

Request for Proposal

**New TPO Roof for Building #70
(located at 616 Davis Drive)**

**LUBBOCK REESE REDEVELOPMENT AUTHORITY (LRRRA)
d/b/a/ Reese Technology Center (RTC)**

The LRRRA will receive written and sealed Proposals for a New TPO Roof for Building #70 at 616 Drive, Lubbock, TX 79416 per the following agreement. There will be a *PRE-BID CONFERENCE* at **10:00AM CST on Tuesday, August 10, 2021**, at 616 Davis Dr, Lubbock, TX. Sealed Proposals will be received until **10:00AM CST, Monday, August 23, 2021**, at LRRRA. Proposals received after that date and time will not be opened. Each proposal and supporting documentation must be in a sealed envelope or container plainly labeled: "*RFP for New TPO Roof for Building #70*". Bid proposals are to include the Contractor's company name and address on the front of the envelope or container. Questions regarding the bid proposals and all bid submissions are to be addressed to:

Chris Evans, Manager of Operations
9801 Reese Blvd., Suite 200
Lubbock, Texas 79416
(806) 885-6592
Email: cevans@reesecenter.com

Bids will be opened and evaluated on **Monday, August 23 at 10:00AM CST**. However, bids must be firm for a 30-day period from bid opening date in case the Board of Directors desires additional evaluation time. Bid will be awarded on **Wednesday, August 25, 2021, at 8:00AM CST**.

With uncertainty of mail delivery, the RTC cannot be responsible for bids which are not received before bid opening hour.

In as much as comparison sheets are sent to all bidders and posted to the RTC website, bid quotations will not be communicated by telephone. Interested bidders are encouraged to attend the bid opening should they desire quotations.

RTC reserves the right to accept or reject any or all bids submitted and shall be the sole judge in this matter. RTC is exempt from all city, state, and federal sales tax. Your signed and otherwise correctly completed sealed bid (one copy only) should meet the following specifications or RTC may, at its option, refuse to consider the bid. It is to be understood that upon the award of this bid the successful bidder(s) is/are responsible for complying with the Prompt Payment Act, effective July 1, 1986 (Government Code CHS. 2251.001-2251.043) Vendors are required to have and maintain, at no cost to RTC, insurance of the types and amounts as required by law and/or the bid specification.

In those instances where manufacturer and/or model numbers of equipment/materials are referenced as "equal in quality", it is not RTC's intent to rule out other manufacturers, nor will the named manufacturer receive preferential treatment. RTC is the sole judge in determining the suitability of items bid.

Should vendors have deviations from bid specifications, all deviations must be listed on a self-scribed attachment. This attachment must also be signed by an authorized company representative and be attached to the vendors original bid.

RTC is subject to the Texas Public Information Act, Chapter 552, Texas Government Code. Proposals submitted to RTC in response to this RFP are subject to release by RTC as public information. If the Proposer believes that the proposal, or parts of it, are confidential, as proprietary information, (s)he must specify that either all or part is excepted and provide specific and detailed justification for its claim of confidentiality. Vague and general claims to confidentiality are not acceptable. All proposals or parts of the proposals which are not marked as confidential will be considered public information after contract has been awarded. The successful proposal may be considered public information even though parts are marked confidential.

RTC assumes no responsibility for asserting legal arguments on behalf of Proposers. Proposers are advised to consult with their legal counsel concerning disclosure issues resulting from this proposal process and to take precautions to safeguard trade secrets and other proprietary information.

REQUIREMENTS

- Company to be established in business for a minimum of five years. Three business references are to be provided to LRRA with the bid proposal (RFP).
- “Attachment A” Specifications and Scope of Work
- “Attachment B” BID FORM
- “Attachment C” Site Map
- Access to Website: www.ReeseCenter.com, where all applicable documents and drawings are located (www.ReeseCenter.com/rfp-docs)
- Contractor to provide Certificate of Insurance with the bid proposal to RTC. Contractor to carry Worker’s Compensation Insurance and Contractor's Public Liability in the amount of one million (\$1,000,000) and Property Damage and Loss Insurance, if contractor has any employees working with him / her on the job, otherwise the Workers Compensation is not required. All employees of contractor working at the RTC under this contract must be covered by Contractors' Workers Compensation Insurance.

Reese Technology Center- Hanger #70

Attachment “A” – Specifications and Scope of Work

1. **Contractor Proposal Form:** Contractor to submit proposal response on provided RFP Bid Form (Exhibit B). No other forms will be accepted.
2. **General scope of work overview:** Contractor to remove existing TPO single ply and any loose or detached debris or built-up surface detached. Install new ¼” Invinsa Board. Mechanically attach to the underlying metal deck/substrate using appropriately sized screws (screws must extend a minimum of ½” through the lowest portion of the substrate) and through metal insulation plates. (Fasten in accordance with FM 1-90 minimum) Fully adhere 60 mill Fleeceback using CR20 adhesive (Splatter). Install fully adhered 80 mill Fleeceback using water-based adhesive on all vertical surfaces (flashings and perimeter wall).
3. **Scope of work includes:** upper barrel roof only, as well as:
 - a. **Gutters and downspouts:** Remove and replace existing gutters and downspouts.
 - b. **Gutter Brackets:** Contractor to install ¼” x 1” steel brackets to lock gutter in place. Place one every 10’ o.c.
 - c. **Rake Termination Metal:** Contractor to install new edge metal with clad metal skirt at all rakes.
 - d. **Eave termination metal:** Contractor to turn membrane into gutter and terminate with term bar and metal cover (flat profile) and top/back seal with Manufacturer’s caulk.
4. **Existing Assembly:** The existing assembly includes a metal deck with TPO membrane installed over the existing substrate, which has been identified as a metal deck.
5. **Site/Project Manager:** Contractor to include and provide in their proposal a full-time Project Manager (PM). Contractor will maintain a minimum of one (1) fulltime non-working Project Manager to oversee operations, safety compliance and coordination with site personnel at all times while under construction. Project Manager will report to Owner/Site Representative a minimum of once each morning and once each afternoon to ensure site personnel are advised on all areas that construction activity will be taking place, coordinate any lifting activities and check for possible moisture entry from prior night or day. PM will also, at all times, maintain a copy of the Scope of Work and Specification with any detailing on site for reference.
6. **Project Team Contact Sheet:** Contractor to provide project / emergency contact sheet with email and cell phone contact numbers for all key personnel.
7. **Staging area:** Contractor will maintain a single designated staging area (as provided / designated by **Reese Technology Center**). Contractor will stage equipment, material, and company/crew vehicles in the assigned staging area location while not in use. Contractor will maintain a portable bathroom facility and wash area within the staging area. Staging area should be marked with safety cones and caution tape to help prevent accidental access/entry by the public.

- 8. Storage:** Contractor is responsible for ensuring that all material is secure on the roof and ground. All trash and debris should be bagged on a regular basis and removed from the site. Site should be free of wind-blown packaging, trash, or debris. Contractor will maintain surrounding grounds with no debris, wrappers, water bottles etc. Contractor will bag all debris. At no time may contractor throw or discharge any materials or debris from roof.
- 9. Signage:** Contractor will post one sign at the staging area identifying the site as an “Active Construction Site”. Signage should include company name, office contact (phone and email), and Site Project Manager name and phone number.
- 10. Rain & Weather:** Contractor will have personnel on site or within 15-30 minutes from the job site 7 days a week and including Holidays until substantially complete. At any time that the building is exposed to weather (rain, wind or other), Contractor will meet Owner representative to ensure all water tie-offs are in place and to ensure there is no moisture entry into the building. Contractor is responsible for keeping the building in a watertight condition from start of construction until complete. If crew or personnel dispatch for holidays or weekends, contractor is required to maintain a minimum of two personnel on site for inspection of staging area, inspection of roof-loaded material and to inspect all water tie-offs a minimum of twice daily.
- 11. Site Safety:** Contractor will adhere to all safety requirements while performing work on the site. This will include but not be limited to the following:
 - a. Compliance with all OSHA requirements -See also attached OSHA Bulletin-Roofing
- 12. Lifting Equipment / Cranes:** Lifting Equipment will always be stored in staging area while not in use. Contractor will protect all parking lot surfaces with plywood to prevent any dripping of hydraulic oil or other. Contractor will chain the wheel to the axle when not in use. Contractor will provide a copy of the key or passcode to equipment. Contractor will avoid creating ruts or damage to the surrounding areas, buildings and/or landscape. Due to the height of this project, it is likely a crane will be required for loading and/or offloading of materials.
- 13. Fire Extinguisher:** Contractor will always maintain a fire extinguisher in the staging area and at the roof where any gas-filled generators are in use along with Heat Gun equipment.
- 14. Fall Protection:** Contractor will install all required warning lines and fall protection as required throughout the execution of the work to protect the public and while on site performing repairs.
- 15. Contractor / Crew Access:** Contractor will provide their own exterior access to the building. All access points are to be removed when contractor is not on site or construction activity is not in process. Contractor will submit a detailed plan for roof top access by Contractor’s crew. Crew members may be restricted to stairwell use only. No access to any of the floors or bathrooms will be permitted. Violation of this guideline could be cause for removal from the Job site.

- 16. Construction Notification / Pedestrian Protection:** Contractor will install safety cones along sidewalk leading up to all entrances and exits where the contractor may be working overhead. If working directly over entrance and/or exists of the building, Contractor may be required to post a safety monitor on the ground to protect the public. Contractor understands that the building is to remain open throughout repairs/construction on the roof.
- 17. Tobacco, Alcohol & Drugs:** Contractor and crew will refrain from any smoking on site and/or on the roof. Contractor, Crew and Contractor vehicles will refrain from the use or possession of any illicit drugs, alcohol, or illegal substances while performing work, including empty containers in company vehicles.
- 18. Crew Safety Vests:** All Contractor personnel on site will wear safety vest (at all times) to allow ease of identification for building personnel and public. Contractor Crew Superintendent and Project Manager will wear a different colored safety vest for ease of identification of Owner Personnel and the Public.
- 19. Safety Spotter:** Contractor will provide spotter personnel at the front and rear of any lifting equipment when equipment is be moved outside of staging area to prevent property damage or injuries. Contractor will also utilize a spotter any time the roof is open below to occupant or public (i.e., Skylights). Area beneath (interior) should also be marked with cones to prevent the public from accidently walking into this area.
- 20. Electrical Power:** Contractor will supply all the contractor required power for operation of equipment. Contractor is not allowed at any time to use Owner's water, electrical receptacle or other in execution of this scope of work.
- 21. Reconnect/ Disconnect:** Contractor is not authorized or allowed to disconnect any mechanical units on the building. Contractor will coordinate with Owner to arrange for the disconnection or servicing of units. Install ATR Hubs at all multi-pipe penetrations. Any penetrations less than 8" apart (in distance) from each other shall receive ATR- HUB. Any disconnect/reconnect fees will be submitted as an alternate reimbursement for actual cost only.
- 22. Insurance:** Contractor will submit proof of insurance showing coverage that meets or exceeds requirements as set forth in request for proposal. (Certificate of Insurance) Coverage shall continue in place as submitted throughout the duration of the project.
- 23. Warranty Signage:** Contractor will post a sign at the roof access notifying anyone who accesses the roof of the Date Installed, Manufacturer, Contractor name and phone number, manufacturer warranty period and assembly installed.
- 24. Occupant Notification:** Contractor to post 8 ½" x 11" notification at access / entry doors and exits notifying public and occupant of work currently active on at this site.

CLOSEOUT DOCUMENTS & PAYMENT PROCESSING

- A. Contractor will submit a single and final invoice upon completion of the repairs for **Reese Technology Center – Hanger 70 Roof replacement** to include the following:
- B. **Manufacturer’s Warranty:** Contractor will provide the **Manufacturer’s 20-year NDL Guaranty**. Must be a 20-year no-dollar-limit type and provide for completion of repairs, replacement of membrane, or total replacement of the roofing system at the then-current material and labor prices throughout the life of the warranty. In addition, the warranty must meet the following criteria:
 - 1. Warranty Period: 20 years from date issued by the manufacturer.
 - 2. No exclusion for ponding water.
 - 3. No exclusion for damage caused by biological growth.
 - 4. Issued direct from and serviced by the roof membrane manufacturer.
 - 5. Transferable for the full term of the warranty.
- C. **Final Inspection:** Owner will schedule an inspection with the Contractor to perform a walk-through and inspection of the completed Roof Assembly. Owner will provide documentation of any items in need of correction or repair to Contractor. Any punch list items not corrected during inspection can be performed later provided contractor can submit photos and documentation showing corrective action.
- D. **Contractor Invoice** – Contractor will submit a final invoice with confirmation of completion of all punch list items.
- E. **5-Year Contractor’s Warranty** – Contractor will submit to Owner the executed Contractor’s Warranty with date of substantial completion and referencing the property address. The contractor shall warrant the workmanship and proper application for Five (5) years from the effective date of the warranty issued by the manufacturer.

JOB CONDITIONS

- a. The Contractor preparing a proposal in response to this RFP acknowledges that all work is to be performed while current activities within the building continue. Contractor will include all associated costs for signage, caution tape and safety of the occupant in his/her proposal.
- b. Proceed with installation work only after substrate is prepared, clean, smooth, and dry and when weather conditions follow manufacturer’s recommendations.
- c. **Scheduling** Contractor agrees to schedule all work only after confirmation that the Owner does not have any pre-scheduled events and/or conflicts. Work, once commenced, should proceed without interruption, excluding weather days
- d. **Contractor Project Manager** will advise the Owner each day on the following day’s weather forecast. Each day that the forecast includes a greater than 30% chance of rain and/or winds in excess of 15-20 mph, the contractor will have the option to schedule a “no-work” weather delay day.
- e. **“In the Dry”** Contractor is at all times required to maintain a watertight condition on all buildings being repaired / under construction. Contractor and his insurer will be responsible for any damage (interior and exterior) caused due to negligence on the contractor’s part. The contractor agrees to keep all buildings in a watertight condition until such time that the project has been substantially completed and closeout documents provided.

General Scope of Work / Site Specific Specifications:

1. **Reese Technology Center -Hanger 70:** Contractor to provide a proposal to the **Reese Technology Center** to provide all materials, labor and all warranties and guaranties to replace the roof at **Hanger 70**.
2. **Scope of work** – Remove TPO membrane and all associated screws, plates, and termination metal. Make any necessary repairs to underlying Built-up membrane. Install new ¼” Invinsa Board and mechanically attach over underlying built-up roof securing through metal substrate. All screws must extend no less than ¼” beyond the lowest profile of the substrate. Install fully adhered 60 mill TPO Fleeceback membrane (TAN) over Invinsa Board.
3. **Additional Scope of work items to include the following:**
 - **Gutters and downspouts:** Remove and replace existing gutters and downspouts.
 - **Gutter Brackets:** Contractor to install ¼” x 1” steel brackets to lock gutter in place. Place one every 10’ o.c.
 - **Rake Termination Metal:** Contractor to install new edge metal with clad metal skirt at all rakes.
 - **Eave termination metal:** Contractor to turn membrane into gutter and terminate with term bar and metal cover (flat profile) and top/back seal with manufacturer caulk.
4. **Wood Nailers:** Contractor to install treated new nailer(s) as necessary / required at all required areas of the roof. Parapet nailer to be tapered or shimmed to create positive drainage at the exterior parapet walls and area divider.
5. **Fastener Pull-out Test:** Contractor to verify substrate is smooth clean and dry. Contractor to perform fastener pull test to assure pull out and required spacing for any fasteners.
6. **Ponding Areas:** Contractor to feather and fill all low /ponding areas when installing new. Please see identified ponds on roof diagram.
7. **Curbed Penetrations (including Mechanical Units):** Contractor to install all required EPS crickets at the “High” slope sides of curbed penetrations to assure twice the incoming slope. Contractor curbed crickets to extend (width) 2” beyond curb width.
8. **Cricketing:** Contractor to verify existing cricket are usable and enhance as needed to generate twice any incoming slope. Contractor to sump each drain 2” in a 36”x36” radius of the drains.
9. **Invinsa Board or Equal:** Contractor will install ¼” Invinsa Board mechanically attached (FM 1-90 minimum) using proper length screws and metal plates. Contractor to inspect underside of the deck to assure fastener is of proper length and that there are no encumbrances underneath the substrate that could pose a risk to the contractor, crew, or the public.
10. **Field Membrane:** Contractor to install 10’ wide sheets of **60 mill TPO Fleeceback Membrane** fully adhered over the ¼” Invinsa Board using CR20 adhesive. Manufacturer to have assembly tested and on record with Factory Mutual “Severe” Hail Certification. Contractor to lightly broom each sheet after install to ensure full embedment of the sheet and adhesive and to limit any wrinkles that would limit or affect proper drainage. Contractor to install “T” patch were required by manufacturer.

- 11. Curb Flashings:** Contractor to remove existing curb flashings and install new membrane flashings fully adhered. Once installed contractor to secure with term bar and proper backseal and top seal. Install counterflashing using flat stock with drip (1/4"). If the curb has a removeable flash and set back down to counter flash.
- 12. Conduit and Supports:** Contractor to clean and paint (2 coats) all existing gas lines. Fire Code color designations include the following: Gas (yellow), Electrical Lines (red) and Water /Condensate lines (blue). Contractor to install new Pyramid locking supports. Supports to be compatible with TPO membrane and manufacturer. Contractor to install new PVC-Compatible supports. **"Pyramid Supports"** with locking hardware for conduit. Supports to be installed 8' o.c.
- 13. Walk Pads:** Contractor is to include in this scope of work the installation of walk pads at all service sides of mechanical units traffic from roof area A and B (either side of area divider and roof access). Walk pads are to be white with yellow striping. At no time may contractor install walk pad over any field membrane laps. Contractor will cut walk pad and install on either side when this condition exists.
- 14. Penetrations Flashings:** Contractor to provide and install split boots and flashings at all non-curbed penetrations to ensure each fit snug and tight around the shaft of the penetration. Termination to include Panduit band top seal and back seal. All pipe boots must fit snug to the shaft of the plumbing boot at the base and up to the top of the flashing.No witches' hats or loose-fitting flashings permitted.
- 15. Details:** Please reference details provided for reference for all specified detailing at the end of this document.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. **Demo:** Remove existing TPO Membrane and all associated fastener, screws and termination metal.
- B. **Underlying Built-up Roof:** Overlay underlying Granular-Surfaced Cap Sheet. Remove all loose or detached material. Cut, dry and set in mastic any identified blisters.
- C. **Cover Board:** Install 1/4" Invisa Board mechanically attached in accordance with Factory Mutual 1-90 (minimum) required.
- D. **Membrane (new):** Install 60 mil Fleeceback TPO Membrane. Fully adhere using CR20 adhesive.
- E. **Fasteners:** Install all required screws and plates 12" o.c. at all termination, penetrations and perimeter.
- F. **Peel-Stop:** Contractor to install peel-stop 4" in from roof edge at entire perimeter.
- G. **Termination Metal:** Install PVC Clad Metal with skirt at rake terminations and Term bar with metal cover at all eave terminations.
- H. **Flashings:** Install PVC flashings at all penetrations, corners, parapets, stacks, vents, and related details.
- I. **Attachment(s):** Fasteners, adhesives, and other accessories required for a complete roofing installation.
- J. **Traffic Protection:** Install white with yellow striped walk pads at all access points and at service side of all mechanical units.
- K. **Gutters/Downspouts:** Contractor to include replacement of all gutters and downspouts. Prior to install of new, contractor to install new steel (1/4" x 1") brackets to support and lock gutters in place.
- L. **Access ladder:** Contractor to provide an alternate cost to remove and install (new) access ladder to access upper hanger roof.
- M. **Exclusion:** Contractor to exclude lower roof deck areas from this scope of work.

1.2 REFERENCES

- A. NRCA - The NRCA Roofing and Waterproofing Manual.
- B. ASCE 7 - Minimum Design Loads For Buildings And Other Structures.
- C. UL - Roofing Materials and Systems Directory, Roofing Systems (TGFU.R10128).
- D. ASTM C 1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
- E. ASTM D 751 - Standard Test Methods for Coated Fabrics.
- F. ASTM D 4434 - Standard Specification for Poly(Vinyl Chloride) Sheet Roofing.
- G. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
- H. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

1.3 SYSTEM DESCRIPTION

- A. **General:** Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. **Material Compatibility:** Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.
- C. **Physical Properties:**
 - 1. Roof product must meet the requirements of Type III TPO sheet roofing as defined by ASTM D 4434 and must meet or exceed the following physical properties.
 - 2. Thickness: 60 mil (78 mil including fleece), nominal, in accordance with ASTM D 751.
 - 3. Thickness Over Scrim: ≥ 32 mil in accordance with ASTM D 751.
 - 4. Breaking Strengths: ≥ 554 lbf. (MD) and ≥ 408 lbf. (XMD) in accordance with ASTM D 751, Grab Method.
 - 5. Elongation at Break: $\geq 34\%$ (MD) and $\geq 85\%$ (XMD) in accordance with ASTM D 751, Grab Method.
 - 6. Heat Aging in accordance with ASTM D 3045: 176 °F for 56 days. No sign of cracking, chipping, or crazing. (In accordance with ASTM D 4434).
 - 7. Factory Seam Strength: ≥ 322 lbf. in accordance with ASTM D 751, Grab Method.
 - 8. Tearing Strength: ≥ 50 lbf. (MD) and ≥ 200 lbf. (XMD) in accordance with ASTM D 751, Procedure B.
 - 9. Low Temperature Bend (Flexibility): Pass at -40 °F in accordance with ASTM D 2136.
 - 10. Accelerated Weathering: No cracking, checking, crazing, erosion or chalking after 5,000 hours in accordance with ASTM G 154.
 - 11. Linear Dimensional Change: $\leq 0.11\%$ (MD) and 0.00% (XMD) in accordance with ASTM D 1204 at 176 ± 2 °F for 6 hours.
 - 12. Water Absorption: $\leq 2.4\%$ in accordance with ASTM D 570 at 158 °F for 166 hours.
 - 13. Static Puncture Resistance: ≥ 33 lbs. in accordance with ASTM D 5602.
 - 14. Dynamic Puncture Resistance: ≥ 14.7 ft-lbf. in accordance with ASTM D 5635.
- D. **Cool Roof Rating Council (CRRC):**
 - 1. Membrane must be listed on CRRC website.
 - a. Initial Solar Reflectance: $\geq 87\%$
 - b. Initial Solar Reflective Index (SRI): ≥ 110

1.4 SUBMITTALS

- A. Manufacturer data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Maintenance requirements.
- B. Shop Drawings: Indicate insulation pattern, overall membrane layout, field seam locations, jointor termination detail conditions, and location of fasteners.
- C. Verification Samples: For each product specified, two samples, representing actual product,color, and finish.
 - 1. 4 inch by 6 inch sample of roofing membrane, of color specified.
 - 2. 4 inch by 6 inch sample of walkway pad.
 - 3. Termination bar, fascia bar with cover, drip edge and gravel stop if to be used.
 - 4. Each fastener type to be used for installing membrane, insulation/recover board, terminationbar and edge details.
- D. Installer Certification: Certification from the roofing system manufacturer that Installer isapproved, authorized, or licensed by manufacturer to install roofing system.
- E. Manufacturer's warranties.

1.5 QUALITY ASSURANCE

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

1.6 REGULATORY REQUIREMENTS

- A. Conform to applicable code for roof assembly wind uplift and fire hazard requirements.

- B. Fire Exposure: Provide membrane roofing materials with the following fire-test-response characteristics. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
 - 1. Exterior Fire-Test Exposure:
 - a. Class A; ASTM E 108, for application and roof slopes indicated.
 - 2. Fire-Resistance Ratings: Comply with ASTM E 119 for fire-resistance-rated roof assemblies of which roofing system is a part.
 - 3. Conform to applicable code for roof assembly fire hazard requirements.
- C. Wind Uplift:
 - 1. **Roofing System Design:** Provide a roofing system designed to resist uplift pressures calculated according to the current edition of the ASCE-7 Specification *Minimum Design Loads for Buildings and Other Structures*. Finished roof assembly to be attached in accordance with factory mutual 1-90 uplift and Severe Hail Certified Membrane as tested by FM. All products to be produced by the primary Manufacturer issuing the Warranty.

1.7 PRE-INSTALLATION MEETING

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

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Duro-Last or approved equal
- B. All roofing system components to be provided or approved by primary manufacturer.
- C. All metal to be provided by manufacturer and comply with ES-1 Certified (where applicable).

2.2 ROOFING SYSTEM COMPONENTS

- A. Roofing Membrane: Manufacturer of membrane conforming to ASTM D 4434, type III, fabric-reinforced, TPO, NSF/ANSI 347 Gold or Platinum Certification, and a product-specific third- party verified Environmental Product Declaration. Membrane properties as follows:
 - 1. Thickness:
 - a. 60 mil Fleeceback Membrane (tan) nominal (78 mil including fleece).
 - 2. Exposed Face Color:
 - a. White.
 - 3. Minimum recycle content 7% post-industrial and 0% post-consumer.
 - 4. Recycled at end of life into resilient flooring or concrete expansion joints.
- B. Accessory Materials: Provide accessory materials supplied by or approved for use by roofing manufacturer.
 - 1. Sheet Flashing: Manufacturer's standard reinforced PVC sheet flashing.
 - 2. Manufacture Flashings: manufactured using Manufacturer's standard reinforced PVC membrane.
 - a. Stack Flashings.
 - b. Curb Flashings.
 - c. Inside and Outside Corners.
 - 3. Sealants and Adhesives: Compatible with roofing system and supplied by manufacturer.
 - a. CR-20 Membrane Adhesive.
 - b. Water Based adhesive (All vertical applications)
 - c. Exterior 20-year grade caulk.
 - d. Strip Mastic.
 - 4. Slip Sheet: Compatible with roofing system and supplied by manufacturer.
 - 5. Fasteners and Plates: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane and insulation to substrate. Supplied by manufacturer.
 - a. #14 Heavy Duty Fasteners.
 - b. 3 inch Metal Plates.

6. Termination and Edge Details: Supplied by manufacturer.
 - a. Termination Bar with Metal cover.
 - b. Universal 2-Piece Compression Metal System.
 - c. Vinyl Coated Metal Drip Edge.
 7. Vinyl Coated Metal: Supplied by manufacturer. 24 gauge, hot-dipped galvanized, grade 90 metal with a minimum of 17 mil of manufacturer membrane laminated to one side.
- C. Substrate Board:
1. Invinsa Board.
 - a. 1/4 inch thick.
- D. Walkways:
1. Provide non-skid, maintenance-free walkway pads in areas of heavy foot traffic and around mechanical equipment.
 - a. Trak® III Walkway Pad.

Attachment B
BID FORM
New TPO Roof for Building #70

Date: _____ 2021

Reese Technology Center
9801 Reese Blvd., Suite 200
Lubbock, Texas 79416

Gentlemen:

The undersigned, having carefully examined the specifications, drawings, and related documents entitled:

Reese Technology Center
New TPO Roof for Building #70
9801 Reese Blvd, Ste. #200
Lubbock, Texas 79416

All as prepared by Reese Technology Center 9801 Reese Blvd. Suite 200, Lubbock, Texas, 79416 as well as made an on-site inspection of the premises and all other conditions affecting the cost and/or execution of the work, proposes to furnish all materials, labor, and equipment necessary to complete the work in accordance with said documents, of which this bid is a part, for the following sum:

BASE BID: _____ Dollars (\$ _____)

We have included, in the Bid sum all contingency allowances.

(Note: All amounts shall be shown in both written and figure form. In case of discrepancy between the written amount and the figure, the written amount will govern.)

The undersigned acknowledges receipt of addenda to the Drawings and Scope of Work as follows:

<u>No.</u> <u>Date</u>	<u>No.</u> <u>Date</u>	<u>No.</u> <u>Date</u>
------------------------	------------------------	------------------------

<u>No.</u> <u>Date</u>	<u>No.</u> <u>Date</u>	<u>No.</u> <u>Date</u>
------------------------	------------------------	------------------------

(The Bidder is to fill in I.D. Number and date of each thereby acknowledging receipt of Addenda). If awarded the contract, the undersigned agrees to commence work under this contract on or before a date to be specified in Written Notice to Proceed, within _____ (Bidder to fill in days) calendar days from said commencement date, unless modified by change order.

If notified of the acceptance of this bid within thirty (30) days of the time set for the opening of bids, bidder agrees within ten (10) days of notification, to execute a Contract Agreement between Owner and Contractor Where the Basis of Payment Is a Stipulated Sum

It is understood that the Owner reserves the right to accept or reject any and all Bids and to waive all formalities in accordance with State law.

Reese Technology Center
New TPO Roof for Building #70

Respectfully Submitted,

By: _____

Title: _____

Business Address with Zip Code

(SEAL: If Bid is by Corporation)

Telephone Number with Area Code _____

FAX Number with Area Code _____

Fill in the applicable information:

A Corporation, chartered in the State of _____.

Authorized to do business in the State of Texas.

A Partnership, composed of _____, and

_____ and _____.

An individual operating under the name of _____.

END BID FORM

ATTACHMENT C: SITE MAP

REESE TECHNOLOGY CENTER
CAMPUS ADDRESS MAP

Hangar 70

