMPLIANCE**

All bidders are required to complete the Certificate of Compliance (attached) as per the Illinois Compiled Statutes Ch. 65, Sec. 11-42.1-1, which will be returned with the bid.

12. **HEALTH AND SAFETY ACT**

All work under this contract shall comply with the Occupational Safety and Health Act (OSHA) of 1975, and all other federal, state or local statutes, rules or regulations affecting the work done under the contract.

13. **PREVAILING WAGE RATE**

This contract calls for the construction of a "public work," within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/.01 *et seq.* ("the Act"). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the current "prevailing rate of wages" (hourly cash wages plus amount for fringe benefits) in the county where the work is performed. The Department publishes the prevailing wage rates on its website at http://labor.illinois.gov/. The Department revises the prevailing wage rates and the contractor/subcontractor has an obligation to check the Department's web site for revisions to prevailing wage rates. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor's website. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, *including but not limited to*, all wage requirements and notice and record keeping duties.

The successful bidder and each subcontractor shall submit monthly, in person, by mail, or electronically, a certified payroll to the City of St. Charles. The certified payroll shall consist of records of all laborers, mechanics, and other workers employed by them on the project. The records shall include each worker's name, address, telephone number (when available), the last four digits of the worker's social security number, classification or classifications, the hourly wages paid in each period, the number of hours worked each day, and the starting and ending times of work each day. The certified payroll shall be accompanied by a statement signed by the bidder or subcontractor which avers that:

A. Such records are true and accurate;

B. The hourly rate paid to each worker is not less than the general prevailing rate of hourly wages required; and

C. The bidder or subcontractor is aware that filing a certified payroll that he or she knows to be false is a Class B misdemeanor.

The City of St. Charles is required to keep the certification records submitted for a period of not less than five years. Furthermore, these records, except an employee's address, telephone number, and social security number, shall be made available in accordance with the Freedom of Information Act.

14. **EXECUTION OF CONTRACT, INSURANCE, & PERFORMANCE & PAYMENT BONDS**

The successful bidder, within ten (10) business days after acceptance of the bidder's offer by the City, shall execute all requested contract documents, supply satisfactory evidence of required insurance, and furnish a satisfactory performance and payment bonds when required by the bid documents. In the event that the bidder fails to furnish required documents, insurance, and performance and payment bonds within ten (10) business days after acceptance of the bidder's offer by the City, then the City's acceptance of the offer shall automatically terminate, and the bid deposit of the bidder shall be retained by the City as reimbursement for administrative costs.

15. **RELEASE OF BID DEPOSITS**

Within a reasonable time after the bid opening, bid deposits of all except the three lowest responsible bidders will be released. The remaining deposits will be released after the successful bidder has executed the contract documents and furnished evidence of the insurance and bonds required by the bid documents.

16. **EQUAL OPPORTUNITY EMPLOYER**

The City of St. Charles is an equal opportunity employer, and all bidders are required to be equal opportunity bidders as defined by all applicable state and federal laws and regulations.

17. **VETERANS PREFERENCE**

The City of St. Charles, per Illinois Compiled Statutes Ch. 330, par. 55/1-55/3, gives preference to veterans for public works contracts, should a tie bid arise between local OR non-local bidders.

18. **CERTIFICATE OF NON-DISQUALIFICATION**

All bidders are required to submit a completed Certificate of Non-Disqualification (attached), as required under Illinois Compiled Statutes, Ch. 720, Sec. 33 E-11.

19. **PROVISIONS OF ST. CHARLES MUNICIPAL CODE**

All bids and contracts shall be in accordance with Title 2, Ch. 2.33 of the City of St. Charles Illinois Municipal code, as from time to time amended, which shall take precedence over and control all aspects of this contract, and which are incorporated herein by reference.

20. **SURVIVAL**

The provisions hereof shall survive and shall not merge with the resulting purchase order or contract awarded to the successful bidder, but shall be additional terms thereof; and the submission of a bid shall be deemed as acceptance of these terms.

21. **CERTIFICATE OF COMPLIANCE WITH SAFETY STANDARDS**

All bidders are required to submit a completed Certificate of Compliance with Safety Standards (attached).

22. **CERTIFICATE OF COMPLIANCE WITH PUBLIC ACT 87-1257 OF THE ILLINOIS HUMAN RIGHTS ACT**

All bidders are required to submit a completed Certificate of Compliance with Public Act 87-1257 of the Illinois Human Rights Act (attached).

23. **WAIVERS OF MECHANICS LIEN**

A. With each application for payment, submit waivers of mechanics liens from the bidder, subcontractors, and suppliers for the construction period covered by the current application. Payment will not be released until the bidder has supplied the City with the waiver of liens.
    1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
    2. When an application shows completion of an item, submit final or full waivers.
    3. The City reserves the right to designate which entries involved in the work must submit waivers.
    4. Waiver Delays: submit each application for payment with the bidder's waiver of mechanics lien for the period of construction covered by the application.

A. Initial application for payment: administrative actions and submittals, that must precede or coincide with submittal of the first application for payment, include the following:
    1. List of subcontractors.
    2. List of principal suppliers and fabricators.
    3. Schedule of values.

**REQUIRED** ✓ **NOT REQUIRED**_____

JH/cb

**CERTIFICATE OF COMPLIANCE OF**
**ILLINOIS COMPILED STATUTES, CH. 65, SEC. 11-42.1-1**

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that _____ _____(bidder) is not currently delinquent in the payment of any tax administered by or owed to the Illinois Department of Revenue, or otherwise in default upon any such tax as defined under Ch. 65, Sec. 11-42.1-1, Illinois Compiled Statutes.

_____
Name of Bidder

By:_____

State of _____),
ss.
County of _____)

Subscribed and sworn to
before me this _____ day
of_____,_____.

_____
Notary Public

**CERTIFICATE OF NON-DISQUALIFICATION**
**UNDER ILLINOIS COMPILED STATUTES, CH. 720, SEC. 33E-11**

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that _____ _____(bidder) is not barred from contracting with any unit of State or local government, as a result of a violation of Ch. 720, Sec. 33E-11 of the Illinois Compiled Statutes.

_____
Name of Bidder

By:_____

State of _____),
ss.
County of _____)

Subscribed and sworn to
before me this _____ day
of_____,_____.

_____
Notary Public

**NOTE TO BIDDER: Anyone who makes a false statement, material to this Certification, commits a Class 3 Felony under Illinois Compiled Statutes, Ch. 720, Sec. 33E-11 (b).**

## CERTIFICATE OF COMPLIANCE WITH SAFETY STANDARDS

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that _____ _____(bidder) shall comply with all local, state and federal safety standards.

_____
Name of Bidder

By:_____

State of _____),
ss.
County of _____)

Subscribed and sworn to
before me this _____ day
of_____,_____.

_____
Notary Public

**CERTIFICATE OF COMPLIANCE WITH PUBLIC ACT 87-1257**
**OF THE ILLINOIS HUMAN RIGHTS ACT**

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that _____ _____ (bidder) complies with the Illinois Human Rights Act as amended by Section 2-105, Public Act 87-1257 in relation to employment and human rights.

_____
Name of Bidder

By:_____

State of _____),
ss.
County of _____)

Subscribed and sworn to
before me this _____ day
of_____,_____.

_____
Notary Public

## CERTIFICATE OF COMPLIANCE WITH PREVAILING WAGE RATE ACT

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that all work under this contract shall comply with the Illinois Prevailing Wage Act, 820 ILCS 130/.01, et. seq, (the "Act") and current City ordinance, to the extent required by law. Contractors shall submit monthly certified payroll records to the City.

_____
Name of Contractor

By:_____

State of _____),
ss.
County of _____)

Subscribed and sworn to
before me this _____ day
of_____,_____.

_____
Notary Public

/cjb

## CERTIFICATE OF COMPLIANCE WITH SALES TAX FORM

The undersigned, upon being first duly sworn, hereby certifies to the City of St. Charles, Kane and DuPage Counties, Illinois, that _____ _____(bidder) shall comply with General Conditions, Paragraph 1.G. and the Illinois Department of Revenue tax exempt form.

_____
Name of Bidder

By:_____

State of _____),
ss.
County of _____)

Subscribed and sworn to
before me this _____ day
of_____,_____.

_____
Notary Public

JH:cb
Bidders Section II

**Illinois Department of Revenue**
Office of Local Government Services
Sales Tax Exemption Section, 3-520
101 W. Jefferson Street
Springfield, IL 62702
217 782-8881

January 2, 2015

CITY OF ST CHARLES
DIRECTOR OF FINANCE
TWO EAST MAIN ST
ST CHARLES IL 60174

Effective January 1, 2015, we have renewed your governmental exemption from payment of the Retailers Occupation Tax, the Service Occupation Tax (both state and local), the Use Tax, and the Service Use Tax, as required by Illinois law.

We have issued the following new tax exemption identification number:

E9996-0680-07
to
CITY OF ST CHARLES
of
ST CHARLES, IL

The terms and conditions governing use of your exemption number remain unchanged.

Office of Local Government Services
Illinois Department of Revenue

Issued To: _____

Company: _____

Date Issued: _____

Project: _____

Dates Valid: _____

Christopher A. Minick, Director of Finance

STS-70 (R-2/98)
IL-492-3524
10-0001268

# City of St. Charles
## Certificate of Insurance Requirements

Contractors shall carry all insurance coverage required by law. In addition, the Contractor shall carry, at its own expense, at least the following insurance coverage with a duly licensed and registered insurance company in the State of Illinois having a minimum A.M. Best rating of A-VI:

(a) Workers' Compensation & Occupational Diseases Insurance – Statutory amount for Illinois

(b) General Liability Insurance:

1) Bodily injury, with limits of not less than $1,000,000 each occurrence/
$2,000,000 aggregate;

2) Property damage, with limits of not less than $1,000,000 each occurrence/
$2,000,000 aggregate;

3) Contractual insurance – broad form, with limits of not less than $1,000,000
each occurrence/$2,000,000 aggregate.

(c) Automotive Liability Insurance:

1) $1,000,000 each occurrence/
$2,000,000 aggregate;

2) Property damage, with limits of not less than $1,000,000 each occurrence/
$2,000,000 aggregate. Property damage insurance coverage shall include non-owned, hired, leased, or rented vehicles, as well as owned vehicles.

(d) Umbrella liability $5,000,000.

(e) Contractor's insurance policy shall name City as an additional insured on the General Liability, Automotive Liability and Excess Liability insurance policies. The insurance coverage shall be written with insurance companies acceptable to City. All insurance premiums shall be paid without cost to City. The Contractor shall furnish to City a Certificate of Insurance attesting to the respective insurance coverage for the full contract term. Contractor shall submit satisfactory proof of insurance simultaneously with the execution of the contract.

(f) All insurance policies shall provide that the City shall receive written notice of cancellation or reduction in coverage of any insurance policy thirty (30) days to the effective date of cancellation.

# NOTICE TO BIDDERS

The City of St. Charles is seeking a qualified contractor to perform roof rehabilitation through urethane coating on a section of its Public Works Garage, located at 200 Devereaux Way. The roof section is approximately 170' x 200' (exact dimensions to be verified in the field by the contractor) with 62 skylights. The project includes the removal of the skylights and replacing them with metal panels, securing all fasteners, and coating the roof.

**There will be a mandatory pre-bid meeting** held at the Public Works Facility (200 Devereaux Way) at 10:00 AM on Monday June 27, 2016.

Sealed bids will be received at the Office of the Purchasing Manage, Two East Main Street, St. Charles, Illinois, **no later than** 2:00 p.m. on Wednesday, July 6, 2016, for Public Works Roof Rehabilitation.

Bids will be opened publicly and read alout in the Council Chambers at 2:00 p.m. Wednesday July 6, 2016.

Anticipated Timeline:

| | |
|---|---|
| June 16, 2016 | Invitation to Bid Distributed |
| June 27, 2016 | Pre-Bid Meeting |
| July 6, 2016 | Bids Due |
| July 11, 2016 | Documentation Sent for Council Review |
| July 25, 2016 | Presentation to Government Services Committee |
| August 1, 2016 | City Council Award |
| August 4, 2016 | Notice to Proceed |

These Bids are available via the City Website. Alternatively, specifications and bidder information may be obtained at the Office of the Purchasing Manager, City of St. Charles, 200 Devereaux Way, St. Charles, Illinois.

**All sealed envelopes must be clearly marked for which proposal they pertain to.**

**CITY OF ST. CHARLES**
Mike Shortall
Inventory Control & Purchasing Manager

SECTION 07563
FLUID APPLIED ROOFING RESTORATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Metal Surface Roof Restoration (1.4.B)(2.3)
   1. Scope of Work:
      a. Power wash entire roof with TSP or Simple Green and water to remove residue, debris and dirt.
      b. Power wash entire roof a second time with water only to remove any cleaner residue.
      c. Replace all panel-level fiberglass skylights with metal roof panels in a like profile and thickness. Attach per manufacturer's specifications.
      d. Replace all backed out and partially backed out fasteners with next larger gauge Zac SFS intec zinc fastener.
      e. Install Unibond ST seam tape on all panel field seams.
      f. Coat entire roof with White Knight Plus Base Coat (or approve equivalent) at a rate of 2.5 gallons/square.
      g. After 24 hours, coat entire roof with White Knight Plus Top Coat (or approve equivalent) at a rate of 2.0 gallons/square.
      h. Clean up and haul away all debris.

1.2 RELATED SECTIONS

A. Section 06100 - Rough Carpentry: Roof blocking installation and requirements.

B. Section 07620 - Sheet Metal Flashing and Trim: Metal cap flashing and expansion joints.

C. Section 07620 - Sheet Metal Flashing and Trim: Weather protection for base flashings.

D. Section 07710 - Manufactured Roof Specialties: Counter flashing gravel stops, and fascia, scuppers, gutters and downspouts.

E. Section 15430 - Plumbing Specialties: Piping vents and roof drains.

1.3 REFERENCES

A. ASTM C 78 - Standard Test Method for Flexural Strength of Concrete.

B. ASTM C 92 - Standard Test Methods for Sieve Analysis and Water Content of Refractory Materials.

C. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.

D. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.

E. ASTM C 1250 - Standard Test Method for Nonvolatile Content of Cold Liquid-Applied Elastomeric Waterproofing Membranes.

F. ASTM D 5 - Standard Test Method for Penetration of Bituminous Materials.

G. ASTM D 36 - Standard Test Method for Softening Point of Bitumen.

H. ASTM D 43 - Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing.

I. ASTM D 71 - Standard Test Method for Relative Density of Solid Pitch and Asphalt.

J. ASTM D 75 - Standard Practice for Sampling Aggregates.

K. ASTM D 92 - Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester.

L. ASTM D 93 - Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester.

M. ASTM D 113 - Standard Test Method for Ductility of Bituminous Materials.

N. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.

O. ASTM D 562 - Standard Test Method for Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using a Stormer-Type Viscometer.

P. ASTM D 624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers

Q. ASTM D 816 - Standard Test Methods for Rubber Cements.

R. ASTM D 1002 - Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal).

S. ASTM D 1370 - Standard Test Method for Contact Compatibility Between Asphaltic Materials (Oliensis Test).

T. ASTM D 1475 - Standard Test Method For Density of Liquid Coatings, Inks, and Related Products.

U. ASTM D 1863 - Standard Specification for Mineral Aggregate Used on Built-Up Roofs.

V. ASTM D 1876 - Standard Test Method for Peel Resistance of Adhesives (T-Peel Test).

W. ASTM D 2042 - Standard Test Method for Solubility of Asphalt Materials in Trichloroethylene.

X. ASTM D 2196 - Standard Test Methods for Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield type) Viscometer.

Y. ASTM D 2240 - Standard Test Method for Rubber Property-Durometer Hardness.

Z. ASTM D 2369 - Standard Test Method for Volatile Content of Coatings.

AA. ASTM D 2939 - Standard Test Methods for Emulsified Bitumens Used as Protective Coatings.

BB. ASTM D 3111 - Standard Test Method for Flexibility Determination of Hot-Melt Adhesives by Mandrel Bend Test Method.

CC. ASTM D 3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.

DD. ASTM D 4209 - Standard Practice for Determining Volatile and Nonvolatile Content of Cellulosics, Emulsions, Resin Solutions, Shellac, and Varnishes.

EE. ASTM D 4212 - Standard Test Method for Viscosity by Dip-Type Viscosity Cups.

FF. ASTM D 4402 - Standard Test Method for Viscosity Determination of Asphalt at Elevated Temperatures Using a Rotational Viscometer.

GG. ASTM D 4479 - Standard Specification for Asphalt Roof Coatings - Asbestos-Free.

HH. ASTM D 5040 - Standard Test Methods for Ash Content of Adhesives.

II. ASTM D 5420 - Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact).

JJ. ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces

KK. ASTM G 21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

LL. SRI - Solar Reflectance Index calculated according to ASTM E 1980.

MM. South Coast AQMD Standards.

NN. SMACNA Architectural Sheet Metal Manual.

OO. ANSI/SPRI ES-1 - Testing and Certification Listing of Shop Fabricated Edge Metal

PP. National Roofing Contractors Association (NRCA) - Roofing and Waterproofing Manual.

1.4 SYSTEM DESCRIPTION

A. Metal Surface Roof Restoration: Renovation work includes:
   1. Surface preparation: Remove loose flaking rust, dust, dirt, debris, secure all gaped panels and replace all loose fasteners with next size larger.
   2. Metal Flashings: Repair/Replace metal flashings, pitch pockets, etc.
   3. Primer: Prime entire roof surface. (For all White-Knight system only)

1.5 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.

D. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
   1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
   2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
   3. Product reflectivity and emissivity criteria to qualify for one point under the LEED credit category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.

E. Verification Samples: For each product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, and color.

F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.

B. Manufacturer Qualifications: Manufacturer: Company specializing in manufacturing products specified in this section with documented ISO 9001 certification and minimum ten years and experience.

C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and be a manufacturer certified Pre-Approved Contractor.

D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.

E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.

F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.7 PRE-INSTALLATION CONFERENCE

A. Convene a pre-roofing conference approximately two weeks before scheduled commencement of roofing system installation and associated work.

B. Require attendance of installers of deck or substrate construction to receive roofing, installers of rooftop units and other work in and around roofing which must precede or follow roofing work including mechanical work, Architect, Owner, roofing system manufacturer's representative.

C. Objectives include:
   1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
   2. Tour representative areas of roofing substrates, inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work.
   3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
   4. Review roofing system requirements, Drawings, Specifications and other Contract Documents.
   5. Review and finalize schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and

avoid delays.
6. Review required inspection, testing, certifying procedures.
7. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing.
8. Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.

B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.

C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface. No wet or damaged materials will be used in the application.

D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.

E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Architect/Engineer.

F. Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

1.9 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

B. Weather Condition Limitations: Do not apply roofing system during inclement weather or when a 40 percent chance of precipitation or greater is expected.

C. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.

D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

E. When applying materials with spray equipment, take precautions to prevent over spray and/or solvents from damaging or defacing surrounding walls, building surfaces, vehicles or other property. Care should be taken to do the following:
1. Close air intakes into the building.
2. Have a dry chemical fire extinguisher available at the jobsite.
3. Post and enforce "No Smoking" signs.

F. Avoid inhaling spray mist; take precautions to ensure adequate ventilation.

G. Protect completed roof sections from foot traffic for a period of at least 48 hours at 75

degrees F (24 degrees C) and 50 percent relative humidity or until fully cured.

H. Take precautions to ensure that materials do not freeze.

I. Minimum temperature for application is 40 degrees F (4 degrees C) and rising for solvent based materials and 50 degrees F (10 degrees C) and rising for water based.

1.10 WARRANTY

A. Upon completion of the work, provide the Manufacturer's written and signed limited labor and materials Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installing contractor, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition.
   1. Warranty Period:
      a. 5 plus 5 plus 5 (15 years): 5 years from date of acceptance plus 10 additional years after required inspection by the manufacturer.

B. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
   1. Warranty Period:
      a. 2 years from date of acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Garland Company, Inc. (The), which is located at: 3800 E. 91st St.; Cleveland, OH 44105; Toll Free Tel: 800-321-9336; Tel: 216-641-7500; Fax: 216-641-0633; Web:www.garlandco.com

B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ROOF RESTORATION SYSTEM FOR METAL SURFACE ROOFS

A. Cold Applied White-Knight Plus/ White-Stallion Plus:
   1. Primer: White-Knight Metal Primer/ White-Stallion Metal Primer:
   2. Coating: White-Knight Plus/ White-Stallion Plus:
   3. Flashing: None or repair as needed.
   4. Reinforcement: None.
   5. Surfacing: None

2.3 EDGE TREATMENT AND ROOF PENETRATION FLASHINGS

A. Flashing Boot - Rubbertite Flashing Boot: Neoprene pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended and furnished by the membrane manufacturer.

B. Vents and Breathers: Heavy gauge aluminum and fully insulated vent that allows moisture and air to escape but not enter the roof system as recommended and furnished by the membrane manufacturer.

C. Pitch pans, Rain Collar 24 gauge stainless or 20oz (567gram) copper. All joints should be welded/soldered watertight. See details for design.

D. Drain Flashings should be 4lb (1.8kg) sheet lead formed and rolled.

E. Plumbing stacks should be 4lb (1.8kg) sheet lead formed and rolled.

F. Liquid Flashing - Tuff-Flash: An asphaltic-polyurethane, low odor, liquid flashing material designed for specialized details unable to be waterproofed with typical modified membrane flashings.
   1. Tensile Strength, ASTM D 412: 400 psi
   2. Elongation, ASTM D 412: 300%
   3. Density @77 degrees F 8.5 lb/gal typical

G. Fabricated Flashings: Fabricated flashings and trim are specified in Section 07620.
   1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the CDA Copper Development Association "Copper in Architecture - Handbook" as applicable.

H. Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are specified in Section 07710.
   1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the NRCA "Roofing and Waterproofing Manual" as applicable.

## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 ROOF PREPARATION AND REPAIR

A. General:
   1. Remove existing roof flashings from curbs and parapet walls down to the surface of the roof. Remove existing flashings at roof drains and roof penetrations.
   2. Remove all wet, deteriorated, blistered or delaminated roofing membrane or insulation and fill in any low spots occurring as a result of removal work to create a smooth, even surface for application of new roof membranes.
   3. Install new wood nailers as necessary to accommodate insulation/recovery board or new nailing patterns.
   4. When mechanically attached, the fastening pattern for the insulation/recovery board shall be as recommended by the specific product manufacturer.
   5. Re-roofing over coal tar pitch requires a mechanically attached recovery board or insulation and a base sheet prior to the application of roofing system.
   6. Existing roof surfaces shall be primed as necessary and allowed to dry prior to installing the roofing system.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Repair all defects such as deteriorated roof decks; replace saturated insulation board, replace loose or brittle membrane or membrane flashings. Verify that exiting conditions meet the following requirements:
   1. Existing membrane is either fully adhered or that the membranes mechanical fasteners are secured and functional.

2. Application of roofing materials over a brittle roof membrane is not recommended.

D. Remove all loose dirt and foreign debris from the roof surface. Do not damage roof membrane in cleaning process.

E. Clean and seal all parapet walls, gutters and coping caps, and repair any damaged metal where necessary. Seal watertight all fasteners, pipes, drains, vents, joints and penetrations where water could enter the building envelope.

F. Clean the entire roof surface by removing all dirt, algae, paint, oil, talc, rust or foreign substance. Use a 10 percent solution of TSP (tri-sodium phosphate), Simple Green and warm water. Scrub heavily soiled areas with a brush. Rinse with fresh water to remove all TSP solution. Allow roof to dry thoroughly before continuing.

G. Repair existing roof membrane as necessary to provide a sound substrate for the liquid membrane. All surface defects (cracks, blisters, tears) must be repaired with similar materials.

H. Pre-Treatment of Known Growth - General Surfaces: Once areas of moss, mold, algae and other fungal growths or vegetation have been removed and surfaces have also been thoroughly cleaned, apply a biocide wash at a maximum spread rate of 0.2 gallons/square (0.08 liters/m), to guard against subsequent infection. Allow to dry onto absorbent surfaces before continuing with the application. On non-absorbent surfaces, allow to react before thoroughly rinsing to remove all traces of the solution.

I. Power washing of metal roof surfaces to remove all loose rust or scale is mandatory before application. Use a high volume air broom or compressed air to remove residual dust rust perforations, etc. Deteriorated metal roof decks must be repaired or replaced prior to the application of the coating system.

3.3 INSTALLATION

A. General Installation Requirements:
1. Install in accordance with manufacturer's instructions. Apply to minimum coating thickness required by the manufacturer.
2. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
3. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
4. Protect work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore work damaged by installation of the roofing system.
5. All primers must be top coated within 24 hours of application. Re-prime If more time passes after priming.
6. Keep roofing materials dry during application. Phased construction can be allowed as long as no, more than 7 days pass between coats excluding primers.
7. Coordinate counter flashing, cap flashings, expansion joints and similar work with work specified in other Sections under Related Work.
8. Coordinate roof accessories and miscellaneous sheet metal accessory items, including piping vents and other devices with work specified in other Sections under Related Work.

B. Metal Surface Roof Restoration: Renovation work includes:
1. Surface Preparation: Remove loose flaking rust, dust, dirt, debris, secure all gaped panels and replace all loose fasteners with next size larger.
a. Remove rust by the most rigorous method suitable for the particular project and as approved by the coating manufacturer.

b. Tighten all fasteners and verify that neoprene washers are in place.
c. Replace missing fasteners using oversize fasteners as necessary.
d. Seal all fastener heads by applying a heavy dab of compatible sealant to the tops and around of all fastener heads.
1) White-Knight Plus/ Stallion Plus

2. Flashings: Repair/Replace metal flashings, pitch pockets, etc.
3. Primer:
a. Immediately after rust has been removed, prime surfaces with White-Knight Metal Primer/ Stallion Metal Primer at 1/4 gallon per 100 SF to prevent rust from reoccurring.
4. Reinforcement: Base coat and treatment of field seams and around penetrations:
a. Application of White-Knight Plus Base Coat/ White-Stallion Plus Base Coat or White-Knight Plus Base Coat WC on field seams, flashings and around penetrations
1) Verify that the surface to be coated is properly prepared.
2) Restore the surface to a suitable condition if roof surface becomes contaminated with dirt, dust or other materials that will interfere with adhesion of the coatings.
3) Apply materials at specified dry film thickness.
4) Apply White-Knight Plus Base Coat/ White-Stallion Plus Base Coat or White-Knight Plus WC Base Coat at minimum 6 inch wide stripes over all seams, flashings and around penetrations at 2.0 gallons per 100 SF.
5) Use fabric reinforcement when panels are gapped and cannot be be cured tightly together.
6) Allow to dry for a minimum of 24 hours before applying finish coats.
7) On vertical surfaces to achieve proper application rate cut your application into two coats to avoid sagging and runs of coating.
5. Coating:
a. Material: Apply in a uniform manner at 2.0 gallons per 100 SF over the entire roof surface.
1) White-Knight Plus/ Stallion Plus
b. Use special attention to coating flashings and other critical areas to build adequate membrane thickness.
c. Use multiple coats on verticals to prevent sagging.
d. Apply to Garland's (or approved equivalent's) minimum membrane thickness over the entire roof surface.

## 3.4 INSTALLATION EDGE TREATMENT AND ROOF PENETRATION FLASHING

A. Fabricated Flashings: Fabricated flashings and trim are provided as specified in Section 07620.
1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the Copper Development Association "Copper in Architecture - Handbook" as applicable.

B. Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are provided as specified in Section 07710.
1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the National Roofing Contractor's Association "Roofing and Waterproofing Manual" as applicable.

## 3.5 CLEANING

A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.

B. Remove asphalt markings from finished surfaces.

C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.6 PROTECTION

A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.

B. Protect exposed surfaces of finished walls with tarps to prevent damage.

C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.

D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.

E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.7 FIELD QUALITY CONTROL

A. Require attendance of roofing materials manufacturers' representatives at site during installation of the roofing system.

B. Perform field inspection and [and testing] as required under provisions of Section 01410.

C. Correct defects or irregularities discovered during field inspection.

3.8 FINAL INSPECTION

A. At completion of roofing installation and associated work, meet with Contractor, Architect, installer, installer of associated work, roofing system manufacturer's representative and others directly concerned with performance of roofing system.

B. Walk roof surface areas, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. Identify all items requiring correction or completion and furnish copy of list to each party in attendance.

C. If core cuts verify the presence of damp or wet materials, the installer shall be required to replace the damaged areas at his own expense.

D. Repair or replace deteriorated or defective work found at time above inspection as required to a produce an installation that is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

E. Architect upon completion of corrections.

F. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

3.9 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

3.10 SCHEDULES

A. Coatings:
   1. Coating: White-Knight Plus/ White-Stallion Plus: Highly reflective multi- purpose, single-component aliphatic urethane, liquid waterproofing membrane.
      a. Tensile Strength: ASTM D 412, 2100 psi
      b. Tear Resistance: ASTM D 624, 160 lbs./in
      c. Elongation: ASTM D 412, 320%
      d. Density @ 77 degrees F (25 degrees C, ASTM D 2939) 10.4 lb./gal (1.2 g/m3)
      e. Flash Point: ASTM D 93, 110 degrees F min. (43 degrees C)
      f. Non-Volatile: ASTM D 75, Typical 83%
      g. Viscosity @ 77 degrees F (25 degrees C); Brookfield RVT, #4 Spindle 10 rpm9200 cP
      h. Wet Film Thickness@ 2 gal./100 sq. ft. (0.82 l/m2)
      i. VOC: 225 g/l
      j. Reflectance: 0.87
      k. Emittance: 0.89
      l. SRI: 110

B. Flashings
   1. Coating: White-Knight Plus/ White-Stallion Plus: highly reflective multi- purpose, single-component aliphatic urethane, liquid waterproofing membrane.
      a. Tensile Strength: ASTM D 412, 2100 psi
      b. Tear Resistance: ASTM D 624, 160 lbs./in
      c. Elongation: ASTM D 412, 320%
      d. Density @ 77 degrees F (25 degrees C, ASTM D 2939) 10.4 lb./gal (1.2 g/m3)
      e. Flash Point: ASTM D 93, 110 degrees F min. (43 degrees C)
      f. Non-Volatile: ASTM D 75, Typical 83%
      g. Viscosity @ 77 degrees F (25 degrees C); Brookfield RVT, #4 Spindle 10 rpm9200 cP
      h. Wet Film Thickness @ 2 gal./100 sq. ft. (0.82 l/m2)
      i. VOC: 225 g/l
      j. Reflectance: 0.87
      k. Emittance: 0.89
      l. SRI: 110

END OF SECTION