MBI

Addendum 2 March 9, 2022

Addition and Renovation to: Norris Middle School
5 Norris Square
Norris, TN 37828

To: Prime contractors and all others to whom drawings and specifications have been issued. This Addendum forms part of the Contract Documents. It supplements and modifies them as follows:

A. Specifications:

- **Section 00 00 01 – Table of Contents_ADD2:** Updated to reflect changes and additional specs.
- **Section 00 41 13 – Bid Form_ADD2:** Added note regarding allowances.
- **Section 01 21 00 – Allowances_ADD2:** Added allowance for Emergency Responder Radio Antenna-Repeater System.
- **Section 04 20 00 – Unit Masonry_ADD2:** Owner-approved basis of design brick added to spec, which matches existing brick color and texture.
- **Section 07 46 05 – Aluminum Soffits_ADD2:** New section added.
- **Section 08 71 00 – Door Hardware_ADD2:** Updated hardware sets.

B. Drawings:

- **Sheet C001 – Civil Notes & Legend_REV02**: Removed note #11.
- **Sheet C500 – Site Utility Plan_REV02:** Rerouted fire line per bidder question.
- **Sheet A201 – Door Schedule, Window Types, and Details_ADD2:** Updated door hardware.
- **Sheet A301 – Roof Plan_ADD2:** Reference to new roof detail.
- **Sheet A302 – Roof Details_ADD2:** Added detail #3 at main entry canopy.
- **Sheet F301 – Millwork Elevations_ADD2:** Added section cuts to elevations.
- **Sheet F302 – Millwork-Add Alt_ADD2:** Added section cuts to elevations.
- **Sheet F401 – Interior Elevations_ADD2:** Corridor north and south elevations added, showing painted graphics.
- **Sheet FP101 – Floor Plan-Fire Protection_ADD2:** Rerouted fire line.
- **Sheet M202 – HVAC Controls_ADD2:** Added note regarding building HVAC controls.

C. **Clarifications:** See attached bidders' questions list and answers, and RFI's 1 and 2.

D. Attachments:

1. All specifications, drawings, and other attachments mentioned above.

END OF ADDENDUM

Job Number: 210042.04

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299 N. Weisgarber Road
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Chattanooga
University Tower
651 E. Fourth Street, Suite 500
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(o) 423.756.5046

February 22, 2022:

1. ARCH - Duo-Gard is listed by brand name in section 10 73 16 for the canopy system at the Norris Middle School. I reviewed the bid documents and noticed you are calling for a corrugated polycarbonate roof at the canopy. These panels are typically fastened directly through the panel and not a great solution for a canopy system under load. Proposed system is our Series 3100 sloped glazing system. This system includes 25mm thick cellular polycarbonate panels and aluminum glazing channels. Aluminum mullions will be spaced every 24" to 36" on center depending on loadings. This option will give you better performance and longevity over the corrugated panels.

   An approximate cost for the Duo-Gard 3100 series system would be $20.00 - $22.00 per square foot. Includes 25mm thick cellular polycarbonate in clear or opal. Class 1 clear anodized finish on aluminum frame and mullions. PE calculations and stamped shop drawings. Fasteners for attachment to steel. Project management and engineering. Gutter not included in budget. Installation not included in budget.

   Answer and drawings/specs included: The cost is too high at this time. No change in drawings or specs.

March 2, 2022:

2. ARCH - Door hardware set number 1 (08 71 00) calls for cylinders only, balance of hardware by hollow metal door supplier. This is common with aluminum storefront doors but hollow metal manufacturers do not provide hardware. Please advise.

   Answer and drawings/specs included: See answer to Question #11.

March 3, 2022:

3. ARCH - Can we get more detail at the conventional framed main entry canopy cover, specifically the perimeter parapet wall framing. The structural drawings note metal stud parapets (9 & 11 / S502), however I don't see a section on the architectural drawings that notes wall sheathing, cladding, etc.

   Answer and drawings/specs included: See Detail 10/A302.

4. CIVIL - Reference Sheet C001, utility note #11 calls for fire line to be ductile iron, however C500 utility plan #6 calls for PVC. Please verify the site fire line is to be C-900 PVC.

   Answer and drawings/specs included: Note 11 on C001 has been removed and Sheet C001 has been revised. The fire line should be PVC C-900 as specified on the plans.

5. CIVIL - Reference Section 01 21 00 Allowances, Items F&G / Allowance 6 & 7 (#6 = geotextile fabric and #7 = compacted stone) note that allowances to be included in base bid are to be found in Section 31 20 00 Earth Moving. However, this section of specifications is on the plans and I have not been able to locate amounts to include. Please advise.

Answer and drawings/specs included: Allowance #6 shall be deleted. Allowance #7 is equal to 60 tons of compacted stone. See revised Section 01 21 00 – Allowances_ADD2.

March 4, 2022:

6. ARCH - The RCP notes flush seam aluminum soffit at two areas (entries), however there is a specifications for linear ceiling. Please confirm what system we are to include in our bid. If the intent is to use the linear ceiling (more expensive) product in the specification, can we get confirmation on which type & profile?

   Answer and drawings/specs included: See new specification Section 07 46 05 – Aluminum Soffits.

7. ARCH - Is there an abatement report? If so, does it include both exterior and interior?

   Answer and drawings/specs included: Find attached the Asbestos Management Plan as well as the latest yearly state surveillance report. Anderson County Management plan and yearly surveillance reports only cover the inside of the building envelope.

8. ARCH - The door hardware specified is not compatible with the doors that are specified. Can you take a look at this?

   Answer and drawings/specs included: See answer to Question #11.

9. ELECTRICAL - E001: "Emergency Radio Responder" 1(a) States that the cost of testing needs to be included in the quote. This testing is used to determine if the system is even necessary. 2(a) Goes on to say that if the testing deems the system to be necessary then we are to furnish and install it.
   We will include the costs for testing in our bid. Are we to include costs for the system in our bid? If so, can we use a provided allowance so everyone is bidding the same thing since it will need to be designed based on the testing that is not yet completed?
   Testing shall be included in the base bid along with any required infrastructure in inaccessible areas. A contractor-provided allowance to be included for the remainder of the system build-out if required.

March 7, 2022:

10. FIRE PROTECTION - You cannot run a fire line under a building like it's shown on the FP drawings unless you want to Arch the footings, install valves and put this pipe in an open trench with a grate across it.

    Answer and drawings/specs included: Fire line will be routed around the building to the sprinkler room. See sheets C500 and FP101.

11. ARCH - The openings specified in door hardware set 1 (08 71 00) are going to require additional hardware in order to function properly and meet egress requirements. We would like to

propose breaking hardware set number one into the five different sets (1A-1E) per the attachment.

Answer and drawings/specs included: Proposed hardware sets accepted. Please see updated specification 08 71 00 – Door Hardware, and Drawing sheet A201.

Path Construction Company, Inc
125 East Algonquin Road
Arlington Heights, IL 60005
Tel: 847.398.7100
Fax: 847.398.7101
www.pathcc.com

February 24, 22022

Norris Middle School
Addition & Renovation
RFI No. 1

lbeckwith@andersonTN.gov

1. **Reference: Allowances**
   - **A.** Will you be providing a quantity for Allowance #5, #6, #7 and an amount for Allowance #8?
2. **Reference Addendum #1 issued 2/22/22**
   - **A.** Indicates drawings changed. The revised drawings were not included in addendum #1 when issued. Please provide
3. **Reference: Specification Section 05 12 00.1.05B**
   - **A.** Does approval for use of a Steel Fabricator and Installer need to come before the bid, or if it can come after?

Thank you,
Debbie Eaker
deaker@pathcc.com

1. Allowance #5 - Reinforced Concrete Foundations: (#5) See drawing S001, Concrete Note #15.
   Allowance #6 - Geotextile Fabric: Allowance was deleted.
   Allowance #7 - Compacted Stone: Quantity 60 tons
   Allowance #8 - Discretionary Fund: Amount is called out on the Bid Form, and in Section 01 10 00 - Summary.

2. Revised drawings were included in Addendum #1. See pages 18-34.

3. Before the bid.

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February 24, 22022

Norris Middle School
Addition & Renovation
RFI No. 2

lbeckwith@andersonTN.gov

1. Page F401 it states " Painted Wall Graphics" can you provide what these graphics will be ? I can not locate any further information.

Thank you,
Debbie Eaker
deaker@pathcc.com

Please see attached revised drawing sheet F401 for wall graphics.

In Progress

PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Anderson County High School BUILDING NO. 11

BUILDING NAME_____

INSTRUCTIONS: AHERA regulations require a Periodic Surveillance be conducted every six months. Each school building containing ACBM must be inspected. Put the date in the appropriate column, fill in the HA#, Description of ACBM, and Area Inspected. If the ACBM has been removed, put the date removed in the appropriate column. Keep the original with your Management Plan.

			1st Six months Date: 01/2020 Winter	2nd Six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
03	White 12” x 12” floor tile with blue streaks and black mastic	Teacher depot in business building	N/C		
10	Black pliable window glazing	Downstairs older section classrooms of science/math building, exterior windows	N/C		
20	White mastic on fiberglass pipe wrap	Library ceiling plenum	N/C		
Note on HA 03:	Several chips and rough edges observed.				

*IF NO CHANGE IN CONDITION WRITE N/C

SURVEILLANCE INSPECTOR’S NAME (please print): Emily M. Mollish
SURVEILLANCE INSPECTOR’S SIGNATURE:
(Surveillance Inspector is not required to be AHERA certified)

AHERA Accreditation Number/Date (if applicable): A-MP-68828-

TAHERA 9.0 (12/93)

In Progress

PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Andersonville Elementary BUILDING NO. 03

BUILDING NAME_____

INSTRUCTIONS: AHERA regulations require a Periodic Surveillance be conducted every six months. Each school building containing ACBM must be inspected. Put the date in the appropriate column, fill in the HA#, Description of ACBM, and Area Inspected. If the ACBM has been removed, put the date removed in the appropriate column. Keep the original with your Management Plan.

			1st Six months Date: 01/2021 Winter	2nd Six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
01	9”x9” Gray and Pink Floor Tile	Classroom 26	N/C		
02	9”x9” Brown and Black Floor Tile	Classrooms 18, 19, 20, and 27	N/C		
03	9”x9” Gray and Red Floor Tile	Under Existing Floor Tile	N/C		
04	1’x1’ Tan and White Floor Tile	Under Existing Floor Tile	N/C		
07	9”x9” Black and Pink Floor Tile	Under Existing Floor Tile	N/C		
Note on HA 01:	Room 26: Small cracks at whiteboard, rear chalk board, cracked tile at sink, and staining observed between tiles.				
Note on HA 02:	Room 18: Small chip at the sink.				
Other Notes:	Book Room: Bubbles at desk and half missing floor Tile at window, patch at windows. Room 19: Patch at windows				

*IF NO CHANGE IN CONDITION WRITE N/C

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PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Briceville Elementary BUILDING NO. 01

BUILDING NAME_____

INSTRUCTIONS: AHERA regulations require a Periodic Surveillance be conducted every six months. Each school building containing ACBM must be inspected. Put the date in the appropriate column, fill in the HA#, Description of ACBM, and Area Inspected. If the ACBM has been removed, put the date removed in the appropriate column. Keep the original with your Management Plan.

			1st Six months Date: 01/2021 Winter	2nd Six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
02	Brown 9"x9" Floor Tile with Brown Streaks	Entire School Except Cafeteria, Main Office, Hallways, and Classrooms 9, 13, 14, 15	N/C		
Note:	Room 1: Missing Floor Tiles at the sink. Room 2: Small chip at the sink, patched and cracked tiles at window. Chips at front whiteboard.				
	Room 3: One small chip at window. Room 4: One small chip at whiteboard, patched tile and circle drawn on floor.				
	Room 5: Cracked and missing tile on both sides of sink and chips at the whiteboard. Room 6: One half tile missing at the sink. Small chips in corner at front door				
	Room 7: Patched tiles at sink and water stained/damaged tile at rear desk, one new chip at window Room 8: One small chip at the sink.				
	Room 11: Small cracks at the rear corner at the sink, small cracks at the front whiteboard. Loose at sink, cracks at rear corkboard Room 12: One half tile missing in front of sink. Chip at sink, chips at windows				

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Classroom 1: chips at front whiteboard
Classroom 2: same
Classroom 3: partial missing tile at sink

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Classroom 4: same
Classroom 11: same

In Progress

PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Claxton Elementary BUILDING NO. 20

BUILDING NAME_____

INSTRUCTIONS: AHERA regulations require a Periodic Surveillance be conducted every six months. Each school building containing ACBM must be inspected. Put the date in the appropriate column, fill in the HA#, Description of ACBM, and Area Inspected. If the ACBM has been removed, put the date removed in the appropriate column. Keep the original with your Management Plan.

			1st Six months Date: 01/2020 Winter	2nd Six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
04	1'x1' Beige and Brown Floor Tile	Custodial Storage Across from Cafeteria	N/C		
15	Pipe Insulation	Enclosed pipe chase in custodial storage area across from cafeteria	N/C		
16	Pipe Fitting	Enclosed pipe chase in custodial storage area across from cafeteria	N/C		
18	Transite Board	Sidewalk	N/C		
19	9"x9" Brown, White and Gray Floor Tile	3rd Grade Pod except Classrooms 16, 17	N/C		
Note:	Room 17: Cracks outside classroom. Loose Tiles under leak – non ACM Room 12: Cracks @ exterior door				

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PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Clinton Middle School BUILDING NO. 16

BUILDING NAME_____

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			1st Six months Date: 01/2021 Winter	2nd six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
5	9” x 9” Grey w/ Black & White Streaks Floor Tile	Guidance Office Under Vinyl Floor Tile	N/C		
6	9” x 9” Light Grey w/White Streaks Floor Tile	Under Existing Vinyl Floor Tile in classrooms	N/C		
7	9” x 9” Brown w/Pink, Beige, and Black Specks Floor Tile	Hallways in West Side of School under Floor Tile in Technology Classroom, In School Suspension, and Staff Lounge	N/C		
8	9” x 9” Beige w/Pink, White, and Gray Streaks Floor Tile	Under Existing Vinyl Floor Tile	N/C		
9	1’ x 1’ Blue Floor Tile	Under Existing Vinyl Floor Tile	N/C	Partial Abatement July 2020	
10	12” x 12” White w/Black & White Specks Floor Tile	Classrooms 25, 26, 27, 31, 32, 33 Under Existing Vinyl Floor Tile	N/C	Partial Abatement July 2020	
15	9” x 9” Black w/White Streaks Floor Tile	Band Room Under Carpeting	N/C		
16	1’ x 1’ Tan w/Brown & White Streaks Floor Tile	In Classrooms 1-13; 15-19; 20-24; 34-37; and Guidance, Office Under Existing Vinyl Floor Tile	N/C		
Note:	Hall at Room 18: One chip up ramp at library/auditorium. 12”x12” Floor Tile covers Asb. Tile. Library/Auditorium threshold has cracks.				
	Teacher’s Lounge: One chip at threshold. 12”x12” Floor Tile covers Asb. Tile. 8th Grade Hallway: Noticeable wear on 12”x12” Floor Tiles that cover Asb. Tile.				
	7th Grade Lower Hallway: Under lockers - Loose 12”x12” Floor Tiles that cover Asb. Tile.				

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Ridges in tile covering asb tile in auditorium hallway
Loose and cracking beige tiles outside classroom 15
Loose tiles outside Lewis classroom 38
Epoxy floor poured in hallway and classrooms across from main office where tile was removed in summer 2020

In Progress

PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Dutch Valley Elementary BUILDING NO. 09

BUILDING NAME_____

INSTRUCTIONS: AHERA regulations require a Periodic Surveillance be conducted every six months. Each school building containing ACBM must be inspected. Put the date in the appropriate column, fill in the HA#, Description of ACBM, and Area Inspected. If the ACBM has been removed, put the date removed in the appropriate column. Keep the original with your Management Plan.

			1st Six months Date: 01/2021 Winter	2nd six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
04	9”x9” Floor Tile	Classrooms 2, 3, 4, 5, Teacher’s Workroom, Principal’s Office and Clinic under existing 12” x 12” Gray Speckled Floor Tile	N/C		
Note:	Room 6: Art Classroom has 12”x12” Floor Tile. Bubbles observed at the window.				

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In Progress

PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Lake City Elementary BUILDING NO. 14

BUILDING NAME_____

INSTRUCTIONS: AHERA regulations require a Periodic Surveillance be conducted every six months. Each school building containing ACBM must be inspected. Put the date in the appropriate column, fill in the HA#, Description of ACBM, and Area Inspected. If the ACBM has been removed, put the date removed in the appropriate column. Keep the original with your Management Plan.

			1st Six months Date: 01/2021 Winter	2nd Six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
01	9”x9” Gray and Tan Speckled Floor Tile	Classrooms 64-71 and Hallway on East of Building and Custodian Closet at Bathrooms	N/C		
03	9”x9” Tan Floor Tile	3rd Grade Hall under Gray Speckled 12” x 12” Floor Tile	N/C		
Note:	Art Room: Some chips and delaminating tiles at the AC Unit.				

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Termite poison holes and chipped tile in kiln room at art room
Loose tiles at a unit in hallway at exterior door. Apex 20 tiles

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PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Lake City Middle School BUILDING NO. 12

BUILDING NAME_____

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			1st Six months Date: 01/2021 Winter	2nd six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
05	9”x9” Brown with Brown Specs Floor Tile	Janitor’s Closet at Gymnasium and Closet in Classroom 124	N/C		

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PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Norris Elementary BUILDING NO. 04

BUILDING NAME_____

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			1st Six months Date: 01/2021 Winter	2nd Six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
01	9”x9” Brown, Pink, and White Floor Tile	West Wing Classrooms 2, 4, 6,7,8,9, 10, 21	N/C		
02	9”x9” Gray, Black, and White Floor Tile	Office Under Current Tile	N/C		
03	1’x1’ Black and White Floor Tile	Office Under Current Tile	N/C		
05	9”x9” Gray, Black, and White Floor Tile	West Wing Classrooms 1,3, 5 and Janitor Storeroom	N/C		
Note:	Cox Room: ½ Floor Tile is missing at the window/drain. Robinson Room: Cracks at the bathroom sink, one corner tile is loose at the window sink.				
	Stedie Room: one Floor Tile is missing at the window/drain. Mrs.F Room: one chipped Floor Tile at bathroom sink, cracked tiles observed				
	White Room: one chipped Floor Tile under closet, chipped tiles at window/drain. Replaced Floor Tile at rear window and sink Sharp Room: cracked bathroom Floor Tiles observed. Some patched				
	Byrd Room: loose Floor Tile near rear white board, chipped tile at windows. Copeland Room: Cracked tiles at bathroom.				
	Swisher Room: stained and cracked tiles in corner at the windows and along windows, bubbles near rear part of classroom. Travis Room: cracked Floor Tiles at the front of room at the storage closet and at windows. Missing Floor Tiles at windows/drain.				
	“Welcome Owls” Room: one missing Floor Tile at sink and 2-4 loose tiles at sink Floyd Room: cracked Floor Tiles at sink				

*IF NO CHANGE IN CONDITION WRITE N/C

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SURVEILLANCE INSPECTOR’S SIGNATURE:
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PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Norris Middle School BUILDING NO. 18

BUILDING NAME_____

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			1st Six months Date: 01/2021 Winter	2nd Six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
02	1'x1' Brown and Black Floor Tile	Band/ Shop Wing Under Carpet	N/C		
04	Ceiling Tile	Cafeteria	N/C		
07	Ceiling Tile	Former Shop/ Technology Classrooms	N/C		
09	Pipe Insulation	Custodial Storage	N/C		
Note on HA 02:	Band hallway floor tile is cracked at the water fountain.				
Note on HA 04:	Cafeteria ceiling tile shows stains at the kitchen side/window side.				

*IF NO CHANGE IN CONDITION WRITE N/C

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PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Norwood Elementary BUILDING NO. 19

BUILDING NAME_____

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			1st Six months Date: 01/2021 Winter	2nd Six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
18	Floor Tile under Beige Ceramic Tile	Library	N/C		
18	Blue and White Streaked 9” x 9” Floor Tile	Upper Wing Room 100	N/C		
18	Red and White Streaked 9” x 9” Floor Tile	Upper Wing Room 200	N/C		
18	Tan and Black Streaked 9” x 9” Floor Tile	Upper Wing Room 103, 104 under vinyl floor tile	N/C		
18	Gray with White and Black Streaks 9” x 9” Floor Tile	Upper Wing Room 101, 201, 206	N/C		
18	White speckled 12” x 12” Floor Tile	Upper Wing Room 202	N/C		
18	Floor Tile under Green 12” x 12” with Green Streaks	Upper Wing Room 105, 106 under vinyl floor tile	N/C		
Note:	Staining noted in Room 100 & 101. Room 101 had damage tile at the AC Unit. Carpet is covering floor in Room 102.				
	Room 104 has Floor Tile that is uncovered. Room 200 has water stained tile located at the sink, cracks at bathroom, back door, and hvac.				
	Room 201 has damaged floor tile at the corkboard. Patches at sink and AC Units Room 206 Patch at sink and AC Units, White stains from stripper				
	Room 101 (Mr. Tinker) Squishy tile with water coming out from AC Unit Room 104 Significant squishy tile at AC Unit				

*IF NO CHANGE IN CONDITION WRITE N/C

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In Progress

PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Norwood Middle School BUILDING NO. 17

BUILDING NAME_____

INSTRUCTIONS: AHERA regulations require a Periodic Surveillance be conducted every six months. Each school building containing ACBM must be inspected. Put the date in the appropriate column, fill in the HA#, Description of ACBM, and Area Inspected. If the ACBM has been removed, put the date removed in the appropriate column. Keep the original with your Management Plan.

			1st Six months Date: 01/2021 Winter	2nd Six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
05	Floor Tile	Center of Upper Floor – Principal's Office, Front Office, Library under carpet	N/C		
Note:	Carpet in Library: damage at front desk, no tile exposed				
Note:	Coach's rooms: tile removed				

*IF NO CHANGE IN CONDITION WRITE N/C

SURVEILLANCE INSPECTOR'S NAME (please print): Emily M. Mollish
SURVEILLANCE INSPECTOR'S SIGNATURE:
(Surveillance Inspector is not required to be AHERA certified)

AHERA Accreditation Number/Date (if applicable): A-MP-68828-

TAHERA 9.0 (12/93)

In Progress

PERIODIC SURVEILLANCE REPORT

LEA NAME Anderson County Schools LEA NO. 010

SCHOOL NAME Office of Technology BUILDING NO.

BUILDING NAME_____

INSTRUCTIONS: AHERA regulations require a Periodic Surveillance be conducted every six months. Each school building containing ACBM must be inspected. Put the date in the appropriate column, fill in the HA#, Description of ACBM, and Area Inspected. If the ACBM has been removed, put the date removed in the appropriate column. Keep the original with your Management Plan.

			1st Six months Date: 01/2021 Winter	2nd Six months Date: Summer	
HA#	**Description of ACBM**	**Area Inspected**	**ACBM Condition***	**ACBM Condition***	**Date Removed**
10	White 12” x 12” with black streaked floor tile in checkered pattern (mastic and black tile negative)	Upstairs restrooms, multimedia center, upstairs hallway, lobby, admin area, break room, and data center under carpet	N/C		
12	Green 9” x 9” floor tile with black mastic	Upstairs janitor’s closet and mechanical rooms under carpet	N/C		
13	Green 12” x 12” with white streaks floor tile with yellow mastic	Upstairs data manager’s office, documentation center, copy center, kitchen, and technology trainer office under carpet	N/C		

*IF NO CHANGE IN CONDITION WRITE N/C

SURVEILLANCE INSPECTOR’S NAME (please print):_____Emily M. Mollish_____
SURVEILLANCE INSPECTOR’S SIGNATURE:
(Surveillance Inspector is not required to be AHERA certified)

AHERA Accreditation Number/Date (if applicable): A-MP-68828-
TAHERA 9.0 (12/93)

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DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

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DIVISION 01 - GENERAL REQUIREMENTS

TO: Purchasing Department
Attention: Lydia Beckwith
Anderson County Courthouse
100 North Main Street, Room 214
Clinton, TN 37716

DATED: _____, 2022

Having carefully examined the Invitation and Instructions to Bidders, the General Conditions of the Contract and Specifications entitled "Addition and Renovation to: Norris Middle School", 5 Norris Square, Norris, TN 37828" and the Drawings similarly entitled, as well as the premises and conditions affecting the work, the Undersigned proposes to furnish all materials and labor called for by them for the work in accordance with said documents for the sum of:

_____Dollars ($_____).

hereinafter referred to as the Base Bid.

We further submit the following proposal for the described alternates below. The work under these alternates will conform to all applicable provisions of specifications, except as specifically noted otherwise. The amount quoted includes the cost of all incidental omissions, additions, adjustments required because of the change, and the modification and/or removal of existing items as necessary for the new work. All items not specifically identified as an alternate item is included in the Base Bid above.

ALTERNATE 1 – REPLACE CASEWORK AND REPAINT EXISTING CLASSROOMS #216 AND 217
If Alternate 1 for providing material, equipment, labor, and supervision necessary to replace existing casework in Classrooms #216 and 217; and repaint the walls in same classrooms is accepted, add to the Base Bid the sum of

_____Dollars ($_____).

Allowance #1: Discretionary Fund of $100,000 is included in Base Bid.

All other allowances, see Section 01 21 00 – Allowances.

The Bidder hereby acknowledges that the following documents are attached to and made a condition of this Bid:

a) Required Bid Security in the form of: 5% Bid Bond.
b) Attachment 1: Non-Collusion Affidavit
c) Attachment 2: Diversity Business Information.
d) Attachment 3: Insurance Requirement Acknowledgement
e) Attachment 4: Background Check Compliance Form
f) Attachment 5: Drug Free Workplace Affidavit.
g) Attachment 6: Conflict of Interest Form
h) Specification Compliance Form

If written notice of the acceptance of this bid is mailed, emailed, or delivered to the Undersigned within sixty (60) days after the date of receipt of bids or at any time thereafter before this bid is withdrawn, the Undersigned agrees that he will execute and deliver a Contract on the forms which will be provided him in accordance with bid as specified; and that he will give performance and payment bonds as specified with good and sufficient surety or sureties all within ten (10) days, unless a longer period is allowed after the prescribed forms are presented to him for signature.

The Bidder proposes to complete the work within _____ consecutive calendar days from the Notice to Proceed. The Bidder, by submitting this Bid, agrees to furnish labor, materials, equipment, etc., necessary to complete the work by the above stated dates and to accept the conditions for liquidated damages in the amount of **Five Hundred Dollars ($500.00)** per calendar day. The above stated dates for completion of this project are of utmost importance to the Owner.

The Undersigned hereby acknowledges receipt of all Contract Documents including all pages of the Specifications, all sheets of the Drawings, and the following Addenda:

Addendum No. ___ Date: _____ Addendum No. ___ Date: _____

Addendum No. ___ Date: _____ Addendum No. ___ Date: _____

Addendum No. ___ Date: _____ Addendum No. ___ Date: _____

Sincerely,

_____
Bidder (If by a Corporation, this Bid must have the Signature Required by its By-Laws)

_____
Title

_____
Firm Name

_____
State of Incorporation

_____
State License No.

_____
Official Address

END OF BID FORM

PART 1 GENERAL

1.01 SUMMARY

A. This section includes administrative and procedural requirements governing Allowances and Unit Prices.

B. Allowances included on the drawings or in individual specification sections not specifically listed herein shall be bound by the procedures described herein. The Schedule of Allowances may not be a comprehensive list of all Allowances to be included in the Bid.

1.02 RELATED DOCUMENTS

A. Applicable provisions of the General Conditions, Supplementary Conditions, and Division 1 General Requirements apply to the work under this section.

1.03 ALLOWANCES

A. Types of allowances include the following:
   1. Allowances as listed hereafter.
   2. Discretionary Fund/Contingency Allowance.

B. Selection and Purchases:
   1. At the earliest practical date after award of the Contract, advise the Architect of the date when the final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
   2. At the Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
   3. Purchase products and systems selected by the Architect from the designated supplier.

C. Submittals:
   1. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.
   2. Submit invoices or delivery slips to show the actual quantities of materials delivered to the site for use in fulfillment of each allowance.
   3. The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves use of established unit costs, and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.
   4. Schedule: A "Schedule of Allowances" is included at the end of this Section. Specification Sections referenced in the Schedule contain requirements for materials described under each Allowance.

D. Discretionary Fund/Contingency Allowance:
   1. Use the discretionary fund only as directed by the Architect for the Owner's purposes and only by Field Orders Construction Change Directive (AIA Document G714) which indicate amounts to be charged to the allowance.
   2. The Contractor's related costs for products and equipment ordered by the Owner under the discretionary fund are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
   3. Field Orders Construction Change Directive (AIA Document G714) authorizing use of funds from the discretionary fund will include Contractor's related costs and reasonable overhead and profit margins.
   4. At Project closeout, credit unused amounts remaining in the discretionary fund to the Owner by Change Order.

E. Unused Materials:
   1. Return unused materials to the manufacturer or supplier for credit to the Owner, after installation has been completed and accepted.

2. When requested by the Architect, prepare unused material for storage by Owner where it is not economically practical to return the material for credit. When directed by the Architect, deliver unused material to the Owner's storage space. Otherwise, disposal of unused material is the Contractor's responsibility.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.01 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: Unsuitable Soil in Mass Excavation:
1. Description: Allowance included in the Base Bid for the removal and disposal of 400 cubic yards of unsuitable soil in mass excavation and replacement with compacted Engineered Fill according to Civil drawing notes.

B. Allowance No. 2: Unsuitable Soil in Trench Excavation:
1. Description: Allowance included in the Base Bid for the removal and disposal of 40 cubic yards of unsuitable soil in trench excavation and replacement with compacted Stone Fill according to Civil drawing notes.

C. Allowance No. 3: Rock in Mass Excavation:
1. Description: Allowance included in the Base Bid for the removal and disposal of 100 cubic yards of rock in mass excavation according to Civil drawing notes.

D. Allowance No. 4: Rock in Trench Excavation:
1. Description: Allowance included in the Base Bid for the removal and disposal of 20 cubic yards of rock in trench excavation according to Civil drawing notes.

E. Allowance No. 5. Reinforced Concrete Foundations:
1. Description: Allowance included in Base Bid for providing and installing steel reinforced concrete footings according to Section 03 30 00 Concrete.

~~F. Allowance No. 6. Geotextile fabric:~~
~~1. Description: Allowance included in Base Bid for providing and installing geotextile fabric each side of stone foundation drainage layer according to Section 31 20 00 Earth Moving.~~

~~G.~~F. Allowance No. 7. Compacted Stone:
1. Description: Allowance included in Base Bid for providing and installing 60 tons of compacted stone according to Civil drawing notes.

~~H.~~G. Allowance No. 8 Discretionary Fund Allowance:
1. Description: Allowance included in Base Bid for use at the discretion of the Owner and the Architect according to Section 01 10 00 Summary of the Work.

H. Allowance No. 9 Emergency Responder Radio Antenna-Repeater System:

1. Description: Allowance included in Base Bid for build-out of Emergency Responder Radio Antenna-Repeater System if determined by testing after bid according to Section 27 00 00.

END OF SECTION

PART 1 GENERAL

1.01 SCOPE:

A. Furnish all labor, materials and equipment, and perform all work required to install masonry work as shown on the drawings, including brick, concrete block, precast masonry lintels, and all necessary incidental work in connection therewith.

1.02 RELATED DOCUMENTS:

A. Applicable provisions of the General Conditions, Supplementary Conditions, Division 1, General Requirements, and the following sections apply to the work under this section.

Section 07 62 00 – Sheet Metal Flashing and Trim.
Section 07 92 00 – Joint Sealants.

1.03 QUALITY ASSURANCE:

A. Qualifications of workmen:

1. For the actual cutting and placing of concrete masonry units, use only skilled journeyman masons who are thoroughly experienced with the materials and methods specified and thoroughly familiar with the design requirements.
2. In acceptance or rejection of installed concrete masonry units, no allowance will be made for lack of skill on the part of workman.
3. Provide at least one (1) skilled journeyman mason who shall be present at all times during execution of the work of this Section and who shall personally direct the execution of this portion of the work.

B. Masonry units exposed to view shall be obtained from a single manufacturer; each type of product shall be from a single batch or production run.

C. Cementitious ingredients of mortar mix shall be obtained from a single manufacturer. Each aggregate for mortar mix shall be obtained from a single source.

D. Comply with applicable portions of the American Society for Testing and Materials (ASTM) Applicable codes and regulations of authorities having jurisdiction.

1.04 SUBMITTALS:

A. Submit manufacturer's product data for each type of masonry unit, accessory and other manufactured products, including certifications that each type complies with specified requirements.

1.05 SAMPLES:

A. Contractor shall have verification in writing from the Architect which brick is to be used prior to ordering brick.

B. ***Before any exterior facebrick is laid up***, the Contractor shall erect a sample panel, including concrete block backup and mortar, approximately 4 feet wide by 4 feet high. When approved, the panel shall be left in place until facebrick work is completed to serve as a standard for all work. At Architect's option, one corner of the building may be used as a sample panel.

C. Protect the sample panel from the elements with weather resistant membrane. Retain approved sample panel during construction as a standard for judging completed masonry work. When directed, demolish sample panel and remove debris from site.

1.06 DELIVERY, STORAGE, AND HANDLING:

A. Deliver masonry materials in undamaged condition. Handle masonry units to prevent damage. Store in a manner to protect against excessive moisture, temperature changes, contaminants, corrosion or other causes. Limit absorption of moisture as specified for Type I units.

B. Deliver cementitious materials in manufacturers' original, unopened containers.

C. Store cementitious materials above ground, under cover and in dry enclosure.

D. Store aggregates so that separation of types of materials can be maintained.

E. Protect masonry accessories from corrosion and accumulation of dirt.

1.07 PROJECT CONDITIONS:

A. Protect exposed masonry work against staining and mortar droppings. Keep top of walls covered with non-staining waterproof paper or plastic sheet when work is not in progress and during precipitation of rain or snow. When work is resumed, clean top surface of walls free of loose mortar and in dry weather wet the surface before proceeding.

B. Turn scaffolding plank every night and when wet to prevent spattering mortar on face of walls.

C. Do not superimpose any load to masonry work for 12 hours after erection. Allow 3 days before applying concentrated loads.

D. Cold Weather Protection:

1. Remove ice or snow from masonry bed by applying eat until top surface is dry to touch.
2. Remove all frozen or damaged masonry work.
3. Do not use wet or frozen units or units. Units must be minimum of 20^0F (-7^0C) when laid.
4. Never allow mortar to freeze

E. Construction Requirements While Work is Progressing:

1. For all air temperatures below 40^0F (4^0C), heat sand or mixing water to produce mortar temperatures between 40^0F (4^0 C) and 120^0F (49^0C).
2. Additionally, for all air temperatures below 25^0F (-4^0C), provide heat sources on both sides of wall during construction AND provide windbreaks when wind exceeds 15 mph.
3. Additionally, for all air temperatures 20^0F (-7^0C) and below, provide enclosures and heat to maintain air temperature above 32^0F (0^0C).

F. Protection requirements for completed work:

1. Mean daily air temperature: 40^0F (4^0C) to 32^0 F (0^0 C):
   a. Protect masonry from rain or snow with weather-resistive covering for 24 hours.
2. Mean daily air temperature: 32^0F (0^0C) to 25^0F (-4^0C).
   a. Completely cover masonry with weather-resistive covering for 24 hours.
3. Mean daily air temperature: 25^0F (-4^0C) to 20^0F (-7^0C).
   a. Completely cover masonry with insulating blankets or equal protection for 24 hours.
4. Mean daily air temperature: 20^0F (-7^0C) and below.
   a. Maintain masonry temperature above 32^0F (-7^0C) for 24 hours by using enclosures and supplementary heat or with electric heating blankets.

PART 2 PRODUCTS

2.01 MASONRY MATERIALS:

A. Field face brick and accent face brick: (Basis of Design) General Shale Brick, Inc., Elon Blend Modular to match existing color mix of adjacent classroom wing, including existing mortar color.

B. Face brick exposed on the exterior and interior of building shall be 7-5/8" x 3-3/4" x 2-1/4" to lay up 3 courses in 8". Range of color shall be uniformly distributed in brick as delivered.

C. Face brick to be used in exposed locations shall conform to the requirements of ASTM C216 Grade SW and shall be Type FBS.

D. In locations where the cores of cored brick would be exposed use solid brick with finished faces and ends as required to present a finished face on the exposed face.

E. Brick in concealed locations shall be culled face brick or all hard-burned common brick, conforming to ASTM C62-75A, Grade SW.

F. Concrete block shall be hollow load-bearing concrete masonry units, conforming to ASTM C 90, Grade N-1, made with Shalite, or equal, light-weight aggregate. Units shall be steam cured at atmospheric pressure for not less than 12 hours at temperatures between 160 and 190 degrees F., and then shall be air dried and cured at least 28 days. When delivered to the site, units shall have a moisture content of not more than specified in ASTM C 90.

a. Units generally shall be 8 inches x 16 inches nominal face size and thicknesses shown on the drawings. Furnish all special sizes, lintel blocks and other special shapes required by job conditions.

a. Precast U-Lintels and special shapes made from 3,500 psi concrete with reinforcing bars placed as indicated and filled with coarse grout shall be acceptable upon review and approval by the Structural Engineer of Record. Units shall have a sand block finish to match adjacent CMU.

b. Basis of Design: Precast concrete u-lintels are based on products manufactured by Cast Crete. Subject to compliance with requirements.

b. All exterior corners of interior masonry walls to be exposed to view shall be made with bull-nose (radius edge) block.

G. Where it is necessary to cut masonry, use an approved masonry saw. Use no units less than half size. Promptly remove units showing evidence of being broken and replace with properly cut units.

2.02 REINFORCING MATERIALS:

A. Masonry wall reinforcing for all masonry walls and partitions shall be Dur-O-Wall ladder design, Heckmann, Hohmann and Barnard, Wire-Bond or approved equal, and shall have product approval of the International Building Code Congress. Reinforcing shall be manufactured from cold drawn steel wire conforming to ASTM A 8272 and shall consist of two deformed longitudinal rods welded at 16” intervals to a continuous diagonal cross rod forming a truss design. Out-to-out spacing of side rods shall be approximately 2” less than the nominal thickness of the wall or partition. Cross rods and side rods shall be not less than No. 9 gauge.

1. Reinforcing for CMU walls shall be Dur-O-Wall DA 320.
2. Reinforcing for use with brick veneer at C.M.U. walls shall be Dur-O-Wall D/A 360 Ladur-Eye or equal spaced 16 inches on center each way.

3. Brick ties at metal stud framing shall be Dur-O-Wall D/A 213 with 14 gauge screw on plate and 3/16" pintles at 16" on center, each way.
4. Brick ties at wood stud framing shall be Dur-O-Wall D/A 990 22 gauge corrugated brick ties at 16" on center each way
5. Interior walls: reinforcement shall be galvanized in accordance with ASTM A 641 Class 1 (.4 ounces per square foot.)
6. Exterior walls reinforcement shall be galvanized in accordance with ASTM A 153 Class B2 (1.5 ounces per square foot).
7. When ordering cavity wall reinforcing, the Contractor must specify the CMU thickness, Cavity Wall Insulation thickness if any, the cavity width, and the Brick Thickness.

2.03 MORTAR MATERIALS:

A. Portland Cement shall conform to ASTM C150, Type 1. Masonry cement shall conform to ASTM C91, and shall be equal to Cemex, Essroc Italcementi Group, Holcim or Lafarge North America. Hydrated lime shall conform to ASTM C207, Type S.

B. Aggregate for mortar shall be natural or manufactured sand conforming to ASTM C 144; except for joints less than ¼" thick, use aggregate graded with 100 percent passing the No. 16 sieve and shall be uniform in color for all masonry work.

C. Mixing water shall be clean and free from harmful amounts of acids, alkalies, and organic materials.

D. Mortar shall conform to requirements of ASTM C270. Mortar for masonry work below grade shall be one part Portland Cement, 1/4 part hydrated lime or lime putty, and not less than 2-1/4 nor more than 3 parts sand, by volume, or any other mix conforming to ASTM requirements for Type M or Type S mortar. Mortar for masonry work above grade shall be one part masonry cement to not less than 2-1/4 nor more than 3 parts sand, by volume, or any other mix conforming to ASTM requirements for Type S or Type N mortar.

E. Sand for mortar shall be measured in a damp loose condition. Mix mortar with the maximum amount of water consistent with satisfactory workability for a minimum of 3 minutes in a drum type mechanical mixer. Mixer shall be thoroughly cleaned between batches. Water may be added to mortar to maintain workability. No mortar older than 1hour shall be used..

F. Colored mortar for use with face brick shall contain colored masonry cement similar and equal to Brixment as manufactured by Cemex, Essroc Italcementi Group, Holcim or Lafarge North America.

2.04 CAVITY DRAINAGE SYSTEM:

A. Provide mortar/drainage netting at base of brick veneer cavities in size to completely fill width of cavity. Mortar netting shall be manufactured using recycled polyester or polyethylene. The following are acceptable products, alternate products must be approved prior to bidding:

1. Mortar Net as manufactured by Mortar Net USA, LTD.
2. Mortar Break as manufactured by Advanced Building Products, Inc.
3. Driwall Mortar Deflection as manufactured by Keene Building Products

B. Provide Weep Vents in masonry veneer over cavity at 24 inches on center and at the base of all cavity walls above flashing and above and below window and door openings above thru-wall flashing and as shown on the drawings. Weep Vents shall be 2-5/8 inch by 3 1/2 inch by 1/2 inch recycled polyester mesh. The following are acceptable products, alternate products must be approved by Architect prior to bidding:

1. Weep Vents as manufactured by Mortar Net USA LTD.
2. Cell Vent as manufactured by Advanced Building Products, Inc.
3. Weep Vents 025 as manufactured by Keene Building Products.

2.05 CONTROL JOINTS:

A. "Wal-Joint", wide flange type, as manufactured by Hohmann & Barnard, Inc., approved equals of Dur-o-wal, Carter-Waters, Tywal Accessories, or Vinyl's are acceptable.

B. Provide vertical control joints in all masonry walls that exceed 32'-0" in length and/or exceed a ratio of panel length to height (L/H) of 3.

C. All joint locations must be verified and approved by the Architect. Control joints shall not be placed above or at the side of a masonry opening except where necessary to separate masonry supported off the foundation from that supported from the structure.

D. Steel lintels supporting masonry shall be discontinuous at control joints & expansion joints.

2.06 EXPANSION JOINTS IN BRICK VENEER:

A. Provide vertical expansion joints in brick veneer walls at thirty-five feet (35'-0") on center maximum.

3PART 3 EXECUTION

3.01 COORDINATION WITH OTHER WORK:

A. Coordinate with other trades to insure that they have ample opportunity to build in their work as the masonry work progresses. Build in frames, anchors, and other incidental items furnished under other sections of the specifications. Set loose steel lintels and construct chases and recesses as required. Verify dimensions and locations of anchors, chases, etc., with the other trades involved.

B. Build in through wall flashing as masonry is laid ensuring laps at ends and end dams at end of flashing above and below openings.

C. Coordinate the masonry work for reinforced masonry block brick walls closely with the installation of the concrete fill and steel reinforcement.

D. Furr out around piping and electrical panels and other items wherever the existing wall or proposed walls are not thick enough to accommodate items that are scheduled to go in them.

E. In the event of discrepancy, immediately notify the Architect. Do not proceed with installation in areas of discrepancy until all such discrepancies have been completely resolved.

3.02 TOLERANCES FOR CONSTRUCTION:

A. Bed joints and head joints shall be nominal 3/8" thick with slight variations allowed (5/16" to 7/16") to adjust coursing and to avoid cutting. Standard coursing for brick: 3 bricks and 3 mortar joints shall equal 8 inches unless otherwise noted.

B. Variation from the plumb in the lines and surfaces of columns, walls, and arises shall not exceed 1/8" in 10' and 3/8" in a story height or 3/8" in 20'-0" maximum. Variation from plumb for external corners, expansion joints and other conspicuous lines, shall not exceed 1/4" in any story or 1/4" in 20'-0" maximum.

C. Variation from the level of the grades indicated on the Drawings for exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines shall not exceed 1/4" in any bay or module or 20'-0" (whichever dimension is the least) nor 1/2" in 40'-0" or more.

D. Variation of the linear building line from an established position in plan and related portion of columns, walls, and partitions shall not exceed 1/4" in any bay or module or 20'-0" (whichever dimension is the least) nor 3/4" in 40'-0" or more.

E. Variation in cross-sectional dimensions of columns and thickness of walls shall not exceed minus 1/4", nor plus 1/2" from the dimensions indicated on the Drawings.

3.03 CAVITIES

1. Keep cavities clean of mortar droppings and other materials during construction.

   a. Install Cavity Drainage Material in cavities in accordance with manufacturer's recommendations.

   b. Use wood strips temporarily placed in cavity to collect mortar droppings. As work progresses, remove strips, clean off mortar droppings, and replace in cavity.

B. Install Weep Vents at 24 inches on center at the base of wall cavities, above and below window openings above thru wall flashing and elsewhere as shown on the drawings.

C. Installing Cavity-Wall Insulation: Place small dabs of adhesive, spaced approximately 12 inches o.c. both ways, on inside face of insulation boards, or attach with plastic fasteners designed for this purpose. Fit courses of insulation between wall ties and other confining obstructions in cavity, with edges butted tightly both ways. Press units firmly against inside wythe of masonry or other construction as shown.

   a. Fill cracks and open gaps in insulation with crack sealer compatible with insulation and masonry.

3.04 LAYING BRICK:

A. Wet brick prior to laying unless their gain in weight is less than 3/4 oz. when immersed in 1/4" of water for one minute. Lay in full bed of slightly furrowed mortar and fill head joints completely.

B. Lay facebrick on exterior walls in **common bond** and anchor to backup and to inner wythe with steel masonry reinforcing.

C. Brick veneer shall be returned against CMU or sheathing at all openings in exterior wall as required to close cavity.

3.05 LAYING CONCRETE BLOCK:

A. Lay with full mortar coverage on vertical and horizontal face shells. Vertical joints in exposed concrete block work shall break at center of stretcher above and below; otherwise, bond each course at corners and intersections and break vertical joints at least 4".

B. Broken or split block shall not be used. All cutting required shall be done with a masonry saw. The mortar bedding for anchors for door bucks and frames shall be spread on strips of 1/8" mesh hardware cloth about 12" long.

C. Install steel masonry reinforcing in all concrete block walls and partitions. Partitions abutting exterior walls shall be anchored thereto with steel masonry reinforcing unless otherwise noted.

D. Partitions enclosing pipe and duct chases shall be built after the piping and ducts are in place and have been tested and approved.

E. All partitions shall extend from concrete floor slabs to underside of roof deck except where specifically noted or shown otherwise. All partitions shall be not less than 1-hour fire-resistive construction and the concrete blocks shall be UL listed or shall conform to requirements of the Building Code adopted by the authority having jurisdiction for 1-hour fire-resistance.

F. Provide centering and install bond beam block over all openings greater than 24" wide in concrete walls and partitions, including openings for panelboards, ducts, and grills. Extend bond beams 8 inches minimum beyond edge of opening each side. Reinforce bond beams as noted on the drawings or with a

minimum of 1 #5 bar top and bottom if not noted on the drawings. Fill Bond beams with concrete before laying next course of block.

G. Install spandrel blocks for bond beams at the top of all masonry walls unless noted otherwise.

H. Where masonry is to be exposed in the interior of a building the mortar joint at the intersection of interior masonry wall with exterior masonry wall shall be raked ¼ inch deep and caulked.

3.06 FLASHING:

A. Place flashing in masonry work on a bed of mortar. Cover flashing with bed of mortar before placing units on flashing. Do not puncture flashing. Join sections of flashings by overlapping 6 inches minimum and fastening with adhesive to provide watertight joints. Turn up ends of flashing to provide positive drain to exterior. Comply with flashing manufacturer's recommendations. Install thru-wall flashings where shown on the drawings and in the following locations:

1. Above all openings in exterior walls extend 12" beyond opening.
2. Above all intersections of floors and exterior walls.
3. Above all intersections of roofs with parapet walls, penthouses and all other exterior walls.
4. Weep holes shall be installed above thru-wall flashings.

3.07 WORKMANSHIP:

A. Masonry work shall be sound, straight, true, and complete in every respect, and exterior walls shall be so constructed as to preclude the penetration of water. Avoid over-plumbing and pounding of masonry units after they are set in place; where adjustments must be made after mortar has started to set, the mortar shall be removed and replaced with fresh mortar.

B. Joints shall be thickness to conform to coursing specified or shown and shall be uniform and bond shall be true.

C. Hollow metal door frames in masonry walls shall be filled solidly with mortar as the walls are laid up, but forming a cavity behind rubber bumper opening with a wad of newspaper. Unless otherwise specifically shown or specified, the space around anchors, flashing, steel lintels, and similar items built into the masonry work shall be filled solidly with mortar.

D. Where nails or line pins have been used, they shall be removed when they have served their purpose and the holes left by their removal shall be filled immediately with fresh mortar.

3.08 POINTING

A. After masonry work is completed, remove all line pins and point up all holes and open joints.

3.09 TOOLING:

A. Tool all joints concave unless otherwise noted. Joints in exposed faces of facebrick on exterior and concrete block on interior shall be tooled with a round steel jointer, except at changes in brick color, just before the mortar hardens, with sufficient force to press the mortar against the masonry units on each side of the joint.

B. Joints where brick changes color shall be raked joints. Face joints in concealed locations shall be struck flush

C. Cut joints flush in block surfaces which will be concealed in the finished work or to which a finish material (other than paint) shall be supplied.

3.10 CLEANING OF MASONRY:

A. Face of brick work shall be kept clean of mortar droppings, stains, and soil as the work progresses insofar as possible. The completed work shall be cleaned by methods approved by the Architect, equivalent to the following:

1. Cleaning shall not be started until mortar is thoroughly set and cured. Then surfaces shall be dry cleaned by removing large particles of mortar with wood paddles and scrapers, using a chisel or wire brush where necessary.
2. Presoak wall by saturating the masonry with clean water and flush off all loose mortar and dirt.
3. While the surface is still saturated, starting at top of wall, scrub down with a solution mixed in the proportions of one-half cup of trisodium phosphate (Calgon) and one-half cup household detergent (All) dissolved in one gallon of clean water. Scrub with stiff fiber brushes only. Keep wall area below work area wet down at all times.
4. After scrubbing thoroughly, rinse off all cleaning solution, dirt and mortar crumbs, using pressurized water from a hose.

B. In areas where the preceding procedure is not adequate, use a similar procedure, but substitute an acid solution instead of the cleaner solution for scrubbing. Acid solution shall be mixed one part clean, stain-free commercial grade of hydrochloric (Muriatic) acid to nine parts clean water, mixed in a non-metallic container. Keep all brick work below the area being cleaned, soaked and flush free of acid and dissolved mortar before it becomes dry. Do not use wire brushes or metal tools and do not allow acid solution to come in contact with any metal or cast stone work. Acid solution shall be used only as a last resort and where expressly permitted by the Architect.

C. Exposed concrete block surfaces shall be kept clean of mortar droppings as the work progresses and the completed work shall be dry-cleaned to remove remaining mortar spots and dirt. Surface shall be brushed free of dust before painting.

END OF SECTION

PART I GENERAL

1.01 SCOPE:

A. Furnish and install aluminum soffits and accessories as noted on the drawings and as specified herein.

1.02 RELATED DOCUMENTS:

A. Applicable provisions of the General Conditions, Supplementary Conditions and Division 1, General Requirements, apply to the work under this section.

Section 07 21 00 – Thermal Insulation.
Section 07 62 00 - Sheet Metal Flashing and Trim.
Section 07 92 00 – Joint Sealants.

1.03 SUBMITTALS

A. Shop Drawings: Submit detailed drawings showing installation and anchorage details, trim and accessories. Show details of weatherproofing, terminations and penetrations of soffit work.

B. Product Data: Submit manufacturer's product description, including material types and thicknesses, and installation details.

C. Samples: Submit one 6 inch long by full width sample of each product proposed for use.

D. Certificates: Submit documents certifying that products proposed for use meet or exceed the requirements specified herein.

E. Submit copy of manufacturer's warranty.

1.04 QUALITY ASSURANCE

A. Source Limitations for Soffit: Obtain each type, color, texture, and pattern of soffit, including related accessories, through one source from a single manufacturer.

B. Mockup: Build mockup to verify selections made under sample submittals and to demonstrate aesthetic effects.

1. Include outside corner on one end of mockup and inside corner on other end. Show full range of effects including penetrations and closures.

C. Installer's Qualifications: Installer shall have a minimum of 3 years successful experience installing similar products and shall have completed at least 5 projects in the last 3 years of comparable size and complexity that the Architect may view as evidence of skill and workmanship.

1.05 DELIVERY, STORAGE, AND HANDLING:

A. Store materials off ground, under cover. Protect from damage and deterioration.

B. Handle materials to prevent damage to surfaces, edges and ends of soffits and accessories. Damaged materials shall be rejected and removed from the site.

C. Materials shall be delivered in manufacturer's unopened boxed with information adhered to packaging stating the product dimensions, type, profile, color, and SKU#.

1.06 WARRANTY:

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace soffit that does not comply with requirements or that fails within specified warranty period. Failures include, but are not limited to, cracking, deforming, uneven weathering, or otherwise deteriorating beyond normal weathering.

1. Warranty Period: Lifetime Limited transferable

1.07 EXTRA MATERIALS:

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Furnish full lengths of soffit and trim in a quantity equal to 2 percent of amount installed.

PART II PRODUCTS

2.01 ALUMINUM SOFFIT:

A. Formed and coated aluminum soffits complying with AAMA 1402, including Paragraph 2.2.4.2.1, "Standard Commercial Coating."

1. Available Manufacturers:
   a. Alcoa Building Products, Inc.
   b. Gentek Building Products, Inc.
   c. Kaycan Ltd.
   d. Norandex Inc./Reynolds Distribution Company.
   e. Rollex Corporation.

B. Pattern, Texture, Thickness, and Color:
1. Pattern: 12-inch exposure in V-grooved, double 6-inch board style.
   a. Texture: Smooth.
   b. Ventilation: Provide perforated and unperforated soffit as indicated.
   c. Minimum Nominal Thickness: **0.024 inch**.
   d. Finish: Manufacturer's standard two-coat PVC finish.
   e. Colors for Aluminum Soffit: As selected by Architect from manufacturer's full range.

2.02 ALUMINUM ACCESSORIES:

A. Provide accessories made from same material as adjacent soffit, unless otherwise indicated.

2.03 FLASHING:

A. Provide aluminum flashing complying with Division 7 Section "Sheet Metal Flashing and Trim" at window and door heads and where indicated.

B. Finish for Aluminum Flashing: **High-performance organic finish, same color as soffits**.

2.04 ELASTOMERIC JOINT SEALANTS:

A. Multicomponent urethane joint sealant complying with requirements in Division 7 Section "Joint Sealants" for Use NT (nontraffic) and for Uses M, G, A, and, as applicable to joint substrates indicated, O joint substrates

2.05 FASTENERS:

A. For fastening to wood, use nails of sufficient length to penetrate a minimum of 1 inch into substrate.

1. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch or 3 screw-threads into substrate.
2. For fastening aluminum, use aluminum fasteners. Where fasteners will be exposed to view, use prefinished aluminum fasteners in color to match item being fastened.
3. For fastening vinyl, use aluminum or hot-dip galvanized fasteners. Where fasteners will be exposed to view, use prefinished aluminum fasteners in color to match item being fastened

PART III EXECUTION

3.01 EXAMINATION:

A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of soffit. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION:

A. Clean substrates of projections and substances detrimental to application.

3.03 INSTALLATION:

A. General: Comply with soffit manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply. Center nails in elongated nailing slots without binding soffit to allow for thermal movement. Overlap joints to shed water away from direction of prevailing wind.

B. Install aluminum soffit and accessories according to AAMA 1402.

C. Isolate dissimilar metals by separating with rubber gaskets or elastomeric sealant. Use rubber washers where fasteners made from dissimilar metal penetrate soffit. Isolate dissimilar metals behind soffit by covering with polyethylene film.

3.04 ADJUSTING AND CLEANING:

A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.

B. Clean finished surfaces according to soffit manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION

PART I GENERAL

1.01 SCOPE:

A Furnish all labor, materials, tools, equipment, and supervision as required to properly and completely equip all doors as shown on the drawings and specified herein.

1.02 RELATED DOCUMENTS:

A Applicable provisions of the General Conditions, supplemental Conditions and Division 1, General Requirements, apply to the work under this section.

1. Section 08 11 13 - Hollow Metal Doors and Frames.
2. Section 08 14 16 - Flush Wood Doors.
3. Division 26 – Electrical.

1.03 QUALITY ASSURANCE:

A Obtain each type of Hardware (i.e. locks) from a single manufacturer.

B "Supplier" refers to a recognized architectural hardware supplier, with warehouse facilities, furnishing hardware for not less than 2 years in the project's vicinity. Supplier must be or employ a full time experienced Architectural Hardware Consultant (AHC – Certified by the Door and Hardware Institute) who, at reasonable times during the course of the work, is available for consultation with the Owner, Architect and Contractor about the project's requirements.

1.04 SUBMITTALS:

A Submit hardware schedule in manner indicated below. Coordinate hardware with doors, frames, and related work to insure proper size, thickness, hand, function and finish of hardware.

B Final Hardware Schedule: Based on finish hardware, organize a schedule into "hardware sets" containing all items required for each door or opening. Include the following information:

1. Type, style, function, size, finish and manufacturer of each hardware item.
2. Explanation of abbreviations, symbols, codes, etc. contained in schedule.
3. Fastening and other pertinent information.
4. Location of hardware set cross-referenced to drawings.
5. Mounting locations for hardware.
6. Door frame size and material.

C Submit schedule at earliest possible date since acceptance of hardware schedule must precede fabrication of other work (i.e. hollow metal frames) critical to construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by finish hardware, and other information essential to a coordinated review of hardware schedule.

D Furnish templates to fabricators of doors, frames, and other work to be factory-prepared for the installation of hardware. Upon request, check shop drawings of each other's work, to confirm that adequate provisions are made for proper location and installation of hardware.

E No hardware shall be ordered until hardware schedule has been approved by the Architect.

1.05 PACKING AND MARKING:

A All hardware shall have the required screws, bolts, and other fasteners necessary for its' installation packed in the same package as the hardware. Each package shall be legibly and adequately labeled to indicate the part of the work for which it is intended.

B Hardware shall include such adjusting tools and instructions as furnished by the manufacturer as standard practice. Upon completion of the work, the Contractor shall turn over to the Owner or his representative all such tools, instructions and emergency keys.

PART II PRODUCTS

2.01 GENERAL:

A Coordinate finish hardware work with work of other trades as required.

B Cooperate with Finish Hardware supplier in scheduling dates for submittals and delivery of templates and finish hardware.

2.02 MATERIALS:

A Catalog numbers used in the schedule are as follows:

Butts	- Hager Hinge Co.
Locksets and Card Scanners	- Marks Locksets
Closers	- Yale Security
Push, Pull, Kick Plates, Stops, Misc.	- Hager Hinge Co.
Thresholds, Weatherstrip, Drip Caps	- National Guard Products
Magnetic Holders	- Rixson/Firemark
Overhead Stop & Holders	- Glynn Johnson

B Maintenance Requirements: Furnish a complete set of specialized tools and instructions for maintenance, adjustment, removal and replacement.

2.03 FINISH:

A Finish to be Satin Chrome, US26D for all items unless otherwise scheduled. Closers to be sprayed Aluminum to match remainder of hardware.

B Push, pull and kick plates and overhead holders shall be Satin Stainless Steel, US32D.

C Thresholds and drip caps to have clear anodized finish.

2.04 KEYING:

A Furnish all cylinders to Owner for keying by Owner.

2.05 BUTTS:

A Butts, unless scheduled otherwise, shall be BB1279, 4.5" x 4.5" for doors not more than 36" wide and 5" x 4.5" for doors over 36" wide.

B Provide two (2) pair butts for doors over 7'-2" high.

C Provide non-removable pins for all out swinging exterior doors.

2.06 DOOR STOPS:

A Except where overhead door holders are scheduled, provide 236W Series stop for each door leaf. Substitute type 241F Series of the proper height where wall stop cannot be installed.

2.07 DOOR SILENCERS:

A Silencers for hollow metal door frames shall be GJ-64. Three mutes required for single swinging doors and two for pairs of doors. Omit for exterior openings.

2.08 CLOSERS:

A Where closers are scheduled, provide types as specified for exterior and interior openings. Size shall be as recommended by the manufacturer.

B Provide brackets for closers on exterior out swinging doors and for other doors as required.

C Provide hold-open arms for all exterior doors and where scheduled for other doors.

D Provide regular arm or parallel arm as required to mount closers in rooms away from public areas.

2.09 LOCKSETS:

A Provide types as specified with design as specified at all locations. Cylindrical locksets shall be lever handle with free wheeling levers when lockset is in locked mode.

2.10 KICKPLATES:

A Provide kick plates 8" high, unless noted otherwise, 2" less than nominal door width for single doors and 1" less than nominal door width for pairs of doors. Kick plates shall be 0.050" thick and beveled on all edges.

2.11 SCHEDULE OF DOOR HARDWARE:

Set No. 1A (101A, 105)
Each to have:

6	Hinges	BB1199	4 ½” x 4 ½”	NRP	US26D	(Hager)
1	Mullion	4954		SP28		(Von Duprin)
1	Exit Device	99DT		US26D		(Von Duprin)
1	Exit Device	99NL		US26D		(Von Duprin)
1	Cylinder	As Required		US26D		(Marks)
2	Closers	4111-SCUSH		689		(LCN)
2	Kick Plates	190S	8” x 2” LDW	US32D		(Hager)
1	Threshold	425		ALUM		(NGP)
2	Sweeps	200NA		ALUM		(NGP)
1	Weatherstrip	127NA		ALUM		(NGP)
1	Mullion Seal	5100N		BLK		(NGP)

Set No. 1B (101B)
Each to Have:

6	Hinges	BB1199	4 ½” x 4 ½”	NRP	US26D	(Hager)
1	Mullion	4854		SP28		(Von Duprin)
1	Electric Strike	6111-FSE		US32D		(Von Duprin)
1	Exit Device	99DT		US26D		(Von Duprin)
1	Exit Device	99NL		US26D		(Von Duprin)
1	Cylinder	As Required		US26D		(Marks)
1	Automatic Operator	By Others				
1	Closer	4111-SCUSH		689		(LCN)
2	Kick Plates	190S	8” x 2” LDW	US32D		(Hager)
1	Threshold	425		ALUM		(NGP)
2	Sweeps	200NA		ALUM		(NGP)
1	Weatherstrip	127NA		ALUM		(NGP)
1	Mullion Seal	5100N		BLK		(NGP)

Set No. 1C (101D)
Each to have:

6	Hinges	BB1168	4 ½” x 4 ½”	US26D	(Hager)
1	Mullion	4954		SP28	(Von Duprin)

1	Exit Device	99DT		US26D	(Von Duprin)
1	Exit Device	99NL		US26D	(Von Duprin)
1	Cylinder	As Required		US26D	(Marks)
2	Closers	4111-SCUSH		689	(LCN)
2	Kick Plates	190S	8” x 2” LDW	US32D	(Hager)
2	Silencers	307D		Gray	(Hager)

Set No. 1D (101C)
Each to have:

6	Hinges	BB1168	4 ½” x 4 ½”	US26D	(Hager)
1	Mullion	4854		SP28	(Von Duprin)
1	Electric Strike	6111-FSE		US32D	(Von Duprin)
1	Exit Device	99DT		US26D	(Von Duprin)
1	Exit Device	99NL		US26D	(Von Duprin)
1	Cylinder	As Required		US26D	(Marks)
1	Automatic Operator	By Others			
1	Closer	4111-SCUSH		689	(LCN)
2	Kick Plates	190S	8” x 2” LDW	US32D	(Hager)
2	Silencers	307D		Gray	(Hager)

Set No. 1E (102)
Each to have:

3	Hinges	BB1199	4 ½” x 4 ½”	NRP	US26D	(Hager)
1	Exit Device	99NL		US26D		(Von Duprin)
1	Cylinder	As Required		US26D		(Marks)
1	Closer	4111-SCUSH		689		(LCN)
1	Kick Plate	190S	8” x 2” LDW	US32D		(Hager)
1	Threshold	425		ALUM		(NGP)
1	Sweep	200NA		ALUM		(NGP)
1	Weatherstrip	127NA		ALUM		(NGP)

Set No. 2
Each to have:

1.5 pr.	Butts	BB1279
1	Lever Storeroom	Marks Locksets to match existing
1	Door Closer	3301BF
1	Door Stop	

Set No. 3
Each to have:

1.5 pr.	Butts	BB1279
1	Lever Office	Marks Locksets to match existing
1	Door Stop	

Set No. 4 – not used

Set No. 5
Each to have:

3 pr.	Butts	BB1279
1	Lever Classroom	Marks Locksets: Grade 1, 195/26D to match existing
1	Card Scanner	Marks Locksets to match existing system
1	Door Closer	3301BF

Set No. 6
Each to have:

3 pr.	Butts	BB1279

1	Lever Privacy	Marks Locksets to match existing
1	Door Stop	

3PART III EXECUTION:

3.01 INSTALLATION:

A Locations of hardware shall be in accordance with the recommendations of the National Builders Hardware Association for detailed locations.

B Install hardware in accurate conformity with the manufacturer's templates.

C Push and Pulls: Pull plates shall be through-bolted with bolt heads concealed behind push plated.

D Lock trim shall be as listed in schedule, or equivalent of other approved manufacturers. Dummy trim levers and roses shall be identical to those supplies with locksets. All locksets shall be beveled 1/8" in 2".

3.02 ADJUSTMENT AND CLEANING:

A Check and adjust each operating item to ensure proper functioning of each unit. Replace units which cannot be adjusted to operate properly.

B Clean adjacent surfaces soiled by hardware installation.

C Whenever hardware installation is completed more than one month prior to acceptance or occupancy of building or space, during the week prior to acceptance or occupancy, make final check and adjustment of all items. Clean operating items and restore proper function and finish of hardware and doors. Adjust door control devices to compensate for permanent heating and ventilating conditions.

D During final adjustment of hardware, instruct Owner's personnel in proper adjustment and maintenance procedures for hardware operations and finished.

END OF SECTION

GENERAL NOTES

1. COMPLY WITH ALL PERTINENT PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" ISSUED BY A.G.C. OF AMERICA, INC. AND THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION ISSUED BY THE U.S. DEPARTMENT OF LABOR, 29 CFR 1926 OSHA.
2. THE APPROPRIATE TRAFFIC CONTROL SIGNS AS DEFINED BY THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, F.H.W.A., 2009", SHALL BE INSTALLED AT THE INCEPTION OF CONSTRUCTION AND SHALL BE PROPERLY MAINTAINED AND/OR OPERATED DURING THE TIME SUCH SPECIAL CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS THEY ARE NEEDED AND SHALL BE REMOVED IMMEDIATELY AFTER NEED.
3. NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM THEIR RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC.
4. VERIFY THE LOCATIONS OF ALL PROPOSED ITEMS PRIOR TO COMMENCING CONSTRUCTION. NOTIFY A/E IMMEDIATELY OF ANY DISCREPANCIES BEFORE STARTING WORK. COMMENCEMENT OF CONSTRUCTION AFTER SUCH DISCOVERY SHALL BE AT THE CONTRACTOR'S RISK.
5. ANY AREA THAT IS DISTURBED OUTSIDE THE LIMITS OF CONSTRUCTION DURING THE LIFE OF THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.

DEMOLITION NOTES

1. DO ALL DEMOLITION WORK REQUIRED TO REMOVE EXISTING MASONRY WALLS, PAVING, FOUNDATIONS, CONCRETE SLABS, EXISTING UNDERGROUND PIPING, CONDUIT, BUILDING FINISHES, DOORS, WINDOWS AS SHOWN ON THE DRAWINGS AND ANY OTHER NECESSARY ITEMS TO INSTALL THE PROPOSED WORK.
2. CONTRACTORS SUBMITTING PROPOSALS SHALL DETERMINE THE QUANTITIES OF DEMOLITION WORK REQUIRED BY FIELD INVESTIGATION OF THE BUILDING AND SITE.
3. SUBMIT A DEMOLITION SCHEDULE TO THE PROJECT MANAGER PRIOR TO EXECUTION OF THE WORK. INDICATE PROPOSED METHODS AND SEQUENCE OF OPERATIONS. INCLUDE PROPOSAL FOR CONTROL OF DUST AND NOISE, AND COORDINATION FOR SHUT-OFF, CAPPING, AND CONTINUATION OF UTILITY SERVICES.
4. MAINTAIN TEMPORARY BARRICADES FOR PROTECTION OF JOB PERSONNEL AND THE PUBLIC. REMOVE BARRICADES WHEN NO LONGER REQUIRED.
5. CONDUCT OPERATIONS IN SUCH A MANNER AS TO MINIMIZE INTERFERENCE WITH USE OF PUBLIC WAYS AND ADJACENT USED FACILITIES. DO NOT CLOSE, BLOCK OR OTHERWISE OBSTRUCT USE OF PUBLIC WAYS OR FACILITIES WITHOUT WRITTEN CONSENT OF AUTHORITIES HAVING JURISDICTION. PROVIDE ALTERNATIVE ROUTES TO CLOSED OR OBSTRUCTED FACILITIES AS REQUIRED BY LOCAL REGULATIONS.
6. EXISTING UTILITIES INDICATED TO REMAIN SHALL BE KEPT IN SERVICE AND PROTECTED FROM DAMAGE DURING DEMOLITION OPERATIONS.
7. DO NOT INTERRUPT EXISTING UTILITIES USED OR OCCUPIED FACILITIES UNLESS AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION IF INTERRUPTION IS ALLOWED, PROVIDE ALTERNATIVE TEMPORARY SERVICES ACCEPTABLE TO GOVERNING AUTHORITIES.
8. LOCATE, IDENTIFY, SHUT OFF, CAP AND DISCONNECT UTILITIES AT PROPERTY LINE OR VALVE AS REQUIRED. PROVIDE BY-PASS CONNECTIONS AS REQUIRED TO MAINTAIN SERVICES TO ADJACENT PROPERTIES AND FACILITIES. PROVIDE A MINIMUM OF 72 HOURS ADVANCE NOTICE TO PROPERTY OWNERS IF SHUT-DOWN OF SERVICES IS REQUIRED DURING THE CHANGE-OVER.
9. COORDINATE WITH ALL UTILITY COMPANIES 48 HOURS PRIOR TO ANY DEMOLITION WORK.
10. REMOVE DEBRIS, RUBBISH, AND OTHER SUBSTANCES FROM SITE. LEGALLY TRANSPORT AND DISPOSE OF SUCH MATERIALS OFF-SITE.
11. BURYING OR BURNING OF MATERIALS ON THE PROJECT SITE IS FORBIDDEN.
12. AVAILABILITY FOR DEMOLITION MUST BE CONFIRMED BY OWNER JUST PRIOR TO DEMOLITION.
13. THE USE OF EXPLOSIVES IS STRICTLY PROHIBITED.
14. HISTORIC ARTIFACTS, INCLUDING CORNERSTONES, THEIR CONTENTS, COMMEMORATIVE PLAQUES AND TABLETS, ANTIQUES, AND OTHER ITEMS OF SIGNIFICANCE SHALL REMAIN THE PROPERTY OF THE OWNER. NOTIFY OWNERS REPRESENTATIVE IF SUCH ARTICLES ARE ENCOUNTERED. OBTAIN APPROVAL REGARDING METHOD OF REMOVAL. SALVAGE SUCH ARTICLES AND TURN OVER TO OWNER.
15. IF HAZARDOUS MATERIALS ARE ENCOUNTERED, COMPLY WITH APPLICABLE REGULATIONS IN HANDLING, REMOVING, AND PROTECTING AGAINST EXPOSURE OR ENVIRONMENTAL POLLUTION.
16. REGRADE ALL AREAS WHERE DEMOLITION HAS OCCURRED. PROVIDE SMOOTH TRANSITION BETWEEN EXISTING AND NEW GRADING, THERE SHALL NOT BE ANY VOIDS, PITS, OR MOUNDING OF EARTHWORK.

SITE NOTES

1. WHERE PROPOSED PAVEMENT ABUTS EXISTING PAVEMENT, THE EXISTING PAVEMENT SHALL BE CUT IN A NEAT STRAIGHT LINE THROUGH PAVEMENT AND BASE. PROVIDE A SMOOTH TRANSITION.
2. INSTALL EXPANSION JOINT MATERIAL BETWEEN NEW AND EXISTING CONCRETE AND/OR ASPHALT.
3. MAINTAIN AND PROTECT EXISTING PAVEMENT OR GRAVEL SURFACES WHICH ARE TO REMAIN. CONTRACTOR SHALL REPLACE DAMAGED AREAS, MATCHING DEPTH, MATERIAL AND GRADE OF EXISTING SURFACES.
4. DIMENSIONS SHOWN ARE TO FACE OF CURB, CENTER OF COLUMN, EDGE OF BUILDING EXTERIOR OR CENTER OF PAINTED STRIPES.
5. SIDEWALK AND PAVING JOINTS ARE SHOWN FOR REFERENCE ONLY. REVIEW JOINT LAYOUT WITH ALL SPECIFICATIONS AND DETAILS BEFORE POURING CONCRETE.

SURVEY NOTES

1. BOUNDARY AND TOPOGRAPHIC INFORMATION WAS PREPARED BY **MBI COMPANIES INC, 299 N. WEISGARBER ROAD, KNOXVILLE TN 37919. SURVEY PERFORMED 01/06/2022**.
2. COORDINATES ARE IN FEET AND REFERENCE TO **TENNESSEE STATE PLANE SYSTEM OF 1983**.
3. BEARINGS SHOWN ARE BASED ON MAGNETIC NORTH.
4. THE VERTICAL DATUM IS BASED ON **THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)**.
5. FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. EXISTING UTILITIES SHOWN ON DRAWINGS ARE APPROXIMATE IN DEPTH AND LOCATION. REPAIR EXISTING UTILITIES DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

GRADING NOTES

1. FIELD VERIFY CRITICAL GRADES AT CONNECTION POINTS SUCH AS ENTRANCES PRIOR TO CONSTRUCTION AND NOTIFY PROJECT MANAGER OR ENGINEER OF ANY DISCREPANCIES.
2. THE MINIMUM SLOPE FOR PARKING, SIDEWALKS, AND LANDSCAPED AREAS IS 1%. FIELD VERIFY MINIMUM SLOPE IS ACHIEVED.
3. MAXIMUM SLOPE IN HANDICAP PARKING AREAS IS 2%. MAXIMUM LONGITUDINAL SIDEWALK SLOPE IS 5%. SLOPE SIDEWALKS AWAY FROM BUILDING AT $1\frac{1}{2}$% CROSS SLOPE UNLESS OTHERWISE NOTED. SIDEWALK CROSS SLOPE CANNOT EXCEED 2% IN ANY CASE.
4. UNLESS OTHERWISE NOTED, ELEVATIONS SHOWN REPRESENT FINISHED GRADES. ADJUST FOR PAVEMENT THICKNESS, TOPSOIL, ETC.
5. ADJUST DRAINAGE STRUCTURE TOPS AS NECESSARY TO MATCH FINAL GRADES.
6. NO SLOPE SHALL BE STEEPER THAN 2(H):1(V)
7. ALL EARTHWORK SHALL MEET THE FOLLOWING REQUIREMENTS AT A MINIMUM:
   - A. FOLLOW RECOMMENDATIONS OF THE PROJECT SUBSURFACE INVESTIGATION REPORT. REPORT ANY CONTRADICTIONS TO THE PROJECT MANAGER. SOIL EXCAVATION SHALL BE CONSIDERED AS UNCLASSIFIED.
   - B. OBTAIN CERTIFICATION FROM A TESTING LAB, SIGNED AND SEALED BY AN ENGINEER, STATING THAT ALL EARTHWORK IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SUBSURFACE INVESTIGATION REPORT AND SOILS ARE CAPABLE OF SUPPORTING THE STRUCTURE AND IMPROVEMENTS.
   - C. SUBMIT SOIL SAMPLES FOR TESTING AS REQUIRED BY THE PROJECT GEOTECHNICAL ENGINEER.
   - D. SOIL FOR COMPACTED BACKFILL AND ENGINEERED FILL SHALL CONSIST OF CLEAN GRANULAR SOILS, CLAY SOILS, OR SHALE SOILS HAVING A PLASTICITY INDEX OF LESS THAN 35 AND A MINIMUM DENSITY OF 90 POUNDS PER CUBIC FOOT WHEN COMPACTED TO ONE HUNDRED PERCENT (100%) OF ITS MAXIMUM DRY DENSITY PER STANDARD PROCTOR TEST. (ASTM D698) MATERIAL SHALL BE FREE OF VEGETATION, ROOTS, ROCKS LARGER THAN 2" IN ANY DIMENSION, DEBRIS AND OTHER DELETERIOUS MATERIALS. RESIDUAL SOIL EXCAVATED AT THE SITE MAY BE USED FOR BACKFILL IF IT MEETS THE SPECIFICATION REQUIREMENTS. THE MOISTURE CONTENT OF THE FILL SOILS SHOULD BE MAINTAINED WITHIN +3 AND -3 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT DETERMINED FROM THE STANDARD PROCTOR COMPACTION TEST.
   - E. ALL FILL IN AREAS TO BE OCCUPIED BY THE BUILDING(S) AND PAVING, INCLUDING AN AREA 10 FEET OUTSIDE THE PERIMETERS THEREOF, SHALL BE CONTROLLED (ENGINEERED) FILL AND THE COMPACTION SHALL BE TESTED BY A LICENSED AND QUALIFIED GEOTECHNICAL ENGINEER. CONTROLLED FILL IN AREAS OF BUILDINGS SHALL BE COMPACTED IN MAXIMUM 4" LIFTS TO AT LEAST 98% OF MAXIMUM DRY DENSITY WITHIN 3% OF OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM SPECIFICATION D-698 (STANDARD PROCTOR). FILL IN AREAS OF ASPHALT PAVING SHALL BE COMPACTED IN MAXIMUM 6" LIFTS TO AT LEAST 98% OF MAXIMUM DRY DENSITY WITHIN 3% OF OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM SPECIFICATION D-698. THE UPPER 12 INCHES OF FILL BENEATH PAVEMENTS AND UPPER 24 INCHES BENEATH FOOTINGS AND GRADE SLABS SHALL BE COMPACTED TO 100%. PROVIDE 95% COMPACTION IN ALL OTHER AREAS.
   - F. AFTER STRIPPING TOPSOIL, ALL FILL AREAS SHALL BE PROOFROLLED AND MONITORED BY THE PROJECT GEOTECHNICAL ENGINEER.
   - G. FILL OUTSIDE OF BUILDING AND PAVEMENT SHALL BE PLACED IN 8" LIFTS IN THE PRESENCE OF A REPRESENTATIVE OF THE SOIL TESTING LAB, COMPACTED TO SPECIFIED REQUIREMENTS, AND TESTED EVERY 900 SF FOR EACH LAYER OF FILL. REMEDY ANY INADEQUATELY PLACED FILL TO MEET PROJECT SPECIFICATIONS.
   - H. ALL LANDSCAPED AND GRASS AREAS SHALL HAVE A MINIMUM OF 5" OF CLEAN TOPSOIL.
   - I. TOLERANCES FOR SURFACES: HARDSCAPE: ± 0.025'
     LANDSCAPE/GRASSED AREAS: ± 0.1'
   - J. ALL OFFSITE BORROW AND SPOIL SITES, IF REQUIRED, SHALL BE PROPERLY PERMITTED.

DRAINAGE NOTES

1. FIELD VERIFY CRITICAL GRADES AT CONNECTION POINTS PRIOR TO CONSTRUCTION OR FABRICATION OF PRECAST STRUCTURES.
2. UNLESS OTHERWISE NOTED, HDPE SHALL BE HANCOR, LANE HDPE, OR ADS N-12 SMOOTH INTERIOR WALL HDPE PIPE. PROVIDE #57 STONE BEDDING AND BACKFILL TO PAVEMENT SUBGRADE OR 12" ABOVE PIPE IN GRASS AREAS. ALL PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF AASHTO M252, TYPE S (4"-10") OR AASHTO M294, TYPE S (12"-48"). GASKET SHALL MEET THE REQUIREMENTS OF ASTM F477. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321. JOINTS SHALL BE SILT TIGHT AND NON-RATED WATERTIGHT GASKETS SHALL BE COVERED WITH A REMOVABLE WRAP BY THE MANUFACTURER TO ENSURE THAT THE GASKET IS FREE FROM DEBRIS.
3. UNLESS OTHERWISE NOTED, RCP SHALL BE CLASS III CONFORMING TO ASTM C-76 (LATEST REVISION): "STANDARD SPECIFICATION FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE".
4. ROOF LEADERS SHALL BE ASTM D3034 SDR 35 PVC WITH GASKET JOINTS. UNLESS OTHERWISE NOTED ON THE PLANS, 4" SHALL BE LAID AT A 2% MINIMUM SLOPE AND 6" SHALL BE LAID AT 1% MINIMUM SLOPE.
5. COORDINATE WITH GOVERNING AGENCY FOR ALL REQUIRED MATERIAL APPROVALS, INSPECTIONS AND TESTING.

EROSION CONTROL NOTES

1. UNLESS SHOWN OTHERWISE, ALL DISTURBED AREAS NOT ULTIMATELY RECEIVING A HARD SURFACE SHALL HAVE A MINIMUM DEPTH OF 5" OF TOPSOIL AND BE STABILIZED WITH GRASS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS AND COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS RELATED TO SITE GRADING, EROSION AND SEDIMENTATION CONTROL, AND STORMWATER RUNOFF.
3. NO LAND DISTURBANCE IS PERMISSIBLE UNTIL THE CONTRACTOR HAS SUBMITTED A SIGNED NOTICE OF INTENT AND RECEIVED A NOTICE OF COVERAGE FROM THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC). COORDINATE WITH OWNER TO ENSURE THAT ALL NECESSARY PERMITS HAVE BEEN RECEIVED PRIOR TO LAND DISTURBANCE.
4. A NOTICE WILL BE POSTED BY NEAR THE CONSTRUCTION ENTRANCE BEFORE WORK BEGINS CONTAINING:
   - A. A COPY OF THE NOC WITH THE TRACKING NUMBER ASSIGNED BY TDEC.
   - B. THE NAME, COMPANY NAME, TELEPHONE NUMBER, EMAIL AND ADDRESS OF THE PROJECT SITE OPERATOR INCLUDING A LOCAL CONTACT PERSON.
   - C. A PROJECT DESCRIPTION
   - D. THE LOCATION OF THE SWPPP ON SITE.
5. IN PREPARATION FOR AND PRIOR TO INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES, THE CONTRACTOR SHALL:
   - A. EXAMINE THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND THE SITE EROSION AND SEDIMENTATION CONTROL DRAWINGS AT THE SITE.
   - B. NOTIFY ENGINEER OF DEFICIENCIES OR CHANGES IN THE SWPPP OR DRAWINGS REQUIRED BY CURRENT SITE CONDITIONS. REVISIONS OF THE DOCUMENTS WILL BE MADE AS DETERMINED BY THE ENGINEER.
6. FURNISH, ERECT AND MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES IN CONFORMITY WITH THE TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK, FOURTH EDITION, AS PREPARED BY TDEC. SEE PLAN AND DETAILS FOR SPECIFIC EROSION AND SEDIMENTATION CONTROL MEASURES.
7. EROSION AND SEDIMENTATION CONTROL MEASURES SHOWN ON THIS PLAN ARE A MINIMUM REQUIREMENT. MAINTAIN, MODIFY AND ADD EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION AS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE SITE.
8. ENVIRONMENTAL PERMIT REQUIREMENTS: SHOW COMPLIANCE WITH ALL REQUIREMENTS OF THE GENERAL NPDES PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES CURRENTLY ADOPTED BY TDEC (CGP) AND THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP). PROVIDE ENGINEER AND TDEC WITH COPIES OF ALL REQUIRED PAPERWORK. PERFORM AND PROVIDE ALL MAINTENANCE, INSPECTIONS, RECORD KEEPING, AND REPORTING.
9. INSPECTIONS WILL BE PERFORMED BY PERSONNEL CERTIFIED IN THE TDEC LEVEL 1 EROSION CONTROL COURSE. PROOF OF INSPECTOR'S CERTIFICATION SHALL BE KEPT ON FILE AT THE JOBSITE ALONG WITH ALL INSPECTION REPORTS AND OTHER REQUIRED PAPERWORK IDENTIFIED IN THE PROJECT SWPPP AND THE CGP. MAINTENANCE REPAIR NEEDS IDENTIFIED BY INSPECTIONS SHALL BE ADDRESSED WITHIN 7 DAYS OR BEFORE THE NEXT RAIN EVENT. DOCUMENT WHEN MAINTENANCE ITEMS ARE COMPLETED ON THE INSPECTION REPORT.
10. MAINTAIN A RAIN GAUGE AND RAINFALL RECORDS ON SITE AS REQUIRED BY TDEC.
11. EROSION AND SEDIMENTATION CONTROL IMPLEMENTATION:
    - A. STAKE THE DISTURBED AREA LIMITS AND UNDISTURBED AREAS IN THE FIELD BEFORE BEGINNING WORK
    - B. INSTALL CONSTRUCTION EXIT
    - C. TEMPORARY EROSION AND SEDIMENTATION CONTROL: PROVIDE MEASURES TO PREVENT SOIL EROSION AND DISCHARGE OF SOIL-BEARING WATER RUNOFF AND AIRBORNE DUST TO UNDISTURBED AREAS AND TO ADJACENT PROPERTIES AND WALKWAYS, ACCORDING TO THE SITE EROSION AND SEDIMENTATION CONTROL DRAWINGS AS WELL AS THE CGP AND THE SWPPP.
    - D. BEGIN SITE GRADING
    - E. VERIFY THAT FLOWS OF WATER REDIRECTED FROM CONSTRUCTION AREAS OR GENERATED BY CONSTRUCTION ACTIVITY DO NOT ENTER OR CROSS TREE- OR PLANT- PROTECTION ZONES.
    - F. INSPECT, REPAIR, AND MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED.
    - G. CLEAN, REPAIR, AND RESTORE ADJOINING PROPERTIES AND ROADS AFFECTED BY EROSION AND SEDIMENTATION FROM THE PROJECT SITE DURING THE COURSE OF THE PROJECT. OBTAIN PERMISSION AND APPROPRIATE PERMITS TO ACCESS AREAS OUTSIDE THIS SITE.
    - H. AFTER FINAL STABILIZATION OF THE SITE, REMOVE EROSION AND SEDIMENTATION CONTROLS AND RESTORE AND STABILIZE AREAS DISTURBED DURING REMOVAL.
    - I. STORMWATER CONTROL: COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. PROVIDE BARRIERS IN AND AROUND EXCAVATIONS AND SUBGRADE CONSTRUCTION TO PREVENT FLOODING BY RUNOFF OF STORMWATER FROM HEAVY RAINS.
    - J. PROJECT MANAGER OR ENGINEER MAY DIRECT CONTRACTOR TO LIMIT SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, BORROW AND EMBANKMENT OPERATIONS AND MAY DIRECT CONTRACTOR TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY POLLUTION CONTROL MEASURES.
    - K. PROVIDE PERMANENT EROSION CONTROL MEASURES AT EARLIEST PRACTICAL TIME TO MINIMIZE REQUIREMENT FOR TEMPORARY EROSION CONTROLS. PERMANENTLY SEED AND MULCH CUT SLOPES AS EXCAVATION PROCEEDS.
    - L. MAINTAIN TEMPORARY EROSION CONTROL SYSTEMS INSTALLED BY CONTRACTOR AS DIRECTED BY PROJECT MANAGER OR ENGINEER TO CONTROL SILTATION AT ALL TIMES THROUGHOUT WORK. PROVIDE MAINTENANCE OR ADDITIONAL WORK DIRECTED BY ENGINEER WITHIN 48 HOURS OF NOTIFICATION BY ENGINEER.
12. EROSION CONTROL SHALL BE MAINTAINED UNTIL PAVING IS COMPLETED AND LAWNS HAVE BEEN ESTABLISHED. PROTECT ADJACENT PROPERTIES AND WATER RESOURCES FROM EROSION AND SEDIMENT DAMAGE THROUGHOUT THE LIFE OF THE PROJECT UNTIL A NOTICE OF TERMINATION IS FILED WITH TDEC. CONTRACTOR COORDINATE WITH THE ENGINEER AND OWNER FOR APPROVAL TO FILE A NOTICE OF TERMINATION AT THE APPROPRIATE TIME.
13. STABILIZATION MEASURES WILL BE INITIATED AS SOON AS POSSIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY OR PERMANENT SOIL STABILIZATION AT THE CONSTRUCTION SITE (OR PHASE OF THE PROJECT) MUST BE COMPLETED NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED. PERMANENT STABILIZATION WITH PERENNIAL VEGETATION OR OTHER PERMANENTLY STABLE, NON-ERODING SURFACE SHALL REPLACE ANY TEMPORARY MEASURES AS SOON AS PRACTICABLE. UNPACKED GRAVEL CONTAINING FINES OR CRUSHER RUNS WILL NOT BE CONSIDERED A NON-ERODING SURFACE.
14. ALL WATER DISCHARGED FROM EXCAVATIONS AND TEMPORARY SEDIMENT PONDS SHALL BE FILTERED USING SEDIMENT CONTROLS ACCEPTABLE TO TDEC AS WELL AS THE LOCAL AUTHORITY HAVING JURISDICTION.
15. UNLESS OTHERWISE NOTED, RIP-RAP SHALL BE T.D.O.T. MACHINED CLASS A-1 WITH A MEDIAN RIP-RAP SIZE D50 OF 6", 9" THICK AND SHALL BE UNDERLAIN WITH A NON-WOVEN GEOTEXTILE FABRIC.
16. CONCRETE WASHOUT AREA SHALL BE IN CONFORMANCE WITH STANDARDS OF TDEC, AS WELL AS THE LOCAL PERMITTING AUTHORITY HAVING JURISDICTION.
17. AT THE END OF THE PROJECT, DURING FINAL SITE STABILIZATION, DEWATER TEMPORARY SEDIMENT PONDS AND TRAPS IN CONFORMANCE WITH STANDARDS OF TDEC, AS WELL AS THE LOCAL PERMITTING AUTHORITY HAVING JURISDICTION. REMOVE ALL TEMPORARY EROSION CONTROLS AT THE END OF THE PROJECT AND COORDINATE WITH OWNER TO FILE NOTICE OF TERMINATION, AT THE APPROPRIATE TIME, WITH AUTHORITY HAVING JURISDICTION.
18. CONTRACTOR COORDINATE WITH ENGINEER AT BEGINNING OF LAND DISTURBANCE TO DETERMINE WHETHER OR NOT AN INITIAL SITE ASSESSMENT INSPECTION BY THE ENGINEER IS REQUIRED. IF REQUIRED, THE SITE ASSESSMENT INSPECTION BY THE ENGINEER MUST BE PERFORMED WITHIN 1 MONTH OF STARTING CONSTRUCTION. ALLOW ENGINEER A MINIMUM OF 1 WEEK NOTICE IN SCHEDULING SITE ASSESSMENT INSPECTIONS.

UTILITY NOTES

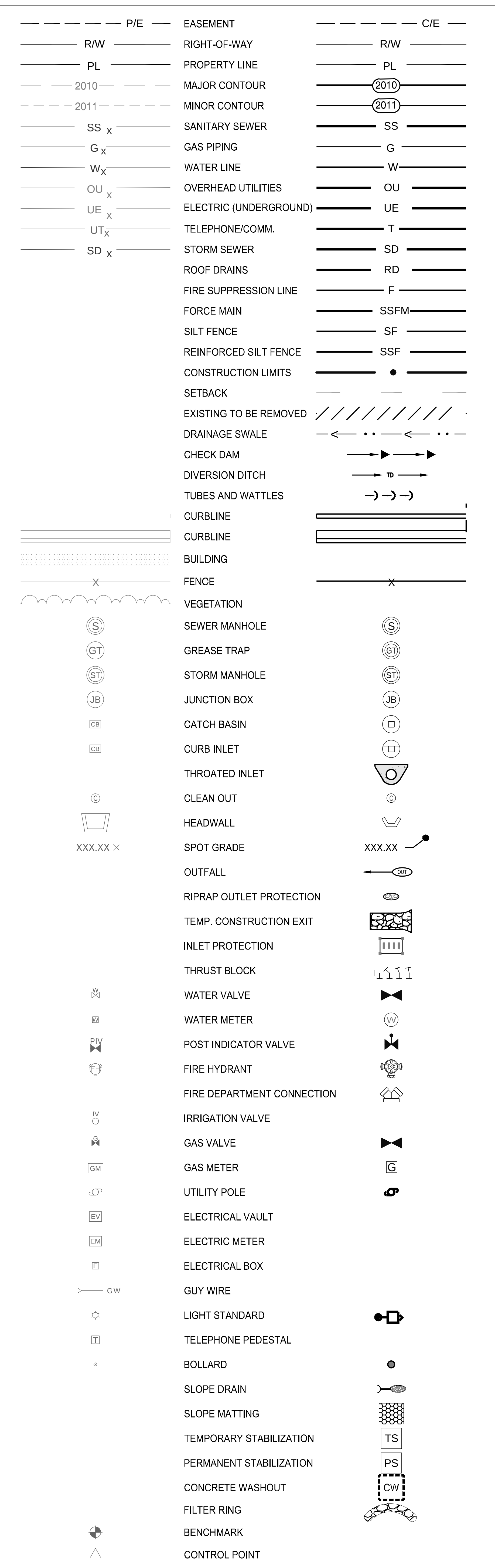
1. COORDINATE WITH EXISTING UTILITIES AND STORM SEWER INSTALLATION TO AVOID CONFLICTS . UTILITY INSTALLATION AND MATERIAL SHALL MEET THE REQUIREMENTS OF **NORRIS WATER COMMISSION, CLINTON UTILITIES BOARD, AND POWELL-CLINCH UTILITY DISTRICT** AND ALL APPLICABLE CODES. COORDINATE WITH **NORRIS WATER COMMISSION, CLINTON UTILITIES BOARD, AND POWELL-CLINCH UTILITY DISTRICT** PRIOR TO CONSTRUCTION TO DETERMINE MATERIAL, INSTALLATION TESTING AND INSPECTION REQUIREMENTS. VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. PAVEMENT REPAIR AND TRAFFIC CONTROL SHALL MEET THE REQUIREMENTS OF THE AGENCY HAVING JURISDICTION.
3. COORDINATE LOCATION OF GAS LINE TO AVOID CONFLICTS WITH OTHER UTILITIES. CONNECTION TO EXISTING GAS SERVICE SHALL MEET THE REQUIREMENTS OF **POWELL-CLINCH UTILITY DISTRICT.** CONTACT **POWELL-CLINCH UTILITY DISTRICT** AND COORDINATE INSTALLATION.
4. GAS METER AND SUPPLY LINE SHALL BE SIZED AND INSTALLED BY **POWELL-CLINCH UTILITY DISTRICT** FOR THE LOADS SHOWN ON THE PLUMBING DRAWINGS. PROVIDE 4" SLEEVE UNDER PAVED AREAS.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY AND ALL PERMITS AND LICENSES REQUIRED TO WORK IN THE PUBLIC R.O.W. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TAP FEES AND COORDINATION WITH **NORRIS WATER COMMISSION** TO ESTABLISH WATER AND SEWER SERVICE.
6. PROVIDE 10' MIN. HORIZONTAL SEPARATION BETWEEN WATER AND SEWER LINES. WHERE CROSSINGS OCCUR, PROVIDE 18" MIN SEPARATION BETWEEN WATER AND SEWER LINES. PROVIDE 6" MIN. CLEARANCE BETWEEN STORM SEWERS AND OTHER UTILITIES. UNLESS OTHERWISE NOTED PROVIDE 3' MINIMUM COVER FOR ALL UTILITIES. PROVIDE #57 STONE BEDDING AND BACKFILL TO SUBGRADE FOR ALL UTILITIES LOCATED IN PAVED AREAS.
7. ADJUST ALL EXISTING UTILITY STRUCTURES, WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT, TO MATCH FINAL GRADES. ADJUSTMENTS SHALL MEET THE REQUIREMENTS OF **NORRIS WATER COMMISSION, CLINTON UTILITIES BOARD, AND POWELL-CLINCH UTILITY DISTRICT**.
8. COORDINATE WITH **NORRIS WATER COMMISSION, CLINTON UTILITIES BOARD, AND POWELL-CLINCH UTILITY DISTRICT** TO REMOVE OR ABANDON EXISTING UTILITIES, WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT, THAT ARE LOCATED WITHIN THE PROJECT LIMITS AND NO LONGER IN USE.
9. UNLESS OTHERWISE NOTED, ALL SANITARY SEWER PIPE AND FITTINGS SHALL BE PVC MEETING THE REQUIREMENTS OF ASTM D 3034. USE SDR 35 UNLESS OTHERWISE SPECIFIED. FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM D 3311 AND ASTM D 2665. PIPE SHALL HAVE AN INTEGRAL BELL END WITH GASKET SEAL WHICH HAS BEEN REINFORCED WITH A STEEL RING, BAND, OR OTHER RIGID MATERIAL THAT PERMANENTLY LOCKS THE GASKET IN PLACE. THE JOINT SHALL MEET THE REQUIREMENTS OF ASTM D 3212. GASKETS SHALL BE OF A LOCK-IN TYPE GASKET, REIBER TYPE OR APPROVED SUBSTITUTE, MEETING THE REQUIREMENTS OF ASTM F-477. UNLESS OTHERWISE NOTED, MINIMUM SLOPE SHALL BE 2.0% FOR 4" LINE AND 1.0% FOR 6" LINES.
10. UNLESS OTHERWISE NOTED, ALL WATER LINES SHALL BE AWWA C900 PVC (CLASS 200) WITH BELL END FOR PUSH-ON TYPE JOINTS. JOINTS SHALL CONSIST OF COMPACT PATTERN DUCTILE IRON FITTINGS MEETING THE REQUIREMENTS OF AWWA C 153 WITH RUBBER GASKETS MEETING THE REQUIREMENTS OF AWWA C 111. INSTALLATION SHALL COMPLY WITH UL 1285.
11. (NOT USED)
12. FIRE LINE SIZE SHALL BE VERIFIED BY SPRINKLER CONTRACTOR. CERTIFIED CALCULATIONS SHALL BE SUBMITTED TO THE OWNER. SEE THE FIRE PROTECTION PLAN FOR FURTHER REQUIREMENTS. ALL FIRE PROTECTION PIPING STARTING FROM THE POINT OF SERVICE MUST BE INSTALLED BY A TENNESSEE REGISTERED SPRINKLER CONTRACTOR.
13. ALL WATER LINE MATERIALS SHALL BE LEAD FREE.

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT APPLY TO THIS PROJECT

@	AT
&	AND
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
ADA	AMERICANS WITH DISABILITIES ACT
APP'D	APPROVED
APPROX. OR ~	APPROXIMATE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASPH.	ASPHALT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
B/C	BACK OF CURB
BLDG.	BUILDING
BLVD.	BOULEVARD
BM	BENCHMARK
B/W	BOTTOM OF WALL
Δ	CURVE DELTA ANGLE
CB	CATCH BASIN
CFS	CUBIC FEET PER SECOND
CGP	CONSTRUCTION GENERAL PERMIT
CI	CURB INLET
C	CENTERLINE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
C.O.	CLEANOUT
CONC.	CONCRETE
CONT.	CONTINUOUS
°	DEGREES
DCB	DOUBLE CATCH BASIN
DIA. OR Ø	DIAMETER
DIP	DUCTILE IRON PIPE
DWG.	DRAWING
E	EAST
EA.	EACH
E.F.	EACH FACE
EIP	EXISTING IRON PIPE
EL. OR ELEV.	ELEVATION
EOP	EDGE OF PAVEMENT
EPA	ENVIRONMENTAL PROTECTION AGENCY
ETC.	ET CETERA
E.W.	EACH WAY
EX. OR EXIST.	EXISTING
F/C	FACE OF CURB
FFE	FINISHED FLOOR ELEVATION
FIN.	FINISHED
FP	FIRE PROTECTION
FT.	FEET
GC	GENERAL CONTRACTOR
GI	GRATE INLET
GPM	GALLONS PER MINUTE
GV	GAS VALVE
H	HORIZONTAL
HDPE	HIGH DENSITY POLYETHYLENE
HP	HIGH POINT
HP HDPE	HIGH PERFORMANCE HIGH DENSITY POLYETHYLENE
HWY.	HIGHWAY
ID	INSIDE DIAMETER OR INLINE DRAIN
IN.	INCH(ES)
INV.	INVERT
IPF	IRON PIN FOUND
JB	JUNCTION BOX
L	LENGTH
LBS.	POUNDS
LF	LINEAR FEET
MAX.	MAXIMUM
MH	MANHOLE
MIN.	MINIMUM
MUTCD	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES
N	NORTH
N/A	NOT APPLICABLE
NFPA	NATIONAL FIRE PROTECTION AGENCY
NIC	NOT IN CONTRACT
NIP	NEW IRON PIN
NO. OR #	NUMBER
NOI	NOTICE OF INTENT
NPDES	NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM
N.T.E.	NOT TO SCALE
O.C.	ON CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PIV	POST INDICATOR VALVE
POB	POINT OF BEGINNING (ALIGNMENT)
POE	POINT OF ENDING (ALIGNMENT)
PP	POWER/UTILITY POLE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
Q1	1 YEAR STORM PEAK FLOW
Q10	10 YEAR STORM PEAK FLOW
QLP	QUALIFYING LOCAL PROGRAM
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REF.	REFERENCE
REQ'D	REQUIRED
REV.	REVISION
R.O.W.	RIGHT-OF-WAY
S	SOUTH
SAN.	SANITARY
SCH.	SCHEDULE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FEET
SPAP	SPECIAL POLLUTION ABATEMENT PERMIT
SQ.	SQUARE
ST.	STREET
STA.	STATION
SS	SANITARY SEWER
SSFM	SANITARY SEWER FORCE MAIN
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TBM	TEMPORARY BENCH MARK
TDEC	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
T.D.O.T.	TENNESSEE DEPARTMENT OF TRANSPORTATION
THK.	THICK
TC	TOP OF CASTING
T/C	TOP OF CURB ELEVATION
TP	TOP OF PAVEMENT ELEVATION
T/W	TOP OF WALL
TYP.	TYPICAL
V	VERTICAL
W	WEST
W/	WITH
WS	WATER SURFACE
WV	WATER VALVE
W.W.F.	WELDED WIRE FABRIC
W.W.M.	WELDED WIRE MESH
YD	YARD DRAIN

LEGEND



EXISTING	LEGEND	PROPOSED
P/E	EASEMENT	C/E
R/W	RIGHT-OF-WAY	R/W
PL	PROPERTY LINE	PL
2010	MAJOR CONTOUR	2010
2011	MINOR CONTOUR	2011
SS x	SANITARY SEWER	SS
G x	GAS PIPING	G
W x	WATER LINE	W
OU x	OVERHEAD UTILITIES	OU
UE x	ELECTRIC (UNDERGROUND)	UE
UT x	TELEPHONE/COMM.	T
SD x	STORM SEWER	SD
	ROOF DRAINS	RD
	FIRE SUPPRESSION LINE	F
	FORCE MAIN	SSFM
	SILT FENCE	SF
	REINFORCED SILT FENCE	SSF
	CONSTRUCTION LIMITS	●
	SETBACK	
	EXISTING TO BE REMOVED	//////////
	DRAINAGE SWALE	
	CHECK DAM	
	DIVERSION DITCH	TD
	TUBES AND WATTLES	
	CURBLINE	
	CURBLINE	
	BUILDING	
x	FENCE	x
	VEGETATION	
S	SEWER MANHOLE	S
GT	GREASE TRAP	GT
ST	STORM MANHOLE	ST
JB	JUNCTION BOX	JB
CB	CATCH BASIN	
CB	CURB INLET	
	THROATED INLET	
©	CLEAN OUT	©
	HEADWALL	
XXX.XX ×	SPOT GRADE	XXX.XX
	OUTFALL	OUT
	RIPRAP OUTLET PROTECTION	
	TEMP. CONSTRUCTION EXIT	
	INLET PROTECTION	
	THRUST BLOCK	
W	WATER VALVE	
W	WATER METER	W
PIV	POST INDICATOR VALVE	
FH	FIRE HYDRANT	
	FIRE DEPARTMENT CONNECTION	
IV	IRRIGATION VALVE	
G	GAS VALVE	
GM	GAS METER	G
	UTILITY POLE	
EV	ELECTRICAL VAULT	
EM	ELECTRIC METER	
E	ELECTRICAL BOX	
GW	GUY WIRE	
	LIGHT STANDARD	
T	TELEPHONE PEDESTAL	
	BOLLARD	●
	SLOPE DRAIN	
	SLOPE MATTING	
	TEMPORARY STABILIZATION	TS
	PERMANENT STABILIZATION	PS
	CONCRETE WASHOUT	CW
	FILTER RING	
	BENCHMARK	
	CONTROL POINT	

AREAS & CALCULATIONS

IMPERVIOUS AREA

EXISTING		PROPOSED		TOTAL INCREASE	
0.54	Acres	1.59	Acres	1.05	Acres
23,390	sqft	69,468	sqft	46,078	sqft

DISTURBED AREA

TOTAL SITE AREA		DISTURBED AREA	
12.3	Acres	2.37	Acres
535,788	sqft	103,237	sqft

PARKING CALCULATION

PROVIDED	
REGULAR	70
ACCESSIBLE	03
TOTAL	73

PROPERTY INFORMATION

OWNER

NAME: ANDERSON COUNTY SCHOOLS

ADDRESS: 101 S. MAIN ST.
CLINTON, TN 37716

PHONE: (865) 463-2800

PROPERTY DATA

ADDRESS: 5 NORRIS SQ.
NORRIS, TN 37828

MAP: 031F
PARCEL ID: FAR002.00
ZONING: FAR

VERTICAL DATUM: NAVD 88

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ENGINEER:

MBI COMPANIES INC.
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KNOXVILLE, TN 37919

PHONE: (865) 584-0999
FAX: (865) 584-5213
WEB: mbicompanies.com

CONSULTANT

SEAL

CHRISTOPHER B. TRIKO
No. 109122
Christopher B Triko
3/9/22

THE DESIGN PROFESSIONAL DENIES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/ OR FOLLOW THE DESIGN PROFESSIONAL'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

PROJECT INFORMATION

PROJECT:

AN ADDITION
& RENOVATION TO:
NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:
5 NORRIS SQUARE
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- ☐ FOR REVIEW ONLY
- ☐ FOR PERMITTING ONLY
- ☐ SCHEMATIC DESIGN
- ☐ DESIGN DEVELOPMENT
- ☐ CONSTRUCTION BIDDING
- ■ CONSTRUCTION DOCUMENTS
- ☐ AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION
2	03/09/2022	ADDENDUM #2

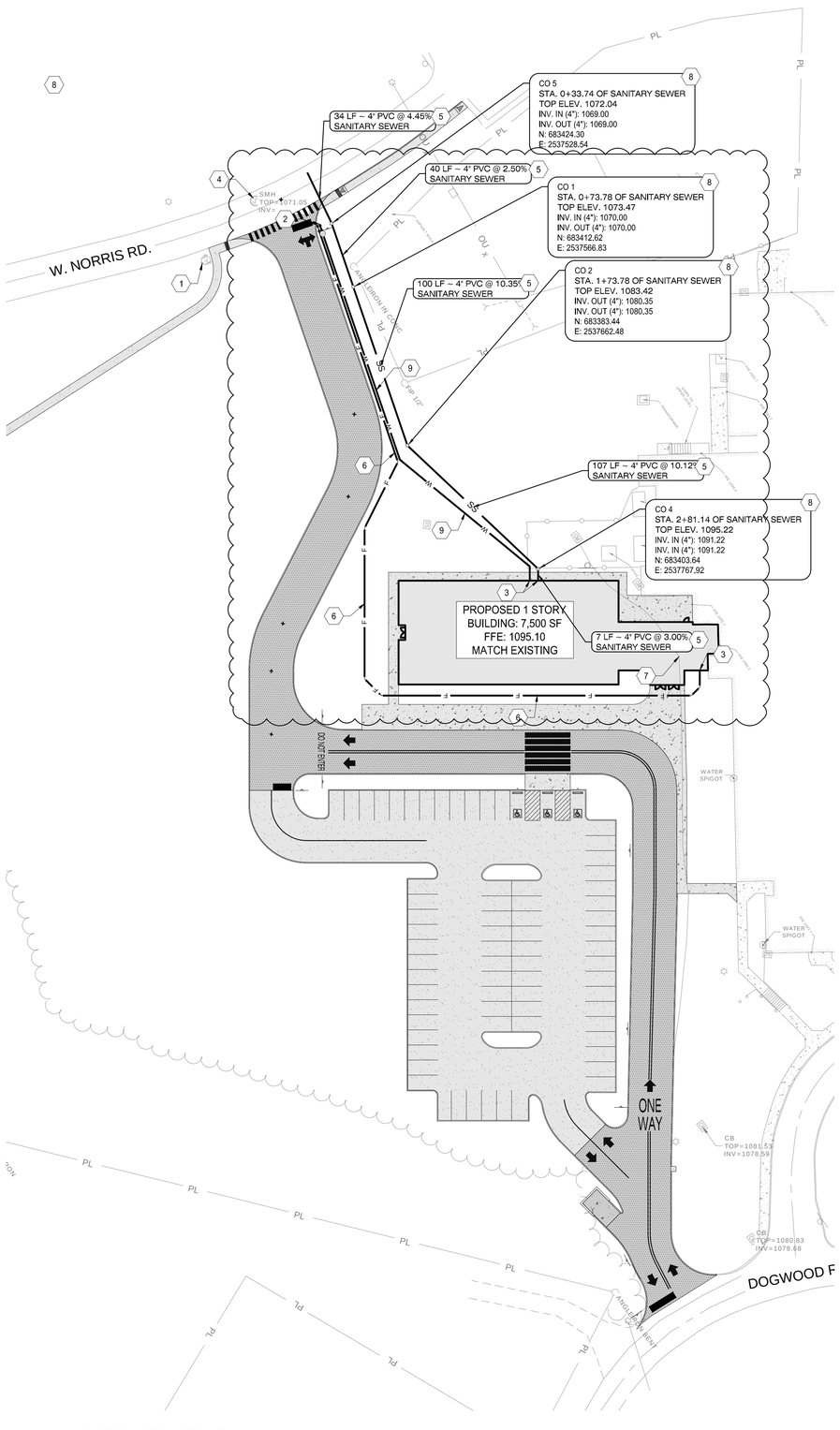
KEY PLAN

SHEET INFORMATION

SHEET ISSUED: 03/02/2022
DESIGNED BY: I.A.J.
DRAWN BY: I.A.J.
REVIEWED BY: C.B.T.

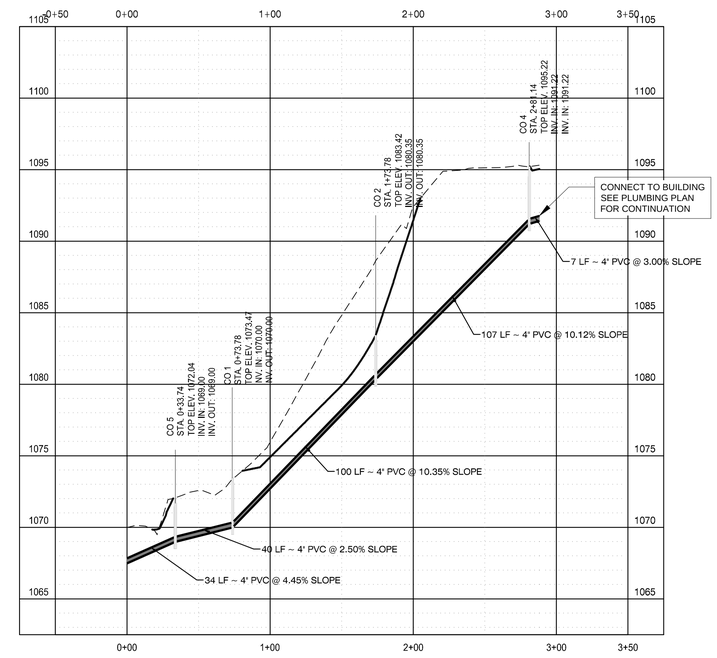
SHEET TITLE:
CIVIL NOTES
& LEGEND

SHEET NO.: C001



SITE UTILITY PLAN

1



SANITARY SEWER 1

1

SCALE: H: 1" = 50'-0" V: 1" = 5'-0"

GRAPHIC SCALE

50 0 25 50 100 150

1 INCH = 50'

GENERAL SHEET NOTES

1. SEE SHEET C001 FOR CIVIL NOTES AND LEGENDS
2. COORDINATE ALL UTILITY CROSSINGS; SEE DETAIL 2/C803
3. FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO START OF CONSTRUCTION. DETERMINE LOCATED, SIZE, MATERIAL & INVERTS. REPORT ANY DISCREPANCIES TO OWNER & ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION & INSTALLATION.

UTILITY CONTACTS

WATER	SEWER
NORRIS WATER COMMISSION 20 CHESTNUT ST NORRIS, TN 37828 (865) 494-7645	NORRIS WATER COMMISSION 20 CHESTNUT ST NORRIS, TN 37828 (865) 494-7645
GAS	**ELECTRIC**
POWELL-CLING UTILITY DISTRICT 203 E 1ST ST ROCKY TOP, TN 37769 (865) 426-2822	CLINTON UTILITIES BOARD 1001 CHARLES G. SEIVERS BLVD CLINTON, TN 37717 (865) 457-9232

PROFILE LEGEND

EXISTING GRADE

PROPOSED GRADE

UTILITY LEGEND

- PIPE FITTING; SEE DETAIL 5/C803
- PIPE TEE; SEE DETAIL 5/C803
- GATE VALVE; SEE DETAIL 7/C803
- WATER METER BY LOCAL UTILITY
- CO-CLEANOUT; SEE DETAIL 6/C803

UTILITY KEYED NOTES

1. EXISTING FIRE HYDRANT
2. WATER LINE CONNECTION BY LOCAL UTILITY COMPANY. COORDINATE TAP & WATER METER LOCATIONS.
3. FOR CONTINUATION SEE PLUMBING PLAN
4. CONNECTION TO EXISTING MANHOLE; BY LOCAL UTILITY
5. 4" ASTM D3034 SDR35 PVC BUILDING SANITARY SEWER SERVICE LINE @ 2.0% MIN. SLOPE; SEE DETAIL 1/C803
6. 6" C-900 PVC FIRE PROTECTION SERVICE LINE; SEE DETAIL 1/C803
7. GAS SERVICE LINE; TO BE RELOCATED BY LOCAL UTILITY
8. SANITARY SEWER CLEANOUT; SEE DETAIL 6/C803
9. 2" POTABLE WATER (PVC CLASS 200); SEE DETAIL 1/C803

811 Know what's below. Call before you dig.
In Tennessee call 811 or 1-800-351-1111

GRAPHIC SCALE

40 0 20 40 80 120

1 INCH = 40'

MBI

ENGINEER:

MBI COMPANIES INC.
299 N. WEISGARBER ROAD
KNOXVILLE, TN 37919

PHONE: (865) 584-0999
FAX: (865) 584-5213
WEB: mbicompanies.com

CONSULTANT

SEAL

CHRISTOPHER B. TRIVAO
REGISTERED ENGINEER
No. 109125
AGRICULTURE COMMERCE
STATE OF TENNESSEE
3/9/22

PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- ☐ FOR REVIEW ONLY
- ☐ FOR PERMITTING ONLY
- ☐ SCHEMATIC DESIGN
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- ☐ AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION
1	02/22/2022	ADDENDUM #1
2	03/09/2022	ADDENDUM #2

KEY PLAN

SHEET INFORMATION

SHEET ISSUED:	03/02/2022
DESIGNED BY:	I.A.J.
DRAWN BY:	I.A.J.
REVIEWED BY:	C.B.T.

SHEET TITLE:

SITE UTILITY PLAN

SHEET NO.:

C500

DOOR SCHEDULE

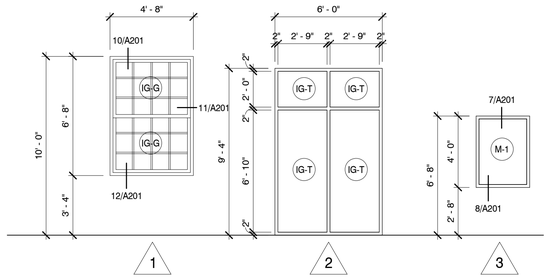
DOORS								FRAMES			DETAILS				
NUMBER	D-TYPE	D-MATL	FULL WIDTH	PANELS	HEIGHT	THICK	FINISH	F-TYPE	F-MATL	F-FINISH	HEAD	JAMB	T-HOLD	H-WARE	2 REMARKS
101A	FG	HM	6' - 0"	PAIR	7' - 0"	1 3/4"	PT	1	HM	PT	1/A201	2/A201	5/A201	1A	
101B	FG	HM	6' - 0"	PAIR	7' - 0"	1 3/4"	PT	1	HM	PT	1/A201	2/A201	5/A201	1B	ADA PUSH BUTTON OPENER
101C	FG	HM	6' - 0"	PAIR	7' - 0"	1 3/4"	PT	1	HM	PT	1/A201	2/A201	5/A201	1D	ADA PUSH BUTTON OPENER
101D	FG	HM	6' - 0"	PAIR	7' - 0"	1 3/4"	PT	1	HM	PT	1/A201	2/A201	5/A201	1C	
102	FG	HM	3' - 0"	SINGLE	7' - 0"	1 3/4"	PT	2	HM	PT	1/A201	2/A201	5/A201	1E	
103	F	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	2	
104	F	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	3	
105	FG	HM	6' - 0"	PAIR	7' - 0"	1 3/4"	PT	3	HM	PT	1/A201	2/A201	5/A201	1A	
106	N	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	5	
107	N	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	5	
108	N	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	5	
109	F	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	2	
110	N	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	5	
111	N	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	5	
112	N	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	5	
113	N	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	5	
RR1	F	WD	3' - 0"	SINGLE	7' - 0"	1 3/4"	ST	3	HM	PT	3/A201	4/A201	6/A201	6	

GENERAL DOOR NOTES

1. INTERIOR WOOD DOORS TO BE FACTORY FINISH. WOOD SPECIES TO BE ROTARY CUT BIRCH.
2. EXTERIOR HOLLOW METAL DOORS ARE TO BE INSULATED.
3. EXTERIOR HOLLOW METAL DOORS AND FRAMES ARE TO BE FACTORY PRIMED AND FIELD PAINTED.

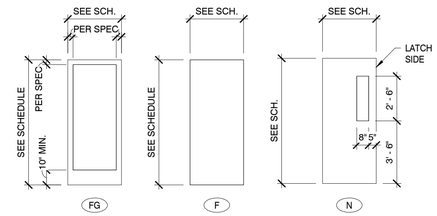
GLAZING SCHEDULE (X)

M-1	1/4" THICK TRANSPARENT ONE-WAY MIRROR, FULLY TEMPERED.
IG-T	1" THICK INSULATED GLASS WITH 1/2" AIR SPACE AND TWO 1/4" LITES, FULLY TEMPERED
IG-G	1" THICK INSULATED GLASS WITH 1/2" AIR SPACE, WITH INTERSTITIAL GRILLES, AND TWO 1/4" LITES, FULLY TEMPERED



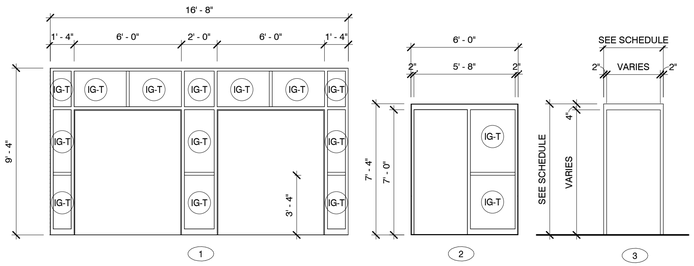
WINDOW TYPES

SCALE : 1/4" = 1'-0"



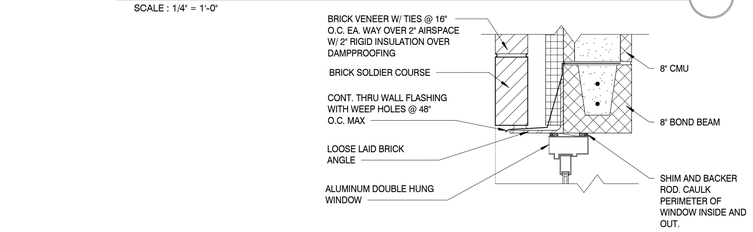
DOOR TYPES

SCALE : 1/4" = 1'-0"



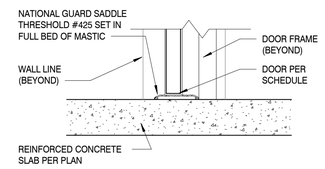
DOOR FRAME TYPES

SCALE : 1/4" = 1'-0"



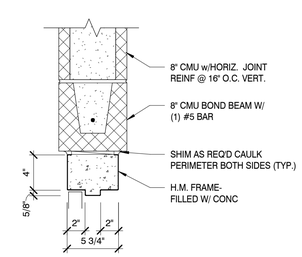
HEAD DETAIL (10)

SCALE : 1 1/2" = 1'-0"



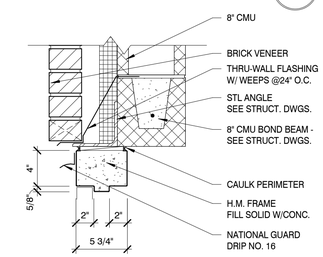
THRESHOLD DETAIL (6)

SCALE : 1 1/2" = 1'-0"



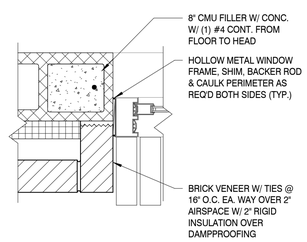
HEAD DETAIL (3)

SCALE : 1 1/2" = 1'-0"



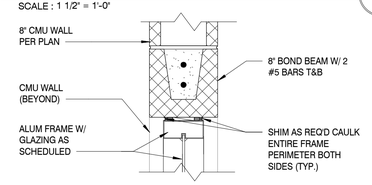
HEAD DETAIL (1)

SCALE : 1 1/2" = 1'-0"



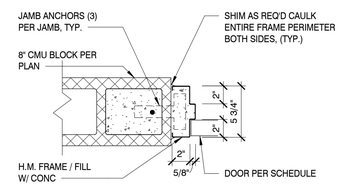
WINDOW JAMB (11)

SCALE : 1 1/2" = 1'-0"



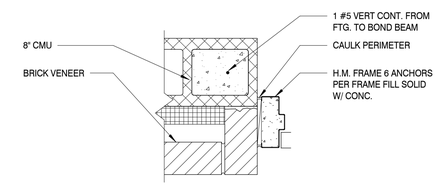
WINDOW HEAD (7)

SCALE : 1 1/2" = 1'-0"



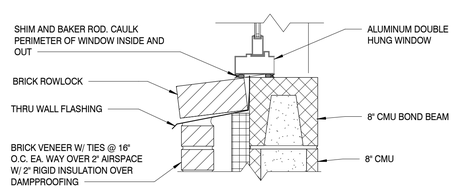
JAMB DETAIL (4)

SCALE : 1 1/2" = 1'-0"



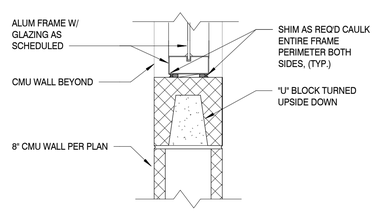
JAMB DETAIL (2)

SCALE : 1 1/2" = 1'-0"



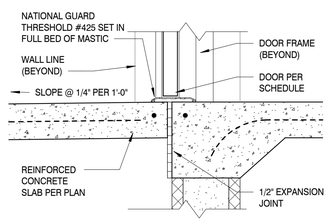
SILL DETAIL (12)

SCALE : 1 1/2" = 1'-0"



WINDOW SILL (8.)

SCALE : 1 1/2" = 1'-0"



THRESHOLD DETAIL (5)

SCALE : 1 1/2" = 1'-0"

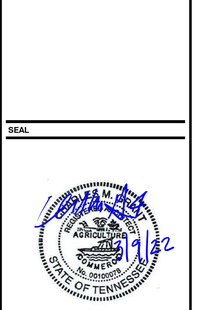
MBI

MBI COMPANIES INC.
299 N. WEISGARBER ROAD
KNOXVILLE, TN 37919

PHONE: (865) 584-0999
FAX: (865) 584-5213
WEB: mbicompanies.com

CONSULTANT

SEAL



PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE, NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- ☐ FOR REVIEW ONLY
- ☐ FOR PERMITTING ONLY
- ☐ SCHEMATIC DESIGN
- ☐ DESIGN DEVELOPMENT
- ☐ CONSTRUCTION BIDDING
- ■ CONSTRUCTION DOCUMENTS
- ☐ AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION
1	02/22/2022	Addendum #1
2	03/09/2022	Addendum #2

KEY PLAN

SHEET INFORMATION

SHEET ISSUED:	02/04/2022
DESIGNED BY:	CMG
DRAWN BY:	KEF
REVIEWED BY:	CMG

SHEET TITLE:

DOOR SCHEDULE, WINDOW TYPES, AND DETAILS

SHEET NO.:

A201

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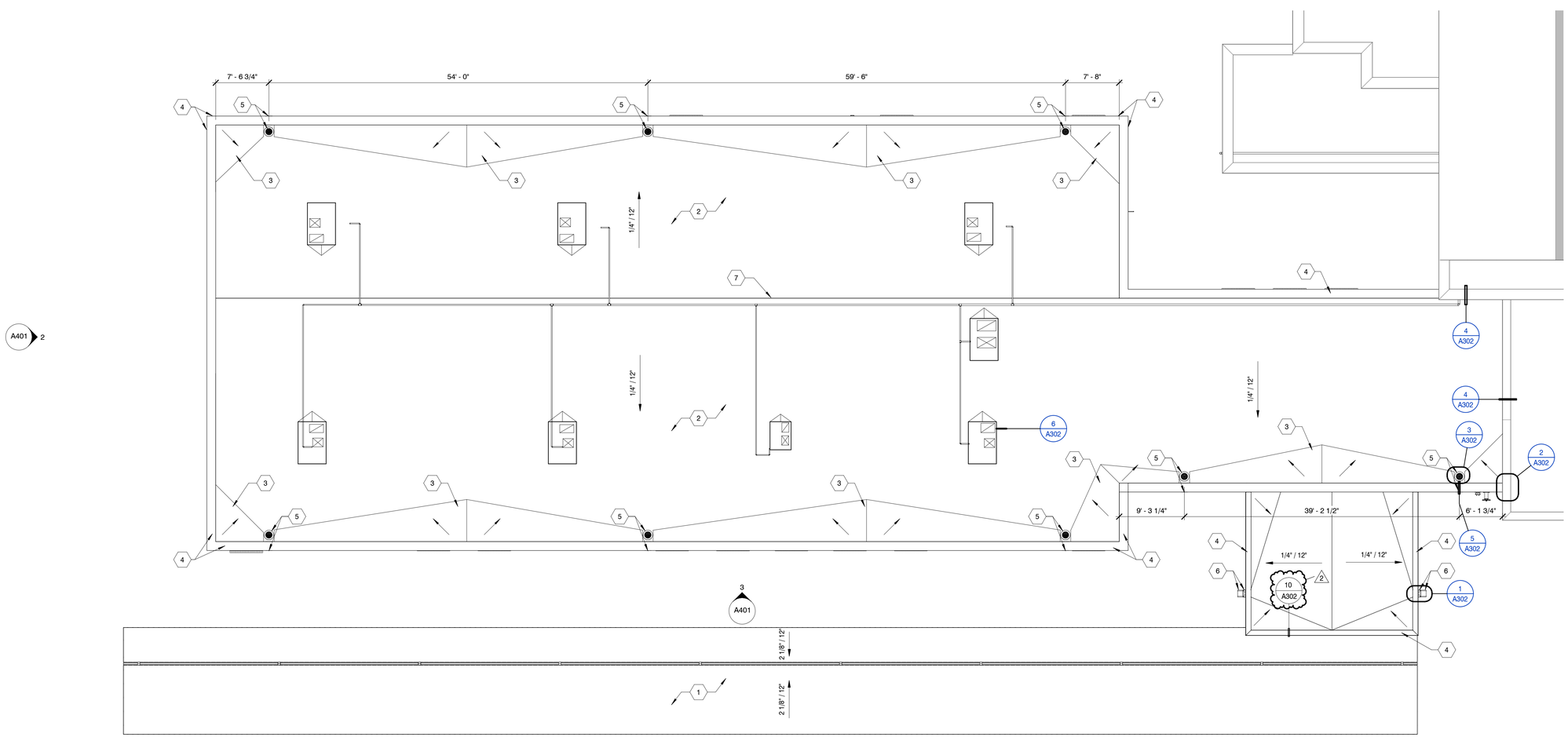

ROOF PLAN

SCALE : 1/8" = 1'-0"

BUILDING NORTH

MAGNETIC NORTH

ROOF PLAN KEYNOTES

1. FREESTANDING CANOPY WITH CORRUGATED POLYCARBONATE PANELS..
2. EPDM ROOFING.
3. TAPERED INSULATION, SLOPE TO DRAIN.
4. METAL COPING CAP.
5. ROOF DRAIN AND OVERFLOW SCUPPER.
6. SCUPPER, CONDUCTOR HEAD, DOWNSPOUT, AND CONCRETE SPLASHBLOCK.
7. ROOF RIDGE LINE.

MBI

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KNOXVILLE, TN 37919

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WEB: mbicompanies.com

CONSULTANT

SEAL

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NORRIS, TN 37828

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NO.	DATE	DESCRIPTION
2	03/09/2022	Addendum #2

KEY PLAN

SHEET INFORMATION

SHEET ISSUED:	02/04/2022
DESIGNED BY:	CMG
DRAWN BY:	KEF
REVIEWED BY:	CMG

SHEET TITLE:

ROOF PLAN

SHEET NO.:

A301

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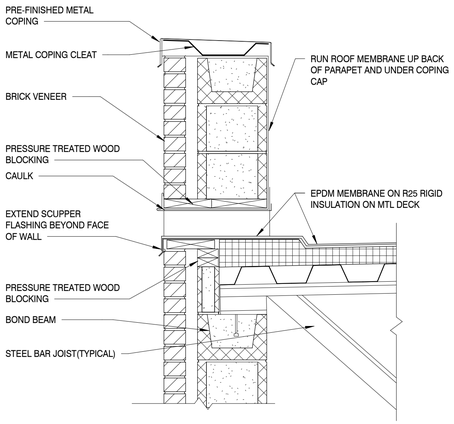
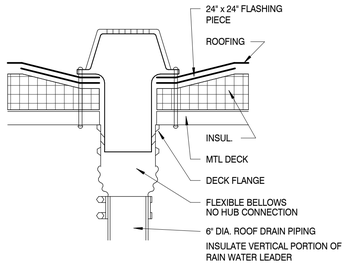


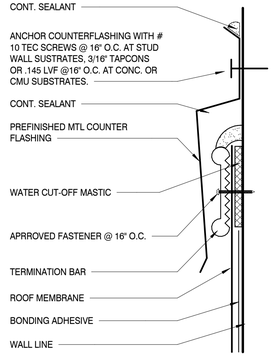
PARAPET W/ OVERFLOW SCUPPER 5

SCALE : 1" = 1'-0"



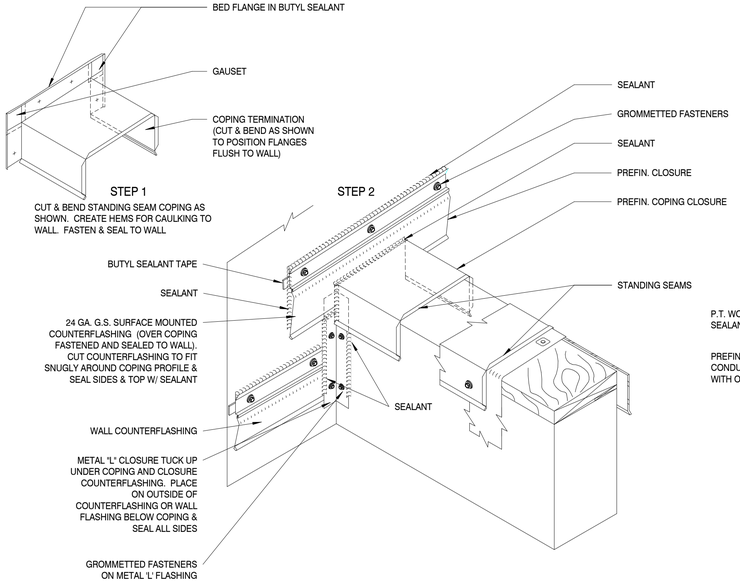
ROOF DRAIN 3

SCALE : 1 1/2" = 1'-0"



TERM BAR DETAIL 4

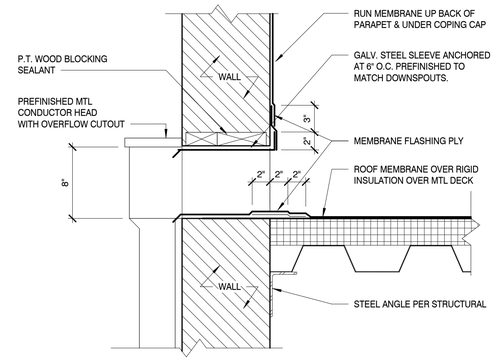
SCALE : 3" = 1'-0"



NOTE : FABRICATE METAL CLOSURE WITH COPING MATING TO COUNTERFLASHING, SEALED WATERTIGHT. IF WALL COUNTERFLASHING IS LOWER THAN THE CLOSURE, PROVIDE A METAL "L" FLASHING (AS SHOWN)

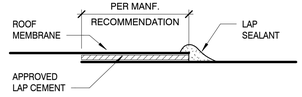
COPING TERMINATION DETAIL 2

SCALE : 1 1/2" = 1'-0"



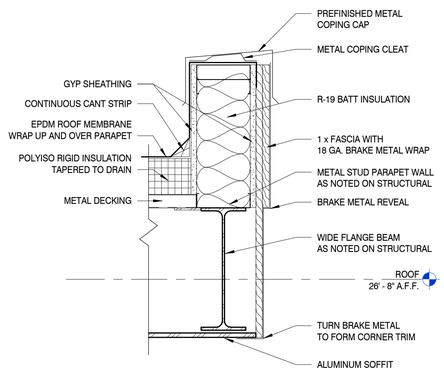
SCUPPER AND DOWNSPOUT 1

SCALE : 1 1/2" = 1'-0"



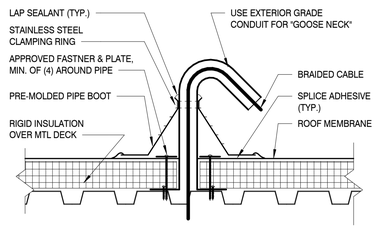
LAP SPLICE DETAIL 7

SCALE : 6" = 1'-0"



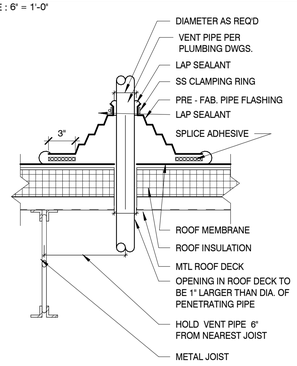
ENTRY PARAPET 10

SCALE : 1 1/2" = 1'-0"



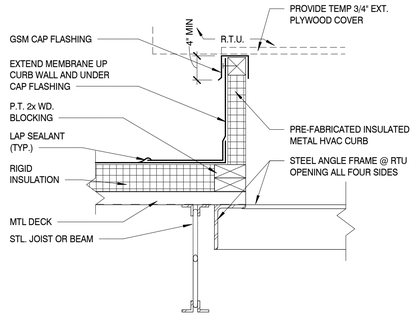
CABLE PENETRATION DETAIL 9

SCALE : 1 1/2" = 1'-0"



VENT PIPE DETAIL 8

SCALE : 1 1/2" = 1'-0"



ROOF CURB DETAIL 6

SCALE : 1 1/2" = 1'-0"

MBI

MBI COMPANIES INC.
299 N. WEISGARBER ROAD
KNOXVILLE, TN 37919

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WEB: mbicompanies.com

CONSULTANT

SEAL

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REVISION INFORMATION

NO.	DATE	DESCRIPTION
2	03/09/2022	Addendum #2

KEY PLAN

SHEET INFORMATION

SHEET ISSUED:	02/04/2022
DESIGNED BY:	CMG
DRAWN BY:	KEF
REVIEWED BY:	CMG
SHEET TITLE:	

ROOF DETAILS

SHEET NO.:

A302

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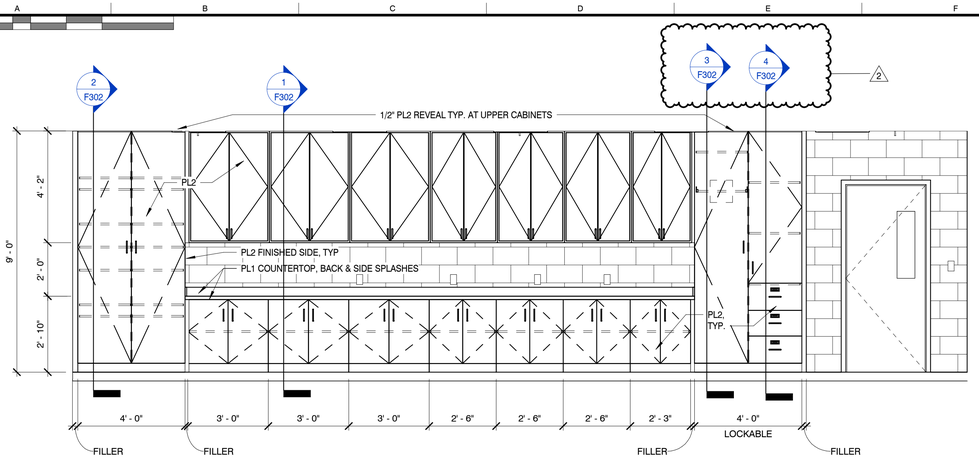
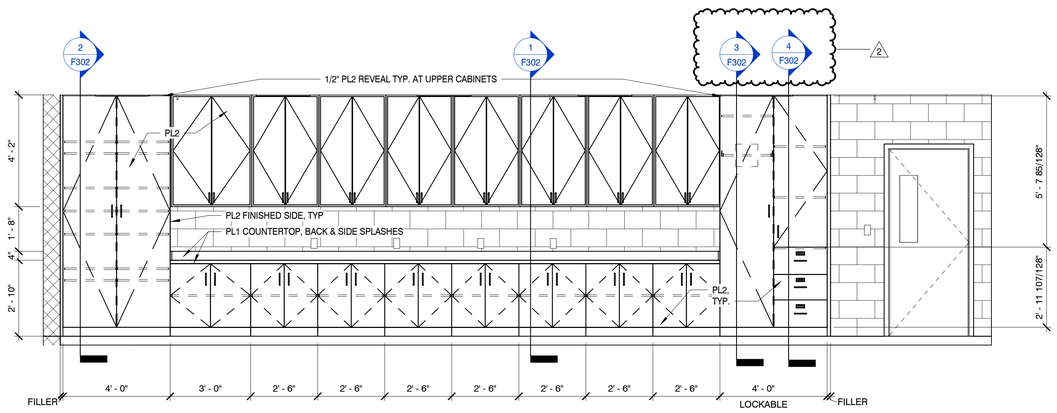


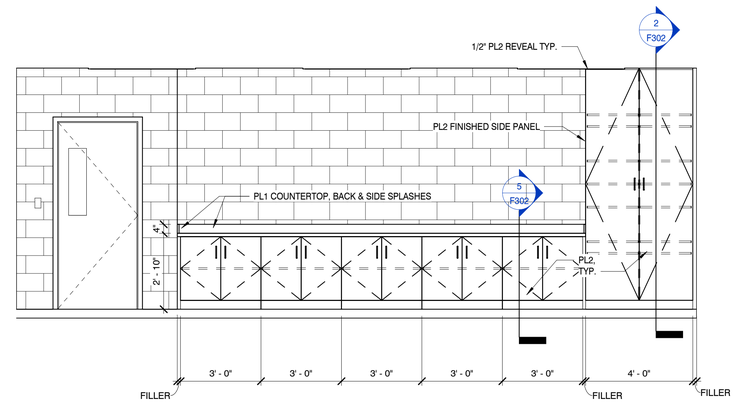
MILLWORK ELEVATION 1

SCALE : 3/8" = 1'-0"



MILLWORK ELEVATION 2

SCALE : 3/8" = 1'-0"



MILLWORK ELEVATION 3

SCALE : 3/8" = 1'-0"

GENERAL MILLWORK NOTES

1. FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SUPERVISION NECESSARY TO FABRICATE MILLWORK.
2. SEE DRAWINGS, SCHEDULES AND DETAILS FOR LOCATION, QUANTITY AND DESIGN OF MILLWORK REQUIRED.
3. MILLWORK IS DEFINED AS ALL SHOP FABRICATED CABINETRY AND COUNTERTOPS, INCLUDING THE INSTALLATION OF THEM AS NECESSARY TO COMPLETE THE WORK.
4. ALL WORK SHALL CONFORM TO THE QUALITY STANDARDS OF THE ARCHITECTURAL WOODWORK INDUSTRY (AWI) FOR CUSTOM GRADE.
5. FURNISH ALL ITEMS OF ROUGH HARDWARE AND WOOD BLOCKING OR OTHER ACCESSORIES SHOWN OR REQUIRED TO PROPERLY SECURE THE WORK IN PLACE.
6. CABINET MANF. SHALL HAVE A PROVEN HISTORY OF PRODUCING FINE QUALITY MILLWORK.
7. CONTRACTOR SHALL NOT DELIVER OR INSTALL MILLWORK UNTIL BUILDING IS ENCLOSED, WET WORK IS COMPLETE AND HVAC SYSTEM IS OPERATING AND MAINTAINING TEMPERATURE AND RELATIVE HUMIDITY AT OCCUPANCY LEVELS DURING THE REMAINDER OF CONSTRUCTION PERIOD.
8. CONTRACTOR TO FIELD VERIFY WHERE MILLWORK IS INDICATED TO FIT TO OTHER CONSTRUCTION. VERIFY DIMENSIONS AND INDICATE MEASUREMENTS ON SHOP DRAWINGS.
9. CONTRACTOR TO COORDINATE FABRICATION SCHEDULE WITH CONSTRUCTION PROGRESS TO AVOID DELAYING THE WORK.
10. CONTRACTOR TO LOCATE CONCEALED FRAMING, BLOCKING AND REINFORCEMENTS THAT SUPPORT WOODWORK BY FIELD MEASURING BEFORE BEING ENCLOSED AND INDICATE MEASUREMENTS ON SHOP DRAWINGS.
11. CONTRACTOR TO COORDINATE SIZES AND LOCATIONS OF FRAMING, BLOCKING, FURRING, REINFORCEMENTS AND OTHER RELATED UNITS OF WORK AS INDICATED TO ENSURE THAT ARCHITECTURAL WOODWORK CAN BE SUPPORTED AND INSTALLED AS INDICATED.

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CONSULTANT

SEAL

PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- ☐ FOR REVIEW ONLY
- ☐ FOR PERMITTING ONLY
- ☐ SCHEMATIC DESIGN
- ☐ DESIGN DEVELOPMENT
- ☐ CONSTRUCTION BIDDING
- ■ CONSTRUCTION DOCUMENTS
- ☐ AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION
2	03/09/2022	Addendum #2

KEY PLAN

SHEET INFORMATION

SHEET ISSUED:	02/04/2022
DESIGNED BY:	KEF
DRAWN BY:	MMW/AJA
REVIEWED BY:	CMG

SHEET TITLE:

MILLWORK ELEVATIONS

SHEET NO.:

F301

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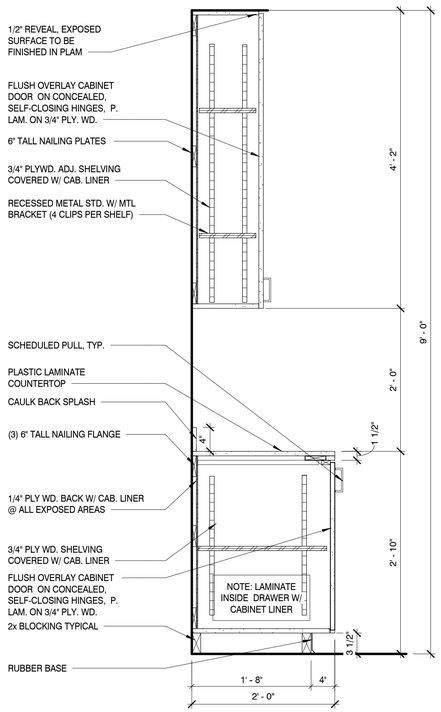
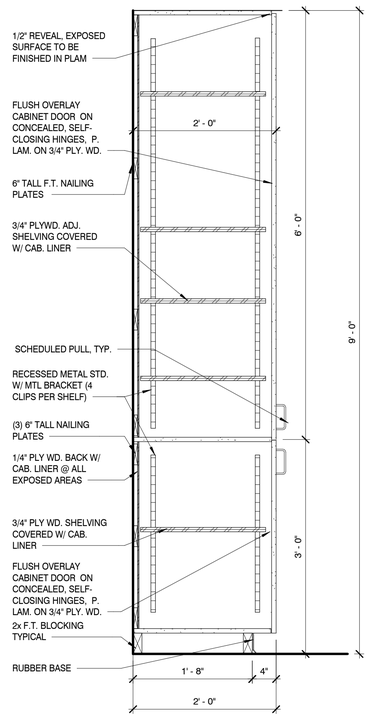


MILLWORK SECTION 1

SCALE : 1" = 1'-0"



MILLWORK SECTION 2

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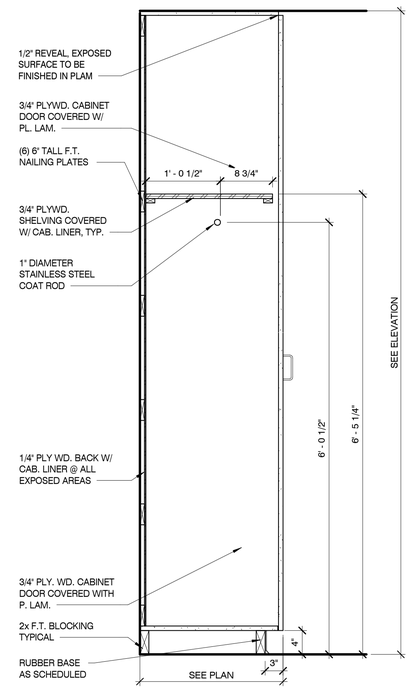
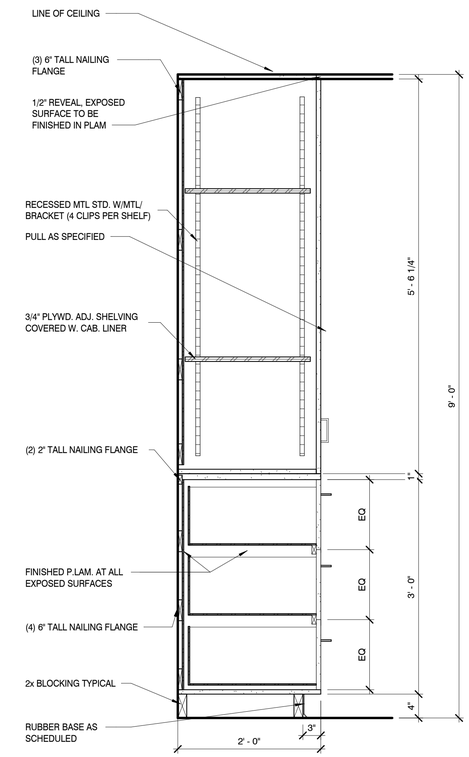


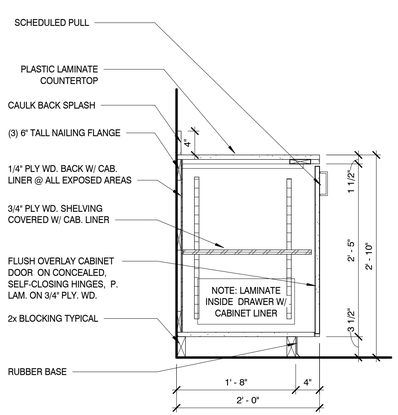
MILLWORK SECTION 3

SCALE : 1" = 1'-0"



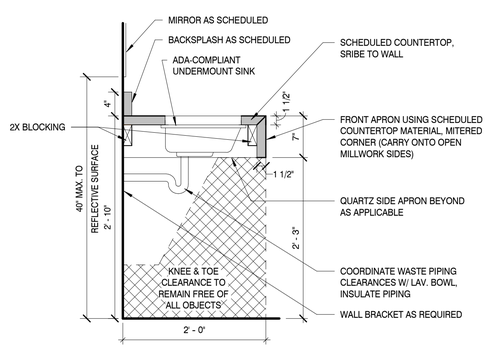
MILLWORK SECTION 4

SCALE : 1" = 1'-0"



MILLWORK SECTION 5

SCALE : 1" = 1'-0"



MILLWORK SECTION 6

SCALE : 1" = 1'-0"

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SEAL

PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- ☐ FOR REVIEW ONLY
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- ☐ SCHEMATIC DESIGN
- ☐ DESIGN DEVELOPMENT
- ☐ CONSTRUCTION BIDDING
- ■ CONSTRUCTION DOCUMENTS
- ☐ AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION
2	03/09/2022	Addendum #2

KEY PLAN

SHEET INFORMATION

SHEET ISSUED:	02/04/2022
DESIGNED BY:	KEF
DRAWN BY:	MMW/AJA
REVIEWED BY:	CMG
SHEET TITLE:	

MILLWORK DETAILS

SHEET NO.:

F302

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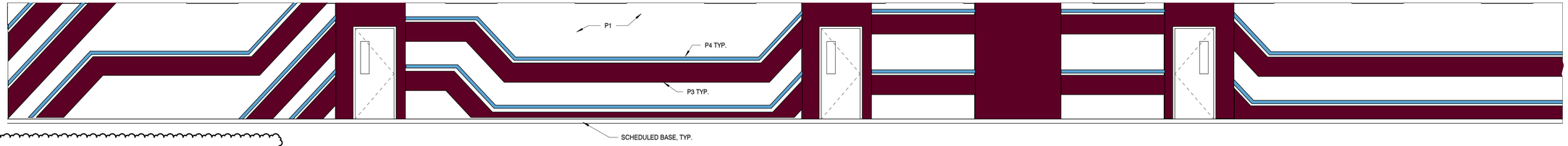
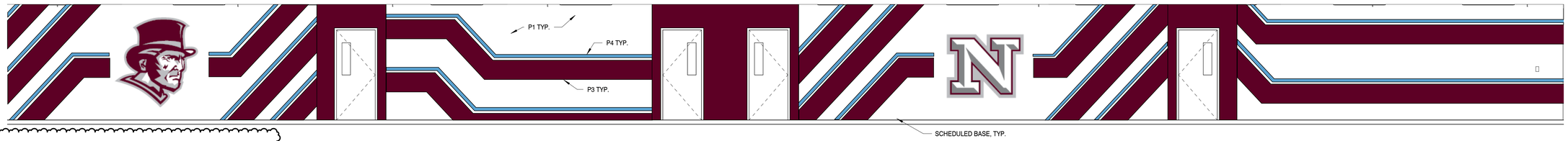


CORRIDOR NORTH ELEVATION

SCALE : 1/4" = 1'-0"

2

1

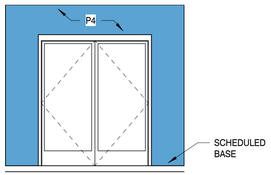


CORRIDOR SOUTH ELEVATION

SCALE : 1/4" = 1'-0"

2

2



CORRIDOR WEST ELEVATION

SCALE : 1/4" = 1'-0"

3

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MBI

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PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

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- ☐ CONSTRUCTION BIDDING
- ■ CONSTRUCTION DOCUMENTS
- ☐ AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION
2	03/09/2022	Addendum #2

KEY PLAN

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SHEET ISSUED:	02/04/2022
DESIGNED BY:	KEF
DRAWN BY:	MMW/AJA
REVIEWED BY:	CMG

SHEET TITLE:

INTERIOR ELEVATIONS

SHEET NO.:

F401

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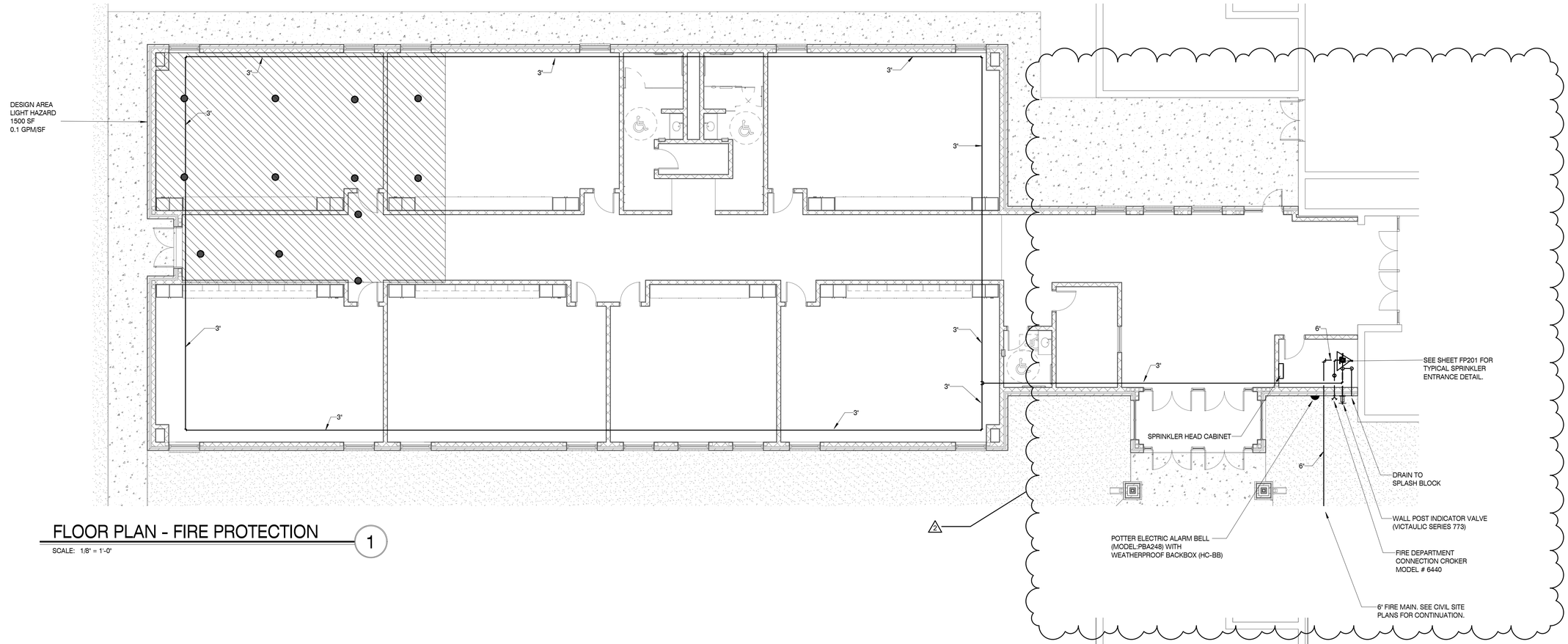
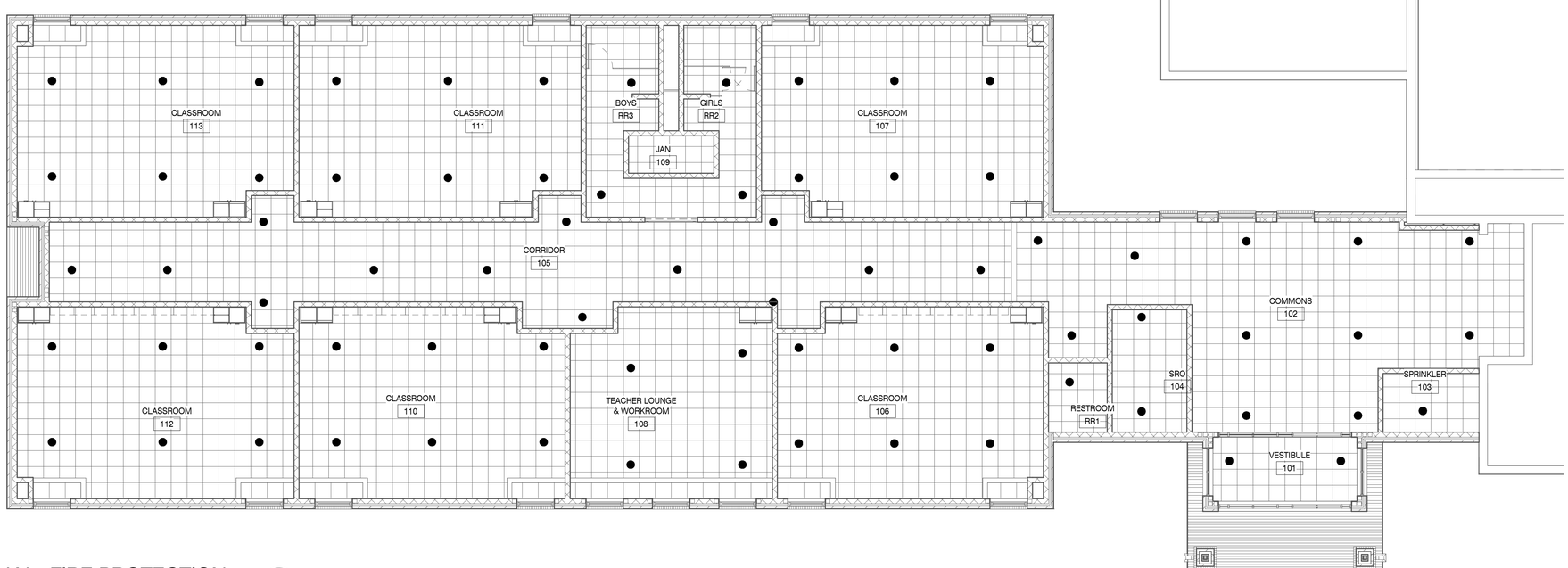


FLOOR PLAN - FIRE PROTECTION (1)

SCALE: 1/8" = 1'-0"



CEILING PLAN - FIRE PROTECTION (2)

SCALE: 1/8" = 1'-0"

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JOHN C. BUCHANAN
REGISTERED ENGINEER
AGRICULTURE
NO. 104351
STATE OF TENNESSEE
9 MAR 2022

PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

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REVISION INFORMATION

NO.	DATE	DESCRIPTION
2	3/9/22	ADDENDUM #2

KEY PLAN

SHEET INFORMATION

SHEET ISSUED:	2/4/2022
DESIGNED BY:	DF
DRAWN BY:	DF
REVIEWED BY:	JCB

SHEET TITLE:

FLOOR PLAN - FIRE PROTECTION

SHEET NO.:

FP101

ARCH D

SZVAV AIR HANDLING UNIT SEQUENCE OF OPERATION (PAU-(1-6))

BUILDING AUTOMATION SYSTEM INTERFACE:
THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER OCCUPIED BYPASS, MORNING WARM-UP / PRE-COOL, OCCUPIED / UNOCCUPIED AND HEAT / COOL MODES. IF COMMUNICATION IS LOST WITH THE BAS THE CONTROLLER SHALL OPERATE USING DEFAULT MODES AND SETPOINTS. THE BAS SHALL ALSO SEND THE CONTROLLER A DUCT STATIC PRESSURE SETPOINT, DISCHARGE AIR TEMPERATURE SETPOINT, AND VENTILATION AIRFLOW SETPOINT, EACH CALCULATED BY OPTIMIZATION ROUTINES IN THE BAS.

OCCUPIED MODE:
DURING OCCUPIED PERIODS, THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPER SHALL OPEN TO MAINTAIN THE CURRENT AIRFLOW SETPOINT. THE UNIT CONTROLLER SHALL CONTROL THE SUPPLY FAN VFD. THE DX COOLING SHALL STAGE AND GAS HEAT SHALL MODULATE TO MAINTAIN THE CURRENT DISCHARGE AIR TEMPERATURE SETPOINT. IF ECONOMIZING IS ENABLED THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN THE CURRENT DISCHARGE AIR TEMPERATURE SETPOINT.

UNOCCUPIED MODE:
WHEN THE SPACE TEMPERATURE IS BELOW THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) THE SUPPLY FAN VARIABLE FREQUENCY DRIVE (VFD) SHALL BE ENABLED AND OPERATE AS NECESSARY. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE GAS HEAT SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN AND THE GAS HEAT SHALL BE DISABLED.
WHEN THE SPACE TEMPERATURE IS ABOVE THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) THE SUPPLY FAN VARIABLE FREQUENCY DRIVE (VFD) SHALL BE ENABLED AND OPERATE AS NECESSARY, THE OUTSIDE AIR DAMPER SHALL OPEN IF ECONOMIZING IS ENABLED AND REMAIN CLOSED IF ECONOMIZING IS DISABLED AND THE DX COOLING SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) MINUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN AND THE DX COOLING SHALL BE DISABLED AND THE OUTSIDE AIR DAMPER SHALL CLOSE.

OPTIMAL START:
THE BAS SHALL MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.

MORNING WARM-UP MODE:
DURING OPTIMAL START, IF THE AVERAGE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT A MORNING WARM-UP MODE SHALL BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED THE UNIT SHALL ENABLE THE SUPPLY FAN, RETURN FAN AND HEATING. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE AVERAGE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

PRE-COOL MODE:
DURING OPTIMAL START, IF THE AVERAGE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, PRE-COOL MODE SHALL BE ACTIVATED. WHEN PRE-COOL IS INITIATED THE UNIT SHALL ENABLE THE FAN AND COOLING OR ECONOMIZER. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED, UNLESS ECONOMIZING. WHEN THE AVERAGE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

OPTIMAL STOP:
THE BAS SHALL MONITOR THE SCHEDULED UNOCCUPIED TIME, OCCUPIED SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE THE UNIT CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT.

OCCUPIED BYPASS:
THE BAS SHALL MONITOR THE STATUS OF THE "ON" AND "CANCEL" BUTTONS OF THE SPACE TEMPERATURE SENSORS. WHEN AN OCCUPIED BYPASS REQUEST IS RECEIVED FROM A SPACE SENSOR, THE UNIT SHALL TRANSITION FROM ITS CURRENT OCCUPANCY MODE TO OCCUPIED BYPASS MODE AND THE UNIT SHALL MAINTAIN THE SPACE TEMPERATURE TO THE OCCUPIED SETPOINTS (ADJ.).

COOLING MODE:
THE UNIT CONTROLLER SHALL USE THE DISCHARGE AIR TEMPERATURE SENSOR AND DISCHARGE AIR TEMPERATURE COOLING SETPOINT TO DETERMINE WHEN TO INITIATE REQUESTS FOR COOLING. DISCHARGE AIR SETPOINT SHALL BE MAINTAINED BY MODULATING THE ECONOMIZER OR STAGING THE DX COOLING AS REQUIRED TO MAINTAIN THE DISCHARGE AIR SETPOINT.

HEATING MODE:
THE UNIT CONTROLLER SHALL USE THE DISCHARGE AIR TEMPERATURE SETPOINT AND DISCHARGE AIR TEMPERATURE SENSOR TO DETERMINE WHEN TO INITIATE REQUEST FOR HEATING. WHEN THE DISCHARGE AIR TEMPERATURE FALLS 10.0 DEG. F BELOW THE DISCHARGE AIR TEMPERATURE SETPOINT, THE HEATING WILL MODULATE TO MAINTAIN THE SUPPLY AIR TEMPERATURE TO SETPOINT.

ECONOMIZER:
THE SUPPLY AIR SENSOR SHALL MEASURE THE DRY BULB TEMPERATURE OF THE AIR LEAVING THE EVAPORATOR COIL WHILE ECONOMIZING. WHEN ECONOMIZING IS ENABLED AND THE UNIT IS OPERATING IN THE COOLING MODE, THE ECONOMIZER DAMPER SHALL BE MODULATED BETWEEN ITS MINIMUM POSITION AND 100% TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. THE ECONOMIZER DAMPER SHALL MODULATE TOWARD MINIMUM POSITION IN THE EVENT THE MIXED AIR TEMPERATURE FALLS BELOW THE LOW LIMIT TEMPERATURE SETTING. COMPRESSORS SHALL BE DELAYED FROM OPERATING UNTIL THE ECONOMIZER HAS OPENED TO 100%.

FILTER STATUS:
A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES FOR 2 MINUTES AFTER A REQUEST FOR FAN OPERATION A DIRTY FILTER ALARM SHALL BE ANNUNCIATED AT THE BAS.

CAV AIR HANDLING UNIT SEQUENCE OF OPERATION (PAU-7/PAU-8)

BUILDING AUTOMATION SYSTEM INTERFACE:
THE BUILDING AUTOMATION SYSTEM (BAS) SHALL SEND THE CONTROLLER OCCUPIED BYPASS, MORNING WARM-UP / PRE-COOL, OCCUPIED / UNOCCUPIED AND HEAT / COOL MODES. IF COMMUNICATION IS LOST WITH THE BAS THE CONTROLLER SHALL OPERATE USING DEFAULT MODES AND SETPOINTS. SPACE TEMPERATURE SETPOINT, AND VENTILATION AIRFLOW SETPOINT, EACH CALCULATED BY OPTIMIZATION ROUTINES IN THE BAS.

OCCUPIED MODE:
DURING OCCUPIED PERIODS, THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR DAMPER SHALL OPEN TO MAINTAIN THE CURRENT AIRFLOW SETPOINT. THE UNIT CONTROLLER SHALL ENABLE/DISABLE THE SUPPLY FAN. THE DX COOLING SHALL STAGE AND GAS HEAT SHALL MODULATE TO MAINTAIN THE CURRENT DISCHARGE AIR TEMPERATURE SETPOINT. IF ECONOMIZING IS ENABLED THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN THE CURRENT DISCHARGE AIR TEMPERATURE SETPOINT.

UNOCCUPIED MODE:
WHEN THE SPACE TEMPERATURE IS BELOW THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL BE ENABLED. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND THE GAS HEAT SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE RISES ABOVE THE UNOCCUPIED HEATING SETPOINT OF 60.0 DEG. F (ADJ.) PLUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN AND THE GAS HEAT SHALL BE DISABLED.
WHEN THE SPACE TEMPERATURE IS ABOVE THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) THE SUPPLY FAN SHALL BE ENABLED, THE OUTSIDE AIR DAMPER SHALL OPEN IF ECONOMIZING IS ENABLED AND REMAIN CLOSED IF ECONOMIZING IS DISABLED AND THE DX COOLING SHALL BE ENABLED. WHEN THE SPACE TEMPERATURE FALLS BELOW THE UNOCCUPIED COOLING SETPOINT OF 85.0 DEG. F (ADJ.) MINUS THE UNOCCUPIED DIFFERENTIAL OF 4.0 DEG. F (ADJ.) THE SUPPLY FAN AND THE DX COOLING SHALL BE DISABLED AND THE OUTSIDE AIR DAMPER SHALL CLOSE.

OPTIMAL START:
THE BAS SHALL MONITOR THE SCHEDULED OCCUPIED TIME, OCCUPIED SPACE SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL START OCCURS.

MORNING WARM-UP MODE:
DURING OPTIMAL START, IF THE AVERAGE SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT A MORNING WARM-UP MODE SHALL BE ACTIVATED. WHEN MORNING WARM-UP IS INITIATED THE UNIT SHALL ENABLE THE SUPPLY FAN, RETURN FAN AND HEATING. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. WHEN THE AVERAGE SPACE TEMPERATURE REACHES THE OCCUPIED HEATING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

PRE-COOL MODE:
DURING OPTIMAL START, IF THE AVERAGE SPACE TEMPERATURE IS ABOVE THE OCCUPIED COOLING SETPOINT, PRE-COOL MODE SHALL BE ACTIVATED. WHEN PRE-COOL IS INITIATED THE UNIT SHALL ENABLE THE FAN AND COOLING OR ECONOMIZER. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED, UNLESS ECONOMIZING. WHEN THE AVERAGE SPACE TEMPERATURE REACHES OCCUPIED COOLING SETPOINT (ADJ.), THE UNIT SHALL TRANSITION TO THE OCCUPIED MODE.

OPTIMAL STOP:
THE BAS SHALL MONITOR THE SCHEDULED UNOCCUPIED TIME, OCCUPIED SETPOINTS AND SPACE TEMPERATURE TO CALCULATE WHEN THE OPTIMAL STOP OCCURS. WHEN THE OPTIMAL STOP MODE IS ACTIVE THE UNIT CONTROLLER SHALL MAINTAIN THE SPACE TEMPERATURE TO THE SPACE TEMPERATURE OFFSET SETPOINT.

OCCUPIED BYPASS:
THE BAS SHALL MONITOR THE STATUS OF THE "ON" AND "CANCEL" BUTTONS OF THE SPACE TEMPERATURE SENSORS. WHEN AN OCCUPIED BYPASS REQUEST IS RECEIVED FROM A SPACE SENSOR, THE UNIT SHALL TRANSITION FROM ITS CURRENT OCCUPANCY MODE TO OCCUPIED BYPASS MODE AND THE UNIT SHALL MAINTAIN THE SPACE TEMPERATURE TO THE OCCUPIED SETPOINTS (ADJ.).

COOLING MODE:
THE UNIT CONTROLLER SHALL USE THE DISCHARGE AIR TEMPERATURE SENSOR AND DISCHARGE AIR TEMPERATURE COOLING SETPOINT TO DETERMINE WHEN TO INITIATE REQUESTS FOR COOLING. DISCHARGE AIR SETPOINT SHALL BE MAINTAINED BY MODULATING THE ECONOMIZER OR STAGING THE DX COOLING AS REQUIRED TO MAINTAIN THE DISCHARGE AIR SETPOINT.

HEATING MODE:
THE UNIT CONTROLLER SHALL USE THE DISCHARGE AIR TEMPERATURE SETPOINT AND DISCHARGE AIR TEMPERATURE SENSOR TO DETERMINE WHEN TO INITIATE REQUEST FOR HEATING. WHEN THE DISCHARGE AIR TEMPERATURE FALLS 10.0 DEG. F BELOW THE DISCHARGE AIR TEMPERATURE SETPOINT, THE HEATING WILL MODULATE TO MAINTAIN THE SUPPLY AIR TEMPERATURE TO SETPOINT.

ECONOMIZER: (PAU-7 ONLY)
THE SUPPLY AIR SENSOR SHALL MEASURE THE DRY BULB TEMPERATURE OF THE AIR LEAVING THE EVAPORATOR COIL WHILE ECONOMIZING. WHEN ECONOMIZING IS ENABLED AND THE UNIT IS OPERATING IN THE COOLING MODE, THE ECONOMIZER DAMPER SHALL BE MODULATED BETWEEN ITS MINIMUM POSITION AND 100% TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. THE ECONOMIZER DAMPER SHALL MODULATE TOWARD MINIMUM POSITION IN THE EVENT THE MIXED AIR TEMPERATURE FALLS BELOW THE LOW LIMIT TEMPERATURE SETTING. COMPRESSORS SHALL BE DELAYED FROM OPERATING UNTIL THE ECONOMIZER HAS OPENED TO 100%.

FILTER STATUS:
A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE FAN IS RUNNING. IF THE SWITCH CLOSES FOR 2 MINUTES AFTER A REQUEST FOR FAN OPERATION A DIRTY FILTER ALARM SHALL BE ANNUNCIATED AT THE BAS.

EXISTING BMS FRONT END

1. THE EXISTING BMS IS AN AUTOMATED LOGIC CONTROL SYSTEM. THIS CONTROL SYSTEM SHALL TIE INTO THAT. THE CONTRACTOR SHALL PROVIDE CONTROLLERS FOR ALL UNITS WITH BACNET CONNECTIONS TO TIE INTO THE BAS FRONT END.

2

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MBI

MBI COMPANIES INC.
299 N. WEISGARBER ROAD
KNOXVILLE, TN 37919

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CONSULTANT

SEAL

JOHN C. BUCHANAN
REGISTERED ENGINEER
AGRICULTURE
ENGINEER
NO. 104351
STATE OF TENNESSEE
9 MAR 2022

PROJECT INFORMATION

PROJECT:

AN ADDITION & RENOVATION TO: NORRIS MIDDLE SCHOOL

PROJECT ADDRESS:

5 NORRIS SQUARE,
NORRIS, TN 37828

PROJECT NO.: 210042-04

ACTIVE DESIGN PHASE

- ☐ FOR REVIEW ONLY
- ☐ FOR PERMITTING ONLY
- ☐ SCHEMATIC DESIGN
- ☐ DESIGN DEVELOPMENT
- ☐ CONSTRUCTION BIDDING
- ■ CONSTRUCTION DOCUMENTS
- ☐ AS-BUILT RECORD SET

REVISION INFORMATION

NO.	DATE	DESCRIPTION
1	2/22/22	REV #1
2	3/9/22	ADDENDUM #2

KEY PLAN

SHEET INFORMATION

SHEET ISSUED:	2/4/2022
DESIGNED BY:	DF
DRAWN BY:	DF
REVIEWED BY:	JCB

SHEET TITLE:

HVAC CONTROLS

SHEET NO.:

M202