Talbott Springs Elementary School Replacement
Howard County Public School System

general contracting
construction management
design/build

To: All Plan Holders
Project: Talbott Springs Elementary School Replacement
Columbia, Maryland
Re: Addendum #4

Ladies and Gentlemen:

Enclosed herein, please find Addendum #4, dated 7/8/20.

Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bid to be considered as non-responsive.

To the Contract Drawings and Specifications for the referenced project as stated below, as prepared by TCA Architects in conjunction with Dustin Construction, Inc., this addendum includes changes and clarifications to the Contract Documents as follows:

Item:		Pages
1.	TCA Addendum #4	206
2.	Revised Section 011113 – 01A General Trades	19
3.	Revised Section 011113 – 02A Sitework	12
4.	Revised Section 011113 – 02C Demolition	3
5.	Revised Section 011113 – 04A Masonry	5
6.	Revised Section 011113 – 05A Steel	4
7.	Revised Section 011113 – 07A Roofing	3
8.	Revised Section 011113 – 08A Glass and Aluminum	3
9.	Revised Section 011113 – 15A Mechanical	9
10.	Revised Section 011113 – 16A Electrical	7
11.	Pre-Bid RFI Summary Log	9
12.	Pre-Bid RFI Responses	148

Including this cover, Addendum #4 consists of four hundred thirty-one (431) pages. Advise this office at once if any attachments are missing.

Enclosures:
Addendum #4

cc. Daniel Lubeley - Howard County Public School System
Daniel Hagan – Howard County Public School System
Robert Gill – Howard County Public School System
Douglas Pindell – Howard County Public School System
Betsy Zentz – Howard County Public School System
Robyn Toth – TCA Architects
Jim Davis – TCA Architects
Aaron Mengel – Dustin Construction
John Pickett – Dustin Construction
Lloyd Hill – Dustin Construction
File

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8 July 20

Addendum No. 4

New Talbott Springs Elementary School

Howard County Public School System
Bid Number: 056.20.B4

The following is intended to clarify, correct, revise, and restate various parts of the Drawings and Specifications all of which shall form part of this Contract.

Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bid to be considered as non-responsive.

CHANGES TO SPECIFICATIONS IN VOLUME 1:

TABLE OF CONTENTS

REMOVE 11 6813 PLAY STRUCTURES

REMOVE 32 1816 PLAYGROUND PROTECTIVE SURFACING

06 2000 FINISH CARPENTRY

REPLACE Entire section with attached specification section 06 2000, dated 8 July 20, to reflect the following change:

REVISE Line item 1.02 Scope as follows:
From: ~~Paper towel dispenser,~~ pencil sharpener and flag holder blocking as detailed
To: Pencil sharpener and flag holder blocking as detailed

REMOVE The following line item from 1.02 Scope
~~Wood blocking at exterior curtainwall and storefront window heads for venetian blinds~~

07 2200 ROOF AND DECK INSULATION

REPLACE Entire section with attached specification section 07 2200, dated 8 July 20, to reflect the following change:

REVISE Line item 1.02.A.5 for System Description to read as follows:

From: Provide ~~8~~-foot by ~~8~~-foot sumps at each drain location.

To: Provide 4-foot by 4-foot sumps at each drain location.

07 5113 BUILT-UP ASPHALT ROOFING

REPLACE Entire section with attached specification section 07 5113, dated 8 July 20, to reflect the following change:

REVISE Last sentence in Paragraph 2.1.E as follows:

From: Provide thicknesses shown on Drawings (1.5 inches total thickness, including facers) with minimum LTTR of 7.3. (Nailboard by Johns Manville, or approved equal).

To: Provide thicknesses shown on Drawings (1.5 inches total thickness, including facers) with minimum LTTR of 6.3. (ACFoam Nail Base by Atlas, or approved equal).

REVISE Last sentence in Paragraph 2.5.L as follows:

From: HSF-4848MG by Fall Protection USA, or approved equal.

To: HSF-4866MG by Fall Protection USA, or approved equal).

07 7200 ROOF ACCESSORIES

REPLACE Entire section with attached specification section 07 2200, dated 8 July 20, to reflect the following change:

REMOVE Section 2.02 Snow Guards in its entirety.

08 4113 ALUMINUM ENTRANCES AND STOREFRONTS

REPLACE Entire section with attached specification section 08 4113, dated 8 July 20, to reflect the following change:

REVISE Line item in 2.01 Aluminum storefront and curtain wall systems as follows:

From: Where indicated, aluminum storefront and curtain wall systems shall be model 1600UT aluminum curtain wall system, model Trifab 451UT ultra thermal performance storefront system, ~~and model Trifab 451non-thermal storefront system~~ as manufactured by Kawneer Company, Inc.

To: Where indicated, aluminum storefront and curtain wall systems shall be model 1600UT aluminum curtain wall system, model Trifab 451UT ultra thermal performance storefront system as manufactured by Kawneer Company, Inc.

REVISE Line item in 2.08 Sun Shade as follows:

From: Where indicated on aluminum storefront and curtain wall system elevations and floor plans, sun shade shall be Versoleil SunShade Outrigger System as manufactured by Kawneer Company, Inc. ~~Sun shade shall be attached to 1600UT curtain wall system.~~

To: Where indicated on aluminum storefront and curtain wall system elevations and floor plans, sun shade shall be Versoleil SunShade Outrigger System as manufactured by Kawneer Company, Inc.

REVISE Line item 3.02 Installation as follows:

From: Storefront and curtain wall systems shall be water tested at 12 psf. Any resulting water leaks shall be repaired to Owner's satisfaction.

To: Storefront and curtain wall systems shall be water tested according to ASTM E2128. Any resulting water leaks shall be repaired to Owner's satisfaction.

08 6000 SKYLIGHTS

REPLACE Entire section with attached specification section 08 6000, dated 8 July 20, to reflect the following change:

REVISE Line item 2.01 High Performance skylights

From: Where indicated on drawings, high performance skylights shall be Skyvault solar collector shall Model 750DS-C, as manufactured by Solatube International, Inc., (888.765.2882) or approved equal.

To: Where indicated on drawings, high performance skylights shall be SolaMaster 750 DS Closed Ceiling, as manufactured by Solatube International, Inc., (888.765.2882) or approved equal.

08 7200 WEATHERSTRIPPING & SEALS (THRESHOLDS & RAMP THRESHOLDS)

REPLACE Entire section with attached specification section 08 7200, dated 8 July 20, to reflect the following change:

REVISE Section heading on pages 2 and 4 as follows:

From: 08 5200

To: 08 7200

08 8100 GLASS GLAZING

REPLACE Entire section with attached specification section 08 8100, dated 8 July 20, to reflect the following changes:

ADD The following note to 2.01.B.1 for (Type '2') Tempered Insulating glass (Interior) :

(See 'FG' and/or 'SG' for additional information where noted as such on drawings.)

ADD The following note to 2.01.C.1 for (Type '3') Low 'E' Insulating glass (Exterior – North Facing):
(See 'FG' and/or 'SG' for additional information where noted as such on drawings.)

ADD The following note to 2.01.D.1 for (Type '4') Low 'E' Insulating glass (Exterior – South, East, West Facing):
(See 'FG' and/or 'SG' for additional information where noted as such on drawings.)

ADD The following note to 2.01.E.1 for (Type '5') Sound Control glass (Interior – Ensemble and Music room entrances):
(See 'FG' and/or 'SG' for additional information where noted as such on drawings.)

ADD The following notes to 2.02 "FG" Ceramic Fire Glass:

A. Outer pane shall be 5/16-inch, Firelite Plus. *(See other Glazing Types for additional information where Ceramic Fire Glass is required on those types.)*

B. *(See other Glazing Types for additional information where Ceramic Fire Glass is required on those types.)*

C. *(See other Glazing Types for additional information where Ceramic Fire Glass is required on those types.)*

ADD The following notes to 2.03 "SG" Security Glass

A. Outer pane shall be 1/4-inch, Ultra-Clear security glass. *(See other Glazing Types for additional information where Security Glass is required on those types.)*

B. *(See other Glazing Types for additional information where Security Glass is required on those types.)*

C. *(See other Glazing Types for additional information where Security Glass is required on those types.)*

09 6800 CARPETING

REPLACE Entire section with attached specification section 09 6800, dated 8 July 20, to reflect the following change:

REVISE Line item 2.01 Carpet

From: Where indicated, shall be Centiva PowerBond RS Vinyl Cushion Carpet tile as manufactured by Tandus or approved equal.

To: Where indicated, carpet shall be Explorer ER3 C-10 RS- PowerBond Cushion RS textile flooring tile as manufactured by Tandus or approved equal.

09 8000 ACOUSTICAL TREATMENT

REPLACE Entire section with attached specification section 09 6800, dated 8 July 20, to reflect the following changes:

REVISE The following highlighted information to 1.02 Scope:
Moisture resistant ceiling panels for Kitchen and Toilet Rooms.
Low NRC ceiling panels and gypsum board ceiling panels for Music and Ensemble room

REVISE Line item 1.08 Extra stock

From: At completion of project, deliver to Owner extra stock (600 sf) of each type of ceiling panels as described in Section 01 7000 / CONTRACT CLOSEOUT.

To: At completion of project, deliver to Owner extra stock (600 sf) of each of the following types of panels: acoustical ceiling panels,, moisture resistant ceiling panels and low frequency ceiling panels; and (60 sf) of each of the following types of panels: low NRC ceiling panels, gypsum board ceiling panels

10 2226 OPERABLE PARTITIONS

REPLACE Entire section with attached specification section 10 2226, dated 8 July 20, to reflect the following changes:

REVISE Item in 2.01 Operable walls as follows:

From: Furnish panels with one and one half panel closure method. On both sides of wall, install continuous 4'-0" high markerboards on operable partition with tackboards on remaining panel surface. Provide one recessed marker tray on both sides of wall below center markerboards. Mount bottom of markerboards and tackboards 2'-8" above finished floor

To: Furnish panels with one and one half panel closure method. On both sides of wall, install continuous 4'-0" high markerboards on operable partition with widths of 16'-0". Tackboards shall be 4'-0" high, installed on remaining panel surface directly adjacent to markerboards. Provide one recessed marker tray on both sides of wall below center markerboards. Mount bottom of markerboards and tackboards 2'-8" above finished floor.

10 4321 EVACUATION DEVICE CABINET

REPLACE Entire section with attached specification section 10 4321, dated 8 July 20, to reflect the following changes:

REVISE Item in 2.01 Evacuation device cabinets

From: Where indicated on the plans, provide eight single steel case storage device model no. MSSDSC1 as manufactured by Med Sled or approved equal.

To: Where indicated on the plans, provide four single steel case storage device model no. MSSDSC1 as manufactured by Med Sled or approved equal.

11 5213 PROJECTION SCREENS

REPLACE Entire section with attached specification section 11 5213, dated 8 July 20, to reflect the following change:

ADD Gymnasium to description throughout this section including the location where a projection screen is required.

11 6600 ATHLETIC EQUIPMENT

REPLACE Entire section with attached specification section 11 6600, dated 8 July 20, to reflect the following changes:

REVISE Line item in 2.01 Basketball Backstop Assemblies, C

From: Provide six Porter model 00201-H00, Jaypro model 503570, or Performance model 39WO goals with nylon nets and mounting accessories.

To: Provide six Performance model 5500 (or approved equal) goals with nylon nets and mounting accessories.

REVISE Line item in 2.03 Volleyball Uprights

From: Provide two Sports Imports (800.556.3198) model AL-7 "Double-D" shaped extruded aluminum volleyball uprights. Uprights shall store and set up in one piece that is no more than 89" long. Upper section shall be anodized while lower section is painted enamel. Provide three model HM50 Technora Volleyball nets, three HDNR Net Ratchets, and five FP1 three-sided upright safety pads. Provide Sports Imports DU22 upright storage cart.

To: Provide two Sports Imports (800.556.3198) model AL-7 "Double-D" shaped extruded aluminum volleyball uprights. Uprights shall store and set up in one piece that is no more than 89" long. Upper section shall be anodized while lower section is painted enamel. Provide one model HM50 Technora Volleyball net, three HDNR Net Ratchets, and two FP1 three-sided upright safety pads. Provide Sports Imports DU22 upright storage cart.

REVISE 2.02 Wall Padding

From: Where indicated, provide Porter Athletic Equipment Company model 00570 2" Fire-Retardant Super Safe wall pad with vinyl covering or equivalent as manufactured by Jaypro Sports Construction Group or Performance Sports Systems. Wall padding shall meet ASTM E-84 and NFPA 255. Flame spread shall be less than 25 and smoke development less than 450. Panels mounted to wall shall be 2'-0" wide x 6'-0" high ~~for~~

~~'Panel 1' and 2'-0" wide x 4'-8" high for 'Panel 1A'.~~ See floor plans for quantities. All pads shall be mounted on 7/16" oriented strand board backing with 1" nailing margin at top and bottom for securing to walls. Mount top of panels 6'-8" above finished floor ~~for 'Panel 1' and 5'-4" above finish floor for 'Panel 1A'.~~ See floor plans for locations. Vinyl cover colors as selected by the Architect. Hardwood corner trim is to be provided as detailed on 3/A-700. ~~Provide safety corner pads Porter Athletic Equipment model 455012 or Performance Sports Systems model 4310 to cover exposed outside corners that are below 6'-8".~~ Pads shall be 2" thick foam covered with vinyl coated fabric. Cover shall be mildew and rot resistant, fortified with an infection combating fungicide. The cover material shall be certified as flame retardant. Provide Velcro self-adhesive strips for attachment.

To: Where indicated, provide Porter Athletic Equipment Company model 00570 2" Fire-Retardant Super Safe wall pad with vinyl covering or equivalent as manufactured by Jaypro Sports Construction Group or Performance Sports Systems. Wall padding shall meet ASTM E-84 and NFPA 255. Flame spread shall be less than 25 and smoke development less than 450. Panels mounted to wall shall be 2'-0" wide x 6'-0" high. See floor plans for quantities. All pads shall be mounted on 7/16" oriented strand board backing with 1" nailing margin at top and bottom for securing to walls. Mount top of panels 6'-8" above finished floor. See floor plans for locations. Vinyl cover colors as selected by the Architect. Hardwood corner trim is to be provided as detailed on 3/A-101. Pads shall be 2" thick foam covered with vinyl coated fabric. Cover shall be mildew and rot resistant, fortified with an infection combating fungicide. The cover material shall be certified as flame retardant. Provide Velcro self-adhesive strips for attachment.

14 2000 ELEVATORS

REPLACE Entire section with attached specification section 14 2000, dated 8 July 20, to reflect the following change:

REVISE Line item 1.04.B as follows:

From: Installer: ~~The manufacturer shall install elevator.~~

To: Installer: As approved by manufacturer.

11 6813 PLAY STRUCTURES

REMOVE Entire specification section 11 6813 from the bid and construction documents.

CHANGES TO SPECIFICATIONS IN VOLUME 2:

26 0533 CONDUITS

REPLACE Entire section with attached specification section 26 0533, dated 8 July 20, to reflect the following change:

REVISE Paragraph 3.10.A.1 as follows:

A. IMC with screw joint couplings:

1. Conduits **3** ~~300~~ inch (76-mm) size and larger.

REVISE Paragraph 3.10.C to read as follows:

C. Plastic with solvent cement joints:

1. For exterior circuits, directly buried, except first five feet from building.
2. ~~Where noted~~ Under concrete slab, concrete encased.
3. ~~Where noted~~ Under concrete slab, direct buried.
4. For concrete encased duct banks.

26 0936 STAND-ALONE MODULAR LIGHTING CONTROLS

REPLACE Entire section with attached specification section 26 0936, dated 8 July 20, to reflect the following change:

ADD Paragraph 2.5.D as follows:

D. Infrared Partition Sensors: Provide contact closure based on status of the partition wall (open/close) enabling automatic linking of controls.

27 4000 IP VIDEO DISTRIBUTION SYSTEM

REPLACE Entire section with attached specification section 27 4000, dated 8 July 20, to reflect the following changes:

REVISE 2.03.A.8.a as follows:
From: Crestron DM-XIO-DID-160
To: Crestron DM-XIO-DIR-160

REMOVE 2.03.A.9.a as follows:

REVISE 2.03.A.8.b as follows:
From: b. Crestron DMF-CI-8
i. Minimum quantity two (2)
To: a. Crestron DMF-CI-8
i. Minimum quantity two (2)

28 3100 STAND-ALONE MODULAR LIGHTING CONTROLS

REPLACE Entire section with attached specification section 28 3100, dated 8 July 20, to reflect the following change:

REMOVE Paragraph 2.14.D Type MC fire alarm cable.

32 1816 PLAYGROUND PROTECTIVE SURFACING

REMOVE Entire specification section 32 1816 from the bid and construction documents.

CHANGES TO DRAWINGS IN VOLUME 1:

C-4 SITE PLAN

REPLACE Entire drawing with attached C-4 SITE PLAN, dated 8 July 20, to reflect the following changes:

ADD Piping from roof drains.
REVISE Location of M-5.
REMOVE Connections to I-4 and I-5.
REVISE Location of R-6.
ADD Junction Boxes installed under summer work that are not in this contract
REVISE Location of I-5 and piping to go to new M-4.
REVISE Alignment of piping from Trench Drain 2 to M-4 (added) to R-5.
REVISE Focal Point and R-Tank layout in BMP#6 and associated labeling.
REVISE Underdrain and overdrain layout in BMP #1 & #2.
ADD Gabion Forebay to BMP #5 and revise overdrain.
REVISE Grade on outside embankment slope of BMP#1.

C-5 GEOMETRY PLAN

REPLACE Entire drawing with attached C-5 GEOMETRY PLAN, dated 8 July 20, to reflect the following changes:

ADD Piping from roof drains.
REVISE Location of M-5.
REMOVE Connections to I-4 and I-5.
REVISE Location of R-6.
ADD Junction Boxes installed under summer work that are not in this contract
REVISE Location of I-5 and piping to go to new M-4.
REVISE Alignment of piping from Trench Drain 2 to M-4 (added) to R-5.
REVISE Focal Point and R-Tank layout in BMP#6 and associated labeling.
REVISE Underdrain and overdrain layout in BMP #1 & #2.
ADD Gabion Forebay to BMP #5 and revise overdrain.

C-6 SEDIMENT AND EROSION CONTROL PLAN PHASE 1

REPLACE Entire drawing with attached C-6 SEDIMENT AND EROSION CONTROL PLAN PHASE 1, dated 8 July 20, to reflect the following changes:

REVISE Grade on outside embankment slope of BMP#1.
REVISE Location of M-5.

C-8 SEDIMENT AND EROSION CONTROL PLAN PHASE 2

REPLACE Entire drawing with attached C-8 SEDIMENT AND EROSION CONTROL PLAN PHASE 2, dated 8 July 20, to reflect the following changes:

ADD Piping from roof drains.
REVISE Location of M-5.
REMOVE Connections to I-4 and I-5.
REVISE Location of R-6.
ADD Junction Boxes installed under summer work that are not in this contract
REVISE Location of I-5 and piping to go to new M-4. Revise alignment of piping from Trench Drain 2 to M-4 (added) to R-5.
REVISE Grade on outside embankment slope of BMP#1.
ADD Draw Downs to Sediment Traps 1 & 2 and baffles to Sediment Traps 2 & 3.

C-9 SEDIMENT AND EROSION CONTROL PLAN PHASE 3

REPLACE Entire drawing with attached C-9 – SEDIMENT AND EROSION CONTROL PLAN PHASE 3, dated 8 July 20, to reflect the following changes:

ADD Piping from roof drains.
REVISE Location of M-5.
REMOVE Connections to I-4 and I-5.
REVISE Location of R-6.
ADD Junction Boxes installed under summer work that are not in this contract
REVISE Location of I-5 and piping to go to new M-4. Revise alignment of piping from Trench Drain 2 to M-4 (added) to R-5.
REVISE Grade on outside embankment slope of BMP#1.
ADD Draw Downs to Sediment Traps 1 & 2 and baffles to Sediment Traps 2 & 3.

C-14 STORM DRAIN PROFILES, DETAILS, AND STRUCTURE SCHEDULE

REPLACE Entire drawing with attached C-14 STORM DRAIN PROFILES, DETAILS, AND STRUCTURE SCHEDULE, dated 8 July 20, to reflect the following changes:

REVISE Profile E-1 to M-5.
REVISE Profile Existing M-2 to R-1.
REVISE Profile Existing M-7 to R-6.
REVISE Profile Trench Drain 2 to R-5.
REVISE Structure Schedule.
ADD Gabion Weir Schedule.

C-17 SWM PROFILES, DETAILS, AND STRUCTURES

REPLACE Entire drawing with attached C-17 SWM PROFILES, DETAILS, AND STRUCTURES, dated 8 July 20, to reflect the following changes:

REVISE BMP#1 and BMP#2 cross piping removed.
REMOVE Microbioretention Table.

C-18 SWM PROFILES

REPLACE Entire drawing with attached C-18 SWM PROFILES, dated 8 July 20, to reflect the following changes:

REVISE BMP#6 Profile.
ADD 15" RCP inv into R-5 to BMP#5 Underdrain Profile.

C-19 BMP's #1 - #7 PLANTING PLANS

REPLACE Entire drawing with attached C-19 BMP's #1 - #7 PLANTING PLANS, dated 8 July 20, to reflect the following changes:

REVISE BMP#6 Planting and Planting Schedule.
ADD Profiles Existing M-2 to R-1 and Existing M-7 to R-6 showing draw down details for Sediment Traps 1 and 3.

C-21 DETAIL SHEET

REPLACE Entire drawing with attached C-21 DETAIL SHEET, dated 8 July 20, to reflect the following changes:

ADD Typical roadway section for Whiteacre Road.

A-100 WALL TYPES

REPLACE Entire drawing with attached A-100 WALL TYPES, dated 8 July 20, to reflect the following change:

REPLACE Detail E7 with E5 as shown.

A-102 FLOOR PLAN - FIRST FLOOR - AREA 'B'

REPLACE Entire drawing with attached A-102 FLOOR PLAN - FIRST FLOOR - AREA 'B', dated 8 July 20, to reflect the following change:

REVISE Display case references in Corridor B012 to read as follows:
From: D1
To: **D3**

REVISE Note in EARLY CHILDHOOD PLAY AREA as follows:

From: RUBBERIZED PLAY SURFACE
To: RUBBERIZED PLAY SURFACE **BY OTHERS**

A-102A DIMENSION PLAN - FIRST FLOOR - AREA 'B'

REPLACE Entire drawing with attached A-102A DIMENSION PLAN - FIRST FLOOR - AREA 'B', dated 8 July 20, to reflect the following change:

REVISE Note in EARLY CHILDHOOD PLAY AREA as follows:
From: RUBBERIZED PLAY SURFACE
To: RUBBERIZED PLAY SURFACE **BY OTHERS**

A-104 FLOOR PLAN - SECOND FLOOR - AREA 'B'

REPLACE Entire drawing with attached A-104 FLOOR PLAN - SECOND FLOOR - AREA 'B', dated 8 July 20, to reflect the following changes:

ADD Hollow metal frame designation to frame '12' in Stair A BA22 and Stair D BD22.

A-203 ROOF PLAN AREA 'C'

REPLACE Entire drawing with attached A-203 ROOF PLAN AREA 'C', dated 8 July 20, to reflect the following changes:

REVISE Typical skylight detail 7/A-203 TYPICAL HIGH PERFORMANCE SKYLIGHT DETAIL.

A-311 REFLECTED CEILING PLAN - FIRST FLOOR - AREA 'A'

REPLACE Entire drawing with attached A-311 REFLECTED CEILING PLAN - FIRST FLOOR - AREA 'A', dated 8 July 20, to reflect the following changes:

ADD Exit lights to Platform A118 to coordinate with the electrical drawings.

A-413 EAST-FACING ELEVATIONS

REPLACE Entire drawing with attached A-413 EAST-FACING ELEVATIONS, dated 8 July 20, to reflect the following changes:

REVISE Elevation 1A/A-413 FENCING ELEVATION.

A-416 WEST-FACING ELEVATIONS

REPLACE Entire drawing with attached A-416 WEST-FACING ELEVATIONS, dated 8 July 20, to reflect the following changes:

DELETE Speaker from Stair D to coordinate with the telecommunication drawings.

A-421 MASONRY DETAILS

REPLACE Entire drawing with attached A-421 MASONRY DETAILS, dated 8 July 20, to reflect the following changes:

ADD Detail 4/A-421 SLOPED CONCRETE CURB DETAIL and 5/A-421 EARLY CHILDHOOD PLAY AREA AXON.

A-512 WALL SECTIONS

REPLACE Entire drawing with attached A-512 WALL SECTIONS, dated 8 July 20, to reflect the following changes:

REVISE Note for prefinished aluminum standing seam siding on details 2 and 3.

A-514 WALL SECTIONS

REPLACE Entire drawing with attached A-514 WALL SECTIONS, dated 8 July 20, to reflect the following changes:

REVISE Note for prefinished aluminum standing seam siding on detail 2.

A-600 DOOR SCHEDULE

REPLACE Entire drawing with attached A-600 DOOR SCHEDULE, dated 8 July 20, to reflect the following changes:

REVISE Frame type for door 100A to read as follows:
From: 6
To: **1**

REVISE Frame type for doors 120A, 120F and 120J to read as follows:
From: B
To: **F**

REVISE Frame type for doors 131 and 131E to read as follows:
From: A
To: **D**

REVISE Door thickness for doors 131 and 131E to read as follows:
From: 1 3/4"
To: **2"**

REVISE Door material for doors 131 and 131E to read as follows:
From: WP
To: **ALM**

A-610 HOLLOW METAL FRAME ELEVATIONS

REPLACE Entire drawing with attached A-610 HOLLOW METAL FRAME ELEVATIONS, dated 8 July 20, to reflect the following change:

ADD Elevation 'F' to 1/A-610 DOOR TYPES.

A-611 INTERIOR ALUMINUM STOREFRONT SYSTEM ELEVATIONS

REPLACE Entire drawing with attached A-611 INTERIOR ALUMINUM STOREFRONT SYSTEM ELEVATIONS, dated 8 July 20, to reflect the following change:

REVISE Graphic representation of vertical mullion at Frame '7' on 1/A-611 ALUMINUM STOREFRONT SYSTEM ELEVATIONS.

A-612 EXTERIOR ALUMINUM FRAME ELEVATIONS

REPLACE Entire drawing with attached A-612 EXTERIOR ALUMINUM FRAME ELEVATIONS, dated 8 July 20, to reflect the following change:

REVISE Graphic representation of vertical mullion at Frame 'K' on 2/A-612 EXTERIOR ALUMINUM STOREFRONT ELEVATIONS.

A-880 SITE PAVING PLAN

REPLACE Entire drawing with attached A-880 SITE PAVING PLAN, dated 8 July 20, to reflect the following change:

REVISE Note in EARLY CHILDHOOD PLAY AREA as follows:
From: RUBBERIZED PLAY SURFACE
To: RUBBERIZED PLAY SURFACE **BY OTHERS**

ADD Detail reference 5/A-421to early childhood play area.

A-900 FINISH SCHEDULE

REPLACE Entire drawing with attached A-900 FINISH SCHEDULE, dated 8 July 20, to reflect the following changes:

REVISE Flooring reference for room B D11 Stair D to read as follows:
From: CAR-3 / PT-2
To: CAR-**2** / PT-2

A-910 FLOOR FINISH PLANS

REPLACE Entire drawing with attached A-910 FLOOR FINISH PLANS, dated 8 July 20, to reflect the following changes:

REVISE Graphics for wood flooring for 3/A-910 TERRAZZO THRESHOLD PLAN DETAIL to coordinate with specified product.

A-911 FLOOR FINISH PLANS

REPLACE Entire drawing with attached A-911 FLOOR FINISH PLANS, dated 8 July 20, to reflect the following changes:

REVISE Graphics for wood flooring for 8/A-911 WOOD FLOOR AT INTERIOR DOOR, 11/A-911 THRESHOLD DETAIL AT INTERIOR DOOR and 12/A-911 WOOD FLOORING DETAIL to coordinate with specified product.

R-2 ROOF DETAILS

REPLACE Entire drawing with attached R-2 ROOF DETAILS, dated 8 July 20, to reflect the following change:

REVISE Noting for snow guard for 1/R-2 METAL ROOF EAVE AND GUTTER DETAIL.

From: 2-Pipe Snow Guard System…
To: 3-Pipe Snow Guard System…

R-4 ROOF DETAILS

REPLACE Entire drawing with attached R-4 ROOF DETAILS, dated 8 July 20, to reflect the following changes:

REVISE Detail 4/R-4 METAL ROOF RAKE DETAIL to show plywood sheathing and self-adhering underlayment between metal wall panels and metal wall framing.

CHANGES TO DRAWINGS IN VOLUME 2:

S-403 ROOF FRAMING DETAILS

REPLACE Entire drawing with attached S-403 ROOF FRAMING DETAILS, dated 8 July 20, to reflect the following changes:

REVISE Detail 1 to show the correct call out.
REVISE Location of fero clip and standard clip noting on detail 2.
REVISE Note for clip angle to "fero clip" for fire wall construction on details 3 and 4.

M-200 ROOF PLAN

REPLACE Entire drawing with attached M-200 ROOF PLAN, dated 8 July 20, to reflect the following change:

REVISE Detail 3 revised to remove requirement for flashing the pipe support into the roof.

M-700 ATC SEQUENCES

REPLACE Entire drawing with attached M-700 ATC SEQUENCES, dated 8 July 20, to reflect the following change:

REVISE Detail 3 revised to remove requirement for flashing the pipe support into the roof.

E-001 ELECTRICAL SYMBOLS AND ABBREVIATIONS

REPLACE Entire drawing with attached E-001 ELECTRICAL SYMBOLS AND ABBREVIATIONS, dated 8 July 20, to reflect the following changes:

REVISE Receptacle descriptions to include tamper resistant requirements.
ADD Key switch for motorized curtains and backboards.

E-101 FLOOR PLAN - FIRST FLOOR - AREA 'A' - LIGHTING

REPLACE Entire drawing with attached E-101 FLOOR PLAN - FIRST FLOOR - AREA 'A' - LIGHTING, dated 8 July 20, to reflect the following changes:

REVISE Fixture in room A115 as follows:

From: A1E
To: **A1**

E-201 FLOOR PLAN - FIRST FLOOR - AREA 'A' - POWER

REPLACE Entire drawing with attached E-201 FLOOR PLAN - FIRST FLOOR - AREA 'A' - POWER, dated 8 July 20, to reflect the following changes:

ADD Power connections and control switches for motorized backboards.

E-206 PART PLANS - POWER

REPLACE Entire drawing with attached E-206 PART PLANS - POWER, dated 8 July 20, to reflect the following changes:

REVISE Quantity of outlets called out in part plan 4.

E-502 ELECTRICAL DETAILS AND DRAWINGS

REPLACE Entire drawing with attached E-502 ELECTRICAL DETAILS AND DRAWINGS, dated 8 July 20, to reflect the following changes:

REVISE Detail 1 revised callout as follows:

From: 4" conduit
To: **5"** conduit

E-602 PANEL SCHEDULES

REPLACE Entire drawing with attached E-602 PANEL SCHEDULES, dated 8 July 20, to reflect the following changes:

ADD Circuits for motorized backboards to panel R1A2.
REVISE Main bus size on panel R1A2 as follows:

From: 100A
To: **225A**

END OF ADDENDUM NO. 4

Attachments

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1.00 GENERAL

1.01 Description

Work includes all labor, materials, equipment, and services required for the installation of finish carpentry as indicated or required.

1.02 Scope

Work includes, but is not limited to:

Finished plywood

Plastic laminate countertops as indicated

Built-in counters, shelving, and other millwork items indicated

Pencil sharpener and flag holder blocking as detailed

Wood stairs at front of platform in Cafetorium

Finished trim as indicated

Plastic grommets as indicated at countertops

Cord management tray as indicated at casework

Installation of Owner furnished pencil sharpeners

~~Wood blocking at exterior curtainwall and storefront window heads for venetian blinds~~

Gym wall pad trim

Coat hooks and coat rods in closets

Solid polymer sills and stools

Display case shelving

1.03 Related work specified under other Sections

Where items are required to be installed as part of or in conjunction with Finish Carpentry but are not specifically described in this Section, the items will be furnished as described in other Sections. Cooperate as necessary with other trades.

1.04 Submittals

Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

A. Product Data: Submit copies of product data showing that lumber products meet the requirements specified. Each product shall be identified with its intended use or application.

B. Manufacturer's Descriptive Literature: Submit literature for plastic grommets, coat hooks, coat rods and accessories.

C. Shop Drawings: Submit complete shop and installation drawings indicating layout of joints, details of construction and connections of all items to be performed under this Section.

D. Color Samples: Submit plastic laminate color samples to Architect for countertop color

selections. Submit samples of all finish wood materials including transparent finishes.

1.05 LEED requirements

A. MRc2 - BPDO – Environmental Product Declaration

Some specified materials have EPDs or other documentation that contributes to this credit. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

B. MRc3 - BPDO – Sourcing of Raw Materials - Recycled Content

Some specified materials contain percentages of post-consumer and pre-consumer waste materials. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

C. MRc3 - BPDO – Sourcing of Raw Materials - Regional Materials

Some specified building materials are extracted, harvested, recovered, and manufactured within a radius of 100 miles of the project site. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

D. MRc3 - BPDO – Sourcing of Raw Materials - Certified Wood

Some specified building materials are certified in accordance with the Forest Stewardship Council's principles and criteria for wood building components. Contractor shall provide LEED credit verification per Section 01 3300 / SUBMITTAL PROCEDURES.

E. EQc2 – Low-Emitting Materials

1. Sealants and Adhesives

All sealants, adhesives, and sealant primers used on the building (interior and exterior) must meet or exceed the product requirements defined in the applicable LEED reference guide and its amendments. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

2. Composite Wood and Agrifiber Products

All composite wood and agrifiber products installed in the building shall meet or exceed the testing and product requirements defined in the applicable LEED reference guide and its amendments. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTALS PROCEDURES

3. Paints and Coatings

Paints must meet or exceed the VOC content limits required by the LEED reference guide for this credit. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

1.06 Codes and standards

All materials and procedures of this Section shall conform to requirements of the following:

A. Millwork Standards: Comply with American Woodwork Institute's "Quality Standards Illustrated", grades as specified.

B. Plywood Standards: Comply with U. S. Product Standard PS 1 Group 1 and specific grading requirements of American Plywood Association.

1.07 Product handling

A. Protect finish carpentry items during transit, delivery, storage, and handling to prevent damage, soiling, and deterioration. Store all materials in such a manner as to ensure proper ventilation and to protect against damage and the weather. Keep all material clearly identified with all grade marks legible. Keep all damaged material clearly identified as damaged and separately stored to prevent its inadvertent use. Do not allow the installation of damaged material. Take all means necessary to prevent damage to the installed work of other trades, and to carpentry before, during, and after installation. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

B. Do not install finish carpentry until installation of tile, grout, wet work, and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas.

C. Maintain temperature and humidity as required until woodwork receives specified finishes.

2.00 PRODUCTS

2.01 Finish lumber

Finish lumber shall be of nominal sizes shown on drawings. Grade shall be custom unless otherwise indicated. Species shall be Ponderosa Pine or Yellow Poplar unless otherwise indicated.

2.02 Moisture content

Finish carpentry and woodwork shall be kiln-dried to an average moisture content within the following ranges or as otherwise recommended by applicable Quality Standards for the regional climatic conditions involved:

Exterior woodwork	9% to 12%
Interior woodwork	6% to 11%

2.03 Finish plywood

A. Unless otherwise noted, plywood for built-in units and shelving shall be Birch faced (both sides) plywood conforming with AWI 'N' Grade (Cabinet Grade) requirements with "Select White" Yellow Birch edging.

B. Use exterior grade plywood for all plastic laminate covered counters with sinks. At counters without sinks and where not specifically noted to be plywood, substrate for plastic laminate covered counters shall be particleboard with no added urea-formaldehyde binders. Nylon mounting clips at 16" o.c. for attaching backsplash to countertop may be submitted for approval.

2.04 Carpentry for transparent finish

Refer to the definitions in AWI Section 400 for the following:

A. Exposed portions: Provide solid wood and plywood (or plywood substitutes) meeting the requirements for AWI Custom Grade, species and veneer as specified or indicated.

B. Semi-Exposed portions: Provide materials meeting the requirements for AWI Custom Grade.

C. Concealed portions: Provide sound materials of any wood species.

2.05 Plastic laminate

A. Laminated plastics shall be general purpose grade "Formica" by Formica Corp., "Wilsonart" by Ralph Wilson Plastics Co., or "Nevamar" by Nevamar Corporation. Color and textures to be as indicated or as selected by Architect. Comply with applicable requirements of NEMA publication LD3. Cover all edges unless otherwise noted. Top surface of countertops shall overlap vertical edge pieces.

B. Unless otherwise indicated plastic laminate thicknesses and types shall be as follows:

1. Horizontal Surfaces: NEMA General-Purpose Type, nominal 0.048" thickness.

2. Post-Formed Surfaces: NEMA Post-Forming Type, nominal 0.039" thickness.

3. Vertical Surfaces: NEMA Vertical-Surface Type, nominal 0.027" thickness.

Provide plastic laminate backing at all surfaces including undersides of all items indicated to receive plastic laminate finish and all surfaces at which a sink is installed.

2.06 Coat hooks and coat rods

Wall mounted helmet hooks and coat hooks shall be Model 923 aluminum hooks with a black anodized finish as manufactured by Raymond Engineering, Inc. (800.365.5770) or approved equal. Coat rods shall be 1" diameter, .074" wall thickness heavy gage round steel polished chrome tube (Outwater #TUB-1-26). Support each end of coat rod tube using closed two-piece concealed fastener mounting flange (Outwater #FLA-3369-1). Contact Outwater Hardware Corporation, Lincoln Park, NJ (800.631.2443), www.outwater.com.

2.07 Plastic grommets

Plastic grommets shall be 2⅜" diameter, requiring a 2" diameter bore hole, and shall be provided as indicated on details. Grommets shall be type TG as manufactured by Doug Mockett and Company (800.523.1269), or approved equal. Architect shall select grommet colors from manufacturer's full line of colors.

2.08 Cord management tray

Plastic cord management tray shall be provided as indicated on details. Tray shall be WM9 as manufactured by Doug Mockett and Company (800.523.1269) or approved equal.

2.09 Solid polymer sills

Solid polymer sills and stools shall be "Corian" components as manufactured by DuPont Company or approved equal. Solid polymer shall be cast, non-porous, filled polymer, not coated, laminated or of composite construction; with through-body colors meeting ANSI A124.3 or AMSI Z124.6, having minimum physical and performance properties specified. Superficial damage to a depth of 0.010" shall be capable of being repaired by sanding and/or polishing. Sills and stools shall be 1/2" thick, depth shall be as required on the drawing. Length shall be provided in longest length possible. Where joints are required, joints shall occur centered on vertical mullions. All exposed edges shall be eased and corners to be rounded to a ¼" radius. Field verify all dimensions.

3.00 EXECUTION

3.01 Installation conditions

A. Prior to the work of this Section, carefully inspect the installed work of other trades and verify that all such work has been so installed to allow finish carpentry to be installed as required.

B. Notify Construction Manager in writing of any unsatisfactory conditions. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to Architect.

C. Advise Construction Manager of temperature and humidity requirements for woodwork installation areas. Do not install woodwork until required temperature and relative humidity have been stabilized in installation areas.

3.02 Preparation

Condition interior woodwork to average prevailing humidity conditions in installation areas prior to installing.

3.03 Edging of exposed plywood

Unless otherwise noted all exposed edges of plywood shall be edged with square hardwood edging, same thickness and width as plywood.

3.04 Finish carpentry

A. All work shall comply with applicable AWI Custom Grade requirements. Where surfaces are indicated to be painted, back prime materials prior to installation.

B. All finish carpentry shall produce joints true, tight, and well nailed with all members assembled in accordance with the drawings. Set all exposed nails to receive putty. Fabricate all joints to conceal shrinkage. Miter all exterior corners; cope all interior corners; miter or scarf all end-to-end joints.

C. Assemble and install with all work free of machine and tool marks. All nail heads set to putty. Screw heads set and filled with hardwood dowels.

D. Install all trim in pieces as long as possible, jointing only where solid support is obtained. Provide profile ends where trim, bases, etc. stop without abutting other surfaces. Nail trim with finish nails of proper dimension to hold the member firmly in place without splitting the wood. Back prime all trim before installation.

E. Install all items straight, true, level, plumb, and firmly anchored in place. Where blocking or backing is required, coordinate as necessary with other trades to ensure placement of blocking and backing in a timely manner. Shim as required using concealed shims.

F. Install all millwork straight, true, level, plumb, and securely anchored in place. Scribe and closely fit to adjacent work. Conceal all fastenings. Install all countertops with tightly fitting connections to walls and cabinets. Where applicable install millwork directly to concrete floors. Cut out flooring materials as required for installation.

G. Where not indicated, concealed framing shall be appropriately sized 2 x lumber with spacing not exceeding 16" o.c. Provide wood grounds where required for other trades.

3.05 Plastic laminate installation

A. Cut openings in plastic laminate finished tops for equipment which is to be installed under other Sections of these specifications. Verify size of opening with actual size of equipment to be used, prior to making openings. Form inside corners to a radius of not less than ⅛". After sawing, rout and file cutouts to ensure smooth, crack-free edges. Seal exposed edges after cutting with a waterproofing material recommended by the plastic laminate manufacturer.

B. Secure counters and other plastic laminate covered items to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Scribe and cut for accurate fit to other finished work.

3.06 Pegboard installation

A. Install pegboard with chromium plated steel round-head bolts or other fasteners capable of supporting board when loaded at 25psf of board.

B. Install pegboard with spacers to allow insertion and removal of hooks and accessories.

C. Install round trim 6mm (1/4") at perimeter to finish with face of pegboard and wall.

3.07 Installation of accessories

Install all accessories in strict accordance with the manufacturer's instructions, taking special care to install firmly and securely with all anchors drawn up tight.

3.08 Finishing

Sand all finished wood surfaces thoroughly as required to produce a uniformly smooth surface, always sanding in direction of the wood grain. No coarse grained sandpaper mark, hammer mark, or other imperfection will be permitted.

3.09 Cleaning up

Keep the premises in a neat, safe and orderly condition at all times during progress of this portion of the work. Do not allow the accumulation of sawdust, cut ends or debris. At the end of each working day, or more often if required for safety, thoroughly sweep all surfaces where refuse has settled and remove the refuse to the area designated for its storage. At completion of this portion of the work, thoroughly broom clean all surfaces of the interior and clean exposed surfaces of millwork.

END OF SECTION

1.00 GENERAL

1.01 Summary

A. This section specifies requirements for the following Scope of Work:

1. Provide tapered and flat thermal insulation and cover board.
2. Provide insulation crickets, fillers, and cants.
3. Provide insulation and EPDM coverings on exterior ductwork.

1.02 System Description

A. Tapered Insulation System:

1. Provide minimum average R-Value of 30 throughout roof areas.
2. Maintain constant perimeter height at roof edges where applicable.
3. Utilize drain locations as indicated on Drawings.
4. Provide crickets and saddles between interior drainage points. Cricket width shall be as required to provide positive slope to drain but in no case less than 8-foot wide unless specifically indicated otherwise.
5. Provide 4-foot by 4-foot sumps at each drain location.

1.03 LEED Requirements

A. MRc2 - BPDO – Environmental Product Declaration

Some specified materials have EPDs or other documentation that contributes to this credit. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

B. MRc3 - BPDO – Sourcing of Raw Materials - Recycled Content

Some specified materials contain percentages of post-consumer and pre-consumer waste materials. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

C. MRc3 - BPDO – Sourcing of Raw Materials - Regional Materials

Some specified building materials are extracted, harvested, recovered, and manufactured within a radius of 100 miles of the project site. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

D. EQc2 – Low-Emitting Materials – Sealants and Adhesives

All sealants, adhesives, and sealant primers used on the building must meet or exceed the product requirements defined in the applicable LEED reference guide and its amendments. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

1.04 Submittals

A. Product Data: For each product indicated in Part 2 of this Section.

B. Manufacturer's tapered insulation/cricket plan, minimum 2-feet by 3-feet.

1. Outline of roof area with drain and major penetration locations.

2. Profile of tapered sections.

3. Average R-value of system.

C. Certifications: Provide documentation for requirements described in Paragraph 1.4, Qualify Assurance.

D. Insulation attachment pattern: Provide Drawing showing typical fastener pattern and frequency at field, corners, and edges.

1.05 Quality Assurance

A. Fire-Test-Response Characteristics: Provide insulation and related materials with fire- test response characteristics indicated, as determined by testing identical products per ASTM E 84 for surface-burning characteristics, by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

B. NO hot asphalt work will be permitted on the premises during normal school hours or when the school is occupied by teachers/students unless a specific waiver was granted by HCPSS.

C. Securement: Fasten or secure components of system to meet or exceed requirements of FMG Data Sheets 1-28 and 1-29. Comply with requirements to achieve wind uplift rating of 1-75.

D. insulation products incorporated into roof system shall be included in roof membrane manufacturer's system warranty. Provide documentation from membrane manufacturer

that proposed insulation will be included in required warranty.

1.06 Unit Price Work

A. See Division 07 Section "Built-Up Asphalt Roofing".

2.00 PRODUCTS

2.01 Insulation boards

A. Roof insulation system materials shall be manufactured by or acceptable to roof membrane manufacturer for inclusion in full system warranty to be issued by manufacturer.

B. Polyisocyanurate: ASTM C 1289, Type 11; Class 1, Grade 2. See roofing specifications and drawings for locations and thickness of insulation.

C. Wood Fiberboard: ASTM C 208.

1. Coverboard: High density, non-asphaltic; minimum 1/2-inch thick; maximum board size, 4-feet by 4-feet.

2. Cants: 4-inch face; 1-1 /2-inch thickness.

3. Tapered Edge Strip: Taper from 1-1/2-inch thickness to feather edge; 2-feet by 4- feet.

4. Tapered System for Crickets and Drain Sumps: 1/2-inch per foot, minimum, slope.

D. Expansion Joint Insulation:

1. Unfaced Mineral-Fiber Blanket Insulation: ASTM C 665, Type I; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

E. Composite Nailboard: ASTM C 1289, Type V

1. Polyisocyanurate insulation, nominal thickness 2.5-inches, as specified above, with a factory laminated 5/8-inch, plywood coverboard.

2.02 Roof board

Densdeck roof board as manufactured by Georgia Pacific or approved equal. Locations and thickness as indicated on the drawings.

2.03 Mechanical Insulation

Fiberglass batt insulation for use at locations other than hot pipes: Conforming to ASTM C 665, Type II, Class C and E84, 1, 3-inches thick.

2.04 Accessories

A. Asphalt: ASTM D 312, Type IV.

B. Fasteners

1. Insulation fasteners: Number 12, self-drilling, self-tapping screws; sufficient length to penetrate top flange of steel decking by 1-inch minimum and 1-1 /4- inches maximum; with fluorocarbon coating complying with FMO 4470.

C. HVAC Duct Membrane: 0.045-inches thick, non-reinforced EPDM.

3.00 EXECUTION

3.01 Preparation

A. Ensure that surfaces to receive insulation are clean and dry. If necessary, provide equipment to dry surface prior to application. Do not dry with open flames.

B. Remove dirt, debris, and dust from substrates by brooming or vacuuming. Clean dirt and debris from between steel deck ribs.

C. Provide roof insulation boards free of defects, including, but not limited to, broken corners, improperly adhered skins, excessive moisture content, dimensional irregularities, or other defects that may adversely affect replacement roof system. Mark defective insulation boards permanently and remove from site.

3.02 Roof Insulation installation (low slope roofs)

A. Mechanical Attachments:

1. Secure base layer of insulation to steel roof decks using specified fasteners. Stagger end joints to middle of long dimension of insulation boards. Install fasteners at rate of 1 fastener per 2 square feet of area (16 fasteners per 4-feet by 8- feet board) or in accordance with FMG Approval Guide. Increase fastener frequency to 24 fasteners per board for minimum of 8-feet in each direction from outside building corners. Drive fasteners straight, perpendicular to insulation.

B. Asphalt Attachment:

1. Adhere each insulation layer over acceptable substrate in full moppings of hot steel asphalt applied at rate of 30 pounds per square.

2. Stagger joints of insulation and coverboard within each layer. Offset joints between insulation layers 12-inches minimum. Gaps between boards shall not exceed 1/4-inch. Install boards with minimum surface area of 6 square feet within 8-feet of roof edge. In field of roof, minimum dimension of cut board shall be 12-inches, with minimum surface area of 2 square feet.

3. Place boards carefully to prevent bitumen from being forced between joints and onto top surface of board. Walk in boards immediately upon placement. Remove and replace poorly adhered boards.

4. Asphalt Temperature: Apply asphalt at 375 degrees F minimum, or within 25 degrees P of equiviscous temperature (EVT). Adjust asphalt application temperatures to prevent blistering of insulation facers. Do not heat asphalt above finish blowing temperature (FBT) for longer than four consecutive hours. Use thermometers to check temperature during heating and application. Monitor bitumen temperatures and ensure that safe heating temperatures are not exceeded.

C. Utilize tapered edge strips and filler boards at drain sump locations. Place taper from surrounding insulation system down to drain bowl locations, providing 8-foot by 8-foot minimum drain sumps.

3.03 Roof insulation installation (sloped metal roofs)

A. Temporarily secure existing base layer of insulation to steel roof deck.

B. Install composite insulation atop base layer offsetting joints a minimum of 12-inches. Mechanically attach entire assembly to steel roof deck using specified fasteners. Install fasteners at a rate of l fastener per 2 square feet in the field of the roof 8-feet minimum from building perimeter or in accordance with FMG Approval Guide. Increase fastener frequency to 24 fasteners per 4-foot by 8-foot board minimum, 8-feet in each direction from outside building corners.

3.04 Pipe insulation installation

A. Install insulation and jackets at drain bowls as indicated on Drawings, in accordance with manufacturer's printed instructions.

B. Install batt insulation at hot pipe locations as indicated on Drawings. Place foil facing toward pipe penetration.

3.05 Duct insulation/waterproofing installation

A. Adhere insulation to properly prepared ductwork with spray applied polyurethane foam applied at rate recommended by manufacturer.

B. Utilize tapered edge strips adhered lo isocyanurate at ducts wider than 2-feet to provide slope for drainage.

C. Fully adhere EPDM membrane to previously installed insulation. Provide 6-inch wide seams at membrane sections. Install membrane without laps on top surface of ductwork.

D. Terminate EPDM membrane at mechanical units and walls with aluminum term bat and appropriate fasteners. Set termination bar in bed of butyl mastic and seal leading edge of termination bar with polyurethane sealant.

E. Provide Sawcut reglet to counterflash EPDM at masonry walls.

END OF SECTION

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1.00 GENERAL

1.1 Related Documents

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

1.2 Summary

A. This Section includes the following:

1. Built-up asphalt roof membrane with mineral surfaced cap sheet.
2. Roof drain flashings.
3. Wood nailers and curbs.
4. Roof hatch and other rooftop equipment.
5. Roof walkways.

B. Related Sections include the following:

1. Section 05 3123/STEEL ROOF DECKING for steel roof deck.
2. Section 06 0573/WOOD TREATMENT for fire treated plywood and lumber.
3. Section 06 1000/ROUGH CARPENTRY for wood blocking, curbs, cants, and nailers; and wood-based, structural-use roof deck panels.
4. Section 07 6200/FLASHING AND SHEET METAL for metal roof penetration flashings, flashings, and counterflashings.
5. Section 07 9200/JOINT SEALANTS.
6. Section 22 1423/STORM DRAINAGE PIPING SPECIALTIES for roof drains.

1.3 Definitions

A. Thermal Resistivity (r-value) is the reciprocal of thermal conductivity (k-value) which is the rate of heat flow through a homogenous material exactly 1 inch thick. Thermal resistivity (r-value) is expressed by the temperature difference in degrees F between two parallel surfaces required to cause 1 Btu to flow through 1 sq. ft. of a homogenous material exactly 1 inch thick per hour at the mean temperature indicated.

1.4 Performance Requirements

A. General: Install a watertight, built-up roofing and base flashing roofing system with compatible components that will not permit the passage of liquid water and will withstand wind loads, thermally induced movement, and exposure to weather without failure.

B. FM Listing: Provide built-up roofing, base flashings, and component materials that comply with requirements of FM 4450 and FM 4470 as part of a roofing system and that are listed in FM's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FM markings.

1. Roofing system shall comply with the following:

   a. Windstorm Classification: Class 1-75.
   b. Perimeter and Corner Enhancements: In accordance with FM 1-28 and 1-29.

1.5 LEED Requirements

A. MRc3 - BPDO - Sourcing of Raw Materials - Recycled Content

Some specified materials contain percentages of post-consumer and pre-consumer waste materials. Contractor shall provide LEED credit verification as per Section 01 3300/SUBMITTAL PROCEDURES.

B. MRc3 - BPDO - Sourcing of Raw Materials - Regional Materials

Some specified building materials are extracted, processed, and manufactured within 100 miles of the project site. Contractor shall provide LEED credit verification as per Section 01 3300/SUBMITTAL PROCEDURES.

C. SSc7.2 - Reduction of heat islands, roof surfaces

Roof surfaces shall be ENERGY STAR roof compliant, high reflectance with a high SRI (solar reflectance index) for low and steep slope roofs. Green vegetated roof area can also contribute to this credit. Contractor shall provide LEED credit verification as per Section 01 3300/SUBMITTAL PROCEDURES.

1.6 Submittals

A. General: Submit the following according to Conditions of Contract and Division 1 Specifications Sections.

B. Submit letter from roofing system manufacturer stating that roofing system manufacturer has reviewed the Construction Documents and will warrant the roofing system as specified and detailed.

C. Manufacturer's sample warranty, including statement that warranty is effective in winds up to 90 mph.

D. Qualification Data for qualified Installer and manufacturer.

E. Product data, including manufacturer's technical product information, installation instructions, and recommendations for each type of roofing product required. Include data substantiating that materials comply with requirements.

   1. For asphalt bitumen, provide a label on each container or certification with each load of bulk bitumen, indicating flash point (FP), softening point (SP), and equiviscous temperature (EVT).

F. Tapered insulation and cricket Shop Drawings indicating drainage pattern to provide positive slope to roof drains or scuppers. Drawing should indicate average R-value (exceeding R-30) of each roof section for the insulation systems to be installed. Field verify dimensions and drain locations prior to submitting information to the insulation manufacturer to obtain the shop drawings. Please note that all tapered insulation plans must be approved by Engineer AND the CM.

G. Manufacturer's Certification indicating that all bulk bituminous materials delivered to Project comply with required standards. Include quantity and statistical and descriptive data for each product. Submit certificate with each load before it is used.

1. Include continuous log showing time and temperature for each load of bulk bitumen, indicating date obtained from manufacturer, where held, and how transported prior to final heating and application on roof.

H. Field Bitumen Heating Reports: Provide and use two calibrated thermometers, 0-500°F, one on the kettle and one on the roof at all times. Also, provide one 24 hour or one 8 day recording kettle thermometer, 0-600°F, calibrated at 350°F. Submit dated recording sheets to Engineer weekly.

I. Manufacturer's data/detail sheet for new roof hatch and railing system.

J. Shop Drawing of the entire roof (from the roof membrane manufacturer) indicating the area of the field, perimeter and corner of each roof section.

K. Letter and Shop Drawing from the insulation manufacturer stating that insulation thickness and fasteners to be used are acceptable and indicating fastener spacing and pattern requirements for compliance with FM Windstorm Resistance Classification 1-75 in the field, perimeter and corner of the steel deck roof sections.

L. Sampling and Analysis of Built-up Roof Membrane: Provide sampling and analysis of completed built-up roofing membrane in accordance with ASTM D 3617-83. Submit laboratory test results from an independent testing firm.

1. Provide for 12 x 12 inch test cuts at three locations designated by the Engineer or Owner's Representative. Repair test cuts in accordance with manufacturer's recommendations.
2. Where deficiencies are indicated in membrane, make corrective repairs as specified by manufacturer. Additional retesting and testing to determine extent of deficient areas shall be completed at the Contractor's expense.

M. Submit executed copy of manufacturer's written Warranty.

N. Submit a copy of the written report, provided by an independent consultant, indicating the results from the thermographic inspection of all roofing insulation. Provide copies of additional reports until all wet or missing insulation is replaced.

O. Submit letter to Engineer stating date of substantial completion within 24 hours after substantial completion.

P. Submit letter to Engineer stating date of final completion within 24 hours after final completion.

Q. Submit a letter from each contractor, subcontractor and supplier stating that no asbestos-containing materials were supplied or installed during this project.

R. Submittals shall be in accordance with Section 01 3300/SUBMITTAL PROCEDURES.

1.7 Quality Assurance

A. General: Install roofing in accordance with the manufacturer's specifications and details. More stringent requirements of this Section and Drawing shall govern unless they conflict with

manufacturer's warranty requirements. In this case, the Contractor is responsible for notifying the Engineer of all such conflicts.

B. Installer Qualifications: Engage an experienced Installer (Roofer) to perform built-up asphalt roofing work who has specialized in installing built-up asphalt roofing systems similar to that required for this Project and who is acceptable to manufacturer of primary roofing materials.

1. Installer Certification: Obtain written certification from manufacturer of built-up roofing system certifying that Installer is approved by manufacturer to install specified roofing system. Provide copy of certification for Contracting Officer prior to beginning work.
2. Installer's Field Supervision: Require Installer to maintain a full-time supervisor/foreman who is fluent in English and on job site whenever any Contractor Representative is at the site. Foreman shall be experienced in installing roofing systems similar to type and scope required for this Project.

C. Fasteners for Treated Lumber and Sheathing: All fasteners securing or penetrating treated lumber and sheathing shall be stainless steel.

D. Manufacturer Qualifications: Obtain primary products, including each type of roofing felt, bitumen and composition flashings from a single manufacturer. Provide secondary products as recommended by manufacturer of primary products to use with roofing system specified.

E. Exterior Fire-Test Exposure: ASTM E 108, Class A; for application and roof slopes indicated, as determined by testing identical built-up roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.

F. Insurance and Code Requirements: Provide built-up roofing system and component materials complying with governing regulations that have been tested for application and slopes indicated and can be installed to comply with the following:

1. Factory Mutual requirements for zoned wind resistance.
2. Underwriter's Laboratories for Class 75 wind uplift resistance.

G. Insurance Certification: Assist Owner in preparing and submitting roof installation acceptance certification as necessary in connection with fire and extended-coverage insurance on roofing and associated work.

H. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site. Meet with the same participants and review the same items listed for the preinstallation conference. In addition, review status of submittals and coordination of work related to roof construction. Notify participants at least 5 working days before conference.

I. Preconstruction Roofing Conference: Approximately 2 weeks and no more than 3 weeks prior to scheduled commencement of built-up roofing installation and associated work, meet at the Project site with Installer, Installer of each component of associated work, Engineer and Owner's Representative.

1. Meet with Owner; Architect; Owner's insurer, if applicable; testing and inspecting agency representative; roofing Installer; roofing system manufacturer's representative; deck Installer; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including drawings, specifications, other contract documents and manufacturer's written instructions.

3. Tour representative areas of roofing; inspect and discuss condition of substrate(s), drains/lines, curbs, and other penetrations.
4. Review loading limitations of deck during and after roofing.
5. Review flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing.
6. Review governing regulations and requirements for insurance, certifications, and inspection and testing, if applicable.
7. Review temporary protection requirements for roofing system during and after installation.
8. Review required submittals, both complete and incomplete.
9. Review and finalize construction schedule related to roofing work and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
10. Review required inspection, testing, certifying, and material use accounting procedures.
11. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions.
12. Review roof observation and repair procedures after roofing installation.
13. Construction Manager shall record the discussion of the meeting, including agreement or disagreement on matters of significance; furnish copy of recorded discussions to each participant. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.

J. Cap Sheet Mock Up. Prior to starting full scale cap sheet installation, the Contractor must meet the Engineer and Manufacturer Representative on site and install cap sheet over an area exceeding 500 square feet. The purpose of the mock-up is for the Contractor to demonstrate their ability to properly and neatly install the cap sheet in accordance with the Manufacturer's requirements and recommendations and in accordance with the Owner/Engineer's aesthetic expectations. The mechanic mopping the asphalt must be very skilled and experienced to achieve the desired installation, and granules MUST be cast into the asphalt bleed-out while still hot. If the mock-up is rejected, then the Contractor must retain other mechanics to install the cap sheet until the mock-up is accepted. Once accepted, the mock-up will be the standard for this project.

K. Thermographic Inspection of Insulation: After all roof installation and other adjacent construction work is complete, the Contractor shall schedule with the Owner to have an independent testing firm perform a thermographic inspection of all roofing insulation and provide a written report directly to the Owner and Architect in accordance with ASTM C 1060. Schedule to take at least two core samples at locations selected by the Owner or Architect. The independent testing firm shall submit copies of the report directly to the Owner and Architect. Replace damaged, missing or wet insulation identified in the report. All costs associated with thermographic scans, core samples, sample testing and patching shall be by the Contractor.

1. Provide for additional inspections and reports by the independent testing firm until all damaged, missing or wet insulation has been replaced and submit the final report indicating no damaged, missing or wet insulation was detected.
2. Where deficiencies are indicated in the insulation, make corrective repairs as specified by the Architect or manufacturer, whichever is more stringent. Additional inspections and reports required to eliminate all deficient areas shall be completed at the Contractor's expense.
3. If the Contractor finds that the existing insulation is dry and in good condition at two or more locations where the thermographic inspection report states the insulation is faulty, notify the Owner and ask for additional direction. If the Owner request that the Contractor continues to repair the areas outlined in the thermographic inspection report, then the Contractor will be reimbursed on a time and material basis for any additional locations where damaged, missing or wet insulation was suspected, but not uncovered.

L. Engineer's Field Reports: Engineer's field reports will NOT include items from previous reports. Consequently, the Construction Contractor must stipulate that the Contractor will submit documentation acknowledging that the Contractor has reviewed the Engineer's reports and addressed the referenced items accordingly. Previous field reports will be reviewed at progress meetings to clarify Contractor requirements.

1.8 Project Conditions

A. Weather Condition Limitations: Proceed with roofing work only when existing and forecasted weather conditions will permit work to be performed according to manufacturers' recommendations and warranty requirements.

B. Temporary Roofing: When adverse job conditions or weather conditions prevent permanent roofing and associated work from being installed according to requirements, and Contractor determines that roofing cannot be delayed because of need for job progress or protection of other work, install temporary roofing.

1. Installation and removal of temporary roofing, as required prior to proceeding with permanent roofing, shall be performed at no additional cost to Owner.
2. Temporary roofing must be removed entirely prior to installation of roofing membrane unless otherwise directed by Engineer.

C. Protect adjacent building surfaces from spilling and splattering of roofing materials. Clean all spilled and splattered materials at once.

D. Place tarps and plywood under tankers and kettles at site. Place tarps on walls, under piping, from tanker/kettle to roof.

E. Phased construction of 4-ply built-up roofing membrane will not be permitted.

1.9 Special Conditions

A. The Contractor must have a foreman, who is fluent in English, on the site whenever any Contractor or Sub-Contractor employee is at the site.

B. The Owner's Site Representative shall have the power to order the permanent removal from the premises any employee of the Contractor for incompetency. Furthermore, the Owner's Site Representative shall have the power to stop work if the Representative believes the work is not progressing in accordance with the Contract Documents or membrane manufacturer's specifications. The Contractor shall immediately comply with this order.

1.10 Delivery, Storage, and Handling

A. Store roofing materials in a dry, warm, well-ventilated, weathertight location according to roofing system manufacturer's written instructions.

B. When pallets of insulation arrive at the site, completely remove the manufacturer's wrapper and cover insulation with tarps. Provide tarps free of holes or tears and extend tarps below top surface of wood pallets. Alternatively, store in a dry, well-ventilated, weather-tight place.

C. Unless protected from weather or other moisture sources, do not leave unused felts on the roof overnight or when roofing work is not in progress. Store rolls of felt and other sheet materials on end on pallets or another raised surface. Do not double-stack rolls.

D. Deliver and store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer.

E. Protect roofing insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

F. Handle and store materials or equipment in a manner to avoid significant or permanent deck deflection.

1.11 Warranty

A. The warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

B. Manufacturer's Warranty: Submit executed copy of roofing manufacturer's "No Dollar Limit" total roofing system warranty covering the roofing membrane, flashing and insulation. Warranty must be signed by an authorized representative of built-up roofing system manufacturer, on a form that was published with product literature as of date of Contract Documents, for the following period of time:

1. 20 years from date of Substantial Completion for the entire project.
2. Wind Speed Provisions: Up to and including wind speeds of 90 miles per hour without exclusions.

C. The Manufacturer's Warranty shall provide coverage for cost of removal and replacement of wet or damaged insulation due to failure of materials or workmanship.

D. Contractor's Warranty: Submit an executed copy of the Contractor's written warranty covering workmanship failures for a period of 5 years in accordance with Division 00. In the first 5 years, the Contractor shall repair all leaks within 24 hours of notification of leak.

2.00 PRODUCTS

2.1 Roof Insulation

A. General: The insulation system on each roof section must have an average Long Term Thermal Resistance (LTTR) R-value exceeding R-30. The surface of the insulation must slope 1/4 inch per foot. Provide shop Drawings indicating the flat insulation, tapered insulation, cover board and tapered insulation cricket plan for each roof section and the average R-value of the insulation for each roof section.

B. Flat First and Second Layers (Polyisocyanurate Foam Board): Rigid boards with minimum density of 1.7 pcf polyisocyanurate-based foam core, permanently bonded to roofing felt facer sheets. Use thicknesses (3.0 and 2.5 inches, respectively) shown on Drawing and approved shop drawings to achieve R-30.

C. Third Layer (Polyisocyanurate Foam Board): Rigid boards with minimum density of 1.7 pcf polyisocyanurate-based foam core, permanently bonded to roofing felt facer sheets. Use tapered (1/4 inch per foot) shown on drawing and approved shop drawings to achieve R-30.

D. Cover (Cellulosic-Fiber Board Insulation): High density cover board required or recommended by roofing Manufacturer for specified warranty.

E. Nailable Board Insulation (for walls): Rigid boards with minimum density of 1.7 pcf polyisocyanurate-based foam core, permanently bonded to 5/8 inch thick fire treated plywood sheathing on one side and fiberglass reinforced facer sheet on the other. Coordinate fire treatment with built-up roofing manufacturer. Provide thicknesses shown on Drawings (1.5 inches total thickness, including facers) with minimum LTTR of 6.3. (ACFoam Nail Base by Atlas, or approved equal).

F. Tapered Insulation Crickets: Rigid boards with minimum density of 1.7 pcf polyisocyanurate-based foam core, permanently bonded to roofing felt facer sheets. Use tapered (1/2 inch per foot) with proportions shown on Drawing to provide slope to drain where indicated. Slope of cricket valley shall be no less than 1/16 inch.

G. Preformed Cants and Edge Strips: Rigid insulation units matching roof insulation, or asphalt-impregnated organic-fiber insulation units, molded to form 3-1/2-by-3-1/2-inch by 45-degree cant strips and 1-1/2-by-18-inch tapered-edge strips. Trim tapered edge strips along wood nailers as required to ensure smooth transition from surface of roofing insulation to surface of wood nailers. Provide cant and tapered edge strips supplied or recommended by roofing manufacturer that will be included in manufacturer's warranty.

H. Insulation Fasteners (for new steel decks): Extended corrosion resistant carbon steel screws with composite fluorocarbon coating in a matrix of organic polymers, resins, pigments and corrosion inhibitors. Finish must survive 30 or more cycles of Kesternich testing (DIN 50018) with no significant corrosion with steel or plastic plate for Factory Mutual I-75 approved installation.

1. Length: Provide length(s) long enough to penetrate through insulation and bottom flutes of steel decks. Provide fully threaded units.
2. Products:
   a. UltraFast by Johns Manville.
   b. Heavy Duty Fastener 1002 by Firestone.
   c. SopraFix DP Fastener by Soprema.

2.2 Built-Up Roofing Membrane System

A. Insulated-Deck, Asphalt, Glass-Fiber Felt and Cap Sheet Roofing: Provide built-up roof system with asphalt bitumen, four plies of premium glass-fiber felts and modified bitumen cap sheet with bright white (or ultra white) granules for layup as follows:

1. Bitumen: Roofing asphalt, complying with ASTM D 312, Type III.
2. Ply Felts: Four plies of asphalt-impregnated, glass-fiber felts, complying with ASTM D 2178, Type VI.
3. Mineral Surfaced Cap Sheet: Single ply of non-woven polyester felt with asphalt coating and factory-applied bright white ceramic coated granules; ASTM D 6164, Type II, Grade G;
   a. Thickness: 157 mils
   b. Asphalt: SBS modified for setting in hot asphalt.

c. Color/Coating: Provide bright white (ultra white), ceramic coated granules with minimum initial Solar Reflective Index (SRI) of 86, minimum initial solar reflectivity of 0.70, and minimum initial emissivity of 0.87.
d. Available Products:
1) DynaLastic 250 FR CR G by Johns Manville
2) SBS Premium FR Ultra White by Firestone.
3) Sopralene 250 Ultra FR GR (GS) by Soprema.

4. Base Flashing: Two SBS modified bitumen sheets set in hot asphalt; provide manufacturer's smooth sheets for base plies covered with mineral surfaced cap sheet (see above) to achieve the specified warranty.
5. Roof Granules: Provide roofing manufacturer's recommended bright white roofing granules for embedding in hot asphalt at cap sheet bleed out or for embedding in manufacturer's liquid flashing system:
a. CR Roofing Granules by Johns Manville
b. UltraWhite Granules by Firestone
c. Granules by Soprema. Contact Soprema to obtain granules matching cap sheet.
6. Comply with NRCA "Roofing and Waterproofing Manual," Specification 42-I-A-G-A.
7. Available Products: Subject to compliance with requirements, built-up asphalt roofing systems that may be incorporated in the Work include the following:
a. Johns Manville; Specification 5PID-CR.
b. Firestone; I-4F-36-M.
c. Soprema; 4-0641SG.

2.3 Roof Drains

A. See Section 22 1423/STORM DRAINAGE PIPING SPECIALTIES.

B. Provide marker poles at all roof drains.

2.4 Sheet Metal Accessory Materials

A. See Section 07 6200/FLASHING AND SHEET METAL.

2.5 Miscellaneous Materials

A. Asphaltic Primer: Comply with ASTM D 41.

B. Fabric: ASTM D 173, asphalt saturated cotton fabric, 3.5 ounces per square yard.

C. Lead Flashing: 3 lb/sf or 4 lb/sf sheet of common pig lead.

D. Liquid Flashing Membrane: Roofing membrane manufacturer's liquid flashing membrane and polyester reinforcing scrim.

1. PermaFlash System by Johns Manville.
2. UltraFlash Liquid Flashing System by Firestone.
3. Alsan Flashing System by Soprema.

E. Nailins: Stainless steel nail with mushroom head in zinc body, 1/4 inch diameter, length to bed in substrate a minimum 1 1/2 inches (Zamac Nailin by DeWalt/Powers, or approved equal). Predrill holes before installing fastener. Provide 1 inch diameter washers for securing base flashings.

F. Nails (roofing): Annular ring, flat head, 11 ga, compatible with material to be fastened, 1 inch diameter cap.

G. Nails: Stainless steel common nails, length to penetrate substrate a minimum of 1 1/4 inches

H. Pavers (walkways): 1 1/4 x 24 x 24 inches (nominal) precast concrete; smooth with beveled edges; density of 166 pounds per cubic foot; compressive strength 8500 psi, water absorption less than 3.1 percent; weighing not less than 12 pounds per square foot. (Note: This product may require a special order.)

1. Lightweight Roof Ballast Paver by Hanover.
2. Color: Glacier White
3. Finish: Tudor.
4. SRI: 85 minimum.

I. Plywood: Fire treated plywood for interior use, 1/2 or 3/4 inch thick as noted on Drawing. Coordinate fire treatment with built-up roofing manufacturer. See Section 06 0573/WOOD TREATMENT and Section 06 1000/ROUGH CARPENTRY.

J. Prefabricated Metal Curb: Welded 18 gauge galvanized steel curb with base plate, integral oversized treated wood nailer to accommodate 1 inch of field applied insulation to side of curb, and counterflashing (TEMS-3 by ThyCurb, or approved equal). Provide custom height as shown on Drawing.

K. Roof Hatch: Premanufactured, aluminum roof hatch with integral aluminum curb and watertight metal cap flashing, spring activated opening device, automatic hold and operating arm and skylight dome top (Type GSS-50 Roof Hatch by Bilco, or approved equal). Special order hatch with dimensions 54 inches by 30 inches, with optional curb liner for flashing and double dome for condensation control. Ensure that cap is hinged on long side of hatch. Field verify size of specified openings shown on Drawings prior to ordering.

L. Roof Hatch Railing: Fixed railing system designed to permanently attach to roof hatch cap flashing with a gasketed connection and meeting the requirements of OSHA 29 CFR 1910.23. Posts and rails to be constructed from powder coated mild steel tubing. Mounting brackets to be hot dip galvanized steel designed to mount to hatch cap flashing without penetrating roofing system. Self-closing gate to be hot dip galvanized finished. All fasteners to be stainless steel. Gate to be provided at long side of hatch opening. (HSF-4866MG by Fall Protection USA, or approved equal).

M. Roof Coating: Energy Star approved roof coating specifically designed for application on built-up roofing systems, supplied or recommended by roofing system manufacturer. Coating must have a minimum Solar Reflective Index (SRI) of 80 with minimum solar reflectivity of 0.80 and minimum emissivity of 0.75. Install for touch-ups ONLY where directed by Engineer.

N. Roofing Cement: Fibrated asphaltic cement, asbestos-free, complying with ASTM D 4586.

O. Screws (stainless steel): ASTM A 478, Type 304 stainless steel, pan or truss head, with neoprene washers, No. 8 x 1/2 inch for counterflashing.

P. Screws (self-tapping): ASTM A 478, Type 304 stainless steel, pan or truss head self-tapping screws, with neoprene washers; No. 10 x 1/2 inch for fastening sheet metal and No. 12 x 2 1/2 inch or length and diameter as required for fastening wood products to steel members.

Q. Self Adhering Sheet Membrane (under metal): Self adhering membrane composed of a high strength, high density, cross-laminated polyethylene film coated on opposite side with a layer of 100% butyl rubber adhesive (no asphalt), and formed into flexible sheets, 30 mils minimum thickness, designed for use under metal roofing and flashings and elevated temperatures, and the following:

1. Tensile Strength: 250 psi
2. Elongation: 250%
3. Adhesion to Plywood: 3.0 lbs/inch width
4. Permeance (max): 0.05 Perms
5. Ultra by W.R. Grace and Co., or approved equal. Use primers, mastics and liquid membrane supplied by membrane manufacturer.

R. Substrate Joint Tape: 6-inch- or 8-inch-wide, coated, glass-fiber joint tape.

S. Wood Members, Units: Fire treated lumber for interior use, sizes as noted on Drawings. Coordinate fire treatment with built-up roofing manufacturer. See Section 06 0573/WOOD TREATMENT and Section 06 1000/ROUGH CARPENTRY.

2.6 Fabricating Sheet Metal Accessories

A. SMACNA and NRCA Details: Conform metal work with details shown and with applicable fabrication requirements of Architectural Sheet Metal Manual by SMACNA. Comply with installation details of NRCA Roofing and Waterproofing Manual.

B. Prefabricate units as indicated or provide standard manufactured units complying with requirements; fabricate from sheet metal indicated.

C. Provide 4-inch-wide flanges set in roofing cement for applying built-up asphalt roofing system membrane concealed by composition stripping.

D. Fabricate work with flat-locked and soldered joints and seams; except where joint movement is necessary.

E. Fabricate penetration sleeves with minimum 10-inch-high stack of diameter less than 1 inch larger than penetrating element.

F. Metals and counterflashings are specified in Section 07 6200/FLASHING AND SHEET METAL.

3.00 EXECUTION

3.1 Examination

A. Examine substrates, areas, and conditions under which roofing will be applied, with Installer present, for compliance with requirements.

B. Verify that roof openings and penetrations are in place and set and braced and that roof drains are properly clamped into position.

C. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at roof penetrations and terminations and match the thicknesses of insulation required.

D. Verify that flatness and fastening of metal roof decks comply with installation tolerances specified in Section 053123/STEEL ROOF DECKING.

E. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 Roof Drain Installation

A. Ensure that roof drain flange is set on stable wood blocking so that the top of the flange will be 1 inch below surface of completed surrounding membrane and stripping. Secure drain bodies with under deck clamps. See Mechanical drawings and specifications.

B. Mark drain locations by affixing marker pole to drain stainers.

3.3 Preparation

A. Clean substrate of dust, debris, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.4 Rough Carpentry

A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.

B. Apply field treatment to cut surfaces of treated lumber and plywood as required by Section 06 0573/WOOD TREATMENT.

C. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as required for accurate fit.

D. All fasteners securing or penetrating treated lumber and sheathing shall be stainless steel.

E. Securely attach carpentry work as indicated and according to applicable codes and recognized standards. Use fasteners of appropriate type and length where not identified on Drawings. Predrill members when necessary to avoid splitting wood. Attach to substrates to support applied loading and to meet Factory Mutual Data Sheet 1-49.

F. Rip standard size wood blocking as required to fit existing openings, to form specified conditions and to provide flush surfaces to receive roofing components. Fasten blocking as indicated on Drawings and to comply with current Building Code requirements. At a minimum, fasten wood blocking to adjacent wood blocking with nails, 12 inches on center staggered. Within 8 feet of corners, fasten 6 inches on center, staggered. Stagger fasteners in nailers that exceed 5 inches in width. Secure blocking with screws where shown on Drawings. All fastening conditions must comply with Factory Mutual Data Sheet 1-49.

G. Install new curbs so that top of base flashing will be 12 inches (minimum) above membrane surfaces. Where new wood curbs exceed 11 inches in height, Contractor may substitute wood stud walls with plywood faces for solid wood curbs shown on Drawings. IMPORTANT NOTE: Drawings may show

typical roofing system at curbs. Contractor MUST install additional flat, stacked nailers at base of curbs, or additional toe-nailed nailers at top of curbs to provide the 12 inch minimum height where curbs are located within insulation crickets or other tapered insulation.

H. Shim all wood curbs supporting hatches and rooftop equipment to provide faces that are plumb and top edges that are level and flush.

I. Cover all wood blocking with self-adhering sheet underlayment immediately after installing blocking where shown on Drawing.

3.5 General Installation Requirements

A. Install built-up roofing membrane system according to roofing system manufacturer's written instructions and applicable recommendations of ARMA/NRCA's "Quality Control Guidelines for the Application of Built-Up Roofing."

B. Cooperate with inspection and test agencies engaged or required to perform services in connection with installing built-up roofing system.

C. Roof drains must be installed on each roof section prior to installing built-up membrane on that section.

D. Start installation of built-up roofing membrane in presence of roofing system manufacturer's technical personnel.

E. Contractor must place canvas tarpaulins over building surfaces to protect from spillage of asphalt during all asphaltic roofing applications. Specifically, tarpaulins must be placed on walls and parapets under hot pipe from tanker or kettle to roof. Construction Manager or Owner will stop the Work if Contractor fails to adequately protect building surfaces.

F. Protect other work from spillage of built-up roofing materials, and prevent liquid materials from entering or clogging drains and conductors. Replace/restore other work damaged when installing built-up roofing system.

G. Coordinate installing roofing system components so insulation and roofing plies are not exposed to precipitation or left exposed at the end of the workday or when rain is forecast.

1. Provide cutoffs at end of each day's work to cover exposed ply sheets and insulation with a course of coated felt with joints and edges sealed.
2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
3. Remove and discard temporary seals before beginning work on adjoining roofing.

H. Asphalt Bitumen Heating: Heat and apply bitumen according to EVT Method as recommended by NRCA. Do not raise temperature above 525°F; point of application temperature is 375° to 425°F or EVT at 75 CPS ± 25°F listed. Do not raise temperature above minimum normal fluid-holding temperature necessary to attain EVT more than 1 hour prior to application. Discard bitumen that has been held at a temperature exceeding finished blowing temperature (FBT) for more than 3 hours. Determine flash point, FBT and EVT of bitumen, either by information from bitumen producer or by suitable tests. Determine maximum fire-safe handling temperature and do not exceed that temperature in heating bitumen. In no case heat bitumen to a temperature higher than 25 deg F below flash point. Keep kettle lid closed except when adding bitumen.

1. Provide and use thermometers at the kettle and on the roof at the point of application. If thermometers are not on site during site visits by Owner's Representative, work will be halted until thermometers are delivered.
2. Also, whenever a tanker or kettle is used on site, provide one 24 hour or one 8 day recording kettle thermometer, 0-600°F, calibrated at 350°F. Compile data weekly and submit to Engineer, Architect and Owner.

I. Bitumen Mopping Weights: For interply mopping, and for other moppings except as otherwise indicated, apply bitumen between plies at the rate of 25 lb of asphalt per roof square (plus or minus 20 percent on a total-job average basis).

J. Felt Application: Apply felts in bitumen at application temperature (375° to 425°F or EVT at 75 CPS ± 25°F) and immediately broom felts into bitumen. If felts are not fully broomed (edge to edge), work will be halted until the project superintendent returns to the site and supervises the installation. In addition, the Engineer reserves the right to require two additional test cuts for every time the Engineer or Owner's representatives observes the Contractor not brooming the felts.

K. Cap Sheet Application: Apply cap sheet in bitumen at application temperature required by Manufacturer (generally EVT at 75 CPS ± 25°F) and immediately broom into bitumen.

L. Substrate Joint Penetrations: Do not allow bitumen to penetrate substrate joints and enter building or damage insulation, vapor retarders, or other construction. Tape joints where mopping is applied directly to a substrate.

3.6 Insulation Installation

A. General: Comply with insulation manufacturer's instructions and recommendations for handling, installing, and mopping or anchoring insulation to substrate.

B. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.

C. Two-Layer Insulation (Mandatory): Install flat polyisocyanurate insulation (bottom layer) and flat and tapered polyisocyanurate, and cover board insulation (second and subsequent layers) as follows:

1. At steel decks, mechanically fasten the bottom layer of insulation with screws with plates to meet Factory Mutual I-75 approved installation.
2. Install insulation with long joints of insulation in continuous straight lines with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
3. Install second and subsequent layer(s) of insulation (flat and tapered) and tapered insulation crickets with joints of second layer offset from joints of first layer a minimum of 12 inches each direction. Install subsequent layers in full mopping of hot Type III asphalt applied within temperature range of EVT, plus or minus 25 deg F and at rate of 25 lb per 100 sq. ft. (plus or minus 25 percent on total-job average basis). For tapered insulation crickets, follow insulation drainage pattern shown on Drawing and approved tapered insulation Shop Drawings.
4. Install the manufacturer's recommended coverboard in hot asphalt. Type and thickness of coverboard to be determined by manufacturer as required to obtain uplift rating and specified warranty.
5. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

D. Check insulation placement with 4 foot level on 10 feet straight edge to confirm slope prior to placing built-up membrane. Advise Engineer immediately if slope is less than 1/4 inch per foot. NOTE: If ponding greater than 1/4 inch deep remains 48 hours after a rain, the Contractor may be required to cut out, remove and replace the roofing system to make it free draining, if it is determined that the tapered insulation has been incorrectly installed or fill insulation was not installed.

E. Install insulation crickets in full mopping (between 25 and 33 lb per 100 sq. ft. depending on surface roughness) of hot asphalt to provide drainage to roof drains. Install crickets as shown on Drawings and approved Shop Drawings with a minimum aspect ratio of 3:1 (length-to-width) unless otherwise directed by Engineer. Adjust or skew crickets as required to provide positive drainage around roof curbs and other penetrations. Specifically detail these adjusted or skewed crickets on Shop Drawings.

F. Cant Strips/Tapered-Edge Strips: Except as otherwise shown, install preformed 45-degree insulation cant strips at junctures of built-up asphalt roofing system membrane with vertical surface and install tapered edge strips in full mopping (between 25 and 33 lb per 100 sq. ft. depending on surface roughness) of hot asphalt at perimeter nailers and other areas to provide drainage and a smooth transition for the new built-up membrane. Stack and/or trim tapered edge strips to provide smooth transition to adjacent surfaces. Installation of roofing membrane around 90 degree bends is NOT permitted. Cant and tapered edge strips MUST be installed before the roofing membrane is installed.

G. Install tapered insulation out 24 inches from center of all roof drains to create drainage sumps measuring 4 feet by 4 feet.

H. Trim surface of insulation at primary roof drains so insulation is one inch lower than adjacent insulation as typically shown on the Drawings. Remove and reset drain bodies that are not installed so the top surface is within 1 1/2 inches of the surface of the adjacent insulation.

I. Install insulation (typically 1 inch thick) to sides of metal equipment support curbs to provide substrate for installation of new roofing membrane and base flashing. Adhere insulation to curbs in a solid mopping of hot asphalt.

3.7 Roof Membrane Installation

A. Shingling Plies: Install membrane with ply sheets shingled uniformly to achieve required amount of membrane thickness throughout.

B. Interply Sheets: Install four plies of Type VI premium fiberglass felts, lapped (shingled) to form a continuous, uniform membrane with continuous bitumen moppings between sheets so that ply sheet does not touch ply sheet.

1. Mop base ply of membrane to insulation. Broom in with soft broom or squeegee. THIS IS MANDATORY.
2. Sequence work to minimize foot traffic on recently installed felts. THIS IS MANDATORY.
3. Provide a folded-back envelope at edges and penetrations of built-up roofing membrane where it is not turned up on a tapered strip to provide positive protection against flow of bitumen into building or off the edge. Extend base sheet to form envelope or, where no base sheet is provided, install one ply of coated felt set in steep asphalt with joints sealed. Seal corners and other interruptions of envelope with large beads of roofing cement to protect against bitumen flow.
4. Install ply felts according to roofing system manufacturer's written instructions, starting at low point of roofing system.

5. Align ply felts without stretching.
6. Shingle side laps of ply felts uniformly to achieve required number of membrane plies throughout. Shingle in direction to shed water.
7. Fully mop (no felt touching felt, even at edge of felt) 4 plies of built-up membrane a minimum of two inches above top of all cant strips and to front edge of wood nailers. Embed all felts at cant strips and nailers in hot asphalt. Do not allow memory of fiberglass felts to form voids at cants or wood nailers.
8. If voids at cants are discovered by the Engineer, the Contractor will be directed to install an additional 4 plies of membrane, starting at the top or end of the membrane and extending three feet onto the field of the roof, at the Contractor's expense.

C. Cap Sheet: Install one-ply of SBS modified cap sheet with bright white reflective roofing granules over interply sheets to form a continuous roofing membrane. Mop cap sheet in hot asphalt in strict accordance with manufacturer's requirements, including application temperature. If cap sheet is not adhered due to inadequately low mopping asphalt temperature, Contractor will be required to remove cap sheet and reinstall. While still hot, cast manufacturer's bright white reflective roofing granules into bleedout at seams to provide a uniform appearance acceptable to the Engineer. Cap sheet installation must be very neat and clean. Install additional cap sheet as required to cover discolored areas.

D. Set-On Accessories: Where small roof accessories are set on built-up membrane, set metal flanges in a bed of roofing cement and seal membrane penetration with bead of roofing cement to prevent flow of bitumen from membrane.

E. Rooftop Equipment: Install roof hatch and mechanical equipment on premanufactured metal or field installed wood curbs as shown on Drawings. Install curbs to provide a minimum of 12 inches of clearance between top of curb and top of completed roofing membrane. Install roofing membrane and base flashing as shown on Drawing. Install sheet metal counterflashing receiver or cap flashing and fasten to inside of curb. Install roof hatch assembly on curb and fasten to inside of curb with clips supplied by manufacturer. Install rooftop mechanical units on curbs and fasten in accordance with mechanical unit manufacturer's requirements.

F. Perimeter Nailing: At the roof perimeter, secure wood blocking to meet the Factory Mutual Publication 1-49, "Perimeter Flashing" requirements. At parapets, provide additional fasteners as required to prevent wood from warping. After installing wood for copings, immediately cover wood with self adhering sheet underlayment.

3.8 Composition Flashing and Stripping Installation

A. Install composition flashing at cant strips, at other sloping and vertical surfaces, at roof edges, and at penetrations through roof. Install composition flashing in accordance with membrane manufacturer's specifications and the following:

1. In uniform coats of hot steep asphalt, install first ply of modified bitumen sheet extending from within 1/2 inch of the top of the counterflashing to not less than 4 inches onto the membrane. (Extend plies to the top of the parapet walls and curbs. Note that the details show only typical parapet heights and the parapet heights will vary.) On top of this, apply a uniform coat of hot applied steep asphalt and embed one ply of mineral surfaced cap sheet base flashing in accordance with membrane manufacturer's requirements. Plies must be laid in smoothly with no pockets, wrinkles, buckles or voids.
2. Care shall be taken to assure that all flashing membrane end laps (3 inch minimum) are fully embedded in asphalt. Cast manufacturer's granules in hot asphalt bleed out at seams.

3. Fasten top of base flashing with capped nailins (masonry), stainless steel screws (wood or metal), or stainless steel nails (wood) 6 inches on center. Where top of flashing is less than 8 inches above the membrane, seal top of flashing with roofing manufacturer's reinforced, liquid applied flashing system.
4. Immediately install counterflashings over completed base flashings or cover with temporary waterproofing. Where the top of base flashing is left exposed longer than 48 hours or exposed to moisture, the base flashing shall be replaced if requested by the Owner or Engineer.

B. Install stripping at all embedded metal flashings (gravel stop, plumbing stack, etc.) in accordance with membrane manufacturer's specifications and the following:

1. Strip flanges to membrane with two plies of flashing felts set in hot bitumen. Install first felt extending from vertical projection to not less than 6 inches onto the membrane and second felt extending from vertical projection to not less than 8 inches onto the membrane. On top of this, apply a uniform coat of hot applied steep asphalt and embed one ply of mineral surfaced cap sheet base flashing in accordance with membrane manufacturer's requirements.

C. After 4-ply membrane is installed, flash roof drains with 30 x 30 inch lead sheet in accordance with membrane manufacturer's specifications and the following:

1. Set lead flashing sheet in uniform bed of roofing cement.
2. Strip lead to roofing membrane with two felts in hot bitumen, extending 6 and 8 inches beyond lead onto membrane. On top of this, apply a uniform coat of hot applied steep asphalt and embed one ply of mineral surfaced cap sheet in accordance with membrane manufacturer's requirements. Do not allow stripping to cause a dam around the drain.
3. Extend membrane plies, lead, stripping and cap sheet under clamping ring. Install clamping ring. Do not allow bitumen to migrate into drain openings.
4. If flashing causes a dam around drain, the Contractor will be required to remove and reinstall drain as required to eliminate ponding.
5. To protect the insulation, install clamping rings over the membrane at the end of each day before leaving site, even if lead flashing, stripping or cap sheet have not been installed.

D. After 4-ply membrane is installed, flash select pipe/post penetrations and overflow stand pipes with reinforced liquid membrane in accordance with membrane manufacturer's specifications and the following:

1. Prime roofing membrane surface and penetration.
2. Apply first coat of liquid membrane extending up penetration 10 inch minimum (4 inch for overflow stand pipes) and onto roofing membrane 10 inches from base of penetration.
3. Embed polyester reinforcing scrim in liquid membrane. Hold scrim back 2 inches from edge of first coat of liquid membrane.
4. Apply finish coat of liquid membrane 2 inches passed edge of scrim to completely encapsulate scrim.
5. Once finish coat of liquid membrane has fully cured (see manufacturer's requirements), install additional coat of liquid membrane and immediately cast in manufacturer's bright white reflective roofing granules to provide finished surface matching adjacent cap sheet

E. Allow for expansion of running metal flashing and edge trim that adjoins roofing.

F. Counterflashings, gravel stops, copings, plumbing stack flashings, expansion joints, and similar sheet metal work to be coordinated with built-up roofing work are specified in Section 07 6200/FLASHING AND SHEET METAL.

G. Walkway: Install a two foot wide precast concrete paver walkway where shown on Architectural Drawings. Provide minimum 4 by 4 foot area where roof elevation changes at top and bottom of ladders, and at roof hatches. Note that some locations may require a larger landing; see Drawings for locations. Place pavers on sacrificial cap sheet (over 4-ply membrane plus cap sheet) set in full mopping of hot asphalt or as recommended in writing by the membrane manufacturer. Space edge of sacrificial cap sheet one inch apart, and space pavers 3 inches apart for drainage. Adjust location of pavers so that drainage is not obstructed. Do NOT place sacrificial cap sheet or pavers within 3 inches of cricket valley lines.

H. Pipe Supports: Set sacrificial layer of cap sheet in full mopping of hot asphalt or as recommended in writing by the membrane manufacturer. Adjust location of additional cap sheet so that drainage is not obstructed. Do NOT place sacrificial cap sheet within 3 inches of cricket valley lines. Set pipe support on cap sheet and secure with manufacturer's recommended adhesive. Secure condensate lines to supports with clips/clamps supplied by support manufacturer.

I. Splash Blocks: Install precast concrete splash blocks where downspouts discharge onto new roofing membrane as shown on Drawing. Place splash blocks on sacrificial cap sheet set in full mopping of hot asphalt or as recommended in writing by the membrane manufacturer. Locate splash blocks so as not to affect roof drainage.

3.9 Surface Touch-Up

A. Where directed by Engineer, cast additional bright white reflective roofing granules into hot asphalt or liquid flashing membrane to provide consistent finished surface.

B. ONLY where directed by Engineer, prepare roof surfaces and apply coatings according to manufacturer's written instructions, by spray, roller, or other suitable application method. This method shall NOT be used to address bleed out at cap sheet seems where Contractor has failed to cast in granules.

3.10 Field Quality Control

A. After all roofing work is complete, perform a final thermographic inspection of the entire roof to identify any areas of wet roofing insulation.

B. Correct deficiencies in or remove and replace roof membrane that inspections and test reports indicate does not comply with specified requirements.

1. Repair roof membrane that does not comply with specified requirements by re-adhering test specimens back in place and by applying additional plies, equal to the original number of plies specified, over test specimens according to roofing system manufacturer's written instructions.

C. Additional testing, at Contractor's expense, may be performed to determine that corrected Work complies with specified requirements.

D. Test Cuts: Before cap sheet installation, test specimens will be removed to evaluate problems observed during quality-assurance inspections of roof membrane as follows:

1. Approximate quantities of components within roof membrane will be determined according to ASTM D 3617.

2. Test specimens will be examined for interply voids according to ASTM D 3617 and to comply with the criteria established in Appendix 3 of ARMA/NRCA'S "Quality Control Guidelines for the Application of Built-up Roofing."

E. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Architect.

1. Notify Architect and Owner 48 hours in advance of the date and time of inspection.

3.11 Protecting and Cleaning

A. Upon completing roofing, including associated work, institute appropriate procedures for surveillance and protection of roofing during remainder of construction period. At end of construction period, or at a time when remaining construction will in no way affect or endanger roofing, inspect roofing and prepare a written report with copy to Owner's Representative describing nature and extent of deterioration or damage found.

B. Repair or replace, as required, deteriorated or defective work found at time of above inspection to a condition free of damage and deterioration at time of Substantial Completion and according to requirements of specified warranty. Then, perform the specified moisture survey.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

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1.00 GENERAL

1.01 Summary

A. This Section specifies requirements for the following Scope of Work:

1. Provide roof accessory components such as roof hatches, splash block and snow guards.

1.02 Submittals

A. Product Data: For each type of roof accessory indicated.

B. Show Drawings: Show fabrication and installation details for roof accessories.

C. Manufacturer Installation Instructions: For each product in Part 2.

1.03 Quality assurance

A. Comply with manufacturer' s recommendations and requirements.

B. Verify locations, dimensions, and substrate conditions before installation.

2.00 Products

2.01 Splash block

High-density concrete, natural color; 12-inches by 30-inches; to divert water in one direction.

3.00 Execution

3.01 Installation

A. General

1. Coordinate installation of roof accessories with installation of roof deck, roof insulation, flashing, roof membranes, penetrations, equipment, and other construction to ensure that combined elements are weatherproof and watertight.

2. Install roof accessory items according to construction details in NRCA's "Roofing and Waterproofing Manual," unless otherwise indicated.

3. Separation: Separate metal from incomplete metal or corrosive substrates, including wood, by coating concealed surfaced, at locations of contact, with bituminous coating or providing other permanent separation.

4. Operational Units: Test-operate units with operable components. Clean and lubricate joints and hardware. Adjust for proper operation.

B. Curb Installation

1. Verify that structural bracing has been added below roof deck.

2. Set flange on deck and secure with specified fasteners, minimum 2 per side and maximum 24-inches on center.

END OF SECTION

1.00 GENERAL

1.01 Description

Work includes all labor, materials, equipment, and services required for the complete installation of prefinished aluminum storefront and curtain wall systems indicated complete with all related accessories. All openings are fixed lite or window vent openings. Scope includes entrance doors and related hardware components, insulated aluminum infill panels and angle framing connections.

1.02 Related work specified in other sections

Cooperate with all other trades as necessary to ensure proper attachment of work described in this Section. Refer to Section 08 7100 / DOOR HARDWARE for door hardware and mounting heights and Section 08 8100 / GLASS GLAZING for glazing requirements.

1.03 Submittals

Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

A. Qualifications: Submit data for review that manufacturer of Entrances and Storefront and Installer meet the specified requirements.

B. Product Data and Shop Drawings: Submit to Architect for approval manufacturer's descriptive literature and complete shop and installation drawings. Shop drawings shall be project specific and show all material sections at minimum one-half full size, thickness of metal, details of construction, method of anchorage, glazing details, and hardware. Field verify all dimensions prior to fabrication. If the shop drawings submitted for review do not incorporate fastener information required by the certified design calculations, Contractor shall provide a final [for information purposes only] copy of the shop drawing incorporating all fastener information.

C. Design Calculations: Contractor shall complete and submit design calculations for storefront and curtain wall systems signed and sealed by a professional structural engineer registered in the State of Maryland. Certified design calculations may be submitted for review in conjunction with or after the entrances and storefront shop drawings, but must be received and reviewed prior to ordering, fabrication or installation. Final field use drawings shall incorporate all fastener requirements [size, type, spacing, etc.] required by the design calculations.

D. Samples: Submit actual aluminum samples 2" x 3" minimum in size for all colors available. Provide samples showing color range of finishes specified for storefront systems, curtain wall systems, and aluminum infill panels.

E. Warranty: Submit a copy of a sample warranty with initial product data. Upon project substantial completion warranty shall be executed in accordance with applicable requirements.

F. Training Schedule: Submit for review and approval by the Owner a proposed training schedule to complete required entrances and storefront training. Training must occur before substantial completion.

1.04 Qualifications of installers

Materials and products shall be manufactured by a company continuously and regularly employed in the manufacture of similar materials for a period of at least ten consecutive years. Aluminum storefront system shall be furnished and installed by an authorized factory representative of the manufacturer thoroughly trained and skilled in the installation of the items specified.

1.05 LEED requirements

A. MRc2 - BPDO – Environmental Product Declaration

Some specified materials have EPDs or other documentation that contributes to this credit. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

B. MRc3 - BPDO – Sourcing of Raw Materials - Recycled Content

Some specified materials contain percentages of post-consumer and pre-consumer waste materials. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

C. MRc3 - BPDO – Sourcing of Raw Materials - Regional Materials

Some specified building materials are extracted, harvested, recovered, and manufactured within a radius of 100 miles of the project site. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

E. EQc2 – Low-Emitting Materials – Sealants and Adhesives

All sealants, adhesives, and sealant primers used on the building must meet or exceed the product requirements defined in the applicable LEED reference guide and its amendments. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

1.06 Product handling

Use all means necessary to protect products before, during, and after installation and to protect the installed work of other trades. In the event of damage, immediately make all repairs and replacements to the approval of the Architect at no additional cost to the Owner.

1.07 Guarantee

Provide manufacturer's complete one-year guarantee from date of substantial completion of the project against all defects in materials and workmanship and manufacturer’s 15-year warranty against finish failure.

1.08 Entrances and storefront hardware

All hardware shall be purchased by one Contractor for the entire project. The hardware that is specified for aluminum storefront entrances that is specified in 08 7100 / DOOR HARDWARE shall be purchased by the Contractor who is responsible for interior or exterior hollow metal door hardware. Coordination shall take place between these two contractors so that hardware installation templates or actual finish hardware [as required by the storefront manufacturer] is ordered and delivered to the aluminum storefront manufacturing facility so that correct hardware preparation is completed by the factory. No field prep will be accepted. The aluminum storefront Contractor is responsible for the installation, coordination with other trades, adjustment and final acceptance of the storefront door hardware.

2.00 PRODUCTS

2.01 Aluminum storefront and curtain wall systems

Where indicated, aluminum storefront and curtain wall systems shall be model 1600UT aluminum curtain wall system, model Trifab 451UT ultra thermal performance storefront system~~, and model Trifab 451 non-thermal storefront system~~ as manufactured by Kawneer Company, Inc. No substitutions allowed. Type of system to be used is noted on the 'Aluminum Storefront and Curtain Wall System Frame Elevations' on A-600 series drawings. Scope includes Kawneer 500 Heavy Wall entrance doors, door jambs and heads where indicated and Kawneer 451TVG150 variable brake metal adaptors where indicated on drawings. All aluminum storefront components shall be furnished by single manufacturer.

2.02 Materials

Extrusions shall be 6063-T6 aluminum alloy. Where exposed, fasteners shall be prefinished aluminum or stainless steel in accordance with ASTM A 164. Perimeter anchors shall be aluminum or steel as recommended by the manufacturer and shall meet all wind load and other code requirements. Dissimilar materials shall be properly isolated. Manufacturer shall reinforce aluminum extrusions internally to meet required structural design requirements. All framing members shall be nominal 2½"W x 7½"D for 1600UT curtain wall system, 2"W x 4½"D for 451UT storefront system and 2"W x 4½"D for 451 non-thermal storefront system, unless otherwise noted. At 1600UT curtain wall and 451UT storefront system, mullion configurations shall be provided with two part high density polyurethane thermal break material. Glazing gaskets shall be elastomeric extrusions. Provisions shall be made to insure that water will not accumulate and remain in contact with perimeter areas of glazing. Where indicated by hatching on frame elevations (see A-600 series drawings) select vertical jambs and horizontal head members which are to be Heavy Wall members with 3/16" wall thickness.

2.03 Performance

At 1600UT curtain wall and 451UT aluminum storefront systems, air infiltration shall be tested in accordance with ASTM E 283. Infiltration shall not exceed .06 CFM per square foot at a static air pressure differential of 6.24 PSF. Structural performance shall meet all applicable codes and regulations, including wind load requirements, and shall be tested in accordance with ASTM E 330

2.04 500 Heavy Wall Door system

Where indicated on aluminum storefront and curtain wall frame elevations, door system shall be 500 Heavy Wall doors with 5" vertical stiles and 5" top rail. Bottom rail shall be provided with optional 10¼" high rail for extra durability. All door numbers shall have 3/16" wall thickness. Refer to Section 08 7100 / DOOR HARDWARE for specified hardware sets at these doors. At exterior facing doors, furnish with ½" x 4" aluminum mill finish threshold at 451UT system and ½" x 7" aluminum wall finish threshold at 1600UT system.

2.05 Glazing

For glazing type required in each storefront and curtain wall system (including all doors) see elevations on A-600 series drawings. Refer to 08 8100 / GLASS GLAZING for a description of each glass type.

2.06 Glass vent operable sashes

Where indicated on aluminum storefront and curtain wall system elevations, operable sashes shall be glass vent 2¾" project out visually frameless window system. Furnish with concealed stainless steel 4-bar hinges, cast white bronze locking hardware, and pivot shoe roto operator. Sash shall meet CAN/CSA A440 at storefront and AAMA 501 at curtain wall.

2.07 Aluminum infill panels

Where indicated on aluminum storefront and curtain wall system elevations, 3¼" thick aluminum infill panels shall be 'Mapes-R+8-Ply' insulated panels with formed edge for 1" glazing pocket as manufactured by Mapes Panels, LLC (800.228.2391). Panel core shall be isocyanurate insulation. Exterior finish shall be porcelain on aluminum on a cement board exterior substrate. Interior finish shall be porcelain on aluminum on a cement board interior substrate. Interior and exterior colors shall be as selected by Architect. Overall R-Value= 22.91.

2.08 Sun Shade

Where indicated on aluminum storefront and curtain wall system elevations and floor plans, sun shade shall be Versoleil SunShade Outrigger System as manufactured by Kawneer Company, Inc. ~~Sun shade shall be attached to 1600UT curtain wall system.~~ Sun shade shall have 30" rounded outriggers with bullnose fascia. Sun shade will have arch blade type.

2.09 Framing connections

Provide all required steel framing connections between aluminum storefront and curtain wall systems and building structure. Framing connections shall be as shown on the drawings.

2.10 Finish

All exposed storefront system surfaces [including all brake metal fillers as detailed, or as required] scheduled to receive a finish coat shall be clean and free of surface blemishes, scratches or tool marks. The Architect will select from manufacturer's full line of anodized and Fluropon Kynar 500 coatings. Architect will select one anodized color and one separate Fluropon Kynar 500 color for use throughout the project. Anodized coatings shall conform to AAMA 606.1, 608.1 or 611, etched, medium matte, 0.7 mil minimum thickness. Fluropon Kynar 500 finish shall meet AAMA specification 2605, 1.2 mils thick, and contain a minimum of 70% resin.

3.00 EXECUTION

3.01 Surface conditions

Prior to work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where installation may commence. Install insulating foam sealant to fully fill shim space between frame and wall (as indicated on details) and install sealant at perimeter of openings (on both sides of frame) to ensure a tight fit as indicated or required.

3.02 Installation

Install aluminum storefront and curtain wall systems in prepared openings in strict accordance with manufacturer's recommendations and installation instructions. Materials shall be installed in a rigid and substantial manner with all horizontal lines level and all vertical lines plumb. All evidence of drilling shall be concealed by finished work. Fill all voids around shims at jambs, sill and head of rough opening with insulating foam sealant to eliminate voids prior to caulking.

Storefront and curtain wall systems shall be water tested according to ASTM E2128. Any resulting water leaks shall be repaired to Owner's satisfaction.

3.03 Training

Upon completion of storefront and curtain wall installations, factory representatives shall provide the Owner with a minimum of four (4) hours "hands-on" training in the maintenance and operation of system components and hardware. Training shall include, at a minimum, the instruction on glazing removal and replacement, window stop adjustment (if applicable), and screen installation/removal (if applicable).

3.04 Cleaning

At the completion of installation, all surfaces shall be cleaned and left free of imperfections. Repair any damage to finish with manufacturer's touch up paint or have components returned to factory for refinishing at discretion of Architect.

END OF SECTION

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1.00 GENERAL

1.01 Scope

Furnish all labor, materials, equipment, and services required for the installation of skylights as indicated.

1.02 Qualification of installers

Skylights shall be installed by an authorized factory representative of the manufacturer with five consecutive years of experience in the installation of skylight systems specified, under the supervision of a representative of the manufacturer.

1.03 Submittals

Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

A. Descriptive Literature: Provide manufacturer's literature for specified products. Carefully identify all options and accessories specified and required for a completed opening.

B. Shop drawings: Provide project specific shop drawings showing profiles, connections, curb, flashing, and other details required for the installation. Standard manufacturer sections and cuts, or other non-project specific details or drawings are not acceptable forms of shop drawings.

C. Finish Samples: Provide actual color chips of manufacturer's available colors for selection by the Architect. Samples shall be 2" x 3" nominal.

1.04 Warranty

Furnish manufacturer's complete ten [10] year warranty against defects in materials and workmanship from date of substantial completion of the project. Installer shall guarantee that installation will remain weathertight for full guarantee period.

1.05 LEED requirements

A. MRc2 - BPDO – Environmental Product Declaration

Some specified materials have EPDs or other documentation that contributes to this credit. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

B. MRc3 - BPDO – Sourcing of Raw Materials - Recycled Content

Some specified materials contain percentages of post-consumer and pre-consumer waste materials. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

C. MRc3 - BPDO – Sourcing of Raw Materials - Regional Materials

Some specified building materials are extracted, harvested, recovered, and manufactured within a radius of 100 miles of the project site. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

1.06 Quality Assurance

Manufacturer Qualifications: Engaged in manufacture of tubular daylighting devices for a minimum 20 years.

1.07 Delivery, storage and handling

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

2.00 PRODUCTS

2.01 High performance skylights

Where indicated on drawings, high performance skylights shall be SolaMaster 750 DS Closed Ceiling, as manufactured by Solatube International, Inc., (888.765.2882) or approved equal. Skylights shall have a U-factor of 0.55 and integral curb mount flashing as provided by the manufacturer. Tubular daylighting system shall include double roof dome, reflective tubing and 24" x 24" prismatic square diffuser assembly for mounting in suspended ceiling system. Outer roof dome assembly shall be .125" thick, transparent, UV and impact resistant and inner dome shall be made of .115" thick injection molded polycarbonate. Skylight shall be provided with 11" high integral curb. Light reflector tube shall be 0.018" aluminum sheeting with high reflective specular finish. Provide extension tubes as necessary at each skylight.

A. Furnish all skylights with electro-mechanically actuated daylight dimmer. Dimmer shall be 277 volt with 0. 1 amp actuator and shall be controlled by low voltage, series circuited, 4 conductor switch. Range of daylight output shall be between 2 and 100 percent.

B. Fasteners: Same material as metals being fastened, non-magnetic steel, noncorrosive metal of type recommended by manufacturer.

3.00 EXECUTION

3.01 Examination

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

B. If substrate preparation is the responsibility of another Contractor, notify the Construction Manager of unsatisfactory preparation before proceeding.

3.02 Preparation

A. Clean surfaces thoroughly prior to installation.

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

C. Coordinate requirements for power supply, conduit and wiring.

3.03 Installation

A. Install in accordance with manufacturer's printed instructions.

B. After installation of first unit, field test to determine adequacy of installation. Conduct water test in presence of Owner, Architect, or Contractor, or their designated representative. Correct if needed before proceeding with installation of subsequent units.

C. Inspect installation to verify secure and proper mounting. Test each fixture to verify operation, control functions, and performance. Correct deficiencies.

3.04 Testing

Prior to installation of finishes below, skylight shall be thoroughly tested for water tightness with a running hose after roofing and flashings have been installed. Any leaks shall be corrected before unit will be accepted.

3.05 Protection

A. Protect installed products until completion of project.

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

3.06 Cleaning

At the completion of installation and prior to final acceptance, all surfaces shall be thoroughly cleaned per manufacturer's printed instructions and left free of imperfections.

END OF SECTION

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Note: This section is affected by alternates.
Refer to Section 01 2300 / Alternates

1.00 GENERAL

1.01 Description

A. Section includes ramp thresholds and saddle thresholds. (Section affected by alternates.)

B. Design Requirements: Provide threshold and seal products which have been manufactured, fabricated and installed to meet the following design criteria:

1. Performance obtained from test procedures UL 10B and UL 10C
2. Compliant with UL 410
3. Compliant with current ADA standards

1.02 Related Sections

A. SECTION 08 1100 / METAL DOORS AND FRAMES

B. SECTION 09 6400 / WOOD FLOORING

C. SECTION 09 6500 / RESILIENT FLOORING

D. SECTION 09 6623 / EPOXY TERRAZZO FLOORING

1.03 Submittals

A. Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

B. Descriptive Literature: Provide manufacturer's literature for specified products. Carefully identify all options and accessories specified and required for a completed installation.

C. Shop drawings: Produce shop drawings that show all details of material, method of anchorage, and hardware used. Standard manufacturer sections and cuts, or other non-project specific details or drawings are not acceptable forms of shop drawings.

D. Finish Samples: Provide actual color chip of manufacturer's available colors/finishes for selection by the Architect.

1.03 Quality assurance

Utilize an installer having demonstrated experience on projects of similar size and complexity.

1.05 LEED requirements

A. MRc2 - BPDO – Environmental Product Declaration

Some specified materials have EPDs or other documentation that contributes to this credit.

Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

B. MRc3 - BPDO – Sourcing of Raw Materials - Recycled Content

Some specified materials contain percentages of post-consumer and pre-consumer waste materials. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

C. MRc3 - BPDO – Sourcing of Raw Materials - Regional Materials

Some specified building materials are extracted, harvested, recovered, and manufactured within a radius of 100 miles of the project site. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

D. EQc2 – Low-Emitting Materials – Sealants and Adhesives

All sealants, adhesives, and sealant primers used on the building must meet or exceed the product requirements defined in the applicable LEED reference guide and its amendments. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

1.06 Guarantee

Provide manufacturer's 3-year warranty against defects in materials or workmanship, beginning with Date of Substantial Completion.

1.07 Product handling

A. Delivery: Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.

B. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

C. In the event of damage, immediately make all repairs and/or replacements necessary to the approval of the Architect and at no additional cost to the Owner.

2.00 PRODUCTS

2.01 Thresholds

Manufacturer: Pemko Manufacturing Company. P.O. Box 3780, 4226 Transport Street, Ventura, CA 93303; (800).283.9988: www.pemko.com; or approved equal.

A. Modular Ramp Threshold Assemblies - Flush Applications.

1. Material: Extruded tempered aluminum 6063-T6
2. Finish: (ANSI/BHMA 156.18) Mill finish aluminum
3. Width: 6 inches

4. Offset: ½ inch
5. Model Number: R.5F

B. Saddle Thresholds.

1. Material: Extruded tempered aluminum 6063-T6.
2. Finish: (ANSI/BHMA 156.18) Mill finish aluminum
3. Width: 10 inches
4. Offset: ½ inch
5. Model Number: 2550

3.00 EXECUTION

3.01 Surface conditions

Prior to all work of this Section, carefully inspect the installed work of other trades and verify that all such work is complete to the point where this installation may commence. Verify that the final installation will be in complete accordance with the approved shop drawings and the manufacturer's recommendations. Install sealant and shims to ensure a tight fit as indicated or required.

3.02 Installation

All units are to be installed in compliance with the instructions and recommendations of the threshold manufacturer. Adjust and reinforce attachment substrates as necessary for proper installation and operation. Face fasteners and anchors according to industry standards.

3.03 Cleaning up

Remove any protective films and clean components as necessary following manufacturer’s recommended procedures.

3.04 Protection

Protect installed work from damage due to subsequent construction activity on the site.

END OF SECTION

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1.00 GENERAL

1.01 Scope

Work includes all labor, materials, equipment, and services required for the installation of glazing at all partitions, doors, side lights and aluminum entrance and storefront systems, as indicated.

1.02 Related work specified in other sections

Cooperate with all other trades as necessary to ensure proper attachment of work described in this Section.

Section 08 1100 / METAL DOORS AND FRAMES

Section 08 4113 / ALUMINUM ENTRANCES AND STOREFRONTS

Section 08 3473 / SOUND CONTROL DOOR ASSEMBLIES

1.03 Requirements of regulatory agencies

Comply with requirements of applicable codes and regulations.

1.04 Submittals

Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

A. Manufacturer's Product Literature: Submit manufacturer's descriptive literature showing glazing methods and that each glass and glazing product meets the specified requirements.

B. Samples: Provide sample of each glass component. Provide samples in 2" x 3" nominal size.

1.05 LEED requirements

A. MRc2 - BPDO – Environmental Product Declaration

Some specified materials have EPDs or other documentation that contributes to this credit. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

B. MRc3 - BPDO – Sourcing of Raw Materials - Recycled Content

Some specified materials contain percentages of post-consumer and pre-consumer waste materials. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

C. MRc3 - BPDO – Sourcing of Raw Materials - Regional Materials

Some specified building materials are extracted, harvested, recovered, and manufactured within a radius of 100 miles of the project site. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

D. EQc2 – Low-Emitting Materials – Sealants and Adhesives

All sealants, adhesives, and sealant primers used on the building must meet or exceed the product requirements defined in the applicable LEED reference guide and its amendments. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

1.06 Warranty

Furnish manufacturer's one-year guarantee against defects in materials and workmanship from date of substantial completion of the project.

2.00 PRODUCTS

2.01 Glazing Types

A. (Type '1') Tempered glass

Unless otherwise indicated, all glazing shall contain ¼-inch, clear, tempered safety glass as manufactured by Vitro Architectural Glass, Old Castle, Pilkington/Libbey-Owens-Ford Co., or comparable product by J. E. Berkowitz meeting Federal Specification DD-G-1403B, the safety criteria of ANSI Z97.1, ASTM C1172, and Federal Standard 16 CFR 1201. All tempered glass shall bear a permanent monogram signifying compliance with Federal Standard 16 CFR 1201. Tempered glass shall be provided wherever required by code.

B. (Type '2') Tempered Insulating glass (Interior)

To be at interior frames only. See architectural drawings for locations. Where indicated as "Type 2" on the drawings, insulating glass shall be 1-inch thick, clear, tempered, laminated units composed of an airtight, hermetically sealed assembly. Insulating glass units shall be certified through the Insulating Glass Certification Council (IGCC) to ASTM E2190, and annealed float glass shall comply with ASTM C1036, Type I, Class 1 (clear).

1. Outer pane shall be clear, ¼-inch, tempered (Type '1'). *(See 'FG' and/or 'SG' for additional information where noted as such on drawings.)*

2. ½-inch air space with spacer (all four sides) with integrated desiccant, filled with argon or other inert gas and factory-sealed with silicone sealant all around.

3. Inner pane shall be clear, ¼-inch.

C. (Type '3') Low 'E' insulating glass (Exterior - North facing)

To be at exterior frames on North facing elevations. Where indicated, as "Type 3" on the drawings, Low 'E' insulating glass shall be 1-inch thick Vitro Architectural Glass Solarban 60 low-E (clear + clear) insulating glass composed of an airtight, hermetically sealed assembly. Insulating glass units shall be certified through the Insulating Glass Certification Council (IGCC) to ASTM E2190, and annealed float glass shall comply with ASTM C1036, Type I, Class 1 (clear). Visible light transmittance shall be 70%. Solar heat gain coefficient shall be 0.39 with overall window U-value of 0.28. Provide tempered glass where noted on drawings.

1. Outer pane shall be clear, ¼-inch glass with Solarban 60 solar control (sputtered) on inner surface. Tempered (Type "1") at all glazing up to 7'-0" above grade and at all entrance vestibules. *(See 'FG' and/or 'SG' for additional information where noted as such on drawings.)*

2. ½-inch, argon-filled, air space with Vitro spacers at all edges.

3. Inner pane shall be clear ¼-inch.

D. (Type '4') Low 'E' insulating glass (Exterior - South, East, West facing)

To be at exterior frames on South, East, and West facing elevations. Where indicated as Type '4' on the drawings, Low 'E' insulating glass shall be 1" thick, Vitro Architectural Glass Solarban 70XL low-E (clear + clear) insulating glass composed of an airtight, hermetically sealed assembly. Insulating glass units shall be certified through the Insulating Glass Certification Council (IGCC) to ASTM E2190, and annealed float glass shall comply with ASTM C1036, Type I, Class 1 (clear). Visible light transmittance shall be 64%. Solar heat gain coefficient shall be 0.27 with overall window U-value of 0.27.

1. Outer pane shall be clear, ¼-inch glass with Solarban 70XL solar control (sputtered) on inner surface. Tempered (Type "1") at all glazing up to 7'-0" above grade and at all entrance vestibules. *(See 'FG' and 'SG' for additional information where noted as such on drawings.)*

2. ½-inch, argon-filled, air space with Vitro spacers at all edges.

3. Inner pane shall be clear, ¼-inch.

E. (Type '5') Sound control glass (Interior – Ensemble and Music room entrances)

To be at interior glazing at Ensemble and Music room entrance doors. Where indicated as Type '5' shall be 5/8-inch clear, laminated, safety glass complying with ASTM C1172. Glazing shall maintain a minimum STC rating of 40.

1. Outer pane shall be 1/4-inch, tempered (Type '1'). *(See 'FG' and 'SG' for additional information where noted as such on drawings.)*

2. Interlayer shall be 0.03-inch polyvinyl butyral minimum.

3. Inner pane shall be 3/8-inch.

2.02 "FG" Ceramic Fire Glass

Where noted as 'FG' on drawings, at fire-rated doors and frames, glazing shall be Firelite Plus $^{5}/_{16}$-inch thick laminated clear glass ceramic as manufactured by Technical Glass Products 800.426.0279 or approved equal. Glazing shall meet hose stream test and shall be impact safety rated to meet ANSI Z97.1 and CPSC 16 CFR 1201 and UL 10C. Provide fire ratings indicated. Factory or field surface applied films are not acceptable.

A. Outer pane shall be $^{5}/_{16}$-inch, Firelite Plus. *(See other Glazing Types for additional information where Ceramic Fire Glass is required on those types.)*

B. *(See other Glazing Types for additional information where Ceramic Fire Glass is required on those types.)*

C. *(See other Glazing Types for additional information where Ceramic Fire Glass is required on those types.)*

2.03 "SG" Security Glass

Where noted as "SG" on drawings, security glass shall have ¼-inch, Starphire Ultra-Clear security glass (on outer pane of laminated units) as manufactured by Vitro Architectural Glass, Old Castle, Pilkington/Libbey-Owens-Ford Co., or comparable product by J. E. Berkowitz meeting security testing criteria of ASTM C 1048 and ANSI Z97.1.

A. Outer pane shall be $^{1}/_{4}$-inch, Starphire Ultra-Clear security glass. *(See other Glazing Types for additional information where Security Glass is required on those types.)*

B. *(See other Glazing Types for additional information where Security Glass is required on those types.).*

C. *(See other Glazing Types for additional information where Security Glass is required on those types.)*

2.04 Glazing tape

At all hollow metal frames and hollow metal doors glazing tape shall be Norton Norseal V-990 foam tape or approved equal. At fire rated openings, install with fire rated glazing tape furnished by glazing manufacturer.

2.05 Glazing accessories

Glazing materials shall be of types and systems recommended by FGMA glazing manual and glass manufacturer for type of installation shown.

3.00 EXECUTION

3.01 Installation

A. Work shall be in accordance with the GANA glazing manual, FGMA, and glass manufacturer's recommendations.

B. All glass shall have applied factory labels. Labels shall not be removed until acceptance of glazing by the Architect.

C. Cushion all ¼" glass on glazing buttons when glass area is greater than 20 S.F. Furnish two buttons per piece at bottom frame member.

D. Install glazing tape at both sides of all edges of glazing at all exterior and interior hollow metal frames, and hollow metal doors.

E. Outer ply of laminated glass shall be located at exterior face of framing. The exterior face shall be opposite side of the occupied space.

3.02 Protection

Protect all glass during and after installation. After final acceptance remove factory labels and clean glass. Damaged and broken glass shall be removed and replaced to the approval of the Architect and at no additional cost to the Owner, until date of substantial completion.

END OF SECTION

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1.00 GENERAL

1.01 Scope

Work includes all labor, materials, equipment, and services required for the installation of carpeting as indicated on finish schedule. Scope includes furnishing Owner with cleaning machine and roamer at maintenance demonstration.

1.02 Submittals

Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

A. Manufacturer's Product Literature: Submit copies of manufacturer's descriptive literature for all materials and adhesive. Submit copies of current recycling programs, energy conservation programs and programs for reclamation of raw and recyclable materials.

B. Manufacturer's Maintenance Data: Submit copies of manufacturer's maintenance data for all materials including carpet and adhesive. Maintenance data shall include manufacturer's recommendations for the care and cleaning of carpet.

C. Samples: Submit samples of carpet and edging/termination strips for Architect's approval and color selection. Carpet samples shall be at least 6" x 8". Termination strips shall be a minimum of 12" long. Provide full line of manufacturer's samples available for selection.

D. Recycle Certification: Provide certification that carpet is fully or partially recyclable.

F. Installer Certification/Qualifications: Submit certification and evidence of installation qualifications as referenced in paragraph 1.03

G. Five Year Installation Warranty is to be provided in writing by the dealer purchasing and installing carpeting. The Five-Year Installation warranty is to include the products being installed and related materials for a period of five years. The first installation inspection will take place immediately after completion of the installation and again in six months. A written report from the manufacturer is to be provided to the School's project manager indicating that installation instructions have been followed. After the first two initial installation inspections, yearly inspections will take place by the manufacturer for the remaining four years of the installation warranty period with annual written report provided to School's project manager.

1.03 Quality assurance

Carpet installer shall furnish evidence that he/she is certified by carpet manufacturer and is experienced and expert at commercial carpet installations similar in scope to that specified.

Carpet manufacturer shall have been in continual operation for a minimum of five consecutive years. Manufacturer shall provide on-site supervision during start-up phase of installation for a minimum total of 24 hours. Manufacturer shall immediately notify Construction Manager if installation instructions are not followed.

1.04 LEED requirements

A. MRc2 - BPDO – Environmental Product Declaration

Some specified materials have EPDs or other documentation that contributes to this credit. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

B. MRc3 - BPDO – Sourcing of Raw Materials - Recycled Content

Some specified materials contain percentages of post-consumer and pre-consumer waste materials. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

C. MRc3 - BPDO – Sourcing of Raw Materials - Regional Materials

Some specified building materials are extracted, harvested, recovered, and manufactured within a radius of 100 miles of the project site. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

D. EQc2 – Low-Emitting Materials – Sealants and Adhesives

All sealants, adhesives, and sealant primers used on the building must meet or exceed the product requirements defined in the applicable LEED reference guide and its amendments. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

E. EQc2 – Low-Emitting Materials – Flooring systems

All flooring elements installed in the building interior shall meet or exceed the testing and product requirements defined in the applicable LEED reference guide and its amendments. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

1.05 Guarantee

A. Contractor shall furnish an unconditional guarantee for materials and workmanship for a period of twenty-five years. Guarantee shall be non-prorated for full 25 year guarantee period. Guarantee shall start from date of substantial completion. Upon notification, manufacturer and/or Contractor shall repair and/or replace the carpet to the Owner's satisfaction. Scope of guarantee shall include:

1. Excessive surface wear not to exceed 15% loss of pile fiber weight.
2. Excessive static electricity not to exceed 3.0KV per AATCC 134.
3. Backing resilience loss not to exceed 10%.
4. Delamination
5. Edge ravel
6. Zippering

B. Provide certification and warranty that product is fully or partially recyclable through manufacturer's or aligned partner's currently operational recycling program. Include information regarding the following:

1. The recycling process(es) itself (i.e. separation of components, chopping, melting, pelletizing, etc.)
2. Portions of the product that will be recycled back into itself
    a. name/type of resulting product
    b. end-use of resulting product
    c. total product recycled content based on total product weight
    d. whether resulting product is recyclable (fully or partially) or non-recyclable
3. Portions of the product that will be down-cycled
    a. name/type of resulting product

b. end-use of resulting product

c. total product recycled content based on total product weight

d. whether resulting product is recyclable (fully or partially) or non-recyclable

4. Portions of the product that will be landfill and/or incinerated. (NOTE: "Incineration" includes waste-to-energy conversion, extraction of embodied energy, and using heat from incineration as a fuel source.)

1.06 Extra stock

At completion of project, deliver to Owner extra stock as described in Section 01 7000 / CONTRACT CLOSEOUT.

2.00 PRODUCTS

2.01 Carpet

Where indicated, carpet shall be Explorer ER3 C-10 RS- PowerBond Cushion RS textile flooring tile as manufactured by Tandus or approved equal. Color to be selected by Architect. All carpet in any color shall be from same dye lot. Carpet shall conform to the following requirements:

Construction:	Textured loop
Gauge:	1/13
Pile height:	0.109"
Stitches per inch:	9.2
Total weight:	77 oz. per sq. yd.
Dye Method:	Solution dyed
Stock width:	24" tile
Tuft density per sq. inch:	119.6
Pile thickness:	0.062"
Density factor:	8,129 oz./cu. yd.
Fiber system:	100% TDX SD BCF Nylon 6,6
	with static control and Ensure
Primary backing:	Synthetic woven or non-woven
Secondary backing:	Closed cell ER3C10 RS vinyl cushion backing system
Compression set:	10% maximum per ASTM D-1667
Compression deflection:	Between 7 psi min. and 25 psi max. at 25%
Flammability:	Passes CPSC FF-I-70
Electrostatic propensity:	AATCC 134, under 3.0KV
Flooring radiant panel:	ASTM E-648, NFPA 253 Class I

Smoke density:	ASTM-E-662, NFPA 258, less than 450
Static coefficient of friction:	ASTM C-1028, passes ADA guidelines for accessible routes
Delamination of backing:	ASTM D-3936, minimum 15 lbs.
Light fastness:	AATCC 16E, more than 4 at 100 hours
Vetterman drum:	ASTM D-5417, minimum 3 at 22,000 cycles
Moisture barrier:	No penetration at 10 psi
VOC emissions testing:	ASTM D-6178
R-Value	ASTM C177: 0.68 or higher
Acoustic requirements	NRC .20 minimum

Durable stain inhibitor shall be applied to resist fiber staining and soiling per CRI TM-102: 500 ppm. Carpet fiber shall contain carbon-core filament for permanent stain control.

Carpet tile shall be furnished with wet-set, pressure-sensitive adhesive system.

98% recycled content backing with overall recycled content minimum 45%. Overall recycled content to include minimum 10% post consumer.

Antimicrobials are an EPA registered pesticide. No antimicrobials are allowed in the backing of these flooring products. Test ASTM E-2471-05 should indicate NEGATIVE for antimicrobials. Installation adhesives are exempt from this section.

Indoor Air Quality: Meet or exceed the State of Washington Protocol for Indoor Air Quality and the Collaborative for High Performance Schools (CHPS) Indoor Air Quality tests.

Sustainability: Vinyl cushion tufted textile (VCTT) to be 100% recyclable. Product's claim of recycled content must comply with FTC Guides 16 CFR Part 260.7 (e) and be third party certified. Company to have an in-place, operational recycling program for product (at the end of its useful life) and manufacturing waste. Program shall recycle 100% of the product in the same operation. This program shall not consist of incineration.

Carpet shall fully comply with the requirements of LEED credit EQc2 – Low-Emitting Materials – Flooring systems (see paragraph 1.04E above).

2.02 Floor primer

Primer shall be as recommended by carpet manufacturer.

2.03 Reducing Strips

Reducing (edge) strips shall be Burke Mercer vinyl one piece reducing strip no. 152 or Roppe no. 177 meeting all requirements of carpet manufacturer. Reducing strips shall be furnished at all open edges of carpet.

3.00 EXECUTION

3.01 Product handling

Carpet shall be delivered to the job in the original mill wrappings with each having its register number properly marked. Carpeting shall be protected from soiling, damage or moisture during transit, storage, and installation per manufacturer's written instructions. Contractor shall be responsible for scheduling and receiving carpet material.

3.02 Floor preparation

Floors to receive carpet shall be thoroughly clean and dry and free of any curing compounds. Contractor shall be responsible for all required floor patching and/or preparation that exceeds specified concrete tolerances, using Ardex Inc. type SD-F cement based finishing underlayment or Dap Inc. type 60P floor underlayment with No. 60L additive in strict accordance with manufacturer's printed instructions. Contractor shall power sand concrete subfloor prior to carpet installation. Floors shall be inspected before beginning work and Contractor shall notify Architect in writing of any conditions preventing satisfactory carpet installation. Work shall not begin until such conditions are entirely corrected. Contractor shall be responsible for taking moisture and alkali tests in accordance with CRI and manufacturer's requirements. Maximum amount of moisture evacuation from floor slab shall be 3.0 pounds per 1,000 s.f. in twenty-four hours. Acceptable ph level is between 7.0 and 9.0. Proceeding with installation of carpet shall indicate acceptance of the floors by the Contractor.

3.03 Preinstallation meeting

After all required submittals have been approved and before carpet installation is scheduled to begin, a conference will be called at the job site for the purpose of reviewing installation procedures. The intent is to resolve questions before work is started. Conference shall coincide with the date of a Project Meeting and shall be attended by the carpet installer, carpet manufacturer, Owner's representative, Construction Manager, and Architect.

3.04 Installation

A. Apply floor primer to concrete substrate prior to carpet installation. Carpet shall not be installed until concrete slab has cured 60 days minimum and painting and drywall finishing have been completed. Fit carpet neatly into recesses and alcoves, closets, around pipes and penetrations, and tight to all walls, partitions, permanent casework, and equipment. Carpet shall be installed before shelving units are installed in the Media Center.

B. Install carpet in strict accordance with manufacturer's installation instructions. Install carpet over plumbing cleanouts and mark cleanouts with a brass screw and grommet.

3.05 Cleaning

Carpet shall be kept clean as installation progresses. Immediately remove any adhesive or foreign substances spilled on the carpet. Any cleaning required shall be performed only with substances recommended by the carpet manufacturer. Upon completion of installation, Contractor shall remove all waste and excess unusable materials and all tools and equipment. Damage caused by carpet installation to paint, walls, doors, etc. shall be the responsibility of the Contractor. Carpet shall be completely cleaned

and vacuumed before final acceptance.

3.06 Protection

At the end of each day, Contractor shall protect carpet with a complete covering of non-staining reinforced kraft paper which shall be lapped a minimum of 6 inches and sealed with tape with non-staining adhesive. Protective covering shall be kept in repair.

3.07 Demonstration

Within 30-days of carpet installation, and prior to Owner occupancy, carpet manufacturer shall schedule an in-service maintenance demonstration for Owner's personnel. Demonstration shall include proper maintenance procedures and proper use of manufacturer's recommended cleaning equipment and cleaning agents. At time of demonstration, Contractor shall furnish: one [1 each] case of Crystal Dry Spotter, one [1 each] GLS cleaning machine, and one [1 each] Roamer for demonstration. Products and equipment shall become the Owner's after the demonstration is complete.

END OF SECTION

1.00 GENERAL

1.01 Description

Work includes all labor, materials, equipment, and services required for the installation of suspended ceiling panels and wall panels indicated or required. Acoustic ceiling panels in entrance vestibules shall be furnished with hold down clips.

1.02 Scope

Work includes but is not limited to:

Acoustical ceiling panels as indicated on finish schedule and reflected ceiling plans

Moisture resistant ceiling panels for Kitchen and Toilet Rooms.

Low frequency ceiling panels as indicated on reflected ceiling plans

Low NRC ceiling panels and gypsum board ceiling panels for Music and Ensemble room

1.03 Related work specified in other sections

Cooperate with all other trades as necessary to ensure proper attachment of work described in this Section. Refer to the following specification sections:

09 2226 / SUSPENSION SYSTEMS

09 8413 / SOUND ABSORPTIVE WALL PANELS

09 8414 / UTILITY SOUND ABSORPTIVE PANELS

09 8416 / RADIUSED SOUND DIFFUSING PANELS

1.04 Submittals

Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

A. Manufacturer's Product Literature: Submit manufacturer's descriptive literature for each product or material specified showing compliance with specified requirements.

B. Shop Drawings: Provide project specific shop drawings showing locations, layout and anchor details for all acoustic and reflective materials.

C. Color Samples: Submit samples to Architect for selection from manufacturer's full range and line of available colors. Provide samples in 2" x 3" nominal size.

D. Product Samples: Submit 12" x 12" nominal sample of acoustic and reflective materials.

1.05 Qualifications of installers

For the actual fabrication and installation of the acoustical treatment, use only mechanics who are thoroughly trained and experienced in the fabrication and installation of these materials.

1.06 LEED requirements

A. MRc2 - BPDO – Environmental Product Declaration

Some specified materials have EPDs or other documentation that contributes to this credit. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

B. MRc3 - BPDO – Sourcing of Raw Materials - Recycled Content

Some specified materials contain percentages of post-consumer and pre-consumer waste materials. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

C. EQc2 – Low-Emitting Materials – Ceiling systems

All ceiling elements installed in the building interior shall meet or exceed the testing and product requirements defined in the applicable LEED reference guide and its amendments. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

1.07 Product handling

A. Deliver all system components to the job site in their original unopened packages with all labels intact and legible at time of installation.

B. Store all system components in such a manner as to ensure protection from damage and the weather.

C. Use all means necessary to protect suspended ceiling materials from damage before, during, and after installation and to protect the installed work of other trades. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

1.08 Extra stock

At completion of project, deliver to Owner extra stock (600 sf) of each of the following types of panels: acoustical ceiling panels,, moisture resistant ceiling panels and low frequency ceiling panels; and (60 sf) of each of the following types of panels: low NRC ceiling panels, gypsum board ceiling panels as described in Section 01 7000 / CONTRACT CLOSEOUT.

1.09 Guarantee

Furnish manufacturer's one year guarantee against defects in materials and workmanship from date of substantial completion of the project. Ceiling panels shall be warranted by installer against warpage for full guarantee period.

2.00 PRODUCTS

2.01 Acoustical ceiling panels

Where indicated on the reflected ceiling plans and finish schedule, shall be 24" x 24" x 3/4" Armstrong School Zone Fine Fissured, CertainTeed Fine Fissured High NRC, or United States Gypsum Radar Climate Plus High NRC lay-in panels with high moisture and high heat resistance. Acoustical ceiling panels shall have a minimum 0.70 NRC rating. Finish shall be white, unless otherwise noted. At entrance vestibules, provide wire type hold down clips above all ceiling panels.

2.02 Moisture resistant ceiling panels

Where indicated on the reflected ceiling plans and finish schedule, provide 24" x 24" x 1/2" water-repellent and washable ceiling panels model Vinyl Rock 1140-CRF-1 as manufactured by Certainteed, Ultima Health Zone 1938 as manufactured by Armstrong, or approved equal. Acoustical ceiling panels shall have a minimum of 0.70 NRC rating and a Class A fire rating. Finish shall be smooth and white in color. To be used with exposed aluminum grid suspension system, see specification 09 2226 / SUSPENSION SYSTEMS.

2.03 Low frequency ceiling panels

Where indicated on the reflected ceiling plans and finish schedule, provide 24" x 24" x 1" Optima panels, model number 3152 as manufactured by Armstrong (717.397.0611) or approved equal. Panels shall be designed for installation in exposed "lay-in" suspension system and shall meet a minimum 0.90 NRC rating and a Class A fire rating. Finish color shall be white, unless otherwise noted.

2.04 Low NRC ceiling panels

Where indicated on the reflected ceiling plans and finish schedule, provide 24" x 24" x 5/8" Dune panels, model number 1772 as manufactured by Armstrong (717.397.0611) or approved equal. Acoustical panels shall have a 0.50 NRC rating. Panels shall be designed for installation in exposed "lay-in" suspension system and shall meet ASTM E 1264 and have a Class A fire rating. Finish color shall be white, unless otherwise noted.

2.05 Gypsum board ceiling panels

Where indicated on the reflected ceiling plans and finish schedule, provide 24" x 24" x ½" smooth surface Gyptone Base 31 panels as manufactured by Certain Teed or approved equal. Panels shall be designed for installation in exposed "lay-in" suspension system and shall meet ASTM E 1264 and a Class A fire rating. Finish color shall be white, unless otherwise noted.

2.06 Fire hazard classification

All acoustical treatment shall meet the following minimum standards: Flame Spread: 25; Fuel Contributed: 20; Smoke Developed: 450 or less. Materials shall be rated Class C according to current International Building Code and Class A according to current Life Safety Code.

3.00 EXECUTION

3.01 Surface conditions

Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may commence and verify that the installation may be made in complete accordance with the contract documents and with the manufacturer's

recommendations.

3.02 Installation of ceiling panels

Install all ceiling panels in the exposed "T" grid system so that linearity of facing is in one direction only. Cut panels neatly as required to conform to layout.

3.03 Adjustment

Upon completion of installation, inspect all grid system and ceiling panels for level alignment. All ceiling panels shall be fully and squarely seated on suspension system.

3.04 Cleaning up

Completely remove all fingerprints and soiled areas. If cleaning proves ineffective, replace soiled units at no additional cost to the Owner. Immediately remove all excess materials from site as installation progresses.

END OF SECTION

1.00 GENERAL

1.01 Description

Work includes, but is not limited to, all labor, materials, equipment, and services required for the complete installation of operable wall systems as indicated on the drawings complete with all accessories.

1.02 Requirements

The Contractor shall verify and coordinate all dimensions, details, wall openings, clearances, overhead support requirements, and other information affecting the proper installation of the operable wall systems.

1.03 Quality assurance

A. Installer Qualifications: An experienced installer who is certified in writing by the operable partition manufacturer, as qualified to install the manufacturer's partition systems for work similar in material, design, and extent to that indicated for this project.

B. Acoustical Performance: Test operable partitions in an independent acoustical laboratory in accordance with ASTM E90 test procedure to attain no less than the STC rating specified. Provide a complete and unedited written test report by the testing laboratory upon request.

C. Preparation of the opening shall conform to the criteria set forth per ASTM E557 "Standard Practice for Architectural Application and Installation of Operable Partitions."

1.04 Submittals

Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

A. Product data: Material descriptions, construction details, finishes, installation details, and operating instructions for each type of operable partition, component, and accessory specified.

B. Shop drawings: Show location and extent of operable partitions. Include plans, sections, details, attachments to other construction, and accessories. Indicate dimensions, weights, conditions at openings, and at storage areas, and required installation, storage, and operating clearances. Indicate location and installation requirements for hardware and track, including floor tolerances required and direction of travel. Indicate blocking to be provided by others.

C. Setting drawings: Show imbedded items and cutouts required in other work, including support beam punching template.

D. Samples: Color samples demonstrating full range of finishes available by Architect. Verification samples will be available in same thickness and material indicated for the work.

1.05 Product handling

A. Clearly mark packages and panels with numbering systems used on shop drawings. Do not use permanent markings on panels.

B. Use all means necessary to protect products before, during, and after installation and to protect the installed work of other trades. In the event of damage, repair or replace at the Architect's discretion all damaged materials to a "like new" condition at no additional cost to the Owner.

1.06 LEED requirements

A. MRc3 - BPDO – Sourcing of Raw Materials - Recycled Content

Some specified materials contain percentages of post-consumer and pre-consumer waste materials. Contractor shall provide LEED credit verification as per Section 01 3300 / SUBMITTAL PROCEDURES.

1.07 Guarantee

Furnish manufacturer's two year guarantee against defects in materials and workmanship from date of substantial completion of the project.

2.00 PRODUCTS

2.01 Operable walls

Operable walls shall be Modernfold Acousti-seal Model 932 manually operated partitions with No. 14 [7gauge] steel track system, Panel Fold Moduflex-Model 420 with steel track system, or Advanced Equipment Co. Sigma Panel D Model with steel track system, or Hufcor-Model 632 with steel track system. Maximum panel width shall be 4'-0".

Operable walls shall be top hung, center stack, paired panel, manually operated, with automatic drop seals. System shall include all hardware, soffits, trim and other related items required for complete system operation.

Partition shall draw open in one direction as indicated on the drawings.

Furnish panels with one and one half panel closure method. On both sides of wall, install continuous 4'-0" high markerboards on operable partition with widths of 16'-0". Tackboards shall be 4'-0" high, installed on remaining panel surface directly adjacent to markerboards. Provide one recessed marker tray on both sides of wall below center markerboards. Mount bottom of markerboards and tackboards 2'-8" above finished floor.

2.02 Finishes

Panel finishes and accessories shall be as follows:

A. Panels

Panels shall be constructed of all steel, with a minimum 3" thick 21 ga. steel skin welded to minimum 18 ga. steel panel frames. Panels shall have rigid backing and interior insulation. Panel finish shall be class "A" finish in accordance with Section 6-5 of latest NFPA 101 Life Safety Code.

B. Panel finish

Both sides of operable walls shall have panel finish that is factory applied, Class "A" rated material. Panel face finish shall be reinforced heavy duty vinyl with woven backing weighing not less than 27 ounces per lineal yard. Color to be as selected by Architect from manufacturer's full line of standard or premium lines.

C. Trim

"Wrap around" skin/panel construction shall not require or permit vertical trim on panel faces and shall, with astragal seals, provide a minimal groove appearance at each vertical panel joint.

Prefinished steel soffit trim shall be installed at ceiling opening without use of exposed fasteners.

D. Acoustical properties

Operable wall panel construction shall have been tested in an independent acoustical laboratory in accordance with ASTM E90-75 test procedure and shall have attained an acoustical rating of not less than 50 STC at all operable walls. In addition, field sound performance shall have been tested in accordance with ASTM E-336 resulting in 42 NIC or FSTC rating. Written test results shall be furnished upon request.

E. Sound seals

1. Vertical interlocking sound seals between panels shall be roll-formed steel astragals, with reversible tongue and groove configuration in each panel edge for universal panel operation. Rigid plastic astragals or astragals in only one panel edge are not acceptable.

2. Horizontal top seals shall be continuous contact extruded vinyl bulb shape with pairs of non-contacting vinyl fingers to prevent distortion without the need for mechanically operated parts.

3. Horizontal bottom floor seals shall be Modernfold Floating Bottom Seal. Floating operable seals provide nominal 2" operating clearance with an operating range of +½" to 1½" and shall provide continuous floor contact as panels are positioned without the need for tools or cranks.

F. Suspension system

1. Suspension tracks shall be minimum 7-gauge, 0.18" roll formed steel. Static loading of track with brackets at 48" centers shall show no failure of track or brackets at 5,000 pounds point loading at mid-span. Track shall be supported by adjustable steel hanger brackets connected to structural support pairs of ½" diameter threaded rods. Brackets must support the load bearing surface of the track. Exposed track soffit shall be steel, removable for service and maintenance, attached to track bracket without exposed fasteners, and pre-painted off-white.

2. Carriers/trolleys shall be all steel trolley with four or eight steel tired ball-bearing wheels. Non-steel tires are not acceptable.

G. Recessed pull handles

Provide one recessed pull handle in each panel to allow for ease of panel movement during opening or closing. Color of handle to match prefinished trim.

H. Markerboards

Markerboards shall be 48" high and shall be 24 gauge white porcelain enamel steel formed around panel edges so as to require no vertical trim. Top and bottom edges shall be trimmed with matching molding. No exposed fasteners shall be permitted. Markerboard panels shall be factory applied over steel panel skin.

I. Tackboards

Tackboards shall be 48" high and shall be corkboard covered with jute textured fabric. Vinyl covering shall wrap around panel edges so as to require no vertical trim. Top and bottom edges shall be trimmed with a matching molding. No exposed fasteners shall be permitted. Tackboard panels shall be factory applied over steel panel skin. Steel skins are not to be cut to provide tackable surface.

2.03 Colors

Colors of all materials shall be as selected by the Architect from manufacturer's standard color charts.

3.00 EXECUTION

3.01 Conditions

Examine flooring, structural support, and opening, with installer present for compliance with requirements for installation tolerances and other conditions affecting performance of operable partitions. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 Installation

A. General: Comply with ASTM E557, operable partition manufacturer's written installation instructions, drawings and approved shop drawings.

B. Install operable partitions and accessories after other finishing operations, including painting, have been completed.

C. Match operable partitions by installing panels from marked packages in numbered sequence indicated on shop drawings.

D. Broken, cracked, chipped, deformed or unmatched panels are not acceptable.

3.03 Protection

At all times during installation, construction, etc., the Contractor shall take all measures necessary to protect the partition components, finishes, materials, etc. and adjacent surfaces from damage. Any damage to the above before final acceptance shall be repaired to a "like new" condition or replaced at the Architect's discretion at no additional cost to the Owner.

3.04 Cleaning

Clean partition surfaces upon completing installation of operable partitions to remove dust, dirt, adhesives, and other foreign materials according to manufacturer's written instructions.

3.05 Adjusting

Adjust operable partitions to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and other moving parts.

3.06 Demonstration

A. Manufacturer's representative shall demonstrate proper operation and maintenance procedures to Owner's representative. For bid purposes, manufacturer shall assume a total of two hours of demonstration time over a period of no more than two site visits.

B. Provide Operation and Maintenance Manual to Owner's representative.

END OF SECTION

1.00 GENERAL

1.01 Scope

Work includes all labor, materials, equipment, and services required for the installation of evacuation sleds and evacuation sled cabinets located as indicated on the drawings.

1.02 Submittals

Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

A. Manufacturer's Product Literature: Submit manufacturer's descriptive literature for each product or material specified showing compliance with specified requirements.

B. Shop Drawings: Provide shop drawings showing plan, elevation, dimensions, section, method of anchor, hardware and accessories. Provide shop drawings at a size sufficient to accurately show conditions.

1.04 Guarantee

Furnish manufacturer's one year guarantee from date of substantial completion of the project against any defects in materials and workmanship.

2 00 PRODUCTS

2.01 Evacuation device cabinets

Where indicated on the plans, provide four single steel case storage device model no. MSSDSC1 as manufactured by Med Sled or approved equal. Cabinet shall have full panel door with clear 1/8" thick acrylic vision panel and shall accommodate one standard evacuation sled per cabinet. Size is 15-3/4"W x 39-3/4"H x 9"D surface wall mounted. Locations indicated on the drawings. All evacuation devices to be provided by the Owner.

3.00 EXECUTION

3.01 Conditions

Prior to all work in this Section, carefully inspect the installed work of other trades and verify that all work is complete to the point that installation may begin.

3.02 Protection

At all times during and after installation, the Contractor shall take all measures necessary to protect all evacuation device cabinets, evacuation sleds, and accessories, and adjacent surfaces from damage. Any damage to the above before substantial completion shall be repaired to a "like new" condition or replaced at the Architect's discretion at no additional cost to the Owner.

3.03 Cleaning

At the completion of installation all surfaces shall be cleaned and left free of imperfections.

END OF SECTION

1.00 GENERAL

1.01 References

The latest edition of the publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

A. American National Standards Institute (ANSI)

1. ANSI C2 National Electrical Safety Code

B. Codes of Federal Regulations (CFR)

1. 47 CFR 15 Radio Frequency Devices

C. Electronic Industries Association (EIA)

1. EIA 170A Electrical Performance Standards - Television Studio Facilities
2. EIA 232-E Interface Between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange
3. EIA 310-D Cabinets, Racks, Panels, and Associated Equipment
4. EIA 330 Electrical Performance Standards for Closed Circuit Television Camera 525/60 Interlaced 2:1

D. Institute of Electrical and Electronics Engineers (IEEE)

1. IEEE C62.41 Surge Voltages in Low-Voltage AC Power Circuits
2. IEEE Std 142 IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems

E. National Electrical Manufacturers Associations (NEMA)

1. NEMA Enclosures for Electrical Equipment (1000 Volts Maximum)

F. National Fire Protection Association (NFPA)

1. NFPA National Electrical Code

G. Underwriters Laboratories (UL)

1. UL 6 Rigid Metal Conduit

1.02 Submittals

A. Product Data: For each type of projection screen indicated, include screen designation, model, material description, construction details, installation hardware description, and finishes.

B. Samples: Submit three (3) sets of manufacturer's standard size screen material samples for each screen type to be provided. Samples shall be representative of the specified fabric, finish, and color.

C. Shop Drawings showing the following:

1. Locations and dimensions of screens showing screen centerline relative to ends of the screen case.
2. Screen drop length, viewing dimensions, and perimeter borders.

3. Location of seams in the viewing surface.

4. Frame detail including connections to supporting structure.

5. Details of anchorage, mounting hardware, connections, and accessories.

D. Projection Screen Schedule: Listing of screens using the same reference numbers for screens as those shown on the Contract Documents.

E. Comparison Schedule: Listing of optical performance, screen mechanisms, and hardware requirements in these Specifications with optical performance, screen mechanisms, and hardware requirements of proposed screens if different than specified herein.

1.03 Quality Assurance

A. Manufacturer Experience: The Manufacturer of the projection screens shall have a minimum five (5) years of experience in the fabrication of projection screens similar to those described in these Specifications.

B. Single-Source Responsibility: For a given screen type obtain complete screen assemblies from one source and by a single manufacturer.

C. Safety Label: Electrical components, devices, and accessories shall be listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

D. Dimensions: Verify screen dimensions, drop distance, and height above finished floor with room dimensions before ordering.

1. It is the Contractor's responsibility to verify screen mounting, and confirm projection screen options (motor side, reverse roll, low voltage control, etc.) required for the installation prior to ordering.

E. Mock-ups: Construct for inspection one full-size mock-up assembly at the jobsite comprising screen and mounting hardware to be installed at that location. The mock-up can be left in place as part of the completed Work if accepted by the Architect.

1.04 Delivery, Storage, and Handling

A. Delivery: Deliver screens cardboard-wrapped or crated to provide protection during transit and job storage.

B. Site Storage: Store screens at the building site under cover and away from sources of moisture. Place screens on minimum 4 inch high wood blocking. Provide minimum ¼ inch spacers between stacked screens to permit air circulation. Avoid using non-vented plastic or canvas shelters that could create a humidity chamber. If packaging becomes wet, immediately remove screens from cartons.

C. Thermal Conditions: The temperature and humidity conditions within the storage area shall not be lower than 45°F and 20 percent relative humidity or higher than 90°F and 80 percent relative humidity.

1.05 Warranty

A. General: Warranties specified herein shall not deprive the Owner of other rights covered by other provisions of the Contract Documents and will be in addition to, and run concurrent with, other warranties made by the Contractors under requirements of the Contract Documents.

B. Warranty Period: Manufacturer's standard warranty but not less than 1 year after date of Substantial Completion.

2.00 PRODUCTS

2.01 Manufacturers

A. Available Manufacturers: Subject to compliance with requirements, Manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Electrically Operated Projection Screens

1.	Da-Lite Screen Company, Warsaw, IN	866.977.3901
2.	Draper Inc, Spiceland, IN	800.238.7999
3.	Stewart Filmscreen Corporation, Torrance, CA	800.762.4999

2.02 Case

A. Construction – Ceiling/Wall Mounted Projection Screens

1. General: Two-piece extruded aluminum with front access panel. Case is designed to receive mounting hardware.

2. Case Finish:

   a. Cafetorium and Gymnasium: Provide screen case in powder coated black color or as specified otherwise by the Architect.

3. Screen Removal: Case shall permit removal of screen fabric and screen mechanisms.

4. Floating Mounting Brackets: Provide adjustable mounting brackets to move screen to left or right for proper centering and alignment with projector.

2.03 Screen Mechanisms

A. Operating Motors

1. General: Provide UL-labeled motors to operate screen and case closure doors.

2. Type: Three-wire, 120V, 60 Hz, permanently lubricated, reversal type designed to be mounted inside roller. Motor amperage shall not exceed 2.4 amperes.

3. Features: Provide electric motor with noise silencer, automatic thermal overload protection, integral gears, capacitor, and electric brake to prevent coasting.

4. Limit Switches: Pre-set, adjustable limit switches to automatically stop viewing surface in selected up or down position.

5. Motor Housing: Inside metal roller.

2.04 Viewing Surfaces

A. Material: Flame retardant, mildew-resistant seamless vinyl in sizes indicated on the Drawings.

1. Mildew Resistance: Rating of 0 or 1 when tested in accordance with ASTM G 21.

2. Flame Resistance: Passes NFPA 701.

3. Flame-Spread Index: Not greater than 75 when tested in accordance with ASTM E 84.

B. Tensioning: Viewing surface to have tab guide cable tension system to provide even lateral tension and hold screen flat. Bottom of viewing surface shall have weighted aluminum slat bar with plastic caps to provide vertical tension.

C. Extra Drop:

1. Cafetorium and Gymnasium: Provide black drop integral with viewing surface as required for placing the projection screen case and projected image where indicated on the Drawings.

D. Reverse Roll: Provide projection surface on side of deployed screen facing audience with screen case mounted as shown on the Drawings. Provide reverse roll as needed.

2.05 Mounting Hardware

A. General: Provide Manufacturer's standard installation hardware, fasteners, and other components of type, size, and spacing for complete, functional, and secure screen installation.

B. Installation Hardware:

1. Cafetorium and Gymnasium: Direct-attach projection screen case to wall/ceiling structure with rated hardware where shown on the Drawings. The Contractor is responsible for providing supplemental structure and all hardware, coordinated with the Audio-Visual and Theatrical Rigging Contractors, for a successful installation.

2.06 Electric Rolling Screens

A. Fabrication: Electrically operated, UL listed, retractable projection screen manufactured as an integral unit consisting of rigid metal roller, motor housed within the roller, and screen fabric in a metal case. Viewing surface shall be white finish with nominal dimensions and aspect ratio as indicated in the Projection Screen schedule below (see Section 2.07). Edge treatment shall be black masking borders 2 inches at bottom, 2 inches at sides, and total black drop at top as follows:

1. Cafetorium and Gymnasium: provide total black drop as required to place the projected image where shown on the Drawings.

B. Optical Performance:

1. Cafetorium and Gymnasium: Screen surface formulated for front projection with a screen gain of not less than 1.0 with a half-gain angle of ±35° from directly on-axis to the screen surface and a +/- 50° recommended viewing cone.

C. Accessories to be provided:

1. Internal, single motor low voltage control (LVC) system;

2. Hinged cover plate with brushed stainless steel finish provides keyed access to LVC wall switch;

3. Mounting hardware.

D. Basis of Design:

1. Cafetorium and Gymnasium: Draper "Premier XL" with "TecVision MS1000X ALR" screen material.

2.07 Projection Screen Schedule

Screen Location	Image Size (W x H) / Aspect Ratio	Basis of Design Model	Basis of Design Screen Surface
Cafetorium and Gymnasium	160" x 100" / 16:10	Draper Premier XL	TecVision MS1000X ALR

3.00 EXECUTION

3.01 General

A. General: Install projection screens in accordance with Manufacturer's instructions and referenced quality standards as indicated herein.

B. Inspection: Prior to installation, carefully inspect the installed Work of other Trades and verify it is complete to the point where the screens can be installed in complete accordance with the original design and the approved Shop Drawings. Ensure that all wet and dust-producing Work is completed. In the event of discrepancy, immediately notify the Architect in writing.

3.02 Preparation

A. Surface Preparation: Remove from surfaces to receive screens all construction debris, dust, dirt, and other potential contaminants prior to installation. Surfaces shall be smooth, level, and have final color coat paint.

B. Protection: Protect acoustical ceiling tile, floor and wall surfaces, windows, doors, and casework with covers or tarps to prevent damage when installing the screens.

C. Stabilization: Remove packing materials and allow screens to stabilize to the space thermal conditions 24 hours prior to installation.

3.03 Installation

A. Screen Layout: Sort screens by type. Lay screens against walls or on floor in locations shown on approved Shop Drawings.

B. Hardware Installation:

1. Coordinate projection screen installation with Theater Rigging Contractor to clear theatrical draperies, rigging, and lighting equipment. See 116100 and Theater Systems Drawings.

2. Install projection screen to wall above Platform opening where Shown on the Drawings. Provide supplemental structure and additional hardware as needed to install securely where shown.

C. Large Screen Support: Provide safety support cables at each end of screen case attached to building/rigging structure above where case dimensions are greater than 12'-0" long.

D. Handling Screens: Contactors shall wear clean gloves when handling screens to avoid soiling.

E. Shim and Adjustment: Adjust to provide proper clearance between mounting surfaces and the screen to ensure smooth unrestricted motion without jambs or binding when the screen rolls up or down. When in the viewing position the screen should be plumb and square with straight edges. Verify screen drops to the intended height above the floor.

F. Electrical Connection:

1. Connect low voltage control cable between projection screen control board and wall switch/audio-visual control system.

2. Connect 120 VAC 60 Hz service to projection screen motor.

G. Accessories: Install projection screen control wall switches with keyed access cover where indicated on the Drawings.

H. Operation: Confirm screen and projection screen controls work by activating the screen several times to verify proper operation.

3.04 Cleaning and Protection

A. Work Area: Upon completion of the Work, remove from the building site all debris, unused materials, equipment, and leave the work area in a clean, acceptable condition.

B. Final Cleaning: Clean and remove dust, dirt, and other contaminants from the screen prior to final acceptance by the Owner.

C. Protective Coverings: Provide protective plastic wrapping on screens if additional Work is to occur in the area that might soil or damage screen finishes. Remove such wrapping prior to Substantial Completion.

3.05 Inspection

A. General: The Architect shall inspect the screens for proper installation and adjustment. A letter shall be issued to the Contactor identifying Work that needs to be corrected.

B. Defective Work: Remove and replace defective or soiled Work with new materials, including mounting hardware and screens that are unacceptable.

3.06 Maintenance

A. Owner Training: Provide training and maintenance instructions to the Owner to include cleaning the screens.

END OF SECTION

1.00 GENERAL

1.01 Description

Work includes all labor, materials, equipment, and services required for the furnishing and installation of indoor gymnasium equipment in Gymnasium A 101, as indicated on the drawings and the gym equipment legend. Quantities and locations as indicated on drawings.

1.02 Related work specified under other Sections

The following items are described in the Sections indicated:

03 3000 / CAST-IN-PLACE CONCRETE

05 5000 / METAL FABRICATIONS

09 6400 / WOOD FLOORING

1.03 Submittals

Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

A. Manufacturer's Product Literature: Submit manufacturer's descriptive literature for each product or material specified showing compliance with specified requirements.

B. Shop Drawings: Provide project specific shop drawings showing plan, elevations, dimensions, construction details, hardware and accessories for all athletic equipment, including wall pads. Provide shop drawings at a size sufficient to accurately show conditions.

C. Color Chart: Provide manufacturer's color chart showing full line of available colors.

1.04 Guarantee

Furnish manufacturer's complete one year guarantee from date of substantial completion of the project against defects in materials and workmanship for all items.

2.00 PRODUCTS

2.01 Basketball backstop assemblies

A. Provide six Porter Athletic Equipment Company model 549, Jaypro Sports, Inc., or Performance Sports Systems model 2207 forward folding electric basketball backstops. Provide rear or front diagonal bracing to steel structure above as required by layout. Backstop shall be all welded construction with 2⅜" o.d. framing and 1⅞" o.d. back bracing. Frame shall be furnished in white enamel finish. Electric winch shall be worm gear type, designed to hold backstop at any position when raising or lowering. Power requirements: ½ hp., 9A., 120 V. Motor shall be controlled by a wall mounted key switch which cannot be instantly reversed. Furnish with integral height adjustment feature and self-resetting restraint device.

B. Provide two Porter model 00204-000 or Jaypro model 509136, or Performance model AFRG42 72" x 42" x ½" tempered glass backboards with aluminum frame and four Porter model 267-000, Jaypro model 503148, or Performance model 1301-B fan shaped molded fiberglass backboards. Furnish glass backboards with safety padding.

C. Provide six Performance model 5500 (or approved equal) goals with nylon nets and mounting accessories. Basketball goal to be movable, breakaway type with manufacturer's standard breakaway mechanism and rebound characteristics identical to those of fixed non-movable ring, consisting of positive-lock breakaway design, including pressure release, set to release at 230lb (105kg) load and automatic reset.

2.02 Wall padding

Where indicated, provide Porter Athletic Equipment Company model 00570 2" Fire-Retardant Super Safe wall pad with vinyl covering or equivalent as manufactured by Jaypro Sports Construction Group or Performance Sports Systems. Wall padding shall meet ASTM E-84 and NFPA 255. Flame spread shall be less than 25 and smoke development less than 450. Panels mounted to wall shall be 2'-0" wide x 6'-0" high ~~for 'Panel 1' and 2'-0" wide x 4'-8" high for 'Panel 1A'.~~ See floor plans for quantities. All pads shall be mounted on 7/16" oriented strand board backing with 1" nailing margin at top and bottom for securing to walls. Mount top of panels 6'-8" above finished floor ~~for 'Panel 1' and 5'-4" above finish floor for 'Panel 1A'~~. See floor plans for locations. Vinyl cover colors as selected by the Architect. Hardwood corner trim is to be provided as detailed on 3/A-101. ~~Provide safety corner pads Porter athletic Equipment model 455012 or Performance Sports Systems model 4310 to cover exposed outside corners that are below 6'-8".~~ Pads shall be 2" thick foam covered with vinyl coated fabric. Cover shall be mildew and rot resistant, fortified with an infection combating fungicide. The cover material shall be certified as flame retardant. Provide Velcro self-adhesive strips for attachment.

2.03 Volleyball uprights

Provide two Sports Imports (800.556.3198) model AL-7 "Double-D" shaped extruded aluminum volleyball uprights. Uprights shall store and set up in one piece that is no more than 89" long. Upper section shall be anodized while lower section is painted enamel. Provide one model HM50 Technora Volleyball net, three HDNR Net Ratchets, and two FP1 three-sided upright safety pads. Provide Sports Imports DU22 upright storage cart.

2.04 Anchor sleeves

Provide two Sports Imports (800.556.3198) model KA-25S solid brass volleyball floor sleeves with hinged access covers. Coordinate location of floor sleeves with locations indicated on the drawings.

2.05 Climbing Ropes

A. Provide four polyester climbing ropes as manufactured by Porter Athletic Equipment Company, Jaypro Sports Construction Group or Performance Sports Systems. Ropes shall have a 1½" diameter, a leather boot at the bottom, a round tambourine at top, and a length as required to allow lower end of ropes to be 3" above floor when in use. Furnish two ropes with knots at 12" on center.

B. Provide adjustable beam clamp for attachment to bottom chord of roof joist as required. All ropes shall be provided with a safety cable attachment for additional protection.

C. Provide two rope hoists complete with all cord fittings, weights, and blocking required for proper installation and hoisting of two groups of three climbing ropes.

2.06 Climbing Wall

Existing climbing wall to be relocated as shown in drawings. Install per manufacturer's standard installation instructions.

3.00 EXECUTION

3.01 General

A. Equipment shall be installed by manufacturer or under supervision of manufacturer's authorized factory representative.

B. Equipment shall be installed in strict accordance with manufacturer's printed installation instructions and in accordance with approved shop drawings.

3.02 Surface conditions

Prior to work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where installation may begin.

3.03 Product handling

Use all means necessary to protect products before, during, and after installation and to protect the installed work of other trades. In the event of any damage, immediately make all repairs and replacements to the approval of the Architect, at no additional cost to the Owner.

3.04 Cleaning

At the completion of installation, all surfaces and items shall be cleaned and left free of imperfections.

END OF SECTION

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1.00 GENERAL

1.01 Description

Work includes all labor, materials, equipment, and services required for the furnishing and installation of high-efficiency regenerative belt driven elevator system and all related accessories and equipment. Perform all work and supply all material necessary for the installation of a completely operational elevator. Scope includes two year elevator maintenance agreement with Owner.

1.02 Related work in other sections

Where items are required to be installed in conjunction with the elevator but are not specifically described in this Section, the items shall be furnished as described in other sections. Cooperate as necessary with all other trades to ensure timely and orderly progress of the work.

1.03 Codes

All clearances, construction, workmanship, materials, and terms in this specification shall have the meaning defined in the latest edition of the ASME/ANSI A17.1 Safety Code for Elevators and Escalators, National Electric Code, the 2010 ADAAG Code, and all codes having legal jurisdiction, including all revisions and authorized changes to date. Scope includes all equipment required by recent A17.1/B44 elevator code including required QEI inspection.

The 2010 ADAAG Code shall govern except where codes having legal jurisdiction include more rigid requirements or conflict with the 2010 ADAAG Code. Comply with all applicable codes and regulations regarding requirements for use by handicapped persons. Elevator shall be connected for use under emergency power conditions. Coordinate requirements with electrical drawings.

1.04 Quality assurance

A. Manufacturer: Provide elevator manufactured by a firm with a minimum of ten [10] years experience in fabrication of elevators equivalent to those specified. Elevator manufacturer shall be ISO9002 Certified.

B. Installer: As approved by manufacturer.

C. Permits and Inspections: Provide licenses and permits and perform required inspections and tests.

1. As required by Maryland State law, the Contractor must have a Qualified Elevator Inspector conduct the required inspection prior to the State elevator inspection.

2. Contractor to complete the application for registration form.2. Glazed masonry samples: Submit 2½" x 3¾" x ½" thick nominal sample of each color glazed masonry type. Samples will be retained by the Architect.

3. The Contractor shall retain a third-party inspector to perform a pre-inspection of the completed work, prior to requesting the State's inspection of the Work. In addition to this pre-inspection, the third-party inspector shall attend and actively participate in a pre-installation meeting to discuss the scope of this Project and requirements of the AHJ present at the time of elevator installation. The purpose of this meeting will be to address potential changes that may need to be addressed prior to the execution of the Work.

1.05 Submittals

Submittals shall be completed in accordance with Section 01 3300 / SUBMITTAL PROCEDURES.

A. Manufacturer's Product Literature: Submit manufacturer's descriptive literature for plastic laminate casework.

B. Shop Drawings: Provide complete project specific shop drawings of elevator, elevator cab, shaft cross section, and related equipment. Drawings shall show layout, elevations, standard catalog items, special items, finishes, construction details, mechanical and electrical requirements, and other related data.

C. Samples: Submit samples of cab construction.

D. Maintenance manual: Submit maintenance manual for the elevator, including operation and maintenance instructions, parts listing with sources indicated, recommended parts inventory listing, emergency instructions, as-built wiring diagrams and similar information. Include all diagnostic and repair information available to manufacturer's and installer's maintenance personnel including as-built wiring schematics of elevator and controller. Submit for Owner's information at project closeout.

E. Certificates: Provide copies of all inspection and acceptance certificates and operating permits as provided or required by governing authorities for normal, unrestricted elevator use.

1.06 Warranty

A. General Warranty: The elevator warranty specified in this section shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

B. Standard Elevator Warranty: Submit a written warranty signed by manufacturer agreeing to repair, restore, or replace defective elevator work within the specified warranty period.

1. Warranty Period: Twenty-four [24] months from date of Substantial Completion of the project or acceptance by the State of Maryland DLLR Safety Inspection Unit - whichever occurs latest.

1.07 Maintenance service

A. Initial Maintenance Service: Beginning at Substantial Completion and acceptance by the State of Maryland DLLR Safety Inspection Unit, provide twenty-four [24] months of full on-site maintenance service by skilled, competent employees of the elevator installer. Include monthly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper elevator operation at rated speed and capacity. Use parts and supplies as used in the manufacture and installation of original equipment.

1. Perform maintenance, including emergency callback service, during normal working hours.

a. Supply and maintain a service log book on site in the elevator machine room. Details of all service and repairs must be logged in and dated.

b. Response Time: Two [2] hours or less.

B. Annual State Elevator Inspections: Provide skilled, competent employee of the elevator installer to perform two [2] annual inspections and recommended service on the anniversary dates of the final acceptance certification. Annual inspections should be coordinated with State Elevator Inspectors inspection. Correct all deficiencies found during State Elevator Inspection, regardless if the date is after the end of the twenty-four [24] month maintenance service period at no additional cost to the Owner.

1.08 Coordination

A. The elevator installer is responsible for coordinating with all other trades that are supplying materials in the shaft and in the machine room. Coordination includes reviewing and approving the types of materials supplied, the location and method of installation and the compliance of the materials and installation with current codes.

B. The elevator installer shall review the work of others in the shaft and in the machine room prior to requesting an inspection from the governing agencies. The elevator installer shall notify the other trades of any corrections that are required and will review and approve the corrections prior to requesting an inspection from the governing agency.

C. Any additional inspection costs incurred due to incomplete or unapproved construction will be borne by the elevator installer and the appropriate trade contractors.

1.09 Owner's use

In the event the elevator has not received approval from State of Maryland DLLR Safety Inspection Unit and the date for the scheduled completion of the elevator [per the Construction Manger's schedule] has elapsed, Contractor shall provide required authorized personnel to act as operators during times and events that the Owner requires. All costs associated with this operation shall be at no cost to the Owner.

2.00 PRODUCTS

2.01 High-efficiency regenerative belt driven elevator system

Gen2® gearless, machine-roomless underslung, elevators with Elevonic® Control System, model 2500 passenger elevator as manufactured by Otis Elevator Company. Equal elevators manufactured by Canton Elevator – Freedom – MC Series 2500, Alliance Model P2500 and Minnesota Elevator MRL - 2500 with all modifications as required for performance and description indicated may also be used. If equal elevator manufacturer is used, verify requisite hoistway dimensions and all other requirements prior to beginning construction.

2.02 Description of system equipment

A. 2500 lb passenger elevator

Drive:	Regenerative
Quantity of Elevators:	One [1]
Rated Capacity:	2,500 lbs.
Speed-Up Speed with Rated Load:	150 fpm
Total Travel:	14'-0"
Number of Stops:	Two [2] (1st floor to 2nd floor)
Number of Openings:	Two [2] In line
Hoistway Size:	8'-4" W x 5'-9" D
Clear Inside Dimensions:	[2500] 6'-5 9/16" W x 4'-3 9/16" D
Cab Height:	7'-9"
Clear Cab Height:	7'-9" with 5/16" floor recess and 4 LED ceiling
Entrance Type and Width:	Single Slide Door 42"
Entrance Height:	7'-0"

B. Doors

1. Door control to open doors automatically when car arrives at a landing in response to a normal hall or car call.
2. Elevator doors shall be provided with a reopening device that will stop and reopen the car door[s] and hoistway door[s] automatically should the door[s] become obstructed by an object or person.
3. Door protection shall consist of a two dimensional, multi-beam array projecting across the car door opening.
4. Door nudging operation to occur if doors are prevented from closing for an adjustable period of time.

C. Main Power Supply: Compatible with three phase 480 volt power being provided. See Electrical drawings.

Car Lighting Power Supply: 120 Volts, Single-phase, 15 Amp, 60 Hz.

D. Machine Location: Inside the hoistway at the top of the hoistway.

E. Signal Fixtures: Manufacturer's standard with metal button targets with illuminating car and landing buttons, numerical car position indicators, audible signal for handicapped persons in car and corridor indicating direction and floor position, and hall lanterns.

F. Controller Location: Equipment room – see architectural drawings for locations and size.

2.03 Performance:

A. Car Speed: +3% of contract speed under any loading condition or direction of travel.

B. Car Capacity: Safely lower, stop and hold up to 120% of rated load.

C. Ride Quality:

Vertical Vibration [maximum]:	20 milli-g
Horizontal Vibration [maximum]:	12 milli-g
Vertical Jerk [maximum]:	4.59 ± 1.0 ft./ sec3
Acceleration/Deceleration [max]:	2.62 ft./ sec2
In Car Noise:	55 – 60 dB[A]
Stopping Accuracy:	± 0.375 in. max, ± 0.25 in. typical
Re-leveling Distance:	± 0.5 in.

D. Operation: Simplex Collective Operation: Using a microprocessor-based controller, operation shall be automatic by means of the car and hall buttons. If all calls in the system have been answered, the car shall park at the last landing served.

E. Seismic zone: Zone 1

F. Keying: 7 pin small format to accept building masterkey for fireman's emergency use or as otherwise directed by Owner's representative

2.04 Wiring

The Contractor shall furnish and install all wiring necessary to connect operating buttons, switches, and signals in the hoistway and corridors and all electrical equipment on the car to the elevator microprocessor control panels. The wiring shall be in accordance with the National Electrical Code. Traveling cables shall be of the best grade for the service and shall be so installed to provide a proper size loop to the car. They shall have a fire resistant outer braid as required by Code.

2.05 Top of car operating device

An inspection and maintenance station shall be mounted on top of the elevator cars. These stations shall contain up and down direction buttons and an emergency stop button. Cars may be operated by constant pressure on the appropriate direction button. Provision shall be made to make the normal operating devices inoperative while top of the car operating devices are in use.

2.06 Controller

A. Controller shall be a microcomputer based control system to perform all of the functions of safe elevator operation.

1. All high voltage (110V or above) contact points inside the controller shall be protected from accidental contact when the controller doors are open.

2. Controller shall be separated into two distinct halves; Motor Drive side and Control side. High voltage motor power conductors shall be routed so as to be physically segregated from the rest of the controller.

3. Field conductor terminations points shall be segregated; high voltage (>30 volts DC and 110 VAC,) and low voltage (< 30 volts DC)

4. Controllers shall be designed and tested for Electromagnetic Interference (EMI) immunity according to the EN 12016 (May 1998): "EMC Product Family Standards for lifts, escalators, and passenger conveyors Part 2 – immunity".

5. Controller shall be located inside the wall next to the top landing entrance frame. Emergency access shall be provided through an access panel in the entrance frame secured by a key lock.

B. Drive shall be a variable voltage variable frequency AC drive system. The drive shall be set up for regeneration of AC power back to the building grid.

2.07 Machine and governor

A. Machine: AC gearless machine, with a synchronous permanent-magnet motor, dual solenoid service and emergency disc brakes, mounted at the top of the hoistway.

B. Governor: The governor shall be a tension type car-mounted governor.

C. Buffers, Car and Counterweight: Polyurethane type buffers shall be used.

D. Hoistway Operating Devices:

1. Emergency stop switch in the pit

2. Terminal stopping switches

E. Positioning System: Consists of an encoder, reader box, and door zone vanes.

F. Guide Rails and Attachments: Guide rails shall be Tee-section steel rails with brackets and fasteners. Side counterweight arrangements shall have a dual-purpose bracket that combines both counterweight guide rails, and one of the car guide rails to building fastening.

G. Coated-Steel Belts: Polyurethane coated belts with high-tensile-grade, zinc-plated steel cords and a flat profile on the running surface and the backside of the belt. All driving sheaves and deflector sheaves should have a crowned profile to ensure center tracking of the belts. A continuous 24/7 monitoring system using resistance based technology has to be installed to continuously monitor the integrity of the coated steel belts and provide advanced notice of belt wear.

H. Governor Rope: Governor rope shall be steel and shall consist of at least eight strands wound about a sisal core center.

I. Fascia: Galvanized sheet steel shall be provided at the front of the hoistway.

J. Hoistway Entrances:

1. Frames: Entrance frames shall be of bolted construction for complete one-piece unit assembly. All frames shall be securely fastened to fixing angles mounted in the hoistway and shall be of UL fire rated steel.

2. Sills shall be extruded aluminum, or bronze finish, or nickel silver finish.

3. Doors: Entrance doors shall be of metal construction with vertical channel reinforcements.

4. Fire Rating: Entrance and doors shall be UL fire rated for 1½ hour.

5. Entrance Finish: Satin stainless steel.

6. Entrance marking plates: Entrance jambs shall be marked with 4" x 4" (102 mm x 102 mm) plates having raised floor markings with Braille located adjacent to the floor marking. Marking plates shall be provided on both sides of the entrance.

7. Sight Guards: Sight guards will be furnished with all doors, painted black.

2.08 Car components

A. Car frame and Safety: A car frame fabricated from formed or structural steel members shall be provided with adequate bracing to support the platform and car enclosures. The car safety shall be integral to the car frame and shall be Type "B", flexible guide clamp type.

B. Cab: steel shell Cab with raised laminate hang on panels. Laminate to be selected from manufacturer's catalog of choices. Brushed stainless steel finished base plate located at top and bottom.

C. Car Front Finish: Satin stainless steel.

D. Car Door Finish: Satin stainless steel.

E. Ceiling Type: Flat steel ceiling, black (EW5), with 4 LED lights.

F. Emergency Car Lighting: An emergency power unit employing a 6-volt sealed rechargeable battery and totally static circuits shall be provided to illuminate the elevator car in the event of building power failure.

G. Fan: A one-speed 120 VAC fan will be mounted to the ceiling to facilitate in-car air circulation, meeting A17.1 code requirements. The fan shall be rubber mounted to prevent the transmission of structural vibration and will include a baffle to diffuse audible noise. A switch shall be provided in the car-operating panel to control the fan.

H. Handrail: Handrails shall be provided on the side and rear walls of the car enclosure. Handrails shall be ⅜" x 2" flat tubular handrail with a brushed stainless steel finish.

I. Threshold: Extruded Aluminum or Bronze Finish or Nickel-Silver Finish.

J. Emergency Exit Contact: An electrical contact shall be provided on the car-top exit.

K. Guides: The car shall have 3" diameter roller guides at top and bottom and the counterweight shall have slide type guides at the top and the bottom.

L. Platform: The car platform shall be constructed of metal. Load weighing device shall be mounted on the belts at the top of the hoistway.

M. Certificate frame: Provide a Certificate frame with a satin stainless steel finish.

N. The LED ceiling lights and the fan should automatically shut off when the system is not in use and be powered back up after a passenger calls the elevator and pushes a hall button.

2.09 Signal devices and fixtures

A. Car Operating Panel: A car operating panel shall be provided which contains all push buttons, key switches, and message indicators for elevator operation. The car operating panel shall have a satin stainless steel finish.

Car operating panel shall contain a bank of round stainless steel, mechanical LED illuminated buttons. Flush mounted to the panel and marked to correspond to the landings served. All buttons to have raised numerals and Braille markings with flat flush mounted satin stainless steel button with blue LED illuminating halo.

The car operating panel shall be equipped with the following features:

1. Raised markings and Braille to the left hand side of each push-button.
2. Car Position Indicator at the top of and integral to the car operating panel.
3. Door open and door close buttons.
4. Inspection key-switch.
5. Elevator Data Plate marked with elevator capacity and car number.
6. Help Button: The help button shall initiate two-way communication between the car and the Owner's 24-hour monitoring service, where personnel shall be available who can take the appropriate action. Visual indicators shall be provided for call initiation and call acknowledgement.
7. Landing Passing Signal: A chime bell shall sound in the car to signal that the car is either stopping at or passing a floor served by the elevator.
8. In car stop switch (key operated unless local code prohibits use).
9. Firefighter's hat.
10. Firefighter's Phase II Key-switch.
11. Call Cancel Button.

B. Car Position Indicator: A digital, LED car position indicator shall be integral to the car operating panel.

C. Hall Fixtures: Hall fixtures shall be provided with necessary push buttons and key switches for elevator operation. Hall fixtures shall have a satin stainless steel finish.

Integral hall fixtures shall feature round stainless steel, mechanical buttons marked to correspond to the landings. Hall fixtures to be located on wall where shown on the drawings. Buttons shall be in vertically mounted fixture. Fixture shall be satin stainless steel finish. Buttons shall be satin stainless steel with blue LED illuminating halo.

D. Car Lantern and Chime: A directional lantern visible from the corridor shall be provided in the car entrance. When the car stops and the doors are opening, the lantern shall indicate the direction in which the car is to travel and a chime will sound.

2.10 Signs

Contractor shall furnish and install all signs required by local or state code authorities at each landing and at interior of both cabs. Furnish fireman's key in steel case with tempered glass door at each landing adjacent to elevator doors. Key case shall be recessed into masonry walls at 5'-0" above floor.

3.00 EXECUTION

3.01 General

Installation shall be in strict accordance with approved shop drawings and manufacturer's printed instructions in conformance with the highest standards of the industry and the ANSI Code and 2010 ADAAG.

3.02 Conditions

Prior to all work of this section, carefully inspect the installed work of other trades and verify that all work is complete to the point that this installation may begin.

3.03 Protection

A. Temporary Use: Do not use elevators for construction purposes unless previously approved and arranged with Owner and cars are provided with temporary enclosures, either within finished cars or in place of finished cars, to protect finishes from damage.

1. Provide full maintenance service by skilled, competent employees of the elevator installer for elevators used for construction purposes. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning and adjusting as required for proper elevator operation at rated speed and capacity. Use parts and supplies as used in the manufacture and installation of original equipment.

2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevators. If, despite such protection, elevators become damaged, engage elevator installer to restore damaged work so that no evidence remains of correction work. Return items that cannot be refinished in the field to the shop, make required repairs and refinish entire unit, or provide new units as required.

B. Provide final protection and maintain conditions in a manner acceptable to elevator manufacturer and installer that ensure elevators are without damage or deterioration at the time of Final Acceptance.

3.04 Field quality control

A. Acceptance Testing: Upon nominal completion of elevator installation, and before permitting use [either temporary or permanent] of elevators, perform acceptance tests as required and recommended by the "Code" and by governing regulations and agencies.

B. Advise Owner, Architect, and authorities having jurisdiction in advance of dates and times tests are to be performed on elevators.

3.05 Demonstration

A. Instruct Owner's personnel in proper use, operations, and daily maintenance of elevators. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies. Train Owner's personnel in procedures to follow in identifying sources of operational failures or malfunctions. Confer with Owner on requirements for a complete elevator maintenance program.

B. Make a final check of each elevator operation with Owner's personnel present and just prior to date of Substantial Completion. Determine that operation systems and devices are functioning properly.

3.06 Additional requirements

A. Provide local code inspection certificate in each car, mounted under acrylic cover with stainless steel frame.

B. Provide protective blanket hooks in each car and one complete set of full-height blankets.

3.07 Keys

A. Supply Owner's Maintenance Department with an additional master set of keys for all switches to be delivered at time of Final Acceptance.

B. Supply two [2] drop keys at time of Final Acceptance.

C. Supply and maintain service log book in the elevator machine room.

3.08 Cleaning

At the completion of installation all surfaces and items shall be cleaned and left free of imperfections.

3.09 Maintenance

See Paragraph 14 2000/1.07 for required maintenance service.

END OF SECTION

PART 1 - GENERAL

1.1 Section includes

A. Conduit and accessories, aboveground and below ground where not in duct banks.

1.2 Related sections

A. Exterior duct banks and handholes: Section 26 0544.

B. Firestopping: Section 26 0507.

C. Boxes: Section 26 0534.

D. Trenching: Section 26 0501.

1.3 Definitions

A. FMC: Flexible metal conduit.

B. LFMC: Liquid-tight flexible metal conduit.

1.4 Submittals

A. Product data:

1. Each type of conduit included in the work, and related fittings.
2. Accessory materials.
3. Hangers and fasteners.

1.5 Regulatory requirements

A. Conduit and raceway installations in areas classified as Hazardous (Classified) shall meet applicable requirements of NFPA 70.

PART 2 - PRODUCTS

2.1 Acceptable manufacturers

A. Subject to compliance with requirements, provide products by one of the following:

B. Steel conduit and tubing:

1. AFC Cable Systems, Inc. (FMC and LFMC)
2. Allied Tube & Conduit; a Tyco International Ltd-Co.
3. O-Z/Gedney, Unit of General Signal
4. Wheatland Tube Co.

C. Steel conduit fittings:

1. Appleton Electric Co.
2. Cooper Crouse-Hinds.
3. Hubbell, Inc.; Killark Electric Manufacturing Co.
4. O-Z/Gedney; Unit of General Signal.
5. Spring City Electrical Manufacturing Co.

6. Thomas & Betts Corporation
7. Wheatland Tube Co.

D. Nonmetallic conduit, tubing and fittings:

1. Allied Tube & Conduit; a Tyco International Ltd. Co.
2. Arnco Corp.
3. Beck Manufacturing
4. CANTEX Inc.
5. Certainteed Corp.; Pipe and Plastics Group
6. Lamson & Sessions; Carlon Electrical Products

E. Wiring troughs and fittings:

1. Hoffman Engineering Co.
2. Lamson & Sessions, Carlon Electrical Products
3. Square D Schneider Electric

F. Conduit hangers and supports:

1. Thomas & Betts "Kindorf"
2. Tyco Power-Strut
3. Unistrut Diversified Products

G. Fasteners:

1. Caddy Fasteners by Erico Products Inc
2. ITW Ramset "Red Head"
3. Wej-It Fastening Systems

2.2 Conduit and fittings

A. Galvanized steel conduit: Hot-dip galvanized with threads galvanized after cutting, one of the following:

1. Intermediate steel conduit (IMC) conforming to UL 1242 and ANSI C80.6.

B. Steel conduit fittings: Cast malleable iron fittings with smooth finish and full threaded hubs. Include steel or malleable iron locknuts, bushings, and other fittings.

1. Insulating bushings: Equal to Thomas & Betts Series 22.
2. Hub fittings with recessed sealing ring and nylon insulated throat equal to Thomas & Betts Series 370.
3. Fittings for exposed locations: Conduit outlet bodies, zinc or cadmium plated.

C. Electrical metallic tubing (EMT): Hot-dip galvanized or sherardized thin-wall steel conduit conforming to UL 797 and ANSI C80.3.

D. Connectors and couplings for EMT: Concrete- or rain-tight, compression or set screw type, made of zinc- or chromium-plated steel. Connectors shall have nylon insulating throats.

1. Compression connector equal to Thomas & Betts No. 5223.
2. Compression coupling equal to Thomas & Betts No. 5220.
3. Set screw connector equal to Steel City No. TC722A.
4. Set screw coupling equal to Steel City No. TK122A.

E. Flexible metal conduit (Type FMC): Made of sheet metal strip, interlocked construction, conforming to UL 1.

F. Liquidtight flexible metal conduit (Type LFMC) shall conform to UL 360.

G. Connectors for flexible metal conduit: Equal to angle wedge "Tite-Bite" with nylon insulated throat, Thomas & Betts Series 3110 and 3130.

H. Liquidtight type connectors: UL 14814A. Fittings: With nylon insulated throat, equal to Thomas & Betts Series 5331.

I. Plastic conduit: Polyvinyl chloride (PVC) Schedule 40, rated for use with 90-degree conductors, for exposed, underground, and encased applications, complying with NEMA Specification TC-2 and UL 651.

J. Plastic conduit fittings and cement:

1. Fittings: Complying with NEMA TC 3 and UL 514.
2. Cement: Solvent cement made by the manufacturer of the conduit and fittings.

K. Wiring troughs: Steel wiring trough with hinged cover, UL listed as wireways and auxiliary gutters, equal to Square D "Square-Duct."

1. Cover: Opening complete width and length of trough;
2. Finish: Baked enamel.

L. Fittings for wiring troughs: Made with removable covers to permit installation of a complete system with access to wires throughout the system, UL listed with the troughs. Connections: Threaded screws at every connector.

M. Weatherproof expansion fittings: With bonding jumpers, equal to O-Z/Gedney types AX and TX.

2.3 Sleeves for raceways

A. Steel pipe sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.

1. Sleeves for exterior walls: Anchor flange welded to perimeter.

B. Sleeves for rectangular openings: Galvanized sheet steel of length to suit application. Minimum thickness:

1. For sleeve cross-section rectangle perimeter less than 50 inches (1270 mm) and no side more than 16 inches (400 mm): 0.052 inch (1.3 mm).
2. For sleeve cross-section rectangle perimeter equal to or more than 50 inches (1270 mm) and 1 or more sides equal to or more than 16 inches (400 mm): 0.138 inch (3.5 mm).

C. Coordinate sleeve selection and application with selection and application of firestopping specified in Section 26 0507.

2.4 Sleeve seals

A. Description: Modular sealing device, designed for field assembly, to fill annual space between sleeve and conduit.

1. Sealing elements: EPDM or NBR interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
2. Pressure plates: Stainless steel. Include two for each sealing element.

3. Connecting bolts and nuts: Stainless-steel of length required to secure plates to sealing elements. Include one for each sealing element.

2.5 Accessory materials

A. Pull rope: Equal to Graybar Electric Co., Inc., "Pro-Pull": Polypropylene, minimum 0.1875 inch (5 mm) thick, tensile strength 800 lbs (3559 N), work load 130 lbs (578 N).

B. Caps and plugs: Equal to Thomas & Betts Series 1470.

C. Lubricant: Equal to Ideal Industries, Inc. "Yellow 77". UL approved.

D. Bituminous protective coating: Coal tar based, self-priming on steel, applied in a wet film thickness at least 22.0 mils (559 microns) per coat.

E. Rust inhibitive paint: Alkyd based, equal to Benjamin Moore Super Spec HP D.T.M. Alkyd Low Lustre P23; white, black, or bronzetone; applied in a wet film thickness of at least 2.9 mils.

2.6 Conduit hangers

A. Adjustable hangers: Equal to Kindorf C-711 lay-in hanger or C-710 Clevis hanger.

B. Trapeze hangers: Constructed of channels with Kindorf C-105 notched steel straps.

C. Channels: Steel, 1.5 inches (38 mm) wide with 7/8-inch (22-mm) continuous slot, gauges and weights equal to Kindorf B-900 series.

D. Beam clamps: Equal to Kindorf E-160 or U-569 adjustable type, for connecting hanger rod to steel beam.

E. Hangers for conduit 1.0 inch (27 mm) and smaller, through or below bar joists: "Hang-on" hangers attached to joists with Minerallac scissor clips or two-piece stud clips.

F. Finish: All hangers, assemblies, plate washers, rods, locknuts, channels, bolts, and appurtenances shall be hot-dip galvanized.

2.7 Fasteners

A. General: Select fasteners such that load applied does not exceed one-fourth of manufacturer's load capacity in 3500 psi (24000 kPa) concrete.

B. Fasteners to concrete: Self-drilling type expansion anchors, or machine bolt drop in anchors for drilled holes. Fasteners to concrete ceilings shall be vibration- and shock-resistant.

C. Fasteners to drywall or cavity wall: Toggle bolts, hollow-wall drive anchors, or nylon anchors as required.

PART 3 - EXECUTION

3.1 Installation, general

A. Provide complete, separate and independent raceway system for each of the various wiring systems including, but not limited to, the following:

1. Lighting
2. Power
3. Exit Lighting*

4. Emergency Lighting System*
5. Fire Alarm System
6. Low Voltage Control System
7. Control Wiring

*These wiring systems may be installed in common raceways.

B. Wire all raceway systems completely, except where otherwise indicated, as shown on drawings and as required for satisfactory operation of each system.

C. Where wiring troughs are required or used to facilitate the installation, size them to accommodate conductors, in accordance with NFPA 70.

D. Types and locations of conduits are scheduled at the end of the section.

E. Do not install conductors or pull rope during installation of conduit.

F. Where conduit is connected to a cabinet, junction box, pull box, or auxiliary gutter, protect the conductors with an insulating bushing. Provide locknuts both inside and outside the enclosure. Where conduit is stubbed up to above ceilings for future wiring, close ends with bushings.

G. Bituminous protective coating:

1. Coat exposed threads on steel conduits in concrete slabs at couplings and fittings, after joints are made up.
2. Coat metallic conduits below grade not in concrete, and where emerging from below grade or slabs, four inches above and below grade or slab.

H. Rust-inhibitive paint:

1. Exposed threads of exterior conduit.
2. All unfinished metal components.

I. Make turns in conduit runs with manufactured elbows or using machines or tools designed to bend conduit. Turns shall be not less than the various radii permitted by NFPA 70.

J. Sizes:

1. Do not use conduit smaller than 0.75 inch (21 mm), except where otherwise indicated.
2. Feeder conduits shall be as large as indicated, or as required by NFPA 70 (whichever is larger). Do not install more than one feeder in a single conduit.
3. Conduit sizes shown on drawings are based on Type THHN/THWN wire.

K. Make vertical runs plumb and horizontal runs level and parallel with building walls and partitions.

L. Ground conduits as required by NFPA 70.

M. Where conduits pass through building expansion joints, and wherever relative movement could occur between adjacent slabs, equip with weatherproof expansion fittings and bonding jumpers.

N. Where conduits through roof cannot be installed inside equipment or pipe curbs, flash them in accordance with the SMACNA Architectural Manual.

1. Coordinate flashing details and materials with manufacturer and installer of roofing system.
2. Pitch pockets are not permitted.

O. Run conduits concealed in new construction except where connecting to surface-mounted cabinets and equipment, and in electrical and mechanical equipment spaces. Install conduit above suspended ceilings and within walls and partitions.

P. Do not install conduits in slab on grade when connecting to floor boxes. Install conduits below slab to turn up below floor boxes. Conduit shall be secured in position to prevent damage or movement during the concrete pour.

Q. From each flush-mounted lighting or power panelboard, provide at least four 0.75-inch empty conduits, to terminate in furred ceiling space above. On floors above ground floor, provide two additional 0.75-inch conduits terminating in furred ceiling space below. Cap these conduits.

R. Immediately after each run of conduit is completed, test it for clearance, smooth the joints, and close at each end with caps or plugs to prevent entrance of moisture or debris.

S. Conduit installed outdoors or at indoor locations exposed to continuous or intermittent moisture shall provide a liquidtight seal. Use steel or malleable iron hub fittings. Coat exposed threads with bituminous protective coating.

T. Install no conduit in these locations:

1. Setting beds for terrazzo or tile.
2. Concrete toppings, unless specifically approved by Structural Engineer.

U. Conduit in concrete decks above grade: Not permitted.

3.2 Installing pull boxes, junction boxes, outlet boxes

A. Install as specified in Section 26 0534, Boxes.

B. Install pull or junction boxes in long runs of conduits or where necessary to reduce the number of bends in a run.

1. Select inconspicuous locations. Do not install until locations have been approved by the Architect.
2. Install boxes flush with wall or ceiling surfaces, with flat covers. Where removable ceiling units are used, locate boxes above ceilings.

C. Verify door swings with door frame installed before locating switch outlets.

3.3 Installing flexible conduit

A. Installation shall comply with NFPA 70.

1. Minimum length: Two feet (610 mm).
2. Maximum length: Six feet (1830 mm).

B. Make immediate connections to recessed lighting fixtures, speakers, and other equipment in suspended ceilings with flexible metal conduit. Include sufficient slack to permit removal of fixture or equipment.

C. Make immediate connections to motors and transformers with liquidtight flexible conduit. Include sufficient slack to reduce the effects of vibration.

D. In wet locations, install liquidtight type, in such a manner that liquid tends to run off the surface and not drain toward the fittings.

E. Where fittings are brought into an enclosure with a knockout, install a gasket assembly consisting of an O ring and retainer on the outside.

3.4 Installing pull rope and conductors

A. After conduit is installed, fish pull rope. After completion of the work of this project, pull rope shall remain in conduits identified as to be left empty.

B. Do not use a pull rope that has a tensile strength of more than one of the conductors of a two-wire circuit, more than two of the conductors of a three-wire circuit, or more than three of the conductors of a four-wire circuit.

C. Do not pull conductors into the conduits until the system is entirely completed and wet building materials are dry.

D. Use only a lubricant approved for use with conductor materials and pull rope materials.

3.5 Installing sleeves

A. Coordinate sleeve selection and application with selection and application of firestopping specified in Section 26 0507.

B. Concrete slabs and walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.

C. Fire-rated assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.

D. Cut sleeves to length for mounting flush with both surfaces of walls.

E. Extend sleeves installed in floors 2 inches (50 mm) above finished floor level.

F. Size pipe sleeves to provide 0.25-inch (6.4-mm) annular clear space between sleeve and raceway unless sleeve seal is to be installed.

G. Seal space outside of sleeves with grout for penetrations of concrete and masonry and with approved joint compound for gypsum board assemblies.

H. Interior penetrations of non-fire-rated walls and floors: Seal annular space between sleeve and raceway, using joint sealant appropriate for size, depth, and location of joint.

I. Fire-rated-assembly penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway penetrations. Install sleeves and seal with firestop materials. Comply with Section 26 0507.

J. Roof-penetration sleeves: Seal penetration of individual raceways with flexible, boot-type flashing units applied in coordination with roofing work.

K. Exterior-wall penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.

3.6 Sleeve-seal installation

A. Install to seal exterior wall penetrations.

B. Use type and number of sealing elements recommended by manufacturer for raceway material and size. Position raceway in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.7 Installing conduit hangers

A. Single runs of overhead conduits 1.25-inch (35-mm) size and larger shall be supported by adjustable hangers, using 0.375-inch (10-mm) rods for conduits up to 2.0 inch (53-mm) size and 0.5-inch (13-mm) rods for conduits larger than 2.0 inches (53 mm).

B. Support groups of conduits run in parallel on trapeze hangers suspended from 0.5-inch (13-mm) hanger rods.

C. Space hangers not over 5 feet (1.5 m) apart for non-metallic conduits, and not over 10 feet (3 m) apart for metal conduits. Support conduits within 3 feet of each outlet, junction or pull box.

D. Below bar joist construction, support hangers from a length of structural channel, welded to the top chords of at least two joists.

E. Where large numbers of conduits are grouped together, stagger individual hangers so as not to concentrate the load on a few joists.

F. Where hanger rods are attached to structural beams, use adjustable beam clamps.

G. Below precast plank construction, hanger rods shall pass through the precast planks and be secured on top side with nut, locknut and plate washer. Plate washers shall be at least 4 inches (102 mm) square and 0.125 inch (3.2 mm) thick. Top of hanger assembly shall be concealed in the concrete fill which will be placed over the planks.

H. Attach hanger rods to concrete with expansion bolts and anchors.

3.8 Installing underground conduit, general

A. Depth:

1. Buried under building slabs: Top of conduit no less than 12 inches below the vapor barrier. Seal around conduits where they penetrate the vapor barrier.
2. Outside building: Top of conduit no less than 24 inches below finish grade.

B. Slope: At least 3 inches in 100 feet away from buildings and toward manholes or other drainage points.

C. Cleaning: At the completion of each run, in each conduit, first run a testing mandrel not less than 12 inches (305 mm) long with diameter 0.25 inch (6.35 mm) less than the inside diameter of the conduit; then draw through a stiff-bristled brush until all particles are removed. Immediately install conduit plugs.

D. Except at conduit risers, make changes in direction of runs, either vertical or horizontal, by long sweep bends. Bend may be made up of one or more curved or straight sections or combinations. Use manufactured bends with a minimum radius of 36 inches.

E. Where underground nonmetallic conduit runs penetrate floor slabs, penetrations shall be made with metallic elbows. Coat metallic elbows with bituminous protective coating.

3.9 Installing underground conduit without concrete encasement

A. Run conduit in straight lines except as necessary.

B. Trenches: At least three inches (80 mm) clearance on each side of the conduit.

C. Warning tape: Install in backfill approximately 12 inches (300 mm) below grade.

D. Under existing roads and paved areas not to be disturbed, jack rigid steel conduit into place.

3.10 Schedule of locations

A. IMC with screw joint couplings:

1. Conduits **3** inch (76-mm) size and larger.
2. Wiring to exterior equipment.
3. First five feet of conduit extending outside building.
4. Elbows penetrating floor slabs.

B. EMT: Sizes 2.5 inches (64 mm) and smaller except as noted above.

C. Plastic with solvent cement joints:

1. For exterior circuits, directly buried, except first five feet from building.
2. ~~Where noted~~ Under concrete slab, concrete encased.
3. ~~Where noted~~ Under concrete slab, direct buried.
4. For concrete encased duct banks.

END OF SECTION

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PART 1 - GENERAL

1.1 Section includes

A. Non-networked lighting relay room controllers (0-10V dimming relay controllers).

B. Lighting control stations (low-voltage digital wall switches).

C. Sensor devices (occupancy sensors, daylight sensors, power packs, and switch packs).

D. Cost of system startup and testing shall be included in contract sum.

E. Commissioning requirements: Divisions 01 and 23.

1.2 Related sections

A. Section specifying requirements for LEED rating is specified in Division 01.

B. Identification: Section 26 0553.

C. Stand-alone lighting control devices: 26 0923.

D. Interior lighting: Section 26 5100.

E. Commissioning requirements: Divisions 01 and 23.

1.3 References

A. IECC: International Energy Conservation Code

B. NECA 1: Standard Practices for Good Workmanship in Electrical Construction.

C. NFPA 70: National Electrical Code.

D. UL 924: Emergency Lighting and Power Equipment.

1.4 Definitions

A. Zone: A fixture or group of fixtures controlled simultaneously by a single dimmer/relay.

1.5 Design requirements

A. The lighting control must meet the mandatory control requirements as defined in IECC 2015 energy code. Select control strategies implemented by the lighting systems go beyond these requirements to support LEED certification.

1.6 Performance requirements

A. Provide a complete, non-networked digital lighting control system. Lighting control system shall include equipment necessary for the proper operation and program of the lighting control system including 0-10V dimming relay controllers, control stations, sensors, and other interfaces.

B. System shall be able to meet the functionality and sequence of operation(s) as listed on the Drawings.

C. Each 0-10V dimming relay shall be individually controllable and shall include on-off, fade, dimming, scene settings, and other control functions to meet designated sequence of operation(s).

1.7 Submittals

A. Product data: Include manufacturer's technical product datasheet for each system component including assembly ratings and dimensioned plans, sections, and elevations showing minimum clearances, cable termination sizes, conductor entry, gutter space, installed features, where applicable.

B. Bill of materials: Provide detailed list of components and quantities.

C. Shop drawings: Detail assemblies of standard and project specific components. Indicate dimensions and arrangement of components.

1. Floor plans: Identify locations of lighting control system components; interconnection of components. Utilize reflected ceiling plans to show the following:

   a. Location, orientation, and coverage area of sensors.
   b. Locations of lighting relay room controllers and lighting control stations.

2. Summary list of control devices, sensors, other loads, and interface devices.
3. Wiring diagrams: Power, signal, and control wiring, differentiating between manufacturer-installed and field-installed wiring, provided on a schematic diagram.
4. Include representative views of components, including button layouts, engraving, colors, and other physical characteristics pertinent to each device.
5. Load schedules: Indicate connected load, load type, and voltage per circuit, circuits and their respective control zones, circuits that are on emergency, and capacity, phase, and corresponding circuit numbers.

D. Source quality-control test reports.

E. Field quality-control test reports.

F. Qualifications of factory certified field service engineer.

G. Operation and maintenance data: For lighting control system and associated components, provide product data, shop drawings, and test reports in operation and maintenance manual. In addition to items specified in Division 01, include the following:

1. List of replacement parts and assemblies.

1.8 Quality assurance

A. Comply with requirements for LEED certification specified in Division 01.

B. System components shall be UL listed and labeled for their intended application.

C. Provide services from factory certified field service engineer to perform functional testing.

D. Qualifications for factory certified field service engineer:

1. Minimum experience of 2 years training in the electrical/electronic field.
2. Certified by the equipment manufacturer on the system installed.

E. Obtain lighting controls system components from a single source with total responsibility for compatibility of lighting control system components and lighting fixtures.

F. Lighting control system installation shall comply with NFPA 70, as well as applicable ANSI and IEC standards, and FCC regulations.

G. Lighting control system shall meet IEC801-2, tested to withstand a 15kV electrostatic discharge without damage or loss of memory.

H. Technical support:

1. Onsite support: Manufacturer's authorized service and maintenance representative characteristics shall include the following:

   a. Located in the Baltimore/Washington, DC metropolitan area.
   b. Staff is factory employed and trained.
   c. Service available 24 hours a day, seven days a week, 365 days a year.
   d. Maintains an adequate stock of manufacturer's genuine or approved parts to service this equipment.
   e. Service and maintenance contracts available.

2. Phone support: Toll free technical support shall be available.

1.9 Delivery, storage, and handling

A. Do not deliver or install equipment until spaces are enclosed and weather-tight, wet work in spaces is complete and dry, work above equipment is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

B. Store components indoors in a clean dry space with uniform temperature to prevent condensation. Protect switches from exposure to dirt, fumes, water, corrosive substances, and physical damage.

1.10 Project conditions

A. Environmental Limitations: Lighting control system components shall withstand the following environmental conditions without mechanical or electrical damage or degradation of performance capability:

1. Ambient temperature: 0 to 40 degrees C.
2. Relative humidity: 5 to 90 percent, non-condensing.

1.11 Warranty

A. Special warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of lighting control system and associated auxiliary components that fail in materials or workmanship within specified warranty period.

1. Warranty period: Two years from date of substantial completion.
2. Warranty shall include parts and labor with no deductible.
3. Warranty shall begin at the date the equipment is accepted by the Owner.

B. Warranty service: Qualified personnel shall be available to repair or replace components of lighting control system and associated auxiliary components that fail in materials or workmanship. Furnish Owner with a telephone number where service representative can be reached at all times. Service

personnel shall be at the site within 48 hours after receiving a request for service, and shall restore the lighting control system to proper operating condition within 72 hours.

1.12 Commissioning

A. This project includes commissioning under the direction of a Commissioning Agent (CxA). Contractor's and subcontractors' responsibilities are described in Divisions 01 and 23 for Commissioning Requirements.

B. Cooperate with the CxA to accomplish the requirements of the Commissioning Plan during the construction and correction periods.

1.13 Extra materials

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

1. Occupancy sensors: A minimum of ten (10).
2. Daylight sensors: A minimum of five (5).
3. Lighting control stations (low-voltage digital wall switches): Five (5) of each type.

PART 2 – PRODUCTS

2.1 Acceptable manufacturers

A. Basis-of-design product: Subject to compliance with requirements, provide products manufactured by Eaton/Cooper Controls, Greengate series, or comparable product by one of the following:

1. Eaton/Cooper Controls, Greengate series (basis-of-design).
2. Hubbell Control Solutions, NX series.
3. Lehigh, E-Flex series.
4. Wattstopper/Legrand, Digital Lighting Management (DLM) series.

2.2 System requirements

A. General system operation:

1. System shall be capable of receiving input signals from lighting control system sensors, lighting control stations (low-voltage digital wall switches), and fire alarm control modules.
2. Each input and controlled device shall be connected to associated lighting relay room controller via low-voltage signal cabling.

B. System shall comply with UL standards including UL 916 and UL 924.

C. System requirements:

1. Emergency mode: Lighting relay room controllers and associated lighting fixture LED drivers shall comply with UL 924 requirements and operate under the following conditions:

a. Loss of power: Upon loss of power to a lighting relay room controller, lighting relays shall operate in the closed ('on') position and associated LED drivers shall operate in a full light output state. Once normal or backup power is restored, lighting relays shall remain in the closed ('on') position and LED drivers shall remain in a full light output state until a new command is initiated.
b. The default settings for emergency-designated fixtures shall not be capable of being modified.

c. Fire alarm system input: Upon alarm signal from the fire alarm system, lighting relays shall operate in the closed ('on') position and associated LED drivers shall operate in a full light output state. Upon alarm silencing, lighting relays shall remain in the closed ('on') position and LED drivers shall remain in a full light output state until a new command is initiated.

2. Occupancy detection: The system shall reduce the power consumption in vacant areas by reading the status of low-voltage occupancy sensors.

   a. Occupancy sensor wiring: Occupancy sensors shall be wired directly to the associated lighting control system room controller for power and communications. Where the number devices/sensors exceed the amount allowed for a room controller, provide necessary interface devices and power packs to meet controllability intent of the contract documents.
   b. Occupancy sensor groupings: The set of light fixtures that are controlled by a given occupancy sensor shall be configurable through associated lighting relay room controller and shall not require any manual wiring to modify.
   c. Occupancy sensor modes: Each occupancy sensor shall have the following programmable lighting modes:

      1) Occupied mode: The occupied mode represents the lighting mode when occupancy is detected. Light levels will remain at the occupied level until occupancy is no longer detected.
      2) Setback or transition mode: Transition or setback modes provide a gradual change in light levels when occupancy is no longer detected.
      3) Vacancy mode: The vacancy mode represents the lighting mode when occupancy is no longer being detected and setback and transition levels have expired.

3. Daylight harvesting: The lighting system shall adjust light levels (100-percent light level to 10-percent light level) in response to varying ambient light levels in a continuous and imperceptible manner in order to maintain a constant light level at the work plane (2 feet, 6 inches above floor) or at the floor as indicated on the Drawings. Ambient light levels shall be determined from daylight sensors.

   a. Daylight sensor wiring: Daylight sensors shall be wired directly to the associated lighting relay room controller for power and communications. Where the number devices/sensors exceed the amount allowed for a room controller, provide necessary interface devices and power packs to meet controllability intent of the contract documents.
   b. Daylight sensor groupings: The set of zones that are controlled by a given daylight sensor shall be configurable through associated lighting relay room controller and shall not require manual wiring to modify.
   c. Daylight sensor settings: Settings associated with a given daylight sensor shall be adjustable through associated lighting relay room controller and shall not require any physical adjustment to the sensor itself.

4. Time scheduling (four-relay lighting room controller only): The light level transitions of every lighting control system end device shall be regulated by a programmable scheduling routine.

   a. Timeclock-based groupings: The set of zones that are controlled by system timeclock shall be configurable through associated lighting relay room controller and shall not require manual wiring to modify. The system shall allow for groupings of light fixtures on the same zone to be added or removed from a timeclock-based schedule.

5. Power failure: The lighting control operations shall resume following a power outage to the pre-outage state.

6. Receptacle control: Provide automatic shutoff of non-essential plug loads in all office spaces. Provide automatic On of receptacles whenever spaces are occupied. Receptacle control will only be shutoff when no occupancy is detected within the space.

2.3 Lighting relay room controllers

A. Product:

1. Four-relay room controller: Equal to Eaton/Cooper Controls, Greengate Control Keeper 4A, Model CK4A, with four lighting relays and dry contact input for fire alarm system override.
2. Three-relay room controller: Equal to Eaton/Cooper Controls, Greengate Room Controller RC3DE, with three lighting relays, additional integral UL 924 emergency relay (3 amperes maximum), and dry contact input for fire alarm system override.

B. Characteristics:

1. Enclosure: NEMA 250 Type 1, steel.
2. Delivered and installed as a UL listed factory assembly.
3. Input power: Dual-rated 120/277-volt, 60 hertz, phase to neutral.
4. Feed-through type.
5. Relays:

a. 20-ampere, 120/277-volt rated.
b. Independently addressable.
c. Minimum of 500,000 switching cycles at full load.

6. Capable of switching the following load types:

a. Light emitting diode (LED) lighting fixtures/luminaires.
b. 20-ampere rated receptacle or plug loads.

C. Functionality: Functions of associated lighting control stations shall be set up at the lighting relay room controllers' electronic controls that include indicated number and arrangement of scene presets, channels, and operational times.

2.4 Lighting control stations (low-voltage digital wall switches)

A. Description: Low-voltage, field-programmable digital wall switch device with button configurations and functions as shown in details or schedules on the Drawings.

B. Functionality: Lighting control station(s) shall provide an immediate local LED illumination response upon button activation to indicate that a system command has been requested. LED will remain lit contingent upon receiving system confirmation of the successful completion of the command.

1. Each button shall be capable of performing an 'On' or 'Off' operation of the programmed zone.
2. Buttons shall be capable of modifying the state of multiple zones to create a scene.
3. Lighting control station(s) with raise/lower buttons shall have capability of raising or lowering light levels.

C. Lighting control stations shall have control over programmed scenes.

D. Lighting control stations shall be engraved with appropriate zone descriptions, furnished to the manufacturer prior to fabrication. Size and style of engraving type shall be determined by the Architect during submittal stage. Any silk-screened borders, logos, graduations, etc. shall use a graphic process that chemically bonds the graphics to the faceplate, resisting removal by scratching, cleaning, etc.

Coordinate exact engraving text with Owner prior to order. If Owner does not have a preference, use zone designations indicated on Drawings.

E. Lighting control station(s) functions shall be configurable from associated lighting relay room controller.

F. Configurations: Button-based style or capacitive touch buttons with each button fully customizable to perform defined function. Button shall have toggle capability.

G. Provide multi-button configurations as detailed on the Drawings.

H. Device finish: White, with matching device plate.

1. For button-based style configurations, device plate shall be decorator style with mounting screws above and below device.
2. For capacitive touch button configurations, device plate shall have concealed mounting hardware.

2.5 Sensor devices

A. Ceiling-mounted occupancy sensors: Wired, dual-technology, combination ultrasonic/passive infrared detector, independently adjustable for installed conditions.

1. Dual-technology detector: Includes both passive infrared and ultrasonic detectors:

a. Passive infrared: Utilize multiple segmented lens with internal grooves to eliminate dust and residue build-up, with field adjustable ambient light adjustment.
b. Ultrasonic: Utilize an operating frequency of 32 kHz or 40 kHz, controlled to operate within plus/minus 0.01 percent tolerance. Detector shall automatically adjust detection threshold to compensate for learned environmental behavior.

2. Characteristics:

a. Indicator: LED positive detection.
b. Adjustable delayed off-time range: Between 30 seconds and 15 minutes.
c. Capable of installation in acoustic ceiling tile or gypsum ceiling. Detector shall have 360-degree coverage, minimum 2000 square feet.

B. High-bay ceiling occupancy sensor: Wired, passive infrared detection, capable of installation in high ceiling space and suitable for high-bay installations.

1. Passive infrared detector: Utilize multiple segmented lens with internal grooves to eliminate dust and residue build-up, with field adjustable ambient light adjustment.
2. Selectable delayed off-time settings.
3. Detector shall have 360-degree coverage.

C. Daylight sensors: Wired, daylight sensors; ceiling or fixture mounted open-loop interior photocell.

1. Open-loop basis for daylight sensor control scheme. Continual monitoring of daylight entering building windows to enable daylight harvesting control of room lighting.
2. Partially shielded for accurate detection of available daylight to prevent fixture lighting and horizontal light component from skewing sensor detection.
3. Linear response from 0 to at least 500 footcandles.
4. Performance requirements: The lighting control system manufacturer or authorized representative shall provide daylight sensor layout that provides adequate coverage for performance requirements of each space.

a. Provide design layout of daylight sensor devices.
b. The lighting control system manufacturer shall arrange an onsite pre-installation meeting and system startup meeting. The lighting control manufacturer shall provide direction regarding sensor location and relocation should conditions require a deviation from indicated design locations.
c. Provide at no additional cost any additional daylight sensors or hardware required to meet sequence of operations.
d. Lighting control system manufacturer shall program or provide guidance to program areas utilizing daylight sensors to ensure conformance with contract document requirements.

D. Infrared Partition Sensors: Provide contact closure based on status of the partition wall (open/close) enabling automatic linking of controls.

E. Sensor power packs: Provide when quantity of sensors exceeds the maximum allowable per control circuit. Provide sensor power packs where required for power connection to sensors. Provide plenum-rated, Class 2 control wiring between sensors and control units.

2.6 Conductors and cables

A. Wiring to supply side of remote-control power sources: Not smaller than No. 12 AWG. Comply with requirements in Section 26 0519, Wires and Cables.

B. Low-voltage control cable: Manufacturer's standard multi-conductor cable with stranded-copper conductors not smaller than No. 22 AWG, plenum rated.

1. Class 2 Control Cables: Multi-conductor cable with copper conductors not smaller than No. 18 AWG.
2. Class 1 Control Cables: Multi-conductor cable with copper conductors not smaller than No. 14 AWG.

C. Digital UTP cabling: Unshielded, twisted-pair cable with copper conductors, complying with TIA/EIA-568-B.2, Category 5E or Category 6 for horizontal copper cable.

2.7 Device programming requirements

A. Programming of lighting controls shall be performed by a factory certified field service engineer. Refer to lighting controls diagrams on the Drawings.

2.8 Source quality control

A. Perform full-function testing on 100 percent of system components and panel assemblies at the factory.

PART 3 - EXECUTION

3.1 Installation, general

A. Install devices in complete compliance with the manufacturer's recommendations.

B. Ground components according to Section 26 0526, Grounding and Bonding.

C. Fully document control device calibration settings after system programming with manufacturer's representative and submit this information as a part of the O&M manual.

D. Devices shall be installed and programmed to meet the control intent.

E. Manufacturer's factory certified field service engineer shall provide start-up service, including physical inspection of lighting control system and connected wiring and final adjustments to meet specified performance requirements.

3.2 Installing lighting relay room controllers

A. Room controllers shall be surface mounted in accessible ceiling space above entry door.

B. Provide identification of ceiling grid below room controllers to locate device.

3.3 Installing lighting control stations (low-voltage digital wall switches)

A. Box and cover plate:

1. For button-based style configurations, provide a single cover plate where two or more lighting control stations are grouped together in one box.
2. For capacitive touch button configurations, provide separate single-gang outlet boxes for each lighting control station.

B. Verify door swings with door frame installed prior to rough-in for lighting control stations.

3.4 Installing sensor devices

A. Install in accordance with manufacturer’s written instructions.

B. Occupancy sensors:

1. Provide low-voltage type detectors.
2. Coverage pattern: Verify coverage pattern of single detector or system of detectors to be capable of complete coverage of the space in which the lighting is intended to be controlled. Provide additional detectors as necessary to satisfy complete coverage.
3. Install at least three feet away from HVAC diffusers, or as indicated in manufacturer’s written instructions.
4. Programming requirements:

    a. Vacancy mode (manual on, automatic off).
    b. Occupancy mode (automatic on, automatic off).

C. Daylight sensors: Location of interior daylight sensors shall be determined by manufacturer's certified field service engineer, based on optimization calculations for greatest energy savings.

D. Accessory interface devices: Where additional devices are required and need power connection, provide the following:

1. 277-volt circuit: Connect to room/space unswitched normal lighting circuit using 2 #12 + #12 ground in 3/4-inch conduit.
2. 120-volt circuit: Connect to nearest unswitched receptacle circuit using 2 #12 + #12 ground in 3/4-inch conduit.

3.5 Identification

A. Materials: Refer to Section 26 0553, "Identification for Electrical Systems." Identify devices, wiring, and ceiling grid below locations of lighting relay room controllers.

B. Lighting control stations: Provide custom engraving on each button of each lighting control station, defining button's function. Coordinate with Owner for final approval of engraving prior to ordering.

3.6 Field quality control

A. Manufacturer's field service: Engage a factory certified field service engineer to test and inspect components, assemblies, and equipment installations, including connections.

B. Engage a factory certified field service engineer to make site visits indicated to ensure proper system installation and operation. Visit duration shall be suitable to accomplish required tasks.

C. First visit (Pre-installation): Make first visit prior to installation of wiring for lighting control system.

1. Review:

a. Low-voltage wiring requirements.
b. Separation of power and low-voltage/data wiring.
c. Wire labeling.
d. Lighting controller locations.
e. Control station locations.
f. Load circuit wiring.
g. Connections to other equipment.
h. Installer responsibilities.
i. Power panel locations.
j. Additional manufacturer installation requirements.

2. Define scope of second visit (typical classroom review): Coordinate with factory certified field service engineer for the area to serve as a mockup of the lighting control system in a typical classroom. Define installation requirements to be completed by second visit.

D. Second visit (typical classroom review):

1. Provide mockup of the lighting control system in a typical classroom where directed by the Owner and Architect to demonstrate operability and set quality standards for materials and installation. Mockup installation shall be complete including controller, control stations, devices, and wiring. Owner and Architect shall review mockup prior to installation of lighting control system in other classrooms.

a. Approval of mockup does not constitute approval of deviations from the contract documents contained in mockup unless Engineer specifically approves such deviations in writing.
b. Subject to compliance with requirements, approved mockup may become part of the completed work if undisturbed at time of substantial completion.

2. Wiring and hardware review: Wiring connections and electrical equipment included in the scope of the lighting control system shall be assessed.
3. Field testing: Sensor connections and Ethernet connections shall be verified.
4. Additional requirements: Coordinate with factory certified field service engineer for additional installation requirements for the completion of the lighting control system.
5. Submit test report.

E. Completion of installation and programming: Make visits upon completion of installation of the lighting control system. Perform the following tests and inspections:

1. Wiring and hardware review: Wiring connections and electrical equipment included in the scope of the lighting control system shall be assessed.
2. Field testing:

    a. Verify connections to sensors and lighting control stations.
    b. Ensure that control hardware and software are calibrated, adjusted, programmed, and in proper working condition in accordance with the contract documents and manufacturer's installation instructions.
    c. For occupancy sensors, confirm that the placement, sensitivity, and time-out settings are optimized to ensure lights turn off only after each space is vacated and do not turn on unless the space is occupied.
    d. For programmable schedule controls, confirm settings are programmed.
    e. For daylight sensors, confirm daylight sensor location is optimized to achieve maximum energy savings while maintaining the desired set point and that the light levels in the space are reduced relative to the amount of usable daylight in the space.

3. Tuning: Coordinate with factory certified field service engineer an on-site meeting with the Owner and Engineer to make required adjustments to the lighting control system for conformance with the original design intent.
4. Operational test: After installing sensors, and after electrical circuitry has been energized, start units to confirm proper unit operation.
5. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
6. Submit test report.

F. On-site training: Make two visits for on-site training as described under Article 3.81, Operating Instructions.

G. Lighting control components shall be considered defective if they do not pass tests and inspections.

H. Prepare test reports, including a certified report that identifies lighting control panels and describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations made after remedial action.

3.7 System startup

A. Upon completion of project, engage a manufacturer's certified field service engineer to perform startup service.

1. Verify that electrical wiring installation complies with manufacturer's submittal and installation requirements.
2. Complete installation and startup checks according to manufacturer's written instructions.

3.8 Operating instructions

A. As specified in Section 26 0500, "Common Work Results for Electrical", provide operating instructions.

B. Engage a factory certified field service engineer to train Owner's maintenance personnel to adjust, operate, and maintain lighting control devices.

C. On-site training:

1. Provide at least two sessions of eight consecutive training hours of instruction time.
2. Train Owner's facility management and maintenance personnel, and selected Owner representatives.

3. Training shall include, but not be limited to, overview, adjustment, operation, use, maintenance, and demonstration of the lighting control system.
4. The first training session shall occur within one month of substantial completion. The second training session shall be scheduled between 6 months and 9 months of substantial completion.
5. Each training session shall include on-site demonstration of lighting control system functionality with the Owner.

END OF SECTION

1.00 GENERAL

1.01 Section Includes:

A. IP Video Equipment

1.02 System Description

A. Design Requirements:

1. Furnish and install a complete IP Video Distribution system including all amplifiers, splitters, tuners, encoders, decoders, signage servers, IPTV servers, mobile origination carts, DVD players, power strips, power supplies UPS equipment, cabinets, cables and connectors for a complete and active system.

2. Include all labor, materials, equipment and services required for complete installation and related work as specified in this section including (but not limited to) connection of all circuits, apparatus, and equipment required to deliver completely operable system to the school district, ready for use.

3. Equipment shall match the fit and finish of the telecommunications equipment.

4. Launch amplifier shall amplify the inbound CATV feed (where/when available) and present the output to the Digital Transport Adaptors / CableCards / Tuners.

5. Channel selection shall be agile and user selectable at the headend on the fly.

6. The system shall pass all channels without noticeable degradation of intelligence and color fidelity.

7. The source encoders shall be connected to the building-wide data network.

8. Decoders shall be located at each electronic display.

9. Include all encoders, decoders, processors, cable cards, local content servers, Digital Signage servers, mobile video carts, programming and installation for a complete IP based video system.

10. System shall be active interfaced to each display.

B. Performance Requirements:

1. Provide a fully integrated and operational IPTV system capable of forward and reverse operations.

a. Ensure overall performance of the system does not interfere with local cable service provider's operations.

b. Provide a fully function IP Video system that integrates with the Local Area Network, Display devices and other A/V equipment present at the facility.

c. Provide a 3000 VA full time, on-line, rack mounted UPS system with sine wave correction, voltage regulation, spike suppression, and a minimum of 20 minutes backup power to protect the media server, digital video server, bulletin board computer, CATV receivers, etc.

d. The UPS must be capable of interfacing to the media server, digital video server, and bulletin board computer with an alarm function to enable an orderly shutdown prior to complete loss of power.

e. Provide each part of system complete in detail and operable in unison with all other sections, providing a completely installed television distribution system and connections, as described in this section.

f. Provide all work, materials, and manner of placement in strict accordance with requirements of latest edition of National Electrical Code.

g. Provide all materials listed as complying with available standards of Underwriter's laboratories or other similarly established standards and carry their label. Apply all materials in strict accordance with Underwriter's laboratories listing.

h. All work described in this Section performed by Contractor or approved qualified subcontractor.

1.03 Submittals

A. Product Data

1. Submit manufacturer's latest publication, part numbers and quantity listings of all supplied components:

a. Manufacturer Certified Integrator / Programmer / Engineer Certificate.

b. Splitters and Directional Couplers

c. Amplifiers

d. Wall outlets

e. Mobile Cart System

f. IP video Cable Cards

g. IP Video Encoders

h. IP Video Decoders

i. IP Video Servers

j. IP Video Digital Signage Equipment

k. IP Video software, applications and applicable licenses.

l. IP Video patching cables and connectors for all input and output types required.

B. Shop Drawings:

1. Contractor shall submit original specification sheets or clear copies of the same on all items. Manufacturer’s name, make and model number shall appear on each sheet. Submittals shall be indexed and presented in a neat and logical order in a binder. Submittals shall contain installation, operation and programming manuals of the proposed equipment and systems to provide the design consultant complete information as to system features, functions and capabilities.

2. The Contractor shall submit line drawings of all systems showing major components of the systems. Submit wiring diagrams showing typical connections for all systems and equipment.

3. The Contractor shall submit to the design consultant for approval, prior to the installation of any part of the video distribution system, design consultant drawings of the system showing the interconnections of all equipment with the designed video distribution system with calculated

signal levels. Specification sheets covering all component parts of the system shall be submitted along with the design consultant drawings. The system and equipment as shown on the design consultant drawings and specification sheets shall meet all items of the specifications.

4. Submit Manufacturer Certifications.

C. As-Built Drawings

1. Provide riser drawings of complete system including all device locations and cabling.

2. Provide floor plan drawings including all devices and equipment locations.

3. Provide 1/8" scale drawings in hardcopy and electronic AutoCAD 2015 format for review and acceptance by the architect and owner. PDFs inserted into AutoCad files are not acceptable.

1.04 Quality Criteria

A. Qualifications

1. Contractor must be manufacturer certified (AV over IP Video Crestron)

2. All work in conjunction with this installation shall be in accordance with good design consultant practices. The installation shall be in accordance with the latest requirements of the National Electrical Code, State and local codes, ordinances and regulations of any other governing body having jurisdiction.

3. The Contractor shall submit a list to include at least five of the Contractor's installations of the proposed video distribution systems, which have been in satisfactory operation for a minimum period of three years.

4. All system equipment shall be limited to the products regularly produced and recommended for service ratings in accordance with design consultant data or other comprehensive literature made available and in effect at the time of bidding.

5. The Contractor shall have been in the video distribution system integration installation business not less than 5 years prior to the bid date.

6. The Contractor shall be an authorized distributor for the proposed equipment and system with full manufacturer's warranty privileges.

7. The Contractor shall maintain a complete inventory of all parts necessary for satisfactory service and maintenance of the proposed system.

8. The Contractor shall provide equipment of one manufacturer for the system and bulletin board components of the video distribution system unless specifically approved in writing by the design consultant.

B. Regulatory Requirements

1. Regulations, Standards and Publications:

a. NFPA 70

b. ANSI - TIA/EIA – 568B "Telecommunications Standard for Pathways"

c. IEEE Standard No: 205-2001

d. BICSI Telecommunications Distribution Methods Manual (TDMM), Latest Edition

2. System wiring shall be in accordance with good design consultant practices as established by the EIA and NEC. Wiring shall meet all established State and local electrical codes. All wiring shall test free from grounds and shorts.

1.05 Quality Assurance

A. Conditions for Consideration of "Or Equal" Products: Where products are specified by name and accompanied by the term "or equal", the proposed "or equal" product will be considered when the following conditions are satisfied. If all the following conditions are not satisfied, design consultant will return requests without action, except to record noncompliance with these requirements:

1. Proposed product does not require extensive revisions to the Contract Documents.

2. With the exception of the product name or number and manufacturer's name, proposed product conforms with requirements indicated on the drawings and in the specifications in every respect and will produce indicated results.

3. Proposed product is fully documented and properly submitted.

4. Proposed product has received necessary approvals of authorities having jurisdiction.

5. Proposed product is compatible with AND has been coordinated with other portions of the Work.

6. Proposed product provides specified warranty.

7. If proposed product involves more than one contractor, proposed product has been coordinated with other portions of the work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

8. Submission is accompanied with detailed comparison of significant qualities of proposed product with those named in the specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

9. Submission is accompanied with a list of similar installations for completed projects with project names and addresses and names and addresses of design consultants and authorities, if requested.

10. Submission is accompanied with proposed product's Manufacturer signed written statement on Manufacturer's letterhead, certifying that manufacturer complies with requirements in the contract documents.

1.06 Delivery, Storage and Handling

A. Deliver all materials in good condition, store in a dry place, off ground, and keep dry at all times.

B. Materials should be clearly marked with project name, number and Contractor's name.

C. If equipment is dropped and damaged, it is to be replaced at the contractor's expense.

1.07 Warranty

A. Crestron A+ Education Program Reseller with 5 year Warranty and True Blue 24/7 35 Support.

B. Firmware & Software updates throughout the 5 year contract.

C. Include rewards program, Factory Training and Travel for Crestron Technical Institute Classes.

D. Provide a spreadsheet of each piece of equipment with Warranty Start and End dates.

E. The Contractor shall warrant the equipment to be new and free from defects in materials and workmanship and will, within one year from the date of acceptance, repair or replace all or any part of the equipment found to be defective. Warranty maintenance, shall be provided by the Contractor during normal working hours at no expense to the school district.

F. At the completion of the job and before final acceptance, the contractor shall guarantee in writing that the systems are properly adjusted and shall warrant the systems free from defects for a period of five (5) years for Crestron and three (3) years for Epson Projectors from the date of Final Acceptance by the school district. In addition, the contractor shall provide a guaranteed service response time of not more than 48 hours from the time of receipt of a trouble call. Service and maintenance during the two-year warranty period shall include all parts and labor and shall be at no additional cost to the school district.

1.08 Instructions

A. A comprehensive installation, operation, programming and instruction manual shall be supplied as part of the system. The manual shall provide complete service information, including schematics, layout drawings, and interconnecting diagrams showing the location of all the outlets, cable routes, and other installed components. Include final "as built" one-line system drawings. Include for this particular project parts lists to permit quick and efficient maintenance and repair of the equipment by qualified technicians. Manuals shall include 8-1/2" x 11" device location/cabling route drawings provided in CAD format (AutoDesk - AutoCad 2015 or later). Manuals shall include a copy of the operations manuals. Manuals shall be indexed and neatly bound in a hardcover three ring binder. Three (3) copies of this manual shall be provided to the Authority upon project completion. Contractor shall retain a minimum of one (1) copy for their permanent records.

1.09 Commissioning

A. Authority reserves the right to determine the final approval of the system at the time of scheduled job completion. Failure to meet the installation schedule or provide the "precise functional equivalent" shall result in the removal of the system at the contractor's expense

B. IP Video Contractor and Manufacturer Contractor shall be responsible to coordinate with Network Engineers to implement a Network System to Support Network Video Encoder Streaming System.

C. IP Video Contractor is responsible to partner with the Network infrastructure, Wireless and Network Active hardware contractor to ensure the network design will support the Video Management and Distribution system without degrading network performance for all existing and new data systems and transmissions.

D. IP Video Contractor shall be manufacturer certified and/or have manufacturer certified engineers implement and program the IPTV Network LAN solution to include, but not limited to, Encoders, Decoders, Set Top Boxes, Portal Server, Server, Channel Guide, Connections etc...

E. IPTV Certified Engineers shall be required to work and coordinated with the owner network engineers all network requirements to ensure the IPTV system is fully functional on the Local Area Network. IPTV Manufacturer engineers shall be required to work with owner Server Engineers team to import Active Director Users to IPTV System, setup Channel Guide, Authorization and User rights... for a fully functional IPTV System.

F. The contractor shall furnish 3 - four (4) hour sessions of in-service training with the system. Operating manuals and user guides shall be provided at the time of the training. Provide a minimum of three operating manuals.

1.10 Maintenance

A. Crestron True Blue Program shall be included as part of the maintenance package.

B. Access to Factory Education, Factory Benefit and Factory Training programs.

C. The Contractor or his subcontractor shall show satisfactory evidence, upon request, that he maintains a fully equipped service organization, capable of furnishing adequate inspection and service to the system, including standard replacement parts. He or his agent shall be prepared to offer a service contract for the maintenance of the system after the guarantee period

D. Diagrams: The Contractor shall furnish three complete sets of operating instructions, including cable diagrams, and other information necessary for proper installation, operation and maintenance of the system components. As-built drawings of the system shall be supplied.

E. Service Calls: Provide 8 hours of service calls on system in school after final acceptance to make any adjustments necessary to keep system at peak operating condition. Service calls performed as requested by the School District. Warranty work is not included in the service call time.

F. Service Contract: Equipment Supplier: Accredited by proposed equipment manufacturers and prepared to offer service contract for system maintenance on completion of guarantee period and provide names, locations, and size of 10 recent successful installations in area; 24 hours per day service, with 24 hour non-emergency service response time provided, and including 1 hour emergency call response time on 365-day-per-year, 24 hours per day basis.

2.00 PRODUCTS

2.01 Manufacturers

A. IP Video equipment: Crestron DM shall be used as the basis of design

1. Owner must provide final approval of manufacturer.

2. Any substitutes must meet or exceed all performance, warranty and service information.

B. Substitutes

1. VBrick

2. Mediacast

3. Haivision

C. Any products submitted as equals/substitutes must be approved by the designer prior to approval and purchase and must meet or exceed all performance and warranty information.

2.02 Existing Products

A. The Contractor shall coordinate all interface requirements with new and existing equipment to insure seamless operation. Existing owner equipment is not to impede the usage of the new equipment.

2.03 Equipment

A. IP Video Equipment

1. Launch Amplifier

a. Blonder Tongue

2. Splitter

a. Blonder Tongue 1000 MHz 4 port

3. Digital Transport Adaptor

a. Furnished by Service Provider

4. TV Tuner
   a. AVerTV Hybrid TVBox 13
5. DVD Player
   a. Denon DBT-1713UD
6. Digital Signage Software
   a. Carousel 7 On Premise with training package.
7. Digital Signage Hardware
   a. Apple Mac Mini 3.0 GHz 6 core with 256GB storage and 16 GB memory
8. Media Server
   a. Crestron DM-XIO-DIR-160
   b. Crestron CP3 Control System
9. Encoder Chassis
   a. Crestron DMF-CI-8
      i. Minimum quantity two (2)
10. Power Strip
    a. APC 1RU 120v 10 Port 15 AMP
11. UPS
    a. APC 3000VAC Smart UPS
12. Equipment Cabinet
    a. Hubbell 42 RU Vented Equipment Cabinet
13. Encoders / Decoders
    a. Crestron DM-NVX-351C
    b. Crestron DM-NVX-350
14. Controller
    a. Crestron MC3 3 Series Media Presentation Controller
15. Remote
    a. Crestron HR310 Remote
    b. Crestron ANT-EXT-10 Antenna Extender
    c. Crestron CEN-IO-IR-104
16. AV Plates, Transmitters and Receivers
    a. Crestron HD-TX-101-C-E HDMI over Cat 5

b. Crestron HD-RX-101-C-E HDMI over Cat 5

c. Crestron HD-TX-201-C-2G-E-B-T

d. Crestron HD-TX-201-C-2G-B-T

e. Or approved equals

17. Mobile Origination Cart

a. Chief XVAU Mobile Cart

b. 42" LED Monitor

c. Tricaster Mini HD-4i

d. DVD Player

e. Panasonic HC-X1000 Camcorder

f. Crestron NVX Encoder/Decoder

g. Gigabit A/V switch

h. Manfrodo 190X3 Tripod

i. Shure SM-58 Mic

2.04 LED Displays

A. 32" LED Commercial Grade Display

1. NEC V323-2

B. 42" LED Commercial Grade Display

1. NEC V423-AVT

C. 46" LED Commercial Grade Display

1. NEC V463-AVT

D. 55" LED Commercial Grade Display

1. NEC V552-AVT

E. 65" LED Commercial Grade Display

1. NEC V651-AVT

F. 80" LED Commercial Grade Display

1. NEC V801-AVT

G. Provide articulating wall mount appropriately sized for each display.

3.00 EXECUTION

3.01 Acceptable Installers

A. Contractor must be a licensed installer for the district for which the contract is registered. Contractor is responsible for the necessary permit to do the job. The contractor must have a minimum of three years of IP Video installation with a school district and provide references for said work.

B. Contractor shall be a manufacturer certified Integrator, Programmer and Engineer.

3.02 Examination

A. Site Verifications of Conditions

1. Contractor is subject to random examinations by the design firm for verification of conditions on the installation.

3.03 Source Qualification Control

A. Tests / Inspections

1. All products shall meet come to the site it there original packaging to assure the manufacturers final inspection has not been compromised. The Contractor is to provide all testing and inspection documentation from the manufacturer on all new products to the Authority.

B. Verification of Performance

1. The Contractor shall test all equipment to verify that its performance meets the manufactures specifications.

3.04 Installation

A. Equipment and Distribution:

1. Prior to installation, contractor shall review the setup, configuration and end user operation with the owner for approval.

2. Contractor shall install / Rack Comcast Provided DTA's (3) and interface to Contractor Provided Tuner / Encoder IPTV System

3. Where not provided as part of the Division 26 or Division 27 work, the Contractor shall furnish and install necessary conduit, raceways, pull boxes, outlet boxes and cable to provide a complete system as herein specified. All wiring shall be tested for continuity and freedom of all grounds and short-circuits. All outlet boxes shall be as specified for other wiring devices; size as required by equipment manufacturer.

4. During the installation work, improper bending, stretching, twisting, kinking, pinching or any other improper handling must not deform any cables. All cable runs shall contain "S" loops or other means to accommodate expansion and contraction. Cable connected to electronic equipment in the system shall be tagged to show its function and the location of its other end. All labels shall be of durable material and securely fastened to the cable.

5. All connections shall be made with suitable connectors only at a known point or where otherwise indicated on the drawings to facilitate later system servicing. There shall be no splicing of cables.

6. All cables shall be installed in a manner to prevent sharp bends and pressure points

7. Wiring for all wall-mounted equipment shall be concealed in raceway (conduit) from outlet to above removable ceilings, unless noted otherwise.

8. Wall equipment shall be properly mounted to painted backboard, neatly arranged in orderly fashion and accurately identified.

9. Equipment cabinet(s) anchored to wall or floor utilizing an approved method.

10. All head-end equipment securely installed within equipment cabinet(s) by screws, bolts, nuts, etc or by method approved by Design Consultant. All holes intended for equipment mounting used

for securing equipment to rack. Provide all exposed hardware in same color and type, preferably matching cabinet finish (i.e. black cabinet-black rack screws).

11. Incoming service cable shall be provided by the CATV Company and shall be extended to the new headend location by the Contractor. Contractor is to schedule with the local cable service provider to ensure completion in a timely manner with project schedule.

12. Provide accurate documentation listing all equipment install under this section. This includes; equipment manuals, part numbers, serial numbers, warranties, and location of equipment. If information is found inaccurate during the one-year warranty period, Contractor is requires to re-verify all equipment information at no additional cost to client.

3.05 Field Quality Control

A. Site Tests and Inspections:

1. The Contractor shall conduct an operating test for approval.

2. Test every outlet for signal level, clear picture and remote origination/control (as applicable).

3. Test all head-end equipment for proper frequency, audio/video carrier levels, and outputs. Adjust all levels per manufacturer's recommendations.

4. Perform all testing required for each building during same day.

5. Perform tests to all systems under direct supervision of manufacturer's representatives or accredited agencies for all specified equipment and services.

6. Submit all test results in tabular format with reference to or backed up by equipment/riser diagram that accurately represents installed system.

7. Submit written test report from authorized representative of equipment manufacturer stating that system has been tested and is in working order prior to final inspection by design consultant.

8. Upon completion of the installation of the equipment, the video contractor shall provide to the design consultant a signed statement from the equipment supplier that the system has been wired, tested, and functions properly according to the specifications.

9. The Contractor shall furnish all equipment and personnel required for the test.

3.06 Demonstration and Training

A. Training for AV Tech and Network Engineers shall be performed by Factory Certified Trainers.

B. Installing contractor shall provide a minimum of 16 hours of factory training on system operation and managements as part of their scope of work.

1. Additional hours shall be provided on a time and materials basis at the request of the owner.

C. Training shall include:

1. Sample courses: DM-NVX Design, Troubleshooting, Networking, Programming and simple Windows programmer courses.

2. Service Manuals, programming at the headend, trouble shooting, servicing, configurations and all adaptations prior to turnover of the initial phase of the project.

D. Installing contractor shall provide a video recording on a standard format DVD to the owner which includes training sessions.

E. All aspects of the systems must be demonstrated for the owner at the time of training

F. A minimum of 16 hours of training shall be provided.

G. Training shall be video and audio recorder for the owner and turned over to the owner at acceptance.

H. Training scheduled by School District in blocks of 2-8 hours.

I. Begin training after design consultant deems system physically complete and fully operation. Service time not deemed as training.

J. Include following minimum content in training:

1. General systems overview describing sub-systems and their relationships with each other.

2. Specifics on sub-systems and how to maintain them to ensure reliable operations.

3. Operation of equipment to perform intended tasks, including (but not limited to) remote origination, camera operation, television operation, cable patching, cable replacement and so forth.

4. Provide written documentation for all training attendees to supplement training (i.e. diagrams, training outlines/highlights, etc.).

3.07 Acceptance

1. Contractors work shall be considered complete after the following conditions have been met:

2. IP Video system communicates with other system and equipment and functions as a unit.

3. As-built documentation has been provided and approved.

4. Cable installation is complete and all cable runs have been tested and documented to be installed according to specifications and drawings.

5. Equipment installation is complete and all functions have been tested and documented to function as designed and per the manufacturer's recommendations.

6. All punch list items have been reconciled.

7. All disturbed ceiling panels, fire stopping materials, covers, etc. have been properly reinstalled.

8. All materials and trash have been removed from the site.

9. A 1-Year Installers warranty has been given to a school district Technology representative.

10. Submit Manufacturers Extended Warranty Application.

END OF SECTION

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PART 1 - GENERAL

1.1 Section includes

A. Provide a complete fire detection and alarm system of the noncoded, addressable, analog type, with manual stations, detectors, notification appliances, controls, and devices.

B. Costs of certification and testing, including tests required by NFPA 72, shall be included in the contract sum.

1.2 Products furnished but not installed under this section

A. Duct smoke detectors: Section 23 0913.

1.3 Related sections

A. Division 08 section specifying door hardware for coordinating electrical hardware operators.

B. Section 21 1000 for fire suppression system, for coordinating flow, pressure, and valve tamper switch requirements.

1.4 Definitions

A. FACP: Fire alarm control panel.

B. HVAC: Heating, ventilation, and air-conditioning.

C. LED: Light-emitting diode.

D. SPDT: Single pole, double throw.

E. Definitions in NFPA 72 apply to fire alarm terms used in this section.

1.5 System description

A. Control of system: By the FACP.

B. System supervision: Automatically detect and report open circuits, shorts, and grounds of wiring for initiating device, signaling line, and notification-appliance circuits.

C. Priority of signals: Automatic alarm response functions resulting from an alarm signal from one zone or device are not altered by subsequent alarm, supervisory, or trouble signals. An alarm signal is the highest priority. Supervisory and trouble signals have second- and third-level priority. Higher-priority signals take precedence over signals of lower priority, even when the lower-priority condition occurs first. Annunciate and display all alarm, supervisory, and trouble signals regardless of priority or order received.

D. Noninterference: A signal on one zone shall not prevent the receipt of signals from other zones.

E. System reset: All zones are manually resettable from the FACP after initiating devices are restored to normal.

F. Transmission to remote alarm receiving station.

G. System alarm capability during circuit fault conditions: System wiring and circuit arrangement prevent alarm capability reduction when a single ground occurs in an initiating device circuit, signal line circuit, or notification-appliance circuit.

H. Loss of primary power at the FACP initiates a trouble signal at the FACP. The FACP indicates when the fire alarm system is operating on the secondary power supply.

I. Basic alarm performance requirements: Unless otherwise indicated, operation of a manual station, automatic alarm operation of a smoke or heat detector, operation of a carbon monoxide detector, or operation of sprinkler flow switch, initiates the following:

1. Notification-appliance operation.
2. Identification at the FACP and the remote annunciator of the zone and device originating the alarm.
3. Release of fire and smoke doors held open by magnetic door holders.
4. Operation of duct smoke detector shall initiate a supervisory signal and shutdown of fans and other air-handling equipment serving zone where alarm was initiated.
5. Operation of carbon monoxide detector shall initiate a distinct local alarm signal and signal the BAS system.
6. Recording of the event in the system memory.
7. Initiate the transmission of alarm to the Owner's remote alarm receiving station.

J. In addition to functions mentioned above, elevator smoke detectors shall perform elevator recall functions in accordance with ANSI requirements. Elevator heat detectors shall activate the shunt trip breakers.

K. Upon activation of alarm signal, the system shall override any intercommunications sound system, public address sound system, theatrical sound system, or local sound system.

L. Alarm silencing, system reset and indication: Controlled by switches in the FACP and the remote annunciator.

1. Silencing-switch operation halts alarm operation of notification appliances and activates an "alarm silence" light. Display of identity of the alarm zone or device is retained.
2. Subsequent alarm signals from other devices or zones reactivate notification appliances until silencing switch is operated again.
3. When alarm-initiating devices return to normal and system reset switch is operated, notification appliances operate again until alarm silence switch is reset. System reset shall be controlled only at the FACP.

M. Remote detector sensitivity adjustment: Manipulation of controls at the FACP causes the selection of specific addressable, analog smoke detectors for adjustment, display of their current status and sensitivity settings, and control of changes in those settings. Same controls can be used to program repetitive, scheduled, automated changes in sensitivity of specific detectors. Sensitivity adjustments and sensitivity-adjustment schedule changes are recorded in system memory and are printed out by the system printer.

N. Removal of an alarm-initiating device or a notification appliance initiates the following:

1. Recording of the event by the system printer.
2. Transmission of trouble signal to remote alarm receiving station.

O. FACP alphanumeric display: Plain-English-language descriptions of alarm, supervisory, and trouble events; and addresses and locations of alarm-initiating or supervisory devices originating the report. Display monitoring actions, system and component status, system commands, programming information, and data from the system's historical memory.

1.6 Submittals

A. General:

1. When approved, no variation will be permitted except with the approval of the Architect.
2. Submit to the authority having jurisdiction and to the Architect for review and approval.

B. Shop drawings:

1. Floor plans indicating final equipment and device locations and raceway routes.
2. System operation description: Detailed description for this project, including method of operation and supervision of each type of circuit and sequence of operations for manually and automatically initiated system inputs and outputs. Manufacturer's standard descriptions for generic systems are not acceptable.
3. Details of graphic annunciator.
4. Wiring diagrams and riser diagrams.

C. Product data: Schedule and each type of system component, including dimensioned plans and elevations showing minimum clearances and installed features and devices. Include UL listings.

D. Battery calculations.

E. Provide a complete project record drawing as specified in Division 01 and Section 26 0101 showing the location of all the outlets, cable taps, cable routes, and other components installed. Drawings shall be made part of Operating and Maintenance Manuals.

F. Certifications:

1. UL Certificate of Compliance of system supplier as specified in "Quality Assurance" below.
2. Fire and smoke detection system inspection and test report, completed by the factory representative, endorsed by the Owner and the factory representative, including test data, detector locations and serial numbers, a summary of maintenance performed, recommendations for relocation or addition of detectors and final action regarding these recommendations, and system certification.

1.7 Quality assurance

A. System and equipment shall be UL listed. Each major component shall bear the manufacturer's name and catalog number.

B. UL labels and local testing (if required): As specified in Section 26 0500, Common Work Results for Electrical.

C. Single-source responsibility: Obtain system components from a single source who assumes responsibility for their compatibility.

D. Qualifications of system supplier and installer:

1. Staff shall consist of at least one NICET Level II Technician or a professional engineer registered in Maryland.
2. Has installed at least ten systems of the type specified which have performed satisfactorily for not less than two years.
3. Maintains a facility with a sufficient stock of spare parts.

4. Shall respond within 24 hours of notification to correct system failure or malfunction. During the project correction period defined in General Conditions and in Section 26 0500, perform such corrections at no addition to the Contract Sum.

E. Factory-authorized service representative: Trained and certified by the manufacturer of the system, and experienced in the installation and operation of the type of system included in the work.

F. Comply with NFPA 72, applicable local codes, and regulations and requirements of the authorities having jurisdiction. Howard County is the local code authority.

1.8 Inspections and service contract

A. During the general project correction period, every six months starting six months after Substantial Completion, the supplier shall inspect and test the system.

1. Submit written reports to the Owner and Architect, describing test results, including defects found and how they have been corrected, and listing components replaced.

B. At the end of the correction period, offer the Owner a service contract for the complete system.

PART 2 - PRODUCTS

2.1 Acceptable manufacturers

A. Basis-of-design system: Subject to compliance with requirements, provide system by Edwards Systems Technology, (EST) Inc. (United Technologies). No substitutions, HCPSS standard.

2.2 CENTRAL FACP

A. Cabinet: Lockable steel enclosure. Arrange interior components so operations required for testing or for normal maintenance of the system are performed from the front of the enclosure. If more than one unit is required to form a complete control panel, fabricate with matching modular unit enclosure to accommodate components and to allow ample gutter space for field wiring and interconnecting panels.

1. Mounting: Surface.

B. Alarm and supervisory systems: Modules replaceable without removal of field wiring.

C. Control modules: Include types and capacities required to perform all functions of fire alarm systems.

D. Indications: Local, visible, and audible signals announce alarm, supervisory, and trouble conditions. Each type of audible alarm has a different sound.

E. Resetting controls: Prevent the resetting of alarm, supervisory, or trouble signals while the alarm or trouble condition still exists.

F. Alphanumeric display and system controls: Arranged for interface between human operator at the FACP and addressable system components, including annunciation, supervision, and control.

1. Display: A minimum of 80 characters; alarm, supervisory, and component status messages; and indicate control commands to be entered into the system for control of smoke detector sensitivity and other parameters.
2. Keypad: Arranged to permit entry and execution of programming, display, and control commands.

2.3 Emergency power supply

A. General: Components include nickel-cadmium battery, charger, and an automatic transfer switch.

1. Battery nominal life expectancy: 20 years, minimum.

B. Battery capacity: 24 hours of supervisory power with 15 minutes of general alarm capability at end of 24 hours.

C. Battery charger: Solid-state, fully automatic, variable-charging-rate type. Provide capacity for 150 percent of the connected system load while maintaining batteries at full charge. If batteries are fully discharged, the charger recharges them completely within four hours. Charger output is supervised as part of system power supply supervision.

D. Integral automatic transfer switch: Transfers the load to the battery without loss of signals or status indications when normal power fails.

2.4 One-way voice communication

A. The system shall have one-way voice communication and tone-generating capabilities. The voice messaging system shall be of the same manufacturer as the control panel.

B. Central audio control module: Alarm message or tone generation and microphone connections with continuous supervision and identification of the type of failure should a problem occur (e.g. main microphone trouble, tone trouble). Audio outputs shall have individual gain control.

C. Hand-held, push-to-talk microphone: Recessed within a protective panel-mounted enclosure, noise-canceling communication type with a frequency range of 200 Hz to 4000 Hz, equipped with a self-winding five-foot coiled cable. An LED indicator shall indicate the microphone push-to-talk button has been pressed and speaker circuits are ready for transmission. The microphone shall be supervised for disconnection.

D. Audio control switch and indication module: To provide manual access to audio operations for authorized personnel. Include a phone page select switch, tone select switch, tape select switch, and "Audio trouble Reset switch". These switches and associated LED indicators shall be supervised for disarrangement or failure.

E. Audio power amplifiers: Furnished with a self-contained filtered 24 Vdc power supply, transformer, and amplifier monitor circuits. The amplifiers shall provide a 25-V rms output with a frequency response of 120 Hz to 12,000 Hz. Provide sufficient amplification to operate all system speakers simultaneously plus 10 percent spare capacity.

F. Backup amplifier: Capable of automatically replacing any failed amplifier.

G. Speaker circuits: Capable of supplying 25-V rms audio power from the system amplifiers. Provide supervision for open, short, or ground fault conditions; individual and distinct trouble indications for each fault; and one circuit for each zone or area of distinct communication.

H. Digitized tones: For alarm (slow whoop) and auxiliary requirements (wail, horn, chime, and others).

I. Pre-recorded digitized voice message capability: Automatically transmitted to occupants during alarm conditions.

1. The automatic message player shall not rely on a tape or other mechanical means of transmitting the evacuation message.

2. Provide a standard evacuation message, and message transmitter capable of transmitting a custom message up to 30 seconds long. A self-contained speaker shall provide testing of the messages without disturbing the occupants of the facility.

J. Automatic voice evacuation sequence:

1. Alarm tone shall sound for a maximum of 15 seconds, followed by automatic preselected voice evacuation messages. At the end of each voice evacuation message, the alarm tone shall resume. The alarm tones shall sound alternately until the Alarm Silence Switch at the FACP has been operated.
2. Audible alarm operations (speaker circuit selection and alarm tone and voice message timing variations) shall be activated by the system software so that changes to the evacuation sequence can be made by authorized personnel without any component rewiring.

K. Manual voice paging sequence:

1. The system shall allow voice paging. Upon activation of speaker manual control switch, attention-getting beeps shall sound over the speakers indicating an impending voice message.
2. Voice message: Operator shall be able to make announcements via the push-to-talk paging microphone.

2.5 Remote graphic annunciator

A. Remote annunciator: Flush-mounted liquid crystal display (LCD) annunciator.

1. Display: Supervised, back-lit, LCD with no fewer than 4 lines with 20 characters per line.

a. Back lighting shall turn off after 4 minutes when there is no switch activity and no unacknowledged message.
b. The first event of the highest priority shall capture the display, so that arriving firefighters can view the first alarm event immediately.

2. Key operated switches:

a. Alarm silence.
b. Trouble silence.
c. Test

B. Description: Duplicate annunciator functions of the FACP for alarm, supervisory, and trouble indications. Also duplicate manual switching functions of the FACP, including alarm silence, trouble silencing, and test.

1. Mounting: Recessed cabinet, NEMA 250, Type 1.

C. Graphic annunciator: As shown on drawings, panel indicating the building floor plan with a "You are here" note and zone and device locations permanently marked on panel surface.

1. Mounting: Integral with remote annunciator, with individual lamps in locations shown.
2. Dimensions: 24-inches wide by 18-inches high.

2.6 Manual pull stations

A. Description: Fabricated of metal or plastic, and finished in red with molded, raised-letter operating instructions of contrasting color.

1. Single-action mechanism initiates an alarm.

2. Station reset: Key or wrench operated; double pole, double throw; switch rated for the voltage and current at which it operates.
3. Integral addressable module: Arranged to communicate manual-station status (normal, alarm, or trouble) to the FACP.
4. False alarm protector: Tamperproof clear polycarbonate shield in a frame that fits over the pull station. When the shield is lifted to gain access to the pull station, a warning horn shall sound. Include 9-V dc alkaline battery.

B. In location requiring mounting on mullion, provide red mullion mounted back box, equal to Space Age Electronics Pull Station Back Box SSU03171.

2.7 Smoke detectors

A. General: UL 268A listed. Include the following features:

1. Operating voltage: 24-V dc, nominal.
2. Self-restoring: Detectors shall not require resetting or readjustment after actuation to restore them to normal operation.
3. Plug-in arrangement: Detector and associated electronic components are mounted in a module that connects in a tamper-resistant manner to a fixed base with a twist-locking plug connection. Terminals in the fixed base accept building wiring.
4. Integral visual-indicating light: LED type. Indicates detector has operated.
5. Sensitivity: Can be tested and adjusted in-place after installation.
6. Integral addressable module: Arranged to communicate detector status (normal, alarm, or trouble) to the FACP.
7. Remote controllability: Unless otherwise indicated, detectors are analog-addressable type, individually monitored at the FACP for calibration, sensitivity, and alarm condition, and individually adjustable for sensitivity from the FACP.

    a. Detectors which will be installed in ducts or other concealed locations shall be capable of being tested from an indicating and test station specified below.

B. Photoelectric smoke detectors: Include the following features:

1. Sensor: LED or infrared light source with matching silicon-cell receiver.
2. Detector sensitivity: Between 2.5 and 3.5 percent/foot (0.008 and 0.011 percent/mm) smoke obscuration when tested according to UL 268A.
3. Integral thermal detector: Fixed-temperature type with 135 deg F (57 deg C) setting.

C. Duct smoke detector: Photoelectric type.

1. Sampling tube: Design and dimensions as recommended by the manufacturer for the specific duct size, air velocity, and installation conditions where applied.
2. Relay fan shutdown: Contacts rated to interrupt fan motor-control circuit.

2.8 Other detectors

A. Heat detector, fixed-temperature type:

1. Actuated by temperature that exceeds a fixed temperature of the following:

    a. Elevator shaft and elevator machine rooms: 135 degrees F (57 degrees C).
    b. Other locations or where indicated on drawings: 190 degrees F (88 degrees C).

2. Mounting:

a. Adapter plate for outlet box mounting.
b. Plug-in or twist-lock base, interchangeable with smoke detector bases.

3. Integral addressable module: Arranged to communicate detector status (normal, alarm, or trouble) to the FACP.

B. Carbon monoxide detector:

1. General: Carbon monoxide detector listed for connection to fire-alarm system.

a. Mounting: Adapter plate for outlet mounting.
b. Field testable by introducing test carbon monoxide into the sensing cell.
c. Integral addressable module: Arranged to communicate detector status (normal, alarm, or trouble) to the fire alarm system.
d. Intelligent sounder base capable of generating an audible Temp 4 pattern for CO alarm indication.
e. Detector shall have separate addressable relay module or relay base for connection to building automation system to report alarm and trouble conditions.
f. Detector shall send trouble alarm when nearing end-of-life, power supply problems, or internal faults.
g. Comply with UL 2075.
h. Locate, mount, and wire according to manufacturer's written instructions.
i. Test button simulates an alarm condition.

2.9 Concealed detector indicating and test station

A. Description: Flush-mounted, single-gang station for each duct smoke detector and other detector that is not readily visible, with indicating light and test switch.

B. Indicating light: Flashes when the associated device is in an alarm or trouble mode.

C. Test switch: Forces detector into alarm, allowing test of outputs programmed to occur following alarm initiation at devices.

D. Device plate: Red plastic with engraved white letters reading SMOKE DETECTOR ABOVE CEILING, or other text as appropriate.

2.10 Notification appliances

A. Description: Equipped for mounting as indicated and have screw terminals for system connections.

1. Combination devices: Factory-integrated audible and visible devices in a single-mounting assembly.

B. Horns: Electric-vibrating-polarized type, 24-V dc; with provision for housing the operating mechanism behind a grille. Horns produce a sound-pressure level of 90 dB, measured 10 feet (3 m) from the horn.

C. Visible alarm devices: Synchronized xenon strobe lights listed under UL 1971 with clear or nominal white polycarbonate lens. Mount lens on an aluminum faceplate. The word "FIRE" is engraved in minimum 1-inch- (25-mm-) high letters on a removable sleeve on the lens.

1. Rated light output: Indicated on drawings for each location.
2. Strobe leads: Factory connected to screw terminals.

D. Speakers:

1. UL 1480 listed.
2. Sound output: Minimum of 84 dBA at 10 feet when tapped at 0.5 watt, and maximum of 87 dBA at 10 feet. Taps shall be available at 0.25, 0.5, 1, and 2 watts.
3. 25 or 70.7 V rms.
4. Mounting: Flush or surface-mountable; bidirectional as indicated, with sealed back.
5. Operation: From standard signaling circuits or addressable single- or multizone I/O modules.

E. Combination speaker/strobe units: Speaker and visible alarm device as specified above, mounted in a fire-retardant, high-impact, white polycarbonate housing suitable for flush or surface mounting.

1. Speaker: Tapped at 0.5 watts; 25 V rms.

2.11 Fire alarm notification booster

A. Power supply booster designed to extend power available to notification appliance circuits.

B. Enclosure: Steel, with lockable front panel allowing access to all interior components, surface-mounted.

C. Functions: Contains circuits to monitor and charge batteries, control and supervise 4 Class B appliance circuits, and monitor two controlling inputs from external sources.

1. Configurable to operate at any one of three signaling rates, or to follow the main panel's notification appliance circuit.
2. Trouble contact with 16-second delay.

D. Batteries: Two, sized for 24 hours of standby followed by 15 minutes of alarm.

E. Indicators: LEDs, one for each circuit, one for battery supervision, one for ground fault, and one for power.

2.12 Magnetic door holders

A. Description: Units are equipped for wall or floor mounting as indicated and are complete with matching door plate.

1. Electromagnet: Requires no more than 3 W to develop 25-lbf (111-N) holding force.
2. Wall-mounted units: Flush mounted, unless otherwise indicated.
3. Rating: 120-V ac.

B. Material and finish: Match door hardware.

2.13 Addressable interface device

A. Monitor module: Microelectronic monitor module listed for use in providing a system address for external alarm-initiating devices with normally open contacts.

1. Dual circuit, intelligent, signaling circuit interface module.

B. Control module: Microelectronic control relay module listed for use in providing control to external appliances or equipment shutdown, to elevator controller to initiate elevator recall and to shunt trip disconnect for power shutdown.

1. One Form C (SPDT) dry relay contact rated at 2 amps and 24 volts DC.

C. Isolator module: Microelectronic fault isolator module listed for isolating and removing a fault from a data circuit while allowing the remaining data loop to continue operating.

1. Protect loop system against wire-to-wire short circuits by isolating section of loop and permitting other loop sections to continue to operate.

D. Non-addressable control relay: Isolation relay for the control of HVAC unit contactors, magnetic door holders, and elevator recall circuits, UL 864 Listed.

1. Construction: Sealed, non-removable, with terminations to pressure-type screw terminals.
2. Rating: Use with circuits up to 240 volts AC at 7amperes inductive.

2.14 Wire and wiring system

A. Non-power-limited circuits: Solid-copper conductors with 600-V rated, 75 deg C, color-coded insulation.

1. Low-voltage circuits: No. 16 AWG, minimum.
2. Line-voltage circuits: No. 12 AWG, minimum.

B. Power-limited circuits: NFPA 70, Types FPL, FPLR, or FPLP, as recommended by manufacturer.

C. Wiring system: Class B in accordance with NFPA 72.

~~D. Type MC fire alarm cable: Equal to AFC Cable Systems FPLP metal-clad, multi-conductor, fire alarm and control cable.~~

~~1. Ratings:~~

~~a. Plenum rated.~~
~~b. Approved for use as fixed wiring concealed in building.~~
~~c. Maximum operating temperatures:~~

~~(1) 105 degrees C dry for FPLP applications at nominal voltage ratings 300 V and less.~~
~~(2) 90 degrees C dry for MC cable installations at nominal voltage ratings of 600 V and less.~~

~~d. UL listed for penetrations of wall and floor assemblies of gypsum wallboard, concrete, and concrete masonry with one , 2 , and 3-hour fire ratings.~~

~~2. Shield over conductor assembly: Laminated aluminum and mylar tape and tinned copper drain wire.~~

~~a. Drain wire: Minimum No. 18 AWG, in contact with aluminum shield.~~

~~3. Listed in accordance with UL 1596:~~

~~a. Insulated or bare grounding conductor in accordance with Table 6.3, cabled with the circuit conductors and identified in compliance with Section 35.~~
~~b. Galvanized steel armor, red, applied over inner cable assembly with positive interlock conforming to the requirements of Section 12.~~
~~c. Tested in accordance with applicable requirements.~~

2.15 Peripheral equipment

A. Alarm reporting device: A digital communicator shall report an alarm or trouble condition. It shall notify Owner's fire alarm monitoring service and one or more facilities personnel. Provide unit compatible with the Owner's monitoring service.

B. Sprinkler flow and tamper switches: Specified in fire suppression sprinkler system specifications. Provide a monitor module for addressing each device. Unit shall mount on 4-inch-square, 2.5-inch-deep back box.

C. System event printer: Listed and labeled as an integral part of the fire alarm system. The printer shall connect to the RS232 printer and programming port on the controller. The network shall support the printer from any and all controllers on the network with true message routing. The printer shall be powered from 115 Vac.

PART 3 - EXECUTION

3.1 Installation, general

A. Factory-authorized service representative, as required in "Quality Assurance" in Part 1 above, shall supervise installation, software documentation, adjustment, preliminary testing, final testing, and certification of the system, and provide the operating instructions.

B. Provide wiring, conduit, and outlet boxes required for the complete system, in accordance with system manufacturer's instructions and with requirements specified in Division 26 for wiring, conduit, and boxes. Provide 12 inches of slack at each outlet.

1. Install all wiring in conduit.
2. Identification: Paint fire alarm junction box covers red.

C. Wires, cables, conduits, and wiring connections are specified in Division 26, Electrical. Include in the work of this section, wiring, conduits, and equipment connections complying with the requirements of Division 26, so that the fire alarm system will function as specified and indicated on the drawings.

D. Wiring: Free from grounds or crosses between conductors.

1. Identification: Color code wiring, not duplicating building wiring colors. Tag each wire at each junction point.

E. Final connections between equipment and the wiring system shall be made under the direction and supervision of the qualified supplier.

F. Provide 20 percent spare capacity for each notification appliance circuit.

G. Locate 135 degrees F (57 degrees C) rated heat detectors in elevator shaft and elevator machine room within 18 inches (457 mm) of sprinklers.

3.2 Installation, fire alarm notification booster

A. Provide number of notification power supply boosters required for a complete fire alarm system.

B. Utilize spare single-pole, 20-ampere circuit breaker in a 120-volt standby electrical panelboard to make electrical connection to each power supply booster.

1. Circuit breakers shall match and shall be compatible with the other breakers in the panelboard.

C. Branch circuits from panelboards to each notification power supply booster: Two No. 12 wires and one No. 12 ground in conduit no less than 0.75 inch (21-mm) trade size.

D. Install conduits and wiring as specified in Sections 26 0519 and 26 0533.

E. Provide smoke detector above each power supply booster.

3.3 Interface with other work

A. Furnish duct smoke detectors to be installed as part of ductwork specified in Division 23.

B. Coordinate with installation of flow and tamper switches in fire suppression sprinkler system.

C. Coordinate with sprinkler contractor for number and locations of sprinklers in elevator shaft and elevator machine room.

D. Coordinate locations of control modules for connections to sound systems override.

3.4 Carbon monoxide detectors

A. Provide carbon monoxide detectors where fuel fired equipment are present. Provide addressable relay for connection to building automation system.

3.5 Locations of fire alarm equipment

A. Locate the control panel, annunciator, and other associated equipment as shown on the drawings.

B. Visual indicating appliances: Install where shown on the drawings. If field conditions require variation from drawings, do not violate ADA requirements, including, but not limited to, the following:

1. Any room or space required to have a visual appliance, including corridors or hallways: No place shall be more than 50 feet from the indicating appliance in the horizontal plane.
2. Rooms and spaces exceeding 100 feet in one dimension, without obstructions 6 feet above the finished floor: Indicating appliances may be placed around the perimeter, spaced approximately 100 feet apart.

C. Mount indicating and test station for concealed smoke detectors near ceiling under detector. Text engraved on plate shall be descriptive of the device identified.

D. Provide a smoke detector at each fire alarm panel location, including but not limited to main control, auxiliary control, and power panels.

3.6 Inspection, test, adjustment and report

A. Furnish equipment and appliances for testing the complete system during progress of the work and after completion of the installation, including a megger test of wiring. The tests generally shall demonstrate the following:

1. Circuits are continuous and free from short circuits.
2. Circuits are free from unspecified grounds.
3. Resistance to ground of non-grounded circuits is not less than one megohm.
4. Circuits are properly connected in accordance with the applicable wiring diagrams.
5. Each detector operates correctly.
6. Detectors are correctly located and sufficient in number.

B. Defects or omissions observed during general and system tests shall be repaired as quickly as possible and the tests reconducted.

C. Submit report as required in Part 1 above.

3.7 Operating instructions

A. As specified in Section 26 0500, provide operating instructions.

B. Provide at least 8 hours of additional instruction time for the systems and equipment specified in this section, consisting of 2 periods of 4 consecutive hours, during a period of not more than 60 days.

END OF SECTION

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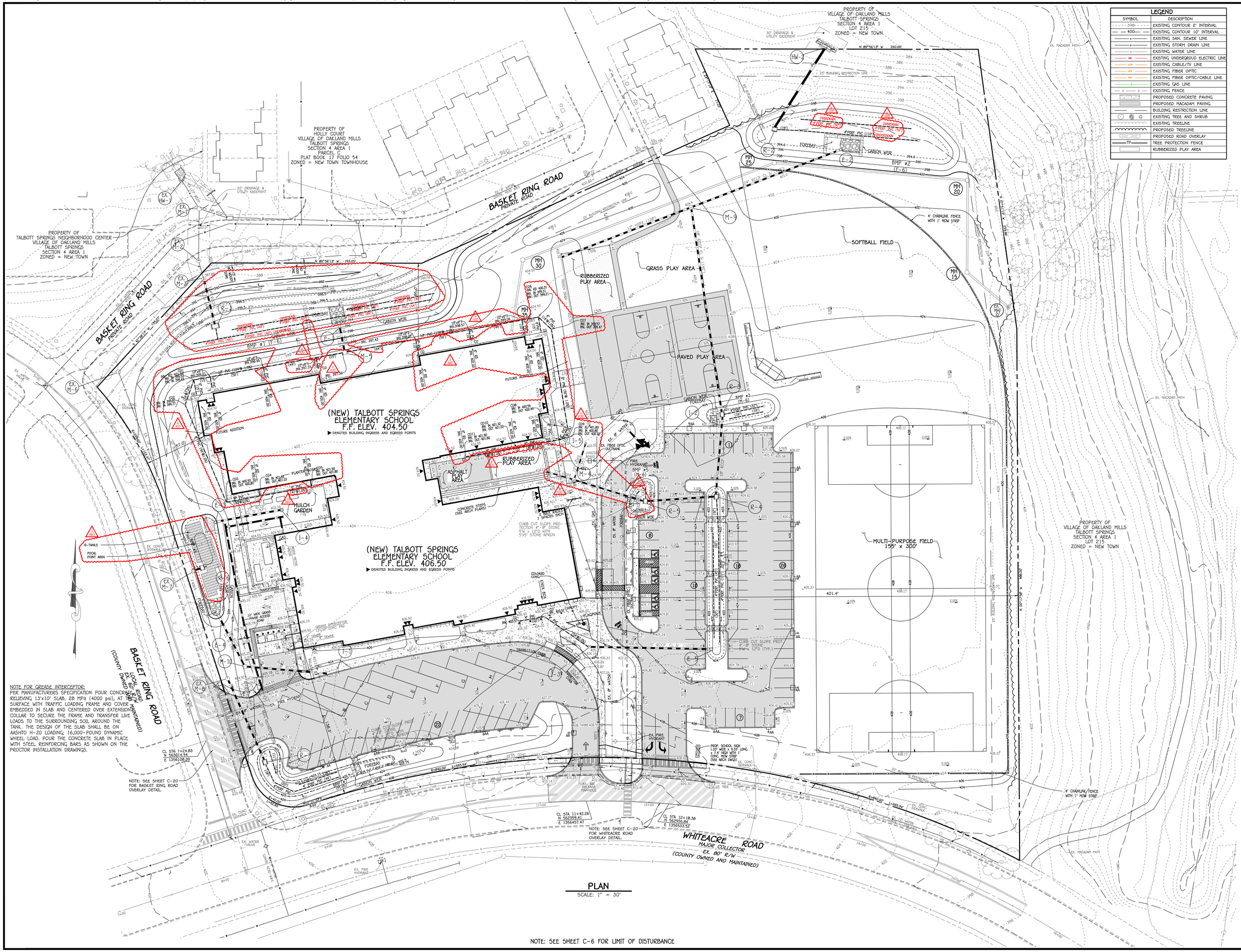

NOTE: SEE SHEET C-6 FOR LIMIT OF DISTURBANCE

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions

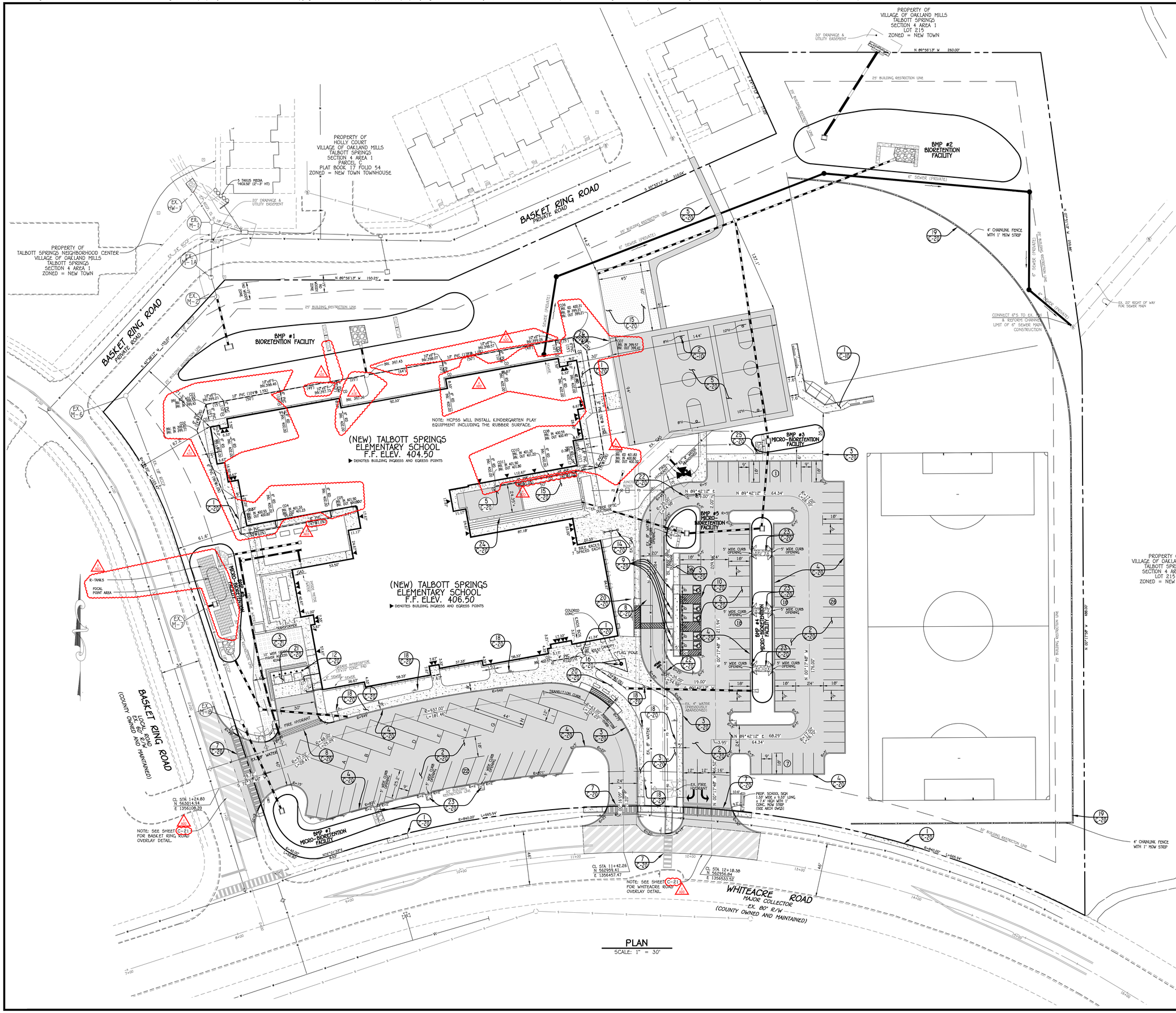
IAC CD / BLDG PERMIT SET	1 MAY 20
1 ADDENDUM NO. 4	8 JULY 20

BID AND CONSTRUCTION
16 JUNE 20

OVERALL SITE IMPROVEMENT PLAN

C-4

4 OF 21
PROJECT NO. 1801



LEGEND	
SYMBOL	DESCRIPTION
398	EXISTING CONTOUR 2' INTERVAL
400	EXISTING CONTOUR 10' INTERVAL
S	EXISTING SAN. SEWER LINE
D	EXISTING STORM DRAIN LINE
W	EXISTING WATER LINE
UGE	EXISTING UNDERGROUD ELECTRIC LINE
CATV	EXISTING CABLE/TV LINE
UFO	EXISTING FIBER OPTIC
FOC	EXISTING FIBER OPTIC/CABLE LINE
G	EXISTING GAS LINE
X	EXISTING FENCE
	PROPOSED CONCRETE PAVING
	PROPOSED MACADAM PAVING
	RUBBERIZED PLAY AREA
	BUILDING RESTRICTION LINE
	EXISTING TREE AND SHRUB
	EXISTING TREELINE
	PROPOSED TREELINE
	APPROXIMATE AREA OF DEMOLITION
TP	TREE PROTECTION FENCE
	PROPOSED CROSSWALK
	PROPOSED ROAD OVERLAY

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
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revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
1 ADDENDUM NO. 4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

GEOMETRY PLAN

C-5

5 OF 21
PROJECT NO. 1801

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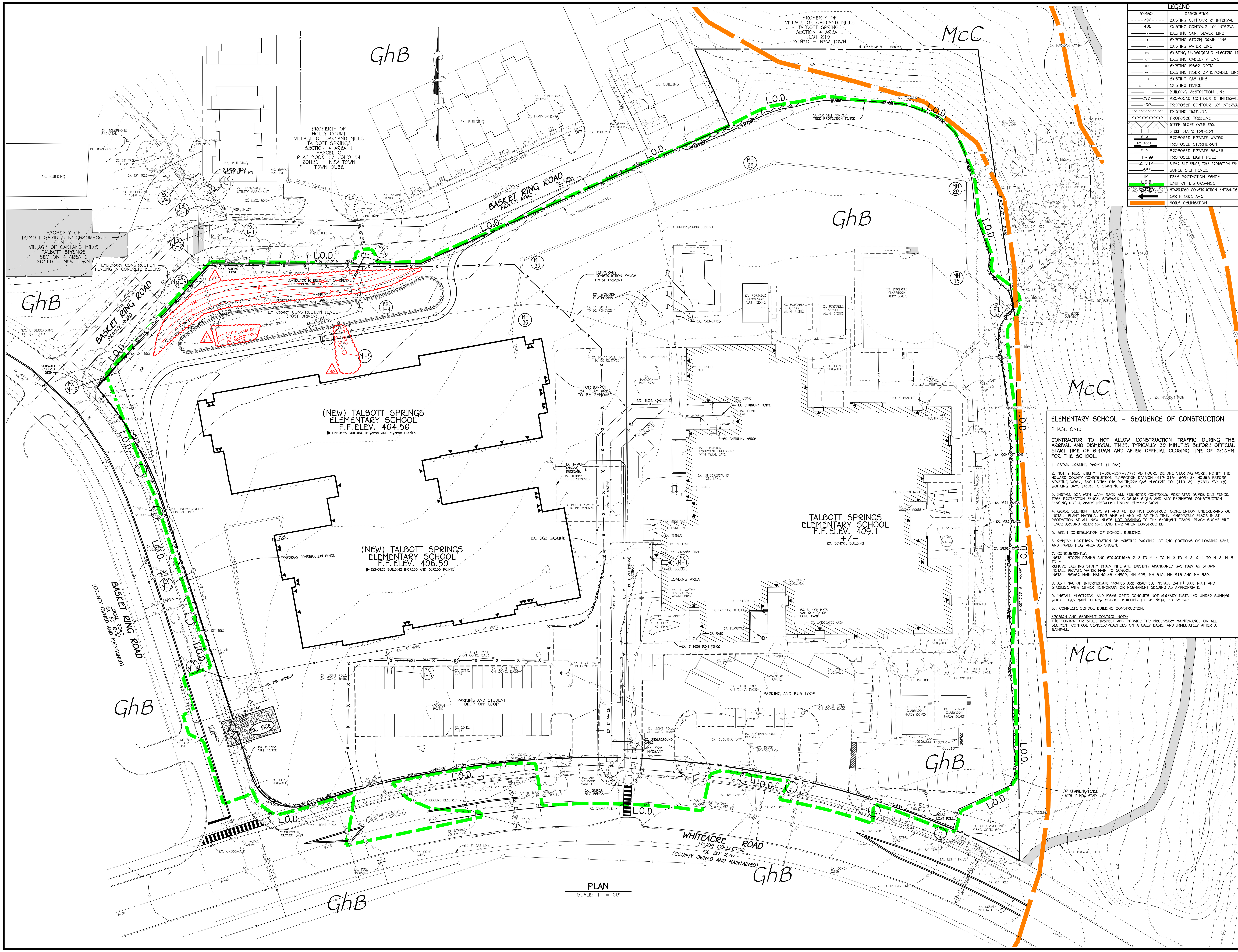

LEGEND

SYMBOL	DESCRIPTION
---398---	EXISTING CONTOUR 2' INTERVAL
—400—	EXISTING CONTOUR 10' INTERVAL
—S—	EXISTING SAN. SEWER LINE
—D—	EXISTING STORM DRAIN LINE
—W—	EXISTING WATER LINE
—UGE—	EXISTING UNDERGROUD ELECTRIC LINE
—C/TV—	EXISTING CABLE/TV LINE
—UFO—	EXISTING FIBER OPTIC
—FOC—	EXISTING FIBER OPTIC/CABLE LINE
—G—	EXISTING GAS LINE
—X—X—	EXISTING FENCE
— —	BUILDING RESTRICTION LINE
—398—	PROPOSED CONTOUR 2' INTERVAL
—400—	PROPOSED CONTOUR 10' INTERVAL
	EXISTING TREELINE
	PROPOSED TREELINE
	STEEP SLOPE OVER 25%
	STEEP SLOPE 15%-25%
8" W	PROPOSED PRIVATE WATER
18" RCCP	PROPOSED STORMDRAIN
8" S	PROPOSED PRIVATE SEWER
AA	PROPOSED LIGHT POLE
—SSF/TP—	SUPER SILT FENCE, TREE PROTECTION FENCE
—SSF—	SUPER SILT FENCE
—TP—	TREE PROTECTION FENCE
L.O.D.	LIMIT OF DISTURBANCE
S.C.E.	STABILIZED CONSTRUCTION ENTRANCE
←	EARTH DIKE A-2
	SOILS DELINEATION

ELEMENTARY SCHOOL – SEQUENCE OF CONSTRUCTION

PHASE ONE:

CONTRACTOR TO NOT ALLOW CONSTRUCTION TRAFFIC DURING THE ARRIVAL AND DISMISSAL TIMES, TYPICALLY 30 MINUTES BEFORE OFFICIAL START TIME OF 8:40AM AND AFTER OFFICIAL CLOSING TIME OF 3:10PM FOR THE SCHOOL.

1. OBTAIN GRADING PERMIT. (1 DAY)

2. NOTIFY MISS UTILITY (1-800-257-7777) 48 HOURS BEFORE STARTING WORK. NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (410-313-1855) 24 HOURS BEFORE STARTING WORK, AND NOTIFY THE BALTIMORE GAS ELECTRIC CO. (410-291-5739) FIVE (5) WORKING DAYS PRIOR TO STARTING WORK.

3. INSTALL SCE WITH WASH RACK ALL PERIMETER CONTROLS: PERIMETER SUPER SILT FENCE, TREE PROTECTION FENCE, SIDEWALK CLOSURE SIGNS AND ANY PERIMETER CONSTRUCTION FENCING NOT ALREADY INSTALLED UNDER SUMMER WORK.

4. GRADE SEDIMENT TRAPS #1 AND #2, DO NOT CONSTRUCT BIORETENTION UNDERDRAINS OR INSTALL PLANT MATERIAL FOR BMP #1 AND #2 AT THIS TIME. IMMEDIATELY PLACE INLET PROTECTION AT ALL NEW INLETS NOT DRAINING TO THE SEDIMENT TRAPS. PLACE SUPER SILT FENCE AROUND RISER R-1 AND R-2 WHEN CONSTRUCTED.

5. BEGIN CONSTRUCTION OF SCHOOL BUILDING.

6. REMOVE NORTHERN PORTION OF EXISTING PARKING LOT AND PORTIONS OF LOADING AREA AND PAVED PLAY AREA AS SHOWN.

7. CONCURRENTLY;
INSTALL STORM DRAINS AND STRUCTURES R-2 TO M-4 TO M-3 TO M-2, R-1 TO M-2, M-5 TO E-1.
REMOVE EXISTING STORM DRAIN PIPE AND EXISTING ABANDONED GAS MAIN AS SHOWN
INSTALL PRIVATE WATER MAIN TO SCHOOL.
INSTALL SEWER MAIN MANHOLES MH500, MH 505, MH 510, MH 515 AND MH 520.

8. AS FINAL OR INTERMEDIATE GRADES ARE REACHED, INSTALL EARTH DIKE NO.1 AND STABILIZE WITH EITHER TEMPORARY OR PERMANENT SEEDING AS APPROPRIATE.

9. INSTALL ELECTRICAL AND FIBER OPTIC CONDUITS NOT ALREADY INSTALLED UNDER SUMMER WORK. GAS MAIN TO NEW SCHOOL BUILDING TO BE INSTALLED BY BGE.

10. COMPLETE SCHOOL BUILDING CONSTRUCTION.

EROSION AND SEDIMENT CONTROL NOTE:
THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON ALL SEDIMENT CONTROL DEVICES/PRACTICES ON A DAILY BASIS, AND IMMEDIATELY AFTER A RAINFALL.

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL

COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
ADDENDUM NO. 4 8 JULY 20
BID AND CONSTRUCTION 16 JUNE 20

DEMOLITION, SEDIMENT, AND EROSION CONTROL PLAN PHASE 1

C-6

LEGEND	
SYMBOL	DESCRIPTION
- - - 398 - - -	EXISTING CONTOUR 2' INTERVAL
—— 400 ——	EXISTING CONTOUR 10' INTERVAL
—— S ——	EXISTING SAN. SEWER LINE
—— D ——	EXISTING STORM DRAIN LINE
—— W ——	EXISTING WATER LINE
—— UGE ——	EXISTING UNDERGROUD ELECTRIC LINE
—— C/TV ——	EXISTING CABLE/TV LINE
—— UFO ——	EXISTING FIBER OPTIC
—— FOC ——	EXISTING FIBER OPTIC/CABLE LINE
—— G ——	EXISTING GAS LINE
— X —— X —	EXISTING FENCE
—— ——	BUILDING RESTRICTION LINE
—— 398 ——	PROPOSED CONTOUR 2' INTERVAL
—— 400 ——	PROPOSED CONTOUR 10' INTERVAL
	EXISTING TREELINE
	PROPOSED TREELINE
	STEEP SLOPE OVER 25%
	STEEP SLOPE 15%-25%
8" W	PROPOSED PRIVATE WATER
18" RCCP	PROPOSED STORMDRAIN
18" RCCP	STORMDRAIN BUILT UNDER PRIOR PHASE
8" S	PROPOSED PRIVATE SEWER
□• AA	PROPOSED LIGHT POLE
——SSF/TP——	SUPER SILT FENCE, TREE PROTECTION FENCE
——SSF——	SUPER SILT FENCE
——TP——	TREE PROTECTION FENCE
L.O.D.	LIMIT OF DISTURBANCE
S.C.E.	STABILIZED CONSTRUCTION ENTRANCE
←	EARTH DIKE A-2
	SOILS DELINEATION

ELEMENTARY SCHOOL - SEQUENCE OF CONSTRUCTION

NOTE: CONTRACTOR TO NOT ALLOW CONSTRUCTION TRAFFIC DURING THE ARRIVAL AND DISMISSAL TIMES, TYPICALLY 30 MINUTES BEFORE OFFICIAL START TIME OF 8:40AM AND AFTER OFFICIAL CLOSING TIME OF 3:10PM FOR THE SCHOOL.

PHASE TWO:

11. INSTALL SEDIMENT TRAP 2. INSTALL EARTH DIKE TO SEDIMENT TRAP.

12. CONCURRENTLY;
REMOVE ALL EXISTING SMALL PORTABLE CLASSROOMS. BEGIN REMOVAL OF A PORTION OF THE EXISTING SCHOOL BUILDING AND SIDEWALKS AS NOTED ON PLANS. REMOVE EXISTING PARKING AND PARENT DROP OFF LOOP AND INSTALL CURB AND GUTTER AND BASE PAVING FOR THE NEW PARKING / BUS LOOP AND SERVICE AREA.

13. INSTALL SIDEWALKS AND LIGHTING ALONG SOUTH AND WEST SIDES OF SCHOOL.

14. ALL CONSTRUCTION WASTE GENERATED FROM THE DEMOLITION OF THE EXISTING SCHOOL BUILDING SHALL BE COMBINED TOGETHER IN COMMON BINS AND TRANSFERRED BY AN INDEPENDENT RECYCLER TO A MATERIALS RECOVERY FACILITY (MRF) FOR REMOTE SORTING AND WEIGHING OF ALL WASTE INCLUDING WASTE WHICH IS DIVERTED FROM LANDFILLS AND COMPLY WITH THE CONSTRUCTION WASTE MANAGEMENT GOALS FOR THIS PROJECT.

15. CONCURRENTLY:
REMOVE PHASE 1 PORTION OF EXISTING BUS LOOP / PARKING AND GRADE NEW PARKING LOT. CONSTRUCT SEDIMENT TRAP #3. INSTALL STORM DRAINS AND STRUCTURES I-1 TO E-4, I-3 TO R-5 TO R-4 TO R-3 TO M-9 TO E-2,R-6 TO EX. M-7, R-7 TO EX. M-8, I-4 TO E-3, TRENCH DRAIN AND PIPING TO M-9. INSTALL CURB AND GUTTER AND BASE PAVING FOR NEW PARKING AREA AND STUDENT DROP OFF LOOP.

16. INSTALL SURFACE PAVING ALL AREAS. STRIPE PARKING SPACES, PEDESTRIAN CROSSWALKS, HANDICAP AREAS, ONE WAY MARKINGS, AND FIRE LANES.

EROSION AND SEDIMENT CONTROL NOTE:
THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON ALL SEDIMENT CONTROL DEVICES/PRACTICES ON A DAILY BASIS, AND IMMEDIATELY AFTER A RAINFALL.

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
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HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
4 ADD — ADDENDUM NO. 4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

SEDIMENT AND EROSION CONTROL PLAN PHASE 2

C-8

PLAN

LEGEND	
SYMBOL	DESCRIPTION
398	EXISTING CONTOUR 2' INTERVAL
400	EXISTING CONTOUR 10' INTERVAL
S	EXISTING SAN. SEWER LINE
D	EXISTING STORM DRAIN LINE
W	EXISTING WATER LINE
UE	EXISTING UNDERGROUD ELECTRIC LINE
CTV	EXISTING CABLE/TV LINE
FO	EXISTING FIBER OPTIC
FOC	EXISTING FIBER OPTIC/CABLE LINE
G	EXISTING GAS LINE
X	EXISTING FENCE
	BUILDING RESTRICTION LINE
398	PROPOSED CONTOUR 2' INTERVAL
400	PROPOSED CONTOUR 10' INTERVAL
	EXISTING TREELINE
	PROPOSED TREELINE
	STEEP SLOPE OVER 25%
	STEEP SLOPE 15%-25%
8" W	PROPOSED PRIVATE WATER
18" RCCP	PROPOSED STORMDRAIN
18" RCCP	STORMDRAIN BUILT UNDER PRIOR PHASE
8" S	PROPOSED PRIVATE SEWER
	PROPOSED LIGHT POLE
SSF/TP	SUPER SILT FENCE, TREE PROTECTION FENCE
SSF	SUPER SILT FENCE
TP	TREE PROTECTION FENCE
L.O.D.	LIMIT OF DISTURBANCE
S.C.E.	STABILIZED CONSTRUCTION ENTRANCE
	SOILS DELINEATION

ELEMENTARY SCHOOL - SEQUENCE OF CONSTRUCTION

NOTE: CONTRACTOR TO NOT ALLOW CONSTRUCTION TRAFFIC DURING THE ARRIVAL AND DISMISSAL TIMES, TYPICALLY 30 MINUTES BEFORE OFFICIAL START TIME OF 8:40AM AND AFTER OFFICIAL CLOSING TIME OF 3:10PM FOR THE SCHOOL.

PHASE THREE:

17. REMOVE PHASE 2 PORTION OF EXISTING SCHOOL BUILDING AND LARGE PORTABLE CLASSROOM.

18. INSTALL REMAINING LIGHTING AND SIDEWALKS NOT ALREADY INSTALLED AND UPON COMPLETION OF NEW PARKING AREA AND STUDENT DROP OFF LOOP, REMOVE PHASE 2 EXISTING BUS LOOP / PARKING REMAINING.

19. INSTALL PLAY FIELDS AND STABILIZE IN ACCORDANCE WITH THE PERMANENT SEEDING AND MULCH AND SOD AS INDICATED ON PLANS. THE CONTRACTOR SHALL ALSO FINE GRADE ALL AREAS WITHIN THE LIMITS OF DISTURBANCE THAT WERE DISTURBED DURING THE BUILDING CONSTRUCTION AND STABILIZE WITH PERMANENT SEEDING AND MULCH. CONTRACTOR MUST ENSURE ALL GRAVEL USED FOR PARKING LOT AND WALKS IS COMPLETELY REMOVED AND TOPSOIL IS SCREENED AND PLACED ON THE FIELDS. CONTACT GROUNDS MAINTENANCE SUPERVISOR GREG CONNOR AT 410-313-2577 FOR INSPECTION ONE WEEK PRIOR TO FINE GRADING OF THE SITE.

20. INSTALL SITE LANDSCAPING.

21. STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATIONS.

22. THOROUGHLY CLEAN (FLUSH) THE REMAINING STORM DRAIN SYSTEMS.

23. WITH APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR, CONSTRUCT OUTFALL FOR BMP#2 AND CONVERT THE SEDIMENT TRAPS INTO THE PERMANENT SWM FACILITIES IN ACCORDANCE WITH SHEET C-4 (BMP'S #1, BMP #2, AND #7) (i.e. HAVING FULLY ESTABLISHED 3" GRASS OR PAVEMENT) AS WELL AS CONSTRUCTING BMP #3 THRU BMP #6. THIS WORK INCLUDES, REMOVING SEDIMENT, RE-GRADING TO DESIGN ELEVATIONS, INSTALLING FOREBAYS, FOCAL POINT SYSTEM, UNDERDRAINS, STONE AND PLANTING SOILS LAYERS AND MULCH. STABILIZE POND WITH PERMANENT SEEDING AND INSTALL SWM LANDSCAPING.

24. FOLLOWING SUCCESSFUL STABILIZATION (i.e., FULLY-ESTABLISHED VEGETATION (3" GRASS OR PAVING) OF ALL DISTURBED AREAS, OBTAIN PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR TO REMOVE ALL REMAINING SEDIMENT & EROSION CONTROL DEVICES AND THEN STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS WITH PERMANENT SEEDING.

EROSION AND SEDIMENT CONTROL NOTE:
THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON ALL SEDIMENT CONTROL DEVICES/PRACTICES ON A DAILY BASIS, AND IMMEDIATELY AFTER A RAINFALL.

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

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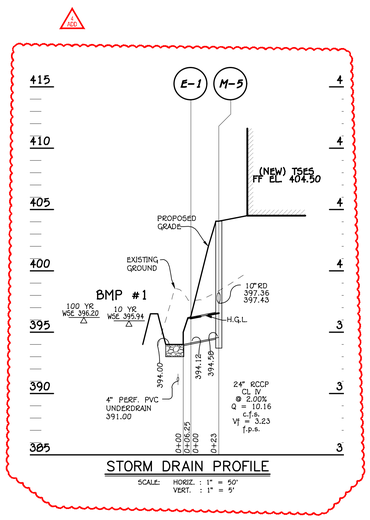
SEDIMENT AND EROSION CONTROL PLAN PHASE 3

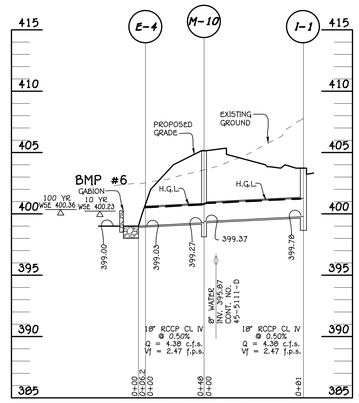
C-9

9 OF 21
PROJECT NO. 1801



STORM DRAIN PROFILE

SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



STORM DRAIN PROFILE

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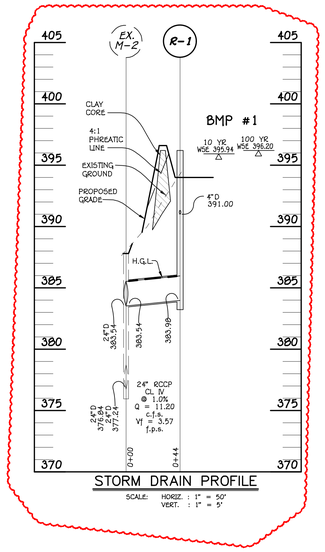

STORM DRAIN PROFILE

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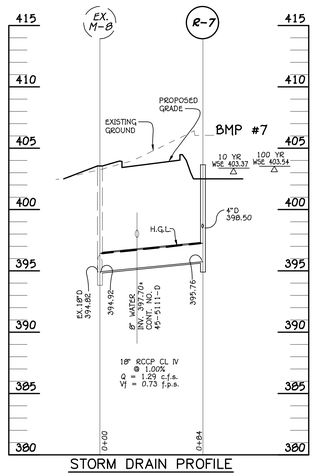

STORM DRAIN PROFILE

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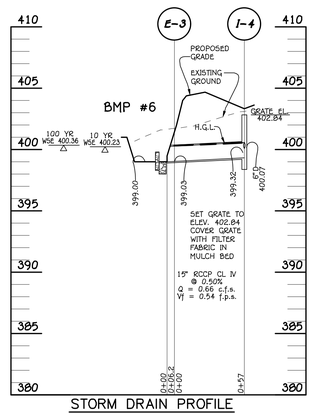

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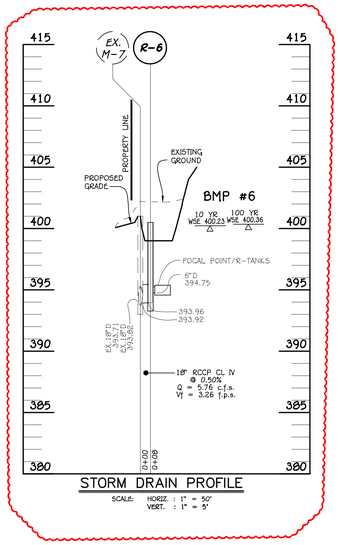

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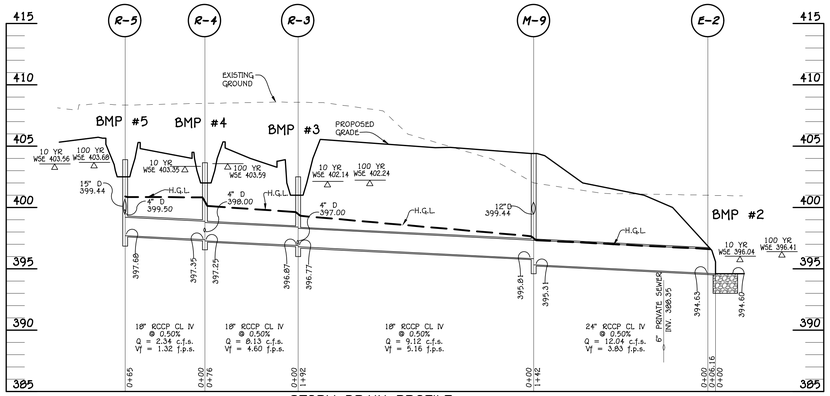

STORM DRAIN PROFILE

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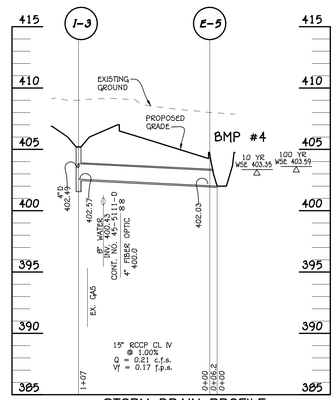

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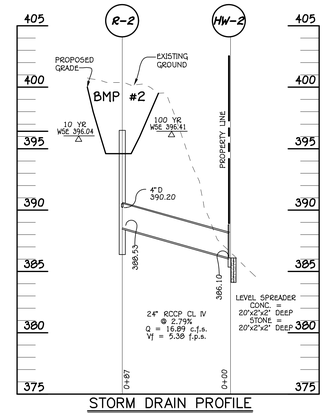

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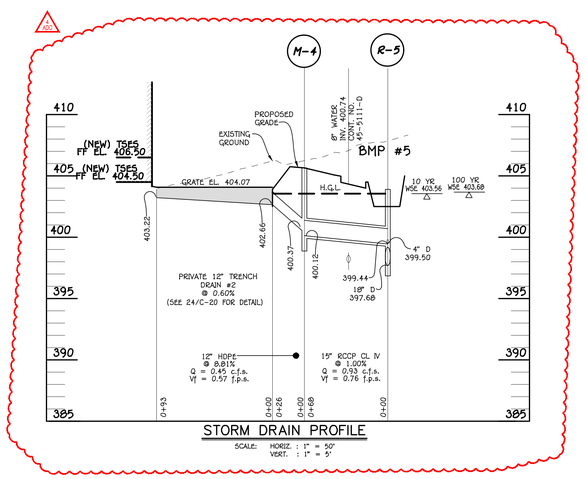

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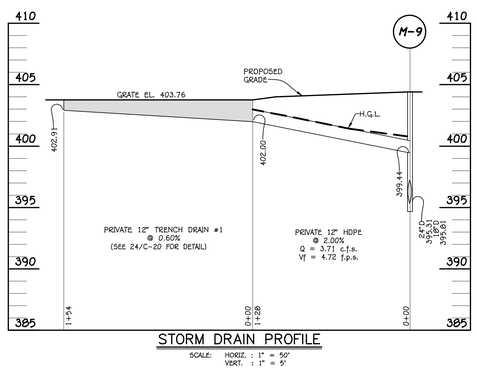

STORM DRAIN PROFILE

SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'

STRUCTURE SCHEDULE

STRUCTURE NO.	OWNERSHIP AND MAINTENANCE	TOP ELEVATION	INV.IN	INV.OUT	COORDINATES	WIDTH	TYPE	REMARKS
I-1	PRIVATE	403.72	–	398.78 (18")	N 563076.62 E 1356224.73	3'	A-10 INLET	D-4.03
I-2	PRIVATE	403.55	403.05 (THROAT ELEV.)	402.71	N 563297.12 E 1356574.52	6'	INLET FLOW THOUGH	SEE C-14
I-3	PRIVATE	405.20 *	403.97 (4")	398.65 (15")	N 563124.09 E 1356461.06	2.58'	S INLET	D-4.24
I-4	PRIVATE	402.84 *	400.07 (6")	399.34 (15")	N 563227.06 E 1356177.74	2.58'	S INLET	D-4.24
I-5	PRIVATE	403.32	–	400.76 (12")	N 563288.10 E 1356456.98	2.58'	WR INLET	D-4.33 (SINGLE)
M-4	PRIVATE	405.65	400.37 (12"), 400.37 (12")	400.12 (15")	N 563254.64 E 1356446.39	4'	STD. MANHOLE	G - 5.12
M-5	PRIVATE	404.50	395.05 (24")	394.94 (24")	N 563371.71 E 1356235.71	4'	STD. MANHOLE	G - 5.12
M-9	PRIVATE	404.40	399.44 (12"), 395.81 (18")	395.31 (24")	N 563504.97 E 1356555.78	4'	STD. MANHOLE	G - 5.12
M-10	PRIVATE	405.15	399.37 (15")	399.27 (15")	N 563082.96 E 1356143.93	4'	STD. MANHOLE	G - 5.12
R-1	PRIVATE	396.20 *	391.00 (4")	383.98 (24")	N 563395.93 E 1356116.69	3'	MOD. K INLET	SEE SHEET C-17
R-2	PRIVATE	396.90 *	390.20 (4")	388.53 (24")	N 563571.24 E 1356626.00	3'	MOD. K INLET	SEE SHEET C-17
R-3	PRIVATE	402.50 *	398.00 (4"), 396.87 (18")	396.77 (18")	N 563314.70 E 1356582.41	3'	MOD. K INLET	SEE SHEET C-17
R-4	PRIVATE	403.67 *	399.00 (4"), 397.35 (18")	397.25 (18")	N 563239.16 E 1356577.08	3'	MOD. K INLET	SEE SHEET C-17
R-5	PRIVATE	403.90 *	399.50 (4"),399.44 (15")	397.68 (18")	N 563235.01 E 1356512.02	3'	MOD. K INLET	SEE SHEET C-17
R-6	PRIVATE	400.50 *	394.75 (6")	393.96 (18")	N 563173.79 E 1356104.76	3'	MOD. K INLET	SEE SHEET C-17
R-7	PRIVATE	403.65 *	399.50 (4")	395.76 (18")	N 562995.10 E 1356162.39	3'	MOD. K INLET	SEE SHEET C-17
E-1	PRIVATE	–	–	394.00 (24")	N 563393.97 E 1356231.29	24"	CONC. END SECTION	D - 5.51
E-2	PRIVATE	–	–	394.60 (24")	N 563956.46 E 1356687.10	18"	CONC. END SECTION	D - 5.51
E-3	PRIVATE	–	–	398.00 (15")	N 563216.91 E 1356122.02	15"	CONC. END SECTION	D - 5.51
E-4	PRIVATE	–	–	398.00 (18")	N 563125.13 E 1356122.18	18"	CONC. END SECTION	D - 5.51
E-5	PRIVATE	–	–	402.03 (18")	N 563099.04 E 1356567.70	15"	CONC. END SECTION	D - 5.51
TRENCH DRAIN #1	PRIVATE	403.76 *	403.22	402.00 (12")	N 563459.27 E 1356435.22	–	TRENCH DRAIN	SEE SHEET C-14
TRENCH DRAIN #2	PRIVATE	404.07 *	–	402.66 (12")	N 563261.91 E 1356421.25	–	TRENCH DRAIN	SEE SHEET C-14
HW-2	PRIVATE	–	–	366.10 (24")	N 563650.96 E 1356676.73	–	CONC. HEADWALL	D - 5.21

* – DENOTES GRATE ELEVATION
NOTE: COORDINATES ARE TO CENTER OF MH, CENTER OF INLET @ FACE OF CURB, CENTER OF RISER STRUCTURE AND @ MIDDLE OF OUTFALL OF TRENCH DRAIN TO 12" PIPE.

PIPE SCHEDULE (PRIVATE)

SIZE	CLASS	LENGTH
4"	PERF PVC	1,235 L.F.
6"	PVC SCH 40	448 L.F.
12"	PVC SCH 40	165 L.F.
15"	RCCP, CLASS IV	274 L.F.
18"	RCCP, CLASS IV	560 L.F.
24"	RCCP, CLASS IV	315 L.F.
MINI R-TANKS		56 L.F.

BMP FOREBAY GABION WEIR SCHEDULE
(Gabion Basket Quantities)

FACILITY	SIZE	QUANTITY	WEIR ELEV
1	3'x1x9' 3'x1x4.5'	4 1	394.6
2	3'x3'x12' 3'x3'x9' 3'x3'x4.5'	3 2 2	405.2
3	2'x2'x5'	3	403.4
5	2'x2'x5'	5	401.75
6	3'x3'x6'	3	400.25
6	3'x1.5'x12' 3'x1.5'x4.5'	2 1	399.8
7	3'x1'x6'	2	402.75

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STATE OF MARYLAND — EUGENIE F. FOX — No. 18198 — PROFESSIONAL ENGINEER

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

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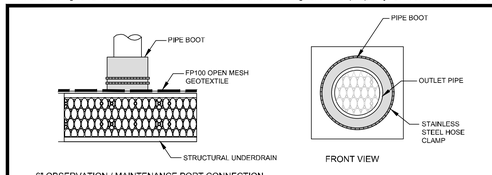
BID AND CONSTRUCTION 16 JUNE 20

STORM DRAIN PROFILES, DETAILS AND STRUCTURE SCHEDULE

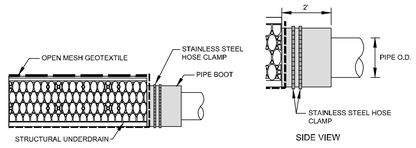
C-14

14 OF 21
PROJECT NO. 1801

I:\2003\03007\Engineering\Dwg\03007 2019 CD-14 STORM DRAIN PROFILES.dwg, SHEET 14, 1:1



6" OBSERVATION / MAINTENANCE PORT CONNECTION

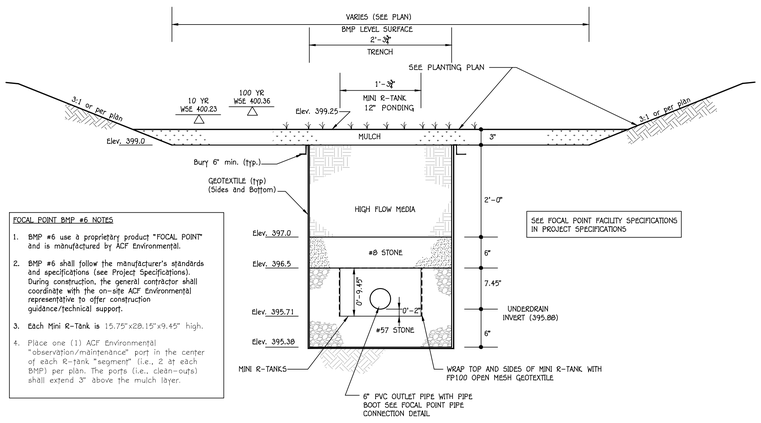


OUTLET / INLET PIPE CONNECTION

PIPE BOOT DETAIL

FOCAL POINT STRUCTURAL UNDERDRAIN PIPE CONNECTION DETAIL

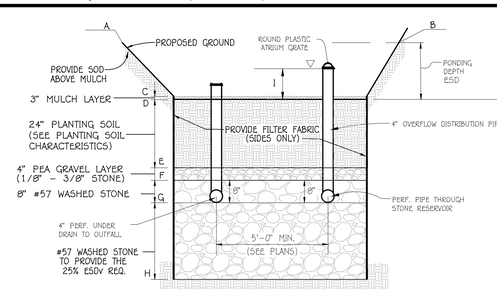
NOT TO SCALE



FOCAL POINT BMP #6 NOTES

1. BMP #6 use a proprietary product "FOCAL POINT" and is manufactured by ACF Environmental.
2. BMP #6 shall follow the manufacturer's standards and specifications (see Project Specifications). During construction, the general contractor shall coordinate with the on-site ACF Environmental representative to offer construction guidance/technical support.
3. Each Mini R-Tank is 15.75"x28.15"x9.45" high.
4. Place one (1) ACF Environmental "observation/maintenance" port in the center of each R-tank "segment" (i.e., 2 at each BMP) per plan. The ports (i.e., clean-outs) shall extend 3" above the mulch layer.

SEE FOCAL POINT FACILITY SPECIFICATIONS IN PROJECT SPECIFICATIONS

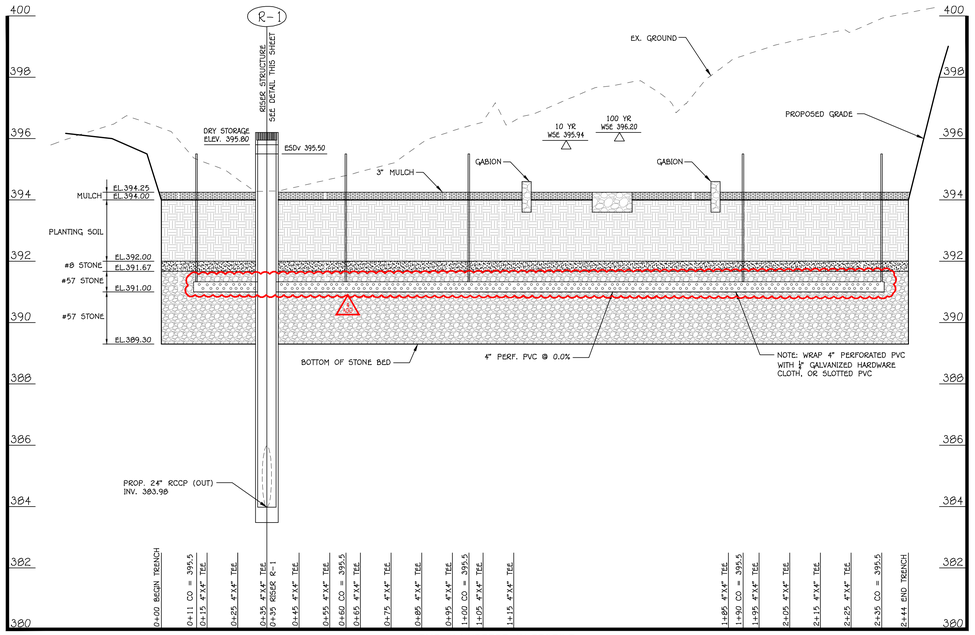


MICRO-BIORETENTION SECTION WITH 4" OVERFLOW DISTRIBUTION PIPE (#1 THRU #5 & #7)

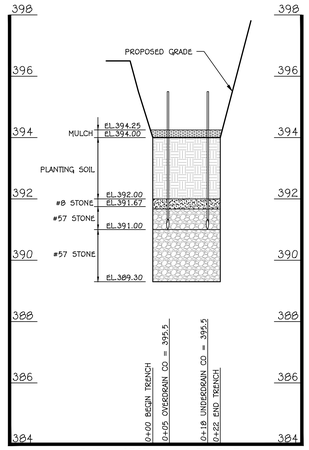
NO SCALE

BIORETENTION FACILITY (FOCAL POINT) BMP #6 TYPICAL SECTION

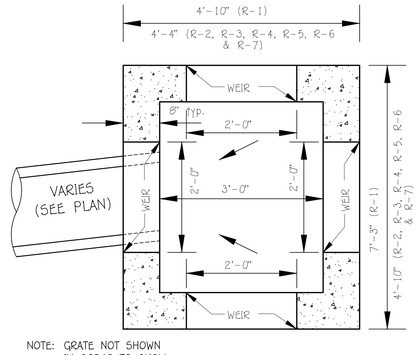
NOT TO SCALE



BMP #1 UNDERDRAIN PROFILE
(SECTION A-A)
SCALE: HORZ: 1" = 20'
VERT: 1" = 2'

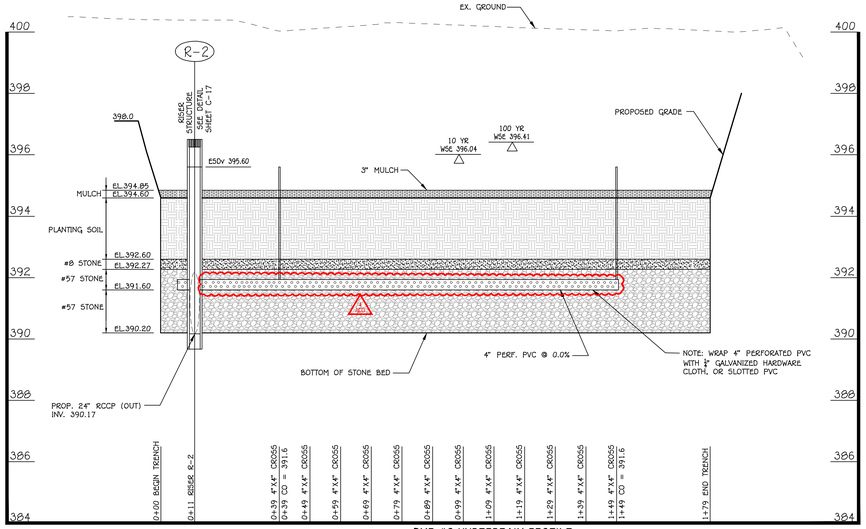


BMP #1 SECTION A-A PROFILE
SCALE:
HORZ: 1" = 20'
VERT: 1" = 2'

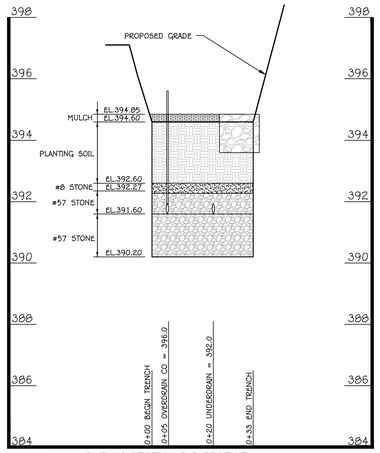


NOTE: GRATE NOT SHOWN IN ORDER TO SHOW DIMENSIONS.

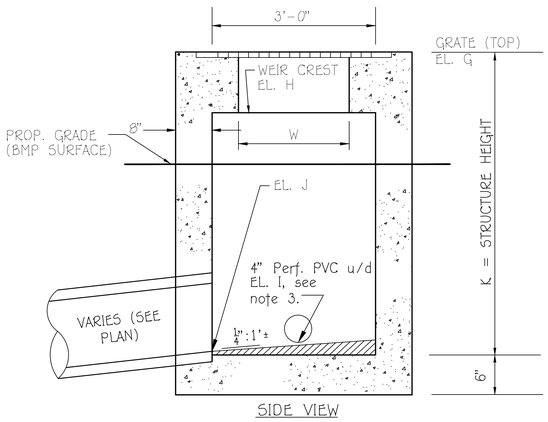
PLAN VIEW
NTS



BMP #2 UNDERDRAIN PROFILE
(SECTION B-B)
SCALE: HORZ: 1" = 20'
VERT: 1" = 2'



BMP #2 SECTION B-B PROFILE
SCALE:
HORZ: 1" = 20'
VERT: 1" = 2'



SIDE VIEW

NOTES:
1 SEE MSHA STD DETAIL MD-378.11 FOR DETAILS NOT SHOWN.
2. USE DOUBLE OPENING WITH NO CONCRETE GUTTER APPROACHES.
3. PVC UNDERDRAIN MAY ENTER INLET AT AN ANGLE TO MAINTAIN IN CENTER OF BMP. SEE PLAN FOR UNDERDRAIN ENTRANCE WALL LOCATION.
4. SLOPE RISER INVERT ¼":1' TOWARD RCCP OUTFALL WITH CONCRETE.
5. THIS STRUCTURE SHALL BE CONSTRUCTED WITH FOUR (4) 2' WIDE WEIR OPENINGS.

BMP RISER STRUCTIRE TYPICAL SECTION (MODIFIED K-INLET)
NTS

BIORETENTION FACILITY STRUCTURE ELEVATION TABLE

	BMP #1 R-1	BMP #2 R-2	BMP #3 R-3	BMP #4 R-4	BMP #5 R-5	BMP #6 R-6	BMP #7 R-7
ELEV. G TOP OF GRATE	396.20	396.90	402.50	403.67	403.90	400.50	403.65
ELEV. H WEIR CREST	395.50	395.60	402.00	403.00	403.40	400.00	403.15
ELEV. I INV. 4" U/D	391.00	391.60	398.00	399.00	399.50	395.88 (6")	399.50
ELEV. J RCCP INV. OUT	383.98	390.17	396.77	397.25	397.68	394.00	395.76
W WEIR WIDTH	3.0" ON 4 SIDES	2.0" ON 4 SIDES	2.0" ON 4 SIDES	2.5" ON 4 SIDES	2.0" ON 4 SIDES	2.0" ON 3 SIDES	2.0" ON 2 SIDES
K STR. HEIGHT	12.22'	6.73'	6.73'	6.42'	6.22'	6.50'	7.89'

OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION BMPs #1 THRU #7

THE BIORETENTION FACILITIES SHALL BE INSPECTED AT LEAST TWICE PER YEAR (ONCE EACH IN THE SPRING AND FALL) AND AFTER HEAVY STORMS. THE OWNER IS RESPONSIBLE FOR MAINTAINING A DETAILED LOG OF THE MAINTENANCE INSPECTION FINDINGS AND A HISTORY OF THE COMPLETED WORK. THE LOG SHALL BE MADE AVAILABLE TO HOWARD COUNTY DPZ AND/OR THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UPON REQUEST.

MICRO-BIORETENTION FACILITY COMPONENTS TO BE INSPECTED AND MAINTAINED INCLUDE THE ITEMS AS FOLLOWS:

1. PLANT MATERIAL: PLANTS SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION. REMOVE AND REPLACE DEAD OR DYING VEGETATION CONSIDERED BEYOND TREATMENT (SEE NOTE BELOW). MAINTENANCE ALSO INCLUDES PRUNING, AND REPLACEMENT OF DEFICIENT STAKES AND WIRE.
2. MULCH LAYER: SHALL BE REPLACED ONCE EVERY SPRING DUE TO THE HEAVY METALS GENERATED FROM THE PARKING LOT. THE OWNER SHALL PROPERLY DISPOSE OF THE OLD MULCH SO AS NOT TO CAUSE STORMWATER CONTAMINATION ELSEWHERE. WASHED OUT AREAS SHALL BE REPAIRED AS NECESSARY.
3. SOIL LAYER: SHOULD STORMWATER POND FOR MORE THE 48 HOURS, THE TOP 6 INCHES (MINIMUM) OF THE SOIL LAYER SHALL BE REPLACED. THE OLD SOILS SHALL BE PROPERLY DISPOSED.
4. SPILLWAY OUTFALL, INTERIOR SLOPES: ERODED AREAS SHALL BE REPAIRED (FILLED IN AND SEEDED) AS NEEDED. BARE AREAS SHALL BE TREATED AND RE-SEEDED.
5. INLET: REPAIR CRACKS, DAMAGED CONCRETE, ETC. AS NECESSARY.
6. REMOVE AND PROPERLY DISPOSE ACCUMULATED SEDIMENT GREATER THAN ONE (1) INCH.

NOTES:
1. IF SPECIFIC PLANTS ARE NOT SURVIVING, THE PLANT TYPE SHOULD CHANGED TO BETTER-SUITED SPECIES.
2. PLANT WATERING MAY BE NEEDED DURING PROLONGED DRY PERIODS.

BIORETENTION FACILITY NOTES AND SPECIFICATIONS

1. REFER TO THE LATEST MARYLAND SWM DESIGN MANUAL FOR BIORETENTION SPECIFICATIONS FOR INFORMATION NOT LISTED HEREIN AND FOR ADDITIONAL INFORMATION.

2. THE BIORETENTION BMP MATERIALS ARE AS FOLLOWS:
- PLANTING SOIL: PER PLANTING SOIL SPECIFICATIONS OUTLINED IN MDE'S 2000 SWM MANUAL, APPENDIX B.4, AND INCLUDED ON THIS SHEET. DO NOT MECHANICALLY COMPACT PLANTING SOIL. HOWEVER, SOIL CAN BE "WATERED/FLOODED" TO FACILITATE SETTLING.
- PVC UNDERDRAIN PIPE OUTSIDE BMP: SCHEDULE 40 SOLID PIPE WITH MINIMUM SLOPE OF 0.5% OR AS PER PLAN.
- PVC UNDERDRAIN WITHIN BMP: SCHEDULE 40 AND PERFORATED WITH 0.5" ø HOLES. WRAP UNDERDRAIN WITH GALVANIZED 1/4" HARDWARE CLOTH (WELDED WIRE MESH). PROVIDE 3 - 0.5 ø HOLES EVENLY SPACED AROUND THE 4" UNDERDRAIN PIPE CIRCUMFERENCE, SPACE PERFORATIONS ALONG PIPE AT 6" ON CENTER. ADJACENT SETS OF PERFORATIONS SHALL BE STAGGERED AT 60°. PERFORATIONS SHALL TOTAL 1.18 sq. inch PER LF OF PIPE.
- STONE AGGREGATE: MSHA SPECIFICATIONS AS SHOWN ON TYPICAL SECTION; AGGREGATE MUST WASHED, AND BE FREE OF FINES, SAND, DIRT & DEBRIS.
- GEOTEXTILE: PER MDE SWM MANUAL, OR MIRAFI 140N.
- MULCH: SHREDDED, WELL-AGED (6-12 MONTHS) HARDWOOD MULCH; NO WOOD CHIPS OR PINE MULCH.

3. THE CONTRACTOR SHALL UNDER NO CIRCUMSTANCES ALLOW SURFACE DRAINAGE INTO THE MICRO-BIORETENTION BMPs (FACILITIES WITH PLANTING SOIL) UNTIL ALL UPSTREAM AREAS HAVE BEEN STABILIZED (i.e., PAVED, OR HAVE WELL-ESTABLISHED VEGETATION.

4. BOARDS SHALL NOT BE LEFT IN PLACE DURING THE CONSTRUCTION OF THE BIORETENTION BMP.

5. GEOTEXTILE (FILTER FABRIC) SHALL BE PLACED AGAINST EXCAVATED VERTICAL SURFACES. SCARIFY EARTH WALLS (i.e., REMOVED "SEALED AREAS") PRIOR TO GEOTEXTILE PLACEMENT. INSTALL GEOTEXTILE PER MANUFACTURER'S SPECIFICATIONS/RECOMMENDATIONS AND USE A 2 FT MINIMUM OVERLAP AND NOTCH ENDS WITH A 6" MINIMUM BURY OR EQUIVALENT ANCHORING METHOD.

6. THE CONTRACTOR SHALL PROVIDE TO THE OWNER AN INDEPENDENT CERTIFICATION THAT THE PLANTING SOILS AND OTHER BIORETENTION MATERIALS MEET THE SPECIFICATIONS.

7. THE BIORETENTION FACILITIES SHALL BE VEGETATED (TOP LEVEL SURFACE ONLY) IN ACCORDANCE WITH THE PLANTING PLAN AND THE BMP M-6 SPECIFICATIONS IN MDE'S CURRENT STORMWATER MANAGEMENT DESIGN MANUAL.

8. FOR UNDERDRAINS, USE PERFORATED PVC PIPE INSIDE THE BIORETENTION FACILITIES AND WRAP PERFORATED PIPE WITH ½" HARDWARE CLOTH TO PREVENT AGGREGATE FROM ENTERING THE PERFORATIONS.

9. INSTALL CLEANOUTS (SOLID PVC PIPE) AS SHOWN. THE CLEANOUT TOP SHALL EXTEND 3" ABOVE TOP OF MULCH.

10. THE LIMIT OF THE TYPICAL SECTION (i.e., PLANTING SOIL, AGGREGATE, ETC.) IS THE ENTIRE LEVEL SURFACE OF THE BIORETENTION FACILITY EXCLUDING FOREBAY AND 2' FROM THE FOREBAY GABIONS.

GENERAL STORMWATER MANAGEMENT NOTES

1. STORMWATER MANAGEMENT HAS BEEN PROVIDED WITH TWO (2) BIORETENTION BMPs (F-6); FIVE MICRO-BIORETENTION BMP's. PLEASE REFER TO THE STORMWATER MANAGEMENT REPORT PREPARED BY FISHER, COLLINS, & CARTER, INC. DATED OCTOBER 21, 2019.

2. ALL CONSTRUCTION SHALL MEET THE LATEST EDITION OF THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS, SMALL EARTHEN DAM SPECIFICATION MD-378, AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT'S CURRENT STORMWATER DESIGN MANUAL, OR AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONSULT THE ENGINEER SHOULD THERE BE ANY DISCREPANCIES. SEE MICRO-BIORETENTION FACILITY SPECIFICATIONS ON SHEET xx.

3. THE UTILITY LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL TEST PIT ALL KNOWN EXISTING UTILITIES TO VERIFY, SIZE, SHAPE, LOCATION, AND TYPE PRIOR TO PERFORMING CONSTRUCTION. ANY UTILITY DAMAGED DUE TO CONSTRUCTION MUST BE REPAIRED IMMEDIATELY.

4. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. IF THE CONTRACTOR MAKES FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.

5. CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-257-7777 AND THE HOWARD COUNTY DEPARTMENT OF INSPECTION LICENSES & PERMITS THREE (3) WORKING DAYS BEFORE BEGINNING CONSTRUCTION.

6. FISHER, COLLINS & CARTER, INC. IS NOT RESPONSIBLE FOR THE CONTRACTOR'S UTILIZATION OF MEN, MATERIALS, EQUIPMENT, OR SAFETY MEASURES IN THE PERFORMANCE OF ANY WORK FOR THIS PROJECT. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR PERFORMING THE WORK CORRECTLY AND IN CONFORMANCE WITH CODE/SPECIFICATION REQUIREMENTS.

7. THE BMPs MAY BE GRADED, HOWEVER, THE PLANTING SOIL IN THE BMPs SHALL NOT BE INSTALLED UNTIL ALL UPSTREAM AREAS HAVE BEEN STABILIZED (i.e., THICK GRASS COVER, OR PAVED).

8. THE STORMWATER MANAGEMENT BIORETENTION BMPs FOR THIS PROJECT WILL BE PRIVATELY OWNED AND MAINTAINED.

9. THE BMPs SHALL BE AT LEAST 10 FT FROM THE SCHOOL BUILDING AS MEASURED FROM THE 1 ft DEPTH WATER SURFACE ELEVATION TO THE BUILDING.

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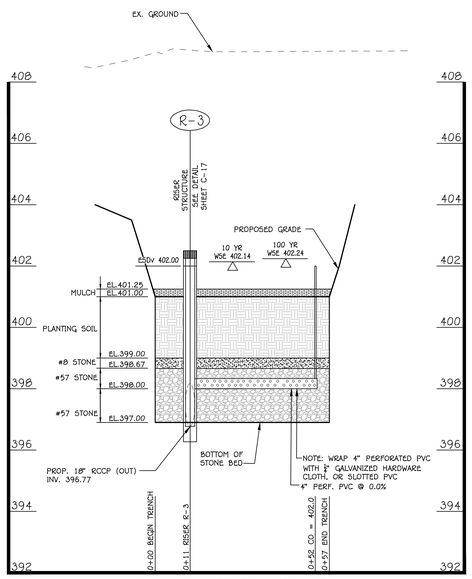
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
ADDENDUM NO. 4 8 JULY 20
BID AND CONSTRUCTION 16 JUNE 20

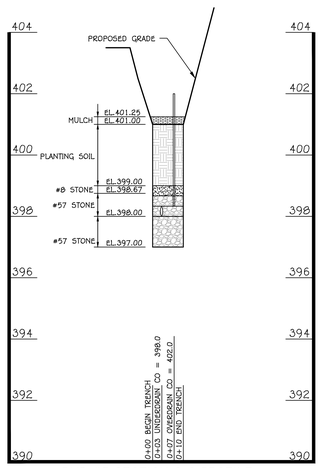
SWM PROFILES, DETAILS, AND STRUCTURES

C-17

17 OF 21
PROJECT NO. 1801



BMP #3 UNDERDRAIN PROFILE
(SECTION C-C)
SCALE: HORZ: 1" = 20'
VERT: 1" = 2'



BMP #3 SECTION C-C PROFILE
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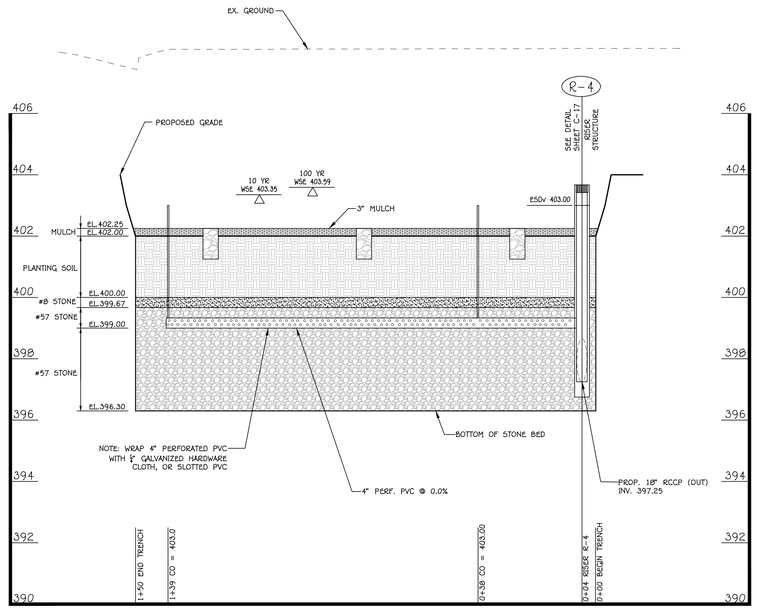

BMP #4 UNDERDRAIN PROFILE
(SECTION D-D)
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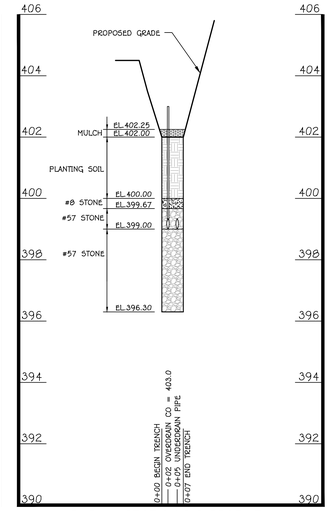

BMP #4 SECTION D-D PROFILE
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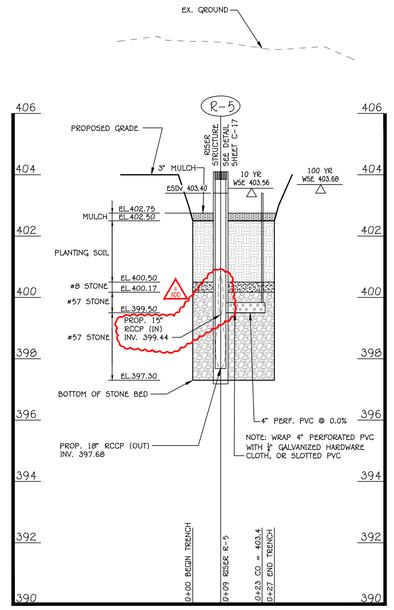

BMP #5 UNDERDRAIN PROFILE
(SECTION E-E)
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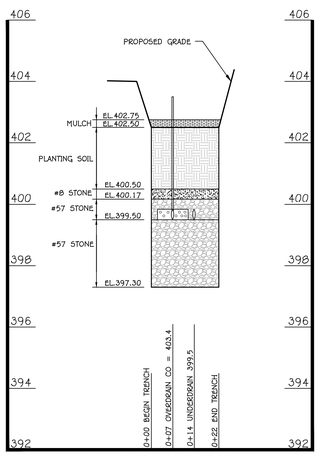

BMP #5 SECTION E-E PROFILE
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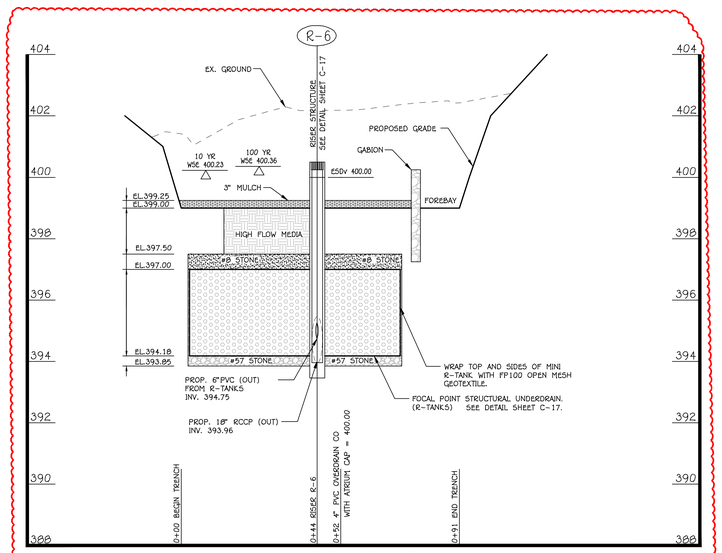

BMP #6 PROFILE
(SECTION F-F)
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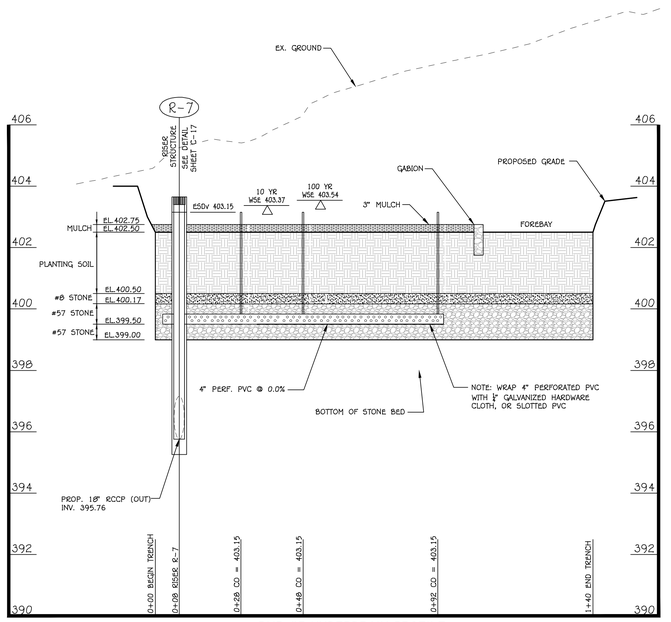

BMP #7 UNDERDRAIN PROFILE
(SECTION G-G)
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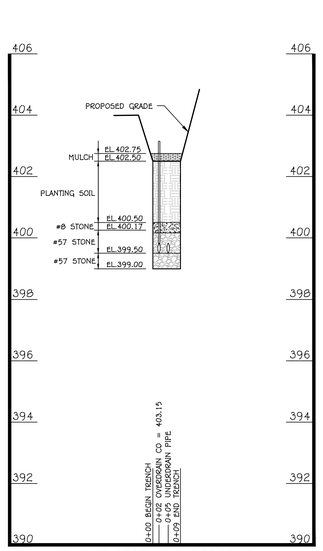

BMP #7 SECTION G-G PROFILE
SCALE:
HORZ: 1" = 20'
VERT: 1" = 2'

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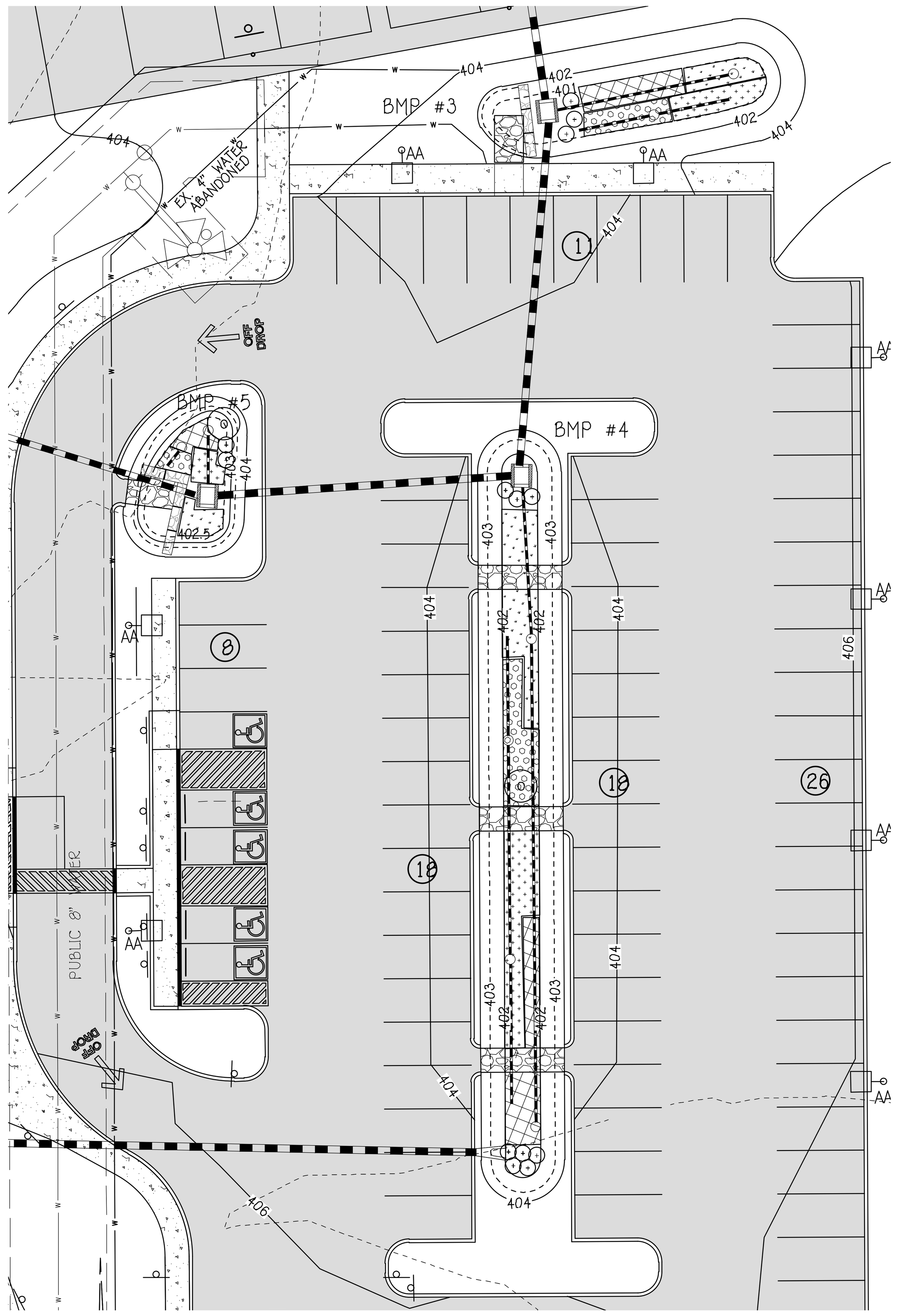
IAC CD / BLDG PERMIT SET	1 MAY 20
1 ADDENDUM NO. 4	8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

SWM PROFILES

C-18



BMP #3, #4, & #5 PLANTING PLAN
SCALE: 1"=20'

BIORETENTION FACILITY (BMP#3) PLANTING SCHEDULE

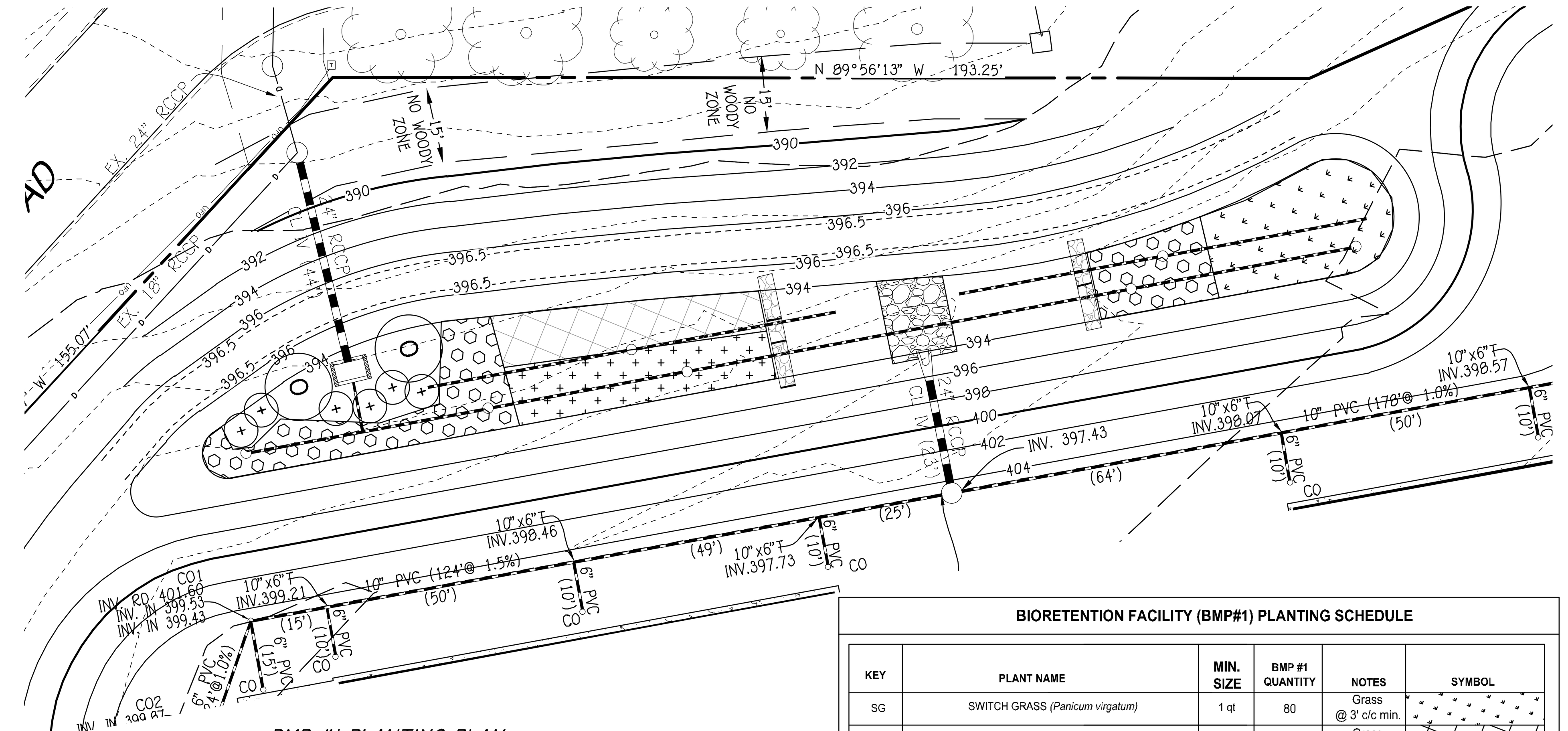
KEY	PLANT NAME	MIN. SIZE	BMP #3QUANTITY	NOTES	SYMBOL
SG	SWITCH GRASS (*Panicum virgatum*)	1 qt	8	Grass @ 3' c/c min.	
TS	TUSSOCK SEDGE (*Carex Stricta*)	1 qt	14	Grass @ 3' c/c min.	
CC	CUTLEAF CONEFLOWER (*Rudbeckia laciniata*)	1 qt	10	Flower @ 3' c/c min.	
BB	BEEBALM (*Monarda didyma*)	1 qt	10	Flower @ 4' c/c min.	
JP	JOE PYE WEED (*Eupatorium maculatum 'Gateway'*)	1 gal	3	Perennial @ 5' c/c min.	
ROD	RED OSIER DOGWOOD (*Cornus sericea*)	2 gal	0	Shrub @ 7' c/c.	
	TOTAL		45		

BIORETENTION FACILITY (BMP#4) PLANTING SCHEDULE

KEY	PLANT NAME	MIN. SIZE	BMP #4 QUANTITY	NOTES	SYMBOL
SG	SWITCH GRASS (*Panicum virgatum*)	1 qt	30	Grass @ 3' c/c min.	
TS	TUSSOCK SEDGE (*Carex Stricta*)	1 qt	30	Grass @ 3' c/c min.	
CC	CUTLEAF CONEFLOWER (*Rudbeckia laciniata*)	1 qt	30	Flower @ 3' c/c min.	
BB	BEEBALM (*Monarda didyma*)	1 qt	20	Flower @ 4' c/c min.	
JP	JOE PYE WEED (*Eupatorium maculatum 'Gateway'*)	1 gal	8	Perennial @ 5' c/c min.	
ROD	RED OSIER DOGWOOD (*Cornus sericea*)	2 gal	1	Shrub @ 7' c/c.	
	TOTAL		119		

BIORETENTION FACILITY (BMP#5) PLANTING SCHEDULE

KEY	PLANT NAME	MIN. SIZE	BMP #5 QUANTITY	NOTES	SYMBOL
SG	SWITCH GRASS (*Panicum virgatum*)	1 qt	6	Grass @ 3' c/c min.	
TS	TUSSOCK SEDGE (*Carex Stricta*)	1 qt	6	Grass @ 3' c/c min.	
CC	CUTLEAF CONEFLOWER (*Rudbeckia laciniata*)	1 qt	5	Flower @ 3' c/c min.	
BB	BEEBALM (*Monarda didyma*)	1 qt	5	Flower @ 4' c/c min.	
JP	JOE PYE WEED (*Eupatorium maculatum 'Gateway'*)	1 gal	2	Perennial @ 5' c/c min.	
ROD	RED OSIER DOGWOOD (*Cornus sericea*)	2 gal	1	Shrub @ 7' c/c.	
	TOTAL		25		



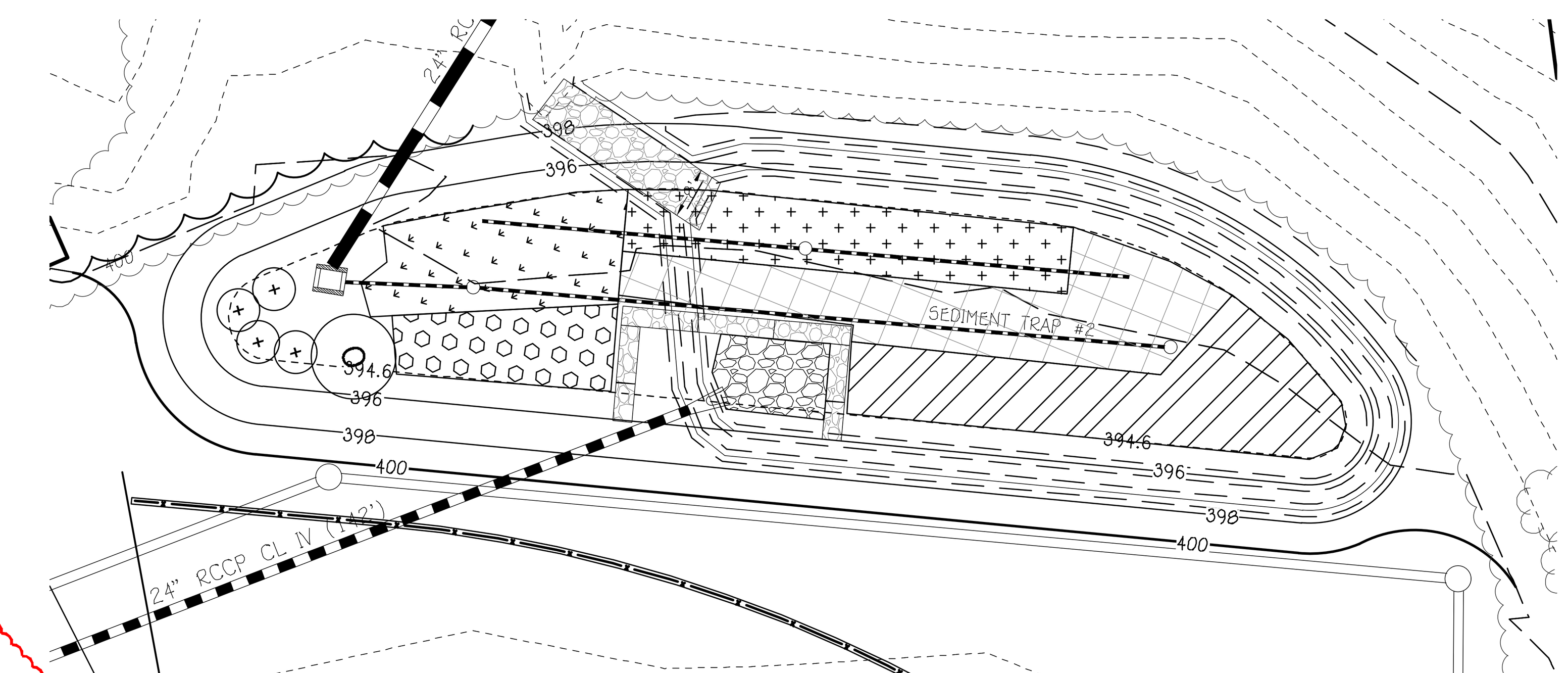
BMP #1 PLANTING PLAN
SCALE: 1"=20'

BIORETENTION FACILITY (BMP#1) PLANTING SCHEDULE

KEY	PLANT NAME	MIN. SIZE	BMP #1 QUANTITY	NOTES	SYMBOL
SG	SWITCH GRASS (*Panicum virgatum*)	1 qt	80	Grass @ 3' c/c min.	
TS	TUSSOCK SEDGE (*Carex Stricta*)	1 qt	60	Grass @ 3' c/c min.	
CC	CUTLEAF CONEFLOWER (*Rudbeckia laciniata*)	1 qt	40	Flower @ 3' c/c min.	
BB	BEEBALM (*Monarda didyma*)	1 qt	75 & 40	Flower @ 4' c/c min.	
JP	JOE PYE WEED (*Eupatorium maculatum 'Gateway'*)	1 gal	6	Perennial @ 5' c/c min.	
ROD	RED OSIER DOGWOOD (*Cornus sericea*)	2 gal	2	Shrub @ 7' c/c.	
	TOTAL		303		

BIORETENTION FACILITY (BMP#2) PLANTING SCHEDULE

KEY	PLANT NAME	MIN. SIZE	BMP #2 QUANTITY	NOTES	SYMBOL
SG	SWITCH GRASS (*Panicum virgatum*)	1 qt	75	Grass @ 3' c/c min.	
TS	TUSSOCK SEDGE (*Carex Stricta*)	1 qt	120	Grass @ 3' c/c min.	
CC	CUTLEAF CONEFLOWER (*Rudbeckia laciniata*)	1 qt	80	Flower @ 3' c/c min.	
BB	BEEBALM (*Monarda didyma*)	1 qt	45	Flower @ 4' c/c min.	
NEA	NEW ENGLAND ASTER (*Aster novae angliae*)	1 qt	130	Grass @ 3' c/c min.	
JP	JOE PYE WEED (*Eupatorium maculatum 'Gateway'*)	1 gal	4	Perennial @ 5' c/c min.	
ROD	RED OSIER DOGWOOD (*Cornus sericea*)	2 gal	1	Shrub @ 7' c/c.	
	TOTAL		455		



BMP #2 PLANTING PLAN
SCALE: 1"=20'

PLANTING SPECIFICATIONS:
1. PLANT INSTALLATION SHALL BE PER MDE SPECIFICATIONS IN THE *2000* STORMWATER DESIGN MANUAL, PER THE PROJECT SPECIFICATIONS, AND AS BELOW.

ADDITIONAL SPECIFICATIONS:
1. PLANT BMP LEVEL SURFACE AS SHOWN IN THE ABOVE TABLE WITH AN EVEN DISTRIBUTION DENSITY. STABILIZE BMP SIDE SLOPES WITH PERMANENT GRASS SEED PER NRCS SPECIFICATIONS. SIDE SLOPE PERMANENT GRASS AREAS SHALL HAVE 3" OF CLEAN TOPSOIL ON TILLED SUB-SOIL AND CURLEX MATTING. WATER AS NECESSARY UNTIL ESTABLISHED VEGETATION.

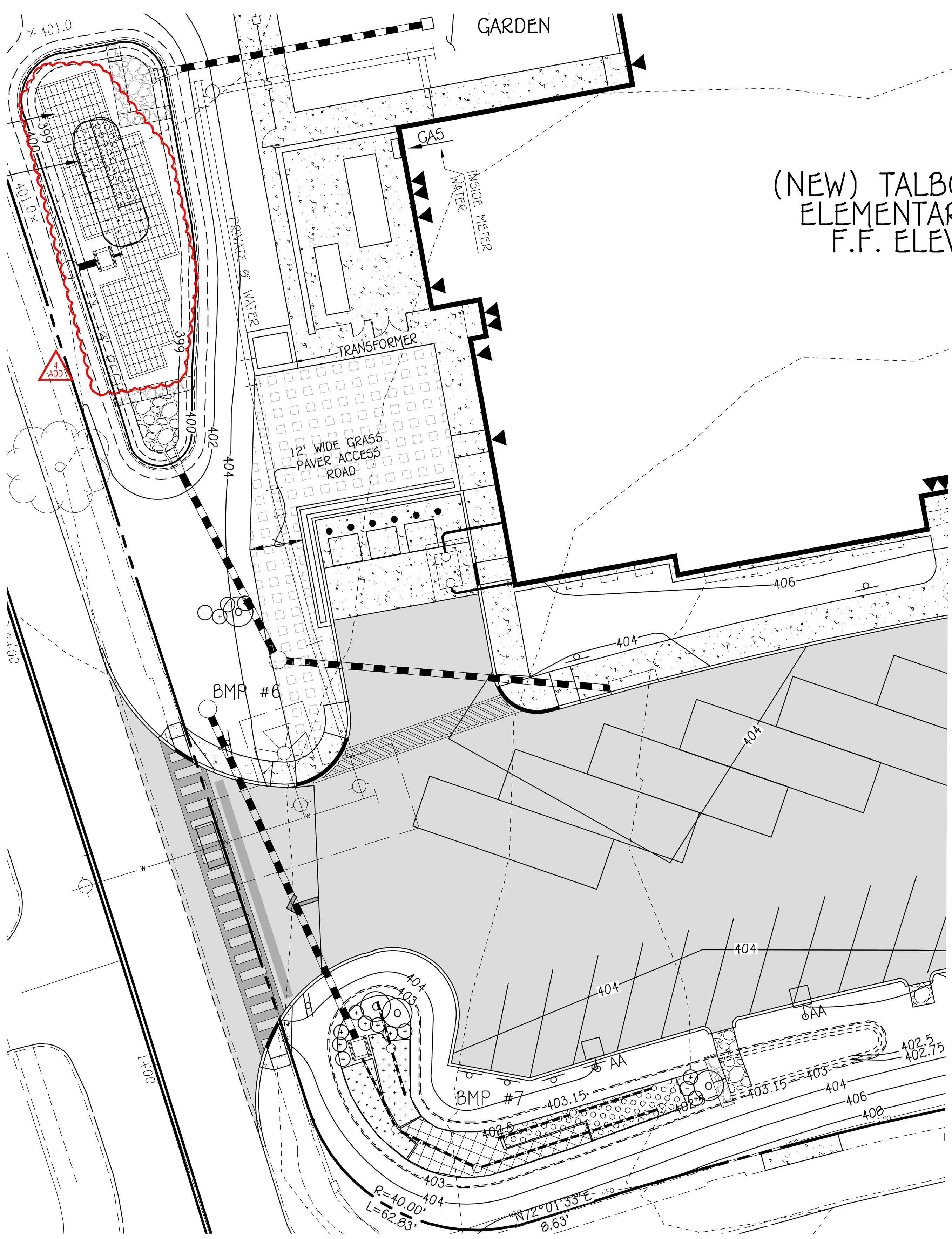
2. THE CONTRACTOR SHALL PROVIDE PLANT MAINTENANCE AND GUARANTEE IN ACCORDANCE WITH THE PROJECT LANDSCAPING SPECIFICATIONS.

3. PLANT MATERIAL SHALL CONFORM TO THE U.S. STANDARD FOR NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

4. PLANTING PERENNIALS & GRASSES: ROOT SYSTEMS SHALL BE SPLIT OR CRUMBLED. POTTED PLANTS SHALL BE SET SO THAT THE TOP OF THE POT IS EVEN WITH EXISTING GRADE. TREAT THE MULCHED AND PLANTED AREA WITH A PRE-EMERGENT HERBICIDE.

5. ALL PLANTS MUST BE THOROUGHLY AND REGULARLY WATERED PRIOR TO ACCEPTANCE.

6. DO NOT PLANT VEGETATION WITHIN 1.5 ft OF THE FOREBAY WEIR SPLASH APRONS AND IN THE NO PLANTING ZONE NEAR THE RISER.



(NEW) TALBOTT SPRINGS ELEMENTARY SCHOOL
F.F. ELEV. 406.50

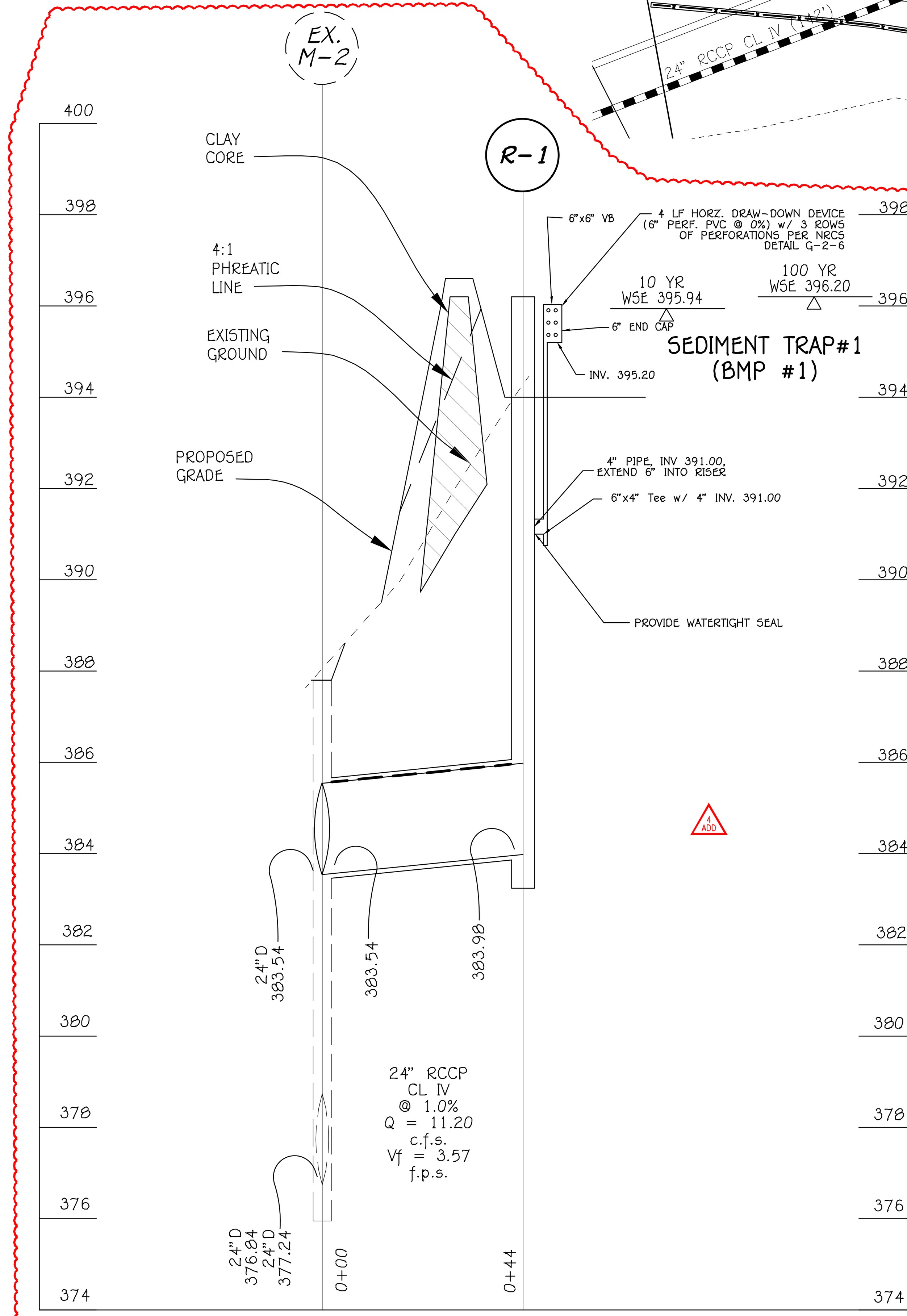
BMP #6 & #7 PLANTING PLAN
SCALE: 1"=20'

BIORETENTION FACILITY (BMP#6) PLANTING SCHEDULE

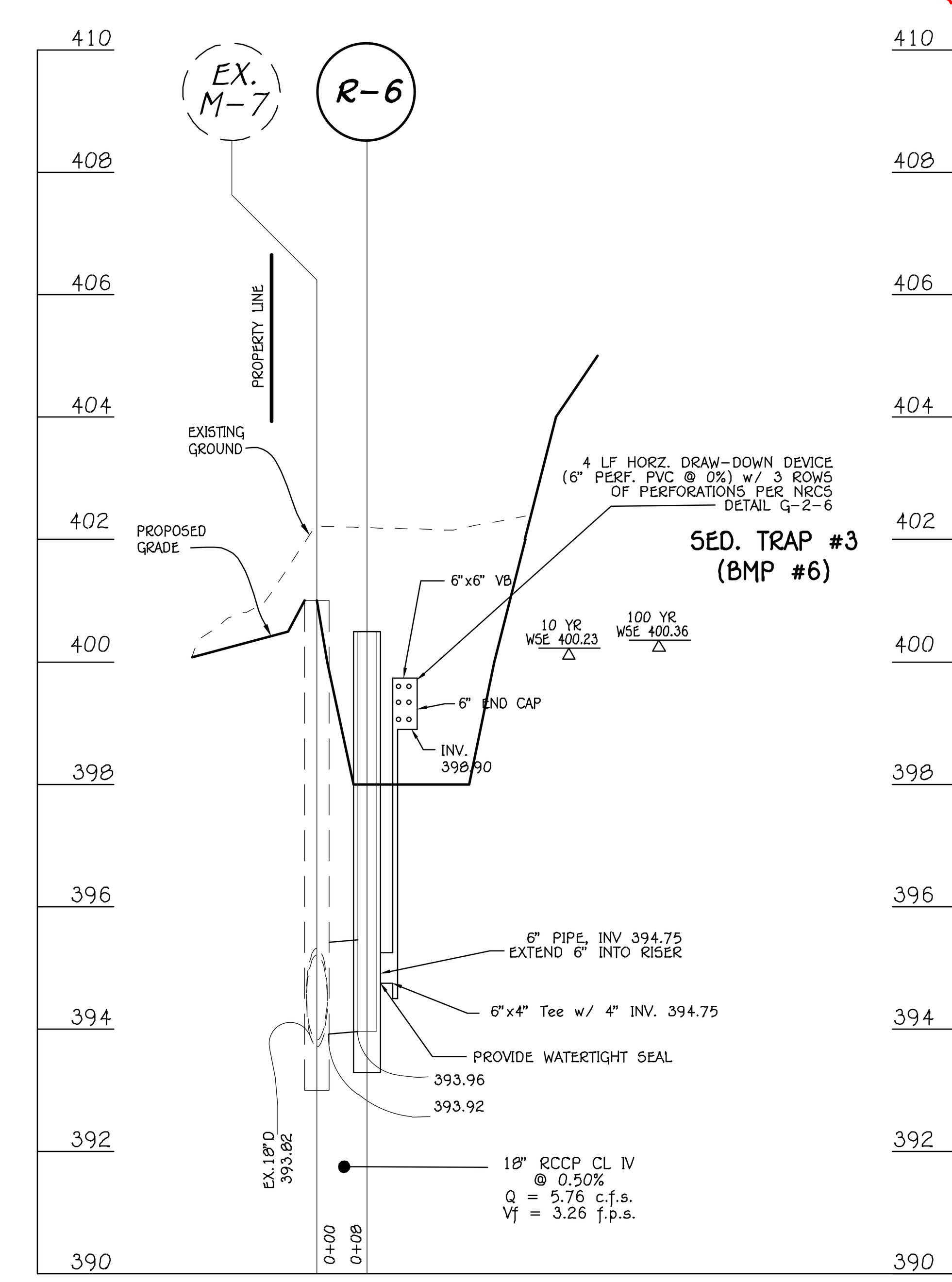
KEY	PLANT NAME	MIN. SIZE	BMP #6 QUANTITY	NOTES	SYMBOL
CC	CUTLEAF CONEFLOWER (*Rudbeckia laciniata*)	1 qt	20	Flower @ 3' c/c min.	
BB	BEEBALM (*Monarda didyma*)	1 qt	15	Flower @ 4' c/c min.	
	TOTAL		35		

BIORETENTION FACILITY (BMP#7) PLANTING SCHEDULE

KEY	PLANT NAME	MIN. SIZE	BMP #7 QUANTITY	NOTES	SYMBOL
SG	SWITCH GRASS (*Panicum virgatum*)	1 qt	15	Grass @ 3' c/c min.	
TS	TUSSOCK SEDGE (*Carex Stricta*)	1 qt	35	Grass @ 3' c/c min.	
CC	CUTLEAF CONEFLOWER (*Rudbeckia laciniata*)	1 qt	15	Flower @ 3' c/c min.	
BB	BEEBALM (*Monarda didyma*)	1 qt	30	Flower @ 4' c/c min.	
JP	JOE PYE WEED (*Eupatorium maculatum 'Gateway'*)	1 gal	11	Perennial @ 5' c/c min.	
ROD	RED OSIER DOGWOOD (*Cornus sericea*)	2 gal	3	Shrub @ 7' c/c.	
	TOTAL		109		



SEDIMENT TRAP #1 (BMP #1) SECTION
SCALE:
HORZ: 1" = 20'
VERT: 1" = 2'



SEDIMENT TRAP #3 (BMP #6) SECTION
SCALE:
HORZ: 1" = 20'
VERT: 1" = 2'

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BMP's #1 - #7 PLANTING PLANS

C-19

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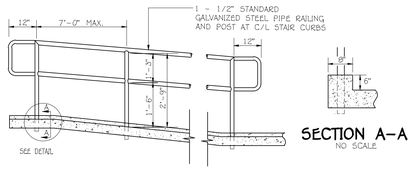
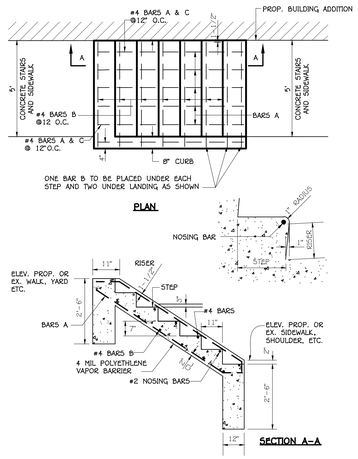
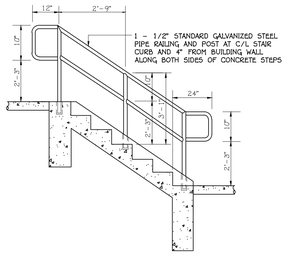


SECTION A-A
NO SCALE

1. RAILING SHALL BE IN ACCORDANCE WITH CURRENT ADA ACCESSIBILITY REQUIREMENTS.
2. INTERIM POSTS SHALL BE MAXIMUM 7' INTERVALS, AND POSTS SHALL BE SPACED EQUALLY BETWEEN END POSTS.
3. CONTRACTOR SHALL VERIFY EXACT SIZE AND RADII AND SPACING OF MEMBERS PRIOR TO FABRICATION.
4. HANDRAIL SHALL EXTEND HORIZONTALLY 1.0' PAST THE BEGINNING AND END OF THE RAMP AND SHALL BE CONTINUOUS ACROSS INTERIM LANDINGS.
5. CONTRACTOR SHALL FIELD VERIFY AS BUILT RAMP CONDITION TO ENSURE CORRECT SLOPE AND EXTENSION OF HANDRAILS BEYOND END OF RAMP.
6. ALL RAIL POSTS TO BE SET IN CONCRETE IMMEDIATELY ADJACENT TO WALK. CONCRETE SHALL BE 12" DIAMETER AND 12" DEPTH.
7. HANDRAIL GRIPPING SURFACE SHALL HAVE CIRCULAR CROSS SECTION WITH A DIAMETER OF 1.25".
8. HANDRAIL MATERIAL SHALL BE STANDARD GALVANIZED STEEL PIPE.

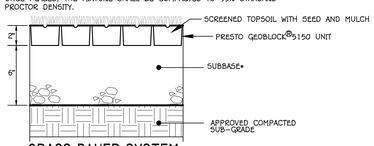
1 / C-21 HANDRAIL DETAIL
NO SCALE



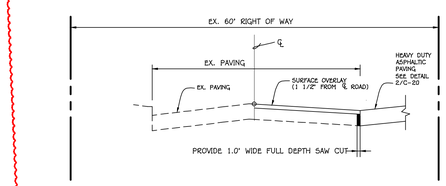


2 / C-21 CONCRETE STEPS AND HANDRAIL DETAIL
NO SCALE

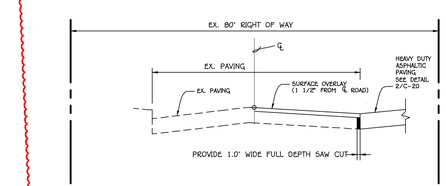
•THE SUBBASE IS A HOMOGENOUS MIXTURE CONSISTING OF 1) A CLEAR-STONE/CRUSHED ROCK HAVING AN AASHTO#5 OR SIMILAR DESIGNATION BLENDED WITH 2) PULVERIZED TOPSOIL AND 3) A VOID COMPONENT GENERALLY CONTAINING AIR AND/OR WATER. THE AGGREGATE PORTION SHALL HAVE A PARTICLE RANGE FROM 9.5 MM TO 25 MM (0.375 TO 1.0 IN) WITH A D50 OF 13 MM (0.5 IN). THE PERCENTAGE VOID-SPACE OF THE AGGREGATE PORTION WHEN COMPACTED SHALL BE AT LEAST 30%. THE PULVERIZED TOPSOIL PORTION SHALL EQUAL 25%• OF THE TOTAL VOLUME, AND BE ADDED AND BLENDED TO PRODUCE A HOMOGENOUS MIXTURE PRIOR TO PLACEMENT OR WASHED INTO THE IN-PLACE COMPACTED AGGREGATE. ONCE PLACED, THE MIXTURE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.



3 / C-21 GRASS PAVER SYSTEM
PRESTO GEOSYSTEMS - GEOBLOCK® 5150
NO SCALE



BASKET RING ROAD
TYPICAL ROADWAY SECTION
NO SCALE
FROM CL STA 00+74.83 TO CL STA 01+93.40



WHITEACRE ROAD
TYPICAL ROADWAY SECTION
NO SCALE
FROM CL STA 11+08.06 TO CL STA 12+57.69

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STATE OF MARYLAND
EUGENIE F. COLLINS
No. 18138
PROFESSIONAL ENGINEER

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

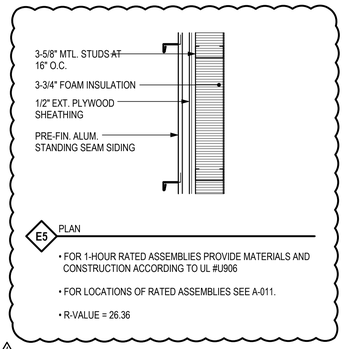
revisions

IAC CD / BLDG PERMIT SET	1 MAY 20
1 ADDENDUM NO. 4	8 JULY 20
BID AND CONSTRUCTION	16 JUNE 20

DETAIL SHEET

C-21

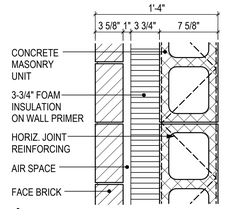
21 OF 21
PROJECT NO. 1801



E5 PLAN

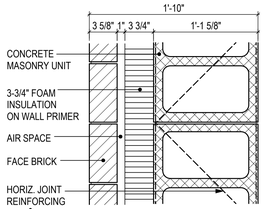
- FOR 1-HOUR RATED ASSEMBLIES PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #U906
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.
- R-VALUE = 26.36

1 ADD1



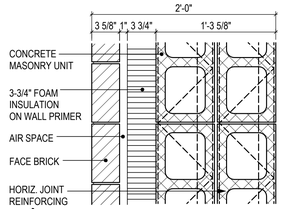
E16 PLAN

- R-VALUE = 28.88



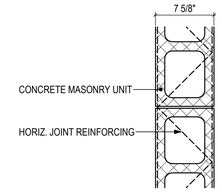
E20 PLAN

- R-VALUE = 28.99



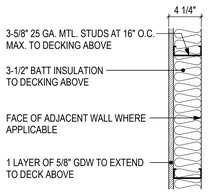
E24 PLAN

- R-VALUE = 28.99

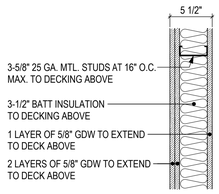


F8 PLAN

- STC = PROVIDE STC RATING GREATER THAN OR EQUAL TO 47
- PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #902 OR #906 FOR 2-HOUR RATED ASSEMBLY.
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.

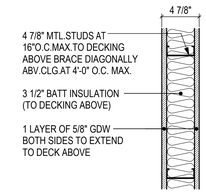


P4 PLAN

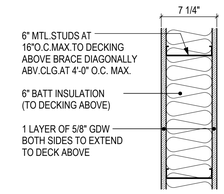


P5 PLAN

- STC = PROVIDE STC RATING GREATER THAN OR EQUAL TO 50

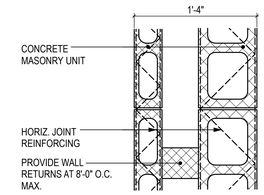


P4A PLAN - FOR USE ABOVE ALUMINUM STOREFRONT FRAMES



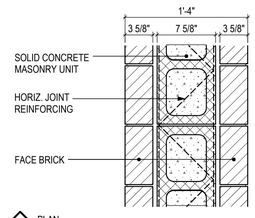
P7 PLAN

- STC = PROVIDE STC RATING GREATER THAN OR EQUAL TO 50

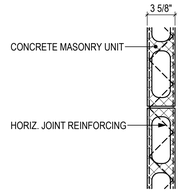


P16 PLAN

- FOR 1-HOUR RATED ASSEMBLIES PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #U906
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.

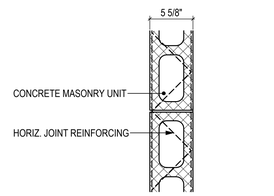


S16 PLAN



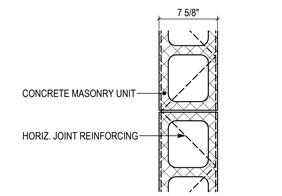
W4 PLAN

- STC = PROVIDE STC RATING GREATER THAN OR EQUAL TO 44
- FOR 1-HOUR RATED ASSEMBLIES PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #U906
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.



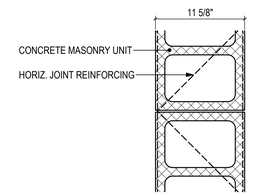
W6 PLAN

- STC = PROVIDE STC RATING GREATER THAN OR EQUAL TO 46
- FOR 1-HOUR RATED ASSEMBLIES PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #U906
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.



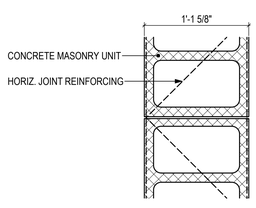
W8 PLAN

- STC = PROVIDE STC RATING GREATER THAN OR EQUAL TO 47
- FOR 1-HOUR ASSEMBLIES PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #U906
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.



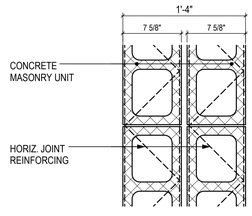
W12 PLAN

- STC = PROVIDE STC RATING GREATER THAN OR EQUAL TO 53
- FOR 1-HOUR AND 2-HOUR RATED ASSEMBLIES PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #U906
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.



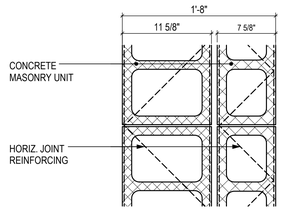
W14 PLAN

- STC = PROVIDE STC RATING GREATER THAN OR EQUAL TO 55
- FOR 1-HOUR RATED ASSEMBLIES PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #U906
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.



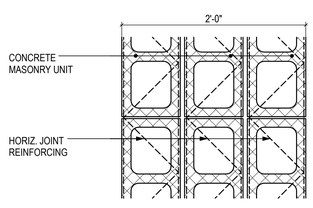
W16 PLAN

- FOR 1-HOUR RATED ASSEMBLIES PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #U906
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.



W20 PLAN

- FOR 1-HOUR RATED ASSEMBLIES PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #U906
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.



W24 PLAN

- FOR 1-HOUR RATED ASSEMBLIES PROVIDE MATERIALS AND CONSTRUCTION ACCORDING TO UL #U906
- FOR LOCATIONS OF RATED ASSEMBLIES SEE A-011.

GENERAL PARTITION NOTES:

1. BOTTOM 4' OF ALL PARTITIONS TO BE 5/8" FIBER-REINFORCED GYPSUM DRYWALL.
2. FURNISH DRYWALL ACCESS PANELS/HATCHES AS REQUIRED AT MECHANICAL PIPES, VALVES, PULL BOXES, ETC.
3. PROVIDE DOUBLE STUD BLOCKING BET.VERTICAL STUDS AS REQ'D TO ANCHOR WALL CABINETS,WALL SHELVING, AND ANY OTHER MISCELLANEOUS WALL-FASTENED EQUIPMENT.
4. 5/8" GDW MAY BE SUBSTITUTED FOR 5/8" FIBER-REINFORCED GYPSUM DRYWALL BEHIND CASEWORK.
5. DRYWALL MAY BE OMITTED ON BACKSIDE OF CHASE WALLS EXCEPT WHERE SPECIFICALLY REQUIRED AT FIRE-RATED WALLS.
6. PROVIDE GDW CHASE AROUND ALL EXPOSED PIPING, CONDUIT, DUCTS ETC. WHETHER INDICATED OR NOT ON THE PLAN.

PARTITION BRACING:

ALL STUD PARTITIONS ARE TO BE BRACED DIAGONALLY ABOVE CEILING AT 4'-0" O.C. MAX.

PARTITION HEIGHTS:

ALL STUD PARTITIONS AND GDW FINISH ARE FULL HEIGHT (FROM FLOOR TO ROOF DECK ABOVE) ANY VOIDS BETWEEN GDW FINISH AND MISCELLANEOUS PENETRATIONS SHALL BE FILLED SOLID W/ SAFING INSULATION

STUD PARTITION CONTROL JOINTS (CJ)

SEE 7/A-300 FOR VINYL CONTROL JOINT DETAILS. CONTROL JOINTS SHALL OCCUR IN PARTITIONS WHICH EXCEED 30' IN LENGTH (OR WHERE SPECIFICALLY NOTED ON DRAWINGS) WITH THE MAXIMUM SPACING BETWEEN JOINTS AT 30'-0" O.C.

ACOUSTICAL DETAILING NOTES:

DO NOT PLACE ELECTRICAL DEVICES OR OTHER PENETRATIONS IN THE SAME STUD SPACE AS ONE ON THE OTHER SIDE OF THE WALL.

SEAL AROUND ALL PENETRATIONS TO CONTROL SOUND LEAKS WITH ACOUSTICAL SEALANT.

APPLY CONTINUOUS ACOUSTICAL SEALANT BEADS BETWEEN ALL:
- BOTTOM STUD TRACKS AND FLOOR SLABS
- TOP STUD TRACKS AND DECKING
- BETWEEN EDGES OF DRYWALL AND FLOOR SLAB
- BETWEEN EDGES OF DRYWALL AND DECKING
- BETWEEN THE ENDS OF STUD PARTITIONS AND MASONRY WALLS

GENERAL NOTE FOR MASONRY WALLS:

SEE STRUCTURAL DRAWINGS FOR ADDITION REINFORCEMENT AND GROUT INFILL REQUIRED.

1 / A-100 WALL TYPES
SCALE: 1 1/2" = 1'-0"

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PROFESSIONAL CERTIFICATION.
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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
1 ADD1 ADDENDUM NO. 4 8 JULY 20

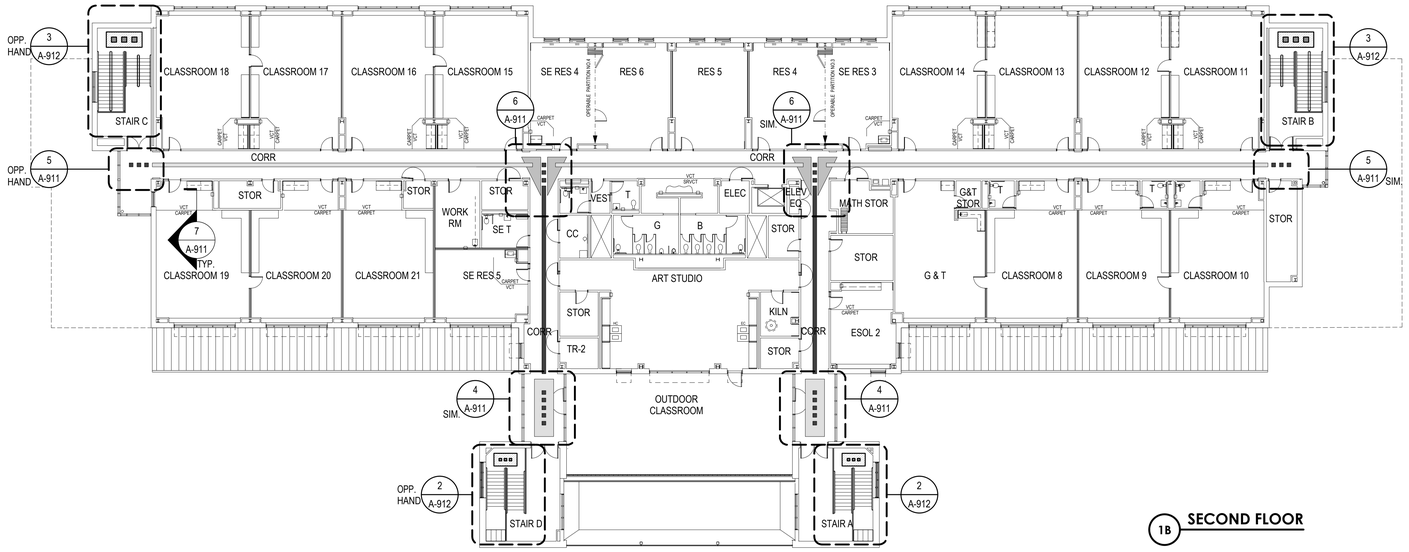
BID AND CONSTRUCTION 16 JUNE 20

WALL CONSTRUCTION DETAILS

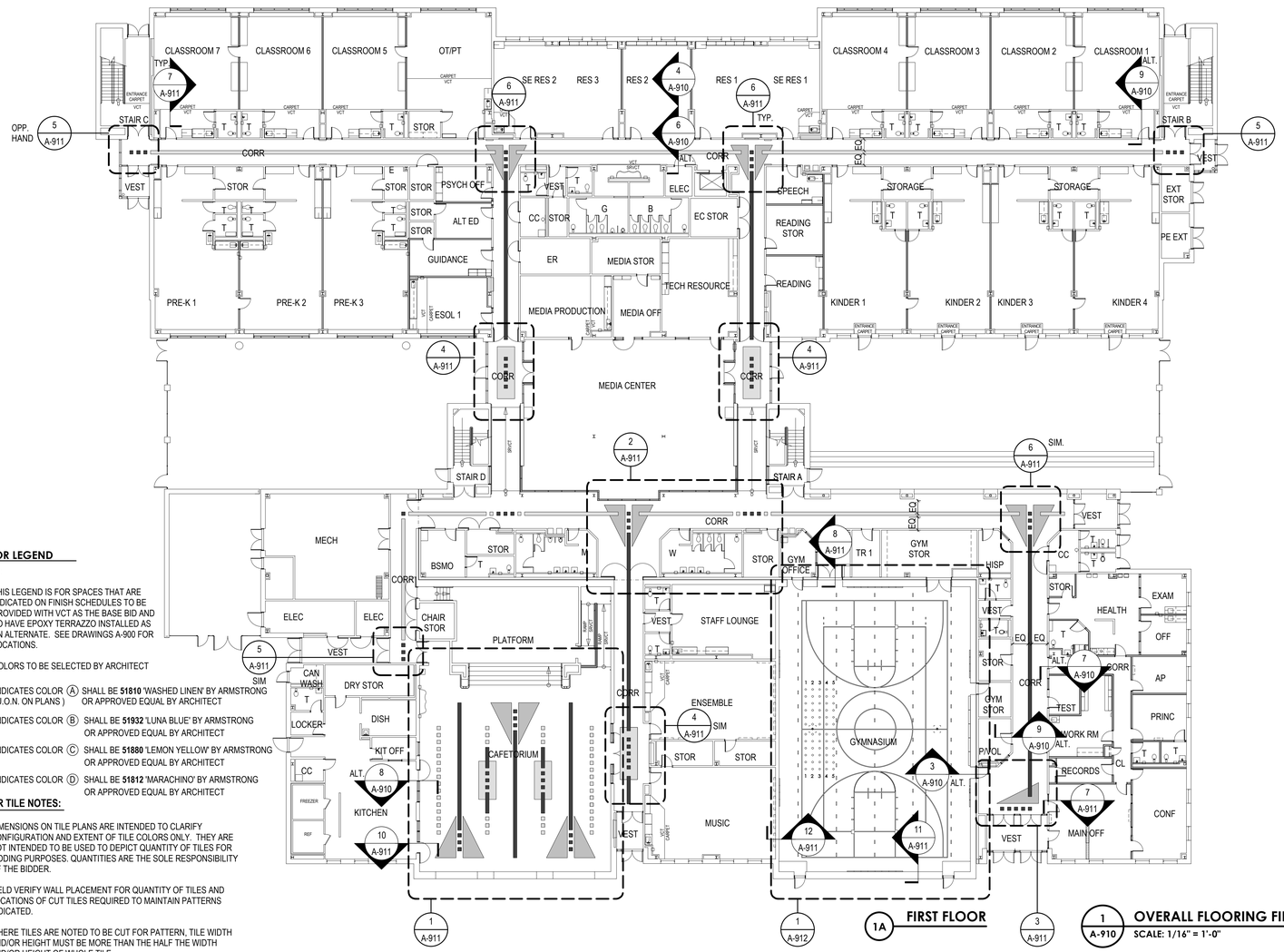
A-100

6 OF 70
PROJECT NO. 1804

Date: 7/6/20
Time: 4:43:43 PM



1B **SECOND FLOOR**



1A **FIRST FLOOR**

1 **OVERALL FLOORING FINISH PLANS**
A-910 **SCALE: 1/16" = 1'-0"**

COLOR LEGEND

NOTES:

1. THIS LEGEND IS FOR SPACES THAT ARE INDICATED ON FINISH SCHEDULES TO BE PROVIDED WITH VCT AS THE BASE BID AND TO HAVE EPOXY TERRAZZO INSTALLED AS AN ALTERNATE. SEE DRAWINGS A-900 FOR LOCATIONS.
2. COLORS TO BE SELECTED BY ARCHITECT

INDICATES COLOR (U.O.N. ON PLANS) (A) SHALL BE **51810** 'WASHED LINEN' BY ARMSTRONG OR APPROVED EQUAL BY ARCHITECT

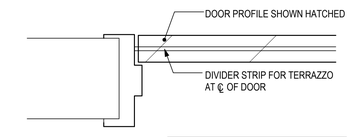
INDICATES COLOR (B) SHALL BE **51932** 'LUNA BLUE' BY ARMSTRONG OR APPROVED EQUAL BY ARCHITECT

INDICATES COLOR (C) SHALL BE **51880** 'LEMON YELLOW' BY ARMSTRONG OR APPROVED EQUAL BY ARCHITECT

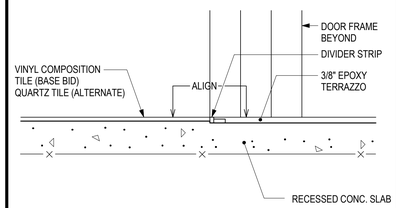
INDICATES COLOR (D) SHALL BE **51812** 'MARACHINO' BY ARMSTRONG OR APPROVED EQUAL BY ARCHITECT

FLOOR TILE NOTES:

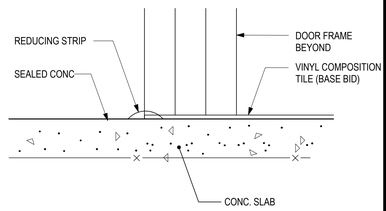
1. DIMENSIONS ON TILE PLANS ARE INTENDED TO CLARIFY CONFIGURATION AND EXTENT OF TILE COLORS ONLY. THEY ARE NOT INTENDED TO BE USED TO DEPICT QUANTITY OF TILES FOR BIDDING PURPOSES. QUANTITIES ARE THE SOLE RESPONSIBILITY OF THE BIDDER.
2. FIELD VERIFY WALL PLACEMENT FOR QUANTITY OF TILES AND LOCATIONS OF CUT TILES REQUIRED TO MAINTAIN PATTERNS INDICATED.
3. WHERE TILES ARE NOTED TO BE CUT FOR PATTERN, TILE WIDTH AND/OR HEIGHT MUST BE MORE THAN THE HALF THE WIDTH AND/OR HEIGHT OF WHOLE TILE.



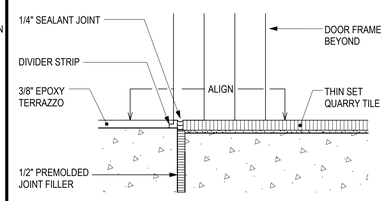
5 A-910 **TERRAZZO TRANSITION PLAN DETAIL**
SCALE: 3" = 1'-0" (SEE ALTERNATES)



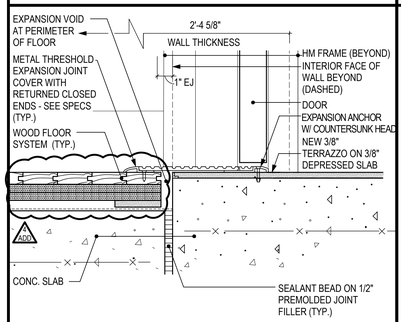
9 A-910 **TERRAZZO / VCT. DETAIL**
SCALE: 3" = 1'-0" (SEE ALTERNATES)



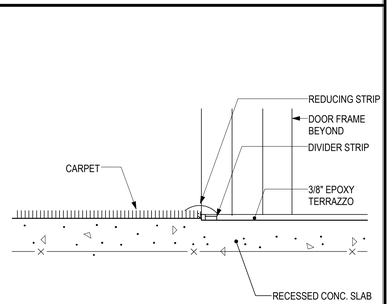
4 A-910 **SEALED CONCRETE / VCT DETAIL**
SCALE: 3" = 1'-0"



8 A-910 **TERRAZZO / QUARRY TILE DETAIL**
SCALE: 3" = 1'-0" (SEE ALTERNATES)



3 A-910 **TERRAZZO THRESHOLD PLAN DETAIL**
SCALE: 3" = 1'-0" (SEE ALTERNATES)

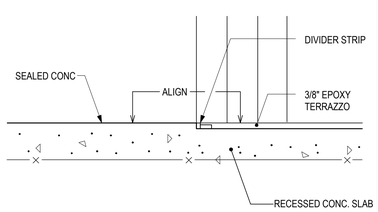


7 A-910 **TERRAZZO / CARPET DETAIL**
SCALE: 3" = 1'-0" (SEE ALTERNATES)

TERRAZZO JOINT NOTES:

1. PRIOR TO LAYOUT OR COMPLETION OF ANY CONCRETE POURS, CONTRACTOR SHALL SUBMIT FOR ARCHITECT REVIEW A JOINT AND PATTERN LAYOUT OF ALL PROPOSED CONTROL, CONSTRUCTION, AND EXPANSION JOINTS.
2. PROVIDE 1/8" WIDE ZINC DIVIDER STRIP BETWEEN ALL COLOR CHANGES IN TERRAZZO AND AROUND ALL CIRCLES.
3. FLOOR FINISH PLAN DOES NOT SHOW ALL REQUIRED ZINC DIVIDER STRIPS. PROVIDE DIVIDER STRIPS ABOVE ALL CONCRETE SLAB CONSTRUCTION JOINTS, EXPANSION JOINTS, CONTROL JOINTS, AND AS MAY BE REQUIRED BY THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION INSTALLATION GUIDELINES AND REQUIREMENTS.
4. EXPANSION JOINTS SHALL BE BACK-TO-BACK 1/8" WIDE ZINC DIVIDER 'L' STRIPS WITH EXPANSION GAP. FILL GAP BETWEEN DIVIDER STRIPS WITH MATCHING FLEXIBLE EPOXY FILLER MATCHING THE COLOR OF THE EPOXY TERRAZZO MATRIX ADJACENT TO THE EXPANSION JOINT. THIS WILL REQUIRE MULTIPLE COLORS OF FILLER TO BE USED.
5. SEE 5/A-910 FOR TYP. TERRAZZO TRANSITION DETAIL.

2 A-910 **TERRAZZO NOTES**
(SEE ALTERNATES)



6 A-910 **SEALED CONCRETE / TERRAZZO DETAIL**
SCALE: 3" = 1'-0" (SEE ALTERNATES)

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ADD 1 ADDENDUM NO.4 8 JULY 20

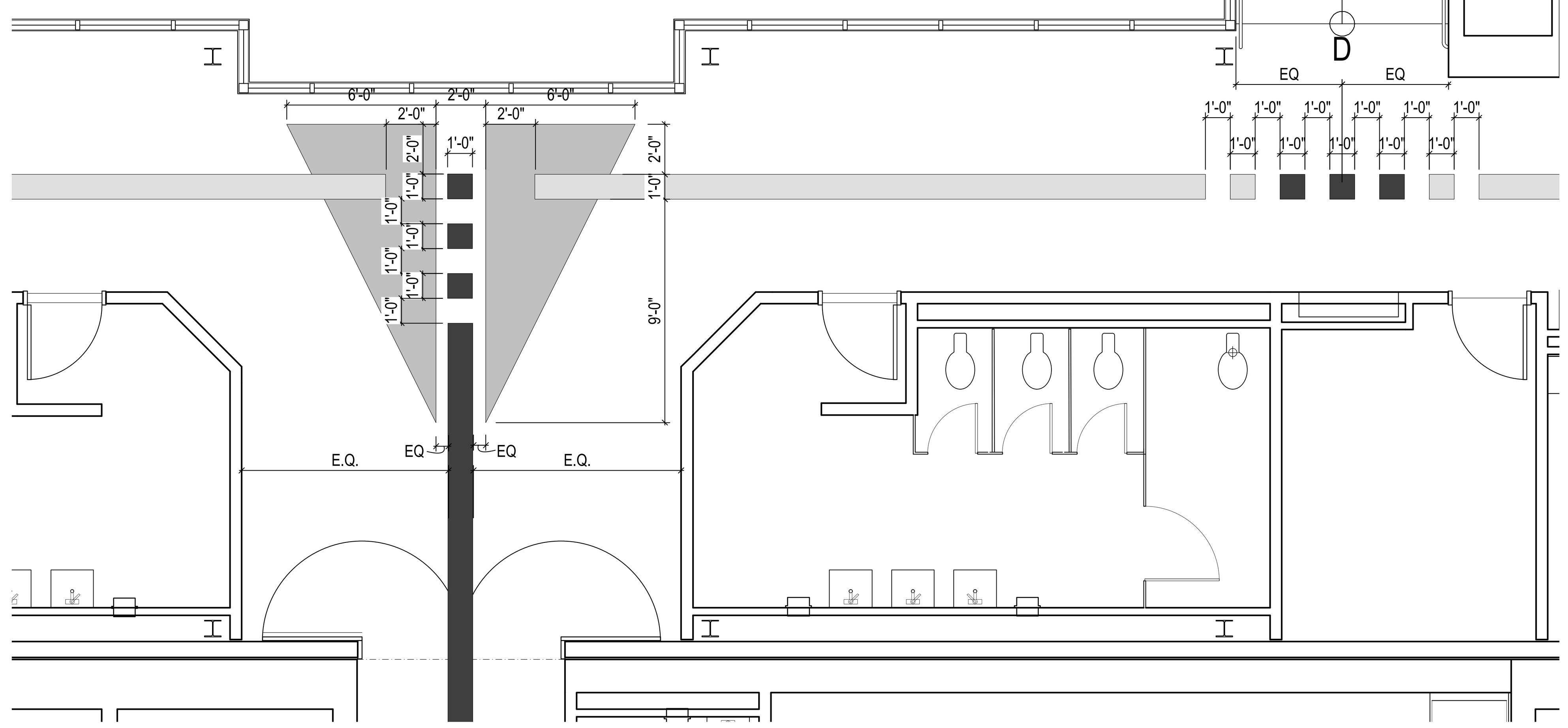
BID AND CONSTRUCTION 16 JUNE 20

FLOOR FINISH PLANS

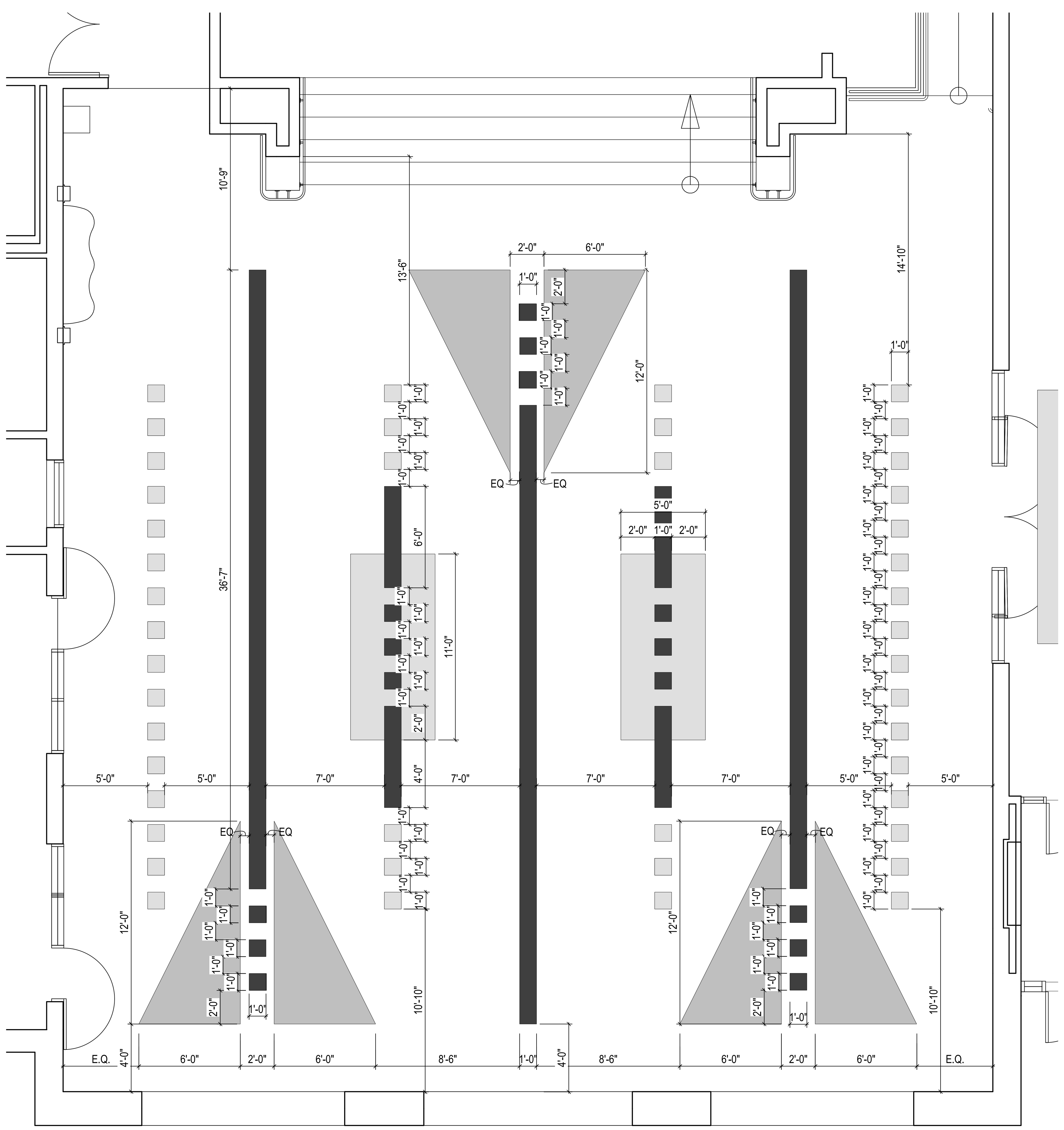
A-910

66 OF 70
PROJECT NO. 1804

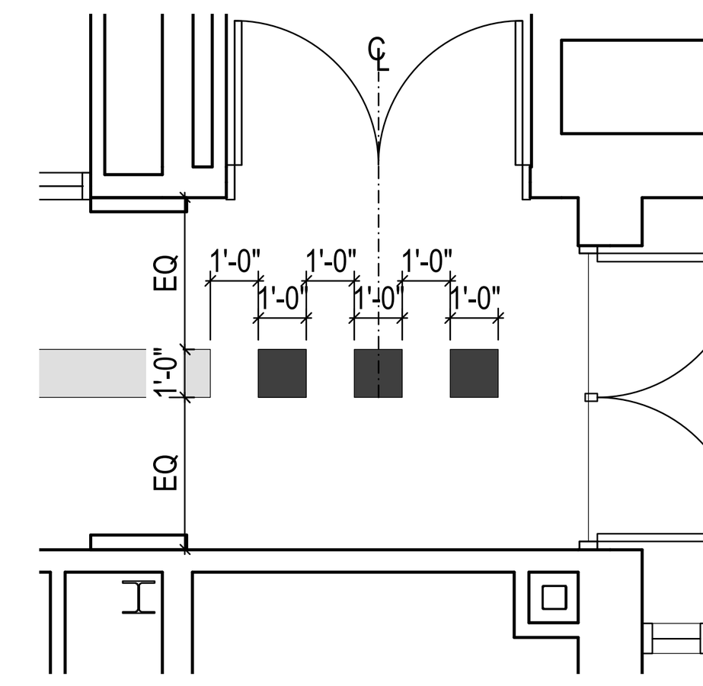
Date: 7/7/20
Time: 10:37:55 AM



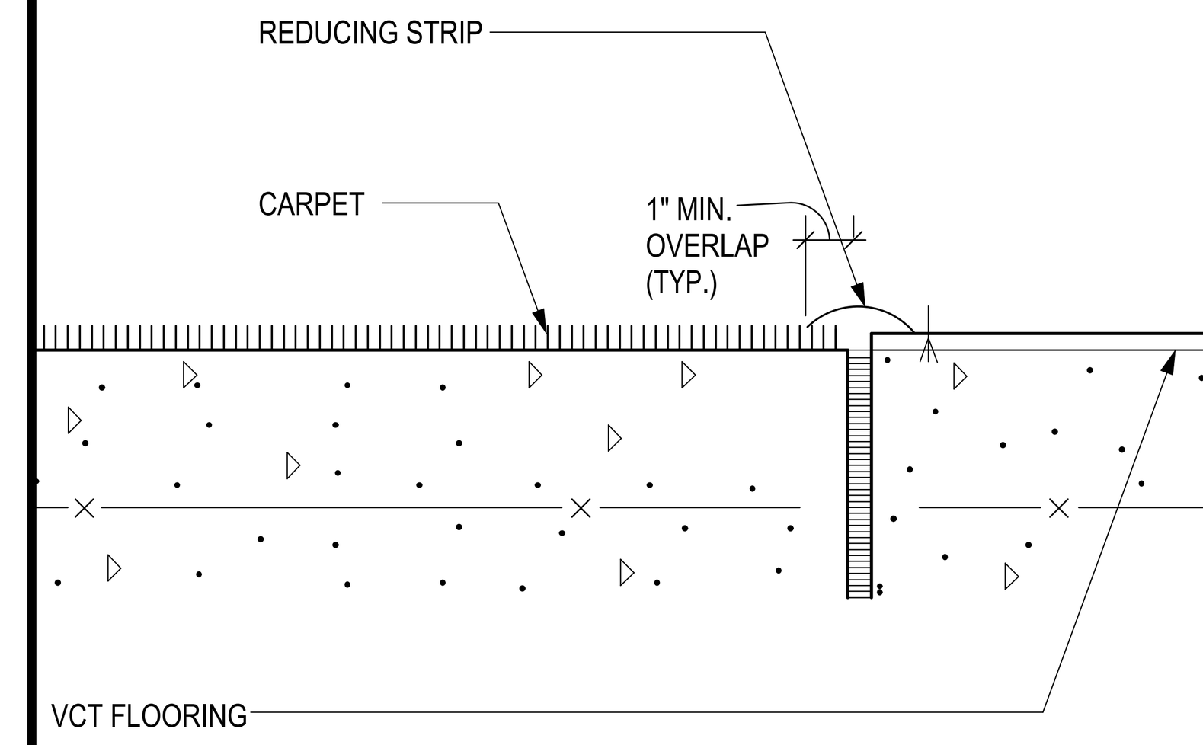
2 / A-911 **TILE PLAN AT CORR. A011**
SCALE: 1/4" = 1'-0"



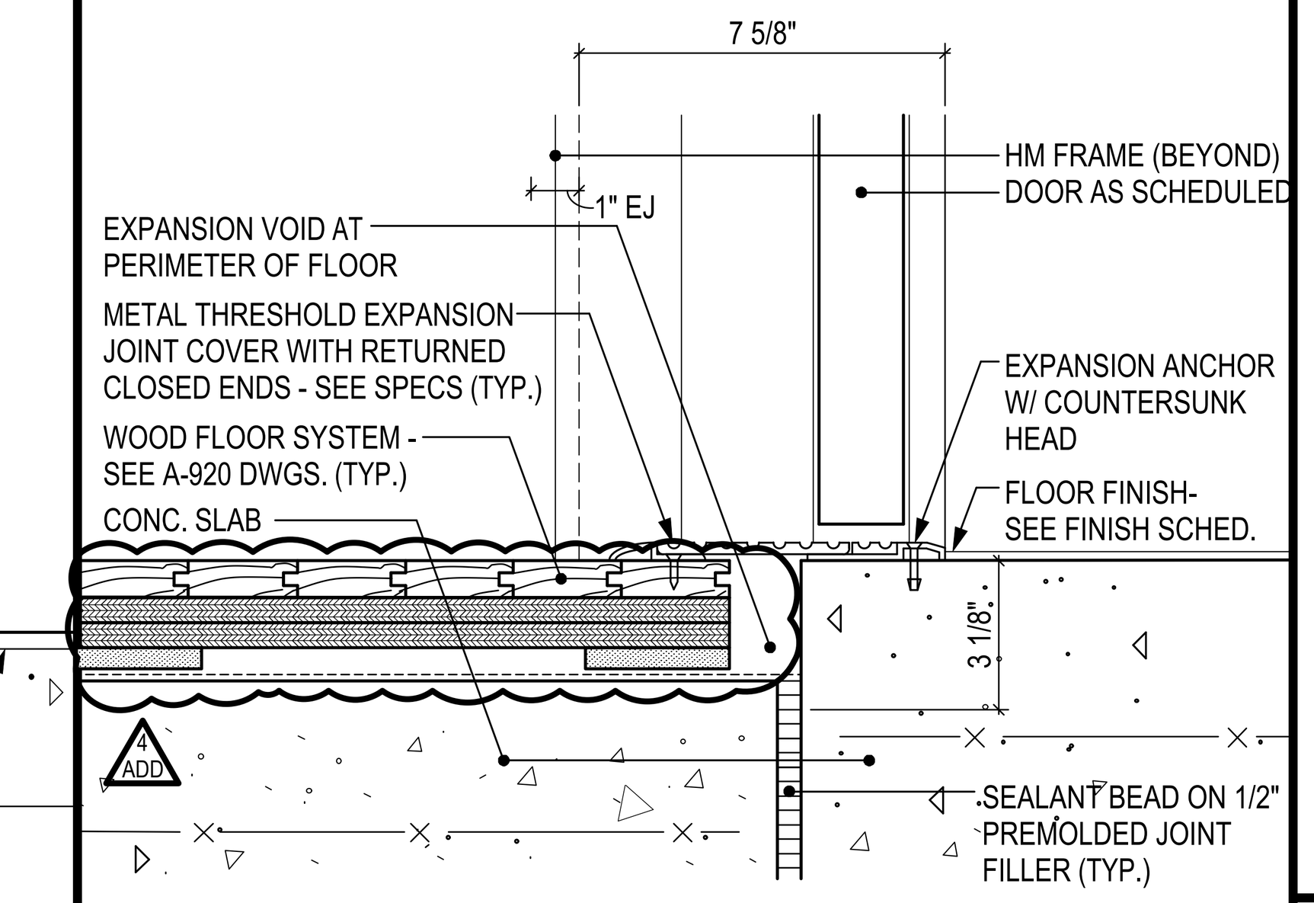
1 / A-911 **CAFETORIUM TILE PLAN**
SCALE: 1/4" = 1'-0"



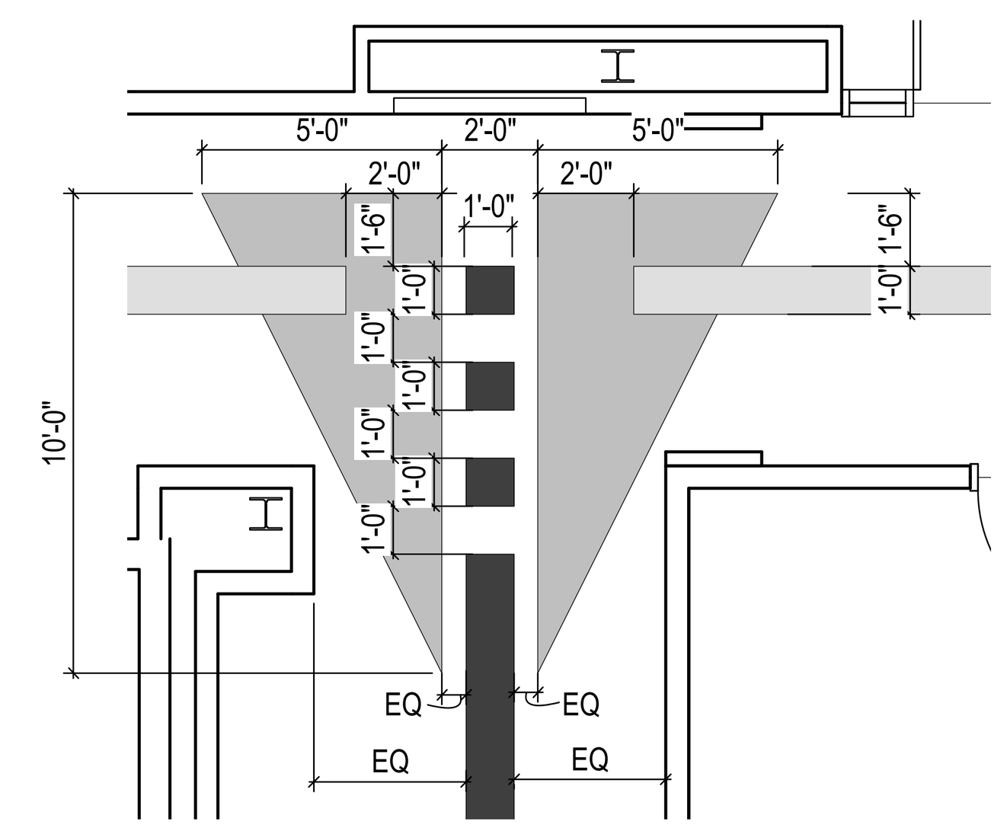
5 / A-911 **TILE PLAN AT CORR. B013**
SCALE: 1/4" = 1'-0"



7 / A-911 **CARPET/VCT**
SCALE: 3" = 1'-0"



8 / A-911 **WOOD FLOOR AT INTERIOR DOOR**
SCALE: 3" = 1'-0"



6 / A-911 **TILE PLAN AT CORR. B013**
SCALE: 1/4" = 1'-0"

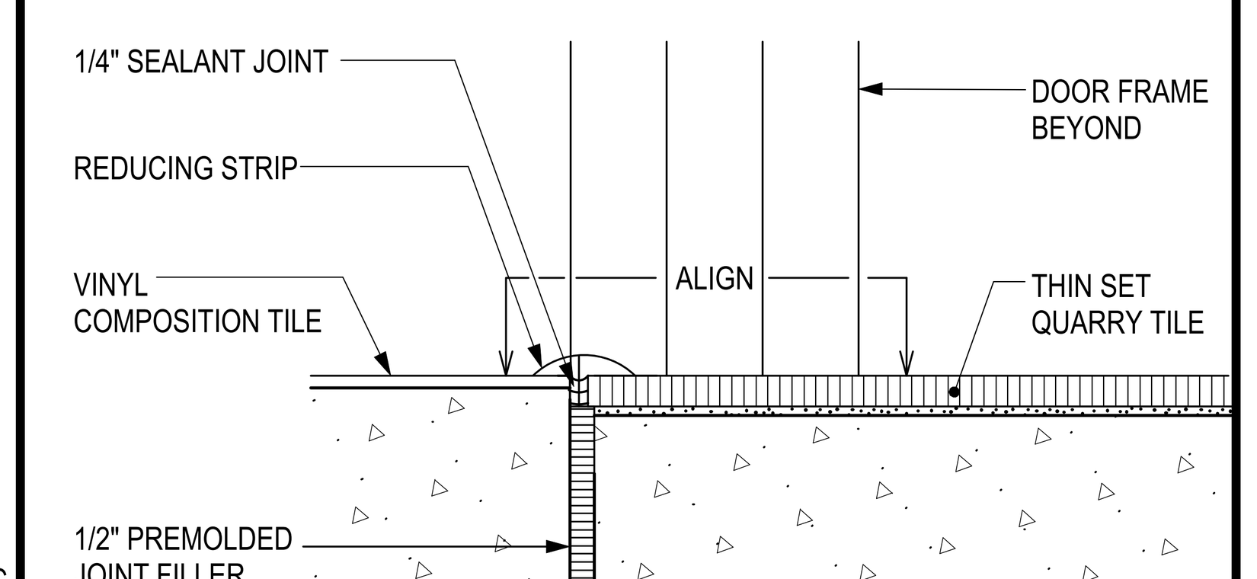
COLOR LEGEND

NOTES:

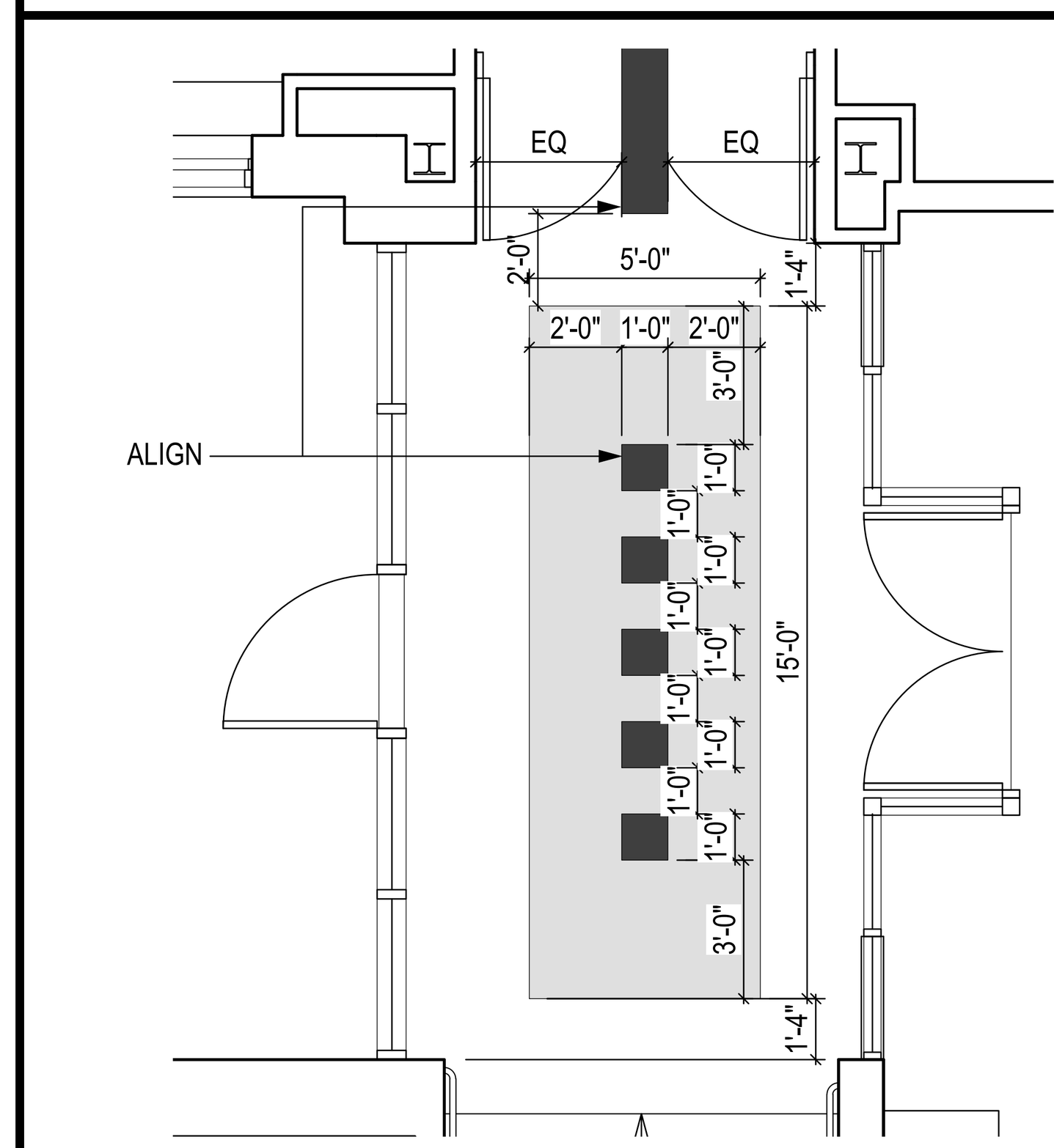
1. THIS LEGEND IS FOR SPACES THAT ARE INDICATED ON FINISH SCHEDULES TO BE PROVIDED WITH VCT AS THE BASE BID AND TO HAVE EPOXY TERRAZZO INSTALLED AS AN ALTERNATE. SEE DRAWINGS A-900 FOR LOCATIONS.
2. COLORS TO BE SELECTED BY ARCHITECT

- INDICATES COLOR (A) (U.O.N. ON PLANS) SHALL BE **51810** 'WASHED LINEN' BY ARMSTRONG OR APPROVED EQUAL BY ARCHITECT
- INDICATES COLOR (B) SHALL BE **51932** 'LUNA BLUE' BY ARMSTRONG OR APPROVED EQUAL BY ARCHITECT
- INDICATES COLOR (C) SHALL BE **51880** 'LEMON YELLOW' BY ARMSTRONG OR APPROVED EQUAL BY ARCHITECT
- INDICATES COLOR (D) SHALL BE **51812** 'MARACHINO' BY ARMSTRONG OR APPROVED EQUAL BY ARCHITECT

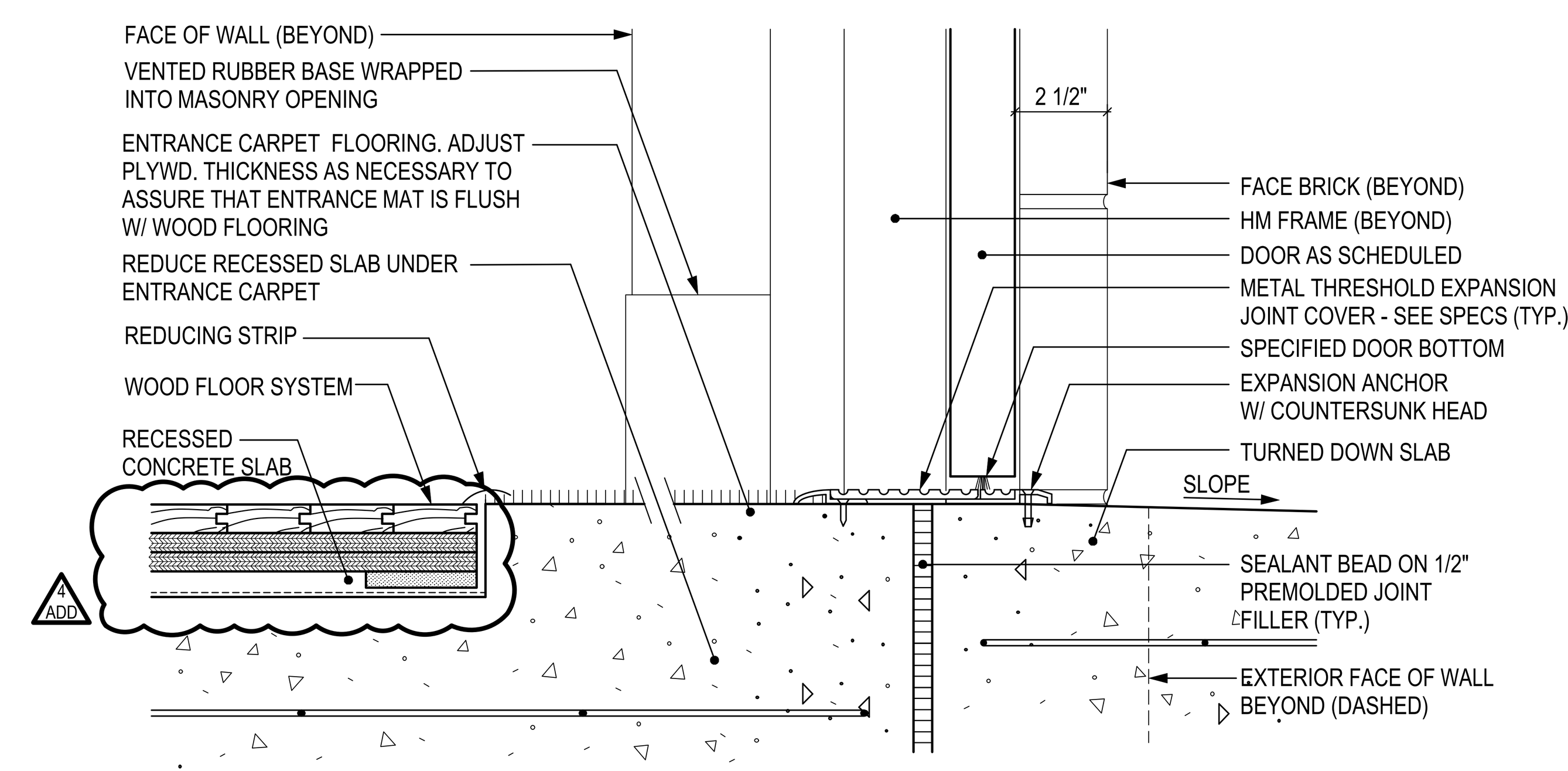
13 / A-911 **COLOR LEGEND**



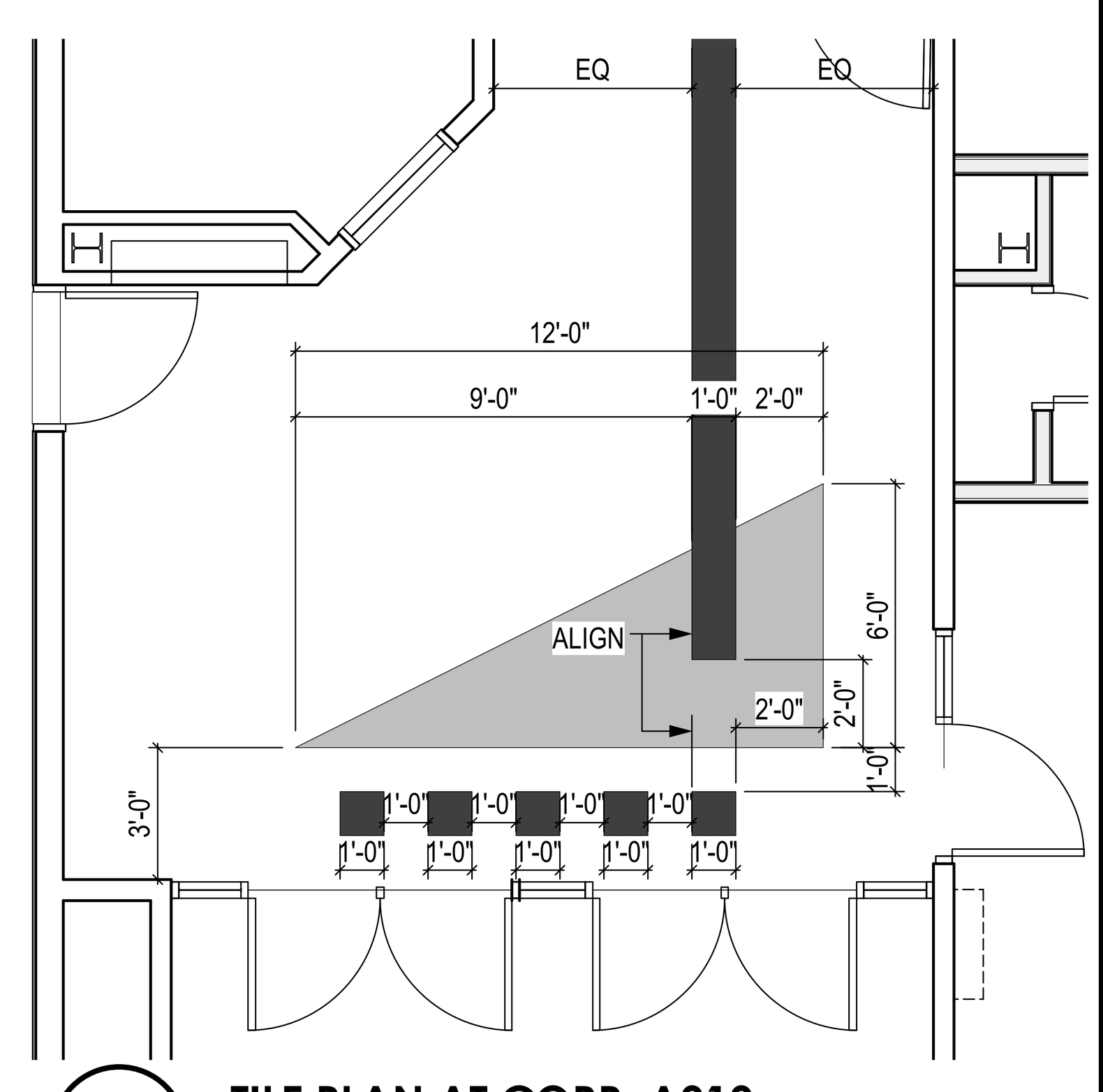
10 / A-911 **QUARRY TILE TO VCT**
SCALE: 3" = 1'-0"



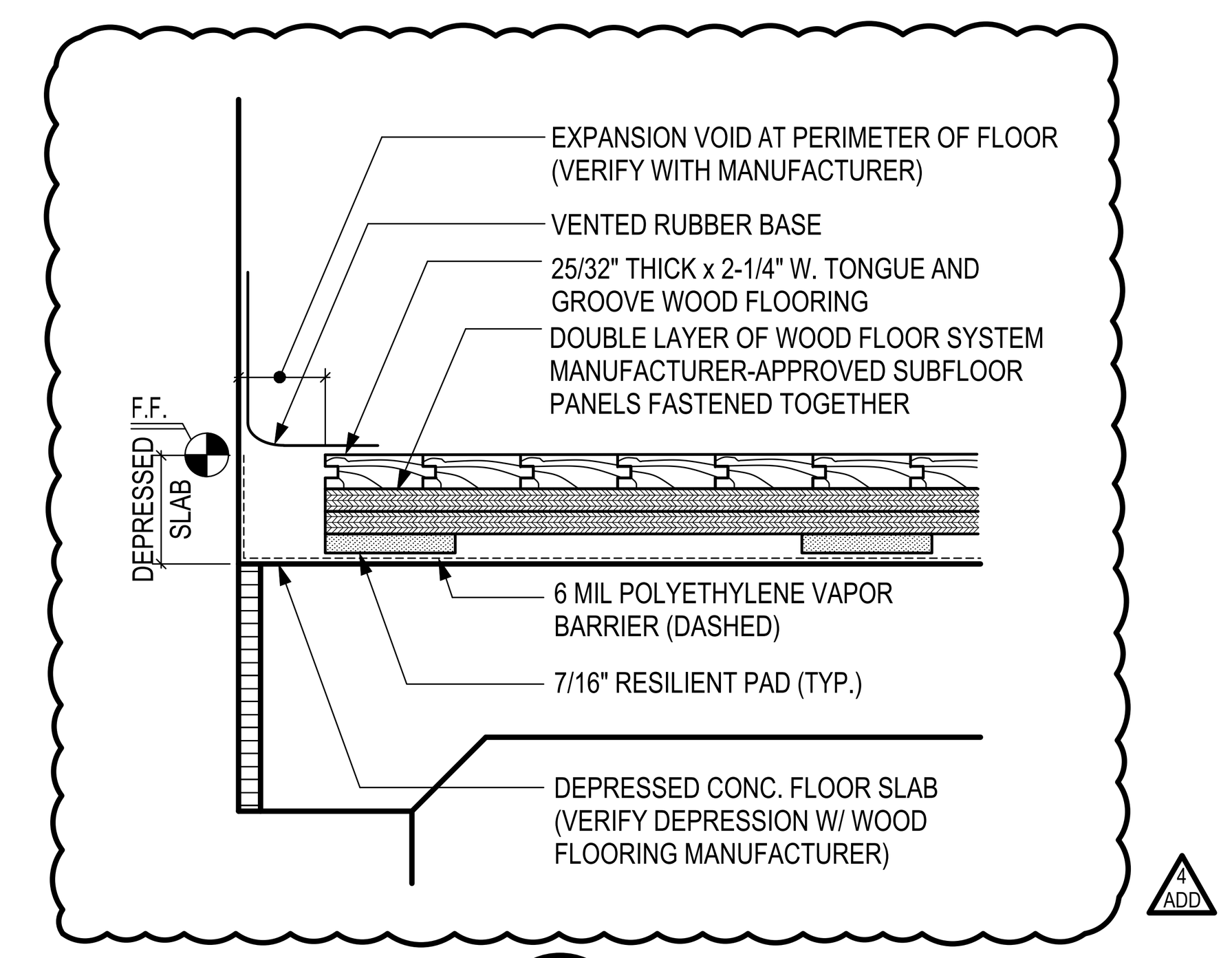
4 / A-911 **TILE PLAN AT CORR. B014**
SCALE: 1/4" = 1'-0"



11 / A-911 **THRESHOLD DETAIL AT EXTERIOR DOOR**
SCALE: 3" = 1'-0"



3 / A-911 **TILE PLAN AT CORR. A010**
SCALE: 1/4" = 1'-0"



12 / A-911 **WOOD FLOORING DETAIL**
SCALE: 3" = 1'-0"

WOOD FLOORING SYSTEM COORDINATION REQUIREMENTS:

1. COORDINATE THE FLOOR RECESS DIMENSION AS REQ'D. TO MEET WOOD FLOOR MANUFACTURER'S SPECIFIC SYSTEM REQUIREMENTS.
2. COORDINATE AND PROVIDE ALL WOOD FLOOR SYSTEM COMPONENTS, WHICH MAY DIFFER SLIGHTLY FROM THOSE SHOWN IN DETAILS.

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

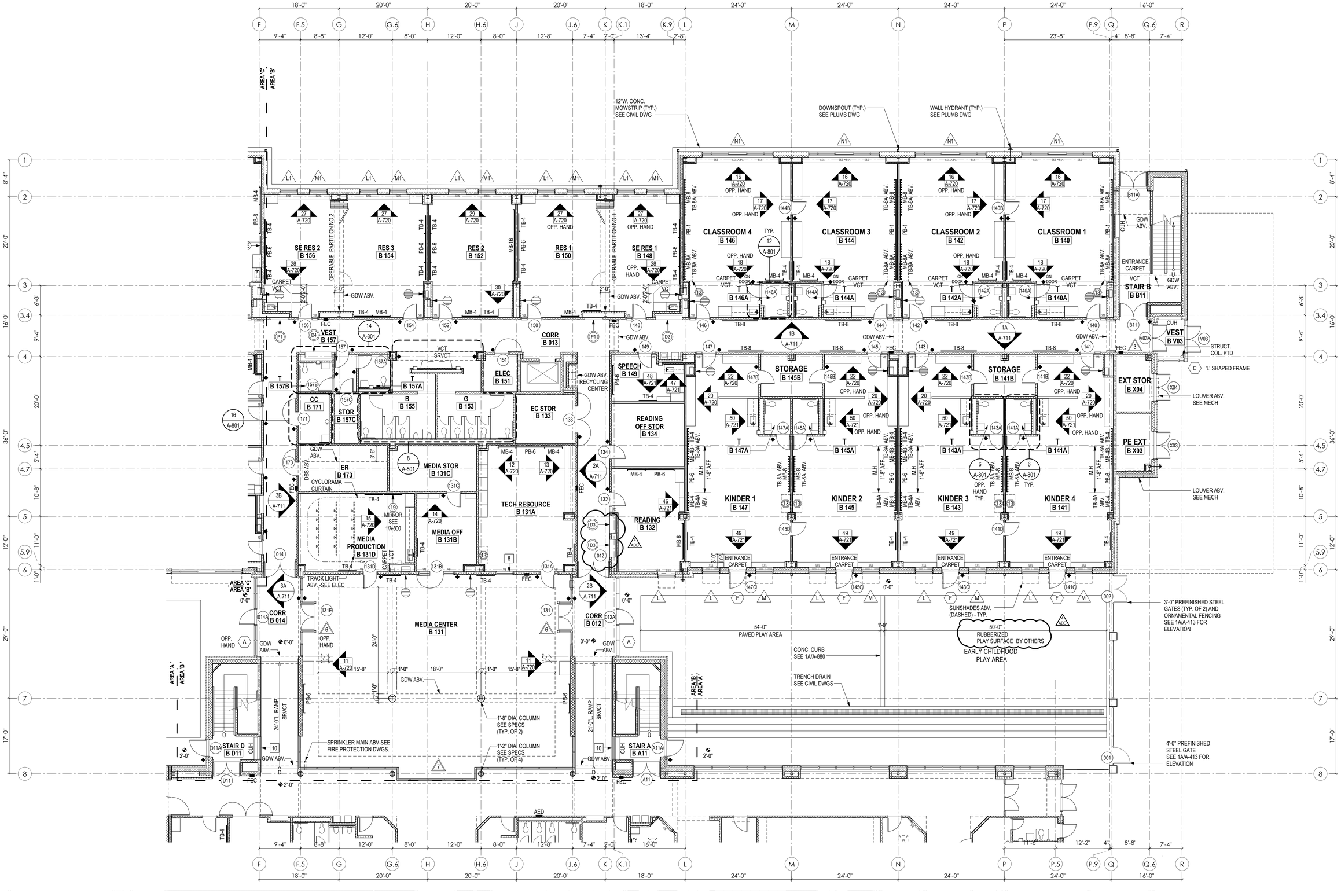
revisions

IAC CD / BLDG PERMIT SET	1 MAY 20
4 ADD ADDENDUM NO.4	8 JULY 20
BID AND CONSTRUCTION	16 JUNE 20

FLOOR FINISH PLANS

A-911

Date: 7/7/20
Time: 10:37:58 AM

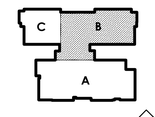


1 / A-102 **FLOOR PLAN- FIRST FLOOR - AREA 'B'**
SCALE: 1/8" = 1'-0"

0 4 8 FT

GENERAL FLOOR PLAN NOTES:

1. SEE DIMENSION PLANS FOR WALL TYPES AND REFERENCES TO ELEVATIONS AND SECTIONS.
2. SEE 2/A-011 FOR ABBREVIATIONS.
3. SEE 2/A-012 FOR LEGEND OF MATERIALS AND SYMBOLS.
4. SEE A-700 DRAWINGS FOR INTERIOR ELEVATIONS AND LOCATIONS OF FINISHES AND ACOUSTICAL TREATMENT.
5. SEE A-910 DRAWINGS FOR FLOOR FINISH PLANS.
6. SEE EQ DRAWINGS FOR ANTICIPATED FURNITURE AND EQUIPMENT LAYOUTS FOR EACH SPACE.



FIRST FLOOR KEY PLAN

REFERENCE NORTH

Date: 7/8/20
Time: 9:17:03 AM

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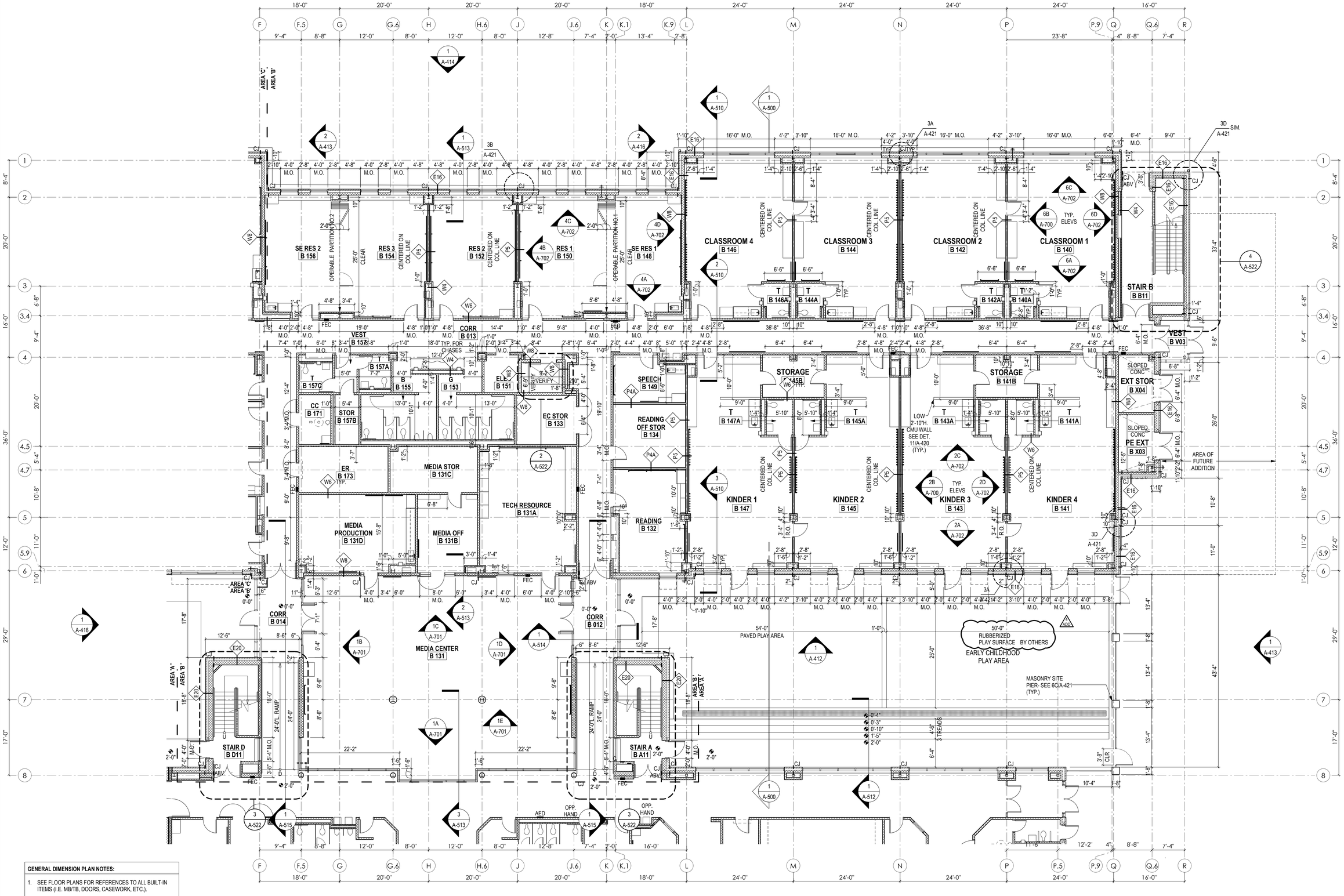
ADD1 ADDENDUM NO. 4	8 JULY 20

BID AND CONSTRUCTION
16 JUNE 20

FLOOR PLAN FIRST FLOOR AREA 'B'

A-102



GENERAL DIMENSION PLAN NOTES:

1. SEE FLOOR PLANS FOR REFERENCES TO ALL BUILT-IN ITEMS (I.E. MB/TB, DOORS, CASEWORK, ETC.).
2. SEE 2/A-011 FOR ABBREVIATIONS.
3. SEE 2/A-012 FOR LEGEND OF MATERIALS AND SYMBOLS.
4. SEE A-880 FOR SITE PAVING ADJACENT TO BUILDING.
5. WHERE WALLS PARALLEL JOISTS NOT PERMITTING MASONRY TO EXTEND UP TO DECKING, SEE DETAIL 4/A-311 FOR GDW/MTL. STUD ENCLOSURE AT BOTH SIDES OF JOIST.
6. ALL WALLS ARE FULL HEIGHT (SLAB TO DECKING ABV.).
7. SEE A-910 DRAWINGS FOR FLOORING TRANSITION DETAILS.

1 / A-102A **DIMENSION PLAN - FIRST FLOOR - AREA 'B'**
SCALE: 1/8" = 1'-0"

0 4 8 FT

FIRST FLOOR KEY PLAN — REFERENCE NORTH

Date: 7/8/20
Time: 9:17:04 AM

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
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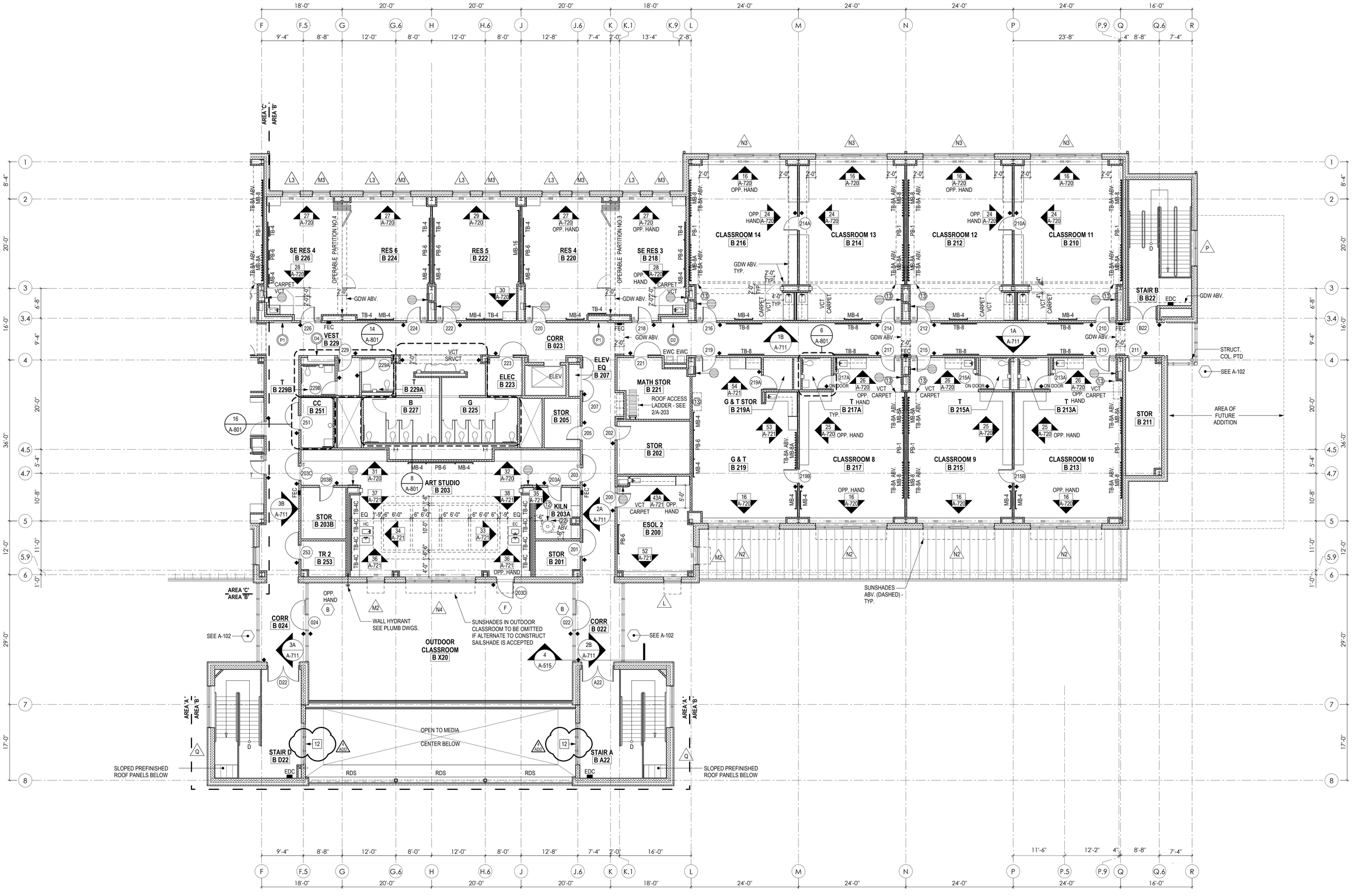
revisions
- IAC CD / BLDG PERMIT SET 1 MAY 20
- ADD'N ADDENDUM NO. 4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

DIMENSION PLAN FIRST FLOOR AREA 'B'

A-102A



GENERAL FLOOR PLAN NOTES:

1. SEE DIMENSION PLANS FOR WALL TYPES AND REFERENCES TO ELEVATIONS AND SECTIONS.
2. SEE 2/A-011 FOR ABBREVIATIONS.
3. SEE 2/A-012 FOR LEGEND OF MATERIALS AND SYMBOLS.
4. SEE A-700 DRAWINGS FOR INTERIOR ELEVATIONS AND LOCATIONS OF FINISHES AND ACOUSTICAL TREATMENT.
5. SEE A-910 DRAWINGS FOR FLOOR FINISH PLANS.
6. SEE EQ DRAWINGS FOR ANTICIPATED FURNITURE AND EQUIPMENT LAYOUTS FOR EACH SPACE.

1 / A-104 **FLOOR PLAN - SECOND FLOOR - AREA 'B'**
SCALE: 1/8" = 1'-0"

0 4 8 FT

SECOND FLOOR KEY PLAN — REFERENCE NORTH

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- BID AND CONSTRUCTION 16 JUNE 20

FLOOR PLAN SECOND FLOOR AREA 'B'

A-104

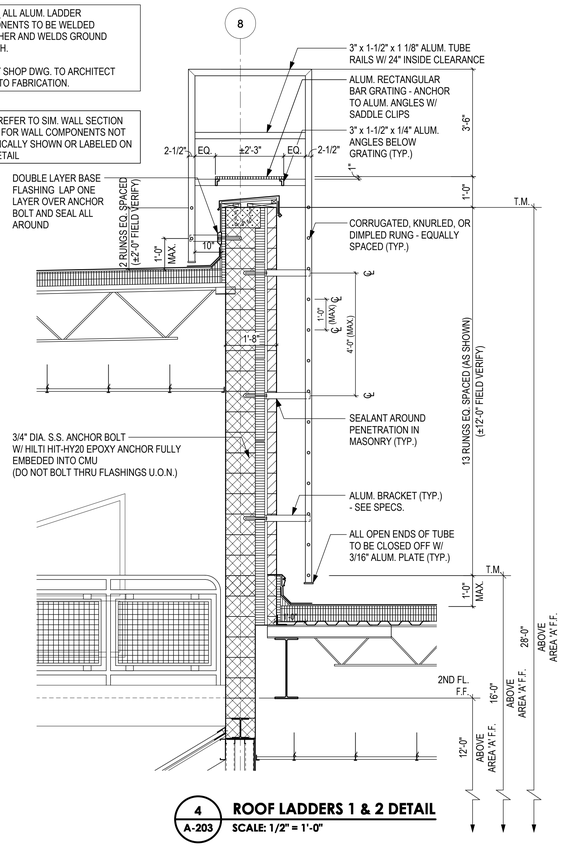
13 OF 70
PROJECT NO. 1804

Date: 7/6/20
Time: 1:27:15 PM

NOTES: ALL ALUM. LADDER COMPONENTS TO BE WELDED TOGETHER AND WELDS GROUND SMOOTH.

SUBMIT SHOP DWG. TO ARCHITECT PRIOR TO FABRICATION.

NOTE: REFER TO SIM. WALL SECTION 3/A-203 FOR WALL COMPONENTS NOT SPECIFICALLY SHOWN OR LABELED ON THIS DETAIL



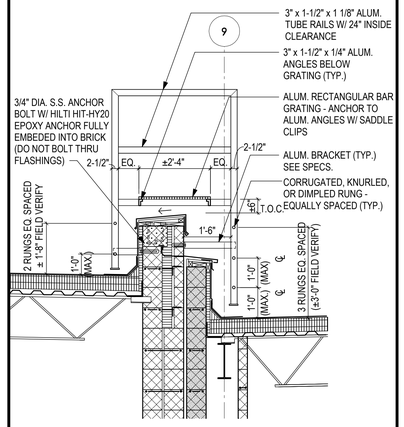
4 A-203 ROOF LADDERS 1 & 2 DETAIL
SCALE: 1/2" = 1'-0"

NOTES: ALL ALUM. LADDER COMPONENTS TO BE WELDED TOGETHER AND WELDS GROUND SMOOTH.

SUBMIT SHOP DWG. TO ARCHITECT PRIOR TO FABRICATION.

NOTES: REFER TO SIM. WALL SECTIONS 2/A-512 AND 3/A-512 FOR WALL COMPONENTS NOT SPECIFICALLY SHOWN OR LABELED ON THIS DETAIL.

UNLESS NOTED OTHERWISE, TYPICAL ROOF LADDER NOTES AND DIMENSIONS FROM DETAIL 4/A-203 ALSO APPLY TO THIS DETAIL.



3 A-203 ROOF LADDER 3 DETAIL
SCALE: 1/2" = 1'-0"

TYPICAL NOTES:

ANY MISC. ROOF PENETRATIONS SHALL BE ROUND PIPE PENETRATIONS WITH HOOD FLASHING DETAIL PER ROOFING DRAWINGS

SEE MECHANICAL DRAWINGS FOR LOCATIONS AND SIZES OF ROOF-MOUNTED CONDENSATE DRAIN PIPING.

SEE ROOFING DRAWINGS FOR ADDITIONAL INFORMATION ('R' DRAWINGS)

PREFINISHED ALUMINUM COLORS:

ALL PREFINISHED ALUM. STANDING SEAM ROOFING, PREFINISHED ALUM. SOFFIT PANELS, GUTTERS, DOWNSPOUTS, AND ALL RELATED TRIM / FLASHING COMPONENTS SHALL BE: PETERSON ALUMINUM CORP. PAC-CLAD COLOR AS NOTED ON ROOF PLAN AND ELEVATIONS.

ALL PREFINISHED ALUMINUM COPING SHALL BE 'SILVER.'

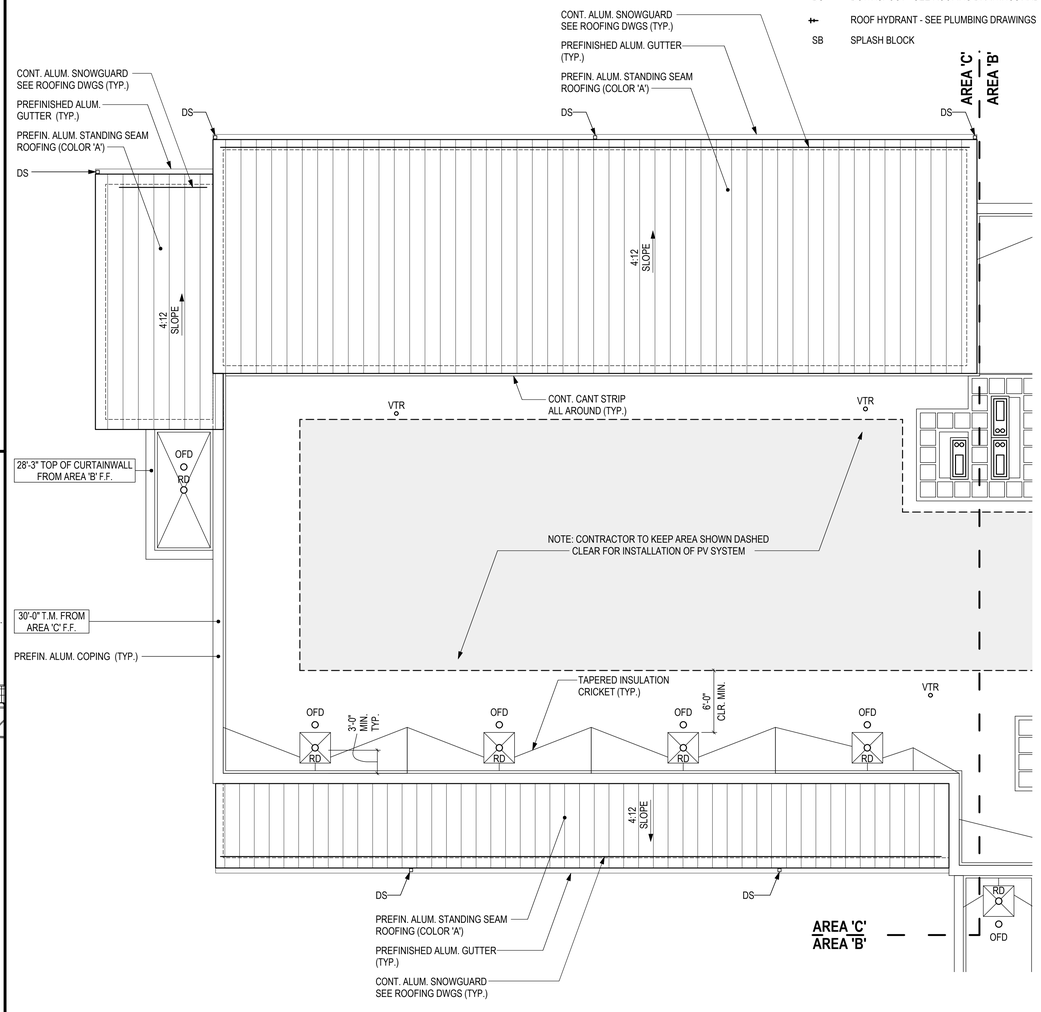
ALL GUTTERS & DOWNSPOUTS SHALL MATCH THE COLOR OF THE ADJACENT PREFINISHED ALUMINUM.

COLOR 'A' - 'CARDINAL RED'

COLOR 'B' - 'SANDSTONE'

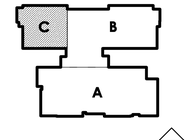
ROOF PLAN LEGEND

NOTE:	SEE MECH. PLUMB. AND ELEC. DWG'S. FOR EXACT DESCRIPTIONS AND LOCATIONS OF EQUIPMENT. SEE ROOFING DRAWING FOR ALL APPLICABLE ROOFING DETAILS
DSS	DUCTLESS SPLIT SYSTEM (OUTDOOR UNIT)
EF	EXHAUST FAN - SEE ROOFING DRAWINGS
GN	GOOSENECK - SEE ROOFING DRAWINGS
RJ	ROOF JACK - SEE ROOFING DRAWINGS
OFD	OVERFLOW ROOF DRAIN - SEE ROOFING DRAWINGS
(R)	SLAB VENT PIPE - SEE PLUMBING DRAWINGS
RD	ROOF DRAIN - SEE ROOFING DRAWINGS FOR ROOF DRAIN SUMP
VTR	PLUMBING VENT THRU ROOF - SEE ROOFING AND PLUMBING DRAWINGS
←	DIRECTION OF DOWNWARD ROOF SLOPE
# T.M.	TOP OF MASONRY WALL ELEVATIONS TAKEN FROM FIRST FLOOR FINISHED FLOOR
RD OFD	ROOF DRAIN SUMP - SEE ROOFING DRAWINGS
	HIGH PERFORMANCE DAYLIGHTING SKYLIGHT - SEE DETAIL 7/A-203
AHU	AIR HANDLING UNIT - SEE MECHANICAL DRAWINGS
AOAHU	OUTSIDE AIR - AIR HANDLING UNIT - SEE MECHANICAL DRAWINGS
DS	DOWNSPOUT - SEE ROOFING DRAWINGS AND SPECS.
	ROOF HYDRANT - SEE PLUMBING DRAWINGS
SB	SPLASH BLOCK



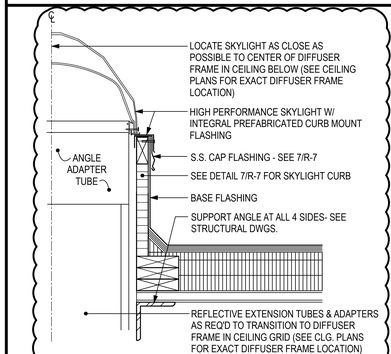
1 A-203 ROOF PLAN - AREA 'C'
SCALE: 1/8" = 1'-0"

0 4 8 FT



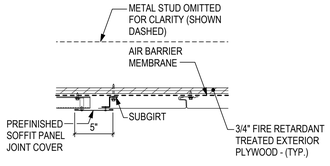
ROOF KEY PLAN

REFERENCE NORTH

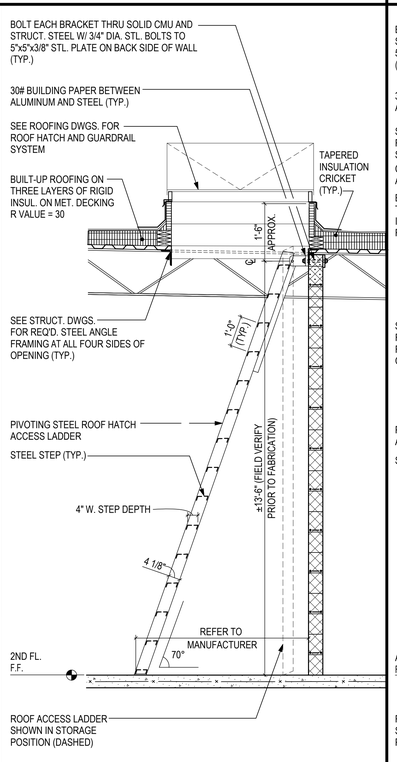


7 A-203 TYPICAL HIGH PERFORMANCE SKYLIGHT DETAIL
SCALE: 1 1/2" = 1'-0"

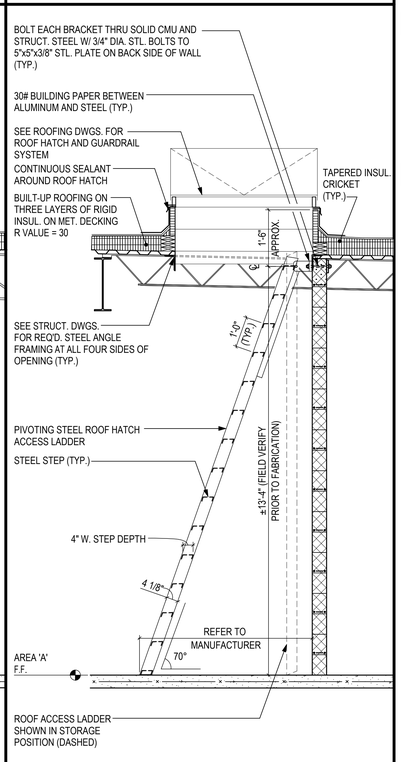
ADD



6 A-203 SOFFIT PANEL JOINT
SCALE: 1 1/2" = 1'-0"



5 A-203 MATH STORAGE B 221 ROOF ACCESS LADDER DETAIL
SCALE: 1/2" = 1'-0"



2 A-203 MECHANICAL ROOM A 126 ROOF ACCESS LADDER DETAIL
SCALE: 1/2" = 1'-0"

Date: 7/7/20
Time: 1:12:17 PM

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

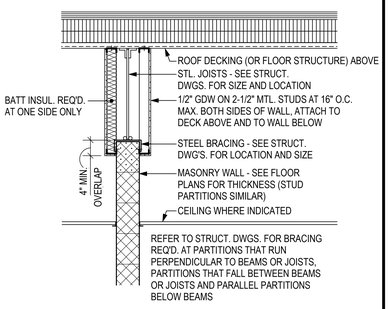
revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
ADD ADDENDUM NO. 4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

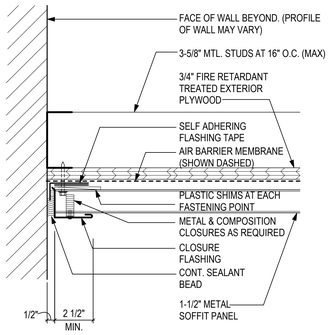
ROOF PLAN AREA 'C'

A-203

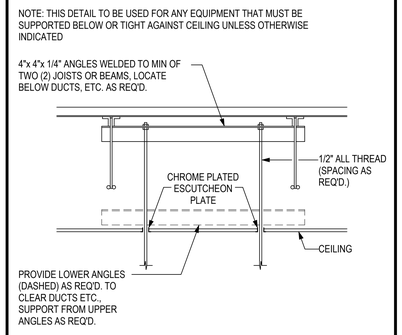
19 OF 70
PROJECT NO. 1804



4 / A-311 — WALL CLOSURE AT JOISTS
SCALE: 3/4" = 1'-0"



3 / A-311 — NON-VENTED METAL PANEL SOFFIT DETAIL
SCALE: 3" = 1'-0"



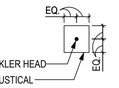
2 / A-311 — EQUIPMENT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"

CEILING PLAN LEGEND

- GYPSUM DRYWALL
- 2 x 2 MOISTURE RESISTENT CEILING PANELS
- 2 x 2 ACOUSTICAL CEILING PANELS
- 2 x 2 LOW FREQUENCY CEILING PANELS
- RADIUSED SOUND DIFFUSING CEILING PANEL - ROTATE AS SHOWN ON DWGS
- GYPSUM BOARD TILE
- INDICATES STARTING POINT OF CLG. GRID USING WHOLE PANELS
- INDICATES END TILE WHICH IS EQUAL IN SIZE TO TILE AT OPPOSITE END OF RUN
- EXIT SIGN - SEE ELEC. DWGS.
- LINEAR PENDANT LIGHT FIXTURE - SEE ELEC. DWGS
- CEILING MOUNTED SPEAKER - SEE ELEC. DWGS.
- 2' x 2' RECESSED LED LIGHT FIXTURE - SEE ELEC. DWGS.
- RECESSED LIGHT FIXTURE - SEE ELEC. DWGS.
- RECESSED LED LIGHT FIXTURE - SEE ELEC. DWGS.
- HIGH PERFORMANCE DAYLIGHTING SKYLIGHT - SEE ROOF PLANS
- CLG. SUPPLY AIR DIFFUSER - SEE MECH. DWGS.
- CLG. RETURN AIR DIFFUSER - SEE MECH. DWGS.
- 8'-10" — INDICATES CEILING HEIGHT ABOVE FINISHED FLOOR IN SPACE INDICATED
- CJ — GYPSUM DRYWALL CONSTRUCTION JOINT SEE DETAIL 5/A-301
- TRACK LIGHTING - SEE ELEC. DWGS.
- PENDENT MOUNTED LED LIGHT FIXTURE - SEE ELEC. DWGS.
- VRT — VARIABLE REFRIGERANT TERMINAL (MTD. IN CLG.) - SEE MECH. DWGS.
- CUH — CEILING UNIT HEATER (MTD. IN CLG.) - SEE MECH. DWGS.
- OUTLET(S) MTD. IN CLG.- SEE ELEC. AND TELECOM. DWGS. FOR ADDITIONAL REQUIREMENTS AND EXACT LOCATIONS
- ACOUSTICALLY LINED PLENUM SLOT DIFFUSER - SEE MECH. DWGS.
- RETRACTABLE CORD REEL - SEE ELEC. DWGS.

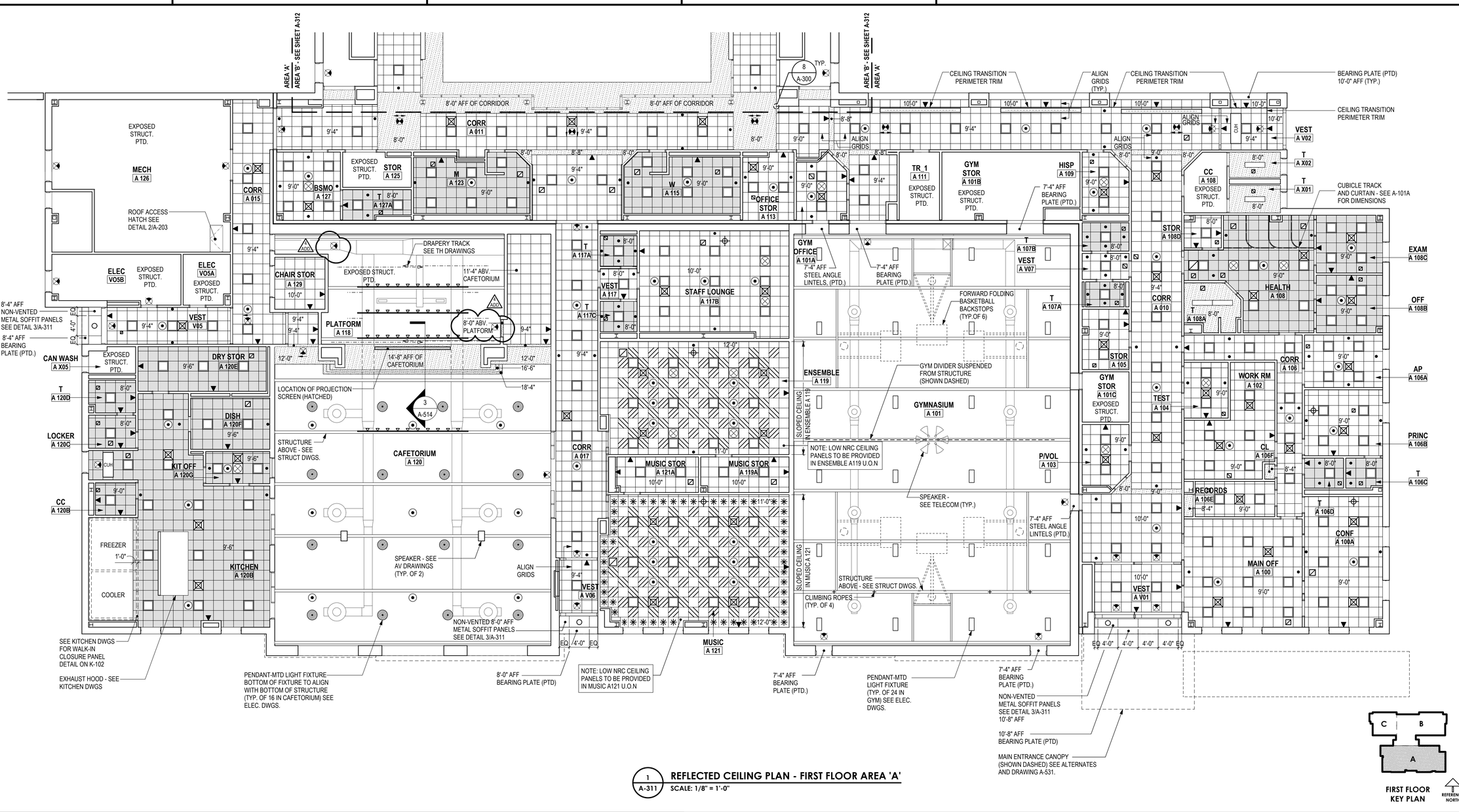
CEILING PLAN NOTES

1. CLG. GRIDS, PANELS, ETC. SHALL BE LAID OUT EXACTLY AS SHOWN ON REFLECTED CEILING PLANS. CUT TILES ONLY WHERE INDICATED. LIGHT FIXTURES, GRILLES, SPEAKERS, HEAT AND SMOKE DETECTORS, ETC. SHALL BE LOCATED IN CENTER OF PANELS UNLESS OTHERWISE INDICATED. REFER TO MECHANICAL, ELECTRICAL AND TELECOMMUNICATION PLANS FOR EXACT ITEM DESCRIPTIONS AND FOR ITEMS NOT SHOWN ON CEILING PLANS.
2. UNLESS OTHERWISE NOTED, ALL CLG. DROPS ARE MADE W/ GYPSUM DRYWALL BULKHEADS SIMILAR TO DETAIL 4/A-300 WITH A MINIUM 4 5/8" HORIZONTAL RETURN.
3. SEE MECHANICAL DWGS. FOR SPRINKLER NOTES. ACCEPTABLE LOCATIONS WITHIN INDIVIDUAL PANELS ARE AS INDICATED BELOW:



4. SEE ELECTRICAL, MECHANICAL, TELECOMM AND AV DWGS. FOR ALL ELEC. DEVICES, LIGHTS, MECH, REGISTERS ETC. NOT INDICATED IN SPACES WITH EXPOSED STRUCT. CLG.
5. ALL EXPOSED HUNG PLATES ARE PAINTED - TYPICAL.
6. WHEN CEILING HEIGHTS INDICATED ON CEILING PLANS COINCIDE W/ MASONRY MORTAR JOINTS, EXACT HEIGHT SHALL BE TO TOP OF ADJACENT MORTAR JOINT.
7. WHERE MASONRY PARTITIONS CANNOT BE RUN UP TO ROOF DECK DUE TO ROOF JOIST LOCATIONS - SEE DETAIL FOR REQUIRED GDW CLOSURE.
8. CEILING HEIGHTS ARE INDICATED FROM THE TOP OF THE FINISH FLOOR FOR EACH SPACE U.O.N.

1A — CEILING PLAN LEGEND AND NOTES



1 / A-311 — REFLECTED CEILING PLAN - FIRST FLOOR AREA 'A'
SCALE: 1/8" = 1'-0"

FIRST FLOOR KEY PLAN — REFERENCE NORTH

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LICENSE NO. 0017164 EXPIRATION DATE: 2021-01-11

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
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HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
- IAC CD / BLDG PERMIT SET 1 MAY 20
- ADD 1 ADDENDUM NO. 4 8 JULY 20

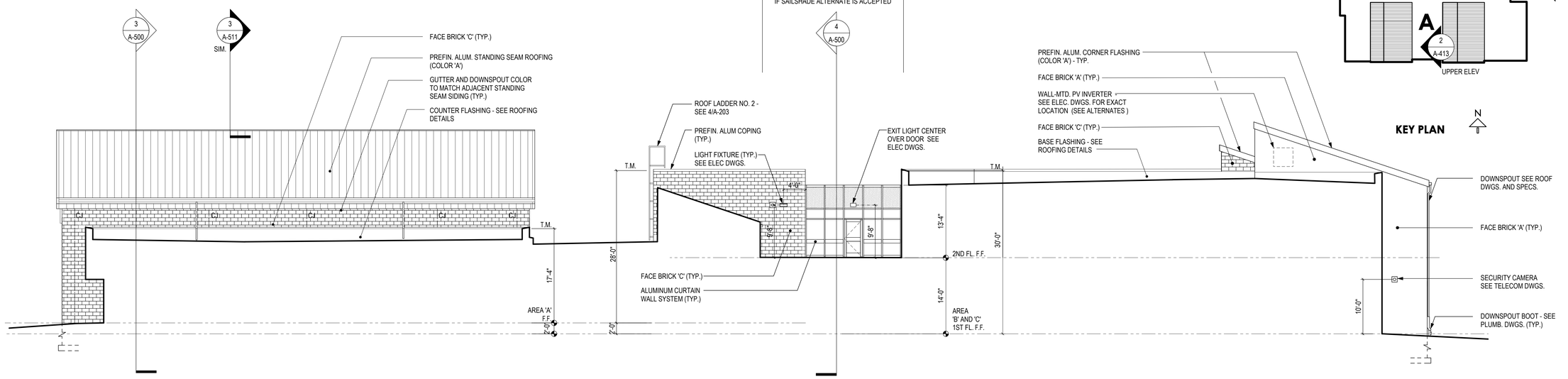
BID AND CONSTRUCTION 16 JUNE 20

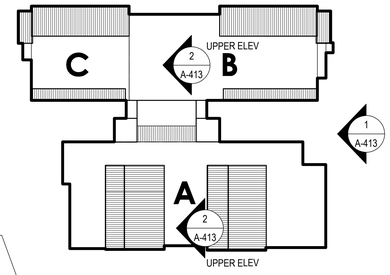
REFLECTED CEILING PLAN FIRST FLOOR AREA 'A'

A-311

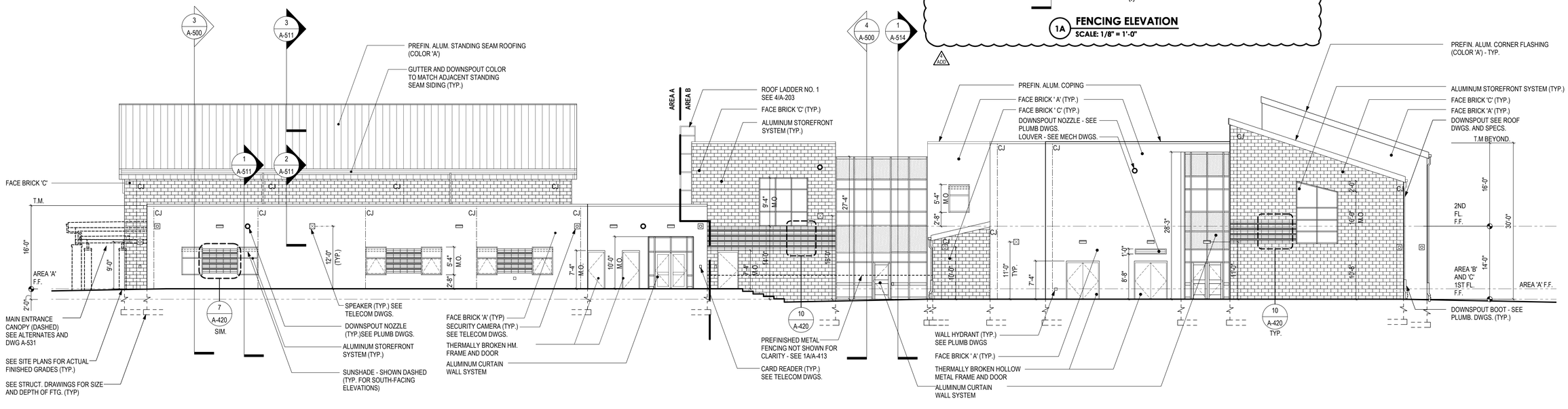
21 OF 70
PROJECT NO. 1804

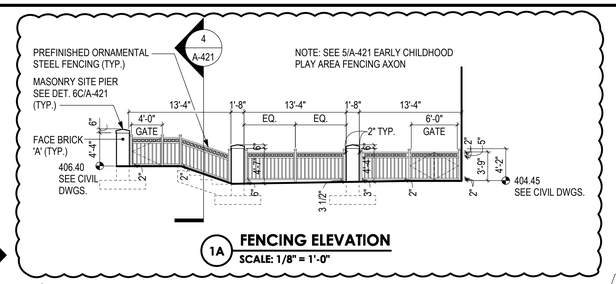
Date: 7/6/20
Time: 1:52:42 PM





2 / A-413 EAST-FACING UPPER ELEVATION
SCALE: 1/8" = 1'-0"





1A FENCING ELEVATION
SCALE: 1/8" = 1'-0"

1 / A-413 EAST-FACING ELEVATION - AREA 'A' AND 'B'
SCALE: 1/8" = 1'-0"

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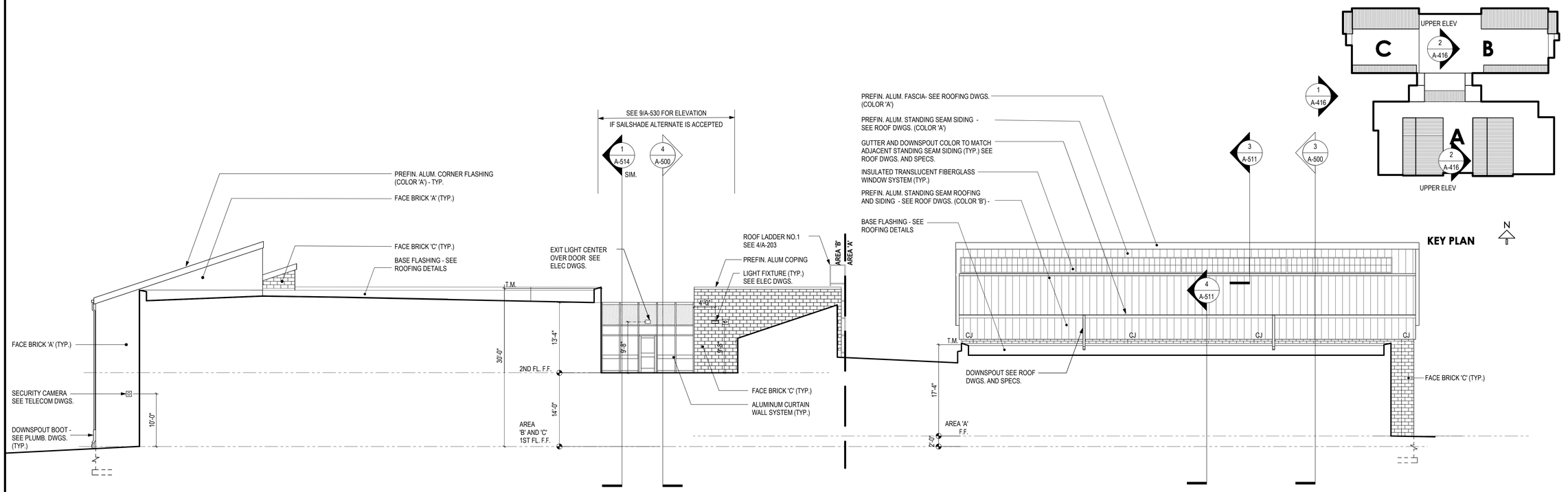
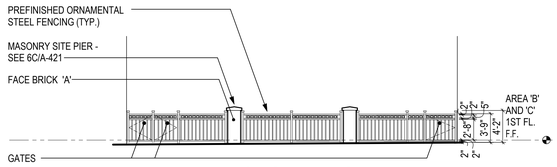
EAST-FACING EXTERIOR ELEVATIONS

A-413

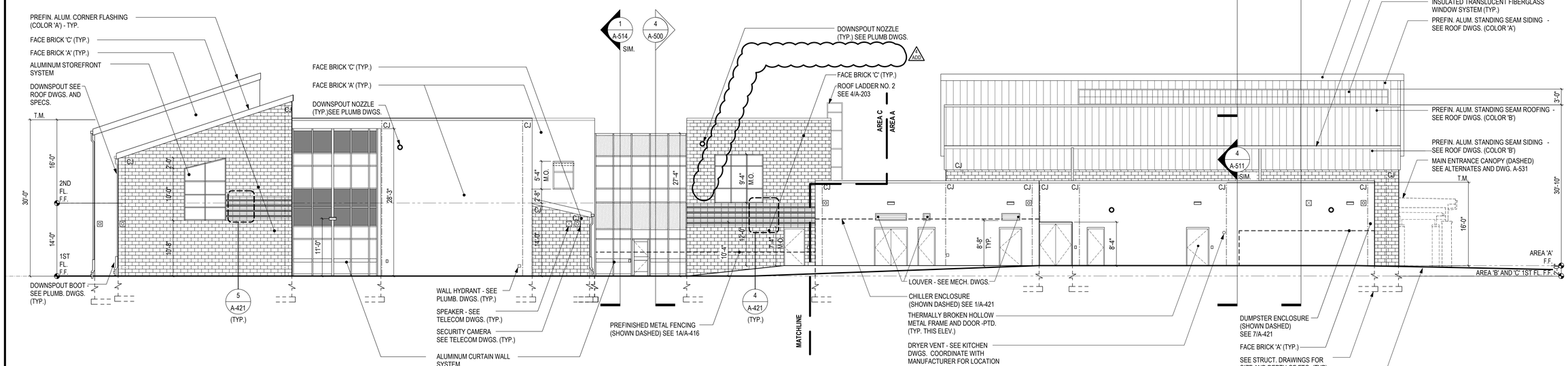
Date: 7/7/20
Time: 12:52:24 PM



2 A-416 WEST-FACING UPPER ELEVATION
SCALE: 1/8" = 1'-0"



1A FENCING ELEVATION
SCALE: 1/8" = 1'-0"



1 A-416 WEST-FACING ELEVATION
SCALE: 1/8" = 1'-0"

Date: 7/16/20
Time: 4:35:47 PM

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
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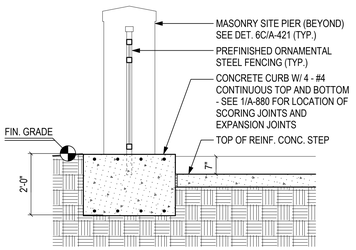
BID AND CONSTRUCTION 16 JUNE 20

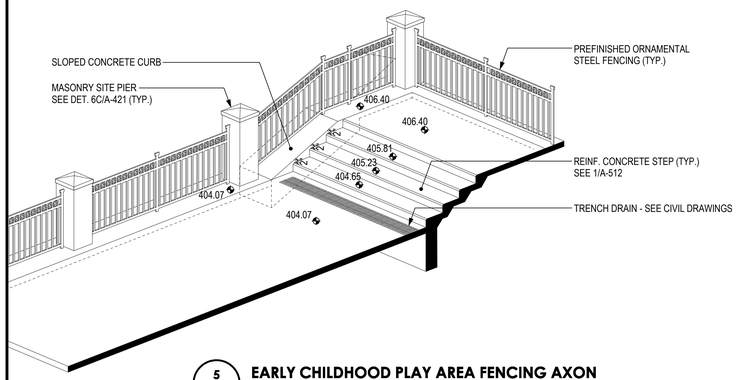
WEST-FACING EXTERIOR ELEVATIONS

A-416

30 OF 70
PROJECT NO. 1804

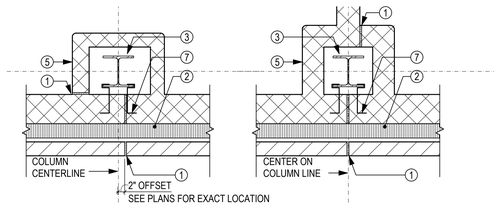


4 A-421 SLOPED CONCRETE CURB DETAIL
SCALE: 1/2" = 1'-0"



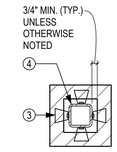
5 A-421 EARLY CHILDHOOD PLAY AREA FENCING AXON
SCALE: 1/4" = 1'-0"

ADD1

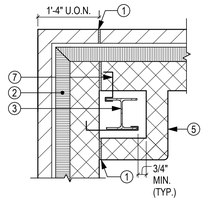


3A PLAN DETAIL (TYP. FOR AREA 'A')

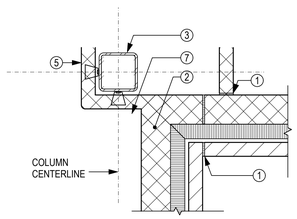
3B PLAN DETAIL (TYP. FOR AREA 'B' AND 'C')



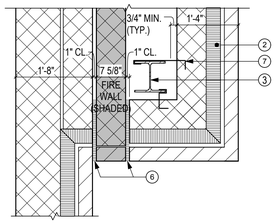
3C PLAN DETAIL (FOR MAIN ENTRACE CANOPY COLUMNS - SEE ALTERNATES)



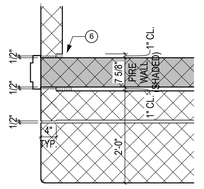
3D PLAN DETAIL



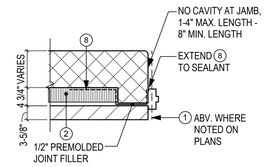
3E PLAN DETAIL



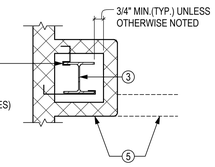
3E PLAN DETAIL



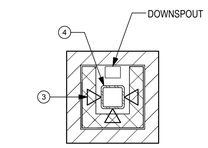
3F PLAN DETAIL



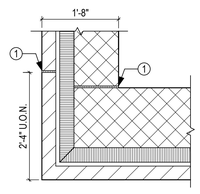
3K PLAN DETAIL (AT EXTERIOR MASONRY OPENING JAMBS)



3G PLAN DETAIL (TYP. FOR ALL INTERIOR COLUMNS)



3H PLAN DETAIL (FOR MAIN ENTRANCE CANOPY COLUMNS - SEE ALTERNATES)

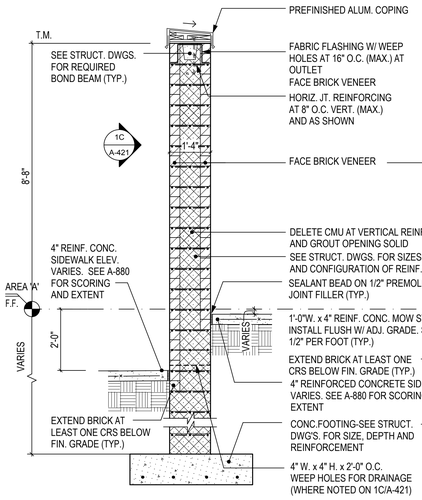


3J PLAN DETAIL

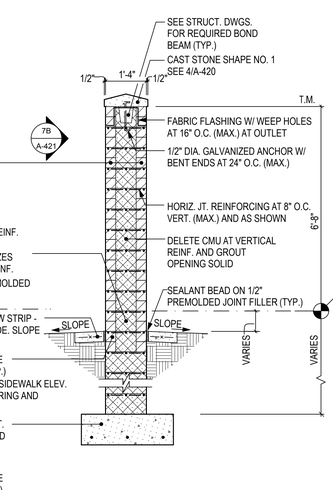
LEGEND

1. 1/2" C.J.-SEE DET. 5/A-420, EXACT LOCATION OF C.J. INDICATED ON PLANS AND ELEVS.
2. 3-3/4" SPRAY POLYURETHANE FOAM (SPF) INSULATION
3. TYPICAL-ALL STRUCTURAL STEEL COLUMNS (WITHIN INTERIOR & EXTERIOR WALLS) WRAPPED WITH BUILDING PAPER AND ADJACENT MASONRY HELD 3/4" CLEAR (MIN.) FROM COLUMN
4. ADJUSTABLE ANCHORS WITH TRIANGLE TIES AT 16" O.C. VERTICAL-MAX.(TYP.)
5. CONFIGURATION OF MASONRY WALLS AND CHASES MAY VARY AT SIMILAR CONDITIONS- SEE FLOOR PLANS
6. 1" E.J.-SEE DET. 13/A-420
7. COLUMN FLANGE ANCHORS AT 16" O.C. VERT.MAX.(TYP.)
8. AIR BARRIER MEMBRANE 4" MIN.

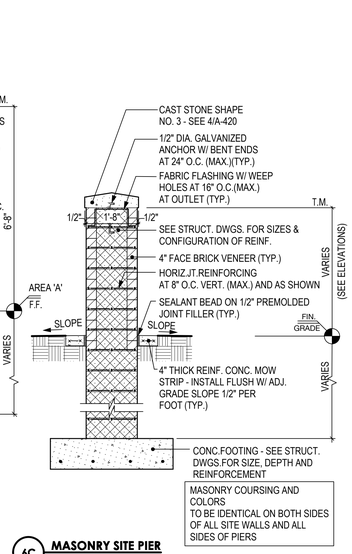
3 A-421 TYPICAL MASONRY PLAN DETAILS
SCALE: 3/4" = 1'-0"



6A OUTDOOR EQUIPMENT ENCLOSURE

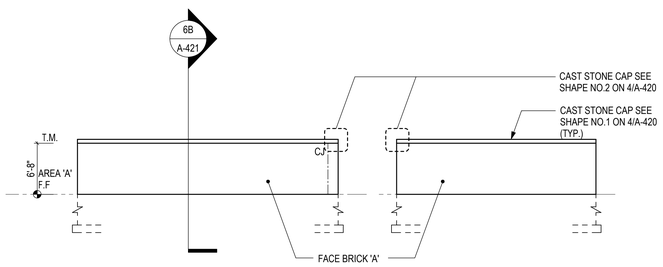


6B SERVICE AREA



6C MASONRY SITE PIER

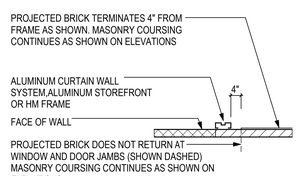
6 A-421 SITE WALL DETAILS
SCALE: 1/2" = 1'-0"



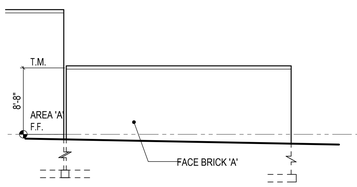
7A NORTH-FACING ELEVATION

7B EAST-FACING ELEVATION

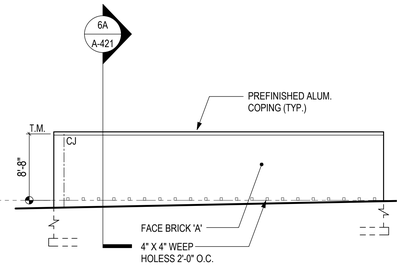
7 A-421 DUMPSTER ENCLOSURE ELEVATIONS
SCALE: 1/8" = 1'-0"



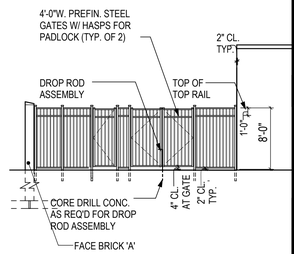
2 A-421 PROJECTED BRICK DETAIL
SCALE: 1/2" = 1'-0"



1A NORTH-FACING ELEVATION



1B WEST-FACING ELEVATION



1C SOUTH-FACING ELEVATION

1 A-421 OUTDOOR EQUIPMENT ENCLOSURE ELEVATIONS
SCALE: 1/8" = 1'-0"

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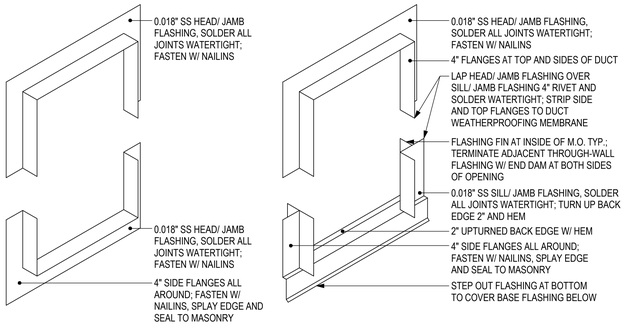
MASONRY DETAILS

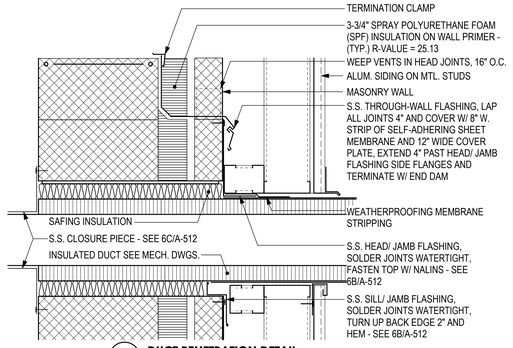
A-421

32 OF 70
PROJECT NO. 1804



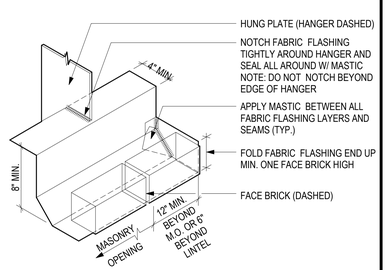
6C INTERIOR DUCT PENETRATION CLOSURE DETAIL
N.T.S.

6B EXTERIOR FLASHING DETAIL
N.T.S.

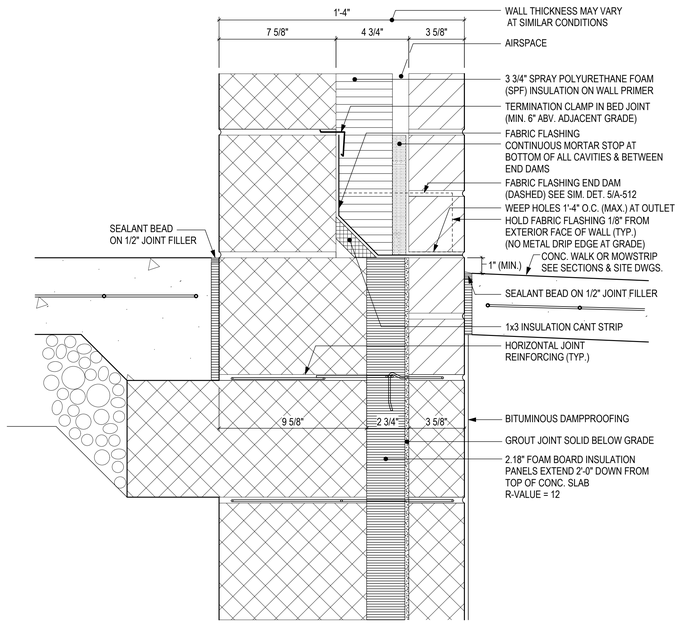


6A DUCT PENETRATION DETAIL
SCALE: 1 1/2" = 1'-0"

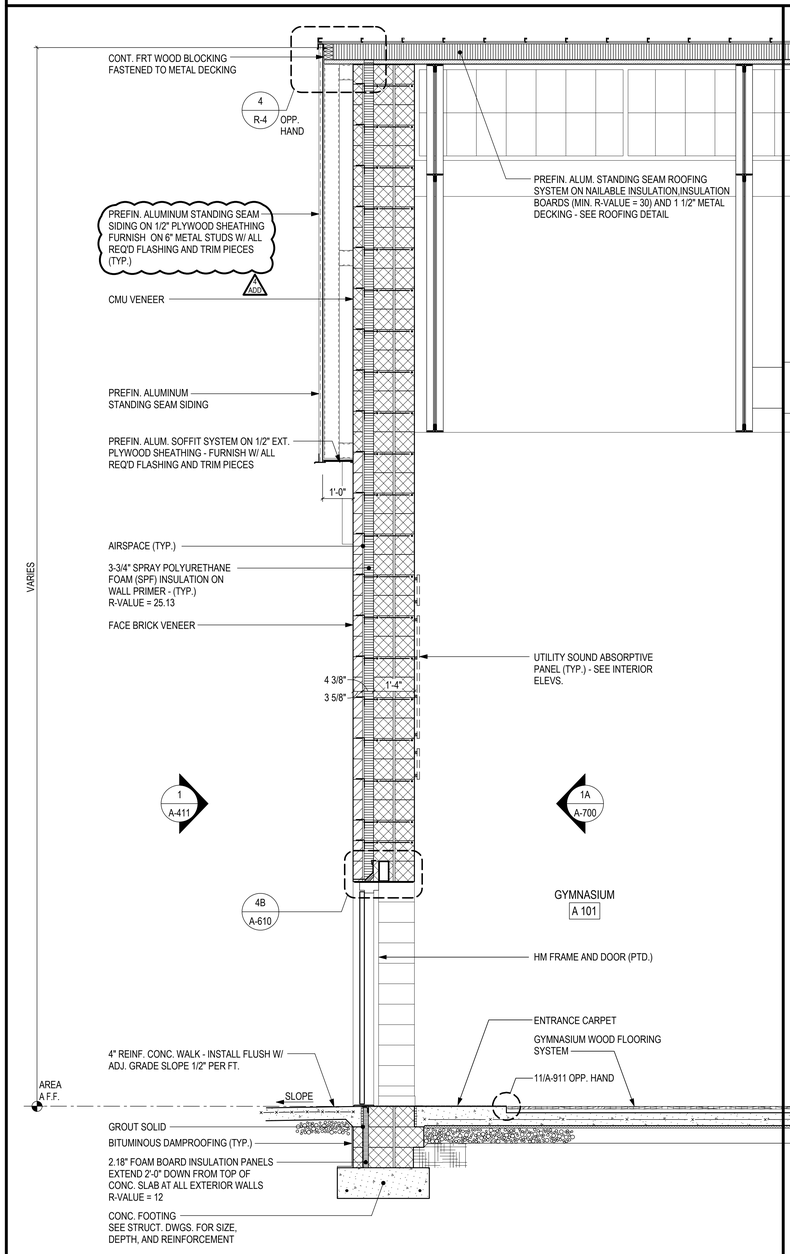
6 DUCT PENETRATION DETAILS
A-512



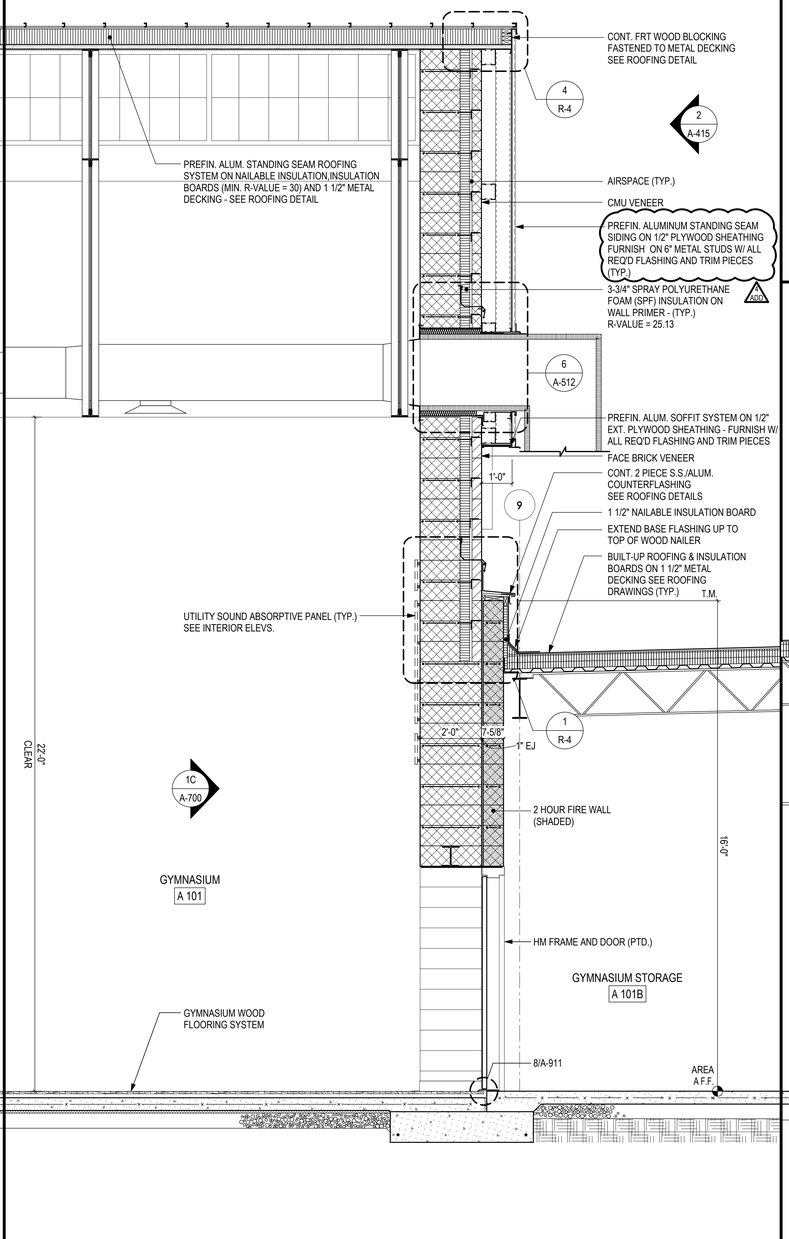
5 TYP. FABRIC FLASHING END DAM DETAIL
A-512 SCALE: 1 1/2" = 1'-0"



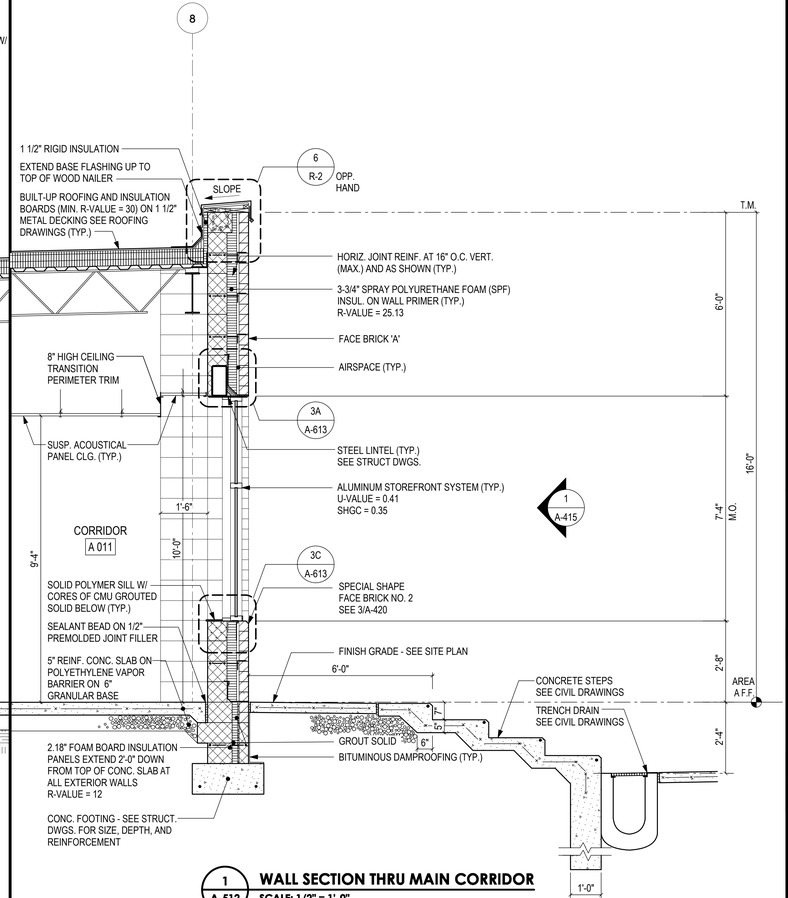
4 TYPICAL THRU WALL FLASHING DETAIL AT GRADE
A-512 SCALE: 3" = 1'-0"



3 WALL SECTION THRU GYMNASIUM
A-512 SCALE: 1/2" = 1'-0"



2 WALL SECTION THRU GYMNASIUM
A-512 SCALE: 1/2" = 1'-0"



1 WALL SECTION THRU MAIN CORRIDOR
A-512 SCALE: 1/2" = 1'-0"

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
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HOWARD COUNTY PUBLIC SCHOOL SYSTEM

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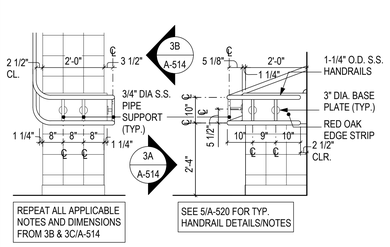
- BID AND CONSTRUCTION 16 JUNE 20

WALL SECTIONS

A-512

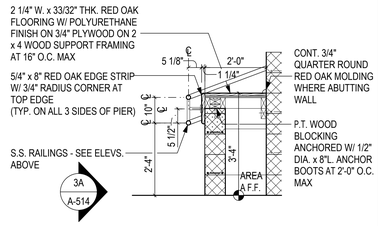
36 OF 70
PROJECT NO. 1804

Date: 7/16/20
Time: 5:01:39 PM

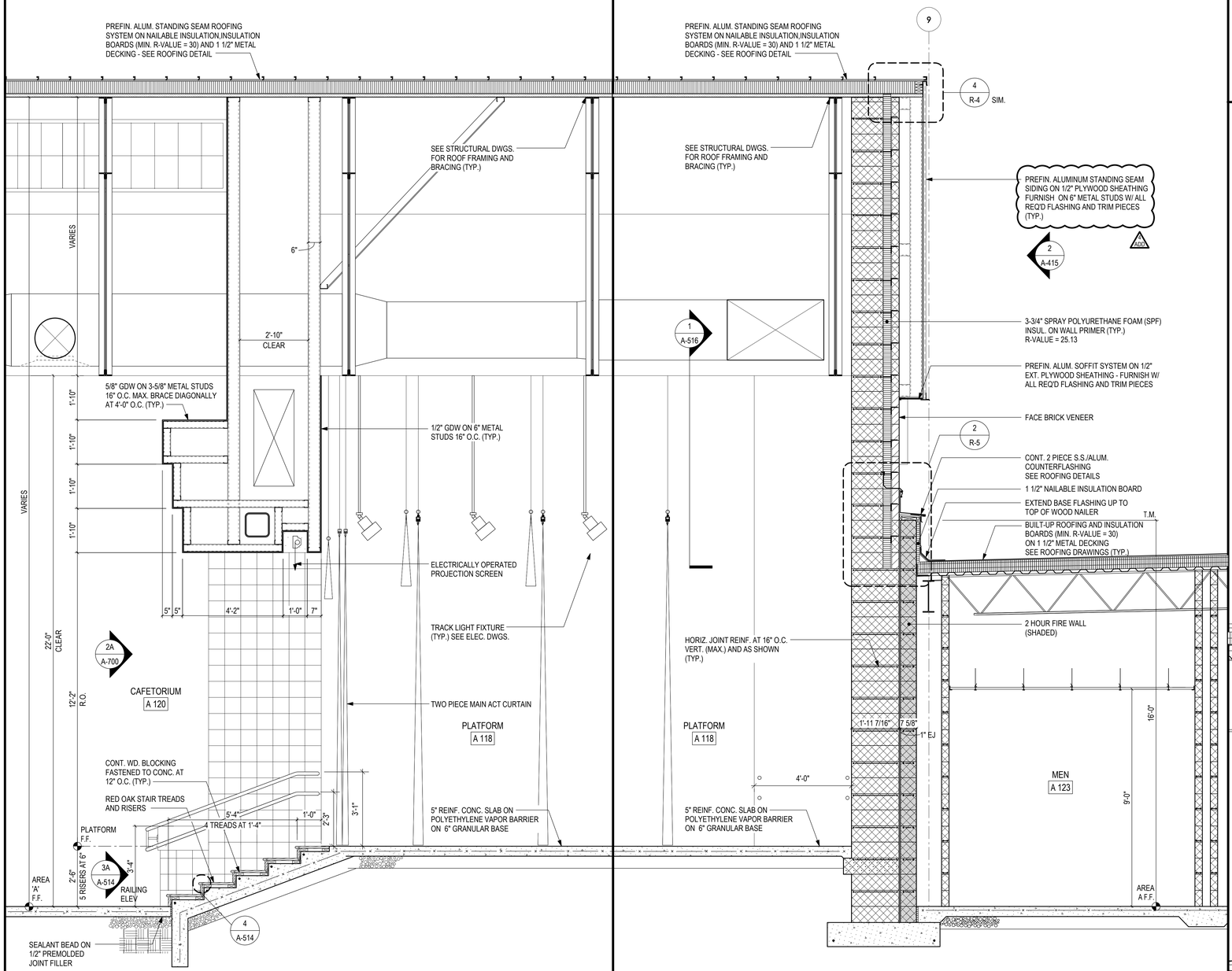


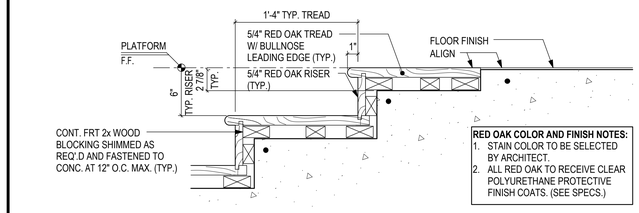
3A FRONT RAILING ELEV.

3B SIDE RAILING ELEV.

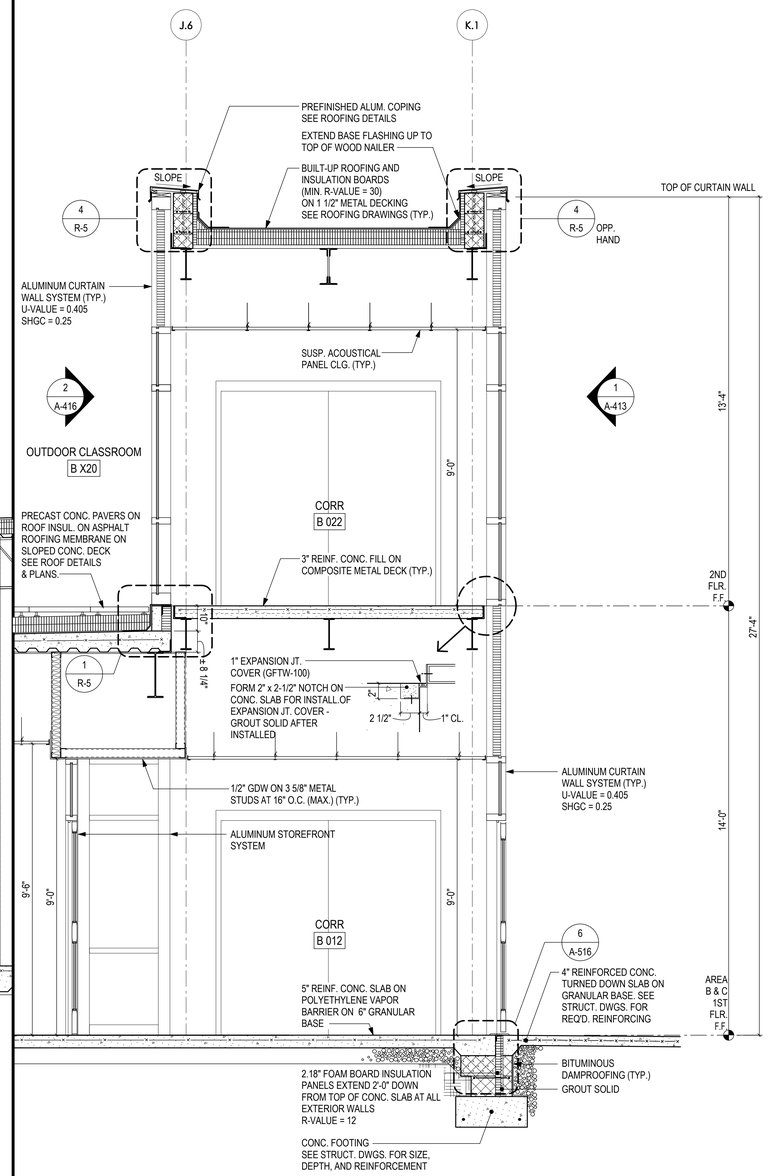


3C PIER SECTION





4 A-514 WOOD STAIR DETAIL
SCALE: 1 1/2" = 1'-0"



3 A-514 WALL SECTION THRU CAFETORIUM
SCALE: 1/2" = 1'-0"

2 A-514 WALL SECTION THRU PLATFORM
SCALE: 1/2" = 1'-0"

1 A-514 WALL SECTION THRU CORRIDORS
SCALE: 1/2" = 1'-0"

Date: 7/6/20
Time: 5:01:55 PM

tca architects
1349 Generals Highway • Crownsville, Maryland 21032

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 0017154, EXPIRATION DATE: 2021-01-11

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
ADD1 ADDENDUM NO. 4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

WALL SECTIONS

A-514

38 OF 70
PROJECT NO. 1804

NOTES:
1. UL RATINGS ARE FOR DOOR, FRAME AND HARDWARE ASSEMBLIES
2. REFER TO SPECIFICATIONS, PLANS AND FRAME ELEVATIONS FOR GLAZING REQUIREMENTS.

MET = METAL DOOR FLUSH FACE (PTD.)
ALM = ALUMINUM
HM = HOLLOW METAL
HOL = HOLLOW
HW = HARDWARE
MAR = MARBLE
WP = BASE BID - METAL DOOR FLUSH FACE (PTD.)
ALTERNATE - METAL DOOR WOOD GRAINED PATTERNED FINISH.

LOCATION: AREA	DOOR NO.	FROM	TO	DOOR: TYPE -SEE 1/A-610	WIDTH OF OPENING	HEIGHT OF OPENING	NUMBER OF DOORS	THICKNESS	MATERIAL	CORE	FRAME: TYPE - SEE 2/A-610	MATERIAL	GAUGE	DEPTH	JAMB/HEAD CONDITION SEE 4/A-610	MISC.: THRESHOLD	SOUND SEALS	THERMAL BREAK H.M. FRAME	REMOVABLE MULLION	GLAZING TYPE	FIRE RATING IN HOURS	VENETIAN BLINDS (SEE ALTERNATES)	SET: HARDWARE SET	REMARKS
A	001	EXTERIOR	E.C. PLAY AREA	—>	3'-8"	4'-0"	1	1 3/4"	MET	HOL	—>	—>	—>	2"	-	-	-	-	-	-	-		HW-22	—> PRE-FINISHED METAL GATE - SEE 1A/A-413
A	002	EXTERIOR	E.C. PLAY AREA	—>	6'-0"	4'-0"	2	1 3/4"	MET	HOL	—>	—>	—>	2"	-	-	-	-	-	-	-		HW-21	—> PRE-FINISHED METAL GATE - SEE 1A/A-413
A	003	EXTERIOR	OUTDOOR GARDEN	—>	6'-0"	4'-0"	2	1 3/4"	MET	HOL	—>	—>	—>	2"	-	-	-	-	-	-	-		HW-21	—> PRE-FINISHED METAL GATE - SEE 1A/A-416
A	004	EXTERIOR	OUTDOOR GARDEN	—>	3'-8"	4'-0"	1	1 3/4"	MET	HOL	—>	—>	—>	2"	-	-	-	-	-	-	-		HW-22	—> PRE-FINISHED METAL GATE - SEE 1A/A-416
A	005	EXTERIOR	OUTDOOR EQUIP AREA	—>	3'-0"	4'-0"	1	1 3/4"	MET	HOL	—>	—>	—>	2"	-	-	-	-	-	-	-		HW-22	—> PRE-FINISHED METAL GATE - SEE 1B/A-421
A	006	EXTERIOR	OUTDOOR EQUIP AREA	—>	8'-0"	4'-0"	2	1 3/4"	MET	HOL	—>	—>	—>	2"	-	-	-	-	-	-	-		N/A	—> PRE-FINISHED METAL GATE - SEE 1B/A-421
A	011	CORRIDOR	CORRIDOR	C	8'-0"	8'-0"	2	1 3/4"	WP	HOL	4	HM	14	8 3/4"	E					2/SG	1.5		HW-20B	
B	012	CORRIDOR	CORRIDOR	C	7'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	14	6 3/4"	A								HW-01	
B	012A	CORRIDOR	E.C. PLAY AREA	D	3'-4"	7'-0"	2	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-13	—> ALUM CURTAIN WALL SYSTEM SEE ELEV (A) ON SHEET A-612
B	014	CORRIDOR	CORRIDOR	C	7'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	14	6 3/4"	A								HW-01	
B	014A	CORRIDOR	OUTDOOR GARDEN	D	3'-4"	7'-0"	1	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-13	—> ALUM CURTAIN WALL SYSTEM SEE ELEV (A) ON SHEET A-612
A	015	CORRIDOR	CORRIDOR	C	8'-0"	8'-0"	2	1 3/4"	WP	HOL	5	HM	14	8 3/4"	E						1.5		HW-01A	
B	022	CORRIDOR	OUTDOOR CLASSROOM	D	3'-4"	7'-0"	1	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-13	—> ALUM CURTAIN WALL SYSTEM SEE ELEV (B) ON SHEET A-612
B	024	CORRIDOR	OUTDOOR CLASSROOM	D	3'-4"	7'-0"	1	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-13	—> ALUM CURTAIN WALL SYSTEM SEE ELEV (B) ON SHEET A-612
A	100	VESTIBULE	MAIN OFFICE	D	3'-0"	7'-10"	1	2"	ALM	HOL	—>	ALM	-	4 1/2"	—>					2/SG			HW-05	—> ALUM STOREFRONT SYSTEM - SEE ELEV (2) ON SHEET A-611
A	100A	MAIN OFFICE	CONFERENCE (4 ADD)	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X					X	HW-03	
A	100B	CORRIDOR	CONFERENCE	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X					X	HW-03A	
A	100C	MAIN OFFICE	CORRIDOR	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-03B	
A	100D	CORRIDOR	MAIN OFFICE	D	3'-0"	7'-10"	1	2"	ALM	HOL	—>	ALM	-	4 1/2"	—>					2/SG			HW-02G	—> ALUM STOREFRONT SYSTEM - SEE ELEV (2A) ON SHEET A-611
A	101	CORRIDOR	GYMNASIUM	C	7'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	14	8 3/4"	E	ALM				FG	1.5		HW-11B	
B	101A	GYMNASIUM	GYM OFFICE	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	8 3/4"	E	ALM				FG	1.5	X	HW-03F	
B	101B	GYMNASIUM	GYM STORAGE	A	7'-0"	7'-0"	2	1 3/4"	N/A	HOL	4	HM	14	8 3/4"	E	ALM					1.5		HW-18	
A	101C	GYMNASIUM	GYM STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	8 3/4"	A	ALM					1.5		HW-04C	
A	101D	CORRIDOR	GYMNASIUM	C	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	14	8 3/4"	E	ALM				FG	1.5		HW-15	
A	101E	EXTERIOR	GYMNASIUM	A	3'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	14	7 1/2"	B	ALM		X					HW-17	
A	101F	EXTERIOR	GYMNASIUM	A	3'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	14	7 1/2"	B	ALM		X					HW-17	
A	102	CORRIDOR	WORK ROOM	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A		X					X	HW-03A	
A	102A	CORRIDOR	WORK ROOM	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C								HW-02B	
A	103	CORRIDOR	PARENT VOLUNTEER	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A		X					X	HW-02B	
A	104	CORRIDOR	TESTING	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A		X					X	HW-02B	
A	105	CORRIDOR	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04C	
A	106	CORRIDOR	CORRIDOR	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-02	
A	106A	CORRIDOR	ASSISTANT PRINCIPAL	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X					X	HW-03A	
A	106B	CORRIDOR	PRINCIPAL	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X					X	HW-03A	
A	106C	PRINCIPAL	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C	MAR							HW-06B	
A	106D	CORRIDOR	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C	MAR							HW-06B	
A	106F	CORRIDOR	RECORDS	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C								HW-04B	
A	106G	CORRIDOR	COAT CLOSET	A	2'-2"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C								HW-02B	
A	106H	RECORDS	CLOSET	A	2'-6"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6"	C								HW-09	
A	107	CORRIDOR	VESTIBULE	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04E	
A	107A	VESTIBULE	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06	
A	107B	VESTIBULE	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06	
B	108	CORRIDOR	HEALTH	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A		X			2			HW-02B	
A	108A	HEALTH	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR	X						HW-06A	
A	108B	HEALTH	OFFICE	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X					X	HW-03	
A	108C	HEALTH	EXAM	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X					X	HW-03	
A	108D	HEALTH	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6"	C								HW-04E	
A	108E	CORRIDOR	HEALTH	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02B	
A	109	CORRIDOR	HISPANIC LIAISON	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A		X					X	HW-03E	
A	110	CORRIDOR	CUSTODIAL CLOSET	A	4'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04D	
A	111	CORRIDOR	TELECOM ROOM	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04C	
A	113	CORRIDOR	OFFICE STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04E	
A	115	CORRIDOR	WOMEN'-S RESTROOM	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-02C	
A	117	CORRIDOR	VESTIBULE	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04E	
A	117A	VESTIBULE	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06A	
A	117B	VESTIBULE	STAFF LOUNGE	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-02B	
A	117C	VESTIBULE	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06A	
A	118	CORRIDOR	PLATFORM	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-02	
A	119	CORRIDOR	ENSEMBLE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	14	6 3/4"	A		X			5			HW-02D	
A	119A	ENSEMBLE	MUSIC STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09D	
A	120A	KITCHEN	CAFETORIUM (4 ADD)	F	3'-0"	7'-0"	1	1 3/4"	WP	HOL	11	HM	14	8 3/4"	E					1			HW-09C	
A	120B	CUSTODIAL CLOSET	KITCHEN	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04	
A	120C	KITCHEN	LOCKER	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-06A	
A	120D	LOCKER	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06B	
A	120E	DRY STORAGE	KITCHEN	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
A	120F	KITCHEN	CAFETORIUM (4 ADD)	F	3'-0"	7'-0"	1	1 3/4"	WP	HOL	11	HM	14	8 3/4"	E					1			HW-09C	
A	120G	KITCHEN	KITCHEN OFFICE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-03A	
A	120J	CORRIDOR	CAFETORIUM (4 ADD)	F	6'-0"	7'-0"	2	1 3/4"	WP	HOL	14	HM	14	8 3/4"	E					1			HW-15	
A	120L	CORRIDOR	CAFETORIUM	C	6'-0"	8'-0"	2	1 3/4"	WP	HOL	4	HM	16	6 3/4"	C								HW-11A	
A	120M	EXTERIOR	KITCHEN	A	4'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	8 3/4"	B	ALM		X					HW-14	
A	120N	EXTERIOR	KITCHEN	E	4'-0"	7'-0"	1	1 3/4"	MET	HOL	—>	—>	—>	0"	—>								HW-10	—>SCREEN DOOR INSTALLED ON EXT SIDE OF HM FRAME 120M
A	121	CORRIDOR	MUSIC	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	14	6 3/4"	A		X			5			HW-02D	
A	121A	MUSIC	MUSIC STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09A	
A	123	CORRIDOR	MEN'-S RESTROOM	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-02C	
A	125	CORRIDOR	STORAGE	A	6'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	6 3/4"	A								HW-10A	
A	126	CORRIDOR	MECHANICAL ROOM	A	6'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	6 3/4"	A								HW-10C	
A	126A	EXTERIOR	MECHANICAL ROOM	A	6'-0"	7'-0"	2	1 3/4"	MET	HOL	4	HM	16	8 3/4"	B	ALM		X					HW-19	
A	127	CORRIDOR	BSMO	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-03E	
A	127A	BSMO	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06D	
A	129	CORRIDOR	CHAIR STORAGE	A	6'-0"	8'-0"	2	1 3/4"	WP	HOL	4	HM	16	8 3/4"	E								HW-10B	
B	131	CORRIDOR	MEDIA CENTER (4 ADD)	D	6'-0"	7'-0"	2	2"	ALM	HOL	—>	ALM	-	4 1/2"	—>								HW-11	—> ALUM STOREFRONT SYSTEM - SEE ELEV (6) ON SHEET A-611
B	131A	MEDIA CENTER	TECH RESOURCE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	2	HM	16	8 3/4"	A					1		X	HW-02A	
B	131B	MEDIA CENTER	MEDIA OFFICE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	7	HM	16	8 3/4"	A					1		X	HW-03C	
B	131C	MEDIA OFFICE	MEDIA STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
B	131D	MEDIA CENTER	MEDIA PRODUCTION	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	2	HM	16	8 3/4"	A		X			5		X	HW-02E	
B	131E	CORRIDOR	MEDIA CENTER (4 ADD)	D	6'-0"	7'-0"	2	2"	ALM	HOL	—>	ALM	-	4 1/2"	—>								HW-11A	—> ALUM STOREFRONT SYSTEM - SEE ELEV (6) ON SHEET A-611
B	132	CORRIDOR	READING	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	133	CORRIDOR	E.C. STORAGE	A	6'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	6 3/4"	A								HW-10A	
B	134	CORRIDOR	READING OFFICE STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-02B	
B	140	CORRIDOR	CLASSROOM 1	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	2	HM	16	6 3/4"	A					1		X	HW-02B	
B	140A	CLASSROOM 1	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06D	
B	140B	CLASSROOM 1	CLASSROOM 2	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
B	141	CORRIDOR	KINDERGARTEN 4	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	141A	KINDERGARTEN 4	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06C	
B	141B	KINDERGARTEN 4	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
B	141C	EXTERIOR	KINDERGARTEN 4	D	3'-7"	7'-0"	1	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-02F	—> ALUMCURTAIN WALL SYSTEM SEE ELEV (F) ON SHEET A-612
B	141D	KINDERGARTEN 4	KINDERGARTEN 3	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
B	142	CORRIDOR	CLASSROOM 2	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	142A	CLASSROOM 2	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06D	
B	143	CORRIDOR	KINDERGARTEN 3	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	143A	KINDERGARTEN 3	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06C	
B	143B	KINDERGARTEN 3	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
B	143C	EXTERIOR	KINDERGARTEN 3	D	3'-7"	7'-0"	1	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-02F	—> ALUM CURTAIN WALL SYSTEM SEE ELEV (F) ON SHEET A-612
B	144	CORRIDOR	CLASSROOM 3	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	144A	CLASSROOM 3	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06D	
B	144B	CLASSROOM 3	CLASSROOM 4	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
B	145	CORRIDOR	KINDERGARTEN 2	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	145A	KINDERGARTEN 2	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06C	
B	145B	KINDERGARTEN 2	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
B	145C	EXTERIOR	KINDERGARTEN 2	D	3'-7"	7'-0"	1	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-02F	—> ALUM CURTAIN WALL SYSTEM SEE ELEV (F) ON SHEET A-612
B	145D	KINDERGARTEN 2	KINDERGARTEN 1	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
B	146	CORRIDOR	CLASSROOM 4	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	146A	CLASSROOM 4	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06D	
B	147	CORRIDOR	KINDERGARTEN 1	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	147A	KINDERGARTEN 1	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06C	
B	147B	KINDERGARTEN 1	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
B	147C	EXTERIOR	KINDERGARTEN 1	D	3'-7"	7'-0"	1	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-02F	—> ALUM CURTAIN WALL SYSTEM SEE ELEV (F) ON SHEET A-612
B	148	CORRIDOR	S.E. RESOURCE 1	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	2	HM	16	6 3/4"	A					1		X	HW-12A	
B	149	CORRIDOR	SPEECH	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	2	HM	16	6 3/4"	A		X			5		X	HW-02B	
B	150	CORRIDOR	RESOURCE 1	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-12A	
B	151	CORRIDOR	ELECTRICAL ROOM	A	3'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	6 3/4"	A								HW-04A	
B	152	CORRIDOR	RESOURCE 2	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-12A	
B	154	CORRIDOR	RESOURCE 3	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-12A	
B	156	CORRIDOR	S.E. RESOURCE 2	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-12A	
B	157	CORRIDOR	VESTIBULE	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04E	
B	157A	VESTIBULE	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06A	
B	157B	VESTIBULE	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06A	
B	157C	VESTIBULE	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
C	158	CORRIDOR	OT/PT	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A		X			5		X	HW-02B	

LOCATION: AREA	DOOR NO.	FROM	TO	DOOR: TYPE -SEE 1/A-610	WIDTH OF OPENING	HEIGHT OF OPENING	NUMBER OF DOORS	THICKNESS	MATERIAL	CORE	FRAME: TYPE - SEE 2/A-610	MATERIAL	GAUGE	DEPTH	JAMB/HEAD CONDITION SEE 4/A-610	MISC.: THRESHOLD	SOUND SEALS	THERMAL BREAK H.M. FRAME	REMOVABLE MULLION	GLAZING TYPE	FIRE RATING IN HOURS	VENETIAN BLINDS (SEE ALTERNATES)	SET: HARDWARE SET	REMARKS
C	158A	OT/PT	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
C	159	CORRIDOR	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04A	
C	160	CORRIDOR	CLASSROOM 5	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	160A	CLASSROOM 5	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06D	
C	160B	CLASSROOM 5	OT/PT	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
C	162	CORRIDOR	CLASSROOM 6	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	162A	CLASSROOM 6	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06D	
C	163	CORRIDOR	PRE-KINDERGARTEN 3	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	163A	PRE-KINDERGARTEN 3	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-07A	
C	163B	PRE-KINDERGARTEN 3	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-07A	
C	163C	PRE-KINDERGARTEN 3	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
C	164	CORRIDOR	CLASSROOM 7	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	164A	CLASSROOM 7	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06D	
C	164B	CLASSROOM 7	CLASSROOM 6	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
C	165	CORRIDOR	PRE-KINDERGARTEN 2	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	165A	PRE-KINDERGARTEN 2	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-07A	
C	165B	PRE-KINDERGARTEN 2	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-07A	
C	165C	PRE-KINDERGARTEN 2	OFFICE STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
C	167	CORRIDOR	PRE-KINDERGARTEN 1	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	167A	PRE-KINDERGARTEN 1	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-07A	
C	167B	PRE-KINDERGARTEN 1	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-07A	
C	167C	PRE-KINDERGARTEN 1	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09B	
C	167D	PRE-KINDERGARTEN 1	PRE-KINDERGARTEN 2	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
C	170	CORRIDOR	PSYCHOLOGIST OFFICE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	2	HM	16	6 3/4"	A		X			2		X	HW-03F	
B	171	CORRIDOR	CUSTODIAL CLOSET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-04A	
C	172	CORRIDOR	ALTERNATE EDUCATION	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	2	HM	16	6 3/4"	A		X			2		X	HW-03F	
C	172A	ALTERNATE EDUCATION	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	5 7/8"	C								HW-09	
B	173	CORRIDOR	EQUIPMENT ROOM	A	3'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	6 3/4"	A								HW-04A	
C	174	CORRIDOR	GUIDANCE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	2	HM	16	6 3/4"	A		X			2		X	HW-03F	
C	174A	GUIDANCE	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C								HW-09B	
C	176	CORRIDOR	ESOL 1	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	200	CORRIDOR	ESOL 2	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	201	CORRIDOR	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04A	
B	202	CORRIDOR	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04E	
B	203	CORRIDOR	ART STUDIO	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	2	HM	16	6 3/4"	A					1		X	HW-12	
B	203A	ART STUDIO	KILN	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04C	
B	203B	ART STUDIO	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-09D	
B	203C	CORRIDOR	ART STUDIO	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	2	HM	16	6 3/4"	A					1		X	HW-12	
B	203D	ART STUDIO	OUTDOOR CLASSROOM	D	3'-7"	7'-0"	1	2"	ALM	HOL	—>	HM	-	7 1/2"	—>	ALM		X					HW-02F	—> ALUM CURTAIN WALL SYSTEM SEE ELEV (F) ON SHEET A-612
B	205	CORRIDOR	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04C	
B	207	CORRIDOR	ELEVATOR EQUIPMENT	A	5'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	6 3/4"	A								HW-10A	
B	210	CORRIDOR	CLASSROOM 11	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	210A	CLASSROOM 11	CLASSROOM 12	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
B	211	CORRIDOR	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04E	
B	212	CORRIDOR	CLASSROOM 12	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	213	CORRIDOR	CLASSROOM 10	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	213A	CLASSROOM 10	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06B	
B	214	CORRIDOR	CLASSROOM 13	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	214A	CLASSROOM 13	CLASSROOM 14	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
B	215	CORRIDOR	CLASSROOM 9	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	215A	CLASSROOM 9	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06B	
B	215B	CLASSROOM 10	CLASSROOM 9	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
B	216	CORRIDOR	CLASSROOM 14	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	217	CORRIDOR	CLASSROOM 8	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	217A	CLASSROOM 8	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06B	
B	218	CORRIDOR	S.E. RESOURCE 3	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	219	CORRIDOR	GIFTED AND TALENTED	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	219A	G. AND T. STORAGE	GIFTED AND TALENTED	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-06B	
B	219B	CLASSROOM 8	GIFTED AND TALENTED	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
B	220	CORRIDOR	RESOURCE 4	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	221	CORRIDOR	MATH STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04A	
B	222	CORRIDOR	RESOURCE 5	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	223	CORRIDOR	ELECTRICAL	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04A	
B	224	CORRIDOR	RESOURCE 6	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-12A	
B	226	CORRIDOR	S.E. RESOURCE 4	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-12A	
C	228	CORRIDOR	CLASSROOM 15	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
B	229	CORRIDOR	VESTIBULE	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04E	
B	229A	VESTIBULE	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06A	
B	229B	VESTIBULE	TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06A	
C	230	CORRIDOR	CLASSROOM 16	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	230A	CLASSROOM 16	CLASSROOM 15	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
C	231	CORRIDOR	OFFICE STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04A	
C	232	CORRIDOR	CLASSROOM 17	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	233	CORRIDOR	WORK ROOM	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-03F	
C	234	CORRIDOR	CLASSROOM 18	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	234A	CLASSROOM 18	CLASSROOM 17	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
C	235	CORRIDOR	STORAGE	A	3'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	6 3/4"	A								HW-10A	
C	237	CORRIDOR	CLASSROOM 21	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	239	CORRIDOR	CLASSROOM 20	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	241	CORRIDOR	STORAGE	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A								HW-04C	
C	243	CORRIDOR	CLASSROOM 19	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1		X	HW-02B	
C	243A	CLASSROOM 19	CLASSROOM 20	B	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 1/2"	C		X						HW-02A	
C	250	CORRIDOR	S.E. TOILET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06A	
B	251	CORRIDOR	CUSTODIAL CLOSET	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-04A	
C	252	CORRIDOR	S.E. RESOURCE 5	A	3'-0"	7'-0"	1	1 3/4"	WP	HOL	3	HM	16	6 3/4"	A					1			HW-02B	
B	253	CORRIDOR	TELECOM ROOM 2	A	3'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	6 3/4"	A								HW-04A	
B	A11	CORRIDOR	STAIR A	C	6'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	8 3/4"	E					FG	1		HW-20A	
B	A11A	EXTERIOR	STAIR A	A	3'-8"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	8 3/4"	B	ALM		X					HW-14A	
B	A22	CORRIDOR	STAIR A	C	7'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	8 3/4"	B					FG	1		HW-20	
B	B11	CORRIDOR	STAIR B	C	6'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	8 3/4"	E					FG	1		HW-20A	
B	B11A	EXTERIOR	STAIR B	A	6'-0"	7'-0"	2	1 3/4"	MET	HOL	4	HM	16	8 3/4"	B	ALM		X		3			HW-19	
B	B22	CORRIDOR	STAIR B	C	6'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	8 3/4"	E					FG	1		HW-20A	
C	C11	CORRIDOR	STAIR C	C	6'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	8 3/4"	E					FG	1		HW-20A	
C	C11A	EXTERIOR	STAIR C	A	6'-0"	7'-0"	2	1 3/4"	MET	HOL	4	HM	16	8 3/4"	B			X		3			HW-19	
C	C22	CORRIDOR	STAIR C	C	6'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	8 3/4"	B					FG	1		HW-20A	
B	D11	CORRIDOR	STAIR D	C	6'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	8 3/4"	E					FG	1		HW-20A	
B	D11A	EXTERIOR	STAIR D	A	3'-8"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	8 3/4"	B	ALM		X					HW-14A	
B	D22	CORRIDOR	STAIR D	C	7'-0"	7'-0"	2	1 3/4"	WP	HOL	4	HM	16	8 3/4"	B					FG	1		HW-20	
A	V01A	EXTERIOR	VESTIBULE	D	6'-0"	7'-10"	2	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-08C	—>ALUM CURTAIN WALL SYSTEM SEE ELEV (E) ON SHEET A-612
A	V01B	EXTERIOR	VESTIBULE	D	6'-0"	7'-10"	2	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-08A	—>SEE DOOR V01A ABOVE FOR FRAME INFO. ON SHEET A-612
A	V01C	VESTIBULE	CORRIDOR	D	6'-0"	7'-10"	2	2"	ALM	HOL	—>	ALM	-	4 1/2"	—>					2/SG			HW-08B	—> ALUM STOREFRONT SYSTEM - SEE ELEV (1) ON SHEET A-611
A	V01D	VESTIBULE	CORRIDOR	D	6'-0"	7'-10"	2	2"	ALM	HOL	—>	ALM	-	4 1/2"	—>					2/SG			HW-08D	—> SEE DOOR V01C ABOVE FOR FRAME INFO. ON SHEET A-611
A	V02	EXTERIOR	VESTIBULE	D	6'-0"	7'-0"	2	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM				4/SG			HW-08	—> ALUM CURTAIN WALL SYSTEM SEE ELEV (H) ON SHEET A-612
A	V02A	VESTIBULE	CORRIDOR	D	6'-0"	7'-0"	2	2"	ALM	HOL	—>	ALM	-	4 1/2"	—>					2			HW-16	—> ALUM STOREFRONT SYSTEM - SEE ELEV (4) ON SHEET A-611
B	V03	EXTERIOR	VESTIBULE	D	6'-0"	7'-0"	2	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM			X	4/SG			HW-08	—>ALUM CURTAIN WALL SYSTEM SEE ELEV (C) ON SHEET A-612
B	V03A	VESTIBULE	CORRIDOR	D	6'-0"	7'-0"	2	2"	ALM	HOL	—>	ALM	-	4 1/2"	—>				X	2			HW-16	—> ALUM STOREFRONT SYSTEM - SEE ELEV (3) ON SHEET A-611
C	V04	EXTERIOR	VESTIBULE	D	6'-0"	7'-0"	2	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM			X	4/SG			HW-08	—>ALUM CURTAIN WALL SYSTEM SEE ELEV (D) ON SHEET A-612
C	V04A	VESTIBULE	CORRIDOR	D	6'-0"	7'-0"	2	2"	ALM	HOL	—>	ALM	-	4 1/2"	—>				X	2			HW-16	—> ALUM STOREFRONT SYSTEM - SEE ELEV (8) ON SHEET A-611
A	V05	EXTERIOR	CORRIDOR	A	7'-0"	8'-0"	2	1 3/4"	MET	HOL	4	HM	16	8 3/4"	B	ALM		X	X				HW-08	
A	V05A	VESTIBULE	ELECTRICAL ROOM	A	3'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	6 3/4"	A								HW-04A	
A	V05B	VESTIBULE	ELECTRICAL ROOM	A	3'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	6 3/4"	A								HW-17A	
A	V05C	EXTERIOR	ELECTRICAL ROOM	A	4'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	8 3/4"	A	ALM		X					HW-17	
A	V05D	VESTIBULE	CORRIDOR	C	7'-0"	8'-0"	2	1 3/4"	WP	HOL	4	HM	16	6 3/4"	A/E								HW-16A	
A	V06	EXTERIOR	VESTIBULE	D	6'-0"	7'-10"	2	2"	ALM	HOL	—>	ALM	-	7 1/2"	—>	ALM			X	4/SG			HW-08	—> ALUM CURTAIN WALL SYSTEM SEE ELEV (G) ON SHEET A-612
A	V06A	VESTIBULE	CORRIDOR	D	6'-0"	7'-9 1/2"	2	2"	ALM	HOL	—>	ALM	-	4 1/2"	—>				X	2			HW-16	—> ALUM STOREFRONT SYSTEM - SEE ELEV (5) ON SHEET A-611
A	X01	EXTERIOR	TOILET	A	3'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	8 3/4"	B	ALM		X					HW-03D	
A	X01A	CUSTODIAL CLOSET	TOILET	A	2'-6"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06A	
A	X02	EXTERIOR	TOILET	A	3'-0"	6'-8"	1	1 3/4"	MET	HOL	1	HM	16	8 3/4"	B	ALM		X					HW-03D	
A	X02A	CUSTODIAL CLOSET	TOILET	A	2'-6"	7'-0"	1	1 3/4"	WP	HOL	1	HM	16	6 3/4"	A	MAR							HW-06A	
B	X03	EXTERIOR	P.E. EXTERIOR STORAGE	A	6'-0"	7'-0"	2	1 3/4"	MET	HOL	4	HM	16	8 3/4"	B	ALM		X					HW-10	
B	X04	EXTERIOR	EXTERIOR STORAGE	A	6'-0"	7'-0"	2	1 3/4"	MET	HOL	4	HM	16	8 3/4"	B	ALM		X					HW-10	
A	X05	EXTERIOR	CAN WASH	A	3'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	8 3/4"	B	ALM		X					HW-04F	
A	X06	EXTERIOR	SPRINKLER ROOM	A	3'-0"	7'-0"	1	1 3/4"	MET	HOL	1	HM	16	8 3/4"	A	ALM		X					HW-17	

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ARCHITECT 0017154 ROBYN LACEY STATE OF MARYLAND

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 0017154, EXPIRATION DATE: 2021-01-11

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions

IAC CD / BLDG PERMIT SET 1 MAY 20

(4 ADD) ADDENDUM NO.4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

DOOR SCHEDULE

A-600

PROJECT NO. 1804

Date: 7/6/20 Time: 4:19:51 PM

GENERAL HOLLOW METAL FRAME NOTES

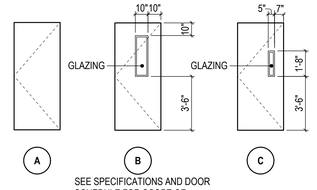
1. SEE FLOOR PLANS FOR ORIENTATION OF FRAMES WITHIN WALLS.
2. SEE DOOR SCHEDULE FOR ADDITIONAL INFORMATION IN REGARD TO REQUIRED UL RATING AND GLAZING REQUIREMENTS. U.L. RATING IS FOR FRAME, GLASS, DOOR AND HARDWARE.
3. OVERALL DIMENSIONS INDICATED AT EACH FRAME TYPE INDICATE MASONRY OPENINGS OR ROUGH OPENINGS IN STUD PARTITIONS. VERIFY EACH OPENING DIMENSION PRIOR TO FABRICATION OF FRAME TYPE.
4. UNLESS OTHERWISE NOTED, ALL GLASS SHALL BE TYPE '1' ON INTERIOR SIDE. NOTE: CERAMIC FIRE GLASS TO BE INSTALLED IN ALL FIRE-RATED DOORS AND FRAMES. SEE HM ELEVATIONS AND/OR DOOR SCHEDULE FOR LOCATIONS.
5. UNLESS OTHERWISE NOTED, ALL GLASS SHALL BE TYPE '5' WHERE SOUND SEALS ARE NOTED ON THE DOOR SCHEDULE. SEE HM ELEVATIONS AND/OR DOOR SCHEDULE FOR LOCATIONS.
6. AT ALL EXTERIOR FRAMES, GLAZING AND INSULATED INFILL PANELS SHALL BE INSTALLED ON EXTERIOR SIDE OF FRAME, UNLESS OTHERWISE NOTED.
7. AT ALL INTERIOR FRAMES, GLAZING AND HOLLOW METAL PANELS SHALL BE INSTALLED ON ROOM SIDE OF FRAME IF LOCATED ON A CORRIDOR UNLESS OTHERWISE INDICATED. CONSULT ARCHITECT FOR UNIQUE CONDITIONS AND/OR LOCATIONS.
8. SEE 4/A-610 FOR JAMB AND HEAD CONDITION DETAILS.

LEGEND

- [#] REFERS TO HOLLOW METAL FRAME TYPES. SEE DRAWINGS A-101 THROUGH A-104 FOR LOCATIONS.
- INDICATES FRAME DETAILS ON 3/A-610

GLAZING KEY

- TYPE '1' - 1/4" TEMPERED GLASS INTERIOR USE ONLY
- TYPE '2' - 1" TEMPERED INSULATED GLASS INTERIOR USE ONLY
- TYPE '3' - 1" LOW-E INSULATING TEMPERED GLASS - [SOLARBAN 60] TYPICAL AT NORTH FACING FRAMES ONLY. U-VALUE=0.28.
- TYPE '4' - 1" LOW-E INSULATING TEMPERED GLASS - [SOLARBAN 70 XL] U-VALUE=0.27.
- TYPE '5' - 5/8" SOUND CONTROL GLASS TYPICAL FOR ACOUSTICAL ASSEMBLIES MIN. STC=40.
- FG - CERAMIC FIRE GLASS INTERIOR USE ONLY SEE A-002 AND DOOR SCHEDULES FOR REQUIRED UL FIRE RATING
- SG - SECURITY GLAZING - U-VALUE = 0.27. PROVIDE 1/4" STARPHIRE ULTRA-CLEAR SECURITY GLASS FOR THE EXTERIOR PANE - SEE ELEVATIONS FOR GLAZING TYPE. TYPICAL FOR ALL GLAZING FROM F.F. TO 7'-0" ABOVE F.F.

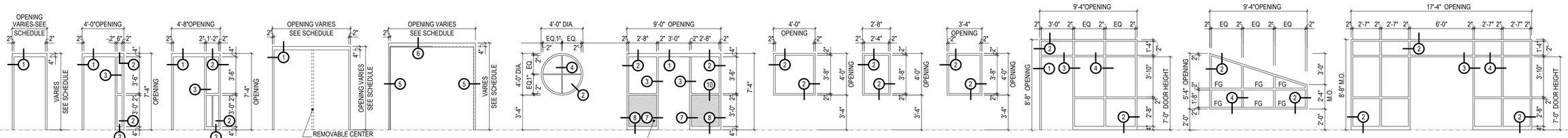


SEE SPECIFICATIONS AND DOOR SCHEDULE FOR SCOPE OF VENETIAN BLIND ALTERNATE

1 / A-610 DOOR TYPES SCALE: 1/4" = 1'-0"

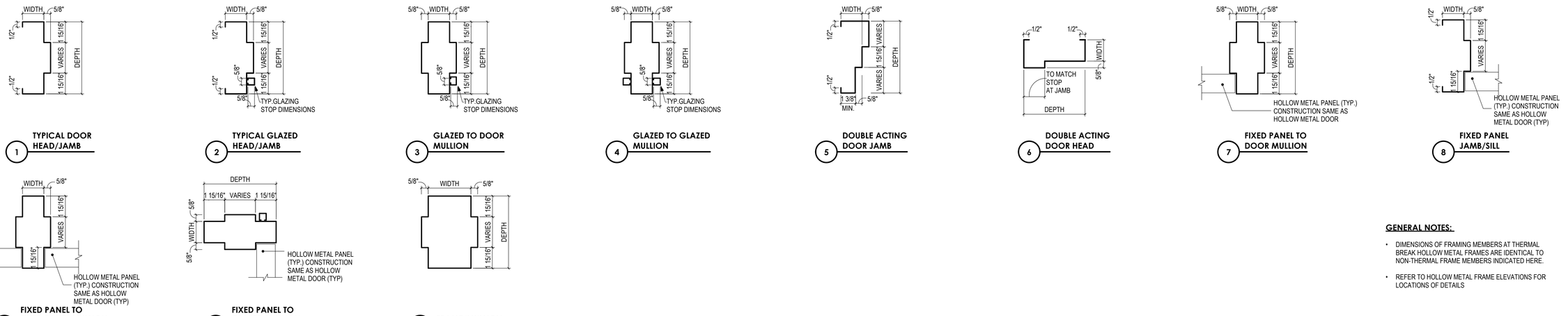
GENERAL GLAZING NOTES

- EXTERIOR DOORS ON NORTH-FACING ELEVATIONS TO RECEIVE SECURITY GLASS WITH SOLARBAN 60 ON EXTERIOR PANE. ALL OTHER EXTERIOR DOORS TO BE GLAZED WITH SECURITY GLASS WITH SOLARBAN 70 XL GLASS FOR EXTERIOR PANE.
- SEE DOOR SCHEDULE FOR GLAZING TYPES AT DOORS.
- ALL FIRE RATED DOORS TO BE GLAZED W/ CERAMIC FIRE GLASS.
- GLAZE ALL INTERIOR DOORS WITH 'TYPE 1' GLASS UNLESS OTHERWISE NOTED.



1 TYPICAL FRAME - SEE DOOR SCHEDULE FOR LOCATIONS.
2 TYPICAL FRAME - SEE DOOR SCHEDULE FOR LOCATIONS.
3 TYPICAL FRAME - SEE DOOR SCHEDULE FOR LOCATIONS.
4
5 DOOR- 015 — DOUBLE EGRESS DOOR FRAME U.L. 1 1/2 HR FIRE RATED FRAME
6 8-3/4" D. FRAME JAMB/ HEAD CONDITION B 16 GAUGE
7 DOOR- 131B
8 6-3/4" D. FRAME JAMB/ HEAD CONDITION A SILL CONDITION D 14 GAUGE
8A 6-3/4" D. FRAME JAMB/ HEAD CONDITION E SILL CONDITION G 14 GAUGE
9 6-1/2" D. FRAME JAMB/ HEAD CONDITION C SILL CONDITION D 14 GAUGE
10 6-3/4" D. FRAME JAMB/ HEAD CONDITION A SILL CONDITION D 14 GAUGE
10A 6-1/2" D. FRAME JAMB/ HEAD CONDITION C SILL CONDITION C 14 GAUGE
11 DOOR 120F AND 120A (OPP HAND)
12 8-3/4" D. FRAME JAMB/ HEAD CONDITION B 14 GAUGE
14 DOOR 120J

2 / A-610 HOLLOW METAL FRAME ELEVATIONS SCALE: 1/4" = 1'-0"



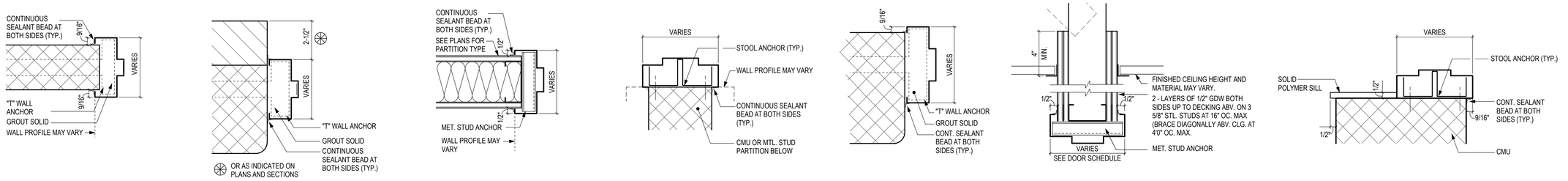
1 TYPICAL DOOR HEAD/JAMB
2 TYPICAL GLAZED HEAD/JAMB
3 GLAZED TO DOOR MULLION
4 GLAZED TO GLAZED MULLION
5 DOUBLE ACTING DOOR JAMB
6 DOUBLE ACTING DOOR HEAD
7 FIXED PANEL TO DOOR MULLION
8 FIXED PANEL JAMB/SILL
9 FIXED PANEL TO FIXED PANEL MULLION
10 FIXED PANEL TO GLAZED MULLION
11 FRAME/MULLION

3 / A-610 HOLLOW METAL FRAME DETAILS SCALE: 3" = 1'-0"

GENERAL NOTES:

- DIMENSIONS OF FRAMING MEMBERS AT THERMAL BREAK HOLLOW METAL FRAMES ARE IDENTICAL TO NON-THERMAL FRAME MEMBERS INDICATED HERE.
- REFER TO HOLLOW METAL FRAME ELEVATIONS FOR LOCATIONS OF DETAILS

REFER TO DOOR SCHEDULES FOR LOCATION OF JAMB/HEAD CONDITION



A JAMB/HEAD CONDITION
B JAMB/HEAD CONDITION
C JAMB/HEAD CONDITION
D SILL CONDITION
E JAMB/HEAD CONDITION
F HEAD CONDITION
G SILL CONDITION

4 / A-610 HOLLOW METAL FRAME JAMB/HEAD/SILL CONDITIONS SCALE: 3" = 1'-0"

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PROFESSIONAL CERTIFICATION.
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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

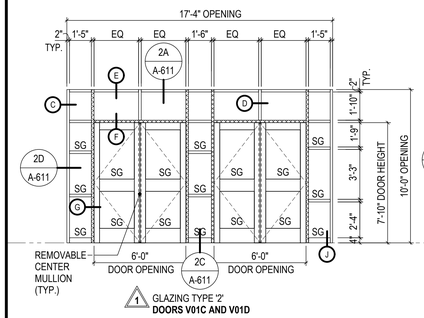
revisions
- IAC CD / BLDG PERMIT SET 1 MAY 20
- ADD ADDENDUM NO.4 8 JULY 20
- BID AND CONSTRUCTION 16 JUNE 20

HOLLOW METAL FRAME ELEVATIONS

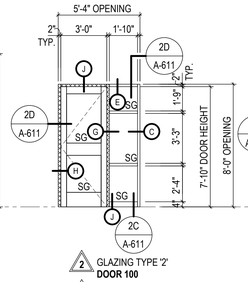
A-610

49 OF 70
PROJECT NO. 1804

Date: 7/6/20
Time: 11:05:06 AM

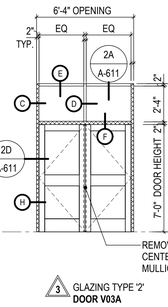


1 GLAZING TYPE '2'
DOORS V01C AND V01D

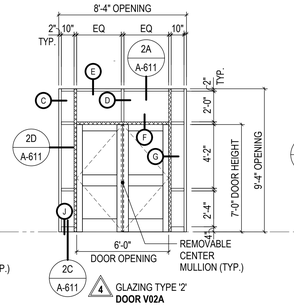


2 GLAZING TYPE '2'
DOOR 100

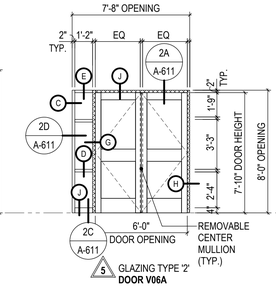
2A **DOOR 100D** (OPP. HAND)
OMIT SECURITY GLASS



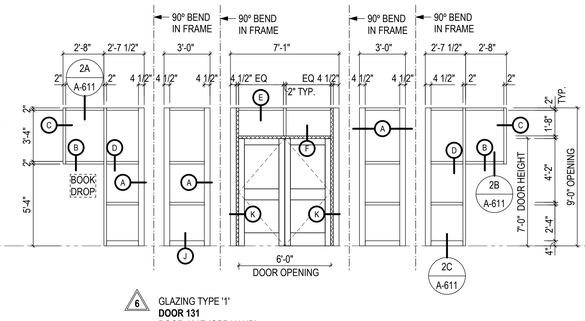
3 GLAZING TYPE '2'
DOOR V03A



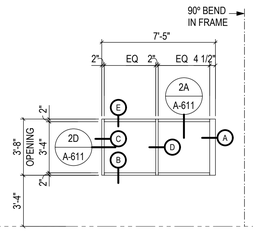
4 GLAZING TYPE '2'
DOOR V02A

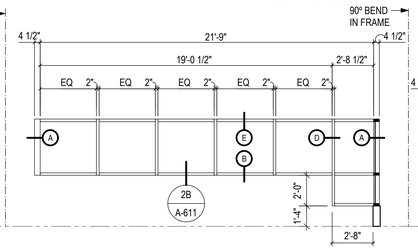


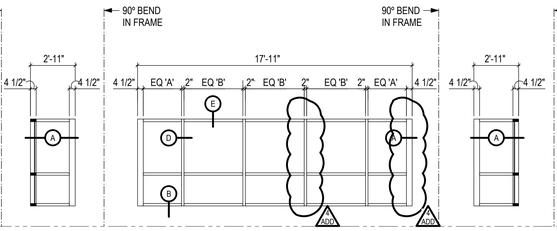
5 GLAZING TYPE '2'
DOOR V06A

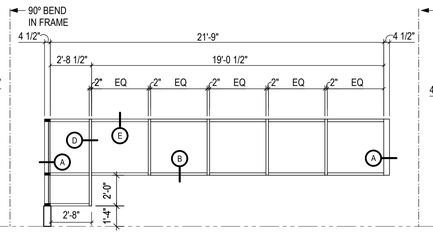


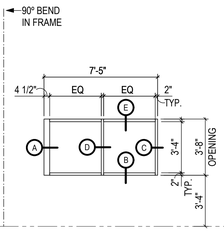
6 GLAZING TYPE '1'
DOOR 131
DOOR 131E (OPP HAND)

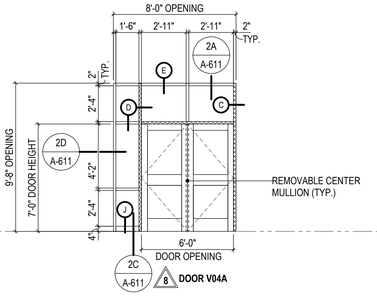












8 **DOOR V04A**

7 GLAZING TYPE '1'
CORRIDOR A011 / MEDIA CENTER B131

GENERAL INTERIOR ALUMINUM STOREFRONT FRAME NOTES

1. SEE FLOOR PLANS FOR ORIENTATION OF FRAMES WITHIN WALLS.
2. SEE DOOR SCHEDULE FOR ADDITIONAL INFORMATION REGARDING GLAZING REQUIREMENTS.
3. OVERALL DIMENSIONS INDICATED AT EACH FRAME TYPE INDICATE MASONRY OPENINGS, OR ROUGH OPENINGS IN STUD PARTITIONS.VERIFY EACH OPENING DIMENSION PRIOR TO FABRICATION OF FRAME TYPE.
4. UNLESS OTHERWISE NOTED ALL GLAZING SHALL BE TYPE '2'- SEE KEY BELOW.
5. AT ALL INTERIOR FRAMES, GLAZING AND INFILL PANELS SHALL BE INSTALLED ON ROOM SIDE OF FRAME IF LOCATED ON A CORRIDOR UNLESS OTHERWISE INDICATED. CONSULT ARCHITECT FOR UNIQUE CONDITIONS AND/OR LOCATIONS.
6. SEE 3/A-611 FOR ALUMINUM STOREFRONT FRAME DETAILS .
7. ALL ELEVATIONS REPRESENT KAWNEER TRIFAB 451UT 4-1/2" FRAME WITH KAWNEER 500 HEAVY WALL ENTRANCE DOORS W/ CONTINUOUS HINGES.

GLAZING KEY

TYPE '1' - 1/4" TEMPERED GLASS INTERIOR USE ONLY

TYPE '2' - 1" TEMPERED INSULATED GLASS INTERIOR USE ONLY

TYPE '3' - 1" LOW-E INSULATING TEMPERED GLASS - [SOLARBAN 60] TYPICAL AT NORTH FACING FRAMES ONLY. U-VALUE=0.28.

TYPE '4' - 1" LOW-E INSULATING TEMPERED GLASS - [SOLARBAN 70 XL] U-VALUE=0.27.

TYPE '5' - 5/8" SOUND CONTROL GLASS TYPICAL FOR ACOUSTICAL ASSEMBLIES MIN. STC=40.

FG - CERAMIC FIRE GLASS INTERIOR USE ONLY - SEE A-002 AND DOOR SCHEDULES FOR REQUIRED UL FIRE RATING

SG - SECURITY GLAZING - U-VALUE = 0.27. PROVIDE 1/4" STARPHIRE ULTRA-CLEAR SECURITY GLASS FOR THE EXTERIOR PANE - SEE ELEVATIONS FOR GLAZING TYPE. TYPICAL FOR ALL GLAZING FROM F.F. TO 7'-0" ABOVE F.F.

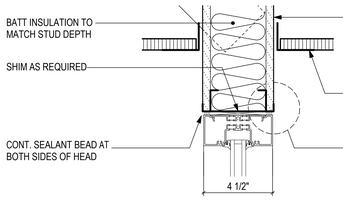
LEGEND

△# REFERS TO ALUMINUM STOREFRONT FRAME TYPES. SEE FLOOR PLANS AND DOOR SCHEDULE FOR LOCATIONS.

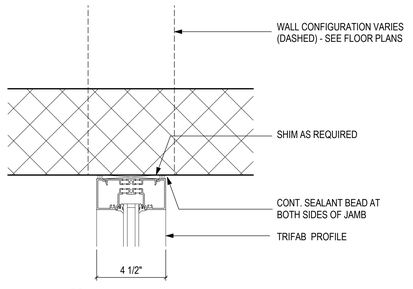
INDICATES FRAME DETAILS ON 3/A-611

HEAVY WALL DOOR JAMBS AND HEAD (SHOWN CROSS HATCH) - TYP.

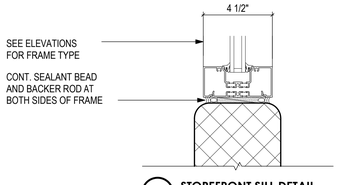
1 / A-611 **ALUMINUM STOREFRONT SYSTEM ELEVATIONS**
SCALE: 1/4" = 1'-0"



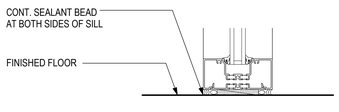
2A **STOREFRONT HEAD DETAIL**



2D **STOREFRONT JAMB DETAIL** (HEAD SIM.)

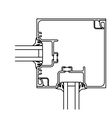


2B **STOREFRONT SILL DETAIL**

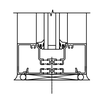


2C **STOREFRONT SILL AT FLOOR DETAIL**

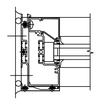
2 / A-611 **ALUMINUM STOREFRONT HEAD/JAMB/SILL CONDITIONS**
SCALE: 3" = 1'-0"



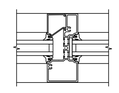
A **90° CORNER W/ 2 POCKETS**



B **SILL DETAIL AT WALL**

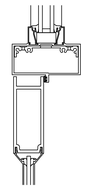


C **WALL JAMB DETAIL**

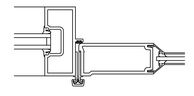


D **GLASS TO GLASS MULLION**

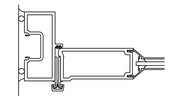
E **HEAD DETAIL**



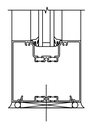
F **GLASS TO DOOR HEAD DETAIL**



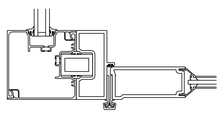
G **GLASS TO DOOR JAMB DETAIL**



H **DOOR TO DOOR JAMB DETAIL**



J **SILL DETAIL AT FLOOR**



K **90° CORNER TO DOOR JAMB DETAIL**

NOTE:
SEE 2/A-611 FOR JAMB AND HEAD CONDITIONS

3 / A-611 **ALUMINUM STOREFRONT FRAME DETAILS**
SCALE: 3" = 1'-0"

Date: 7/6/20
Time: 11:05:07 AM

tca|architects
1369 Generals Highway • Crownsville, Maryland 21032

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 0012154 EXPIRATION DATE: 2021-01-11

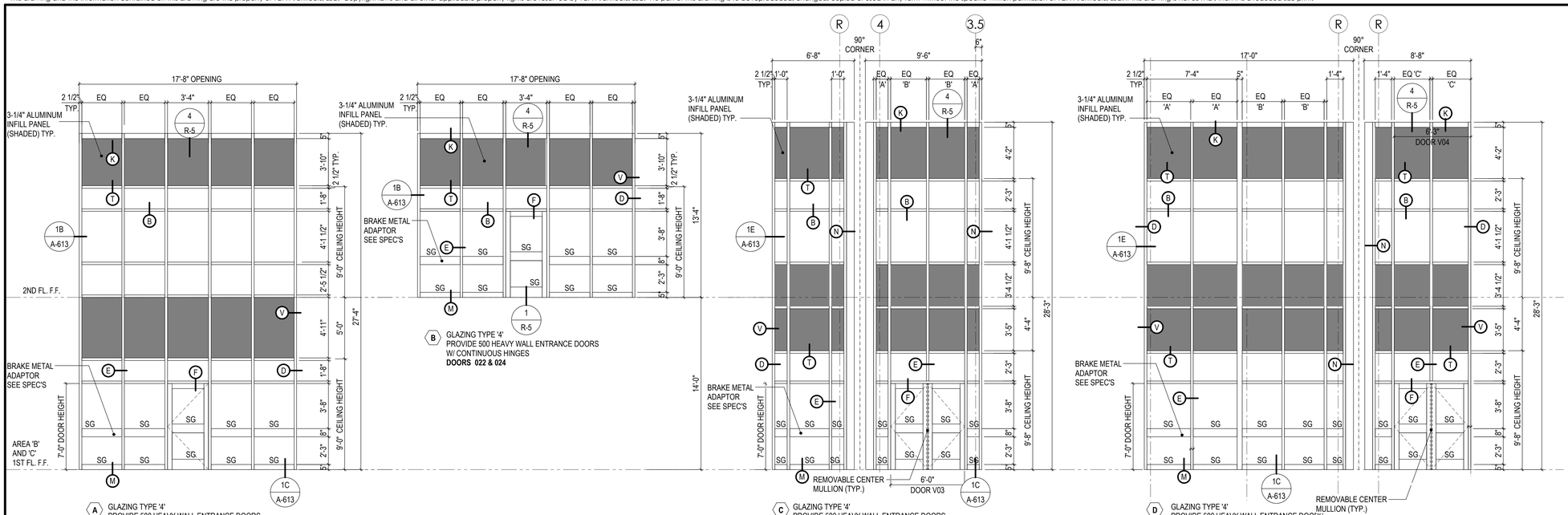
NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
ADDENDUM NO.4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

INTERIOR ALUMINUM STOREFRONT SYSTEM ELEVATIONS

A-611

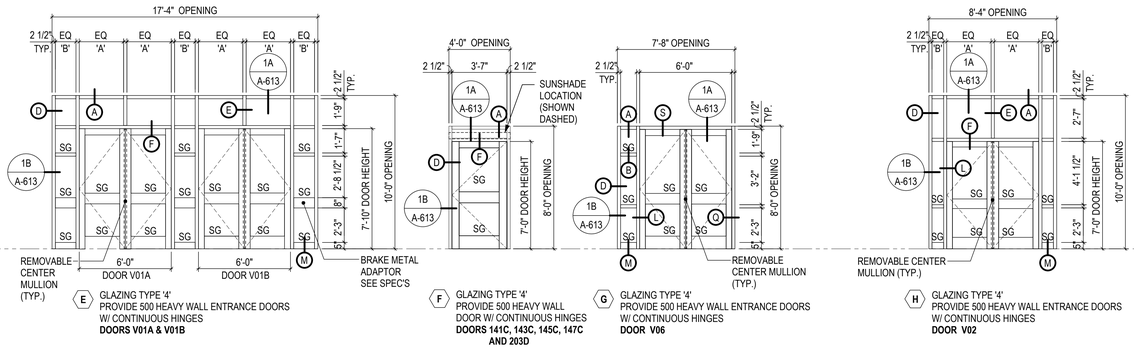


A GLAZING TYPE '4'
PROVIDE 500 HEAVY WALL ENTRANCE DOORS
W/ CONTINUOUS HINGES
DOORS 012A & 014A

B GLAZING TYPE '4'
PROVIDE 500 HEAVY WALL ENTRANCE DOORS
W/ CONTINUOUS HINGES
DOORS 022 & 024

C GLAZING TYPE '4'
PROVIDE 500 HEAVY WALL ENTRANCE DOORS
W/ CONTINUOUS HINGES
DOOR V03

D GLAZING TYPE '4'
PROVIDE 500 HEAVY WALL ENTRANCE DOORS
W/ CONTINUOUS HINGES
DOOR V04



E GLAZING TYPE '4'
PROVIDE 500 HEAVY WALL ENTRANCE DOORS
W/ CONTINUOUS HINGES
DOORS V01A & V01B

F GLAZING TYPE '4'
PROVIDE 500 HEAVY WALL
DOOR W/ CONTINUOUS HINGES
DOORS 141C, 143C, 145C, 147C AND 203D

G GLAZING TYPE '4'
PROVIDE 500 HEAVY WALL ENTRANCE DOORS
W/ CONTINUOUS HINGES
DOOR V06

H GLAZING TYPE '4'
PROVIDE 500 HEAVY WALL ENTRANCE DOORS
W/ CONTINUOUS HINGES
DOOR V02

GENERAL ALUMINUM CURTAIN WALL FRAME NOTES

1. SEE FLOOR PLANS FOR ORIENTATION OF FRAMES WITHIN WALLS.
2. OVERALL DIMENSIONS INDICATED AT EACH FRAME TYPE INDICATE MASONRY OPENINGS, OR ROUGH OPENINGS IN STUD PARTITIONS. VERIFY EACH OPENING DIMENSION PRIOR TO FABRICATION OF FRAME TYPE.
3. UNLESS OTHERWISE NOTED, ALL GLAZING SHALL BE TYPE '4'
4. GLAZING AND INFILL PANELS SHALL BE INSTALLED ON EXTERIOR SIDE OF FRAME, UNLESS OTHERWISE NOTED.
5. BASIS OF DESIGN FOR THESE FRAMES IS KAWNEER 1600UT WALL SYSTEM (7-1/2" DEEP FRAME)
6. SEE DOOR SCHEDULE FOR ADDITIONAL INFORMATION REGARDING GLAZING REQUIREMENTS.

LEGEND

(A) REFERS TO ALUMINUM CURTAINWALL FRAME TYPES. SEE DRAWINGS A-101 THROUGH A-104 FOR LOCATIONS.

(#) INDICATES FRAME DETAILS ON 2/A-613

GLAZING KEY

TYPE '1' - 1/4" TEMPERED GLASS INTERIOR USE ONLY

TYPE '2' - 1" TEMPERED INSULATED GLASS INTERIOR USE ONLY

TYPE '3' - 1" LOW-E INSULATING TEMPERED GLASS - [SOLARBAN 60] TYPICAL AT NORTH FACING FRAMES ONLY. U-VALUE=0.28.

TYPE '4' - 1" LOW-E INSULATING TEMPERED GLASS - [SOLARBAN 70 XL] U-VALUE=0.27.

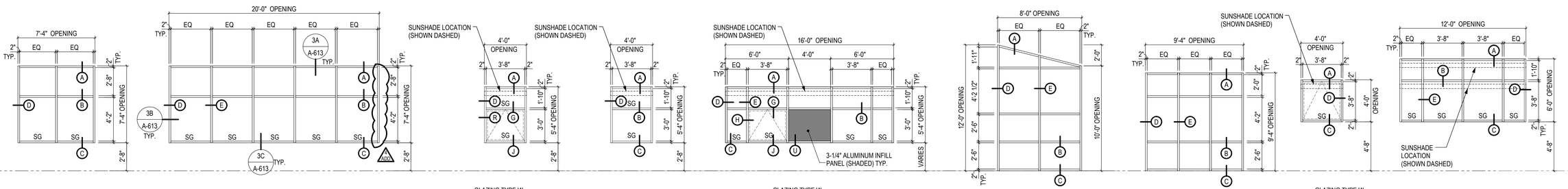
TYPE '5' - 5/8" SOUND CONTROL GLASS TYPICAL FOR ACOUSTICAL ASSEMBLIES MIN. STC=40.

FG - CERAMIC FIRE GLASS INTERIOR USE ONLY - SEE A-002 AND DOOR SCHEDULES FOR REQUIRED UL FIRE RATING

SG - SECURITY GLAZING - U-VALUE = 0.27. PROVIDE 1/4" STARPHIRE ULTRA-CLEAR SECURITY GLASS FOR THE EXTERIOR PANE - SEE ELEVATIONS FOR GLAZING TYPE. TYPICAL FOR ALL GLAZING FROM F.F. TO 7'-0" ABOVE F.F.

1 A-612 ALUMINUM CURTAINWALL FRAME ELEVATIONS

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



J GLAZING TYPE '3'

K GLAZING TYPE '3'

L GLAZING TYPE '4'
PROVIDE W/GLASSvent™
OPERABLE SASH

L1 SAME AS FRAME 'L', BUT PROVIDE GLAZING TYPE '3' AND OMIT SUNSHADE

L2 SAME AS FRAME 'L', BUT OMIT SECURITY GLASS

L3 SAME AS FRAME 'L', BUT PROVIDE GLAZING TYPE '3', OMIT SECURITY GLASS AND OMIT SUNSHADE

M GLAZING TYPE '4'

M1 SAME AS FRAME 'M', BUT PROVIDE GLAZING TYPE '3' AND OMIT SUNSHADE

M2 SAME AS FRAME 'M', BUT OMIT SECURITY GLASS

M3 SAME AS FRAME 'M', BUT PROVIDE GLAZING TYPE '3', OMIT SECURITY GLASS AND OMIT SUNSHADE

N GLAZING TYPE '4'
PROVIDE W/GLASSvent™
OPERABLE SASH

N1 SAME AS FRAME 'N', BUT PROVIDE GLAZING TYPE '3' AND OMIT SUNSHADE

N2 SAME AS FRAME 'N', BUT OMIT SECURITY GLASS

N3 SAME AS FRAME 'N', BUT PROVIDE GLAZING TYPE '3', OMIT SECURITY GLASS AND OMIT SUNSHADE

N4 SAME AS FRAME 'N', BUT WIDTH OF M.O. = 15'-8" OMIT SECURITY GLASS

P GLAZING TYPE '4'

Q GLAZING TYPE '4'

R GLAZING TYPE '4'
PROVIDE W/GLASSvent™
OPERABLE SASH

S GLAZING TYPE '4'
WIDTH OF OPENING = 12'-0"

S1 SAME AS FRAME 'S', BUT WIDTH OF OPENING = 12'-4"

GLAZING KEY

TYPE '1' - 1/4" TEMPERED GLASS INTERIOR USE ONLY

TYPE '2' - 1" TEMPERED INSULATED GLASS INTERIOR USE ONLY

TYPE '3' - 1" LOW-E INSULATING TEMPERED GLASS - [SOLARBAN 60] TYPICAL AT NORTH FACING FRAMES ONLY. U-VALUE=0.28.

TYPE '4' - 1" LOW-E INSULATING TEMPERED GLASS - [SOLARBAN 70 XL] U-VALUE=0.27.

TYPE '5' - 5/8" SOUND CONTROL GLASS TYPICAL FOR ACOUSTICAL ASSEMBLIES MIN. STC=40.

FG - CERAMIC FIRE GLASS INTERIOR USE ONLY SEE A-002 AND DOOR SCHEDULES FOR REQUIRED UL FIRE RATING

SG - SECURITY GLAZING - U-VALUE = 0.27. PROVIDE 1/4" STARPHIRE ULTRA-CLEAR SECURITY GLASS FOR THE EXTERIOR PANE - SEE ELEVATIONS FOR GLAZING TYPE. TYPICAL FOR ALL GLAZING FROM F.F. TO 7'-0" ABOVE F.F.

LEGEND

(A) REFERS TO EXTERIOR ALUMINUM FRAME TYPES. SEE DRAWINGS A-101 THROUGH A-104 FOR LOCATIONS.

(#) INDICATES SIMILAR FRAME DETAILS ON 2/A-613

GENERAL EXTERIOR ALUMINUM STOREFRONT FRAME NOTES

1. SEE FLOOR PLANS FOR ORIENTATION OF FRAMES WITHIN WALLS.
2. OVERALL DIMENSIONS INDICATED AT EACH FRAME TYPE INDICATE MASONRY OPENINGS, OR ROUGH OPENINGS IN STUD PARTITIONS. VERIFY EACH OPENING DIMENSION PRIOR TO FABRICATION OF FRAME TYPE.
3. UNLESS OTHERWISE NOTED, ALL GLAZING SHALL BE TYPE '4'
4. GLAZING AND INFILL PANELS SHALL BE INSTALLED ON EXTERIOR SIDE OF FRAME, UNLESS OTHERWISE NOTED.
5. BASIS OF DESIGN FOR THESE FRAMES IS KAWNEER 451T ALUMINUM STOREFRONT SYSTEM (4-1/2" DEEP FRAME)

2 A-612 EXTERIOR ALUMINUM STOREFRONT FRAME ELEVATIONS

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

tca|architects
13419 Generals Highway • Crownsville, Maryland 21032

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LICENSE NO. 0012154 EXPIRATION DATE: 2021-01-11

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
ADD1 ADDENDUM NO.4 8 JULY 20

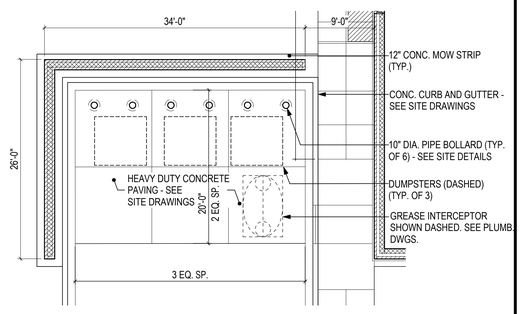
BID AND CONSTRUCTION 16 JUNE 20

EXTERIOR ALUMINUM FRAME ELEVATIONS

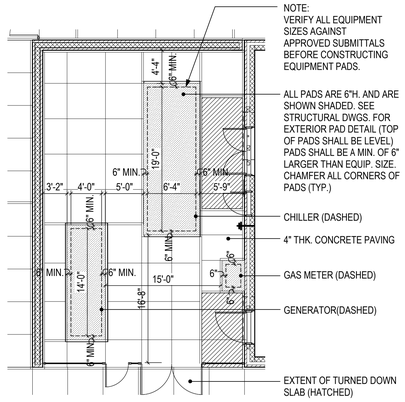
A-612

51 OF 70
PROJECT NO. 1804

Date: 7/6/20
Time: 11:35:09 AM



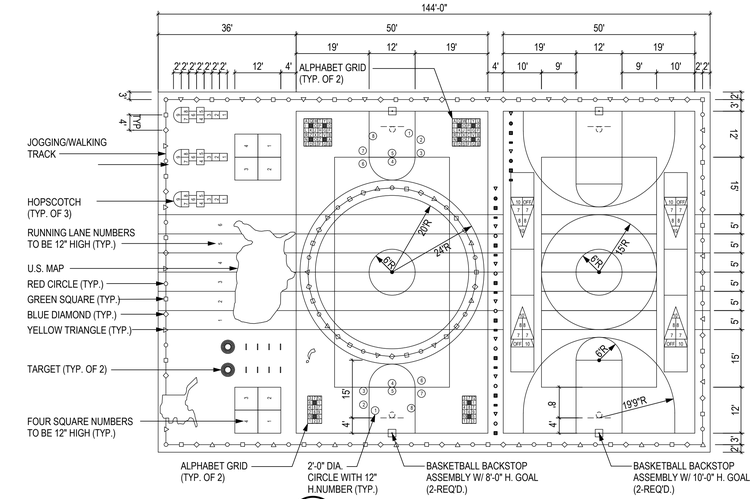
4 DUMPSTER SCREEN WALL PLAN
A-880 SCALE: 1/8" = 1'-0"



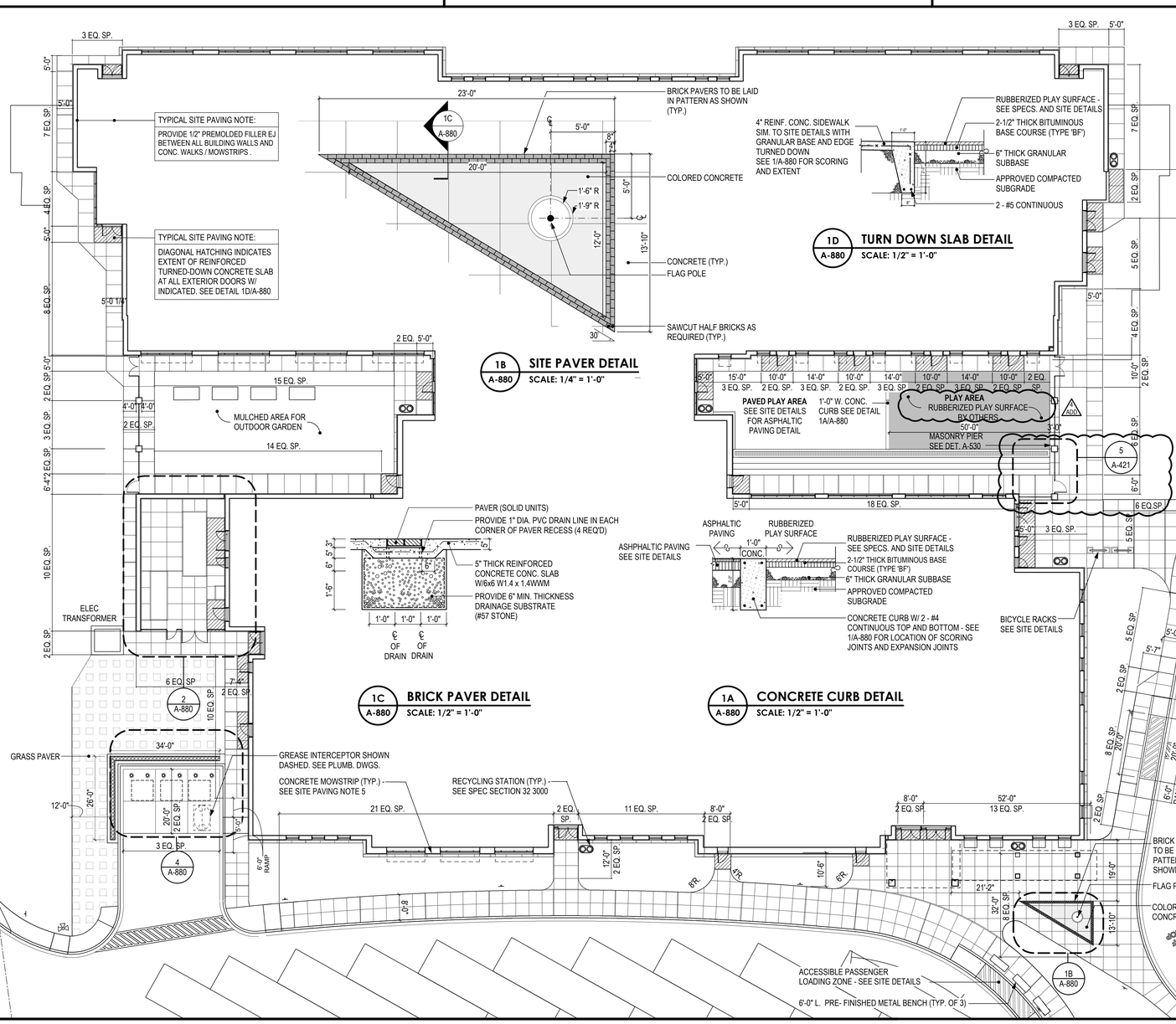
3 CHILLER ENCLOSURE PLAN
A-880 SCALE: 1/8" = 1'-0"

PAVED PLAY AREA GENERAL NOTES:

1. ALL LINES SHALL BE 2" WIDE AND PAINTED WHITE UNLESS OTHERWISE NOTED.
2. ALL NUMBERS SHALL BE 6" H. AND PAINTED WHITE UNLESS OTHERWISE NOTED.
3. SEE PEACEFULPLAYGROUND.COM FOR EXAMPLE OF TEMPLATES AND STENCILS REQUIRED FOR PLAY AREA.



2 PAVED PLAY AREA
A-880 SCALE: 1/16" = 1'-0"



1 SITE PAVING PLAN
A-880 SCALE: 1/16" = 1'-0"

Date: 7/8/20
Time: 9:22:50 AM

tca architects
1369 Generals Highway • Crownsville, Maryland 21032

PROFESSIONAL CERTIFICATION.
I, CERRY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 0017154, EXPIRATION DATE: 2021-01-11

NEW TALBOT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
1 ADDENDUM NO. 4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

SITE PAVING PLAN

A-880

64 OF 70
PROJECT NO. 1804

NOTES: WHERE NOT OTHERWISE INDICATED, MISC. SPACES SUCH AS CLOSETS, ETC. SHALL HAVE FINISHES TO MATCH ADJOINING SPACES. SEE REFLECTED CEILING PLAN FOR CEILING FINISHES IN ROOMS.

SPACE			FLOOR		WALL				CEILING	REMARKS
AREA	ROOM NO.	ROOM NAME	MATERIAL	BASE	NORTH	EAST	SOUTH	WEST	MATERIAL	
A	010	CORRIDOR	VCT-2	VINYL-2	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW	SEE A-910 FOR FLOOR FINISH PATTERN
A	011	CORRIDOR	VCT-2	VINYL-2	SBCMU / GDW	SBCMU	SBCMU	SBCMU	A / GDW	SEE A-910 FOR FLOOR FINISH PATTERN
B	012	CORRIDOR	VCT-2 / SR-VCT	VINYL-2	SBCMU	SBCMU	SBCMU	SBCMU / GDW	A / GDW	SEE A-910 FOR FLOOR FINISH PATTERN / SR-VCT AT RAMP ONLY
B / C	013	CORRIDOR	VCT-2	VINYL-2 / CT	SBCMU / FB / CMU-1	SBCMU	SBCMU / FB / CT	-	A / GDW	SEE A-910 FOR FLOOR FINISH PATTERN
B	014	CORRIDOR	VCT-2 / SR-VCT	VINYL-2	-	SBCMU	-	SBCMU / GDW	A / GDW	SEE A-910 FOR FLOOR FINISH PATTERN / SR-VCT AT RAMP ONLY
A	015	CORRIDOR	VCT-2	VINYL-2	SBCMU	SBCMU	SBCMU	SBCMU	A	SEE A-910 FOR FLOOR FINISH PATTERN
A	017	CORRIDOR	VCT-2	VINYL-2	SBCMU	SBCMU	SBCMU	SBCMU / GDW	A / GDW	SEE A-910 FOR FLOOR FINISH PATTERN
B	022	CORRIDOR	VCT-2	VINYL-2	FB	SBCMU	FB	SBCMU	A	SEE A-910 FOR FLOOR FINISH PATTERN
B / C	023	CORRIDOR	VCT-2	VINYL-2 / CT	SBCMU / FB / CMU-1	SBCMU	SBCMU / FB / CT	SBCMU	A / GDW	SEE A-910 FOR FLOOR FINISH PATTERN
B	024	CORRIDOR	VCT-2	VINYL-2	FB	SBCMU	SBCMU / FB	SBCMU	A	SEE A-910 FOR FLOOR FINISH PATTERN
A	100	MAIN OFFICE	CAR-1	VINYL	GDW	GDW	SBCMU	SBCMU	A	
A	100A	CONFERENCE	CAR-1	VINYL	GDW	SBCMU	SBCMU	GDW	A	
A	101	GYMNASIUM	WOOD / CAR-2	VRB	SBCMU	SBCMU	SBCMU	SBCMU	EXP	SEE 1 / A-101 FOR LOCATION OF FINISHES
A	101A	GYM OFFICE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	101B	GYM STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
A	101C	GYM STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
A	102	WORK ROOM	VCT-1	VINYL	GDW	GDW	GDW	SBCMU / GDW	A	
A	103	PARENT VOLUNTEER	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	104	TESTING	VCT-1	VINYL	GDW	GDW	GDW	SBCMU	A	
A	105	STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	106	CORRIDOR	CAR-1	VINYL	GDW	GDW	GDW	SBCMU / GDW	A	
A	106A	ASSISTANT PRINCIPAL	CAR-1	VINYL	GDW	SBCMU	GDW	GDW	A	
A	106B	PRINCIPAL	CAR-1	VINYL	GDW	SBCMU	GDW	GDW	A	
A	106C	TOILET	PT-1	PT-1	GDW	SBCMU	CWT	GDW	MR	
A	106D	TOILET	PT-1	PT-1	GDW	GDW	CWT	GDW	MR	
A	106E	RECORDS	VCT-1	VINYL	GDW	GDW	GDW	GDW	A	
A	106F	COAT CLOSET	CAR-1	VINYL	GDW	GDW	GDW	GDW	GDW	
A	107	VESTIBULE	VCT-2	VINYL-2	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	107A	TOILET	PT-1	PT-1	SBCMU	CMU-2	SBCMU	CMU-2	A	
A	107B	TOILET	PT-1	PT-1	CMU-2	SBCMU	SBCMU	SBCMU	A	
A	108	HEALTH	VCT-1	VINYL	SBCMU / GDW	GDW	GDW	SBCMU / GDW	MR	
A	108A	TOILET	PT-1 / CT	PT-1 / CT	GDW	GDW	CWT	SBCMU / GDW	GDW	PROVIDE CT AT SHOWER ONLY
A	108B	OFFICE	VCT-1	VINYL	GDW	SBCMU	GDW	GDW	MR	
A	108C	EXAM	VCT-1	VINYL	SBCMU	SBCMU	GDW	GDW	MR	
A	108D	STORAGE	VCT-1	VINYL	SBCMU / GDW	GDW	GDW	SBCMU / GDW	A	
A	109	HISPANIC VOLUNTEER	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	110	CUSTODIAL CLOSET	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
A	111	TELECOM ROOM 1	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
A	113	OFFICE STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	115	WOMEN'S RESTROOM	PT-1	PT-1	SBCMU / CMU-2	SBCMU	CMU-2	SBCMU	MR	SEE 9 / A-801 FOR EXTENT OF CMU-2
A	117	VESTIBULE	VCT-1	VINYL-2	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	117A	TOILET	PT-1	PT-1	CMU-2	SBCMU	SBCMU	SBCMU	MR	
A	117B	STAFF LOUNGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	117C	TOILET	PT-1	PT-1	SBCMU	SBCMU	CMU-2	SBCMU	MR	
A	118	PLATFORM	WD-TR / VCT-1 / SR-VCT	VINYL / WOOD	SBCMU / GMU	SBCMU	SBCMU	SBCMU	A / EXP / GDW	SR-VCT AT RAMPS AND LANDING
A	119	ENSEMBLE	VCT / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	LN / RSD	SEE A-101 AND A-311 FOR LOCATION OF FINISHES
A	119A	STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	120	CAFETORIUM	VCT-2	VINYL-2	SBCMU / GDW	SBCMU	SBCMU	SBCMU	EXP	
A	120A	KITCHEN	QT	QT	GMU	GMU	GMU	GMU	MR	SEE 2 / A-701 FOR GMU STRIPING PATTERN
A	120B	CUSTODIAL CLOSET	QT	QT	SBCMU	SBCMU	SBCMU	SBCMU	MR	
A	120C	LOCKER	QT	QT	SBCMU	SBCMU	SBCMU	SBCMU	MR	
A	120D	TOILET	QT	QT	CMU-2	SBCMU	SBCMU	SBCMU	MR	
A	120E	DRY STORAGE	QT	QT	SBCMU	SBCMU	SBCMU	SBCMU	MR	
A	120F	DISHWASHING	QT	QT	GMU	GMU	GMU	GMU	MR	SEE 2 / A-701 FOR GMU STRIPING PATTERN
A	120G	KITCHEN OFFICE	QT	QT	SBCMU	SBCMU	SBCMU	SBCMU	MR	
A	120H	CHAIR STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	121	MUSIC	VCT / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	LN / RSD / GB	SEE A-101 AND A-311 FOR LOCATION OF FINISHES
A	121A	STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	123	MEN'S RESTROOM	PT-1	PT-1	SBCMU / CMU-2	SBCMU	CMU-2	SBCMU	MR	SEE 10 / A-801 FOR EXTENT OF CMU-2
A	125	STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
A	126	MECHANICAL ROOM	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
A	127	BSMO	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
A	127A	TOILET	PT-1	PT-1	SBCMU	SBCMU	SBCMU / CMU-2	SBCMU	MR	SEE 5 / A-801 FOR EXTENT OF CMU-2
A	129	STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	131	MEDIA CENTER	CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	LF / GDW	SEE INTERIOR 1 / A-701 AND A-312 FOR EXTENT OF FINISHES
B	131A	TECH RESOURCE	CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	131B	MEDIA OFFICE	CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	131C	MEDIA STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	131D	MEDIA PRODUCTION	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	WALL ADJACENT TO CORRIDOR TO BE PAINTED GREEN
B	132	READING	CAR-1	VINYL	GDW	SBCMU / GDW	SBCMU	SBCMU	A	
B	133	E.C. STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	134	READING OFFICE STORAGE	VCT-1	VINYL	GDW	GDW	GDW	SBCMU	A	
B	140	CLASSROOM 1	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU / GDW	A	SEE A-102 FOR LOCATION OF FINISHES
B	140A	TOILET	PT-1	PT-1	SBCMU	SBCMU	SBCMU	CMU-2	MR	
B	141	KINDERGARTEN 4	VCT-1 / CAR-2	VINYL	SBCMU	SBCMU	SBCMU	SBCMU / GDW	A	SEE A-102 FOR LOCATION OF FINISHES
B	141A	TOILET	PT-1	PT-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
B	141B	STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	142	CLASSROOM 2	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE A-102 FOR LOCATION OF FINISHES
B	142A	TOILET	PT-1	PT-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
B	143	KINDERGARTEN 3	VCT-1 / CAR-2	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE A-102 FOR LOCATION OF FINISHES
B	143A	TOILET	PT-1	PT-1	SBCMU	SBCMU	SBCMU	CMU-2	MR	
B	144	CLASSROOM 3	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE A-102 FOR LOCATION OF FINISHES
B	144A	TOILET	PT-1	PT-1	SBCMU	SBCMU	SBCMU	CMU-2	MR	
B	145	KINDERGARTEN 2	VCT-1 / CAR-2	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE A-102 FOR LOCATION OF FINISHES
B	145A	TOILET	PT-1	PT-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
B	145B	STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	146	CLASSROOM 4	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU	A	SEE A-102 FOR LOCATION OF FINISHES
B	146A	TOILET	PT-1	PT-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
B	147	KINDERGARTEN 1	VCT-1 / CAR-2	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE A-102 FOR LOCATION OF FINISHES
B	147A	TOILET	PT-1	PT-1	SBCMU	SBCMU	SBCMU	CMU-2	MR	
B	148	S.E. RESOURCE 1	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW	SEE A-102 AND A-312 FOR LOCATION OF FINISHES
B	149	SPEECH	VCT-1	VINYL	SBCMU	SBCMU / GDW	GDW	SBCMU	A	
B	150	RESOURCE 1	CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU / GDW	A / GDW	SEE A-102 AND A-312 FOR LOCATION OF GDW CEILING
B	151	ELECTRICAL ROOM	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	152	RESOURCE 2	CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	
B	153	GIRL'S RESTROOM	PT-1	PT-1	SBCMU	SBCMU	CMU-2	SBCMU	MR	
B	154	RESOURCE 3	CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU	A	SEE A-102 FOR LOCATION OF FINISHES
B	155	BOY'S RESTROOM	PT-1	PT-1	SBCMU	SBCMU	CMU-2	SBCMU	MR	
B	156	S.E. RESOURCE 2	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW	SEE A-102 AND A-312 FOR LOCATION OF FINISHES
B	157	VESTIBULE	VCT-2	VINYL-2	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	157A	TOILET	PT-1	PT-1	SBCMU	SBCMU	CMU-2	SBCMU	MR	
B	157B	TOILET	PT-1	PT-1	CMU-2	SBCMU	SBCMU	SBCMU	MR	
B	157C	STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
C	158	OT / PT THERAPY	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU / GDW	A	SEE 1 / A-103 FOR LOCATION OF FINISHES
C	158A	STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
C	159	STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
C	160	CLASSROOM 5	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE 1 / A-103 FOR LOCATION OF FINISHES
C	160A	TOILET	PT-1	PT-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
C	162	CLASSROOM 6	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE 1 / A-103 FOR LOCATION OF FINISHES
C	162A	TOILET	PT-1	PT-1	SBCMU	SBCMU	SBCMU	CMU-2	MR	
C	163	PRE-KINDERGARTEN 3	VCT-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE 1 / A-103 FOR LOCATION OF FINISHES
C	163A	TOILET	VCT-1	VINYL-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
C	163B	TOILET	VCT-1	VINYL-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
C	163C	STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
C	164	CLASSROOM 7	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU	A	SEE 1 / A-103 FOR LOCATION OF FINISHES
C	164A	TOILET	PT-1	PT-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
C	165	PRE-KINDERGARTEN 2	VCT-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE 1 / A-103 FOR LOCATION OF FINISHES
C	165A	TOILET	VCT-1	VINYL-1	SBCMU	SBCMU	SBCMU	CMU-2	MR	
C	165B	TOILET	VCT-1	VINYL-1	SBCMU	SBCMU	SBCMU	CMU-2	MR	
C	165C	OFFICE STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	

NOTES: WHERE NOT OTHERWISE INDICATED, MISC. SPACES SUCH AS CLOSETS, ETC. SHALL HAVE FINISHES TO MATCH ADJOINING SPACES. SEE REFLECTED CEILING PLAN FOR CEILING FINISHES IN ROOMS.

SPACE			FLOOR		WALL				CEILING	REMARKS
AREA	ROOM NO.	ROOM NAME	MATERIAL	BASE	NORTH	EAST	SOUTH	WEST	MATERIAL	
C	167	PRE-KINDERGARTEN 1	VCT-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU	A	SEE 1 / A-103 FOR LOCATION OF FINISHES
C	167A	TOILET	VCT-1	VINYL-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
C	167B	TOILET	VCT-1	VINYL-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
C	170	PSYCHOLOGIST OFFICE	CAR-1	VINYL	SBCMU	SBCMU	GDW	SBCMU	A	
B	171	CUSTODIAL CLOSET	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
C	172	ALTERNATE EDUCATION	CAR-1	VINYL	GDW	SBCMU	GDW	SBCMU	A	
C	172A	STORAGE	CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	173	EQUIPMENT ROOM	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP / GDW	SEE A-312 FOR LOCATION OF GDW CEILING
C	174	GUIDANCE	CAR-1	VINYL	GDW	SBCMU	GDW	GDW	A	
C	174A	STORAGE	CAR-1	VINYL	SBCMU	SBCMU	GDW	SBCMU	A	
C	176	ESOL 1	VCT / CAR-1	VINYL	GDW	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE 1 / A-103 FOR LOCATION OF FINISHES
B	200	ESOL 2	VCT / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	201	STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	202	STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	203	ART STUDIO	SR-VCT	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW	
B	203A	KILN	SR-VCT	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	203B	STORAGE	SR-VCT	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	205	STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	207	ELEVATOR EQUIPMENT	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	210	CLASSROOM 11	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU / GDW	LF / GDW	SEE A-104 AND A-314 FOR LOCATION OF FINISHES
B	211	STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	212	CLASSROOM 12	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	LF / GDW	SEE A-104 AND A-314 FOR LOCATION OF FINISHES
B	213	CLASSROOM 10	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU / GDW	A	SEE A-104 FOR LOCATION OF FINISHES
B	213A	TOILET	PT-1	PT-1	SBCMU	SBCMU	SBCMU	CMU-2	MR	
B	214	CLASSROOM 13	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	LF / GDW	SEE A-104 AND A-314 FOR LOCATION OF FINISHES
B	215	CLASSROOM 9	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE A-104 FOR LOCATION OF FINISHES
B	215A	TOILET	PT-1	PT-1	SBCMU	CMU-2	SBCMU	SBCMU	MR	
B	216	CLASSROOM 14	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU	LF / GDW	SEE A-104 AND A-314 FOR LOCATION OF FINISHES
B	217	CLASSROOM 8	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	
B	217A	TOILET	PT-1	PT-1	SBCMU	SBCMU	SBCMU	CMU-2	MR	
B	218	S.E. RESOURCE 3	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW	SEE A-104 AND A-314 FOR LOCATION OF FINISHES
B	219	GIFTED AND TALENTED	VCT-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU	A	
B	219A	G & T STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	220	RESOURCE 4	CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU / GDW	A	
B	221	MATH STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	222	RESOURCE 5	CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	
B	223	ELECTRICAL ROOM	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	224	RESOURCE 6	CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU	A / GDW	SEE A-102 AND A-312 FOR LOCATION OF FINISHES
B	225	GIRL'S RESTROOM	PT-1	PT-1	SBCMU	SBCMU	CMU-2	SBCMU	MR	
B	226	S.E. RESOURCE 4	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW	SEE A-102 AND A-312 FOR LOCATION OF FINISHES
B	227	BOY'S RESTROOM	PT-1	PT-1	SBCMU	SBCMU	CMU-2	SBCMU	MR	
C	228	CLASSROOM 15	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU / GDW	LF / GDW	SEE 2 / A-103 AND A-313 FOR LOCATION OF FINISHES
B	229	VESTIBULE	VCT-2	VINYL-2	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	229A	TOILET	PT-1	PT-1	SBCMU	SBCMU	CMU-2	SBCMU	MR	
B	229B	TOILET	PT-1	PT-1	CMU-2	SBCMU	SBCMU	SBCMU	MR	
C	230	CLASSROOM 16	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	LF / GDW	SEE 2 / A-103 AND A-313 FOR LOCATION OF FINISHES
C	231	OFFICE STORAGE	VCT-1	VINYL	SBCMU	SBCMU	SBCMU	SBCMU	A	
C	232	CLASSROOM 17	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	LF / GDW	SEE 2 / A-103 AND A-313 FOR LOCATION OF FINISHES
C	233	WORK ROOM	VCT-1	VINYL	SBCMU	SBCMU	GDW	SBCMU / GDW	A	
C	234	CLASSROOM 18	VCT / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU	LF / GDW	SEE 2 / A-103 AND A-313 FOR LOCATION OF FINISHES
C	235	STORAGE	CONC	NONE	SBCMU	SBCMU / GDW	SBCMU	SBCMU	EXP	
C	237	CLASSROOM 21	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE 2 / A-103 FOR LOCATION OF FINISHES
C	239	CLASSROOM 20	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU / GDW	A	SEE 2 / A-103 FOR LOCATION OF FINISHES
C	241	STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
C	243	CLASSROOM 19	VCT-1 / CAR-1	VINYL	SBCMU	SBCMU / GDW	SBCMU	SBCMU	A	SEE 2 / A-103 FOR LOCATION OF FINISHES
C	250	S.E. TOILET	PT-1	PT-1	CMU-2	SBCMU	SBCMU	SBCMU	MR	
B	251	CUSTODIAL CLOSET	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
C	252	S.E. RESOURCE 5	VCT-1 / CAR-1	VINYL	GDW	SBCMU / GDW	SBCMU	SBCMU / GDW	A	
B	253	TELECOM ROOM 2	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	A11	STAIR A	CAR-2 / PT-2	VINYL-2 / PT-2	SBCMU	SBCMU	SBCMU	SBCMU	EXP	SEE A-910'S AND A-520'S FOR LOCATIONS OF PT-2
B	A22	STAIR A	VCT-2 / PT-2	VINYL-2 / PT-2	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW	SEE A-910'S AND A-520'S FOR LOCATIONS OF PT-2
B	B11	STAIR B	CAR-2 / PT-2	VINYL-2 / PT-2	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW / EXP	SEE A-910'S AND A-520'S FOR LOCATIONS OF PT-2
B	B22	STAIR B	VCT-2 / PT-2	VINYL-2 / PT-2	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW	SEE A-910'S AND A-520'S FOR LOCATIONS OF PT-2
C	C11	STAIR C	CAR-2 / PT-2	VINYL-2 / PT-2	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW / EXP	SEE A-910'S AND A-520'S FOR LOCATIONS OF PT-2
C	C22	STAIR C	VCT-2 / PT-2	VINYL-2 / PT-2	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW	SEE A-910'S AND A-520'S FOR LOCATIONS OF PT-2
B	D11	STAIR D	(4 ADD) CAR-2 / PT-2	VINYL-2 / PT-2	SBCMU	SBCMU	SBCMU	SBCMU	EXP	SEE A-910'S AND A-520'S FOR LOCATIONS OF PT-2
B	D22	STAIR D	VCT-2 / PT-2	VINYL-2 / PT-3	SBCMU	SBCMU	SBCMU	SBCMU	A / GDW	SEE A-910'S AND A-520'S FOR LOCATIONS OF PT-2
A	V01	VESTIBULE	CAR-2	VINYL-2	-	SBCMU	-	SBCMU	A	
A	V02	VESTIBULE	CAR-2	VINYL-2	SBCMU	SBCMU	SBCMU	SBCMU	A	
B	V03	VESTIBULE	CAR-2	VINYL-2	FB	-	-	FB	A	
C	V04	VESTIBULE	CAR-2	VINYL-2	-	FB	-	-	A	
A	V05	VESTIBULE	CAR-2	VINYL-2	SBCMU	GDW	SBCMU	SBCMU	A	
A	V05A	ELECTRICAL ROOM	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
A	V05B	ELECTRICAL ROOM	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
A	V06	VESTIBULE	CAR-2	VINYL-2	GDW	SBCMU	SBCMU	SBCMU	A	
A	X01	TOILET	CONC	NONE / PT-2	CMU-2	SBCMU	SBCMU	SBCMU	GDW	SEE 12 / A-801 FOR EXTENT OF PT-2
A	X02	TOILET	CONC	NONE / PT-2	SBCMU	SBCMU	CMU-2	SBCMU	GDW	SEE 12 / A-801 FOR EXTENT OF PT-2
B	X03	P.E. EXTERIOR STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	X04	EXTERIOR STORAGE	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
A	X05	CAN WASH	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
A	X06	SPRINKLER ROOM	CONC	NONE	SBCMU	SBCMU	SBCMU	SBCMU	EXP	
B	X20	OUTDOOR CLASSROOM	PAVER	FB	FB	FB	-	FB	-	EXTERIOR SPACE

	ABBR.	DESCRIPTION
FLOORING	CAR-1	CARPET
	CAR-2	ENTRANCE CARPET
	CONC	EXPOSED CONCRETE (SEALED)
	PAVER	CONCRETE PAVERS
	CT	CERAMIC MOSAIC FLOOR TILE
	PT-1	GLAZED PORCELAIN TILE - TYPICAL BATHROOM
	PT-2	PORCELAIN TILE
	QT	QUARRY TILE
	VCT-1	RESILIENT TILE (BASE BID) / QUARTZ TILE (ALTERNATE)
	VCT-2	RESILIENT TILE (BASE BID) / EPOXY TERRAZZO FLOOR (ALTERNATE)
	SR-VCT	SLIP RESISTANT RESILIENT TILE
	WOOD	WOOD FLOORING
	WD-TR	WOOD TREADS AND RISERS

	ABBR.	DESCRIPTION
BASE	CT	CERAMIC MOSAIC BASE TILE
	FB	FACE BRICK
	NONE	NO BASE ON CMU WALLS / VINYL AT GDW WALLS
	PT-1	GLAZED PORCELAIN TILE - TYPICAL BATHROOM
	PT-2	NONE (BASE BID) / PT-1 (ALTERNATE)
	QT	QUARRY TILE
	VINYL	VINYL BASE
	VINYL-1	VINYL BASE (BASE BID) / PT-1 (ALTERNATE)
	VINYL-2	VINYL BASE (BASE BID) / PRE-CAST TERRAZZO BASE (ALTERNATE)
	VRB	VENTED RUBBER BASE
	WOOD	WOOD TRIM AT PLATFORM STEPS

	ABBR.	DESCRIPTION
WALLS	SBCMU	CMU STACKBONDED W / VEE JOINTS (PTD.)
	CMU-1	CMU STACKBONDED W / RAKED JOINTS (PTD.)
	CMU-2	SBCMU (BASE BOND) / CERAMIC WALL TILE (ALTERNATE)
	CWT	CERAMIC WALL TILE
	FB	FACE BRICK - SEE MASONRY NOTES AND ELEVATIONS FOR TYPES
	GDW	GYPSUM DRYWALL (PTD.)
	GMU	GLAZED MASONRY UNITS STACKBONDED W / VEE JOINTS - SEE MASONRY NOTES FOR TYPES

	ABBR.	DESCRIPTION
CEILING	A	ACOUSTICAL CEILING PANELS
	EXP	EXPOSED STRUCTURE (PTD.)
	GDW	GYPSUM DRYWALL (PTD.)
	GB	GYPSUM BOARD CEILING PANELS
	LN	LOW NRC CEILING PANELS
	LF	LOW FREQUENCY CEILING PANELS
	MR	MOISTURE RESISTANT CEILING PANELS
	RSD	RADIUSED SOUND DIFFUSING CEILING PANELS

1A **ABBREVIATIONS**

GENERAL NOTES

1. SEE A-910 DRAWINGS FOR FLOOR FINISH PATTERNS.
2. SEE FLOOR PLANS AND A-910'S FOR LOCATION OF FLOOR TRANSITIONS.
3. SEE INTERIOR ELEVATIONS, WALL SECTIONS AND REFLECTED CEILING PLANS FOR ADDITIONAL INFORMATION IN REGARDS TO FINISHES.

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ARCHITECT 0017154 TOBY H. LACEY STATE OF MARYLAND

PROFESSIONAL CERTIFICATION.
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 0017154, EXPIRATION DATE: 2021-01-11

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

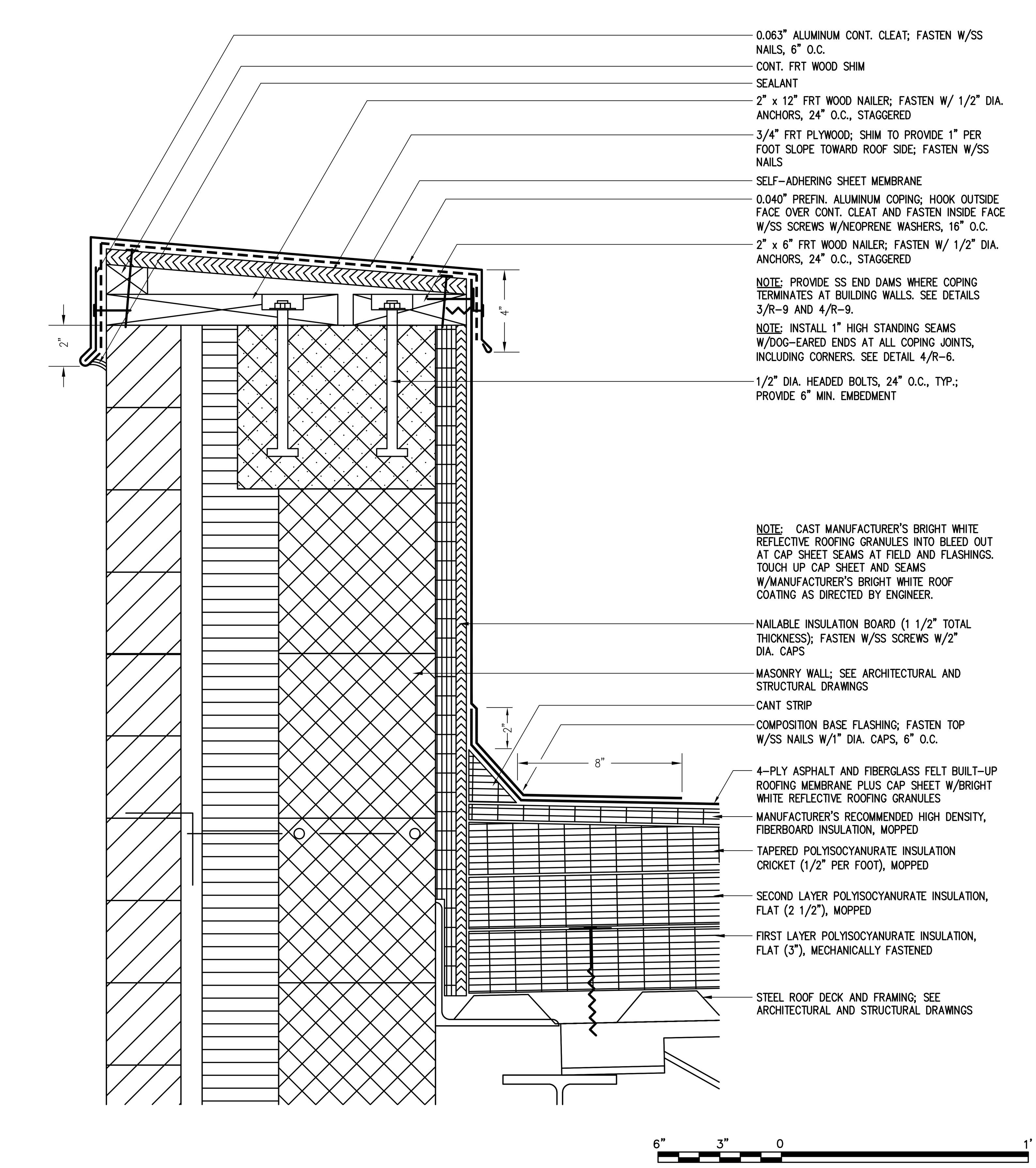
revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
4 ADD ADDENDUM NO.4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

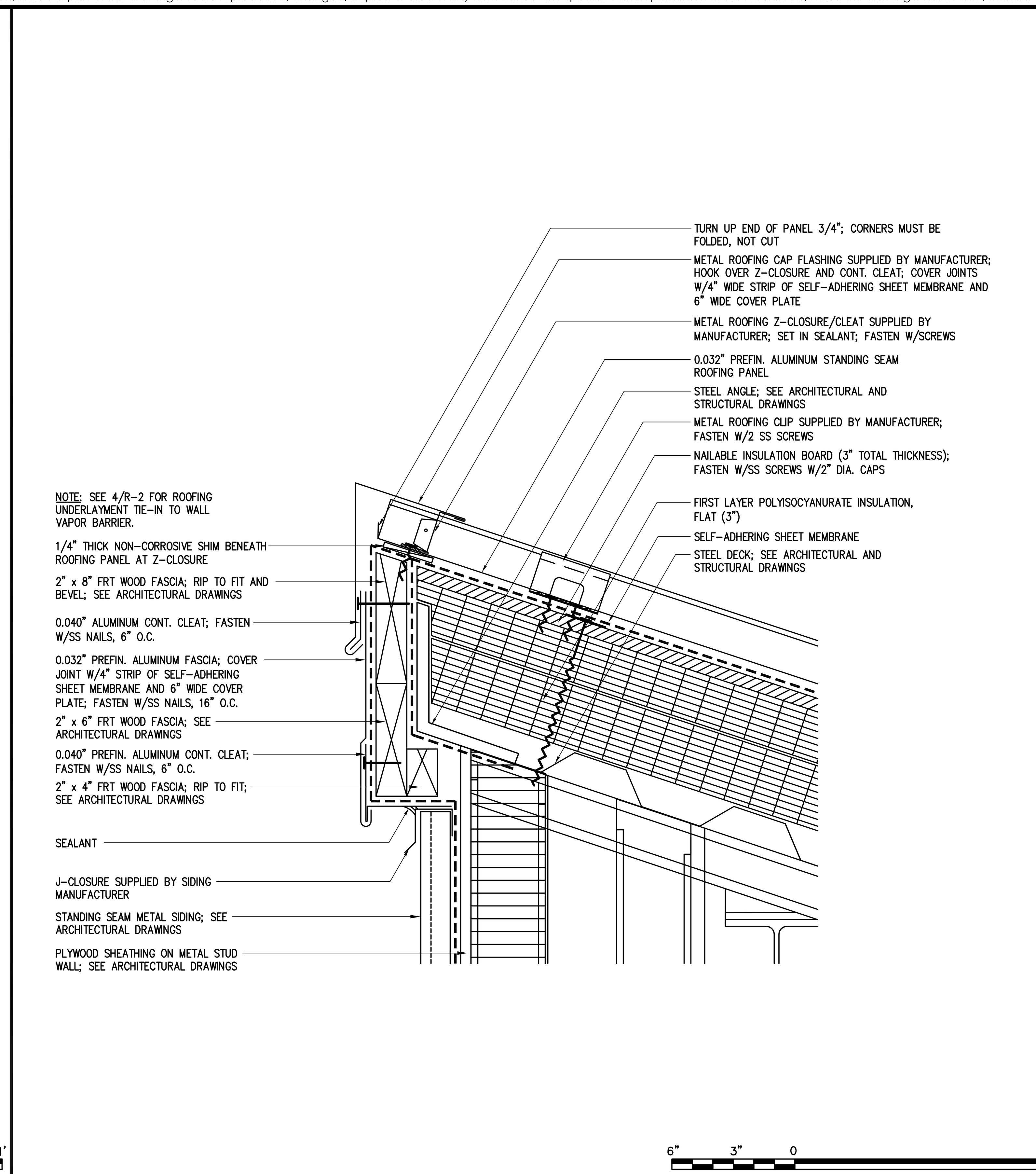
FINISH SCHEDULE

A-900

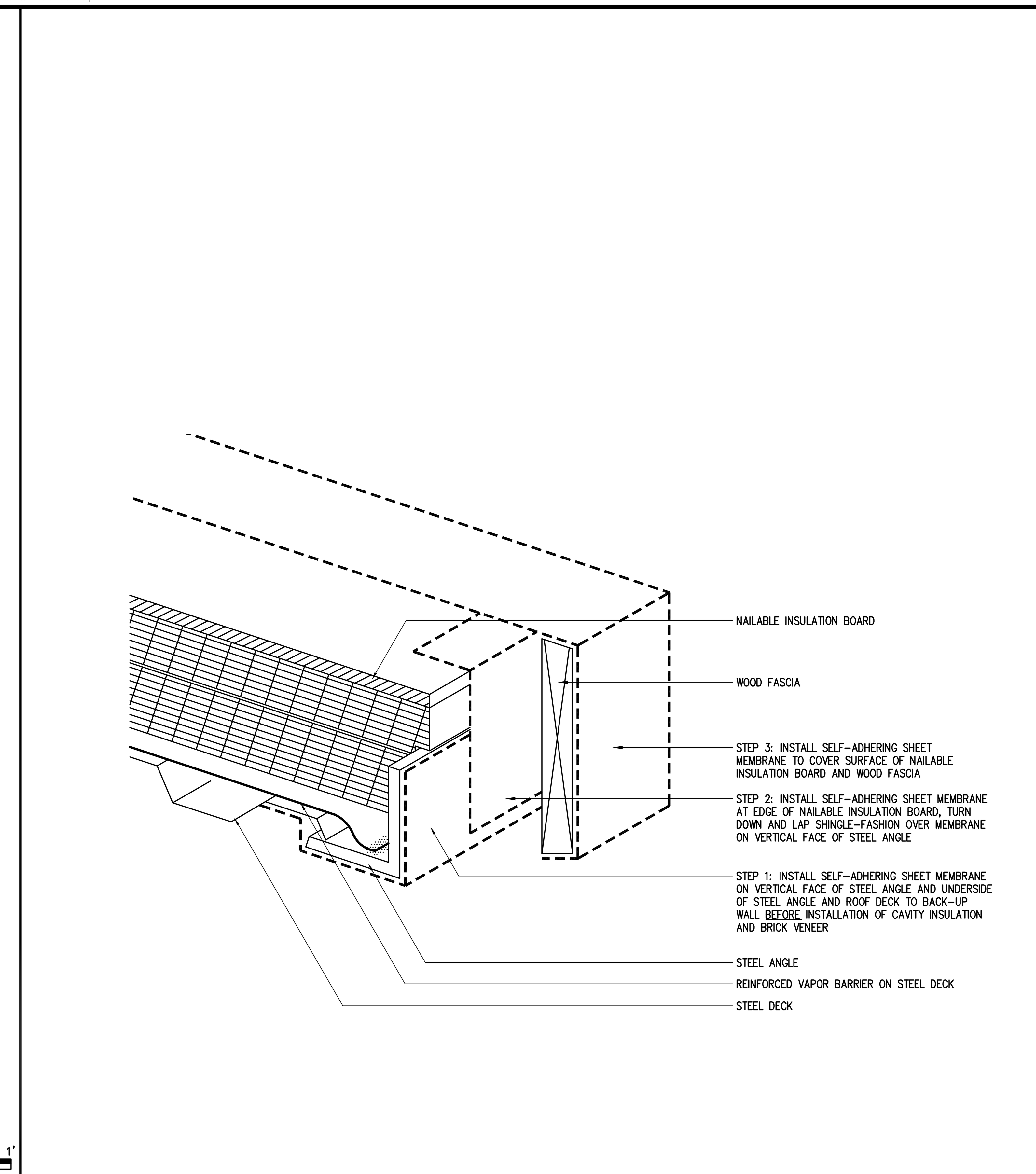
Date: 7/6/20
Time: 5:02:45 PM



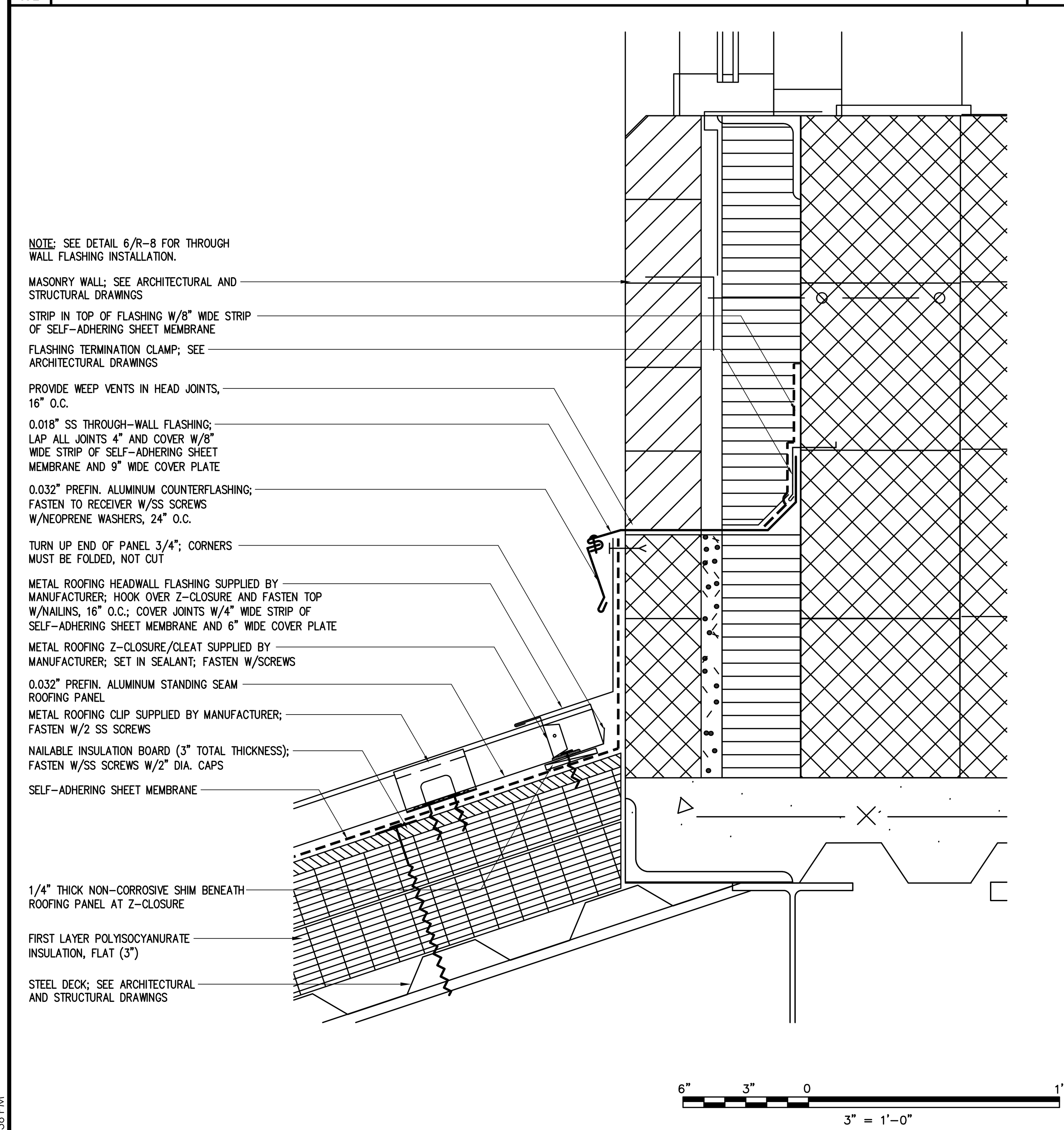
6 R-2 **PARAPET DETAIL** 3"



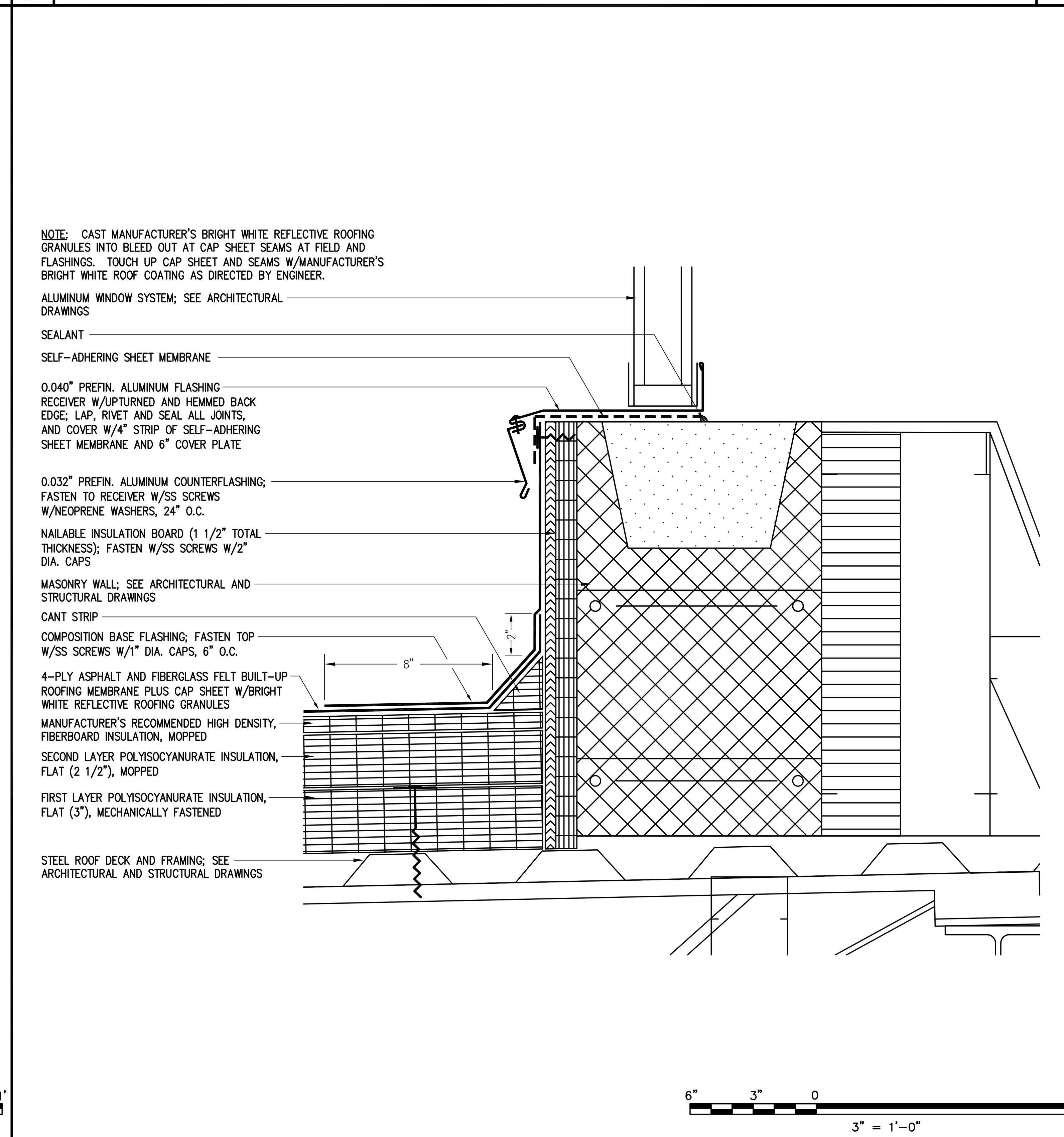
5 R-2 **METAL ROOF PEAK DETAIL** 3"



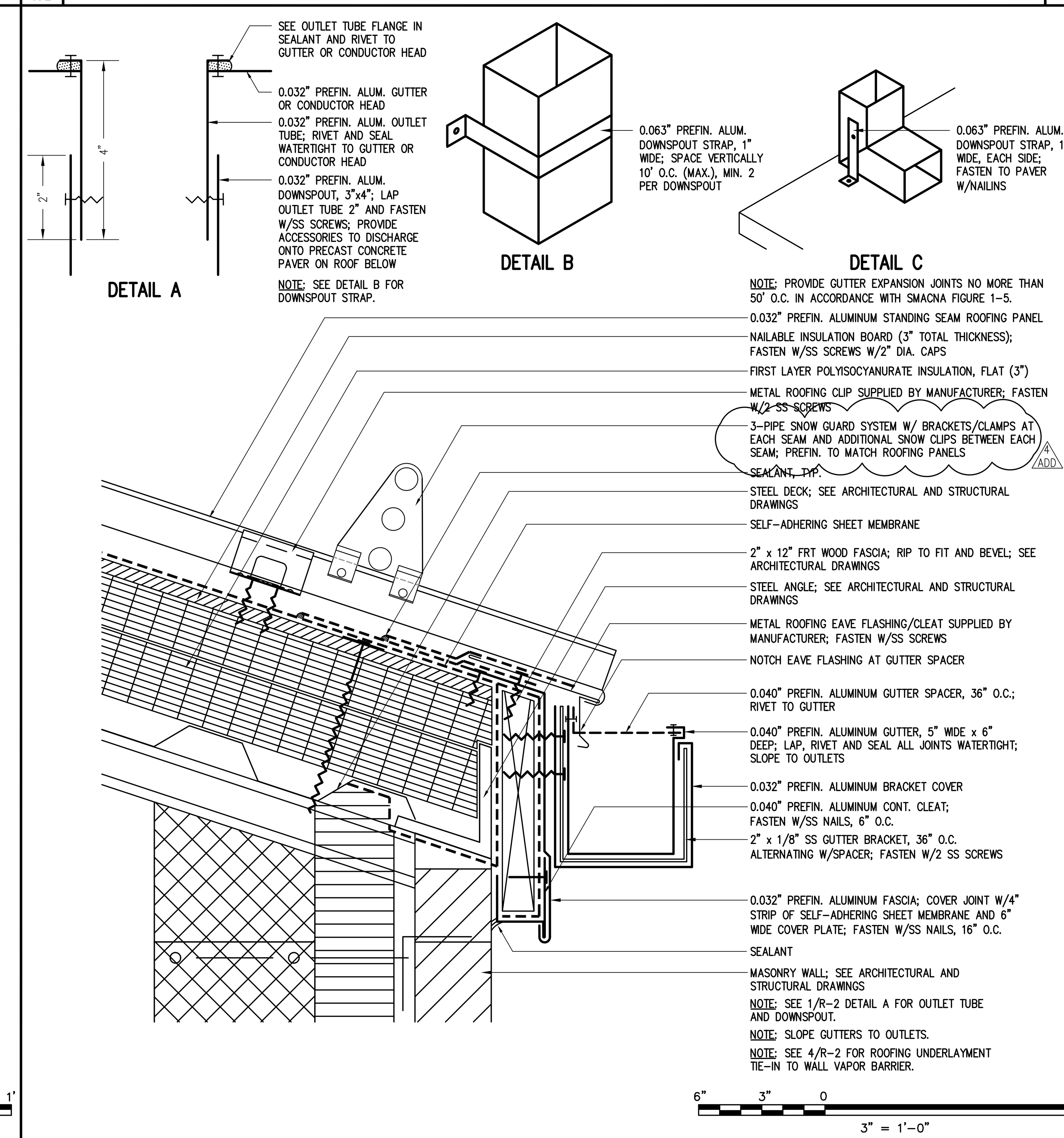
4 R-2 **METAL ROOFING UNDERLAYMENT TIE-IN TO WALL CAVITY INSULATION** 3"



3 R-2 **METAL ROOF HEADWALL DETAIL** 3"



2 R-2 **BASE FLASHING DETAIL** 3"



1 R-2 **METAL ROOF EAVE AND GUTTER DETAIL** 3"

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RESTORATION ENGINEERING

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions

IAC CD / BLDG PERMIT SET 1 MAY 20

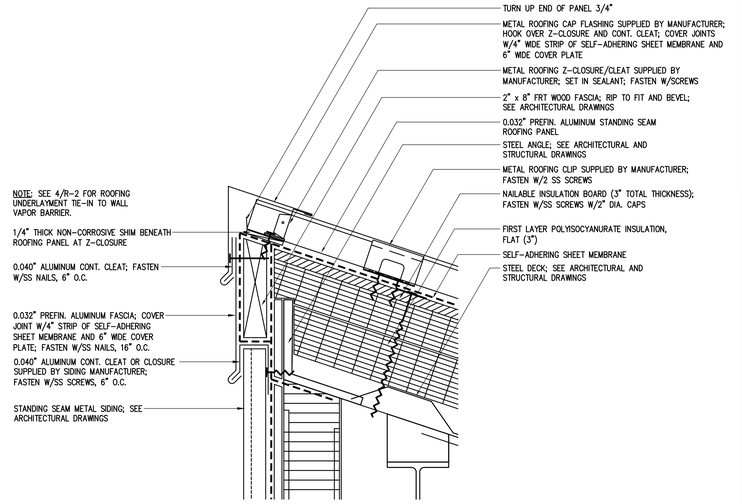
4 ADDENDUM NO. 4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

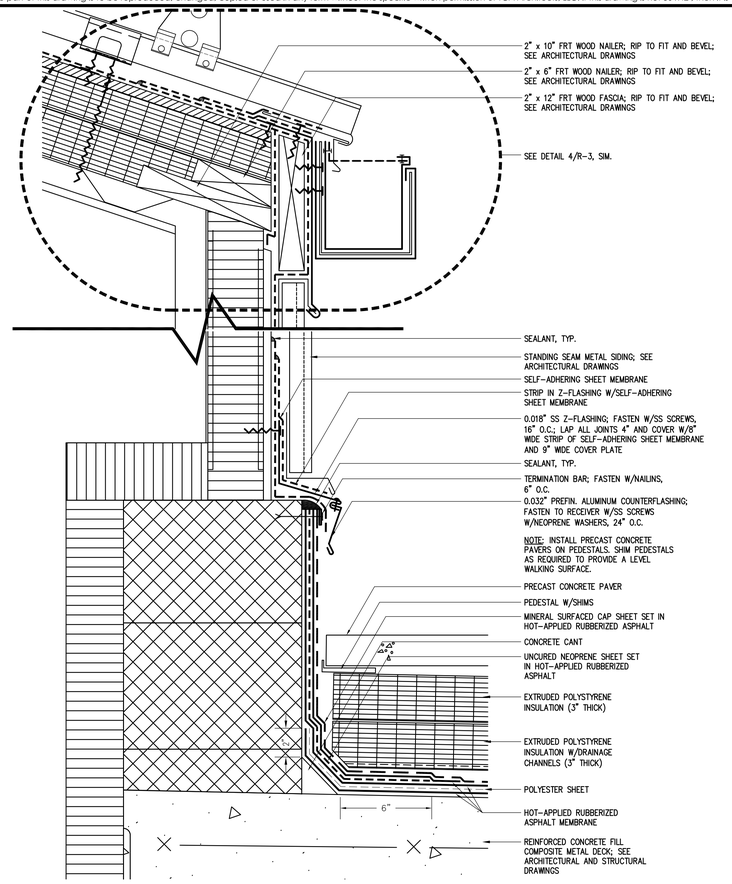
ROOF DETAILS

R-2

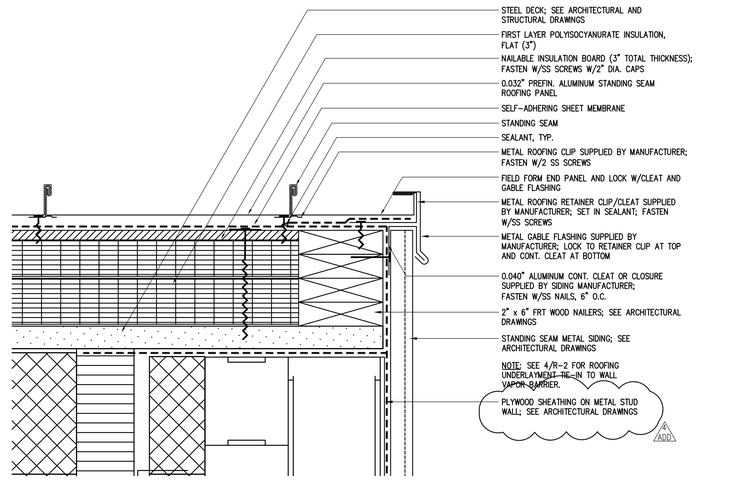
2 OF 12
PROJECT NO. 1801



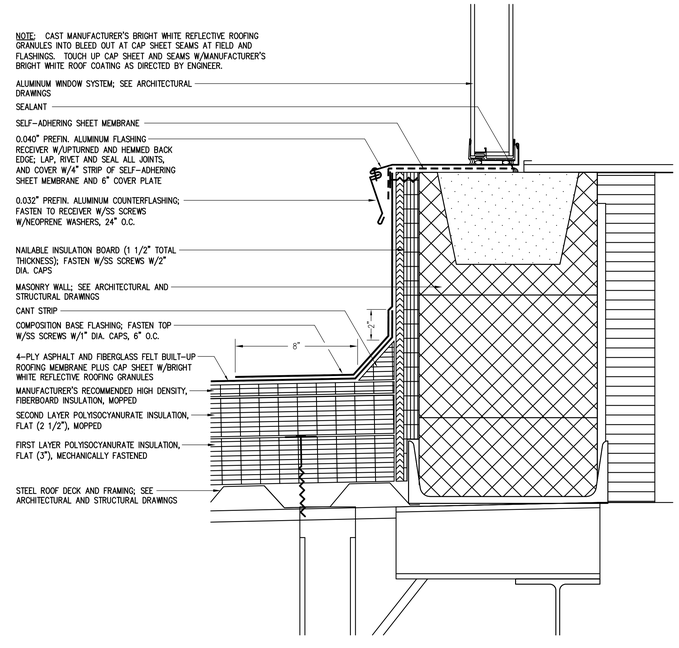
6 R-4 **METAL ROOF PEAK DETAIL** 3"



5 R-4 **BASE FLASHING / METAL ROOF EAVE DETAIL** 3"



4 R-4 **METAL ROOF RAKE DETAIL** 3"



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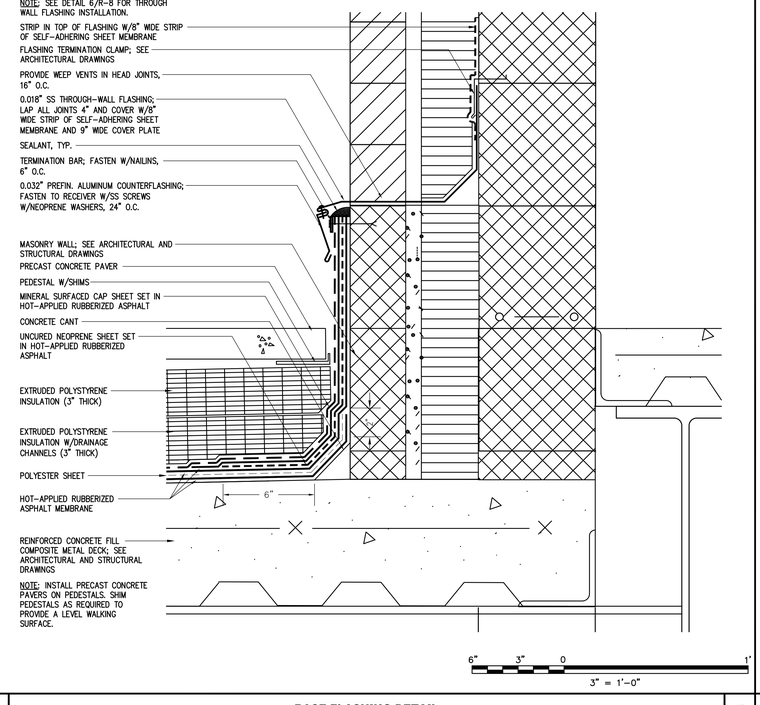

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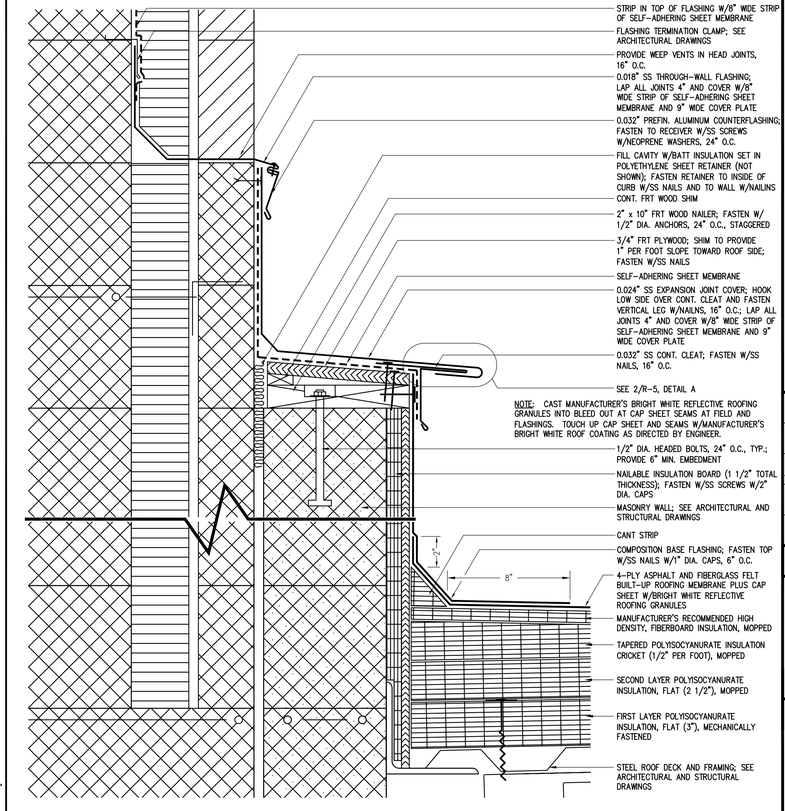

1 R-4 **EXPANSION JOINT DETAIL** 3"

Date: 5/31/17
Time: 1:52:36 PM

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

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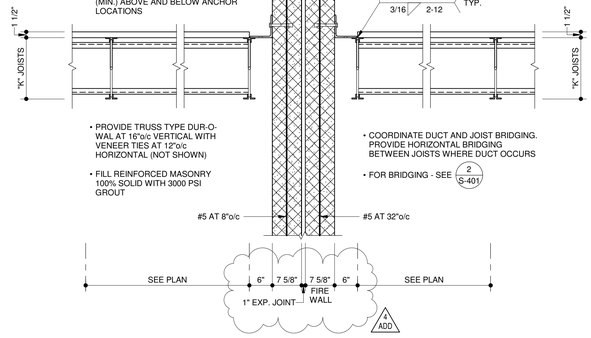
IAC CD / BLDG PERMIT SET 1 MAY 20
A ADD ADDENDUM NO. 4 8 JULY 20

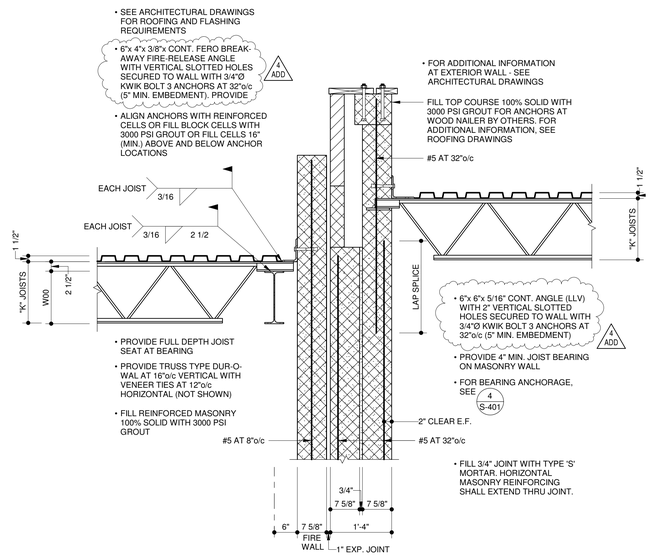
BID AND CONSTRUCTION 16 JUNE 20

ROOF DETAILS

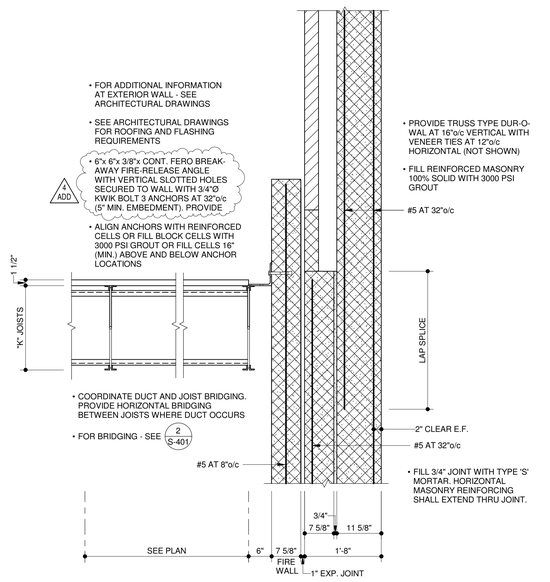
R-4



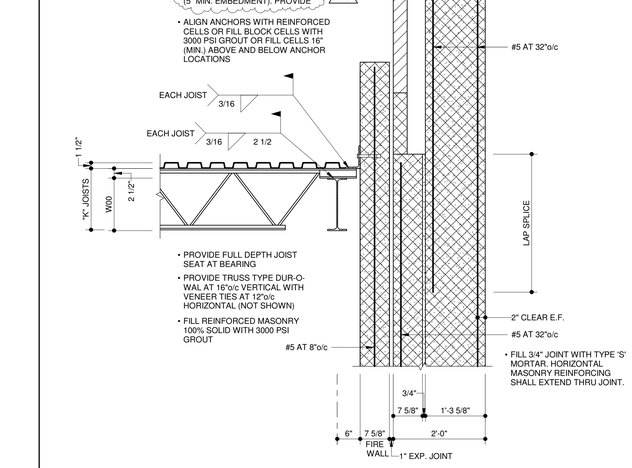
1 JOIST PARALLEL AT 8" / 8" MASONRY FIRE WALL
3/4" = 1'-0"



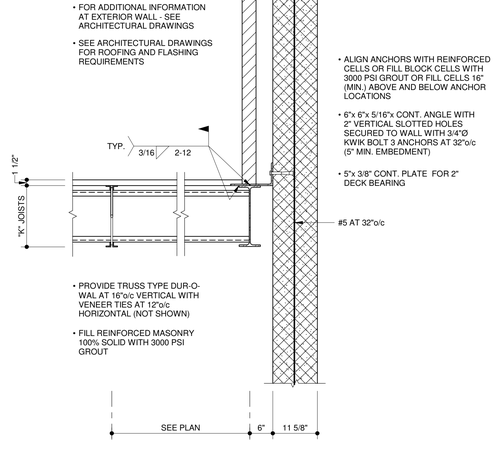
2 JOIST BEARING AT 8" / 16" MASONRY FIRE WALL
3/4" = 1'-0"



3 JOIST PARALLEL AT 8" / 20" MASONRY FIRE WALL
3/4" = 1'-0"



4 JOIST BEARING AT 8" / 24" MASONRY FIRE WALL
3/4" = 1'-0"



5 JOIST PARALLEL AT 12" MASONRY WALL WITH BRICK ABOVE
3/4" = 1'-0"

Date: 7/6/2020
Time: 3:58:11 PM

tca|architects
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I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER: 33099 EXPIRATION DATE: 06-20-2021

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Structural Engineers | Parking Consultants
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410-821-7115 | www.morabitoconsultants.com

#16291

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions

IAC CD / BLDG PERMIT SET
1 MAY 20

4 ADD ADDENDUM No. 4
8 JULY 20

BID AND CONSTRUCTION
16 JUNE 20

ROOF FRAMING DETAILS

S-403

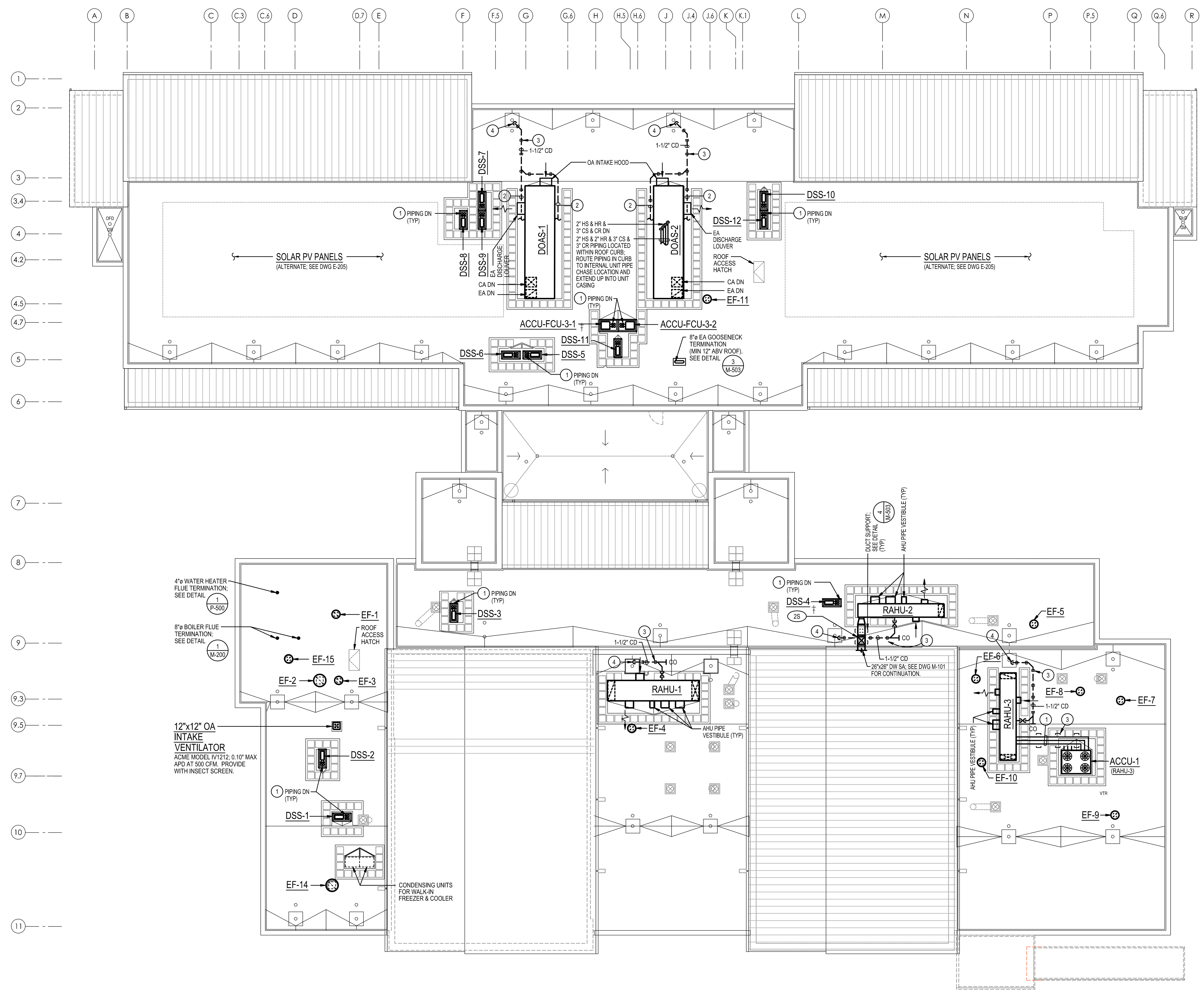
27 OF 36
PROJECT NO. 16291

GENERAL NOTES:

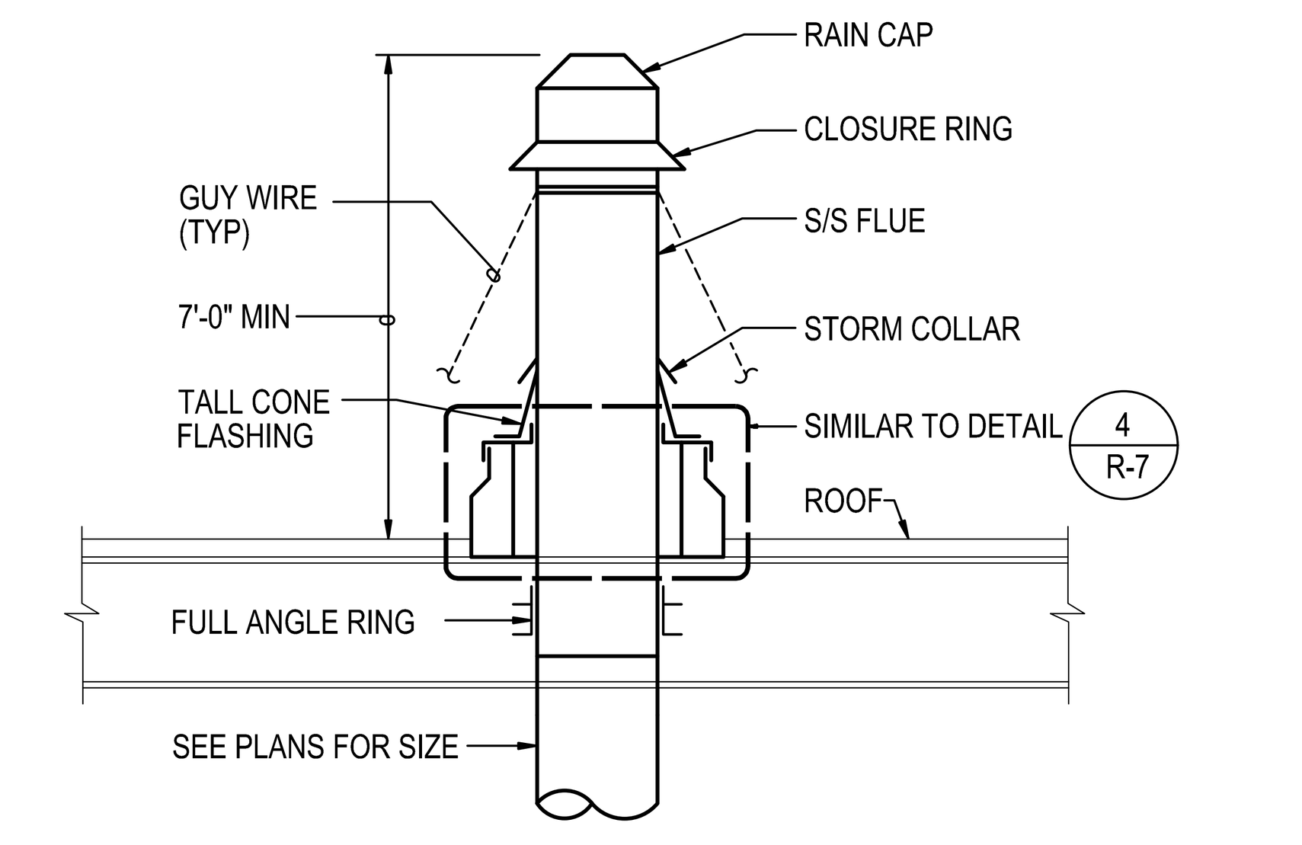
A. DO NOT LOCATE DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS OR EQUIPMENT.

SPECIFIC NOTES:

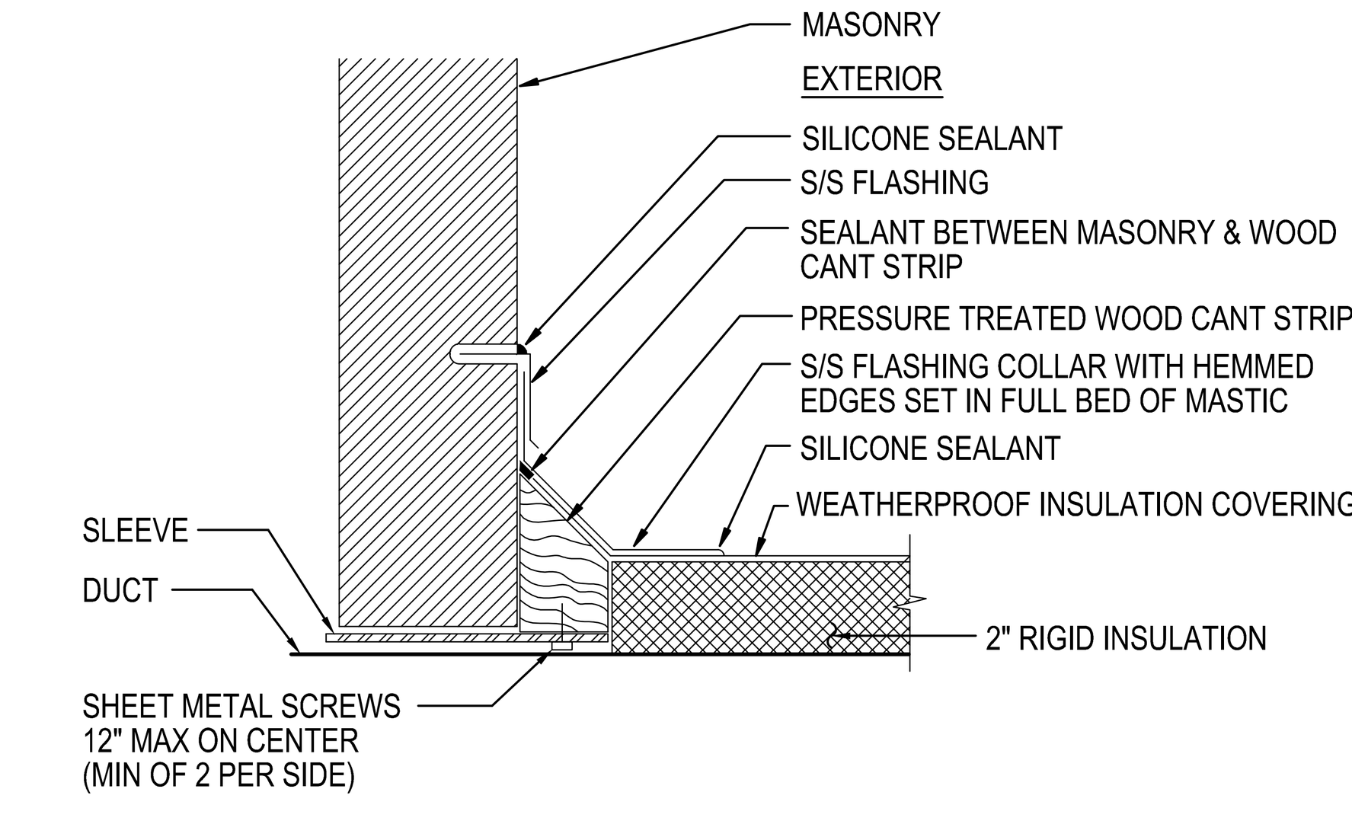
1. REFRIGERANT PIPING; SIZE, NUMBER, AND CONFIGURATION PER MANUFACTURER'S RECOMMENDATIONS.
2. 1-1/2" CD; EXTEND TO EACH DRAIN CONNECTION; VERIFY QUANTITY AND LOCATIONS WITH UNIT MANUFACTURER
3. ROOF PIPE SUPPORT; QUANTITY AS REQUIRED
4. DISCHARGE 1-1/2" CD AT ROOF DRAIN



ROOF PLAN
SCALE: 1/16"=1'-0"



DETAIL 1 M-200
BOILER FLUE TERMINATION AT ROOF
NOT TO SCALE

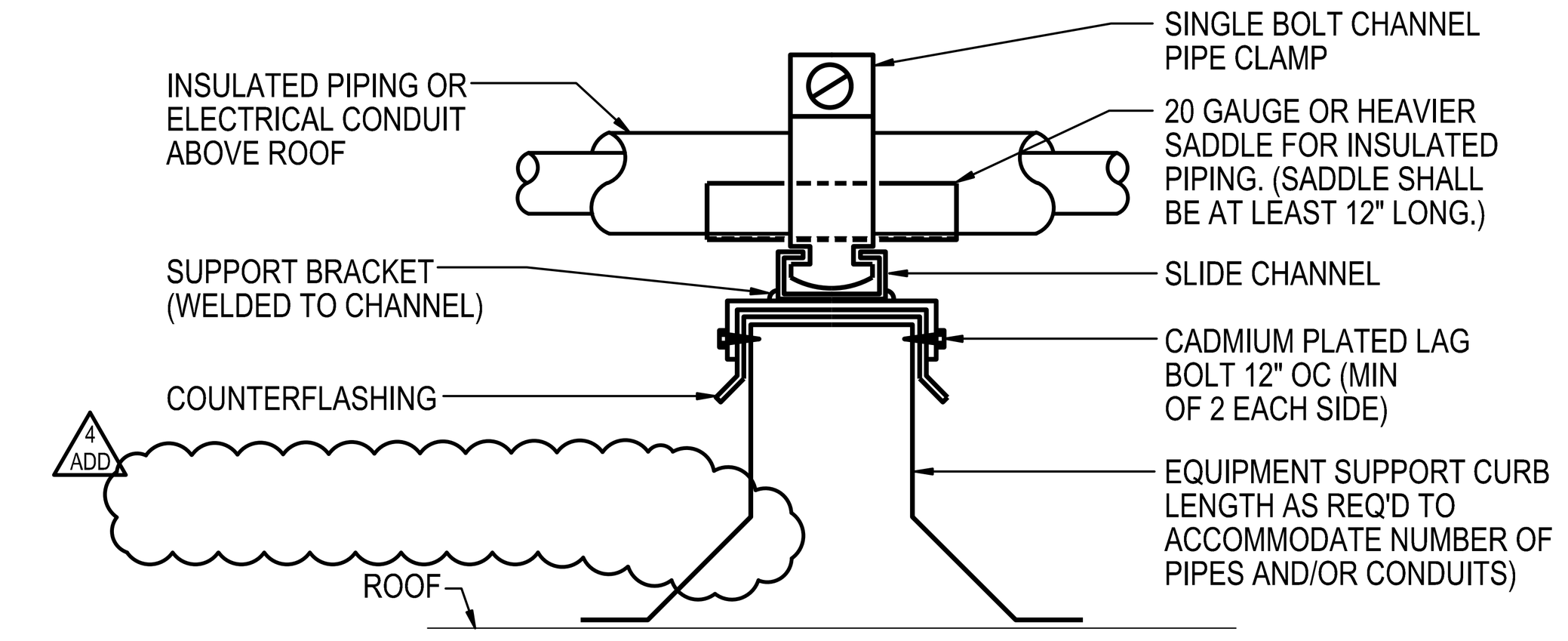


NOTES:

SAW CUT DEPTH FOR CAP FLASHING TO BE 1 5/8" MINIMUM. CAP FLASHING TO EXTEND INTO SAW CUT 1 1/2".

REFER TO STRUCTURAL DRAWINGS FOR LINTEL REQUIREMENTS.

DETAIL 2 M-200
FLASHING FOR INSULATED DUCTWORK PASSING THRU EXTERIOR MASONRY WALL
NOT TO SCALE

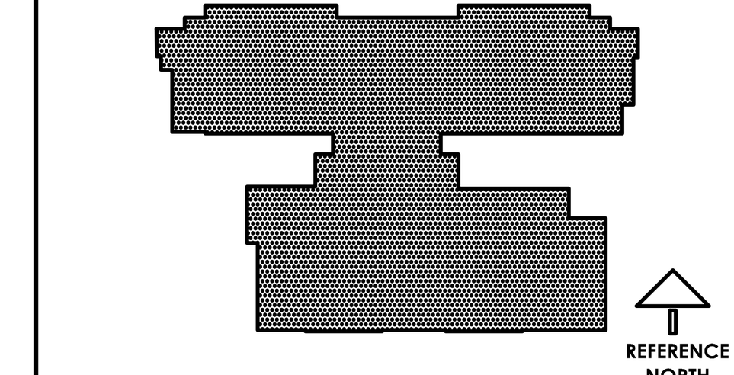


NOTE:

ALL SUPPORT MEMBERS SHALL BE GALVANIZED STEEL AND ALL WELDS SHALL BE COATED WITH ZINC RICH PAINT.

DETAIL 3 M-200
CONDUIT OR PIPE SUPPORT ABOVE ROOF
NOT TO SCALE

16 8 0 16 32
SCALE: 1/16" = 1'-0"
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



ROOF KEY PLAN

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STATE OF MARYLAND MICHAEL PATRICK SHERREN 33986 PROFESSIONAL ENGINEER
JPA PROJECT NO. 6667-1

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, License No. 33986, Expiration date: 01-16-2021.

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
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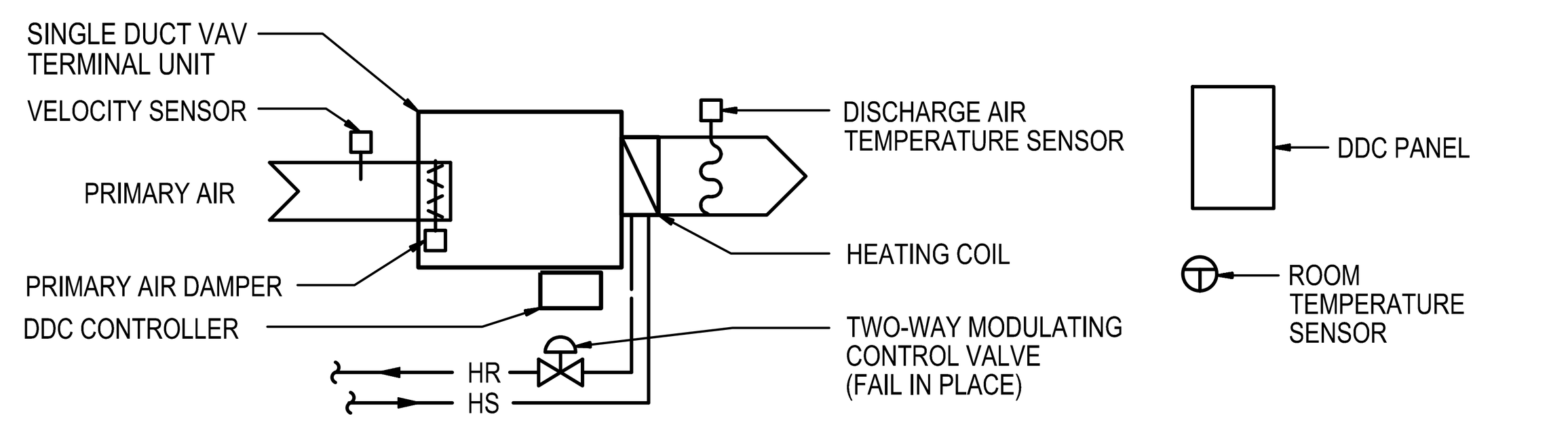
ROOF PLAN

M-200



SINGLE-DUCT VARIABLE AIR VOLUME (VAV) TERMINAL UNITS

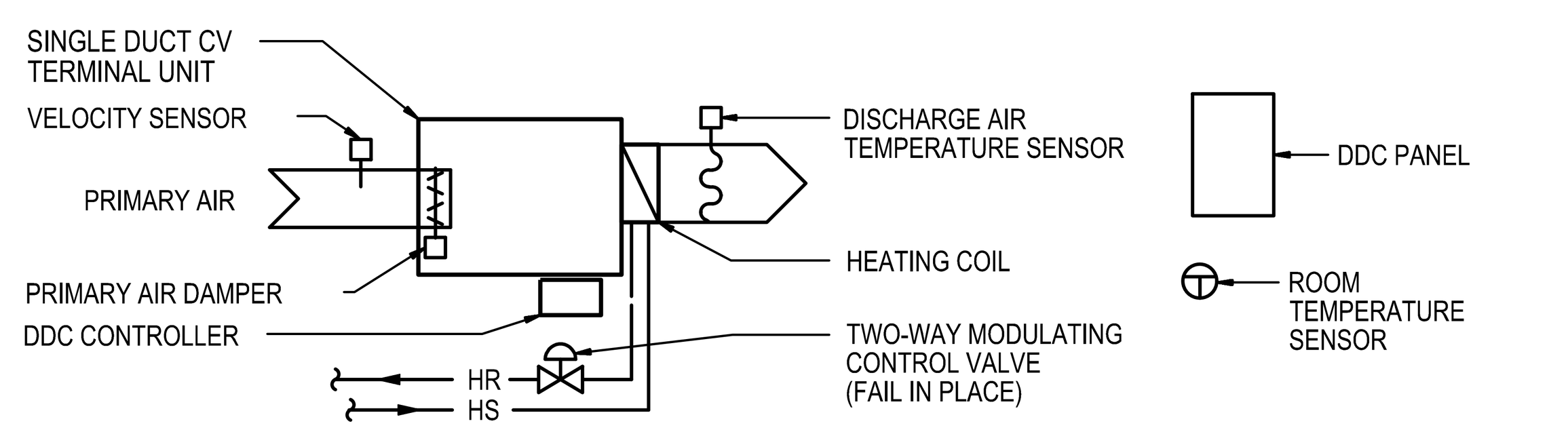
(SINGLE DUCT AIR TERMINAL SCHEDULE CONTROL SEQUENCE A)

A. VAV TERMINAL UNIT ROOM TEMPERATURE SENSOR HEATING AND COOLING SETPOINTS ARE CONTROLLED BY THE RESPECTIVE ZONE OCCUPIED- UNOCCUPIED DDC SCHEDULE AND THE ASSOCIATED VAV AIR-HANDLING UNIT MODE OF OPERATION.

1. OCCUPIED HEATING SETPOINT SHALL BE 70 DEGREES F AND OCCUPIED COOLING SETPOINT SHALL BE 76 DEGREES F FOR ROOM TEMPERATURE CONTROL.
2. REFER TO THE MULTIPLE-ZONE VAV AIR-HANDLING UNIT SEQUENCE OF OPERATION FOR REQUIRED ROOM TEMPERATURE SENSOR HEATING AND COOLING SETPOINTS UNDER "DEHUMIDIFICATION MODE", AS THESE TEMPERATURE SETPOINTS VARY FROM THE NORMAL ROOM TEMPERATURE OCCUPIED HEATING AND COOLING SETPOINT VALUES.
3. UNOCCUPIED HEATING SETPOINT SHALL BE 55 DEGREES F AND UNOCCUPIED COOLING SETPOINT SHALL BE 85 DEGREES F.

B. OPERATION:

1. THE TERMINAL UNIT PRIMARY AIR DAMPER SHALL MODULATE BETWEEN ITS MAXIMUM AND MINIMUM SCHEDULED AIRFLOW VALUES TO MAINTAIN THE ASSOCIATED COOLING SETPOINT OF THE ROOM TEMPERATURE SENSOR.
2. WHEN THE PRIMARY AIR DAMPER HAS REACHED ITS MINIMUM AIRFLOW SETPOINT AND THE SPACE TEMPERATURE FALLS BELOW THE ASSOCIATED HEATING SETPOINT OF THE ROOM TEMPERATURE SENSOR, THE HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE ASSOCIATED HEATING SETPOINT OF THE ROOM TEMPERATURE SENSOR, SUBJECT TO A HIGH LIMIT DISCHARGE AIR TEMPERATURE OF 85 DEGREES F (ADJUSTABLE).
3. WHEN THE DISCHARGE TEMPERATURE RISES ABOVE AN ADJUSTABLE HIGH LIMIT TEMPERATURE (85 DEGREES F; ADJUSTABLE), PRIMARY AIR DAMPER SHALL MODULATE TOWARDS ITS MAXIMUM AIRFLOW SETPOINT TO MAINTAIN THE HIGH LIMIT SETPOINT. ONCE PRIMARY AIR DAMPER HAS REACHED ITS MAXIMUM SETPOINT, UNIT DISCHARGE TEMPERATURE SHALL BE PERMITTED TO INCREASE ABOVE THE HIGH LIMIT DISCHARGE TEMPERATURE SETPOINT.



SINGLE-DUCT CONSTANT VOLUME (CV) TERMINAL UNITS

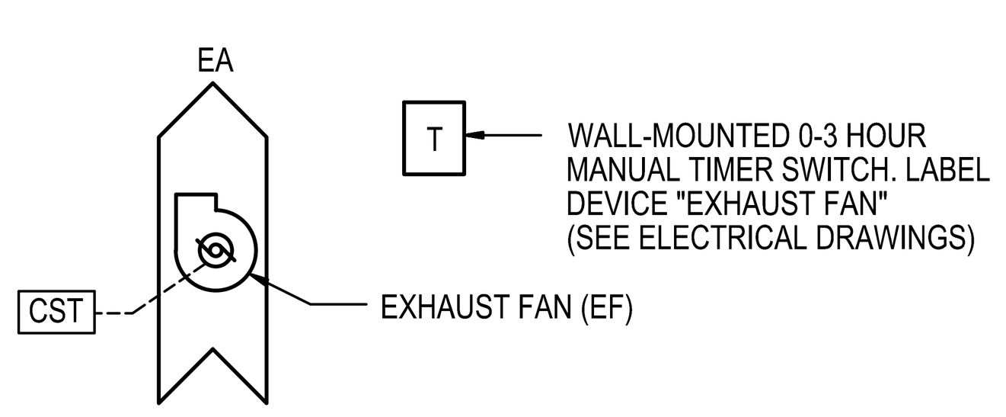
(SINGLE DUCT AIR TERMINAL SCHEDULE CONTROL SEQUENCE B)

A. CONSTANT VOLUME TERMINAL UNIT ROOM TEMPERATURE SENSOR HEATING SETPOINT IS CONTROLLED BY RESPECTIVE ZONE OCCUPIED- UNOCCUPIED DDC SCHEDULE.

1. OCCUPIED HEATING SETPOINT SHALL BE 73 DEGREES F AT ALL TIMES DURING BOTH ROOM TEMPERATURE CONTROL AND "DEHUMIDIFICATION MODE" OPERATION.
2. UNOCCUPIED HEATING SETPOINT SHALL BE 55 DEGREES F.

B. OPERATION:

1. THE TERMINAL UNIT PRIMARY AIR DAMPER SHALL MODULATE TO MAINTAIN THE DESIGN AIRFLOW SETPOINT.
2. THE TERMINAL UNIT HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE ASSOCIATED HEATING SETPOINT OF THE ROOM TEMPERATURE SENSOR.

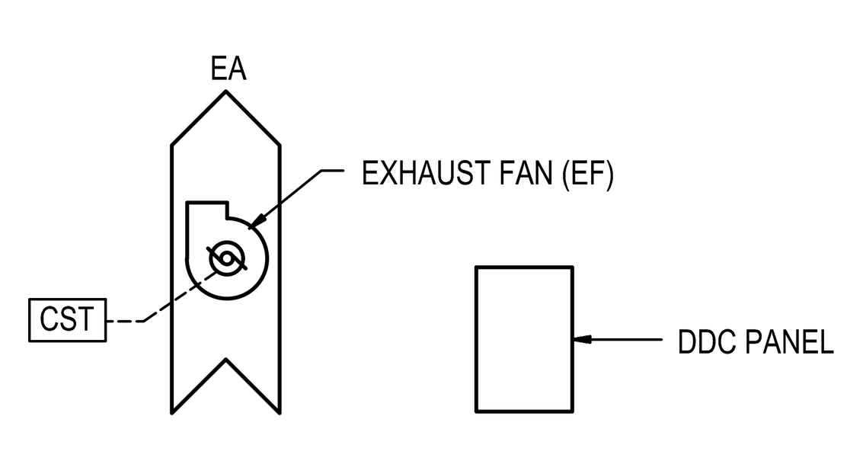


EXHAUST FAN WITH 0-3 HOUR TIMER SWITCH CONTROL

(FAN SCHEDULE CONTROL SEQUENCE C)

A. OPERATION:

1. EXHAUST FAN OPERATION SHALL BE MANUALLY ENERGIZED AND DEENERGIZED THROUGH A LOCAL WALL-MOUNTED TIMER SWITCH. FAN CONTROL, LOCAL SWITCH, AND WIRING PROVIDED BY ELECTRICAL (NO ATC REQUIRED FOR FAN OPERATION).
2. CURRENT SENSING TRANSDUCER PROVIDED AT FAN FOR REMOTE DDC MONITORING.



EXHAUST FAN WITH OCCUPIED/UNOCCUPIED CONTROL

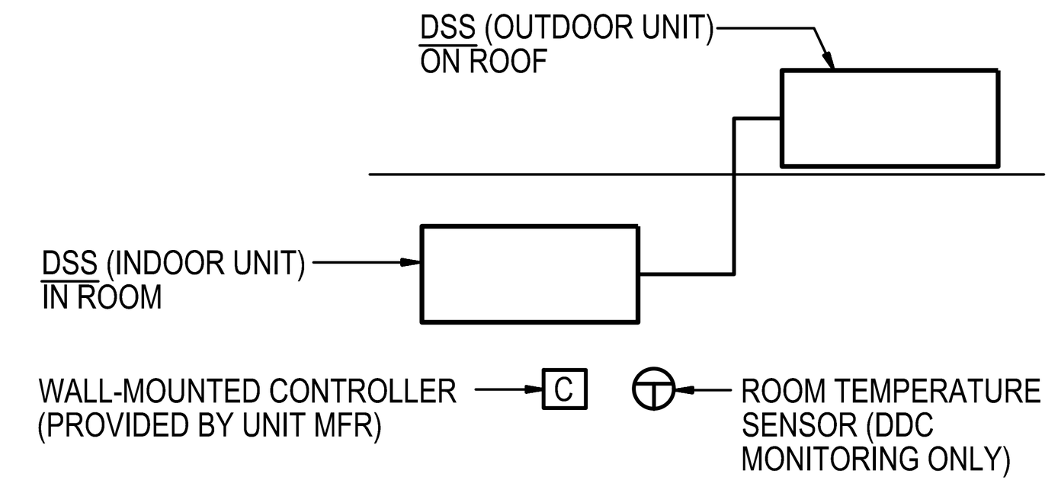
(FAN SCHEDULE CONTROL SEQUENCE A)

A. OCCUPIED CYCLE:

1. EXHAUST FAN SHALL BE INTERLOCKED WITH THE SCHEDULED ZONE, THROUGH THE DDC SYSTEMS OCCUPIED/UNOCCUPIED SCHEDULE. WHENEVER THE ZONE IS IN "OCCUPIED", EXHAUST FAN SHALL RUN CONTINUOUSLY.

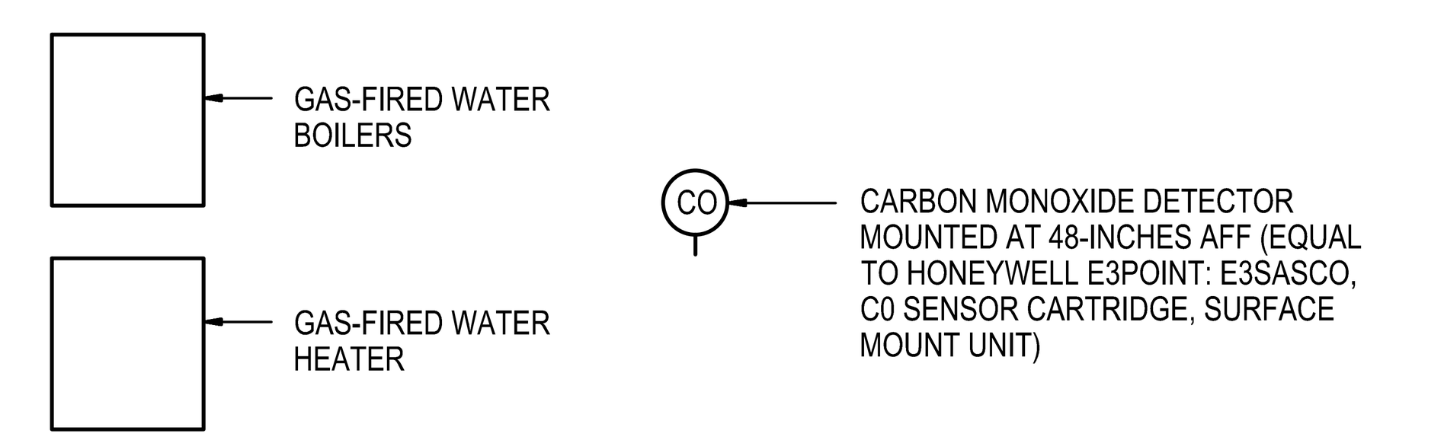
B. ALL OTHER BUILDING CYCLES:

1. EXHAUST FAN SHALL BE DEENERGIZED WHENEVER THE ZONE IS IN OPERATING IN ANY OTHER CYCLE (INCLUDING THE "UNOCCUPIED", "WARM-UP, COOL-DOWN, OR RECIRCULATION", OR "MAINTENANCE" CYCLES).



DUCTLESS SPLIT SYSTEM UNITS

THE DUCTLESS SPLIT AIR CONDITIONING SYSTEMS ARE TO BE SUPPLIED WITH ALL NECESSARY CONTROLS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND WIRING ALL CONTROL EQUIPMENT SUPPLIED WITH SYSTEM. CONTRACTOR SHALL ALSO PROVIDE ANY SWITCHES AND RELAYS TO ACCOMPLISH THE MANUFACTURER'S PACKAGED CONTROL SEQUENCE.

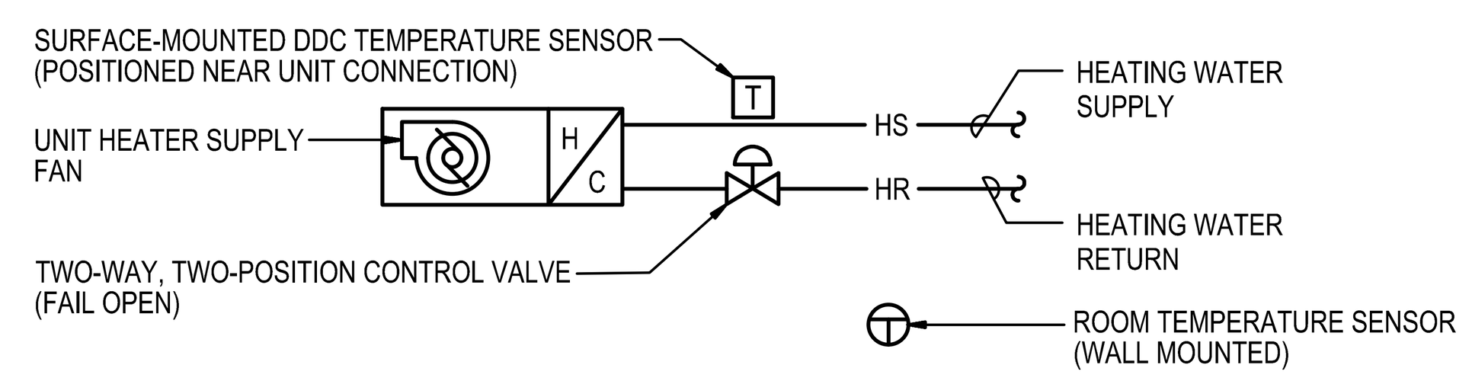


CARBON MONOXIDE DETECTION AND WARNING EQUIPMENT

(SERVING MAIN MECHANICAL ROOM)

A. OPERATION:

1. UPON SENSING ALARM LEVEL (ADJUSTABLE) OF CARBON MONOXIDE WITHIN SPACE, DETECTOR SHALL SOUND LOCAL ALARM AND SEND ALARM SIGNAL TO DDC.

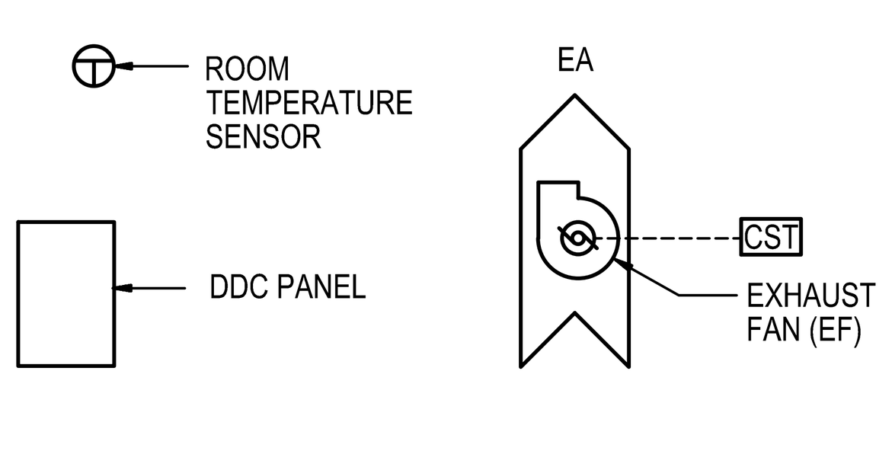


UNIT HEATER

(BOTH CUH AND PUH TYPES)

A. OPERATION:

1. THE HEATING COIL CONTROL VALVE SHALL OPEN WHEN THE SPACE TEMPERATURE IS BELOW THE ROOM SENSOR SETPOINT (65 DEGREES F; ADJUSTABLE).
2. ONCE THE SPACE TEMPERATURE RISES 2 DEGREES F ABOVE THE ROOM SENSOR SETPOINT, THE HEATING COIL CONTROL VALVE SHALL CLOSE.
3. THE UNIT HEATER SUPPLY FAN SHALL BE ENERGIZED WHEN THE SURFACE TEMPERATURE OF THE HEATING WATER SUPPLY PIPING IS 105 DEGREES F (ADJUSTABLE) AND ABOVE, AS SENSED BY THE SURFACE MOUNTED DDC TEMPERATURE SENSOR. UNIT HEATER SUPPLY FAN SHALL BE DEENERGIZED WHEN THE SURFACE TEMPERATURE OF THE HEATING WATER SUPPLY PIPING FALLS BELOW 105 DEGREES F.

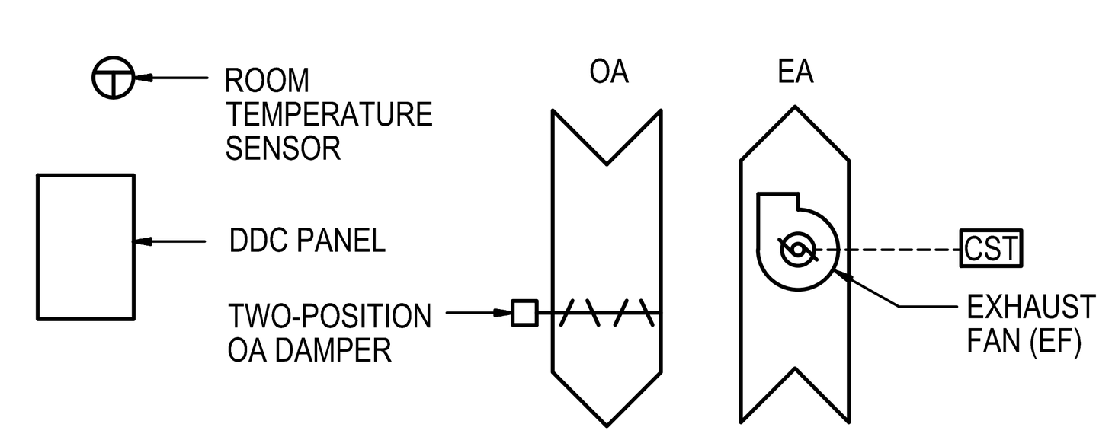


EXHAUST FAN WITH ROOM TEMPERATURE SENSOR CONTROL

(FAN SCHEDULE CONTROL SEQUENCE D)

A. OPERATION:

1. ON A RISE IN TEMPERATURE 5 DEGREES ABOVE ROOM TEMPERATURE SENSOR SETPOINT (80 DEGREES F; ADJUSTABLE), THE EXHAUST FAN SHALL BE ENERGIZED AND RUN CONTINUOUSLY.
2. WHEN ROOM TEMPERATURE SENSOR IS SATISFIED, THE FAN SHALL BE DEENERGIZED .



EXHAUST FAN WITH ROOM TEMPERATURE SENSOR AND COMPANION OA DAMPER CONTROL

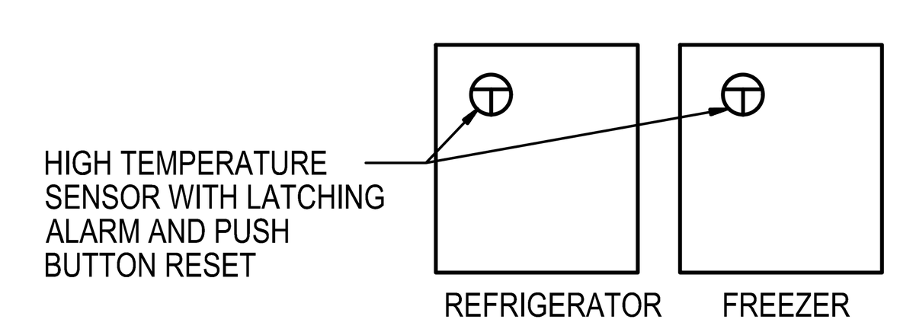
(FAN SCHEDULE CONTROL SEQUENCE B)

A. OPERATION:

1. ON A RISE IN TEMPERATURE 5 DEGREES ABOVE ROOM TEMPERATURE SENSOR SETPOINT (80 DEGREES F; ADJUSTABLE), THE OA DAMPER SHALL BE PROVEN OPEN. ONCE PROVEN OPEN BY THE DAMPER'S ASSOCIATED END SWITCH, THE EXHAUST FAN SHALL BE ENERGIZED AND RUN CONTINUOUSLY.
2. WHEN ROOM TEMPERATURE SENSOR IS SATISFIED, THE FAN SHALL BE DEENERGIZED AND THE OA DAMPER SHALL CLOSE.

ATC SYSTEM GENERAL REQUIREMENTS

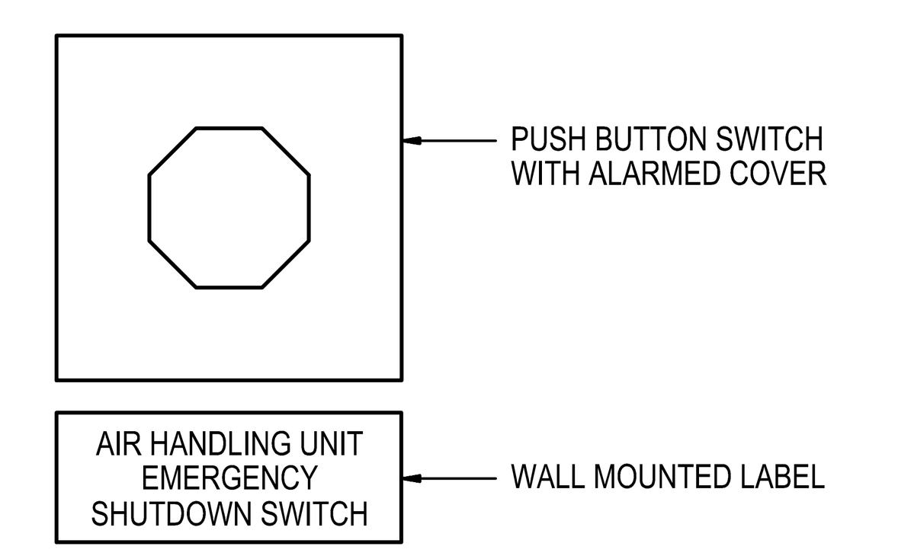
1. UNLESS OTHERWISE NOTED, OCCUPIED HEATING SETPOINT SHALL BE 70 DEGREES F AND OCCUPIED COOLING SETPOINT SHALL BE 76 DEGREES F FOR ROOM TEMPERATURE CONTROL. REFER TO SEQUENCES OF OPERATION FOR REQUIRED OCCUPIED HEATING AND COOLING TEMPERATURE SETPOINTS ASSOCIATED WITH " DEHUMIDIFICATION MODE", WHICH DIFFER FROM "ROOM TEMPERATURE" CONTROL SETPOINTS. CONSTANT VOLUME AIR TERMINAL UNITS SHALL BE PROVIDED WITH A SINGLE OCCUPIED HEATING TEMPERATURE SETPOINT OF 73 DEGREES F AT ALL TIMES. UNLESS OTHERWISE INDICATED, UNOCCUPIED HEATING SETPOINT SHALL BE 55 DEGREES F AND UNOCCUPIED COOLING SETPOINT SHALL BE 85 DEGREES F.
2. UNLESS OTHERWISE INDICATED, PROVIDE DDC CONTROLS.
3. SMOKE DETECTORS, SMOKE DAMPERS, AND FREEZE DETECTORS SHALL BE HARD WIRED AND SHALL NOT REQUIRE OPERATION OF DDC SYSTEM SOFTWARE TO OPERATE OR TO DEENERGIZE SYSTEM FANS.
4. DESIGN SETPOINTS SHALL ALWAYS BE ENTERED INTO THE POINT DESCRIPTION AREA. FOR CONTROL SYSTEMS THAT DO NOT HAVE THIS ABILITY, ALL POINT DESCRIPTORS INCLUDING DESIGN SETPOINTS SHALL BE ADDED TO THE GRAPHICS.
5. THE ATC CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND WIRING ALL CONTROL EQUIPMENT SUPPLIED WITH HVAC SYSTEMS AND COMPONENTS AND FOR PROVIDING POWER CIRCUITS FOR THESE CONTROL SYSTEMS. CONTROLS CONTRACTOR SHALL ALSO PROVIDE ANY ANCILLARY COMPONENTS INCLUDING BUT NOT LIMITED TO SWITCHES, RELAYS, WIRING, CONDUIT, TERMINAL BOXES, JUNCTION BOXES, AND COMMUNICATION INTERFACES AS REQUIRED TO ACCOMPLISH INTENDED CONTROL FUNCTIONS AND/OR CONTROL SEQUENCE NOTED IN THE SPECIFICATIONS.
6. FUNCTION OF CONTROLS SHALL BE AUTOMATICALLY RESTORED TO NORMAL OPERATION WITHOUT OPERATOR INTERVENTION WHEN SAFETIES ARE RESET OR WHEN POWER IS RESTORED AFTER AN OUTAGE. FREEZESTAT AND PRESSURE DIFFERENTIAL SAFETY DEVICES SHALL REQUIRE MANUAL RESET AT THEIR RESPECTIVE UNIT. EMERGENCY FAN DISCONNECT TRIPPING SHALL BE RESET WHEN THE DISCONNECT SWITCH IS RESET. SMOKE DETECTOR TRIPPING SHALL BE RESET WHEN THE ALARM IS NO LONGER PRESENT IN THE FIRE ALARM SYSTEM.
7. ON A LOSS IN NETWORK COMMUNICATION TO A PARTICULAR DEVICE OR SYSTEM, THAT DEVICE SHALL FAIL TO IT'S NORMAL POSITION OR THAT SYSTEM SHALL FAIL TO LOCAL AUTOMATIC CONTROL.
8. ALL SETPOINTS SHALL BE ADJUSTABLE.
9. ALL ANALOG CONTROL OUTPUTS SHALL BE TRUE ANALOG SIGNALS.
10. WHERE EMERGENCY SWITCH POINT IS INDICATED, HARD WIRING OF SHUT DOWN IS REQUIRED AS INDICATED ABOVE. ADDITIONALLY, A SOFTWARE INPUT MONITORING EMERGENCY FAN DISCONNECT SWITCH STATUS IS REQUIRED SO THAT A SYSTEM USER IS ABLE TO DIAGNOSE THE CAUSE OF THE SHUT DOWN.
11. WHERE SMOKE DETECTOR POINT IS INDICATED, HARD WIRING OF SHUT DOWN IS REQUIRED AS INDICATED ABOVE. ADDITIONALLY, A SOFTWARE INPUT MONITORING THE SMOKE DETECTOR STATUS IS REQUIRED SO THAT A SYSTEM USER IS ABLE TO DIAGNOSE THE CAUSE OF THE SHUT DOWN.
12. BACNET INTERFACE SHALL BE PROVIDED FOR ALL EQUIPMENT WITH DIGITAL CONTROLLERS, INCLUDING BOILERS AND CHILLER(S) TO EXPEDITE TROUBLESHOOTING. A VENDORS CONTROL TECHNICIAN FAMILIAR WITH INTEGRATION OF THEIR EQUIPMENT SHALL BE REPRESENTED ONSITE TO PROVE ALL BACNET INTEGRATION IS CORRECT. THIS ONSITE REVIEW SHOULD OCCUR DIRECTLY AFTER START-UP HAS OCCURRED BY THEIR TECHNICIAN.
13. EACH ROOFTOP AIR HANDLING UNIT AND DEDICATED OUTDOOR AIR SYSTEM SHALL BE PROVIDED WITH A DEDICATED DDC PANEL ENCLOSURE. DDC PANEL ENCLOSURES SERVING ROOFTOP EQUIPMENT SHALL BE LOCATED OUTDOORS AT THE EQUIPMENT SERVED. ALL DDC PANEL ENCLOSURES LOCATED OUTDOORS SHALL RATED FOR OUTDOOR USE, INCLUDING ALL POWER FOR ASSOCIATED PANEL COMPONENTS (HEATERS, FANS, ETC.).
14. EACH ROOFTOP MULTI-ZONE VARIABLE-AIR-VOLUME AIR HANDLING UNIT SHALL BE PROVIDED WITH A DEDICATED ZONE HIGH/LOW LIMIT TEMPERATURE SENSOR HARD-WIRED DIRECTLY TO THE UNIT CONTROLLER. OPERATION OF HIGH/LOW LIMIT TEMPERATURE SENSOR SHALL NOT REQUIRE NETWORK COMMUNICATION BETWEEN THE DDC SYSTEM AND ROOM TEMPERATURE SENSOR, ALLOWING FOR STAND-ALONE UNIT OPERATION. HIGH/LOW LIMIT SENSORS SHALL BE PROVIDED IN ADDITION TO ANY AIR TERMINAL UNIT ROOM TEMPERATURE SENSORS.
15. PROVIDE UPS AT SERVER COMMUNICATION TO ALL JOHNSON CONTROLS NAE, TRIDIUM JACE, OR STRUXUREWARE FRONT-END CONTROLLERS. IN ADDITION, UPS BACKUP IS REQUIRED ON ALL DDC/EMS BUILDING SUPERVISORY INTERFACE CONTROLLERS AND ALL CENTRAL HEATING AND COOLING PLANT CONTROL PANELS / CONTROLLERS FOR COMMUNICATION WITH THE FRONT END HCPSS SERVER LOCATED AT THE MENDENHALL BUILDING.
16. PROVIDE NORMALLY CLOSED RELAYS FOR INTERLOCK ON ALL EQUIPMENT THAT SHALL FAIL "ON". ALL RELAYS SHALL BE LABELED FOR USE AND WHAT STATUS LIGHT INDICATES. STATUS LIGHT REQUIRED FOR FAIL "ON" RELAYS, AS THE LIGHT "ON" INDICATES EQUIPMENT DISABLED. HVAC SYSTEMS AND OUTDOOR LIGHTING SHALL BE PROVIDED WITH "FAIL ON" CONTROL, IN THE EVENT OF A BUILDING LAN FAILURE OR WAN OUTAGE TO THE MENDENHALL BUILDING. NORMALLY CLOSED CONTACTS SHALL BE PROVIDED FOR BOILERS, HEATING WATER PUMPS AND OUTDOOR LIGHTING, WITH RELAYS LABELED TO INDICATE THAT RELAY LIGHT OFF MEANS "ENABLED".
17. CONTROL GRAPHICS SHALL BE PROVIDED BY THE CONTROL VENDOR'S ASSOCIATED CONTROL PLATFORM GRAPHIC PACKAGE (JOHNSON CONTROLS, TRIDIUM, OR SCHNEIDER ELECTRIC). USE OF THIRD PARTY GRAPHIC PACKAGES ARE NOT ACCEPTABLE.
18. ONCE BUILDING AUTOMATION SYSTEM SUBMITTAL (INCLUSIVE OF ALL PARTS/MATERIALS AND SEQUENCES OF OPERATION) IS REVIEWED BY THE A/E, A SAMPLE BUILDING AUTOMATION SYSTEM GRAPHICS SUBMITTAL SHALL BE PREPARED BY THE CONTROLS CONTRACTOR. SAMPLE BUILDING AUTOMATION SYSTEM GRAPHICS SUBMITTAL INCLUSIVE OF GRAPHICS FOR THE ENTIRE PROJECT SHALL BE SUBMITTED TO HCPSS AND THE COMMISSIONING AGENT FOR INITIAL REVIEW. INITIAL SUBMITTAL REVIEW COMMENTS SHALL BE ADDRESSED AND INCORPORATED INTO A FINAL SAMPLE GRAPHICS SUBMITTAL FOR ADDITIONAL HCPSS AND COMMISSIONING AGENT REVIEW.
19. ALL CURRENT SENSING TRANSDUCER SETTINGS SHALL BE FIELD CALIBRATED WITH THE ASSOCIATED MOTOR OPERATING AT THE LOWEST SPEED POSSIBLE, REGARDLESS OF THE TESTING AND BALANCING SETPOINT. FOR EC TYPE MOTORS, CALIBRATE TRANSDUCER "OFF" SETTING FOR EACH DEVICE BY FIRST DETERMINING PASSIVE CURRENT DRAW WHEN MOTOR IS CONNECTED TO AC POWER SOURCE BUT SHAFT IS NOT ROTATING, THEN FIELD ADJUSTING THE SENSOR "OFF" POINT TO BE SLIGHTLY HIGHER THAN THIS PASSIVE CURRENT VALUE. LOOP WIRES TO INCREASE AMOUNT OF CURRENT MEASURED BY TRANSDUCER WHEN PASSIVE CURRENT VALUE IS BELOW THE MINIMUM DEVICE SETTING.
20. PROVIDE MULTI-POINT TRENDS (WITH GRAPHICS) ON EACH PIECE OF EQUIPMENT'S GRAPHICS SCREEN. TRENDS SHALL BE CAPTURED/ DISPLAYED OVER A 7-DAY PERIOD BASED ON CHANGE OF VALUE SAMPLING. ALL POINTS LISTED ON SCHEMATIC DIAGRAMS AND POINTS LISTED AS TRENDABLE SHALL BE INCLUDED WITHIN MULTI-POINT TRENDS. TRENDS SHALL BE ABLE TO BE EXPORTED TO A CSV FILE FROM THE GRAPHICS PAGES.
21. CONTROL VALVES SHALL BE INSTALLED IN A HORIZONTAL PIPE WITH ACTUATOR POSITIONED UPWARD TO PREVENT UNNECESSARY WEAR TO THE VALVE STEM AND PACKING.
22. FOR ROOM TEMPERATURE SENSORS, ROOM HUMIDITY SENSORS, AND CARBON DIOXIDE WALL TERMINATION PROBES - MOUNT DEVICE ON WALL, SECURELY ANCHORED USING TOGGLE BOLTS (RAWL PLUGS ARE NOT ACCEPTABLE). MOUNTING HEIGHT FROM FLOOR TO TOP OF DEVICE SHALL BE 48 INCHES, AS REQUIRED FOR ACCESSIBILITY TO PERSONS USING WHEELCHAIRS. ALL WALL-MOUNTED SENSORS SHALL BE PROVIDED WITH FOAM INSULATION TAPE CONSISTING OF EVENLY CUT STRIPS THAT MAKE UP THE ENTIRE LENGTH AND WIDTH OF THE SENSORS BACK AND OVERLAP TO AVOID AIRFLOW INFILTRATION. SECURE THE FOAM INSULATION TAPE TO THE BACK OF THE SENSOR, COVERING THE ENTIRE BACK WITH A SLIGHT OVERHANG (APPROXIMATELY 1/8 INCH). PENETRATE A HOLE IN THE BACK OVERLAP WITH A TOOL OF THE SIMILAR SIZE NEEDED FOR THE WIRE TO BE PULLED THROUGH THE FOAM INSULATION TAPE. MOUNT THE SENSOR TO THE WALL AND MAKE THE FINAL WIRING CONNECTIONS.
23. MOUNT ROOM SENSORS AND OTHER DEVICES AS DESCRIBED WITHIN NOTE 22 ABOVE. USE WALL BOXES WITH INSULATED BACKPLATE SECURELY ANCHORED FLUSH INTO THE WALL. MOUNTING OF DEVICES WITHOUT USE OF INSULATED BACKPLATE IS NOT ACCEPTABLE. USE CONDUIT FROM CEILING TO SENSOR EITHER FISHED THROUGH WALL CAVITY OR CHASED INTO WALL AND PATCHED TO MATCH EXISTING SURFACE. ALL CONDUIT AND WALL PENETRATIONS SHALL BE SEALED TO PREVENT INFILTRATION INTO THE SENSOR AREA.



HIGH TEMPERATURE REFRIGERATOR/ FREEZER ALARM

A. OPERATION

1. WHENEVER THE SETPOINT OF THE HIGH TEMPERATURE SENSOR IN THE REFRIGERATOR OR THE FREEZER IS EXCEEDED, THE ALARM REPORTING DEVICE OF THE DDC SYSTEM SHALL BE ACTIVATED. SETPOINTS SHALL BE DETERMINED IN COOPERATION WITH SCHOOL FOOD SERVICE PERSONNEL. LOCAL ALARM SHALL ALSO SOUND IN THE KITCHEN.
2. ALARMS SHALL BE PROVIDED WITH AN ADJUSTABLE ACTIVATION TIME DELAY TO AVOID ACCIDENTAL ACTIVATION DURING LOADING AND UNLOADING OF CONTENTS. INITIAL TIME DELAY SHALL BE 30 MINUTES (ADJUSTABLE).
3. ALARM SHALL BE A LATCHING ALARM WHICH SHALL REQUIRE MANUAL RESET AT THE FREEZER OR REFRIGERATOR VIA A PUSH BUTTON.
4. ALARM REPORTING DEVICE SHALL NOTIFY SCHOOL PERSONNEL OF CONDITION.



NOTE:

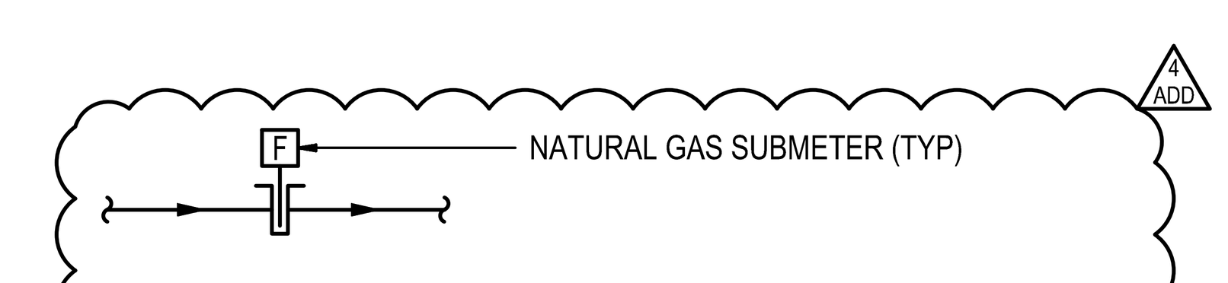
PROVIDE A SINGLE SWITCH TO SHUT DOWN ALL EQUIPMENT INDICATED WITH "E" IN THE CONTROL SEQUENCE.

EMERGENCY FAN DISCONNECT SWITCH DETAIL

MOUNT NEXT TO FIRE ALARM PANEL AT VESTIBULE AV01 (SEE DRAWING MP-101 FOR LOCATION)

ATC SYMBOLS AND ABBREVIATIONS

	ROOM TEMPERATURE SENSOR
	FAN
	PUMP
	PATH OF AIRFLOW
	DAMPER AND DAMPER OPERATOR; (OA) OUTSIDE AIR, (RA) RETURN AIR, (EA) EXHAUST AIR, (PR) PRESSURE RELIEF
S	SMOKE DAMPER AND DAMPER OPERATOR
	AIR INSERTION TEMPERATURE OR HUMIDITY SENSOR
F	FREEZESTAT
	2-WAY CONTROL VALVE
H	HUMIDITY SENSOR
	IMMERSION TEMPERATURE SENSOR
F	DDC FLOW METER
	OUTDOOR AIR INSERTION TEMPERATURE SENSOR WITH SUN SHIELD
T	SURFACE MOUNTED TEMPERATURE SENSOR
DP	DIFFERENTIAL PRESSURE SENSOR
S_T	WALL-MOUNTED SWITCH ("T" DENOTES TIMER SWITCH; "P" DENOTES PILOT LIGHT)
	MOTOR
H/C	H/C: HEATING COIL, C/C: CHILLED WATER COOLING COIL, P/C: PREHEAT COIL
E	EMERGENCY FAN DISCONNECT SWITCH
SD	AIR DUCT SMOKE DETECTOR
SPS	DUCT STATIC PRESSURE SENSOR, (HL) HIGH LIMIT, (LL) LOW LIMIT
CST	CURRENT SENSING TRANSDUCER
CO_2 (M)	CARBON DIOXIDE (CO2) WALL TERMINATION PROBE FOR CARBON DIOXIDE MEASUREMENT AND CONTROL SYSTEM (CDMCS); "M" DENOTES "MONITORING ONLY" PROBE.
CO	CARBON MONOXIDE SENSOR
ACCU	AIR-COOLED CONDENSING UNIT
RAHU	ROOFTOP AIR HANDLING UNIT
CA	CONDITIONED OUTDOOR AIR
CATU	CONDITIONED OUTDOOR AIR TERMINAL UNIT
CDMCS	CARBON DIOXIDE MEASUREMENT AND CONTROL SYSTEM
CUH	CABINET UNIT HEATER
DOAS	DEDICATED OUTDOOR AIR SYSTEM
DSS	DUCTLESS SPLIT SYSTEM
EA	EXHAUST AIR
EF	EXHAUST FAN
FCU	FAN COIL UNIT
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTDOOR AIR
PR	PRESSURE RELIEF
PUH	PROPELLER UNIT HEATER
RA	RETURN AIR
RF	RETURN FAN
SA	SUPPLY AIR
SATU	SUPPLY AIR TERMINAL UNIT
SF	SUPPLY FAN
VAV	VARIABLE AIR VOLUME



NATURAL GAS SUBMETER

(SERVING BOILERS - SEE DWG P-101)

NATURAL GAS SUBMETER SHALL BE CONTINUOUSLY MONITORED AND TRENDED THROUGH THE DDC SYSTEM.

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Engineering Your Vision
Mechanical & Electrical Consulting Engineers

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland. License No. 33986, Expiration date: 01-16-2021.

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL

COLUMBIA, MARYLAND

HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions

IAC CD / BLDG PERMIT SET 1 MAY 20

ADD4 ADDENDUM NO. 4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

ATC SEQUENCES

M-700

ELECTRICAL SYMBOLS AND ABBREVIATIONS

ABBREVIATIONS

A, AMP	AMPERE(S)
ACCU	AIR-COOLED CONDENSING UNIT
AF	ABOVE FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
ATC	AUTOMATIC TEMPERATURE CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
A/V	AUDIO/VISUAL
AWG	AMERICAN WIRE GAUGE
BFG	BELOW FINISHED GRADE
BGE	BALTIMORE GAS AND ELECTRIC
C	CONDUIT
CB	CIRCUIT BREAKER
CRI	COLOR RENDERING INDEX
C/T	CURRENT TRANSFORMER
CUH	CABINET UNIT HEATER
DDC	DIRECT DIGITAL BUILDING CONTROL
DISC	DISCONNECT
DIST	DISTRIBUTION
DOAS	DEDICATED OUTDOOR AIR SYSTEM
DSS	DUCTLESS SPLIT SYSTEM
DWH	DOMESTIC WATER HEATER
ECH	ELECTRIC CEILING HEATER
EF	EXHAUST FAN
ELEV	ELEVATOR
EMT	ELETRICAL METALLIC TUBING
EQUIP	EQUIPMENT
EXT	EXTERIOR
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FAA	FIRE ALARM ANNUNCIATOR
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPERES
FT	FEET, FOOT
G	GROUND, GFCI (RECEPTACLE)
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
H	"HOT" ENERGIZED CONDUCTOR
HCPSS	HOWARD COUNTY PUBLIC SCHOOL SYSTEM
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
IBT	INTERSYSTEM BONDING TERMINATION GROUNDING BUSBAR
IDF	INTERMEDIATE DISTRIBUTION FRAME
IT	INFORMATION TECHNOLOGY
K	KELVIN
KVA	KILOVOLT-AMPERES
KW	KILOWATT
LED	LIGHT-EMITTING DIODE
LM	LUMEN(S)
LTG	LIGHTING
MAX	MAXIMUM
MC	METAL CLAD CABLE
MCA	MINIMUM CIRCUIT AMPACITY
MDF	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANEL
MFS	MAXIMUM FUSE SIZE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOP	MAXIMUM OVERCURRENT PROTECTION
N	"NEUTRAL" GROUNDING CONDUCTOR
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFSS	NON-FUSED SAFETY SWITCH
N.O.	NORMALLY OPEN
NO.	NUMBER
P	POLE(S) OR PUMP
PIR	PASSIVE INFRARED
PSI	POUNDS PER SQUARE INCH
PUH	PROPELLER UNIT HEATER
PVC	POLYVINYL CHLORIDE
RAHU	ROOFTOP AIR HANDLING UNIT
RECEPT	RECEPTACLE
REC	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RX	REMOVE EXISTING
SPD	SURGE PROTECTIVE DEVICE
TYP	TYPICAL
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
VFD	VARIABLE FREQUENCY DRIVE
W	WATT(S) OR WIRE(S)
WG	WIREGUARD
WP	WEATHERPROOF / WEATHER-RESISTANT
XFMR	TRANSFORMER
Ø	PHASE

GENERAL

1 — DENOTES REFERENCE TO SPECIFIC NOTE ON DRAWING.

1 / E-001 — DETAIL, DIAGRAM, OR PLAN NUMBER; DRAWING NUMBER WHERE DETAIL, DIAGRAM, OR PLAN IS LOCATED.

#/E-### — DETAIL REFERENCE: DETAIL, DIAGRAM, OR PLAN NUMBER / DRAWING NUMBER

1 — DENOTES REFERENCE TO DETAIL OR DIAGRAM NOTE ON SHEET.

1 — DENOTES REFERENCE TO ELECTRICAL CONNECTIONS TO KITCHEN EQUIPMENT.

GENERAL NOTES:

A. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL MOUNTING HEIGHT INFORMATION.

B. MOUNTING HEIGHTS ARE CENTERLINE TO WIRING DEVICES UNLESS OTHERWISE INDICATED.

C. MOUNTING HEIGHTS ARE TO BOTTOM OF LIGHTING FIXTURES UNLESS OTHERWISE INDICATED.

D. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.

E. CONDUIT SERVING ELECTRICAL DEVICES LOCATED AT EXTERIOR WALLS SHALL BE RUN FROM EACH DEVICE WITHIN CMU BLOCK WALL TO NEAREST ACCESSIBLE CEILING SPACE. CONDUIT SHALL NOT BE INSTALLED IN CAVITY SPACES WITHIN WALLS.

LIGHTING

- CEILING OUTLET AND LUMINAIRE, TYPE AS DESIGNATED.
- WALL OUTLET AND LUMINAIRE, TYPE AS DESIGNATED.
- LUMINAIRE ON GENERATOR CIRCUIT.
- LIGHTING TRACK, SURFACE MOUNTED, TYPE AS DESIGNATED WITH TYPE AND NUMBER OF HEADS AS DESIGNATED.
- EXTERIOR LIGHT STANDARD, POLE MOUNTED (TWO LUMINAIRES), TYPE AS DESIGNATED. NUMBER INDICATES CIRCUIT.
- EXTERIOR LIGHT STANDARD, POLE MOUNTED (ONE LUMINAIRE), TYPE AS DESIGNATED. NUMBER INDICATES CIRCUIT.
- EMERGENCY BATTERY LIGHTING UNIT, WALL MOUNTED 7'-6" AF, TYPE AS DESIGNATED. CIRCUIT TO UNIT SHALL BE UNSWITCHED.
- EXIT SIGN, CEILING MOUNTED OR WALL MOUNTED 8'-0" AF, UON, WITH OR WITHOUT DIRECTIONAL ARROWS AS INDICATED. SHADED AREA INDICATES STENCIL FACE. CIRCUIT TO EXIT SIGN SHALL BE UNSWITCHED.
- S_a S_{3a} — SINGLE-POLE OR THREE-WAY TOGGLE SWITCH, MOUNTED 48" AF TO TOP OF BOX, UON. LOWER CASE LETTER, WHERE INDICATED, REPRESENTS SWITCH CONTROLLING LIGHT FIXTURES WITH CORRESPONDING LETTER.
- S_D — SINGLE-POLE LINE VOLTAGE DIMMER SWITCH, MOUNTED 48" AF TO TOP OF BOX, UON.
- S_{T1} S_{T1} S_{T2} — LIGHTING CONTROL STATION, RECESSED WALL MOUNTED 48" AF TO TOP OF BOX, UON. SUBSCRIPT DESIGNATES BUTTON TYPE. REFER TO LIGHTING CONTROLS DIAGRAMS ON DRAWINGS E-105 AND E-106 FOR ADDITIONAL INFORMATION.
- RC — LIGHTING CONTROLS: THREE-RELAY LIGHTING RELAY ROOM CONTROLLER (0-10V DIMMING ROOM CONTROLLER) IN NEMA TYPE 1 ENCLOSURE, MOUNTED CONCEALED IN ACCESSIBLE CEILING SPACE. REFER TO LIGHTING CONTROLS DIAGRAM 7/E-106 FOR ADDITIONAL INFORMATION.
- RS — LIGHTING CONTROL RECEPTACLE SWITCHPACK (SHOWN ON POWER PLANS).
- S — LIGHTING CONTROLS: SWITCH PACK/POWER PACK, MOUNTED CONCEALED IN ACCESSIBLE CEILING SPACE, FOR USE WITH OCCUPANCY SENSORS NOT ASSOCIATED WITH LIGHTING RELAY ROOM CONTROLLERS. REFER TO LIGHTING CONTROLS DIAGRAM 5/E-106 FOR ADDITIONAL INFORMATION.
- LIGHTING CONTROL DAYLIGHT SENSOR, CEILING MOUNTED. REFER TO LIGHTING CONTROLS DIAGRAMS ON DRAWINGS E-105 AND E-106 FOR ADDITIONAL INFORMATION. LOWERCASE LETTER DESIGNATES LIGHTING CONTROL ZONE.
- LIGHTING CONTROL OCCUPANCY SENSOR WITH 360-DEGREE, 900 SQUARE FEET MINIMUM COVERAGE (2000 SQUARE FEET COVERAGE IN CORRIDORS), CEILING MOUNTED, UON. PENDANT MOUNT AT 9'-0" AF IN OPEN CEILINGS. REFER TO LIGHTING CONTROLS DIAGRAMS ON DRAWINGS E-105 AND E-106 FOR ADDITIONAL INFORMATION. LOWERCASE LETTER DESIGNATES LIGHTING CONTROL ZONE. OCCUPANCY SENSORS DESIGNATED WITH "H" SHALL BE HIGH-BAY TYPE, "WG" DESIGNATES WIREGAURD.
- LIGHTING CONTROLS OCCUPANCY SENSOR IN SINGLE-GANG OUTLET BOX (2-1/2" DEEP MINIMUM), RECESSED WALL MOUNTED 48" AF TO TOP OF BOX, UON.
- C — LIGHTING CONTACTOR, 4-POLE, UON.
- PS — LIGHTING CONTROL SYSTEM PARTITION SENSOR, MOUNTED ABOVE CEILING.
- S_P — SINGLE POLE TOGGLE SWITCH WITH PILOT LIGHT.
- S_T — ROTARY TIMER SWITCH, MOUNTED 48" AF TO TOP OF BOX, UON.

WIRING

- HOMERUN TO PANELBOARD. NUMBER OF ARROW HEADS INDICATES NUMBER OF CIRCUITS. NUMBER OF HASH MARKS INDICATES NUMBER OF CONDUCTORS. WHERE NO HASH MARKS APPEAR, PROVIDE TWO (2) CONDUCTORS PLUS GROUND. REFER TO PANEL SCHEDULES FOR CONDUCTOR SIZES. PROVIDE GROUND WIRES IN CONDUITS.
- CONDUIT AND WIRING RUN CONCEALED IN CEILING SPACE ABOVE CEILINGS, CONCEALED IN WALL SPACE BEHIND WALLS, AND EXPOSED IN OPEN CEILINGS, UON. PROVIDE GROUND WIRES IN CONDUITS.
- CONDUIT AND WIRING RUN UNDERGROUND WHERE SHOWN ON SITE PLAN, UNDER SLAB OR BELOW FLOOR WHERE SHOWN ON FLOOR PLANS, AND UNDER ROOF WHERE SHOWN ON ROOF PLAN. PROVIDE GROUND WIRES IN CONDUITS.
- EM — CONDUIT WITH LIGHTING CIRCUIT ON GENERATOR.
- UGE — EXISTING UNDERGROUND ELECTRICAL UTILITY LINES.
- CONDUIT TURNING DOWN.
- CONDUIT TURNING UP.
- CONDUIT STUB WITH INSULATED BUSHING ON END.
- CONDUIT SLEEVE THROUGH WALL ABOVE CEILING, UON, WITH SIZE INDICATED ON DRAWINGS. WHERE SIZE IS NOT INDICATED, PROVIDE 4" CONDUIT SLEEVE. PROVIDE BUSHINGS ON BOTH ENDS. COORDINATE LOCATION WITH PIPING, CONDUIT AND DUCTWORK.
- H — HANDHOLE. REFER TO DETAIL 8/E-502 FOR ADDITIONAL INFORMATION.
- PULLBOX, SIZED AS REQUIRED.
- J — JUNCTION BOX WITH BLANK COVER PLATE, CEILING MOUNTED.
- J — SINGLE-GANG OUTLET BOX, WITH BLANK COVER PLATE, RECESSED WALL MOUNTED, UON.
- J — JUNCTION BOX ON CONDUIT STUB WITH FLEXIBLE CONDUIT CONNECTION TO EQUIPMENT.

POWER

- ELECTRIC PANELBOARD (277/480V). SURFACE OR RECESSED MOUNTED AS INDICATED.
- ELECTRIC PANELBOARD (120/208V), SURFACE OR RECESSED MOUNTED AS INDICATED.
- BOX OR CABINET AS NOTED, SIZE AS REQUIRED. SURFACE OR RECESSED MOUNTED AS INDICATED.
- T — TRANSFORMER. SIZE, TYPE, AND MOUNTING AS INDICATED.
- SPD — SURGE PROTECTIVE DEVICE, MOUNT EXTERNAL TO EQUIPMENT SERVED PER MANUFACTURER'S RECOMMENDATIONS.
- CB — ENCLOSED CIRCUIT BREAKER, MOUNTED 72" ABOVE FLOOR TO TOP OF DEVICE ON WALL OR ADJACENT TO EQUIPMENT ON STRUCTURAL CHANNEL SUPPORT, UNLESS OTHERWISE NOTED.
- ENCLOSED SWITCH (DISCONNECT/SAFETY SWITCH) IN NEMA TYPE 1 ENCLOSURE, UON. MOUNT 5'-6" AF TO TOP OF ENCLOSURE, UNLESS OTHERWISE NOTED. RATING AND FUSING AS NOTED.
- HARD-WIRED CONNECTION TO EQUIPMENT, AS INDICATED.
- D — HARD-WIRED CONNECTION TO FIRE/SMOKE DAMPER. REFER TO DETAIL 2/E-305 FOR ADDITIONAL INFORMATION.
- HARD-WIRED CONNECTION TO MOTOR, AS INDICATED.
- S_M — MANUAL MOTOR STARTER SWITCH WITH OVERLOAD PROTECTION, MOUNTED 48" ABOVE FLOOR TO TOP OF BOX ON WALL OR ADJACENT TO EQUIPMENT, UNLESS OTHERWISE NOTED.
- COMBINATION TYPE MOTOR STARTER, WITH STARTER AND NON-FUSED SAFETY SWITCH, HOA SWITCH, "PUSH-TO-TEST" RED "STOPPED" AND GREEN "RUNNING" INDICATING PILOT LIGHTS, CONTROL POWER TRANSFORMER, AND TWO SETS OF N.O. AND N.C. AUXILIARY CONTACTS IN NEMA TYPE 1 ENCLOSURE, UON. MOUNT 5'-6" AF TO TOP OF ENCLOSURE, UON. STARTER SIZE AS NOTED ON PLANS.
- VFD-X — VARIABLE FREQUENCY DRIVE, AS INDICATED, MOUNTED ON WALL OR ADJACENT TO EQUIPMENT ON STRUCTURAL CHANNEL SUPPORT, UNLESS OTHERWISE NOTED. "X" INDICATES DRIVE NUMBER ON SCHEDULE OF VFD'S.
- TO GROUND.
- BB — GROUNDING BUSBAR ASSEMBLY, MOUNTED 16" ABOVE FLOOR TO BOTTOM OF ASSEMBLY. REFER TO DETAIL 2/E-503 FOR ADDITIONAL INFORMATION.
- DUPLEX GROUNDING-TYPE RECEPTACLE, NEMA CONFIGURATION 5-20R, TAMPER RESISTANT, RECESSED MOUNTED 16" ABOVE FLOOR TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED. (ADD)
- QUADRUPLEX (DOUBLE DUPLEX) GROUNDING-TYPE RECEPTACLE, TAMPER RESISTANT, NEMA CONFIGURATION 5-20R, RECESSED MOUNTED 16" ABOVE FLOOR TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED. (ADD)
- W — DUPLEX GROUNDING-TYPE RECEPTACLE, NEMA CONFIGURATION 5-20R, TAMPER RESISTANT, SURFACE MOUNTED 48" ABOVE FLOOR IN TEACHER'S WARDROBE. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION. (ADD)
- DUPLEX GROUNDING-TYPE RECEPTACLE (NEMA 5-20R), STUBBED UP FROM FLOOR, UON. REFER TO DETAIL 3/E-503 FOR ADDITIONAL INFORMATION.
- DUPLEX GROUNDING-TYPE RECEPTACLE (NEMA 5-20R), RECESSED CEILING MOUNTED.
- SPECIAL PURPOSE, GROUNDING-TYPE RECEPTACLE, RECESS MOUNTED 16" ABOVE FLOOR TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED. REFER TO DRAWINGS FOR SPECIFIC RATING INFORMATION AND NEMA CONFIGURATION. NON-LOCKING RECEPTACLES SHALL BE TAMPER RESISTANT. (ADD)
- ANY OF THE ABOVE RECEPTACLE DEVICES RECESSED MOUNTED 36" ABOVE FLOOR OR 8" ABOVE COUNTER, UNLESS OTHERWISE NOTED.
- ANY OF THE ABOVE RECEPTACLE DEVICES RECESSED MOUNTED 48" ABOVE FLOOR OR 8" ABOVE COUNTER, UNLESS OTHERWISE NOTED.
- G — ANY OF THE ABOVE RECEPTACLE DEVICES WITH GROUND FAULT CIRCUIT INTERRUPTER PROTECTION.
- WP — ANY OF THE ABOVE RECEPTACLE DEVICES WITH WEATHER-RESISTANT RECEPTACLE CONSTRUCTION, GROUND FAULT CIRCUIT INTERRUPTER FUNCTION, AND WEATHER-PROTECTIVE IN-USE COVER.
- EWC — ANY OF THE ABOVE RECEPTACLE DEVICES FOR ELECTRIC WATER COOLERS.
- C — ANY OF THE ABOVE RECEPTACLE DEVICES WITH HALF OF THE OUTLETS AUTOMATICALLY CONTROLLED THROUGH THE LIGHTING CONTROL SYSTEM. SEE DETAIL 7/E-106 FOR ADDITIONAL INFORMATION.
- OVERHEAD POWER CORD. SEE DETAIL 11/E-502 FOR ADDITIONAL INFORMATION.
- CLOCK RECEPTACLE, RECESSED WALL MOUNTED 90"AF.
- PUSH-BUTTON FOR EMERGENCY SHUTDOWN OF POWERED GAS-FIRED CONDENSING BOILERS IN MECHANICAL A 126, WITH YELLOW HOUSING, MAINTAINED-TYPE MUSHROOM PUSH-BUTTON, CUSTOM LABEL, AND PROTECTIVE COVER, EQUAL TO SAFETY TECHNOLOGY INTERNATIONAL (STI) SERIES 2000 STOPPER STATION, PART NUMBER SS2221ZA-EN. WALL MOUNT AT 48" ABOVE FLOOR TO TOP OF BOX. PROVIDE 2 #12 + #12 GROUND AND CONNECT TO BOILER CONTACT AT EACH BOILER CONTROL PANEL FOR BOILER SHUT-DOWN. CUSTOM LABEL: "EMERGENCY SHUTDOWN - BOILERS". PROVIDE OUTLET BOX WITH DEPTH TO ACCOMMODATE PUSH-BUTTON. COORDINATE EXACT LOCATION WITH STATE BOILER INSPECTOR. REFER TO DIAGRAM 6/E-503 FOR CONNECTIONS.
- S_K — KEY SWITCH FOR MOTORIZED DIVIDER CURTAIN, MOTORIZED BACKBOARD, OR ELECTROMECHANICAL DOOR CLOSER-HOLDER, RECESSED WALL MOUNTED 48" AF TO TOP OF BOX, UON. (ADD)

COMBINATION POWER AND SYSTEMS

- COMBINATION POWER, VOICE/DATA, AUDIO/VIDEO FLOOR BOX. MOUNTED FLUSH IN FLOOR PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE DETAIL 7/E-503 FOR POWER AND SYSTEM DEVICE REQUIREMENTS AND ADDITIONAL INFORMATION.
- COMBINATION POWER, VOICE/DATA, AUDIO/VIDEO POKE-THRU. MOUNTED FLUSH IN FLOOR PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE DETAIL 8/E-503 FOR POWER AND SYSTEM DEVICE REQUIREMENTS AND ADDITIONAL INFORMATION.

FIRE ALARM

- F — MANUAL PULL STATION WITH FALSE ALARM PROTECTOR, WALL MOUNTED ON RECESSED OUTLET BOX, 48" AF TO TOP OF BOX.
- 75 — COMBINATION SPEAKER WITH FLASHING INDICATING STROBE LIGHT, CEILING MOUNTED ON RECESSED OUTLET BOX. NUMBER REPRESENTS CANDELA RATING. WHERE NO CANDELA RATING IS INDICATED, PROVIDE 15 CANDELA STROBE LIGHT.
- 30 — COMBINATION SPEAKER WITH FLASHING INDICATING STROBE LIGHT, WALL MOUNTED ON RECESSED OUTLET BOX, 6'-8" AF TO TOP OF BOX OR 6" BELOW CEILING, WHICHEVER IS LOWER. NUMBER REPRESENTS CANDELA RATING. WHERE NO CANDELA RATING INDICATED, PROVIDE 15 CANDELA STROBE LIGHT.
- 30 — FLASHING INDICATING STROBE LIGHT, CEILING MOUNTED. NUMBER REPRESENTS CANDELA RATING. WHERE NO CANDELA RATING IS INDICATED, PROVIDE 15 CANDELA STROBE LIGHT.
- 110 — FLASHING INDICATING STROBE LIGHT, RECESSED WALL MOUNTED 6'-8" AF TO TOP OF BOX OR 6" BELOW CEILING, WHICHEVER IS LOWER. NUMBER REPRESENTS CANDELA RATING. WHERE NO CANDELA RATING IS INDICATED, PROVIDE 15 CANDELA STROBE LIGHT.
- FIRE ALARM SPEAKER, CEILING MOUNTED ON RECESSED OUTLET BOX.
- S — SMOKE DETECTOR, CEILING MOUNTED.
- DUCT SMOKE DETECTOR WITH "CONCEALED DETECTOR INDICATING AND TEST STATION" CEILING MOUNTED BELOW DUCT DETECTOR LOCATION, UON.
- D — DUCT SMOKE DETECTOR WITH AUXILIARY CONTACTS CONTROLLING NEARBY SMOKE DAMPER RELAY. REFER TO DIAGRAM 2/E-305. PROVIDE WITH "CONCEALED DETECTOR INDICATING AND TEST STATION" CEILING MOUNTED BELOW DUCT DETECTOR LOCATION, UON.
- H — HEAT DETECTOR, CEILING MOUNTED.
- CM — CONTROL MODULE.
- MM — MONITORING MODULE.
- RM — RELAY MODULE.
- FS — SPRINKLER SYSTEM FLOW SWITCH WITH DEDICATED FIRE ALARM SYSTEM MONITORING MODULE.
- VM — SPRINKLER SYSTEM VALVE MONITOR SWITCH WITH DEDICATED FIRE ALARM SYSTEM MONITORING MODULE.
- MAGNETIC DOOR HOLDER. FOR 120V POWER TO MAGNETIC DOOR HOLDER, PROVIDE 2 #12 + #12 GROUND IN 3/4" CONDUIT TO NEAREST RECEPTACLE CIRCUIT SERVING CORRIDOR.

DOORBELL SYSTEM

- PB — PUSHBUTTON WITH COVER PLATE IN WEATHERPROOF SINGLE-GANG OUTLET BOX, RECESSED WALL MOUNTED 48" AF TO TOP OF BOX. PROVIDE 3/4" CONDUIT FROM BOX TO ACCESSIBLE CEILING SPACE.
- B — BUZZER, WALL MOUNTED ON RECESSED SINGLE-GANG OUTLET BOX, 7'-6" AF TO TOP OF BOX. PROVIDE 3/4" CONDUIT FROM BOX TO ACCESSIBLE CEILING SPACE.

SWITCHBOARD AND PANELBOARD DESIGNATIONS

MDF — MAIN DISTRIBUTION FRAME (SERVING MDF ROOM ER B173)

EXAMPLE

SB		SB			
DP1B		DP		1B	
EL1A	E		L	1A	
K		K			
M1B			M		
L2B			L	2B	
R1A2			R	1A	2
SM1A	S		M	1A	
SR2B	S		R	2B	

AREA DESIGNATION
1, 2, : — MULTIPLE PANELS IN SAME AREA, NUMBERED IN SEQUENCE.

AREA/FLOOR DESIGNATION
1A — FIRST FLOOR AREA "A"
1B — FIRST FLOOR AREA "B"
2B — SECOND FLOOR AREA "B"

TYPE 2 DESIGNATION
M — MECHANICAL, 277/480V OR 120/208V
L — LIGHTING, 277/480V
R — RECEPTACLE OR PLUG LOADS, 120/208V

TYPE 1 DESIGNATION
SB — SWITCHBOARD, 277/480V
DP — DISTRIBUTION PANEL, 277/480V OR 120/208V
K — KITCHEN, 277/480V OR 120/208V

GENERATOR DESIGNATION
E — EMERGENCY / LIFE-SAFETY (ON-SITE GENERATOR)
S — STANDBY EQUIPMENT (ON-SITE GENERATOR)

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NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions

IAC CD / BLDG PERMIT SET 1 MAY 20
ADD — ADDENDUM NO. 4 8 JULY 20
BID AND CONSTRUCTION 16 JUNE 20

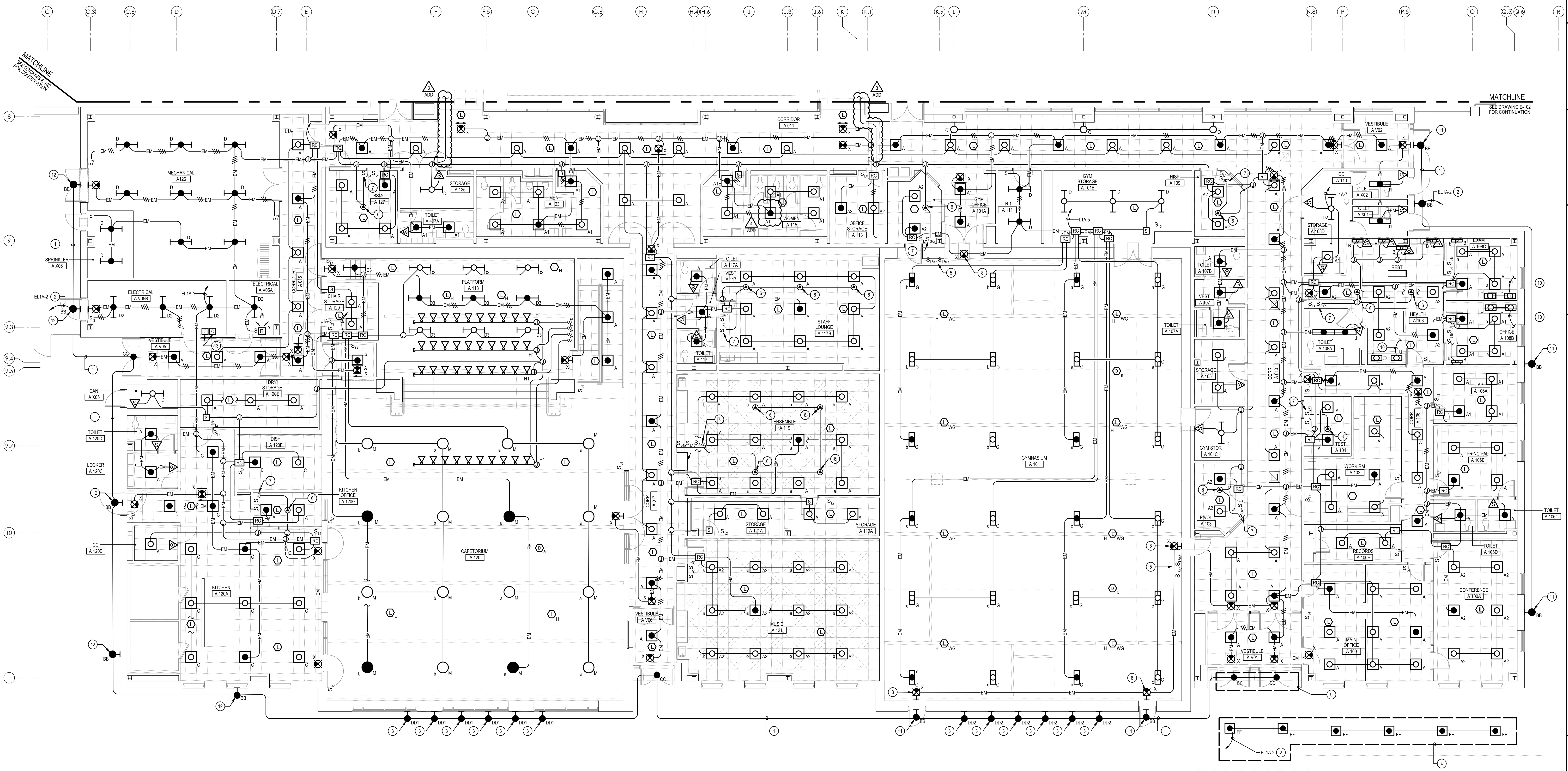
ELECTRICAL SYMBOLS AND ABBREVIATIONS

E-001

LIGHTING CONTROL SCHEMES FIRST FLOOR AREA A	
ROOM NAME	SCHEME
A X01 TOILET	4A
A X02 TOILET	4A
A X05 CAN	4A
A X06 SPRINKLER	5
A V01 VESTIBULE	3
A V02 VESTIBULE	3
A V05 VESTIBULE	3
A V05A ELEC	5
A V05B ELEC	5
A V06 VESTIBULE	3
A 010 CORRIDOR	3
A 011 CORRIDOR	3
A 015 CORRIDOR	3
A 017 CORRIDOR	3
A 100 MAIN OFFICE	2
A 100A CONFERENCE	2
A 101 GYMNASIUM	11
A 101A GYM OFFICE	2
A 101B GYM STORAGE	4B
A 101C GYM STORAGE	4A
A 102 WORK ROOM	2
A 103 PARENT VOLUNTEER	2
A 104 SECURE TESTING	2
A 105 STORAGE	4A
A 106 CORRIDOR	3
A 106A ASSISTANT PRINCIPAL	2
A 106B PRINCIPAL	2
A 106C TOILET	4A
A 106D TOILET	4A
A 106E RECORDS	2
A 107 VESTIBULE	4A
A 107A TOILET	4A
A 107B TOILET	4A
A 108 HEALTH	10
A 108A TOILET	4A
A 108B OFFICE	2
A 108C EXAM	2
A 108D STORAGE	4A
A 109 HISPANIC VOLUNTEER	2
A 110 CUSTODIAL CLOSET	4A
A 111 TELECOM ROOM 1	5
A 113 OFFICE STORAGE	2
A 115 WOMENS RESTROOM	4
A 117 VESTIBULE	4A
A 117A TOILET	4A
A 117B STAFF LOUNGE	2
A 117C TOILET	4A
A 118 PLATFORM	9
A 119 ENSEMBLE	1
A 119A STORAGE	4B
A 120 CAFETORIUM	9
A 120A KITCHEN	2
A 120B CUSTODIAL CLOSET	4A
A 120C LOCKER	4A
A 120D TOILET	4A
A 120E DRY STORAGE	4B
A 120F DISHWASHING	2
A 120G KITCHEN OFFICE	2
A 121 MUSIC	1
A 121A STORAGE	4B
A 123 MENS RESTROOM	4
A 125 STORAGE	4A
A 126 MECHANICAL ROOM	5
A 127 BSMO	2
A 127A TOILET	4A
A 129 CHAIR STORAGE	4B

SPECIFIC NOTES:

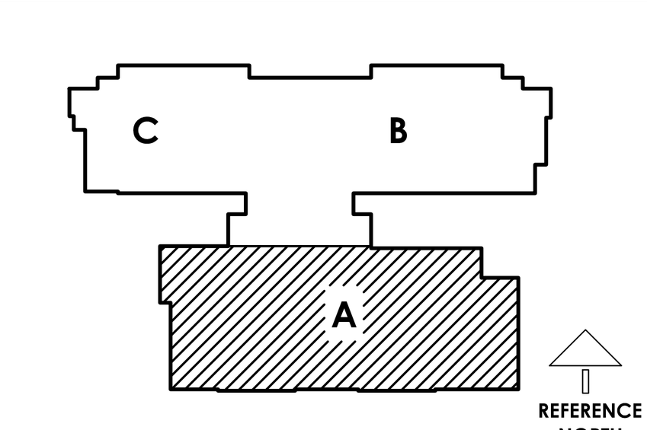
1. ROUTE CONDUIT AND WIRING IN CONCEALED CEILING SPACE INSIDE BUILDING.
2. CIRCUIT VIA LIGHTING CONTACTOR LC2 LOCATED IN ELECTRICAL ROOM V05B.
3. MOUNT FIXTURE 15'-4" ABOVE AREA 'A' FLOOR TO CENTER OF JUNCTION BOX.
4. PROVIDE FIXTURES UNDER MAIN ENTRANCE CANOPY ALTERNATE.
5. PROVIDE PROTECTIVE COVER FOR WALL STATIONS IN GYMNASIUM EQUAL TO SAFETY TECHNOLOGY INTERNATIONAL STI-6518 BOPPER STOPPER WITH SPRING-LOADED HINGE, CLEAR POLYCARBONATE COVER.
6. CONNECT TO SKYLIGHT DIFFUSER CONTROLLER 0.1A-277V
7. INSTALL SKYLIGHT DIFFUSER CONTROL SWITCH FURNISHED BY SKYLIGHT MANUFACTURER.
8. PROVIDE WIREGUARD ON EXIT SIGNS IN GYMNASIUM.
9. PROVIDE FIXTURES ONLY IF MAIN ENTRANCE CANOPY ALTERNATE IS NOT ACCEPTED.
10. CONNECT TO NEAREST 120V CONVENIENCE RECEPTACLE CIRCUIT SERVING THE SPACE.
11. MOUNT FIXTURE 9'-0" ABOVE AREA 'A' FLOOR.
12. MOUNT FIXTURE 12'-0" ABOVE AREA 'A' FLOOR.
13. LIGHTING CONTACTORS LC1 AND LC2.



1 E-101 FIRST FLOOR PLAN - AREA 'A' - LIGHTING
SCALE: 1/8" = 1'-0"

NORTH

8 4 0 8 16
SCALE: 1/8" = 1'-0"
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



FIRST FLOOR KEY PLAN

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, License No. 24861, Expiration date: 02-24-2022.

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
ADDENDUM NO. 3 1 JULY 20
ADDENDUM NO. 4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

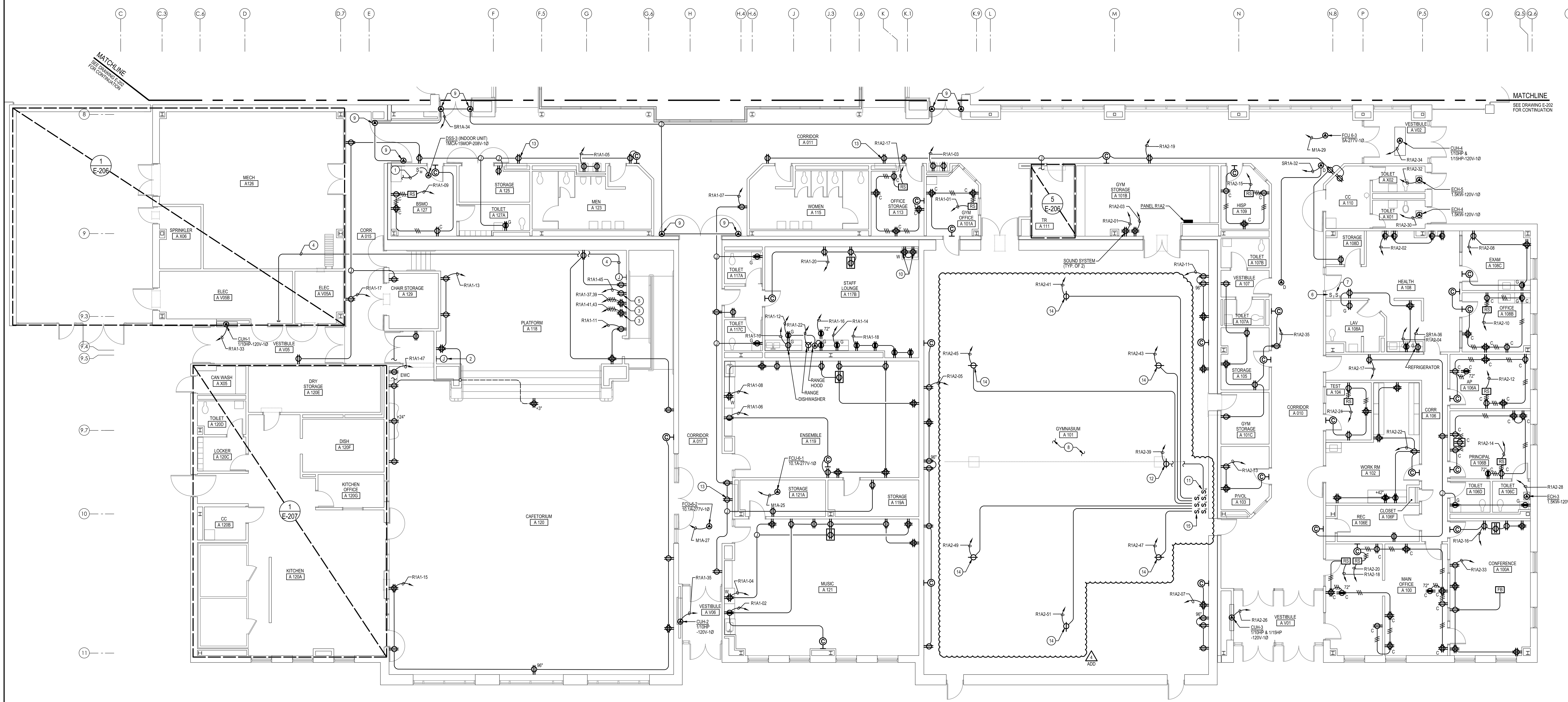
FLOOR PLAN FIRST FLOOR AREA 'A' LIGHTING

E-101

OF
PROJECT NO. 1804

SPECIFIC NOTES:

1. PROVIDE CONNECTION TO ASSOCIATED DSS (OUTDOOR UNIT) PER MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.
2. LOCATION FOR PROJECTOR SCREEN CONTROLS. PROVIDE OUTLET BOX AT 48" ABOVE FLOOR. PROVIDE 1" CONDUIT FROM BOX UP TO ACCESSIBLE CEILING ABOVE. COORDINATE EXACT LOCATION WITH AV DRAWINGS.
3. SPLIT-WIRE RECEPTACLE MOUNTED IN AV EQUIPMENT. REFER TO AV DRAWINGS FOR ADDITIONAL INFORMATION.
4. PROVIDE 4#8 WITH #10 GROUND IN 1" CONDUIT FROM ELECTRICAL ROOM A V05B (ABOVE PANEL R1A1) TO CHAIR STORAGE A 120H. CAP FEEDERS AND MAKE SAFE FOR FUTURE CONNECTION TO THEATRICAL LIGHTING RELAY PANEL. PROVIDE JUNCTION BOX IN CHAIR STORAGE, WALL MOUNTED.
5. DEDICATED RECEPTACLE FOR FUTURE CONNECTION TO THEATRICAL LIGHTING DIN RAIL ENCLOSURE.
6. PROVIDE 4-HOUR TIMER SWITCH. COORDINATE EXACT LOCATION WITH ARCHITECT. PROVIDE 2#10 WITH #10G IN 3/4" CONDUIT AND CONNECT TO EXHAUST FAN EF-7 LOCATED ON ROOF. PROVIDE LABEL FOR COVERPLATE INDICATING "PURGE EXHAUST FAN".
7. PROVIDE 4-HOUR TIMER SWITCH. COORDINATE EXACT LOCATION WITH ARCHITECT. PROVIDE 2#10 WITH #10G IN 3/4" CONDUIT AND CONNECT TO EXHAUST FAN EF-8 LOCATED ON ROOF. PROVIDE LABEL FOR COVERPLATE INDICATING "PURGE EXHAUST FAN".
8. ELECTRICAL DEVICES IN GYMNASIUM SHALL BE PROVIDED WITH PROTECTIVE COVER.
9. MAGNETIC DOOR HOLD OPENS. REFER TO FIRE ALARM DRAWINGS FOR ADDITIONAL INFORMATION.
10. COORDINATE WITH ARCHITECTURAL DETAIL 11/A-702.
11. PROVIDE MULTI-GANG OUTLET BOX SIZED AS REQUIRED TO INSTALL RAISE/LOWER SWITCHES FURNISHED BY DIVIDER CURTAIN MANUFACTURER.
12. PROVIDE TWIST-LOCK RECEPTACLE TO MATCH PLUG PROVIDED BY MOTORIZED DIVIDER CURTAIN MANUFACTURER. LOCATE RECEPTACLE WITHIN 3'-0" OF WINCH LOCATION.
13. MOUNT RECEPTACLE WITHIN DISPLAY CASE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DETAILS.
14. PROVIDE TWO TWIST-LOCK RECEPTACLES TO MATCH PLUGS PROVIDED BY BACKBOARD MANUFACTURER FOR FOLDING BACKBOARD AND HEIGHT ADJUSTER. LOCATE RECEPTACLES WITHIN 3'-0" OF WINCH LOCATIONS.
15. PROVIDE MULTI-GANG OUTLET BOX SIZED AS REQUIRED TO INSTALL RAISE/LOWER SWITCHES FURNISHED BY BACKBOARD MANUFACTURER. TYPICAL OF 6 SWITCHES.



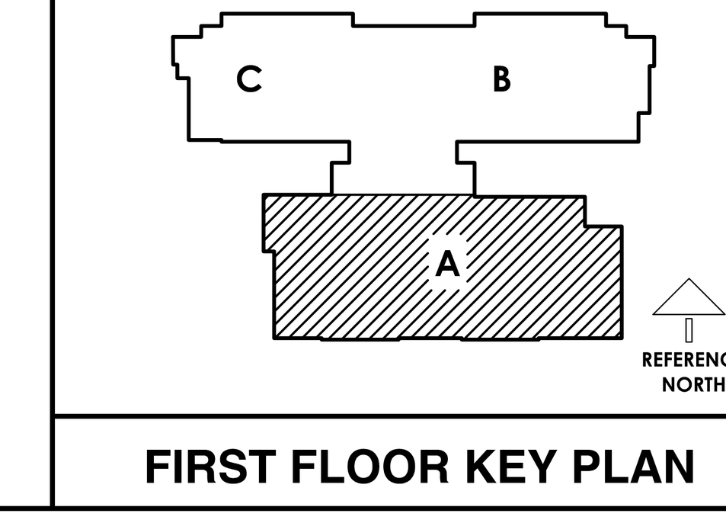
1 E-201 FIRST FLOOR PLAN - AREA 'A' - POWER
SCALE: 1/8" = 1'-0"

NORTH

8 4 0 8 16

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

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



FIRST FLOOR KEY PLAN

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JPA PROJECT NO. 6667-16

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, License No. 24861, Expiration date: 02-24-2022.

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions

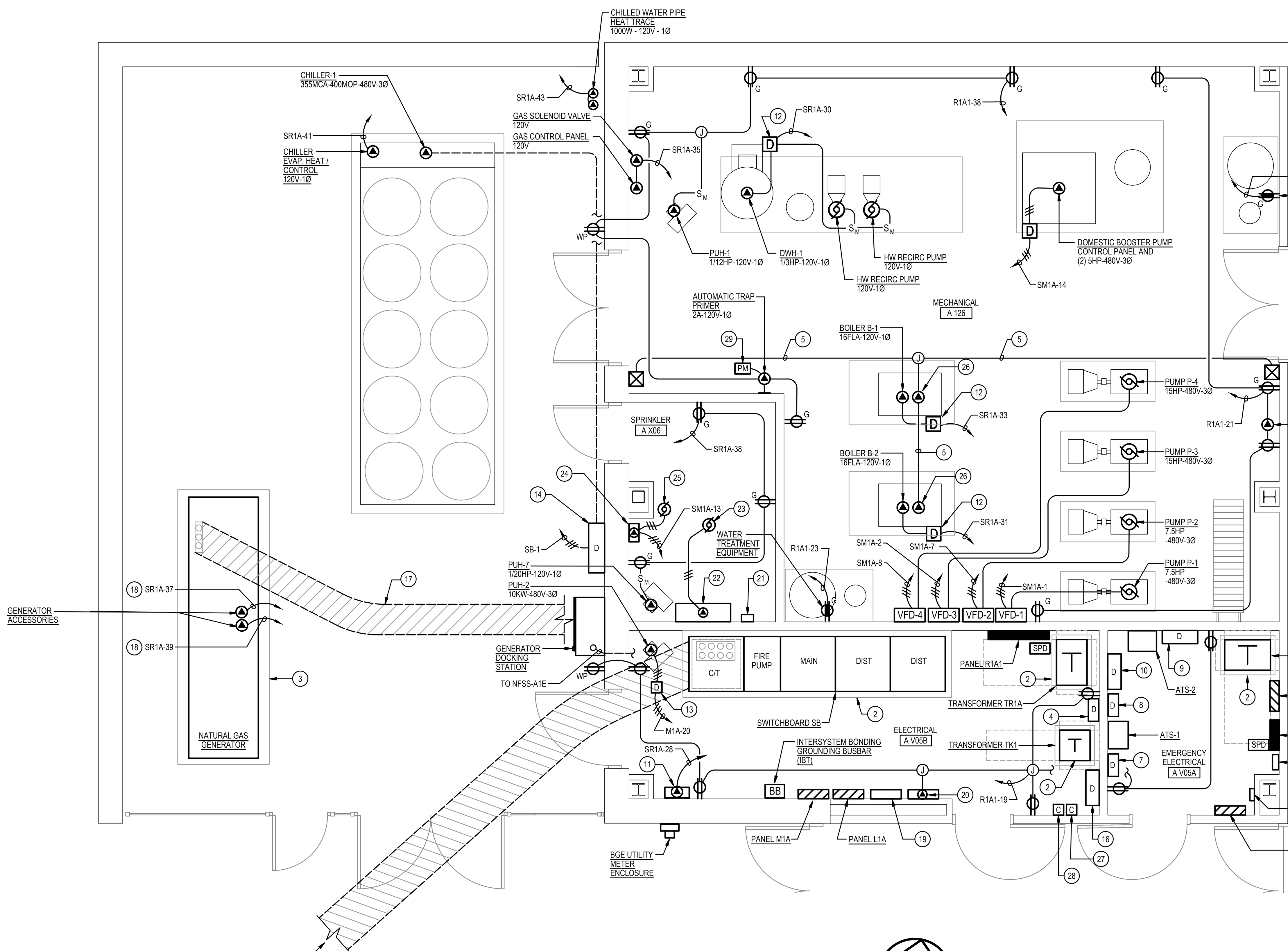
IAC CD / BLDG PERMIT SET
1 MAY 20

4 ADD ADDENDUM NO. 4
8 JULY 20

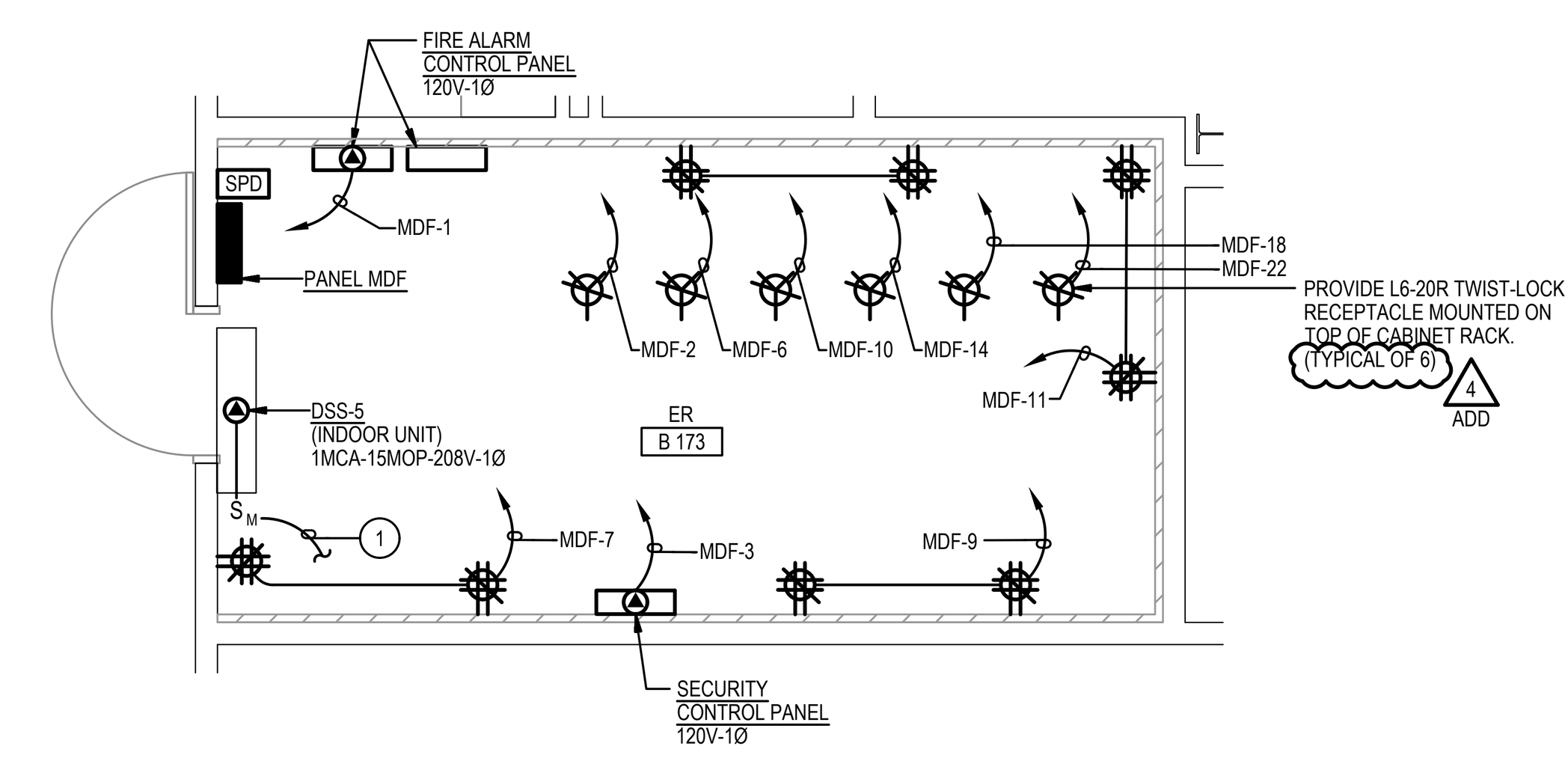
BID AND CONSTRUCTION
16 JUNE 20

FLOOR PLAN FIRST FLOOR AREA 'A' POWER

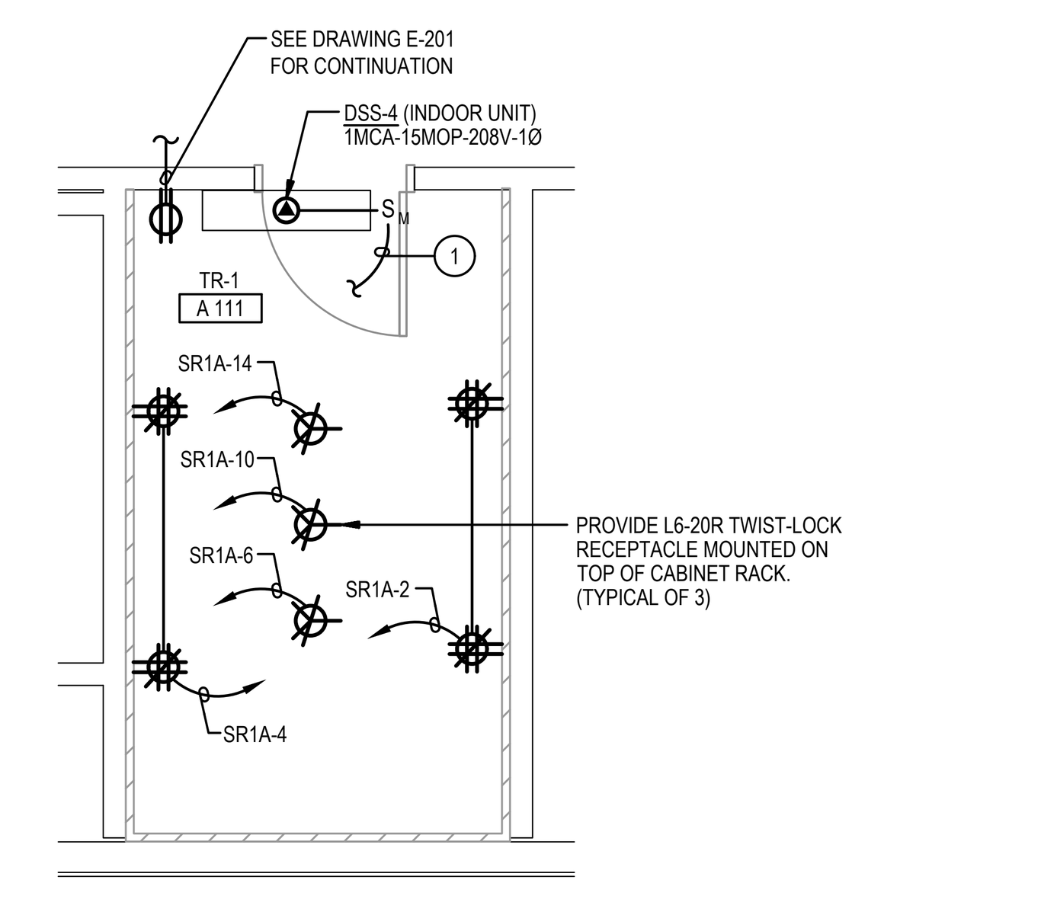
E-201



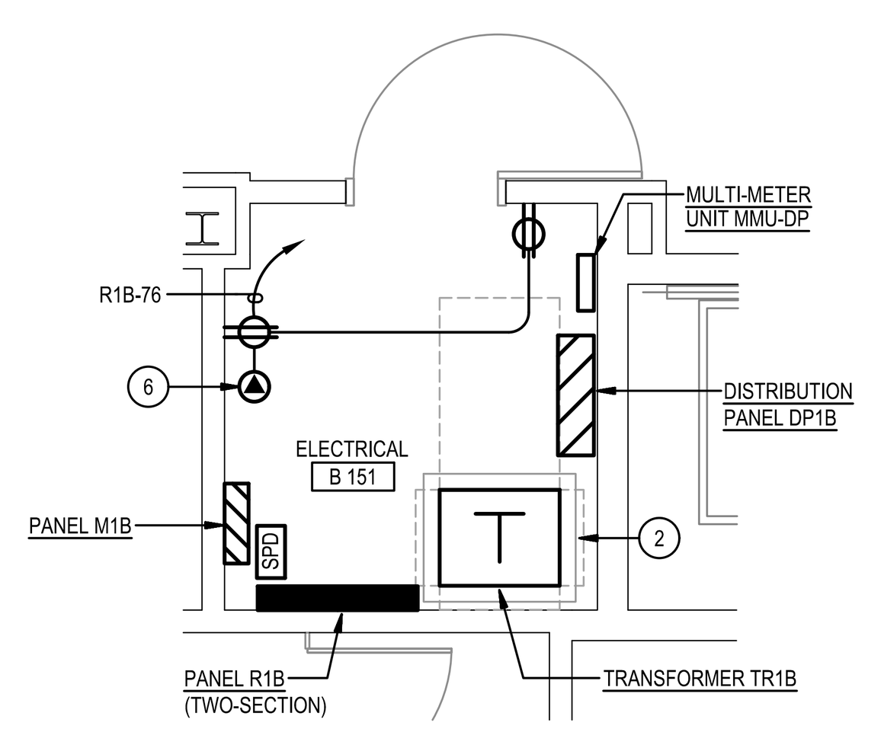
1 E-206 PART PLAN - ELEC & MECH ROOM
SCALE: 1/4" = 1'-0"



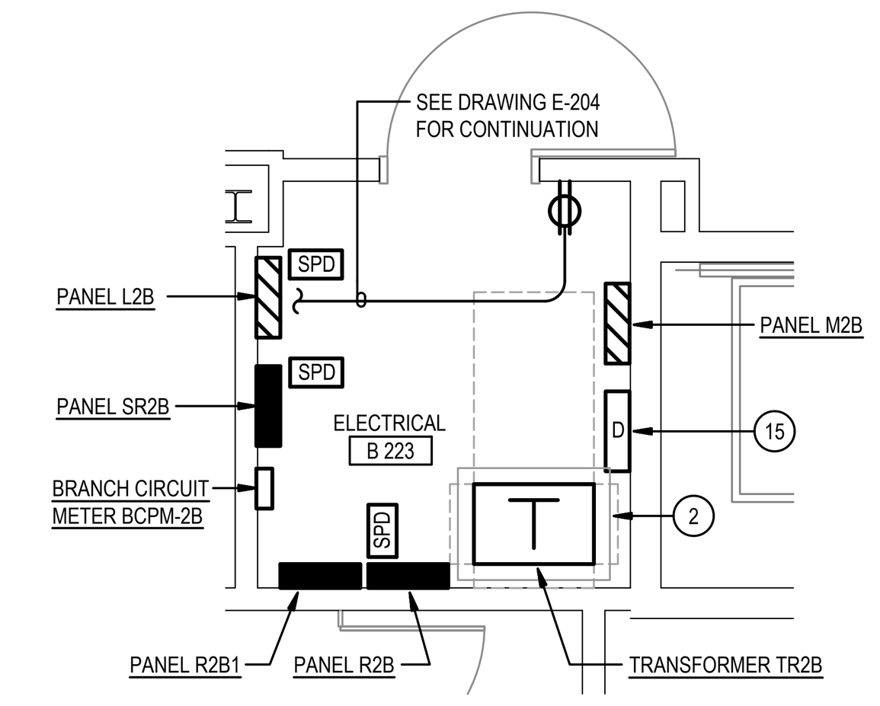
4 E-206 PART PLAN - ER ROOM B173
SCALE: 1/4" = 1'-0"



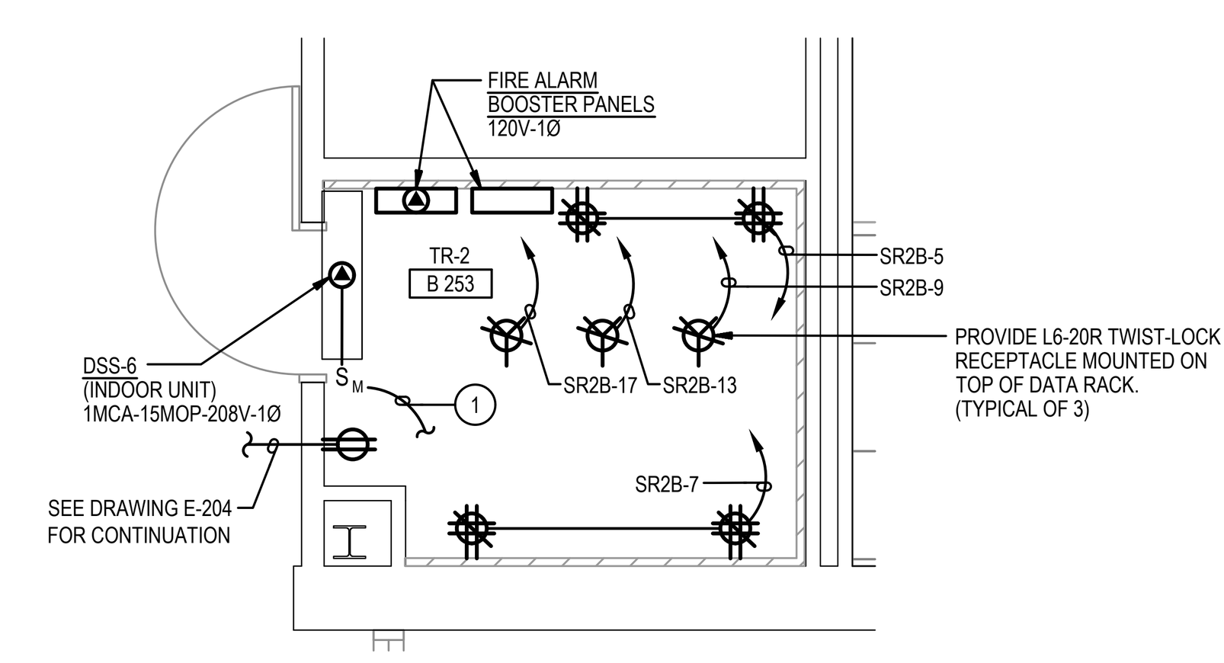
5 E-206 PART PLAN - TR-1 ROOM A111
SCALE: 1/4" = 1'-0"



2 E-206 PART PLAN - ELEC ROOM B151
SCALE: 1/4" = 1'-0"



3 E-206 PART PLAN - ELEC ROOM B223
SCALE: 1/4" = 1'-0"

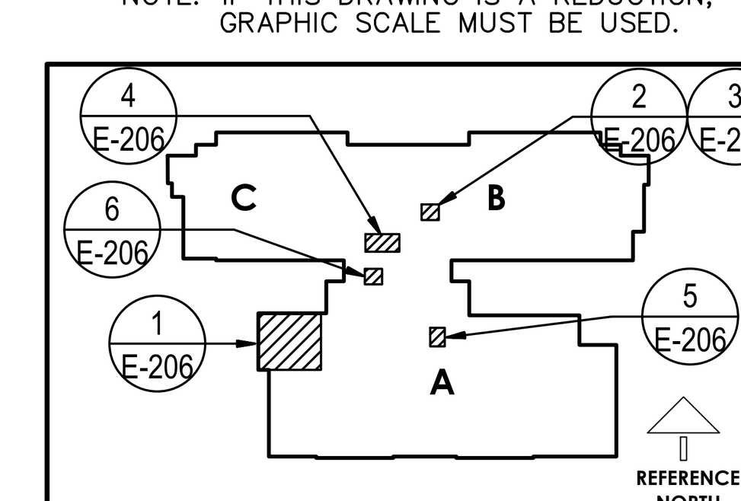


6 E-206 PART PLAN - TR-2 ROOM B253
SCALE: 1/4" = 1'-0"

SPECIFIC NOTES:

1. PROVIDE CONNECTION TO ASSOCIATED DSS (OUTDOOR UNIT) PER MECHANICAL EQUIPMENT MANUFACTURER'S REQUIREMENTS.
2. PROVIDE 4" EQUIPMENT PAD FOR ELECTRICAL EQUIPMENT.
3. PROVIDE 6" EQUIPMENT PAD FOR OUTDOOR ELECTRICAL EQUIPMENT.
4. PROVIDE NON-FUSED SAFETY SWITCH (DISCONNECT) NFSS-TK1. REFER TO RISER DIAGRAM 1/E-501 FOR ADDITIONAL INFORMATION.
5. PROVIDE MANUFACTURER'S REQUIRED WIRING IN 3/4" CONDUIT FOR EMERGENCY BOILER-OFF SHUTDOWN.
6. CONNECT TO VACUUM PUMP RECEPTACLE PROVIDED BY EQUIPMENT MANUFACTURER.
7. PROVIDE ENCLOSED SWITCH NFSS-A1N. REFER TO RISER DIAGRAM 1/E-501 FOR ADDITIONAL INFORMATION.
8. PROVIDE ENCLOSED SWITCH NFSS-A1E. REFER TO RISER DIAGRAM 1/E-501 FOR ADDITIONAL INFORMATION.
9. PROVIDE ENCLOSED SWITCH NFSS-A2N. REFER TO RISER DIAGRAM 1/E-501 FOR ADDITIONAL INFORMATION.
10. PROVIDE ENCLOSED SWITCH NFSS-A2E. REFER TO RISER DIAGRAM 1/E-501 FOR ADDITIONAL INFORMATION.
11. ALTERNATE: PROVIDE POWER SUPPLY ASSEMBLY WITH EXTERNAL DOOR-MOUNTED EMERGENCY PUSHBUTTON FOR SOLAR PV SYSTEM RAPID SHUTDOWN. REFER TO DIAGRAM 7/E-205 FOR CONNECTIONS AND ADDITIONAL INFORMATION.
12. PROVIDE 2P-30A-240V NON-FUSED ENCLOSED SWITCH IN LOCKABLE NEMA 1 ENCLOSURE.
13. PROVIDE 3P-30A-600V ENCLOSED SWITCH IN NEMA 1 ENCLOSURE. FUSE PER MANUFACTURER RECOMMENDATIONS.
14. PROVIDE 3P-400A-600V ENCLOSED SWITCH IN NEMA 4X STAINLESS STEEL ENCLOSURE. FUSE PER MANUFACTURER RECOMMENDATIONS.
15. PROVIDE ENCLOSED SWITCH NFSS-TR2B. REFER TO RISER DIAGRAM 1/E-501 FOR ADDITIONAL INFORMATION.
16. PROVIDE FUSED SAFETY SWITCH (DISCONNECT) FSS-K1. REFER TO RISER DIAGRAM 1/E-501 FOR ADDITIONAL INFORMATION.
17. GENERATOR FEEDERS IN GENERATOR DUCT BANK. REFER TO RISER DIAGRAM 1/E-501 AND DETAIL 2/E-502 FOR ADDITIONAL INFORMATION.
18. GENERATOR ACCESSORY CIRCUITS IN GENERATOR DUCT BANK. REFER TO RISER DIAGRAM 2/E-502 FOR ADDITIONAL INFORMATION.
19. MULTI-METER UNIT SB AND PV METERS.
20. ENERGY METER COMMUNICATIONS GATEWAY
21. PROVIDE ENCLOSED CIRCUIT BREAKER ECB-FP. REFER TO RISER DIAGRAM 1/E-501 FOR ADDITIONAL INFORMATION.
22. FIRE PUMP CONTROLLER AND TRANSFER SWITCH. REFER TO RISER DIAGRAM 1/E-501 FOR CONNECTION REQUIREMENTS.
23. FIRE PUMP: 20HP-480V-3Ø-3W
24. JOCKEY PUMP CONTROLLER WITH INTEGRAL DISCONNECT SWITCH.
25. JOCKEY PUMP: 3/4HP-480V-3Ø-3W
26. CONNECT TO BOILER CONTACT FOR BOILER SHUT-DOWN.
27. 30A-277V, 6-POLE FEED-THRU LIGHTING CONTACTOR LC1 SERVING EXTERIOR NORMAL POWER LIGHTING.
28. 30A-277V, 6-POLE FEED-THRU LIGHTING CONTACTOR LC2 SERVING EXTERIOR EMERGENCY POWER LIGHTING.
29. GAS METER PULSE INPUT MODULE WITH LINE-VOLTAGE POWER SUPPLY IN NEMA 4X ENCLOSURE. CONNECT TO GAS METER AND METERING SYSTEM. REFER TO DIAGRAM 4/E-501 FOR ADDITIONAL DETAILS.

SCALE: 1/4" = 1'-0"
NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



FIRST FLOOR KEY PLAN

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James Posey Associates

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 24861, Expiration date: 02-24-2022.

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions

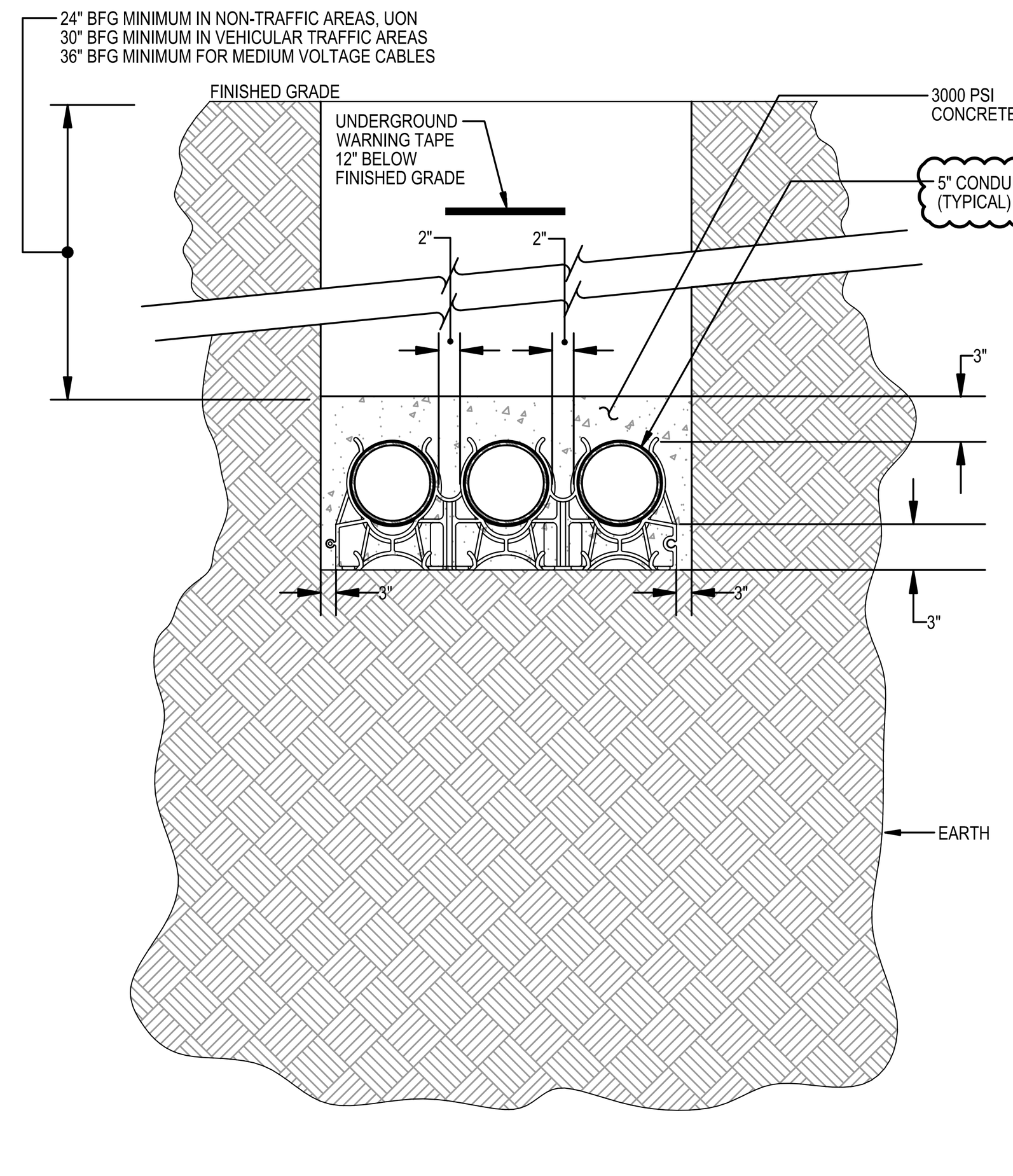
IAC CD / BLDG PERMIT SET	1 MAY 20
ADDENDUM NO. 3	1 JULY 20
ADDENDUM NO. 4	8 JULY 20
BID AND CONSTRUCTION	16 JUNE 20

PART PLANS POWER

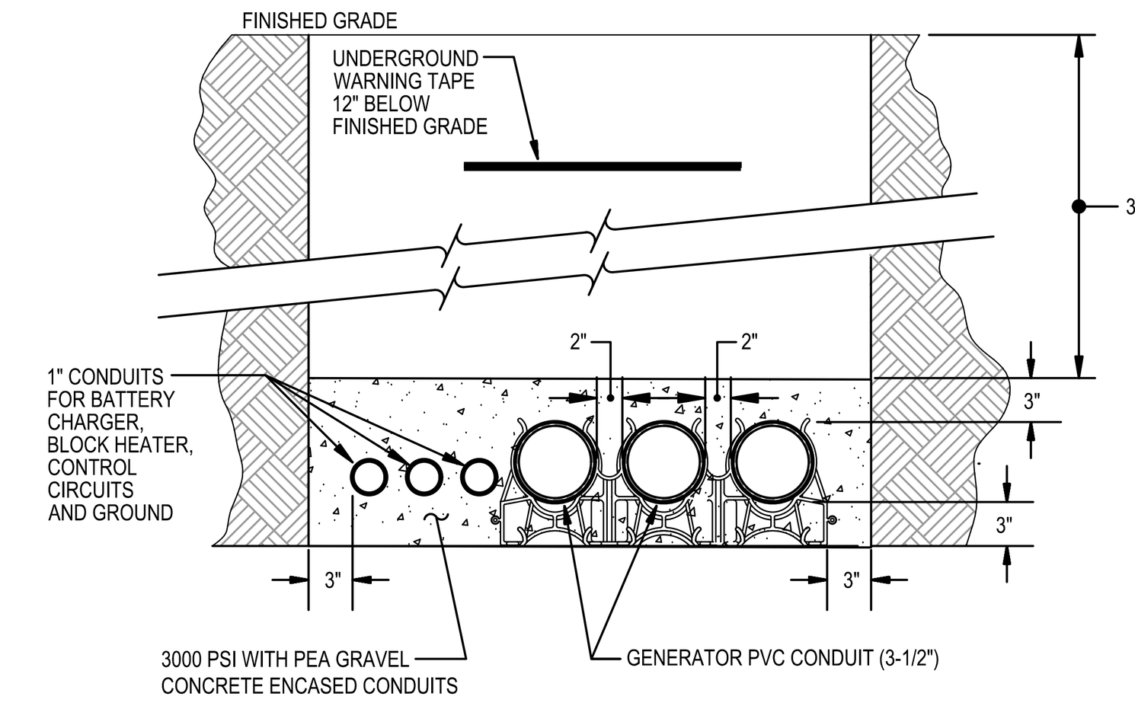
E-206

15 OF 26
PROJECT NO. 1804

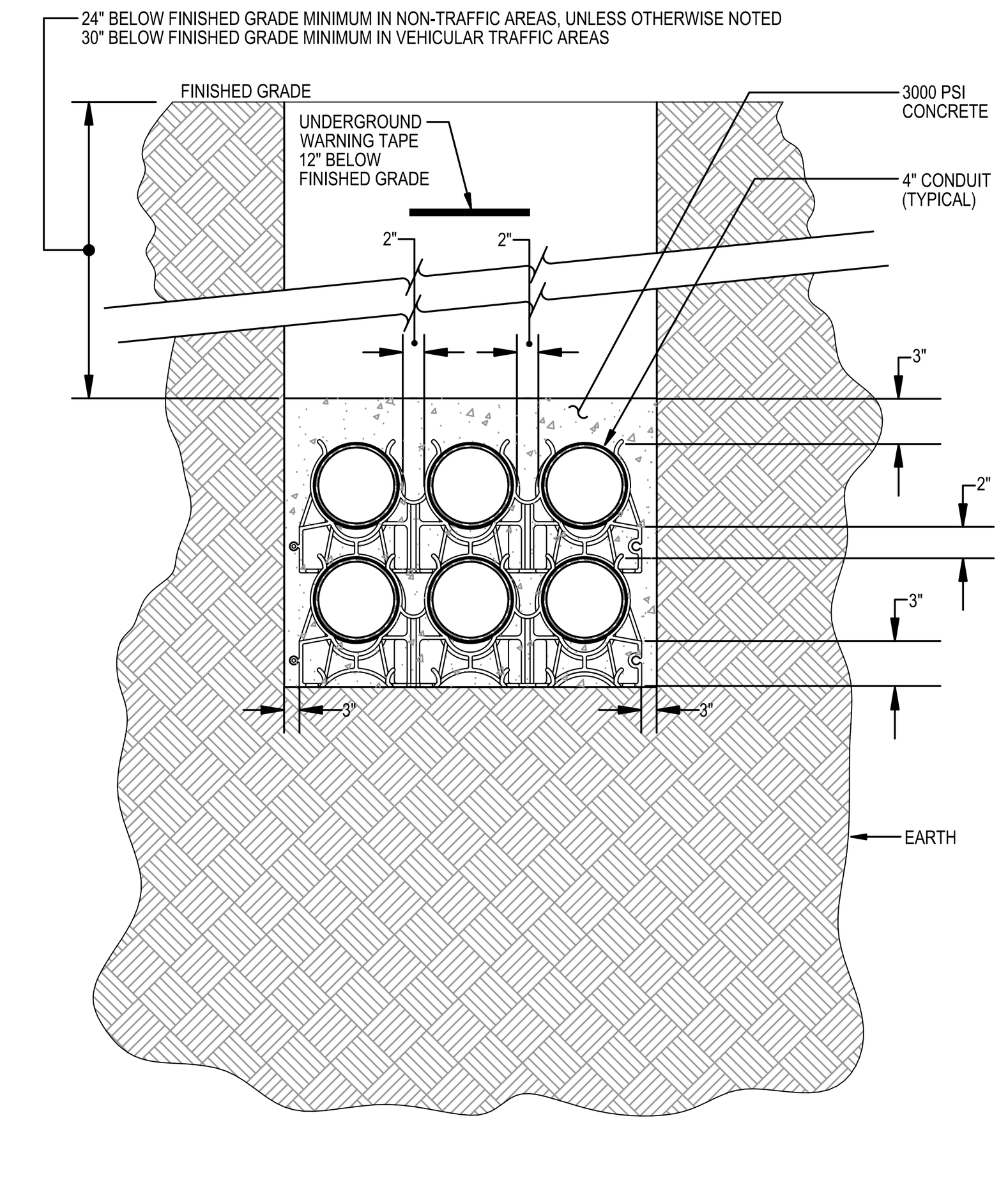
July 08, 2020 11:51 a.m.



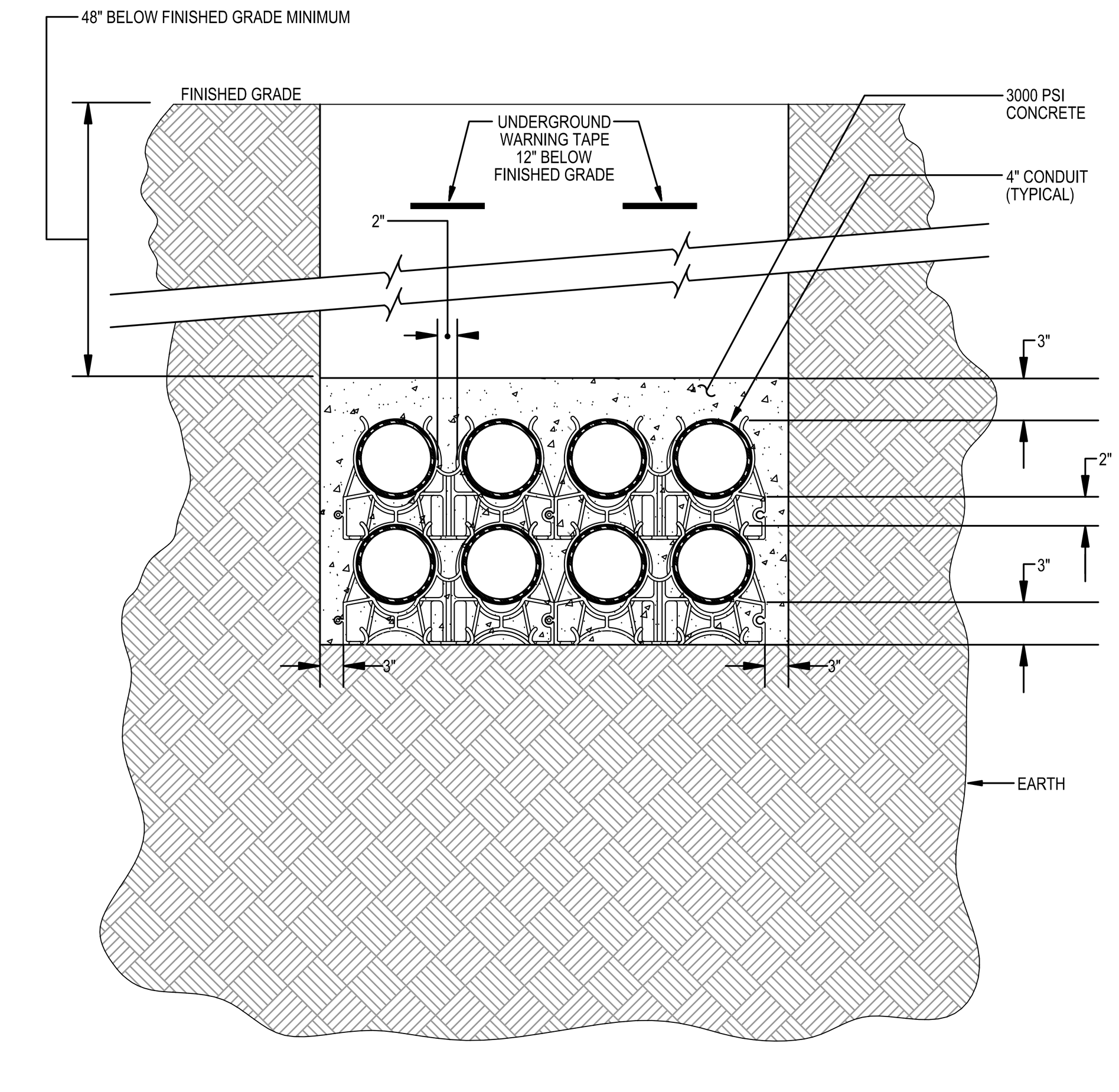
1 E-502 **DETAIL**
3-WAY ELECTRICAL DUCTBANK
NOT TO SCALE



2 E-502 **DETAIL**
GENERATOR DUCTBANK
NOT TO SCALE

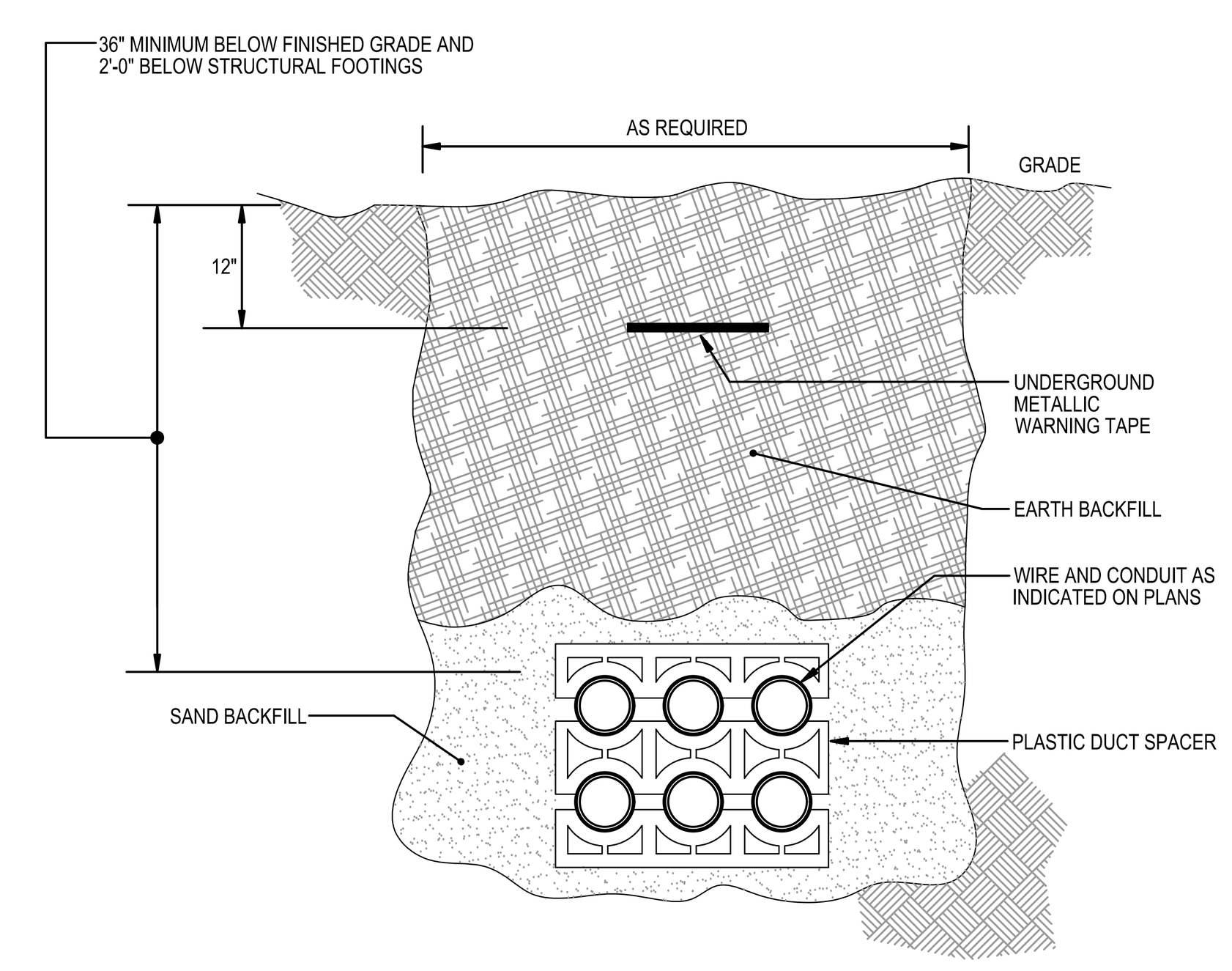


3 E-502 **DETAIL**
6-WAY ELECTRICAL DUCTBANK
NOT TO SCALE

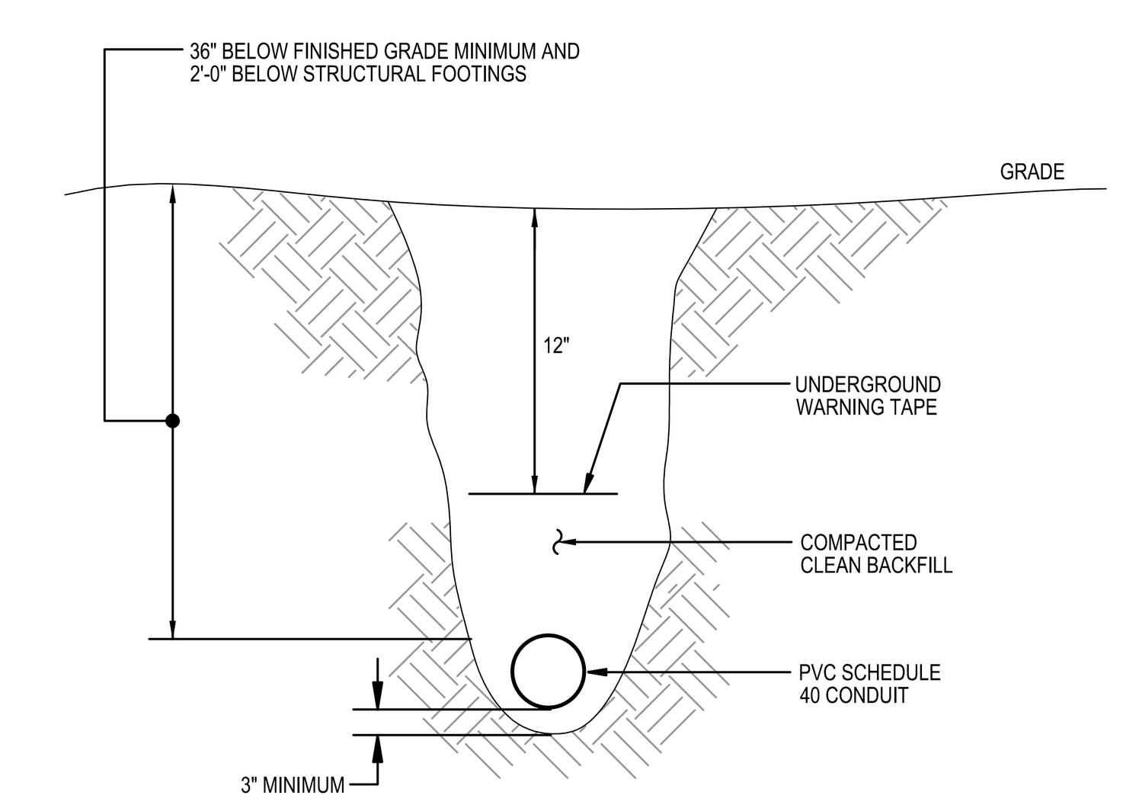


4 E-502 **DETAIL**
8-WAY ELECTRICAL DUCTBANK
NOT TO SCALE

NOTE:
DETAIL IS REPRESENTATIVE OF LOCATIONS WHERE MULTIPLE DIRECT BURIED CONDUITS ARE RUN TOGETHER IN SAME TRENCH. ADJUST SPACER CONFIGURATION AS REQUIRED.



5 E-502 **DETAIL**
MULTIPLE DIRECT-BURIED CONDUITS
NOT TO SCALE



6 E-502 **DETAIL**
DIRECT-BURIED CONDUIT
NOT TO SCALE

DETAIL NOTES

A. FOUNDATION SHALL BE PLUMB AND POURED ON UNDISTURBED SOIL. CONCRETE SHALL NOT BE POURED BELOW 40°F ON A FALLING TEMPERATURE. CONCRETE SHALL BE ONE CONTINUOUS POUR. MECHANICALLY VIBRATE POURED CONCRETE TO PREVENT VOIDS.

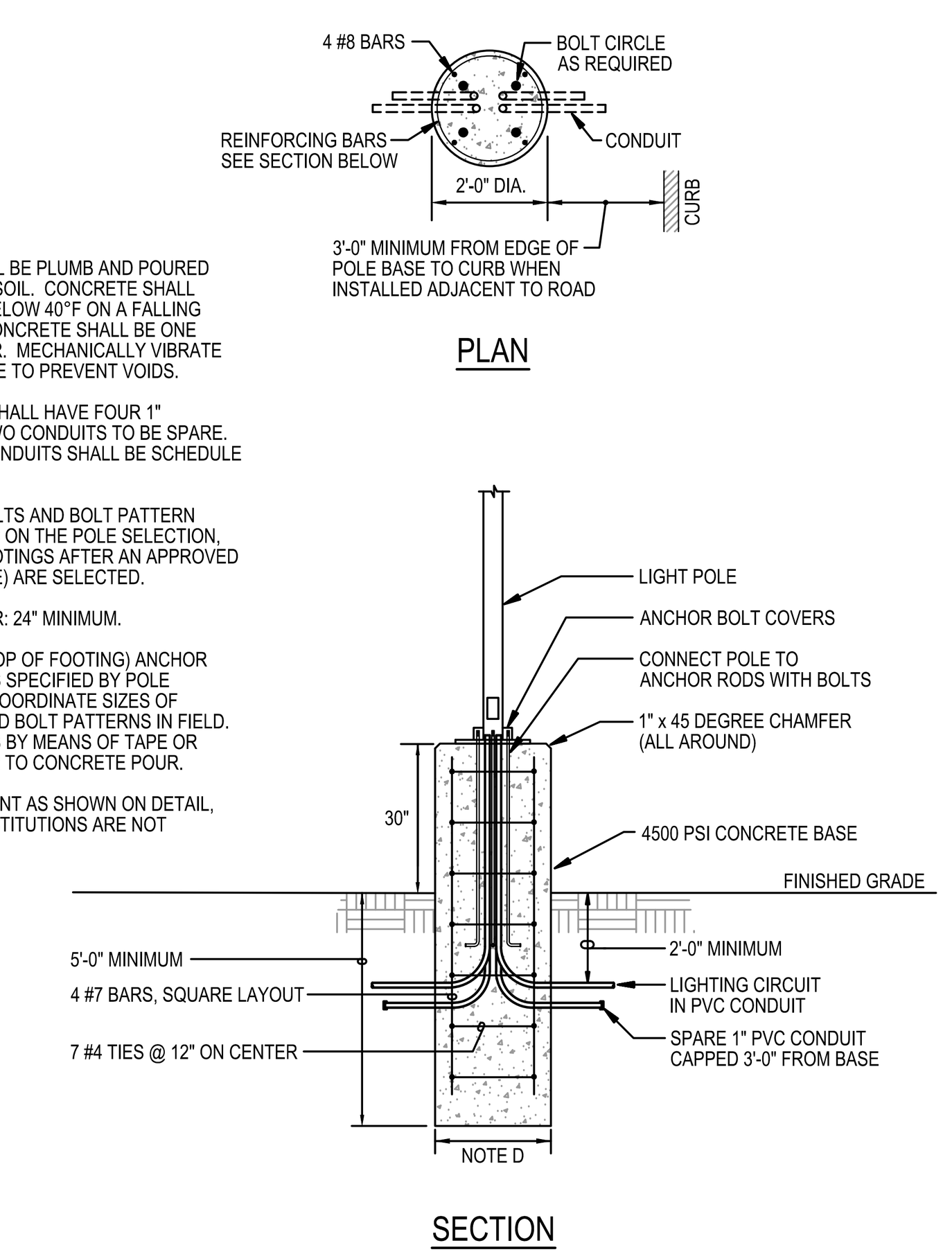
B. EACH POLE BASE SHALL HAVE FOUR 1" CONDUITS WITH TWO CONDUITS TO BE SPARE. UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC.

C. SINCE ANCHOR BOLTS AND BOLT PATTERN TEMPLATE DEPEND ON THE POLE SELECTION, SET AND POUR FOOTINGS AFTER AN APPROVED POLE (AND FIXTURE) ARE SELECTED.

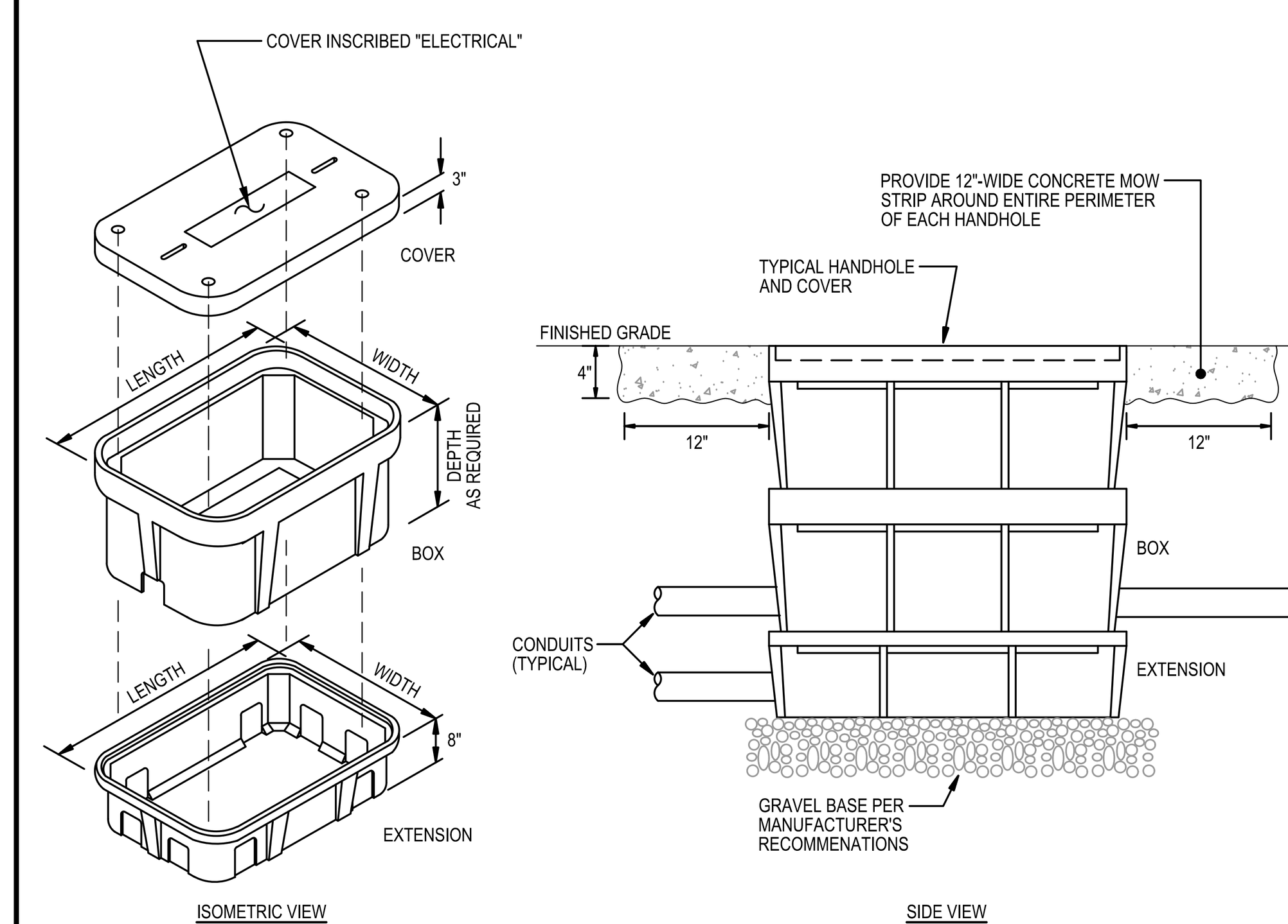
D. FOOTING DIAMETER: 24" MINIMUM.

E. STUB UP (ABOVE TOP OF FOOTING) ANCHOR BOLTS AT LENGTHS SPECIFIED BY POLE MANUFACTURER. COORDINATE SIZES OF ANCHOR BOLTS AND BOLT PATTERNS IN FIELD. PROTECT THREADS BY MEANS OF TAPE OR EQUIVALENT PRIOR TO CONCRETE POUR.

F. USE REINFORCEMENT AS SHOWN ON DETAIL, CHANGES OR SUBSTITUTIONS ARE NOT ACCEPTABLE.



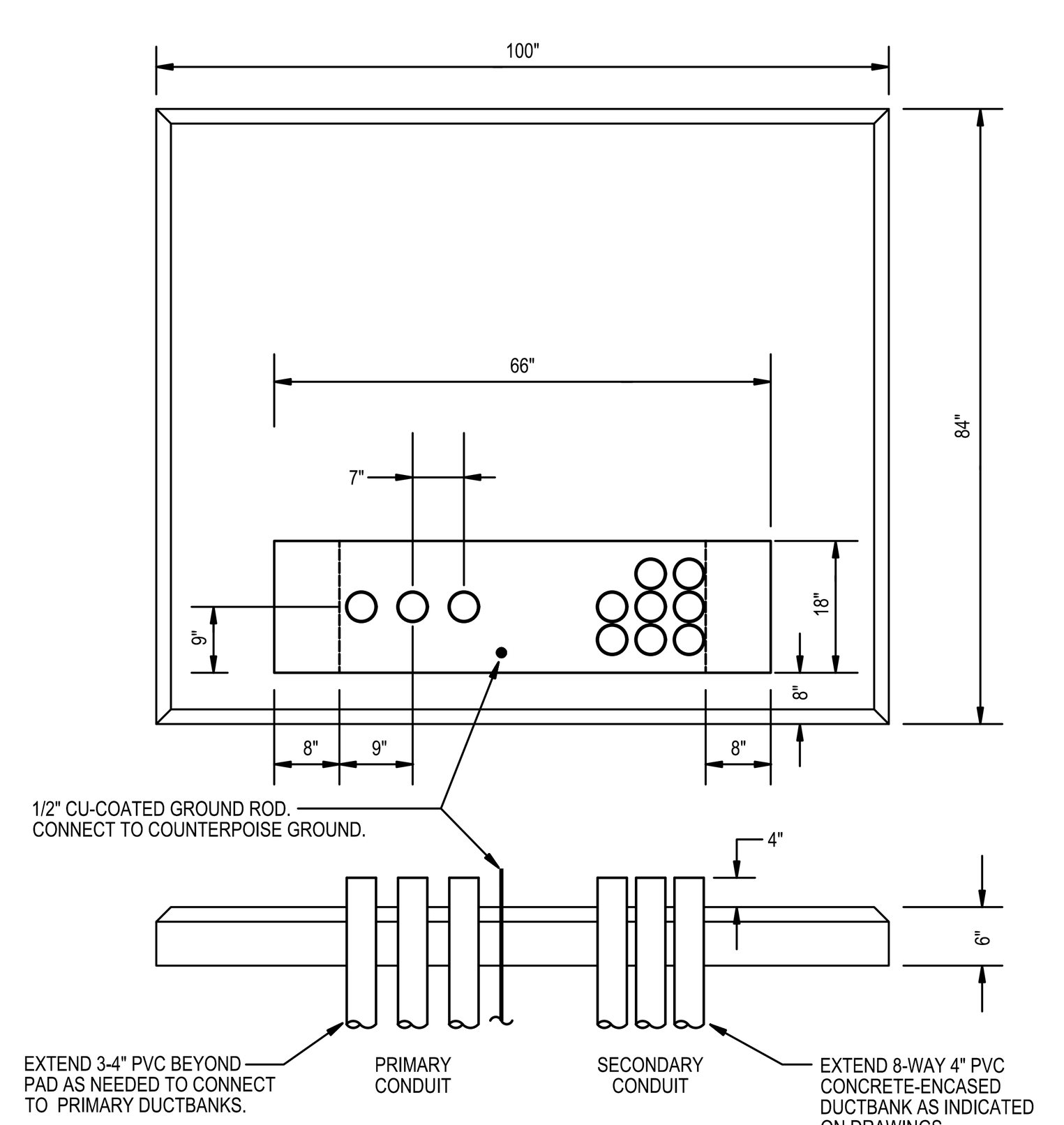
7 E-502 **DETAIL**
CONCRETE POLE BASE
NOT TO SCALE



ELECTRICAL HANDHOLE:
PROVIDE PRECAST POLYMER CONCRETE HANDHOLE AND COVER, MINIMUM ANSI/SCTE 77 TIER 15 LOADING, WITH THE FOLLOWING DIMENSIONS:

- H_1 HANDHOLE TYPE 1: 30" WIDE x 48" LONG BOX, OPEN BOTTOM.
- H_2 HANDHOLE TYPE 2: 24" WIDE x 36" LONG BOX, OPEN BOTTOM.
- H_3 HANDHOLE TYPE 3: 13" WIDE x 24" LONG BOX, OPEN BOTTOM.

8 E-502 **DETAIL**
HANDHOLE AND HANDHOLE COVER
NOT TO SCALE

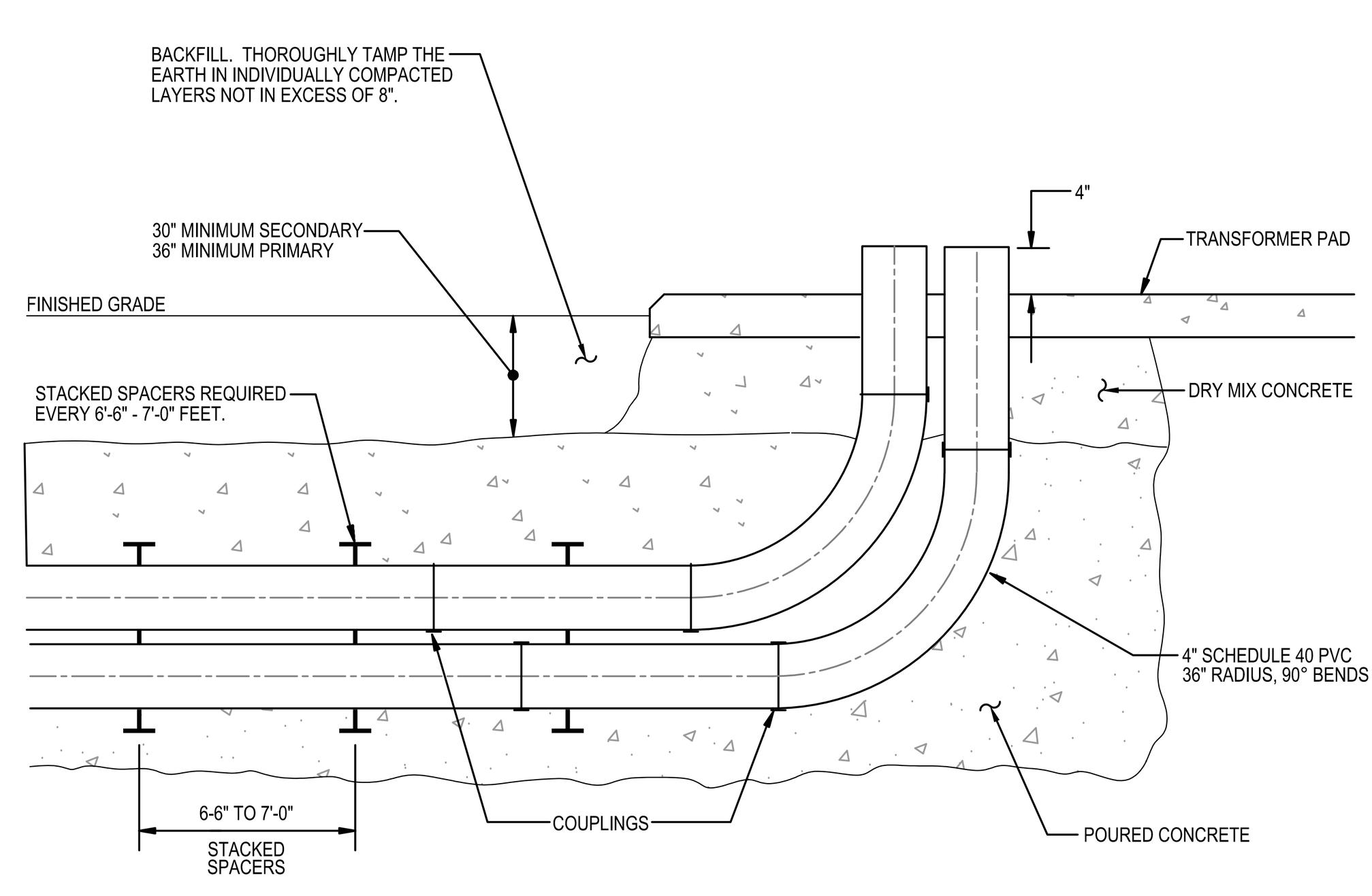


DETAIL NOTES:

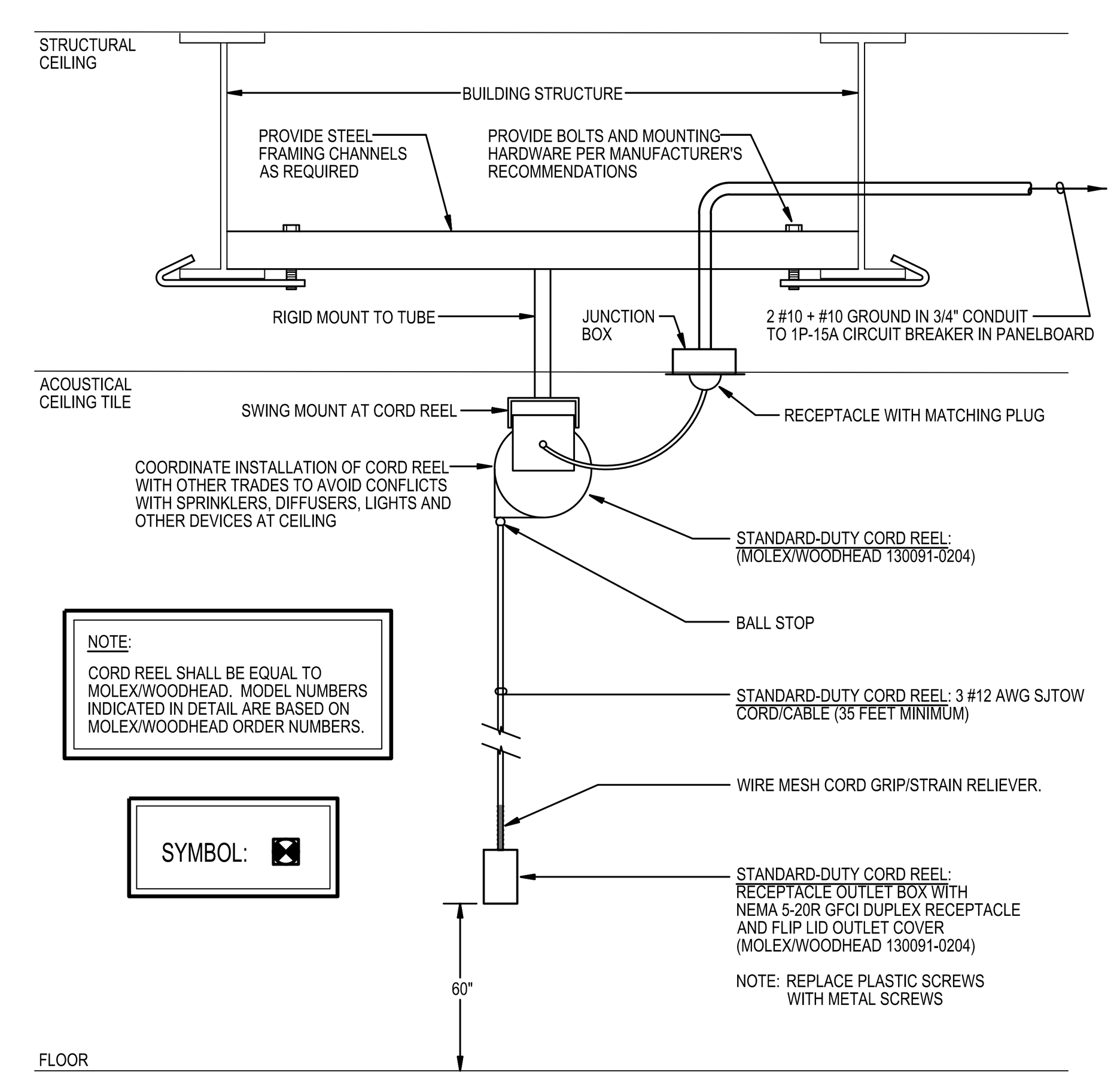
A. SECONDARY CONDUITS SHALL BE CENTERED SYMMETRICALLY WITHIN AREA.

B. PROVIDE COPPER-COATED GROUND ROD. LOCATE AS NEEDED TO AVOID CONDUITS.

9 E-502 **DETAIL**
UTILITY TRANSFORMER FOUNDATION PAD
NOT TO SCALE



10 E-502 **DETAIL**
DUCTBANK INTO TRANSFORMER PAD
NOT TO SCALE



NOTE:
CORD REEL SHALL BE EQUAL TO MOLEX/WOODHEAD. MODEL NUMBERS INDICATED IN DETAIL ARE BASED ON MOLEX/WOODHEAD ORDER NUMBERS.

SYMBOL:

11 E-502 **DETAIL**
OVERHEAD POWER CORD REEL
NOT TO SCALE

tca|architects
1369 Generals Highway • Crownsville, Maryland 21032

James Posey Associates
Engineering Your Vision
Mechanical & Electrical Consulting Engineers

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 24861. Expiration date: 02-24-2022.

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
ADD ADDENDUM NO. 4 8 JULY 20

BID AND CONSTRUCTION 16 JUNE 20

ELECTRICAL DETAILS AND DIAGRAMS

E-502

WIRING SCHEDULE: PANEL M2B

277 / 480 VOLTS | 3 PHASE 4 WIRE | 225 AMP BUS | SURFACE MOUNTED

CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA / Ø AØ	AØ	BØ	BØ	CØ	CØ	CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	FCU-1-1, 14	#12-3/4"C	1	15	2.5	1.6					2	2	FCU-2-6, 7	#12-3/4"C	1	15
3	3	FCU-1-2, 3	#12-3/4"C	1	15			3.1	3.1			4	4	FCU-2-4, 5	#12-3/4"C	1	15
5	5	FCU-1-4	#12-3/4"C	1	15					1.6	3.1	6	6	FCU-2-8, 9	#12-3/4"C	1	15
7	7	FCU-1-5, 6	#12-3/4"C	1	15	3.1	3.1					8	8	FCU-2-10, 11	#12-3/4"C	1	15
9	9	FCU-1-10, 11	#12-3/4"C	1	15			1.3	2.5			10	10	FCU-2-12, 13	#12-3/4"C	1	15
11	11	FCU-1-12, 13	#12-3/4"C	1	15					3.4	2.5	12	12	FCU-2-1, 2, 3	#12-3/4"C	1	15
13	13	FCU-1-7	#12-3/4"C	1	15	1.6	0.9					14	14	FCU-2-14	#12-3/4"C	1	15
15	15	SPARE		1	15							16	16	SPARE		1	15
17	17	SPARE		1	15							18	18	SPARE		1	15
19	19	SPARE		1	20							20	20	SPARE		1	20
21	21	SPARE		1	20							22	22	SPARE		1	20
23	23	SPARE		1	20							24	24	SPARE		1	20
-	25	SPACE AND PROVISIONS	-	1	-	-	-					-	26	SPACE AND PROVISIONS	-	1	-
-	27	SPACE AND PROVISIONS	-	1	-			-	-			-	28	SPACE AND PROVISIONS	-	1	-
-	29	SPACE AND PROVISIONS	-	1	-					-	-	-	30	SPACE AND PROVISIONS	-	1	-
-	31	SPACE AND PROVISIONS	-	1	-	-	-					-	32	SPACE AND PROVISIONS	-	1	-
-	33	SPACE AND PROVISIONS	-	1	-			-	-			-	34	SPACE AND PROVISIONS	-	1	-
-	35	SPACE AND PROVISIONS	-	1	-					-	-	-	36	SPACE AND PROVISIONS	-	1	-
37	37	DOAS-1	3#8+	3	45	9.3	9.3					38	38	DOAS-2	3#8+#10G	3	45
-	39		#10G-					9.3	9.3			-	40		-1 1/4"C		
-	41		1"C							9.3	9.3	-	42				
						16.5	14.9	13.7	14.9	14.3	14.9						
						31.4		28.5		29.2							

CONNECTED LOAD = 89.1 KVA
DEMAND LOAD = 89.1 KVA
MIN AIC RATING = 35,000 AMPS SYMMETRICAL
MAIN BREAKER 175 AMPS
LOCATION ELEC B 223

WIRING SCHEDULE: PANEL R1A1 (TWO-SECTION)

120 / 208 VOLTS | 3 PHASE 4 WIRE | 400 AMP BUS | SURFACE MOUNTED

CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA / Ø AØ	AØ	BØ	BØ	CØ	CØ	CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	REC - RM A 101A	#8-3/4"C	1	20	0.5	0.9					2	2	REC - RM A121	#8-3/4"C	1	20
3	3	+ REC - EWC - CORR	#8-3/4"C	1	20+			0.5	1.3			4	4	REC - RM A121	#8-3/4"C	1	20
5	5	+ REC - EWC - CORR	#10-3/4"C	1	20+					0.5	1.1	6	6	REC - RM A119	#8-3/4"C	1	20
7	7	REC - CORR, STOR	#8-3/4"C	1	20	1.6	1.6					8	8	REC - RM A119	#8-3/4"C	1	20
9	9	REC - RM A127	#12-3/4"C	1	20			0.8	1.0			10	10	REC - DISHWSHR - RM A117B	#8-3/4"C	1	20
11	11	REC - PLATFORM A118	#10-3/4"C	1	20					1.1	0.4	12	12	REC - RM A117B	#8-3/4"C	1	20
13	13	+ REC - PLATFORM A118	#12-3/4"C	1	20	1.3	0.4					14	14	REC - RM A117B	#8-3/4"C	1	20
15	15	REC - CAFETORIUM A120	#12-3/4"C	1	20			1.6	0.4			16	16	REC - RM A117B	#8-3/4"C	1	20
17	17	REC - CORR	#10-3/4"C	1	20					1.8	0.8	18	18	REC - RM A117B	#8-3/4"C	1	20
19	19	REC - ELEC, MECH RM	#12-3/4"C	1	20	1.1	1.3					20	20	REC - RM A117B	#8-3/4"C	1	20
21	21	REC - MECH RM	#12-3/4"C	1	20			1.3	1.0			22	22	REC - RANGE - RM A117B	4#8+#8G	2	20
23	23	REC - WTR EQUIP - MECH RM	#12-3/4"C	1	20					0.5	1.0	-	24		-3/4"C		
25	25	REC - WTR EQUIP - MECH RM	#12-3/4"C	1	20	0.5	1.7					26	26	EF-1	#10-3/4"C	1	25
27	27	DSS-3	2#10+#10G	2	15			1.1	1.7			28	28	EF-2	#10-3/4"C	1	25
-	29		-3/4"C							1.1	0.7	30	30	EF-3	#10-3/4"C	1	15
31	31	REC - ROOFTOP	#10-3/4"C	1	20	0.2	0.7					32	32	EF-4	#10-3/4"C	1	15
33	33	CUH-1	#12-3/4"C	1	15			0.3	0.5			34	34	REC - ROOF	#10-3/4"C	1	15
35	35	CUH-2	#10-3/4"C	1	15					0.3	0.6	36	36	REC - RM A113	#8-3/4"C	1	20
37	37	REC - STG AV EQUIP	#10-3/4"C	1	20	1.0	1.0					38	38	REC - MECH RM	#12-3/4"C	1	20
39	39	REC - STG AV EQUIP	#10-3/4"C	1	20			1.0	1.7			40	40	EF-15	#10-3/4"C	1	25
41	41	REC - STG AV EQUIP	#10-3/4"C	1	20					1.0		42	42	SPARE		1	20
43	43	REC - STG AV EQUIP	#10-3/4"C	1	20	1.0	-					-	44	SPACE AND PROVISIONS	-	1	-
45	45	REC - STG AV EQUIP	#10-3/4"C	1	20			0.5	-			-	46	SPACE AND PROVISIONS	-	1	-
47	47	+ REC - EWC - A20	#10-3/4"C	1	20+					0.2	-	-	48	SPACE AND PROVISIONS	-	1	-
49	49	SPARE		1	20		-					-	50	SPACE AND PROVISIONS	-	1	-
51	51	SPARE		1	20				-			-	52	SPACE AND PROVISIONS	-	1	-
53	53	SPARE		1	20						-	-	54	SPACE AND PROVISIONS	-	1	-
55	55	SPARE		1	20		-					-	56	SPACE AND PROVISIONS	-	1	-
57	57	SPARE		1	20				-			-	58	SPACE AND PROVISIONS	-	1	-
59	59	SPARE		1	20						-	-	60	SPACE AND PROVISIONS	-	1	-
61	61	SPARE		1	20		-					-	62	SPACE AND PROVISIONS	-	1	-
63	63	SPARE		1	20				-			-	64	SPACE AND PROVISIONS	-	1	-
65	65	SPARE		1	20						-	-	66	SPACE AND PROVISIONS	-	1	-
67	67	SPARE		1	20		-					-	68	SPACE AND PROVISIONS	-	1	-
69	69	SPARE		1	20				-			-	70	SPACE AND PROVISIONS	-	1	-
71	71	SPARE		1	20						-	-	72	SPACE AND PROVISIONS	-	1	-
73	73	SPARE		3	50		-					-	74	SPACE AND PROVISIONS	-	1	-
-	75	(FUTURE STAGE LIGHTING							-			-	76	SPACE AND PROVISIONS	-	1	-
-	77	RELAY PANEL)									-	-	78	SPACE AND PROVISIONS	-	1	-
73	79	PANELBOARD R1A2	4#1/0+	3	125	14.4	-					80	80	SURGE PROTECTIVE DEVICE	4#8+	3	30
-	81		#6G-		++			15.0	-			-	82		#8G-		
-	83		2"C							13.3	-	-	84		1"C		
						21.6	7.6	22.2	7.6	19.8	4.6						
						29.2		29.8		24.4							

CONNECTED LOAD = 83.4 KVA
DEMAND LOAD = 63.5 KVA
MIN AIC RATING = 10,000 AMPS SYMMETRICAL
MAIN BREAKER 250 AMPS
+ PROVIDE GFCI-TYPE CIRCUIT BREAKER
++ PROVIDE SUB-FEED CIRCUIT BREAKER
LOCATION ELEC V05B

WIRING SCHEDULE: PANEL R1A2

120 / 208 VOLTS | 3 PHASE 4 WIRE | 225 AMP BUS (4 ADD) | SURFACE MOUNTED

CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA / Ø AØ	AØ	BØ	BØ	CØ	CØ	CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	REC - SND SYS - RM A 101B	#12-3/4"C	1	20	1.0	0.7					2	2	REC - RM A 108	#12-3/4"C	1	20
3	3	REC - SND SYS - RM A 101B	#12-3/4"C	1	20			1.0	0.7			4	4	REC - RM A 108	#12-3/4"C	1	20
5	5	REC - GYM	#10-3/4"C	1	20					1.1	-	6	6	SPARE	-	1	20
7	7	REC - GYM	#10-3/4"C	1	20	1.1	0.7					8	8	REC - RM A 108C	#10-3/4"C	1	20
9	9	SPARE	-	1	20			-	1.3			10	10	REC - RM A 108B	#10-3/4"C	1	20
11	11	REC - GYM	#12-3/4"C	1	20					1.1	1.1	12	12	REC - RM A 108A	#10-3/4"C	1	20
13	13	REC - RM A103	#12-3/4"C	1	20	0.5	1.4					14	14	REC - RM A 106B	#10-3/4"C	1	20
15	15	REC - RM A109	#12-3/4"C	1	20			0.7	1.0			16	16	REC - RM A 100A	#10-3/4"C	1	20
17	17	REC - CORR, STOR	#12-3/4"C	1	20					1.1	1.4	18	18	REC - RM A 100	#10-3/4"C	1	20
19	19	REC - CORR, STOR	#12-3/4"C	1	20	1.0	1.6					20	20	REC - RM A 100	#10-3/4"C	1	20
21	21	EF-5	#10-3/4"C	1	15			0.7	1.8			22	22	REC - RM A 102	#10-3/4"C	1	20
23	23	EF-6	#10-3/4"C	1	15					0.7	0.7	24	24	REC - RM A 104	#12-3/4"C	1	20
25	25	EF-7	#8-3/4"C	1	20	0.7	0.3					26	26	CUH-3	#10-3/4"C	1	15
27	27	EF-8	#8-3/4"C	1	25			1.7	1.5			28	28	ECH-3	#10-3/4"C	1	20
29	29	EF-9	#8-3/4"C	1	15					0.7	1.5	30	30	ECH-4	#12-3/4"C	1	20
31	31	EF-10	#8-3/4"C	1	15	0.7	1.5					32	32	ECH-5	#12-3/4"C	1	20
33	33	REC - RM A100A	#10-3/4"C	1	20			1.3	0.3			34	34	CUH-4	#12-3/4"C	1	15
35	35	REC - CORR, STOR	#12-3/4"C	1	20					0.9	1.0	36	36	SCHOOL SIGN	#8-1"C	1	20
37	37	REC - ROOF RECEPTACLE	#12-3/4"C	1	20	0.2	1.0					38	38	SCHOOL SIGN	#8-1"C	1	20
39	39	MOTORIZED PARTITION - GYM	3#12-3/4"C	1	20			1.0				40	40	SPARE		1	20
41	41	MOTORIZED BACKBOARD	#12-3/4"C	1	20					1.0		42	42	SPARE		1	20
43	43	MOTORIZED BACKBOARD	#12-3/4"C	1	20	1.0						44	44	SPARE		1	20
45	45	MOTORIZED BACKBOARD	#12-3/4"C	1	20			1.0				46	46	SPARE		1	20
47	47	MOTORIZED BACKBOARD	#12-3/4"C	1	20					1.0		48	48	SPARE		1	20
49	49	MOTORIZED BACKBOARD	#12-3/4"C	1	20	1.0						50	50	SPARE		1	20
51	51	MOTORIZED BACKBOARD	#12-3/4"C	1	20			1.0				52	52	SPARE		1	20
53	53	SPARE		1	20							54	54	SPARE		1	20
55	55	SPARE		1	20		-					56	56	SURGE PROTECTIVE DEVICE	4#8+	3	30
57	57	SPARE		1	20				-			--	58		#8G-		
59	59	SPARE		1	20						-	--	60		1"C		
						7.2	7.2	8.4	6.6	7.6	5.7						
						14.4		15.0		13.3							

4 ADD

CONNECTED LOAD = 42.7 KVA
DEMAND LOAD = 32.5 KVA
MIN AIC RATING = 10,000 AMPS SYMMETRICAL
MAIN BREAKER 125 AMPS
LOCATION STOR A 101B

WIRING SCHEDULE: PANEL R1B (2-SECTION)

120 / 208 VOLTS | 3 PHASE 4 WIRE | 400 AMP BUS | SURFACE MOUNTED

CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA / Ø AØ	AØ	BØ	BØ	CØ	CØ	CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	REC - RM C165	#8-3/4"C	1	20	1.6	1.6					2	2	REC - RM C164	#8-3/4"C	1	20
3	3	REC - RM C165	#8-3/4"C	1	20			1.3	1.3			4	4	REC - RM C164	#8-3/4"C	1	20
5	5	REC - RM C163	#8-3/4"C	1	20					1.6	1.3	6	6	REC - RM C162	#8-3/4"C	1	20
7	7	REC - RM C163	#8-3/4"C	1	20	1.3	1.6					8	8	REC - RM C162	#8-3/4"C	1	20
9	9	REC - RM C161	#8-3/4"C	1	20			1.6	1.6			10	10	REC - RM C160	#8-3/4"C	1	20
11	11	REC - RM C161	#8-3/4"C	1	20					1.3	1.3	12	12	REC - RM C160	#8-3/4"C	1	20
13	13	REC - RM C176	#10-3/4"C	1	20	0.9	1.4					14	14	REC - RM C158	#10-3/4"C	1	20
15	15	REC - RM C176	#10-3/4"C	1	20			1.1	1.1			16	16	REC - RM C158	#10-3/4"C	1	20
17	17	REC - RM C174	#10-3/4"C	1	20					1.1	1.8	18	18	REC - RM C156	#10-3/4"C	1	20
19	19	REC - RM C172	#10-3/4"C	1	20	0.9	1.4					20	20	REC - RM C154	#12-3/4"C	1	20
21	21	REC - RM C170	#10-3/4"C	1	20			0.9	1.1			22	22	REC - RM B131C, CORR	#10-3/4"C	1	20
23	23	REC - CORR, STOR	#10-3/4"C	1	20					1.6	1.3	24	24	REC - RM B131D	#12-3/4"C	1	20
25	25	CUH-9, 10, 11	#10-3/4"C	1	20	1.2	1.6					26	26	REC - RM B131B	#12-3/4"C	1	20
27	27	REC - RM C 163A	#8-3/4"C	1	20			1.2	1.4			28	28	REC - RM B131A	#12-3/4"C	1	20
29	29	SPARE		1	20						1.6	30	30	REC - RM B131A	#12-3/4"C	1	20
31	31	SPARE		1	20		1.6					32	32	+ REC - CORR, TOILET, STOR	#12-3/4"C	1	20
33	33	SPARE		1	20							34	34	SPARE		1	20
35	35	SPARE		1	20							36	36	SPARE		1	20
37	37	SPARE		1	20							38	38	SPARE		1	20
39	39	SPARE		1	20							40	40	SPARE		1	20
41	41	SPARE		1	20							42	42	SPARE		1	20
43	43	REC - RM B141	#8-3/4"C	1	20	1.6	1.6					44	44	REC - RM B140	#8-3/4"C	1	20
45	45	REC - RM B141	#8-3/4"C	1	20			1.4	1.3			46	46	REC - RM B140	#8-3/4"C	1	20
47	47	REC - RM B143	#8-3/4"C	1	20					1.6	1.3	48	48	REC - RM B142	#8-3/4"C	1	20
49	49	REC - RM B143	#8-3/4"C	1	20	1.4	1.6					50	50	REC - RM B142	#8-3/4"C	1	20
51	51	REC - RM B145	#10-3/4"C	1	20			1.6	1.6			52	52	REC - RM B144	#10-3/4"C	1	20
53	53	REC - RM B145	#10-3/4"C	1	20					1.4	1.3	54	54	REC - RM B144	#10-3/4"C	1	20
55	55	REC - RM B147	#10-3/4"C	1	20	1.6	1.3					56	56	REC - RM B146	#10-3/4"C	1	20
57	57	REC - RM B147	#10-3/4"C	1	20			1.4	1.6			58	58	REC - RM B146	#10-3/4"C	1	20
59	59	REC - RM B149	#12-3/4"C	1	20					1.1	1.8	60	60	REC - RM B148	#10-3/4"C	1	20
61	61	REC - RM B130	#12-3/4"C	1	20	1.3	1.4					62	62	REC - RM B150	#12-3/4"C	1	20
63	63	REC - RM B130	#12-3/4"C	1	20			0.9	1.8			64	64	REC - RM B152	#12-3/4"C	1	20
65	65	REC - RM B131	#10-3/4"C	1	20					1.3	1.3	66	66	REC - CORR, STOR	#10-3/4"C	1	20
67	67	REC - RM B131	#10-3/4"C	1	20	1.1	1.3					68	68	REC - CORR, STOR	#12-3/4"C	1	20
69	69	REC - RM B131	#10-3/4"C	1	20			0.7	1.5			70	70	REC & LTG - ELEV SHAFT	#12-3/4"C	1	20
71	71	REC - RM B131	#10-3/4"C	1	20					1.3	0.7	72	72	CUH-7,8 & PUH-4, 5	#10-3/4"C	1	20
73	73	REC - RM B131	#10-3/4"C	1	20	0.5	0.5					74	74	+ REC - EWC - CORR	#12-3/4"C	1	20+
75	75	CUH-5	#10-3/4"C	1	15			0.6	0.5			76	76	REC - RM B151	#12-3/4"C	1	20
77	77	CUH-6	#10-3/4"C	1	15					0.6		78	78	SPARE		1	20
79	79	EF-12	#10-3/4"C	1	15	0.7	-					80	80	SURGE PROTECTIVE DEVICE	4#8+	3	30
81	81	EF-13	#10-3/4"C	1	15			0.7	-			-	82		#8G-		
83	83	REC - RM B134	#10-3/4"C	1	20					1.3	-	-	84		1"C		
						14.1	16.9	13.4	14.8	14.2	13.7						
						31.0		28.2		27.9							

CONNECTED LOAD = 87.1 KVA
DEMAND LOAD = 49.6 KVA
MIN AIC RATING = 10,000 AMPS SYMMETRICAL
MAIN BREAKER 250 AMPS
+ PROVIDE GFCI-TYPE CIRCUIT BREAKER
LOCATION ELEC B 151

WIRING SCHEDULE: PANEL R2B

120 / 208 VOLTS | 3 PHASE 4 WIRE | 400 AMP BUS | SURFACE MOUNTED

CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA / Ø AØ	AØ	BØ	BØ	CØ	CØ	CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	REC - RM C243	#8-3/4"C	1	20	1.3	1.6					2	2	REC - RM C234	#8-3/4"C	1	20
3	3	REC - RM C243	#8-3/4"C	1	20			1.6	1.3			4	4	REC - RM C234	#8-3/4"C	1	20
5	5	REC - RM C239	#8-3/4"C	1	20					1.3	1.3	6	6	REC - RM C232	#8-3/4"C	1	20
7	7	REC - RM C239	#8-3/4"C	1	20	1.6	1.6					8	8	REC - RM C232	#8-3/4"C	1	20
9	9	REC - RM C237	#8-3/4"C	1	20			1.3	1.6			10	10	REC - RM C230	#8-3/4"C	1	20
11	11	REC - RM C237	#8-3/4"C	1	20					1.6	1.3	12	12	REC - RM C230	#8-3/4"C	1	20
13	13	REC - RM C233	#10-3/4"C	1	20	1.3	1.3					14	14	REC - RM C228	#10-3/4"C	1	20
15	15	REC - RM C252	#10-3/4"C	1	20			1.3	1.6			16	16	REC - RM C228	#10-3/4"C	1	20
17	17	REC - CORR, STOR	#10-3/4"C	1	20					1.3	1.8	18	18	REC - RM C226	#10-3/4"C	1	20
19	19	REC - CORR, STOR	#12-3/4"C	1	20	1.3	1.4					20	20	REC - RM C224	#12-3/4"C	1	20
21	21	REC - RM B203	#12-3/4"C	1	20			1.6	1.1			22	22	REC - OUTDOOR CLASSRM	#12-3/4"C	1	20
23	23	REC - RM B203	#12-3/4"C	1	20					0.9	0.6	24	24	REC - RM B203A	#12-3/4"C	1	20
25	25	REC - RM B203	#12-3/4"C	1	20	0.7	4.2					26	26	KILN - RM B203A	4#8+#10G	2	50
27	27	REC - RM B203	#12-3/4"C	1	20			0.7	4.2			-	28		-3/4"C		
29	29	REC - RM B203	#12-3/4"C	1	20					0.7		30	30	SPARE		1	20
31	31	ROOFTOP RECEPTACLE	#12-3/4"C	1	20	0.8						32	32	SPARE		1	20
33	33	REC - RM C231	#12-3/4"C	1	20			1.3				34	34	SPARE		1	20
35	35	SPARE		1	20							36	36	SPARE		1	20
37	37	SPARE		1	20							38	38	SPARE		1	20
39	39	SPARE		1	20							40	40	SPARE		1	20
41	41	SPARE		1	20							42	42	SPARE		1	20
43	43	REC - RM B213	#8-3/4"C	1	20	1.3	1.6					44	44	REC - RM B210	#8-3/4"C	1	20
45	45	REC - RM B213	#8-3/4"C	1	20			1.6	1.3			46	46	REC - RM B210	#8-3/4"C	1	20
47	47	REC - RM B215	#8-3/4"C	1	20					1.3	1.3	48	48	REC - RM B212	#8-3/4"C	1	20
49	49	REC - RM B215	#8-3/4"C	1	20	1.6	1.6					50	50	REC - RM B212	#8-3/4"C	1	20
51	51	REC - RM B217	#10-3/4"C	1	20			1.6	1.6			52	52	REC - RM B214	#10-3/4"C	1	20
53	53	REC - RM B217	#10-3/4"C	1	20					1.3	1.3	54	54	REC - RM B214	#10-3/4"C	1	20
55	55	REC - RM B219	#10-3/4"C	1	20	1.6	1.3					56	56	REC - RM B216	#10-3/4"C	1	20
57	57	REC - RM B219	#10-3/4"C	1	20			1.4	1.6			58	58	REC - RM B216	#10-3/4"C	1	20
59	59	REC - RM B 200	#10-3/4"C	1	20					1.8	1.8	60	60	REC - RM B218	#10-3/4"C	1	20
61	61	REC - CORR, TOILET, STOR	#10-3/4"C	1	20	1.3	1.4					62	62	REC - RM B220	#12-3/4"C	1	20
63	63	+ REC - EWC - CORRIDOR	#12-3/4"C	1	20+			0.5	1.8			64	64	REC - RM B222	#12-3/4"C	1	20
65	65	REC - CORR, STOR	#12-3/4"C	1	20					1.4		66	66	SPARE		1	20
67	67	REC - CORR, TOILET	#12-3/4"C	1	20	1.1						68	68	SPARE		1	20
69	69	REC - ROOF	#10-3/4"C	1	20			0.5				70	70	SPARE		1	20
71	71	REC - RM B222, B225	#12-3/4"C	1	20					0.8		72	72	SPARE		1	20
73	73	SPARE		1	20							74	74	SPARE		1	20
75	75	SPARE		1	20							76	76	SPARE		1	20
77	77	SPARE		1	20							78	78	SPARE		1	20
79	77	PANEL R2B1	4#3+	3	100	7.2	-					80	80	SURGE PROTECTIVE DEVICE	4#8+	3	30
-	81		#8G-					7.5	-			-	82		#8G-		
-	83		1-1/4"C							6.2	-	-	84		1"C		
						21.1	16.0	21.0	16.1	18.6	9.4						
						37.1		37.1		28.0							

CONNECTED LOAD = 102.2 KVA
DEMAND LOAD = 65.9 KVA
MIN AIC RATING = 10,000 AMPS SYMMETRICAL
MAIN BREAKER 250 AMPS
+ PROVIDE GFCI-TYPE CIRCUIT BREAKER
LOCATION ELEC B 223

WIRING PANEL SCHEDULE R2B1

120 / 208 VOLTS | 3 PHASE 4 WIRE | 100 AMP BUS | SURFACE MOUNTED

CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA / Ø AØ	AØ	BØ	BØ	CØ	CØ	CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	DSS-7	2#12+#12G	2	15	1.1	1.0					2	2	SUMP PUMP	#12-3/4"C	1	20
-	3		-3/4"C					1.1	1.1			4	4	DSS-12	2#12+#12G	2	15
5	5	DSS-8	2#12+#12G	2	15					1.1	1.1	-	6		-3/4"C		
-	7		-3/4"C			1.1						8	8	SPARE		1	20
9	9	DSS-9	2#12+#12G	2	15			1.1				10	10	SPARE		1	20
-	11		-3/4"C							1.1		12	12	SPARE		1	20
13	13	DSS-10	2#12+#12G	2	15	1.1						14	14	SPARE		1	20
-	15		-3/4"C					1.1				16	16	SPARE		1	20
17	17	DSS-11	2#12+#12G	2	15					1.1		18	18	SPARE		1	20
-	19		-3/4"C			1.1						20	20	SPARE		1	20
21	21	ACCU-FCU-3-1	2#12+#12G	2	20			1.3				22	22	SPARE		1	20
-	23		-3/4"C							1.3		24	24	SPARE		1	20
25	25	ACCU-FCU-3-2	2#10+#10G	2	30	1.8						26	26	SPARE		1	20
-	27		-3/4"C					1.8				28	28	SPARE		1	20
29	29	EF-11	#10-3/4"C	1	20					0.5		30	30	SPARE		1	20
						6.2	1.0	6.4	1.1	5.1	1.1						
						7.2		7.5		6.2							

CONNECTED LOAD = 21.0 KVA
DEMAND LOAD = 21.0 KVA
MIN AIC RATING = 10,000 AMPS SYMMETRICAL
MAIN LUGS ONLY
LOCATION ELEC B 223

WIRING SCHEDULE: PANEL SM1A

277 / 480 VOLTS | 3 PHASE 4 WIRE | 250 AMP BUS | SURFACE MOUNTED

CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA / Ø AØ	AØ	BØ	BØ	CØ	CØ	CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	PUMP P-1	3#10+	3	25	2.9	5.6					2	2	PUMP P-3	3#8+	3	40
-	3		#10G-					2.9	5.6			-	4		#10G-		
-	5		3/4"C							2.9	5.6	-	6		3/4"C		
7	7	PUMP P-2	3#10+	3	25	2.9	5.6					8	8	PUMP P-4	3#8+	3	40
-	9		#10G-					2.9	5.6			-	10		#10G-		
-	11		3/4"C							2.9	5.6	-	12		3/4"C		
13	13	JOCKEY PUMP	3#12+	3	15	0.4	2.0					14	14	DOMESTIC BOOSTER PUMP	3#12+	3	20
-	15		#12G-					0.4	2.0			-	16		#12G-		
-	17		3/4"C							0.4	2.0	-	18		3/4"C		
-	19	SPACE AND PROVISIONS	-	1	-	-	-					-	20	SPACE AND PROVISIONS	-	1	-
-	21	SPACE AND PROVISIONS	-	1	-			-	-			-	22	SPACE AND PROVISIONS	-	1	-
-	23	SPACE AND PROVISIONS	-	1	-					-	-	-	24	SPACE AND PROVISIONS	-	1	-
-	25	SPACE AND PROVISIONS	-	1	-	-	27.9					26	26	++ PANEL SR1A	3#1/0+	3	150
-	27	SPACE AND PROVISIONS	-	1	-			-	19.8			-	28	(VIA XFMR TSR1A)	#6G-		++
-	29	SPACE AND PROVISIONS	-	1	-					-	25.6	-	30		2"C		
						6.2	41.1	6.2	33.0	6.2	38.8						
						47.3		39.2		45.0							

CONNECTED LOAD = 131.4 KVA
DEMAND LOAD = 124.1 KVA
MIN AIC RATING = 35,000 AMPS SYMMETRICAL
MAIN BREAKER 200 AMPS
++ PROVIDE SUB-FEED CIRCUIT BREAKER
LOCATION ELEC A V05A

WIRING SCHEDULE: PANEL SR1A

120 / 208 VOLTS | 3 PHASE 4 WIRE | 400 AMP BUS | SURFACE MOUNTED

CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA / Ø AØ	AØ	BØ	BØ	CØ	CØ	CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	FREEZER LTS, DOOR ALARM [K]	#12-3/4"C	1	20	1.5	0.8					2	2	REC - TR-1 A111 [IT]	#12-3/4"C	1	20
3	3	FREEZER DRAIN HT TRACE [K]	#12-3/4"C	1	20			0.2	0.8			4	4	REC - TR-1 A111 [IT]	#12-3/4"C	1	20
5	5	FREEZER BLOWER COIL [K]	2#12+#12G	2	20					1.0	1.2	6	6	RACK - TR-2 A111 [IT]	2#10+#10G	2	20
-	7		-3/4"C			1.0	1.2					-	8		-3/4"C		
9	9	FREEZER COMPRESSOR [K]	3#12+	3	20			1.5	1.2			10	10	RACK - TR-2 A111 [IT]	2#10+#10G	2	20
-	11	(OUTDOOR UNIT)	#12G-							1.5	1.2	-	12		-3/4"C		
-	13		3/4"C			1.5	1.2					14	14	RACK - TR-2 A111 [IT]	2#10+#10G	2	20
15	15	FREEZER AIR SCREEN [K]	#12-3/4"C	1	20			0.2	1.2			-	16		-3/4"C		
17	17	REFRIG LTS, DOOR ALARM [K]	#12-3/4"C	1	20					1.5	2.1	18	18	DSS-4 [M]	2#8+#10G	2	40
19	19	REFRIG BLOWER COIL [K]	2#12+#12G	2	20	0.2	2.1					-	20		-3/4"C		
-	21		-3/4"C					0.2	0.5			22	22	RAHU-1 ELEC HEATER [M]	#8-3/4"C	1	20
23	23	REFRIG COMPRESSOR [K]	3#12+	3	20					1.0	0.5	24	24	RAHU-2 ELEC HEATER [M]	#8-3/4"C	1	20
-	25	(OUTDOOR UNIT)	#12G-			1.0	0.5					26	26	RAHU-3 ELEC HEATER [M]	#8-3/4"C	1	20
-	27		3/4"C					1.0	0.1			28	28	PV SOLAR RAPID SHUTDOWN**	#12-3/4"C**	1	20
29	29	REFRIG AIR SCREEN [K]	#12-3/4"C	1	20					0.2	1.0	30	30	DWH-1 & DWR PUMPS [M]	#12-3/4"C	1	20
31	31	BOILER B-1 [M]	#12-3/4"C	1	20	1.9	0.5					32	32	SMOKE DAMPERS - AREA A	#10-3/4"C	1	20
33	33	BOILER B-2 [M]	#12-3/4"C	1	20			1.9	0.2			34	34	MAG DOOR HOLDERS	#12-3/4"C	1	20
35	35	GAS SOLENOID	#12-3/4"C	1	20+					1.0	0.5	36	36	REC - REFRIG - RM A 108	#10-3/4"C	1	20
37	37	GENERATOR ACCESSORIES	#12-3/4"C	1	20	0.5	0.6					38	38	REC - FIRE PUMP ROOM	#12-3/4"C	1	20
39	39	GENERATOR ACCESSORIES	#12-3/4"C	1	20			0.5				40	40	SPARE		1	20
41	41	CHILLER EVAP HEAT/ CNTRL	#12-3/4"C	1	20					0.5		42	42	SPARE		1	20
43	43	+ CHILLED PIPE HEAT TRACE	#12-3/4"C	1	20+	1.0						44	44	SPARE		1	20
45	45	SPARE		1	20							46	46	SPARE		1	20
47	47	SPARE		1	20							48	48	SPARE		1	20
49	49	PANEL MDF (TELECOM) [IT]	4#1/0+	3	100	5.7						50	50	POWER METER	4#12+	3	15
-	51		#6G-					7.0				-	52		#12G-		
-	53		2"C							7.5		-	54		3/4"C		
55	55	PANEL SR2B	4#1/0+	3	100	6.6	-					56	56	SURGE PROTECTIVE DEVICE	4#8+	3	30
-	57		#6G-					3.3	-			-	58		#8G-		
-	59		2"C							4.8	-	-	60		1"C		
						21.0	6.9	15.8	4.0	19.1	6.5						
						27.9		19.8		25.6							

CONNECTED LOAD = 73.2 KVA
DEMAND LOAD = 65.9 KVA
MIN AIC RATING = 10,000 AMPS SYMMETRICAL
MAIN BREAKER 250 AMPS
+ PROVIDE GFCI-TYPE CIRCUIT BREAKER
** PROVIDE UNDER ALTERNATE
LOCATION ELEC A V05A

WIRING SCHEDULE: PANEL SR2B

120 / 208 VOLTS | 3 PHASE 4 WIRE | 100 AMP BUS | SURFACE MOUNTED

CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP	KVA / Ø AØ	AØ	BØ	BØ	CØ	CØ	CIRCUIT	POLE	DESCRIPTION	WIRE/ CONDUIT	BREAKER POLE	BREAKER AMP
1	1	ELEVATOR LTS & FANS [BS]	#12-3/4"C	1	20	1.0	0.5					2	2	DOAS-1 ELECTRIC HEAT [M]	#10-3/4"C	1	20
3	3	FIRE ALARM PANELS [BS]	#12-3/4"C	1	20			0.8	0.5			4	4	DOAS-2 ELECTRIC HEAT [M]	#10-3/4"C	1	20
5	5	REC - TR-2 B253 [IT]	#12-3/4"C	1	20					0.8	2.0	6	6	DSS-6 [M]	2#10+#10G	2	30
7	7	REC - TR-2 B253 [IT]	#12-3/4"C	1	20	0.8	2.0					-	8		-3/4"C		
9	9	RACK - TR-2 B253 [IT]	2#10+#10G	2	20			0.9	0.2			10	10	SMOKE DAMPER - LVL 1 B [BS]	#12-3/4"C	1	20
-	11		-3/4"C							0.9	0.2	12	12	SMOKE DAMPER - LVL 2 B [BS]	#12-3/4"C	1	20
13	13	RACK - TR-2 B253 [IT]	2#10+#10G	2	20	0.9	0.5					14	14	MAG DOOR HOLDERS	#12-3/4"C	1	20
-	15		-3/4"C					0.9				16	16	SPARE		1	20
17	17	RACK - TR-2 B253 [IT]	2#10+#10G	2	20					0.9		18	18	SPARE		1	20
-	19		-3/4"C			0.9	-					20	20	POWER METER	4#12+	3	15
21	21	SPARE		1	20				-			-	22		#12G-		
23	23	SPARE		1	20						-	-	24		3/4"C		
25	25	SPARE		1	20		-					26	26	SURGE PROTECTIVE DEVICE	4#8+	3	30
27	27	SPARE		1	20				-			-	28		#8G-		
29	29	SPARE		1	20						-	-	30		1"C		
						3.6	3.0	2.6	0.7	2.6	2.2						
						6.6		3.3		4.8							

CONNECTED LOAD = 14.7 KVA
DEMAND LOAD = 14.7 KVA
MIN AIC RATING = 10,000 AMPS SYMMETRICAL
MAIN BREAKER 100 AMPS
LOCATION TR-2 B253

SCHEDULE KEY

M2B	R1B	SM1A
R1A1	R2B	SR1A
R1A2	R2B1	SR2B

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STATE OF MARYLAND · MARQUEZ · No. 24861 · PROFESSIONAL ENGINEER
JPA PROJECT NO. 6667-16

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the state of Maryland, License No. 24861, Expiration date: 02-24-2022.

NEW TALBOTT SPRINGS ELEMENTARY SCHOOL
COLUMBIA, MARYLAND
HOWARD COUNTY PUBLIC SCHOOL SYSTEM

revisions
IAC CD / BLDG PERMIT SET 1 MAY 20
4 ADD ADDENDUM NO. 4 8 JULY 20
BID AND CONSTRUCTION 16 JUNE 20

PANEL SCHEDULES

E-602

July 07, 2020 2:21 p.m.
Drawing: C:\USERS\PMORGAN\APPDATA\LOCAL\TEMP\ACPUBLISH_1720\6667E-602.DWG PMORGAN

PART 2 – SPECIFIC SCOPE OF WORK

1. Contractor has reviewed and understands the Contract Package / Specification Cross Reference listed under Section 011112.

2. Contractor includes General Scope of Work listed under Part 1 of Section 011113.

3. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the General Trades work in accordance with the complete set of Contract Documents.

General Carpentry, Rough Carpentry Scope:

1. Contractor shall furnish and install all rough carpentry work as required by the Contract Documents, including but not limited to concealed or temporary wood work, blocking, in-wall blocking, roof blocking, wood furring, grounds, bucks, wood plates, plywood, plywood sheathing, plywood wainscoting, trimming and working of wood or wood fibered materials, nailers, compressible fillers, isolation pads, and all other rough carpentry and accessories including but not limited to anchor bolts, fasteners of any type, glue, adhesive, etc. Contractor shall furnish and install all other general carpentry work and wood blocking required by job conditions.

2. Contractor shall furnish and install all wall concealed and exposed wood blocking for all items furnished by this and other Contract Packages, (Fire Treated (FRT)), as required. ~~***Contractor is not responsible for metal strapping in metal stud walls or for any 01A work.***~~ ***01A Contractor to provide continuous 20-gauge metal strapping (two (2) rows per elevation) at all metal stud walls for cabinets, visual display boards, (i.e., chalk, tack, marker), lockers, handrails, etc. for any item which is surface-mounted.*** [4]

3. ~~***Contractor shall furnish and install solid wood blocking behind all wall hung cabinets, display boards, televisions, etc. even if these items are designated "NIC" or, "future", or "by others". This blocking is not required behind base cabinets unless specifically required or shown. This is in addition to any strapping requirements.***~~ [4]

4. ***01A Contractor to provide continuous 20-gauge metal strapping (two (2) rows per elevation) or solid wood blocking for cabinets, visual display boards, (i.e., chalk, tack, marker), lockers, handrails, etc. for any item which is surface-mounted even if these items are designated "NIC" or, "future", or "by others". This blocking is not required behind base cabinets unless specifically required or shown.*** [4]

5. Contractor shall furnish and install all plywood backing and backboards required for Mechanical, Electrical, Telephone and Data installations, Contractor to assume all walls of each room unless specifically detailed otherwise, 8'-0" high, starting 8" AFF. Contractor to mask off FRT label prior to painting of plywood by painter.

6. Contractor shall infill/cover, maintain, and remove as necessary all stair treads (concrete, steel, or any other material) with wood. Construction Manager will advise when protection may be removed. Any patching required as a result of installation or removal of this protection is the responsibility of 01A Contractor.

7. Contractor shall furnish, install, maintain, and remove all wood safety rails and toe boards at all floors, roof, expansion joints, stairs, slab penetrations, pits, deck edges and openings. Any patching if required to structure due to installation is by 01A. Rails must be wood and in compliance with all MOSH/OSHA standards. Steel safety cables are by 05A.

8. Contractor includes horizontal wood handrail at all openings with sills less than 42" in height which could be a fall hazard per MOSH/OSHA standards. Wood rail to be installed per all MOSH/OSHA standards. Contractor includes removal immediately before opening is filled in with final material such as louver, window, etc.

9. In the event of pending weather, the 01A Contractor is to protect exterior blocking as practical from exposure to weather. 01A Contractor shall be responsible for replacing material if it is deemed unacceptable due to exposure to

the elements.

10. 01A is to furnish and install temporary doors at all electric, telephone, data and machine rooms. 01A to include hinges, hasps, and temporary closer as necessary. Construction Manager to provide lock.

Expansion Joint Cover Assemblies Scope:

1. 01A Contractor shall furnish and install all floor and wall expansion joint cover assemblies complete as required by the Contract Documents. Expansion joint cover assemblies at drywall or acoustical ceiling locations to be furnished and installed by the 01A package. If caulking is required at 01A assembly in 01A work, 01A is to provide caulk as well. In the event control or expansion joints are not shown but are required to control cracking/expansion per manufacturer's recommended installation procedure or if specified in Division 9, 01A is to furnish and install these assemblies complete.

2. Contractor includes all coordination with Concrete, Masonry and Steel Contractors for required blockouts. Contractor includes all incidentals with installation inclusive of grout, flash patching, minor chipping and prep work for a complete installation.

Frames, Doors, and Hardware Scope:

1. Contractor to furnish and install all hollow metal doors and frames, borrowed lite frames, special function doors, ***sound control door assemblies***[3], and hardware complete per the Contract Documents.

2. Contractor includes storage at offsite location of all doors and hardware as space is extremely limited. Contractor to coordinate with construction manager and other trades for shipment of hollow metal frames. Contractor can assume no less than 3 shipments. No wood doors will be allowed onsite until conditioned air is available and without written approval of construction manager.

3. Contractor to provide (1) 3' x 7' hollow metal frame for installation within masonry mockup panel.

4. With the exception of Automatic Door Operators at Aluminum entrances, which are furnished and installed by 08A, all other electrified hardware is furnished and install by 01A. For further clarity, 01A is to furnish and install automatic door operators per the contract documents at hollow metal frames. 01A is to furnish and install magnetic hold opens as indicated with 16A making connection to the fire alarm system. 01A is to furnish and install magnetic locks, with assistance from 16A for required conduit rough-in. The 01A Contractor shall provide controls, power wiring, junction boxes, rectifiers, and transformers and connection with electrified hardwired being provided in their package. The 01A, 08A and 16A Contractor shall coordinate required conduit or pathways being furnished by 16A for 01A or 08A use. The 01A, 08A and 16A contractor to ensure proper power requirements are brought to each location as well as required interaction with security and fire alarm system. With respect to any electrified hardware, it is the 16A contractor's responsibility to bring power to each door location, and install required power pack (furnished by others) at each door location (central locations will not be utilized due to length of run limitations on provided low voltage wiring); actual electrified door hardware is installed by 01A (or 08A at aluminum entrances) then 16A has power wiring and verification of wiring and final connections. 01A and 08A would then have associated respective adjustments. Security card readers are 16A to furnish and install with coordination from both 01A and 08A depending on location.

5. Contractor to include final keying of all cylinders furnished under this scope as well as storefront and overhead doors scope per Owner/CM direction. All hardware is to be shipped with "construction cores", keyed identically for ease of construction and installation as well as controlled access of other trades by Construction Manager. After final cleaning is performed, all construction cores are to be replaced with final keyed cores. Contractor to provide to Construction Manager six (6) complete sets of construction use keys for CM use and distribution as necessary to other trades.

6. ***01A Contractor shall furnish, and deliver all hardware for all aluminum doors to the 08A Contractor for installation. ~~08A Contractor shall furnish and install all door hardware for all aluminum doors.~~***[4]

7. Contractor shall include all costs to deliver hollow-metal frames in sufficient time to avoid delay to masonry construction. In the event delivery dates are not met, this contractor will be responsible for any and all costs, as well as repair of frames that have to be installed in "toothed" openings if damaged or moved during installation.

8. Contractor shall coordinate with Masonry and Drywall Contractors to ensure timely installation of hollow metal work. 01A Contractor shall install all hollow metal work plumb, level, square, and true to line and shall be responsible for properly bracing, maintaining and repairing the work until the Masonry Contractor's acceptance. The 01A Contractors drywall subcontractor is to set hollow metal frames in metal stud partitions. Frames are furnished by 01A.

9. Contractor shall review all door and hardware schedules for correctness and compatibility.

10. Contractor to protect wood and fiberglass doors from damage. This, at a minimum, will be ¼" cardboard on both sides of door from floor to 6' above floor and maintained as necessary until substantial completion. This is to be part of base bid cost.

11. 01A Contractor includes infill of all hollow metal window, side light, borrowed light, etc. openings with plywood supported at 2'-0" OC as necessary as masonry progresses and frames are blocked in on lower floor(s) This is for security as well as weather protection. Removal of this material is by 01A to allow for painting of frames by 01A prior to installation of permanent glass by 08A. If 08A Contractor installs glass prior to painting of frame, it will be the 08A contractor's responsibility to remove and reinstall after paint at no charge.

12. Contractor shall allow for a minimum of two coordination meetings with the Owner to determine how the final keying of the building will be performed.

13. Contractor includes final key cabinet furnish and installation, location to be determined by Owner. This is to include complete full setup of key cabinet inclusive of all necessary tagging inside cabinet and stamped on each key provided.

14. Immediately prior to substantial completion, the 01A Contractor to verify installation of all hardware provided and installed under this scope of work, as well as verification of proper installation at all aluminum doorways installed by the 08A Contractor to ensure proper installation and function of all hardware. 01A Contractor is responsible for repairs/corrections to hardware installed by 01A Contractor. 08A Contractor is responsible for repairs/corrections to hardware installed by 08A Contractor.

15. Manufacturer's Representative to review installation of all hardware provided under this package. Each Manufacturer Representative is to make final adjustment on all door hardware, inclusive of all hardware supplied to other Contractors for installation, two weeks prior to substantial completion, at six months later after substantial completion, and at the end of the installation warranty period if need be.

16. Provide 20 additional cylinders and cores keyed to building master key system for gym equipment, overhead doors, and all key switches.

17. As required, at wood, metal and/or fiberglass (FRP) doors, 01A shall furnish doors with metal frame vision kits. 08A Contractor will set glazing and secure glazing in position after painting.

Fire Resistive Material Scope of Work:

1. Contractor to furnish and install all joint firestopping systems per the Contract Documents. This work includes floor-to-floor joints, floor to wall joints, head of wall joints, and wall-to-wall joints for all GWB partitions. In

addition, all beam or joist penetrations perpendicular to walls (i.e., bottoms and sides of joist or beams, voids between walls and joist, beam and deck shall comply with contract documents). Joint system as it interacts with aluminum storefront/curtainwall/windows and glass or hollow metal frame and glass, is by 08A.

2. 01A Contractor shall furnish and install all continuous fire barrier material at face of exterior sheathing as identified on the Contract Documents.

3. 01A Contractor shall furnish and install all spray applied fireproofing and intumescent fire protection as required per plans and specifications.

4. Contractor includes protection of other trades materials during installation of this scope of work.

5. Contractor includes protection of own work while performing this scope of work.

6. As spray fireproofing is required on the project, every effort will be made to have all structural steel in areas complete prior to installation of spray resistive materials, but some items such as deck opening angles, wall clips, etc. cannot be installed until after walls have been topped out. Trade Contractor includes respray of areas as necessary to complete this scope of work.

Metal Stud Framing, Drywall and Ceilings Specific Scope of Work:

1. Contractor shall furnish and install all gypsum shaft wall assemblies, drywall and acoustical work as required by the Contract Documents, including but not limited to, cold formed metal framing, insulation, drywall and acoustical assemblies, ceiling tiles, wall panels, and the like work required by the Contract Documents. Furnish and install all gypsum board, suspended acoustical ceilings, suspension systems, acoustical treatment, acoustical panels, "Clouds", cold formed metal framing, non-strucutral metal framing, C-shaped loading bearing metal framing, metal stud kickers, hat channel, z channel, z-clips, metal furring, metal blocking, metal straps, interior and exterior gypsum sheathing and accessories, acoustical joint sealers, drywall accessories, firestopping/firesafing (as it relates to this Contractor's work), fire caulking (as it relates to this Contractor's work), acoustical and non-acoustical joint sealants (as it relates to this Contractor's work), framing components for suspended / furred ceilings, corner bead, edge trim, control joints, building insulation, and all related work.

2. Contractor includes furnish and installation of, perimeter extruded aluminum trim, acoustical treatment, sound absorption/diffusive wall panels, impact resistant wall protection, tectum wall panels, light gage metal framing, soffit framing, soffit vents, soffit screens, acoustical, thermal and firesafing insulation, , drywall accessories, reglets, drywall ceilings, bulkheads and all related work.

3. 01A Contractor shall install all access panels, provided by others, in drywall & masonry construction in accordance with the Contract Documents, or as necessary for 01A, 11A, 15A, and 16A Contractors. All other access panels which are specifically referenced shall be furnished and installed by 01A, regardless of wall type in which they are installed.

4. 01A Contractor shall furnish and install all acoustical treatments per Contract Documents complete, including all support/blocking as necessary. This includes all suspended acoustical ceiling panels, FRP ceiling panels, acoustical wall panels, reflective and low frequency ceiling panels and the like per the Contract Documents. Contractor includes all necessary hat channels, "Z" Channels, suspension systems and attachment devices as necessary for a complete system.

5. 01A Contractor shall furnish and install a complete fire rated ceiling assembly in accordance with the Contract Documents.

6. 01A Contractor shall be responsible for the repair and touch-up of minor scrapes, gouges, etc., caused by the installation of adjacent work.

7. 01A Contractor to caulk all areas where drywall meets a dissimilar surface.

8. The 01A Contractor shall furnish and install any insulation as shown or described unless specifically assigned to another package. 04A Contractor to furnish and install rigid and spray foam insulation as detailed, including but not limited to behind brick, precast, cast stone, finish block, and metal panel areas regardless of backup material. Contractor to coordinate with 01A, 04A, 05A, 07A, 08A, 01A, 15A, and 16A for exterior façade elements prior to start of application.

9. 01A Contractor shall coordinate with other Contractors on location of all work installed in drywall partitions, drywall ceilings, and acoustical ceilings. Contractor shall provide all metal grounds required for all surface mounted items included in the Contract Documents. Contractor shall ensure that all required inspections have been made prior to closing walls and ceilings. Contractor shall call for final close-in inspection of all walls and ceilings.

10. 01A Contractor shall be responsible for the layout of all metal stud work and install hollow metal door and window frames in metal stud walls. Hollow metal frames to be furnished by the 01A Contractor.

11. 01A Contractor shall furnish and install bent plates, angles, straps, steel pipes and plates, clip angles, etc., as required for attaching stud work to the structure.

12. 01A Contractor shall inspect the drywall work with a drop light before and after the prime coat of paint, and perform all necessary point-up. The Architect and Construction Manager will also inspect before and after the prime coat of paint.

13. 01A Contractor shall fill all deck flutes above all drywall construction with fire safing and fire sealant as required. In the event stud framing attaches to the underside of steel, 9A is responsible for insulation, firestopping and caulk between top of steel and deck, if required at these locations.

14. 01A Contractor shall provide **daily cleanup** of all trash and debris generated by the work and place in dumpster furnished by the Construction Manager. Upon completion of each phase of work in any given area, the Trade Contractor shall leave the area in broom clean condition. Should the Trade Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Trade Contractor's expense.

15. In addition to the requirement of providing daily cleanup of self-generated debris from work and or workers, the 01A, 04A, 01A, 15A, and 16A contractors are to include 1 man per every 15 men contractor has onsite, with a mandatory minimum of one man if contractor has less than 15 men onsite. This requirement will be utilized for contractors to participate in a composite cleanup crew. Composite cleanup days will be every Wednesday from 7am to 2pm. Construction Manager will provide trash carts, dumpsters and sweeping compounds, all other equipment, PPE or otherwise, i.e. brooms, shovels, etc., are to be contractor provided.

16. The 01A Contractor will coordinate all layout work with Owner furnished items

17. The 01A Contractor will carefully examine the mechanical documents. Any shaft utilized for return air that does not indicate a duct riser is to be made air tight by the 01A Contractor. This is a means and methods item, which may include sealing sill and top track plates and fully taping/sealing joints in concealed areas.

18. The 01A Contractor is to furnish, install, and maintain fire extinguishers onsite and in building per MOSH/OSHA requirements for general building protection. All Trades are to provide fire extinguishers, blankets, and any other provisions for burning, welding, soldering, braising, or any hot/fire work performed by the Contractor in performance of their work in any area as specifically necessary.

19. The 01A Contractor to provide continuous 20-gauge metal strapping (two (2) rows per elevation) at all metal stud walls for cabinets, visual display boards, (i.e., chalk, tack, marker), lockers, handrails, etc. for any item which is surface-mounted. If this strapping is insufficient, the Contractor requiring supplemental blocking or strapping must furnish and install these items as part of base bid cost.

20. Contractor will provide 5/8" plywood over 2" thick rigid insulation board as roof protection while working on the roof.

21. Quantity of materials intended to be delivered and stored onsite must be coordinated and approved by the Construction Manager due to site constraints. It is the intent to have materials onsite to keep a steady flow of work but not any more material than can be installed in a two (2) week period of time. Offsite provisions for material storage and all cost are to be included in base bid

22. The 01A Contractor shall install metal deck where deck is supported by metal framing provided under the 01A Contract Package. 05A Contractor will supply all metal decking and deck closure angle as necessary.

23. Whether indicated or not, wherever a metal stud wall sits on metal deck, the 01A Contractor will be required to furnish and install, under the metal stud track, a 16-gauge metal plate spanning three flutes of the metal deck at a minimum.

24. Contractor shall perform all welding required to complete its work at stud work.

25. All drywall work to be a minimum "Level 4" finish if not specified higher otherwise.

26. Contractor shall provide ventilator when installing drywall to reduce dust and humidity.

27. Contractor is responsible for all scaffolding and lifts required to complete its work.

Tiling Specific Scope:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the tile work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install all Ceramic and Quarry Tile work as required by the Contract Documents, including but not limited to all wall tile & base, grouts, and adhesives including incidentals as required by the Contract Documents.

3. Contractor shall provide all substrate preparation required by the Contract Documents, manufacturer recommendations, and as necessary, to obtain an acceptable installation of the work included in this Contract Package. Substrate preparation includes, but is not limited to, work required to remediate cracks, curling of concrete at expansion and control joints, floor and wall joint preparation, primers, special adhesives, etc.

4. Contractor shall furnish and install all waterproofing and other incidentals as required on walls for work under this package.

5. Contractor shall furnish and install all crack suppression and incidentals as required on walls for work under this package.

6. Contractor shall furnish and install all required patterns, colors, cuts, and shapes as required by the Contract Documents.

7. Contractor will coordinate with expansion or control joints as field installed and submit shop drawings, which note coordination with as built concrete joints.

8. Contractor shall caulk around any penetration and all work as required by the Documents, which is installed under this package.

9. Contractor shall include tile cleaning and sealing.

10. Contractor shall provide daily cleanup of all trash and debris generated by the work and place in dumpster furnished by Construction Manager. Upon completion of each phase of work in any given area, the 01A Contractor shall leave the area in broom clean condition. Should the 01A Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Contractor's expense.

11. Contractor shall coordinate with the Construction Manager regarding layout of tiling prior to commencement of work.

12. Contractor shall provide all layout and survey work necessary to complete their work as required by the Contract Documents.

Flooring Specific Scope of Work

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install all resilient flooring and accessories as required by the Contract Documents, including but not limited to all resilient vinyl composition floor tile, slip resistant resilient floor tile, entrance mats and frames, vinyl base, resilient molding accessories, transition strips, reducing strips, flooring accessories, and underlayments.

3. Contractor shall furnish and install all carpeting and accessories as required by the Contract Documents, including, but not limited to all carpet, entrance carpet, reducing strips, adhesives, and underlayments.

4. Contractor shall furnish and install opaque concrete sealer on all exposed concrete floors within the building footprint after final cleaning and immediately before substantial completion. This includes all equipment and housekeeping pads.

5. Contractor to provide floor preparation as necessary to install work under this package.

6. The 03A Contractor is obligated to finish slabs in compliance with the Contract Documents. Contractor to include floor prep and flash patching at all floor drains and cleanout to achieve proper slope for ADA and installation of material, no exclusions, all costs are part of base bid. Grinding of concrete is not part of this package and is to be assumed by the 03A Contractor provided this contractor gives proper notice of unacceptable conditions two weeks prior the start of work.

7. Contractor shall provide all layout and survey work necessary to complete their work as required by the Contract Documents.

8. Contractor shall provide 100% skim coat at all ***resilient***[4] floor areas of Ardex or approved equal product and sand smooth, on any substrate to receive flooring under this contract package. All costs for this skim coat are to be included as part of base bid.

9. Contractor shall coordinate with the Construction Manager regarding layout of flooring prior to commencement of the work.

10. Contractor shall furnish and install base required by the Contract Documents, including base at all casework and locker bases and rooms with exposed or sealed concrete. Floor finish shall be continuous under all casework and furnishings or as directed by Construction Manager.

11. Contractor shall provide temporary protection of finished work in place. At a minimum, Contractor shall protect finished flooring in classrooms with reinforced kraft paper (wall to wall) and at corridors "Anchor 38100 Cover Board, 45 mil"; (wall to wall). All joints are to be fully taped with "blue painter's tape" by this contractor.

Contractor includes maintenance and replacement as necessary.

12. Contractors shall provide daily cleanup of all trash and debris generated by the work and place in dumpster furnished by the Construction Manager. Upon completion of each phase of work in any given area, the Contractor shall leave the area in broom clean condition. Should the Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Contractor's expense.

13. Contractor shall provide all final stripping, cleaning, sealing, and waxing as required by the Contract Documents and as recommended by the manufacturer.

14. In any area where 01A material abuts 01A and 01A floor finish, the 01A Contractor shall flash patch a transition a minimum of 10' from interface with adjacent trade to provide a flat transition between materials. This is part of base bid cost.

15. Contractor to provide transition or termination strips, whichever is suitable, at all dissimilar floor joints/transitions unless a stone threshold is specifically referenced in the location.

16. Contractor to caulk or provide trim as necessary where flooring meets other material (i.e., floor drains, equipment pads, boxes, walls).

17. Contractor to furnish and install all striping, patterns, logos, or other markings on the floor as indicated on the Contract Documents.

18. Contractor to coordinate slab depressions if required with the 03A Concrete Contractor prior to pouring of any slab.

Wood Flooring Specific Scope of Work

19. 01A Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Wood Flooring work in accordance with the complete set of Contract Documents.

20. 01A Contractor shall furnish and install all Wood Flooring and accessories as required by the Contract Documents, including but not limited to all subfloor systems, base, marker lines and paint, and accessories.

21. 01A Contractor to provide floor preparation, including broom clean, as necessary to install work under this package.

22. The 03A Contractor is obligated to finish slabs in compliance with the Contract Documents, which is commonly known as ¼" in 10'. At new athletic floor areas, the 03A Contractor will be held to 1/8 inch in 10 feet or more stringent if specified. 01A Contractor to include floor prep and flash patching as necessary above and beyond this heightened requirement for their work and installation of material, no exclusions, all costs are part of base bid. Grinding of concrete is not part of this package and is to be assumed by the 03A Contractor provided this contractor gives proper notice of unacceptable conditions via providing a "grid" and "shooting" the floor no less than two weeks prior to the start of work.

23. 01A Contractor shall provide all layout and survey work necessary to complete their work as required by the Contract Documents.

24. 01A Contractor shall coordinate with the Construction Manager regarding layout of flooring prior to commencement of the work.

25. Contractors shall provide daily cleanup of all trash and debris generated by the work and place in dumpster furnished by the Construction Manager. Upon completion of each phase of work in any given area, the Contractor shall leave the area in broom clean condition. Should the Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Contractor's expense.

26. 01A Contractor to provide transition or termination strips, whichever is suitable, at all dissimilar floor joints/transitions unless a stone threshold is specifically referenced in the location.

27. 01A Contractor to furnish and install all striping, patterns, logos, or other markings on the floor as indicated on the Contract Documents.

28. 01A Contractor to coordinate slab depressions with 03A Concrete Contractor.

29. The 01A Contractor shall include an underlayment moisture/vapor barrier as specified.

30. 01A Contractor shall furnish to the 01A Contractor required inserts for gym equipment for the 01A Contractor to install (inserts only). The 01A Contractor is required to core drill as necessary for 01A to complete installation. 01A Contractor to layout and install in athletic floor.

Painting and Coatings Specific Scope of Work:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Painting work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install all priming, block filling, exterior and interior finish painting, fire and smoke assembly identification (stenciling), and high-performance coatings as required by the Contract Documents.

3. Contractor includes minor cleaning and scraping, preparation and sealing of all concrete floors which are to be sealed. Contractor to assume dark tinted stain despite any reference to the contrary. Two coats minimum, including all surfaces of housekeeping pads.

4. Contractor shall furnish and install all painting and finishing of interior and exterior exposed surfaces including, but not limited to, concrete, masonry, drywall, hollow metal frames and doors, access panels, railings (excluding prefinished or stainless steel), supports, structures, braces, exposed piping, exposed ductwork, exposed structural steel, exposed metal deck, miscellaneous metals, wood work and painted, sealed or coated floors and all others areas as required by the Contract Documents.

5. Contractor shall provide all required surface preparation prior to painting, including minor wipe down.

6. Unless stated otherwise, all coats of block fill, primer and paint are to be back rolled after spray installation.

7. Contractor shall be responsible for all minor touch-up and repainting work caused by installation of adjacent work.

8. Contractor shall paint all exposed mechanical room piping as required by the Contract Documents. Contractor shall paint all exposed piping, steel, deck and all exposed ductwork, as designated.

9. All rust and scale shall be sanded off of hollow metal doors and frames, exposed metal pan stairs, stringers, and bare areas primed by this Contractor.

10. Contractor shall not prime a surface until the previous Contractor has completed his work, and point up.

11. Contractors shall provide daily cleanup of all trash and debris generated by the work and place in dumpster furnished by the Construction Manager with the exception of material deemed as hazardous (i.e., epoxy, paint thinners, high performance coatings, etc.). Contractor must dispose of hazardous material offsite in a legal manner. Upon completion of each phase of work in any given area, the Contractor shall leave the area in broom clean condition. Should the Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Contractor's expense.

12. Contractor to include proper preparation for painting of all galvanized materials specified to be painted.

13. Contractor shall be responsible for disposing of empty paint, sealer or any other chemical product or container off site in a legal manner.

14. Contractor shall caulk drywall to CMU or concrete for clean end of wall or ceiling condition.

15. Contractor includes caulking of all interior hollow metal, and or aluminum frames, as well as interior side of all exterior hollow metal or aluminum frames. This includes jambs and heads.

16. Contractor shall reference all sections of the Specifications, including Mechanical, Electrical, and Pluming, for painting requirements. All mechanical/plumbing and electrical work, if required to be painted, is part of this Contractor's scope. This does not include stenciling of mechanical and electrical pipe and duct work.

17. The 15A and 16A Contractors shall provide all stenciling of mechanical piping, ductwork, equipment, conduit, etc. General painting of exposed piping ductwork, equipment, conduit, etc. will be performed by this Contractor.

18. Contractor to include stenciling of "FIRE WALL" at 8' O.C. as appropriate.

19. Unless additional coats are specified, the Contractor will furnish and install a minimum of two (2) coats of blockfiller/primer to any substrate to receive finish paint.

20. Contractor to include stenciling/labeling of all fire walls, smoke walls, smoke partitions as directed by contract documents and by local jurisdiction.

21. Under no circumstance will contractor paint over fire or UL labels and or ratings, regardless if material or substrate is pre-primed. Labels and ratings are to be taped off by this contractor, or any and all costs to recertify labels or ratings will be at this contractor's expense. Tape to be removed after painting by 01A contractor.

22. Contractor is responsible for any rework as a result of dirt blown into finish, unless notice is given to the Construction Manager 72 hours prior to beginning work that the site is in need of cleaning. Start of work is acceptance of conditions.

23. Contractor to include any masking off of materials as required to properly protect other finished materials. Contractor to product adjacent finished surfaces. Overspray to be cleaned at this contractor's expense.

24. Contractor to provide protection for all sprinkler heads during painting. Protection to be removed after painting by 01A contractor.

25. All hollow metal which is to be painted, door frames, window frames, doors, etc. are to be sprayed per the specifications. Brush or rolling will not be permitted. Therefore, protection of finished adjacent materials in complete and finished spaces is included and part of this contractor's scope of work.

26. Contractor acknowledges and includes painting of exposed metal deck, minimum 2 coats primer, 2 coats finish.

27. 01A Contractor includes infill of all hollow metal window, side light, borrowed light, etc. openings with plywood supported at 2'-0" OC as necessary as masonry progresses and frames are blocked in on lower floor(s) This is for security as well as weather protection. Removal of this material is by 01A to allow for painting of frames by 01A prior to permanent glass by 08A is installed. If 08A contractor installs glass prior to painting of frame, it will be the 08A contractor's responsibility to remove and reinstall after paint at no charge.

Display Cases and Boards Specific Scope of Work:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the display work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install all display cases, markerboards, projection boards, tackboards, fabric-wrapped tackboards, tackstrips, frames and trim, and accessories as required by the Contract Documents. For all cork material, contractor to install only after material has acclimated to building conditions for a minimum of 7 days, or as per manufacturers recommendations, whichever is more stringent.

3. Contractor shall provide all locks, display rails, end stops, and any other accessory required by the Contract Documents.

4. Contractor shall furnish and install all tackboard panels, glazed sliding doors, shelves, standards and supports, back panels, illumination and all other accessories required by the Contract Documents at display cases.

5. Contractor to caulk or provide fillers a necessary to provide a finished appearance where this Contractor's work abuts other materials.

6. Contractor shall provide daily cleanup of all trash and debris generated by the work and place in dumpster furnished by the Construction Manager. Upon completion of each phase of work in any given area, the Contractor shall leave the area in broom clean condition. Should the Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Contractor's expense.

7. Contractor to coordinate any electrical requirements for materials being provided under this package with the 16A contractor prior to wall rough in, or any costs to change wall rough in will be at this Contractor's expense.

Signage Specific Scope:

1. Contractor to furnish and install all interior signage, panel signage, plaques, exterior stainless-steel letters, interior formed plastic letters, vinyl letters and graphics, signage accessories and the like inclusive of fasteners and or mastics(s) per the Contract Documents.

2. Contractor shall furnish and install all in-wall blocking required for this work, prior to wall close-in by 08A and 01A contractors.

3. Contractor includes all incidental caulking of own work for a complete installation.

4. Contractor shall silicone all sign perimeters to mounting surface to deter student removal.

5. Room identification signage to be mounted at latch side of door, 48" AFF to bottom of sign, and 9" from edge of door frame to center of sign, and to have a clear perimeter sealant. Note, no tactile characters can be less than 48" AFF or more than 60" AFF. In the event a sign is taller than 12", mounting location needs to be confirmed by design team. In the event a sign cannot be mounted as stated, contractor to immediately notify Construction Manager as this is a potential ADA concern.

6. Contractor includes backer panel on all signage mounted on glass.

7. Contractor shall furnish and install all other dimensional characters, both interior and exterior, as identified in the Contract Documents.

8. Furnish and Install one (1) Project Construction Sign to be placed at a location determined by Construction Manager. Sign can be obtained from Maryland Correctional Enterprises; Contact: Charles Behnke 410-799-5102.

9. Provide all attic stock as required.

10. All street and or parking signage is provided and installed by the 02A Contractor, with the exception of the Site Project Sign.

Cubicle Curtains & Track Specific Scope:

1. Contractor to furnish and install all cubicle curtains complete including but not limited to, track, curtain, track accessories, curtain carriers, exposed fasteners, concealed fasteners, etc. as indicated on the contract documents

2. Contractor includes field measuring of spaces prior to fabrication.

Toilet Partitions and Accessories Specific Scope of Work:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Toilet Partitions and Accessories work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install all toilet partitions and urinal screens as required by the Contract Documents, including all necessary hardware, bracing, and finishes for a complete installation.

3. Contractor shall furnish and install all toilet, bath and laundry accessories as required by the Contract Documents including, but not limited to, paper towel dispensers, soap dispensers, tempered glass mirrors, toilet tissue dispensers, grab bars, utility hooks, feminine napkin dispensers and disposals, shower curtain rods, folding shower seats, and mop strips. This includes any accessories required in classrooms, kitchen, or other common areas as indicated.

4. Contractor shall be responsible for field measuring prior to release of materials.

5. Contractor shall coordinate with Construction Manager regarding all locations and mounting heights for toilet accessories. The Contractor's shop drawings shall show specific size and location of all blocking required by the work included in this Contract Package. Contractor shall be responsible for adherence to all ADA and handicapped regulations.

6. Contractor incudes all incidentals to this work inclusive of caulking for a complete installation

7. Contractor will cut, reinforce, and trim toilet partitions if necessary to install items common between two (2) stalls and shown as a thru wall accessory.

8. Contractors shall provide daily cleanup of all trash and debris generated by the work and place in dumpster furnished by the Construction Manager. Upon completion of each phase of work in any given area, the Contractor shall leave the area in broom clean condition. Should the Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Contractor's expense.

9. Contractor to coordinate with floor and wall finish contractor for installation of fasteners as applicable. Any damaged finishes which occurs during installation of work under this scope, will be the responsibility of this contractor.

10. Contractor responsible for final adjustment of hardware per the specification immediately prior to substantial completion.

Metal Lockers *and Shelving*[3] Specific Scope of Work:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Metal Lockers work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install all metal lockers ***and metal storage assemblies***[3] as indicated, including all necessary accessories per the Contract Documents.

3. Contractor to submit numbered layout drawing for all lockers, prior to fabrication, and use of ordering locker number plaques for approval, as some lockers may be deleted during this process.

4. Contractor will provide fillers and caulk as required to provide a finished appearance where lockers abut other materials.

5. Contractor shall provide daily cleanup of all trash and debris generated by the work and place in dumpster furnished by the Construction Manager. Upon completion of each phase of work in any given area, the Contractor shall leave the area in broom clean condition. Should the Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Contractor's expense.

Projection Screen Specific Scope:

1. Contractor shall furnish and install all projection screens and accessories as required by the Contract Documents.

2. Contractor shall include cost to train Owner's personnel in base bid.

3. Contractor will provide all necessary supports, mounting brackets and support hardware for projection screens. Ceiling hung projection screens shall be supported from structural steel above. Support from the ceiling grid will not be permitted. Contractor to advise during structural steel coordination any need for supplemental steel support; in the event this is not coordinated, the need for supplemental steel is then this Contractor's responsibility. In the event structural steel is not immediately above projection screen elevation, Contractor includes beam clamps, all thread, hangers, kendorff etc. to utilize structural steel at above floor or roof level and no additional structural steel will be provided immediately above ceiling elevation.

4. Contractor to coordinate any electrical requirements for materials being provided under this package with the 16A contractor prior to wall rough in, or any costs to change wall rough in will be at this Contractor's expense.

5. ~~***All items within this Contract Package, which are specified or required to have electrical service or electrical outlets, shall be furnished with complete integral wiring, including control wiring, by this Contractor, for single connection at a junction box or disconnect by the 16A Electrical Contractor. Contractor to reference Electrical Scope item #60 and provide any other items necessary to provide a complete and working system.***~~[4]

6. Key switch operation is to be on building master key system.

Stage Curtains Specific Scope:

1. Contractor to furnish and install all stage curtains and tracks complete per the Contract Documents.

2. Contractor to include stage curtains, scrims, drops, draw-curtain tracks and curtain rigging, per contract documents.

3. Contractor shall include cost to train Owner's personnel in base bid.

4. Contractor to coordinate any electrical requirements for materials being provided under this package with the 16A contractor prior to wall rough in, or any costs to change wall rough in will be at this contractor's expense.

5. ~~***All items within this Contract Package, which are specified or required to have electrical service or electrical outlets, shall be furnished with complete integral wiring, including control wiring, by this Contractor, for single connection at a junction box or disconnect by the 16A Electrical Contractor. Contractor to reference Electrical Scope item #60 and provide any other items necessary to provide a complete and working system.***~~[4]

Athletic Equipment and Dividers Specific Scope:

1. Contractor to furnish and install all Athletic Equipment and Gymnasium Dividers complete per the Contract Documents.

2. Furnish and install all warranties as specified.

3. Contractor to include all gymnasium wall padding, forward folding basketball backboards, badminton/volleyball floor sleeves and standards with netting, climbing ropes, and relocation of the climbing wall from the existing school per contract documents.

4. Furnish and install basketball equipment by a specified manufacturer, including overhead supported and wall mounted backstops, with the specified backboards, safety devices, safety pads, safety devices, height adjusters, winches, electric operators, goals, and nets.

5. 01A Contractor shall furnish, core drill and install volleyball floor sleeves. Coordinate with 01A Contractor. 01A Contractor to layout and cut to install inserts in floor only.

6. Furnish and install electrically operated, center-roll divider system complete with all accessories as required.

7. This Contractor is responsible for protection of all adjacent finished work and will be responsible to clean, repair or replace any finished material damaged due to work by this trade damaging finished materials.

~~***8. All items within this Contract Package, which are specified or required to have electrical service or electrical outlets, shall be furnished with complete integral wiring, including control wiring, by this Contractor, for single connection at a junction box or disconnect by the 16A Electrical Contractor. Contractor to reference Electrical Scope item #60 and provide any other items necessary to provide a complete and working system.***~~[4]

9. Contractor shall include cost to train Owner's personnel in base bid.

10. Key switch operation is to be on the building master key system.

Roller Shades and Blinds Specific Scope:

1. Contractor to furnish and install all roller shades complete per the Contract Documents.

2. Contractor to furnish and install all venetian blinds and accessories complete per the Contract Documents.

3. Contractor to coordinate with HM Frame and Aluminum Frame suppliers for method of attachment.

4. Whether indicated or not, the 01A Contractor will be required to furnish extension wands as necessary to operate shades.

5. Contractor will be responsible for final adjustment, cleaning and touch up immediately prior to substantial completion.

6. Contractor to include own labor and equipment for unloading of deliveries, deliveries which arrive without contractor forces onsite will be immediately denied access to the site.

7. Contractor acknowledges no materials can be released until mandatory preorder conference has occurred. Contractor to schedule conference through Construction Manager.

Millwork & Casework Scope:

1. Contractor to furnish and install all plastic laminate casework, plastic laminate counter tops, solid polymer sills and stools, built-in counters, pencil sharpener and flag holder hooks, coat hooks and coat rods, wood stairs at the

platform, display shelving in the art rooms, display shelving behind media center storefront, built-in shelves, locks, sinks in casework, fixtures, caulking, fillers and grommets, etc. or as detailed in the Contract Documents. Any final plumbing related connections are to be by 15A.

2. Contractor will be required to modify casework as necessary to allow for MEP trade rough in, as well as provide cutouts for outlets, switches, devices, sinks and fixtures installed in Casework by others, cutouts are to be field performed.

3. Contractor to include all hardware including keying requirements for all work provided within this scope of work, in accordance with respective specification section. No hardware will be provided by other trades to make this scope of work complete

4. Contractor to provide all glass and glazing required for a complete installation of work provided under this contract. No glass or glazing will be provided by other trades to make this scope of work complete.

5. Contractor is responsible for all hardware necessary to anchor or affix its work in a permanent location.

6. Contractor to protect casework being furnished and installed under this package from damage. Casework protection shall be, at a minimum, 1/4" Masonite blue taped to the countertops. Contractor responsible for replacement of damaged casework and or countertops. This is part of base bid cost.

7. ~~***All items within this Contract Package, which are specified or required to have electrical service or electrical outlets, shall be furnished with complete integral wiring, including control wiring, by this Contractor, for single connection at a junction box or disconnect by the 16A Electrical Contractor.***~~ ***Contractor to reference Electrical Scope item #60 and provide any other items necessary to provide a complete and working system.[4]***
This requirement does not include receptacles, which may be shown in casework. This Contractor shall provide cutouts for outlets, switches, devices and fixtures installed in Casework by other Trades.

Operable Partitions Specific Scope

1. Contractor to include all necessary work to furnish and install all operable partitions, complete as required per the Contract Documents

2. Contractor includes all necessary coordination with the 05A Contractor for attachment to structure as required. Any additional supports or framing required for this scope above what is shown on the Contract Documents will be supplied by this contractor at no additional cost.

3. Contractor includes all tackboard and markerboard finishes as required.

Passenger Elevator Specific Scope:

1. Contractor to furnish and install all elevators complete per Contract Documents.

2. Contractor to provide pit layout as a separate submittal within two weeks of Letter of Intent, Notice to Award, or Contract, whichever is issued first.

3. Regardless to any reference to the contrary, elevators are to be provided with battery lowering by Elevator Manufacturer.

4. Mechanical and Electrical final connections will be performed by others. Contractor shall provide all connectors, piping, integral wiring and piping, as well as all equipment connections, cords with plugs, etc., incidental to this phase of the work. Coordinate with Electrical and Mechanical Contractors to provide complete installation.

5. Contractor to coordinate floor finishes and recessed areas with Steel, Concrete, and Flooring Contractor(s). Cab flooring is by others.

6. Contractor is to supply all necessary brackets, embeds, or other mounting hardware that must be installed concurrently with the Concrete Contractor or Masonry Contractor.

7. Contractor to coordinate all metal fabrications as required for installation and accessories including but not limited to attachment plates, structural steel shapes for subsills, sump pits and pit ladders.

8. Contractor to coordinate with 03A, 04A, 05A, 15A, & 16A, Contractors for location of pit ladder, sump pit, fire alarm devices, sprinkler heads.

9. Contractor to coordinate integration of the elevator with the fire control system including any necessary submittals to local or state fire control agencies.

10. It is understood that elevator(s) will be used for access to upper floors prior to substantial completion of the project. This contractor includes all associated costs to obtain a construction use permit no later than June 1, 2022, and install adequate cab protection so Owner can use cab for distribution of furniture. After said distribution, a final inspection will be obtained. It is the Construction Manger's assumption with a construction use permit, Construction Manager personal can be assigned to run the elevator and the 01A Contractor's personnel are not needed for this function. If this assumption is false, this contractor to include labor for running of the elevator for the months of June and July 2022 for use by Owner/CM.

11. 01A Contractor has included the cost for permits, maintenance and extended warranties during the construction use period. 01A Contractor to assume a construction use period of two (2) months. Actual usage will be tracked monthly via ticket and a contract adjustment, if necessary will be made at scope completion.

12. Contractor to include forty (40) hours labor use of the platform by other trades to accomplish installation of all MEP devices and Sprinkler Head, Masonry Shaft point up, fire caulking etc. Actual hours will be tracked via ticket and a contract adjustment, if necessary will be made at scope completion. This is in addition to the anticipated construction use.

13. Contractor shall provide a wall mounted fire extinguisher in the Elevator Machine Room whether indicated or not.

14. Contractor will secure and schedule all necessary pre-inspections and inspections as required by the applicable local or state agencies. Contractor shall coordinate with other trades regarding final inspections.

15. Contractor includes cost of 24 month warranty and initial maintenance service to include 24 months full maintenance by skilled employees in base bid.

16. Despite any reference to the contrary, the elevator is to be key operated from the hall call button. IE the doors to this elevator are intended to be shut at all times and to not allow free unattended use by students.

17. Despite any reference to the contrary, the elevator buttons at hall calls and within the cab are all to be of the "high impact" variety.

18. Contractor shall supply their own equipment to offload their materials into the building and shall not assume "rollable" access will be available at time of mobilization.

Furnishings Relocation Specific Scope:

1. Contractor shall remove and relocate all items (remaining items after the School personnel have moved out

of area) excluding only computers (PCs) and personal effects, from the existing school to the new school. The Contractor shall be responsible for providing all boxes, bins, labels, packing materials etc. and for packing, boxing, palletizing all items. The Contractor shall unpack and move all items to their final location as directed by the CM/Owner.

2. Contractor shall inventory packed teachers items, supplies, furniture, and pre-boxed items (if any). Identify existing room number/name and teacher name on packed teacher's items. Labeling devices shall be user-friendly and be easily removed without damage to the Property. Use numbering system, etc. to link individual supplies to existing furniture/location from which removed so supplies may be returned to same/similar location when unpacked.

3. Contractor shall remove and relocate all significant items of furniture (i.e. pianos, instruments, art supplies, kilns, etc.).

4. The Contractor shall remove and relocate remaining FF&E from the existing school to the new school. ~~***For bidding purposes***~~ Contractor shall assume 25% of the existing FF&E will need to be relocated ***to the new school.*** [4]The Contractor shall expect the following inventory as typical FF&E, which includes but is not limited to:

   4.1 Classrooms: Approximately 30 desks, 30 chairs, 1 teacher wardrobe unit, teacher desk and chair, 2 file cabinets and 2 bookcases.
   4.2 Administrative and Guidance Offices: Approximately 1 desk, 1 chair, 1 credenza, and 1 bookshelf for each office.
   4.3 Itinerant and Miscellaneous Offices: Approximately 1 desk, 1 chair, 1 credenza and 1 bookshelf for each office.

5. ***Contractor acknowledges that the inventory as described above may not be 100% accurate and is responsible for own inventory via pre-bid walk.***

6. ***Contractor acknowledges that there are other spaces within the school (i.e. Media Center, Gymnasium, Cafeteria, Art & Music Rooms etc.) which will need to relocated as well. Contractor is responsible to inventory these items via pre-bid walk.***

7. The Contractor shall relocate remaining FF&E to HCPSS warehouse within Howard County as directed by the CM/Owner. The Contractor shall assume a total of 10 – 40' box trailers. ***Transport, unloading, and moving to the designated location within the warehouse shall be performed by the 01A Contractor.*** [4]

8. The Contractor shall move and compile all Owner salvaged items to the gymnasium of the existing school to allow for removal from the school by others. The Contractor should assume 4 movers for 2 eight hour days for this task.

9. The Contractor shall be responsible for missing and/or damaged items.

10. ***Any items leftover after the move shall become the responsibility of the 02C Contractor after acceptance/approval by the Owner/CM. The 02C Contractor shall be responsible for removal and legal disposal of all leftover items prior to building demolition.*** [4]

11. ***Contractor acknowledges that the existing school cannot be demolished until all FF&E is removed from the school. The move is critical to the Summer 2022 work and is a critical path item in the schedule. Therefore, this Contractor shall provide all manpower as necessary to complete this work as to not delay the start of demolition of the existing school.***

Temporary Protection Scope of Work:

1. ***Contractor includes all labor and material to provide temporary doors for nightly security at each stair well exterior entrance, each stair well corridor entrance, all exterior doorways or potential access points (aluminum and hollow metal entrances, overhead doors, etc.), and at all end of corridors, corridor intersections as masonry progresses so the building can be completely secured. Contractor to include all necessary hinges, hasps, closures, chains etc. Construction Manager to provide pad lock only.***

2. ***Contractor to furnish and install temporary doors at all proposed mechanical, data, elevator machine rooms, electrical rooms and stairwell main landing doorways, including hinges, closures, and hasps. Construction Manager to provide pad lock only. Temporary doors to be removed and hollow-metal patched at Construction Manager's direction as part of base bid cost.***

3. ***Contractor will provide 5/8" plywood over 2" thick rigid insulation board as roof protection while working on the roof.***

4. ***Temporary infill at fixed aluminum storefronts, curtainwalls, and or windows due to lack of aluminum frames is the responsibility of the 08A contractor, infill to be a combination of 4'-0" sheets of ¼" plexiglass and ½" plywood supported at 16" OC which still allows ample natural light into the space for lower floor(s). In the event a doorway is required in a space with a temporary infill, 08A to provide doorway, hinges, closures, and hasp at the direction of the construction manager. Infill to be installed in such a manner to allow for all interior trades to progress with no conflict. Temporary protection is to be installed for security as well as in such a manner to stop wind and precipitation from entering the building. 08A Contractor includes backerrod at all temporary infill being performed by 08A. Temporary plastic will be allowed on upper floors only where security is less of a threat.***

5. ***Infill of fixed aluminum storefronts, windows, and or curtainwalls due to lack of glass is the responsibility of 08A contractor to infill with ¼" plexiglass and ½" plywood supported in aluminum framing, which still allows ample natural light into the space until permanent fixed glass is installed at lower floor(s). This is for both security as well as weather protection. In the event a doorway is required in a space with a temporary infill, 08A to provide doorway, hinges, closures, and hasp at the direction of the construction manager. Infill to be installed in such a manner to allow for all interior trades to progress with no conflict. Temporary protection is to be installed for security as well as in such a manner to stop wind and precipitation from entering the building. Contractor includes backerrod at all temporary infill being performed by 08A. Temporary plastic will be allowed on upper floors only where security is less of a threat.***

6. ***Any temporary infill or protection maintenance and removal is the responsibility of the installing contractor at the direction of the Construction Manager.***

7. ***01A Contractor to provide the following temporary construction as outlined in the general scope of work:***

    a. ***Work Platforms for the installation of above ceiling work at the top of stair towers A, B, C & D.***
    b. ***Temporary stair to roof***
    c. ***Temporary exterior doors***
    d. ***Cattle Gates, Guards, Tie-Off & Doors at L2***
    e. ***Temporary close in of all exterior window openings with 1x2 framing and reinforced plastic.***

8. ***01A Contractor shall furnish and install temporary fall protection rail (2x4 attached to wall) at all openings which have a sill height below 42".***

9. ***During the structural phase the 05A Contractor shall furnish and install temporary roof edge top and mid rails. 01A Contractor shall furnish and install 4" toe-kick to rails or deck and safety netting for dropped object protection by the 01A Contractor. Upon completion of all walls, 01A Contractor shall remove all safety netting and toe-kicks and install fall protection at window openings. 05A Contractor shall remove safety rail and burns off posts. 07A Contractor is responsible for furnishing, installing and removing all perimeter fall protection in coordination with its installation of the roofing. If a railing is removed for any***

reason, or if any workers are working outside of the railing, 100% tie off is required, no exceptions. A warning line and safety monitoring system are not acceptable and do not provide appropriate levels of fall protection.[4]

Miscellaneous Scope Items for General Trades Package:

1. Contractor shall furnish and install all Fire Protection Cabinets and Fire Extinguishers per the Contract Documents, including all blocking and accessories as required for complete installation.

2. Contractor shall furnish and install AED's and cabinets.

3. Contractor shall furnish and install all evacuation devices and cabinets.

4. Contractor shall furnish and install all flagpoles and required footings per the Contract Documents.

5. Contractor shall furnish and install all ceiling hooks in the OTPT Room as required per the Contract Documents.

6. 01A Contractor shall install appliances per section 113100 and Equipment Drawings per the Contract Documents. Rain Barrel installation is by 07A.

7. Contractor shall furnish a minimum of one knox box, installation is by 04A. Quantities and locations to be as shown on the drawings. Knox Box is to be authorized by local fire marshal prior to release.

8. ***Contractor shall furnish and install all column covers along with all necessary framing and hardware as necessary per Contract Documents.[3]***

9. 01A is to furnish, install, and maintain fire extinguishers onsite and in building per MOSH/OSHA requirements for general building protection during construction. All trades are to provide fire extinguishers, blankets, and any other provisions for burning, welding, soldering, braising, or any hot/fire work performed by the Contractor in performance of their work in any area as specifically necessary.

10. In addition to the requirement of providing daily cleanup of self-generated debris from work and or workers, the 04A, 01A, 01A, 15A and 16A contractors are to include 1 man per every 15 men contractor has onsite, with a mandatory minimum of one man if contractor has less than 15 men onsite. This requirement will be utilized for contractors to participate in a composite cleanup crew. Composite cleanup days will be every Wednesday from 7am to 2pm. Construction Manager will provide trash carts, dumpsters and sweeping compounds, all other equipment, PPE or otherwise, i.e. brooms, shovels, etc., are to be contractor provided.

11. Provide one (1) 8'-0" wide temporary scaffold stairs with access to roof level for Trade access at perimeter of building (Location TBD by CM).

12. 01A Contractor to furnish, install, and maintain temporary exit signs as necessary in compliance with MOSH/OSHA standards during construction. Signs are to be removed at Construction Manager's direction. Any patching as necessary is to be included as part of base bid cost.

PART 3 – ALTERNATE SCOPE OF WORK

1. Contractor has reviewed the Alternates scope of work listed elsewhere within the specifications and has included all costs in the event the Owner elects to proceed in whole or in part.

Shade Sail Structure Specific Scope of Work (Alternate #1)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Shade Sail Structure work in accordance with the complete set of Contract Documents and as detailed on A-530.

2. This scope includes the furnish and installation ***of fabric, hardware, fasteners and cable necessary to fabricate and install the fabric sail shades as shown and detailed on the drawings*** ~~***of all structural components necessary for the support of the shade structure***~~ as well as coordination with other Contractors for installation and integration of same with their work. Any inspections necessary for certification of this work is included. ~~***Any thermal breaks are included in this installation.***~~[4]

3. Upon completion of all finishes, this Contractor includes the installation of any caulking, architectural trim or escutcheons necessary for a weather-tight and aesthetically pleasing installation. Contractor shall paint or touch up all galvanized components following installation.

Main Entrance Canopy Specific Scope of Work (Alternate #2)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Main Entrance Canopy work in accordance with the complete set of Contract Documents and as detailed on A-531.

2. This work includes all miscellaneous framing and blocking required as well as the painting of all exposed steel elements.

Quartz Tile Specific Scope of Work (Alternate #3)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the substitution of quartz tile in lieu of vinyl composition tile (VCT) in all areas shown on the floor finish plans in accordance with the complete set of Contract Documents.

Epoxy Terrazzo Specific Scope of Work (Alternate #4)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Epoxy Terrazzo work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install all Epoxy Terrazzo including all divider strips, control joint strips, cleaners, epoxy grouts, sealers and all other accessories, as required by the Contract Documents, as part of the Alternate #6.

3. Contractor to provide floor preparation as necessary to install work under this package.

4. The 03A Contractor is obligated to finish slabs in compliance with Specification Section 033000. 01A Contractor to include floor prep and flash patching as necessary for their work and installation of material, no exclusion, all costs are part of base bid. Grinding of concrete is not part of this package and is to be assumed by the 03A Contractor provided this contractor gives proper notice of unacceptable conditions two weeks prior the start of work.

5. 01A Contractor shall provide all layout and survey work necessary to complete their work as required by the Contract Documents.

6. 01A Contractor shall coordinate with the Construction Manager regarding layout of flooring prior to commencement of the work.

7. 01A Contractor includes all cleaning, sealing and polishing as required.

8. 01A Contractor shall provide temporary protection of finished work in place. At a minimum, Contractor shall

protect finished flooring with Kraft paper reinforced by nylon strings which is to be taped at all joints. Contractor includes maintenance and replacement as necessary. Contractor includes full protection of all adjacent walls while terrazzo grinding operations are taking place.

9. Contractors shall provide daily cleanup of all trash and debris generated by the work and place in dumpster furnished by the Construction Manager. Upon completion of each phase of work in any given area, the Contractor shall leave the area in broom clean condition. Should the Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Contractor's expense.

10. 01A Contractor to caulk or provide trim as necessary where flooring meets other material (i.e., floor drains, equipment pads, boxes, walls).

11. 01A Contractor to coordinate slab depressions with 03A Concrete Contractor.

Ceramic Tile In Lieu of Painted Finish Scope of Work (Alternate #5)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the substitution of ceramic tile in lieu of painted finish on concrete masonry units in toilet rooms as listed on the finish schedule in areas shown on the floor finish plans in accordance with the complete set of Contract Documents.

Wood Grain Hollow Metal Doors Scope of Work (Alternate #6)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the substitution of wood grain hollow metal doors in lieu of painted hollow metal doors in all areas shown on the plans in accordance with the complete set of Contract Documents.

Venetian Blinds Specific Scope of Work (Alternate #7)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to provide venetian blinds at interior glazing at all locations shown on the drawings in accordance with the complete set of Contract Documents.

PART 4 – ALLOWANCES

1. In addition to the composite clean-up crew requirements listed above, contractor to include an additional 500 general laborer hours to be used at Construction Manager or Owner discretion. Hourly cost to be based on wage scale. Hours are to be tracked on a ticket, in the event the cost exceeds this allowance, an additive change order will be issued based on wage scale, in the event it is less, a deductive change order will be issued.

END OF 01A SECTION

PART 2 – SPECIFIC SCOPE OF WORK

1. Contractor has reviewed and understands the Contract Package / Specification Cross Reference listed under Section 011112.

2. Contractor includes General Scope of Work listed under Part 1 of Section 011113.

3. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Site work in accordance with the complete set of Contract Documents.

Earthwork and Site Demolition Specific Scope:

1. The 02A Contractor will assume all responsibility for the M.D.E. Storm Water Management discharge permit from notice to proceed to substantial completion as necessary. The Owner will transfer the permit to the 2A Contractor when received. After substantial completion, the 02A Contractor will transfer the permit back to the Owner as necessary.

2. The 02A Contractor shall remove trees, shrubs, grass, and other vegetation, improvements, or obstructions, as required, to permit installation of new construction. Site clearing and grubbing, including removal and disposal, shall be as indicated on the plans. The contractor will acknowledge locations of all protected foliage per the plans and specifications prior to the start of any work, and will be responsible for installation, root pruning, signage, etc and maintenance of this protection while contractor is on the project. This Contractor includes dressing up and stabilization around Construction Manager and Owner trailers and removal and restoration of area at project completion.

3. The 02A Contractor will provide all required fill material in accordance with Contract Documents to bring site to final design elevations. The 02A Contractor shall carefully examine site prior to commencing operations. The site is unclassified. The 02A Contractor will be responsible for all excavation down to design subgrade elevation regardless of material being excavated, including rock, at no cost to the Owner. If material excavated exceeds the optimum moisture content, the 02A Contractor shall dry the material prior to reuse and/or stockpile and spread for reuse in another area. If drying cannot be achieved in a timeframe within schedule constraints or within coordination of work with other trades, the 02A Contractor shall remove and legally dispose of offsite and haul in suitable material as part of base bid cost. In the event the material excavated to design subgrade elevation is found to be unsuitable, the 02A Contractor shall remove and legally dispose of unsuitable material offsite and haul in suitable material as part of base bid cost. Proof roll the area prior to placing fill to verify acceptability of substrate.

4. Despite any reference to the contrary, blasting is not allowed.

5. The 02A Contractor includes demolition and removal of masonry mockup panel(s) and foundation as directed by Construction Manager.

6. The 02A Contractor shall furnish, install, maintain and remove at the direction of the Construction Manager and/or any governing agency all temporary sediment and erosion control measures and devices, and stabilized construction entrances. For all permanent storm water management areas & permanent sediment traps required by the Contract Documents, the 02A Contractor is responsible for bulk excavation, grading, shaping, safety fencing, stabilization, and pipework. At temporary traps, the same scope as permanent applies, and the 02A Contractor has mucking, backfill, fill and compaction, back to subgrade. Permanent landscaping is by the 02A Contractor. The 02A Contractor is also responsible for any and all temporary erosion and sediment control measures as specified in Specification Section 015000.

7. The 02A Contractor is responsible for all snow and ice removal onsite throughout duration of project at all construction areas. Contractor should anticipate normal inclement weather conditions as defined by the 5 year average. The 02A Contractor shall grade all ruts on jobsite before any rain/snow events to maintain positive drainage.

8. The 02A Contractor is responsible for all temporary seed required for the site stabilization including maintenance and watering as required per the specifications.

9. The 02A Contractor is responsible for removal of multiple centrally located spoil stockpiles generated by utilities, footings, walls, electrical excavations, plumbing excavations, pits, etc. provided there will be no design grade / elevation changes from the contract documents.

10. The 02A Contractor is responsible for own dust control on site until project completion. This is limited to dust control created by the 02A package and various site activities (all vehicles and equipment maneuvering throughout the construction area). The 02A package is not responsible for controlling dust generated from within the building or building pad, or from cutting/mixing operations unless dust is created from a direct operation of the 02A contractor.

11. The 02A Contractor is to provide watering trucks for wet down of access roads, daily from April through November to eliminate Construction Activity Dust Pollutants for the duration of the project.

12. The 02A Contractor is responsible for all sheeting and shoring requirements to perform this scope of work, if required. Contractor to coordinate final location with Construction Manager, 03A, 04A, and 05A contractors. Contractor is responsible to coordinate design loading of sheeting and shoring with live load operations adjacent to sheeting and shoring to allow all contractors to perform their work. Contractor to include temporary barriers, fences, wire rope railings and angles at all locations for safety reasons. Contractor to include jersey barriers at areas of construction traffic roadways. 02A Contractor shall furnish, install and maintain orange safety fence around the entire perimeter of all storm water management facilities. Orange safety fence shall be installed as required while the work is being performed or as directed by the Construction Manager. Orange fence is in addition to the required perimeter fencing.

13. The 02A Contractor shall provide for all site demolition shown or implied to include, not limited to, the complete demolition, removal, and legal offsite disposal of all existing curb & gutter, asphalt paving & sub-base, concrete paving & sub-base, concrete sidewalks, concrete walls, concrete foundations, underground utilities, fences, gates, rails, ball hoops, signs, plants, lights, parking bumpers, backstops, courts, decks, wood ramps, monitoring wells, posts, nets, post footings, field equipment footings, walls (both permanent and temporary) , and the like. ***Portable classrooms will be removed by others. All foundations, utilities, decks, stairs, ramps etc. shall be removed by this Contractor.***[4] The 02A Contractor shall be responsible for salvage, protection, storage and relocations of existing site items as indicated and/or specified. All demolished items shall be removed and legally disposed of by this Contractor.

14. The 02A Contractor understands that the construction entrance(s) may have to be removed, altered, repaired, and / or replaced in order for the permanent utilities to be installed. It shall be the 02A Contractor's responsibility to remove, alter, repair and / or replace and consistently maintain any and all aspects of the construction entrance for these systems to be installed. The 02A Contractor shall coordinate and prioritize its work as to eliminate impact to site access and / or the project schedule.

15. The 02A Contractor shall establish rough grade to within ± 0.10' sub-grade, to include proper compaction and elevations for sidewalks, pavements, drives, curbs, landscape, and / or topsoil areas. Landscape, topsoil and other open areas (excluding ball fields and play areas) to be graded to within +/- 0.20' of design elevation. The 02A Contractor shall furnish and install the backfill for curbs, gutters, and sidewalks to re-establish rough grade.

16. The 02A Contractor shall establish rough grade to within ± 0.10' sub-grade, to include proper compaction and elevations for building pad for acceptance by 03A Contractor.

17. Backfilling of all site walls, site foundations, and site slabs are the responsibility of the 02A Contractor.

18. The 02A Contractor shall will be responsible for any damage to existing roads, adjacent surfaces, curb and/or gutter damaged by the 02A operations.

19. The 02A Contractor shall prepare subgrade including furnishing and installing stone as required to tie in new asphalt and or concrete to existing at all required locations.

20. The 02A Contractor shall provide all fine grading and proof rolling as necessary prior to the installation of the sub-base course at asphalt areas.

21. The 02A Contractor shall provide all fine grading and proof rolling as necessary prior to the installation of concrete curb, gutter and flatwork.

22. The 02A Contractor is responsible to protect sub-base for concrete and asphalt work from weather, to ensure construction activities proceed on schedule.

23. The 02A Contractor shall furnish and install all stone under all flatwork concrete. Stone to be installed immediately prior to placement of concrete.

24. The 02A Contractor shall excavate, furnish and install #57 stone under exterior doorways, a minimum of 3' out from door or longer if door leafs are longer than 3', by width of doorway plus 1', by 3' deep. Coordinate isolation of two slabs to align with concrete scoring patterns as practical. Dimensions listed herein are minimum dimensions. Should the Contract Documents show greater dimensions then they shall take precedence.

25. The 02A Contractor shall furnish and place stone subgrade as required to establish proper elevations prior to asphalt paving.

26. The 02A Contractor shall grade all backfill so that water runs away from any structure.

27. The 02A Contractor ***shall engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.*** ~~***is responsible for all pest control as specified in Section 015000.***~~ [4]

28. The 02A Contractor shall install and maintain all stabilized trailer/sea cans area and staging areas as indicated on the Site Utilization plan. At the direction of the Construction Manager, the Contractor shall remove and restore areas to a finished condition. In the event that the stabilized trailer staging area is installed at, around, or near any existing or future utilities that may need to be removed, repaired, and / or installed, this Contractor shall remove, adjust, and / or repair sections of these stabilized areas as necessary.

29. The 02A Contactor shall furnish, install, and maintain suitable temporary construction access roads***/construction entrances***[4] as shown on the Site Utilization plan. Suitable maintenance of the access roads***/construction entrances***[4] is defined as continual focused effort of turning over of stone, adding stone as needed, to minimize and/or eliminate tracking. It is the 02A Contractor's responsibility to add new stone and fabric to achieve this suitable maintenance. The 02A Contractor shall remove the temporary roads and perform all necessary re-grading and restoration upon receipt of direction from the Construction Manager. Roads shall be adequate to support all construction traffic and equipment. The roads at a minimum shall be 20' wide, constructed of stabilizing cloth and 8" of #2 stone. At crane pad locations, assume two (2) locations comprised of 18" of gabion stone, capped with 6" of #2 stone for a total section of 24". Damming of water will not be tolerated. Any temporary piping to allow drainage across roadways or crane pads is considered incidental and part of base bid costs. In the event that the stabilized area is installed at, around, or near any existing or future utilities that may need to be removed, repaired, and/or installed, this Contractor shall remove, adjust, and/or repair sections of these stabilized areas as necessary at no additional cost to Owner or Construction Manager. Asphalt millings and or "crusher run" will not be accepted at any roadways or crane pads.

30. Limits of new building pads shall extend a minimum of ten (10) feet beyond the building footprint where applicable around the entire perimeter of the building. Final grades shall be temporarily adjusted as necessary to meet this requirement. At the direction of the Construction Manager, the Contractor shall re-grade around the perimeter of the building to the final grades required by the Contract Documents inclusive of removal of temporary ring road(s) or

parking areas. Backfilling of all building walls, foundations, and slabs shall be the responsibility of the 03A Concrete Contractor unless noted otherwise herein.

31. The 02A Contractor will close or cover all subgrade or excavation at the end of each work day unless exempted by Construction Manager's representative. Any unsuitable conditions caused as a result of contractor's failure to protect exposed subgrades will be remedied at contractor's sole expense and at no cost to the Owner or Construction Manager.

32. The 02A Contractor is responsible for removal of multiple centrally located spoil stockpile generated by all trades onsite, provided there will be no design and or grade and or elevation changes from the contract documents. Contractor is responsible to perform own takeoff for this work as a full contract document set has been issued for use. Contractor is responsible for removal of any and all excess.

33. The 02A Contractor shall saw cut, remove, and dispose of existing asphalt as directed by Construction Manager. It is the intent to leave as much existing hard surface in place as long as practical.

34. Steel plates or other means need to be utilized to ensure traffic flow in and out of school site at all times as well as when working in public streets to allow continuous traffic flow.

35. The 02A Contractor shall install and maintain all wash rack(s) as directed by the Construction Manager. Contractor shall also be responsible for providing water to the wash rack(s) for respective trades own use. This system is to include water source, power source, pumps and hoses, and other necessary appurtenances. If hydrants are to be used, the 02A Contractor must procure, pay for, and utilize a water meter and backflow preventer. The 02A Contractor includes relocation and removal as necessary and directed by the Construction Manager.

36. The 02A Contractor is responsible for keeping the streets clean of construction debris, mud, dirt etc. only if caused by this contractor's failure to properly maintain the construction entrance, stoned roadways, access roads, wash rack, etc. Maintenance of roadway debris caused by other contractor's general neglect to properly use the equipment and facilities provided by the 02A Contractor or Construction Manager will be the respective contractor's debris to clean up and not the responsibility of the 02A Contractor.

37. The 02A Contractor is solely responsible for own fire protection and safety while onsite. This includes but is not limited to signage, barricades, fire extinguishers, covers, etc.

38. The 02A Contractor will engage the services of a private utility locating company and will test pit to further locate existing utilities prior to commencing with work under this contract package.

39. Stockpiling of topsoil onsite by the 02A Contractor will be extremely limited due to space restrictions. In the event there is a limited area available for 02A use, contractor shall strip, screen, stockpile, protect, test, amend and stabilize all topsoil as required by the contract documents and governing jurisdiction having authority requirements. The 02A Contractor shall re-spread topsoil in all areas provided the topsoil meets project standards as indicated on drawings. Topsoil on ball fields shall be motor graded to within plus/minus 1/10 of a foot of the design elevation. Maximum size of screen shall be ¾" sieve. Topsoil shall be a 4-8-inch layer, lightly compacted to minimum thickness of 4 inches. The 02A Contractor shall supply tested, screened, amended topsoil from offsite if and / or when the onsite quantities are insufficient.

40. The 02A Contractor to test and make all amendments to bring topsoil material within project specifications (topsoil amendments, sand (if required), organic matter, planting soil mix, anti-desiccant, tree paint, herbicide, etc). It is the contractor's responsibility to submit test results to Construction Manager for approval with required recommendations to bring material within project specifications, prior to the start of any topsoil work. This requires the Contractor to hire a third party independent testing agency for testing and soil amendment recommendations.

41. The 02A Contractor shall provide and install all forest conservation requirements to include, but is not limited to, all arborist reports, root and tree pruning, tree protection signs and fencing, deep-root fertilization, crown reduction, watering, vertical mulching, and all other items as required.

42. The 02A Contractor is to maintain grass cutting, tree and shrub trimming, and landscaping, throughout the duration of the construction project within the established LOD.

43. The 02A Contractor is to furnish, install, maintain and remove the temporary fencing as required. In general, the temporary fence shall mimic the Property Line, Limits of Disturbance, as well as Project Phasing. Contractor shall furnish, install, and maintain "No Trespassing" signs on all temporary construction fencing and gates at intervals of no greater than 100'.

44. 02A Contractor shall be required to mobilize and re-mobilize to the site at the Construction Manager's direction as part of base bid cost.

Site Utilities Specific Scope:

1. The 02A Contractor includes all bonds for Right of Way Work. Contractor shall comply with all MDOT rules and regulations for the work within Public Right of Way required for work being completed under this package.

2. The 02A Contractor will be responsible for entering into a Public Works Agreement on behalf of the Owner, as necessary. The cost for the work, permits, bonds, any estimates, and other administrative costs are to be included in base bid price inclusive of costs to obtain and install water meter, despite any reference to the contrary. Once in service, monthly service fee for domestic water will be by Construction Manager until turned over to Owner at substantial completion.

3. The 02A Contractor shall furnish and install all storm water management facilities complete.

4. The 02A Contractor shall furnish, install, and maintain all structures, manholes, clean outs, and the like associated with its work as required by the Contract Documents for the entire duration of the project.

5. The 02A Contractor shall furnish, install, and maintain all concrete, reinforcing, rip-rap, stone and filter cloth related to this work for the entire duration of the project.

6. The 02A Contractor shall furnish, install, and maintain all required protection of inlets, structures, and any other erosion and sediment control device that is shown, implied, or required for the entire duration of the project at the Construction Manager's and/or governing agency's direction. The 02A Contractor shall remove and properly dispose of all protection after site is stabilized with approvals of Local Authorities, Owner and Construction Manager.

7. The 02A Contractor shall supply and install all plugs shown or required at all utilities that are removed.

8. The 02A Contractor shall, with the assistance of the CM, coordinate with all public utilities for the removal of the underground existing services. With approval of the Utility Company(s) it is the 02A Contractor's responsibility to either abandon in place (after grouting) or remove from the site as indicated. Cutting, capping, and or filling when abandoning in place as directed by the contract documents, is the responsibility of the 02A Contractor.

9. The 02A Contractor includes steel plates or other means need to be utilized to ensure traffic flow in and out of the school site at all times, as well as when working in public streets to allow continuous traffic flow. The 02A Contractor includes any and all Maintenance of Traffic (MOT) as necessary for the work, including submission of MOT Plan to the AHJ.

10. The 02A Contractor shall furnish and install a complete storm water drainage system including, but not limited to, all pipes, inlets, manholes, laterals, cleanouts, rip rap, geotextile fabric, observation wells, granite blocks, pipe anchors, gratings, bedding materials, foundations, cut off walls with rip rap outlets, storm trap systems, underdrains at the play areas & other locations as indicated, temporary fence at ponds, storm filters, flow splitters, sand filters, underground quantity control facilities, trash racks, and all related devices as required. The 02A Contractor shall flush the entire storm water drainage system at the direction of the Construction Manager and/or any governing agency, if required. All layout and surveying for this work is the responsibility of the 02A contractor. All as-builts

of system must be performed during the course of construction. The 02A Contractor to include costs to perform this service with base bid and include all submission fees. As-builts are to include line and grade.

11. The 02A Contractor is to furnish and install all trench drains and area drains exterior to the building, and to coordinate installation with site concrete and asphalt.

12. The 02A Contractor shall furnish and install all micro-bioretention areas and storm water management areas complete. This includes any and all mulch, seed and plantings.

13. The 02A Contractor shall furnish and install complete sanitary sewer systems in accordance with local codes consisting of all piping, manholes, laterals, cleanouts, and all related devices as required. All layout and surveying for this work is the responsibility of the 02A Contractor. All as-builts of system must be during course of construction. The 02A Contractor to include costs to perform this service with base bid.

14. The 02A Contractor shall furnish and install a complete water system for potable water service and fire protection service outside the building in accordance with local codes consisting of all piping, manholes, laterals, valves, vaults, cleanouts, thrust blocks, hydrants, standpipes and all related fittings as required. The 02A Contractor to coordinate all inspections with Authority Having Jurisdiction (AHJ) during installation prior to backfill. All layout and surveying for this work is the responsibility of the 02A contractor. All as-builts of system must be performed during the course of construction. The 02A Contractor to include costs to perform this service with base bid.

15. The 02A Contractor is responsible to bring both the domestic and fire protection service to a point within 5' of the building exterior as shown. The 15A Contractor is then responsible to bring both services into the building from five feet outside of the building. Once into the building the 15A Contractor is responsible for the pipe, fittings, flanges up to and including the backflow preventer for the sprinkler service. The 15A Contractor will be responsible to begin work at the building side flange of the backflow preventer. The 15A Contractor is responsible for certification of backflow preventer.

16. The 02A Contractor is responsible for protection of utility piping, manholes, manhole covers, cleanouts, drains, trench drains, inlets, etc. being furnished and installed under this package. Protection to be either steel plates or adequate wood dunnage.

17. The 02A Contractor shall furnish and install all outside site utilities systems completely including all testing and proper connection to the appropriate system outside the building. Contractor shall extend its piping from the indicated utility connection to a point five (5) feet from the building line or to a point farther and / or than five (5) feet from the building if it is specifically indicated as such in the contract documents.

18. The 02A Contractor will close or cover all utility excavation at the end of each work day unless exempted by Construction Manager's representative. Any unsuitable conditions caused as a result of contractor's failure to protect trenches or exposed subgrades will be remedied at contractor's sole expense and at no cost to the Owner or Construction Manager.

19. The 02A Contractor shall saw cut, remove, and dispose of existing asphalt to complete work under this package. Contractor shall provide all temporary protection requirements of these areas (steel plates, temporary patch, etc.) as required by the governing authority until the permanent infill can be completed.

20. The 02A Contractor shall provide temporary patching of existing asphalt and or concrete in existing roads and sidewalks as needed for the connection of utilities. The 02A Contractor shall saw cut, remove, and dispose of temporary patches for the utilities when necessary and furnish and install the permanent concrete or asphalt requirements at these location at the time and direction provided by the Construction Manager and approved by AHJ.

21. Prior to commencing with work, the 02A Contractor shall video scope all existing storm and sanitary lines scheduled to remain and report to the Construction Manager if they are clear and in good working condition or if any obstruction is discovered. If an obstruction is encountered, the Contractor will provide specific location to Construction Manager as part of base bid costs. Contractor shall, include in base bid costs to provide jet

blast/vacuum services and any other equipment required for removal and disposal of debris and silt. Costs shall be for equipment, labor, disposal, and all incidentals for twenty (20) hours. After 02A work is substantially complete, 02A Contractor will video scope all pipe work including existing to remain piping and, if necessary, remove any obstruction at no cost change as inlet protection and continued maintenance is the 02A Contractor's responsibility during the course of construction.

Site Concrete & Retaining Wall Specific Scope:

1. The 02A Contractor shall provide all necessary permits, fees, and coordination with inspections that may be required. This includes wall building permits.

2. The 02A Contractor shall provide all saw cutting, to connect with existing curbing and concrete as required by the Contract Documents.

3. The 02A Contractor shall patch and repair any damage to existing roads, adjacent surfaces, and curb and gutter damaged by the 02A operations.

4. The 02A Contractor shall provide layout and surveying to allow furnishing and installation of all concrete, reinforcing, formwork, excavation, backfilling, fine grading, fill, gravel(including granular backfill where called out), weep holes, water stops, perforated PVC under drains/drain tile at its work (including stone and filter fabric), bio-barriers (where called out), fence sleeves, waterproofing, support chairs, concrete pumping, control joints, expansion joints (zip cap type), expansion filler, welded wire mesh, scoring joints, hot/cold weather protection and the like for all of the following site concrete items:

   a) curb and gutter
   b) sidewalks (regular and heavy duty) including all the way up to the face of building / face of door and the like
   c) turn down slab details with all associated stone
   d) platforms / stoops
   e) concrete paving
   f) concrete collars at exterior cleanouts in greenspaces
   g) exterior reinforced concrete pad(s) (not including generator or transformer pads which are by 03A)
   h) concrete stairs, landings, and pads at the exterior
   i) concrete at exterior ramps
   j) mow strip(s) at fencing
   k) mow strip at building if indicated
   l) concrete site walls
   m) concrete at and installation of exterior site bollards (bollards to be furnished by 05A)
   n) concrete curbs at dissimilar material such as grass to mulch, etc.
   o) concrete storm drain bypass swales
   p) and any other site concrete item called out within the drawings and specifications unless noted otherwise

5. The 02A Contractor shall seal all exterior concrete called out to be sealed per the contract documents. The 02A Contractor shall provide one additional coat which will be applied just prior to substantial completion as directed by the Construction Manager. In regards to the kitchen health inspection, the 02A Contractor includes sealing of the dumpster pad location per the health inspector's requirements.

6. The 02A Contractor shall install and protect threaded and / or embedded items to prevent bending, deformation and corrosion. The 02A Contractor shall repair or restore all damaged threaded and / or embedded items prior to commencement of installation on these embedded items.

7. The 02A Contractor shall receive, unload, inventory, sign for and accept all embedded items furnished by other Contractors for installation within the 02A Contractor's work. The 02A Contractor shall properly store and protect items furnished by others.

8. The 02A Contractor to protect concrete, CMU, brick and stone walls and / or adjacent finishes from splashing caused by concrete placement. If concrete splashes on walls and / or adjacent finishes, then the 02A Contractor shall be responsible for the removal of the splashed concrete.

9. The 02A Contractor shall furnish and install all moisture retaining covers and curing compounds as required to complete own work.

10. The 02A Contractor includes installation of zip cap expansion joint material, and all associated caulking of own work, inclusive of removing plastic cap and proper preparation prior to application of sealant.

11. The 02A Contractor will provide all winter and summer concrete measures, if necessary, for concrete for this scope of work.

12. The 02A Contractor shall provide and install all curb and gutter "inlet throats" as required.

13. The 02A Contractor includes broom sweep and power washing as necessary within one week prior to substantial completion of all concrete installed under this package.

14. The 02A Contractor shall furnish and install cast in place Tile detectable warning surfaces at all handicap ramps. Color shall be safety yellow if not specified.

15. The 02A Contractor shall specifically refernce drawing A-880 for more information.

Site Asphalt Paving Specific Scope:

1. The 02A Contractor shall provide all necessary permits, fees, and coordination with inspections that may be required.

2. The 02A Contractor shall clean off all utility covers, curbs, sidewalks, and any other installed items of asphalt products in the paved areas.

3. The 02A Contractor shall furnish and install all asphalt base (binder) courses, tack coats, overlay binder coats, overlay protective membranes, overlay protective membrane strips, asphalt surface courses, bitumastic sealants and/or rubber sealants.

4. The 02A Contractor includes all milling as required.

5. The 02A Contractor shall provide all saw cutting, wedging, and leveling to connect with existing paving as required by the Contract Documents.

6. The 02A Contractor shall patch and repair any damage to existing roads, adjacent surfaces, and curb and gutter damaged by the 02A operations.

7. Construction Manager reserves the right to schedule the installation of the base course of asphalt paving and then the surface course of asphalt paving as two separate construction events.

8. Asphalt Binder Escalation: No Contract adjustments will be made for increases or decreases in the asphalt index.

Road and Parking Accessories Specific Scope:

1. The 02A Contractor shall adhere to all Maryland Department of Transportation State Highway Administration's current Standard Specifications for Construction Materials and the ANSI D6.1-1971 Manual on Uniform Traffic Control Devices for Streets and Highways.

2. The 02A Contractor shall adhere to the product delivery, storage, handling, project conditions, products/materials, surface preparation, application, protection, and restoration requirements outlined within the project specifications and drawings.

3. The 02A Contractor shall coordinate and work with the Construction Manager with regard to the Fire Marshall's requirements in regards to fire lane striping, signage and the like.

4. The 02A Contractor shall adhere to the sign location and installation requirements outlined within the project specifications and drawings.

5. The 02A Contractor shall layout and paint all parking lot striping to include, but is not limited to all parking spaces, regular handicapped spaces, van accessible spaces, parahatch areas at handicapped spaces, bus spaces, traffic arrows, center lines, stop bars, hard play surface markings, pedestrian crosswalks, etc. 02A Contractor shall specifically reference drawing A-880 for play area striping details.

6. The 02A Contractor shall furnish and install all concrete wheel stops and fire lane curbing paint and associated stenciling.

7. The 02A Contractor shall layout and paint all site stenciled markings, including those at the hard play surfaces.

8. The 02A Contractor shall furnish and install all posts and signs for site including but not limited to handicapped signs, van handicapped signs, drug free school zone signs, do not enter signs, student drop off signs, fire lane signs, no parking anytime signs, buses only signs, staff parking signs, high efficiency vehicle signs, one way signs, no U-turn signs, reserved only signs, inclusive of required concrete and or pourable fill ,etc.

9. The 02A Contractor includes any and all thermoplastic markings as required. The 02A Contractor shall provide all traffic control for their work.

10. The 02A Contractor shall perform any existing striping removal as required.

Fencing, Guardrail and Gates Specific Scope:

1. The 02A Contractor shall provide all necessary permits, fees, and coordination with inspections that may be required.

2. The 02A Contractor shall furnish and install all chain link type site fencing related items to include, but is not limited to, posts, rails, braces, bracing assemblies, galvanizing, powder coating, high performance coatings, bottom tension wire, continuous top rails, continuous bottom rails, continuous mid rails, fabric, terminal posts, line posts, gate posts, hinge posts, terminal & gate post bracing assemblies, stretcher bars, sleeves, non-shrink grout, gates, hardware, accessories, tie wire, grounding, padlocks, knox boxes and/or knox locks, excavation for posts, concrete formwork/sonatubes, concrete for posts, fence line grading, and the like for a complete scope of work.

3. The 02A Contractor shall furnish and install all ornamental metal fencing and gates.

4. The 02A Contractor shall furnish and install all softball backstops.

5. The 02A Contractor shall furnish and install, access gates and / or man gate assemblies.

5. The 02A Contractor to include one lock with two keys for each gate; locks to be per specifications. All locks shall be keyed alike.

6. The 02A Contractor to provide warranty for fifteen years for all coated fencing against peeling, cracking and corrosion, if not specified otherwise elsewhere.

Landscaping Specific Scope:

1. The 02A Contractor shall provide all necessary permits, fees, and coordination with inspections that may be required.

2. The 02A Contractor includes all bonds for Right of Way Work. Contractor shall comply with all MDOT rules and regulations for the work within Public Right of Way required for work being completed under this package.

3. The 02A Contractor shall layout all landscaping with flagging and receive approval from the landscape architect prior to installation.

4. The 02A Contractor shall provide and install all landscape plantings to include, but not limited to, all guarantees, certificates, submittals, delivery, storage, plants, trees, shrubs, stakes for supporting trees, wires for guying trees, mulch, and the like to complete all landscape plantings shown or as reasonably implied within the drawings and specifications.

5. The 02A Contractor shall furnish water and necessary temporary irrigation equipment as required for healthy plant growth.

6. The 02A Contractor shall provide and install all seeding and sod to include, but not limited to, guarantees, certificates, submittals, delivery, seed mixtures, sod types, mulch, hydraulic seeding, sod stakes, water, protection, restoration, cleaning, maintenance, turf inspections / reviews by a qualified turf agronomist, and the like to complete all seeding and sod shown or reasonably implied within the drawings and specifications.

7. The 02A Contractor shall provide and install all forest conservation requirements to include, but is not limited to, all arborist reports, supervision and monitoring, root and tree pruning, tree protection signs and fencing, deep-root fertilization, crown reduction, watering, vertical mulching, wood chip and moisture monitoring, and all other items as required.

8. The 02A Contractor shall provide and install all maintenance requirements to include, but is not limited to, maintaining all plants and turf in a healthy condition. Contractor shall provide for all pruning, cutting, watering, fertilizing, cultivating, weeding, mulching, tightening / repairing of staking, setting plants to proper grades or upright in position, restoration of the planting saucer, and furnishing / applying sprays and other items as necessary to keep the plantings free of insects and disease and in a thriving condition. Maintenance shall begin immediately after each planting is completed and shall continue as required per the project specifications.

9. The 02A Contractor includes all mulching, pretreatment of mulched areas, and maintenance of mulching etc.

10. The 02A Contractor includes all portable drip irrigation bags, and edging as required.

11. The 02A Contractor shall furnish and install permanent seed and sod with stabilization as required including curlex or erosion control matting at severely sloped areas.

Site Furnishings Specific Scope of Work:

1. Contractor shall furnish and install all site amenities, to include but limited to bike racks, etc. inclusive of required accessories. Contractor shall provide all drilling/core drilling, anchoring materials, and the like to complete the installation of the items. Contractor to coordinate, furnish and install foundations required for these items. Concrete for flagpole installation is the responsibility of 01A. All other concrete required for installation of the site furnishings, i.e. sidewalks, footings etc., is by the 02A Contractor.

2. All furnishings are to be installed level, plumb and true and securely anchored or positioned at locations as indicated on drawings.

Playground Equipment and Surfacing Scope:

~~*1. The 02A Contractor shall provide all necessary permits, fees, and coordination with inspections that may be required.*~~[4]

~~2.~~ ***The 02A Contractor ~~to furnish and install all playground structures, complete with~~ shall provide*** all associated layout, surveying, excavation, backfill, grading, shaping of soils ***as required for the preparation of subbase and asphalt at the playground areas***. ***~~, concrete, play components, fasteners, supports, footings, ground cover, edging and all final surfacing etc., located per the drawings and specifications.~~[4]***

3. The 02A Contractor to furnish and install underdrain systems with connections to storm sewer system ***if required per the contract documents***, as well as proper grading of subgrade ***~~and installation of concrete boarders and edging of play areas for playground surfacing.~~[4]***

4. The 02A Contractor to furnish and install all ***~~playground surfacing and~~*** subbase ***and asphalt base*** as required per Contract Documents. ***The playground surfacing will be furnished and installed by others.[4]***

5. ***The existing playground equipment will be relocated by others. The new playground equipment will be furnished and installed by others. The 02A Contractor shall coordinate with playground equipment and surfacing Contractor.[4]***

Exterior Athletic Equipment:

1. The 02A Contractor to furnish and install all exterior athletic equipment including, but not limited to, basketball hoops per Specification Section 323300.

2. All foundations for exterior gymnasium equipment are to be installed by the 02A Contractor.

3. The 02A Contractor includes all excavation, backfill and concrete for all equipment being provided by this scope.

4. The 02A Contractor includes coordination with other contractors for placement of all sleeves, inserts, anchors etc. for items furnished and installed under this scope of work.

5. 02A Contractor shall furnish and install all softball bases, player benches, and steel benches.

Miscellaneous Scope / Scope Coordination with other trades:

1. The 02A Contractor shall furnish and install all paver access roads per Contract Documents.

2. The 16A Contractor is responsible to coordinate removal or relocation of all overhead and underground utilities such as power, cable, telephone, data, street lighting, etc. in direct conflict with new entrance ways or final structure. All actual cost of physical removal (as indicated) for both overhead and underground utilities, including conduits, pipes, poles, foundations, etc. are the responsibility of the 02A Contractor and is considered base bid.

3. Concrete, waterproofing of concrete, and below grade insulation at building concrete walls is the responsibility of the 03A Contractor. All stone and drain tile system for the entire building inclusive of excavation and backfill is the responsibility of the 03A contractor. CMU, waterproofing of CMU and below grade insulation at new CMU foundations for the entire building is the responsibility of the 04A Contractor. The 04A Contractor does not excavate or backfill; 03A to excavate and backfill at CMU walls below grade.

4. The 02A Contractor is responsible for fire hydrant flushing. Fire pump testing is the responsibility of the 15A contractor.

5. The 02A Contractor is only responsible for the flushing of the domestic water line to achieve a passing test for chlorination. The 02A contractor is not responsible for a flow test if required by the Fire Marshall; this will be the 15A Contractor's responsibility.

6. The 03A package includes any building or site concrete footing, wall, slab, ramp, or stairs, which connect to the building or overhanging structure. Generator(s), transformer/transfer switch pad(s), grease trap and or interceptor pads and/or flotation collar and building concrete retaining walls are part of the 03A Package. All footings and piers

for canopies, protective covers, etc. are part of 03A scope of work. All footings and piers required for play areas, site athletic equipment, site furnishings, are by the Contractors installing these items. Any concrete stairs, walls and ramps outside of the building footprint not shown on the building structural plans are by the 02A Contractor, including backfill to proposed subgrade for areas that receive sidewalks and ramps. Sidewalks and mow strips at the exterior building perimeter are included in the 02A package.

PART 3 – ALTERNATE SCOPE OF WORK

1. Contractor has reviewed the Alternates scope of work listed elsewhere within the specifications and has included all costs in the event the Owner elects to proceed in whole or in part.

2. Contractor has reviewed the Unit Prices scope of work listed elsewhere within the specifications and has included all costs in the event the Owner elects to proceed in whole or in part.

Main Entrance Canopy Specific Scope of Work (Alternate #2)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Main Entrance Canopy work in accordance with the complete set of Contract Documents and as detailed on A-531.

2. This work includes all site concrete work including detailing all sidewalks around the structural bases for the proposed canopies as well as providing and installing all roof drains and rain leaders. Rain leaders should be installed as shown on the Contract Documents including any above-grade cleanouts.

Sod in Lieu of Seeding Specific Scope of Work (Alternate #8)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for the substitution of sod in lieu of seeding in all areas shown on the Contract Documents. For the sake of clarification, base bid includes sod for baseball, softball, and field hockey fields as well as the slope on both sides of site construction entrance.

PART 4 – ALLOWANCES

1. There are no allowances for this scope of work.

END OF 02A SECTION

PART 2 – SPECIFIC SCOPE OF WORK

1. Contractor has reviewed and understands the Contract Package / Specification Cross Reference listed under Section 011112.

2. Contractor includes General Scope of Work listed under Part 1 of Section 011113.

3. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Demolition work in accordance with the complete set of Contract Documents.

4. Provide video documentation of existing conditions prior to start of work.

Demolition Specific Scope of Work:

1. This contractor is responsible to provide own vertical access and transportation of men, materials, and equipment into and out of the building.

2. The 02C Contractor is responsible to review existing conditions before his work commences for both onsite and offsite activities to ensure all utilities have been properly disconnected.

3. ~~*This Contractor shall file for, obtain and pay all costs associated with the razing and or interior selective demolition permit.*~~ ***Razing/Demolition permit is part of the building permit, and shall be obtained and paid for by the Owner.*** All disconnect letters and rodent removal verification must be completed prior to issuance of Raze/Abatement permit. ***02C Contractor is required to provide all coordination and information as required to obtain this permit.[4]***

4. This Contractor shall provide for all demolition shown or implied on the drawings that is within the building footprint, or directly related to the proper function of the existing building which includes, but is not limited to, the complete demolition, removal, and disposal of all drywall, plaster, concrete, masonry, plaster, walls and attached items, ceilings, sub ceilings, partitions, soffits, windows, storefronts, frames, sills, cabinets, shelving, flooring (inclusive of underlayments, mastics or subfloors), chimneys, fireplaces, foundations walls, foundations, lockers, markerboards, tackboards etc, steel, stairs, rails, shafts, mechanical, electrical, plumbing, low voltage, roofing, equipment, roof top equipment, chillers, boilers etc. (The intent of this scope of work is for a complete selective demolition back to existing structure as indicated, or complete full demolition and removal as indicated). Any site walls, ramps, stairs, railings, etc. which attach to the existing facility inclusive of foundation will be the responsibility of this contractor.

5. All items scheduled to be removed outside the existing main building footprint are to be removed by the 02A contractor. Any building materials inclusive of foundations within the main building footprint, or attached to the main building, inclusive of support foundations, are the responsibility of this contractor.

6. Contractor to review existing conditions prior to start of work, inclusive of inspecting mechanical equipment, capturing existing coolants and removal prior to the start of demolition is the responsibility of this contractor.

7. ***15A Contractor shall cut, cap and make safe plumbing utilities to the existing school as required to allow the demolition of the existing school to be performed by the 02C Contractor. Contractor shall coordinate with respective utility companies. [4]***

8. ***16A Contractor shall cut, cap and make safe power and low voltage to the existing school as required to allow the demolition of the existing school to be performed by the 02C Contractor. Contractor shall coordinate with respective utility companies. [4]***

9. ~~*All salvageable material listed shall remain the property of Owner. Contractor to disconnect, remove, palletize and deliver to Owner at a location designated by the Owner. All remaining items not specifically listed on the*~~

~~***salvage list is considered the Contractors property and responsibility to remove from site within allotted timeframe. This includes removal and/or, protection if to remain, and/or turnover to Owner for reinstallation all designated artwork. A salvage list will be provided at a later date.***~~ [4]

10. ***The 01A is responsible for relocation and salvage items as outlined in the 01A Scope. 02C Contractor shall review and coordinate as appropriate.*** [4]

11. ***Any items leftover after the move shall become the responsibility of the 02C Contractor after acceptance/approval by the Owner/CM. The 02C Contractor shall be responsible for removal and legal disposal of all leftover items prior to building demolition.*** [4]

12. Contractor shall provide daily clean-up and disposal of all trash, debris, and excess material generated by this work to own dumpsters in compliance with submitted and approved waste management plan. Should the contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the contractor's expense. Construction Manager will issue one "Notice to Cure". Subsequent "Notice to Cure's" will not be required prior to performance of work at contractor's expense.

13. Contractor is responsible for restoration of sidewalks or other improvements not scheduled for demolition damaged by this contractor.

14. This contractor is responsible to coordinate with all Trade Contractors before and during demolition activities.

15. This contractor is responsible for all shoring and engineering associated with the demolition.

16. This contractor shall haul all debris off site and recycle at least 75% of the debris in compliance with the specification and LEED Green Building requirements. Contractor to submit LEED reports to Construction Manager at the end of each month for incorporation into the projects LEED documentation, this is a condition of payment.

17. As a requirement of reaching substantial completion of this Contractor's work, he shall provide all relevant documentation for the disposal of the debris in accordance with the LEED Green Building requirements.

18. This contractor responsible to keep all streets free of mud and debris generated by own work.

19. Contractor responsible to provide combined Security/Fire Watch during demolition. Hours to include are as follows:

Sunday	12:00am to 11:59pm	(24hr)
Monday	12:00am to 6:00am and 5:00pm to 11:59pm	(13 hr)
Tuesday	12:00am to 6:00am and 5:00pm to 11:59pm	(13 hr)
Wednesday	12:00am to 6:00am and 5:00pm to 11:59pm	(13 hr)
Thursday	12:00am to 6:00am and 5:00pm to 11:59pm	(13 hr)
Friday	12:00am to 6:00am and 5:00pm to 11:59pm	(13 hr)
Saturday	12:00am to 11:59pm	(24hr)

Any holiday which falls while this contractor is performing work onsite, contractor to include 24hr security and firewatch.

20. Crushing and or sorting of materials will not be allowed onsite as both schedule and space restrictions prohibit both activities.

21. Scope of the demolition work includes but is not limited to, building demolition, removal of demolished material from site, and disposal as appropriate.

22. Trade Contractor shall provide a clean substrate, free of all debris, adhesives, sealants and fasteners upon completion of the demolition work

23. Contractor includes all temporary protection/infill/partitions as required to maintain security and weathertightness at openings created by this contractor, for this contractor's use. This does not apply to openings detailed on the Contract Documents, unless specifically noted otherwise.

24. With respect to salvage materials, it is expected the Owner Salvage of materials is to be completed no later than **July 15, 2022**. Contractor can assume all existing furniture and materials after this time will remain and is therefore Contractor's responsibility to remove. This cost is to be evaluated by the contractor prebid via a site walk through and included in base bid; a change order for abandoned materials and trash will not be entertained. Please review the Furnishings Relocation Scope in the 01A Trade Package for more information.

25. The Contractor shall salvage, clean, and palletize approximately 500 brick from the existing school and place in a designated location on site as directed by the CM/Owner.

26. Contractor acknowledges that the HAZMAT/IH Services scope has not been defined at this time and therefore is not to be included in the base bid. This work ***may*** ~~***will***~~ [4] be negotiated with the successful bidder at a later time.

PART 3 – ALTERNATE SCOPE OF WORK

1. Contractor has reviewed the Alternates scope of work listed elsewhere within the specifications and has included all costs in the event the Owner elects to proceed in whole or in part.

PART 4 – ALLOWANCES

1. There are no allowance for this scope of work.

END OF 02C SECTION

PART 2 – SPECIFIC SCOPE OF WORK

1. Contractor has reviewed and understands the Contract Package / Specification Cross Reference listed under Section 011112.

2. Contractor includes General Scope of Work listed under Part 1 of Section 011113.

3. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of Masonry work in accordance with the complete set of Contract Documents.

Masonry Specific Scope of Work:

1. The 04A Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Masonry work in accordance with the complete set of Contract Documents.

2. The 04A Contractor includes full mockup panel for craftsmanship for Architect/Owner review and approval. Once approved, the mockup will be the standard for installation.

3. The 04A Contractor shall furnish and install all masonry work required by the Contract Documents, including, but not limited to, all block, brick, decorative CMU, cast stone, soap blocks, corner stones, date stones, special shapes, mortar, grout, masonry fill, pea gravel fill, perlite fill, parging, mortar washes, masonry reinforcement (vertical and horizontal inclusive of couplers), masonry and cast stone steel reinforcement bars, joint reinforcement, masonry lintels (precast, concrete U lintels, bond beams and the like), ties and masonry anchors, point up, insulation (spray, neoprene, compressible, rigid, perlite, and the like for sound and or R ratings) contiguous to this Contractor's work, masonry fire walls, masonry portal frame columns, steel column isolation, isolation strips, building paper, flashing, pre-molded control joints, weeps, cavity flashings, drip edge, drip cap, mortar netting, samples, mock-ups, masonry cleaners, sealers, and damproofing and/or waterproofing on CMU walls, spray applied vapor barrier/air barrier (inclusive of all angle stops as necessary for the spray foam system), blue skin, head of CMU wall smoke and or fireproofing, elevated slab edge to masonry wall fireproofing, and or smoke barriers, interior and exterior control and expansion joint caulking, caulking of louvers in masonry, final cleaning and washdown inclusive of louver , window, curtainwall, storefront frame and glass protection and all other items required for a complete Masonry scope of work.

4. The 04A Contractor shall furnish and install all masonry work associated with the walls at loading dock, site sign, etc.

5. The 04A Contractor includes all damproofing and waterproofing of CMU walls per specification Sections 071000, as it applies.

6. The 04A Contractor includes all integral water repellents as required.

7. The 04A Contractor includes all masonry cell fill as required.

10. Concrete, waterproofing of concrete, and below grade insulation at foundations and or concrete walls is the responsibility of the 03A Contractor. All stone and drain tile system for the entire building inclusive of excavation and backfill is the responsibility of the 03A Contractor, inclusive to connection to closed storm line or structure. CMU, waterproofing, damproofing, and below grade insulation at CMU walls for the entire building is the responsibility of the 04A Contractor. The 04A Contractor does not excavate or backfill; in order to waterproof and install drain tile, 03A Contractor to excavate and backfill at foundations, concrete walls and CMU walls.

11. 03A Contractor shall include all concrete portals and associated rebar as indicated. 04A Contractor is responsible for surrounding masonry as indicated.

12. 04A Contractor shall install only all loose and or bolted steel members, such as angles, beam lintels, anchor bolts (embedded in masonry), structural angles, structural tubing attached to masonry, and the like that are supplied by

others. Contractor shall grout all bearing / leveling plates at all CMU walls. If a steel member has a welded connection, and/or requires a crane or boom truck (more than the masons lull ***(over 2,500 lbs)[4]*** to set, 5A to set and connect.

13. Contractor shall install all through wall flashing as required by the Contract Documents. The 07A Contractor will furnish for installation by 04A, the 07A will solder joints of stainless-steel flashings as required. Masonry will be left out at each flashing joint until inspected and authorized by the Construction Manager to be enclosed.

14. Contractor shall coordinate the install of all hollow metal frames located within masonry walls furnished and set by the 01A contractor. This contractor shall ensure hollow metal frames remain installed plumb, level, square, and true to line until the frame is completely enclosed in masonry and accepted by the 01A contractor. 04A Contractor shall be responsible for any repair or damage costs to the hollow metal frames.

15. In the event frames are not available, or are damaged prior to installation by 01A, this contractor includes in base bid to provide additional lintels, and subsequent infill with CMU with grout as required to facilitate wall construction in (15) single door frames, (10) double door frames, and (3) hollow metal window frames.

16. Contractor shall furnish and install all build in place expansion joints (rated, non-rated, expand-o flash joint covers, and the like) and accessories located at and within masonry walls.

17. 04A Contractor includes cut out and patching at all Knox boxes located within masonry walls as shown on the documents. Contractor to assume one location if not shown. Knox Boxes are provided by 01A Contractor.

18. Contractor shall be responsible for installation of all openings within masonry walls where required by other trades.

19. Any wall penetration required by other trades which has a diameter or horizontal dimension greater than 12" shall require a lintel or sleeve be installed. Locations which are to be steel beam or hung plate which are clearly called out on the structural drawings and will be furnished by 05A, and depending on connection, installed by either 04A or 05A. Both the 15A and 16A contractors are to furnish pipe sleeves regardless of pipe size, installed by 04A or 01A. For all duct/damper openings above ceiling, 15A is to provide steel angles, installed by 04A. For all duct/damper openings below ceiling and exposed, it is assumed to be a concrete U lintel, precast lintel or bond beam, where allowed by the structural drawings, by 04A. All openings in fire walls are to have either a precast lintel, concrete U lintel or concrete portal. Steel is not permitted in fire wall openings. In the event it is a concrete portal, all reinforcing and concrete is by 03A. If detailed as a precast lintel or concrete U lintel, they are furnished and installed by 04A.

20. In the event an opening is required in a masonry wall and is not properly coordinated by other trades it is the other trades sole responsibility to implement the required fix. All costs to either saw-cut, or tooth CMU to allow for the opening is the responsibility of the other trades. In the event this contractor has missed the indicated opening, or has mis-sized the opening, the costs required for the fix is the responsibility of this contractor.

21. Contractor shall furnish and install all grouting where required for hollow metal frames, bearing plates, sills, bond beams, wall reinforcing, handrail anchoring and other areas that are required.

22. Contractor shall fill all openings, including top of wall conditions, at full height masonry walls and provide all fire-safing and/or fire stopping, and / or insulation and / or fire resistive joint systems as required, inclusive of elevated slab edge conditions short of masonry walls.

23. Contractor shall provide several mixing stations and / or staging areas as needed for the phasing of the project. Contractor includes relocation(s) of mixing station(s) and staging areas as required for construction sequencing / logistics per the direction of the Construction Manager. Contractor to locate mixing station at positive drainage locations only.

24. Contractor will furnish and install all temporary walls bracing of masonry walls inclusive of braces and footings in accordance with Masonry Construction standards and/or good safe practices, i.e. gymnasium or cafetorium walls over 12' in height.

25. Contractor shall perform all dewatering and mucking out as required to perform its work, including cleaning of footers.

26. Contractor shall coordinate with other trades to allow them to properly set items to be embedded in masonry.

27. Contractor shall scrape, rub and wash-down all walls and floors of excess materials generated by it work. Rub down is to progress as practical but in no way delay the finish contractors.

28. Contractor shall furnish and install all waterproofing and/or damproofing that is applied to its work.

29. Contractor includes in base bid for installation of an additional 250 LF of steel lintels, angles and or plates that may not be shown on the drawings, but may be required during construction.

30. The 04A Contractor shall layout all CMU foundations and walls, elevations, and the like to complete its scope of work.

31. Contractor shall point up around all mechanical openings, electrical openings, sleeves, and the like located in masonry walls.

32. Contractor shall provide and maintain all new and existing to remain stone, brick, architectural pre-cast concrete etc. protection.

33. Contractor includes daily covering of head of wall conditions to prevent infiltration. This includes areas which receive precast caps are set and not yet caulked due to weather conditions.

34. Contractor includes complete additional washdown prior to substantial completion to eliminate any efflorescence at no cost to the owner.

35. Contractor to include all temporary heating measures to perform all of own work. This is to include all required tenting, fuel, hoses and heaters required to efficiently work per the schedule despite exterior weather conditions. Selectively working areas due to temperatures will not be tolerated or acceptable.

36. Contractor to furnish and install all Cast Stone Masonry per Specifications Sections 047200. Contractor includes all engineered shop drawings and calculations as required. Contractor includes all inserts, attachment and anchorage devices / hardware, clips, angles, welding, and caulking for a complete installation of and Cast Stone.

37. 04A Contractor to coordinate with 01A, 11A, 15A, and 16A contractor for installation of access doors furnished and installed by other contractors. The 04A Contractor to include cutting of all masonry to allow for installation of access doors by others.

38. 04A Contractor to furnish and install all air barrier, transition membranes, and rigid insulation as detailed, including but not limited to behind brick, precast, cast stone, finish block, metal panel and soffit areas and all other parts of the exterior envelope regardless of backup material. Contractor to coordinate with 05A, 01A, 07A, 08A, 15A, and 16A for exterior façade elements prior to start of application. 04A Contractor shall furnish and install all components to provide a complete and continuous air barrier assembly.

39. 04A Contractor to include joint firestopping as required at masonry partitions. 15A and 16A Contractors are responsible for firestopping at their own penetrations.

40. In the event the contractor wishes to feed scaffolding without slabs being poured and the subgrade is disturbed, destroyed, rutted, becomes unsuitable, etc., subgrade will be reestablished either by this contractor, or by the Construction Manager at this contractor's expense.

41. 04A Contractor will provide 3/4" plywood over 2" thick rigid insulation board roof protection while working on any roof surface including just metal decking, and will perform a complete cleaning of substrate once completed. Any damage to substrate, regardless of protection measures is the responsibility of this contractor.

42. Contractor shall fill all voids at all full height masonry walls. If CMU wall terminates under beam, 04A shall be responsible for non-combustible material above/below beam. In the event a CMU wall terminates and runs parallel to a beam or joist, it will be the 01A contractor's responsibility to wrap beam or joist with studs, insulation and drywall to obtain particular wall rating.

43. Contractors will include cost in base bid price to fill CMU solid at ten (10) locations for solid anchorage by others. Locations to be determined and will be coordinated between the Construction Manager and the 04A Contractor. The pricing is intended to represent cost while 04A Contractor is working on wall, not to return to area or patch after wall is complete.

44. The 03A is responsible to cap and maintain rebar caps on rebar the 03A Contractor initially sets, until the hazard no longer exists, or the 04A physically removes caps in order to lay block in same area, at which time the responsibility becomes that of the 04A Contractor to cap and maintain until hazard no longer exists. Once 04A Contractor has assumed responsibility for an area, they are to perform a daily walk to replace any missing rebar caps, regardless of how they came to be removed, until the hazard no longer exists.

45. The 04A Contractor is to coordinate with the 07A Contractor with installation and/or supplied flashings, and all other contractors which are to have items embedded in Masonry.

46. 01A Contractor is to furnish, install, maintain, and remove all safety rails and toe boards at all floors, roof, expansion joints, stairs, slab penetrations, pits, deck edges and openings. Provide one (1) 8' wide by 10' high access point for Trade access at perimeter of building to each level. Associated infill after removal is by respective trade to establish finished façade.

47. Contractor shall perform point up of masonry prior to start of priming operation by the painting contractor. Any costs due to excessive re-point at masonry walls after the initial primer coat is applied by the painting contractor will be back charged to this contractor.

48. In the event the masonry cannot be extended to the intended elevation due to conflicts with framing or other reasons, the Contractor shall furnish a credit for work not performed.

49. 04A Contractor to include caulking of all hollow metal frames and louvers, interior and exterior, to adjacent brick, precast, split face, ground face, finish masonry, etc. Color is to be as selected by Architect. Caulking to be at jamb(s), head and sill. Caulking of hollow metal frames and louvers to painted CMU is by the 01A Contractor.

50. In addition to the requirement of providing daily cleanup of self-generated debris from work and or workers, the 04A, 01A, 15A and 16A contractors are to include 1 man per every 15 men contractor has onsite, with a mandatory minimum of one man if contractor has less than 15 men onsite. This requirement will be utilized for contractors to participate in a composite cleanup crew. Composite cleanup days will be every Wednesday from 7am to 2pm. Construction Manager will provide trash carts, dumpsters and sweeping compounds; all other equipment, PPE or otherwise, i.e. brooms, shovels, etc., are to be contractor provided.

51. The 15A Contractor will be required to pretest any piping concealed in masonry chases ahead of remaining piping in that same area, as to allow for quick close in of chases. It is the intent that the 15A Contractor will test the concealed piping and leave stubbed out of chases for connection to latter piping and latter retesting as necessary.

52. The 04A Contractor will be required to liberally shake out sand to base of all walls to save labor and time needed

with future scrape down at base of walls. In addition, 04A shall liberally apply "baby oil" or equal product to all hollow metal frames immediately prior to laying masonry, again to save labor and time with future clean up.

PART 3 – ALTERNATE SCOPE OF WORK

1. Contractor has reviewed the Alternates scope of work listed elsewhere within the specifications and has included all costs in the event the Owner elects to proceed in whole or in part.

Main Entrance Canopy Specific Scope of Work (Alternate #2)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Main Entrance Canopy work in accordance with the complete set of Contract Documents and as detailed on A-531.

2. This work includes all embedded masonry items as necessary for a complete and water-tight installation.

PART 4 – ALLOWANCES

1. There are no allowances for this scope of work.

END OF 04A SECTION

PART 2 – SPECIFIC SCOPE OF WORK

1. Contractor has reviewed and understands the Contract Package / Specification Cross Reference listed under Section 011112.

2. Contractor includes General Scope of Work listed under Part 1 of Section 011113.

3. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the steel work in accordance with the complete set of Contract Documents.

Steel Specific Scope of Work:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Steel work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install all interior and exterior structural steel, AESS, steel joists, metal decking, and framing for all roof openings and roof top units.

3. Contractor shall furnish and install all architectural and miscellaneous metal fabrications including, but not limited to, all gratings, ladders, rails, steel stairs, metal pan stairs, circular stairs, removable pre-engineered platform and stairs, stair nosings (furnish only), bollards (furnish only), galvanized metal pour stops, wall bracing, overhead door jamb channels, ceiling projector mounting plates, angles, steel angle fasteners, sump pump frames / grates, bent plates, security gates, swing gates, pipe gates, racks, swivel hooks, tracks, bracing, nelson studs, closures, hangers, hooks, yokes at spaces, ships ladders, alternating tread ladders, roof ladders includes serrated grab bars, decorative ornamental metal, angles at elevator door sills, aluminum and stainless steel at trench drains, and all other miscellaneous and ornamental items that are required as indicated.

4. Contractor shall furnish only all anchor bolts, nuts, washings, leveling plates, interior and exterior bollards, bearing plates, bent plates, pads, straps, ties, bridging, deck plates, gauge plates, fabricated lintels and hung plates, loose lintels, bent plates, angles, and all other embedded steel for the entire project in which other trades are installing. 15A is to provide own steel lintels or sleeves for all openings in walls for 04A to install for duct or pipe openings not called out on structural plans.

5. 04A Contractor shall install only all loose and or bolted horizontal steel members, such as angles, beam lintels, anchor bolts (embedded in masonry), structural angles, structural tubing attached to masonry, and the like that are supplied by others. Contractor shall grout all bearing / leveling plates at all CMU walls. If a steel member has a welded connection, and or requires a crane or boom truck (more than the masons lull ***(over 2,500 lbs)***[4]) to set, 5A to set and connect.

6. Contractor to furnish and install all interior and exterior as well as site, stainless steel, aluminum, galvanized and/or painted steel decorative railings, typical railings handrails and guardrail systems complete, as indicated.

7. The 05A Contractor shall furnish and install all interior and exterior railings, handrails, guardrails etc. All railing or post sleeves will be core drilled by this Contractor if in concrete or masonry (if acceptable, otherwise sleeving requirements are to be furnished and coordinated by this contractor). Contractor shall ensure that railing posts are set in non-expansive materials. Exterior fences are by 02A.

8. Contractor shall furnish and install can wash per detail 6/A-722.

9. All exposed steel must be of a finished quality, without defects or numbering. For marking of steel, use only markers that will not bleed through paint.

10. Contractor will provide caulk or metal plate as necessary to provide a tight closure between stringer and wall

11. Site access will only be provided per Contract Package descriptions. Crane size and material deliveries must be coordinated accordingly. In the event 05A finds the storage area/access inadequate, 05A to bear cost to modify to

their satisfaction as part of base bid cost to comply with OSHA requirements.

12. Contractor includes furnish and install of miscellaneous metals for support of toilet compartments, clinic curtains, projection screens, stage curtains, athletic equipment, roof top equipment, metal framed walls, etc. as indicated.

13. Contractor to provide prime shop coating, field painting, and touch up as required for all structural steel, joists, and miscellaneous metals. 05A Contractor will install bitumastic paint on columns as required below grade.

14. Unless specified as stainless steel, contractor to shop galvanize any metals which remain exposed to exterior elements per the specifications.

15. Contractor shall provide all masonry anchors attached to steel. Contractor to coordinate each of the trades as necessary to determine the exact type of anchor required. Contractor shall furnish all anchor bolts for the parapet wood blocking and any other wood shown to be anchor with anchor bolts.

16. Contractor shall furnish and install all epoxy bolts/nuts/washers as necessary (including the epoxy).

17. Contractor shall coordinate with each of the trades to provide all steel framing, supports, openings, sleeves, and bracing that is required.

18. Contractor shall immediately provide and maintain MOSH compliant temporary handrails at all steel pan stairs, safety rails at all slab edges, stairwells, roof edges, slab openings, roof openings, elevator openings, and penthouses. Handrails shall be maintained and removed by this Contractor at the direction of the Construction Manager. Contractor also has installation and maintenance of safety cables at all slab edges and openings. Contractor includes removal of safety cables and angles ground below concrete prior to the start of finishes.

19. Contractor shall touch up and paint / field galvanize all welds including, but not limited to, those welds at all joists, beams, columns, moment connections, metal decking, and any other steel or miscellaneous metals item supplied by this Contractor. For galvanized material, contractor to minimize field welding on galvanized metals. Galvanized materials should be fabricated in the longest practical lengths to avoid field repairs to the galvanized coating. All galvanizing holes are to be plugged and touched up at shop prior to field installation.

20. Contractor shall provide field beam penetrations where approved by the structural engineer.

21. 05A Contractor shall coordinate the joist and beam layout with the 15A and 16A Contractors and shift the layout as necessary to accommodate the work of these contractors prior to fabrication and at no additional cost to the Owner, given structural engineer approval. 05A Contractor includes coordination of x-bracing to accommodate ductwork in joist space where necessary. Where duct is required to be installed within joist bays, contractor to modify bridging as required to allow for installation of duct at no cost.

22. Contractor shall furnish and install all lintels and hung plates attached to steel and shall, by use of instrument or other accurate device, ensure that all lintels and hung plates are set to proper line and grade and measured from established control points.

23. Contractor to coordinate hung plate length(s) with masonry opening size to ensure end gaps of plate are not more than 1/4" so caulking contractor can provide adequate seal.

24. Contractor shall provide anchor bolt drawings and templates to both the Construction Manager and the 03A Concrete Contractor within thirty (30) days of receiving a Letter of Intent, Notice of Award or the Contract, whichever is issued first.

25. Contractor shall provide a complete survey and verify anchor bolts locations. Survey to be completed at foundation completion but no later than two (2) weeks prior to erection of steel and must be submitted within two weeks of completion of survey. Contractor will notify the Construction Manager of any discrepancies or variations. If the Contractor does not advise the Construction Manager prior to the erection of steel, then the cost of the correcting any discrepancies or variations shall be the sole responsibility of this Contractor. The survey results shall include

only those bolts/plates that are out of tolerance. Results shall be presented in 8-1/2" x 11" format (one (1) page per location) and shall show actual location/elevation of bolts/plates referenced from appropriate grid line/datum.

26. Contractor shall furnish, install, reconfigure, maintain, and remove all OSHA specified protection required in relation to its work at the direction of the Construction Manager. Contractor shall cover and provide fall protection for all openings in metal deck created by this Contractor.

27. Contractor shall furnish, install, reconfigure, maintain, and remove barriers in areas where steel is being installed and around the entire perimeter of elevated floors and roofs. Contractor shall provide the proper barriers to prevent people from entering areas steel is passing over.

28. Contractor shall review all documents for locations of openings in the Roof System that will be required by others. Contractor shall furnish and install all structural supports, angle, and safety rails for these openings. Contractor will be responsible for all openings shown on all drawings in its work.

29. Contractor shall protect all adjacent work and structures from welding sparks, slag, or any other results of this Contractor's work. Contractor to include all necessary fire watches.

30. Contractor shall coordinate with all other trades to properly set items supplied by this contractor and embedded or otherwise installed by others.

31. Contractor shall coordinate with all other trades which require access through structural elements.

32. Contractor shall coordinate with the 04A Contractor and confirm in the field to assure that wall mounted handrail connections on masonry walls are fastened through solid grouted CMU.

33. Contractor has reviewed existing site conditions and access roads for confirmation of delivery of long span items. In the event deliveries cannot be made, contractor to field splice items on site as necessary at no added cost to the Owner or Construction Manager. Design and engineering of field splices are considered base bid.

34. Initial testing and inspection costs are by Owner. In the event of a failed inspection due to a result of negligence, poor workmanship, or failure of work to meet the requirement of the documents, all re-inspection fees will be back charged to this contractor.

35. Installation of embeds and anchor bolts are by others. This contractor responsible for any subsequent welding of joists, beams, angles, lintels, hung plates etc. to embed set by others.

36. Grouting of base plates is by others.

37. Final field painting unless noted as included in above scope is by others.

38. Contractor will provide 5/8" plywood protection, with welding blankets while working in/or around finishes spaces such as roofs, casework, VCT, carpeting, wood flooring, or flooring to remain etc. Any damage to other trades work caused by this contractor will be charged accordingly to this contractor.

39. This contractor includes all snow removal from roof deck so the installation of roof decking is not impeded. This removal is to commence no later than 24 hours after snow event.

40. Contractor to include angle frame, ladder and grating at all sump pits capable of supporting no less than 300 lbs.

41. Any wall penetration required by other trades which has a diameter or horizontal dimension greater than 12" shall require a lintel or sleeve be installed. Locations which are to be steel beam or hung plate which are clearly called out on the structural drawings and will be furnished by 05A, and depending on connection, installed by either 04A or 05A. Both the 15A and 16A contractors are to furnish pipe sleeves regardless of pipe size, installed by 04A or 01A. For all duct/damper openings above ceiling, 15A is to provide steel angles, installed by 04A. For all

duct/damper openings below ceiling and exposed, it is assumed to be a concrete U lintel, precast lintel or bond beam, where allowed by the structural drawings, by 04A. All openings in fire walls are to have either a precast lintel, concrete U lintel or concrete portal. Steel is not permitted in fire wall openings. In the event it is a concrete portal, all reinforcing and concrete is by 03A. If detailed as a precast lintel or concrete U lintel, they are furnished and installed by 04A.

42. ***During the structural phase the 05A Contractor shall furnish and install temporary roof edge top and mid rails. 01A Contractor shall furnish and install 4" toe-kick to rails or deck and safety netting for dropped object protection by the 01A Contractor. Upon completion of all walls, 01A Contractor shall remove all safety netting and toe-kicks and install fall protection at window openings. 05A Contractor shall remove safety rail and burns off posts. 07A Contractor is responsible for furnishing, installing and removing all perimeter fall protection in coordination with its installation of the roofing. If a railing is removed for any reason, or if any workers are working outside of the railing, 100% tie off is required, no exceptions. A warning line and safety monitoring system are not acceptable and do not provide appropriate levels of fall protection.[4]***

PART 3 – ALTERNATE SCOPE OF WORK

1. Contractor has reviewed the Alternates scope of work listed elsewhere within the specifications and has included all costs in the event the Owner elects to proceed in whole or in part.

Shade Sail Structure Specific Scope of Work (Alternate #1)

1. ***Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Shade Sail Structure work in accordance with the complete set of Contract Documents and as detailed on A-530.***

2. ***This scope includes the furnish and installation of all structural components (columns, beams, gusset plates etc.) necessary for the support of the shade structure as well as coordination with other Contractors for installation and integration of same with their work. Any inspections necessary for certification of this work is included. Any thermal breaks are included in this installation. Please note, the outriggers shall be included in the base bid per the alternate description.***

3. ***Contractor shall paint or touch up all galvanized components following installation.[4]***

Main Entrance Canopy Specific Scope of Work (Alternate #2)

4. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Main Entrance Canopy work in accordance with the complete set of Contract Documents and as detailed on A-531.

5. This work includes the supply of all anchor bolts and base plates for installation by the 03A Contractor. Contractor includes the furnish and installation of all structural, miscellaneous and architectural steel elements as necessary for a complete installation. Includes all galvanizing.

PART 4 – ALLOWANCES

1. There are no allowances with this scope of work.

END OF 05A SECTION

PART 2 – SPECIFIC SCOPE OF WORK

1. Contractor has reviewed and understands the Contract Package / Specification Cross Reference listed under Section 011112.

2. Contractor includes General Scope of Work listed under Part 1 of Section 011113.

3. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Roofing work in accordance with the complete set of Contract Documents.

Roofing Scope of Work:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Roofing work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install complete Built-up Asphalt, Fluid-Applied Protected Membrane, Metal roofing systems, and standing seam siding, as required by the Contract Documents, including but not limited to all flashing, counter flashing and sheet metal, all manufactured roof specialties, all roof specialties, coping, aluminum fascia, accessories, roof expansion joints, vapor retarders, insulation, sealers and sealants, recovery boards, adhesives, underlayment materials, reglets, gravel stops, roof edge drainage systems, ladders, walkway protection pads, ***roof paver system[4],*** mastic sealant, fasteners, cant strips, cleats, temporary roofing, gutters, downspouts, roof hatches, soffits, vents, and all other items required to complete the work.

3. Contractor shall furnish and install all flush overlapping seam metal panels fascia including, but not limited, to all closure trims, fasteners, including all subframing, furring, flashing & trim, sealants etc. as necessary for a complete system.

4. Contractor shall furnish and install all skylights ***and curbs*** as required per the Contract Documents. ***The 07A Contractor shall furnish and deliver all control/integral wiring, switches, etc. as required for a complete skylight operation to the 16A Contractor for installation. [4]***

5. Contractor shall furnish and install all Bird Deterrent systems as required per the Contract Documents.

6. Contractor shall install rain barrels and all connections per the Contract Documents.

7. Contractor shall furnish and install all sealants and caulking necessary for, and incidental to a complete roofing installation as required by the Contract Documents. This includes sealant wherever roofing or metal by 07A is adjacent to material installed by others.

8. Contractor shall furnish and install all nailable insulated sheathing at locations indicated in the Contract Documents including but not limited to parapet walls, clerestory walls, etc.

9. Contractor shall provide all tests & inspections, test reports, inspection reports, warranties, and guarantees as required by the Contract Documents.

10. Contractor shall coordinate with the 03A, 04A, and 01A Contractors to furnish all embedded flashing and reglets, along with dimensional layout sketches and details when required. Contractor shall present delivery ticket to the installing Contractor, for acknowledgment of receipt of materials at the time of delivery.

11. In the event roofing expansion joints are required by the manufacturer but not detailed on the contract drawings, the 07A Contractor will be responsible for all costs associated to add these joints. This includes, but is not limited to metal studs, insulation, wood, carpentry, roofing and trim.

12. The 07A Contractor will furnish and install all flexible barrier, batt insulation, and rigid insulation between exterior

sheathing and roof blocking.

13. The 07A Contractor will furnish and install insulation behind gutters.

14. Piping penetration covers are to be furnished and installed by 15A and 16A. Flashing between roof and curb is by 07A. Contractor shall flash at all roof penetrations by other trades.

15. Contractor shall coordinate with Structural Steel Contractor regarding openings, supports, framing, and roofing accessories or specialties equipment. Contractor shall, within fifteen (15) days of Notice to Proceed, furnish to the Steel Contractor, complete marked-up steel drawings showing actual openings, layout, support and fabrication dimensions necessary for detailing and fabrication of steel with relation to these items. Dimension to be referenced off of column lines. Any opening or support required but not shown on structural drawings for 7A work is the responsibility of 7A. This includes any channel joist bracing, hangers, steel, and all other incidentals required including painting of welds.

16. Contractor shall furnish and install roof specialties and roof accessories for items not specified for 15A equipment. 07A Contractor shall furnish and install roof hatches, splash blocks, splash pans, gutters, scuppers, downspouts, conductor heads, and snow guards, ice guards or snow fences as required by the Contract Documents. 07A to furnish and install closures and sealant where necessary at downspout connection to 15A rain leader boot. 07A is to furnish and install downspouts as referenced. Downspout boot and below grade piping is by 15A. 07A has final connection from downspout to downspout boot.

17. Wood blocking and metal studs will be performed by the 01A contractor to the extent of what is shown on the contract documents. Additional wood blocking or metal framing required in order to meet particular roofing manufacturers requirements that is not shown on the Contract documents is the responsibility of the 07A Contractor. In the event less wood blocking or metal framing is required then what is shown on the contract documents in order to meet a particular roofing manufacturer's requirement, a deduct credit will be issued by the 01A contractor for unused labor and materials.

18. Contractor includes with base bid, cutting, patching, reroofing at 6 separate locations areas equivalent to 5'x5' each, as necessary to complete roof items that may have been missed during installation free of charge to Owner or Construction Manager.

19. This contractor includes all snow removal as required from roof deck so the installation of roofing is not impeded. This removal is to commence no later than 24 hours after snow event.

20. The 07A Contractor shall provide all dumpsters for own work. Comply with all LEED requirements and Construction Waste Management requirements per Contract Documents.

21. ***During the structural phase the 05A Contractor shall furnish and install temporary roof edge top and mid rails. 01A Contractor shall furnish and install 4" toe-kick to rails or deck and safety netting for dropped object protection by the 01A Contractor. Upon completion of all walls, 01A Contractor shall remove all safety netting and toe-kicks and install fall protection at window openings. 05A Contractor shall remove safety rail and burns off posts. 07A Contractor is responsible for furnishing, installing and removing all perimeter fall protection in coordination with its installation of the roofing. If a railing is removed for any reason, or if any workers are working outside of the railing, 100% tie off is required, no exceptions. A warning line and safety monitoring system are not acceptable and do not provide appropriate levels of fall protection.[4]***

PART 3 – ALTERNATE SCOPE OF WORK

1. Contractor has reviewed the Alternates scope of work listed elsewhere within the specifications and has included all costs in the event the Owner elects to proceed in whole or in part.

Main Entrance Canopy Specific Scope of Work (Alternate #2)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Main Entrance Canopy work in accordance with the complete set of Contract Documents and as detailed on A-531.

2. This work includes all roofing, flashing and detailing for the entrance canopy. Includes all overflows, scuppers and downspouts and tie-in to the cleanouts provided by the 02A Contractor. Includes tie-in to through-wall flashings provided and installed by the 04A Contractor.

3. Includes all soffits, break metal flashing and supports for all soffits.

Photovoltaic System Specific Scope of Work (Alternate #9)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to coordinate with and complete any necessary roofing penetrations associated with the photovoltaic system installed under the 16A scope of work.

PART 4 – ALLOWANCES

1. There are no allowances with this scope of work.

END OF 07A SECTION

PART 2 – SPECIFIC SCOPE OF WORK

1. Contractor has reviewed and understands the Contract Package / Specification Cross Reference listed under Section 011112.

2. Contractor includes General Scope of Work listed under Part 1 of Section 011113.

3. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Glass and Aluminum work in accordance with the complete set of Contract Documents.

Glass and Aluminum Scope of Work:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Glass and Aluminum work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install all glass and aluminum work required by the Contract Documents, including but not limited to, insulated translucent wall systems, fire-resistant & fire-protection rated glazing, glazed aluminum curtain wall systems, aluminum windows, aluminum storefronts and entrances (fire rated and non-fire rated), sills, metal covers, metal closure panels, break metal, sunshades, louvers or vents in 08A assemblies, glass, glazing, sealants, flashings for work under this package, interior and exterior caulking of work in this package, insulation around all windows, and all other items required by the Contract Documents to provide a complete interior and exterior window installation. This includes shop drawings signed and sealed by a Structural Engineer registered in the State of Maryland, if required.

3. Contractor shall furnish and install interior and exterior glass and fire-rated glass as required by the Contract Documents. Furnish and install glass for all windows, doors, borrowed lights, storefront framing, curtain walls, as required by the Contract Documents. Furnish and install all glazing sealants and accessories as required. Hollow metal window frames will be furnished and installed by others. Coordinate prep of doors or frames with 01A Contractor.

4. Contractor shall coordinate with 01A, 03A, 04A, 05A, and 07A Contractors regarding aluminum window, storefront and curtainwall opening sizes and locations. Note that field measurement will not be possible due to schedule constraints. Contractors must hold rough opening dimensions per 08A's approved shop drawings.

5. As required, at metal doors, 01A will furnish doors with metal frame vision kits. 08A Contractor will set glazing and secure glazing in position after painting.

6. Contractor will remove all labels, stickers, marks, caulk splotches, cut gaskets as work progresses and provide touch-up or glass repair, as necessary, and clean exterior of glass while installation progresses. Final cleaning of interior is by others at project substantial completion.

7. Contractor includes all firestopping integral to the material being provided under this package, or to close gaps from slab edges to curtainwalls, windows, glass in both aluminum and hollow metal frames, or storefronts, as required.

8. Contractor shall include fire-resistive joint assembly where slab meets curtainwall or storefront.

9. Any material required for structural or aesthetic attachment not referenced on the documents but required properly to brace, support work, or provide finished appearance under this package is part of 08A base bid. This includes, but is not limited to, fiberglass, metal, steel, studs, wood, or any other material necessary.

10. The 08A Contractor shall furnish and install all spandrel glazing panels and any metal panels and insulation complete within the curtainwall or storefront systems.

11. The 08A Contractor will furnish and install gauge closure and caulk, if necessary, at interface of 08A work with metal decking.

12. The 08A Contractor will furnish and install aluminum break metal at areas adjacent to 08A work as detailed, typically end of wall condition to storefronts. Support framing, insulation, and plywood are by others. Color unless noted otherwise is to match adjacent aluminum curtainwall/window/storefront.

13. 01A is to furnish, install, and maintain fire extinguishers onsite and in building per MOSH/OSHA requirements for general building protection during construction. All Trades are to provide fire extinguishers, blankets, and any other provisions for burning, welding, soldering, braising, or any hot/fire work performed by the Contractor in performance of their work in any area as specifically necessary.

14. Contractor shall provide 5/8" plywood over 2" thick rigid insulation board as roof protection while working on the roof.

15. 01A Contractor includes infill of all hollow metal window, side light, borrowed light, etc. openings with plywood supported at 2'-0" OC as necessary as masonry progresses and frames are blocked in on lower floor(s) This is for security as well as weather protection. Removal of this material is by 01A to allow for painting of frames by 01A prior to permanent glass by 08A is installed. If 08A contractor installs glass prior to painting of frame, it will be the 08A contractor's responsibility to remove and reinstall after paint at no charge. Temporary plastic for weather protection will be allowed on upper openings only where security is less of a threat.

16. Temporary infill at fixed aluminum storefronts, curtainwalls, and or windows due to lack of aluminum frames is the responsibility of the 08A contractor, infill to be a combination of 4'-0" sheets of ¼" plexiglass and ½" plywood supported at 16" OC which still allows ample natural light into the space for lower floor(s). In the event a doorway is required in a space with a temporary infill, 08A to provide doorway, hinges, closures, and hasp at the direction of the construction manager. Infill to be installed in such a manner to allow for all interior trades to progress with no conflict. Temporary protection is to be installed for security as well as in such a manner to stop wind and precipitation from entering the building.

17. Infill of fixed aluminum storefronts, windows, and or curtainwalls due to lack of glass is the responsibility of 08A contractor to infill with ¼" plexiglass and ½" plywood supported in aluminum framing, which still allows ample natural light into the space until permanent fixed glass is installed at lower floor(s). This is for both security as well as weather protection. In the event a doorway is required in a space with a temporary infill, 08A to provide doorway, hinges, closures, and hasp at the direction of the construction manager. Infill to be installed in such a manner to allow for all interior trades to progress with no conflict. Temporary protection is to be installed for security as well as in such a manner to stop wind and precipitation from entering the building.

18. Any temporary infill maintenance and removal is the responsibility of the installing contractor at the direction of the Construction Manager.

19. Contractor includes provisions for installation of all lighting, fire alarm, exit signs, security wiring, etc. to be concealed within curtainwall and or storefront framing. Under no circumstance will exposed wiring or wire mold be acceptable. Blocking or integral framing to support lights, exit signs etc. will be by 01A.

20. Blocking requirements which are not clearly shown on the construction documents but required for attachment of materials being provided and installed under this contract, are the responsibility of this contractor.

21. Contractor includes cutting, drilling etc. of metal panels and or aluminum being provided under this contract for other trades to access within these systems.

22. Contractor includes provisions at curtainwalls and or storefronts and or windows to allow for direct attachment of window shades direct to mullions if head attachment cannot be achieved.

23. Despite any reference or lack of detail to the contrary, galvanized angles or heavy gauge flat metal to span potential cavity from masonry backup to finish masonry, stud backup to finish façade etc., is required at head, sill and jambs regardless of aluminum system being utilized and is to be furnished and installed by this Contractor irrespective of

manufacturer requirements for anchorage. Contractor to coordinate with 04A to allow for installation prior to air barrier and/or spray foam. This includes attachment method required to both cmu and cold formed metal framing backup, both mechanical fasteners and or welding as indicated.

24. Any structural attachment for curtainwall provided by this contractor is to have same finish as supported curtainwall.

25. 08A Contractor to furnish and install all automatic door operators per specification Section 087100 at doorways furnished by this contractor. Contractor to include signage for automatic door operators, as specified.

26. ***01A Contractor shall furnish, and deliver all hardware for all aluminum doors to the 08A Contractor for installation. ~~08A Contractor shall furnish and install all door hardware for all aluminum doors.~~[4]***

27. With the exception of Automatic Door Operators at Aluminum entrances, which are furnished and installed by 08A, all other electrified hardware is furnished and install by 01A. For further clarity, 01A is to furnish and install automatic door operators at hollow metal frames. 01A is to furnish and install magnetic hold opens as indicated with 16A making connection to the fire alarm system. 01A is to furnish and install magnetic locks, with assistance from 16A for required conduit rough-in. The 01A Contractor shall provide controls, power wiring, junction boxes, rectifiers, and transformers and connection with electrified hardwired being provided in their package. The 01A, 08A and 16A Contractor shall coordinate required conduit or pathways being furnished by 16A for 01A or 08A use. The 01A, 08A and 16A contractor to ensure proper power requirements are brought to each location as well as required interaction with security and fire alarm system. With respect to any electrified hardware, it is the 16A contractor's responsibility to bring power to each door location, and install required power pack (furnished by others) at each door location (central locations will not be utilized due to length of run limitations on provided low voltage wiring); actual electrified door hardware is installed by 01A (or 08A at aluminum entrances) then 16A has power wiring and verification of wiring and final connections. 01A and 08A would then have associated respective adjustments. Security card readers are 16A to furnish and install with coordination from both 01A and 08A depending on location.

28. Final adjustment and testing of hardware at aluminum entrances is by the 08A contractor. Immediately prior to substantial completion, the 01A contractor to verify installation at all aluminum doorways installed by the 08A Contractor to ensure proper installation and function of all hardware. 08A Contractor is responsible for repairs/corrections to hardware installed by 08A Contractor.

29. Contractor includes all work at mockup panel associated with this package.

PART 3 – ALTERNATE SCOPE OF WORK

1. Contractor has reviewed the Alternates scope of work listed elsewhere within the specifications and has included all costs in the event the Owner elects to proceed in whole or in part.

PART 4 – ALLOWANCES

1. Allowance: Contractor includes an allowance of $10,000 to cover costs of labor and materials in connection with damaged aluminum, glass or glazing which cannot be determined to be fault of this or other contractors onsite. In the event any or a portion of this monies is unused, it shall be returned via deduct change order.

END OF 08A SECTION

PART 2 – SPECIFIC SCOPE OF WORK

1. Contractor has reviewed and understands the Contract Package / Specification Cross Reference listed under Section 011112.

2. Contractor includes General Scope of Work listed under Part 1 of Section 011113.

3. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Mechanical, Plumbing and Sprinkler work in accordance with the complete set of Contract Documents.

Mechanical Specific Scope of Work:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of Mechanical work in accordance with the complete set of Contract Documents.

2. Contractor shall obtain all required trade permits, secure all inspections and provide all tests and certifications required by the Contract Documents to obtain a Use and Occupancy permit. This also includes any and all required boiler and fuel burning permits. All permits are to be listed on the SOV with a respective dollar amount, and as permits are furnished, monies will be released as if any other line item of work.

3. 15A Contractor shall furnish and install all plumbing, heating, ventilating, air conditioning, and drain tile as required by the Contract Documents, including but not limited to, oil piping, gas piping, insulation, HVAC units, unit heaters, AHU's, split systems, VRFs, floor sinks, tanks and associated piping, fin tube, testing and balancing, fans, ductwork, diffusers, grilles, dampers, automatic temperature control, and all other items required for a complete mechanical installation. Furnish and install all louvers required, including Architectural louvers. This includes flashings, blank-off plate, caulk and any incidentals required for a complete installation.

    a. ATC work must be as specified, no substitutions. Despite any reference to the contrary, billing of stored material for Controls work will not be allowed unless material is stored onsite, at which time contractor will still be required to provide all backup invoices, bill of sale, insurance certificate, etc. as stated elsewhere. 10% of the total value of controls work will be held in addition to any retainage being held on this package. This 10% will be paid after all Commissioning work has been completed and accepted by the Owner.

4. 15A Contractor is to furnish and install downspout guards/boots and subsequent below grade piping to the 02A system. 07A Contractor has final connection of downspout to boot.

5. The 02A is responsible to bring both the domestic and fire protection service to a point within 5' of the building exterior as shown. The 15A contractor is then responsible to bring both services into the building from five feet outside of the building. Once into the building the 15A contractor is responsible for a complete fire sprinkler system. The 15A contractor is responsible for certification of backflow preventer.

6. The 15A Contractor is responsible for all water, sanitary, storm, mechanical and gas piping interior to the building to a point 5' outside of the building footprint. The 15A contractor is responsible for installation of grease trap/interceptor complete, regardless of location, and all associated piping from the building to the grease trap/interceptor entering invert, as well as vent piping off grease trap/interceptor, the 02A contractor is responsible for all piping from the exit invert and beyond.

7. The 15A Contractor shall furnish and install all gas lines from the building to the generator and hook-up to the generator as required.

8. 15A Contractor will furnish and install grease trap(s), and/or grease interceptor(s) and all associated piping and accessories as required by the contract documents. In the event a concrete base or flotation collar is required, this concrete work is to be performed by the 03A Contractor. All required excavation, backfill and coordination

of concrete work is by the 15A contractor.

9. Contractor shall furnish and install all roof curbs, equipment supports, preformed flashing sleeves for own work. All roof curbs provided under this contract shall be no lower than 20" above finished roof surface and when set. All curbs to be installed with a temporary removable sheet metal cap, adequately reinforced within curb to not allow for collapse per MOSH standards. Intent of temporary cap is to keep building weather tight. Cap to be stenciled in both English and Spanish "Hole, Fall Hazard, Do Not Stand, Step, Sit". When permanent roof equipment is to be set, Contractor to remove temporary sheet metal and install equipment per specifications. In the event due to size of curb the cap will have seams, all seams are to be caulked and weather tight. Temporary fixed or loose plywood and plastic is not acceptable. Prior to installation of equipment, this contractor is to install acoustical curb insulation and have factory representative inspection per specifications.

10. 15A Contractor to insulate and waterproof all exposed to the elements exterior ductwork, whether shown or not.

11. 15A shall provide temporary rain leader piping at roof drains with water being directed to the exterior of the building, sufficiently away from exterior perimeter, as directed by Construction Manager. Temporary piping to remain in place until permanent tie-in can be made and is functional.

12. Despite being shown or not, 15A includes at roof drains, first fitting below roof drain to be a T-fitting with cleanout, except at roof drains over kitchen spaces.

13. Contractor shall coordinate with 02A and 03A Contractor regarding underground work, mechanical openings, and embedded items. Coordinate with 04A, 05A and 09A Contractors regarding duct openings, pipe sleeves, and embedded piping. Contractor shall provide field layout for ductwork penetrations, and sleeves and layout for pipe penetrations.

14. The 15A Contractor will provide sufficient crew size to stay ahead of concrete slab work until all underground work is complete. In the event 15A fails to complete rough in prior to scheduled slab pour, costs to block out, remove, or repair slabs rest solely on the 15A Contractor.

15. Any wall penetration required by other trades which has a diameter or horizontal dimension greater than 12" shall require a lintel or sleeve be installed. Locations which are to be steel beam or hung plate which are clearly called out on the structural drawings and will be furnished by 05A, and depending on connection, installed by either 04A or 05A. Both the 15A and 16A contractors are to furnish pipe sleeves regardless of pipe size, installed by 04A or 01A. For all duct/damper openings above ceiling, 15A is to provide steel angles, installed by 04A. For all duct/damper openings below ceiling and exposed, it is assumed to be a concrete U lintel, precast lintel or bond beam, where allowed by the structural drawings, by 04A. All openings in fire walls are to have either a precast lintel, concrete U lintel or concrete portal. Steel is not permitted in fire wall openings. In the event it is a concrete portal, all reinforcing and concrete is by 03A. If detailed as a precast lintel or concrete U lintel, they are furnished and installed by 04A.

16. Contractor shall coordinate with 05A Contractor regarding openings, supports, framing, and bracing for mechanical equipment. Contractor shall, within fifteen (15) days of Notice to Proceed, furnish to the 05A Contractor, through the construction manager, a complete marked-up steel drawing showing actual openings, layout, support and fabrication dimensions necessary for detailing and fabrication of steel with relation to plumbing and mechanical work. Dimension to be referenced off of column lines. Any opening or support required but not shown on structural drawings for 15A work is the responsibility of 15A. This includes any channel, joist bracing, hangers, steel, and all other incidentals required including painting of welds.

17. At the new structure, and when water is available, Contractor shall provide temporary water services as directed by the Construction Manager. A minimum of three (3) hose bib locations shall be provided. Weather protection of hose bibbs is 15A responsibility. 15A contractor is responsible for all means and methods to provide temporary water services and shall pay all fees associated with the service.

18. Contractor shall furnish all access panels required for proper access to installed mechanical work, in all surfaces. Access panels to be keyed and fire rated as necessary. Installation is by the 09A Contractor.

19. Contractor shall provide fire safing and fire caulk as necessary at all 15A penetrations through walls or floors.

20. 15A Contractor shall be required to furnish layout for all concrete pads related to the work in this package, including but not limited to, all concrete housekeeping pads, equipment bases, gas meter pad, above ground tank pad, roof top units, blockouts and all other mechanical equipment. This includes interior and exterior locations. All interior and exterior concrete pads, foundations, retention collars, and reinforcement for 15A equipment are to be furnished and installed by 03A. If concrete is not shown, but required, or if pad shown is smaller than required 15A equipment, 15A is responsible for all cost increases by the 03A Contractor as part of base bid.

21. 15A Contractor's equipment is expected to have housekeeping pads under all mechanical equipment which sits on the floor or at grade. Pad shall be a minimum of 4" high unless another height is specifically indicated. Pad is to be 4" larger than perimeter of respective piece of equipment sitting on pad, unless specifically indicated elsewhere as otherwise.

22. The 15A Contractor will be responsible for all work required for suspended mechanical equipment support.

23. Contractor shall caulk around all plumbing fixtures.

24. Contractor shall protect all drains/cleanouts with tape or appropriate material to prevent debris generated by other Contractors from clogging drainage piping. Contractor shall be responsible for removing and cleaning off of protective material.

25. Despite any reference to the contrary, all cleanouts and floor drains are to be sleeved. 15A to then set final elevation at start of floor finishes, 15A to grout in place as necessary to ensure smooth finish and transition with future floor finishes.

26. Despite any reference to the contrary, all cleanout covers in floors are to be circular.

27. Ducts to all louvers to be sloped to exterior and flashed/waterproofed as necessary to maintain a watertight interface between duct and louver. Provisions, as necessary, to be provided to allow water to weep out of louver to exterior. If necessary, duct to be provided with a drain and piped to closest storm drain or out of exterior wall as directed by Architect/Construction Manager. In the event permanent louver is not available, contractor includes temporary louvers as necessary at all electric room, data rooms, or elevator machine rooms. All work, as referenced above, is part of base bid cost.

28. The Contractor shall be responsible for the final connections to items such as, but not limited to, food service equipment, casework, residential equipment and appliances. Final connections include all ductwork connections, pipe connections, hose connections, water, gas, air or sanitary.

29. Food service equipment is furnished and set in place by the 11A contractor. Kitchen hoods complete with control system are furnished and installed by the 11A contractor. 15A contractor includes ductwork, connections, fans, curbs, startup and balancing of kitchen fans under this package. 11A Contractor is responsible for reviewing the Kitchen Equipment Drawings and Specifications and including all items referenced to be by the Mechanical (D23) or Plumbing (D22) Contractors.

30. The Contractor shall immediately provide and maintain properly secured and labeled protective covers over all deck and roof penetrations left for his work.

31. In the event high or low voltage is required, but not shown for ATC or mechanical equipment, the 15A Contractor will be responsible for providing all provisions necessary to energize and make complete. This includes, but is not limited to, conduit, wiring, and final connection to breaker and equipment.

32. Permanent heat and cooling start-ups will take place within fifteen (15) days prior to the date of Substantial Completion, as directed by the Construction Manager. The permanent heating/cooling system may remain in

operation following start-ups, as directed by the Construction Manager. 15A will furnish, install, and maintain any and all filters as necessary (permanent and/or temporary), no less than every fifteen (15) days. The Contractor will provide a complete filter change on all units, within three (3) days prior to Substantial Completion. The warranty for all equipment commences on the date of substantial completion. Any cost for extended warranty due to start up are to be included in bid price.

33. 16A Contractor shall coordinate with Mechanical Contractor regarding motor starters for mechanical equipment. 16A Contractor shall furnish and install all motor starters, contactors, safety switches, disconnect switches, phase and voltage protection, except for those items which are called for to be factory furnished or integral to the equipment. These integral items shall be provided and installed by the respective Contractor providing the equipment. If 15A equipment is specified to be provided with factory furnished disconnects and 15A equipment fails to be provided in this fashion and owner still accepts equipment, the 15A Contractor is then responsible for all costs incurred by 16A to furnish and install disconnects in the field.

34. In the event 3-phase equipment is required to have phase and voltage protection and monitors; 15A is to provide phase monitors as well as back box at all 3-phase equipment being provided by 15A, 16A to complete install. 16A is required to furnish and install own phase monitors and back boxes on all 3-phase equipment being furnished under the 16A contract. 16A has installation of backboxes, phase monitors and related power wiring, 15A and respective Controls subcontractor has respective control wiring.

35. 15A Contractor to furnish any variable speed drives (VSD's) and variable frequency drives (VFD's) for equipment being furnished under this package. This equipment is also to include separate independent phase monitoring and backboxes. Installation of VSD's, VFD's, phase monitoring and backboxes are by 16A.

36. 15A Contractor to furnish and install splash block or rip rap for roof overflow drains if required.

37. 15A Contractor to furnish and install roof overflow scuppers and associated caulk.

38. Contractor will provide coordinated layout drawings for all mechanical work. This is to be coordinated with foundations, piles, structural steel, catwalks, pipe supports, acoustical baffles/panels, finished ceiling, and electrical lighting/devices. This includes roof drainage piping/overflow piping route to point of tie in at grade or point of exit out of building.

39. Trap primer lines cannot be run in the slab. All trap primer rough-in must be under deck for elevated slabs, and in stone/gravel subgrade at slab on grade.

40. 15A Contractor will stockpile any spoils in areas directed by the Construction Manager associated with 15A work for removal offsite by the 02A Contractor.

41. Contractor will dewater excavations as necessary to maintain progress for work in this package.

42. Contractors shall provide daily cleanup of all trash and debris generated by the work and place in dumpster furnished by Construction Manager. The Contractor shall leave the area in broom clean condition daily. Should the Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Contractor's expense.

43. Contractor will be responsible for all grading, backfill, concrete, and any other items associated with exterior equipment furnished under the 15A package.

44. Contractor will be responsible to regrade and compact subgrade when disturbed by 15A work. If subgrade is made unsuitable by this work, 15A will undercut and replace at no-cost change.

45. Contractor shall secure pressure vessel and boiler inspection as required by the State of Maryland.

46. This site is labeled as "unclassified to design subgrade". Therefore, the contractor will be responsible for all

excavations down to proposed design subgrade, for work under this contract package, regardless of material being excavated, including rock, at no cost to the Owner. All excavation and/or spoils from this work are to be centrally located by 15A for haul off by 02A.

47. 15A to backfill all underground work being provided with this package with #57 stone and/or concrete as required by utility company, despite any reference to the contrary.

48. 01A is to furnish, install, and maintain fire extinguishers onsite and in building per MOSH/OSHA requirements for general building protection. All Trades are to provide fire extinguishers, blankets, and any other provisions for burning, welding, soldering, braising, or any hot/fire work performed by the Contractor in performance of their work in any area as specifically necessary.

49. Contractor will provide 5/8" plywood over 2" thick rigid insulation board as roof protection while working on the roof.

50. In the event fire safing, fire stopping, fire caulk, or fire rated infill is required to maintain rating of a slab in a shaft or chase assembly, and at pipe or duct penetrations but not shown, 15A is to furnish and install as part of base bid.

51. Contractor to furnish and install all trench drains, piping, and incidentals with accessible backwater valve preventers whether indicated or not.

52. No piping can be run over, through electric rooms, or over electric panels unless specifically shown. If shown, 15A and/or 15A (as applicable for their piping) is to provide sheet metal drip pans as necessary with drain pipe run as necessary to closest pipe and drain per code.

53. Commissioning Authority duties will be performed by Owner. 15A is responsible to coordinate and include all costs in base bid to work with the Commissioning Authorities and provide labor, material, equipment, and incidentals as referenced to enable commissioning to be completed as specified, for work installed under this contract package.

54. The 15A and 16A Contractors shall provide all stenciling of mechanical piping, ductwork, equipment, conduit, etc. General painting of exposed piping ductwork, equipment, conduit, etc. will be performed by the 09F Painting Contractor.

55. 15A Contractor will furnish and install any sleeves or conduit required for refrigeration and/or condensate lines per Specification Section 114000.

56. The 15A Contractor shall, within fifteen (15) days of award of contract, provide coordination drawings showing the location and elevation of all underground piping. The drawing shall also include the location and dimensions of all required mechanical trenches and slab depressions.

57. 15A Contractor is responsible for all water and air Testing, Adjusting and Balancing (TABS). All costs are to be part of base bid, inclusive of all adjustments, required retesting and final balance reports.

58. The 15A Contractor will provide HVAC and Domestic water treatment complete as specified in the contract documents. With respect to Domestic water, contractor includes replacing water filters at substantial completion as well as 6 months after substantial completion.

59. Despite any reference to the contrary, the 15A Contractor will furnish and install floor mounted, concealed arm type, fixture carriers for all wall mounted plumbing fixtures including drinking fountains.

60. Penetrations that are required through structural steel members are to be provided by the 5A Contractor. 15A and 16A shall coordinate with 5A for penetration locations.

61. The 15A Contractor shall provide temporary heat. Temporary heat shall be installed and operating in each

building area or portion thereof that has been enclosed with temporary doors and windows in any given area. Contractor shall provide temporary heating as required to protect all construction materials from the potential adverse effects of low temperature. This Contractor shall achieve by use of temporary equipment until the permanent systems can be utilized. Temporary heat will be required from approximately October 15, 2021 through February 15, 2022.

62. The 15A Contractor is responsible for all temporary heating and cooling, ventilation etc. as specified in Specification Section 015000. If a more stringent requirement for temporary HVAC is specified in Section 015000 then it shall take precedence.

63. Contractor to furnish, install and certify "tagging" all backflow preventers, including the backflow preventer for the Sprinkler System.

64. In addition to the BIM requirements in the General Scope, contractor is required to also model:
    a. Code required clearances around all equipment and disconnects being furnished under this package
    b. Code required access to all duct fire and or smoke dampers
    c. Access and required clearances for removal of all filters being furnished under this package

65. Despite any reference to the contrary, Contractor includes all costs with utilization of LEED compliant duct sealer capable of being installed to zero degrees Fahrenheit.

66. Despite any reference to the contrary, "Spray" installed duct sealant will not be acceptable.

67. Contractor includes all provisions related to and cost of performing tests and all retests for the indoor air quality testing.

68. The 15A contractor is to furnish and install any required heat trace on plumbing and mechanical piping. The 15A contractor is to furnish and install all required heat trace on sprinkler piping. 16A to have final electrical connection.

69. Contractor includes all layout, support, demolition, saw cutting, slab removal, core drilling etc. required to install work (piping, equipment, ductwork, dampers, insulation, conduit etc.) being performed under this package.

70. In addition to the requirement of providing daily cleanup of self-generated debris from work and or workers, the 01A, 04A, 09A, 15A and 16A contractors are to include 1 man per every 15 men contractor has onsite, with a mandatory minimum of one man if contractor has less than 15 men onsite. This requirement will be utilized for contractors to participate in a composite cleanup crew. Composite cleanup days will be every Wednesday from 7am to 2pm. Construction Manager will provide trash carts, dumpsters and sweeping compounds, all other equipment, PPE or otherwise, i.e. brooms, shovels, etc., are to be contractor provided.

71. Annunciator Panel, Panel Schedules, Equipment Schedules and the alike are to include final room numbering and naming. Coordinate with 01A Contractor and final project signage.

72. Despite any reference to the contrary, the use of beam clamps to support hangers from bar joists will not be tolerated. Beam clamps are acceptable on beams. All hangers needing to attach to bar joists are to be through bolted through the chords of the joists. In the event this cannot be located within the required distance to a panel point, this contractor will be responsible for any additional angle needed to move load to top chord, as directed by structural engineer or joist manufacturer.

Sprinkler Specific Scope of Work:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Sprinkler work in accordance with the complete set of Contract Documents.

2. Contractor shall design, engineer, furnish and install all fire protection systems as required by the contract documents, including but not limited to, pipe, fittings, fire pump, jockey pump, air compressors (if shown), valves, drivers, switches, FDC's, controllers, tamper switches, flow switches, trim, sprinkler heads, etc. and all other items required for a complete sprinkler system installation. This includes testing and flushing as required.

3. Fire hydrant flushing is the responsibility of the 02A Contractor. Fire pump testing is the responsibility of the 15A contractor. This contractor includes all required hose to allow for water during fire pump test to not flood adjacent grounds, and is going to closest direct inlet.

4. Prior to start of design, contractor to perform hydrant flow test to confirm available pressure given by design team.

5. Contractor shall coordinate with 03A Contractor regarding underground work and embedded items. Coordinate with 04A, 05A and 09A Contractors regarding pipe sleeves, and embedded piping. Contractor shall provide field layout for sleeves and layout for pipe penetrations.

6. Contractor shall obtain all required permits, secure all inspections and provide all tests and certifications required by the Contract Documents and local government agencies to obtain a Use and Occupancy permit. Contractor includes all final signage, plaques and tagging as necessary and related to this scope of work.

7. Contractor to include heads located within casework, display cases, under stairwells, at window "boxes" or bulkheads, etc. as required by local AHJ at no additional cost to the Owner or Construction Manager.

8. Contractor shall furnish all access panels required for proper access to installed Sprinkler work, in all surfaces.

9. Contractor shall provide fire safing and fire caulk as necessary at all 15A penetrations through walls or floors regardless of timing of installation of piping. Within stairwells, at main or mid-level landings, penetrations do not need to be fire caulked or sleeved. These penetrations to be neatly core drilled and caulked for water tightness to prevent damage to finishes below from maintenance operations. Penetrations through stairwell walls are to be fire caulked at both the stairwell side as well as the adjacent space side of wall.

10. Contractor shall be required to layout for all concrete pads related to the work in this package, forming, pouring and finishing, stripping of forms for concrete is to be by 03A. Pads at a minimum shall be 4" high, and 4" larger in all directions than the perimeter of the piece of equipment sitting on top of them, unless specifically indicated otherwise elsewhere.

11. The 15A Contractor will be responsible for support of own system. Use of "Sammy" hangers at roof deck will not be permitted, all supports are to be structure. Contractor to provide intermediate support points as necessary via trapeze or approved equal method. Contractor to provide submittal showing layout of entire system, all hangers, and each expected load on each hanger for review and approval by structural engineer.

12. Despite any reference to the contrary, the use of beam clamps to support hangers from bar joists will not be tolerated. Beam clamps are acceptable on beams. All hangers needing to attach to bar joists are to be through bolted through the chords of the joists. In the event this cannot be located within the required distance to a panel point, this contractor will be responsible for any additional angle needed to move load to top chord, as directed by structural engineer or joist manufacturer.

13. In the event low voltage is required, but not shown for sprinkler equipment, the 15A Contractor will be responsible for providing all provisions necessary to energize and make complete. This includes, but is not limited to, conduit, wiring, and final connection to breaker and equipment.

14. 16A Contractor shall coordinate with 15A Contractor regarding devices for sprinkler equipment. 15A contractor shall furnish and install all flows control valves, tamper switches, alarm gongs, and any other devices as it relates to 15A work, inclusive of switch on backflow preventer being provided by 15A. 16A shall furnish flow switches to be installed by the 15A contractor.

15. 15A Contractor shall furnish and install splash block or rip rap for sprinkler drains at exterior as to prevent damage

or washout of landscaping.

16. No piping can be run over, through electric rooms, or over electric panels unless specifically shown. If shown, 15A (as applicable for their piping) is to provide sheet metal drip pans as necessary with drain pipe run as necessary to closest pipe and drain per code.

17. Penetrations if required through structural steel members are to be provided by the 5A Contractor after approval from structural engineer of record. 15A shall coordinate with structural engineer of record and 5A for penetration locations.

18. The 15A and 16A Contractors shall submit concurrently to the State Fire Marshal a coordinated sprinkler system/fire alarm system submittal in accordance with the Fire Marshal's requirements. The Contractors shall provide the required coordinated submittal in its entirety within forty-five (45) days of Contract Award or Notice to Proceed, whichever is issued first. Fire Alarm and Fire Sprinkler zoning is to match identically.

19. All stenciling and or identification of 15A work is to be performed by the 15A contractor.

20. The 02A is responsible to bring both the domestic and fire protection service to a point within 5' of the building exterior as shown. The 15A contractor is then responsible to bring both services into the building from five feet outside of the building. Once into the building the 15A contractor is responsible for all work for a complete fire sprinkler system. The 15A contractor is responsible for certification of backflow preventer.

21. 15A Contractor to ensure final location of building FDC is within 100' of an exterior fire hydrant.

22. In the event low point drains are required, Contractor includes all drain piping to the building exterior. This is to be considered during the design and BIM coordination process. It is preferred all draining is to be completed from valves within stairwells. Any and all low point drains are to be approved by the design team prior to fabrication of sprinkler system piping.

23. In the event flex heads are not utilized, 15A Contractor includes field cutting of all arm overs and final drops to head location. No shop cut arms overs or drops are permitted due to the nature of ceiling grid work. Contractor includes final head location adjustments in relation to final grid location at no extra cost.

24. In the event flex heads are not utilized, despite being code compliant, direct side outlets of head piping will not be tolerated. Sprinkler head piping is to include two 90-degree return bends back to branch or main line. In the event this cannot happen, each location is to be brought to Construction Manager for approval.

25. Contractor includes furnish and installation of cabinet to store extra heads, escutcheons and wrenches. Contractor to include PVC sleeves with screw end caps for dry head storage, to be hung adjacent to the cabinet.

26. In the event a fire pump is required, Contractor to assist in coordination of all electrical requirements of the fire pump.

27. In the event standpipes are required by code, contractor includes all piping, hose connections, cabinets (fire rated), etc. for a complete system.

28. Contractor includes all cages at all exposed head locations.

29. The 15A contractor is to furnish and install any required heat trace on plumbing and mechanical piping. The 15A contractor is to furnish and install all required heat trace on sprinkler piping. 16A to have final electrical connection.

30. Any wall penetration required by other trades which has a diameter or horizontal dimension greater than 12" shall require a lintel or sleeve be installed. Locations which are to be steel beam or hung plate which are clearly called out on the structural drawings and will be furnished by 05A, and depending on connection, installed by either 04A or 05A. Both the 15A and 16A contractors are to furnish pipe sleeves regardless of pipe size, installed by 04A or 01A. For all duct/damper openings above ceiling, 15A is to provide steel angles, installed by 04A. For all

duct/damper openings below ceiling and exposed, it is assumed to be a concrete U lintel, precast lintel or bond beam, where allowed by the structural drawings, by 04A. All openings in fire walls are to have either a precast lintel, concrete U lintel or concrete portal. Steel is not permitted in fire wall openings. In the event it is a concrete portal, all reinforcing and concrete is by 03A. If detailed as a precast lintel or concrete U lintel, they are furnished and installed by 04A.

31. ***15A Contractor shall cut, cap and make safe plumbing utilities to the existing school as required to allow the demolition of the existing school to be performed by the 02C Contractor. Contractor shall coordinate with respective utility companies.[4]***

PART 3 – ALTERNATE SCOPE OF WORK

1. Contractor has reviewed the Alternates scope of work listed elsewhere within the specifications and has included all costs in the event the Owner elects to proceed in whole or in part.

PART 4 – ALLOWANCES

1. There are no allowances for this scope of work.

END OF 15A SECTION

PART 2 – SPECIFIC SCOPE OF WORK

1. Contractor has reviewed and understands the Contract Package / Specification Cross Reference listed under Section 011112.

2. Contractor includes General Scope of Work listed under Part 1 of Section 011113.

3. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Electrical work in accordance with the complete set of Contract Documents.

Electrical Specific Scope of Work:

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Electrical work in accordance with the complete set of Contract Documents.

2. Contractor shall furnish and install all electrical work indicated in the Contract Documents, including, but not limited to switchgear, panels, transformers, emergency generator, light fixtures, conduit, wire, electrical devices, stage lighting, supports, telecommunications, A/V systems, intercoms, clocks, security, fire alarm and all Division 26, 27, and 28 complete, required for a complete installation.

3. Provide and maintain adequate temporary lighting, ten (10) foot candles in all interior areas or as per MOSH/OSHA codes whichever is greater,

4. Provide adequate temporary electrical service for all trades. This includes but is not limited to multiple, 208-volt service hookups for, Masonry, Resinous Flooring, and Tile installations.

5. Contractor shall furnish and install temporary power to the Construction Manager's trailer complex and maintain power to ensure no power disruptions throughout the project. Until permanent service from BG&E can be installed, contractor shall make provisions to provide, install and maintain generator, rental costs, fuel and required electrical connections to Construction Manager's as well as ***01A,***[4] 02A, 03A, 04A, 15A and 16A's trailers anticipated to be in the same complex. At contract award, the 16A Contractor shall contact, apply for in Construction Managers name, and coordinate with BG&E to install, maintain and distribute temporary electrical service to the trailer compound. This will include a minimum 200-amp service, to each trailer, inclusive of any required temporary poles, sheds, underground work, conduit, wire, etc. Temporary services to be coordinated with contract work and buried wherever possible. The connection charge is handled through the contract allowance referenced in Part 4 of this specific scope. All other costs, materials, conduits, feeders, etc. to establish this temporary power is considered to be in the base bid of this contractor. This account is to be created in the Construction Manager's name as the Construction Manager is responsible for the monthly charges until project completion, at which time this account will be closed.

6. Contractor shall contact, apply for in Construction Managers name, and coordinate with BG&E to install, maintain and distribute temporary electrical service to the site. This will include a minimum 600-amp service, to the building pad with distribution points located at Construction Manager's direction. Temporary services to be coordinated with contract work and buried wherever possible. The connection charge is handled through the contract allowance referenced in Part 4 of this specific scope. All other costs, materials, conduits, feeders, etc. to establish this temporary power service is considered to be in the base bid of this contractor. This account is to be created in the Construction Manager's name as the Construction Manager is responsible for the monthly charges until which time permanent service can be established, at which time this account will be closed. Temporary service to the building pad must be installed no later than December 15, 2020, or the 16A Contractor will then be required to provide, and or rent, and maintain temporary generator(s) and fuel capable of providing service as described above, until temporary or permanent service is installed by Utility Company, whichever is sooner.

7. The 16A Contractor is responsible for all temporary electric service, telecom etc. as specified in Specification Section 015000. If a more stringent requirement for temporary services is specified in Section 015000 then it shall take precedence.

8. Contractor shall contact, apply for in Owner's name, and coordinate with BG&E to install, maintain and distribute permanent electrical service to the building(s). This account is to be created in the Owner's name as the Owner is responsible for the monthly charges. The connection charge for permanent service will be paid direct by Owner. All other costs, materials, conduits, feeders, etc. to establish this permanent power service is considered to be in the base bid of this contractor.

9. 16A Contractor is responsible for furnishing and installing all incidentals inclusive of conduit, conductors and pads as per BG&E requirements for permanent power. Primary and Secondary ductbanks are to be encased in concrete per BG&E requirements.

10. Contractor includes certification of all utility company primary and secondary ductbanks via use of a 8" mandrel.

11. Contractor shall coordinate with 03A, 04A, 05A, 09A, and 09B Contractors and provide all required embedded items, including, but not limited to, sleeves, conduit, boxes, panel boxes, etc. included in this Contract Package. The Contractor shall be responsible for the proper location and installation of all embedded items. The 16A Contractor will make sure boxes in CMU are installed plumb and flush with CMU as necessary. Boxes will be supported as necessary to avoid movement as CMU progresses. Boxes set in CMU or other substrate but then have a surface finish material such as tile, contractor to include all required extension rings

12. Any wall penetration required by other trades which has a diameter or horizontal dimension greater than 12" shall require a lintel or sleeve be installed. Locations which are to be steel beam or hung plate which are clearly called out on the structural drawings and will be furnished by 05A, and depending on connection, installed by either 04A or 05A. Both the 15A and 16A contractors are to furnish pipe sleeves regardless of pipe size, installed by 04A or 09A. For all duct/damper openings above ceiling, 15A is to provide steel angles, installed by 04A. For all duct/damper openings below ceiling and exposed, it is assumed to be a concrete U lintel, precast lintel or bond beam, where allowed by the structural drawings, by 04A. All openings in fire walls are to have either a precast lintel, concrete U lintel or concrete portal. Steel is not permitted in fire wall openings. In the event it is a concrete portal, all reinforcing and concrete is by 03A. If detailed as a precast lintel or concrete U lintel, they are furnished and installed by 04A.

13. Contractor shall obtain all required permits, secure all inspections and provide all test and inspections required by the Contract Documents to obtain a Use and Occupancy permit.

14. Contractor will meet with Fire Marshall to review and receive comments on annunciator panel including coordination of final room numbering prior to release for fabrication.

15. 16A Contractor shall provide 15A Contractor with a temporary Data Line for programming and operation of mechanical equipment and controls as directed by the Construction Manager.

16. Contractor shall furnish and install complete power connections and final connections for all equipment installed under this package and other packages including, but not limited to, food service equipment, computer lab equipment and or furniture, pumps, stage/theater equipment, motors, panels, residential appliances, etc. as required by the Contract Documents.

17. 16A Contractor shall coordinate with Mechanical Contractor ~~***and Pool Contractor***~~ regarding motor starters for equipment. 16A Contractor shall furnish and install all motor starters, contactors, safety switches, disconnect switches, phase and voltage protection, except for those items which are called for to be factory furnished or integral to the equipment. These integral items shall be provided and installed by the respective Contractor providing the equipment. If this equipment is specified to be provided with factory furnished disconnects and equipment fails to be provided in this fashion and owner still accepts equipment, the respective Contractor is then responsible for all costs incurred by 16A to furnish and install disconnects in the field.

18. In the event 3-phase equipment is required to have phase and voltage protection and monitors, 15A is to provide phase monitors as well as back box at all 3-phase equipment being provided by 15A, 16A to complete install. 16A is required to furnish and install own phase monitors and back boxes on all 3-phase equipment being furnished under the 16A contract. 16A has installation of backboxes, phase monitors and related power wiring, 15A and respective Controls subcontractor has respective control wiring.

19. 16A Contractor to furnish any variable speed drives (VSD's) and variable frequency drives (VFD's) for equipment being furnished under this package. This equipment is also to include separate independent phase monitoring and backboxes. Installation of VSD's, VFD's, phase monitoring and backboxes is by 16A. Contractor also includes installation of VSD's and VFD's furnished by 15A Contractor.

20. Contractor shall furnish and install complete fire alarm system as indicated by the Contract Documents. Provide all required electrical connections to all alarm devices, including but not limited to, water gongs, flow switches, and tamper switches installed by others. Contractor includes connection of fire pump, jockey pump and controller. Contractor includes coordination and final electrical connections with emergency gas shut down solenoids, etc.

20. With the exception of Automatic Door Operators at Aluminum entrances, which are furnished and installed by 08A, all other electrified hardware is furnished and install by 01A. For further clarity, 01A is to furnish and install automatic door operators per at hollow metal frames. 01A is to furnish and install magnetic hold opens as indicated with 16A making connection to the fire alarm system. 01A is to furnish and install magnetic locks, with assistance from 16A for required conduit rough-in. The 01A Contractor shall provide controls, power wiring, junction boxes, rectifiers, and transformers and connection with electrified hardwired being provided in their package. The 01A, 08A and 16A Contractor shall coordinate required conduit or pathways being furnished by 16A for 01A or 08A use. The 01A, 08A and 16A contractor to ensure proper power requirements are brought to each location as well as required interaction with security and fire alarm system. With respect to any electrified hardware, it is the 16A contractor's responsibility to bring power to each door location, and install required power pack (furnished by others) at each door location (central locations will not be utilized due to length of run limitations on provided low voltage wiring); actual electrified door hardware is installed by 01A (or 08A at aluminum entrances) then 16A has power wiring and verification of wiring and final connections. 01A and 08A would then have associated respective adjustments. Security card readers are 16A to furnish and install with coordination from both 01A and 08A depending on location.

21. Contractor shall furnish and install all exterior conduit, duct banks and incidentals including but not limited to, electric, phone, CATV, fiber optic and spares, duct banks, transformer pads, manholes, handholes, concrete, etc. as required by the Contract Documents. The Contractor shall coordinate this work with the Construction Manager, Owner and all applicable Utility companies. This work also includes excavation, concrete, and backfill. Any utilities requiring new poles to be set for public utilities cost from installing public utility and or actual work is by this contractor.

22. Contractor shall coordinate on a daily basis with other Contractors to avoid conflicts in installation. Correction or reinstallation of work due to lack of coordination will be done at no cost to the Owner.

23. The 16A Contractor will furnish and install all backboards necessary to mount equipment if not indicated on the contract drawings. This is to be fire treated if required.

24. Contractor shall submit Fire Alarm wiring diagram and annunciator plan sixty (60) days after Notice to Proceed.

21. 16A Contractor shall be required to furnish layout for all concrete pads related to the work in this package. This includes interior and exterior locations. Forming, pouring, finishing, stripping, etc. of these pads is by 03A. If concrete is not shown, but required, or if pad shown is smaller than required 16A equipment, 16A is responsible for all cost increases by the 03A Contractor as part of base bid.

25. Contractor shall electrify Food Service equipment and appliances specified. Contractor will coordinate with the Food Service Contractor, to ensure that proper rough-ins and receptacles are provided under this Contract.

26. Conduit runs below slabs on grade shall backfilled with #57 stone, compacted per contract requirements. In the event slab rough is not complete prior to a scheduled slab pour, the 16A Contractor will rough in balance of work overhead at no added cost.

27. Contractor shall provide sleeves, conduit, boxes, wire, and devices as specified or shown, for the Electrical, F/A, A/V, Communications, Clocks, Low Voltage, Controls, Security, as required. In addition to what is currently indicated, despite any reference to the contrary, contractor to include at a minimum a 2"x4" back box with 3/4" conduit to above interior ceiling, firesafing as required, pull string and stainless blank off plate at all exterior doorways to be used for future security access card readers. This will be at all exterior doorways, all levels, all hollow metal, aluminum, or rollup doorways, etc.

28. Spoils from 16A Contractor work will be stockpiled by 16A as directed by the Construction Manager and disposed in a legal manner offsite by the 02A Contractor.

29. Permanent heat and cooling start-ups will take place within fifteen (15) days prior to the date of substantial completion, as directed by the Construction Manager. The permanent system shall remain in operation following start-ups, as directed by the Construction Manager. The Contractor shall complete all work necessary properly to electrify the heating system equipment for its use as described above and incur any cost for extended warranty as part of base bid price.

30. Permanent lighting may be utilized within two (2) months prior to substantial completion. Contractor will replace lamps and tubes as necessary and incur any cost for extended warranty as part of base bid price.

31. Contractor shall caulk as necessary any 16A work which abuts material by others.

32. Contractor shall fire safe or fire caulk all 16A penetrations through walls or slabs.

33. The Contractor shall furnish all access panels as required for 16A work. These will be installed by others.

34. Contractor shall furnish and install all pigtails as necessary to connect equipment wire by others to receptacle as furnished by 16A Contractor.

35. Contractor shall furnish and install all site lighting, conduit, concrete pole bases, and concrete pads for exterior electric equipment, anchor bolts, and accessories as required by the Contract Documents. Pole base design is to be stamped by registered engineer in the State of Maryland.

36. 16A Contractor is responsible for all power and data rough-ins and final terminations/connections for the site signs per Contract Documents.

37. Contractor shall coordinate placement of conduit under slab on grade. Despite any reference to the contrary, no conduits will be allowed within any elevated slab on decks, or within the concrete of slab on grade. All conduits intended to be below slab on grade are to be run below stone subgrade layer.

38. Contractor will provide 5/8" plywood over 2" thick rigid insulation board as roof protection while working on the roof.

39. Contractors shall provide daily cleanup of all trash and debris generated by the work and place in dumpster furnished by the Construction Manager. The Contractor shall leave the area in broom clean condition daily. Should the Contractor's cleanup be unsatisfactory, the Construction Manager shall perform the work at the Contractor's expense

40. Contractor will be responsible to regrade and compact subgrade when disturbed by 16A work. If subgrade is made unsuitable by this work, 16A will undercut and replace at no-cost change.

41. This site is labeled as "unclassified to design subgrade". Therefore, the contractor will be responsible for all excavations down to proposed subgrade, for work under this contract package, regardless of material being excavated, including rock, at no cost to the Owner. All excavation and or spoils from this work are to be centrally located by 16A for haul off by 02A.

42. 16A to backfill all underground work being provided with this package with #57 stone and/or concrete as required by utility company, despite any reference to the contrary.

43. 16A Contractor is responsible for in-wall fire-treated wood blocking to support any 16A fixture or equipment, if not shown on contract documents as being part of the 01A package.

44. Any receptacle provided under this scope of work 6' or closer to a source of water (i.e., sink fume hoods, emergency shower, etc.) or in Kitchen shall be a "GFI" type whether indicated or not in the contract documents and shall be included in base bid cost. This Contractor is responsible for reviewing the Kitchen Equipment Drawings and Specifications and including all items including but not limited to referenced to be by the Electrical (D26,27,28) Contractor.

45. ~~***This Contractor is responsible for reviewing the Aquatic Drawings and Specifications and including all items referenced to be by the Electrical (D26, 27, 28) Contractor, including but not limited to all pool grounding and bonding as required. The 13A Contractor shall be responsible for incidental low-voltage (less than 110 volts) control wiring within the filter room.***~~ ***[4]***

46. Quantity of materials intended to be delivered and stored onsite must be coordinated and approved by the Construction Manager due to site constraints. It is the intent to have materials onsite to keep a steady flow of work but not any more material than can be installed in a two (2) week period of time. Offsite provisions for material storage and all cost are to be included in base bid.

47. 16A is to furnish, install, and maintain security lighting at roof level to shine down onsite. This is to be 400-watt halogen fixtures with timer or photo electric control. Fixtures to be placed 80' on center. This includes all conduit, wiring, fixtures, bulbs, and incidentals. Any patch or repair necessary after removal is part of this cost which is to be included in the base bid.

48. 16A to include costs as necessary in base bid to coordinate and assist Commissioning Authority.

49. 16A will furnish and install thru wall cable ports and associated trim to provide a neat, finished appearance as required by the Contract Documents.

50. The 15A and 16A Contractors shall provide all required color coding and stenciling of mechanical piping, ductwork, equipment, conduit, etc. General painting of exposed piping ductwork, equipment, conduit, etc. located in public areas will be performed by the Painting Contractor.

51. 16A Contractor is to provide as-builts and spray paint exterior conduit run locations prior to landscaping, playground equipment, exterior athletic equipment, fencing and exterior signage installation.

52. 16A Contractor shall furnish and install conduit and wiring to disconnect switch. 16A to coordinate interconnection with security and fire alarm. Conduit and wiring for all other devices, switches, key switches, controllers, etc. will be installed by 01A.

53. The 15B and 16A Contractors shall submit concurrently to the State Fire Marshal a coordinated sprinkler system/fire alarm system submittal in accordance with the Fire Marshal's requirements. Fire Marshal must approve the annunciator panel design prior to release for fabrication. The Contractors shall provide the required coordinated submittal in its entirety within forty-five (45) days of Contract Aware or Notice to Proceed, whichever is issued first. Fire Alarm and Fire Sprinkler zoning is to match identically.

54. Contractor to furnish and install all equipment supports, preformed flashing sleeves, and roof curbs for work under this contract package. 16A to coordinate required provisions to level curbs with 01A contractor. Curbs are to be a minimum of 20" above finished roof surface.

55. Contractor includes wire guard cages at all devices such as but not limited to thermostats, speakers, clocks, lights etc. within the gymnasium.

56. Contractor includes vandal alarm box covers at all fire alarm pull stations regardless of location if not already specified.

57. The 15A Contractor is to furnish and install all required heat trace on plumbing and mechanical piping. The 15B contractor is to furnish and install all required heat trace on sprinkler piping. 16A to have final electrical connection.

58. In addition to the BIM requirements in the General Scope, contractor is required to also model:
    a. Code required clearances around all equipment and disconnects being furnished under this package
    b. Code required access to all duct fire and or smoke dampers
    c. All lighting, regardless of within a ceiling or exposed.

59. In addition to the requirement of providing daily cleanup of self-generated debris from work and or workers, the 01A, 04A, 15A and 16A contractors are to include 1 man per every 15 men contractor has onsite, with a mandatory minimum of one man if contractor has less than 15 men onsite. This requirement will be utilized for contractors to participate in a composite cleanup crew. Composite cleanup days will be every Wednesday from 7am to 2pm. Construction Manager will provide trash carts, dumpsters and sweeping compounds, all other equipment, PPE or otherwise, i.e. brooms, shovels, etc., are to be contractor provided.

22. The 16A Contractor shall provide temporary power connections for the 15A Contractor providing temporary heat. Temporary heat shall be installed and operating in each building area or portion thereof that has been enclosed with temporary doors and windows in any given area. 15A Contractor shall provide temporary heating as required to protect all construction materials from the potential adverse effects of low temperature. 15A Contractor shall achieve by use of temporary equipment until the permanent systems can be utilized. Temporary heat will be required from approximately October 15, 2021 through February 15, 2022.

60. Contractor shall include all low voltage control wiring and make all final power connections for all automatic door operators, motorized roller shades, appliances, gymnasium equipment, etc. ***In regards to the skylights, the 07A Contractor shall furnish and deliver all control/integral wiring, switches, etc. as required for a complete skylight operation to the 16A Contractor for installation.*** [4]

61. Despite any reference to the contrary, the use of beam clamps to support hangers from bar joists will not be tolerated. Beam clamps are acceptable on beams. All hangers needing to attach to bar joists are to be through bolted through the chords of the joists. In the event this cannot be located within the required distance to a panel point, this contractor will be responsible for any additional angle needed to move load to top chord, as directed by structural engineer or joist manufacturer.

62. ***16A Contractor shall cut, cap and make safe power and low voltage to the existing school as required to allow the demolition of the existing school to be performed by the 02C Contractor. Contractor shall coordinate with respective utility companies.*** [4]

Computer Relocation Specific Scope:

1. Contractor shall remove and relocate all computers, peripherals and associated items from the existing school to the new school. The Contractor shall be responsible for providing all boxes, bins, labels, packing materials etc. and for packing, boxing, palletizing all items. The Contractor shall pack, move and unpack all items to their final location as directed by the CM/Owner. Upon setup in the new school, all computers shall be started up and ensured to be in working order and connected to the network.

2. Contractor shall inventory packed computers and peripherals. Identify existing room number/name and teacher name on packed equipment. Labeling devices shall be user-friendly and be easily removed without damage to the Property. Use numbering system, etc. to link individual supplies to existing furniture/location from which removed so supplies may be placed in final location when unpacked.

PART 3 – ALTERNATE SCOPE OF WORK

1. Contractor has reviewed the Alternates scope of work listed elsewhere within the specifications and has included all costs in the event the Owner elects to proceed in whole or in part.

Main Entrance Canopy Specific Scope of Work (Alternate #2)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Main Entrance Canopy work in accordance with the complete set of Contract Documents and as detailed on A-531.

2. This work includes all rough-ins, power, lighting and lighting controls for a complete installation.

Photovoltaic System Specific Scope of Work (Alternate #9)

1. Contractor shall provide all labor, material, equipment, and supervision necessary for and reasonably incidental to the completion of the Photovoltaic System work in accordance with the complete set of Contract Documents. Base bid shall only included all interior electrical conduits associated with the photovoltaic system.

PART 4 – ALLOWANCES

1. Contractor to carry an allowance of $10,000 to cover the anticipated BG&E connection fee for temporary power to the trailer compound.

2. Contractor to carry an allowance of $25,000 to cover the anticipated BG&E connection fee for temporary electrical service to the building site.

END OF 16A SECTION

RFI Summary Log

Grouped by Trade Contractor

Talbott Springs Elementary School **Project # 147** **Dustin Construction, Inc.**

RFI #	Subject	Date Submitted	Date Req'd	Date Resp	Days Late
Action Electrical Contractors					
000.PB 006	Photovoltaic Collector Installer	6/25/2020	7/2/2020	7/2/2020	0
000.PB 022	Computer Relocation	6/30/2020	7/7/2020	7/8/2020	1
000.PB 082	16A Scope	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 083	Wireless Access Points	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 084	Underslab PVC	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 085	EMT Conduit	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 149	Generator Pad	7/6/2020	7/13/2020	7/8/2020	-5
BoMark Electric					
000.PB 002	LDC Screens	6/23/2020	6/30/2020	7/2/2020	2
000.PB 028	MC Fire Alarm Cable	7/1/2020	7/8/2020	7/8/2020	0
Bowen and Kron Enterprises, Inc.					
000.PB 043	Security and Fire Watch	7/2/2020	7/9/2020	7/8/2020	-1
000.PB 044	Existing Building	7/2/2020	7/9/2020	7/8/2020	-1
Brawner Builders					
000.PB 112	Wood Flooring	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 113	Existing School Floorplan	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 114	Moving	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 115	Specification Assignment	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 116	Operable Partitions	7/6/2020	7/13/2020	7/8/2020	-5

RFI #	Subject	Date Submitted	Date Req'd	Date Resp	Days Late
000.PB 117	Temporary Stair	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 118	Display Cases	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 119	Trade Contractor Assignments	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 120	HM Frame 12	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 121	Sinks	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 122	CAR-3	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 123	01A Specific Scope Items	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 124	062000 Items	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 125	Moving Items	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 126	Wall Type E5	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 127	Metal Stud/Gypsum Board	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 128	Sail Shades	7/6/2020	7/13/2020	7/8/2020	-5
Cromwell Contracting					
000.PB 054	Roof Safety	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 055	Shade Openness	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 056	Shade Controls	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 057	Frame Types	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 058	Expansion Joint Covers	7/6/2020	7/13/2020	7/8/2020	-5
Engineered Construction Products, Inc.					
000.PB 035	Storefront Items	7/2/2020	7/9/2020	7/8/2020	-1
Glass Concepts					
000.PB 005	Storefront	6/25/2020	7/2/2020	7/2/2020	0
Glass Industries					
000.PB 030	Aluminum Door Hardware	7/1/2020	7/8/2020	7/8/2020	0
000.PB 031	Storefront Questions	7/1/2020	7/8/2020	7/8/2020	0
Gordian Energy Systems					
000.PB 148	Solar	7/6/2020	7/13/2020	7/8/2020	-5

RFI #	Subject	Date Submitted	Date Req'd	Date Resp	Days Late
Gray & Son, Inc.					
000.PB 036	Existing Building Conditions	7/2/2020	7/9/2020	7/8/2020	-1
000.PB 059	HAZMAT Abatement	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 060	Classroom Trailers	7/6/2020	7/13/2020	7/8/2020	-5
Grounded Electrical Construction					
000.PB 086	Light Fixture A1E	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 087	Receptacles	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 088	Staging/Parking	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 089	Project Duration	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 090	Utility Service Charges	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 091	Pedestal Receptacles	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 092	Bidding Procedures	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 093	16A Scope of Work	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 094	Conduit	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 095	Motor Starters	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 096	Fire Alarm MC	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 097	PV Roof Penetration	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 098	Computer Moving	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 099	Lighting Control Partition Sensors	7/6/2020	7/13/2020	7/8/2020	-5
Harland Shoemaker					
000.PB 106	Water Line	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 107	Sediment Traps	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 108	Play Equipment	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 109	Survey and As-Builts	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 110	Geotechnical Testing	7/6/2020	7/13/2020	7/8/2020	-5

RFI #	Subject	Date Submitted	Date Req'd	Date Resp	Days Late
HCGI					
000.PB 070	274000 Model Numbers	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 071	AV Equipment Requirements	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 072	Flow Diagram	7/6/2020	7/13/2020	7/8/2020	-5
Interior Specialists					
000.PB 027	Demolition Specific Scope	7/1/2020	7/8/2020	7/8/2020	0
Interstate Corporation					
000.PB 020	Roof Accessories	6/29/2020	7/6/2020	7/8/2020	2
000.PB 021	Skylights	6/29/2020	7/6/2020	7/8/2020	2
Keller Brothers, Inc.					
000.PB 129	Metal Strapping	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 130	Expansion Joint Cover Assemblies	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 131	CAR-1	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 132	Moving Scope	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 133	Final Clean	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 134	Dampproofing/Waterproofing	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 135	AL Door Hardware	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 136	Sail Shade Manufacturer	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 137	Level 5 Finish	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 138	Skim Coat	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 139	Carpet Cleaning Equipment	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 140	Elevator Manufacturer	7/6/2020	7/13/2020	7/8/2020	-5

RFI #	Subject	Date Submitted	Date Req'd	Date Resp	Days Late
000.PB 141	Ceiling Hooks	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 142	7/A511	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 143	Projection Screens	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 144	Pencil Sharpeners	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 145	Sunscreen Shades	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 146	Casework Sinks	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 147	Mounting Blocks / Blocking	7/6/2020	7/13/2020	7/8/2020	-5
Key Systems					
000.PB 003	Generator Clarifications	6/23/2020	6/30/2020	7/2/2020	2
000.PB 032	16A Specific Scope	7/1/2020	7/8/2020	7/8/2020	0
Kinsley Manufacturing					
000.PB 101	Support Attachment	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 102	Structural - Sail Shades	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 103	Lintels	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 104	Roof Opening Supports	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 105	Shear Connections	7/6/2020	7/13/2020	7/8/2020	-5
Master Care Flooring					
000.PB 001	096400 - Wood Flooring Substitution Request	6/22/2020	6/29/2020	7/2/2020	3
P. Flanigan and Sons					
000.PB 037	Mill and Overlay	7/2/2020	7/9/2020	7/8/2020	-1

RFI #	Subject	Date Submitted	Date Req'd	Date Resp	Days Late
Pre-Bid Meeting					
000.PB 009	Alternates	6/25/2020	7/2/2020	7/8/2020	6
000.PB 010	02A Engineer's Estimate	6/25/2020	7/2/2020	7/8/2020	6
000.PB 011	Sitework	6/25/2020	7/2/2020	7/8/2020	6
000.PB 012	Site Visit	6/25/2020	7/2/2020	7/8/2020	6
000.PB 013	Permit	6/25/2020	7/2/2020	7/8/2020	6
000.PB 014	Alternate Assignment	6/25/2020	7/2/2020	7/8/2020	6
000.PB 015	HAZMAT Report	6/25/2020	7/2/2020	7/8/2020	6
RD Bean					
000.PB 023	Skylights	7/1/2020	7/8/2020	7/8/2020	0
000.PB 024	Hot Asphalt Scheduling	7/1/2020	7/8/2020	7/8/2020	0
000.PB 025	Skylight Controls	7/1/2020	7/8/2020	7/8/2020	0
000.PB 026	Roofer Wage Rate	7/1/2020	7/8/2020	7/8/2020	0
000.PB 061	Snow Guards	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 062	Nailboard Insulation	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 063	Pipe Support	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 064	Finish Warranty	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 065	Roof Curb Caps	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 066	Roof Ladders	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 067	PV System Protection Mat	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 068	Siding Panel Substrate	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 069	Skylight Model	7/6/2020	7/13/2020	7/8/2020	-5
Rommel Construction					
000.PB 150	T-105	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 151	MC Cable	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 152	Lightning Protection	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 153	BG&E Splice Box	7/6/2020	7/13/2020	7/8/2020	-5
Ross Contracting, Inc.					

RFI #	Subject	Date Submitted	Date Req'd	Date Resp	Days Late
000.PB 045	02A Specific Scope Clarifications	7/2/2020	7/9/2020	7/8/2020	-1
000.PB 046	02C Specific Scope Clarifications	7/2/2020	7/9/2020	7/8/2020	-1
Strayer Contracting					
000.PB 074	Wall Strapping	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 075	Specification / Scope Cross Reference	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 076	Liquidated Damages	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 077	Ceiling Tile Attic Stock	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 078	Tectum Panels	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 079	Window Temporary Close-In	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 080	Med Sled Quantity	7/6/2020	7/13/2020	7/8/2020	-5
000.PB 081	Moving Quantity	7/6/2020	7/13/2020	7/8/2020	-5
The Berg Corporation					
000.PB 053	Demolition Specific Scope Items	7/6/2020	7/13/2020	7/8/2020	-5
The Crown Electric Company					
000.PB 033	MBE Requirements	7/1/2020	7/8/2020	7/8/2020	0
000.PB 034	Electrical Service	7/1/2020	7/8/2020	7/8/2020	0
000.PB 052	Div 27 Manufacturer	7/2/2020	7/9/2020	7/8/2020	-1
TJ Distributors					
000.PB 029	Gymnasium Equipment	7/1/2020	7/8/2020	7/8/2020	0
Towson Mechanical					
000.PB 004	Cross Reference Clarifications	6/23/2020	6/30/2020	7/2/2020	2
000.PB 007	Moving Scope of Work	6/25/2020	7/2/2020	7/8/2020	6
000.PB 008	Door Operator Substitution	6/25/2020	7/2/2020	7/2/2020	0
000.PB 073	Shade Fabric	7/6/2020	7/13/2020	7/6/2020	-7
000.PB 100	Sail Shades	7/6/2020	7/13/2020	7/8/2020	-5
Urban Zink					
000.PB 038	Rock Removal	7/2/2020	7/9/2020	7/8/2020	-1
000.PB	02A Specific Scope	7/2/2020	7/9/2020	7/8/2020	-1

RFI #	Subject	Date Submitted	Date Req'd	Date Resp	Days Late
039					
000.PB 040	Outdoor Structures	7/2/2020	7/9/2020	7/8/2020	-1
000.PB 041	Topsoil	7/2/2020	7/9/2020	7/8/2020	-1
000.PB 042	As-Built Drawings	7/2/2020	7/9/2020	7/2/2020	-7

William F. Klingensmith

000.PB 016	Specification Cross Reference	6/29/2020	7/6/2020	7/2/2020	-4
000.PB 017	01A Scope Items	6/29/2020	7/6/2020	7/8/2020	2
000.PB	Temporary Electric for Trailer	6/29/2020	7/6/2020	7/8/2020	2

RFI Summary Log
Grouped by Trade Contractor

RFI #	Subject	Date Submitted	Date Req'd	Date Resp	Days Late
018					
000.PB 019	Form of Proposal - Subcontractors	6/29/2020	7/6/2020	7/8/2020	2
000.PB 047	Concrete Pavers	6/29/2020	7/6/2020	7/8/2020	2
000.PB 048	Plumbing Fixture Trim	7/2/2020	7/9/2020	7/8/2020	-1
000.PB 049	Wall Types	7/2/2020	7/9/2020	7/8/2020	-1
000.PB 050	Gypsum Board	7/2/2020	7/9/2020	7/8/2020	-1
000.PB 051	Drywall Finishing	7/2/2020	7/9/2020	7/8/2020	-1
000.PB 111	Temporary Controls	7/6/2020	7/13/2020	7/8/2020	-5

Request for Information 000.PB020

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB020 **Date Submitted: 6/29/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Interstate Corporation 16031 Industrial Drive Gaithersburg, MD 20877

Author RFI Number

Subject

Roof Accessories

Trade Contractor

Interstate Corporation

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/6/2020**

Roof Sump: Specification 072200-roof and Deck Insulation, Para. 1.02.A5 indicates Roof Sump should be 8'x8', while Roof Specialty Dwg 1/R-7-Roof Drain Detail shows 4'x4';
Please clarify which one is correct.

Roof Hatch Railing (Ref. Specification Section 075113, Para. 2.5L):
Roof hatch railing HSF-4848MG by Fall Protection looks that it can't fit to 54" x 30" roof hatch.
Please modify the manufacturer, or Model No. of railing product.

Suggestion

Answer **Date Answered: 6/30/2020**

Roof Sump: Provide 4'x4' drain sumps as shown on Drawings.

Roof Hatch Railing: Provide HSF-4866MG by Fall Protection USA.

Request for Information 000.PB023

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB023 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject	Trade Contractor
Skylights	RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

The structural drawings do not indicate the required framing for the skylights. These items and work should be indicated on the structural drawings and provide under the 5A bid package, as this is the most cost-effective route. The roof decking could be left in place and removed by the 07A “Roofing” contractor prior to skylight curb installation.

Suggestion

Answer **Date Answered:**

Per note 25 on S-111,S-112, and S-113, it states to see the architectural drawings for location of skylights and to provide an angle frame at the skylight per detail 6 on S-401.

Nick Morabito 07.06.2020

Request for Information 000.PB028

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB028 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Bomark Electric Company 11408 Cronridge Drive, Suite F Owings Mills, MD 21117

Author RFI Number

Subject	Trade Contractor
MC Fire Alarm Cable	BoMark Electric

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

Spec 28 31 00 (2.14) (D) – Fire Detection and Alarm Systems states the use of fire alarm MC but in Spec 28 31 00 (3.1) (B) (1) – Fire Detection and Alarm Systems it states all wiring must be in conduit. Can you please clarify if MC Fire Alarm Cable allowed?

Suggestion

Answer **Date Answered:**

Provide wire in conduit as indicated on the specification 28 3100, sub-paragraph 3.1.B.1. 7 July 2020

Request for Information 000.PB029

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB029 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	T.J. Distributors 2220 Commerce Rd., Unit 5 Forest Hill, MD 21050

Author RFI Number

Subject	Trade Contractor
Gymnasium Equipment	TJ Distributors

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

1. Section 116600, paragraph 2.01.A. specifies dual post basketball backstops and not single post backstops. Can it be confirmed that the basketball backstops should be dual post and not single post, which is the most commonly used type backstop (see attached comparison)?
2. Section 116600, paragraph 2.01.A. specifies electric winches to retract the basketball backstops but E-201 only indicates a power supply for the divider curtain. Can it be confirmed the basketball backstops should be electrically operated by a wall mounted key-switch?
3. Section 116600, paragraph 2.01.A. specifies an integral height adjustment feature but does not state the operation. Should the height adjustment feature be manually operated by an awing type crank or electrically operated by a wall mounted key-switch?
4. Section 116600, paragraph 2.01.C. specifies stationary basketball goals and not break-away goals. Should break-away goals be supplied for the basketball backstops (NOTE: Highly recommended for backstops with height adjusters)?
5. Section 116600, paragraph 2.02. specifies wall pads that are 2'-0" wide by 4'-8" high (Panel IA) but none are indicated on the drawings. Are 2'-0" wide by 4'-8" high pads required on the project, if so, please provide location and quantity?
6. Section 116600, paragraph 2.02. specifies corner pads but none are indicated on the drawings. Are corner pads required, if so, please provide location and quantity?
7. Section 116600, paragraph 2.03. specifies two volleyball uprights but then specifies (3) nets, (3) net ratchets and (5) upright pads. Can you confirm that only (1) net, (1) net ratchet and (2) upright pads should be provided?
8. Section 116600, paragraph 2.06 specifies an existing climbing wall to be relocated. Can images of the existing climbing wall be provided to appropriately price this option?

Suggestion

Answer **Date Answered:**

July 08, 2020

1. Dual post backstops are correct as specified.
2. Provide power as shown on revised sheet E-201
3. Operation shall be by a wall-mounted key switch. See revised sheets E-001 & E-201.
4. Model numbers have been updated to reflect breakaway goal description in remainder of paragraph.
5. Wall pad quantities and mounting details are shown on sheet A-101
6. No corner pads are included. Specification section has been revised to reflect this.
7. Section 11 6600 has been updated to reflect corrected quantities of equipment in question.
8. Climbing wall image has been included on revised sheet A-700; detail 1F.


Performance Sports Systems #2207 Dual Post Backstop as specified


Performance
Sports Systems
#3107 Single
Post Backstop

Request for Information 000.PB031

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB031 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Glass Industries, LLC 4320 Old Milford Mill Road Pikesville, Maryland 21208

Author RFI Number

Subject	Trade Contractor
Storefront Questions	Glass Industries

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

Section 084113 3.02 notes that field testing of storefront is to be done at 12 PSF. The basis of design storefront is tested to 10 PSF in lab and field testing is usually only to be required at 2/3 of the lab testing. The curtain wall would have similar numbers. Also, please outline the number of required tests, when they will occur, and confirm that the actual tests are at the contractor's expense.

Several openings on elevation 1/A-412 show sunshades over sunshades over single doors. Is this actually required?

Note 7 on sheet A-611 says that all the elevations shown should be Kawneer 451UT (ultra-thermal). Specification section 084113 2.01 allows for 451 non-thermal framing on the interior of the building. Please confirm non-thermal framing can be used for the frames shown on A-611.

Please clarify what is required for glass type SG. Is it essentially the same as the other listed types but with adding a laminated lite? At types 3 and 4, the typical exterior glass, to make it "safety glass" could we not just make both lites tempered? Please provide the exact makeup that is required to eliminate confusion.

On sheet A-104 Media Center, there are what appear to be two window openings on the East and West walls. Please confirm and provide the correct labels for these openings.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to Drawings and Specifications.

July 08, 2020

Request for Information 000.PB034

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB034 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	The Crown Electric Company 2027 Greenspring Drive Timonium, MD 21093

Author RFI Number

Subject	Trade Contractor
Electrical Service	The Crown Electric Company

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

In the specifications, Section 26-0541 3.3 A, primary electrical service from BGE calls for the Electrical Contractor to run a 5” duct bank from the BGE Transformer pad to the property line. Drawing E-050 shows running a 3 way 4” duct bank from the BGE transformer pad across Basket Ring Rd. to the BGE switch. Please clarify.

Suggestion

Answer **Date Answered:**

Provide 3-way 5" ductbank from transformer to switch. Switch currently feeds existing school on the property. July 6, 2020

Request for Information 000.PB035

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB035 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Engineered Construction Products, Inc. 5422 Mt. Zion Road Frederick, MD 21703

Author RFI Number

Subject	Trade Contractor
Storefront Items	Engineered Construction Products, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

1. Doors 131 and 131E Located in the Media Center are indicated on the Door schedule as Type A doors and Material WP. These doors are indicated to be within Aluminum Storefront framing. On Sheet A-611 the doors are drawn as glazed Aluminum Storefront doors. Please confirm that these doors are not Aluminum Storefront Doors and they are to be provided and installed with hardware by the Hollow Metal / Wood Door Contractor into Aluminum Storefront framing which shall be prepared to receive those doors.

2. Please confirm that interior storefront on A-611 shall be Kawneer 451 Non-Thermal framing as per specification 084113 Aluminum Entrances and Storefronts and shall not be 451UT as per General note 7 on that page.

3. Please confirm that all Aluminum Storefront Doors – both Interior and Exterior shall be 500 Heavy Wall Entrances and that the interior door frame Verticals and Headers shall be Heavy Wall Storefront Frames. Exterior Frames shall be Heavy Wall Subframes inset into Curtainwall framing.

4. Please confirm that all sunshades are attached to Kawneer 451UT Storefront where shown. Specification calls for them to be attached to 1600UT Curtainwall.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to Drawings and Specifications. July 08, 2020

Request for Information 000.PB037

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB037 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	P. Flanigan & Sons, Inc. 2444 Loch Raven Road Baltimore, MD 21218

Author RFI Number

Subject	Trade Contractor
Mill and Overlay	P. Flanigan and Sons

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

1. Sheet C-5 indicated to see sheet C-20 for the overlay detail for Basket Ring Road and Whiteacre Road, but there is no overlay detail on sheet C-20. Please provide this detail.

2. Is Basket Ring Road and Whiteacre Road to be overlay only, or mill and overlay?

Suggestion

Answer **Date Answered:**

Reference on C-5 has been modified to reference C-21 where overlay details were provided. Yes, both roads are to be milled and overlayed in the areas designated on the plans.

Stephanie Tuite, FCC 7/720

Request for Information 000.PB049

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB049 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	William F. Klingensmith, Inc. 7307 Baltimore Avenue, Suite 209 College Park, MD 20740

Author RFI Number

Subject
Wall Types

Trade Contractor
William F. Klingensmith

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

An “E5” wall is shown on 2nd floor B, it is not shown on A-100 Wall Construction types, please identify.

Reference A-100, P4A wall type shows 4 7/8” metal studs, please confirm this is a typo.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to drawings. July 08, 2020

Request for Information 000.PB050

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB050 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	William F. Klingensmith, Inc. 7307 Baltimore Avenue, Suite 209 College Park, MD 20740

Author RFI Number

Subject

Gypsum Board

Trade Contractor

William F. Klingensmith

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

Reference 092900 – Gypsum Board paragraph 2.01.A last sentence " All gypsum panels to be mold resistant". Please provide a specific product required. Confirm this is to be installed everywhere.

Suggestion

Answer **Date Answered:**

National Gypsum Type X and C drywall or approved equals are acceptable mold resistant products. July 08, 2020

2.01A shall be installed everywhere unless otherwise noted.

Request for Information 000.PB051

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB051 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	William F. Klingensmith, Inc. 7307 Baltimore Avenue, Suite 209 College Park, MD 20740

Author RFI Number

Subject	Trade Contractor
Drywall Finishing	William F. Klingensmith

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

Scope item 1A Metal Stud…#25 specifies all drywall work to be a minimum “Level 4” finish if not specified higher otherwise, specification 092900 paragraph 3.05 specifies a “Level 5” finish, one of the drywall subcontractors bidding to us said Level 5 is expensive in this case and unnecessary. Please confirm/clarify.

Suggestion

Answer **Date Answered:**

Specification section 09 2900 is correct. Level 5 is the expected finish for drywall throughout the project. July 08, 2020

-Jim Davis, TCA

Request for Information 000.PB052

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB052 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	The Crown Electric Company 2027 Greenspring Drive Timonium, MD 21093

Author RFI Number

Subject	Trade Contractor
Div 27 Manufacturer	The Crown Electric Company

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

Ortronics is specified throughout Section 27. “or” approved equivalent. Can a list of equivalents be provided?

Suggestion

Answer **Date Answered:**

July 7, 2020

1. Section 27 is generally a performance specification.
2. Any substitutes must provide equal or greater performance.
3. The burden of proof is on the contractor to provide comparable equipment if substitutes are used.
4. Substitute equipment must be submitted for review prior to approval/acceptance.
5. Where "no substitutions" is stated, alternate equipment is not allowed.

Bryan Jones
ESP

Request for Information 000.PB055

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB055 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Cromwell Contracting, LLC 1000 Cromwell Bridge Road Towson, Maryland 21286

Author RFI Number

Subject

Shade Openness

Trade Contractor

Cromwell Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Specification 122413, Section 2.02 Sunscreen Shades calls out for fabric 10% openness. Most of the windows this shade will cover are exterior windows and we recommend you clarify this openness with the Architect. A 10% openness will not block out a lot of sunlight into the rooms. If the intent is to reduce the amount of sunlight while still allowing some to enter, may we suggest a 3% openness fabric?

Suggestion

Answer **Date Answered:**

Intent is to reduce glare and still allow sufficient daylight through windows. 10% openness is correct. July 08, 2020

-Jim Davis, TCA

Request for Information 000.PB057

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB057 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Cromwell Contracting, LLC 1000 Cromwell Bridge Road Towson, Maryland 21286

Author RFI Number

Subject	Trade Contractor
Frame Types	Cromwell Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Where, if any, are HM Borrowed Lite Type 12/A-610 denoted on the Floor Plans? We found at least two each of Type 12 in the Media Center East/West walls on A-701 but they are not noted on the floor plan.

We are using Frame Type 1 for Door A100A, not Type 6. Type 6 is a round window.

Why does Door B131 and B131E have Hollow Metal Doors but have Aluminum Storefront frames ? (See Type 6 on A-611)
Detail F/A611 looks like an Aluminum Storefront Door detail. Please confirm if this detail is correct.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to drawings. July 08, 2020

Request for Information 000.PB061

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB061 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject

Snow Guards

Trade Contractor

RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Is the snow guard system to be 2-Bar or 3-Bar?
Specification 074113 – Paragraph 2.5.O; Indicates “3-bar”
Specification 077200 – Paragraph 2.02; Indicates “2 pipe”
Detail 1/R-2 indicates 2-Pipe and detail 4/R-3 indicates 3-Pipe.

Suggestion

Answer **Date Answered: 7/7/2020**

The 3-bar system shall be used per Specification Section 074113. Reference to the snow guard system will be removed from Section 077200. Note on Detail 1/R-2 has been changed to reference the 3-bar system.

Request for Information 000.PB062

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB062 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject	Trade Contractor
Nailboard Insulation	RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Regarding Nailboard Insulation on the walls - The thinnest nailable board insulation for the walls providing LTTR 7.3 includes 5/8" frt plywood and has a total thickness of 2.125". Please confirm this is acceptable. If this is not acceptable please provide a contact to obtain specified product.

Specification 075113 – Paragraph 2.1.E and drawing details indicate a total thickness of 1.5" with 15/32 frt plywood. We are not able to find such a product.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to specifications.

July 08, 2020

Request for Information 000.PB063

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB063 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject

Pipe Support

Trade Contractor

RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Detail 6/R-7 contradict with detail 3/M-200. Which detail shall be used?
Detail 6/R-7 shows nonpenetrating pad type pipe support.
Detail 3/M-200 shows pipe support curb flashed into roof.

Suggestion

Answer **Date Answered:**

Flashing noted in the detail is not required. Please refer to detail 6/R-7 for non-penetrating type pipe supports, and please refer to specification section 230506, Articles 2.5 and 3.3 for additional information.

~K. Bodner, 7/7/20

Request for Information 000.PB064

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB064 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject

Finish Warranty

Trade Contractor

RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Petersen Aluminum Corp. PAC-CLAD color “CARDINAL RED” only carries a 10-year finish warranty. Is this acceptable? Similar colors of this “Bright Red” from other manufacturers may have the same issue, we are currently checking other manufacturers.

Drawing sheets A-201 thru A-203 indicate PAC-CLAD’s color “CARDINAL RED”

Specification 074113 Paragraph 1.10.B indicates the finish warranty to be 20 years. Cardinal Red is only a 10-year warranty color.

Suggestion

Answer **Date Answered:**

Color red is required where noted on drawings and as available from specified manufacturer. July 08, 2020

-Jim Davis, TCA

Request for Information 000.PB068

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB068 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject

Siding Panel Substrate

Trade Contractor

RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

There are some discrepancies among details regarding the siding panel plywood sheathing substrate. Please confirm that siding panels are to be attached to plywood sheathing at ALL locations.

Details 2/A-512, 2/A-514 and 4/R-4 indicates siding panels attached directly to vertical stud framing. This detail is not plausible, vertical standing seam siding panels cannot be attached directly to vertical stud framing. Furthermore, details 6 and 7/A-511 show aluminum standing seam siding attached to plywood at the metal studs.

RE: Page 5 of Trade Responsibility Details; This detail shows metal siding attached to hat channels on CMU wall and the 07A contractor is responsible for hat channel and framing. Architectural details 2 & 6/A-512 and 2/A-514 indicate siding attached to stud framing. Please confirm the stud framing and plywood sheathing as shown on the architectural drawings are included in 01A scope.

Trade responsibility details – Pages 1 and 4 indicates “Pre-finished aluminum standing seam siding on metal stud wall”. Details 5/R-2 and 4/R-3 which are referenced on the pages indicate metal siding to be attached to plywood sheathing. Please confirm that plywood sheathing is to be installed at these locations as indicated on detail E7/A-100.

Suggestion

Answer **Date Answered: 7/7/2020**

Install metal siding panels over plywood on metal framing. Cover plywood with self-adhering sheet underlayment. Detail 4/R-4 has been updated.

Request for Information 000.PB069

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB069 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject	Trade Contractor
Skylight Model	RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

There's discrepancies between the skylight model indicated in the specifications and the skylight detail 7/A-203.

Specification 08 600 Skylights -Paragraph 2.01; Indicates Skyvault Model 750DS-C. This product does not exist. Model 750DS-C refers to Solamaster skylight.

Detail 7/A203 indicates a Skyvault skylight.

Statement from solatube rep – "The detail is for the SkyVault Model which is 29" and really would not work in this scenario since they are going into classrooms and transitioning into a drop ceiling. These larger units do not bend which is required for this install. The 750 is the correct unit for this application as specified."

Please advise.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to drawings and specifications. July 08, 2020

Request for Information 000.PB070

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB070 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	HCGI 10440 Little Patuxent Parkway, 3rd Floor Columbia, Maryland 21044

Author RFI Number

Subject	Trade Contractor
274000 Model Numbers	HCGI

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

From Spec 27 4000 page 7

1. DM-XIO-DID-160 does not exist. Correct part number is probably DM-XIO-DIR-160.
2. Model DMF-NVX-C does not exist. What part number this is supposed to be?
3. Model DMFC does not exist. What part number this is supposed to be?

Suggestion

Answer **Date Answered:**

July 7, 2020

1. Correct part # is the DM-XIO-DIR-160.
2. Encoder Chassis shall be the Crestron DMF-CI-8 which accepts DM-NVX-C and DMCF.
3. DMFC are fiber cards from Crestron.

Bryan Jones
ESP

Request for Information 000.PB071

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB071 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	HCGI 10440 Little Patuxent Parkway, 3rd Floor Columbia, Maryland 21044

Author RFI Number

Subject	Trade Contractor
AV Equipment Requirements	HCGI

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Spec 27 4116 (pages 18 and 19) indicate the equipment list for the Cafetorium.
Is there an equipment schedule similar to this Cafetorium list for the for the Classrooms, Gymnasium and any other rooms?

Drawing T-501-1 Shows the Classroom AV System. Is there a list of rooms that follow this design? For example, do Pre-K, Kinder, and Classrooms all follow this same design? Any other rooms name to follow the same?

Suggestion

Answer **Date Answered:**

July 7, 2020

1. Classroom equipment is listed in Section 274100 and on Sheet T501. See outlet types on that sheet. Equipment required wherever those outlet types are present.
2. Gym and Music Room equipment included in Section 274200 and on Sheet T503.
3. All classrooms have a typical setup, based on outlet types.

Bryan Jones
ESP

Request for Information 000.PB072

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB072 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	HCGI 10440 Little Patuxent Parkway, 3rd Floor Columbia, Maryland 21044

Author RFI Number

Subject	Trade Contractor
Flow Diagram	HCGI

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Is there a flow diagram for the IP Video Equipment Rack; T-504-2?
For example, Text indicates 10 video streaming channels on the data network. Are there any decoders in the rack for audio or video output?

Suggestion

Answer **Date Answered:**

July 7, 2020

1. Signal flow is shown in Detail 2, flowing down rack.
2. See part#s included in the rack. Crestron card chassis are included for encoders/decoders.
3. 3 Tuners, 3 Blue Ray players, 1 Signage player and 3 spare channels are required.

Bryan Jones
ESP

Request for Information 000.PB077

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB077 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Strayer Contracting, Inc. 2200 Old Orems Road Baltimore, Maryland 21220

Author RFI Number

Subject	Trade Contractor
Ceiling Tile Attic Stock	Strayer Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

There is a requirement listed for 600 square feet of attic stock material for the ceiling tiles. There are only 650 SF of Radiused Sound Diffuser tiles and 260 SF of the Gyptone Base31 panels in the project. How much attic stock is needed for these 2 items ?

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to specification section 09 8000 / ACOUSTICL TREATMENT. July 08, 2020

Request for Information 000.PB078

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB078 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Strayer Contracting, Inc. 2200 Old Orems Road Baltimore, Maryland 21220

Author RFI Number

Subject	Trade Contractor
Tectum Panels	Strayer Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Drawings show some of the Tectum panels in the gym and cafetorium 1'x 8'. This size panel is not available. PLEASE ADVISE

Can someone verify that the colors selected for Tectum panels by the architect, will then be painted in the field by painting contractor. Tectum does not manufacture these panels in multi-color.

Suggestion

Answer **Date Answered:**

Dimensions as shown on drawings are correct. Panels will be field-cut as required. July 08, 2020

Selected colors will be painted in the field by painting contractor.

-Jim Davis, TCA

Request for Information 000.PB080

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB080 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Strayer Contracting, Inc. 2200 Old Orems Road Baltimore, Maryland 21220

Author RFI Number

Subject	Trade Contractor
Med Sled Quantity	Strayer Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Division 10 43 21 section 2.01 states “where indicated on the plans, provide eight single steel case devices model no MSSDSCI as manufactured by Med Sled or approved equal.” There are 4 locations noted on the drawings 2 in each of four stair towers. With 8 storage single storage devices at each of the 8 locations this will accrue to 64 single case devices. Is this the intent or are you looking for 1 single case device at each of the 8 locations? PLEASE CLARIFY

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to Specifications.

July 08, 2020

Request for Information 000.PB084

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB084 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Action Electrical Contractors, Inc. 1050 Hardees Drive, Suite C Aberdeen, MD 21001

Author RFI Number

Subject	Trade Contractor
Underslab PVC	Action Electrical Contractors

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Can we use PVC for all feeders and branch circuits under the slab even if they are not noted?

Suggestion

Answer **Date Answered:**

Yes, use of PVC is acceptable for under slab conduit. July 7, 2020

Request for Information 000.PB085

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB085 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Action Electrical Contractors, Inc. 1050 Hardees Drive, Suite C Aberdeen, MD 21001

Author RFI Number

Subject

EMT Conduit

Trade Contractor

Action Electrical Contractors

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Can we use EMT conduit for sizes 3 inches and larger where not exposed to physical damage (e.g., above drop ceilings)?

Suggestion

Answer **Date Answered:**

Provide IMC type conduits as listed in specifications. July 7, 2020

Request for Information 000.PB086

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB086 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject

Light Fixture A1E

Trade Contractor

Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Light fixture A1E is indicated in the women's restroom A115 on drawing E101. However, this fixture type is not on the lighting fixture schedule on drawing E107. Please clarify the light fixture type.

Suggestion

Answer **Date Answered:**

Fixture Shall be type A1, not A1E. July 7, 2020

Request for Information 000.PB087

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB087 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject

Receptacles

Trade Contractor

Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Specification section 262726 makes mention of tamper resistant receptacles but they are not noted on the E series drawings. Please clarify the areas where tamper resistant receptacles are being used.

Detail 4 on drawing E-206 indicates we are to provide L6-20R twist-lock receptacles with a note indicating this is typical for (4) but (6) are shown. Please clarify the quantity.

Suggestion

Answer **Date Answered:**

All general and non-locking outlets mounted below 66" shall be tamper resistant type in elementary facilities per NEC 2017, 406.12. 7 July 2020

Provide (6) twist-lock receptacles on detail 4/E-206 as shown.

Request for Information 000.PB091

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB091 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject	Trade Contractor
Pedestal Receptacles	Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Spec 11-4000 page 13, lists a model number T&S B-1508DD and T&S B-1528DD for the pedestal receptacles. Are these part numbers correct and who's responsible for furnishing them?

Suggestion

Answer **Date Answered:**

These items do not apply since we are providing retractable cord reels mounted in the finish ceiling. July 08, 2020

Request for Information 000.PB094

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB094 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject

Conduit

Trade Contractor

Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Spec 26 0533 page 9, item 3.10 "Schedule of Locations." Is conduits 300 inch size and larger supposed to be 3" or larger?

Can feeder conduits 3" and above be in EMT or does it have to be as specified per item 3.10 of specification 26 0533 page 9?

Spec 27 4116 page 1, item 1.02.C.1.a Conduit and back boxes from faceplate locations to equipment racks. Can we stub conduits to accessible ceiling instead?

Suggestion

Answer **Date Answered:**

Spec 26 0533 - 300 inch conduit is intended to be 3" or larger.

Feeder conduits - 3" conduit and larger shall be IMC type as indicated.

Spec 27 4116 - The referenced statement in our specification only delineates scope of conduit/ back box installation to Division 26 (Electrical Contractor). The Contractor is to provide electrical infrastructure as shown on the Audio-Visual Drawings. The Contractor can issue an RFI for clarification on specific infrastructure requirements indicated in the Drawings. Otherwise provide as specified on the Audio-Visual Drawings.

Request for Information 000.PB095

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB095 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject

Motor Starters

Trade Contractor

Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Spec 26 2914, page 2 item 2.3 Manual Motor Starters states the use of Nema 3R for exterior or damp or wet locations.
Should this be Nema 4X?

Suggestion

Answer **Date Answered:**

Provide NEMA Type 3R enclosure as indicated in specification. 7 July 2020

Request for Information 000.PB096

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB096 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject

Fire Alarm MC

Trade Contractor

Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm fire alarm MC cable is acceptable in concealed walls and ceilings.

Suggestion

Answer **Date Answered:**

Provide wire in conduit as indicated on the specification 28 3100, sub-paragraph 3.1.B.1. 7 July 2020

Request for Information 000.PB099

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB099 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject

Lighting Control Partition Sensors

Trade Contractor

Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Drawing E-101 shows a couple of lighting control system partition sensors. I don't see anything in the specs or details on the drawings. Can we more information?

Suggestion

Answer **Date Answered:**

Partition sensor shall be compatible and provided as part of the lighting control system for the space. 7 July 2020

Request for Information 000.PB100

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB100 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Towson Mechanical 8651 Oakleigh Road Parkville, MD 21234

Author RFI Number

Subject	Trade Contractor
Sail Shades	Towson Mechanical

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

We have a few questions regarding the Sail Shade, please see below.

1. Are these meant to be taunt or slack? The image appears to make them slack, if so is there adequate wind coverage for this area? We recommend that they be taunt, for stability.

2. The image shows straight sides of each sail shade, these are typically cambered for windage and appropriate stretch. Do we have approval to camber each side?

3. When cambered there will be additional gaps where the sun will come through, are you looking for full shade or partial?

Suggestion

Answer **Date Answered:**

July 08, 2020

1. Shades are meant to be taut.
2. Yes. Each side can be cambered.
3. Partial shade is acceptable.

-Jim Davis, TCA

Request for Information 000.PB104

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB104 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Kinsley Manufacturing 2700 Water St. York, PA 17405

Author RFI Number

Subject

Roof Opening Supports

Trade Contractor

Kinsley Manufacturing

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

The contract documents do not show a minimum dimension requirement for openings in the roof deck that require a typical steel support frame. Can we assume any penetration through the roof deck that is smaller than 12”x12” does not require a steel support frame?

Suggestion

Answer **Date Answered:**

Per Spec section 05 3123, paragraph 3.2.D:

"D.Reinforcement at openings: Provide additional metal reinforcement and closure pieces as required for strength, continuity of decking and support of other work shown. Reinforce decking around openings less than 72 square inches in size by means of flat galvanized steel sheet placed over opening on top of decking and fusion welded to surface of deck. Provide 14 gauge steel sheet of same quality as deck units at least 12" wider and longer than opening. Space welds at each corner and not more than 12"o.c. along each side. Openings greater than 72 square inches shall be supported by steel angle frames as shown on the structural drawings."

Nick Morabito 07.07.2020

Request for Information 000.PB105

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB105 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Kinsley Manufacturing 2700 Water St. York, PA 17405

Author RFI Number

Subject

Shear Connections

Trade Contractor

Kinsley Manufacturing

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

The standard beam shear connections shown in sections 1&2 on S-301 are not the standard shear connections we prefer to use. Are we required to use what is shown or will the fabricator have the option to use their standard shear connections as long as they can provide signed and sealed connection calculations by a Maryland registered PE showing their standards connections meet all the project and load requirements?

Suggestion

Answer **Date Answered:**

Yes, the fabricator can use their preferred connection type. Sample calculations should be submitted for review prior to the structural steel submittal.

See spec section 05 1200, paragraph 1.6.C:

"C.All steel connection design shall be completed by a design professional hired by the contractor and satisfy the load requirements specified in the contract documents. Prior to submission of steel shop drawings, the steel fabricator shall submit sample calculations (prepared by a registered structural engineer) for all typical beam to beam and beam to column connections, which are proposed to be used on this project. After these typical calculations and connections are accepted, the fabricator shall prepare and submit the shop drawings for this project. Only these typical sample calculations are required to be sealed by a registered structural engineer. The material necessary for the fabrication of all connections shall be the responsibility of the contractor."

Nick Morabito 07.07.2020

Request for Information 000.PB106

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB106 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Harland J. Shoemaker 12081 Old National Pike, PO Box 733 New Market, Maryland 21774

Author RFI Number

Subject	Trade Contractor
Water Line	Harland Shoemaker

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Civil plans do not show a profile or details for the proposed waterline and fire hydrant. Can a profile/details be provided?

It is not clear what is to be done with the remaining water line that services the existing school past the connection of the new hydrant once the existing school is removed. Please provide clarification.

Suggestion

Answer **Date Answered:**

The water line to the fire hydrant is shown on Public Water Plans which are being provided.
The plans also show the removal of the water line to the existing building at demolition.

Stephanie Tuite, FCC 7/7/20

QUANTITIES

ITEM	ESTIMATED	AS-BUILT QUANTITIES	AS-BUILT TYPE	AS-BUILT SUPPLIER
8"W; C900 PVC; DR-18	429 L.F.			
6"W; C900 PVC; DR-18	53 L.F.			
12"X8" TAPPING SLEEVE	1 EACH			
8" TAPPING VALVE	1 EACH			
8" VALVE	4 EACH			
1/8 H.B.	2 EACH			
1/32 V.B.	1 EACH			
3" DEF COUPLING	2 EACH			
8"X8" TEE	2 EACH			
8"X6" F.H. TEE	3 EACH			
6" VALVE	3 EACH			
8" PLUG & BUTTRESS	1 EACH			
FIRE HYDRANT	3 EACH			
CONTINUITY TEST STATION	3 EACH			

NAME OF UTILITY CONTRACTOR:

SURVEY & DRAFTING DIVISION AS-BUILT DATE:

BENCHMARK INFORMATION

B.M. #1 HOWARD COUNTY GEODETIC SURVEY CONTROL 36BA – HORIZONTAL – (NAD '83)
LOCATED 1.5' SOUTH OF THE ASPHALT WALKWAY, NORTH OF BASEBALL BACKSTOP AT OAKLAND MILLS HIGH SCHOOL.
NORTHING 562,135.536
EASTING 1,357,571.674
ELEVATION = 416.772 – VERTICAL – (NAVD '88)

B.M. #2 HOWARD COUNTY GEODETIC SURVEY CONTROL 36BB – HORIZONTAL – (NAD '83)
LOCATED 4.5' WEST OF SANTIAGO ROAD, BETWEEN OAKLAND MILLS INTERFAITH CENTER AND OAKLAND MILLS HIGH SCHOOL ATHLETIC FIELDS.
NORTHING 561,504.228
EASTING 1,356,203.715
ELEVATION = 409.248 – VERTICAL – (NAVD '88)

DEVELOPER'S CERTIFICATION

" I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

SIGNATURE OF DEVELOPER — DATE 5.27.2020

ENGINEER'S CERTIFICATION

" I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF ENGINEER — DATE 05/24/20

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY DESIGN MANUAL – VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND AS SHOWN ON THE SITE DEVELOPMENT PLAN, SDP-96-18 (REDLINE).

SIGNATURE OF DEVELOPER — DATE 5.27.2020

SDP-00-011 (REDLINE)

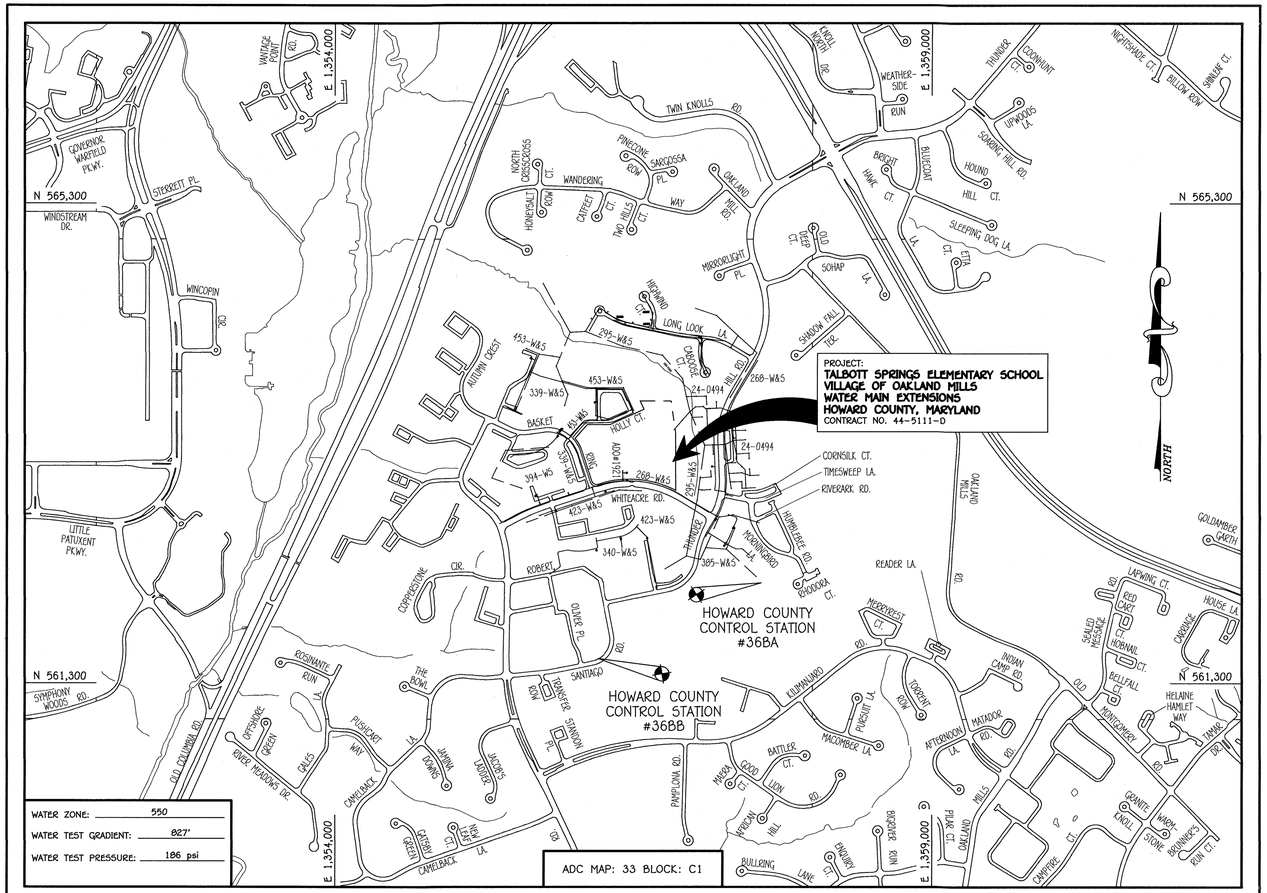
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

APPROVED:

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/27/20

LEGEND

SYMBOL	DESCRIPTION
	EX. WATER MAIN
	EX. SEWER MAIN
	EX. SEWER MANHOLE
	EX. SEWER, WATER & UTILITY EASEMENT
	EX. FIRE HYDRANT
	EX. VALVE
	PROP. WATER MAIN
	PROP. SEWER MAIN
	PROP. SEWER MANHOLE
	PROP. SEWER, WATER & UTILITY EASEMENT
	PROP. WHC
	PROP. SHC
	PROP. FIRE HYDRANT
	PROP. VALVE



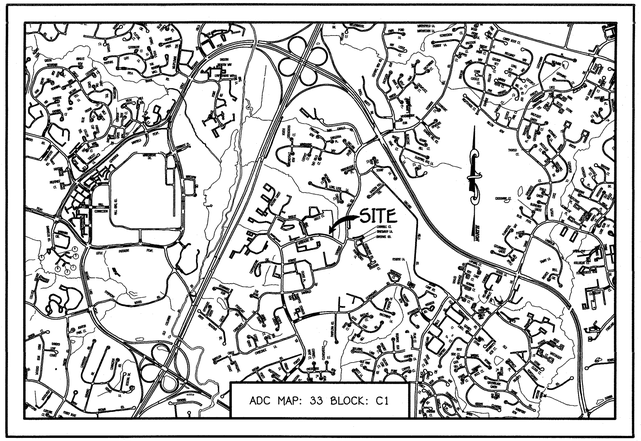
LOCATION MAP

SCALE: 1"= 600'

TYPE OF BUILDING: NEW ELEMENTARY SCHOOL
NUMBER OF PARCELS: 1
NO. OF WATER HOUSE CONNECTIONS: -
SEWER SHED: LITTLE PATUXENT
TREATMENT PLANT: LITTLE PATUXENT RECLAMATION PLANT
SAVAGE, MARYLAND

PLAN REFERENCE NUMBERS:

SDP-20-051 & SDP-00-011



VICINITY MAP

SCALE: 1"= 2000'

GENERAL NOTES

PART A

1. APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT APRIL, 2018 BY FISHER, COLLINS & CARTER, INC.
3. HORIZONTAL AND VERTICAL SURVEY CONTROLS:
   THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91' AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 36BA & NO. 36BB.
   ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF THE ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL ⊕. AT THE LOCATIONS OF THE TEST PITS, A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T	1-800-252-1133
BGE (CONTRACTOR SERVICES)	410-637-8713
BGE (EMERGENCY)	410-685-0123
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE CO	410-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERIZON	1-800-743-0033 / 410-224-9210

9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.
11. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE.

PART B: WATER MAIN GENERAL NOTES

1. ALL WATER MAINS SHALL BE AWWA C900 PVC; DR-18.
2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
7. TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND PVC WATER MAINS IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL.
8. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
9. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) POUND SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.
10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF PVC PIPE.
11. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION(HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20 FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.

    PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL OF 3-DEGREES (1 ½-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTEED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL.

    FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR-18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR-18 OR EQUAL.

12. WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C900 PVC PIPELINES, THE CONTRACTOR SHALL INSERT DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.
13. TO ACCOMMODATE A SPRINKLER SYSTEM, ALL RESIDENTIAL DWELLING UNITS SHALL HAVE A 1-1/2" WATER HOUSE CONNECTION WITH A 1" OUTSIDE METER SETTING; STD. DET. W-3.28.

PART C: SEWER MAIN GENERAL NOTES

1. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
2. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
3. FORCE MAINS SHALL BE D.I.P. ONLY.
4. MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
6. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

0' 50' 100' 200'

SCALE: 1" = 50'

CONTRACT NO. 44-5111-D
TALBOTT SPRINGS
ELEMENTARY SCHOOL
VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

CONTRACT NO. 44-5111-D
TALBOTT SPRINGS ELEMENTARY SCHOOL VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

OWNER / DEVELOPER

HOWARD COUNTY PUBLIC SCHOOL SYSTEM
9020 MENDENHALL COURT
SUITE "C"
COLUMBIA, MARYLAND 21045
410-313-6805
Attn: MR. DAN LIBELEY
ACTING DIRECTOR, SCHOOL PLANNING & CONSTRUCTION

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE 5/29/2020

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION M.G. — DATE 6.8.20

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12043 EXPIRATION DATE IS 7/16/20.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

05/24/20 #12043 STATE OF MARYLAND PAUL WALTER KRIEBEL
PAUL W. KRIEBEL

DESIGNED BY :	J.N.G.
DRAWN BY :	J.N.G.
CHECKED BY :	P.W.K.
DATE :	MAY, 2020

BY	NO.	REVISION	DATE

WATER MAIN EXTENSIONS
TITLE SHEET

600' SCALE MAP NO. 36 BLOCK NO. 3
F.C.C. WORK ORDER NO. 03007-5001
FILE NAME : WATER MAIN EXTENSION PLAN

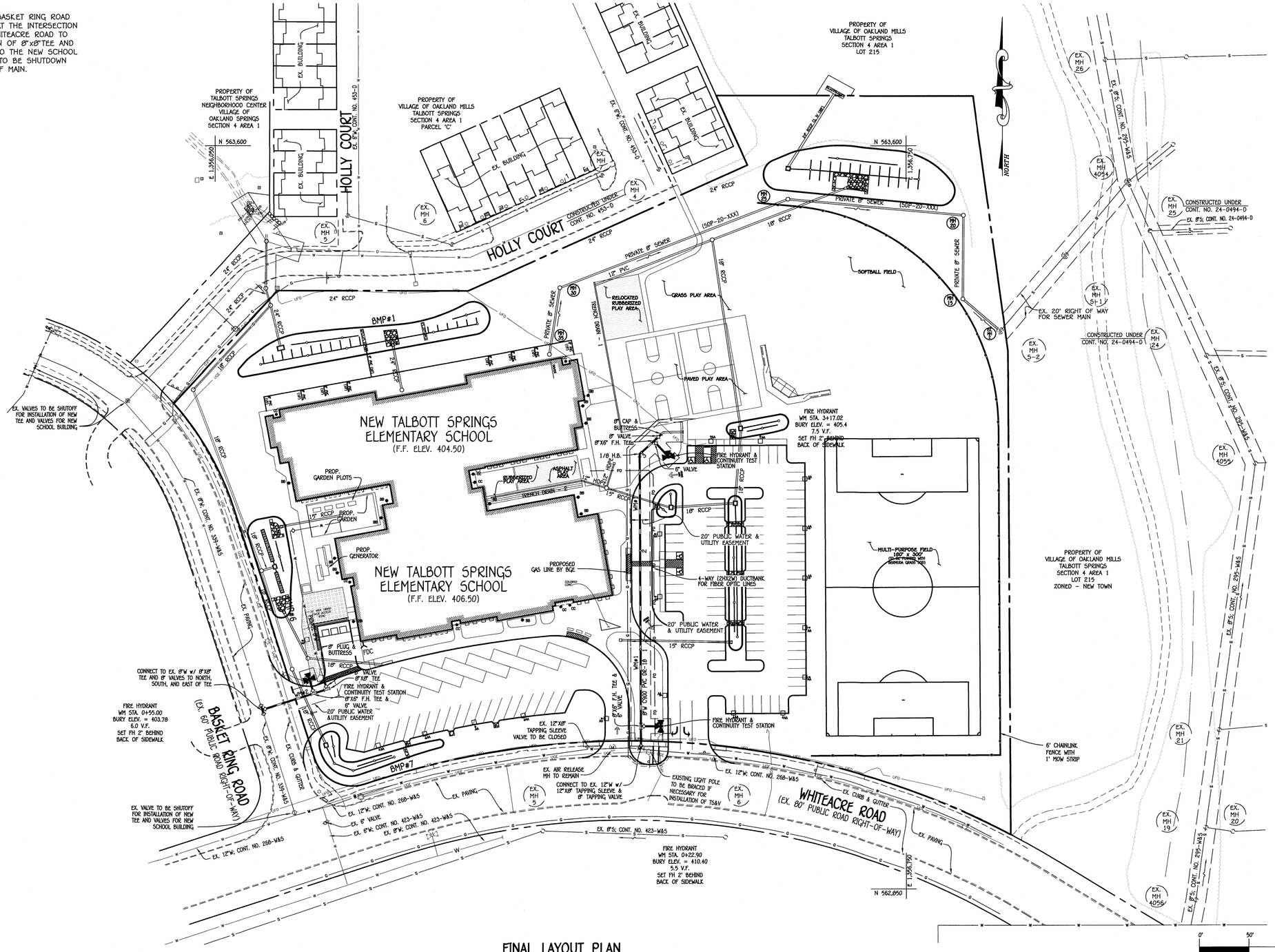
TALBOTT SPRINGS
ELEMENTARY SCHOOL
VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
CONTRACT NO. 44-5111-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 5

I:\2003\03007\Engineering\Dwgs\Sewer & Water Contract No 14-5111-D\Finals\03007 final sewer & water contract plan.dwg, Title Sheet 1, 1:1

NOTE:
TWO (2) EXISTING VALVES ON BASKET RING ROAD AND ONE (1) EXISTING VALVE AT THE INTERSECTION OF BASKET RING ROAD AND WHITEACRE ROAD TO BE SHUT OFF FOR INSTALLATION OF 8"x8"TEE AND TWO 8" VALVES FOR SERVICE TO THE NEW SCHOOL BUILDING. 8" VALVE ON-SITE TO BE SHUTDOWN FOR CONSTRUCTION OF REST OF MAIN.



NOTE:
*SEDIMENT CONTROL PROVIDED UNDER SDP-00-011 REDLINE.

FINAL LAYOUT PLAN

SCALE: 1" = 50'

0' 50' 100' 200'
SCALE: 1" = 50'

CONTRACT NO. 44-5111-D
TALBOTT SPRINGS
ELEMENTARY SCHOOL
VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12043 EXPIRATION DATE IS 7/16/20.	#12043 STATE OF MARYLAND PAUL WALTER KRIEBEL PROFESSIONAL ENGINEER 05/14/20	DESIGNED BY : J.N.G.
CHIEF, BUREAU OF UTILITIES — DATE 5/29/2020	CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6.8.20	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855	PAUL W. KRIEBEL	DRAWN BY : J.N.G.
				CHECKED BY : P.W.K.
				DATE : MAY, 2020

BY	NO.	REVISION	DATE

WATER MAIN EXTENSIONS PLAN

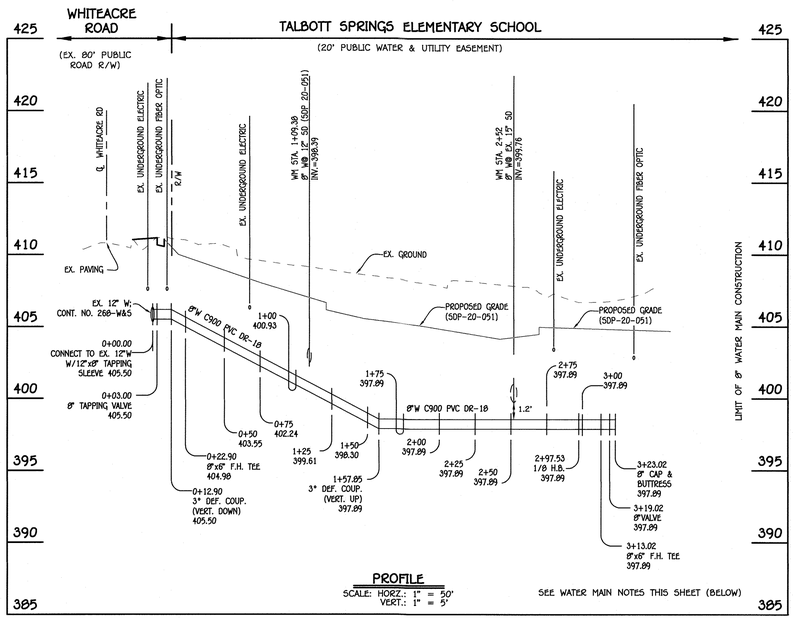
600' SCALE MAP NO. 36 BLOCK NO. 3
F.C.C. WORK ORDER NO. 03007-5001
FILE NAME : WATER MAIN EXTENSION PLAN

TALBOTT SPRINGS
ELEMENTARY SCHOOL
VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
CONTRACT NO. 44-5111-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

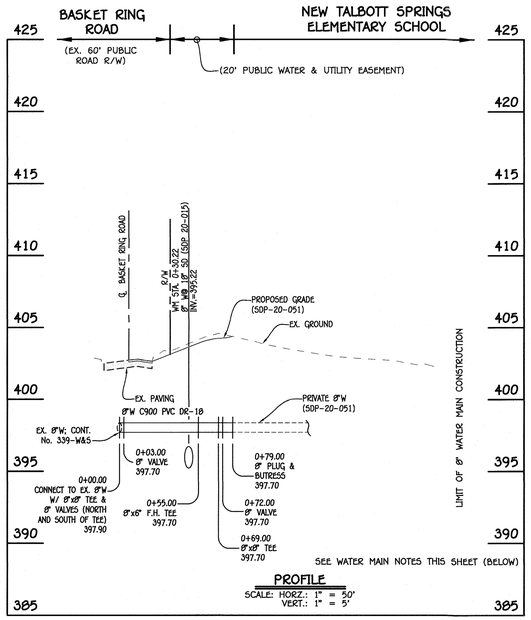
SCALE AS SHOWN

SHEET 2 OF 5

I:\2003\03007\Engineering\Dwgs\Sewer & Water Contract No 14-5111-D\Finals\03007 final sewer & water contract plan.dwg, Final Layout Plan Sheet 2, 1:1



8" WATER MAIN #1



8" WATER MAIN #2

WATER MAIN TABULATION CHART

W.M. STA.	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN #1			
0+00.00	12" x 8" TAPPING SLEEVE	562,991.33	1,356,481.46
0+03.00	8" TAPPING VALVE	562,994.33	1,356,481.46
0+12.90	3" DEFLECTION COUPLING (VERT. DOWN)	563,004.24	1,356,481.42
0+22.90	8" x 6" F.H. TEE	563,014.23	1,356,481.37
1+57.85	3" DEFLECTION COUPLING (VERT. UP)	563,149.18	1,356,480.83
2+97.53	1/8 H.B.	563,288.86	1,356,480.26
3+10.02	3" DEFLECTION COUPLING (VERT. UP)	563,297.32	1,356,489.46
3+13.02	8" x 6" F.H. TEE	563,302.06	1,356,494.61
3+19.02	8" VALVE	563,306.13	1,356,499.03
3+23.02	8" CAP & BUTTESS	563,308.84	1,356,501.97

WATER MAIN TABULATION CHART

W.M. STA.	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN #2			
0+00.00	8"x8" TEE	563,030.78	1,356,097.47
0+00.00 O/S 3' LT	8" VALVE	563,033.68	1,356,096.67
0+00.00 O/S 3' RT	8" VALVE	563,027.96	1,356,098.49
0+03.00	8" VALVE	563,031.68	1,356,100.33
0+55.00	8"x6" F.H. TEE	563,047.34	1,356,149.92
0+69.00	8"x8" TEE	563,051.55	1,356,163.27
0+72.00	8" VALVE	563,054.41	1,356,162.36
0+79.00	8" PLUG & BUTTRESS	563,061.09	1,356,160.26

WATER MAIN NOTES:

1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE; DR-18.
2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

0' 50' 100' 200'
SCALE: 1" = 50'

CONTRACT NO. 44-5111-D
TALBOTT SPRINGS
ELEMENTARY SCHOOL
VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
5/29/2020
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
6.8.20
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12043 EXPIRATION DATE IS 7/16/20.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

05/6/20
#12043
STATE OF MARYLAND
PAUL WALTER KRIEBEL
PAUL W. KRIEBEL

DESIGNED BY :	J.N.G.
DRAWN BY :	J.N.G.
CHECKED BY :	P.W.K.
DATE :	MAY, 2020

BY	NO.	REVISION	DATE

WATER MAIN EXTENSIONS
PROFILES, CHARTS & NOTES

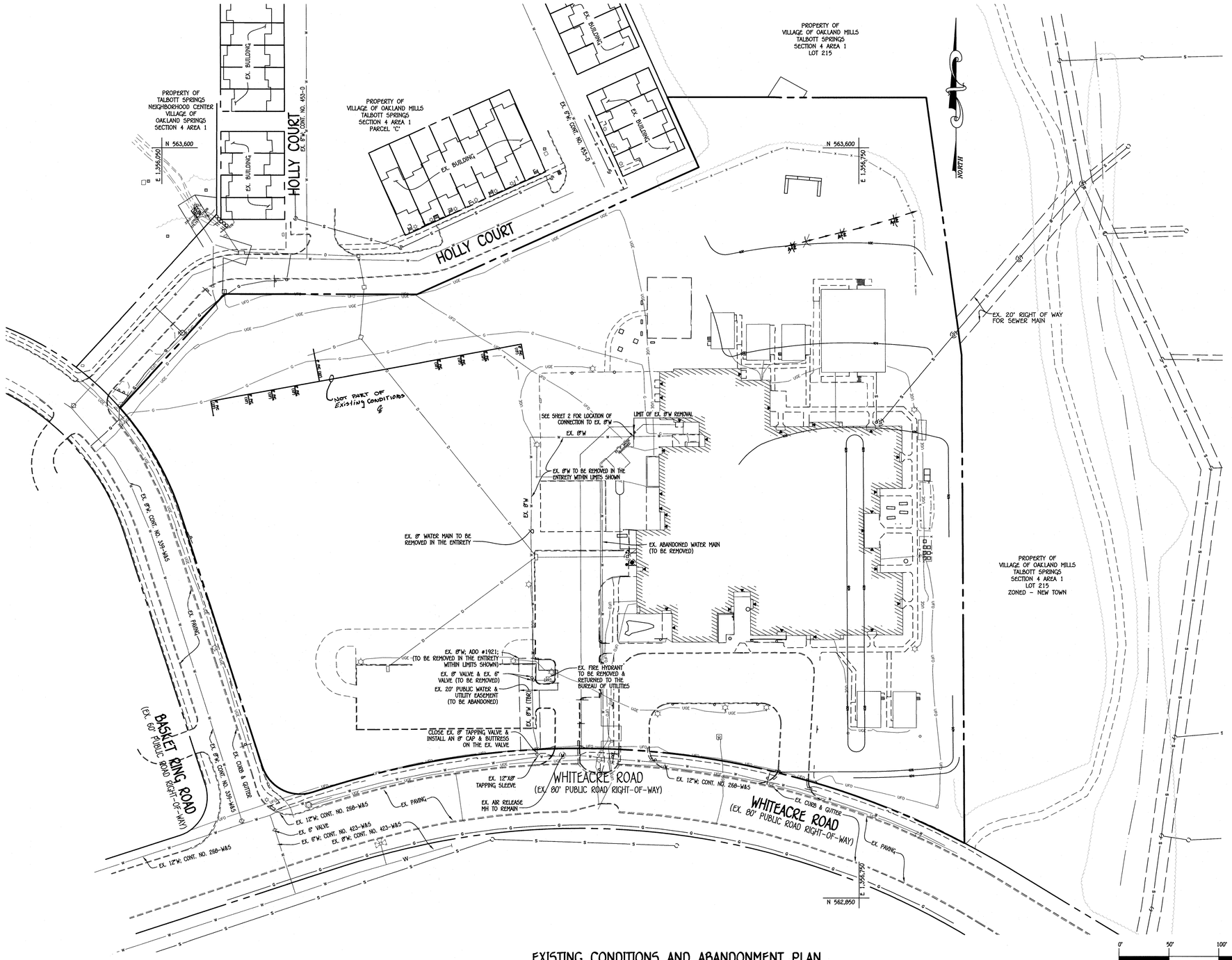
600' SCALE MAP NO. 36 BLOCK NO. 3
F.C.C. WORK ORDER NO. 03007-5001
FILE NAME : WATER MAIN EXTENSION PLAN

TALBOTT SPRINGS
ELEMENTARY SCHOOL
VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
CONTRACT NO. 44-5111-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 3 OF 5

I:\2003\03007\Engineering\Dwgs\Sewer & Water Contract No 14-5111-D\Finals\03007 final sewer & water contract plan.dwg, Profile Sheet 3, 1:1



EXISTING CONDITIONS AND ABANDONMENT PLAN

SCALE: 1" = 50'

CONTRACT NO. 44-5111-D
TALBOTT SPRINGS
ELEMENTARY SCHOOL
VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

5/29/2020
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

6.8.20
CHIEF, DEVELOPMENT ENGINEERING DIVISION M.G. — DATE

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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

05/16/20 #12043
STATE OF MARYLAND — PAUL WALTER KRIEBEL — PROFESSIONAL ENGINEER
PAUL W. KRIEBEL

DESIGNED BY :	J.N.G.
DRAWN BY :	J.N.G.
CHECKED BY :	P.W.K.
DATE :	MAY, 2020

BY	NO.	REVISION	DATE

WATER MAIN EXTENSIONS PLAN

600' SCALE MAP NO. 36 BLOCK NO. 3
F.C.C. WORK ORDER NO. 03007-5001
FILE NAME : WATER MAIN EXTENSION PLAN

TALBOTT SPRINGS ELEMENTARY SCHOOL
VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
CONTRACT NO. 44-5111-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 4 OF 5

I:\2003\03007\Engineering\Dwgs\Sewer & Water Contract No 14-5111-D\Finals\03007 final sewer & water contract plan.dwg, Ex. Conditions Sheet 4, 1:1

WATER MAIN SEQUENCE OF CONSTRUCTION

CONTRACTOR TO NOT ALLOW CONSTRUCTION TRAFFIC DURING THE ARRIVAL AND DISMISSAL TIMES, TYPICALLY 30 MINUTES BEFORE OFFICIAL START TIME OF 8:40AM AND AFTER OFFICIAL CLOSING TIME OF 3:10PM FOR THE SCHOOL.

1. OBTAIN GRADING PERMIT. (1 DAY)

2. NOTIFY MISS UTILITY (1-800-257-7777) 48 HOURS BEFORE STARTING WORK. NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (410-313-1855) 24 HOURS BEFORE STARTING WORK, AND NOTIFY THE BALTIMORE GAS ELECTRIC CO. (410-291-5739) FIVE (5) WORKING DAYS PRIOR TO STARTING WORK.

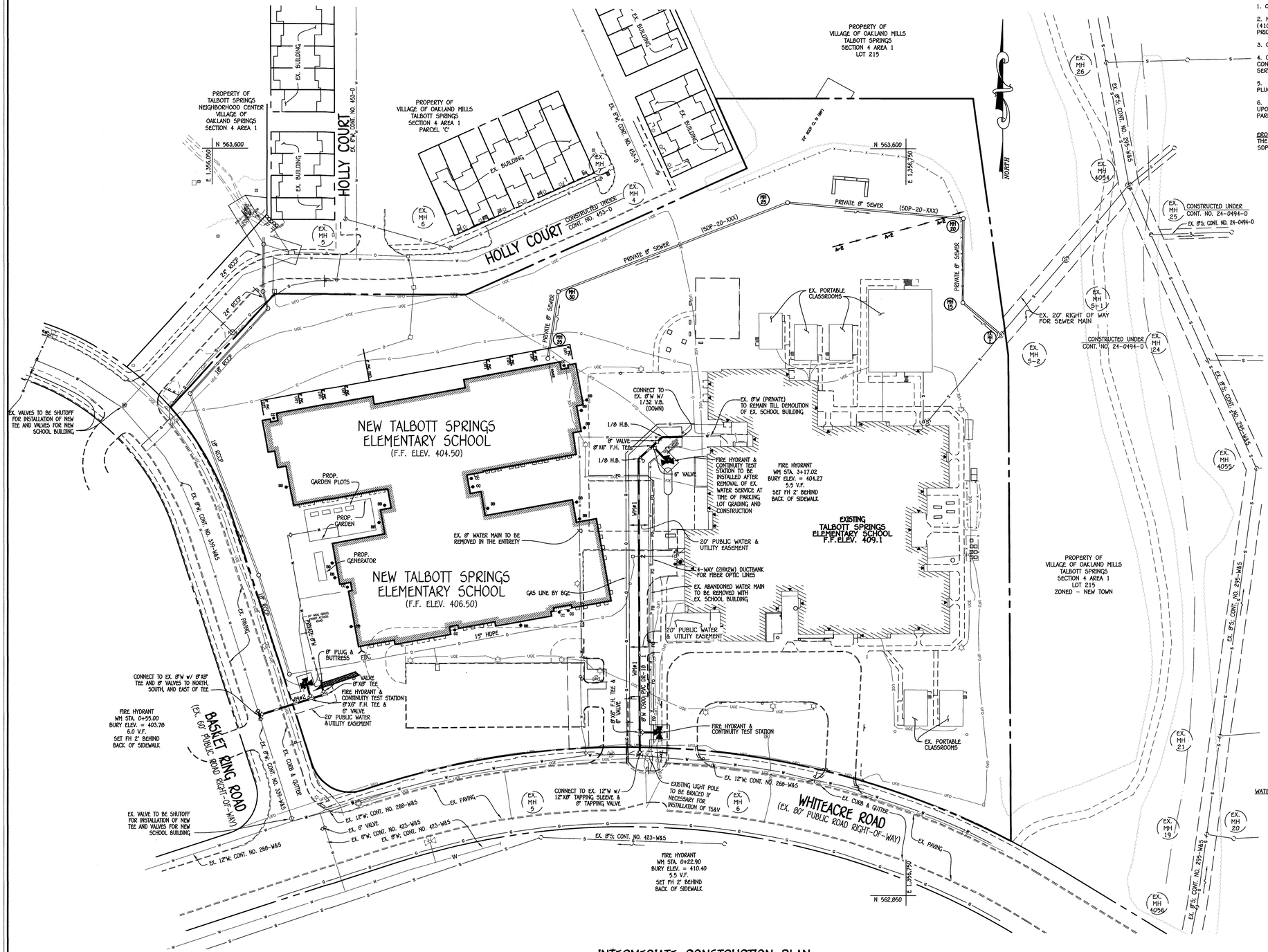
3. CONTRACTOR TO FOLLOW SEDIMENT CONTROL PLAN UNDER SDP-00-011 FOR INSTALLATION OF SEDIMENT CONTROL DEVICES.

4. CONTRACTOR TO SHUTOFF VALVE FOR WATER SERVICE CONNECTION TO EXISTING SCHOOL BUILD, INSTALL 12"x8" TS&V AT WHITE ACRE ROAD AND CONNECT TO EXISTING WATER SERVICE CONNECTION INCLUDING FIRE HYDRANT CLOSEST TO WHITE ACRE ROAD. UPON CONNECTION, CAP EXISTING SERVICE LINE AT VALVE AND REMOVE EXISTING WATER SERVICE LINE.

5. CONTRACTOR TO INSTALL 8"x8" TS&V AT BASKET RING ROAD, INSTALL PUBLIC PORTION OF WATER MAIN, INCLUDING FIRE HYDRANT, AND ADD PLUG & BUTTRESS TO MAIN. PRIVATE SERVICE CONNECTION TO BE MADE UNDER SDP-20-051.

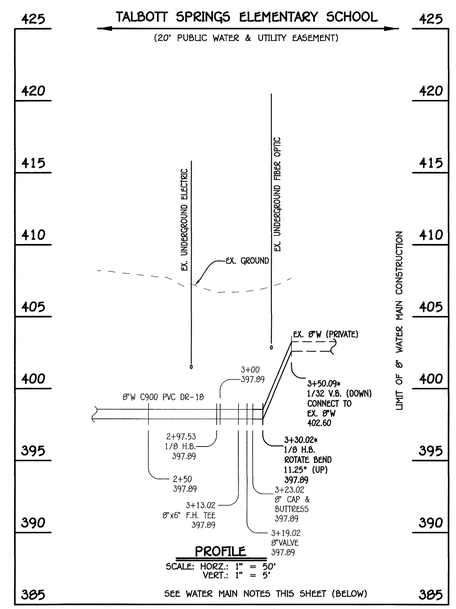
6. UPON DEMOLITION OF THE WESTERN PORTION OF THE EXISTING SCHOOL BUILDING, VALVE TO BE SHUTOFF AND CAP & BUTRESS TO BE ADDED UPON REMOVAL OF SERVICE LINE BEYOND STATION 3+23 TO SCHOOL BUILDING AND INSTALL FIRE HYDRANT AT STATION 3+17.02 PRIOR TO NEW PARKING LOT GRADING AND CONSTRUCTION.

EROSION AND SEDIMENT CONTROL NOTE:
THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON ALL SEDIMENT CONTROL DEVICES/PRACTICES (INSTALLED PER SDP-00-011) ON A DAILY BASIS, AND IMMEDIATELY AFTER A RAINFALL.



INTERMEDIATE CONSTRUCTION PLAN

SCALE: 1" = 50'



8" WATER MAIN #1 INTERMEDIATE CONNECTION

WATER MAIN TABULATION CHART

W.M. STA.	APPURTENANCE	NORTHING	EASTING
3+23.02	8" CAP & BUTTRESS (FINAL CONDITION)	563,308.84	1,356,501.97
3+30.02+	1/8 H.B. (ROTATE BEND UP)	563,310.87	1,356,504.18
3+50.09+	1/32 V.B. (UP); CONNECT TO EX. 8"W (PRIVATE)	563,311.14	1,356,524.25

NOTE:
+ DENOTES TEMPORARY INTERMEDIATE CONNECTION.

WATER MAIN NOTES:
1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE; DR-18.
2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

NOTE:
*SEDIMENT CONTROL PROVIDED UNDER SDP-00-011 REDLINE.

0' 50' 100' 200'
SCALE: 1" = 50'

CONTRACT NO. 44-5111-D
TALBOTT SPRINGS
ELEMENTARY SCHOOL
VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
5/29/2020
CHIEF, BUREAU OF UTILITIES — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
6.8.20
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

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FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

05/2020 #12043 STATE OF MARYLAND PAUL WALTER KRIEBEL ENGINEER
PAUL W. KRIEBEL

DESIGNED BY :	J.N.G.
DRAWN BY :	J.N.G.
CHECKED BY :	P.W.K.
DATE :	MAY, 2020

BY	NO.	REVISION	DATE

WATER MAIN EXTENSIONS PLAN

600' SCALE MAP NO. 36 BLOCK NO. 3
F.C.C. WORK ORDER NO. 03007-5001
FILE NAME : WATER MAIN EXTENSION PLAN

TALBOTT SPRINGS
ELEMENTARY SCHOOL
VILLAGE OF OAKLAND MILLS
WATER MAIN EXTENSIONS
CONTRACT NO. 44-5111-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 5 OF 5

I:\2003\03007\Engineering\Dwgs\Sewer & Water Contract No 14-5111-D\Finals\03007 finall sewer & water contract plan.dwg, Intermediate Construction Plan Sheet 5, 1:1

Request for Information 000.PB107

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB107 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Harland J. Shoemaker 12081 Old National Pike, PO Box 733 New Market, Maryland 21774

Author RFI Number

Subject	Trade Contractor
Sediment Traps	Harland Shoemaker

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Civil plans do not show dewatering devices, safety fence, baffle boards or rip-rap inflows for Sediment traps 1 & 2. Will any of these items be required? If so please provide detail or plan showing what is required and where.

Suggestion

Answer **Date Answered:**

Detail has been shown on C-6, C-8, C-9, C-19 of the Addendum 4 plans being issued.

Stephanie Tuite, FCC 7/720

Request for Information 000.PB112

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB112 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject	Trade Contractor
Wood Flooring	Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

The new scope of work for wood flooring under section 2.01-Maple Wood Flooring System calls for Robbins Eclipse Floating Floor System. However, drawing A-911 calls for Air Channel Classic. Please clarify which spec to move forward with as there is a difference in price and height.

Suggestion

Answer **Date Answered:**

July 08, 2020

Section 2.01 in Wood Flooring specification is correct.
See Addendum #4 for changes to Drawings

Request for Information 000.PB116

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB116 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject	Trade Contractor
Operable Partitions	Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Per spec section 102226, the fourth paragraph of
heading "2.01 Operable Walls" states that both sides of the partition are to have continuous 4'0" high markerboards with tackboards on the remaining panel surface while item "B" under Heading 2.02 "Finishes" requires that the panel finish be heavy duty vinyl. However, Item “H” of that section states the markerboards are to be 48” high white porcelain enamel and Item “I” calls for 48” high tackboards made of corkboard and covered in jute textured fabric. Given that the operable partitions indicated by the drawings are all 9’ 0” tall, it is impossible to set the bottoms of the tack boards at 2’ 8” above the finished floor and still have room for a 48” tackboard above. Please provide an elevation with dimensions showing the arrangement of the panels with the markerboards, tack boards and vinyl covering, as envisioned.

Given that the panels are required to have steel faces, the suggestion is that the tackboards be eliminated and that magnets be used to attach items to the panel faces (the advantage being not only the reduced cost of the panels but that the panel finishes would not be degraded by having pins inserted through them). Please advise if this approach is acceptable.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to Specifications. July 08, 2020

Request for Information 000.PB118

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB118 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject	Trade Contractor
Display Cases	Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Refer to detail 2/A-101. D3 display cases are referenced, however, none are shown on the drawings. Please confirm the location(s), if any.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to drawings. July 08, 2020

Request for Information 000.PB120

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB120 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject

HM Frame 12

Trade Contractor

Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please provide location(s) for HM frame elevation 12

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to drawings. July 08, 2020

Request for Information 000.PB122

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB122 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject	Trade Contractor
CAR-3	Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Stair D-11 calls for Car-3 on the Finish Schedule A-900. Please advise what CAR-3 is as this isn't referenced on the legend

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to drawings. July 08, 2020

Request for Information 000.PB124

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB124 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject

062000 Items

Trade Contractor

Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Per spec section #062000-scope item-mounting blocks for towel dispenser, the specified model is a semi-recessed type. Please confirm if a mounting block is still required.

Per spec section #062000-scope item-wood blocking for venetian blinds, can you clarify what size the blocking is?

Per spec section #062000-scope item- Display Case Shelving, the shelving typically comes with the display case units. However,I did not see any information on whether it should come with the display case units. Please confirm.

Suggestion

Answer **Date Answered:**

No wood blocking is required for the paper towel dispensers. See Addendum #4 changes to specifications. July 08, 2020

No wood blocking is required for the sunscreen shades. See Addendum #4 changes to specifications.

See detail 2B/A-101 for extent of wood blocking required.

Request for Information 000.PB126

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB126 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject	Trade Contractor
Wall Type E5	Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Wall type E5 is called out but the detail is not provided on the floor plan - drawing A100. Please provide.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to drawings. July 08, 2020

Request for Information 000.PB127

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB127 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject	Trade Contractor
Metal Stud/Gypsum Board	Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm that we can use a slotted track in lieu of a double runner that is requested on spec section 092216-2.2-D. The slotted track would be easier for installation and more cost efficient.

Please specify where the use of abuse resistant board, per spec section 092900-2.02 is intended to be.

Please confirm that the use of abuse resistant gypsum board is only up to ceiling grid and the remaining portion of the wall can be completed with type X gypsum board.

Suggestion

Answer **Date Answered:**

The slotted track in lieu of a double runner per specification section 09 2216-2.2 D. is acceptable. July 08, 2020

Abuse resistant board shall be used where indicated on the drawings.

Confirmed, the use of abuse resistant gypsum board is only required up to the ceiling grid.

Request for Information 000.PB131

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB131 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject

CAR-1

Trade Contractor

Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Carpet spec calls for CAR-1 to be Centiva (Tarkett) Powerbond RS Vinyl Cushion Carpet Tile. Tandus / Tarkett Powerbond refers to sheet carpet only, not carpet tile. The secondary backing listed - ER3 RS vinyl cushion backing pertains to carpet tile or sheet carpet. RS means adhesive is applied to backing. For pricing purposes we will need Style name, backing, and whether sheet carpet or carpet tile is to be used.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to specifications. July 08, 2020

Request for Information 000.PB136

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB136 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject

Sail Shade Manufacturer

Trade Contractor

Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Reference specification 126000 Sail Shades. We have contacted Polyfab in regards to the Polytex Sail Shades specified for and they redirected us to their distributor Trivantage. We then contacted Trivantage and were given contact information for Capital Canopies in Upper Marlboro, Maryland who are the only contractor that Trivantage says that they distribute to in our region. Upon reaching out to and following up with Capital Canopies regarding this project, we were informed that they do not install sail shades such as the ones specified for this project. As there are no other acceptable manufacturers/distributors provided in the specification, please provide either contact information for an acceptable and interested installer of the specified system, or an approved alternative system/manufacturer.

Suggestion

Answer **Date Answered:**

TCA has verified that Trivantage also distributes Polytex/Polyfab to Shore Canvas (410.991.9650) in Denton, MD. Shore Canvas does install shade sails like those shown/specified on the bid documents. Manufacturer and Distributor remain as shown in specification section 12 6000. July 08, 2020

- Jim Davis, AIA

Request for Information 000.PB137

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB137 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject

Level 5 Finish

Trade Contractor

Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Reference 092900 part 3.05. Please confirm that contrary to the specification, a level 5 finish will not be required throughout the project – only at areas specifically noted on the drawings, and rather that a level 4 finish will be typical per the 01A scope summary “Drywall” item 25. Requiring a level 5 finish at all GWB surfaces is highly costly.

Suggestion

Answer **Date Answered:**

July 08, 2020

01A scope states "*...minimum 'Level 4' finish if not specified higher otherwise.*"
Specification section 09 2900, 3.05; specifies Level 5. Level 5 is the expected finish for drywall throughout the project based on Specification section 09 2900, 3.05 Finishing.

-Jim Davis, TCA

Request for Information 000.PB139

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB139 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject

Carpet Cleaning Equipment

Trade Contractor

Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Part 3.07 of specification 096800 Carpeting requires the Contractor to furnish carpet cleaning materials, equipment, and machinery to the Owner as part of this contract. Please confirm that this is in fact required, as this is highly unusual for a public school system bid. Furthermore, if required, please provide manufacturer and product requirements for each item listed that is to be Contractor furnished.

Suggestion

Answer **Date Answered:**

Specification section 09 6800 is correct. Crystal Dry Spotter, GLS® cleaning machine and Roamer® are stated in the specification section.

July 08, 2020

-Jim Davis, TCA

Request for Information 000.PB140

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB140 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject

Elevator Manufacturer

Trade Contractor

Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Reference part 1.04.B of specification 142000. Two of the approved elevator manufacturers listed in this specification (Canton Elevator and Minnesota Elevator) do not install their own products in this region, and rather distribute to select local elevator service firms. Please either confirm that the manufacturer will not be required to be the installer of their system, or provide alternative approved elevator manufacturers that provide installation service within this project's region.

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to Specifications. July 08, 2020

Request for Information 000.PB143

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB143 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Projection Screens	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

The projection screens specification contains a schedule that only indicates a screen at Cafetorium A120, however 1B/A700 indicates screen at Gymnasium A101. Is a projection screen intended at this location, and if so, what type?

Suggestion

Answer **Date Answered:**

See Addendum #4 for changes to specifications. July 08, 2020

Request for Information 000.PB147

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB147 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject

Mounting Blocks / Blocking

Trade Contractor

Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Specification section 062000 enumerates mounting blocks for paper towel dispensers among the items in the scope of work, however the specified paper towel dispenser model is a “semi-recessed” type. Please confirm that the product specification for the paper towel dispenser is correct, and if so, clarify whether a mounting block is required at such units.

Specification section 062000 enumerates wood blocking for venetian blinds as a scope item but no size or finish have been specified or detailed by the drawings. Please clarify the requirements for this blocking.

Suggestion

Answer **Date Answered:**

Confirmed, the semi-recessed paper towel dispenser specified is correct. No wood blocking is required at the paper towel dispensers. See Addendum #4 changes to the specifications.

July 08, 2020

No wood blocking is required for the sunscreen shades (venetian blinds). See Addendum #4 changes to the specifications.

Request for Information 000.PB148

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB148 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Gordian Energy Systems 3915 Coolidge Avenue Baltimore, Maryland 21229

Author RFI Number

Subject	Trade Contractor
Solar	Gordian Energy Systems

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

-What is the Goal of the project? Is it a system size goal or production goal. If a production goal can we provide an alternative materials Bid?

-Is the inverter location on the roof?

-is the solar contractor expected to provide engineering services. (Electrical and Structural) Or is that to be provided by engineer of record.

Suggestion

Answer **Date Answered:**

- The goal of the project alternate is to provide as much renewable on-site energy on the available roof space as possible. The system is also designed to meet NEC compliance for on-site tie-in at the main switchboard. 7 July 2020

- The inverter locations are indicated on drawing E-205.

- Solar contractor to provide system as specified in specification 26 3100 and as indicated on the drawings. Systems proposed that vary from basis of design can be submitted as a substitution.

Request for Information 000.PB150

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB150 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Rommel Construction, LLC 601 Nursery Road Linthicum, Maryland 21090

Author RFI Number

Subject	Trade Contractor
T-105	Rommel Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Drawing T-105 shows tele data duct banks as existing and new. Please clarify what is new for the tele data and Verizon duct banks.

Are the Hand holes on drawing T-105 New or existing to remain?

Suggestion

Answer **Date Answered:**

July 7, 2020

1. UFO lines are existing to the existing building.
2. Dashed lines in Detail 1 are being installed as part of the summer work, prior to the new building bid and construction. This includes pathways from the street to the new building for Verizon, Comcast and County Fiber.
3. Hand holes should be installed as part of Summer Work.
4. New site sign conduit and cabling should be installed as part of this scope of work.
5. Hand holes are being installed as part of the Summer Work and should remain for new service provider cabling.

Bryan Jones
ESP

Request for Information 000.PB151

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB151 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Rommel Construction, LLC 601 Nursery Road Linthicum, Maryland 21090

Author RFI Number

Subject	Trade Contractor
MC Cable	Rommel Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Is Fire alarm MC Cable acceptable?

Suggestion

Answer **Date Answered:**

Provide wire in conduit as indicated on the specification 28 3100, sub-paragraph 3.1.B.1. 7 July 2020

Request for Information 000.PB152

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB152 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Rommel Construction, LLC 601 Nursery Road Linthicum, Maryland 21090

Author RFI Number

Subject	Trade Contractor
Lightning Protection	Rommel Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Is lightning protection required for this project?

Suggestion

Answer **Date Answered:**

Lightning Protection system is not required for this project. July 7, 2020

Request for Information 000.PB007

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB007 **Date Submitted: 6/25/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Towson Mechanical 8651 Oakleigh Road Parkville, MD 21234

Author RFI Number

Subject	Trade Contractor
Moving Scope of Work	Towson Mechanical

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/2/2020**

According the Scope of Work we are for “bidding purposes” plan on 25% of the furniture moving to the new school. But then they give a list of items in each Classroom, Admin Offices and Misc. Offices. But we cannot find a count of each in the existing school. Or is it just the list that we will be moving in total?

Then there is the 10 trailer loads going to the HCPSS warehouse. Will we unload them? If not how many can they handle a day?

Will there be a walk through of the existing building to get a better idea of how much and what we are to move?

Suggestion

Answer **Date Answered:**

See revised moving scope of work in revised 01A General Trades scope this addendum.

Walk through was held 07/01/20 as previously advertised.

Request for Information 000.PB009

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB009 **Date Submitted: 6/25/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754

Author RFI Number

Subject

Alternates

Trade Contractor

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/2/2020**

If the alternate does not pertain to the contract package, do we leave the amount blank?

How do we confirm which alternate is tied to the specific division?

Suggestion

Answer **Date Answered:**

Per the form of proposal, if an alternate does not alter cost, then you are to enter "Zero" $0.

For which Contractor is responsible for which scope items, please refer to each Specific Scope of Work included in Specification Section 011113.

Request for Information 000.PB010

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB010 **Date Submitted: 6/25/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754

Author RFI Number

Subject

02A Engineer's Estimate

Trade Contractor

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/2/2020**

Is there an engineers estimate for the 2A - Sitework package?

Suggestion

Answer **Date Answered:**

There is an estimate, however, it will not be released.

Request for Information 000.PB011

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB011 **Date Submitted: 6/25/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754

Author RFI Number

Subject

Sitework

Trade Contractor

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/2/2020**

Has the sitework for this project already been awarded? Silt and construction fence have been installed and there appeared to be tree removal being performed on site this morning.

Suggestion

Answer **Date Answered:**

The 02A contract package has not been awarded. The referenced work is the Summer Utility Relocation package, which has been previously bid and awarded.

Request for Information 000.PB012

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB012 **Date Submitted: 6/25/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754

Author RFI Number

Subject

Site Visit

Trade Contractor

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/2/2020**

Are you saying we will not be allowed to visit the building to review the existing conditions? This is kind of important for the 2C Demolition package.

Suggestion

Answer **Date Answered:**

In accordance with Addendum #2, there will a site visit scheduled for July 1st

Request for Information 000.PB013

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB013 **Date Submitted: 6/25/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754

Author RFI Number

Subject

Permit

Trade Contractor

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/2/2020**

Will the owner be applying for and or paying for the permit for the project?

Suggestion

Answer **Date Answered:**

Per G.1 of the General Scope of Work,"The Owner and or Design Team is to secure the Building, Sediment Control and Grading permit only. All other required permits, sub permits, trade permits, approvals, bonds, etc. are the respective trade contractor's responsibility."

Request for Information 000.PB014

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB014 **Date Submitted: 6/25/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754

Author RFI Number

Subject

Alternate Assignment

Trade Contractor

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/2/2020**

If we enter $0 for Alternate 1 as the 2A contractor will we then have to install seven sail shade structures for no cost? I think the appropriate answer to alternates that do not apply to the package being bid would be N/A.

Suggestion

Answer **Date Answered:**

Reference each individual scope of work, part 3 for information of what is required for each Contractor under each alternate.

In this instance, the 02A contractor would not be expected to provide pricing for sail shades as that is not a part of their scope of work. Each contractor is responsible for providing pricing for each alternate in the event it is accepted. If there are no impacts to the contractor, for example the sail shades for 02A, then there will be no work expected.

Request for Information 000.PB015

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB015 **Date Submitted: 6/25/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754

Author RFI Number

Subject

HAZMAT Report

Trade Contractor

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/2/2020**

Is there a asbestos survey or HAZMAT report for the existing school provided in the current bid documents?

Suggestion

Answer **Date Answered:**

HAZMAT abatement will be performed by others prior to demolition of the existing building

Request for Information 000.PB017

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB017 **Date Submitted: 6/29/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	William F. Klingensmith, Inc. 7307 Baltimore Avenue, Suite 209 College Park, MD 20740

Author RFI Number

Subject
01A Scope Items

Trade Contractor
William F. Klingensmith

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/6/2020**

The General Scope, Section R. Temporary Facilities specifies the 1A has Temporary Close-In of All Window Openings & Temporary Exterior Doors, this conflicts with the 1A scope which specifies temporary in HM openings and the 8A scope which specifies temporary in aluminum openings, please clarify.

Confirm that final cleaning is by the owner, scope item 1A Flooring #13 assigns us the stripping, cleaning, waxing of finish floors only.

Moving company questions (12, 13 & 14). According the Scope of Work for “bidding purposes” plan on 25% of the furniture moving to the new school. But then they give a list of items in each Classroom, Admin Offices and Misc. Offices. But I cannot find a count of each in the existing school. Or is it just the list that we will be moving in total ?

Then there is the 10 trailer loads going to the HCPSS warehouse. Will we unload them? If not how many can they handle a day?

Is there a time frame that needs to be followed for the furniture moving. The move portion won’t take place until 2022 but is it over a number of weeks?

Suggestion

Answer **Date Answered:**

The General Scope Section R is specifically talking about temporary close-in exterior openings and doors.
01A Frames, Doors and HW Scope Item 11 is specifically talking about infills of interior HM windows, sidelights, etc.
08A Scope Items 16 and 17 specifically requires temporary infill due to lack of AL frames and/or glass to maintain schedule

Confirmed, final clean to be by others with the exception of the referenced scope item 01A Flooring #13

Reference updated 01A General Trades Specific Scope Moving items

Request for Information 000.PB018

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB018 **Date Submitted: 6/29/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	William F. Klingensmith, Inc. 7307 Baltimore Avenue, Suite 209 College Park, MD 20740

Author RFI Number

Subject	Trade Contractor
Temporary Electric for Trailer	William F. Klingensmith

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/6/2020**

16A scope item Electrical #5 excludes providing generator electric to the 1A trailer, could this be included.

Suggestion

Answer **Date Answered:**

See revised 16A scope

Request for Information 000.PB019

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB019 **Date Submitted: 6/29/2020**

Answer Company	Answered By	Author Company
Howard County Public School System 10910 Route 108 Ellicott City, MD 21042	Robert Gill	William F. Klingensmith, Inc. 7307 Baltimore Avenue, Suite 209 College Park, MD 20740

Author RFI Number

Subject	Trade Contractor
Form of Proposal - Subcontractors	William F. Klingensmith

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/6/2020**

The Form of Proposal (Revised) page 4 has a section “Subcontractors”, what subcontractors are required to be listed, there are many in the 1A contract.

Suggestion

Answer **Date Answered:**

Attach additional sheets as necessary

Request for Information 000.PB021

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB021 **Date Submitted: 6/29/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Interstate Corporation 16031 Industrial Drive Gaithersburg, MD 20877

Author RFI Number

Subject	Trade Contractor
Skylights	Interstate Corporation

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/6/2020**

Solar Tube Skylight (Ref. Specification Section 086000):
Please clarify what package contractor is responsible for control/integral wiring, switches & connectors for daylight dimmer.

Also, please verify that skylight prefab. metal curb should be supplied and installed by 07A package contractor.

Suggestion

Answer **Date Answered:**

07A Contractor shall furnish and deliver all control/integral wiring, switches, etc. as required for a complete skylight operation to the 16A Contractor for installation.

Skylight Curb shall be furnished and installed by 07A Contractor.

Request for Information 000.PB022

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB022 **Date Submitted: 6/30/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Action Electrical Contractors, Inc. 1050 Hardees Drive, Suite C Aberdeen, MD 21001

Author RFI Number

Subject

Computer Relocation

Trade Contractor

Action Electrical Contractors

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/7/2020**

Computer relocation is included in the 16A Scope of work, but the quantities of the equipment needing to be relocated is unclear. Could the quantities of the equipment requiring relocation be specified?

Suggestion

Answer **Date Answered:**

Walkthrough on 07/01/20 was provided for this purpose. No additional walkthroughs shall be provided.

Request for Information 000.PB024

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB024 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject

Hot Asphalt Scheduling

Trade Contractor

RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

Section 07 2200, paragraph 1.05-B states that no hot asphalt work will be permitted on site during normal school hours or when school is occupied by teachers/students unless a specific wavier was granted by HCPSS. This is a new school being built on the same site while the existing school is being utilized. Will the roofing work being done on the new school have a wavier granted by HCPSS to install the hot asphalt work during normal school hours or when the existing school is occupied by teachers/students since the roofing work is to be installed on a new building that is not attached or part of the occupied school?

Suggestion

Answer **Date Answered: 7/8/2020**

Due to the close proximity of the new school to the existing school bidders shall bid the project as currently specified.

Request for Information 000.PB025

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB025 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject	Trade Contractor
Skylight Controls	RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

Section 08 6000 “Skylights” call for the units to be supplied with electrical actuated daylight dimmers. We want to confirm that all wiring and switch requirements to activate the actuators will be provided and installed by the 15A contractor?

Suggestion

Answer **Date Answered:**

Reference answer to PB021.

Request for Information 000.PB026

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB026 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject

Roofer Wage Rate

Trade Contractor

RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

Wage rate hourly rate issue. We have noticed on that the prevailing wage list that the Roofer/waterproofer wage rate is less than the rate for Laborer-Common. Roofer/waterproofer is $ 17.01 and Laborer-Common is $24.22

Suggestion

Answer **Date Answered: 7/8/2020**

Bidders shall bid the wage rates as provided in the Contract Documents.

Request for Information 000.PB027

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB027 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Interior Specialists, Inc. 11012 Red Lion Road White Marsh, MD 21162

Author RFI Number

Subject

Demolition Specific Scope

Trade Contractor

Interior Specialists

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

1. Item 3 - The permit should be obtained and paid for by county or CM. We can provide our license info and we can do rodent certificate but the permit will require owner info, etc. Can this be adjusted? Abatement permit will be part of negotiation after the fact.
2. Item 4 - Can't price implied demo? Please clarify? (probably not an issue on a tear down but had to ask)
3. Item 4 - Please clarify that items must be actually attached to building, if there's a joint, it's by the 2A site contractor, correct? Also, can we just separate from building if attached or do we need to take entire item if attached?
4. Item 7 - Where is designated location of owner salvage? On site?
5. Item 20 - How do we price what is left in 2022 when we bid in 2020? Can we set up an allowance of some sort?
6. Item 21 - Please consider having the mason clean and stack salvaged brick. They employ mason tenders that do this on a regular basis. We can stockpile and they can take what they want?
7. Item 22 - Just confirming that you are not expecting any haz-mat pricing at this time?

Suggestion

Answer **Date Answered:**

Razing/demolition permit is part of the building permit, and shall be obtained and paid for by the Owner. 02C Contractor is required to provide all coordination and information as required to obtain this permit.

Implied shall mean any and all demo as required to completely demolish, remove, and legally dispose of the entire building, foundations, structure, etc. as required by the 02C Scope.

Items physically attached shall be by 02C Contractor. Any item attached or abuts the existing building via joint, etc. shall be by the 02A Contractor.

Salvage other than brick salvage has been removed from 02C Scope, see revised scope this addendum

Review revised 01A General Trades Scope and price accordingly

04A Contractor will not be active on site, scope item shall remain as written

Confirmed

Request for Information 000.PB030

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB030 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Glass Industries, LLC 4320 Old Milford Mill Road Pikesville, Maryland 21208

Author RFI Number

Subject

Aluminum Door Hardware

Trade Contractor

Glass Industries

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

Per 8A scope item 26, all hardware for aluminum doors is to be furnished and installed by 8A. Specification section 084113 1.08 notes that all hardware on the project should be supplied by the hollow metal contractor. Assuming 8A is not supplying hardware for doors by others, which is correct?

Suggestion

Answer **Date Answered:**

Scopes of work have been revised to conform to the Specification

Request for Information 000.PB032

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB032 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Key Systems, Inc. 10839 Philadelphia Road White Marsh, MD 21162

Author RFI Number

Subject	Trade Contractor
16A Specific Scope	Key Systems

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

- Specification 011113, 16A-5 Contract Packages, #45 - Refers to Aquatic Drawing and a pool and grounding that is not on the drawings. Should this be deleted?

- Specification 011113, 16A-6 Contract Packages, #1 - Remove and relocate all computers and peripherals and associated items from the existing school to new school. Should this be done by General Trade Contractor? For the contractor who performs this work, can you provide quantities, size and weight of items looking to be relocated or provide an allowance?

Suggestion

Answer **Date Answered:**

There is no pool on project - references are extraneous and have been deleted.

Scope item shall remain as written, site walkthrough was provided on 07/01/20 for this purpose.

Request for Information 000.PB033

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB033 **Date Submitted: 7/1/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	The Crown Electric Company 2027 Greenspring Drive Timonium, MD 21093

Author RFI Number

Subject
MBE Requirements

Trade Contractor
The Crown Electric Company

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/8/2020**

Advertised bid on E-Market Place indicates MBE requirements at 28%. Specifications call for 35% for Electrical. Please clarify.

Suggestion

Answer **Date Answered:**

MBE requirements listed in the Notice to Bidders and the specifications shall prevail

Request for Information 000.PB038

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB038 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
TCA Architects 1369 Generals Highway Crownsville, MD 21032	Jim Davis	Urban N. Zink, Contractor, Inc. PO Box S Chase, MD 21027

Author RFI Number

Subject	Trade Contractor
Rock Removal	Urban Zink

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

With the abundance of rock on the project, we are requesting that a rock clause be added to the documents so that this can be considered extra work if rock is hit.

Can the spec be modified to allow blasting for rock removal on the project? Not allowing blasting will add a significant amount of money and time to the project.

Suggestion

Answer **Date Answered:**

Project shall remain unclassified to subgrade

Blasting shall not be allowed

Request for Information 000.PB039

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB039 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Urban N. Zink, Contractor, Inc. PO Box S Chase, MD 21027

Author RFI Number

Subject

02A Specific Scope

Trade Contractor

Urban Zink

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

Please provide more specifics as to 2A SOW item 27. What pest control is the 2A contractor responsible for and at what rate?

Please provide a quantity of spoils to be hauled off according to 2A SOW 32.

In reference to the topsoil for the project, we will need an area to store the topsoil for reuse for Phase 1, but the majority of the topsoil will be needed for the fields in Phase 2. Please confirm that there will be enough area to stockpile the material for Phase 1 and 2. 2A scope of work item 39 does provide a definitive answer to this questions.

Please provide how many times, how often redo SCE or give amount of stone to redo?

Please provide how many times, how often redo access roads/staging areas or give amount of stone to redo?

Suggestion

Answer **Date Answered:**

02A Contractor is responsible for pest control as specified, see revised 02A Scope.

02A Contractor to review all documents and provide their own quantity takeoff to include in base bid.

02A Scope Item 39 shall remain as written

Reference 02A Scope Item 29

Reference 02A Scope Item 29

Request for Information 000.PB040

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB040 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Urban N. Zink, Contractor, Inc. PO Box S Chase, MD 21027

Author RFI Number

Subject	Trade Contractor
Outdoor Structures	Urban Zink

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

Which contractor is responsible for the dumpster screen wall footer, chiller enclosure footer, and exterior masonry piers show on Sheet A-880.

Suggestion

Answer **Date Answered:**

02A Contractor is responsible for Dumpster Screen Wall Footer as defined in the 02A Scope

03A Contractor is responsible for Chiller Enclosure Footer and Masonry Pier Footers as defined in the 03A Scope

04A Contractor is responsible for all Masonry

Request for Information 000.PB043

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB043 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Bowen & Kron Enterprises, Inc. 9315 Pulaski Highway Baltimore, MD 21220

Author RFI Number

Subject	Trade Contractor
Security and Fire Watch	Bowen and Kron Enterprises, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

Is it really necessary to have 24 hour security as well as fire watch for this project?

Suggestion

Answer **Date Answered:**

Affirmative

Request for Information 000.PB045

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB045 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Ross Contracting 1007 Rising Ridge Road Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
02A Specific Scope Clarifications	Ross Contracting, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

- Per the 2A scope, please provide the exact quantity and location where sheeting and shoring will be required.
- Per the 2A scope, please provide a quantity to haul other trades' spoils or measure the amount to be paid by unit prices per cubic yard.
- Per the 2A scope, please provide a copy of the MDE SWM discharge permit we are to assume all responsibility for.
- Per the 2A scope, please qualify we are responsible for all erosion and sediment control measures AS SHOWN.
- Per the 2A scope, please quantify or show areas of jersey barriers at areas of construction traffic roadways.
- Per the 2A scope, please show or quantify temporary access roads and staging areas.
- Per the 2A scope, please provide a site utilization plan as mentioned.
- Per the 2A scope, please provide confirmation that stripped topsoil needed for respreads can be stockpiled onsite.
- Per the 2A scope, please provide a copy of the Public Works Agreement we are to abide by.
- Per the 2A scope, please provide a cost for all bonds for work in right-of-way.
- Per the 2A scope, please provide permits and fees required under the Site Asphalt Paving Specific Scope, Fencing Scope, Landscape Scope, etc.
- Per the 2A scope, please quantify installation of thermoplastic markings AS SHOWN.
- Per the 2A scope, please provide complete plans, specs, and details for temporary irrigation for plants.
- Per the 2A scope, please provide locations, details, and sections for brick paver access roads.

Suggestion

Answer **Date Answered:**

Means and methods - if sheeting and shoring is required, shall be by 02A

Contractor to review all other documents provide quantity takeoff of spoils required

Shall be provided to successful contractor

Confirmed

Means and methods - jersey barriers shall be provided as required by OSHA/MOSH or any other AHJ

Review site logistics plan provided in Section 015000, reissued in Add. 3

Review site logistics plan provided in Section 015000, reissued in Add. 3

Confirmed, if space allows per 02A Scope Item 39

Shall be provided to successful contractor

Cost for bonds shall be estimated by 02A bidders

02A Contractor to provide permits as required by AHJ

02A Contractor shall provide thermoplastic as shown and specified

Means and methods - 02A contractor shall provide temporary irrigation as required

Reference detail 1B/A-880

Request for Information 000.PB046

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB046 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Ross Contracting 1007 Rising Ridge Road Mt. Airy, MD 21771

Author RFI Number

Subject

02C Specific Scope Clarifications

Trade Contractor

Ross Contracting, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

- Per the 2C scope, please provide the exact quantity and location where sheeting and shoring will be required.
- Per the 2C scope, please provide a description and scope of Phase 2 and Phase 3 building demolition work as shown on drawing C7 phase line through existing building.
- Per the 2C scope, please provide a complete list of items to be salvaged and removed.

Suggestion

Answer **Date Answered:**

Means and methods - 02C Contractor shall provide if required

Drawing is schematic - Phase 2 demolition is the extent required to allow for construction of the parking/parent drop off on east side of replacement school

This has been removed from the 02C scope, with the exception of the brick - review revised 02C scope

Request for Information 000.PB047

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB047 **Date Submitted: 6/29/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	William F. Klingensmith, Inc. 7307 Baltimore Avenue, Suite 209 College Park, MD 20740

Author RFI Number

Subject

Concrete Pavers

Trade Contractor

William F. Klingensmith

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/6/2020**

The Finish Schedule drawing A-900 shows concrete pavers on the roof in the Outdoor Classroom Rm X20 , please confirm the 7A Roofing package has these concrete pavers in its scope, the pavers are shown on drawing detail 1/R11.

Suggestion

Answer **Date Answered:**

Confirmed

Request for Information 000.PB048

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB048 **Date Submitted: 7/2/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	William F. Klingensmith, Inc. 7307 Baltimore Avenue, Suite 209 College Park, MD 20740

Author RFI Number

Subject	Trade Contractor
Plumbing Fixture Trim	William F. Klingensmith

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/9/2020**

Per paragraph 1.01 B of 123000 – Casework, the casework subcontractor is to supply all “sinks, backsplashes, all accessories and service fixtures…..which are an integral part of casework units”. Per paragraph 2.8 of 224200 – Institutional Plumbing Fixtures, each sink is listed by model number, etc. Subsection 5 under each sink lists “Trim”, which includes valves, bubblers, and supply among other items. Please confirm which items of “trim” are the responsibility of the casework subcontractor, and which are the responsibility of the plumbing contractor.

Suggestion

Answer **Date Answered:**

15A Contractor shall furnish and install all "Trim" as required

Request for Information 000.PB053

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB053 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	The Berg Corporation 2519 Wilkens Avenue Baltimore, MD 21223

Author RFI Number

Subject

Demolition Specific Scope Items

Trade Contractor

The Berg Corporation

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

1. Spec 011113 Section 02C, Demo scope item 15 – Please confirm security is for all hours listed (approx. 113 hours/week)

2. Spec 011113 Section 02C, Demo scope item 21 – Is a brick cleaning spec available?

3. Spec 011113 Section 02C, Demo scope item 22 – Because hazmat report has not been provided, should we exclude typical universal waste removal such as tube/bulbs, PCB ballasts, CFC recovery from MEP equipment, etc.? If to be include, please provide specific items/materials to include.

Suggestion

Answer **Date Answered:**

Confirmed

No, Contractor to remove all mortar and surface materials

Refrigerants shall be captured and removed as required by 02C specific scope item 6. All other HAZMAT items shall be handled by others. As a reminder, no exclusions to the scope of work is permissible or your bid will be deemed non-responsive.

Request for Information 000.PB054

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB054 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Cromwell Contracting, LLC 1000 Cromwell Bridge Road Towson, Maryland 21286

Author RFI Number

Subject	Trade Contractor
Roof Safety	Cromwell Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

5A Scope item #18 requires 5A to provide safety rail cable pretty much everywhere. 1A #6 requires similar but in wood.
Can you verify intent is to have both or if one or the other.

Suggestion

Answer **Date Answered:**

Contractors to provide safety items as scoped

Request for Information 000.PB056

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB056 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Cromwell Contracting, LLC 1000 Cromwell Bridge Road Towson, Maryland 21286

Author RFI Number

Subject	Trade Contractor
Shade Controls	Cromwell Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Specification 122413, Section 2.01 Motorized Room Darkening Shades – please note: The wiring from motor controls to the shade motors requires a licensed electrician due to the 120V wiring, conduit and J-boxes required. This is not a task for the shade subcontractor due to the licenses and permits required for electrical services. We will exclude this specification section on our Estimate. We will provide and install the Low Voltage switch wire provided that pathways, conduit and pull string are provided by others (Electrical Contractor).

Suggestion

Answer **Date Answered:**

16A Contractor is providing control wiring and final power connections per 16A Electrical Scope Item 60.

Request for Information 000.PB058

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB058 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Cromwell Contracting, LLC 1000 Cromwell Bridge Road Towson, Maryland 21286

Author RFI Number

Subject	Trade Contractor
Expansion Joint Covers	Cromwell Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

1A scope lists EJ covers. Is there a spec section for these?

Suggestion

Answer **Date Answered:**

If none are shown or specified, none are required.

Request for Information 000.PB059

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB059 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Gray & Son, Inc. 430 W. Padonia Road Timonium, MD 21093

Author RFI Number

Subject

HAZMAT Abatement

Trade Contractor

Gray & Son, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm that any asbestos abatement / hazardous material removal in the existing school will be done by others prior to demolition.

Suggestion

Answer **Date Answered:**

Confirmed

Request for Information 000.PB060

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB060 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Gray & Son, Inc. 430 W. Padonia Road Timonium, MD 21093

Author RFI Number

Subject
Classroom Trailers

Trade Contractor
Gray & Son, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm that the outside classrooms (trailers) will be removed by others.

Will the foundations for the outside classrooms be removed by others?

Suggestion

Answer **Date Answered:**

Classroom trailers will be removed by others, foundations for and utilities to classrooms to be by 02A per C-3

Request for Information 000.PB065

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB065 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject

Roof Curb Caps

Trade Contractor

RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm that all (both temporary and permanent) stainless steel caps on the roof curbs is included under the 15a contractors scope of work. Reference detail 2/M-501.

Item #9 of 15a Scope of Work indicates “All curbs to be installed with a temporary removable sheet metal cap, adequately reinforced within curb to not allow for collapse per MOSH standards. Intent of temporary cap is to keep building weather tight. Cap to be stenciled in both English and Spanish “Hole, Fall Hazard, Do Not Stand, Step, Sit”. When permanent roof equipment is to be set, Contractor to remove temporary sheet metal and install equipment per specifications.”

Suggestion

Answer **Date Answered:**

Confirmed per 15A Scope

Request for Information 000.PB066

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB066 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject

Roof Ladders

Trade Contractor

RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm all roof ladders are by the 05a Contractor.

Suggestion

Answer **Date Answered:**

Confirmed per 05A Specific Scope Item 3

Request for Information 000.PB067

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB067 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	RD Bean, Inc. 5105-13 Powder Mill Road Beltsville, MD 20705

Author RFI Number

Subject

PV System Protection Mat

Trade Contractor

RD Bean

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Alternate #9 PV System - Which contractor is to furnish and install the Surface protection Mat (rubber) below the PV systems base rail?
Reference details 3,4 &5/E-205

Suggestion

Answer **Date Answered:**

This shall be a part of 16A Contractor's Alternate #9 responsibility

Request for Information 000.PB073

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB073 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Towson Mechanical 8651 Oakleigh Road Parkville, MD 21234

Author RFI Number

Subject

Shade Fabric

Trade Contractor

Towson Mechanical

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Specification 122413, Section 2.02 Sunscreen Shades calls out for fabric 10% openness. Most of the windows this shade will cover are exterior windows and we recommend you clarify this openness with the Architect. A 10% openness will not block out a lot of sunlight into the rooms. If the intent is to reduce the amount of sunlight while still allowing some to enter, may we suggest a 3% openness fabric?

Suggestion

Answer **Date Answered: 7/6/2020**

Duplicate question - reference answer to PB055

Request for Information 000.PB074

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB074 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Strayer Contracting, Inc. 2200 Old Orems Road Baltimore, Maryland 21220

Author RFI Number

Subject

Wall Strapping

Trade Contractor

Strayer Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Section 011113-General Carpentry, Rough Carpentry Scope Item #2, line 2 states that the 1A contractor is not responsible for metal strapping. In the very next sentence it states that the 1A contractor is to provide continuous 20ga metal strapping. In the very next item (#3), the 1A contractor is directed to install wood blocking in the same locations as described in item #2.
PLEASE CLARIFY.

Suggestion

Answer **Date Answered:**

01A Contractor to provide blocking and/or strapping at all locations requiring in-wall support

Request for Information 000.PB075

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB075 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Strayer Contracting, Inc. 2200 Old Orems Road Baltimore, Maryland 21220

Author RFI Number

Subject

Specification / Scope Cross Reference

Trade Contractor

Strayer Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Section 08 34 73 is not listed in the Specification cross reference. PLEASE ADVISE.

Section 05 75 00 is not listed in the Specifications cross reference or the 1A, 5A or 8A scope listing provided. Whose package will this section be placed in?

Section 07 10 00 Damproofing & Waterproofing is listed as included in the 1A scope on the Specification cross section matrix. We have found no indication on the drawings were this division applies to our work. PLEASE ADVISE

Cannot find a specifications section 07 81 23 Intumescent Resistive Fire Material. Please provide.

Suggestion

Answer **Date Answered:**

Reference revised Specification Section 011112 provided in Addendum 3

"Included" on Cross Reference Matrix means to review Specific Scopes for more information. If none is shown, none is required.

Request for Information 000.PB076

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB076 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Strayer Contracting, Inc. 2200 Old Orems Road Baltimore, Maryland 21220

Author RFI Number

Subject

Liquidated Damages

Trade Contractor

Strayer Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Will there be liquidated damages?

Suggestion

Answer **Date Answered:**

Liquidated damages will be assessed in accordance with the AIA Contract and General Conditions, reference Division 0 for additional information.

Request for Information 000.PB079

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB079 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Strayer Contracting, Inc. 2200 Old Orems Road Baltimore, Maryland 21220

Author RFI Number

Subject

Window Temporary Close-In

Trade Contractor

Strayer Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Section 01 11 13 Contract Packages Item R- Temporary Facilities calls for temporary close-in of all window openings. Can a detail for the construction of these openings be provided?

Suggestion

Answer **Date Answered:**

See revised 01A General Trades Scope

Request for Information 000.PB081

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB081 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Strayer Contracting, Inc. 2200 Old Orems Road Baltimore, Maryland 21220

Author RFI Number

Subject	Trade Contractor
Moving Quantity	Strayer Contracting

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Quantification of items and amounts or items to be moved will be very difficult without an existing floor plan showing what the room types are. Can this be provided? PLEASE ADVISE

Suggestion

Answer **Date Answered:**

See revised 01A General Trades Scope, Floorplan shall not be provided. Walkthrough on 07/01 was provided for this purposed.

Request for Information 000.PB082

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB082 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Action Electrical Contractors, Inc. 1050 Hardees Drive, Suite C Aberdeen, MD 21001

Author RFI Number

Subject

16A Scope

Trade Contractor

Action Electrical Contractors

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Is there a pool for this project? In the Specs Vol 1, Section 011113 16A Contract package, there are two references to a pool in the scope, but we cannot find aquatic drawings or pool specifications. See the following images for the 16A scope items referencing a pool.

Suggestion

Answer **Date Answered:**

References to pool are extraneous, see revised 16A Scope

Request for Information 000.PB083

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB083 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Action Electrical Contractors, Inc. 1050 Hardees Drive, Suite C Aberdeen, MD 21001

Author RFI Number

Subject
Wireless Access Points

Trade Contractor
Action Electrical Contractors

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Are wireless access points (WAPs) furnished and installed by the owner, or by others? Are the WAPs included in the 16A package?

Suggestion

Answer **Date Answered:**

WAPs shall be provided by the Owner and installed by the 16A Contractor per 3/T-000

Request for Information 000.PB088

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB088 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject	Trade Contractor
Staging/Parking	Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please clarify the parking situation for contractors.

Will storage containers be allowed on site for material?

Suggestion

Answer **Date Answered:**

CM will coordinate with successful Contractors - there is limited on site space available.

Request for Information 000.PB089

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB089 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject	Trade Contractor
Project Duration	Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

What is the duration of the project?

Suggestion

Answer **Date Answered:**

Reference schedule provided in Add. 3

Request for Information 000.PB090

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB090 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject	Trade Contractor
Utility Service Charges	Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Will the owner be responsible for Utility company service charges to provide temporary or permanent power?

Suggestion

Answer **Date Answered:**

Reference 16A Electrical Scope Item 6

Request for Information 000.PB092

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB092 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject	Trade Contractor
Bidding Procedures	Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm the date of the bid opening.

Page 5 section 4.3.1 Submission of Bids, of the AIA document says that all copies of the bid, bid security and any other documents shall be enclosed in a sealed opaque envelope. Please confirm this bid is electronic and emailed to HCPS.

Please confirm that if we're bidding divisions 26, 27 and 28 we need to have separate bid forms for each. If this is the case does the pricing have to match the division? For example, if division 26, 27 and 28 together total $6,000,000 but individually 26 totals $2 million, 27 totals $2 million and 28 totals $2 million.

Suggestion

Answer **Date Answered:**

07/14/2020

Bid is electronic and shall be submitted as per the Notice to Bidders

You shall provide one bid submission per each Trade Package (i.e. 16A, etc.)

Request for Information 000.PB093

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB093 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject	Trade Contractor
16A Scope of Work	Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Item 45 of the 16A scope of work says, "This Contractor is responsible for reviewing the Aquatic Drawings and Specifications and including all items referenced to be by the Electrical (D26, 27, 28) Contractor, including but not limited to all pool grounding and bonding as required. The 13A Contractor shall be responsible for incidental low-voltage (less than 110 volts) control wiring within the filter room." Please clarify if there are pool specifications and/or if there is a pool at all.

Suggestion

Answer **Date Answered:**

Pool references are extraneous, see revised 16A Scope

Request for Information 000.PB097

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB097 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject	Trade Contractor
PV Roof Penetration	Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Who is responsible for the roof penetration enclosure for solar PV system?

Suggestion

Answer **Date Answered:**

01A Contractor is responsible for wood blocking, 07A has flashing, all else shall be by 16A

Request for Information 000.PB098

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB098 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Grounded Electrical Construction 504 McCormick Drive, Suite C Glen Burnie, Maryland 21061

Author RFI Number

Subject

Computer Moving

Trade Contractor

Grounded Electrical Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Will the owner be responsible for testing, packaging and relocating of the existing computers, peripherals and associated items from the current school? Our concern is being held responsible with any usernames and passwords as well as security/privacy issues with data regarding the testing of equipment prior to relocating.

Suggestion

Answer **Date Answered:**

16A is responsible for packing, removing, and relocating per 16A Computer Relocation Scope Item 1

Request for Information 000.PB101

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB101 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Kinsley Manufacturing 2700 Water St. York, PA 17405

Author RFI Number

Subject

Support Attachment

Trade Contractor

Kinsley Manufacturing

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm the subcontractor providing piping or mechanical equipment is responsible for the supports that attach these items to the structure. If this is correct, please confirm the steel angle headers, connection plates, stiffener plates, and threaded rods shown in sections 13, 14, 15 on S-302 and 15, 16 on S-401 are not the responsibly of the 5A – Steel subcontractor.

Suggestion

Answer **Date Answered:**

Work referenced in the above details shall be furnished and installed by 15A as required

Request for Information 000.PB102

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB102 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Kinsley Manufacturing 2700 Water St. York, PA 17405

Author RFI Number

Subject

Structural - Sail Shades

Trade Contractor

Kinsley Manufacturing

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

The 5A SOW does not include the Sail Shade alternate. Item 2 under the Sail Shade alternate in 1A's SOW states that their responsible to furnish and install all structural components. I would like to confirm that this is correct and 5A is not responsible for the Sail Shade steel supports, W8x31 that connect the support back to the structure, and the Sail Shade outriggers with all associated connections shown on S-703. If this is incorrect, and 5A is responsible for these items, would you please confirm the finish for this steel stated on S-703 is correct. It seems odd to mix AESS and galvanized steel.

Suggestion

Answer **Date Answered:**

All structural steel components for the Sail Shade system shall be by the 05A Contractor

Request for Information 000.PB103

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB103 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Kinsley Manufacturing 2700 Water St. York, PA 17405

Author RFI Number

Subject	Trade Contractor
Lintels	Kinsley Manufacturing

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Who is responsible for welding steel beam lintels to bearing plates, 4A or 5A?

5A SOW item #5: The mason's lull lifting capacity is a little ambiguous. Can we set a weight limit? For example, If the lintel is over 2500 pounds then 5A installs the lintel.

Suggestion

Answer **Date Answered:**

05A Contractor is responsible for all welding of lintels

Any lintels 2500lb or above shall be installed by 05A, all others to be installed by 04A.

Request for Information 000.PB108

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB108 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Harland J. Shoemaker 12081 Old National Pike, PO Box 733 New Market, Maryland 21774

Author RFI Number

Subject

Play Equipment

Trade Contractor

Harland Shoemaker

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

02A Playground Equipment & Surfacing Scope says 02A contractor playground structures and playground surfacing. On plan sheet C-5 there is a note adjacent to the Rubber Surface area that says “HCPSS will install kindergarten play equipment and rubber surface”. Please confirm if HCPSS will install or if it is the responsibility of the 02A Contractor. If the kindergarten play equipment is the responsibility of the 02A contractor can you please provide details for the play equipment required? There is nothing on the civil plans.

Please confirm if HCPSS will also install the rubber surface in the play area adjacent to the basketball court or if it will be the responsibility of the 02A Contractor. There is not any play equipment shown in this area, if the play equipment is the responsibility of the 02A contractor can you please provide details for the play equipment required? There is nothing on the civil plans.

Please confirm the only other play equipment required by the 02A contractor is the basketball hoops and the softball backstop and benches.

Suggestion

Answer **Date Answered:**

02A contractor shall provide all base and below per 15/C-20. HCPSS will provide all surfacing and playground structure equipment

Request for Information 000.PB109

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB109 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Harland J. Shoemaker 12081 Old National Pike, PO Box 733 New Market, Maryland 21774

Author RFI Number

Subject

Survey and As-Builts

Trade Contractor

Harland Shoemaker

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm whether the 02A contractor is responsible for survey and as-builts for the 02A scope or if it will be the owner/CM responsibility.

Suggestion

Answer **Date Answered:**

CM will provide a benchmark and one N/S and one E/W control line, all other survey and layout is by respective Trade Contractors

All Contractors are responsible for providing their own as-builts

Request for Information 000.PB110

Detailed RFI

Talbott Springs Elementary School | **Project # 147** | **Dustin Construction, Inc.**
9550 Basket Ring Road
Columbia, MD 21045

RFI #: 000.PB110 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Harland J. Shoemaker 12081 Old National Pike, PO Box 733 New Market, Maryland 21774

Author RFI Number

Subject	Trade Contractor
Geotechnical Testing	Harland Shoemaker

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm whether the 02A contractor is responsible for Geotechnical services/testing for the 02A scope or if it will be the owner/CM responsibility.

Suggestion

Answer **Date Answered:**

Geotechnical Third Party testing will be provided by the Owner

Request for Information 000.PB111

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB111 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	William F. Klingensmith, Inc. 7307 Baltimore Avenue, Suite 209 College Park, MD 20740

Author RFI Number

Subject	Trade Contractor
Temporary Controls	William F. Klingensmith

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Section 011113 General Scope of Work paragraph R.1 lists in the table “Cattle Gates, Guards, Tie-Off & Doors at L2”. Please clarify what this is and what is wanted, we assume this is a 2nd floor egress point thru the exterior wall for materials ?

Suggestion

Answer **Date Answered:**

Confirmed

Request for Information 000.PB113

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB113 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject

Existing School Floorplan

Trade Contractor

Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Could you provide floorplans of the existing school?

Suggestion

Answer **Date Answered:**

A floorplan of the existing school shall not be released

Request for Information 000.PB114

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB114 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject

Moving

Trade Contractor

Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

According to the Scope of Work, for “bidding purposes” we are to plan on 25% of the furniture moving to the new school. But then they give a list of items in each Classroom, Admin Offices and Misc. Offices. But I cannot find a count of each in the existing school. Or is it just the list that we will be moving in total?

There are 10 trailer loads going to the HCPSS warehouse. Will we unload them? If not, how many can they handle a day?

Suggestion

Answer **Date Answered:**

Reference revised 01A General Trades Moving scope of work

Request for Information 000.PB115

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB115 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject

Specification Assignment

Trade Contractor

Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Confirm who's responsible for specification section 05 7500 - Metal Column Covers

Refer to '011112 Specification - Cross Reference'. Specification section 078123 - Intumescent Fire Resistive Material is shown as 01A trade contractor responsibility, but no specification section is included. Please advise.

Suggestion

Answer **Date Answered:**

Reference revised Specification Section 011112 in Add.3

Request for Information 000.PB117

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB117 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject

Temporary Stair

Trade Contractor

Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

The 01A contractor is responsible for providing (1) temporary scaffold stairs with access to roof level for trade access at perimeter of the building. Please provide duration for the temporary stair. Also, is this requirement in addition to the temporary facilities table provided in General Scope of Work?

Suggestion

Answer **Date Answered:**

Reference General Scope part R for duration. This is the same as the requirement in the 01A Scope.

Request for Information 000.PB119

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB119 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject

Trade Contractor Assignments

Trade Contractor

Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm 05A is responsible for the interior metal benches referenced in the 05 5000 - Metal Fabrications specification section.

The 1A SOW, item 4 under miscellaneous, states flagpoles and required footings are by this contractor. Please confirm this is a typo and flagpoles and required footings are part of the 2A SOW.

Confirm 5A is responsible for the tube steel, plates, columns, welding etc. as shown in details 3,5,6,7/A-530

Which Trade Contractor is responsible for sealing and/or fire-stopping at top of masonry walls that do not line up with steel joists?

Which Trade Contractor is responsible for sealing and/or fire-stopping at MEP penetrations at masonry walls?

Which Trade Contractor is responsible for sealing and/or fire-stopping at MEP penetrations at drywall partitions?

Which Trade Contractor is responsible for sealing and/or fire-stopping at MEP penetrations at floor?

Please advise which trade contractor is responsible for the condensing and DSS unit curb as depicted in detail 9/R7

Which trade contractor is responsible for providing the Bird Deterrent, per spec section 10 8113.

Which trade contractor is responsible for the kitchen equipment?

Suggestion

Confirmed

Answer

Flagpoles and footings shall be by 01A Contractor

Correct, all structural items shall be provided by the 05A Contractor

04A contractor shall provide firesafing at the top of masonry walls

All contractors are responsible for sealing/firestopping their own penetrations

15A Contractor is responsible for providing and installing curbs for its own equipment

Bird Deterrent to be by 07A

11A

Date Answered:

Request for Information 000.PB121

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB121 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject

Sinks

Trade Contractor

Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Per paragraph 1.01 B of spec section 123000- Casework- the casework subcontractor is to supply all sinks, backsplashes, all accessories and service fixtures- which are an integral part of casework units. Per paragraph 2.8 of 224200- Institutional Plumbing Fixtures, each sink is listed by model number, etc. Subsection 5 under each sink lists "Trim", which includes valves, bubblers, and supply among other items. Please confirm which items of "trim" are the responsibility of the casework subcontractor and which are the responsibility of the plumbing contractor.

Suggestion

Answer **Date Answered:**

Reference response to PB048

Request for Information 000.PB123

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB123 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject

01A Specific Scope Items

Trade Contractor

Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

1A SOW, General Carpentry, Rough Carpentry Scope #2 and #3 are contradictory. #2 calls for metal strapping behind cabinets, display boards, etc. whereas #3 calls for solid wood blocking. Please clarify.

1A SOW, Fire Resistive Material, #6 states for 1A Contractor to respray areas as necessary. Please clarify how many additional mobilizations 1A Trade Contractor should allow for in the bid for spray fireproofing.

1A SOW, Painting and Coating, #19, indicates for 1A Contractor to provide 2 coats of block filler/primer. Please clarify that this requirement is specific to blockfiller and not applicable to all primer applications (drywall, etc.)

1A SOW, Painting and Coating, #25 indicates for 1A to spray only all HM Frames and Doors per the specification. We can't seem to locate this note in the specs. Please advise.

The drywall scope mentions FRP, acoustical wall panels, and tectum wall panels. However, details are not provided on the finish schedule. Please advise.

Suggestion

Answer **Date Answered:**

Contractor to provide strapping and/or blocking as required, see revised 01A Scope

As many as necessary to maintain the system

Incorrect - 2 coats of blockfiller/primer shall be provided per Scope

All HM Frames and Doors shall be sprayed per the Scope

If no FRP is shown, none is required. Reference A-700, A-701, etc. for wall panels

Request for Information 000.PB125

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB125 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject
Moving Items

Trade Contractor
Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Can we get a count of classrooms (by grade), bookrooms, storage rooms and offices?

Please confirm who will pack the storage and book rooms.

Please confirm who is packing the library and if library shelving will need to be moved.

Although the kitchen fixtures are not part of the move to the new school, please confirm if they would be part of the salvage items to be relocated to the staging area.

In regards to access to the new building from the old school, would we be able to use the doors from the old cafeteria or the doors by the old gym?

Will HCPSS unload trailers of excess items in their warehouse? If so, how many can they do a day?

Is there a time frame that the furniture work will need to be completed by?

Once the furniture relocation has started, will it be continuous or completed during one time frame?

Please confirm that the access area in the front of the old school for the trailers will be free and clear of construction materials (for the trailers loading the surplus items).

Suggestion

Count will not be provided, walkthrough was provided on 07/01/20 for this purpose

Storage and book rooms to be packed by 01A

Answer **Date Answered:**

Library to be packed by 01A

To be determined

Means and methods, to be coordinated

01A to unload, see revised 01A Scope

See revised 01A Scope

Prolog Conver

See revised 01A Scope

To be coordinated

Request for Information 000.PB128

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB128 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Brawner Builders 11011 McCormick Road, Suite 300 Hunt Valley, Maryland 21031

Author RFI Number

Subject

Sail Shades

Trade Contractor

Brawner Builders

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Per drawing A530, please clarify if the shade sail is to be taunt or slack. The image appears to make them slack; if they are slack, is there adequate wind coverage for this area? We typically recommend that they are taunt, for stability purposes. Please advise.

Drawing A530 shows straight sides of each sail shade. These are typically cambered for windage and appropriate stretch. Do we have approval to camber each side?

If we are able to camber the sail shade, will there be additional gaps where the sun will come through? Also, are you looking for full or partial shade?

Suggestion

Answer **Date Answered:**

Reference PB100

Request for Information 000.PB129

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB129 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Metal Strapping	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Within the 01A Contract Package Specific Scope of Work please review and clarify items #2 & #3 of the "General Carpentry, Rough Carpentry Scope" section, and item #19 of the "Metal Stud Framing, Drywall, and Ceilings" section. Please confirm that both metal strapping and in-wall wood blocking are required behind surface mounted cabinetry and all other surface mounted items on metal stud framed walls as items #2 and #3 indicate. This requirement seems both costly and unnecessary as the 01A Contractor would be responsible for both methods of in-wall support. If both are not required, please clarify for which wall-mounted items providing metal strapping only would be acceptable / for which items wood blocking would be required.

Suggestion

Answer **Date Answered:**

See revised 01A General Trades Scope of Work

Request for Information 000.PB130

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB130 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Expansion Joint Cover Assemblies	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

"Expansion Joint Cover Assemblies" have been assigned via the 01A package description as a responsibility of the 01A Contractor, however no specification section has been provided for this work. Please provide.

Suggestion

Answer **Date Answered:**

If none are shown or specified, none are required

Request for Information 000.PB132

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB132 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Moving Scope	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

4. Please clarify the “Furnishings Relocation Specific Scope” outlined in the 01A Contract Package description. In the interest of establishing a fair and equitable bid environment, please establish quantifiable scopes of work. If providing biddable quantities for the work is not feasible before the bid, it is highly recommended that an allowance value for the work to be included by all 01A bidders be established. Among the items that are unquantifiable as currently written are the following:

a. Item #1 states that (the), “Contractor shall remove and relocate all remaining items after the School personnel have moved out of area”, while item #4 indicates that we are to assume moving 25% of existing FF&E. Is it the Owner’s intent to move the other 75% of existing FF&E items under separate contract/with their own personnel?

b. In reference to item #3, please provide a list of all items in the existing school that are considered “Significant Items of Furniture” and quantities of each item for which the Contractor will be responsible.

c. In reference to item #4, please clarify the number of each type of listed room within existing school building.

d. Please clarify item #5. Is this item stating that 25% of all existing FF&E is being relocated (per item #4) to the new school (by 01A Contractor) and the other 75% of all existing FF&E is being moved to the HCPSS warehouse (also by 01A Contractor)?

Suggestion

Answer **Date Answered:**

Walkthrough was provided on 07/01/20 to assist in quantifying work required.

25% of the existing FF&E shall be moved to the new school, the remaining is being moved by 01A to HCPSS' warehouse per Furnishings Relocation Scope Item 5.

See revised 01A General Trades Scope of Work

Request for Information 000.PB133

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB133 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Final Clean	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please clarify which party is responsible for final cleaning of the proposed building.

Suggestion

Answer **Date Answered:**

01A Contractor is responsible for stripping, waxing, etc. of floors per 01A Flooring Scope Item 13, all other final cleaning to be by others

Request for Information 000.PB134

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB134 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Dampproofing/Waterproofing	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please clarify trade contractor responsibility for Dampproofing and Waterproofing systems. The specification is listed as "included"/a partial responsibility for several contractors, with no primary contractor assigned. Please confirm that the 01A Contractor is not responsible for any foundation Dampproofing/Waterproofing systems.

Suggestion

Answer **Date Answered:**

The intent is to review each specific scope for more information. If the specific scope does not require Dampproofing or Waterproofing for your package, then none is required.

Request for Information 000.PB135

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB135 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
AL Door Hardware	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm that contrary to specification section 087100 part 1.10 and in accordance with 01A Scope of Work "Frames, Doors, and Hardware" scope item #8, the 08A contractor will be responsible for furnishing and installing all hardware on 08A doors and frames.

Suggestion

Answer **Date Answered:**

01A Contractor to provide all AL hardware to 08A contractor for installation, see revised 01A and 08A scopes

Request for Information 000.PB138

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB138 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Skim Coat	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please clarify 01A scope of work “Flooring” item #8 regarding full skim under all flooring. Is this to include areas of carpet, terrazzo, and wood flooring systems in addition to VCT?

Suggestion

Answer **Date Answered:**

Full skim coat is only required under resilient flooring areas

Request for Information 000.PB141

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB141 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Ceiling Hooks	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please confirm that 01A Contract Package “Miscellaneous Scope Items” item #5 is not in error and that it is intended for the 01A Contractor and not the 05A contractor to furnish and install ceiling hooks, as this is a fabricated miscellaneous metals/structural metals assembly.

Suggestion

Answer **Date Answered:**

Hooks shall be furnished and installed by 01A

Request for Information 000.PB142

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB142 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
7/A511	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Please reference detail 7/A511. Is the 01A Contractor to be responsible for the wood blocking shown? The 07A Contractor has already been assigned all plywood sheathing and hat channel assemblies for this system, and the blocking would be the only item within this assembly that would not be the 07A Contractor's responsibility.

Suggestion

Answer **Date Answered:**

No blocking is shown in detail 7/A511. Reference individual specific scopes of work for individual contractor responsibilities

Additionally, reference page 10 of 11 for the detailed scope assignments. 07A is responsible for hat channel and standing seam metal panels, 01A is to furnish and install plywood

Request for Information 000.PB144

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB144 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Pencil Sharpeners	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

7/A722 assigns responsibility to “contractor” to install pencil sharpeners. Please confirm that this is a requirement of the 01A Contractor.

Suggestion

Answer **Date Answered:**

Confirmed

Request for Information 000.PB145

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB145 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Sunscreen Shades	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Specification 122413, Section 2.02 Sunscreen Shades calls out for fabric 10% openness. Most of the windows this shade will cover are exterior windows and we recommend you clarify this openness with the Architect. A 10% openness will not block out a lot of sunlight into the rooms. If the intent is to reduce the amount of sunlight while still allowing some to enter, may we suggest a 3% openness fabric?

Specification 122413, Section 2.01 Motorized Room Darkening Shades – please note: The wiring from motor controls to the shade motors requires a licensed electrician due to the 120V wiring, conduit and J-boxes required. This is not typically a task for the shade subcontractor due to the licenses and permits required for electrical services. Typically, the shade contractor will provide and install the low voltage switch wire in pathways provided by the electrical contractor. Please confirm that all 120V wiring associated with shades is the responsibility of the 16A Contractor.

Suggestion

Answer **Date Answered:**

Reference PB055 and PB056

Request for Information 000.PB146

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB146 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Keller Brothers Inc. One Park Avenue Mt. Airy, MD 21771

Author RFI Number

Subject	Trade Contractor
Casework Sinks	Keller Brothers, Inc.

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Per paragraph 1.01 B of 123000 - Casework, the casework subcontractor is to supply all "sinks, backsplashes, all accessories and service fixtures.....which are an integral part of casework units". Per paragraph 2.8 of 224200 - Institutional Plumbing Fixtures, each sink is listed by model number, etc. Subsection 5 under each sink lists "Trim", which includes valves, bubblers, and supply among other items. Please clarify which items of "trim" are the responsibility of the casework subcontractor, and which are the responsibility of the plumbing contractor.

Suggestion

Answer **Date Answered:**

See response to PB048

Request for Information 000.PB149

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB149 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Action Electrical Contractors, Inc. 1050 Hardees Drive, Suite C Aberdeen, MD 21001

Author RFI Number

Subject

Generator Pad

Trade Contractor

Action Electrical Contractors

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Does the 3A package include the generator concrete pad?

Suggestion

Answer **Date Answered:**

Affirmative

Request for Information 000.PB153

Detailed RFI

Talbott Springs Elementary School
9550 Basket Ring Road
Columbia, MD 21045

Project # 147

Dustin Construction, Inc.

RFI #: 000.PB153 **Date Submitted: 7/6/2020**

Answer Company	Answered By	Author Company
Dustin Construction, Inc. 2510 Urbana Pike, Suite 201 Ijamsville, MD 21754	Aaron Mengel	Rommel Construction, LLC 601 Nursery Road Linthicum, Maryland 21090

Author RFI Number

Subject	Trade Contractor
BG&E Splice Box	Rommel Construction

Cc:	Company Name	Contact Name	Copies	Notes

Question **Date Required: 7/13/2020**

Will the New BGE splice Box be installed by the site contractor or electrical contractor?

Will the site contractor be the one to demo the existing BGE splice box and conduits that are to be removed from the previous BGE connection point?

Suggestion

Answer **Date Answered:**

All splice box/electrical ductbank work to be furnished and installed by 16A

Existing splice box and conduit is to be by 02A per C-3. 16A to coordinate and confirm shutdown