



6/18/2020

ADDENDUM NO. 4

PROJECT: Washtenaw ISD – High Point School
DESCRIPTION: Architectural and MEP
BID PACKAGE RELEASE NUMBER: 003
CLARK/AXIOM PROJECT NO: 2832/1004

BID PROPOSAL DUE DATE/TIME: UNCHANGED
10:00 AM, Tuesday, June 23, 2020

The following clarifications and/or Changes made to the Contract Documents are hereby made part of the Contract Documents.

The general character of the Work clarified or revised by this Addendum shall be the same as required by the complete set of Contract Documents. All incidentals required in connection with the Work of this Addendum shall be included in the Scope of Work even though not specifically specified.

All bidders shall be held responsible to review the Addendum and to include in its Bid Proposal all Work reasonably inferred to be included in its Scope of Work.

Acknowledge receipt of this Addendum in the space provided on the Bid Proposal Form.

A. Division 00 – Bidding and Contract Requirement Modifications:

- a. Section 004126 – Bid Proposal Form – REISSUED**
 - i. Added Alternate 10: Playground Equipment**
- b. Section 002416 – Bid Cat. 06 – General Trades – REISSUED**
 - i. Clarified visual display boards line 20**
- c. Section 002416 – Bid Cat. 11 – Food Service Equipment – REISSUED**
 - i. Clarified equipment supports line 14**

d. Answered Pre bid RFI's

e. Substitution Requests

B. Architect Issued Documents

a. MaMA/TMP Addendum 4 Write Up

END OF SECTION

SECTION 004126
BID PROPOSAL FORM

BIDDER'S NAME: _____

PROJECT: Washtenaw ISD – High Point School

CLARK PROJECT NO.: 19-2832

AXIOM PROJECT NO.: 19-1004

BID RELEASE NO.: 003

OWNER: Washtenaw Intermediate School District
1819 South Wagner Road
Ann Arbor, MI 48103

ARCHITECT: TMP Architecture, Inc
1191 West Square Lake Road
Bloomfield Hills, MI 48302
And
Mitchell and Mouat Architecture
113 South Fourth Avenue
Ann Arbor, MI 48104

CONSTRUCTION MANAGER: Clark Construction Company
3535 Moores River Drive
Lansing, MI 48901
And
Axiom Construction Services Group, LLC
7789 E. M-36
Whitmore Lake, MI 48189

ATTENTION: Tanner Rowe, Project Manager
TELEPHONE: 517-898-2769

1. PROPOSAL

1.1. This offer has been prepared after our examination of the complete drawings and specifications, together with their related documents, and our examination of the conditions surrounding the construction of the proposed work including the availability of materials, equipment and labor. The undersigned submits the following offer to enter into a Contract with Washtenaw Intermediate School District and agrees to furnish all labor, material, equipment and service to complete the Work in accordance with the Contract Documents for:

A. **Bid Category No.: _Description:_____**

- For the Lump Sum Base Bid of: (\$_____)

_____Dollars

SECTION 004126
BID PROPOSAL FORM

B. Bid Category No.: Description:

- For the Lump Sum Base Bid of: (\$_____)
- _____ Dollars

1.2. All appropriate sales taxes are included in the above Lump Sum Base Bid.

2. COMBINED BIDS

2.1. Combined Bids of two (2) or more Bid Categories may be submitted. Separate Bids for each Bid Category included in a combined Bid are required.

A. Bid Category Numbers: _____

Bid Category Descriptions:_____

- For the Lump Sum Base Bid of: (\$_____)
- Dollars

3. ADDENDA

3.1. The undersigned acknowledges receipt of the following Addenda and has included the cost thereof in the Lump Sum Base Bid:

No. 1, dated _____

No. 2, dated _____

No. 3, dated _____

No. 4, dated _____

No. 5, dated _____

No. 6, dated _____

4. TRADE HOURS

4.1. Total estimated trade hours required to perform the Work _____ Trade Hours

4.2. The undersigned acknowledges that the estimated trade hours provided above are for Clark Construction Company scheduling purposes only and shall not be deemed a limit to trade hours required to perform the work and shall not be considered as a basis for claim.

5. BID SECURITY

5.1. Bid security in the amount of 5% of the proposal, shall accompany this proposal.

6. PERFORMANCE AND LABOR AND MATERIAL PAYMENT BOND

6.1. The undersigned confirms that the cost of required Bonds is included in the base bid amount.

SECTION 004126
BID PROPOSAL FORM

7. REJECTION OF BID

- 7.1. The undersigned acknowledges the right of Washtenaw Intermediate School District to reject any or all bids and to waive any informality or irregularity in the bid.

8. PROJECT SCHEDULE

- 8.1. The undersigned acknowledges that it shall meet requirements of the Project Schedule (Section 003113).

9. EXTRA WORK

- 9.1. The undersigned agrees that:
- A. A maximum of 15% overhead and profit will be allowed for Changes in the Work performed by the Trade Contractor.
 - B. A maximum of 5% overhead and profit will be allowed for Changes in the Work for any tier Subcontractor.
 - C. For changes involving both additional costs and credits to the Contract, the mark-up will be allowed on the net add only after all credits have been deducted from the additional work.

10. ALLOWANCES

10.1. General

- A. Each Bidder for Bid Categories listed below, must include allowance amount in its base bid (Refer to “Allowances” section).
- B. Allowances for specific materials (i.e., carpet, wall covering, etc.) shall cover the material cost only. All other costs including labor, overhead and profit and incidentals shall be included in the base bid.
- C. Refer to bid Category and Allowance Specification Sections for allowance amount to include in base bid.

11. ALTERNATES

11.1. General

- A. Each Bidder must furnish alternate pricing for the Work of its respective Bid Category for the following alternates.
- B. Alternates shall not be included in the Lump Sum Base Bid.
- C. Alternate price shall include all cost for labor, material, equipment, service, overhead and profit including any bonds and taxes as required in the Bid Documents to complete the Work of the Bid Category.

11.2. List of Alternates-Refer to TMP Project Manual Section 01 23000 Alternates

- Washtenaw ISD – High Point School*
 Bid Release No. 003
 Section 004126-Bid Proposal Form, Version 4

004216-4
Project No. 2832

SECTION 004126
BID PROPOSAL FORM

BIDDER'S NAME: _____

LEGAL ADDRESS: _____

ZIP CODE: _____

CONTACT NAME: _____

TELEPHONE NO.: _____

FAX NO.: _____

EMAIL ADDRESS: _____

The Bidder declares the following legal status in submitting this Proposal: (Check one)

_____ A Corporation organized and existing under the laws
of the State of Michigan

_____ A Partnership

_____ Other

CONTRACT ACKNOWLEDGEMENT

Trade Contractor hereby acknowledges acceptance of the terms of the Contract Agreement and will enter into the Agreement with no modifications to the terms of the Agreement.

SIGNATURE

Respectfully submitted:

SIGNATURE

BY: _____

TITLE: _____

DATE: _____

WITNESSED BY: _____

Federal Employer Identification No.: _____

State License No.: _____

SECTION 004126
BID PROPOSAL FORM

BIDDER'S NAME: _____

FAMILIAL RELATIONSHIP

1. GENERAL

1.1. Each Bidder shall complete, execute and submit with its Bid Proposal the following Familial Relationship Sworn Statement.

1.2. SWORN STATEMENT

Date: _____

School District: Washtenaw Intermediate School District

Project: High Point School

I/We disclose below any familial relationship that exists between the Owner or any employee of Bidder and any member of the Board of Education, Board of Directors or the Superintendent of (Washtenaw Intermediate School District)

Familial Relationships: ☐ None ☐ Listed Below

Bidder Employee/Position	Relationship	School District Associate/Position
_____	_____	_____
_____	_____	_____
_____	_____	_____

(Company Name) Subscribed and sworn to before me

By: _____ this ____ day of _____, year
(Authorized signer)

(Print or type Name and Title of Signer)

(Signed by Notary Public)

Address: _____

My commission expires: _____

Telephone: _____

SECTION 004126
BID PROPOSAL FORM

IRAN ECONOMIC SANTIION ACT 517 OF 2012

1. On December 28, 2012, Governor Snyder signed Public Act 517 of 2012, commonly known as the “Iran Economic Sanctions Act” (the “Act”). The Act provides that beginning April 1, 2013 an “Iran Linked Business” is not eligible to submit a bid on a request for proposal with a “public entity.” Under the Act, a “public entity” includes school districts and intermediate school districts. The Act also requires that a person that submits a bid in response to a public entity’s request for proposal must certify to the public entity that it is not an Iran Linked Business. This requirement applies to **all** requests for proposals issued by a public entity, and not just to construction projects.
2. The Act defines an Iran Linked Business as: 1) a person engaging in investment activities in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers or products used to construct or maintain pipelines used to transport oil or liquefied natural gas for the energy sector of Iran; or 2) a financial institution that extends credit to another person if that person will use the credit to engage in investment activities in the energy sector of Iran.
3. If the public entity determines, using credible information available to the public, that a person or entity has submitted a false certification, the public entity must provide written notice to the person or entity of its determination and of its intent not to enter into or renew the contract. The notice must include information on how to contest the determination. The notice must also specify that the individual or entity may become eligible for future contracts with the public entity if the activities that caused it to be an Iran Linked Business are ceased.
4. The Attorney General may bring a civil action against any individual or entity reported to have submitted a false certification. If the civil action results in a finding that certification was false, the person or entity will be responsible for a civil penalty of not more than \$250,000.00 or two times the amount of the contract for which the false certification was made, whichever is greater. In addition to the fine the individual or entity will be responsible for the cost and reasonable attorney fees incurred by the public entity. An individual or entity who has submitted a false certification will be ineligible to bid on a request for proposal for 3 years from the date the certification was determined to be false.

SECTION 004126
BID PROPOSAL FORM
IRAN ECONOMIC SANCTION ACT 517 OF 2012

BIDDER CERTIFICATION FORM

1. Beginning April 1, 2013, an Iran linked business is not eligible to submit a bid on a request for proposal with a public entity.
2. Beginning April 1, 2013, a public entity shall require a person that submits a bid on a request for proposal with the public entity to certify that it is not an Iran linked business.
3. Pursuant to Michigan law, (the Iran Economic Sanctions Act, 2012 PA 517, MCL 129.311 et seq.), before accepting any bid or proposal, or entering into any contract for goods or services with an prospective Contractor, the contractor must first certify that it is not an "IRAN LINKED BUSINESS", as defined by law.
4. Each Contractor submitting a bid on this project shall include a letter with their bid certifying that they have full knowledge of the requirements and possible penalties under the law MCL 129.311 et seq. that the Contractor is NOT an "IRAN LINKED BUSINESS", as required by MCL 129.311 et seq., and as such that Contractor is legally eligible to submit a bid and be considered for a possible contract to supply goods and/or services to Adrian Public Schools.

I certify that I am a duly authorized representative of _____ and confirm that
(Name of Company)
neither I nor the company is an "Iran Linked Business"

Company Representative Name _____

Signature _____

Date _____

SECTION 002416
SCOPE OF WORK
BID CATEGORY SPECIFIC NOTES

BID CATEGORY 06- General Trades, Rough Carpentry and Finish Carpentry

GENERAL – The following shall not be interpreted as a complete itemization of the work to be performed under this Bid Category. This Bid Category Trade Contractor shall be responsible to perform all work reasonably interpreted to be included in its scope of work in accordance with the drawings and specifications in addition to these Bid Category notes of clarification.

BASE SPECIFICATION – (Include all Work specified or reasonably inferred)
002413 – SCOPE OF WORK GENERAL NOTES – (Include all Work specified or reasonably inferred)

02 8100	WOOD VEGETABLE PLANTERS
06 1000	ROUGH CARPENTRY
06 1323	HEAVY TIMBER FRAMING
06 1500	WOOD DECKING
06 4023	INTERIOR ARCHITECTURAL WOODWORK
08 3100	ACCESS DOORS AND PANELS
08 3323	OVERHEAD COILING DOORS
10 0100	MISCELLANEOUS SPECIALTIES
10 1100	VISUAL DISPLAY UNITS
10 2600	WALL AND DOOR PROTECTION - Removed via RFI .043 – Addendum 4
10 4400	FIRE PROTECTION SPECIALTIES
11 1300	LOADING DOCK EQUIPMENT
11 6143	STAGE CURTAINS
11 6623	GYMNASIUM EQUIPMENT
13 3416.53	PORTABLE BLEACHERS

REFERENCE SPECIFICATION – (Include portions of the Work specified as noted below or reasonably inferred)

01 5000	TEMPORARY FACILITIES AND CONTROLS
07 2100	THERMAL INSULATION
07 8400	FIRESTOPPING
08 1113	HOLLOW METAL DOORS AND FRAMES – Install only
08 1416	FLUSH WOOD DOORS – Install only
08 7100	DOOR HARDWARE – Install only
08 8300	MIRRORS – Install only
10 1100	VISUAL DISPLAY UNITS – Install only – Addendum 4
10 1400	SIGNAGE – Install only – Addendum 3
10 2123	CUBICLE CURTAINS AND TRACK – Install only
10 2800	TOILET, BATH AND LAUNDRY ACCESSORIES – Install only

SECTION 002416
SCOPE OF WORK
BID CATEGORY SPECIFIC NOTES

Include (Furnish and Install u.n.o):

1. All work under this contract shall be done in a safe manner and comply with O.S.H.A. and M.I.O.S.H.A. requirements as well as Clark-Axiom Joint Venture Safety Program.
2. All labor, materials and equipment necessary to provide all work as shown on the drawings and in the specifications, for this bid package. All work to be per the plans and specifications, or as required by code.
3. Wood blocking indicated in the documents, including blocking for specialties, casework, roofing, and plywood sheathing as required. Include rigid insulation in cavity of roof parapet wall assembly. Coordinate blocking requirements with equipment suppliers and other Trades.
4. Receive, unload, protect and install all hollow metal frames, hollow metal doors, wood doors and hardware when delivered to site by others.
5. Store and inventory finish hardware on site. Inventory to be completed within 72 hours of delivery and provide written report to Construction Manager,
6. Provide 25 temporary fire extinguishers for use during construction placed on stands every 50' throughout the construction areas. Remove when directed by Construction Manager
7. Blocking and reinforcing for owner installed equipment. i.e. lift assist chairs, monitor mounts, etc.
8. ~~Floor protection~~—Note redundant, see note 14 – Addendum 3
9. Installation of toilet accessories, mirrors and grab bars. To be furnished by others.
10. All imbed steel, chase ways, bumpers and accessories for loading dock. Coordinate with concrete contractor for a complete operating system.
11. Final adjustments to hardware as directed by Clark-Axiom Joint Venture.
12. Scaffolding, for pool work only, for multiple trades to access ceiling. Scaffolding to cover entire pool and deck to fully access ceiling. Maintain in place for 60 days. Include erection and dismantling of scaffold. Include hoisting station and stairs/egress as required.
13. \$60,000 allowance for labor work to be used as directed by Clark-Axiom Joint Venture. Any unused portion of allowance to be credited back to the District.
14. Floor protection consisting of 1 layer of Proguard Duracover (or approved equivalent) and 1 layer 7/16" OSB with taped seams on concrete floor to receive polish. Approximately 26,000 SF. Remove as directed by Clark-Axiom Joint Venture.
15. Temporary double construction doors at 6 locations; B100.1, 105.2, F100.2, G100.2, H108.2, and K100.2. No fire rating or hardware requirements but doors must be lockable. – Addendum 3
16. Backer boards for electrical and IT equipment.

SECTION 002416
SCOPE OF WORK
BID CATEGORY SPECIFIC NOTES

- 17. Provide daily clean up or as directed by Clark-Axiom Joint Venture
- 18. Closet plywood shelving and heavy duty brackets – Addendum 3
- 19. \$3,000 allowance for access panels and doors not shown on drawings but required by MEP. – Addendum 3.
- 20. Visual display units – Addendum 4

Exclude:

- 1. Swimsuit water extractor – to be supplied and installed by electrical contractor

SECTION 002416
SCOPE OF WORK
BID CATEGORY SPECIFIC NOTES

BID CATEGORY 11 - Food Service Equipment

GENERAL – The following shall not be interpreted as a complete itemization of the work to be performed under this Bid Category. This Bid Category Trade Contractor shall be responsible to perform all work reasonably interpreted to be included in its scope of work in accordance with the drawings and specifications in addition to these Bid Category notes of clarification.

BASE SPECIFICATION - (Include **all** Work specified or reasonably inferred)

002413 – SCOPE OF WORK GENERAL NOTES

11 4000 FOODSERVICE EQUIPMENT

REFERENCE SPECIFICATION - (Include portions of the Work specified as noted below)

01 5000 TEMPORARY FACILITIES AND CONTROLS

Include (Furnish and Install u.n.o):

1. Furnish shop drawings including mechanical and electrical rough in drawings in a timely manner for other Trades to perform their Work in accordance with the project schedule.
2. Coordinate special concrete floor requirements (i.e., slab depressions) required by the Work of this bid category with other Trades.
3. Concrete equipment pads required and not indicated in the documents.
4. Report special concrete floor requirements required by the Work of this bid category to Clark-Axiom Joint Venture in writing.
5. Anchors, blocking, and structural support as required but not indicated in the documents.
6. Sealant as required by the local health department and other authorities.
7. Control and low voltage wiring within equipment furnished by this bid category, including final connections.
8. Electrical starters and disconnects that are integrated to the equipment.
9. Plumbing internal to equipment provided by this bid category. Plumbing Contractor to make connection to building systems only.
10. Exhaust hoods including hood fire suppression system as required.
11. Perform check, test and start of all equipment.
12. Conduct thorough training for operator of equipment. Provide video taping of training for Owner.
13. Cleaning of equipment upon completion of the Work.
14. Structural supports, cables and railing. Example notes A1 and A2 FSE-5-BP3 – Addendum 4

Request for Information .031

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .031

Date Created: 6/10/2020

Answer Company

Answered By

Author Company

Authored By

Mitchell and Mouat Architects
113 S. Fourth Street
Ann Arbor, MI 48104

Mark Borys

Clark Construction Company
3535 Moores River Drive
Lansing, MI 48911

Tanner Rowe

Co-Respondent

Author RFI Number

Subject

Pre-bid BP 3 - Generator Annunciator and
Emergency Stop

Discipline

Electrical

Category

Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/17/2020

[6/10/2020 8:59 AM Clark Construction Company - Tanner Rowe]

Per specification 26 3213, 2.12, 23 and 24, a remote alarm annunciator and remote emergency-stop switch are required for the new generator. We have not been able to locate their installation location on the plans. Please advise where the remote alarm annunciator and remote emergency stop switch should be installed.

Are there any specific grounding requirements at the new generator?

Answer

Date Answered: 6/10/2020

[6/11/2020 8:47 AM Clark Construction Company - Tanner Rowe]

[6/10/2020 4:39 PM Mitchell and Mouat Architects - Mark Borys]

Specification 26 3213, 2.12, 24 (emergency stop switch) indicates to coordinate location with owner. The location of the remote alarm annunciator should also be coordinated with the owner. Grounding to comply with all applicable codes for the specified generator and automatic transfer switch.

Scott Peck, PBA 6-10-2020

[6/17/2020 10:57 AM Clark Construction Company - Tanner Rowe]

Locate generator stop switch in room H108a near door. See attached sketch.

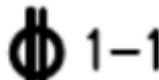
MSE

T-DP-RP1



DP-RP1

RP-1



1-1



(ON ROOF)

ELECTR.
H108a

STO.
H109



1-11,13



1-1

LP-EM1



SD

CM

ATS

PP-SB



RP-SB

LP-A



GENERATOR
EMERGENCY STOP
SWITCH

COILING DOOR
1-39



WP

EF-25; 1-
EF-37; 1-
EF-33;
EF-27;
EF-24;
EF-26;
EF-28;
EF-23;

1-



Request for Information .037

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .037

Date Created: 6/12/2020

Answer Company

Answered By

Author Company

Authored By

Clark Construction Company
3535 Moores River Drive
Lansing, MI 48911

Tanner Rowe

Co-Respondent

Author RFI Number

Subject

Discipline

Category

Pre-bid BP 3 - Asphalt Clarifications

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/19/2020

[6/12/2020 11:52 AM Clark Construction Company - Tanner Rowe]

Is the parking lot asphalt to be 5" or 4-1/2"? The plan states 5" but the asphalt profile shows 4-1/2"

Answer

Date Answered: 6/15/2020

[6/15/2020 9:57 AM Clark Construction Company - Tyler Maxwell]

From Rob Wagner at Midwestern Consulting on 6/15/2020:

RFI .037 asks "Is the parking lot asphalt to be 5" or 4-1/2"? The plan states 5" but the asphalt profile shows 4-1/2"

The Asphalt Pavement Detail on the Site Details 1 Sheet C7.1-BP3 is correct. The asphalt thickness is 4-1/2"



Request for Information .038

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .038 **Date Created: 6/12/2020**

Answer Company	Answered By	Author Company	Authored By
		Clark Construction Company 3535 Moores River Drive Lansing, MI 48911	Tanner Rowe

Co-Respondent	Author RFI Number
----------------------	--------------------------

Subject	Discipline	Category
Pre-bid BP 3 - Alternate #4 Clarification	All Disciplines	Clarification

Cc: Company Name	Contact Name	Copies	Notes
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Question **Date Required: 6/19/2020**

[6/12/2020 12:40 PM Clark Construction Company - Tanner Rowe]

Regarding Alternate #4 Shade structure, is the asphalt under the shade structure part of the alternate, or part of the base bid?

Also, are there 2 shade structures as the alternate indicates? Only 1 could be found at the NW end of the property, please advise.

Answer **Date Answered: 6/15/2020**

[6/15/2020 10:01 AM Clark Construction Company - Tyler Maxwell]

From Rob Wagner at Midwestern Consulting on 06/15/2020:

RFI .038 asks "Regarding Alternate #4 Shade structure, is the asphalt under the shade structure part of the alternate, or part of the base bid?"

The asphalt is part of the base bid. The shade structure was added after the bumpout was already there for watching soccer

Also, are there 2 shade structures as the alternate indicates? Only 1 could be found at the NW end of the property, please advise.

The second shade structure is indicated in a grass turf area on the Playground Layout Plan Dwg. No. C4.2



Request for Information .039

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .039

Date Created: 6/12/2020

Answer Company

Answered By

Author Company

Authored By

Mitchell and Mouat Architects
113 S. Fourth Street
Ann Arbor, MI 48104

Mark Borys

Clark Construction Company
3535 Moores River Drive
Lansing, MI 48911

Tanner Rowe

Co-Respondent

Author RFI Number

Subject

Pre-bid BP 3 - Duct Insulation

Discipline

Mechanical

Category

Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/19/2020

[6/12/2020 12:46 PM Clark Construction Company - Tanner Rowe]

Per the Duct System Application Schedule on M7.2, it is noted that all supply air duct down stream of terminal units is to be double wall lined solid inner ductwork. Please confirm this is correct or only in exposed areas? In which single wall duct with external wrap insulation would be used where concealed above ceilings.

Answer

Date Answered: 6/17/2020

[6/17/2020 11:36 AM Clark Construction Company - Tanner Rowe]

[6/17/2020 8:01 AM Mitchell and Mouat Architects - Mark Borys]

See below from PBA

The double walled option in the case is only required where specifically indicated on floor plans. However, the option was incorrectly identified as perforated inner wall.

Steve Mrak, PBA
6-15-20



RFI Action Required

The following RFI has been created. Please review the RFI below and take necessary action.

Project: Washtenaw ISD High Point School

Official? ☒

Closed? ☐

Number: .039

Subject: Pre-bid BP 3 - Duct Insulation

Importance: Normal

Category: Clarification

Discipline: Mechanical

Author Company: Clark Construction Company

Answer Company:

Author Contact: Tanner Rowe

Answer Contact:

Author RFI #:

Date Created: 6/12/2020

Date Responded:

Date Required: 6/19/2020

Question

[6/12/2020 12:46 PM Clark Construction Company - Tanner Rowe]

Per the Duct System Application Schedule on M7.2, it is noted that all supply air duct down stream of terminal units is to be double wall lined solid inner ductwork. Please confirm this is correct or only in exposed areas? In which single wall duct with external wrap insulation would be used where concealed above ceilings.

The double walled option in this case is only required where specifically indicated on floor plans. However, the option was incorrectly identified as solid inner wall where it should have been identified as perforated inner wall.

Steve Mrak, PBA

6-15-20

Request for Information .040

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .040

Date Created: 6/12/2020

Answer Company

Answered By

Author Company

Authored By

Mitchell and Mouat Architects
113 S. Fourth Street
Ann Arbor, MI 48104

Mark Borys

Clark Construction Company
3535 Moores River Drive
Lansing, MI 48911

Tanner Rowe

Co-Respondent

Author RFI Number

Subject

Pre-bid BP 3 - Loading Dock Door Power

Discipline

Electrical

Category

Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/19/2020

[6/12/2020 3:12 PM Clark Construction Company - Tanner Rowe]

Door D118.4 @ the loading dock and door H101e.2 are shown without any power going to them on the electrical drawings but both specified as electric operation. Are these doors manual operation or will power be added?

Answer

Date Answered: 6/18/2020

[6/18/2020 7:32 AM Clark Construction Company - Tanner Rowe]

[6/18/2020 7:15 AM Mitchell and Mouat Architects - Mark Borys]

Per TMP -

Door D118.4 and H101e.2 are both to be motorized. Power will be added to electrical drawings in upcoming addendum.



Request for Information .041

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .041

Date Created: 6/12/2020

Answer Company

Answered By

Author Company

Authored By

Mitchell and Mouat Architects
113 S. Fourth Street
Ann Arbor, MI 48104

Mark Borys

Clark Construction Company
3535 Moores River Drive
Lansing, MI 48911

Tanner Rowe

Co-Respondent

Author RFI Number

Subject

Pre-bid BP 3 - Door H109.1 Clarification

Discipline

All Disciplines

Category

Constructability

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/19/2020

[6/12/2020 3:14 PM Clark Construction Company - Tanner Rowe]

Door H109.1 is a motorized door with motor, controls, and door all shown mounted on the inside of a vaulted room making it unusable or unserviceable. Should this door be mounted on the outside face of the building with NEMA 1 motor with a cover and NEMA 4 control station mounted outside?

Answer

Date Answered: 6/18/2020

[6/18/2020 2:49 PM Clark Construction Company - Tanner Rowe]

[6/18/2020 12:37 PM Mitchell and Mouat Architects - Mark Borys]

The coiling overhead door should be an inside-mount as indicated. The door controller shall be water-proof and mounted at the exterior with a key-operated control.



Request for Information .042

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .042

Date Created: 6/12/2020

Answer Company

Answered By

Author Company

Authored By

Mitchell and Mouat Architects
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Co-Respondent

Author RFI Number

Subject

Pre-bid BP 3 - Corner Guards

Discipline

Architectural

Category

Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/19/2020

[6/12/2020 3:26 PM Clark Construction Company - Tanner Rowe]

The specification calls for three Corner Guard designations CG-1, CG-2, and CG-3 which cannot be found on any of on the A10 sheets. What type of Corner Guard does "Maple" represent, are they Wood, Solid Surface Material?

Can you clarify where the CG-1, CG-2, and CG-3 Corner Guards are indicated?

Answer

Date Answered: 6/18/2020

[6/18/2020 7:36 AM Clark Construction Company - Tanner Rowe]

[6/18/2020 7:14 AM Mitchell and Mouat Architects - Mark Borys]

Per TMP -

Specification section 10 2600 Wall & Door Protection is not needed in this package. All references to "Maple Corner Guards" refer to interior architectural woodwork section 06 4023.



Request for Information .043

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .043

Date Created: 6/12/2020

Answer Company

Answered By

Author Company

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Subject

Pre-bid BP 3 - CMU Vertical Joints

Discipline

Architectural

Category

Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/19/2020

[6/12/2020 3:28 PM Clark Construction Company - Tanner Rowe]

Interior elevation drawings contains a note that states "All CMU vertical joints to be struck flush.....etc". What is the definition of "struck flush"? Is it that the CMU joints are "Not too Jointed" but are just rubbed?

Answer

Date Answered: 6/18/2020

[6/18/2020 7:57 AM Clark Construction Company - Tanner Rowe]

[6/18/2020 7:10 AM Mitchell and Mouat Architects - Mark Borys]

per TMP -

Design intent is for Vertical joints to be flush and horizontal joints to be raked.

See Sketch attached.

The following RFI has been created. Please review the RFI below and take necessary action.

Project: Washtenaw ISD High Point School

Official? ☒

Closed? ☐

Number: .043

Subject: Pre-bid BP 3 - CMU Vertical Joints

Importance: Normal

Category: Clarification

Discipline: Architectural

Author Company: Clark Construction Company

Answer Company:

Author Contact: Tanner Rowe

Answer Contact:

Author RFI #:

Date Created: 6/12/2020

Date Responded:

Date Required: 6/19/2020

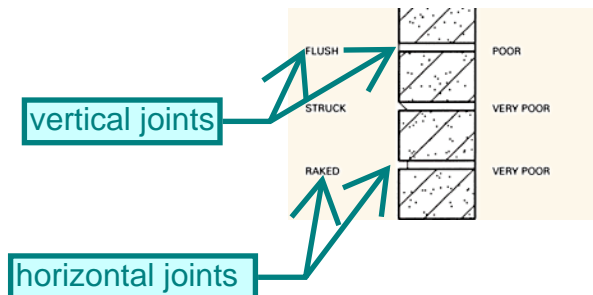
Question

[6/12/2020 3:28 PM Clark Construction Company - Tanner Rowe]

Interior elevation drawings contains a note that states "All CMU vertical joints to be struck flush.....etc". What is the definition of "struck flush"? Is it that the CMU joints are "Not too Jointed" but are just rubbed?

TMP Response:

Design intent is for Vertical joints to be flush and horizontal joints to be raked.



don/TMP 6-17-2020



Request for Information .045

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .045

Date Created: 6/12/2020

Answer Company

Answered By

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Author RFI Number

Subject

Pre-bid BP 3 - Spec 11 1300 Clarification

Discipline

Architectural

Category

Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/19/2020

[6/12/2020 3:21 PM Clark Construction Company - Tanner Rowe]

Spec 111300 mention an edge of dock leveler but no size- should the leveler width be 66", 72", or something else?

Section 2.03, paragraph G covers galvanizing- is this required for the leveler itself which typically only has a standard painted gray finish?

Answer

Date Answered: 6/18/2020

[6/18/2020 8:01 AM Clark Construction Company - Tanner Rowe]

[6/18/2020 7:07 AM Mitchell and Mouat Architects - Mark Borys]

Per TMP -

1. Deck width to be 66". Overall width to be 104". Lip length to be 17".
2. Leveler is to be galvanized and painted per specifications.



Request for Information .046

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .046

Date Created: 6/16/2020

Answer Company

Answered By

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Subject

Pre-bid BP 3 - Synthetic Turf Specification

Discipline

Architectural

Category

Specification Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/23/2020

[6/16/2020 8:57 AM Clark Construction Company - Tanner Rowe]

Sheet C10.2 shows detail for synthetic turf, but no specification can be found. Will a specification be provided?

Answer

Date Answered: 6/17/2020

[6/17/2020 11:41 AM Clark Construction Company - Tanner Rowe]

[6/17/2020 9:33 AM Mitchell and Mouat Architects - Mark Borys]

Per MCI: See Note #14 on Sheet C4.2 which states: "Synthetic Turf to be GT Impax Pro Play Elite (Item 929), including SBR cushion layer." Product shall be installed in accordance with the detail on Sheet C10.2, and with all manufacturer's instructions.

GT Impax' Multi-Use Turf-(929) Specification is attached.

Playground Pro Play Elite Turf (929)

PART 1 – GENERAL

1.01 WORK

- A. Furnishing, delivery, installation and warranty of a complete synthetic turf system including drainage, synthetic turf, and resilient infill material.

1.02 UNDERLAYMENT SYSTEM

- A. Underayment System consisting of porous closed composite materials. Thickness and density of panels shall be sufficient so that system meets the fall height requirements.
- B. Underayment system consisting of 100% recycled Tire Buffings mixed with a urethane binder (min 10%).

1.03 REFERENCES

- A. ATSM Standard Test Methods
- **F1292** – Standard specification for Impact Attenuation of Surfacing Materials within the Use Zone of Playground Equipment.
 - **F1951** – Standard Specification for Determination of Accessibility of Surface Systems under and around Playground Equipment.
 - **D1577** – Standard Test Method for Linear Density of Textile Fiber
 - **D5848** – Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering
 - **D418** – Standard Test Method for Testing Pile Yarn Floor Covering Construction
 - **D1338** – Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings
 - **D1682** – Standard Method of Test for Breaking Load and Elongation of Textile Fabrics
 - **D5034** – Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test)
 - **F1551** – Standard Test Methods for Water Permeability
 - **D2859** – Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials
 - **F355** – Standard Test Method for Shock-Absorbing Properties of Playing Surfaces
 - **D1557** – Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort.
- B. STC Suggested Guidelines for the Essential Elements of Synthetic Turf Systems

- C. IPEMA Certification: Manufacturer must provide proof of certification. In the interest of public playground safety, IPEMA provides an independent laboratory which validates a manufacturer's certification on conformance to ASTM F1292.

1.04 PROJECT CONDITIONS

- A. Coordinate all work with the work of other sections to avoid delay and interference with other work.
- B. Protect excavations by shoring, bracing sheeting, underpinning, or other methods as required to prevent cave-ins or loose dirt from entering excavations. Barricade open excavations and post warning lights at work adjacent to public streets and walks.

1.05 SITE INSPECTION

- A. The inspection shall include a check for planarity. The finished surface shall not vary from a true plane more than 1/4" in 10 feet when measured in any direction. The Contractor shall provide all required tools and materials needed for the planarity check, which may include but not be limited to, a laser level, string line, straight edge and/or other assessment materials. The Contractor shall mark in the field any deviations from grade in excess of those specified above, as well as provide a marked-up plan locating the deviations. The Contractor shall correct any deviations to the satisfaction of the Engineer and Synthetic Turf installer.
- B. The compaction of aggregate base shall be 95% to Standard Proctor and surface tolerances shall not exceed 1/4" over 10 feet.
- C. The Contractor shall have a state registered surveyor conduct an elevation survey of the area in a 25' grid to determine and verify that subgrade elevations and slopes are within previously specified tolerances. This elevation survey may require further verification of smaller areas within the 25' grid if determined necessary by the Engineer.
- D. When any or all corrective procedures have been completed, the finished sub-base surface must be re-inspected, with the same representatives attending as the initial inspection. If required, additional repair and inspections are to be conducted until the subbase surface is deemed acceptable by the Engineer and Synthetic Turf Installer
- E. Once the sub-base surface has been deemed acceptable, the Contractor shall submit a written certificate indicating the acceptance of:
 - 1. The sub-base construction finished surface as totally suitable for the application of the selected synthetic turf system, and
 - 2. The sub-base construction as totally suitable for work under this section to proceed with the final installation and fully warrant the athletic surface installation for the period and conditions specified herein.
- F. Commencement of work under this section shall constitute acceptance of the work completed under other sections by the Contractor, acceptance of dimensions of the subbase, and hence, no claims for extra work based upon these conditions will be permitted.

1.06 ENVIRONMENTAL CONDITIONS

- A. Install synthetic turf surfacing only when ambient air temperature is 35 F or above and the relative humidity is below 35% or as specified by the product manufacturer. Installation will not proceed if rain is imminent.
- B. Install product only when prepared base is suitably free of dirt, dust, and petroleum products, is moisture free and sufficiently secured to prevent unwanted pedestrian and vehicular access.
- C. Maintain all benchmarks, monuments, and other reference points. If disturbed or destroyed, replace as directed.
- D. Adjacent streets, sidewalks, and property shall be kept free of mud, dirt, or similar nuisances resulting from earthwork operations.

1.07 QUALITY CONTROL

- A. **Manufacturer Qualifications:** Company specializing in manufacturing products specified in this section. The Turf Manufacturer:
 - 1. Basis of design shall be “GT IMPAX 929 Pro Play Elite” synthetic turf system as provided by GT IMPAX. (800) 235-2440 www.gtimpax.com
 - 2. Materials other than those listed must be approved 15 days prior by written addendum. Materials from non-approved manufacturers will not be accepted.
 - 3. Must be experienced in the manufacturing of tall pile synthetic infill grass systems with the same fiber as specified.
 - 4. Manufacturer must be a member in good standing with the STC.
 - 5. Manufacturer must utilize best practices as certified by ISO-9001 and ISO-14001.
 - 6. Manufacturer must be owned and operated in the U.S.A.
 - 7. Manufacturer must have no periods of insolvency over the last 25 years.
- B. **Installer Qualifications:** Company specializing in performing the work of this section.
 - 1. The Synthetic Turf Installer must provide competent workmen skilled in this type of synthetic grass installation. All technicians must have installed similar synthetic turf.
- C. Prior to the beginning of installation, the Synthetic Turf Installer shall inspect the subbase. The installer will accept the sub-base in writing when the general contractor provides test results for compaction, planarity and permeability that are in compliance with the synthetic turf manufacturer’s recommendations and as stated herein.
- D. Remove defective Work, whether the result of poor workmanship, defective products or damage, which has been rejected by the Engineer as unacceptable. Replace defective work in conformance with the Contract Documents.

1.08 SUBMITTALS

A. Submit the following with Proposal:

1. Submit the exact product name/description as well as the name and location of the manufacturers and suppliers of each component. Manufacturers and suppliers must not be changed after the contract is awarded unless approved by the Owner in writing.
2. Submit two (2) samples, 12"x12" minimum size, illustrating details of finished product as bid, including full cross section of subbase, turf, and infill material.
3. Product Literature: Submit two (2) copies of manufacturer's recommended installation and maintenance information, including any technical criteria for evaluation of the installed product. Descriptions of all equipment recommended for the maintenance and repair of turf product, as well as a list of any activities not recommended relative to the warranty.
4. Submit a 1-lb sample of the selected bid infill material(s).
5. A letter and specification sheet certifying that the products of this section meet or exceed specified requirements.
6. Certified copies of independent (third-party) laboratory reports on ASTM tests as follows:
 - a. Pile Height, Face Width & Total Fabric Weight, ASTM D418 or D5848
 - b. Primary & Secondary Backing Weights, ASTM D418 or D5848
 - c. Tuft Bind, ASTM D1335
 - d. Grab Tear Strength, ASTM D1682 or D5034
7. ASTM test submittals may vary by no more than ¼" and 6 oz. of the specified product to bid. Bid winner must show NEW ASTM TESTS with contract submittals.
8. Name and experience of the designated supervisory personnel assigned to this project shall be submitted with the proposal. Changes to this assignment after contract can only be made if approved in writing by the Owner. Include a listing of other on-site personnel and their experience.
9. The Synthetic Turf Installer and Turf Manufacturer shall provide evidence that the turf system does not violate any other manufacturer's patents, patents allowed or patents pending.

1.09 WARRANTY

- A. The Contractor shall provide a minimum eight (8) year warranty policy by the manufacturer, against defects in materials and workmanship. Defects shall include, but not be limited to ultraviolet ray fading, degradation, or excessive wear of fiber.
- B. Warranty shall be for full replacement of any damaged product within the warranty period. Warranty shall be comprehensive and sufficient to replace all turf if necessary.
- C. Warranty shall become effective from the date of substantial completion.
- D. The Warranty shall contain no usage limits for warranted turf.
- E. Submit Manufacturer Warranty and ensure that forms have been completed in Owner's name and registered with Manufacturer.

PART 2 PRODUCTS

2.01 SUPPLIER QUALIFICATIONS

- A. The Owner has conducted an extensive review of synthetic turf products, including visiting installed sites and review of other agencies' review criteria. Based upon their research, they have established the following criteria for acceptance of a synthetic turf product. No variation from these criteria shall be allowed. The Owner's review is considered final.
- B. The Synthetic Turf Installer shall have minimum experience of at least 5 years, actively selling, installing and maintaining in-fill synthetic turf project of similar size.
- C. The Synthetic Turf Installer must provide a list of references based on previous installations.
- D. Installation team shall be established, insured installation firm experienced as a premium turf installer with suitable equipment and supervisory personnel, with a minimum of 5 years' experience with 15-foot-wide tufted materials.

2.02 TURF SYSTEM

A. Turf Fiber:

1. The turf fiber must be tufted to the backing with a minimum tuft bind of 10 pounds.
2. The tufted fiber weight shall be a minimum of 60 ounces per square yard.
3. The turf fiber shall be non-abrasive and a minimum of 100 microns thick.
4. The turf fiber must contain less than 100 ppm of lead chromate in all colors.
5. The turf fibers must be from the same dye lots.
6. The turf fibers must be guaranteed for a period of Eight Years not to fade or fail (as distinguished from a change in texture) or have a pile height decrease to 50% of pile height as result of UV degradation.
7. The turf fiber must retain a minimum of 75% of its original fibril width after 10,000 cycles on the Lisport Studded Roll Test Machine.
8. The pile fiber shall possess the following characteristics:

Characteristic	Value	Test
Linear Density (Denier)	13600	ASTM D 1577
Yarn Thickness	100 Microns (PE Mono); 100 Microns (PP)	ASTM D 3218
Tensile Strength	71 N (PE Mono); 16.5 N (PP)	ASTM D 2256
Pile Weight*	60 oz./yd ²	ASTM D 5848
Fiber manufacturer must be from the same source		
The above specifications are nominal. *Values are +/- 5%.		

9. The pile fabric shall possess the following physical characteristics:

Characteristic	Value	Test
Finished Pile Height*	1.25" (32mm)	ASTM D 5823
Product Weight (total)*	87 oz./yd ²	ASTM D 3218
Primary Backing Weight*	7.4 oz./yd ²	ASTM D 2256
Secondary coating Weight**	20 oz./yd ²	ASTM D 5848
Fabric Width	15' (4.57m)	ASTM D 5793
Tuft Gauge	3/8"	ASTM D 5793
Grab Tear Strength	200-1b-F	ASTM D 5034
Tuft Bind	>10-1b-F	ASTM D 1335
Infill (Sand)	2 lbs Silica Sand	None
Except where noted as a minimum, the above specifications are nominal.		
* Values are +/- 5%. **All values are +/- 3 oz./yd ² .		

B. Backing Material

a. Primary Backing:

- Primary backing must be a dual layered woven polypropylene material.
- Primary backing system weight must be a minimum of 7.0 ounces/square yard.

b. Secondary Backing:

- Secondary backing system weight must be a minimum of 20 ounces/ square yard.
- Secondary backing shall saturate the primary backing and effectively lock the fiber tufts in place to the primary backing.
- Secondary backing must be a heat activated polyurethane coating with **no vegetable-based polyols**.
- Secondary backing system shall have minimum tuft bind strength of 10 pounds.
- Secondary backing must have Drainage Perforations: 3/16" to 1/4" diameter at 4 inches or less on center each way. Non-perforated backing is not acceptable.

- Turf roll seams:** to be sewn or glued on site so that no openings larger than the porous backing mat openings are created. All turf fabric edges to be securely bound as per the perimeter detail design. Adhesives for joining seams of turf together shall be Nordot 34G Glue, Mapei 2K, Turf Claw, hot melt technology or equivalent. No substitutions.
- Fabric surface:** shall be constructed and installed in minimum widths of 15 feet with no longitudinal or transverse seams.
- The entire system shall be resistant to weather, including ultra-violet light and heat degradation; insects, rot, mildew and fungus growth and be non-allergenic and non-toxic.
- The turf material shall be non-combustible and pass the DIN standard Pill Burn test or ASTM D 2859.

2.03 SYNTHETIC GLUE MATERIAL

- A. Adhesive products shall be Nordot 34G, Mapei 2K, Turf Claw, hot melt technology or equivalent as approved by the engineer.
- B. Any adhesive products required for the installation of a proposed turf system shall be purpose-suited to the system. The material and application methods shall be as recommended by the adhesive manufacturer.
- C. Disposal of adhesive containers and unused adhesives as well as any fees resulting from such disposal shall be the responsibility of the Contractor.

2.04 INFILL MATERIAL

- A. The synthetic infill material shall consist of a blend of graded, silica sand.
 - 1. **Sand:** specially-graded, dust-free silica sand shall be placed on the turf in a minimum quantity of 1 pound/ square foot and shall include test results that demonstrate the following minimum properties:
 - a. Color – tan
 - b. Sand shall be round non-angular in shape
 - c. Roundness – 0.6+
 - d. Hardness - 0.6-0.8 on the Mohs Scale
 - e. Size – 1.00 mm ± 0.15 mm
 - f. Density – 90 – 95 lbs./ cu ft.
 - g. Dust - < 0.001 %
 - h. Angle of Repose - < 30°
 - i. Sand shall be heavy metal safe
 - 2. **Envirofill:** infill for synthetic/artificial turf this product consists of silicon dioxide coated with an acrylic polymer. HAZARDS DISCLOSURE: This product does not contain known hazardous materials in reportable levels as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200. This product should be classified as NOT being toxic, corrosive, skin/eye irritants, or a strong sensitizer as defined in 16 CFR 1500.3(b)(5), and 1500.3(b)(7) – (9) of the Federal Hazardous Substances Act.
 - a. Color – Green, Tan, Red, Black
 - b. Odor – Odorless
 - c. pH-value - Not applicable.
 - d. Change in condition - Melting point/Melting range: 1713 °C (3115 °F); Boiling point/Boiling range: 2230 °C (4046 °F)
 - e. Flash point - None
 - f. Flammability (solid, gaseous) - Product is not flammable.
 - g. Ignition temperature - Decomposition temperature - Not determined.

- h. Auto igniting - Product is not self-igniting.
- i. Danger of explosion - Product does not present an explosion hazard.
- j. Explosion limits - Lower - Not determined; Upper - Not determined.
- k. Vapor pressure @ 1732 °C (3150 °F) - 13.5 hPa (10 mm Hg)
- l. Density @ 20 °C (68 °F) - 2.9-3.1 g/cm³ (24.201-25.87 lbs/gal)
- m. Bulk density - 110 (lbs per cu ft)
- n. Relative density - Not determined.
- o. Vapor density - Not applicable.
- p. Evaporation rate - Not applicable.
- q. Solubility in / Miscibility with: Water - Insoluble.
- r. Partition coefficient (n-octanol/water) - Not determined.
- s. Viscosity: Dynamic - Not applicable; Kinematic - Not applicable.
- t. Solvent content: Organic solvents - 0.0 %; Solids content - 100.0 %
- u. Other information: No further relevant information available.

PART 3 EXECUTION

3.01 GENERAL

- A. Installation of the synthetic turf system is to comply with the manufacturer's recommendations, requirements and the reviewed and approved shop drawings.
- B. Perform all work in strict accordance with the Contract Documents and the manufacturer's specifications and instructions. Only those skilled technicians proposed in the bid phase are to be assigned to this project by the Contractor.
- C. The designated Supervisor for the Synthetic Turf Installer must be present during any and all construction activity associated with the field installation, including testing, cleanup and training.
- D. All products and equipment are to be from sources approved by the authorized turf manufacturer and conform to the specifications.

3.02 PRODUCT DELIVERY, STORAGE & HANDLING

- A. Deliver products to site in original containers and wrappers as agreed between the Engineer and Contractor. Inspect products upon delivery for damage.
- B. Store products in a location and in a position, that protects them from crush damage or any other defects.
- C. Handle and store (on and off site) all materials safely to ensure their physical properties are not adversely affected and that they are not subject to vandalism or damage.
- D. Infill shall arrive dry and loose.
- E. Adhesives shall arrive in dry, sealed containers.

3.03 SUB-BASE TYPES AND DETAILS

Sub-Base Requirements: The base shall have the specific minimum slope (2%) and shall vary no more than 1/8" when measured in any direction with a 10' straight edge.

STONE: The density requirement is 90% to 95% compaction with final condition of stone as level and stable so as not to shift when traveled on or during surface installation process. A compaction test is required and must be submitted to Robertson Industries Inc. prior to installation of turf surfacing. Failure to provide proof of compaction test will void the 5-year Warranty of Turf Surfacing should a sub-base failure occur.

DEPTH: 4" minimum thickness

SLOPE: Stone elevation shall maintain 1/4" per foot towards low end

POROSITY: Base course shall maintain porosity for direct drainage

ENCLOSURE: Stone base course must be surrounded by a retaining curb

DRAINAGE: Subsurface drainage is recommended under and around stone base. Perforated pipe or similar system is acceptable.

TOLERANCES: 1/4" inch in any 10' foot direction and 1/8" inch in any 3' foot direction.

STONE SELECTION: It is critical that different size stones are used so that the base shall be uniformly mixed. The material shall be wetted during mixing operations if necessary for proper blending.

<u>STONE GRADUATION:</u>	<u>U.S. SIEVE</u>	<u>PERCENT PASSING</u>
	1"	100%
	3/4"	90-100%
	No. 4	35-60%
	No. 30/10	30%
	No. 200	2-9%

FINISH LAYER: In the event turf is going directly over the aggregate, a finishing layer of 1" – 1 1/2" inch compacted Decomposed Granite (DG) over the aggregate is highly recommended.

CONCRETE or ASPHALT: Concrete should be finished with a medium broom finish. All new concrete slabs must cure for a minimum of seven (7) days prior to installation. Asphalt cure time requires fourteen (14) days. Once the new asphalt has cured, it must be pressure washed prior to the surfacing being installed. The concrete contractor shall be responsible for flooding the pad to insure proper slope and tolerance. Any areas holding enough water to cover a flat nickel shall be patched prior to arrival of turf installation crews.

DEPTH: 4" inch minimum thickness

SLOPE: Concrete or Asphalt shall maintain a 1/4" inch per foot

TOLERANCE: Concrete must maintain a tolerance of 1/8" inch in 10 feet to avoid low areas that will hold water under the turf.

Pad Underlayment:

- a. TotTurf pad standard recycled, non-contaminated, postindustrial cross link, closed cell polyethylene- polyolefin foam pad from Robertson Industries, Inc.
Foam Type: Polyethylene – Polyolefin
Bulk Density: 4.0 – 6.0 lb/cu ft
Effective Size: 24 Sq ft (net coverage)
Tensile Strength: 80-20 psi
- b. 100% Recycled Tire Buffings mixed with a urethane binder (min 10%).

3.04 TURF INSTALLATION

- A. Install synthetic turf system in accordance with the manufacturer's written installation instructions.
- B. Turf shall be attached to the perimeter edge as shown in the construction plans and as per the manufacturer.
- C. All seams shall be brushed thoroughly before infill materials are installed.
- D. All terminations shall be as detailed and approved in the shop drawings.

3.05 INFILL INSTALLATION

- A. The synthetic turf shall be thoroughly brushed prior to installation of infill materials to remove wrinkles.
- B. Turf shall remain free draining at all times before, during and after the infill materials are installed.

3.06 CLEANING AND COMPLETION

- A. Protect all installed work from other construction activities as installation progresses.
- B. The Contractor shall keep the area clean throughout the construction period and free from the installation process, including track surfaces.
- C. Upon completion of the installation, thoroughly clean surfaces and site of all refuse resulting from the installation process, including track surfaces.
- D. Any damage to existing fixtures or facilities resulting from the installation of the synthetic turf system shall be repaired to original condition at the Contractor's expense prior to Substantial Completion and commencement of the Warranty Period.
- E. A deficiency list will be produced by the Engineer at the conclusion of the project. All installation project deficiencies not in dispute must be remedied by the Contractor prior to the issuance of a certificate of Substantial Completion.
- F. Contractor to provide a written acceptance by the Turf Manufacturer that the turf and base system is installed in accordance with their recommendations prior to final completion.

End of Document

Request for Information .048

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .048

Date Created: 6/16/2020

Answer Company

Answered By

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Subject

Pre-bid BP 3 - Hard Tile Clarifications

Discipline

Architectural

Category

Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/23/2020

[6/16/2020 11:50 AM Clark Construction Company - Tanner Rowe]

1) At the tile walls, which strip type (ref. 09 3000/2.06), Rondec or Schiene, is to be used at the top of the wainscot and at the wall out corners?

2) Please reference 09 3000/2.02/E. The specifications for CT-5 call for "clear face mounting." This mounting method of the mosaics is significantly more expensive than standard dot mounting. Please confirm that clear face mounting is required for CT-5

Answer

Date Answered: 6/18/2020

[6/18/2020 8:02 AM Clark Construction Company - Tanner Rowe]

[6/18/2020 7:08 AM Mitchell and Mouat Architects - Mark Borys]

Per TMP -

1. Rondec shall be used for all outside corner applications. Schiene shall be used at top of wainscot applications.

2. Dot mounting method is acceptable at CT5 and CT6.



Request for Information .049

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .049

Date Created: 6/16/2020

Answer Company

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Subject

Pre-bid BP 3 - Floor Base Clarification

Discipline

Architectural

Category

Specification Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/23/2020

[6/16/2020 2:10 PM Clark Construction Company - Tanner Rowe]

Spec 096500 call for areas with sheet vinyl to have integral cove base. Finish plans call for RB1 - 4" rubber base. It is believed that the 4" rubber base to be used, please confirm.

Answer

Date Answered: 6/18/2020

[6/18/2020 9:26 AM Clark Construction Company - Tanner Rowe]

[6/18/2020 7:05 AM Mitchell and Mouat Architects - Mark Borys]

Per TMP - Yes, 4" rubber base is accurately represented on the drawings. Proceed with what is represented on the drawings.

Request for Information .050

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .050

Date Created: 6/16/2020

Answer Company

Answered By

Author Company

Authored By

Mitchell and Mouat Architects
113 S. Fourth Street
Ann Arbor, MI 48104

Mark Borys

Clark Construction Company
3535 Moores River Drive
Lansing, MI 48911

Tanner Rowe

Co-Respondent

Author RFI Number

Subject

Pre-bid BP 3 - Ceiling Canopy Clarification

Discipline

Architectural

Category

Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/23/2020

[6/16/2020 2:40 PM Clark Construction Company - Tanner Rowe]

1. Reflected Ceiling Plans show the individual canopy element of TC (translucent corridor canopies) as approx. 6'x5'. Specifications calls for 2'x6' panels and A3.21 rendering appears to show criss crossed panels. How many 2'x6' panels are in one of the 6'x5' footprint shown for an individual canopy element?

2. What is the integrated lighting at TC canopies? The specified Armstrong Infusions accent canopies do not have integrated lighting.

Answer

Date Answered: 6/18/2020

[6/18/2020 9:32 AM Clark Construction Company - Tanner Rowe]

[6/18/2020 7:17 AM Mitchell and Mouat Architects - Mark Borys]

Per TMP -

1. The symbol on the drawings is representative of (2) 24"x72" panels, side by side, curved in the same direction.
2. There is no integrated lighting. Disregard reference to integrated lighting on A2._ series sheets.

Further - References to 'integrated Lighting' at the TC Canopies has been removed in Addendum #4.



Request for Information .051

Detailed, With No Comments

Washtenaw ISD High Point School	Project # 19-2832	Clark Construction Company
	Tel: Fax:	

RFI #: .051

Date Created: 6/16/2020

Answer Company

Answered By

Author Company

Authored By

Mitchell and Mouat Architects
113 S. Fourth Street
Ann Arbor, MI 48104

Mark Borys

Clark Construction Company
3535 Moores River Drive
Lansing, MI 48911

Tanner Rowe

Co-Respondent

Author RFI Number

Subject

Pre-bid BP 3 - HVAC Piping Clarification

Discipline

Plumbing

Category

Drawing Clarification

Cc: Company Name

Contact Name

Copies Notes

Question

Date Required: 6/23/2020

[6/16/2020 3:49 PM Clark Construction Company - Tanner Rowe]

HVAC Piping Plans note 3 references M3.1K-BP3 as typical piping and equipment layout, however this area differs from others. For example, Zone K has 4 RCPs whereas Zone F has 6. Does pipe sizing change when serving multiple RCPs vs, 1?

Answer

Date Answered: 6/17/2020

[6/17/2020 12:32 PM Clark Construction Company - Tanner Rowe]

[6/17/2020 11:42 AM Mitchell and Mouat Architects - Mark Borys]

Per PBA - HVAC piping main sizes do not change based on RCP quantities. A 3/4" HWHS & R pipe can serve a single RCP or (2) RCPs.



RFI Action Required

The following RFI has been created. Please review the RFI below and take necessary action.

Project: Washtenaw ISD High Point School

Official? ☒

Closed? ☐

Number: .051

Subject: Pre-bid BP 3 - HVAC Piping Clarification

Importance: Normal

Category: Drawing Clarification **Discipline:** Plumbing

Author Company: Clark Construction Company

Answer Company:

Author Contact: Tanner Rowe

Answer Contact:

Author RFI #:

Date Created: 6/16/2020

Date Responded:

Date Required: 6/23/2020

Question

[6/16/2020 3:49 PM Clark Construction Company - Tanner Rowe]

HVAC Piping Plans note 3 references M3.1K-BP3 as typical piping and equipment layout, however this area differs from others. For example, Zone K has 4 RCPs whereas Zone F has 6. Does pipe sizing change when serving multiple RCPs vs, 1?

HVAC piping main sizes do not change based on RCP quantities. A 3/4" HWHS & R pipe can serve a single RCP or (2) RCPs.

Steve Mrak, PBA

6-17-20

ADDENDUM

DATE: June 18, 2020

PROJECT: New High Point School – Washtenaw Intermediate School District

TMP PROJECT NO.: 19040

MaMA PROJECT NO.: 1909

ADDENDUM NO.: Four (4)

BID PACKAGE NO.: Three (3)

ADDENDUM NO. 1 WAS PREVIOUSLY ISSUED BY THE CM ON JUNE 4, 2020.

ADDENDUM NO. 2 WAS PREVIOUSLY ISSUED BY THE CM ON JUNE 8, 2020.

ADDENDUM NO. 3 WAS PREVIOUSLY ISSUED ON JUNE 9, 2020.

The Bidding Documents are modified, supplemented or augmented as follows and this Addendum is hereby made a part of the proposed Contract Documents.

The following Drawings and attachments are issued with this Addendum.

Drawing Nos.: AD.1-BP3, AD.2-BP3, D4.1-BP1, D4.2-BP1, A2.1B-BP3, A2.1E-BP3, M4.1C-BP3, M4.1F-BP3, M4.1G-BP3, M4.1K-BP3, M7.2-BP3, M7.5-BP3, E3.1A-BP3, E3.1B-BP3, E3.1C-BP3, E3.1D-BP3, E3.1E-BP3, E3.1F-BP3, E3.1G-BP3, E3.1H-BP3, E3.1J-BP3, E3.1K-BP3, AV1.1H-BP3

Attachments: Specification Sections: 01 2300, 07 4213.23, 09 3000, 09 6500, 27 4116

<u>ITEM NO.</u>	<u>SPECIFICATION CHANGES</u>
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SC-1	Refer to Section TOC – TABLE OF CONTENTS (not reissued):
------	--

- | | |
|----|--|
| A. | Deleted Specification Sections 09 8436 – ACOUSTIC CEILING UNITS and 10 2600 - WALL AND DOOR PROTECTION from project. |
|----|--|

SC-2	Refer to Section 01 2300 – ALTERNATES (reissued):
------	---

- | | |
|----|--------------------------------------|
| A. | Added paragraph 1.02.L as indicated. |
|----|--------------------------------------|

SC-3	Refer to Section 07 4213.23 – METAL COMPOSITE MATERIAL WALL PANELS (reissued):
------	--

- | | |
|----|--|
| A. | Added paragraphs 2.01.A.6 and 2.01.A.7 as indicated. |
| B. | Added paragraph 2.01.B.8 as indicated. |

SC-4	Refer to Section 09 3000 – HARD TILING (reissued):
------	--

- | | |
|----|--|
| A. | Revised paragraph 2.02.E.6 as indicated. |
| B. | Revised paragraph 2.02.F.6 as indicated. |

- SC-5 Refer to Section 09 6500 – RESILIENT FLOORING (reissued):
- A. Deleted paragraph 2.01.A.6 as indicated.
 - B. Revised paragraphs 2.01.B.1.a as indicated.
 - C. Added paragraph 2.01.B.1.c as indicated.
- SC-6 Refer to Section 09 8436 – ACOUSTIC CEILING UNTIS (deleted):
- A. Delete Specification Section in its entirety.
- SC-7 Refer to Section 10 2600 – WALL AND DOOR PROTECTION (deleted):
- A. Delete Specification Section in its entirety.
- SC-8 Refer to Section 27 4116 – INTEGRATED AUDIO-VISUAL SYSTEMS AND EQUIPMENT (reissued):
- A. Revised paragraph 2.11.E.2 as indicated.
 - B. Revised paragraph 2.11.F.2 as indicated
 - C. Revised paragraph 2.13.B as indicated.
 - D. Revised paragraph 2.13.C as indicated.
 - E. Added paragraph 2.19 as indicated.
 - F. Added paragraph 2.20 as indicated.

ITEM NO. ARCHITECTURAL DRAWING CHANGES

- AD-1 Refer to Drawing No. TS.1-BP3 (not reissued):
- A. Added sheets D4.1-BP1 and D4.2-BP1 as “FOR REFERENCE ONLY” to the List of Drawings.
- AD-2 Refer to Drawing No. AD.1-BP3 (reissued):
- A. Revised DOOR SCHEDULE items as indicated.
- AD-3 Refer to Drawing No. AD.2-BP3 (reissued):
- A. Revised DOOR SCHEDULE items as indicated.
 - B. Added Door Type, and Frame Type as indicated.
 - C. Detail 5H: Added detail.
- AD-4 Refer to Drawing No. D4.1-BP1 (new for reference only):
- A. Issued new sheet for reference only.
- AD-5 Refer to Drawing No. D4.2-BP1 (new for reference only):
- A. Issued new sheet for reference only.

- AD-6 Refer to Drawing No. A1.1B-BP3 (not reissued):
- A. Added notes: "REMOVE AND REPLACE EXISTING DOOR PANEL (3 THUS)" at doors B107c.1, B107d.1 and B108.1.
- AD-7 Refer to Drawing No. A1.1D-BP3 (not reissued):
- A. Revised overhead door number to be "D118.4" at LOADING DOCK D118.
- AD-8 Refer to Drawing No. A1.1H-BP3 (not reissued):
- A. Revised door number to be "H104.1" at MEN'S TOILET H104.
 - B. Revised door number to be "H105.1" at WOMEN'S TOILET H105.
- AD-9 Refer to Drawing No. A1.1K-BP3 (not reissued):
- A. Revised door number to be "K107.1" at PREP K107.
- AD-10 Refer to Drawing No. A2.1B-BP3 (reissued):
- A. Revised REFLECTED CEILING PLAN LEGEND & NOTES at note "TC" to read as follows: TRANSLUCENT CORRIDOR CANOPIES, EVENLY SPACED. REFER TO RCP DRAWING FOR APPROX. PLACEMENT AND QUANTITY OF INDIVIDUAL CANOPY ELEMENTS, SPACED EQUALLY AT EACH INSTALLATION, TYPICAL AT MAIN CORRIDORS. This revision applies to this sheet and the following not reissued sheets: A2.1A-BP3, A2.1C-BP3, A2.1D-BP3, A2.1F-BP3, A2.1G-BP3, A2.1H-BP3, A2.1J-BP3, A2.1K-BP3.
 - B. Added note at EXISTING GYMNASIUM B107 for light and ceiling demolition as indicated. Reference added sheets D4.1-BP1 and D4.2-BP1.
- AD-11 Refer to Drawing No. A2.1E-BP3 (reissued):
- A. Revised REFLECTED CEILING PLAN LEGEND & NOTES at note "TC" to read as follows: TRANSLUCENT CORRIDOR CANOPIES, EVENLY SPACED. REFER TO RCP DRAWING FOR APPROX. PLACEMENT AND QUANTITY OF INDIVIDUAL CANOPY ELEMENTS, SPACED EQUALLY AT EACH INSTALLATION, TYPICAL AT MAIN CORRIDORS.
 - B. Added note at NATATORIUM E103 for light and ceiling demolition as indicated. Reference added sheets D4.1-BP1 and D4.2-BP1.

ITEM NO. MECHANICAL DRAWING CHANGES

- MD-1 Refer to Drawing No. M4.1C-BP3 (reissued):
- A. Added duct silencers to RTU-4 return as indicated.
- MD-2 Refer to Drawing No. M4.1F-BP3 (reissued):
- A. Added duct silencers to RTU-3 return as indicated.

MD-3 Refer to Drawing No. M4.1G-BP3 (reissued):

- A. Added duct silencers to RTU-2 return as indicated.

MD-4 Refer to Drawing No. M4.1K-BP3 (reissued):

- A. Added duct silencers to RTU-1 return as indicated.

MD-5 Refer to Drawing No. M7.2-BP3 (reissued):

- A. Revised Duct System Application Schedule to add lined ductwork downstream of classroom terminal units (first 7'-0") as indicated.

MD-6 Refer to Drawing No. M7.5-BP3 (reissued):

- A. Added to Duct Silencer Schedule as indicated.

ITEM NO. ELECTRICAL DRAWING CHANGES

ED-1 Refer to Drawing No. E3.1A-BP3 (reissued):

- A. Added Carbon Monoxide Detector as indicated.
- B. Added Construction Note No. 14 and 15 as indicated.

ED-2 Refer to Drawing No. E3.1B-BP3 (reissued):

- A. Added Carbon Monoxide Detector as indicated.
- B. Added Construction Note No. 14 and 15 as indicated.

ED-3 Refer to Drawing No. E3.1C-BP3 (reissued):

- A. Added Carbon Monoxide Detector as indicated.
- B. Added Construction Note No. 14 and 15 as indicated.

ED-4 Refer to Drawing No. E3.1D-BP3 (reissued):

- A. Added Carbon Monoxide Detector as indicated.
- B. Added Construction Note No. 14 and 15 as indicated.
- C. Added motorized coiling door as indicated.

ED-5 Refer to Drawing No. E3.1E-BP3 (reissued):

- A. Added Carbon Monoxide Detector as indicated.
- B. Added Construction Note No. 14 and 15 as indicated.

ED-6 Refer to Drawing No. E3.1F-BP3 (reissued):

- A. Added Carbon Monoxide Detector as indicated.
- B. Added Construction Note No. 14 and 15 as indicated.

- ED-7 Refer to Drawing No. E3.1G-BP3 (reissued):
- A. Added Carbon Monoxide Detector as indicated.
 - B. Added Construction Note No. 14 and 15 as indicated.

- ED-8 Refer to Drawing No. E3.1H-BP3 (reissued):
- A. Added Carbon Monoxide Detector as indicated.
 - B. Added Construction Note No. 14 and 15 as indicated.
 - C. Added motorized counter door as indicated.
 - D. Added fire alarm to counter door as indicated.

- ED-9 Refer to Drawing No. E3.1J-BP3 (reissued):
- A. Added Carbon Monoxide Detector as indicated.
 - B. Added Construction Note No. 14 and 15 as indicated.

- ED-10 Refer to Drawing No. E3.1K-BP3 (reissued):
- A. Added Carbon Monoxide Detector as indicated.
 - B. Added Construction Note No. 14 and 15 as indicated.

ITEM NO. AUDIO VISUAL DRAWING CHANGES

- AV-1 Refer to Drawing No. AV1.1H-BP3 (reissued):
- A. Delete stage floor pockets from stage apron as indicated.

****END OF ADDENDUM NO. 4 - BID PACKAGE NO. 3****

SECTION 01 2300 - ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Description of Alternates.

1.02 ACCEPTANCE OF ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.
- C. Alternate No. One (01) - North Playground at House No. 5:
 - 1. Base Bid Item: Groundcover per Drawing number C4.3-BP3.
 - 2. Alternate Item: Drawing number C4.2-BP3.
 - a. Provide and install all new play equipment and install owner supplied play equipment indicated, including all site amenities indicated in the Documents at the North Playground associated with House No. 5 - including:
 - 1) Install owner supplied Cruise Line.
 - 2) Provide and install Rox All See Saw.
 - 3) Provide and install double arch swing.
 - 4) Provide and install sway bench.
 - 5) Provide and install Rubberbond poured in place safety surfacing system.
 - 6) Install 10 feet high Elite EFF-20 Industrial Grade Fence with two gates.
 - 7) Install Gametime 8 feet Portable Bench.
 - 8) Install Concrete.
 - 9) Install Portable Basketball Hoop provided by owner (existing on-site).
 - 10) Paint 3-Point Lines and Free Throw Line.
- D. Alternate No. Two (2) - Natural Features Pathways and Landscape::
 - 1. Base Bid Item: N/A
 - 2. Alternate Item: Drawing numbers L1-BP3, L2-BP3, and L3-BP3.
 - a. Play Mounds - including:
 - 1) Earthwork
 - 2) Fine grading and seeding
 - 3) All other related work indicated on other Drawings within the documents.
 - b. ADA accessible 6'-0" wide, 3" asphalt sidewalk with nodes - including all other related work indicated on these Documents, such as:
 - 1) Soil erosion and sedimentation control measures
 - 2) Vegetation protection measures
 - 3) Demolition
 - 4) Grading
 - 5) Fine grading and seeding
 - c. Tree and shrub planting - including all other related work indicated on these Documents, such as:
 - 1) Planting soil and mulch.
 - 2) Plant maintenance and guarantee
- E. Alternate No. Three (03) - Natural Features Pavilion::
 - 1. Base Bid Item: N/A
 - 2. Alternate Item: Section 02 8100 Wood Vegetable Planters, 06 1323 Heavy Timber Framing, 06 1500 - Wood Decking, 07 4113 - Metal Roof Panels and Drawing number L1-BP3, L2-BP3, L4-BP3, A1.1P-BP3, M0.2-BP3 including:
 - a. Pavilion structure and all associated foundations.
 - b. Concrete pad and walkway and associated base material.
 - c. Water, electrical feeds, fixtures, sleeves, and spigots associated with the Pavilion.
 - d. Soil erosion and sedimentation control measures.
 - e. Grading and layout of the Pavilion.

- f. Raised and at-grade wood vegetable planters and picket fence with gate included.
 - g. Including all other related work indicated on these Documents such as: tree, shrub and perennial plantings, planting soil and mulch, plant maintenance and guarantee associated with the Pavilion.
- F. Alternate No. Four (04) - Two Shade Structures:
 - 1. Base Bid Item: N/A
 - 2. Alternate Item: Section 02 8100 Wood Vegetable Planters, 06 1323 Heavy Timber Framing, 06 1500 - Wood Decking, 07 4113 - Metal Roof Panels and Drawing number L1-BP3, L2-BP3, L4-BP3, A1.1P-BP3 including:
 - a. Shade Structures and all associated foundations.
 - b. Concrete pad and walkway and associated base material.
 - c. Electrical feeds, fixtures, and sleeves Shade Structures.
 - d. Soil erosion and sedimentation control measures.
 - e. Grading and layout of the Shade Structures.
 - f. Including all other related work indicated on these Documents such as: tree, shrub and perennial plantings, planting soil and mulch, plant maintenance and guarantee associated with the Shade Structures.
- G. Alternate No. Five (05) - Natatorium Deck Tile:
 - 1. Base Bid Item: Section 09 3000 and Drawing number A10.1E-BP3 including patch existing pool deck tile with tile CT6..
 - 2. Alternate Item: Section 09 3000 and Drawing number A10.1E-BP3 including In lieu of patching existing pool deck tile, replace pool deck tile with tile CT5 and drain covers as noted and indicated on drawings..
- H. Alternate No. Six (06) - UV System at Natatorium:
 - 1. Base Bid Item: N/A.
 - 2. Alternate Item: Section 13 1100 - Swimming Pools and Drawing number SP0.0-BP3 including Contractor shall furnish and install a medium pressure ultraviolet dechloramination and disinfection system to handle 100% of the recirculation flow per drawings and specifications..
- I. Alternate No. Seven (07) - Walk-off Carpet at Lobby:
 - 1. Base Bid Item: Section 03 3511 Concrete Floor Finishes and Drawing number A10.1B-BP3 including provide concrete decorative/applied finish at Lobby B101.
 - 2. Alternate Item: Section 09 6813 Tile Carpeting and Drawing number A10.1B-BP3 including in Lieu of concrete decorative/applied finish, provide Walk-off Carpet (CPT2) at Lobby B101.
- J. Alternate No. Eight (08) - Quiet Room Seamless Safety Padding:
 - 1. Base Bid Item: Section 11 6623 Gymnasium Equipment and Drawing number A1.1D-BP3, A1.1F-BP3, A1.1G-BP3, A1.1K-BP3, A6.2, A6.4-BP3, A10.1D-BP3, A10.1F-BP3, A10.1G-BP3, A10.1K-BP3 including provide Wall Safety Pads at Quiet Room D105, Quiet Room D114, Quiet Room F111, Quiet Room G114b, and Quiet Room K110.
 - 2. Alternate Item: Section 10 0100 Miscellaneous Specialties and Drawing number A1.1D-BP3, A1.1F-BP3, A1.1G-BP3, A1.1K-BP3, A6.2, A6.4-BP3, A10.1D-BP3, A10.1F-BP3, A10.1G-BP3, A10.1K-BP3 including provide Seamless Safety Padding at Quiet Room D105, Quiet Room D114, Quiet Room F111, Quiet Room G114b, and Quiet Room K110.
- K. Alternate No. Nine (09) - Color Tuning of Light Fixtures:
 - 1. Base Bid Item: Drawing number E7.4-BP3 including Light Fixture Type L1 as specified.
 - 2. Alternate Item: Drawing number E7.4-BP3 including Light Fixture Type L1: Provide color tunable white with slider color temperature control for each switch leg as noted.

L. Alternate No. Ten (10) – Playground Equipment. **ADD4**

- 1. Provide an Alternate Price for Playcraft Equipment and Pro-Tech's Surfacing PIP per requirements of Section 11 6800 and the Contract Documents. Any coordination between Playcraft/Pro-Tech and the requirements of the Documents will be the responsibility of this Contractor to review and report to the Construction Manager.**

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 07 4213.23 - METAL COMPOSITE MATERIAL WALL PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Exterior cladding consisting of formed metal composite material (MCM) sheet, secondary supports, and anchors to structure, attached to solid backup.

1.02 RELATED REQUIREMENTS

- A. Section 04 2000 - Unit Masonry: Installation of anchors and Panel support framing.
- B. Section 05 4000 - Cold-Formed Metal Framing: Panel support framing.
- C. Section 07 6200 - Sheet Metal Flashing and Trim: Metal flashing components integrated with this wall system.
- D. Section 07 9200 - Joint Sealants: Sealing joints between siding and adjacent construction and fixtures.

1.03 ABBREVIATIONS

- A. MCM: Metal composite material.
- B. ACM: Aluminum composite material.

1.04 REFERENCE STANDARDS

- A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix) 2017a.
- B. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes 2017.
- C. ASTM A480/A480M - Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip 2020.
- D. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2015.
- E. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate 2014.
- F. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes 2014.
- G. ASTM C920 - Standard Specification for Elastomeric Joint Sealants 2018.
- H. ASTM D523 - Standard Test Method for Specular Gloss; 2014.
- I. ASTM D1781 - Standard Test Method for Climbing Drum Peel for Adhesives 1998 (Reapproved 2012).
- J. ASTM D1929 - Standard Test Method for Determining Ignition Temperature of Plastics 2020.
- K. ASTM D2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates; 2016.
- L. ASTM D4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films; 2007 (Reapproved 2015).
- M. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2020.
- N. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference 2014.
- O. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components 2019.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Meeting: Convene one week before starting work of this section to verify project requirements, co-ordinate with installers of other work, establish condition and completeness of building substrate, and review manufacturers' installation instructions and warranty requirements.

1. Require attendance by the installer and relevant sub-contractors.
2. Include MCM sheet manufacturer's representative and wall system manufacturer's representative to review storage and handling procedures.
3. Review procedures for protection of work and other construction.
- B. Product Coordination and Limitations: Provide products that when combined with materials and components of other sections, form exterior wall assemblies as detailed on Drawings, that comply with NFPA 285 testing and acceptance criteria.

1.06 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data - MCM Sheets: Manufacturer's data sheets on each product to be used, including thickness, physical characteristics, and finish, and:
 1. Finish manufacturer's data sheet showing physical and performance characteristics.
 2. Storage and handling requirements and recommendations.
 3. Fabrication instructions and recommendations.
 4. Specimen warranty for finish, as specified herein.
- C. Product Data - Wall System: Manufacturer's data sheets on each product to be used, including:
 1. Physical characteristics of components shown on shop drawings.
 2. Storage and handling requirements and recommendations.
 3. Installation instructions and recommendations.
 4. Specimen warranty for wall system, as specified herein.
- D. Shop Drawings: Show layout and elevations, dimensions and thickness of panels, connections, details and location of joints, sealants and gaskets, method of anchorage, number of anchors, supports, reinforcement, trim, flashings, and accessories.
 1. Differentiate between shop and field fabrication.
 2. Indicate substrates and adjacent work with which the wall system must be coordinated.
 3. Include large-scale details of anchorages and connecting elements.
 4. Include flashing and trim details.
 5. Include design engineer's stamp or seal on shop drawings for attachments and anchors.
- E. Verification Samples: For each finish product specified, submit at least three samples, minimum size 6 inch square, and representing actual product in color and texture.
- F. Design Data: Submit structural calculations stamped by design engineer, for Architect's information and project record.
- G. Test Report: Submit report of full-size mock-up tests for air infiltration, water penetration, and wind performance.
- H. NFPA 285 Documentation: For each product, submit documentation listing compatible materials and components that when used together in wall assemblies as detailed on Drawings, comply with NFPA 285 testing and acceptance criteria.
- I. Manufacturer's Field Reports: Provide within 48 hours of field review. State what was observed and what changes, if any, were requested or required.
- J. Manufacturer's Qualification Statement.
- K. Installer's Qualification Statement.
- L. Testing Agency's Qualification Statement.
- M. Maintenance Data: Care of finishes and warranty requirements.
- N. Executed Warranty: Submit warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.07 QUALITY ASSURANCE

- A. Field Measurements: Verify actual dimensions by field measurement before fabrication; show recorded measurements on shop drawings.

- B. Design Engineer's Qualifications: Design structural supports and anchorages under direct supervision of a Structural Engineer experienced in design of this type of work and licensed in the State in which the Project is located.
- C. Manufacturer Qualifications: Company specializing in manufacturing wall panel systems specified in this section.
 - 1. With not less than five years of documented experience.
- D. Installer Qualifications: Company specializing in performing work of the type specified in this section.
 - 1. With minimum five years of documented experience.
 - 2. Approved by wall panel system manufacturer.
- E. Testing Agency Qualifications: Independent agency experienced in testing assemblies of the type required for this project and having the necessary facilities for full-size mock-up testing of the type specified.
- F. Construct mock-up, 10 feet long by 10 feet wide; include panel system, attachments to building frame, associated air/water barrier materials, weep drainage system, sealants and seals in mock-up.
 - 1. Provide mock-up for evaluation of fabrication workmanship and installation.
 - 2. Locate where directed.
 - 3. Provide panels finished as specified.
 - 4. Mock-up may remain as part of the Work.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - 1. Protect finishes by applying heavy duty removable plastic film during production.
 - 2. Package for protection against transportation damage.
 - 3. Provide markings to identify components consistently with drawings.
 - 4. Exercise care in unloading, storing and installing panels to prevent bending, warping, twisting and surface damage.
- B. Store products protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
 - 1. Store in well ventilated space out of direct sunlight.
 - 2. Protect from moisture and condensation with tarpaulins or other suitable weather tight covering installed to provide ventilation.
 - 3. Store at a slope to ensure positive drainage of any accumulated water.
 - 4. Do not store in any enclosed space where ambient temperature can exceed 120 degrees F.
 - 5. Avoid contact with any other materials that might cause staining, denting, or other surface damage.

1.09 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Wall System Warranty: Provide joint written warranty by manufacturer and installer, agreeing to correct defects in manufacturing or installation within a two year period after Date of Substantial Completion.
- C. MCM Sheet Manufacturer's Finish Warranty: Provide manufacturer's written warranty stating that the finish will perform as follows for minimum of 20 years:
 - 1. Chalking: No more than that represented by a No. 8 rating based on ASTM D4214.
 - 2. Color Retention: No fading or color change in excess of 5 Hunter color difference units, calculated in accordance with ASTM D2244.
 - 3. Gloss Retention: Minimum of 30 percent gloss retention, when tested in accordance with ASTM D523.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Metal Composite Material (MCM) Sheet Manufacturers - Products:
 - 1. 3A Composites USA Inc.; Alucobond PLUS: www.alucobondusa.com.
 - 2. Arconic Architectural Products LLC; Reynobond FR: www.reynobond.com.
 - 3. Citadel Architectural Products, Inc.; Envelope 2000 MCM: www.citadelap.com.
 - 4. Mitsubishi Chemical Composites America, Inc.; APOLIC/fr: www.alpolic-americas.com.
 - 5. Substitutions: See Section 01 6000 - Product Requirements.
 - 6. **Omega Panel Products; Omega-Lite Panel systems: www.laminatorsinc.com **ADD4****
 - 7. **Alfrex; Alfrex FR Metal Composite Material: www.alfrexusa.com **ADD4****
- B. Wall Panel System Manufacturers - Products:
 - 1. Citadel Architectural Products, Inc.; Envelope 2000 RS: www.citadelap.com.
 - 2. Riverside Group; R4-300 System: www.riversidegroup.net.
 - 3. Royalton Architectural Fabrication, Inc.; Royaltech 3000 Panel System: www.rafpannels.com.
 - 4. Shaffner Heaney Associates, Inc., SHApe Architectural: Series RLS-9000: www.shapearchitectural.com.
 - 5. Sobotec Ltd.; SL-2000 PER System: www.sobotec.com.
 - 6. Substitutions: See Section 01 6000 - Product Requirements.
 - 7. **Wolverine Enclosures / AAP: DS-9500 **ADD3****
 - 8. **Laminators Inc.; Omega Panel Products: www.laminatorsinc.com **ADD4****

2.02 WALL PANEL SYSTEM

- A. Wall Panel System: Metal panels, framing, flashings and trim, fasteners, and anchors designed to be supported by substrate provided by others; provide installed panel system capable of maintaining specified performance without defects, damage or failure.
 - 1. Wall panel system shall be a rainscreen system designed to allow air movement behind the panels with weeps and channels to allow water and moisture entering the system to escape.
 - 2. Provide structural design by or under direct supervision of a Structural Engineer licensed in the State in which the Project is located.
 - 3. Provide panel jointing and weatherseal using reveal joints and gaskets but no sealant.
 - 4. Anchor panels to supporting framing without exposed fasteners.
 - 5. Overall System Depth (panel plus framing system): 2 inches, nominal.
- B. Performance Requirements
 - 1. Thermal Movement: Provide for free and noiseless vertical and horizontal thermal movement due to expansion and contraction under material temperature range of minus 20 degrees F to 180 degrees F without buckling, opening of joints, undue stress on fasteners, or other detrimental effects; allow for ambient temperature at time of fabrication, assembly, and erection procedures.
 - 2. Wind Performance: Provide system tested in accordance with ASTM E330/E330M without permanent deformation or failures of structural members under the following conditions:
 - a. Design Wind Pressure: As indicated on Drawings.
 - b. Maximum deflection of perimeter framing member of L/175 normal to plane of the wall; maximum deflection of individual panels of L/60.
 - c. Maximum anchor deflection in any direction of 1/16 inch at connection points of framing members to anchors.
 - 3. Wall panel system shall be an approved component of an NFPA 285 tested exterior wall assembly as detailed on Drawings; tested in accordance with, and complying with the acceptance criteria, of NFPA 285.
 - 4. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.

- C. Panels: One inch deep pans formed of metal composite material sheet by routing back edges of sheet, removing corners, and folding edges.
 - 1. Reinforce corners with riveted aluminum angles.
 - 2. Provide concealed attachment to supporting structure by adhering attachment members to back of panel; attachment members may also function as stiffeners.
 - 3. Maintain maximum panel bow of 0.8 percent of panel dimension in width and length; provide stiffeners of sufficient size and strength to maintain panel flatness without showing local stresses or read-through on panel face.
 - 4. Secure members to back face of panels using structural silicone sealant approved by MCM sheet manufacturer.
 - 5. Fabricate panels under controlled shop conditions.
 - 6. Where final dimensions cannot be established by field measurement before commencement of manufacturing, make allowance for field adjustments without requiring field fabrication of panels.
 - 7. Fabricate as indicated on drawings and as recommended by MCM sheet manufacturer.
 - a. Make panel lines, breaks, curves and angles sharp and true.
 - b. Keep plane surfaces free from warp or buckle.
 - c. Keep panel surfaces free of scratches or marks caused during fabrication.
 - 8. Provide joint details providing a watertight and structurally sound wall panel system that allows no uncontrolled water penetration on inside face of panel system.
- D. Metal Framing System: Manufacturer's standard extruded aluminum framing system.
 - 1. Provide material strength, dimensions, configuration as required to meet the applied loads applied and in compliance with applicable building code.
 - 2. Include base and sill angles, perimeter terminations, horizontal and vertical framing members, and flashings required for complete installation.
 - 3. Fabricate in pieces of longest practical lengths.

2.03 MATERIALS

- A. Aluminum Composite Material (ACM) Sheet: Two sheets of aluminum sandwiching a core of extruded thermoplastic material; no foamed insulation material content.
 - 1. Overall Sheet Thickness: 0.236 inch (6mm), minimum.
 - 2. Face Sheet Thickness: 0.02 inches, minimum.
 - 3. Core: Fire retardant.
 - 4. Bond and Peel Strength: No adhesive failure of the bond between the core and the skin nor cohesive failure of the core itself below 22.4 inch-pound/inch with no degradation in bond performance, when tested in accordance with ASTM D1781, simulating resistance to panel delamination, after 8 hours of submersion in boiling water and after 21 days of immersion in water at 70 degrees F.
 - 5. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
 - 6. Flammability: Self-ignition temperature of 700 degrees F or greater, when tested in accordance with ASTM D1929.
 - 7. Fluoropolymer Coating System: Polyvinylidene fluoride (PVDF) multi-coat thermoplastic fluoropolymer coating system, including minimum 70 percent PVDF color topcoat and minimum total dry film thickness (DFT) of 0.9 mil. Comply with AAMA 2605.
 - a. Color(s): To match Architect's samples.
- B. Aluminum: Extruded components; ASTM B221.

2.04 FINISHES

- A. Factory Finish: Two coat fluoropolymer resin coating, approved by coating manufacturer for length of warranty specified for project, and applied by coil manufacturing facility that specializes in coil applied finishes.
 - 1. Long-Term Performance: Not less than that specified under WARRANTY in PART 1.

- B. Fluoropolymer Coil Coating System: Polyvinylidene fluoride (PVDF) multi-coat superior performing organic coatings system complying with AAMA 2605, including at least 70 percent PVDF resin, with at least 80 percent of coil coated aluminum surfaces having minimum total dry film thickness (DFT) of 0.9 mils, 0.0009 inch; color and gloss as indicated.
- C. Color/Texture: As selected by Architect from manufacturer's standard range.

2.05 ACCESSORIES

- A. Flashing: Sheet aluminum; 0.032 inch thick, minimum; finish and color to match ACM sheet; refer to Section 07 6200 for additional requirements.
- B. Anchors, Clips and Accessories:
 - 1. Stainless steel complying with ASTM A276/A276M, ASTM A480/A480M, or ASTM A666.
- C. Fasteners:
 - 1. Stainless steel; exposed fasteners permitted only where absolutely unavoidable, subject to prior approval of the Architect.
 - 2. Fasteners for Flashing and Trim: Blind fasteners of high-strength aluminum or stainless steel.
- D. Bituminous Coating: Cold-applied asphalt mastic, noncorrosive compound free of asbestos, sulfur, and other deleterious impurities; 15 mil dry film thickness per coat.
- E. Joint Sealer: Provide color to match wall panels; silicone sealant of type approved by ACM sheet manufacturer, and in compliance with ASTM C920.
 - 1. Refer to Section 07 9200 for additional requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine dimensions, tolerances, and interfaces with other work.
 - 1. Verify that weather barrier system is properly installed, refer to Section {id\#1000003} - {t\#1000003} for requirements.
- B. Examine substrate on-site to determine that conditions are acceptable for product installation in accordance with manufacturers written instructions.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- D. Notify Architect in writing of conditions detrimental to proper and timely completion of work, and do not proceed with erection until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Protect adjacent work areas and finish surfaces from damage during installation.

3.03 INSTALLATION

- A. Do not install products that are defective, including warped, bowed, dented, and broken members, and members with damaged finishes.
- B. Comply with instructions and recommendations of MCM sheet manufacturer and wall system manufacturer.
- C. Install wall system securely allowing for necessary thermal and structural movement; comply with wall system manufacturer's instructions for installation of concealed fasteners.
- D. Do not handle or tool products during erection in manner that damages finish, decreases strength, or results in visual imperfection or failure in performance. Return component parts that require alteration to shop for refabrication, if possible, or for replacement with new parts.
- E. Do not form panels in field unless required by wall system manufacturer and approved by the Architect; comply with MCM sheet manufacturer's instructions and recommendations for field forming.
- F. Separate dissimilar metals; use gasket fasteners, isolation shims, or isolation tape where needed to eliminate possibility of electrolytic action between metals.

- G. Install square, plumb, straight, and true, accurately fitted, with tight joints and intersections maintaining the following installation tolerances:
 - 1. Variation From Plane or Location: 1/2 inch in 30 feet of length and up to 3/4 inch in 300 feet, maximum.
 - 2. Deviation of Vertical Member From True Line: 0.1 inch in 25 feet run, maximum.
 - 3. Deviation of Horizontal Member From True Line: 0.1 inch in 25 feet run, maximum.
 - 4. Offset From True Alignment Between Two Adjacent Members Abutting End To End, In Line: 0.03 inch, maximum.
- H. Replace damaged products.
 - 1. Exception: Field repairs of minor damage to finishes are permitted only when approved in writing by Architect, panel manufacturer, and fabricator.
 - 2. Field Repairs to Finishes: Using materials and methods sufficient that repairs are not discernible when viewed at distance of 10 feet under all typical light conditions experienced at the project.

3.04 FIELD QUALITY CONTROL

- A. Wall System Manufacturer's Field Services: Provide field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with instructions.

3.05 CLEANING

- A. Ensure weep holes and drainage channels are unobstructed and free of dirt and sealants.
- B. Remove protective film after installation of joint sealers, after cleaning of adjacent materials, and immediately prior to completion of work.
- C. Remove temporary coverings and protection of adjacent work areas.
- D. Clean installed products in accordance with manufacturer's instructions.

3.06 PROTECTION

- A. Protect installed panel system from damage until Date of Substantial Completion.

END OF SECTION

TMP Architecture, Inc.
Mitchell and Mouat Architects

TMP19040
MaMA1909

SECTION 09 3000 - HARD TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Hard tile.
- B. Hard tile trim units.
- C. Tile setting materials, grout, sealants, and accessories.
- D. Metal trim.
- E. Waterproofing and crack isolation membranes.

1.02 REFERENCE STANDARDS

- A. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar 2017.
- B. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar 2017.
- C. ANSI A108.1c - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Bed with Dry-Set or Latex-Portland Cement 1999 (Reaffirmed 2016).
- D. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive 2009 (Revised).
- E. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar 1999 (Reaffirmed 2010).
- F. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy 1999 (Reaffirmed 2010).
- G. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout 1999 (Reaffirmed 2010).
- H. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout 1999 (Reaffirmed 2010).
- I. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework 2017.
- J. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar 1999 (Reaffirmed 2010).
- K. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone 2005 (Reaffirmed 2016).
- L. ANSI A118.3 - American National Standard Specifications for Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive 2013 (Revised).
- M. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar 2012 (Revised).
- N. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation 2010 (Reaffirmed 2016).
- O. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes For Thin-Set Ceramic Tile And Dimension Stone Installation 2014.
- P. ANSI A118.11 - American National Standard Specifications for EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar 1999 (Reaffirmed 2010).

- Q. ANSI A118.12 - American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation 2014.
- R. ANSI A137.1 - American National Standard Specifications for Ceramic Tile 2019.
- S. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation 2019.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.
- D. Samples:
 - 1. Full-size units of each type of tile and each color and finish.
 - 2. Full-size units of each type of trim, threshold and accessory for each color and finish.
 - a. Trim and Threshold Samples: 4 inches long, minimum.
- E. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 6000 - Product Requirements, for additional provisions.
 - 2. Extra Tile: 2 percent of each size, color, and surface finish combination, but not less than one box of each type.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.
- B. Installer Qualifications: Company specializing in performing tile installation, with minimum of five years of documented experience.
- C. Provide setting materials, grouts, and waterproofing and crack isolation membrane materials from one manufacturer.

1.06 MOCK-UP

- A. See Section 01 4000 - Quality Requirements, for general requirements for mock-up.
- B. Construct mockups to demonstrate aesthetics and quality of materials and execution.
 - 1. Build mock-up of each type of floor tile and installation method.
 - 2. Build mock-up of each type of wall tile and installation method.
 - 3. Build mock-up of any other specific locations as requested by the Architect.
 - 4. Mockup sizes shall be sized as appropriate to demonstrate complete tile pattern layout; 16 square feet, minimum.
 - 5. Approved mock-ups may remain as part of the Work.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to project site in manufacturer's original, unopened containers with labels intact. Inspect materials and notify manufacturer of any discrepancies.
- B. Storage: Store materials as directed by manufacturer's written instructions.

1.08 FIELD CONDITIONS

- A. Maintain ambient and substrate temperature above 50 degrees F and below 100 degrees F during installation and curing of setting materials.

1.09 EXTRA MATERIALS

- A. Deliver extra materials to Owner. Furnish extra materials that match products installed as described below, packaged with protective covering for storage and identified with labels clearly describing contents.
 - 1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed, for each type, composition, color, pattern, and size.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Floor Tile: Floor tile shall comply with the following:
 - 1. Dynamic Coefficient of Friction (DCOF): 0.42 or greater when tested in accordance with DCOF AcuTest per ANSI A137.1.

2.02 HARD TILE

- A. CT1Porcelain Tile: ANSI A137.1 standard grade.
 - 1. Size: 23-5/8 by 23-5/8 inch (60cm x 60cm), nominal.
 - 2. Thickness: 3/8 inch (10mm), nominal.
 - 3. Surface Finish: Matte glaze.
 - 4. Color(s): Flint.
 - 5. Trim Units: Matching cove base shapes in sizes coordinated with field tile.
 - 6. Maximum Joint Size: 1/8 inch.
 - 7. Products:
 - a. Ceasar; Technolito - Matte: .
 - b. Substitutions: Not permitted.
 - c. Distributor: Virginia Tile, Kathleen Black (248) 467-4362
 - 8. Base: 5-29/32 by 23-5/8 inch (15cm x 60cm) Field Tile with Metal Edge Cap where not used with wall tile.
- B. CT2Porcelain Tile: ANSI A137.1 standard grade.
 - 1. Size: 12 by 24 inch, nominal.
 - 2. Thickness: 5/16 inch, nominal.
 - 3. Surface Finish: Unglazed Matte.
 - 4. Color(s): Gelo.
 - 5. Maximum Joint Size: 3/16 inch.
 - 6. Products:
 - a. Emser Tile; Prime: .
 - b. Substitutions: Not permitted.
 - c. Distributor: Emser Tile, Erin Leszczynski (586) 668-9046
- C. CT3Porcelain Tile: ANSI A137.1 standard grade.
 - 1. Size: 12 by 12 inch, nominal.
 - 2. Thickness: 5/16 inch, nominal.
 - 3. Surface Finish: Unglazed Matte.
 - 4. Color(s):
 - a. CT3A Menta.
 - b. CT3B Turquesa.
 - c. CT3C Lima.
 - d. CT3D Lavanda.
 - e. CT3E Ouro.
 - f. CT3F Gema.
 - 5. Maximum Joint Size: 3/16 inch.
 - 6. Products:
 - a. Emser Tile; Prime: .
 - b. Substitutions: Not permitted.
 - c. Distributor: Emser Tile, Erin Leszczynski (586) 668-9046

- D. CT4Quarry Tile: ANSI A137.1 standard grade.
1. Size: 6 by 6 inch, nominal.
 2. Thickness: 1/2 inch, nominal.
 3. Edges: Cushioned.
 4. Surface Finish: Unglazed.
 5. Color(s): Shadow Gray (N46).
 6. Trim Units: Matching bullnose base, 6 inches high, shapes and sizes coordinated with field tile.
 7. Maximum Joint Size: 3/8 inch.
 8. Products:
 - a. American Olean; Quarry Naturals: .
 - b. Substitutions: Not permitted.
 - c. Distributor: Virginia Tile, Kathleen Black (248) 467-4362
- E. CT5Ceramic Mosaic Tile: ANSI A137.1 standard grade.
1. Size: 2 by 2 inch, nominal.
 2. Thickness: 1/4 inch, nominal.
 3. Surface Finish: Unglazed.
 4. Color(s): Custom Blend
 - a. CT5A Light Smoke Speckled A04 40%.
 - b. CT5B Storm Grey Speckled A06 40%.
 - c. CT5C Bimini Blue A85 20%.
 5. Mounted Sheet Size: 12 by 24 inches.
 6. ~~Mounting Method: Clear Face Mounted **ADD4**~~
~~Mounting Method: Dot Mounted **ADD4**~~
 7. Maximum Joint Size: 1/8 inch.
 8. Base: Built-Up Cove Base MT6/MT6A as appropriate with wall tile.
 - a. Color: Light Smoke Speckled A04
 9. Products:
 - a. American Olean; Unglazed Colorbody Porcelain Mosaics:
 - b. Substitutions: Not permitted.
 - c. Distributor: Virginia Tile, Kathleen Black (248) 467-4362
- F. CT6 Ceramic Mosaic Tile: ANSI A137.1 standard grade.
1. Size: 1 by 1 inch, nominal.
 2. Thickness: 1/4 inch, nominal.
 3. Surface Finish: Unglazed.
 4. Color(s): Architect shall select two (2) colors from Manufacturer's Full Line.
 5. Mounted Sheet Size: [12 by 24] inches.
 6. ~~Mounting Method: Clear Face Mounted **ADD4**~~
~~Mounting Method: Dot Mounted **ADD4**~~
 7. Maximum Joint Size: 1/8 inch.
 8. Base: Built-Up Cove Base MT6/MT6A as appropriate with wall tile.
 - a. Color: Architect shall select one (1) color from Manufacturer's Full Line.
 9. Products:
 - a. American Olean; Unglazed Colorbody Porcelain Mosaics:
 - b. Substitutions: Not permitted.
 - c. Distributor: Virginia Tile, Kathleen Black (248) 467-4362
- G. CT7 Glazed Wall Tile: ANSI A137.1 standard grade.
1. Size: 16 by 32 inch, nominal.
 2. Thickness: 10mm, nominal.
 3. Surface Finish: Glazed Matte.
 4. Color(s): White.
 5. Maximum Joint Size: 3/32 inch.
 6. Products:

- a. Atlas Concorde; 3D Wall; Pattern: Dune.
 - b. Substitutions: Not permitted.
 - c. Distributor: Genesee Tile, Krysta Wieggers (810) 219-0040
- H. CT8 Porcelain Tile: ANSI A137.1 standard grade.
 - 1. Size: 8 by 8 inch (20cm x 20cm), nominal.
 - 2. Thickness: 10mm, nominal.
 - 3. Surface Finish: Unpolished
 - 4. Color: Onyx (A880)
 - 5. Maximum Joint Size: 1/8 inch
 - 6. Products:
 - a. Crossville; Cross-Colors Mingles; Through-Body Porcelain
 - b. Substitutions: Not permitted.
 - c. Distributor: Virginia Tile, Kathleen Black (248) 467-4362
- I. CT9 Glazed Wall Tile: ANSI A137.1 standard grade.
 - 1. Size: 4 by 4 inch (10cm x 10cm), nominal.
 - 2. Thickness: 6mm, nominal.
 - 3. Surface Finish: Glazed Wall Tile, Matte
 - 4. Color(s): .
 - a. CT9A Menta.
 - b. CT9B Turquesa.
 - c. CT9C Lima.
 - d. CT9D Lavanda.
 - e. CT9E Ouro.
 - f. CT9F Gema.
 - 5. Maximum Joint Size: 3/16 inch
 - 6. Products:
 - a. Emser Tile; Prime: .
 - b. Substitutions: Not permitted.
 - c. Distributor: Emser Tile, Erin Leszczynski (586) 668-9046

2.03 TILE TRIM UNITS

- A. Trim Units: For tile with coordinating trim units, provide bullnoses, cove bases, and other shapes as required for a complete installation.
 - 1. Shapes: As selected by Architect from manufacturer's standard shapes; coordinate with adjacent flat tile sizes and jointing.
 - 2. Sizes: As selected by Architect from manufacturer's standard sizes; coordinate with adjacent flat tile sizes and jointing.
 - 3. Manufacturers: Same as adjacent flat tile, unless otherwise indicated.

2.04 SETTING MATERIALS

- A. Latex-Portland Cement Thin-Set Mortar Bond Coat: ANSI A118.4 and ANSI A118.11
 - 1. Products:
 - a. Bostik, Inc; Bostik PM: www.bostik.com.
 - b. Custom Building Products; VersaBond Flex Professional Thin-Set Mortar : www.custombuildingproducts.com.
 - c. LATICRETE International, Inc; 253 Gold: www.laticrete.com.
 - d. MAPEI Corp.; Porcelain Tile Mortar: www.mapei.com.
 - e. TEC, H.B. Fuller Construction Products Inc.; Full Flex Premium Thin Set Mortar : www.tecspecialty.com.
 - f. Substitutions: See Section 01 6000 - Product Requirements.
- B. Large Format Tile Latex-Portland Cement Medium-Bed Mortar Bond Coat: ANSI A118.4 and ANSI A118.11.
 - 1. Products:
 - a. Bostik, Inc; Big Tile & Stone: www.bostik.com.

- b. Custom Building Products; Natural Stone & Large Tile Premium Mortar: www.custombuildingproducts.com.
 - c. LATICRETE International, Inc; 4-XLT: www.laticrete.com.
 - d. MAPEI Corp.; Large Tile & Stone Mortar: www.mapei.com.
 - e. TEC, H.B. Fuller Construction Products Inc; Ultimate Large Tile Mortar or Ultraflex LFT: www.tecspecialty.com.
 - f. Substitutions: See Section 01 6000 - Product Requirements.
- C. Thick-Bed Mortar Bed Materials:
- 1. Pre-packaged mix of Portland cement, sand, latex additive, and water.
 - a. Products:
 - 1) Bostik, Inc; Mud-In-A-Bag with 425 Multi-Purpose Acrylic Latex Admixture: www.bostik.com.
 - 2) Custom Building Products; Thick Bed Bedding Mortar with Thin-Set & Mortar Admix: www.custombuildingproducts.com.
 - 3) LATICRETE International, Inc; 3701 Fortified Mortar: www.laticrete.com.
 - 4) MAPEI Corp.; Modified Mortar Bed: www.mapei.com.
 - 5) TEC, H.B. Fuller Construction Products Inc; Floor Mud with Acrylbond AMA Acrylic Mortar Additive: www.tecspecialty.com
 - 6) Substitutions: See Section 01 6000 - Product Requirements.

2.05 GROUTS

- A. High Performance Grout: ANSI A118.7 polymer modified cement grout or other high performance formulation.
- 1. Color(s): As selected by Architect from manufacturer's full line, unless otherwise indicated
 - 2. Products:
 - a. Bostik, Inc; Hydroment Vivid: www.bostik.com.
 - b. Custom Building Products; Prism Ultimate Performance Grout: www.custombuildingproducts.com.
 - c. LATICRETE International, Inc; PERMACOLOR Select Grout: www.laticrete.com.
 - d. MAPEI Corp.; Ultracolor Plus FA: www.mapei.com.
 - e. TEC, an H.B. Fuller Construction Products Inc; Power Grout: www.tecspecialty.com/#sle.
 - f. Substitutions: See Section 01 6000 - Product Requirements.
- B. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
- 1. Color(s): As selected by Architect from manufacturer's full line, unless otherwise indicated
 - 2. Products:
 - a. Bostik, Inc; EzPoxy EzClean: www.bostik.com.
 - b. Custom Building Products; CEG-Lite 100% Solids Commercial Epoxy Grout : www.custombuildingproducts.com.
 - c. LATICRETE International, Inc; SPECTRALOCK Pro Premium or SPECTRALOCK Premium: www.laticrete.com.
 - d. MAPEI Corp.; Kerapoxy or Kerapoxy CQ: www.mapei.com
 - e. TEC, an H.B. Fuller Construction Products Inc.; AccuColor EFX Epoxy Special Effects Grout: www.tecspecialty.com.
 - f. Substitutions: See Section 01 6000 - Product Requirements.

2.06 METAL TRIM

- A. Metal Trim: Provide metal profiles in heights to match tile and setting-bed thicknesses, designed specifically for hard tile applications.
- 1. Profiles:
 - a. SCHIENE
 - b. RENO-RAMP
 - c. RENO-U
 - d. RENO-TK
 - e. RONDEC

2. Material: Brushed stainless steel.
3. Applications and Locations:
 - a. Open edges of wall tile.
 - b. Open edges of floor tile.
 - c. Outside wall corners.
 - d. Transitions between hard tile and other floor finishes.
 - e. Tile perimeters not against a wall or other solid vertical surface.
4. Manufacturers:
 - a. Schluter-Systems: www.schluter.com.
 - b. Substitutions: See Section 01 6000 - Product Requirements.

2.07 WATERPROOFING AND CRACK ISOLATION MEMBRANE

- A. Waterproofing and Crack Isolation Membrane: Elastomeric liquid applied membrane complying with ANSI A118.10 and ANSI A118.12.
 1. Applications: Use at the following locations:
 - a. All floor and traffic areas.
 - b. Shower walls and floors.
 - c. Aquatic Environments
 2. Thickness: As recommended by membrane manufacturer.
 3. Crack Resistance: No failure at 1/8 inch gap, minimum.
 4. Membrane system including fabric reinforcing.
 5. Products:
 - a. With Fabric Reinforcing:
 - 1) Bostik, Inc; GoldPlus: www.bostik.com.
 - 2) Custom Building Products; 9240 Waterproofing and Anti-Fracture Membrane: www.custombuildingproducts.com.
 - 3) LATICRETE International, Inc; Hydro Barrier: www.laticrete.com.
 - 4) MAPEI Corp.; Mapelastic AquaDefense: www.mapei.com.
 - 5) TEC, H.B. Fuller Construction Products Inc; HydraFlex: www.tecspecialty.com.
 - 6) Substitutions: See Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
 1. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.
 2. Verify that substrates comply with tolerances of TCNA (HB).
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
 1. Verify that substrates comply with tolerances of TCNA (HB).

3.02 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.

3.03 INSTALLATION - GENERAL

- A. Install tile and thresholds and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.13, manufacturer's instructions, and TCNA (HB) recommendations.
- B. Install waterproofing and crack isolation membrane according to manufacturer's instructions and TCNA (HB) recommendations.
 1. Applications: Use at the following locations:
 - a. All floor and traffic areas.
 - b. Shower walls and floors.

- c. Aquatic Environments
 - C. Bond Coats:
 - 1. Use latex-portland cement thin-set mortar, unless otherwise indicated.
 - a. Exceptions:
 - 1) For tiles that have at least one side greater than 15 inches long, use large format tile latex-portland cement medium-bed mortar.
 - b. Bond Coat Color: White or gray.
 - D. Grout:
 - 1. Use epoxy grout at the following locations:
 - a. Toilets and bathrooms.
 - b. Showers.
 - c. Kitchen and servery areas.
 - d. Other areas as indicated.
 - 2. Use High Performance Grout.
 - E. Install tile prior to installation of equipment, cabinets, and other recessed and surface mounted items.
 - F. Completely cover substrates with tile, including those which will be under and behind surface mounted items in finished construction.
 - G. Lay tile from center lines outward unless otherwise indicated.
 - H. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.
 - I. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly.
 - J. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.
 - K. Form internal angles square and external angles square, with metal trim, or bullnose trim pieces as indicated.
 - L. Install accessories rigidly in place in accordance with manufacturer's instructions..
 - M. Install metal trim in accordance with manufacturer's instructions.
 - N. Sound tile after setting. Replace hollow sounding units.
 - O. Keep control and expansion joints free of mortar, grout, and adhesive.
 - P. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
 - Q. Grout tile joints unless otherwise indicated.
- 3.04 INSTALLATION - FLOORS - THIN-SET METHODS**
- A. Over concrete substrates, install in accordance with TCNA (HB) Method F122 or F122A, as appropriate to substrate conditions.
 - 1. Provide waterproofing and crack isolation membrane.
- 3.05 INSTALLATION - FLOORS - MORTAR BED METHODS**
- A. Over concrete substrates, install in accordance with TCNA (HB) Method F112.
 - 1. Provide waterproofing and crack isolation membrane.
 - 2. Mortar Bed Thickness: 3/4 inch, minimum, unless otherwise indicated.
- 3.06 INSTALLATION - WALL TILE**
- A. Over cementitious backer units on studs, install in accordance with TCNA (HB) Method W244C.
 - 1. Provide waterproofing and crack isolation membrane in wet areas and elsewhere as indicated.
 - B. Over coated glass mat backer board on studs, install in accordance with TCNA (HB) Method W245.
 - 1. Provide waterproofing and crack isolation membrane where indicated.
 - C. Over concrete and masonry install in accordance with TCNA (HB) Method W202I.

1. Provide waterproofing and crack isolation membrane in wet areas and elsewhere as indicated.

3.07 CLEANING

- A. Clean tile and grout surfaces.

3.08 PROTECTION

- A. Do not permit traffic over finished floor surface for 4 days after installation.

END OF SECTION

TMP Architecture, Inc.
Mitchell and Mouat Architects

TMP19040
MaMA1909

SECTION 09 6500 - RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Resilient sheet flooring.

1.02 REFERENCE STANDARDS

- A. ASTM F1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing 2004 (Reapproved 2014).
- B. ASTM F1516 - Standard Practice or Sealing Seams of Resilient Flooring Products by Heat Weld Method (when Recommended); 2018.
- C. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride 2016a.
- D. ASTM F1913 - Standard Specification for Vinyl Sheet Floor Covering Without Backing 2019.
- E. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes 2017.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Shop Drawings: Indicate seaming plans and floor patterns.
- D. Verification Samples:
 - 1. Resilient Sheet Flooring: Submit 3 samples, 6 by 9 inch in size for each color and pattern specified.
- E. Concrete Subfloor Test Report: Submit a copy of the moisture and alkalinity (pH) test reports.
- F. Certification: Prior to installation of flooring, submit written certification by flooring manufacturer and adhesive manufacturer that condition of subfloor is acceptable.
- G. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 6000 - Product Requirements, for additional provisions.
 - 2. Extra Flooring Materials: Quantity equal to 2 percent of total installed, but not less than one box or roll for each type and color.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing specified flooring with minimum 5 years documented experience.
- B. Installer Qualifications: Company specializing in installing specified flooring with minimum 5 years documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.
- B. Store all materials off of the floor in an acclimatized, weather-tight space.
- C. Maintain temperature in storage area between 55 degrees F and 90 degrees F.
- D. Protect roll materials from damage by storing on end.
- E. Do not double stack pallets.

1.06 FIELD CONDITIONS

- A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

1.07 EXTRA MATERIALS

- A. Deliver stock of maintenance materials to Owner. Furnish maintenance materials from same manufactured lot as materials installed and enclosed in protective packaging with appropriate identifying labels.
 - 1. Sheet Flooring: Furnish not less than 5 linear yards for each type, color and pattern installed.

PART 2 PRODUCTS

2.01 SHEET FLOORING

- A. SV2Vinyl Sheet Flooring: Homogeneous without backing, with color and pattern throughout full thickness.
 - 1. Products:
 - a. UpoFloor; Enomer Contract Sheet Flooring: Zero Sheet.
 - b. Substitutions: Not permitted.
 - 2. Minimum Requirements: Comply with ASTM F1913.
 - 3. Thickness: 0.080 inch (2.0 mm) nominal.
 - 4. Sheet Width: 57 inch minimum.
 - 5. Seams: Heat welded.
 - 6. ~~Integral coved base with cap strip.~~
 - a. ~~Height: 4 inches, unless otherwise indicated. **ADD4**~~
 - 7. Color(s):
 - a. Color A: Concrete (5712)
 - b. Color B: Aquamarine (5753)
 - c. Color C: Thorn Apple (5762)
 - d. Color D: Lavender (5757)
 - e. Color E: Carotene (5732)
 - f. Color F: Mayan Maze (5728)
 - g. Color G: Pewter (5703)
 - 8. Manufacturer's Representative: Scott Bell (248) 342.6052
- B. SV1Vinyl Sheet Flooring: Transparent or translucent vinyl wear layer over interlayer and backing.
 - 1. Products:
 - a. **Basis-of-Design: **ADD04**** Gerflor; Taraflex Multi-Use 6.2: .
 - b. Substitutions: Not permitted.
 - c. **Tarkett Sports; Omnisports 7.1mm: www.tarkettsportsindoor.com. **ADD4****
 - 2. Minimum Requirements: Comply with ASTM F1303, Type I, with Class A fibrous backing.
 - 3. Printed Interlayer: Closed cell urethane foam.
 - 4. Wear Layer Thickness: 0.080 inch minimum.
 - 5. Total Thickness: 0.244 inch (6.2 mm) minimum.
 - 6. Sheet Width: 59 inch minimum.
 - 7. Seams: Heat welded.
 - 8. Integral coved base with cap strip. Location as indicated on Drawings.
 - a. Product: Taraflex Surface
 - 1) Height: 4 inches.
 - 2) Color: Anthracite (6873).
 - 9. Color(s):
 - a. Color A: Wood Grey (3708)
 - b. Color B: Wood Blue (4453)
 - 10. Manufacturer's Representative: Tony Britsky (248) 879-8779
- C. Welding Rod: Solid bead in material compatible with flooring, produced by flooring manufacturer for heat welding seams, and in color matching field color unless otherwise indicated.

2.02 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.
- B. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer.
- C. Cove Base Cap Strip: As standard with flooring manufacturer.
 - 1. Material: Vinyl.
 - 2. Profile: Manufacturer's standard profile.
- D. Cove Base Former:
 - 1. Profile: 4012
 - 2. Color: Noir
- E. Floor Moldings, Stair Coverings, and Resilient Base: Refer to Section 09 6513 - Resilient Bases and Accessories.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.
- B. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring installation by testing for moisture and alkalinity (pH).
 - 1. Test in accordance with Section 09 0561 - Common Work Results for Flooring Preparation.

3.02 PREPARATION

- A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- B. Remove subfloor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with subfloor filler to achieve smooth, flat, hard surface.
- C. Prohibit traffic until filler is fully cured.
- D. Clean substrate.
- E. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

3.03 INSTALLATION - GENERAL

- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install in accordance with manufacturer's written instructions.
- C. Adhesive-Applied Installation:
 - 1. Fully adhere resilient floor finishes to substrates using a full spread of adhesive completely covering substrate.
 - 2. Spread only enough adhesive to permit installation of materials before initial set.
 - 3. Fit joints and butt seams tightly.
 - 4. Set flooring in place, press with heavy roller to attain full adhesion.
- D. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.
- E. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.
- F. Install flooring in recessed floor access covers, maintaining floor pattern.
- G. At movable partitions, install flooring under partitions without interrupting floor pattern.
- H. Coordinate with Section 09 6513 - Resilient Bases and Accessories for installation of floor moldings, stair coverings, and resilient base.

3.04 INSTALLATION - SHEET FLOORING

- A. Installed sheet flooring shall be without open cracks, raising and puckering at joints, bubbling, telegraphing of adhesive spreader marks, and other imperfections.
- B. Unless otherwise indicated lay flooring with joints and seams parallel to longer room dimensions, to produce minimum number of seams. Lay out seams to avoid widths less than 1/3 of roll width; match patterns at seams.
- C. Install resilient sheet flooring in floor patterns indicated on Drawings.
- D. Cut sheet at seams in accordance with manufacturer's instructions.
- E. Seal seams by heat welding per ASTM F1516.
 - 1. Permanently fuse joint together using welding rod.
 - 2. Finish seams flush with adjacent flooring material.
- F. Coved Base: Install as detailed on drawings, using coved base filler as backing at floor to wall junction. Extend sheet flooring vertically to height indicated, and cover top edge with metal cap strip.

3.05 CLEANING

- A. Remove excess adhesive from floor surfaces without damage.
- B. Clean in accordance with manufacturer's written instructions.

3.06 PROTECTION

- A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 27 4116 - INTEGRATED AUDIOVISUAL SYSTEMS

PART 1 GENERAL

1.01 DESCRIPTION OF THE WORK

- A. The complete Integrated Audiovisual Systems (hereafter referred to as AV Systems) consist of the following:
1. Coordination of AV Systems needs with the electrical systems installation contractor as outlined in the Drawings and Specifications;
 2. Coordination of AV Systems needs with structural systems installation contractor as outlined in the Drawings and Specifications;
 3. Coordination of AV Systems needs with all other trades, as required to successfully install systems functioning in accordance with the intent expressed in the Drawings and Specifications;
 4. Dining/Auditorium/Platform: installation, setup, and training for new equipment as follows:
 - a. A full-range sound reinforcement system consisting of a stereo loudspeaker layout, digital signal processor, and wall plates with stage connectivity for hard-wired microphones;
 - b. An assistive listening system;
 - c. A high-definition video system consisting of a video presentation and control system, controllable from a touch panel, and a video projector.
 - d. Loose equipment package to provide for a functional performance space;
 5. Media Center: Two large format wall mounted video displays with overhead speakers in the viewing areas. The video displays shall be operational as stand-alone devices or combined to show the same image on both displays at the same time.
 6. Natatorium: A simple announcement system with a wireless mic, a wall plate with a Bluetooth connection and line level inputs, and an output for an underwater speaker.
 7. Gymnasium: A simple announcement system with a wireless mic, a wall plate with a Bluetooth connection and line level input.
 8. Procurement and installation of ancillary devices related to the input, mixing, processing, networking, and amplification of audio.
 9. Procurement and installation of ancillary devices related to the input, mixing, processing, networking, distribution, and projection of video.
 10. Procurement and installation of microphones, jacks, wire, and all miscellaneous parts of the system.
 11. Coordination of systems commissioning with the AV Systems Consultant (refer to Part 3 of this specification)

1.02 RELATED DOCUMENTS

- A. General Conditions and Requirements, Special Provisions, and applicable portions of Division I of the general contract are hereby made a part of this section.
- B. Architectural, Structural, Mechanical, Electrical, and other applicable documents are considered a part of the AV Systems documents insofar as they apply as if referred to in full.

1.03 SCOPE OF THE WORK

- A. These Specifications, together with the related drawings and General Conditions of the contract, comprise the requirements for the AV Systems for the project.
- B. Furnish, deliver, erect, install and connect completely all of the material and appliances described herein and in the Drawings, and supply all other incidental material and appliances, tools, transportation, etc., required to make the work complete, and to leave the AV Systems in first class operating condition, excluding those items listed under Section 1.10, RELATED WORK IN OTHER SECTIONS.
- C. Perform all assembly of equipment, wiring and inter-connection, and soldering of wires to jacks, devices, terminals or equipment, using technical employees only, who are experienced in the installation of AV Systems equipment and its inter-connection. Coordinate final utility rough-in locations with actual equipment furnished.
- D. Verify dimensions and conditions at the job site prior to installation, and perform installation in accordance with these Specifications, manufacturers' recommendations, and all applicable code requirements.

1.04 QUALITY ASSURANCE

- A. The intent of these Specifications is to describe and provide for complete AV Systems of high professional quality and reliability. Professional performance standards by the AV Systems Contractor (hereafter referred to as Installer) and the equipment will be required.
- B. In all cases, the Owner and Architect shall determine the acceptability of the work based upon the visits, observations, and reports of the AV Systems Consultant, BAI, LLC of Austin, TX (hereafter referred to as Consultant).

1.05 SUBSTITUTIONS

- A. Many items are listed in the Specifications by the manufacturer's type or model number, without a detailed performance specification, and may not include the phrase "or approved equal". Where this is the case, no substitutions will be accepted, without a written request from the Installer and the written consent of the Consultant.
- B. Where the phrase "or approved equal" appears, the item specified shall set a standard of quality and performance, based on the published specifications of the manufacturer and on the actual performance as known by the Consultant.
- C. Where the phrase "or equal" appears without the word "approved," Consultant approval is not required and the substitution may be made at the Installer's discretion.
- D. Requests for substitution, when forwarded by the Installer to the Consultant, are understood to mean that the Installer represents that he has personally investigated the proposed substitute product and determined that it is equal to or superior in all respects to that specified, that the same guarantee will be provided for the substitution as for the specified product, and that the Installer will coordinate the installation of the accepted substitute, making such changes as may be required for the work to be complete in all respects.

- E. Substitutions that require approval will not be considered if they are indicated or implied in Shop Drawing submissions without previous formal request, or, for their implementation, they require a substantial revision of the Contract Documents in order to accommodate their use.
- F. Space allocations and utility rough-ins have been designed on the basis of equipment items named by manufacturer and model number. If any equipment not so named is offered which differs substantially in dimension or configuration from the named equipment, provide scaled shop drawings showing that the substitute can be installed in the space available without interfering with other trades or with access for operation and maintenance in the completed project. The Installer shall coordinate final utility rough-in locations with actual equipment furnished.
- G. Where substitute equipment requiring a different arrangement or connections from those shown in the drawings is accepted by the Consultant, install the equipment to operate properly and in harmony with the intent of the Drawings and Specifications, making all necessary incidental changes without increasing the Contract amount. Pay all additional costs incurred by adjoining or connecting trades.
- H. All requests for substitutions shall be submitted before the bid opening date. Substitutions shall be requested and approved in writing only, based upon these criteria.

1.06 INSTALLER QUALIFICATIONS

- A. The work performed under this Section shall be performed by an AV Systems Contractor, normally engaged in the business of AV Systems installation. The prospective Installer shall show proof as part of the bid that the Installer has been in the AV Systems installation business for a period of not less than five years and has successfully completed projects of similar size and scope.
- B. Each bidder shall hold a current, valid franchise for the major lines of equipment required to be furnished under these Specifications.
- C. The Owner and Architect reserve the right to reject any bids submitted by firms without sufficient experience in projects of similar size and scope.

1.07 COOPERATION AND COORDINATION

- A. Cooperate and coordinate as required with the other contractors who are responsible for work not included in this section.
- B. Provide any and all information as required or requested by the Owner, Architect, Consultant, or General Contractor in order for this work to be completed to the satisfaction of the Owner, and in the best interests of the Project. Such assistance or information shall be transmitted in writing to the requesting party in all cases. All written correspondence shall be copied to the Consultant.

1.08 GUARANTEE AND WARRANTY

- A. Guarantee all parts, labor, and workmanship furnished under this contract for a period of twelve months from the date of substantial completion.
- B. During the warranty period, report to the site and repair or replace any defective materials or workmanship without cost to the Owner. Warranty service shall be rendered within 48 hours after request by the Owner. Equivalent replacement equipment shall be temporarily provided when immediate on-site repairs cannot be made.
- C. Where warranties on individual pieces of equipment exceed twelve months, the guarantee period shall be extended to the warranty period of the particular items.

- D. Furnish complete and working AV Systems. Be of maximum assistance to the Owner during the guarantee period of the system, to the degree that maximum Owner satisfaction is assured.
- E. After completion of the work, the Installer shall submit a Certificate of Warranty, stating commence and expiration dates and conditions of the warranty, for signature of both parties. Incremental warranties for completed portions of the work may be negotiated at the discretion of the Owner, if delays occur beyond the control of the Installer.

1.09 SHOP DRAWINGS AND SUBMITTALS

- A. Completely detailed shop drawings shall be prepared prior to the procurement of equipment or commencement of work. With permission from and at the discretion of the Architect, the Consultant's electronic drawing files will be made available to the Installer. Drawings shall be prepared and submitted on 30" x 42" paper – the drawing format standard for this project. Equipment lists, data sheets, etc. shall be 8-½" x 11" size, properly bound into a single or multiple volumes as necessary. Submit quantity in accordance with Division 1, General Requirements.
- B. Within 45 days after the notice to proceed, submit to the Architect identical copies of the following for approval:
 - 1. A complete equipment list, with manufacturers' names, model numbers, and quantities of each item;
 - 2. Manufacturers' data sheets on all equipment items;
 - 3. Equipment rack layouts showing locations of all rack mounted equipment items;
 - 4. Floor plans and reflected ceiling plans, prepared at a scale of not less than 1/8"=1'-0", showing loudspeaker locations and orientation, wall plates, and all other related device locations;
 - 5. Proposed construction details for any custom fabricated items, including loudspeaker mounting, custom interface panels, patch panels, and wall plates. These details shall show dimensions, materials, finishes and color selection;
 - 6. Comprehensive system schematics, showing detailed connections to all equipment, with wire numbers, terminal block numbers, and color coding;
 - 7. Riser diagrams showing conduit requirements with pull boxes, outlet boxes, physical cable layouts, part numbers of cable types used, and number of circuits in each conduit;
 - 8. Electrical power requirements for head-end and ancillary equipment. Include diagrams for any remote control of electrical power, in sufficient detail to coordinate with the electrical contractor, showing exact conduit requirements and locations for switched duplex receptacles;
 - 9. Certain other submittals as noted elsewhere in this specification, and as may be required for various equipment items prior to construction, fabrication, or finishing of that item.
- C. All final documentation shall be submitted and approved before final acceptance by the Owner will be granted. Submit the following in accordance with Division 1, General Requirements.
 - 1. A complete as-installed equipment list, listed by room, with manufacturers' names, model numbers, serial numbers, and quantities of each item;

2. A complete and correct system schematic, showing detailed connections for all parts of the system, including wire numbers, terminal block numbers and layouts, and other designations and codes. System performance measurements as noted elsewhere in this specification shall be documented. Include diagrams or charts showing final settings of all control knobs in the system (mixers, equalizers, power amplifiers, etc.). Submit copies of processor data files with software settings of each piece of equipment that is software controlled;
3. Complete equipment rack layouts showing locations of all rack mounted equipment items;
4. Floor plans and reflected ceiling plans, prepared at a scale of not less than 1/8"=1'-0", showing loudspeaker locations and orientation, wall plates, rack locations, and other related device locations;
5. Riser diagrams showing as-installed conduit with pull boxes, outlet boxes, physical cable layouts, part numbers of cable types used, and number of circuits in each conduit;
6. Manufacturer's warranties and operating instructions for each and every equipment item furnished. Include a copy of the certificate of warranty, signed by both parties.

1.10 RELATED WORK IN OTHER SECTIONS

- A. All conduits with pull strings, all electrical pull boxes, all floor pocket back boxes, and all outlet boxes shall be furnished and installed under the electrical specification sections of Division 26. Conduits shall be run continuously from outlet box to outlet box. Conduit stub-outs are not acceptable except as noted. Coordinate as necessary for proper installation.
- B. All 120VAC power conductors and conduits associated with power circuits to all equipment locations shall be furnished and installed under the electrical section of Division 26. The 120VAC power to the equipment racks shall be terminated inside the racks to electrical-contractor-supplied hospital-grade duplex convenience outlets.
- C. An insulated THW stranded copper ground wire, sized according to NEC, shall be installed under the electrical section of Division 26 from the equipment racks' sheet metal to the primary ground point within the building, and terminated at each end to bare metal using approved connectors and clamps.
- D. All built-in millwork and grille cloth shall be furnished under other sections.

PART 2 PRODUCTS

2.01 GENERAL

- A. All items shall be new and unused.
 1. The following sections specifically list the acceptable equipment types and items for this project. Where quantities are not noted, they may be obtained from the drawings. In the event of a discrepancy between the specifications and the drawings, the greater quantity or better quality shall be furnished.
- B. Refer to Part 1, paragraph 5, SUBSTITUTIONS of this specification.

2.02 WIRE AND CABLE

- A. All wire and cables shall be new and unused.

- B. Wire not installed in equipment racks, not portable, or not installed in conduit shall be plenum-rated and meet all applicable codes.
- C. Unless otherwise specified, provide all wire and cable for the AV Systems as follows:
 - 1. Voice coil loudspeaker cable for main loudspeakers: West Penn catalog number 226 stranded 14AWG jacketed twisted pair, or equal.
 - 2. Constant voltage (70.7-volt) loudspeaker cable: West Penn 225 stranded 16AWG jacketed twisted pair, or equal.
 - 3. Microphone-level audio cable (installed in conduit, not portable): Belden 8451 stranded 22AWG twisted pair with foil shield, or equal.
 - 4. Line-level audio cable and all inter-rack audio cable: Belden 8451 stranded 22AWG jacketed twisted pair with foil shield, or equal.
 - 5. Wireless microphone and assistive listening system antenna cable: Belden 9914, 50 ohm RG-8A/U type coaxial cable with Amphenol Connex 112563 connectors, or equal.
 - 6. HDMI cables (6' to 15' length): Extron HDMI Ultra Series, or equal.
 - 7. HDMI cables (greater than 15' length): Extron HDMI Pro Series, or equal.
 - 8. Network and Ethernet twisted pair cable in conduit: Belden DataTwist 2400 Category 6+ unshielded twisted non-bonded pair cable, or equal.
 - 9. Other equipment control cables shall be stranded wire, appropriately shielded, of gauge and number of conductors required by the manufacturer for proper operation of the system or equipment item furnished.
 - 10. Wire and cable for all other devices shall be supplied in accordance with the recommendations of the device manufacturer and the National Electrical Code.
- D. Miscellaneous loose AV cables:
 - 1. Microphone cables and monitor speaker cables are specified elsewhere.
 - 2. Provide a quantity of one (1) 1/8" male to 1/8" male stereo mini cables in a 6'-0" length. Store in the stage rack.
 - 3. Provide a quantity of one (1) HDMI male to HDMI male cables in a 6'-0" length. Store in the stage rack.

2.03 JACKS AND CONNECTORS

- A. All plate-mounted connectors shall be ground-insulated from the plates on which they are mounted.
- B. For non-standard custom panels, connectors shall be installed on 1/8" thick black anodized brushed aluminum panels. Nomenclature shall be engraved into the panels with 1/8" block letters filled with white paint.
- C. All other jacks shall be installed on standard brushed stainless steel finish plates. Nomenclature shall be engraved into the plate with 1/8" block letters filled with black paint. All mic, monitor loudspeaker, HDMI, (etc.) locations shall be numbered logically and consecutively, starting from one (#1).

- D. Modular connector mount color shall match the color of the plate or rack panel to which it is mounted.
- E. Unless otherwise specified, all jacks and connectors for the AV Systems shall be as follows:
 - 1. Microphone and line-level input connectors for plates and panels: Neutrik NC3FD-L-1-B 3-pin female XLR panel-mount jacks with gold-plated contacts, or equal.
 - 2. Audio output connectors for plates and panels: Neutrik NC3MD-L-1-B 3-pin male XLR panel-mount jacks with gold-plated contacts, or equal.
 - 3. Female cable-end audio connectors: Neutrik NC3FX-B 3-pin female XLR connectors with gold-plated contacts, or equal.
 - 4. Male cable-end audio connectors: Neutrik NC3MX-B 3-pin male XLR connectors with gold-plated contacts, or equal.
 - 5. Wireless antenna wall-mount jack: Neutrik NBB75FI BNC bulkhead jack, or equal.
 - 6. Monitor speaker panel-mount connectors: Female Neutrik NLJ2MD Speakon 1/4" combination connectors.
 - 7. RJ-45 plate or panel connectors: Neutrik NE8FDY-C6 EtherCon D-Series data connector.
 - 8. BNC connectors for plates and panels: Switchcraft EH Series isolated 75-Ohm BNC feed-through, or equal.
 - 9. Furnish and install the required number of jacks, connectors, rack panels, and wall plates shown on the Drawings.

2.04 EQUIPMENT RACKS AND ACCESSORIES

- A. Furnish equipment racks (color: satin black), for use in housing equipment including, but not limited to, power amplifiers, signal processors, microphone splitters, playback equipment, intercom equipment, etc. Install the required number of units, of sufficient size to accommodate the equipment specified, at the locations indicated in the drawings.
- B. Furnish five (5) sets of spare keys for each Equipment Rack.
- C. All mounting screws shall be theft resistant.
- D. Fill all portions of unused rack front sections with matching blank panels.
 - 1. Blank panels: Middle Atlantic SB series panels, or equal, sized as required.
- E. Provide recession brackets to appropriate panels to allow rack doors to fully close when cables are connected.
 - 1. Middle Atlantic Model RR2-3RCN, or approved equal.
- F. Furnish and install the following:
 - 1. Dining/Auditorium Floor mounted rack (SR):
 - a. Middle Atlantic ERK-4420 44RU floor mounted equipment rack with ERK-RR44 rear rack rail kit, or approved equal (Qty: 1 ea.)
 - b. Slide out rack shelf: Middle Atlantic SSL 1RU laminated slide out shelf. (Qty: 1 ea.)

- c. Utility drawer: Middle Atlantic model D3, or approved equal, (Qty: 1 ea).
- 2. Gym (GR), Natatorium (NR) and Media Center (MR) AV Equipment Rack:
 - a. Wall-mounted equipment rack: Middle Atlantic model EWR-10-22SD with DWR-RR10 rear rack rail kit, or approved equal, (Qty: 3).
 - b. Utility drawer: Middle Atlantic model D3, or approved equal, (Qty: 3).

2.05 POWER CONDITIONING & DISTRIBUTION

- A. Power distribution within racks shall be supplied via sequentially switched convenience outlets, allowing incremental switching of components. Sequencing equipment shall be provided and installed under Division 26. Assist the electrical Contractor in programming so that when rack power is switched, power amplifiers are last to turn on, and first to turn off.
- B. Furnish and install the following:
 - 1. Dining/Auditorium Power Sequencing: Vertical Rack Mounted Controlled Power Distribution: Middle Atlantic model RLM-20A-SP modules in MPR series raceways, (Qty: as required).
 - 2. Horizontal Rack Mounted Non-Controlled Power Distribution: Middle Atlantic model PD-920R-SP, or approved equal, (Qty: as required).
 - 3. Dining/Auditorium Power Sequencer: Middle Atlantic model USC-6R power sequencer, (Qty: 1).
 - 4. Horizontal Rack Light: Middle Atlantic LT-1R retractable light shelf with dimmable LED light bar, black powder coat. (Qty: 1 ea.)
 - 5. Gym, Natatorium and Media Center rack mounted power sequencing: Middle Atlantic PDS-620R rack mounted power, 6 outlet, 20A, 6-step sequencing. (Qty: 3 ea.)

2.06 AUDIO MIXING CONSOLES

- A. Furnish digital audio mixing consoles for controlling various audio I/O for playback and recording.
- B. Furnish and install the following in the Dining/Auditorium:
 - 1. Allen and Heath model QuPAC digital mixing system; (Qty: 1)

2.07 DIGITAL SIGNAL PROCESSING

- A. Furnish digital audio signal processors to process levels, matrixing, equalization, leveling, limiting, etc. of the audio signals.
- B. The digital signal processors shall have phoenix type connectors on all inputs and outputs and shall accept line and mic level signal inputs.
- C. Refer to Part 3.3 of this specification for additional information.
- D. Furnish and install the following for the Dining/Auditorium, Natatorium and Gym:
 - 1. DSP: Symetrix model Prism 8x8 audio processor; (Qty: 3)
 - 2. Rack Mounted Audio/Video Control Panel: Symetrix T-5 touch control panel. (Qty: 1 ea. for the Dining/Auditorium)

3. Audio Control Panel: Apple Ipad 32GB in Space Gray (Qty: 2 ea. For the Dining/Auditorium. One permanently mounted in rack SR and one portable)
 4. Custom Tablet Rack Mount: RCI Custom TM6RURM 6 RU Rack mount enclosure for Ipad. (Qty: 1 ea. For the Dining/Auditorium)
 5. Audio Control Panel: Symetrix ARC-2e. (Qty: 2 ea. For the Natatorium and Gym.)
- E. Furnish and install the following in the Media Center equipment rack 'MR':
1. Symetrix Prism 0X0. (Qty: 1 ea.)
 2. Wall Mounted Audio/Video Control Panel: Symetrix T-5 touch control panel. (Qty: 2 ea.)
- F. DSP Programming:
1. Contractor shall be responsible for programming the software configuration file for each system based on intended functionality as shown in the Drawings and described in Specifications;
 2. Contractor shall provide a review copy of each file to the Consultant for review no later than two weeks prior to scheduled commissioning trip.
 3. Contractor shall install Allen & Heath QuPac control programming on the Ipads and configure the control panels according to the owner's instructions.
 4. Contractor shall program the Symetrix t-5 panel to control the announcement audio system and the Visionary Solutions video equipment. Audio and video will have separate control pages.

2.08 POWER AMPLIFIERS

- A. Each power amplifier shall have an input connector which is either a screw-type barrier strip or XLR type. Output connections shall be barrier strip. Other types of connectors shall not be accepted.
- B. All power amplifiers shall have detented stepping input level controls. Install the units in the equipment racks, and connect as indicated in the Drawings.
- C. Provide security covers on all amplifiers.
- D. Furnish and install the following for the Dining/Auditorium:
1. PA1: Crown Audio model DCi 4|1250, installed at equipment rack 'SR'.
- E. Furnish and install the following for the Gym Storage Room, the Natatorium Office:
1. PA1: Crown Audio model DCi 2|300, installed at equipment racks 'GR' & "NR'. (Qty: 2 ea.)
- F. Furnish and install the following for the Media Center Office:
1. PA1: Powersoft Mezzo 602 AD, installed at equipment racks 'MR'. (Qty: 1 ea.)

2.09 INSTALLED LOUDSPEAKERS

- A. Furnish and install the following:

1. Dining/Auditorium Wall-Mounted Speakers: JBL CBT 70J-1+70JE1 array system with pan/tilt wall bracket at mark 'S' as indicated in the Drawings. (Qty: 2 sets)
2. Gym and Natatorium wall mounted speakers: ElectroVoice Sx300PIX with 70 volt transformer. Tap the transformer at 100 watts. Furnish Mb200 wall mount bracket for installation. (Qty: 2 ea.)
3. Dining/Auditorium and Media Center recessed ceiling speakers: ElectroVoice C8.2LP 8" ceiling speaker with tile truss. (Qty: 7 pair)

2.10 MICROPHONES & ACCESSORIES

- A. Provide microphones and related devices for multi-purpose use.
- B. Provide stands for microphones. Stands shall be ebony or black in color, have weighted bases, and have telescopic height adjustment.
- C. Provide booms for microphone stands, for use with instrumentation. Booms shall have length adjustment and shall match the color of the associated microphone stand.
- D. Provide high quality microphone cables in various lengths.
- E. Confirm colors where color selections are available at submittal time with Owner, Architect, or Consultant, unless otherwise noted.
- F. Furnish the following:
 1. Cardioid dynamic handheld microphones: Shure SM58, or approved equal (Qty. 6 Four for the Dining/Auditorium and one each for the Natatorium and Gym)
 2. 20-foot microphone cables: Whirlwind model MKQ20, or approved equal (Qty. 6 Four for the Dining/Auditorium and one each for the Natatorium and Gym))
 3. 50-foot microphone cables: Whirlwind model MKQ50, or approved equal (Qty. 2 One eachfor the Natatorium and Gym)
 4. Microphone Stands: Atlas Sound model MS-10CE, or approved equal (Qty.6 Four for the Dining/Auditorium and one each for the Natatorium and Gym))
 5. Direct box; Radial Engineering model PRO AV2, or approved or equal. (Qty: 1 For the Dining/Auditorium)

2.11 WIRELESS MICROPHONE SYSTEMS

- A. Diversity wireless microphone systems shall be used.
- B. Operating frequencies shall be selected so as to avoid interference. Consult with the manufacturer for frequency band selection and coordination.
- C. The wireless receivers shall be provided with rack-mount kits. Installer shall verify lavalier and head-worn microphone colors with Owner when color options are available.
- D. Furnish and install the following wireless systems and accessories in the Dining/Auditorium:
 1. Audio Technica ATW-3110b system with ATW-R3100b receiver and ATW-T310b UniPak transmitter. (Qty: 7 systems)

2. Handheld transmitter: Audio Technica ATW-T341b handheld cardioid dynamic microphone/transmitter. (Qty: 7 ea.)
 3. Headworn microphones: Point Source CO-8WD omni-directional head worn microphone. (Qty: 7 ea.)
 4. Remote antennas: Audio Technica ATW-A49 UHF wide band directional antenna with ATW-B80C in-line RF booster. (Qty: 2 ea.)
 5. Antenna Distribution: Audio Technica DISTRO9 HDR RF Venue Antenna Distribution system. Include DC-KIT-D9 DC power distribution cable kit. (Qty: 1 ea.)
- E. Furnish and install the following wireless systems and accessories in the Natatorium:
1. Audio Technica ATW-3110b system with ATW-R3100b receiver and ATW-T310b UniPak transmitter. (Qty: 1 systems)
 2. Handheld transmitter: Audio Technica ATW-T341b handheld cardioid dynamic microphone/transmitter. (Qty: ~~2 ea.~~ 1 ea.) ****ADD4****
 3. Headworn microphones: Point Source CO-8WD omni-directional head worn microphone. (Qty: 1 ea.)
 4. Remote antennas: Audio Technica ATW-A49 UHF wide band directional antenna with ATW-B80C in-line RF booster. (Qty: 2 ea.)
- F. Furnish and install the following wireless systems and accessories in the Gym:
1. Audio Technica ATW-3110b system with ATW-R3100b receiver and ATW-T310b UniPak transmitter. (Qty: 1 systems)
 2. Handheld transmitter: Audio Technica ATW-T341b handheld cardioid dynamic microphone/transmitter. (Qty: ~~2 ea.~~ 1 ea.) ****ADD4****
 3. Headworn microphones: Point Source CO-8WD omni-directional head worn microphone. (Qty: 1 ea.)
 4. Remote antennas: Audio Technica ATW-A49 UHF wide band directional antenna with ATW-B80C in-line RF booster. (Qty: 2 ea.)

2.12 AUDIO CONNECTION EQUIPMENT

- A. Furnish audio connection devices. Devices shall have varied inputs according to locations noted on the drawings. All connection devices shall connect to the network switch in the Dante VLAN.
- B. Furnish and install the following in the Dining/Auditorium:
1. Rack Panel Mounted: Radio Design Labs D-BT1A Bluetooth, Radio Design Labs D-TPSL1A line level stereo RCA input and stereo mini jack input. Provide Radio Design Labs TX-TPR3A active receiver and PS-24AS power supply at the equipment rack. (Qty: 1 ea.)
- C. Furnish and install the following in the Media Center:
1. Radio Design Labs RDL-DD-BN22 wall mounted bi-directional mic/line Dante interface. Mounted at wall plate ML. (Qty: 2 ea.)

- D. Furnish and install the following in the Gym:
1. Wall Plate AV: Radio Design Labs D-BT1A Bluetooth, Radio Design Labs D-TPSL1A line level stereo RCA input and stereo mini jack input. Provide Radio Design Labs TX-TPR3A active receiver and PS-24AS power supply at the equipment rack. (Qty: 1 ea.)
- E. Furnish and install the following in the Natatorium:
1. Wall Plate AV: Radio Design Labs D-BT1A Bluetooth, Radio Design Labs D-TPSL1A line level stereo RCA input and stereo mini jack input. Provide Radio Design Labs TX-TPR3A active receiver and PS-24AS power supply at the equipment rack. (Qty: 1 ea.)
 2. Furnish and install a TayMac MM420C 1-gang weatherproof in-use cover EXTRA DUTY 16-in-1 2-3/4" deep clear cover on junction box S3. (Qty: 1 ea.)
 3. Furnish and install a TayMac MM2420 2-gang weatherproof in-use cover EXTRA DUTY 2-3/4" deep clear cover on junction boxes 2M and AV. (Qty: 2 ea.)

2.13 ASSISTIVE LISTENING SYSTEM

- A. Furnish and install a rack mounted transmitter and a remote antenna with each system. The systems shall be FM wireless and shall facilitate portable wireless body-pack receivers.
- B. Furnish ~~three-one~~ complete systems for ~~each-of~~ the following spaces: Dining/Auditorium. ****ADD4****
- C. **Each The** system in the Dining/Auditorium Audio-Visual System will consist of the following equipment. ****ADD4****
1. Listen LT-800-216 Base Transmitter (Qty: 1 ea.)
 2. Listen LA-326 Rack mount kit (Qty: 1 ea.)
 3. Listen LA-122 Universal Antenna Kit. (Qty: 1 ea.)
 4. Listen LR-4200-216-P1 Intelligent DSP RF Receiver Package, 216MHz (Qty: 4 each or as needed, see calculator*) Package Includes: LR-4200 iDSP Receiver, LA-401 Universal Ear Speaker, LA-430 Intelligent Earphone/Neck Loop Lanyard, and LA-365 Rechargeable Li-Ion Battery.
 5. Listen LA-381 Intelligent 12 Unit Charging Tray (Qty: 1 ea. or as needed)
 6. Listen LA-304 ADA Access/Compliance signage kit. (Qty: 1 ea.)

2.14 NETWORK DEVICES

- A. Provide a dedicated Audio-Visual network within the Dining/Auditorium and Media Center spaces.
- B. Configure managed network switch to accommodate the Dante audio network, video distribution network and data transmission. Each function shall have a discrete VLAN on the switch.
- C. Furnish and install the following with the Dining/Auditorium and Media Center Audio-Visual Systems:
1. Network Switch: Cisco Catalyst 9200-24P 24-port gigabit managed switch with POE+, or approved equal, installed in equipment rack SR. (Qty: 2 One in the Dining/Auditorium equipment rack 'SR' and one in the Media Center rack 'MR')

2. Wireless Access Point: Cisco Catalyst 9130AXI installed at wall plate WA. (Qty: 1 ea. Dining/Auditorium wall plate "WA")

2.15 DINING/AUDITORIUM AUDIO-VISUAL VIDEO PRESENTATION SYSTEM

- A. Provide and install a video presentation system equipment in the configuration as shown on the drawings and terminate as indicated.
- B. Video distribution equipment signals shall be transmitted over CAT 6 wire. All devices shall be terminated at the network switch. Control shall be included as a separate page on the Symetrix T5 control panel.
- C. Configure the network switch as indicated in paragraph 2.14
- D. Visionary Solutions equipment is the basis of design. Approved equal by other manufacturers will be considered.
- E. Furnish and install all necessary manufacturer recommended wire and connectors for installation:
 1. Presentation System:
 - a. Transmitters: Visionary Solutions Duet Wall Plate Encoder at equipment rack SR. (Qty: 1 ea.)
 - b. Receivers: Visionary Solutions Duet Decoder at the VP video projector location. (Qty: 1 ea.)

2.16 MEDIA CENTER WALL MOUNTED VIDEO MONITOR SYSTEM

- A. Provide and install a video presentation system equipment in the configuration as shown on the drawings and terminate as indicated.
- B. Video distribution equipment signals shall be transmitted over CAT 6 wire. All devices shall be terminated at the network switch. Control shall be included as a separate page on the Symetrix T5 control panel.
- C. Configure the network switch as indicated in paragraph 2.14
- D. Visionary Solutions equipment is the basis of design. Approved equal by other manufacturers will be considered.
- E. Furnish and install all necessary manufacturer recommended wire and connectors for installation:
 1. Presentation System:
 - a. Transmitters: Visionary Solutions Duet Wall Plate Encoder at the Equipment rack SR. (Qty: 2 ea.)
 - b. Receivers: Visionary Solutions Duet Decoder at the VP video projector location. (Qty: 2 ea.)
 - c. Video Monitors: Panasonic TH-86SQ1W 86" class 4K UHD LCD Display with TY-WK98PV1 wall hanging bracket. (Qty: 2 ea.)

2.17 DINING/AUDITORIUM VIDEO PROJECTION SYSTEMS

- A. The Contractor is responsible for coordinating with owner to ensure the Brighter Futures Discount through Epson is received.

- B. Furnish high light output video/data projector and other equipment for projection of video, data, and graphic images on the front projection screen in the auditoriums.
- C. Suspend the projector from the light pipe at the location indicated in the Drawings. Coordinate any and all structure design to ensure proper support of projector.
- D. Perform all setup procedures and image convergence for each input according to manufacturer's recommendations. The image shall be adjusted for full available screen width for each input.
- E. Provide all mounting devices and hardware needed for proper installation of projectors.
- F. Verify existing conditions and throw distance before procuring lens.
- G. Furnish and install the following with the Dining/Auditorium Audio-Visual System:
 - 1. Video Projector: Epson model Pro L1495UNL, 9,000 lumens, 1920x1200 resolution, with ELPLW06 1.19-1.62 f/1.8-f/2.3 zoom lens, or approved equal; (Qty: 1)
 - 2. Mounting Hardware: Chief model CMS extension column, model VCMU projector mount; (Qty: 1)
 - 3. All other hardware necessary to wall mount the projector at the location shown on Drawings.

2.18 DINING/AUDITORIUM PROJECTION SCREEN

- A. Furnish and install a projection screen as indicated in the Drawings. Verify locations with architect prior to installation. Refer to architectural drawings for size and location.
- B. Provide black extruded aluminum case for initial installation process. Install actual screen only when a clean and controlled environment is present. Provide all support as required, including threaded rods, supplemental framing, Unistrut, anchors, and blocking. Screen case to be hung plumb and square.
- C. The viewing surface shall be seamless. The screen shall operate on 120 VAC. Motor to be mounted inside the roller, to be 3-wire, instantly reversible with lifetime lubrication. Motor to be mounted with rubber vibration isolators. Case to be 22-gauge steel with black oxide finish.
- D. All painting, metalwork, and woodwork shall be completed prior to installation, to protect against damage by other contractors.
- E. The screens shall be delivered to the job site, still in factory crating, while access is still available for a screen of these dimensions. Store the screen in such a way as to protect it from moisture and adverse weather conditions. Take all precautions necessary to protect the screen from damage during storage and installation. Projection screen must remain in a climate-controlled environment at all times.
- F. Furnish and install the following:
 - 1. DaLite Tensioned Professional Electrol 108"x192" viewing surface area (220" diagonal) 16:9 format screen with Dual Vision rear projection viewing surface. Provide low voltage control module for interface with control system. Include sufficient black drop to allow the bottom of the screen to rest at 3'-0" above the floor when fully deployed; (Qty: 1)

2.19 CEILING MOUNTED LOUDSPEAKER ASSEMBLIES **ADD4**

- A. Furnish ceiling mounted loudspeakers at the locations noted on the drawings.
- B. Each speaker shall be installed in a recessed enclosure. Furnish braces designed to provide additional support to the weight of the speaker and prevent tile sag. Coordinate exact locations with the Architect. Connect the loudspeakers as indicated in the drawings.
- C. Tap the transformers as indicated in the drawings. Measure and record the impedance at 1000Hz of each home run at the amplifier terminals. Include the measurements in the final documentation.
- D. Furnish and install the following:
 - 1. Electro-Voice EVID 8.2LP coaxial 8" loudspeaker with 30 watt transformer, enclosure, baffles, and tile bridge, or approved equal. Tap transformers as indicated in the drawings. (Qty: as shown)

2.20 VOLUME CONTROLS **ADD4**

- A. Furnish wall mounted remote volume controls for localized control of ceiling mounted loudspeakers at several locations.
- B. The volume controls shall be autotransformer-type attenuators mounted to standard stainless steel wall plates. Attenuators shall be step-type control with positive off position. Attenuation per step shall be 1.5dB. Power rating of each unit shall be selected to properly control the load to which it is connected. Coordinate color with Architect (white or ivory).
- C. Furnish and install the following:
 - 1. Lowell Manufacturing 10015LVC-SW (SI), or approved equal autotransformer-type attenuator mounted on custom white or ivory wall plate with permanent dial scale. Obtain desired wall plate color from Architect prior to installation. (Qty: as shown)

PART 3 EXECUTION

3.1 FINAL TESTING, BALANCING, AND EQUALIZATION

- A. Installer shall perform thorough preliminary testing of the systems prior to the final inspection by the Consultant. All systems and subsystems shall be tested to ensure that they are in proper working order and meet the performance specifications outlined in Part 3.3 below. Perform preliminary programming and setup of digital signal processors as necessary to conduct these tests.
- B. The completed systems shall be physically inspected by the Consultant to assure that all equipment is installed in a neat and professional manner, and in accordance with these Specifications. The sound reinforcement systems shall be equalized by the Consultant, BAI of Austin, Texas, with assistance from the Installer. Schedule this work with the Consultant at least two weeks ahead of the commissioning date. The Consultant's commissioning fee is not a part of the Installer's contract.
- C. The testing and equalization work shall be performed after the installation work has been completed, but prior to any use of the system. During the testing and equalization work, the Installer shall have on the job site a minimum of one (1) competent technician who is familiar with the project. The technician shall be prepared to stay as long as his services are needed. It is estimated that approximately 12 hours will be required for this work.

- D. The process of equalizing and testing the system may necessitate moving and adjusting certain loudspeakers to match the Construction Documents. Adjustments shall be performed without claim for additional payment.
- E. Coordinate as necessary to ensure a totally quiet room during the sound reinforcement systems commissioning period.
- F. Prior to requesting systems testing, verify the following:
 - 1. All systems are in first-class working condition and free of short circuits, ground loops, parasitic oscillations, excessive system noise beyond published specifications of the equipment, hum, RF interference, or instability of any form.
 - 2. All specified equipment, including loose and portable equipment is on the job site for proper accounting.
 - 3. All loudspeaker circuits have been tested, are connected to the proper crossover frequency, and are in perfect working order. Furnish impedance measurements of each circuit by facsimile transmission prior to final tests.
 - 4. All video systems and associated control systems have been tested and are in perfect working order.
 - 5. All equipment controls are labeled, even if unused. If permanent labels cannot be furnished prior to system inspection, temporarily label every control as to its function with write-on tape. Supply labels or markers suitable for indicating knob settings after equalization is performed.
 - 6. Operation manuals for every equipment item furnished are on hand at the job site.
 - 7. Installer shall provide all signal processing software loaded on a portable PC and ready for use at time of testing. The PC shall be connected to the first system to be tested prior to the Consultant's arrival on the day of commissioning.
- G. Should the performance testing show that the Installer has not properly completed the systems, the Installer shall make all necessary corrections or adjustments and a second demonstration shall be arranged at the Installer's expense.
- H. The final acceptance of the system by the Owner will be based upon the report of the Consultant following inspection, testing, and demonstration. A list of items in need of completion or correction shall be prepared by the Consultant, which must be corrected by the Installer before final acceptance will be granted.

3.2 SOUND SYSTEM PERFORMANCE

- A. After equalization and testing, the sound system shall meet or exceed the following specifications:
 - 1. System shall be free of short circuits, ground loops, parasitic oscillation, excessive system noise, hum, RF interference, and instability of any form.
 - 2. Maximum SPL with band-limited pink noise input to the system shall be 95 dB before audible distortion occurs (Cafetorium, gym, pool).

3. Seat-to-seat variation in SPL at 4 kHz octave band pink noise shall be within a tolerance of plus or minus 3dB SPL (Cafetorium).
4. Acoustic response of the system shall be plus or minus 1.5dB along a line which is flat from 50 Hz to 4 kHz and which rolls off at 1dB per octave from 4 kHz to 16 kHz (Cafetorium). Response of other systems shall be 80-10,000 Hz.

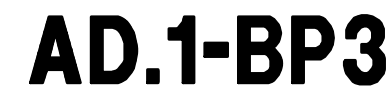
3.3 OWNER TRAINING AND FAMILIARIZATION

- A. The Installer shall furnish the Owner's representatives with training necessary to properly operate the systems. Demonstrate in detail all functions of the systems. Provide a minimum of eight (8) full hours of instruction and familiarization for this purpose. The training phase shall be accompanied by complete as-built documentation as described in Section 1.9.
- B. The Installer shall have a qualified representative, familiar with the system, to assist in operation at one (1) scheduled event for the cafetorium – selected by the Owner.

End of Section

DOOR AND FRAME SCHEDULE

OFENING		DOOR			FRAME			DETAILS									
NO.	DOOR SIZE	TYPE/ELEV	MATERIAL	FINISH	GLASS	TYPE/ELEV	MATERIAL	FINISH	GLASS	HEAD	JAMB 1	JAMB 2	SILL / THRESH	THRESHOLD	UL LABEL	HOURS SET	REMARKS
E0001	3'-0"x7'-2 1/2"-3'-4"	1	FRP	FF	-	A	FRP	FF	-	H					-	16	* LOWER LEVEL OF POOL FIT
E0011	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	ALUM	PTD	-	BH					-	15	-
E0012	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	ALUM	PTD	-	BH					-	65	-
E0021	(3) 2'-6"x7'-2 1/2"-3'-0"	1	SCHUD	NAT	-	-	-	-	-	3H					-	80	(3) LOWERED PANEL WOOD SLIDERS
E0021	3'-4"x7'-2 1/2"-3'-4"	1	LYR	NAT	-	A	HM	PTD	-	H					-	18	-
E0021	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	15	-
E0021	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	BH					-	65	-
E0022	(3) 2'-6"x7'-2 1/2"-3'-0"	1	LYR	NAT	-	-	-	-	-	BH					-	80	(3) LOWERED PANEL WOOD SLIDERS
E0021	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	18	-
E0031	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	NAT	GL-1	A	HM	-	-	H					-	25	-
E0032	3'-4"x7'-2 1/2"-3'-4"	2	FRP	GL	FF	GL-1	A	ALUM	PTD	-	BH				-	42	-
E0031	3'-4"x7'-2 1/2"-3'-4"	2	FRP	GL	FF	GL-1	A	ALUM	-	BH					-	42	-
E0031	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	NAT	GL-1	A	HM	PTD	-	H					-	22	-
E0031	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	NAT	GL-1	A	HM	PTD	-	H				C/45 mh	-	41	-
E0031	3'-4"x7'-2 1/2"-3'-4"	2	FRP	GL	FF	GL-1	A	ALUM	PTD	-	BH				-	44	-
E0031	3'-4"x7'-2 1/2"-3'-4"	1	FRP	FF	-	A	ALUM	CLUR	-	BH					-	45	-
E0031	3'-4"x7'-2 1/2"-3'-4"	2	FRP	GL	FF	GL-1	A	ALUM	CLUR	-	BH				-	46	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	23	-
E0061	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	21	-
E0071	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	NAT	GL-1	A	HM	PTD	-	H					-	15	-
E0072	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	NAT	GL-1	A	HM	PTD	-	H					-	07	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	E	HM	PTD	GL-1	H					-	21	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	FRP	FF	-	A	FRP	FF	-	H				C/45 mh	-	48	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	49	-
E0081	4'-0"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	111	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	50	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	FRP	FF	-	A	FRP	FF	-	H				C/45 mh	-	51	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	52	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	52	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	52	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	36	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	33	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	53	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	33	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	54	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	54	-
E0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	11	-
F0001	DBL 4'-0"x7'-0"x3'-4"	PKG	HM	PTD	-	PKG	HM	PTD	-	H				B/90 mh	34	COMPLETE TOTAL DOOR PACKAGE	
F0002	8'-0" NOM 4'-0"x7'-0"x3'-4"	B	AL	GL	PTD	GL-1	B	AL	PTD	GL-1	H			PER MANUF.	09	PRE-FABBED SLIDING DOOR SYSTEM	
F0011	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	43	-
F0021	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	55	-
F0022	2'-0"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	56	-
F0031	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
F0031	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
F0041	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
F0041	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
F0051	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
F0051	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
F0061	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
F0061	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
F0071	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
F0071	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
F0081	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-1	A	HM	PTD	-	H				-	33	-
F0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
F0091	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
F0091	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
F0091	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
F0091	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-10	A	HM	PTD	-	H				-	51	-
F0121	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
F0121	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
F0121	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-1	A	HM	-	H					-	43	-
F0131	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
F0141	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	07	-
F0151	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	52	-
F0161	4'-0"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	111	-
G0001	DBL 4'-0"x7'-0"x3'-4"	PKG	HM	PTD	-	PKG	HM	PTD	-	H				B/90 mh	34	COMPLETE TOTAL DOOR PACKAGE	
G0002	8'-0" NOM 4'-0"x7'-0"x3'-4"	B	AL	GL	PTD	GL-1	B	AL	PTD	GL-1	H			MANUF.	09	PRE-FABBED SLIDING DOOR SYSTEM	
G0011	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	43	-
G0021	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	55	-
G0021	2'-0"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	56	-
G0031	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
G0031	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
G0041	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
G0041	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
G0051	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
G0061	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-1	A	HM	PTD	-	H				-	28	-
G0061	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-1	A	HM	PTD	-	H				-	28	-
G0071	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-6	A	HM	PTD	-	H				C/45 mh	58	-
G0072	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-6	A	HM	PTD	-	H				C/45 mh	58	-
G0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
G0081	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
G0091	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-1	A	HM	PTD	-	H				-	28	-
G0091	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-1	A	HM	PTD	-	H				-	28	-
G0111	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-6	A	HM	PTD	-	H				C/45 mh	58	-
G0121	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-6	A	HM	PTD	-	H				C/45 mh	58	-
G0121	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
G0131	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
G0141	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
G0141	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	C	HM	PTD	GL-1	H					-	30	-
G0141	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
G0141	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	NAT	-	A	HM	PTD	-	H					-	51	-
G0151	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	31	-
G0161	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	36	-
G0171	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	A	HM	PTD	-	H					-	14	w PANIC
G0181	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	NAT	-	D	HM	PTD	GL-1	H					-	52	-
H0011	3'-4"x7'-2 1/2"-3'-4"	2	SCHUD	GL	NAT	GL-1	A	HM	PTD	-	H				-	28	-
H0011	3'-4"x7'-2 1/2"-3'-4"	1	SCHUD	HM	-	A	HM	PTD	-	H					-	55	-
H0021	3'-4"x7'-2 1/2"-3'-4"	1	HM	PTD	-	A	HM	PTD	-	H					-	04	-
H0021	Per Manuf.																Freezer Doors
H0021	Per Manuf.																Freezer Doors
H0031	3'-4"x7'-2 1/2"-3'-4"	1	HM	PTD	-	A	HM	PTD	-	H					-	21	-



OPENING		DOOR			FRAME			DETAILS					THRESHOLD	ULL LABEL	HOUR SET	REMARKS	
NO.	DOOR SIZE	TYPE/LEV	MATERIAL	FINISH	GLASS	TYPE/LEV	MATERIAL	FINISH	GLASS	HEAD	JAMB 1	JAMB 2					SILL / THRESH
H0801	3'-0"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1							
H0801.1	3'-0"x7'-2 1/2"x3'-4"	1	H1	PTD	-	A	H1	PTD	-	H1					GLASS MIN	10	w/ PANIC
H0802	DBL 3'-0"x7'-2 1/2"x3'-4"	1	FRP	FR	-	B	ALUM	PTD	-	BH					GLASS MIN	12	w/ PANIC
H0803	8'-0"x8'-0"	6	ALUM/CL	ANOD	-	A	ALUM/CL	ANOD	-	BH							OVERHEAD COILING DOOR
J0101	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	D	H1	PTD	GL-1	H1						-	68
J0102	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	D	H1	PTD	GL-1	H1						-	68
J0103	3'-4"x7'-2 1/2"x3'-4"	1	AL/CL	ESP	GL-1	A	AL	PTD	-	BH						-	06
J0104	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	53
J0103	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	53
J0104	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	53
J0104.1	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	53
J0104.1	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	31
J0105	3'-4"x7'-2 1/2"x3'-4"	4	SCHUD	GL/NAT	GL-1	A	H1	PTD	-	H1						-	14
J0105.1	3'-4"x7'-2 1/2"x3'-4"	4	SCHUD	GL/NAT	GL-1	A	H1	PTD	-	H1						-	68
J0105.1	3'-4"x7'-2 1/2"x3'-4"	4	AL/CL	ESP	GL-1	A	AL	PTD	-	BH						-	06
J0105.1	3'-4"x7'-2 1/2"x3'-4"	4	AL/CL	PTD	GL-1	A	AL	PTD	-	BH						-	06
J0105.1	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	D	H1	PTD	GL-1	H1						-	33
J0105.1	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	D	H1	PTD	GL-1	H1						-	33
J0105.1	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	C	H1	PTD	GL-1	H1						-	33
J0106	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	53
J0106.1	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	31
J0106.1	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	53
J0107	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	53
J0107.1	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	53
J0108	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	A	H1	PTD	-	H1						-	53
J0109	3'-4"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	D	H1	PTD	GL-1	H1						-	13
J0109.1	(2) 3'-0"x7'-2 1/2"x3'-4"	1	SCHUD	NAT	-	B	H1	PTD	-	H1						-	03
J0109.1	3'-4"x7'-																

[illegible]

1. ALWAYS COORDINATE WITH MBC FOR SAFETY GLAZING REQUIREMENTS. SUBMIT THEMATIC LOCATIONS FOR SAFETY GLAZING REQUIREMENTS ABOVE.
2. DOORS ARE 1-3/4" THICK UNLESS OTHERWISE NOTED.
3. ALL FIRE-RATED DOORS ARE ALSO RATED FOR SMOKE. HARDWARE RATED FOR SMOKE ALONE DOES NOT REQUIRE A RATED DOOR OR FRAME.
4. FIELD VERIFY ALL DOOR OPENING HEIGHTS AND WIDTHS FOR EXISTING OPENINGS OR NEW OPENINGS IN EXISTING MASONRY WALLS, UON. ACTUAL DOOR AND FRAME HEIGHTS AND WIDTHS IN EXISTING MASONRY SHALL BE MATCHED AT ALL TIMES.
5. PROVIDE TRANSITION STRIPS AS SELECTED BY ARCHITECT FOR FLOORING CONDITIONS THAT SHALL COVER HIDDEN BELOW PANEL UNDER.
6. ALL NEW DOORS IN NEW MASONRY OPENINGS OR WIDENED OPENINGS SHALL RECEIVE NEW LINTELS PROVIDED BY CONTRACTOR. ALL ACTUAL DOOR AND FRAME HEIGHTS ARE TO ACCOUNT FOR A 3/8" SHIM AND ANOTHER 3/8" AT THE TOP OF THE DOOR.
7. DETAIL NUMBERS NOTED §11 REFER TO DETAILS SHOWING HEAD, JAMB, AND/OR SILL DETAILS THAT REPRESENT CONDITIONS SIMILAR TO THOSE NOTED.
8. ALL DOORS TO BE PLACED IN EXISTING OPENINGS/FRAMES SHALL BE FIELD VERIFIED TO ASSURE PROPER DOOR SIZE AND COORDINATION TO FRAME. PROPER SIZING AND COORDINATION OF THESE DOORS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
9. JAMBS FOR ROLLING-SIDE GLASS DOORS SHALL BE STEEL ANGLE ON CMU WITH FINISHED JAMB FACE.

OPENING		DOOR			FRAME			DETAILS					THRESHOLD	UL LABEL	HOUR SET	REMARKS
		TYPE/LEV	MATERIAL	FINISH	GLASS	TYPE/LEV	MATERIAL	FINISH	GLASS	HEAD	JAMB 1	JAMB 2				
NO.	DOOR SIZE															
K1001	DBL 4'-0"x7'-0"x1/3/4"	PKG	HM	PTD	-	PKG	HM	PTD	-	H				PER MANUF.	24	COMPLETE TOTAL DOOR PACKAGE
K1002	8'-0" NOM 1"x1'-0"x1/3/4"	5	AL GL	PTD	GL-1	B	AL	PTD	GL-1	BH			PER MANUF.	09	31	PRE-FABBED SLIDING DOOR SYSTEM
K1001	3'-4"x7'-2"x1/3/4"	1	SCHUD GL	NAT	GL-1	A	HM	PTD	-	H				-	43	-
K1002	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	C	HM	PTD	GL-1	H					-	55	-
K1002	2'-0"x7'-2"x1/3/4"	1	SCHUD NAT	-	A	HM	PTD	-	H					-	56	-
K1003	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	C	HM	PTD	GL-1	H					-	30	-
K1003	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	A	HM	PTD	-	H					-	31	-
K1004	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	C	HM	PTD	GL-1	H					-	30	-
K1004	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	A	HM	PTD	-	H					-	31	-
K1005	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	C	HM	PTD	GL-1	H					-	30	-
K1006	3'-4"x7'-2"x1/3/4"	2	SCHUD GL NAT	GL-1	A	HM	PTD	-	H					-	28	-
K1006	3'-4"x7'-2"x1/3/4"	2	SCHUD GL NAT	GL-1	A	HM	PTD	-	H					-	28	-
K1007	3'-4"x7'-2"x1/3/4"	2	SCHUD GL NAT	GL-6	A	HM	PTD	-	H				C/45 min	-	58	-
K1007	3'-4"x7'-2"x1/3/4"	2	SCHUD GL NAT	GL-6	A	HM	PTD	-	H				C/45 min	-	58	-
K1008	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	C	HM	PTD	GL-1	H					-	30	-
K1009	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	C	HM	PTD	GL-1	H					-	30	-
K1009	3'-4"x7'-2"x1/3/4"	1	SCHUD GL NAT	GL-1	A	HM	PTD	-	H					-	43	-
K1009	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	A	HM	PTD	-	H					-	23	-
K1010	3'-4"x7'-2"x1/3/4"	1	SCHUD GL NAT	GL-6	A	HM	PTD	-	H					-	51	-
K1011	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	A	HM	PTD	-	H					-	31	-
K1012	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	C	HM	PTD	GL-1	H					-	30	-
K1012	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	A	HM	PTD	-	H					-	31	-
K1013	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	C	HM	PTD	GL-1	H					-	30	-
K1014	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	A	HM	PTD	-	H					-	31	-
K1015	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	A	HM	PTD	-	H					-	07	-
K1016	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	D	HM	PTD	-	H					-	31	-
K1017	3'-4"x7'-2"x1/3/4"	1	SCHUD NAT	-	C	HM	PTD	GL-1	H					-	52	-
K001	8'-0" NOM 1"x0'-0"x1/3/4"	5	AL GL	PTD	GL-1	B	AL	PTD	GL-1	BH			PER MANUF.	09		

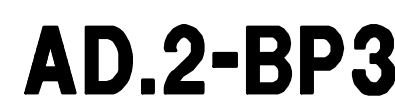
1H DOOR MASONRY HEAD
 A22-BF3 SCALE: 1-1/2" = 1'-0" Typical

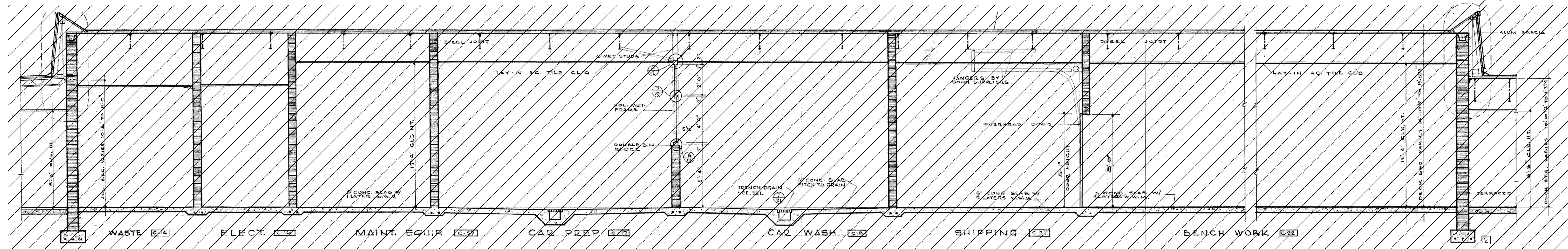
4H DOOR MASONRY HEAD
 A22-BF3 SCALE: 1-1/2" = 1'-0"

5H ALUM FRAME DET.
 A22-BF3 SCALE: 1-1/2" = 1'-0" Typical

2H DOOR DRYWALL HEAD
 A22-BF3 SCALE: 1-1/2" = 1'-0"

3H DOOR DRYWALL HEAD
 A22-BF3 SCALE: 1-1/2" = 1'-0" @ 5' OPENINGS

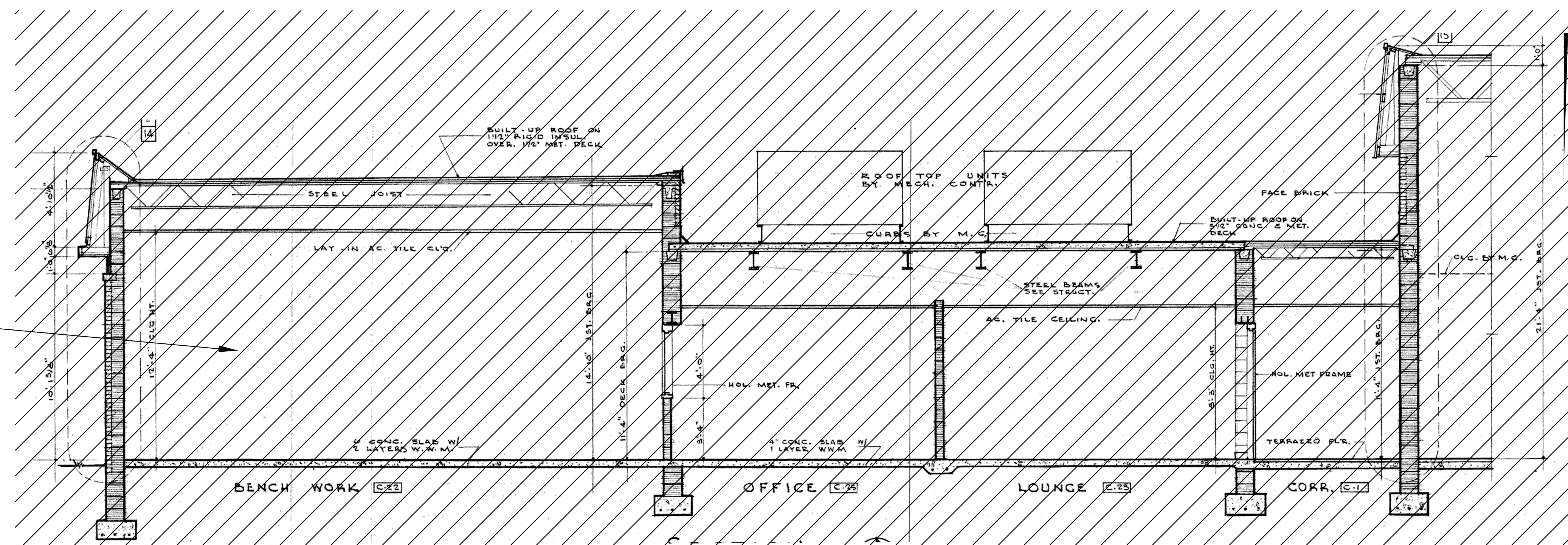




3 Section
D4.1-BP1 SCALE: 1/4"=1'-0"

THESE EXISTING BUILDING SECTIONS - FROM THE ORIGINAL 1972 CONSTRUCTION - ARE ILLUSTRATED FOR GENERAL CONSTRUCTION REQUIRED TO BE DEMOLISHED AS PART OF THE BID PACK #1 SCOPE. SOME OF THE BUILDING HAS BEEN MODIFIED AND THESE SECTIONS ARE FOR GENERAL INFO ONLY.

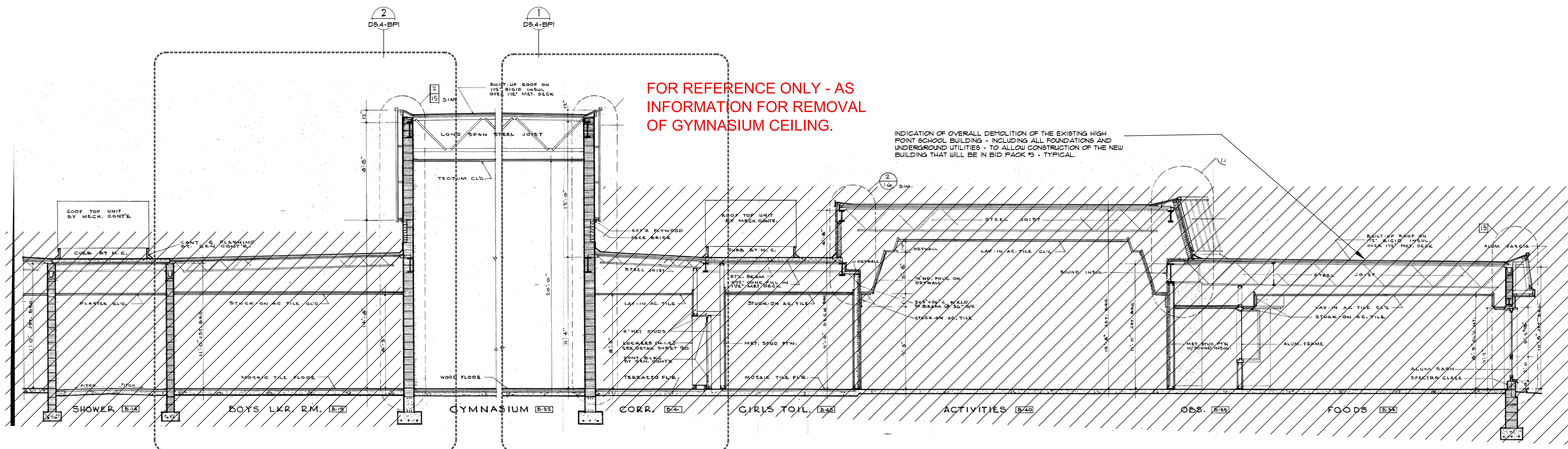
INDICATION OF OVERALL DEMOLITION OF THE EXISTING HIGH POINT SCHOOL BUILDING - INCLUDING ALL FOUNDATIONS AND UNDERGROUND UTILITIES - TO ALLOW CONSTRUCTION OF THE NEW BUILDING THAT WILL BE IN BID PACK #3 - TYPICAL.



2 Section
D4.1-BP1 SCALE: 1/4"=1'-0"

FOR REFERENCE ONLY - AS INFORMATION FOR REMOVAL OF GYMNASIUM CEILING.

INDICATION OF OVERALL DEMOLITION OF THE EXISTING HIGH POINT SCHOOL BUILDING - INCLUDING ALL FOUNDATIONS AND UNDERGROUND UTILITIES - TO ALLOW CONSTRUCTION OF THE NEW BUILDING THAT WILL BE IN BID PACK #3 - TYPICAL.



1 Gymnasium Building Section
D4.1-BP1 SCALE: 1/4"=1'-0"

ISSUED IN BP3/ADDENDUM #4
FOR REFERENCE ONLY

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
New High Point School
Washtenaw Intermediate School District
1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE
Demolition Building Sections

ISSUE DATES

01-14-20	BUILDING DEMOLITION - BID PACK #1
12-06-19	DESIGN DEVELOPMENT
08-13-19	SCHEMATIC DESIGN
DATE	ISSUED FOR:
DRAWN	MB
CHECKED	MB
APPROVED	JM

PROJECT NO.

19040

DRAWING NO.

D4.1-BP1

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE

**New High Point
School**

**Washtenaw
Intermediate
School District**

1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE

**Demolition
Building Sections**

ISSUE DATES

01-14-20 BUILDING DEMOLITION - BID PACK #1
12-06-19 DESIGN DEVELOPMENT
08-13-19 SCHEMATIC DESIGN

DATE ISSUED FOR:

DRAWN MB

CHECKED MB

APPROVED JM

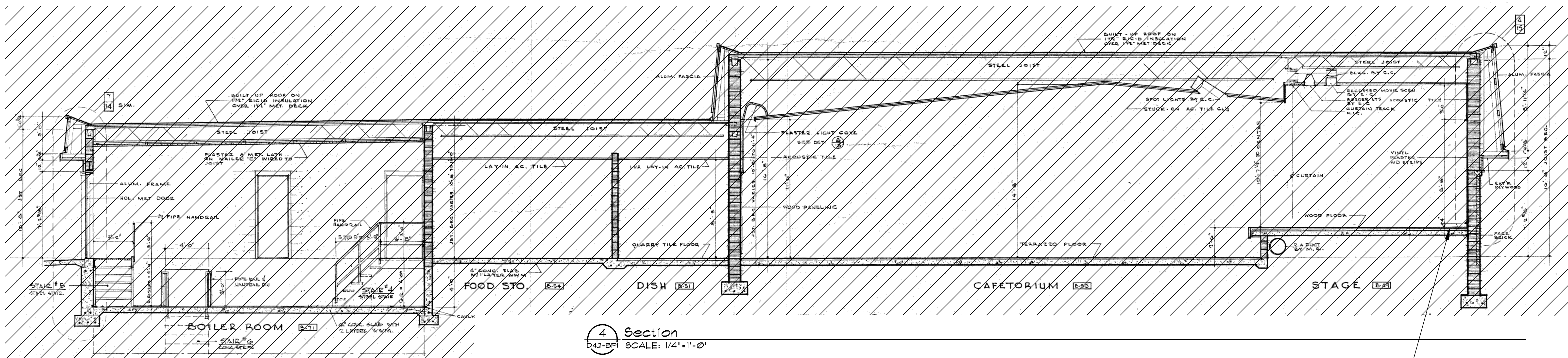
PROJECT NO.

19040

DRAWING NO.

D4.2-BP1

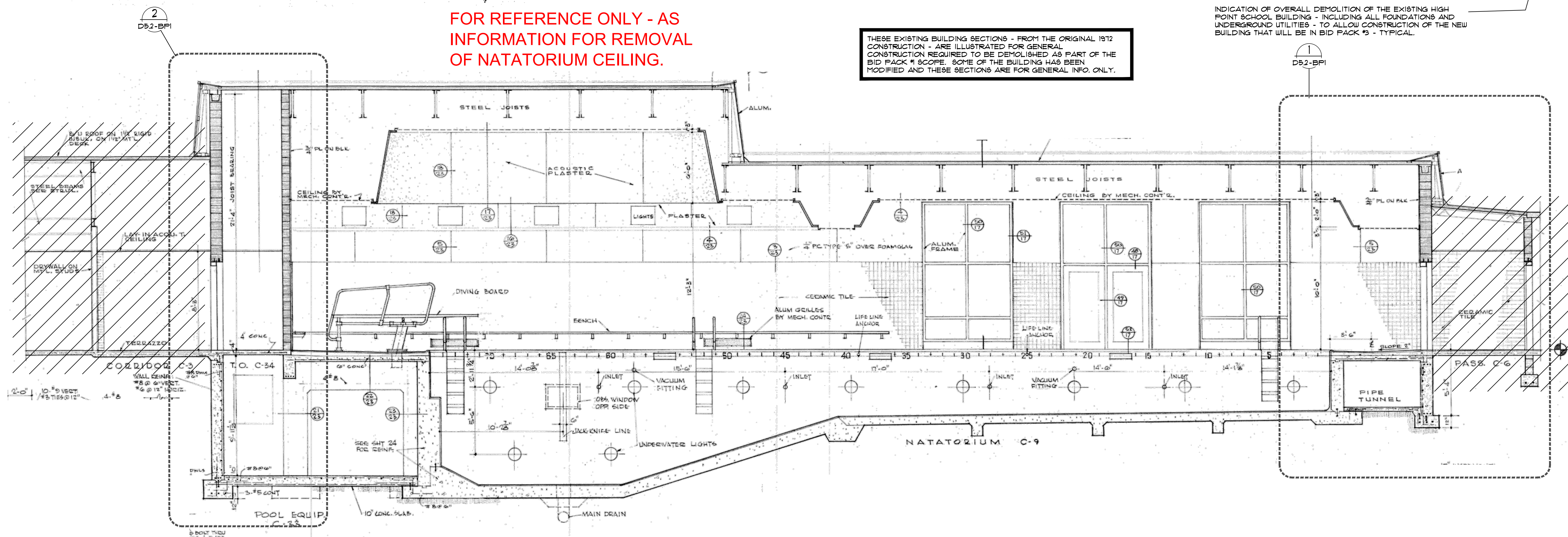
ISSUED IN BP3/ADDENDUM #4
FOR REFERENCE ONLY



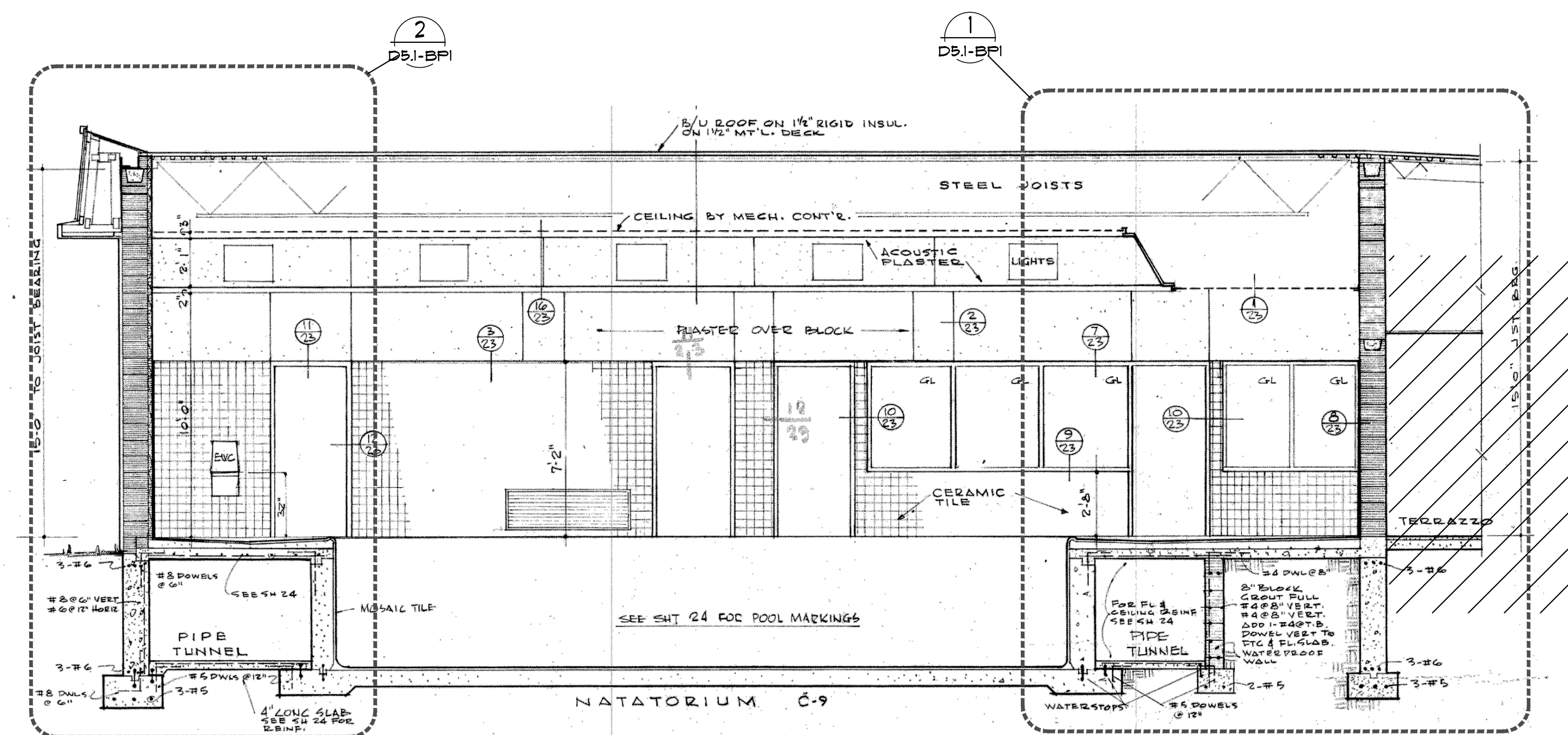
FOR REFERENCE ONLY - AS
INFORMATION FOR REMOVAL
OF NATATORIUM CEILING.

THESE EXISTING BUILDING SECTIONS - FROM THE ORIGINAL 1912
CONSTRUCTION - ARE ILLUSTRATED FOR GENERAL
CONSTRUCTION REQUIRED TO BE DEMOLISHED AS PART OF THE
BID PACK #1 SCOPE. SOME OF THE BUILDING HAS BEEN
MODIFIED AND THESE SECTIONS ARE FOR GENERAL INFO. ONLY.

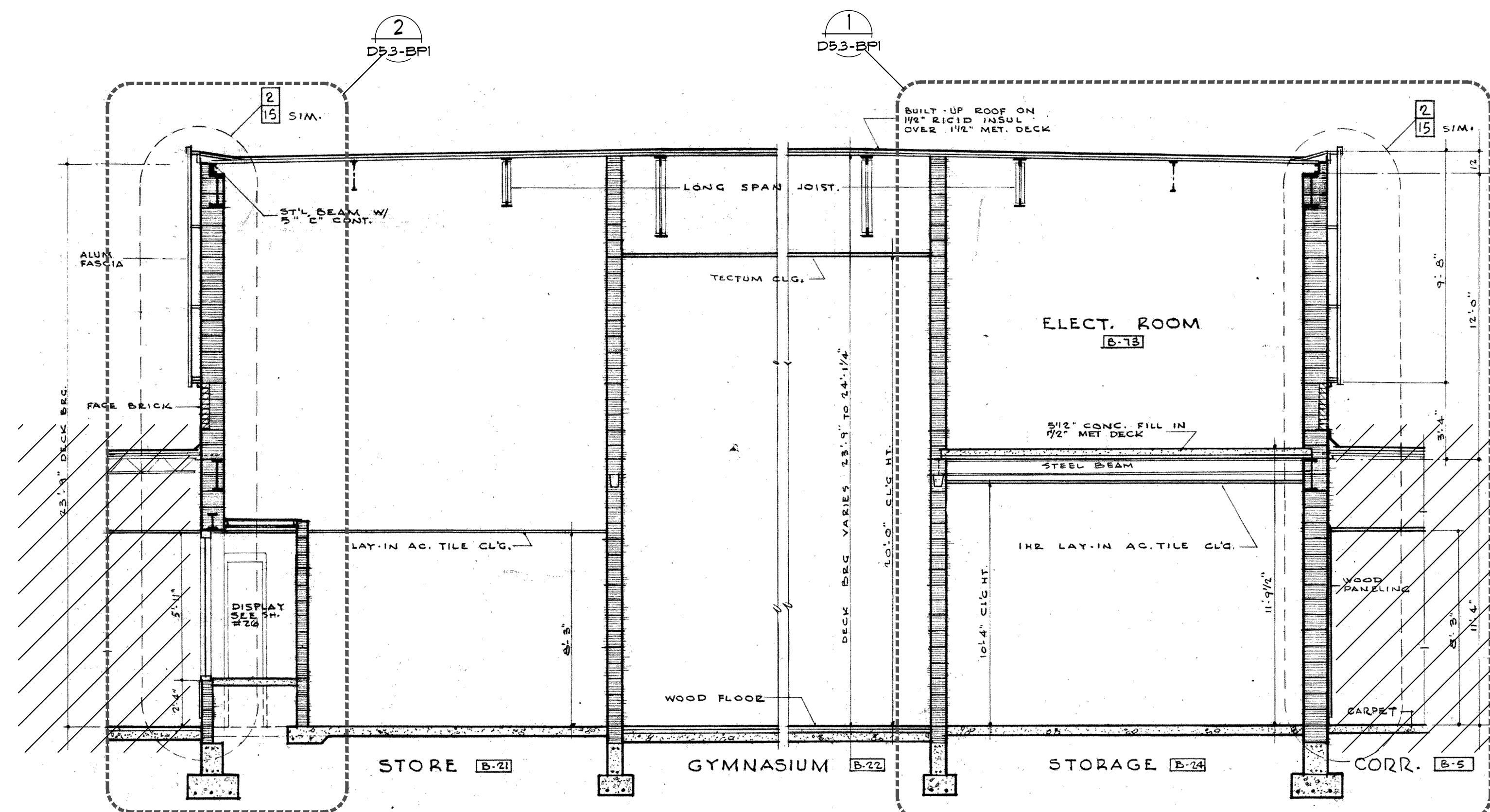
INDICATION OF OVERALL DEMOLITION OF THE EXISTING HIGH
POINT SCHOOL BUILDING - INCLUDING ALL FOUNDATIONS AND
UNDERGROUND UTILITIES - TO ALLOW CONSTRUCTION OF THE NEW
BUILDING THAT WILL BE IN BID PACK #3 - TYPICAL.



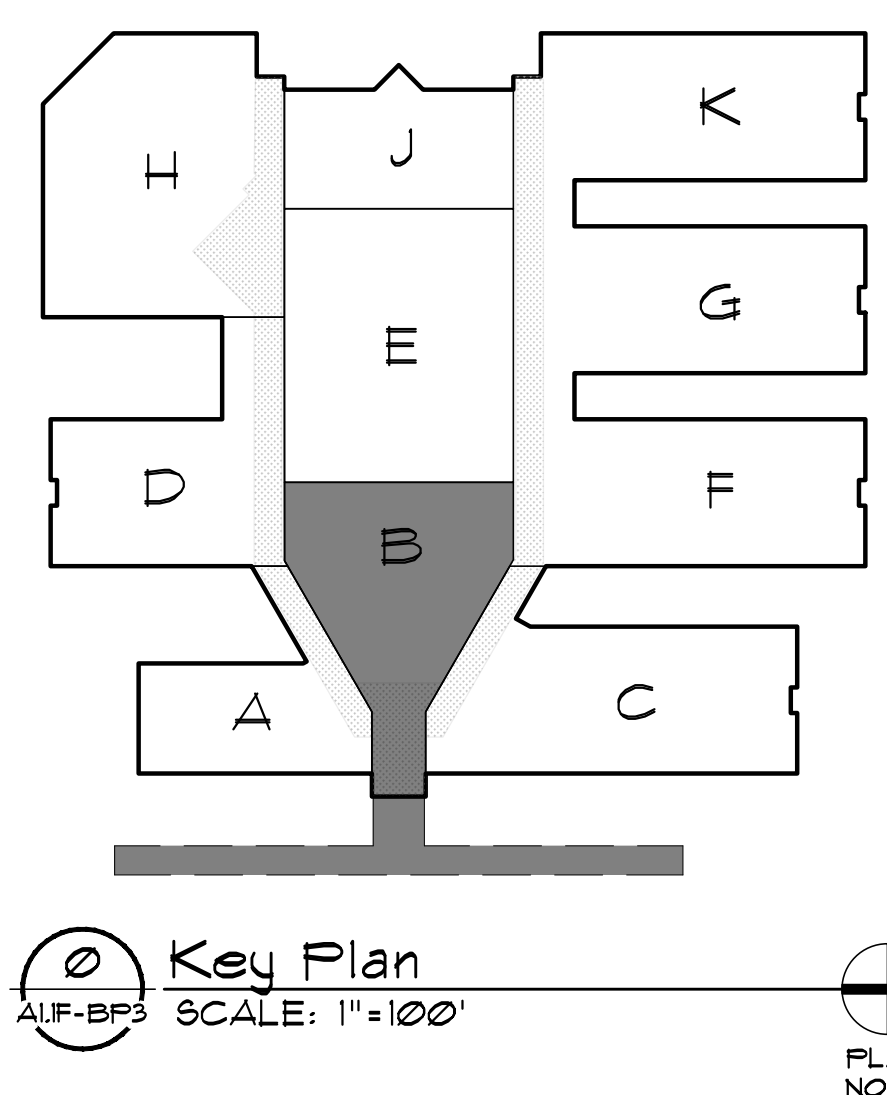
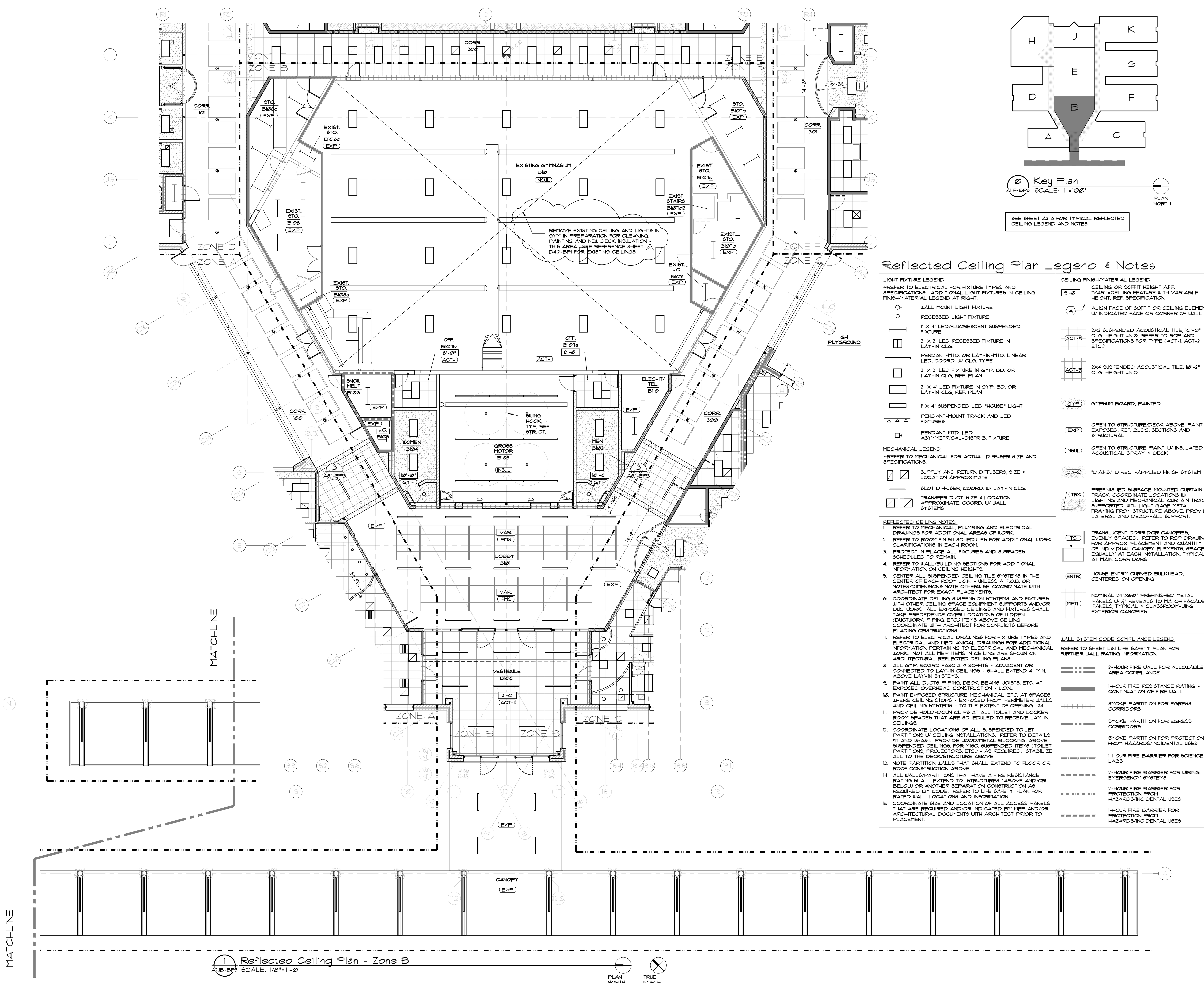
3 Natatorium Longitudinal-Section
D42-BP1 SCALE: 1/4"=1'-0" Orig. Const. Indicated - Existing Tank is Shallower



2 Natatorium Cross-Section
D42-BP1 SCALE: 1/4"=1'-0"



1 Section
D42-BP1 SCALE: 1/4"=1'-0"



Reflected Ceiling Plan Legend & Notes

LIGHT FIXTURE LEGEND
REFER TO ELECTRICAL FOR FIXTURE TYPES AND SPECIFICATIONS. ADDITIONAL LIGHT FIXTURES IN CEILING FINISH/MATERIAL LEGEND AT RIGHT.

- WALL MOUNT LIGHT FIXTURE
- RECESSED LIGHT FIXTURE
- 1' X 4' LED/FLUORESCENT SUSPENDED FIXTURE
- 2' X 2' LED RECESSED FIXTURE IN LAY-IN CLG.
- PENDANT-MTD. OR LAY-IN-MTD. LINEAR LED, COORD. W/ CLG. TYPE
- 2' X 2' LED FIXTURE IN GYP. BD. OR LAY-IN CLG. REF. PLAN
- 2' X 4' LED FIXTURE IN GYP. BD. OR LAY-IN CLG. REF. PLAN
- 1' X 4' SUSPENDED LED "HOUSE" LIGHT
- PENDANT-MOUNT TRACK AND LED FIXTURES
- PENDANT-MTD. LED ASYMMETRICAL-DISTIB. FIXTURE

MECHANICAL LEGEND
REFER TO MECHANICAL FOR ACTUAL DIFFUSER SIZE AND SPECIFICATIONS.

- SUPPLY AND RETURN DIFFUSERS, SIZE & LOCATION APPROXIMATE
- SLOT DIFFUSER, COORD. W/ LAY-IN CLG.
- TRANSFER DUCT, SIZE & LOCATION APPROXIMATE, COORD. W/ WALL SYSTEMS

REFLECTED CEILING NOTES:

- REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL AREAS OF WORK.
- REFER TO ROOM FINISH SCHEDULES FOR ADDITIONAL WORK CLARIFICATIONS IN EACH ROOM.
- PROTECT IN PLACE ALL FIXTURES AND SURFACES SCHEDULED TO REMAIN.
- REFER TO WALL/BUILDING SECTIONS FOR ADDITIONAL INFORMATION ON CEILING HEIGHTS.
- CENTER ALL SUSPENDED CEILING TILE SYSTEMS IN THE CENTER OF EACH ROOM UNLESS A F.O.B. OR NOTES/DIMENSIONS NOTE OTHERWISE. COORDINATE WITH ARCHITECT FOR EXACT PLACEMENTS.
- COORDINATE CEILING SUSPENSION SYSTEMS AND FIXTURES WITH OTHER CEILING SPACE EQUIPMENT SUPPORTS AND/OR DUCTWORK. ALL EXPOSED CEILING AND FIXTURES SHALL TAKE PRECEDENCE OVER LOCATIONS OF HIDDEN (DUCTWORK, PIPING, ETC.) ITEMS ABOVE CEILING. COORDINATE WITH ARCHITECT FOR CONFLICTS BEFORE PLACING OBSTRUCTIONS.
- REFER TO ELECTRICAL DRAWINGS FOR FIXTURE TYPES AND ELECTRICAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION PERTAINING TO ELECTRICAL AND MECHANICAL WORK. NOT ALL MEP ITEMS IN CEILING ARE SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS.
- ALL GYP. BOARD FASCIA & SOFFITS - ADJACENT OR CONNECTED TO LAY-IN CEILING - SHALL EXTEND 4" MIN. ABOVE LAY-IN SYSTEMS.
- PAIN ALL DUCTS, PIPING, DECK BEAMS, JOISTS, ETC. AT EXPOSED OVERHEAD CONSTRUCTION - U.O.N.
- PAIN EXPOSED STRUCTURE, MECHANICAL, ETC. AT SPACES WHERE CEILING STOPS - EXPOSED FROM PERIMETER WALLS AND CEILING SYSTEMS - TO THE EXTENT OF OPENING 24".
- PROVIDE HOLD-DOWN CLIPS AT ALL TOILET AND LOCKER ROOM SPACES THAT ARE SCHEDULED TO RECEIVE LAY-IN CEILING.
- COORDINATE LOCATIONS OF ALL SUSPENDED TOILET PARTITIONS W/ CEILING INSTALLATIONS. REFER TO DETAILS 17 AND 18/A8. PROVIDE WOOD/METAL BLOCKING ABOVE SUSPENDED CEILING, FOR MISC. SUSPENDED ITEMS (TOILET PARTITIONS, PROJECTORS, ETC.) - AS REQUIRED. STABILIZE ALL TO THE DECK/STRUCTURE ABOVE.
- NOTE PARTITION WALLS THAT SHALL EXTEND TO FLOOR OR ROOF CONSTRUCTION ABOVE.
- ALL WALLS/PARTITIONS THAT HAVE A FIRE RESISTANCE RATING SHALL EXTEND TO STRUCTURES (ABOVE AND/OR BELOW) OR ANOTHER SEPARATION CONSTRUCTION AS REQUIRED BY CODE. REFER TO LIFE SAFETY PLAN FOR RATED WALL LOCATIONS AND INFORMATION.
- COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS THAT ARE REQUIRED AND/OR INDICATED BY MEP AND/OR ARCHITECTURAL DOCUMENTS WITH ARCHITECT PRIOR TO PLACEMENT.

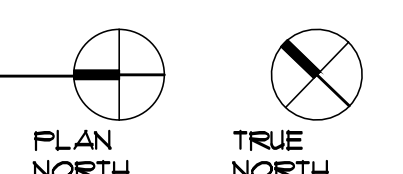
CEILING FINISH/MATERIAL LEGEND

- 3'-0" CEILING OR SOFFIT HEIGHT AFF. (VAR.) CEILING FEATURE WITH VARIABLE HEIGHT, REF. SPECIFICATION
- A ALIGN FACE OF SOFFIT OR CEILING ELEMENT W/ INDICATED FACE OR CORNER OF WALL
- ACT-1 2X2 SUSPENDED ACOUSTICAL TILE, 10'-0" CLG. HEIGHT UNO, REFER TO RCP AND SPECIFICATIONS FOR TYPE (ACT-1, ACT-2 ETC.)
- ACT-2 2X4 SUSPENDED ACOUSTICAL TILE, 10'-2" CLG. HEIGHT UNO.
- GYP GYPSUM BOARD, PAINTED
- EXP OPEN TO STRUCTURE/DECK ABOVE, PAINT EXPOSED, REF. BLDG. SECTIONS AND STRUCTURAL
- INSUL OPEN TO STRUCTURE, PAINT, W/ INSULATED ACOUSTICAL SPRAY & DECK
- DAFS "DAFS" DIRECT-APPLIED FINISH SYSTEM
- TRK PREFINISHED SURFACE-MOUNTED CURTAIN TRACK, COORDINATE LOCATIONS W/ LIGHTING AND MECHANICAL. CURTAIN TRACK SUPPORTED WITH LIGHT GAGE METAL BRACING FROM STRUCTURE ABOVE. PROVIDE LATERAL AND DEAD-FALL SUPPORT.
- TC TRANSLUCENT CORRIDOR CANOPIES, EVENLY SPACED, REFER TO RCP DRAWING FOR APPROX. PLACEMENT AND QUANTITY OF INDIVIDUAL CANOPY ELEMENTS, SPACED EQUALLY AT EACH INSTALLATION, TYPICAL AT MAIN CORRIDORS
- ENTR HOUSE-ENTRY CURVED BULKHEAD, CENTERED ON OPENING
- METL NOMINAL 24"x60" PREFINISHED METAL PANELS W/ 1/2" REVEALS TO MATCH FACADE PANELS, TYPICAL # CLASSROOM-ING EXTERIOR CANOPIES

WALL SYSTEM CODE COMPLIANCE LEGEND
REFER TO SHEET L&J LIFE SAFETY PLAN FOR FURTHER WALL RATING INFORMATION

- 2-HOUR FIRE WALL FOR ALLOWABLE AREA COMPLIANCE
- 1-HOUR FIRE RESISTANCE RATING - CONTINUATION OF FIRE WALL
- SMOKE PARTITION FOR EGRESS CORRIDORS
- SMOKE PARTITION FOR EGRESS CORRIDORS
- SMOKE PARTITION FOR PROTECTION FROM HAZARDS/INCIDENTAL USES
- 1-HOUR FIRE BARRIER FOR SCIENCE LABS
- 2-HOUR FIRE BARRIER FOR WIRING, EMERGENCY SYSTEMS
- 2-HOUR FIRE BARRIER FOR PROTECTION FROM HAZARDS/INCIDENTAL USES
- 1-HOUR FIRE BARRIER FOR PROTECTION FROM HAZARDS/INCIDENTAL USES

1 Reflected Ceiling Plan - Zone B
A2.1B-BP3 SCALE: 1/8"=1'-0"



REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
New High Point School
Washtenaw Intermediate School District
1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE
Reflected Ceiling Plan
Zone B

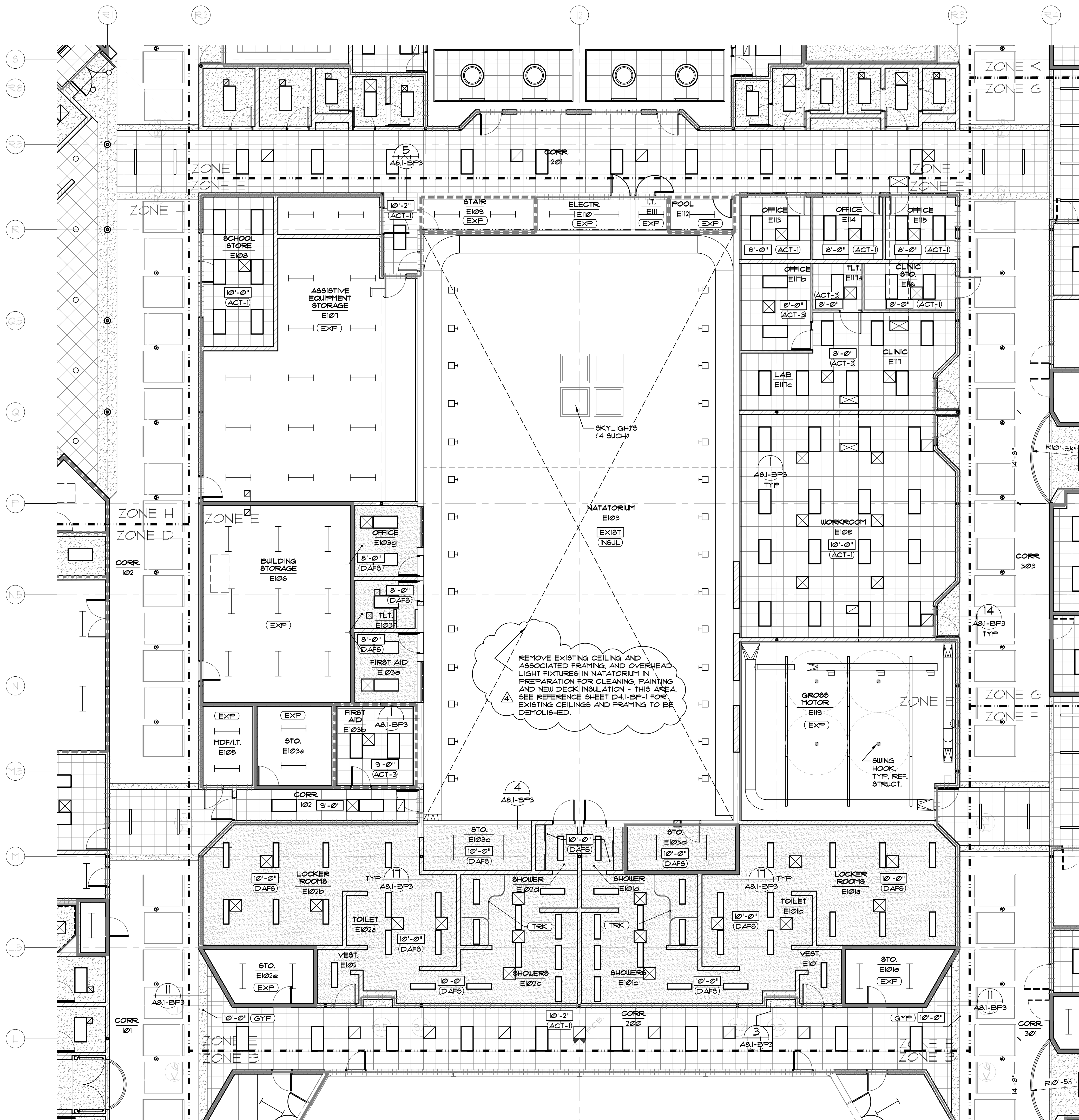
ISSUE DATE

06-18-20	ADDENDUM #4
05-27-20	FOR CONSTRUCTION - BID PACK #3
04-30-20	95% REVIEW - BID PACK #3

DATE: ISSUED FOR:

DRAWN	MB
CHECKED	MB
APPROVED	JM

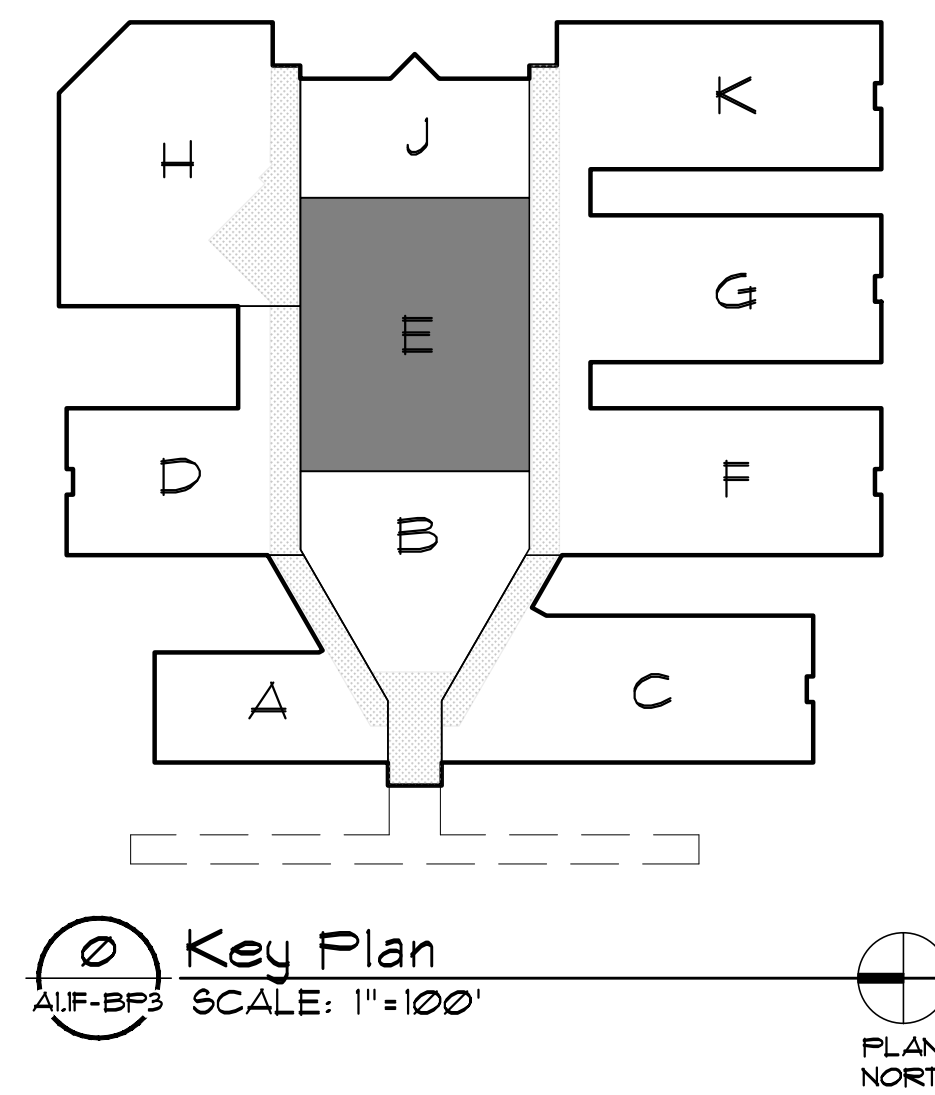
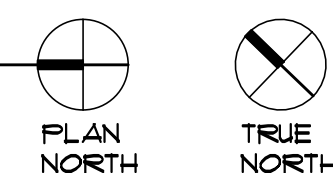
PROJECT NO.
19040
DRAWING NO.
A2.1B-BP3



1 Reflected Ceiling Plan - Zone E
A2.1E-BP3 SCALE: 1/8"=1'-0"

Reflected Ceiling Plan Legend & Notes

LIGHT FIXTURE LEGEND *REFER TO ELECTRICAL FOR FIXTURE TYPES AND SPECIFICATIONS. ADDITIONAL LIGHT FIXTURES IN CEILING FINISH/MATERIAL LEGEND AT RIGHT. <ul style="list-style-type: none">○ WALL MOUNT LIGHT FIXTURE○ RECESSED LIGHT FIXTURE— 1' X 4' LED/FLUORESCENT SUSPENDED FIXTURE— 2' X 2' LED RECESSED FIXTURE IN LAY-IN CLG.— PENDANT-MTD. OR LAY-IN-MTD. LINEAR LED, COORD. W/ CLG. TYPE— 2' X 2' LED FIXTURE IN GYP. BD. OR LAY-IN CLG. REF. PLAN— 2' X 4' LED FIXTURE IN GYP. BD. OR LAY-IN CLG. REF. PLAN— 1' X 4' SUSPENDED LED "HOUSE" LIGHT— PENDANT-MOUNT TRACK AND LED FIXTURES— PENDANT-MTD. LED ASYMMETRICAL-DISTRIB. FIXTURE	CEILING FINISH/MATERIAL LEGEND <ul style="list-style-type: none">9'-0" CEILING OR SOFFIT HEIGHT AFF. "VAR." CEILING FEATURE WITH VARIABLE HEIGHT, REF. SPECIFICATION△ ALIGN FACE OF SOFFIT OR CEILING ELEMENT W/ INDICATED FACE OR CORNER OF WALLACT-1 2X2 SUSPENDED ACOUSTICAL TILE, 10'-0" CLG. HEIGHT UNO, REFER TO RCP AND SPECIFICATIONS FOR TYPE (ACT-1, ACT-2 ETC.)ACT-2 2X4 SUSPENDED ACOUSTICAL TILE, 10'-2" CLG. HEIGHT UNO.GYP GYPSUM BOARD, PAINTEDEXP OPEN TO STRUCTURE/DECK ABOVE, PAINT EXPOSED, REF. BLDG. SECTIONS AND STRUCTURALINSUL OPEN TO STRUCTURE, PAINT, W/ INSULATED ACOUSTICAL SPRAY - DECKDAFS "DAFS." DIRECT-APPLIED FINISH SYSTEMTRK PREFINISHED SURFACE-MOUNTED CURTAIN TRACK, COORDINATE LOCATIONS W/ LIGHTING AND MECHANICAL, CURTAIN TRACK SUPPORTED WITH LIGHT GAGE METAL FRAMING FROM STRUCTURE ABOVE. PROVIDE LATERAL AND DEAD-FALL SUPPORT.TC TRANSLUCENT CORRIDOR CANOPIES, EVENLY SPACED. REFER TO RCP DRAWING FOR APPROX. PLACEMENT AND QUANTITY OF INDIVIDUAL CANOPY ELEMENTS, SPACED EQUALLY AT EACH INSTALLATION, TYPICAL AT MAIN CORRIDORSENTR HOUSE-ENTRY CURVED BULKHEAD, CENTERED ON OPENINGMETL NOMINAL 24"x60" PREFINISHED METAL PANELS W/ 1/2" REVEALS TO MATCH FACADE PANELS, TYPICAL @ CLASSROOM-WING EXTERIOR CANOPIES
MECHANICAL LEGEND *REFER TO MECHANICAL FOR ACTUAL DIFFUSER SIZE AND SPECIFICATIONS. <ul style="list-style-type: none">□ SUPPLY AND RETURN DIFFUSERS, SIZE & LOCATION APPROXIMATE— SLOT DIFFUSER, COORD. W/ LAY-IN CLG.□ TRANSFER DUCT, SIZE & LOCATION APPROXIMATE, COORD. W/ WALL SYSTEMS	WALL SYSTEM CODE COMPLIANCE LEGEND REFER TO SHEET L8.1 LIFE SAFETY PLAN FOR FURTHER WALL RATING INFORMATION <ul style="list-style-type: none">2-HOUR FIRE WALL FOR ALLOWABLE AREA COMPLIANCE1-HOUR FIRE RESISTANCE RATING - CONTINUATION OF FIRE WALLSMOKE PARTITION FOR EGRESS CORRIDORSSMOKE PARTITION FOR EGRESS CORRIDORSSMOKE PARTITION FOR PROTECTION FROM HAZARDS/INCIDENTAL USES1-HOUR FIRE BARRIER FOR SCIENCE LABS2-HOUR FIRE BARRIER FOR WIRING, EMERGENCY SYSTEMS2-HOUR FIRE BARRIER FOR PROTECTION FROM HAZARDS/INCIDENTAL USES1-HOUR FIRE BARRIER FOR PROTECTION FROM HAZARDS/INCIDENTAL USES
REFLECTED CEILING NOTES: <ol style="list-style-type: none">REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL AREAS OF WORK.REFER TO ROOM FINISH SCHEDULES FOR ADDITIONAL WORK CLARIFICATIONS IN EACH ROOM.PROTECT IN PLACE ALL FIXTURES AND SURFACES SCHEDULED TO REMAIN.REFER TO WALL/BUILDING SECTIONS FOR ADDITIONAL INFORMATION ON CEILING HEIGHTS.CENTER ALL SUSPENDED CEILING TILE SYSTEMS IN THE CENTER OF EACH ROOM (UON - UNLESS A F.O.B. OR NOTES/DIMENSIONS NOTE OTHERWISE, COORDINATE WITH ARCHITECT FOR EXACT PLACEMENTS).COORDINATE CEILING SUSPENSION SYSTEMS AND FIXTURES WITH OTHER CEILING SPACE EQUIPMENT SUPPORTS AND/OR DUCTWORK. ALL EXPOSED CEILINGS AND FIXTURES SHALL TAKE PRECEDENCE OVER LOCATIONS OF HIDDEN (DUCTWORK, PIPING, ETC.) ITEMS ABOVE CEILING. COORDINATE WITH ARCHITECT FOR CONFLICTS BEFORE PLACING OBSTRUCTIONS.REFER TO ELECTRICAL DRAWINGS FOR FIXTURE TYPES AND ELECTRICAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION PERTAINING TO ELECTRICAL AND MECHANICAL WORK. NOT ALL MEP ITEMS IN CEILING ARE SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS.ALL GYP. BOARD FASCIA @ SOFFITS - ADJACENT OR CONNECTED TO LAY-IN CEILINGS - SHALL EXTEND 4" MIN. ABOVE LAY-IN SYSTEMS.PAINT ALL DUCTS, PIPING, DECK, BEAMS, JOISTS, ETC. AT EXPOSED OVERHEAD CONSTRUCTION - UON.PAINT EXPOSED STRUCTURE, MECHANICAL, ETC. AT SPACES WHERE CEILING STOPS - EXPOSED FROM PERIMETER WALLS AND CEILING SYSTEMS - TO THE EXTENT OF OPENING 24".PROVIDE HOLD-DOWN CLIPS AT ALL TOILET AND LOCKER ROOM SPACES THAT ARE SCHEDULED TO RECEIVE LAY-IN CEILINGS.COORDINATE LOCATIONS OF ALL SUSPENDED TOILET PARTITIONS W/ CEILING INSTALLATIONS. REFER TO DETAILS #1 AND 18/A8.1. PROVIDE WOOD/METAL BLOCKING ABOVE SUSPENDED CEILINGS FOR MISC. SUSPENDED ITEMS (TOILET PARTITIONS, PROJECTORS, ETC.) - AS REQUIRED. STABILIZE ALL TO THE DECK/STRUCTURE ABOVE.NOTE PARTITION WALLS THAT SHALL EXTEND TO FLOOR OR ROOF CONSTRUCTION ABOVE.ALL WALLS/STRUCTURES THAT HAVE A FIRE RESISTANCE RATING SHALL EXTEND TO STRUCTURES (ABOVE AND/OR BELOW) OR ANOTHER SEPARATION CONSTRUCTION AS REQUIRED BY CODE. REFER TO LIFE SAFETY PLAN FOR RATED WALL LOCATIONS AND INFORMATION.COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS THAT ARE REQUIRED AND/OR INDICATED BY MEP AND/OR ARCHITECTURAL DOCUMENTS WITH ARCHITECT PRIOR TO PLACEMENT.	



REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
New High Point School
Washtenaw Intermediate School District
1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE
Reflected Ceiling Plan Zone E

ISSUE DATES

06-18-20 ADDENDUM #4
05-27-20 FOR CONSTRUCTION - BID PACK #3
04-30-20 95% REVIEW - BID PACK #3

DATE: ISSUED FOR:

DRAWN MB

CHECKED MB

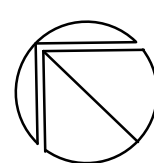
APPROVED JM

PROJECT NO.

19040

DRAWING NO.

A2.1E-BP3

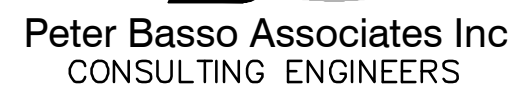


SCALE: 1/8" = 1' - 0"

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED TO PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. PIPING AND DUCTWORK SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
5. PROVIDE SUPPLEMENTARY SLEEVES AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.

1. PROVIDE REMOTE CABLE BALANCING SYSTEM FOR VOLUME DAMPERS ABOVE HARD CEILING. LOCATE CONTROLS ABOVE LAY-IN/EXPOSED CEILING ADJACENT TO ROOM.
2. FIRST TERMINAL UNIT TO BE AT LEAST 15 FEET AWAY FROM RTU FOR FUTURE INLINE HUMIDIFICATION UNIT. THIS 15 FEET OF DUCT SHALL BE STAINLESS STEEL.
3. BALANCE VOLUME DAMPER TO CFM INDICATED.
4. REFER TO CLASSROOM K112 FOR TYPICAL CLASSROOM DUCTWORK LAYOUT (TYP.).
5. PROVIDE 56"x48" HEAVY DUTY RETURN GRILLE 8" ABOVE FINISHED FLOOR. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
6. PROVIDE 48"x72" LOW ALUMINUM EXTERIOR LOUVER. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
7. PROVIDE RETURN AIR TRANSFER DUCTWORK. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
8. PROVIDE 76"x16" ARCHITECTURAL LOUVER. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
9. PROVIDE 32"x24" LOW HEAVY DUTY RETURN GRILLE. REFER TO HEAVY DUTY RETURN AIR GRILLE DETAIL FOR ADDITIONAL REQUIREMENTS.
10. PROVIDE 72"x64" LOW HEAVY DUTY RETURN GRILLE. REFER TO HEAVY DUTY RETURN AIR GRILLE DETAILS FOR ADDITIONAL REQUIREMENTS.
11. REFER TO CLASSROOM K109 FOR TYPICAL CLASSROOM DUCTWORK LAYOUT (TYP.).
12. REFER TO CORRIDOR K100 FOR TYPICAL CORRIDOR DUCTWORK LAYOUT (TYP.).
13. REFER TO EF-2 IN K112A AND K113A FOR TYPICAL EXHAUST DUCTWORK LAYOUT (TYP.).

CONSULTANT



PBA Project No.: 2019-0237

1735 South Wagner Road
Ann Arbor, Michigan



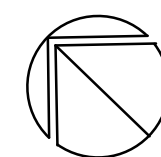
06-18-2020	ADDENDUM #4
05-27-2020	FOR CONSTRUCTION - BID PACK #3
05-01-2020	95% REVIEW - BP3
12-06-2019	DESIGN DEVELOPMENT
08-12-2019	SCHEMATIC DESIGN

DRAWN	JRM
CHECKED	SVM
APPROVED	RNR

19040

M4.1C-BP3

g:\2019\2019-0237-00\CAD\2019-0237-M4-SM.dwg, M4.1C, 6/17/2020 10:52:30 AM, Steve Mrak, None ,0.92154, Peter Basso Associates Inc.



SHEET METAL PLAN - ZONE F
SCALE: 1/8" = 1' - 0"

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED TO PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. PIPING AND DUCTWORK SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
5. PROVIDE SUPPLEMENTARY SLEEVES AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.

1. PROVIDE REMOTE CABLE BALANCING SYSTEM FOR VOLUME DAMPERS ABOVE HARD CEILING. LOCATE CONTROLS ABOVE LAY-IN/EXPOSED CEILING ADJACENT TO ROOM.
2. FIRST TERMINAL UNIT TO BE AT LEAST 15 FEET AWAY FROM RTU FOR FUTURE INLINE HUMIDIFICATION UNIT. THIS 15 FEET OF DUCT SHALL BE STAINLESS STEEL.
3. BALANCE VOLUME DAMPER TO CFM INDICATED.
4. REFER TO CLASSROOM K112 FOR TYPICAL CLASSROOM DUCTWORK LAYOUT (TYP.).
5. PROVIDE 56"x48" HEAVY DUTY RETURN GRILLE 8" ABOVE FINISHED FLOOR. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
6. PROVIDE 48"x72" LOW ALUMINUM EXTERIOR LOUVER. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
7. PROVIDE RETURN AIR TRANSFER DUCTWORK. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
8. PROVIDE 76"x16" ARCHITECTURAL LOUVER. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
9. PROVIDE 32"x24" LOW HEAVY DUTY RETURN GRILLE. REFER TO HEAVY DUTY RETURN AIR GRILLE DETAIL FOR ADDITIONAL REQUIREMENTS.
10. PROVIDE 72"x64" LOW HEAVY DUTY RETURN GRILLE. REFER TO HEAVY DUTY RETURN AIR GRILLE DETAILS FOR ADDITIONAL REQUIREMENTS.
11. REFER TO CLASSROOM K109 FOR TYPICAL CLASSROOM DUCTWORK LAYOUT (TYP.).
12. REFER TO CORRIDOR K100 FOR TYPICAL CORRIDOR DUCTWORK LAYOUT (TYP.).
13. REFER TO EF-2 IN K112A AND K113A FOR TYPICAL EXHAUST DUCTWORK LAYOUT (TYP.).

REGISTRATION SEAL

CONSULTANT

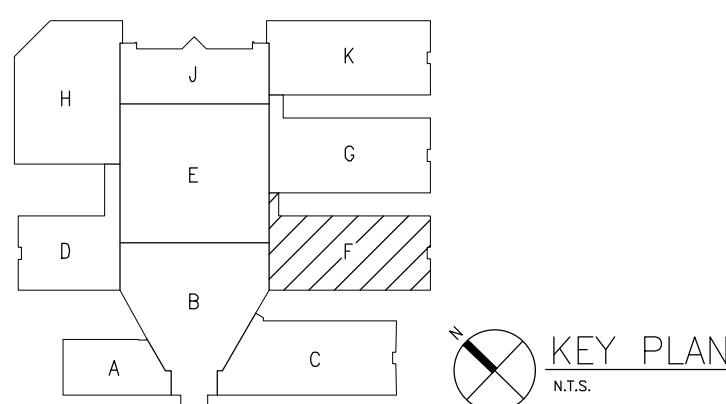
Peter Basso Associates Inc
CONSULTING ENGINEERS
5145 Livernois, Suite 100
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Tel: 248-879-5666
Fax: 248-879-0007
www.PeterBassoAssociates.com
PBA Project No.: 2019-0237

PROJECT TITLE

New High Point
School
Washtenaw
Intermediate
School District

1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE
SHEET METAL PLAN - ZONE
F



ISSUE DATES

06-18-2020	ADDENDUM #4
05-27-2020	FOR CONSTRUCTION -- BID PACK #3
05-01-2020	95% REVIEW -- BP3
12-06-2019	DESIGN DEVELOPMENT
08-12-2019	SCHEMATIC DESIGN

DATE: ISSUED FOR

DRAWN JRM

CHECKED SVM

APPROVED RNR

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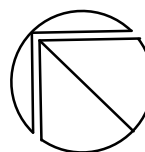
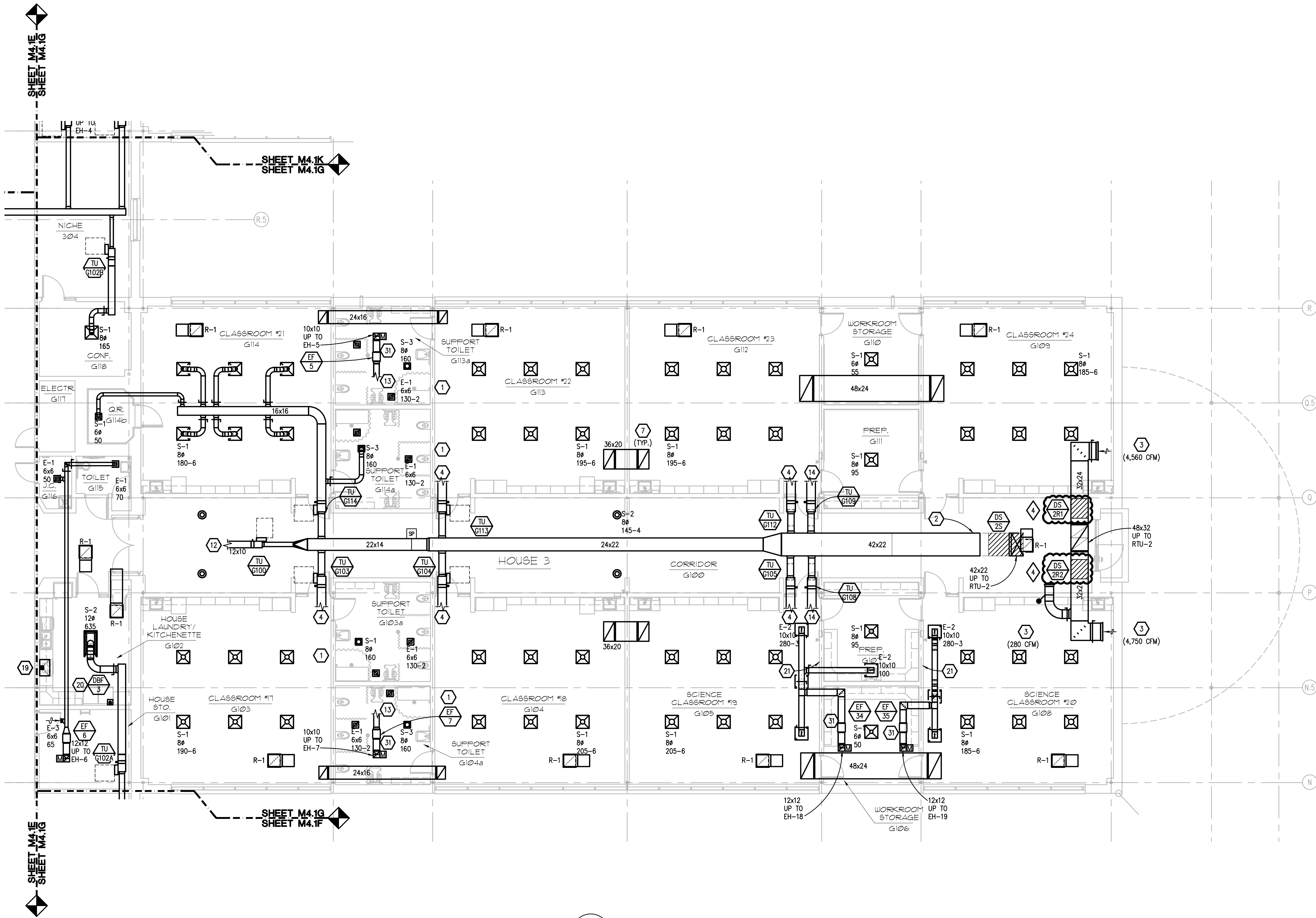
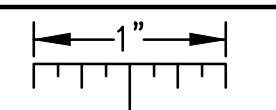
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DRAWING NO.

M4.1F-BP3

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THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



SHEET METAL PLAN - ZONE G
SCALE: 1/8" = 1' - 0"

SHEET METAL GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. PIPING AND DUCTWORK SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.

CONSTRUCTION KEY NOTES:

1. PROVIDE REMOTE CABLE BALANCING SYSTEM FOR VOLUME DAMPERS ABOVE HARD CEILING. LOCATE CONTROLS ABOVE LAY-IN/EXPOSED CEILING ADJACENT TO ROOM.
2. FIRST TERMINAL UNIT TO BE AT LEAST 15 FEET AWAY FROM RTU FOR FUTURE INLINE HUMIDIFICATION UNIT. THIS 15 FEET OF DUCT SHALL BE STAINLESS STEEL.
3. BALANCE VOLUME DAMPER TO CFM INDICATED.
4. REFER TO CLASSROOM K112 FOR TYPICAL CLASSROOM DUCTWORK LAYOUT (TYP.).
5. PROVIDE 56"x48" HEAVY DUTY RETURN GRILLE 8" ABOVE FINISHED FLOOR. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
6. PROVIDE 48"x22" LOW ALUMINUM EXTERIOR LOUVER. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
7. PROVIDE RETURN AIR TRANSFER DUCTWORK. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS.
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15. REFER TO D109 FOR TYPICAL DUCTWORK LAYOUT (TYP.).
16. REFER TO M5.1B FOR DUCTWORK CONTINUATION.
17. ROUTE DUCTWORK THROUGH WEBBING OF JOIST.
18. ROUTE 12x12 PVC COATED EXHAUST DUCTWORK DOWN AND TERMINATE 12 INCHES ABOVE FINISHED FLOOR.
19. PROVIDE RANGE HOOD GE JMW301SJS OR ARCHITECTURAL APPROVED EQUAL. ROUTE EXHAUST DUCTWORK UP THROUGH ROOF AND TERMINATE WITH GOOSE NECK AND BIRDSCREEN.
20. PROVIDE DRYER BOOSTER FAN FANTECH DBF4XL OR APPROVED EQUAL WITH SERVICE TRAP VIEW PORT. ROUTE EXHAUST DUCTWORK UP THROUGH ROOF WITH GOOSE NECK TERMINATION. WITH BIRDSCREEN.
21. PROVIDE 2 HOUR MAX DIGITAL TIMER FOR ROOM EXHAUST.
22. REFER TO MEZZANINE PLAN FOR DUCTWORK CONTINUATION.
23. PROVIDE CONCRETE CURB AT FLOOR PENETRATION.
24. 10# STACK WITH 5# DISCHARGE CONE. REFER TO ROOF EXHAUST FAN AND STACK DETAIL FOR ADDITIONAL REQUIREMENTS.
25. PROVIDE ROOF CURB AT DUCTWORK ROOF PENETRATIONS.
26. PROVIDE ROOF MOUNTED DUCT/PIPE SUPPORT (TYP.).
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28. ALL EXPOSED DUCTWORK TO BE DOUBLE WALLED CONSTRUCTION.
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REGISTRATION SEAL

CONSULTANT



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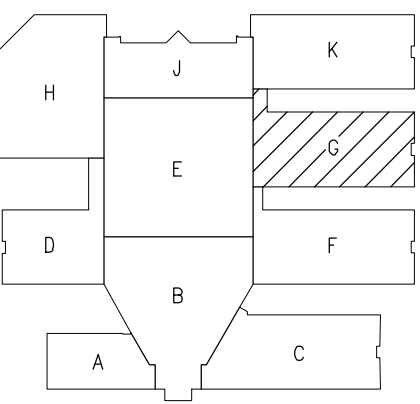
PROJECT TITLE

**New High Point School
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DRAWING TITLE

SHEET METAL PLAN - ZONE G



KEY PLAN
N.T.S.

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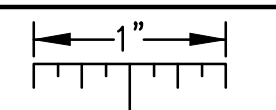
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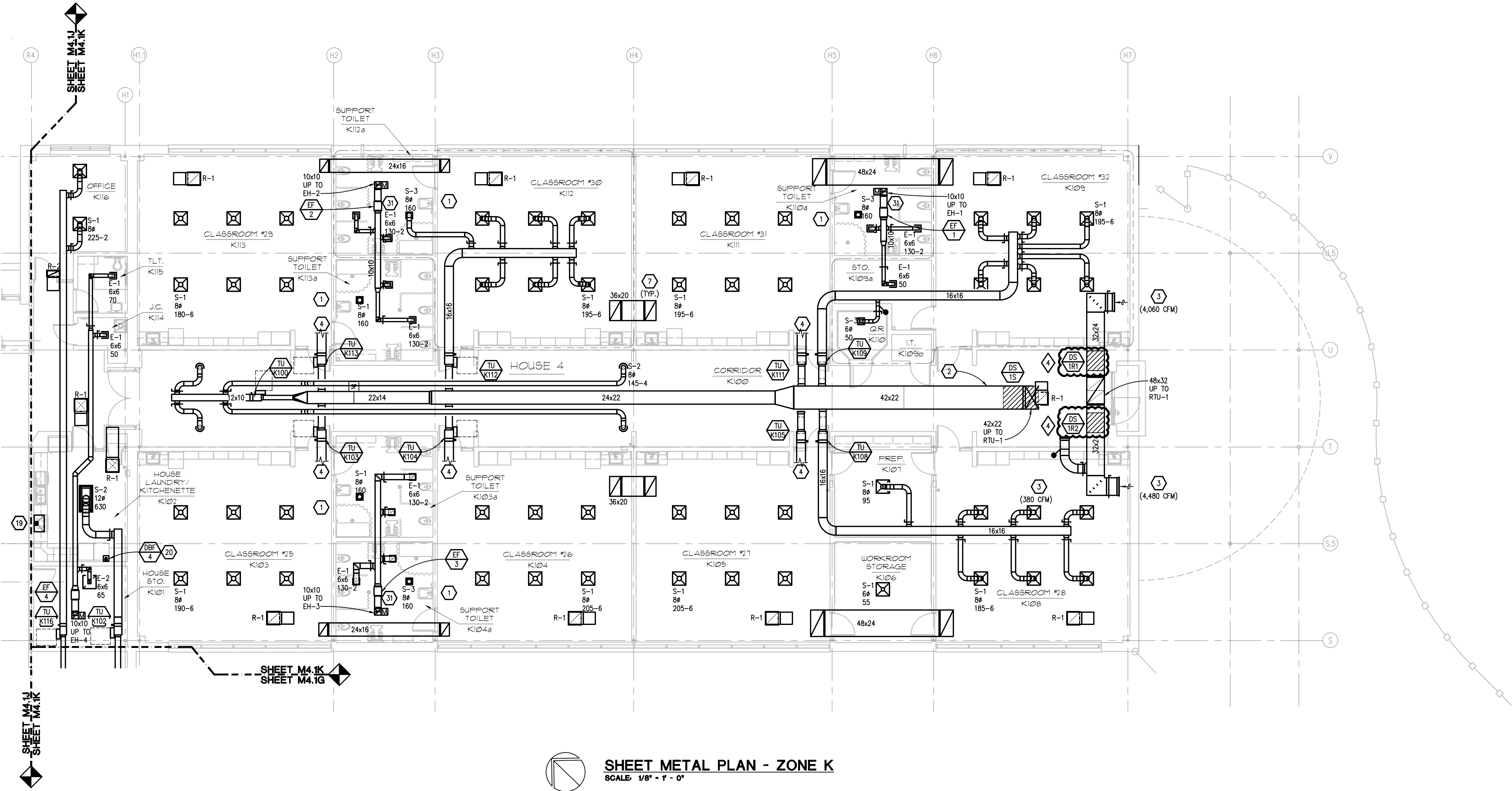


SHEET METAL GENERAL NOTES:

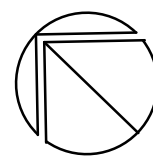
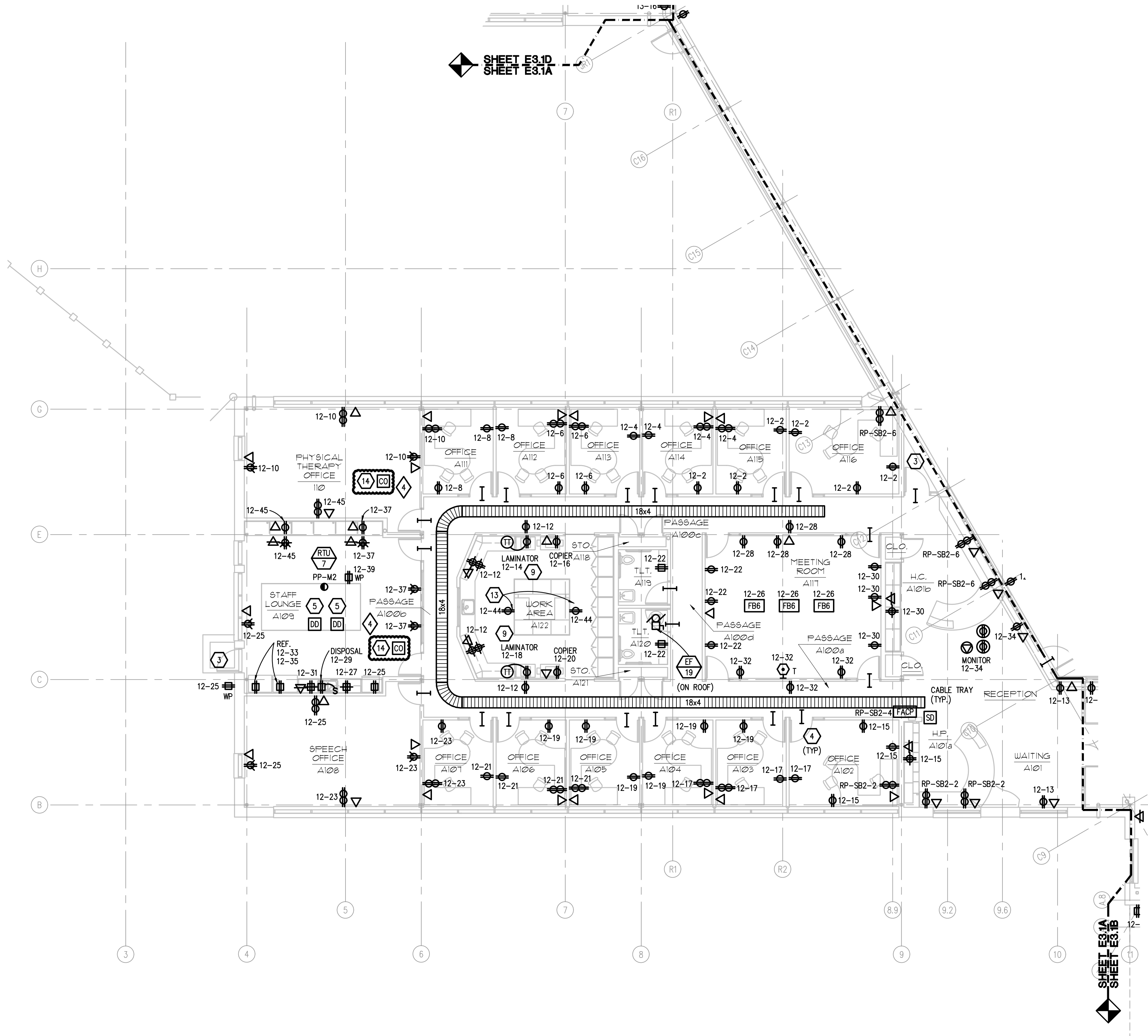
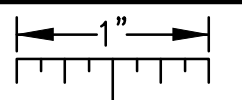
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17. ROUTE DUCTWORK THROUGH WEBBING OF JOIST.
18. ROUTE 12x12 PVC COATED EXHAUST DUCTWORK DOWN AND TERMINATE 12 INCHES ABOVE FINISHED FLOOR.
19. PROVIDE RANGE HOOD GE JWM5301SJS OR ARCHITECTURAL APPROVED EQUAL. ROUTE EXHAUST DUCTWORK UP THROUGH ROOF AND TERMINATE WITH GOOSE NECK AND BIRDSCREEN.
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31. PROVIDE ACCESS PANEL IN HARD CEILING FOR EXHAUST FAN/DAMPER.
32. PROVIDE CURB ADAPTOR FOR NEW EXHAUST FAN.
33. PROVIDE CEILING ACCESS PANEL.
34. ROUTE 8" DRYER EXHAUST DUCT UP THROUGH ROOF. TERMINATE DUCT WITH GOOSENECK AND BIRD SCREEN. PROVIDE ROOF CURB AT ROOF PENETRATION.



THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



POWER PLAN - ZONE A
SCALE: 1/8" = 1' - 0"

ELECTRICAL GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
8. COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
9. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT, PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
10. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
11. PROVIDE THE DESIGN AND INSTALLATION FOR A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.
12. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
13. COORDINATE CABLE TRAY MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR. CABLE TRAY TO BE MOUNTED ABOVE CEILING AND BELOW DUCT WORK.

CONSTRUCTION KEY NOTES:

1. RECEPTACLE AND TELECOMMUNICATION OUTLET MOUNTED IN CASEWORK. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL TRADES.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH TELL CONDITIONS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.
3. REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND SECURITY CONTRACTORS.
4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2" C. U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE, PROVIDE PLASTIC BUSINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.
5. DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU SUPPLY/ RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.
6. CORD REEL SHALL BE MOUNTED JUST BELOW ARCHITECTURAL CEILING GRID. VERIFY EXACT LOCATION WITH ARCHITECTURAL PLANS PRIOR TO INSTALLATION. CORD REEL SHALL BE HUBBELL INDUSTRIAL GRADE WITH 25' #12/3 ASG S/EO CORD AND OUTLET BOX WITH STRAIN RELIEF AND THRUWALL RECEPTACLES (HBL4513R220). PROVIDE PIVOT BASE (HBL340PB). PROVIDE ALL REQUIRED SUPPORTS FOR MOUNTING. CORD REEL SHALL HAVE POSITIVE RATCHET LOCK AND ADJUSTABLE CORD STOP. PROVIDE RECEPTACLE IN CEILING FOR CORD REEL TO PLUG INTO. PROVIDE MISCELLANEOUS STEEL AS REQUIRED.
7. PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
EF - 1; 4-43
EF - 2; 4-41
EF - 3; 4-45
EF - 4; 4-47
EACH EXHAUST FAN TO HAVE ITS OWN COMBINATION MAGNETIC CONTROLLER.
8. PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
EF - 5; 6-41
EF - 6; 6-64
EF - 7; 6-62
EACH EXHAUST FAN TO HAVE ITS OWN COMBINATION MAGNETIC CONTROLLER.
9. PROVIDE INTERNATIC TWIST TIMER MODEL FF30MC (30 MINUTES). MOUNT AT 8 INCHES ABOVE COUNTER.
10. CONNECT FIRE ALARM DEVICES TO ELECTRIC COILING DOOR AND FIRE ALARM SYSTEM. ROLL-UP DOOR SHALL CLOSE UPON ACTIVATION OF THE SMOKE DETECTORS ASSOCIATED WITH THE COILING FIRE DOOR. COORDINATE WITH THE COILING DOOR CONTRACTOR FOR ALL SMOKE DETECTORS AND CONTROL MODULES REQUIRED FOR A COMPLETE SYSTEM.
11. PROVIDE CONDUITS AND BACKBOXES FOR A/V SYSTEMS. REFER TO A/V DRAWINGS FOR CONDUIT AND BACKBOX REQUIREMENTS.
12. SMOKE DAMPER DUCT SMOKE DETECTOR SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. COORDINATE INSTALLATION WITH THE MECHANICAL CONTRACTOR SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR TO FIRE ALARM SYSTEM, AND CIRCUIT DAMPER ACTUATOR FROM A DEDICATED 120 VOLT CIRCUIT AS INDICATED. PROVIDE A 20A-1P SWITCH AT EACH ACTUATOR. CONTROL OF AIR HANDLING EQUIPMENT IS VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WORK WITH THE TEMPERATURE CONTROL CONTRACTOR AND FIRE ALARM MANUFACTURER. DAMPER SHALL CLOSE UPON DETECTION OF SMOKE AND SHUT DOWN ASSOCIATED RTU. DAMPER SHALL ALSO CLOSE UPON NORMAL SHUT DOWN OF RTU BY TC CONTRACTOR. PROVIDE ALL CONTROL MODULES, RELAYS, ETC FOR A COMPLETE SYSTEM. PROVIDE QUANTITIES AS INDICATED.
13. MOUNT IN CASEWORK, COORDINATE LOCATION AND HEIGHT WITH ARCHITECTURAL PLANS.
14. CARBON MONOXIDE DETECTOR TO BE U.L. 2075 LISTED. CARBON MONOXIDE DETECTOR TO POWER BY AND REPORT BACK TO FIRE ALARM SYSTEM. FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATION AND QUANTITY WITH FIRE MARSHALL.
15. PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.



REGISTRATION SEAL

CONSULTANT



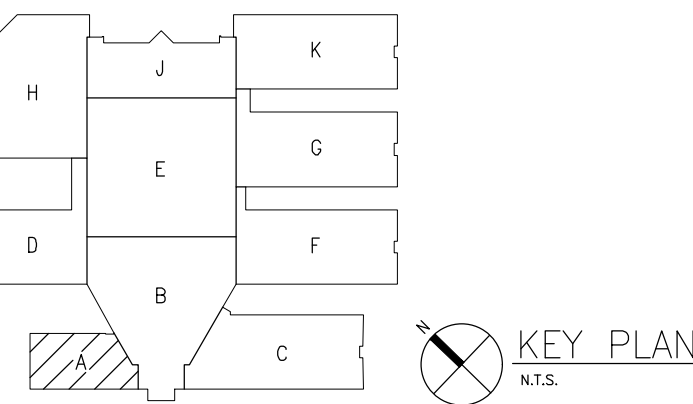
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POWER PLAN - ZONE A



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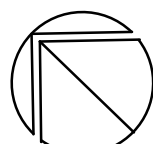
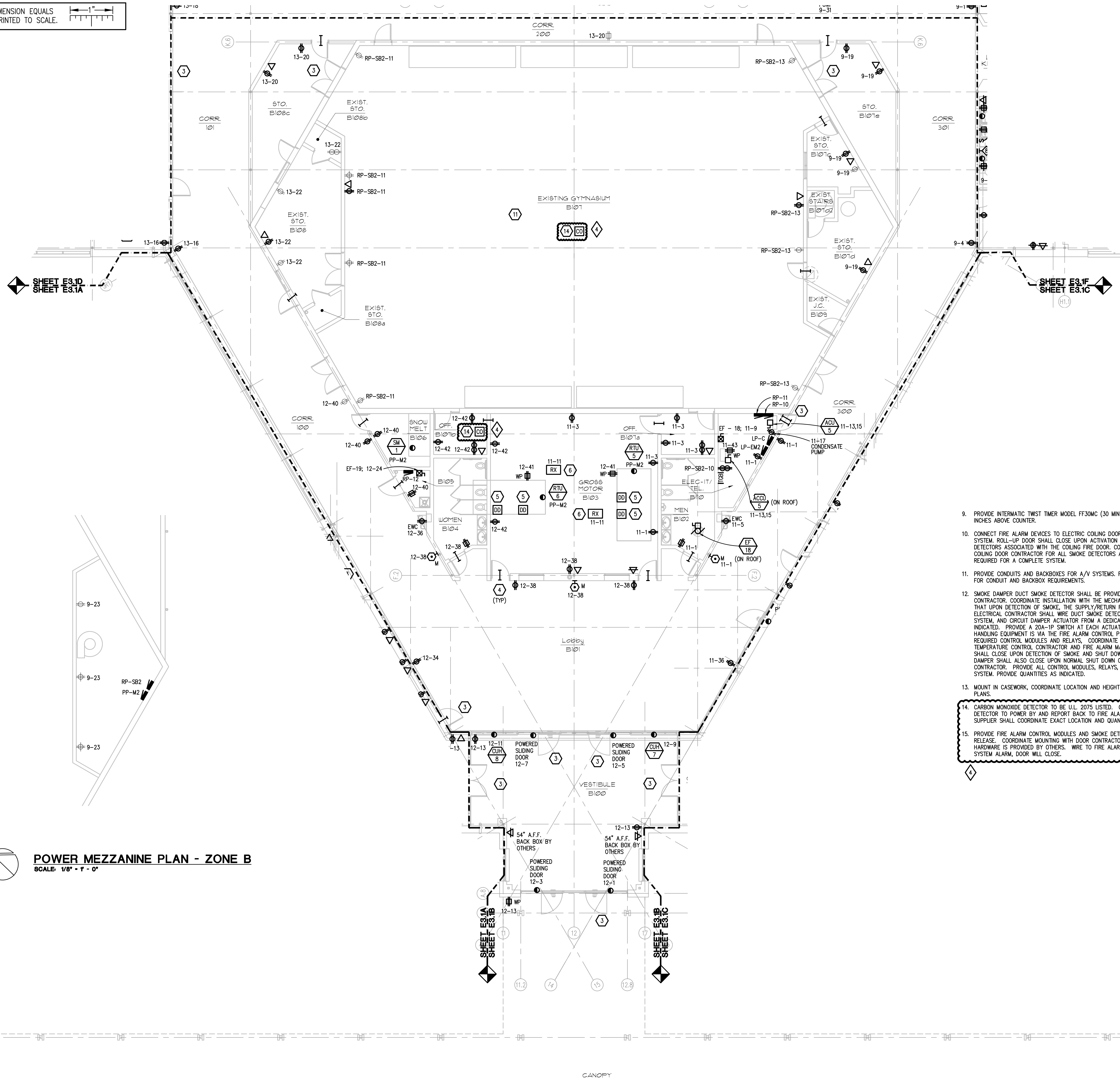
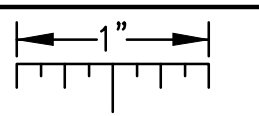
PROJECT NO.

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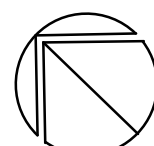
DRAWING NO.

E3.1A-BP3

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



POWER MEZZANINE PLAN - ZONE B
SCALE: 1/8" = 1' - 0"



POWER PLAN - ZONE B
SCALE: 1/8" = 1' - 0"

ELECTRICAL GENERAL NOTES:

- THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
- INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
- COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
- REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
- REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
- PROVIDE THE DESIGN AND INSTALLATION FOR A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, AND APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.
- REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
- COORDINATE CABLE TRAY MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR. CABLE TRAY TO BE MOUNTED ABOVE CEILING AND BELOW DUCT WORK.

CONSTRUCTION KEY NOTES:

- RECEPTACLE AND TELECOMMUNICATION OUTLET MOUNTED IN CASEWORK. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL TRADES.
- ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR ROOMS. COORDINATE MOUNTING WITH FIELD CONDITIONS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.
- REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND SECURITY CONTRACTORS.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2" C. U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.
- DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU SUPPLY/ RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.
- CORD REEL SHALL BE MOUNTED JUST BELOW ARCHITECTURAL CEILING GRID. VERIFY EXACT LOCATION WITH ARCHITECTURAL PLANS PRIOR TO INSTALLATION. CORD REEL SHALL BE HUBBELL INDUSTRIAL GRADE WITH 25' #12/3 AGC SLEO CORD AND OUTLET BOX WITH STRAIN RELIEF AND TWO DUPLEX RECEPTACLES (HBL45123R2220). PROVIDE PIVOT BASE (HBL340PB). PROVIDE ALL REQUIRED SUPPORTS FOR MOUNTING. CORD REEL SHALL HAVE POSITIVE RATCHET LOCK AND ADJUSTABLE CORD STOP. PROVIDE RECEPTACLE IN CEILING FOR CORD REEL TO PLUG INTO. PROVIDE MISCELLANEOUS STEEL AS REQUIRED.
- PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
EF - 1; 4-43
EF - 2; 4-41
EF - 3; 4-45
EF - 4; 4-47
EACH EXHAUST FAN TO HAVE ITS OWN COMBINATION MAGNETIC CONTROLLER.
- PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
EF - 5; 6-41
EF - 6; 6-64
EF - 7; 6-62
EACH EXHAUST FAN TO HAVE ITS OWN COMBINATION MAGNETIC CONTROLLER.



REGISTRATION SEAL

CONSULTANT



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www.PeterBassoAssociates.com
PBA Project No: 2019-0237

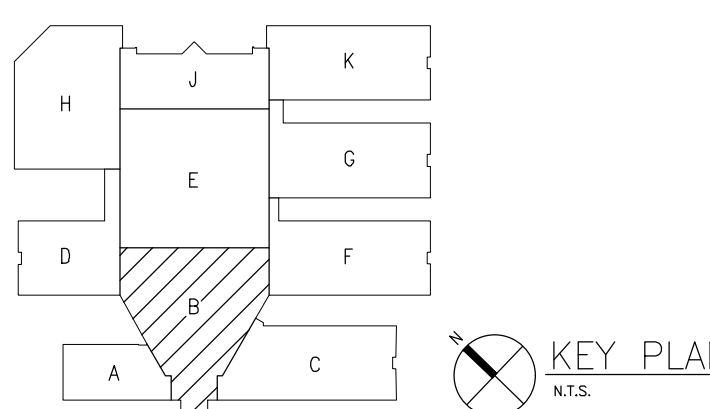
PROJECT TITLE

**New High Point
School
Washtenaw
Intermediate
School District**

**1735 South Wagner Road
Ann Arbor, Michigan**

DRAWING TITLE

POWER PLAN - ZONE B



ISSUE DATES

06-18-2020	ADDENDUM #4
05-27-2020	FOR CONSTRUCTION - BID PACK #3
05-01-2020	95% REVIEW - BP3
12-06-2019	DESIGN DEVELOPMENT
08-12-2019	SCHEMATIC DESIGN

DATE: ISSUED FOR:

DRAWN: BAG

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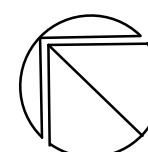
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DRAWING NO.

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4. THESE DRAWINGS REPRESENT THE GENERAL EXTERIOR AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH AND COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
5. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
6. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
7. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
8. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
9. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
10. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
11. COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
12. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC AS REQUIRED BY SCHEDULES AND WHERE NOTED OTHERWISE. VERIFY REQUIREMENT OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
13. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES AND FITTINGS.

1. RECEPTACLE AND TELECOMMUNICATION OUTLET MOUNTING IN CASEWORK. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL TRADES.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH FIELDS CONDITIONS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.
3. REFER TO ARCHITECTURAL, FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANGOR DOORS. PROVIDE ALL RACEWAYS AND LOCKS REQUIRED. COORDINATE WITH DOOR HARDWARE AND CONTRACTORS.
4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2" x 2" U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. RUN CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS INCLUDING SLEEVES.
5. DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTOR SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.
6. CORD REEL SHALL BE MOUNTED JUST BELOW ARCHITECTURAL CEILING GRID, VERIFY EXACT LOCATION WITH ARCHITECTURAL PLANS PRIOR TO INSTALLATION. CORD REEL SHALL BE RUBBERBULB INSULATED, GRADE WITH #2 1/2" x 4" S&O CORD AND PROVIDE WITH STRAIN RELIEF AND TWO DUPLEX RECEPTICLES (HBL540P20). PROVIDE PIVOT BASE (HBL340P9). PROVIDE ALL REQUIRED SUPPORTS FOR MOUNTING. CORD REEL SHALL HAVE POSITIVE RATCHET LOCK AND ADJUSTABLE CORD STOP. PROVIDE RECEPTICLE IN CEILING FOR CORD REEL TO PLUG INTO. PROVIDE MISCELLANEOUS STEEL AS REQUIRED.
7. PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
 - EX - 1, 4 - 4-3
 - EX - 2, 4 - 4-1
 - EX - 3, 4 - 4-5
 - EX - 4, 4 - 4-7

EACH EXHAUST FAN TO HAVE ITS OWN COMBINATION MAGNETIC CONTROLLER.

8. PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
 - EX - 5, 6 - 4-1
 - EX - 6, 6 - 6-4
 - EX - 7, 6 - 6-2

14. CARBON MONOXIDE DETECTOR TO BE U.L. 2075 LISTED. CARBON MONOXIDE DETECTOR TO POWER BY AND REPORT BACK TO FIRE ALARM SYSTEM. FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATION AND QUANTITY WITH FIRE MARSHAL.
15. PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL OPEN.



CONSULTANT

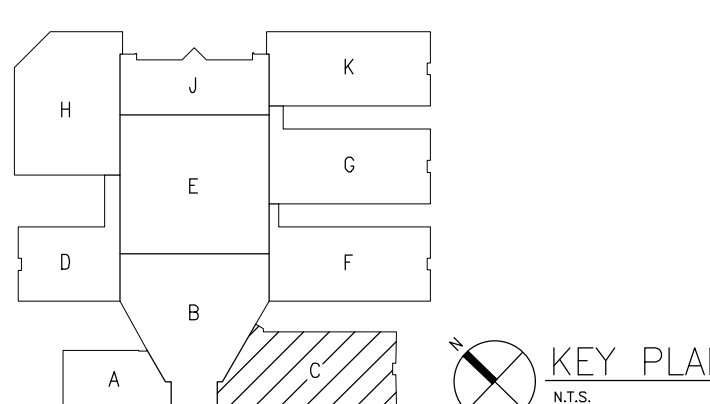


PROJECT TITLE

New High Point
School
Washtenaw
Intermediate
School District

1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE
POWER PLAN - ZONE C



ISSUE DATES

06-18-2020	ADDENDUM #4
05-27-2020	FOR CONSTRUCTION - BID PACK #3
05-01-2020	95% REVIEW - BP3
12-06-2019	DESIGN DEVELOPMENT
08-12-2019	SCHEMATIC DESIGN

DATE: ISSUED FOR:

DRAWN BAG

CHECKED STP

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PROJECT NO.

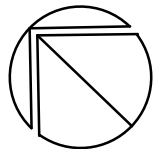
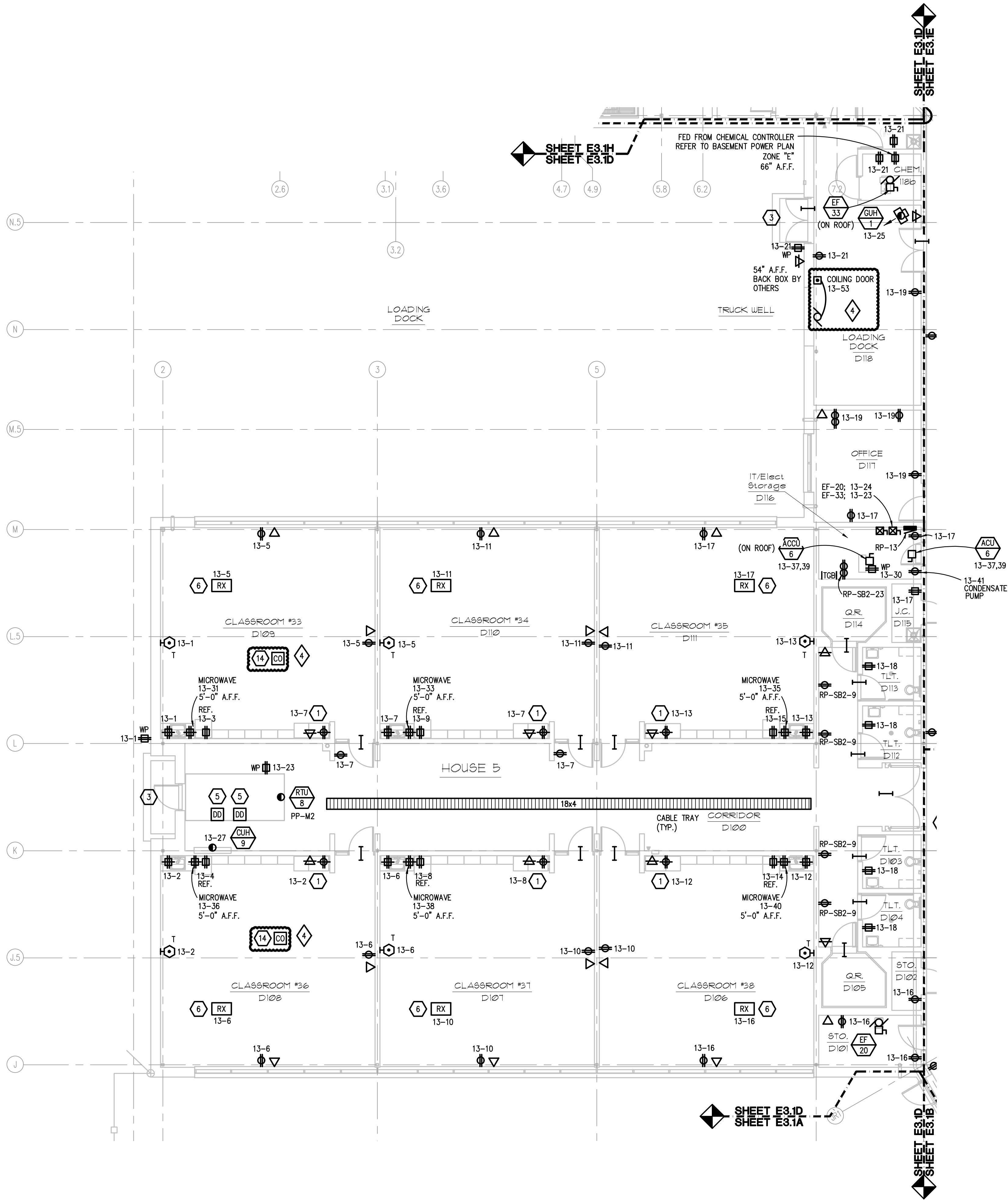
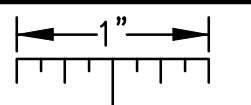
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DRAWING NO.

E3.1C-BP3

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THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



POWER PLAN - ZONE D
SCALE: 1/8" = 1' - 0"

ELECTRICAL GENERAL NOTES:

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- REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
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- REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
- COORDINATE CABLE TRAY MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR. CABLE TRAY TO BE MOUNTED ABOVE CEILING AND BELOW DUCT WORK.

CONSTRUCTION KEY NOTES:

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- ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH FIELD CONDITIONS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.
- REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND SECURITY CONTRACTORS.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2" C. U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUD CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.
- DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH WITH TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.
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- PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
EF - 1; 4-43
EF - 2; 4-41
EF - 3; 4-45
EF - 4; 4-47
EACH EXHAUST FAN TO HAVE IT'S OWN COMBINATION MAGNETIC CONTROLLER.
- PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
EF - 5; 6-41
EF - 6; 6-64
EF - 7; 6-62
EACH EXHAUST FAN TO HAVE IT'S OWN COMBINATION MAGNETIC CONTROLLER.
- PROVIDE INTERMATIC TMRST TIMER MODEL FF30MC (30 MINUTES), MOUNT AT 8 INCHES ABOVE COUNTER.
- CONNECT FIRE ALARM DEVICES TO ELECTRIC COILING DOOR AND FIRE ALARM SYSTEM. ROLL-UP DOOR SHALL CLOSE UPON ACTIVATION OF THE SMOKE DETECTORS ASSOCIATED WITH THE COILING FIRE DOOR. COORDINATE WITH THE COILING DOOR CONTRACTOR FOR ALL SMOKE DETECTORS AND CONTROL MODULES REQUIRED FOR A COMPLETE SYSTEM.
- PROVIDE CONDUITS AND BACKBOXES FOR A/V SYSTEMS. REFER TO A/V DRAWINGS FOR CONDUIT AND BACKBOX REQUIREMENTS.
- SMOKE DAMPER DUCT SMOKE DETECTOR SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. COORDINATE INSTALLATION WITH THE MECHANICAL CONTRACTOR SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR TO FIRE ALARM SYSTEM, AND CIRCUIT DAMPER ACTUATOR FROM A DEDICATED 120 VOLT CIRCUIT AS INDICATED. PROVIDE A 20A-1P SWITCH AT EACH ACTUATOR. CONTROL OF AIR HANDLING EQUIPMENT IS VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WORK WITH THE TEMPERATURE CONTROL CONTRACTOR AND FIRE ALARM MANUFACTURER. DAMPER SHALL CLOSE UPON DETECTION OF SMOKE AND SHUT DOWN ASSOCIATED RTU. DAMPER SHALL ALSO CLOSE UPON NORMAL SHUT DOWN OF RTU BY TO CONTRACTOR. PROVIDE ALL CONTROL MODULES, RELAYS, ETC FOR A COMPLETE SYSTEM. PROVIDE QUANTITIES AS INDICATED.
- MOUNT IN CASEWORK, COORDINATE LOCATION AND HEIGHT WITH ARCHITECTURAL PLANS.
- CARBON MONOXIDE DETECTOR TO BE UL 2075 LISTED. CARBON MONOXIDE DETECTOR TO POWER BY AND REPORT BACK TO FIRE ALARM SYSTEM. FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATION AND QUANTITY WITH FIRE MARSHALL.
- PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.



REGISTRATION SEAL

CONSULTANT



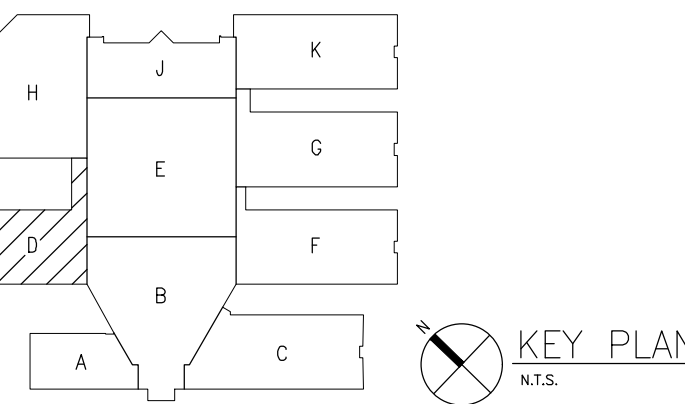
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DRAWING TITLE

POWER PLAN - ZONE D



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APPROVED: STP

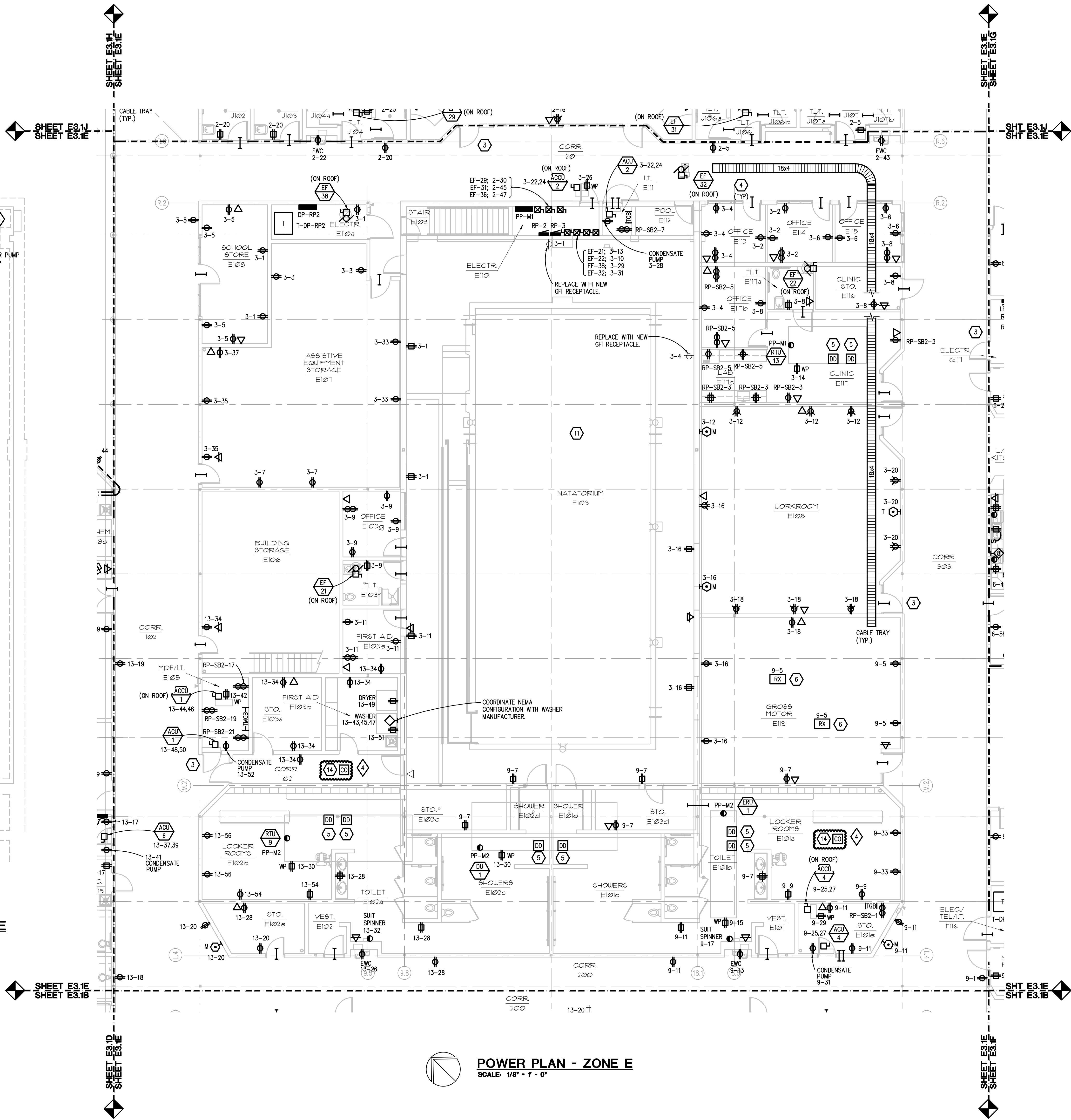
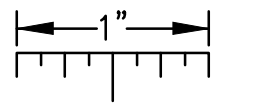
PROJECT NO.

19040

DRAWING NO.

E3.1D-BP3

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



POWER BASEMENT PLAN - ZONE E
SCALE: 1/8" = 1' - 0"

POWER PLAN - ZONE E
SCALE: 1/8" = 1' - 0"

ELECTRICAL GENERAL NOTES:

- THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
- INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
- COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
- COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
- REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
- REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
- PROVIDE THE DESIGN AND INSTALLATION FOR A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES TO THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.
- REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
- COORDINATE CABLE TRAY MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR. CABLE TRAY TO BE MOUNTED ABOVE CEILING AND BELOW DUCT WORK.

CONSTRUCTION KEY NOTES:

- RECEPTACLE AND TELECOMMUNICATION OUTLET MOUNTED IN CASEWORK. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL TRADES.
- ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH FIELD CONDITIONS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.
- REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND SECURITY CONTRACTORS.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2" C. U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUB CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.
- DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU SUPPLY/ RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.
- CORD REEL SHALL BE MOUNTED JUST BELOW ARCHITECTURAL CEILING GRID. VERIFY EXACT LOCATION WITH ARCHITECTURAL PLANS PRIOR TO INSTALLATION. CORD REEL SHALL BE RUBBER LINED INDUSTRIAL GRADE WITH 25 #12/3 ASD. SUEO CORD AND OUTLET BOX WITH STRAIN RELIEF AND TWO DUPLEX RECEPTACLES (HBL4512R220). PROVIDE PIVOT BASE (HBL340PB). PROVIDE ALL REQUIRED SUPPORTS FOR MOUNTING. CORD REEL SHALL HAVE POSITIVE RATCHET LOCK AND ADJUSTABLE CORD STOP. PROVIDE RECEPTACLE IN CEILING FOR CORD REEL TO PLUG INTO. PROVIDE MISCELLANEOUS STEEL AS REQUIRED.
- PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
EF - 1; 4-43
EF - 2; 4-41
EF - 3; 4-45
EF - 4; 4-47
EACH EXHAUST FAN TO HAVE ITS OWN COMBINATION MAGNETIC CONTROLLER.
- PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
EF - 5; 6-41
EF - 6; 6-64
EF - 7; 6-62
EACH EXHAUST FAN TO HAVE ITS OWN COMBINATION MAGNETIC CONTROLLER.
- PROVIDE INTERMATIC TWIST TIMER MODEL FF30MC (30 MINUTES). MOUNT AT 8 INCHES ABOVE COUNTER.
- CONNECT FIRE ALARM DEVICES TO ELECTRIC COILING DOOR AND FIRE ALARM SYSTEM. ROLL-UP DOOR SHALL CLOSE UPON ACTIVATION OF THE SMOKE DETECTORS ASSOCIATED WITH THE COILING FIRE DOOR. COORDINATE WITH THE COILING DOOR CONTRACTOR FOR ALL SMOKE DETECTORS AND CONTROL MODULES REQUIRED FOR A COMPLETE SYSTEM.
- PROVIDE CONDUITS AND BACKBOXES FOR A/V SYSTEMS. REFER TO A/V DRAWINGS FOR CONDUIT AND BACKBOX REQUIREMENTS.
- SMOKE DAMPER DUCT SMOKE DETECTOR SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. COORDINATE INSTALLATION WITH THE MECHANICAL CONTRACTOR SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR TO FIRE ALARM SYSTEM. AND CIRCUIT DAMPER ACTUATOR FROM A DEDICATED 120 VOLT CIRCUIT AS INDICATED. PROVIDE A 20A-1P SWITCH AT EACH ACTUATOR. CONTROL OF AIR HANDLING EQUIPMENT IS VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WORK WITH THE TEMPERATURE CONTROL CONTRACTOR AND FIRE ALARM MANUFACTURER. DAMPER SHALL CLOSE UPON DETECTION OF SMOKE AND SHUT DOWN ASSOCIATED RTU. DAMPER SHALL ALSO CLOSE UPON NORMAL SHUT DOWN OF RTU BY TC CONTRACTOR. PROVIDE ALL CONTROL MODULES, RELAYS, ETC FOR A COMPLETE SYSTEM. PROVIDE QUANTITIES AS INDICATED.
- MOUNT IN CASEWORK, COORDINATE LOCATION AND HEIGHT WITH ARCHITECTURAL PLANS.
- CARBON MONOXIDE DETECTOR IS BE UL 2075 LISTED. CARBON MONOXIDE DETECTOR TO POWER BY AND REPORT BACK TO FIRE ALARM SYSTEM. FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATION AND QUANTITY WITH FIRE MARSHALL.
- PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.



REGISTRATION SEAL

CONSULTANT



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PSA Project No: 2019-0237

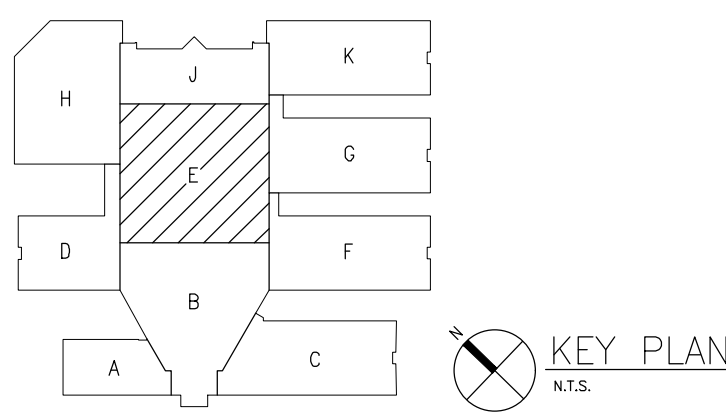
PROJECT TITLE

**New High Point
School
Washtenaw
Intermediate
School District**

1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE

POWER PLAN - ZONE E



ISSUE DATES

06-18-2020	ADDENDUM #4
05-27-2020	FOR CONSTRUCTION - BID PACK #3
05-01-2020	95% REVIEW - BP3
12-06-2019	DESIGN DEVELOPMENT
08-12-2019	SCHEMATIC DESIGN

DATE: ISSUED FOR:

DRAWN	BAG
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APPROVED	STP

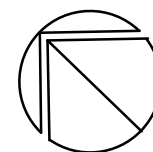
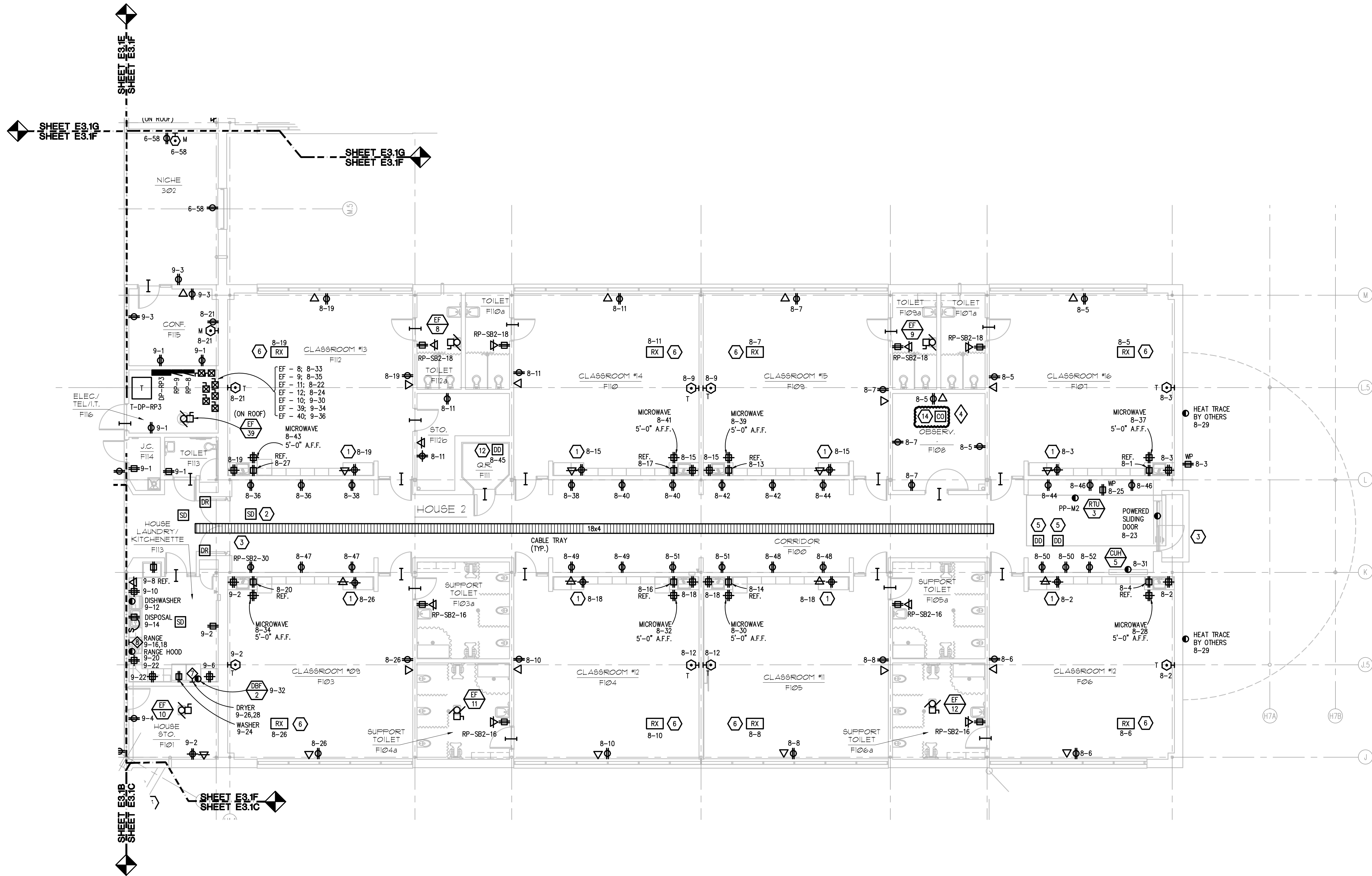
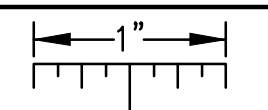
PROJECT NO.

19040

DRAWING NO.

E3.1E-BP3

THE FOLLOWING DIMENSION EQUALS
ONE INCH WHEN PRINTED TO SCALE.



POWER PLAN - ZONE F

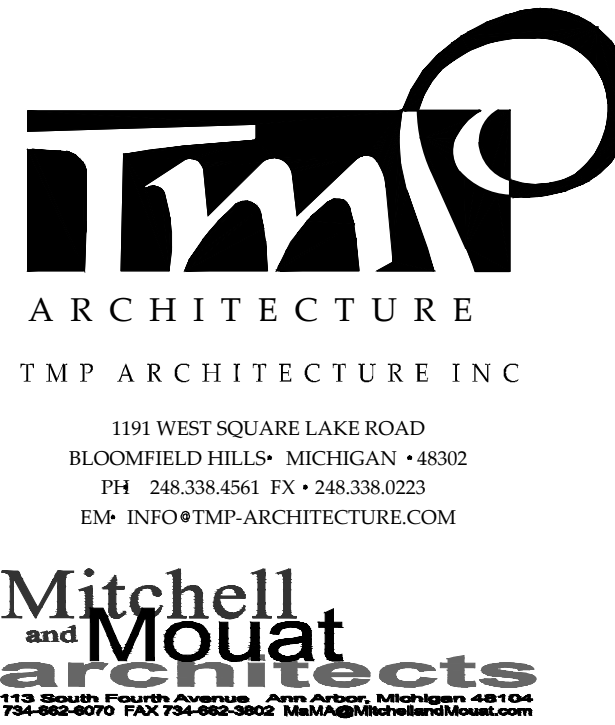
SCALE: 1/8" = 1' - 0"

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- REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
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- THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2°C. U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. STUD CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.
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- CORD REEL SHALL BE MOUNTED JUST BELOW ARCHITECTURAL CEILING GRID. VERIFY EXACT LOCATION WITH ARCHITECTURAL PLANS PRIOR TO INSTALLATION. CORD REEL SHALL BE HUBBELL INDUSTRIAL GRADE WITH 25 #12/3 ASD SJO CORD AND OUTLET BOX WITH STRAIN RELIEF AND TWO DUPLEX RECEPTACLES (HBL452R220). PROVIDE PIVOT BASE (HBL340PB). PROVIDE ALL REQUIRED SUPPORTS FOR MOUNTING. CORD REEL SHALL HAVE POSITIVE RATCHET LOCK AND ADJUSTABLE CORD STOP. PROVIDE RECEPTACLE IN CEILING FOR CORD REEL TO PLUG INTO. PROVIDE MISCELLANEOUS STEEL AS REQUIRED.
- PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
EF - 1; 4-43
EF - 2; 4-41
EF - 3; 4-45
EF - 4; 4-47
EACH EXHAUST FAN TO HAVE IT'S OWN COMBINATION MAGNETIC CONTROLLER.
- PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
EF - 5; 6-41
EF - 6; 6-64
EF - 7; 6-62
EACH EXHAUST FAN TO HAVE IT'S OWN COMBINATION MAGNETIC CONTROLLER.
- PROVIDE INTERMATIC TWIST TIMER MODEL FT30MC (30 MINUTES), MOUNT AT 8 INCHES ABOVE COUNTER.
- CONNECT FIRE ALARM DEVICES TO ELECTRIC COILING DOOR AND FIRE ALARM SYSTEM. ROLL-UP DOOR SHALL CLOSE UPON ACTIVATION OF THE SMOKE DETECTORS ASSOCIATED WITH THE COILING FIRE DOOR. COORDINATE WITH THE COILING DOOR CONTRACTOR FOR ALL SMOKE DETECTORS AND CONTROL MODULES REQUIRED FOR A COMPLETE SYSTEM.
- PROVIDE CONDUITS AND BACKBOXES FOR A/V SYSTEMS. REFER TO A/V DRAWINGS FOR CONDUIT AND BACKBOX REQUIREMENTS.
- SMOKE DAMPER DUCT SMOKE DETECTOR SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. COORDINATE INSTALLATION WITH THE MECHANICAL CONTRACTOR SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR TO FIRE ALARM SYSTEM, AND CIRCUIT DAMPER ACTUATOR FROM A DEDICATED 220 VOLT CIRCUIT AS INDICATED. PROVIDE A 20A-1P SWITCH AT EACH ACTUATOR. CONTROL OF AIR HANDLING EQUIPMENT IS VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WORK WITH THE TEMPERATURE CONTROL CONTRACTOR AND FIRE ALARM MANUFACTURER. DAMPER SHALL CLOSE UPON DETECTION OF SMOKE AND SHUT DOWN ASSOCIATED RTU. DAMPER SHALL ALSO CLOSE UPON NORMAL SHUT DOWN OF RTU BY TC CONTRACTOR. PROVIDE ALL CONTROL MODULES, RELAYS, ETC FOR A COMPLETE SYSTEM. PROVIDE QUANTITIES AS INDICATED.
- MOUNT IN CASEWORK. COORDINATE LOCATION AND HEIGHT WITH ARCHITECTURAL PLANS.
- CARBON MONOXIDE DETECTOR TO BE U.L. 2075 LISTED. CARBON MONOXIDE DETECTOR TO POWER BY AND REPORT BACK TO FIRE ALARM SYSTEM. FIRE ALARM SUPPLIER SHALL COORDINATE EXACT LOCATION AND QUANTITY WITH FIRE MARSHAL.
- PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH DOOR CONTRACTOR. ALL RELATED DOOR HARDWARE IS PROVIDED BY OTHERS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.



REGISTRATION SEAL

CONSULTANT



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PSA Project No.: 2019-0237

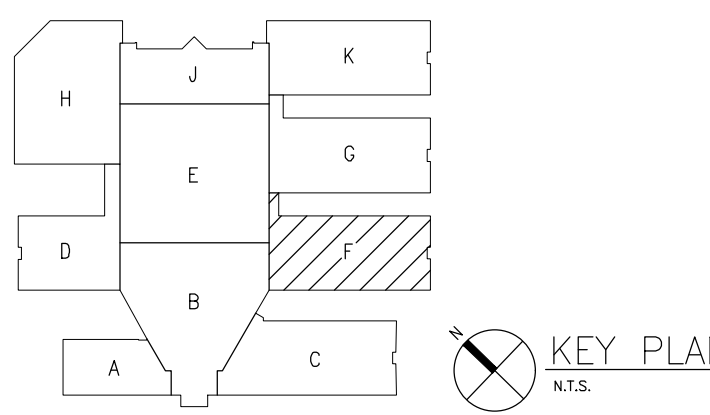
PROJECT TITLE

New High Point
School
Washtenaw
Intermediate
School District

1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE

POWER PLAN - ZONE F



ISSUE DATES

06-18-2020	ADDENDUM #4
05-27-2020	FOR CONSTRUCTION - BID PACK #3
05-01-2020	95% REVIEW - BP3
12-06-2019	DESIGN DEVELOPMENT
08-12-2019	SCHEMATIC DESIGN

DATE: ISSUED FOR:

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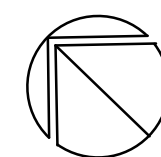
APPROVED: STP

PROJECT NO.

19040

DRAWING NO.

E3.1F-BP3



POWER PLAN - ZONE G
SCALE: 1/8" = 1' - 0"

1. THESE DRAWINGS REPRESENT THE GENERAL EXIST AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER DRAWINGS TO PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHaft, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY SLEAT AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
8. COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
9. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT, POWER CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTED. NOTIFY ARCHITECT IF ANY CONFLICTS BECOME APPARENT. SUBMITTALS AND ELECTRICAL DRAWINGS, WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPCITY.
10. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
11. PROVIDE THE DESIGN AND INSTALLATION FOR A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INCLUDING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, DETECTION AND PROPAGATION DEVICES, ADDITIONAL SMOKE AND HEAT DETECTORS, INTERFERENCE MODULES, MODULES FOR SPLITTER FLOOR AND TAMPER SWITCHES, ALL CIRCUIT PANELS, POWER SUPPLIES, ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED LIGHTING PLANS. PROVIDE ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.
12. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CRITICAL TO OPERATIONS. DESIGNATION FOR ROOM IS INDICATED BY A LETTERED ALPH SYMBOL.
13. COORDINATE CABLE TRAY MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR. CABLE TRAY TO BE MOUNTED ABOVE CEILING AND BELOW DUCT WORK.

RECEPTACLE AND TELECOMMUNICATION OUTLET MOUNTED IN CASWORK.
COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL TRADES.

2. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH FIELD CONDITIONS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.

3. REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND BACKBOXES REQUIRED, COORDINATE WITH DOOR HARDWARE AND SECURITY CONTRACTORS.

4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2" W/C. U.O.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. SPLIT CONDUITS FROM CELLULAR SPACE. PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RE-ASSEMBLY FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS REQUIRING CONDUITS.

5. DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU SUPPLY RETURN FAN MOTOR STARTER SO THAT UPON DETECTOR/RTU SMOKE, SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE COMPLETED WIRE BY THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.

6. CORD REEL SHALL BE MOUNTED JUST BELOW ARCHITECTURAL CEILING GRID, VERIFY EXACT LOCATION WITH ARCHITECTURAL PLANS PRIOR TO INSTALLATION. CORD REEL SHALL BE HUBBELL INDUSTRIAL GRADE WITH #2 / 2' ASG S&D (CORD AND CORD STRAIN RELIEF) AND TWO DUPLEX RECEPTACLES (HBS-43232220). PROVIDE PIVOT BASE (HBL4034P). PROVIDE ALL REQUIRED SUPPORTS FOR MOUNTING. CORD REEL SHALL HAVE POSITIVE RATCHET LOCK AND ADJUSTABLE CORD STOP. PROVIDE RECESSED IN CEILING FOR CORD REEL TO PLUG INTO. PROVIDE MISCELLANEOUS STEEL AS REQUIRED.

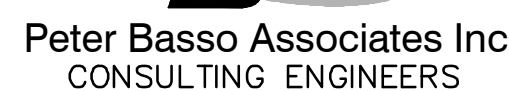
7. PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
E - 1, 4-45
E - 2, 4-45
E - 3, 4-47
E - 4, 4-47

EACH EXHAUST FAN TO HAVE IT'S OWN COMBINATION MAGNETIC CONTROLLER.

8. PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
E - 5, 6-41
E - 6, 6-44
E - 7, 6-62
E - 8, 6-61



CONSULTANT



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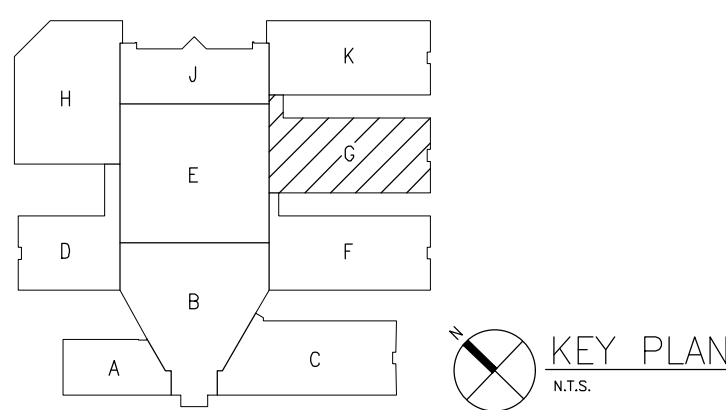
PROJECT TITLE

New High Point
School
Washtenaw
Intermediate
School District

1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE

POWER PLAN - ZONE G



ISSUE DATES

06-18-2020	ADDENDUM #4
05-27-2020	FOR CONSTRUCTION - BID PACK #3
05-01-2020	95% REVIEW - BP3
12-06-2019	DESIGN DEVELOPMENT
08-12-2019	SCHEMATIC DESIGN

DATE: ISSUED FOR

DRAWN BA

CHECKED STP

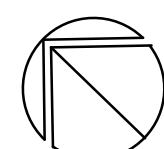
APPROVED STE

PROJECT NO.

19040

DRAWING NO.

E3.1G-BP3



SHEET E3.1H

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH MECHANICAL DRAWINGS, PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND DETAILS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED SERVICE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. TRANSFORMER SECONDARY CIRCUITS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT PROTECTION SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
8. COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND VANCE-THROUGH DEVICES WITH FINAL FLOORING, LAYOUT DRAWINGS.
9. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT, PUMP, ALL COMBUSTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERY IMPORTANT: ALL MECHANICAL EQUIPMENT WITH SHIP DRAWINGS SUBMITTALS. NOTIFY ELECTRICAL CONTRACTOR OF ALL SUBMITTALS AND ELECTRICAL DRAWINGS. DRAWINGS, WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
10. REFER TO TEMPERATURE CONTROLS SCHEDULES FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
11. PROVIDE THE DESIGN AND INSTALLATION FOR A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIVE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS NOTIFICATION APPLIANCES, SMOKE AND HEAT DETECTORS, CONTROL MODULES, AND SILENCE DEVICES. PROVIDE FOR SPRINKLER FLOW AND TAMPER SWITCHES. ALL CONTROL PANELS, POWER SUPPLIES, ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTANCE PLANS. PROVIDE FOR ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.
12. REFER TO LIGHTING CONTROL SCHEDULES FOR ROOM CONTROL AND EMERGENCY LIGHTING. PROVIDE ROOM CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED OVAL SYMBOL.
13. COORDINATE CABLE TRAY MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR. CABLE TRAY TO BE MOUNTED ABOVE CEILING AND BELOW DUCT WORK.

- RECEPTACLE AND TELECOMMUNICATION OUTLET MOUNTED IN CASEWORK.
COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL TRADES.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH FIELD CONDITIONS. REFER TO FIRE ALARM PLAN SO THAT WHEN SYSTEM ALARM, DOOR WILL CLOSE.
3. REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON E7 SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS. PROVIDE FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAY AND BACKBOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND SECURITY CONTRACTORS.
4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2"-Ø U.N. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. SUBS CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSINGS AT EACH END. PROVIDER REMOVABLE RELEASABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1' CONDUIT FOR ALL OTHER AREAS REQUIRING SLEEVES.
5. DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUPLICATE CONTRACTOR. ELECTRICAL CONTRACTOR MAY DUCT SMOKE DETECTOR/RU/SUPPLY RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONTROL MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROLLER AND FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.
6. CORO REEL SHALL BE MOUNTED JUST BELOW ARCHITECTURAL CEILING GRID. VERIFY CORD LENGTH WITH ARCHITECTURAL PLANS PRIOR TO INSTALLATION. CORO REEL SHALL BE HUBBEL INDUSTRIAL GRADE WITH 25' #12/3 ASG SECO SMD 9000-25' (HUBBELL) STRIKE BREAKER IN GREEN FINISH. PROVIDE PULL BOX (253R2302) PROVIDE PULL TABS (HB-L3409B). PROVIDE ALL REQUIRED SUPPORTS FOR MOUNTING. CORO REEL SHALL HAVE POSITIVE RATCHET LOCK AND ADJUSTABLE CORO REEL SPRING TENSION ROPE IN GROWN FOR CORO REEL TO PLUS INTO. PROVIDE MISCELLANEOUS STEEL AS REQUIRED.
7. PROVIDE A COMBINATION MAGNETIC CONTROLLER WITH ROOM FOR THE FOLLOWING EXHAUST FAN:
 - EF - 1; 4-43
 - EF - 2; 4-41
 - EF - 3; 4-42
 - EF - 4; 4-47EACH EXHAUST FAN TO HAVE ITS OWN COMBINATION MAGNETIC CONTROLLER.
8. PROVIDE A COMBINATION MAGNETIC CONTROLLER WITH ROOM FOR THE FOLLOWING EXHAUST FAN:
 - EF - 1; 4-43
 - EF - 2; 4-41
 - EF - 3; 6-44
 - EF - 7; 6-62EACH EXHAUST FAN TO HAVE ITS OWN COMBINATION MAGNETIC CONTROLLER.
9. PROVIDE INTERMATIC TSMT TIMER MODEL FF3MC3 (30 MINUTES). MOUNT AT 8 INCHES ABOVE COUNTER.
10. CONNECT FIRE ALARM DEVICES TO ELECTRIC CEILING DOOR AND FIRE ALARM SYSTEM. ROLL-UP DOOR SHALL CLOSE ONLY UPON ACTIVATION OF THE SMOKE DETECTORS ASSOCIATED WITH THE COLLING FIRE DOOR. COORDINATE WITH THE COLLING DOOR CONTRACTOR FOR ALL SMOKE DETECTORS AND CONTROL MODULES REQUIRED FOR A COMPLETE SYSTEM.
11. PROVIDE CONDUITS AND BACKBOXES FOR A/V SYSTEMS. REFER TO A/V DRAWINGS FOR CONDUIT AND BACKBOX REQUIREMENTS.

REGISTRATION SEAL

CONSULTANT

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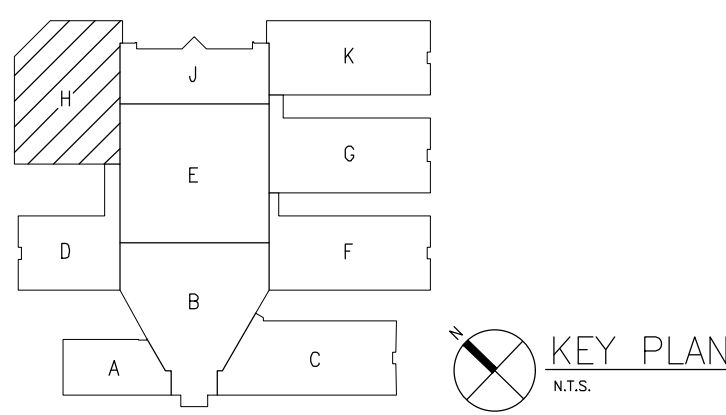
PROJECT TITLE

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1735 South Wagner Road
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DRAWING TITLE

POWER PLAN - ZONE H



ISSUE DATES

06-18-2020	ADDENDUM #4
05-27-2020	FOR CONSTRUCTION – BID PACK #3
05-01-2020	95% REVIEW – BP3
12-06-2019	DESIGN DEVELOPMENT
08-12-2019	SCHEMATIC DESIGN

DATE: ISSUED FOR

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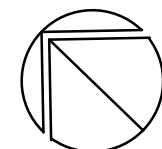
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DRAWING NO.

E3.1H-BP3

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A horizontal scale bar with a double-headed arrow at the left end and a single-headed arrow at the right end. The text "1''" is centered above the bar. Below the bar, there are 16 tick marks, with a longer vertical line at the center, dividing the bar into two equal halves of 8 ticks each.



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

1. THESE DRAWINGS REPRESENT THE GENERAL EXIST AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES TO PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHaft, and CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY SLEAT, AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
8. COORDINATE EXACT LOCATIONS OF ALL FLOOR SURFACE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
9. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT; PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN ELECTRICAL SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
10. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
11. PROVIDE THE DESIGN AND INSTALLATION FOR A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, SMOKE DETECTOR, SPRINKLER HEADS, AND DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, ADDITIONAL DEVICES AND EQUIPMENT. PROVIDE COORDINATE AND PROVIDE ALL CONNECTIONS WITH ARCHITECTURAL FINISHES AND SELECTED CEILING PLANS, INCLUDING ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BEING INSTALLED AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.
12. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT CONTROL REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED AS A LETTERED ALO SYMBOL.
13. COORDINATE CABLE TRAY MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR. CABLE TRAY TO BE MOUNTED ABOVE CEILING AND BELOW DUCT WORK.

1. RECEPTACLE AND TELECOMMUNICATION OUTLET MOUNTED IN CASEWORK. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL TRADES.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH FIELD CONDITIONS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.
3. REFER TO ARCHITECTURAL FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR SCHEDULE FOR SERIES AND BACKBOX AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL ACCESSWAYS AND BACK BOXES REQUIRED. COORDINATE WITH DOOR HARDWARE AND SECURITY CONTRACTORS.
4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2"-2 1/2" U.O.N. CONDUITS FOR TELEPHONE AND AUXILIARY SYSTEM WIRE AS INDICATED. STUD CONDUITS FROM CEILING SPACE. PROVIDE PLASTIC BUSINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP AROUND EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS AROUND SLEEPING DECKS.



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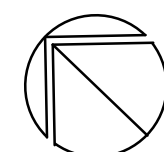
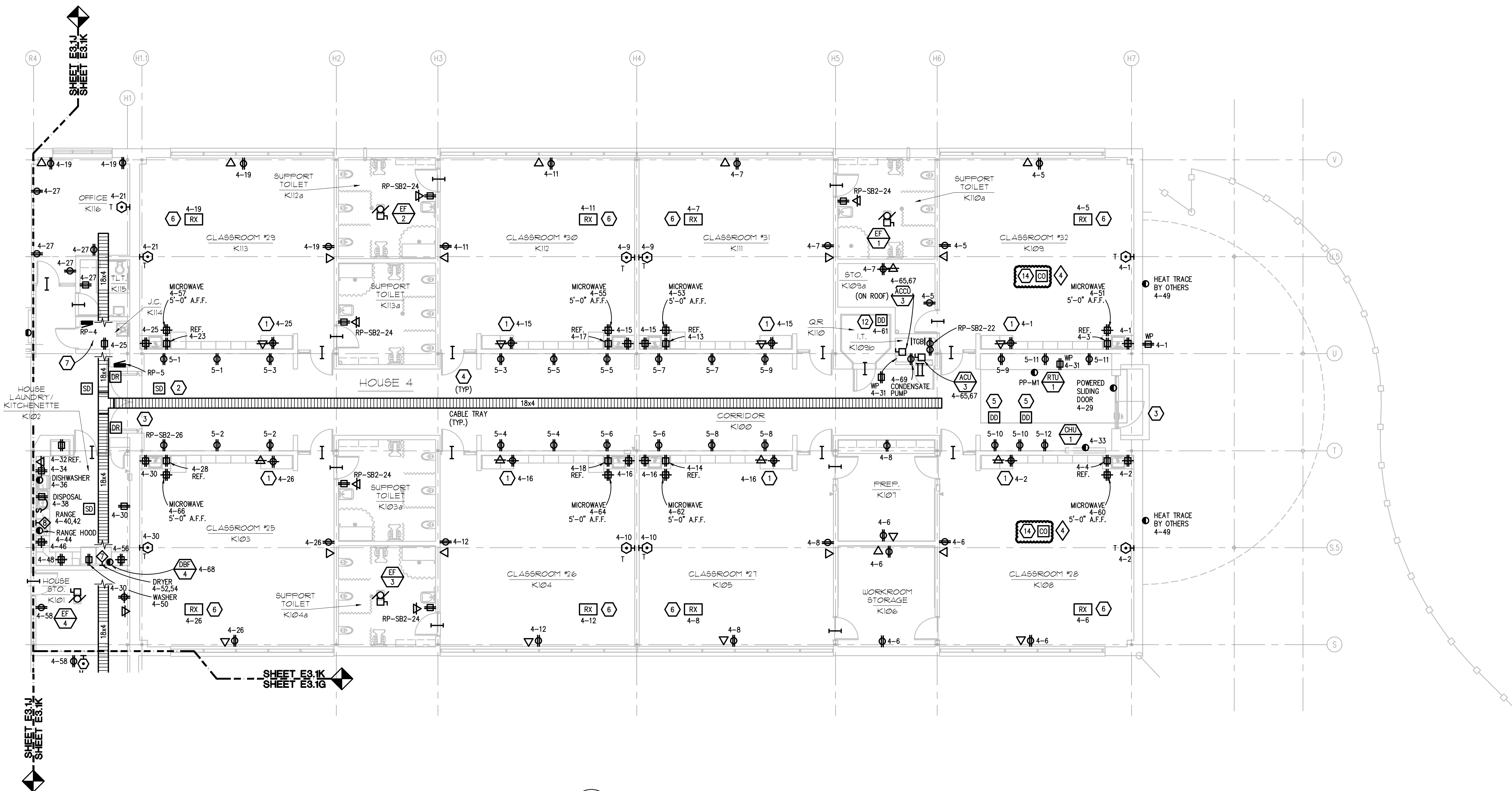
KEY PLAN
N.T.S.

06-18-2020	ADDENDUM #4
05-27-2020	FOR CONSTRUCTION - BID PACK #3
05-01-2020	95% REVIEW - BP3
12-06-2019	DESIGN DEVELOPMENT
08-12-2019	SCHEMATIC DESIGN

DRAWN	BAG
CHECKED	STP
APPROVED	STP

E3.1J-BP3

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

1. THESE DRAWINGS REPRESENT THE GENERAL EXIST AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND EFFECTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY SLEAT AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH TRANSFORMER CIRCUIT SIZING SCHEDULE SHOWN ON "ELECTRICAL SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
7. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
8. COORDINATE EXACT LOCATIONS OF ALL FLOOR SERVICE FITTINGS AND POKE-THROUGH ASSEMBLIES WITH FINAL FURNITURE LAYOUT DRAWINGS.
9. REFER TO MECHANICAL SCHEDULE SHEETS FOR ALL CONDITIONS, REQUIREMENTS FOR MECHANICAL EQUIPMENT, PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTED. NOTIFY INSPECTION OF ANY CONDITIONS NOTED ON SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
10. REFER TO TEMPERATURE CONTROLS SHEETS FOR REQUIRED MOTOR CONTROLLERS. PROVIDE ALL ACCESSORIES INDICATED.
11. PROVIDE THE DESIGN AND INSTALLATION FOR A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, AND ALL APPLICABLE CODES. THE FIRE ALARM VENDOR SHALL PROVIDE LAYOUT DRAWINGS INDICATING THE REQUIRED QUANTITIES AND LOCATIONS OF MANUAL PULL STATIONS, DETECTION, SMOKE DETECTORS, AND CALL POINTS, DETECTORS, CONTROL MODULES, INTERFACE MODULES, MODULES FOR SPRINKLER FLOW AND TAMPER SWITCHES, ALL CONTROL PANELS, POWER SUPPLIES, ADDITIONAL DEVICES AND EQUIPMENT REQUIRED. COORDINATE LOCATIONS OF DEVICES WITH ARCHITECTURAL FINISHES AND REFLECTED CEILING TYPES. PROVIDE ADDITIONAL SMOKE AND HEAT DETECTORS REQUIRED FOR NON-SMOOTH CEILING APPLICATIONS. INCLUDE ALLOWANCES FOR ADJUSTMENT OF DEVICES BY THE ARCHITECT AT THE TIME OF SUBMITTAL TO COORDINATE WITH BUILDING FINISHES AND OTHER CEILING ELEMENTS.
12. REFER TO LIGHTING CONTROL SCHEDULE FOR ROOM CONTROL AND EMERGENCY LIGHTING CIRCUIT REQUIREMENTS. DESIGNATION FOR ROOM IS INDICATED BY A LETTERED Oval SYMBOL.
13. COORDINATE CABLE TRAY MOUNTING HEIGHT WITH MECHANICAL CONTRACTOR. CABLE TRAY TO BE MOUNTED ABOVE CEILING AND BELOW DUCT WORK.

1. RECEPTACLE AND TELECOMMUNICATION OUTLET MOUNTED IN CASWORK. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL TRADES.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM CONTROL MODULES AND SMOKE DETECTORS FOR DOOR RELEASE. COORDINATE MOUNTING WITH FIELD CONDITIONS. WIRE TO FIRE ALARM PANEL SO THAT UPON SYSTEM ALARM, DOOR WILL CLOSE.
3. REFER TO ARCHITECTURAL, FLOOR PLANS, DOOR HARDWARE SCHEDULE ON ARCHITECTURAL DRAWINGS, ACCESS CONTROL SYSTEM SPECIFICATION SECTION AND ACCESS CONTROL DOOR DIAGRAM(S) ON ET SERIES FOR RACEWAY AND BACK BOX REQUIREMENTS FOR DOOR OR BANK OF DOORS INDICATED. PROVIDE ALL RACEWAYS AND DEVICES REQUIRED. COORDINATE WITH DOOR HARDWARE AND SECURITY CONTRACTORS.
4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE 2-2" C.U. CONDUITS FOR TECHNOLOGY AND AUXILIARY SYSTEM WIRE AS INDICATED. SUD CONDUITS FROM CEILING SPACE PROVIDE PLASTIC BUSHINGS AT EACH END. PROVIDE REMOVABLE/RESEALABLE FIRE STOP PUTTY IN EACH CONDUIT AND FIRE STOP THROUGH EACH CONDUIT. COORDINATE WITH TECHNOLOGY CONTRACTOR FOR EXACT LOCATION OF CONDUIT. PROVIDE MINIMUM OF 1" CONDUIT FOR ALL OTHER AREAS THROUGHOUT THE BUILDING.
5. DUCT SMOKE DETECTOR SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. COORDINATE MOUNTING LOCATION AND QUANTITY WITH THE MECHANICAL DUCTWORK CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE DUCT SMOKE DETECTOR/RTU SUPPLY/RETURN FAN MOTOR STARTER SO THAT UPON DETECTION OF SMOKE, THE SUPPLY/RETURN FAN WILL SHUT DOWN. THIS SHALL BE ACCOMPLISHED VIA THE FIRE ALARM CONTROL PANEL. PROVIDE ALL REQUIRED CONDUIT, MODULES AND RELAYS. COORDINATE WITH THE TEMPERATURE CONTROL/FIRE ALARM CONTRACTOR. PROVIDE WEATHER PROOF ENCLOSURES AS REQUIRED.
6. CORD REEL SHALL BE MOUNTED JUST BELOW ARCHITECTURAL CEILING GRID. VERIFY EXISTING LOCATION WITH ARCHITECTURAL PLANS PRIOR TO INSTALLATION. CORD REEL SHALL BE HUBBELL INDUSTRIAL GRADE WITH 25' #12/3 ASS GSG CORD AND OUTLET WITH STRAIN RELIEF AND TWO DUPLEX RECEPTACLES (H8451232220). PROVIDE PIVOT BASE (H8L3409B). PROVIDE EXISTING SUPPORTS FOR MOUNTING. CORD REEL SHALL BE POSITIONED AT RATCHET LOCK AND ADJUSTABLE CORD STOP. PROVIDE RECEPTACLE IN CEILING FOR CORD REEL TO PLUG INTO. PROVIDE MISCELLANEOUS STEEL AS REQUIRED.
7. PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
 - E- 1: 4-43
 - E- 2: 4-41
 - E- 3: 4-45
 - E- 4: 4-47

EACH EXHAUST FAN TO HAVE ITS OWN COMBINATION MAGNETIC CONTROLLER.

8. PROVIDE A COMBINATION MAGNETIC CONTROLLER WITHIN ROOM FOR THE FOLLOWING EXHAUST FANS:
 - E- 5: 6-61
 - E- 6: 6-64
 - E- 7: 6-62
 - E- 8: 6-61



REGISTRATION SEAL

CONSULTANT



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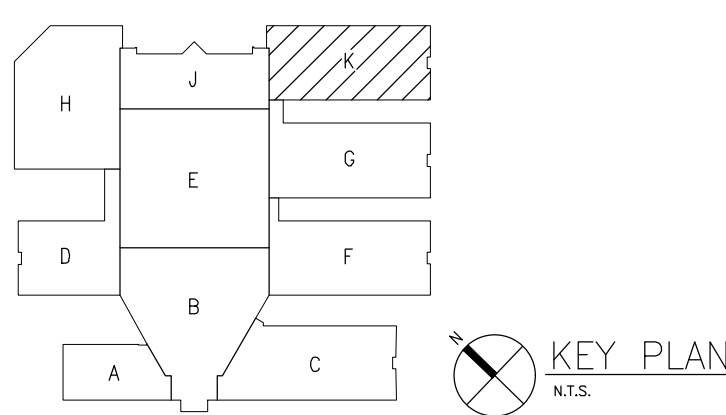
PROJECT TITLE

New High Point
School
Washtenaw
Intermediate
School District

1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE

POWER PLAN - ZONE K



ISSUE DATES

06-18-2020	ADDENDUM #4
05-27-2020	FOR CONSTRUCTION – BID PACK #3
05-01-2020	95% REVIEW – BP3
12-06-2019	DESIGN DEVELOPMENT
08-12-2019	SCHEMATIC DESIGN

DATE: ISSUED FOR

DRAWN BAG

CHECKED STP

APPROVED STP

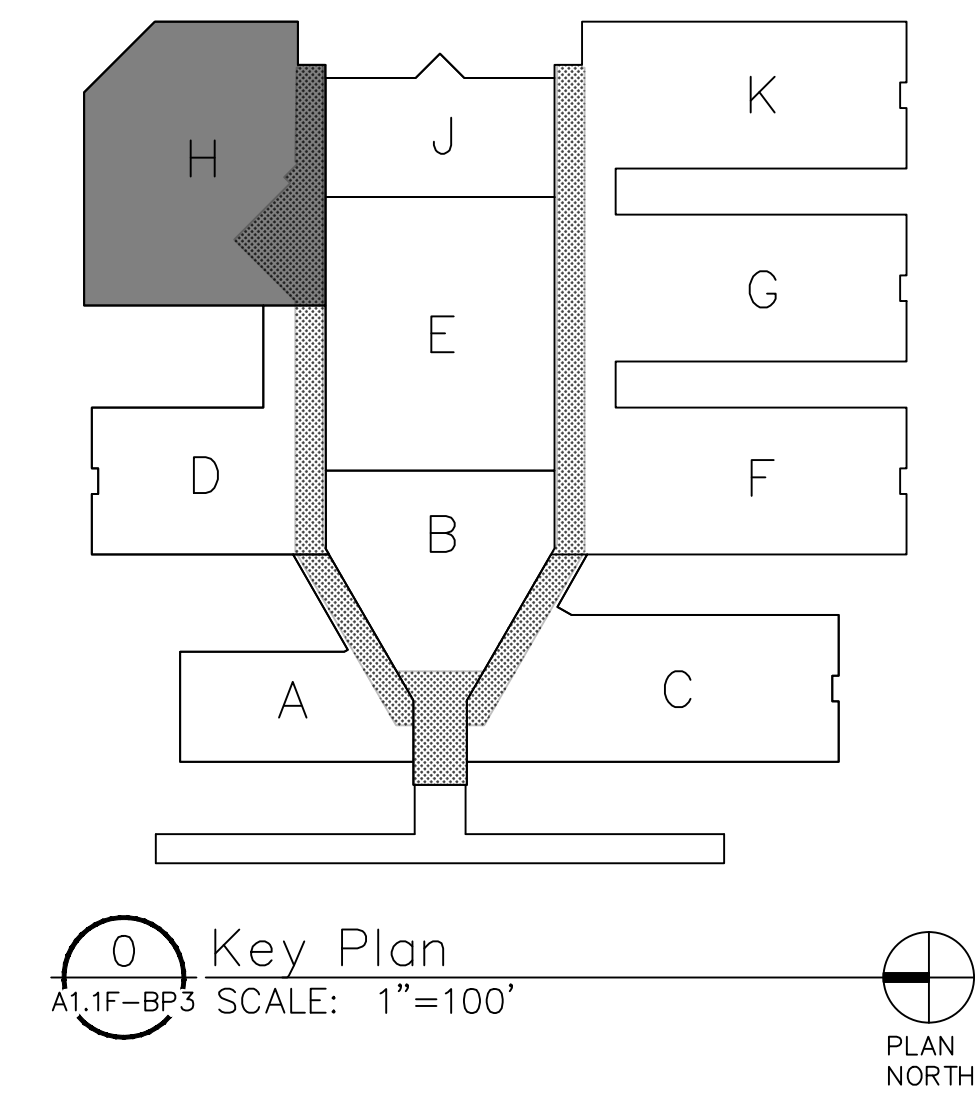
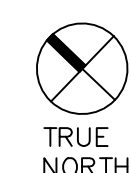
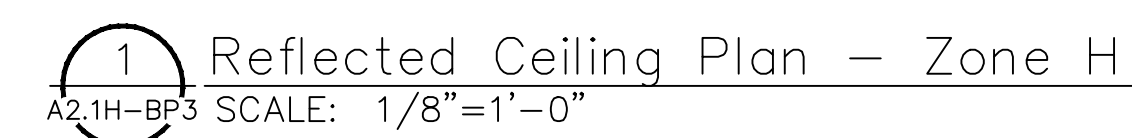
PROJECT NO.

19040

DRAWING NO.

E3.1K-BP3

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REGISTRATION SEAL

CONSULTANT



PROJECT TITLE

**Washtenaw
Intermediate
School District**

1735 South Wagner Road
Ann Arbor, Michigan

DRAWING TITLE

Floor Plan
Zone H

ISSUE DATES

06/18/2020	ADDENDUM #4
05/27/2020	FOR CONSTRUCTION - BID PACK 3
05/01/2020	95% REVIEW

DATE: ISSUED FOR:

DRAWN	CB
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DRAWN	CB
CALCULATED	BB

CHECKED RB

PROJECT NO.

19040

DRAWING NO.

AV1.1H-BP3