



5 December 2023

Columbia School District
613 Wildcat Way

Project Name: Columbia High School Re-Roof
Project Number: 23-062

ADDENDUM NO. 2

NOTICE TO ALL DOCUMENT HOLDERS:

The following additions, deletions, changes, and clarifications to the drawings and specifications will be included as part of the Contract Documents.

General

ITEM NO. 1 **SCOPE OF WORK CLARIFICATION** The new modified bitumen roof systems will be installed over a cover board and the existing roof will remain.

ITEM NO. 2 Mechanical Insulation to be replaced per notes on sheet R100. Specification for Mechanical Insulation is provided in the specification, **SEE** Section 20.0250. Provide metal jackets over insulation on ALL insulated piping exposed to outdoor weather (including refrigerant piping).

ITEM NO. 3 **ALL** Mechanical Units are assumed to be in working condition. The contractor should document any non-working units before installation of the new roof. **ALL** mechanical units should be in pre-construction condition after the installation of the new roof. If existing units are disconnected during the installation of the new roof, the existing units are to be reconnected and piping pressure tested before placing them back in service. HVAC ductwork is to remain. Joints should be coated and resealed as required after the installation of the new roof.

ITEM NO. 4 The existing roof hatch is to remain.

ITEM NO. 5 Roofing work will be allowed during school hours if the work does not disrupt activities inside the school. Testing schedules and calendars will be made available upon request during construction. The contractor will need to coordinate noisy and disruptive work with the school district. Mechanical disruptions will need to be scheduled with the school district.

SPECIFICATIONS

ITEM NO. 6 **DELETE** Section 07.5200 in its entirety and **REPLACE** with the revised 07.5200 Mod Bit Roofing Membrane. Revise reference for Polyester reinforced sheets and equipment support.

DRAWINGS

ITEM NO. 7 **DELETE** Sheet R100 project info and **REPLACE** with the revised R100. **EDIT** General Roof Replacement Note A. **CLARIFIES** the existing roof will be encapsulated and covered by a new roof, not demolished and replaced.



Encl: 07.5200 Mod Bit Roofing System.pdf, R1000.pdf
Cc: All document holders

Modified Bituminous Membrane Roofing

PART 1 GENERAL

1. SECTION INCLUDES
 - A. Modified bituminous roofing membrane, conventional application.
 - B. Cover boards.
 - C. Roofing cant strips, roofing expansion joints, and walkway pads.
2. RELATED REQUIREMENTS
 - A. Section 07.0150.19 - Preparation for Re-Roofing.
 - B. Section 07.6200 - Sheet Metal Flashing and Trim: Counterflashings, reglets.
 - C. Section 07.7100 - Roof Specialties: Counterflashings.
 - D. Section 22.1006 - Plumbing Piping Specialties: Roof drains.
3. REFERENCE STANDARDS
 - A. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing 2017.
 - B. ASTM D41/D41M - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing 2011 (Reapproved 2023).
 - C. ASTM D312/D312M - Standard Specification for Asphalt Used in Roofing 2016a (Reapproved 2023).
 - D. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free 2007 (Reapproved 2018).
 - E. ASTM D6164/D6164M - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements 2021.
 - F. ASTM D6298/D6298M - Standard Specification for Fiberglass Reinforced Styrene Butadiene Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface 2016.
 - G. FM DS 1-28 - Wind Design 2015, with Editorial Revision (2022).
 - H. NRCA (RM) - The NRCA Roofing Manual 2023.
4. ADMINISTRATIVE REQUIREMENTS
 - A. Preinstallation Meeting: Convene one week before starting work of this section.
 1. Review preparation and installation procedures and coordinating and scheduling required with related work.
5. SUBMITTALS
 - A. See Section 01.3000 - Administrative Requirements for submittal procedures.
 - B. Product Data: Provide manufacturer's catalog data for membrane and bitumen materials, base flashing materials, vapor retarder, and surfacing.
 - C. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
6. QUALITY ASSURANCE
 - A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
 - B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.
7. DELIVERY, STORAGE, AND HANDLING
 - A. See Section 01.7419 - Construction Waste Management and Disposal for packaging waste requirements.
 - B. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact unless otherwise indicated.
 - C. Store materials in weather protected environment, clear of ground and moisture; ballast materials may be stored outdoors.

- D. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.
- 8. FIELD CONDITIONS
 - A. Do not apply roofing membrane when environmental conditions are outside the ranges recommended by manufacturer.
 - B. Do not apply roofing membrane during unsuitable weather.
 - C. Do not apply roofing membrane when ambient temperature is below 40 degrees F.
 - D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
 - E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.
 - F. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.
- 9. WARRANTY
 - A. See Section 01.7800 - Closeout Submittals for additional warranty requirements.
 - B. Provide 20-year manufacturer's material and labor warranty to cover failure to prevent penetration of water.

PART 2 PRODUCTS

- 1. ROOFING - CONVENTIONAL APPLICATION
 - A. Modified Bituminous Membrane Roofing: Two-ply membrane.
 - B. Roofing Assembly Requirements:
 - 1. Wind Resistance Classification: Factory Mutual 1-75, in accordance with FM DS 1-28.
 - 2. Surfacing: Mineral granules.
- 2. MEMBRANE AND SHEET MATERIALS
 - A. Membrane: Polymer modified asphalt, reinforced with nonwoven fabric; granule surfaced; with the following characteristics:
 - 1. Minimum Quality: ASTM D6164/D6164M Type I; styrene-butadiene-styrene (SBS) modified, polyester reinforced.
 - 2. Minimum Quality: ASTM D6298/D6298M aluminum faced; styrene-butadiene-styrene (SBS) modified, glass fiber reinforced.
 - 3. Solar Reflectance: 0.75, minimum, initial, and 0.60, minimum, 3-year, certified by Cool Roof Rating Council.
 - 4. Color: White.
 - B. Flexible Flashing Material: Same material as membrane.
- 3. BITUMINOUS MATERIALS
 - A. Bitumen: Asphalt, ASTM D312/D312M Type IV; for adhering insulation, use Type III.
 - B. Asphalt Primer: ASTM D41/D41M, asphalt type.
 - C. Asphalt Roof Cement: ASTM D4586/D4586M, Type II, asbestos-free.
- 4. COVER BOARDS
 - A. Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.
 - 1. Thickness: 1/4 inch 1/4 inch.
- 5. ACCESSORIES
 - A. Cant and Edge Strips: Asphalt-impregnated wood fiberboard, compatible with roofing materials ; cants formed to 45 degree angle.

- B. Rubber Equipment, Pipe, and Ductwork Supports: CXP Rubber Supprts (equipment), CB10 Bridge Rubber Support, DSA10 Ductwork Pipe Rubber Support, and other premanufactured supports as needed. Supports to be equal to MIFAB, Inc. (www.mifab.com)
 - 1. Do not secure supports through membrane roofing with out review and approval.

PART 3 EXECUTION

- 1. EXAMINATION
 - A. Verify that surfaces and site conditions are ready to receive work.
 - B. Verify deck is supported and secure.
 - C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
 - D. Verify deck surfaces are dry and free of snow or ice.
 - E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.
- 2. INSTALLATION - MEMBRANE
 - A. Install modified bituminous membrane roofing system in accordance with manufacturer's recommendations and NRCA (RM) applicable requirements.
 - B. Install membrane; lap and seal edges and ends permanently waterproof.
 - C. Install smooth, free from air pockets, wrinkles, fish-mouths, or tears. Ensure full bond of membrane to substrate.
 - D. At end of day's operation, install waterproof cut-off. Remove cut-off before resuming roofing.
 - E. At intersections with vertical surfaces:
 - 1. Install aluminum-faced membrane at parapets and ALL vertical surfaces.
 - 2. Extend membrane over cant strips, up parapet wall, and over the top of wall to edge.
 - 3. Secure membrane at parapet with continuous termination bar.
 - 4. Apply flexible flashing over membrane.
 - 5. Installation to match existing conditions and materials are not to be visible from the ground.
 - F. Around roof penetrations, mop in and seal flanges and flashings with flexible flashing.
 - G. Coordinate installation of roof drains and sumps and related flashings.
- 3. PROTECTION
 - A. Protect installed roofing and flashings from construction operations.
 - B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION

ABBREVIATIONS

A.C.M. ASBESTOS CONTAINING MATERIALS
 A.C.T. ACUSTICAL
 A.F.F. ABOVE FINISHED FLOOR
 A.H.U. AIR HANDLING UNIT (see also R.T.U.)
 ALT. ALTERNATE
 ALUM. ALUMINUM
 APPROX. APPROXIMATE
 ASSY. ASSEMBLY
 B. BOTTOM OF
 BLDG. BUILDING
 BLDG. BLOCKING
 C.F.M.F. COLD FORMED METAL FRAMING
 C.I. CONTINUOUS INSULATION
 C.J. CONTROL JOINT
 C.L. CENTERLINE
 C.L.G. CEILING
 C.R. CAST STONE
 C.O. CLEAN
 C.O.L. COLUMN
 CONC. CONCRETE
 CONSTR. CONSTRUCTION
 CONT. CONTINUOUS
 COORD. COORDINATE
 DEMO. DEMOLITION
 DTL. DETAIL
 DIA. DIAMETER
 DIM. DIMENSION
 DISP. DISPENSER
 DN. DOWN
 D.P. DAMPPROOFING
 D.S. DOWNSPOUT
 DWG. DRAWING
 EA. EACH
 E.F.S. EXTERIOR INSULATION & FINISH SYSTEM
 EJ. EXPANSION JOINT
 ELEC. ELECTRICAL
 EL. ELEVATION
 ELEV. ELEVATION
 ENCL. ENCLOSURE
 EQ. EQUIPMENT
 EQUP. EQUIPMENT
 EWC. ELECTRIC WATER COOLER
 EXH. EXHAUST
 EXST. EXISTING
 EXTER. EXTERIOR
 F. FACE OF
 F.A.C.P. FIRE ALARM CONTROL PANEL
 F.D. FLOOR DRAIN
 F.E.C. FIRE EXTINGUISHER (CABINET)
 F.F.E. FINISH FLOOR ELEVATION
 FIN. FINISH
 FINT. FINISH
 FLR. FLOOR
 FUR. FURRING
 GA. GAUGE
 GALV. GALVANIZED
 G.C. GENERAL CONTRACTOR
 GLAZ. GLASS
 GYP. BD. GYPSUM BOARD
 HW. HARDWARE
 HT. HEIGHT
 HM. HOLLOW METAL
 HORIZ. HORIZONTAL
 HR. HOUR
 INSUL. INSULATION
 INTER. INTERIOR
 JAN. JANITOR
 JT. JOINT
 L.A.T. LAY-IN ACUSTICAL TILE
 LAV. LAVATORY
 L.B.P. LEAD BASED PAINT
 MAS. MASONRY
 MAX. MAXIMUM
 MEC. MECHANICAL
 MANUF. MANUFACTURER
 MIN. MINIMUM
 MISC. MISCELLANEOUS
 M.O. MASONRY OPENING
 MTD. MOUNTED
 MTL. METAL
 NA. NOT APPLICABLE
 N.C. NOT IN CONTRACT
 N.T.S. NOT TO SCALE
 NOM. NOMINAL
 O.C. ON CENTER
 O.D. OUTSIDE DIAMETER
 OPS. OPERING
 OPP. OPPOSITE
 ORIG. ORIGINAL
 PLAST. PLASTER
 PREFAB. PRE-FABRICATED
 PREFIN. PRE-FINISHED
 PFB. PAINTED
 PART. PARTITION
 PLYWD. PLYWOOD
 RB. RUBBER BASE
 R.C. RESIDENT CHANNEL
 R.D. ROOF DRAIN
 REF. REFERENCED
 REINF. REINFORCEMENT
 REQ. REQUIRED
 RESL. RESIDENT
 RM. ROOM
 ROOJ. ROOF OPENING
 R.T.U. ROOF TOP UNIT
 SCHED. SCHEDULE
 SECT. SECTION
 SHWR. SHOWER
 SIM. SIMILAR
 SPEC. SPECIFICATION / SPECIFIED
 SQ. SQUARE
 SQFT. SQUARE FEET
 S.S. STAINLESS STEEL
 S.T.C. SOUND TRANSMISSION COEFFICIENT
 STD. STANDARD
 STL. STEEL
 STRUCT. STRUCTURAL
 SUSP. SUSPENDED
 SYM. SYMMETRICAL
 SYS. SYSTEM
 T.J. TOP OF
 TEMP. TEMPORARY
 TAG. TONGUE & GROOVE
 THK. THICKNESS
 TYP. TYPICAL
 U.O.N. UNLESS OTHERWISE NOTED
 VERT. VERTICAL
 V.F. VERIFY IN FIELD
 W. WITH
 W.C. WATER CLOSET
 WD. WOOD
 WDW. WINDOW
 W/O. WITHOUT
 W.B. WEATHER BARRIER
 W.P. WATERPROOFING

SYMBOLS

BRICK

CONCRETE

STONE CAST STONE

CONCRETE MASONRY UNITS

GRAVEL

GYPSUM BOARD GROUT

INSULATION (BATT)

INSULATION (RIGID)

STEEL

ALUMINUM

SHEATHING

WOOD (SOLID WOOD)

CONTINUOUS BLKG.

DISCONTINUOUS BLKG.

WATERPROOFING

DAMP-PROOFING

WEATHER BARRIER

VAPOR BARRIER

ROOF MEMBRANE

ELEVATION TAG

INTER ELEVATION TAG

SECTION TAG

LEVEL LINE TAG

WINDOW TAG

STOREFRONT TAG

ROOM TAG

DOOR TAG

PARTITION TAG

CEILING HEIGHT TAG

WALL & BASE FINISH TAG

FLOOR FINISH TAG

FLOOR TRANSITION TAG

FULL ROOM FINISH TAG

KEYNOTES

SPECIALTY ITEM TAG

GENERAL NOTES

- NOTES APPEAR ON VARIOUS DRAWINGS FOR VARIOUS DISCIPLINES FOR DIFFERENT SYSTEMS AND MATERIALS. REVIEW ALL SHEETS AND APPLY NOTES TO RELATED BUILDING COMPONENTS.
- REFER TO COMPLETE SET OF ISSUED CONTRACT DOCUMENTS FOR OTHER APPLICABLE NOTES, ABBREVIATIONS, AND SYMBOLS.
- WHERE MATERIALS ARE APPLIED TO, OR ARE IN DIRECT CONTACT WITH WORK INSTALLED BY ANOTHER SUBCONTRACTOR, COMMENCEMENT OF WORK IMPLIES ACCEPTANCE OF THE SUBSTRATE AS SUITABLE FOR THE APPLICATION INTENDED.
- ISOLATE DISSIMILAR METALS TO PREVENT GALVANIC CORROSION.
- PARTITION TYPES AND FIRE RESISTIVE RATINGS INDICATED ON A WALL ARE TO BE CONTINUOUS FOR THE LENGTH AND HEIGHT OF A PARTITION.
- OPENINGS IN RATED WALL, FLOOR, CEILING AND ROOF ASSEMBLIES SHALL BE SEALED WITH PENETRATION SEALANT SYSTEMS MEETING OR EXCEEDING THE REQUIRED FIRE RESISTIVE RATINGS.
- MAINTAIN THE FIRE RATING OF CONSTRUCTION AROUND CABINETS, PANELS, AND BOXES RECESSED IN FIRE RATED WALL, FLOOR, AND CEILING ASSEMBLIES.
- PROVIDE CONTINUOUS PERIMETER FIRE SAFING BETWEEN FLOORS AND COORDINATE THE INSTALLATION WITH THE EXTERIOR WALL. FIRE RATING OF SAFING SHALL MATCH FIRE RATING OF FLOOR CONSTRUCTION.
- DO NOT SCALE THE DRAWINGS.
- FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT AND FURNISHINGS.
- PROVIDE STIFFENERS, BRACING, BACKING PLATES AND BLOCKING REQUIRED FOR SECURE INSTALLATION OF TOILET PARTITIONS, DOORS AND DOOR HARDWARE INCLUDING WALL-MOUNTED DOOR STOPS, HANDRAILS, WALL-MOUNTED SHELVES, OPERABLE PARTITIONS, MISCELLANEOUS EQUIPMENT, AND SUSPENDED MECHANICAL AND ELECTRICAL EQUIPMENT.
- COORDINATE ALL BASE AND HOUSEKEEPING PADS WITH MECHANICAL PLUMBING AND ELECTRICAL EQUIPMENT.
- LOCATE ACCESS PANELS AS INDICATED ON DRAWINGS. FOR ACCESS PANELS NOT SHOWN BUT REQUIRED BY PROVISIONS OF THE CONTRACT DOCUMENTS, LOCATED IN ACCORDANCE WITH APPLICABLE CODES. SUBMIT PROPOSED LOCATIONS TO THE ARCHITECT FOR REVIEW AND ACCEPTANCE PRIOR TO INSTALLATION.

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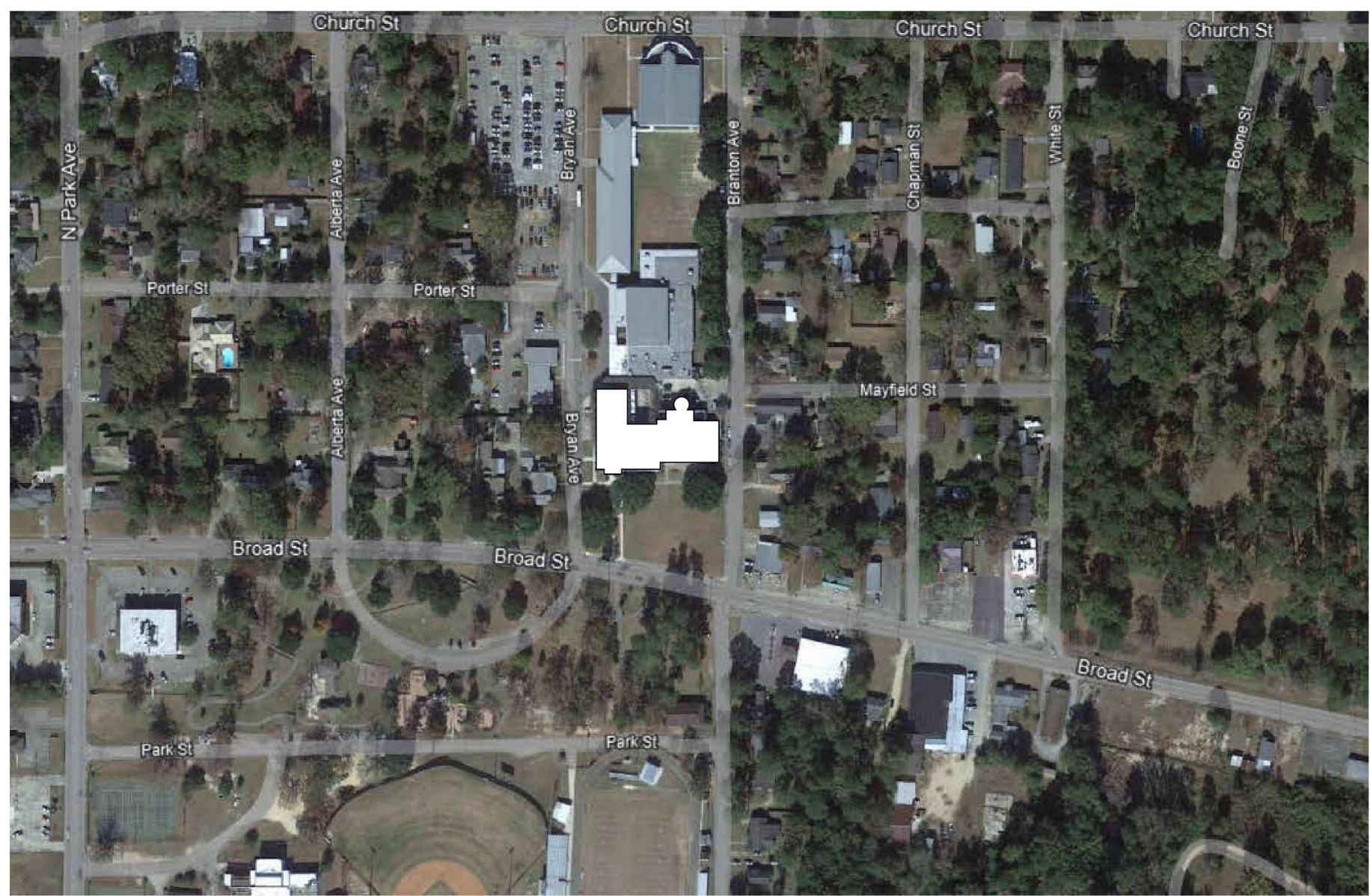
GENERAL DEMOLITION NOTES

- REMOVE EXISTING LOW SLOPE ROOFING SYSTEM AS REQ'D TO INSTALL NEW MATERIALS, INCLUDING ALL MEMBRANES, INSULATIONS AND FLASHINGS DOWN TO EXISTING DECK, COPINGS, NAILERS AND BLOCKING.
- REMOVE ALL ROTTED WOOD, DECKING TRIM OR BLOCKING AND REPLACE WITH MATERIALS SPECIFIED.

GENERAL ROOF REPLACEMENT NOTES

- COVER AND ENCAPSULATE EXISTING ROOF WITH NEW ROOF WHERE NOTED.
- IT IS INTENDED THAT ALL ROOF ACCESSORIES AND EQUIPMENT INCLUDING BUT NOT LIMITED TO, VENTS -THRU-ROOF (V.T.R.), FLUES, ETC. SHALL BE REUSED IN THIS PROJECT, UNLESS NOTED OTHERWISE. ROOFING CONTRACTOR SHALL RAISE ANY OF THESE AS REQ'D TO MEET THE ROOFING MANUFACTURER'S RECOMMENDED 8" FLASHING HEIGHT ABOVE THE FINISHED ROOF PLANE.
- USE EXISTING METAL FLASHING WHERE FLASHING OVERHANGS ROOF BELOW. BOND NEW ROOF ONTO TOP OF FLASHING. MATCH EXISTING INSTALLATION METHOD.
- USE EXISTING METAL FLASHING WHERE ROOF MEETS PARAPET WALLS AND BASE OF WINDOWS. WRAP NEW ROOF UNDER FLASHING. MATCH EXISTING INSTALLATION METHOD. REMOVE ANY DAMAGED OR RUSTED FLASHING AND REPLACE WITH NEW FLASHING COMPATIBLE IN PROFILE TO EXISTING; SEAL AND RIVET. SEAL ALL OPEN SCREW HOLES.
- MAINTAIN LOCATION OF EXISTING PLUMBING VENTS; WORK NEW ROOF AROUND PIPE VENTS.
- WRAP NEW ROOF AROUND EXISTING ROOF HATCH. SEE DETAIL 1/A201.
- DIMENSIONS SHOWN FOR REFERENCE ONLY, AND SHOULD BE CONSIDERED APPROXIMATE. ROOFER TO VERIFY ALL DIMENSIONS PRIOR TO BID.
- INSTALL CRICKETS ON UPSLOPE OF ALL CURBS.
- ALL FERROUS ROOFTOP METALS AND LEAD COATED COPPER SHALL BE PAINTED.
- SEE 3/A201 FOR TYPICAL ROOF PENETRATION DETAIL.
- SEE 4/A201 FOR TYPICAL ROOF SCUPPER DETAIL.
- SEE MANUFACTURERS TYPICAL DETAILS FOR ALL PRODUCTS.
- REPLACE ALL PIPING/CONDUIT PENETRATIONS BOXES. SEE 5/A201
- REPLACE ALL REFRIGERANT & HVAC PIPING INSULATION. SEE SPECIFICATION SECTION 200250

VICINITY MAP



DRAWING INDEX

INDEX OF DRAWINGS	
SHEET NUMBER	SHEET NAME
01 - REFERENCE	
R000	COVER SHEET
R100	PROJECT INFO
05 - ARCHITECTURE	
A101	ROOF PLAN - OVERALL
A102	ROOF PLAN - EAST
A103	ROOF PLAN - WEST
A201	ROOF DETAILS
A301	ROOF IMAGES
A302	ROOF IMAGES
A303	ROOF IMAGES
A400	SKYLIGHT



COLUMBIA H.S. ROOF REPLACEMENT
 COLUMBIA PUBLIC SCHOOLS
 1009 Broad St.,
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11/08/2023
CONSTRUCTION DOCUMENTS
 WBA # 23-062

REVISIONS		
NO.	DESCRIPTION	DATE
2	Revision 2	Date 2

