#### **Construction Change Directive**

**PROJECT:** *(name and address)* Highland Township Fire Station 1 - PIA

18-122A

**OWNER:** (name and address) Highland Township 250 W. Livingston Road Highland, MI 48357 CONTRACT INFORMATION:

Contract For: General Construction

Date: February 18, 2020

**ARCHITECT:** (name and address)
PARTNERS in Architecture, PLC
65 Market Street

05 Market Street

Mount Clemens, MI 48043

CCD INFORMATION:

Directive Number: 004

Date: September 1, 2020

**CONTRACTOR:** (name and address)
Axiom Construction Services Group, LLC

10638 Rushton Road South Lyon, MI 48178

The Contractor is hereby directed to make the following change(s) in this Contract: (Insert a detailed description of the change and, if applicable, attach or reference specific exhibits.)

Exhibit A: Write Up

Exhibit B: Revised Specifications

Exhibit C: Revised Architectural Drawing Set

Exhibit D: Revised Electrical Drawing Set

Refer to attached Exhibits A, B, C, and D

#### PROPOSED ADJUSTMENTS

- 1. The proposed basis of adjustment to the Contract Sum or Guaranteed Maximum Price is:
  - Lump Sum decrease of \$0.00

☐ Unit Price of \$

per

- ☐ Cost, as defined below, plus the following fee: (Insert a definition of, or method for determining, cost)
- As follows: These changes will result in an increase to the contract. The final amount is to be determined. An adjustment will be made to the contract amount, afterwards, via Change Order.
- 2. The Contract Time is proposed to remain unchanged. The proposed adjustment, if any, is (0 days).

NOTE: The Owner, Architect and Contractor should execute a Change Order to supersede this Construction Change Directive to the extent they agree upon adjustments to the Contract Sum, Contract Time, or Guaranteed Maximum price for the change(s) described herein.

Highland Township CCD No. 4 September 1, 2020 Page 1

#### ARCHITECTURAL & ELETRICAL – CCD 4

Project Name: Highland Township – Highland Township Fire Station No. 1 CCD No: Four (4)

Project Number: 18-122A Issue Date:September 1, 2020

Project Location: 1600 W. Highland Rd. Highland, MI 48357

This Addendum forms a part of the above described Architectural & Structure Bidding/Permit documents and supersedes, supplements or clarifies parts thereof to the extent defined by the terms set forth in this Addendum.

This Addendum consists of (2) typed page(s) and the following attachments:

Specifications: 102800 Toilet Accessories

Drawings: Life Safety Code Information (A0-02), Door Schedule & Frame Types (A0-04), Opening Details (A0-

13), Main Level Floor Plan (A3-01), Masonry Dimension Plan (A3-02), Enlarged Floor Plans (A3-10), Reflected Ceiling Plans (A4-01), Interior Elevations (A8-01), Wire and Lighting Fixture Schedules and

Control Matrix (E0-03), Floor Plans – Lighting (E2-00), Floor Plans – Power (E3-00).

#### **EXHIBIT B - SPECIFICATIONS:**

ITEM SP1 SPECIFICATION SECTION 102800 – TOILET ACCESSORIES

A. Added notes for iron, found capped iron rod, and found nail.

#### **EXHIBIT C - ARCHITECTURAL DRAWINGS:**

ITEM A1 A0-02 LIFE SAFETY CODE INFORMATION

Revise fire wall locations.

B. Change to type V-B construction

C. Remove UL design details no longer relevant

D. Add UL design detail #W433

E. Remove 1-hr fire barrier wall from plan legend

ITEM A2 A0-04 DOOR SCHEDULE & FRAME TYPES

A. Revise fire rating for doors 113, 117, 119, 120A, 121, 122, 123, 125, 126, and 127.

B. Add dimension to frame F3.

C. Remove LG fire rated glass at door types N and G.

D. Revise size of SF-3.

E. SF-3 changed to HM frame.

**ITEM A3** A0-13 OPENING DETAILS

A. Added note on detail D17

ITEM A4 A3-01 MAIN LEVEL FLOOR PLAN

A. Remove far east interior bollards next to door 131K and PPE Laundry (135).

B. Revise north wall of EMS (202) to be B6 wall type. Hold existing interior dimension of EMS (202).

Highland Township CCD No. 4 September 1, 2020 Page 2

ITEM A5 A3-02 MASONRY DIMENSION PLAN

A. Revise keynote 2.

B. Add keynote 7.

C. Adjust PPE Storage dimensions based on CCD-03.

D. Adjust position of 6" CMU starter course wall.

ITEM A6 A3-10 ENLARGED FLOOR PLANS

E. Revise Toilet Accessory notes TA-5, TA-6, and TA-8 – Refer to Specification.

F. Add TA-1 in Decon / Rest. (133)

ITEM A7 A4-01 REFLECTED CEILING PLANS

A. Added keynote 28.

B. Added emergency lights per revised Electrical lighting plan – refer to Electrical

**ITEM A8** A8-01 INTERIOR ELEVATIONS

A. Locate position of wall mounted light fixtures on detail 1 – Refer to Electrical

B. Add notes to detail 1.

#### **EXHIBIT D - ELETRICAL DRAWINGS:**

ITEM E1 E0-03 WIRE AND LIGHTING FIXTURE SCHEDULES AND CONTROL MATRIX

A. Revise light fixtures "I" and "M".

B. Specify basis of design for track light fixture "M".

C. Add light fixture "OE" and "X2".

**ITEM E2** E2-00 FLOOR PLANS - LIGHTING

A. Revise locations of light fixture "F" and "FE" at mezzanine stairs – Refer to Architectural.

B. Add interior and exterior emergency light fixtures "X2" and "OE" at Vestibule (101).

ITEM E3 E3-00 FLOOR PLANS - POWER

A. Revise panel RP-1C and RP-2A to be recessed in the wall.

B. Remove handicap push button access.

C. Adjust card reader locations based on Architectural floor plan.

\*\*END OF CCD\*\*

#### SECTION 102800 - TOILET AND BATH ACCESSORIES

#### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes the following:
  - 1. Washroom accessories.
  - 2. Underlayatory guards.

#### 1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product Schedule:
  - 1. Identify locations using room designations indicated on Drawings.
  - 2. Identify products using designations indicated on Drawings.

#### PART 2 - PRODUCTS

#### 2.1 WASHROOM ACCESSORIES

- A. Basis-of-Design Product: The design for accessories is based on products indicated. Subject to compliance with requirements, provide the named product or a comparable product by one of the following:
  - 1. A & J Washroom Accessories, Inc.
  - 2. American Specialties, Inc.
  - 3. Bobrick Washroom Equipment, Inc.
  - 4. Bradley Corporation.
  - 5. General Accessory Manufacturing Co. (GAMCO).
- B. Grab Bar: TA-1, TA-2, TA-3.
  - 1. Basis-of-Design Product: Bobrick B-5806.
  - 2. Mounting: Flanges with concealed fasteners.
  - 3. Material: Stainless steel, 0.05 inch thick.
    - a. Finish: Smooth, No. 4, satin finish.
  - 4. Outside Diameter: 1-1/4 inches.
  - 5. Configuration and Length: As indicated on Drawings.

#### PARTNERS 18-122 TOILET AND BATH ACCESSORIES 102800 - 2

- C. Mirror Unit: TA-4
  - 1. Basis-of-Design Product: Bradley 781.
  - 2. Frame: Stainless-steel angle.
    - a. Corners: Mitered and mechanically interlocked.
  - 3. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.

Wall bracket of galvanized steel, equipped with concealed locking devices requiring a special tool to remove.

- 4. Size: As indicated on drawings. If not indicated, provide 24"W x 48"H
- D. Toilet Tissue Dispenser: TA-5
  - By Owner
- E. Soap Dispenser: TA-6
  - 1. By Owner
- F. Shower Curtain, Rod, & Hooks: TA-7
  - 1. Basis-of-Design product(s): Bobrick B-204-1, B-204-2, B-207x36
  - 2. Mounting: Concealed
  - 3. Material: Stainless steel.
  - 4. Length: 36 inches
  - 5. Location: 1 per shower
- G. Paper Towel Dispenser: TA-8
  - By Owner
- H. Electric Hand Dryer: (TA-9)
  - 1. Basis-of-Design product: World Dryer Air Max XM5-974
  - 2. Mounting: Wall.
  - 3. Material: Cast Iron White
- I. Towel Hook: (TA-10)
  - 1. Basis-of-Design product: Bobrick B-2116
  - 2. Mounting: Wall.
  - 3. Material: Stainless steel.
- J. Waste Receptacle: (TA-12)
  - 1. Basis-of-Design product: Bobrick B-2300
  - 2. Mounting: Floor-Standing
  - 3. Material: Stainless steel.

#### 2.2 UNDERLAVATORY GUARDS: TA-11

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Plumberex Specialty Products, Inc.
  - 2. TCI Products.
  - 3. Truebro, Inc.

#### B. Underlayatory Guard:

- 1. Description: Provide insulating pipe covering for supply and drain piping assemblies. The install lavatory protective enclosure that prevent direct contact with and burns from piping. Provide 'Lav Shield' as provided by Truebro (IPS Corporation) model #2018 or approved equal with tamper resistant screws. Provide factory cut models where available (coordinate with mechanical).
- 2. Material and Finish: Impact-resistant, stain-resistant and chemical resistant rigid vinyl with China white finish.
- C. Provide at all wall mounted lavatories and as noted on drawings.

#### 2.3 FABRICATION

A. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

#### PART 3 - EXECUTION

#### 3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

#### **END OF SECTION 102800**

#### BUILDING CODE INFORMATION

OWNER:HIGHLAND TOWNSHIP FIRE DEPARTMENTPROJECT:HIGHLAND TOWNSHIP FIRE STATION NO. 1ADDRESS:1600 WEST HIGHLAND RD. HIGHLAND, MI 48357

#### **GOVERNING CODES:**

2015 MICHIGAN BUILDING CODE (MBC) 2012 LIFE SAFETY CODE (LSC) WITH AMENDMENTS

2015 MICHIGAN MECHANICAL CODE 2015 MICHIGAN PLUMBING CODE 2017 NATIONAL ELECTRICAL CODE

#### MICHIGAN BUILDING CODE SUMMARY:

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION

# NON-SEPARATED MIXED USE OCCUPANCY: [303.4] ASSEMBLY GROUP A-3

[303.4] ASSEMBLY GROUP A-3
 [304.1] BUSINESS GROUP B
 [310.3] RESIDENTIAL GROUP R-3
 [311.2] LOW HAZARD STORAGE GROUP S-2

CHAPTER 4: SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

#### DRYING ROOMS (SECTION 417):

[417.1] A DRYING ROOM OR DRY KILN INSTALLED WITHIN A BUILDING SHALL BE CONSTRUCTED ENTIRELY OF APPROVED NON-COMBUSTIBLE MATERIALS OR ASSEMBLIES

#### GROUP R-3 (SECTION 420):

[420.2] WALLS SEPARATING SLEEPING UNITS IN THE SAME BUILDING AND WALLS SEPARATING SLEEPING UNITS FROM OTHER OCCUPANCIES CONTIGUOUS TO THEM IN THE SAME BUILDING SHALL BE CONSTRUCTED AS FIRE PARTITIONS IN ACCORDANCE WITH SECTION 708.

[420.5] OCCUPANCIES SHALL BE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.2.8.

[420.6] FIRE ALARM SYSTEMS AND SMOKE ALARMS SHALL BE PROVIDED IN ACCORDANCE WITH THE

APPLICABLE SECTIONS OF CHAPTER 9.

#### CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS

[505.2.1] MEZZANINE AREA LIMITATION: THE AREA OF MEZZANINES SHALL NOT BE GREATER THAN 1/3 OF THE AREA OF THE ROOM IN WHICH THEY ARE LOCATED.

1,123 SF / 5,920 SF = .19 < .33 MAX

[508.3.2] NON-SEPARATED USES, MOST RESTRICTIVE PROVISIONS APPLY PER SECTION 504 & SECTION 506.

[TABLE 509] INCIDENTAL USES: NO USES LISTED IN TABLE 509 APPLY.

#### ALLOWABLE BUILDING HEIGHT AND AREA

[TABLE 504.3] ALLOWABLE BUILDING HEIGHT: 75'-0" (ACTUAL: 42'-7") [TABLE 504.4] ALLOWABLE STORIES: 3 (ACTUAL: 1)

[506.2] ALLOWABLE AREA: 38,000 (A-3), 92,000 (B), UNLIMITED (R-3), 104,000 (S-2) 1 STORY, EQUIPPED WITH AUTO. SPRINKLER SYSTEM

#### TOTAL PROPOSED BUILDING AREA: 15,811 S.F. GROSS (INCLUDING MEZZANINE)

USING THE MOST RESTRICTIVE REQUIREMENTS IN ALL CASES

## CHAPTER 6 - TYPES OF CONSTRUCTION

[602.5] TYPE V-B

[TABLE 601] FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

CONSTRUCTION TYPE IS IIB - NO BUILDING ELEMENTS REQUIRE FIRE RESISTANCE RATED CONSTRUCTION

# CHAPTER 7: FIRE AND SMOKE PROTECTION FEATURES

[705.1] OPEN FRONTAGE ON ALL SIDES OF BUILDING - FIRE RATED EXTERIOR WALLS NOT REQUIRED

[706.1] FIRE WALLS: NOT REQUIRED

[707.1] FIRE BARRIERS: A ONE HOUR FIRE BARRIER HAS BEEN PROVIDED BETWEEN OCCUPANCY GROUP B

AND OCCUPANCY GROUP S-2 PER TABLE [707.3.10].

[708.1] FIRE PARTITIONS: REQUIRED AND PROVIDED PER SECTION 708.3

EXCEPTION #2: SLEEPING UNITS IN TYPE II-B CONSTRUCTION SHALL BE SEPARATED BY FIRE RESISTANCE RATINGS OF AT LEAST 1/2 HOUR WHERE EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM.

[709.1] SMOKE BARRIERS: NOT REQUIRED

[710.1] SMOKE PARTITIONS: NOT REQUIRED

ROOMS AND ENCLOSED SPACES: CLASS C

#### CHAPTER 8: INTERIOR FINISHES

[TABLE 803.11] INTERIOR WALL/CEILING FINISHES (SPRINKLERED BUILDING)
- INTERIOR EXIT STAIRWAYS, RAMPS, AND PASSAGEWAYS: CLASS B
- EXIT ACCESS STAIRWAYS, RAMPS, AND PASSAGEWAYS: CLASS C

### CHAPTER 9: FIRE PROTECTION SYSTEMS

[903.2.8] AN AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED THROUGHOUT THE BUILDING IN ACCORDANCE WITH SECTION 903.3 (NFPA 13)

[903.3.1.1.1] EXCEPTION #4: AN AUTOMATIC SPRINKLER SYSTEM SHALL NOT BE REQUIRED IN UNOCCUPIED ROOMS OR AREAS THAT ARE OF NON-COMBUSTIBLE CONSTRUCTION WITH WHOLLY NON-COMBUSTIBLE CONTENTS. (ATTIC)

[906] PORTABLE FIRE EXTINGUISHERS LOCATIONS:
WITHIN 30'-0" OF COMMERCIAL COOKING EQUIPMENT, SPECIAL HAZARD AREAS (APPARATUS BAY),
WHERE REQUIRED BY THE INTERNATIONAL FIRE CODE, MAXIMUM TRAVEL DISTANCE - 75'-0"

[907.2.0.2] AUTOMATIC SMOKE DETECTION SYSTEM - A SMOKE DETECTION SYSTEM THAT ACTIVATES THE OCCUPANT NOTIFICATION SYSTEM IN ACCORDANCE WITH SECTION 907.5 SHALL BE INSTALLED IN THE AREAS LISTED IN 907.2.11.1.

[907.2.11.2] SINGLE OR MULTIPLE-STATION SMOKE ALARMS SHALL BE INSTALLED IN ALL OF THE FOLLOWING LOCATIONS IN GROUP R-3: ON THE CEILING OR WALL OUTSIDE OF EACH SEPARATE SLEEPING AREA, IN EACH ROOM USED FOR SLEEPING, AND IN EACH STORY WITHIN THE DWELLING UNIT.

[907.2.11.3] SMOKE ALARMS SHALL NOT BE INSTALLED WITHIN 20'-0" OF A PERMANENT COOKING APPLIANCE.

[907.2.11.4] SMOKE ALARMS SHALL BE INSTALLED NOT LESS THAN 3'-0" FROM THE DOOR OF A BATHROOM CONTAINING A BATHTUB OR SHOWER.

[907.2.11.7] SMOKE DETECTORS LISTED IN ACCORDANCE WITH UL 268 AND PROVIDED AS PART OF THE BUILDING FIRE ALARM SYSTEM SHALL BE AN ACCEPTABLE ALTERNATIVE TO SINGLE AND MULTIPLE STATION SMOKE ALARMS. THE FIRE ALARM SYSTEM SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS IN SECTION 907 AND ACTIVATION OF A SMOKE DETECTOR IN A DWELLING UNIT OR SLEEPING UNIT SHALL INITIATE ALARM NOTIFICATION IN THE DWELLING UNIT OR SLEEPING UNIT IN ACCORDANCE WITH SECTION 907.5.2

[907.5.2.3.1] VISIBLE ALARM NOTIFICATION APPLIANCES SHALL BE PROVIDED IN ALL PUBLIC USE AND COMMON AREAS.

CARBON MONOXIDE DETECTION SHALL BE PROVIDED IN SLEEPING UNITS AND DWELLING UNITS SERVED BY A FUEL BURNING APPLIANCE OR FURNACE.

#### CHAPTER 10: MEANS OF EGRESS

[TABLE 1004.1.2] MAXIMUM FLOOR AREA ALLOWANCE PER OCCUPANT:

DORMITORIES & RESIDENCE - 1 PERSON PER UNIT = 6 OCCUPANTS

BUSINESS - 2,241 SF / 100 SF PER PERSON = 23 OCCUPANTS

APPARATUS & MEZZANINE - 8,616 SF / 300 SF PER PERSON = 29 OCCUPANTS

TRAINING ROOM - 1,155 SF / 15 SF PER PERSON = 77 OCCUPANTS

#### GRAND TOTAL NUMBER OF OCCUPANTS: 135 PERSONS

[1004.1.1.2] THE OCCUPANT LOAD OF A MEZZANINE SHALL BE ADDED TO THE OCCUPANT LOAD OF THE

ROOM THROUGH WHICH REQUIRED EGRESS OCCURS.

2015 MICHIGAN MECHANICAL CODE:

MEANS OF ACCESS SHALL BE PROVIDED.

OTHER EXHAUST SYSTEMS.

REQUIREMENTS OF THIS SECTION.

HEIGHT ABOVE GRADE TO ACCESS EQUIPMENT OR APPLIANCES.

WHERE EQUIPMENT OR APPLIANCES REQUIRING ACCESS ARE LOCATED ON AN ELEVATED

[505.1] DOMESTIC KITCHEN EXHAUST SYSTEMS SHALL DISCHARGE TO THE OUTDOORS THROUGH AIR TIGHT

[717.5.4] EXCEPTION #3: FIRE DAMPERS ARE NOT REQUIRED AT FIRE PARTITION PENETRATIONS WHERE THE

DUCT SYSTEM IS CONSTRUCTED OF APPROVED MATERIALS, AND COMPLIES WITH THE

STRUCTURE OR THE ROOF OF A BUILDING SO THAT PERSONNEL WILL HAVE TO CLIMB HIGHER THAN

EXCEPTION 1: AN APPROVED, BUILDING MOUNTED LADDER RECEIVER WHICH PREVENTS THE LADDER

FROM SLIDING SIDEWAYS OFF THE BUILDING OR SLIPPING BACKWARDS AND MEETS THE LADDER

SAFETY STANDARD OF OSHA REGULATIONS MAY BE INSTALLED ON BUILDINGS UNDER 20 FEET IN

SHEET METAL DUCTS EQUIPPED WITH BACKDRAFT DAMPERS AND SHALL BE INDEPENDENT OF ALL

16 FEET ABOVE GRADE TO ACCESS THE EQUIPMENT OR APPLIANCE, AN INTERIOR OR EXTERIOR

[TABLE 1006.2.1] SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

MAX COMMON PATH OF EGRESS TRAVEL DISTANCE (SPRINKLERED): 100'-0"

[TABLE 1006.3.1] MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS/STORY:

1-500 OCCUPANTS = 2 EXITS REQUIRED, 5 PROVIDED

EGRESS THROUGH INTERVENING SPACES SHALL BE ALLOWED WHERE THE ADJOINING

ROOMS OR AREAS ARE ACCESSORY TO ONE ANOTHER, AND PROVIDE A DISCERNABLE PATH

OF EGRESS TRAVEL TO AN EXIT.

[1016.2.5] EXCEPTION #1: MEANS OF EGRESS ARE NOT PROHIBITED THROUGH A KITCHEN AREA

SERVING ADJOINING ROOMS CONSTITUTING PART OF THE DWELLING UNIT OR SLEEPING UNIT.

[TABLE 1017.2] EXIT ACCESS TRAVEL DISTANCE (SPRINKLERED): 250'-0" MAXIMUM (MOST RESTRICTIVE)

[1017.3.1] EXIT ACCESS STAIRWAYS AND RAMPS SHALL BE INCLUDED IN THE EXIT ACCESS TRAVEL

[1019.2] EXIT ACCESS STAIRWAYS AND RAMPS THAT SERVE FLOOR LEVELS WITHIN A SINGLE STORY ARE NOT REQUIRED TO BE ENCLOSED.

[TABLE 1020.2] MINIMUM CORRIDOR WIDTHS: 44" MINIMUM

[1019.2] DEAD END CORRIDORS (SPRINKLERED) = 50'-0" MAXIMUM

DISTANCE MEASUREMENT.

#### CHAPTER 11: ACCESSIBILITY

[1016.2.2]

[1103.2.15] MILITARY, FIRE SERVICE, AND POLICE FACILITIES:

HOUSING, BATHING, TOILET, TRAINING, AND STORAGE AREAS INTENDED FOR USE AND OCCUPANCY EXCLUSIVELY BY PERSONNEL REQUIRED TO BE PHYSICALLY AGILE ARE NOT REQUIRED TO BE ACCESSIBLE.

1/32" = 1'-0"

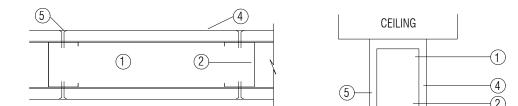
[1104.1] SITE ARRIVAL POINTS:
MINIMUM (1) ACCESSIBLE ROUTE WITHIN SITE TO AN ACCESSIBLE ENTRANCE - (3) PROVIDED

[1105.1] PUBLIC ENTRANCES:
MINIMUM OF 60% OF ALL PUBLIC ENTRANCES TO BE ACCESSIBLE (100% ACCESSIBLE)

[1105.2] [TABLE 1106.1] ACCESSIBLE PARKING SPACES: (2) REQUIRED - (2) PROVIDED

#### **(** UL DESIGN DETAIL #W433

BASED ON UNDERWRITERS LABORATORIES INC. CURRENT FIRE RESISTANCE DIRECTORY DESIGN NO. W433 NONBEARING WALL RATING - 1/2 HR



#### HORIZONTAL SECTION

- Proprietary channel shaped runners, min depth to accommodate stud size, attached to floor and ceiling with fasteners 24 in. OC. max.
   Framing Members\* Steel Studs For the 1/2 Hour Nonbearing Wall Rating Proprietary channel shaped studs, min. 2-1/2 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height
- Gypsum Board\* 5/8 in. thick, 48 in. wide, with beveled, square, or tapered edges, applied either horizontally or vertically. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers need not be staggered.
   1/2 Hour Nonbearing Rating On Steel Studs Single layer secured to studs or resilient channels with 1 in. long Type S steel screws
- spaced 12 in. OC at the perimeter and in the field.

  Joint Tape and Compound Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint
- compound may be omitted when gypsum panels are supplied with a square edge.
  6. Furring Channels (Optional, Not Shown) Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws for steel studs and 1-1/4 in. long Type S or Type W screws for wood studs.

# CODE AND LIFE SAFETY PLAN LEGEND

GENERAL NOTE:

AT ALL FIRE RATED WALL CONSTRUCTION, NEW OR OTHERWISE
ALTERED BY THIS PROJECT, PROVIDE SIGNAGE ABOVE THE
ADJACENT ACCESSIBLE CEILING THAT STATES: "FIRE AND/OR
SMOKE BARRIER - PROTECT ALL OPENINGS." THE LETTERS ARE TO
BE 1/2" HIGH MIN. AND ARE TO BE STENCILED IN PAINT DIRECTLY
ONTO THE WALL. LOCATE THE SIGNS 30 FEET O.C. MAXIMUM.

CODE ANALYSIS WALL CONSTRUCTION 1:

NEW WALL CONSTRUCTION TO BE 1/2-HOUR "FIRE BARRIER"

CONSTRUCTION PER MBC SECTION 707. PROVIDE FIRE / SMOKE DAMPERS

AS REQUIRED PER MBC. ALSO PROVIDE FIRE SEAL AT WALL AND ROOF /
FLOOR DECK INTERSECTIONS.

OCCUPANT CAPACITY OF EGRESS COMPONENT

OCCUPANT LOAD EXITING THROUGH EGRESS COMPONENT

ROOM OCCUPANT LOAD

PORTABLE FIRE EXTINGUISHER / SEMI-RECESSED CABINET

WALL MOUNTED FIRE EXTINGUISHER

1/32" = 1'-0"

PARTNERS in Architecture, PLC 65 MARKET STREET

MOUNT CLEMENS, MI 48043 P 586.469.3600 F 586.469.3607

Statement of Intellectual Property

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CONSULTANT

KEY PLAN

Highland Township
Fire Department

Highland Township
Fire Station No. 1

1600 W. Highland Rd. Highland, MI 48357

PROJECT NO.

18-122A

Bidding - Construction 03/27/20 CCD #4 09/01/20

DRAWN BY

CHECKED BY

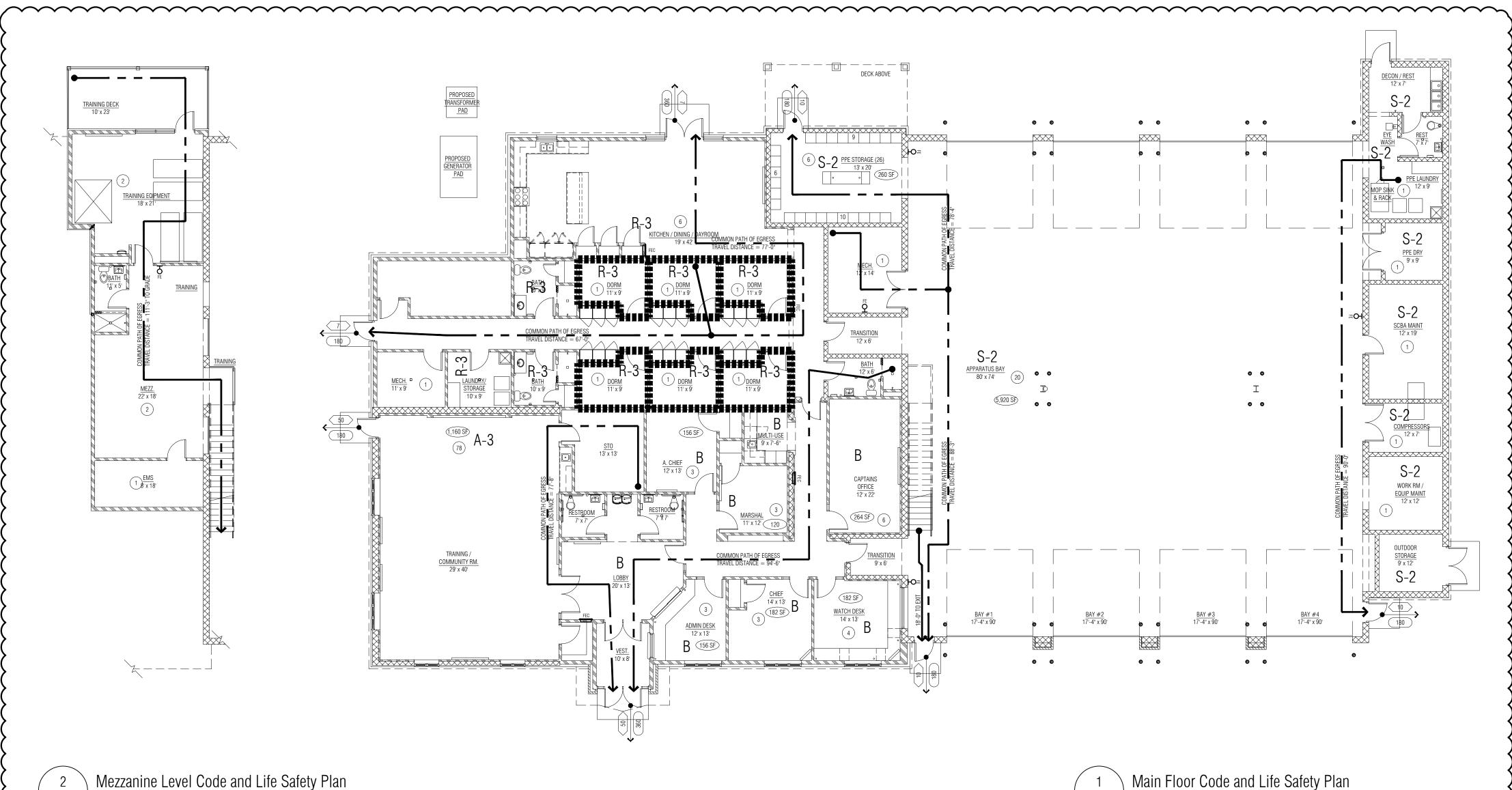
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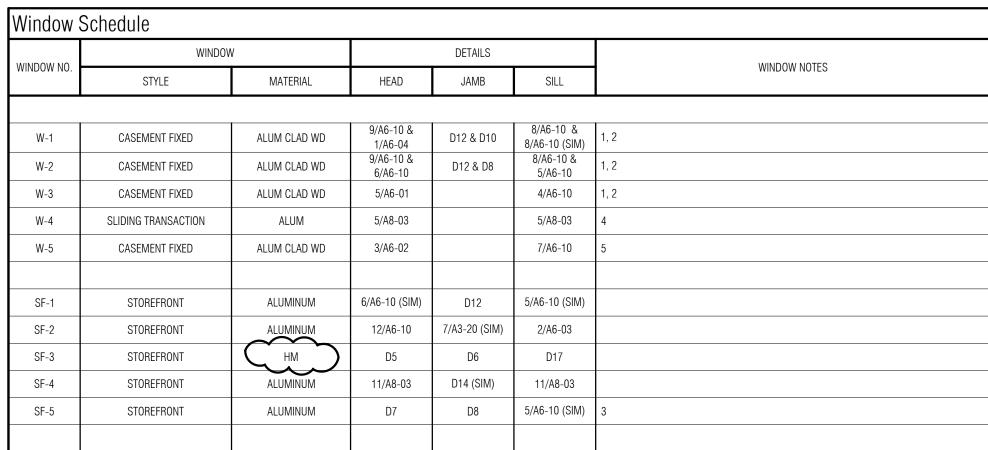
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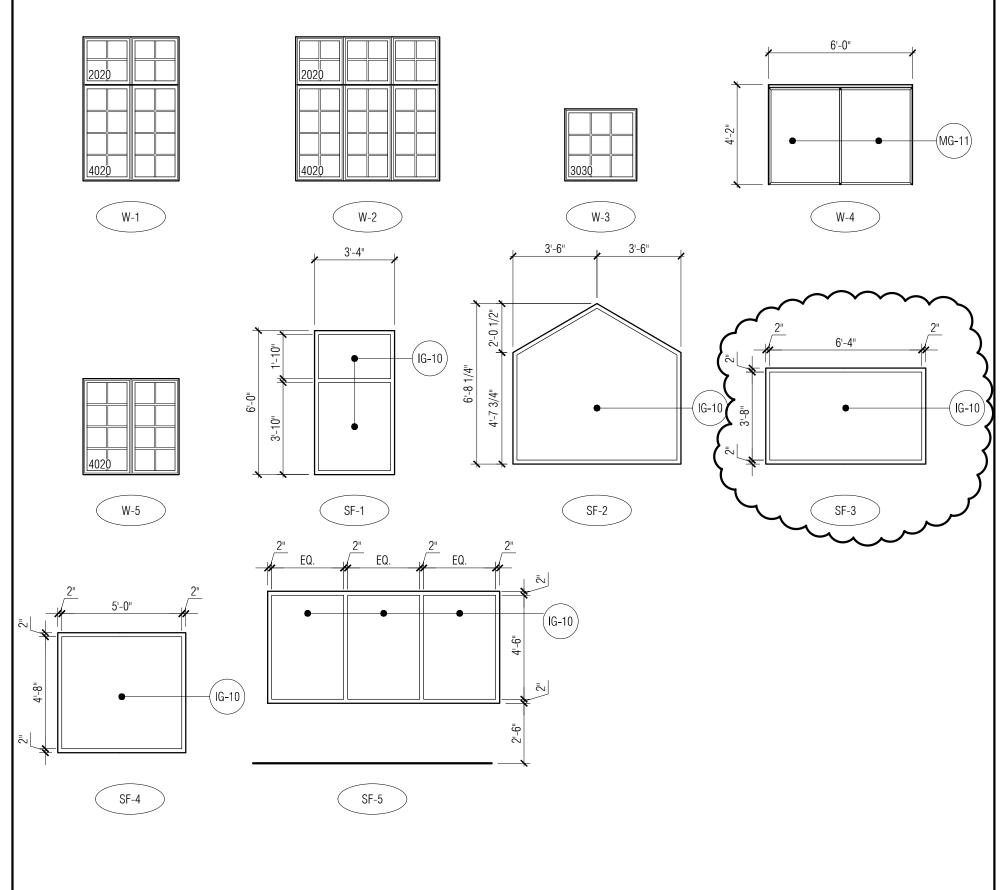
LIFE SAFETY CODE INFORMATION

SHEET NO. **A**0-02





## Window Types

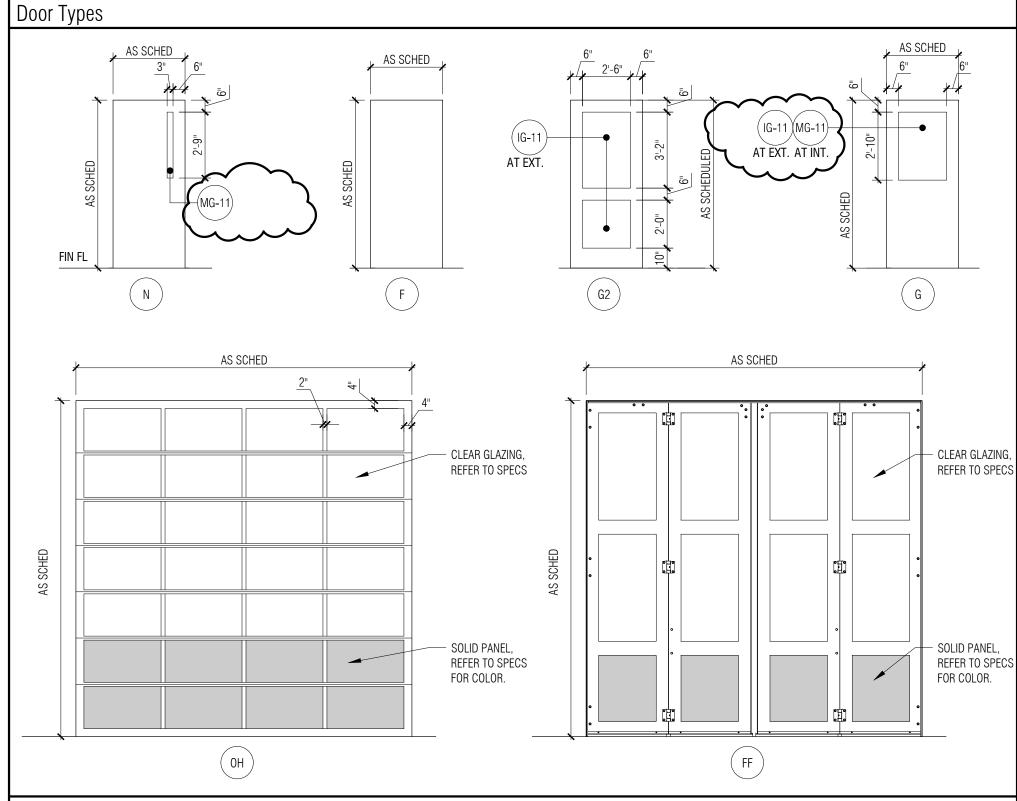


#### Window General Notes:

A. REFER TO SPECIFICATION FOR INTERIOR OR EXTERIOR FINISHES

## Window Key Notes:

- REFER TO SPECIFICATIONS FOR BASIS OF DESIGN.
- REFER TO WINDOW TYPE AND MODEL NUMBER FOR DIMENSIONS.
- BASE BID IF ADD ALT # 3 IS NOT ACCEPTED REFER TO DOOR 204B. 4. TRANSACTION WINDOW AS SPECIFIED - REFER TO MANUFACTURERS DETAILS FOR HEAD, JAMB AND SILL INSTALLATION
- 5. DORMER WINDOW REFER TO ROOF PLAN A3-30



# Frame Types REMOVABLE MULLION WHERE INDICATED ON FLOOR PLAN FIN FL FIN FL F7 F6 — REMOVABLE MULLION WHERE

FIN FL F8	INDICATED ON FLOOR PLAN		
Door / Openings General Notes:			
A. FIELD VERIFY ALL OPENINGS PRIOR TO DOOR/FRAM	E FABRICATION.		

- B. DOOR TYPE NAMING CONVENTIONS ARE BASED ON SDI 108-18 STANDARDS WHERE APPLICABLE.
- FIRE RATED LABEL DOORS AND FRAMES ARE LISTED IN MINUTES. D. REFER TO 087100 DOOR HARDWARE SPEC FOR SECTION NUMBERS.
- ALL WOOD DOORS TO BE SOLID CORE.
- DOORS WITH THE SYMBOL "- ON MAIN LEVEL FLOOR PLAN A3-01 ARE TO RECEIVE CARD KEY ACCESS. PROVIDE CONDUIT AND PULL STRING. INDICATE LOCATION OF CONDUIT ABOVE CEILING SYSTEM. REFER TO HARDWARE SPECIFICATIONS. G. REFER TO DETAILS ON A0-13 AND A0-14.

# Door / Opening Key Notes:

- REFER TO ALTERNATE #1.
- DOOR FRAME TO ALIGNED TO "APPARATUS BAY" SIDE OF CMU.
- 3. DOOR FRAME TO BE ALIGNED TO "PASSAGE" SIDE OF CMU. DOOR FRAME SHOULD ALIGN WITH END OF GYP. BD RETURN.
- 1/2" CONDUIT FOR ELECTRIFIED HARDWARE AND ACCESS CONTROL REFER TO ELEC. AND DOOR HARDWARE.
   DOOR IS PART OF <u>ADD ALT:</u> REPLACE WITH SF-5 (NO DOOR) IF NOT ACCEPTED REFER TO WINDOW TYPES.

	DOOR / 005511115 5175 111												İ
DOOR NO.	DOOR / OPENING SIZE (W X H) (CONTRACTOR TO VERIFY DOOR	7./05	DOOR	FINIOLI	7.05	FRAME	FINIOLI	LIEAD	DETAILS	THRES. /	HARDWARE SET #	LABEL (MIN.)	DOOR / OPENING KEY NOTES
44141   51/51	SIZE IF OPENING IS EXISTING)	TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	HEAD	JAMB	SILL	OLI #	(141114.)	
MAIN LEVEL	(2) 3'-0" X 7'-0"	00	A I . I I M	ANOD-1	F4	ALUM	ANOD-1	2/A6-03	7/42.20	TO	2.0		
101	(2) 3'-0" X 7'-0"	G2	ALUM ALUM		F4 F8	ALUM	ANOD-1	D13	7/A3-20 D14	T2 T3	3.0 8.0		4
102	3'-0" X 7'-0"	G2 F	WD	ANOD-1 ST-1	F1	HM	PNT-2	D13	D14	T8	20.0		4
103	3'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4	T8	20.0		
105A	(2) 3'-0" X 7'-0"	G2	ALUM	ANOD-1	F4	ALUM	ANOD-1	D13	D14	T3	9.0		
105A 105B	3'-0" X 7'-0"	- GZ 	WD	ST-1	F1	HM	PNT-2	D13	D14		16.0		
105C	3'-0" X 7'-0"	F	ALUM	ANOD-1	F5	ALUM	ANOD-1	D11	D12/D16	T2	6.0		
106	3'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4	T2	17.0		
107	3'-0" X 7'-0"	F	WD	ST-1	F3	HM	PNT-2	D3	D4		11.0		4
108	3'-0" X 7'-0"	F	WD	ST-1	F3	HM	PNT-2	D3	D4		15.0		'
109A	3'-0" X 7'-0"	F	WD	ST-1	F3	HM	PNT-2	D3	D4		15.0		
109B	3'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4		21.0		
110A	3'-0" X 7'-0"	F	WD	ST-1	F3	HM	PNT-2	D3	D4		15.0		
110B	3'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4		21.0		
111A	3'-0" X 7'-0"	F	WD	ST-1	F3	HM	PNT-2	D3	D4		15.0		
111B	3'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4		21.0		
112	3'-0" X 7'-0"	F	WD	ST-1	F3	HM	PNT-2	D3	D4		15.0		
113	3'-0" X 7'-0"	G	НМ	PNT-2	F1	HM	PNT-2	D5	D6	Т9	10.0		3
114	3'-0" X 7'-0"	F	WD	ST-1	F3	HM	PNT-2	D3	D4		15.0		
116	3'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D1	D2	Т8	18.0		3
117	3'-0" X 7'-0"	G	НМ	PNT-2	F1	НМ	PNT-2	D1	D2	Т9	10.0		3
118	3'-0" X 7'-0"	F	WD	ST-1	F1	НМ	PNT-2	D3	D4		27.0	$\langle \rangle$	
119	(2) 3'-0" X 7'-0"	F	НМ	PNT-2	F2	НМ	PNT-2	D1	D2	T1	14.0		2
120A	3'-0" X 7'-0"	G	WD	ST-1	F1	НМ	PNT-2	D3	D4		25.0		)
120B	3'-0" X 7'-0"	F	ALUM	ANOD-1	F5	ALUM	ANOD-1	D11	D8/D15	T1	5.0		4
121	3'-0" X 7'-0"	F	WD	ST-1	F1	НМ	PNT-2	D3	D4	T3	18.0	20	<b>\</b>
122	3'-0" X 7'-0"	F	WD	ST-1	F1	НМ	PNT-2	D3	D4	T3	18.0	20	K
123	3'-0" X 7'-0"	F	WD	ST-1	F1	НМ	PNT-2	D3	D4	T3	18.0	20	<i>/</i>
124A	3'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4	Т8	18.0		
124B	2'-0" X 7'-0"	F	WD	ST-1	F1	НМ	PNT-2	D3	D4		21.0	$\sim$	
125	3'-0" X 7'-0"	F	WD	ST-1	F1	НМ	PNT-2	D3	D4	T3	18.0	20	<u> </u>
126	3'-0" X 7'-0"	F	WD	ST-1	F1	НМ	PNT-2	D3	D4	T3	18.0	20	
127	3'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4	T3	18.0	20	}
128A	3'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4	T8	19.0	$\mathcal{L}$	
128B	2'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3 6/A6-10	D4		21.0		
129A	(2) 3'-0" X 7'-0"	G2	ALUM	ANOD-1	F7	ALUM	ANOD-1	(SIM)	D8/D15	T1	2.0		
129B	2'-8" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4		28.0		
129C	2'-8" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4		28.0		
129D	2'-8" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D4		28.0		
131A	14'-0" X 14'-0"	OH				VERHEAD DO		D19	D18 / D20		26.0		1
131B	14'-0" X 14'-0"	0H				VERHEAD DO		D19	D18		26.0		1
131C	14'-0" X 14'-0"	0H				VERHEAD DO		D19	D18		26.0		1
131D	14'-0" X 14'-0"	0H				VERHEAD DO		D19	D18 / D20		26.0		1
131E	14'-0" X 14'-0"	0H				VERHEAD DO		D19	D20		26.0		1
131F	14'-0" X 14'-0"	OH				VERHEAD DO		D19	D20		26.0 26.0		1
131G	14'-0" X 14'-0"	OH						D19	D20				1
131H	14'-0" X 14'-0"	OH N				VERHEAD DO		D19	D20	 T1	26.0		1
131J 131K	3'-0" X 7'-0" 3'-0" X 7'-0"	N N	FRP		F2 F2	ALUM ALUM	ANOD-1 ANOD-1	D9 D9	D10 D10	T1 T1	4.0		4
131K 132	3'-0" X 7'-0" 3'-0" X 7'-0"	N F	FRP		F2 F2	ALUM	ANOD-1	D9 D11	D10/D16	T1	5.0		4
132	3'-0" X 7'-0"	N N	FRP		F2 F2	ALUM	ANOD-1	D9	الا/21لا D10	T1	5.0		4
134A	3'-0" X 7'-0"	N F	HM	PNT-2	F2 F2	HM	PNT-2	D9 D1	D10		18.0		7
134B	3'-0" X 7'-0"	F	HM	PNT-2	F2 F2	HM	PNT-2	D1	D2 D2		18.0		
1348	(2) 3'-0" X 7'-0"	N N	HM	PNT-2	F2 F2	HM	PNT-2	וט D1	D2	 T1	22.0		2
137	3'-0" X 7'-0"	N	HM	PNT-2	F2	HM	PNT-2	D1	D2	T1	13.0		2
138	(2) 3'-0" X 7'-0"	F	HM	PNT-2	F2	HM	PNT-2	D1	D2	T1	23.0		2
140	(2) 3'-0" X 7'-0"	F	FRP		F2 F2	ALUM	ANOD-1	D9	D10	T1	7.0		-
141	3'-0" X 7'-0"	F	WD	ST-1	F1	HM	PNT-2	D3	D10	T9	29.0		
142	3'-0" X 7'-0"	F	WD	ST-1	 F1	HM	PNT-2	 D3	D4	T9	29.0		
	3 3 7 7 0	'	****	5. 1	- ' '	i iiví	111174			10	20.0		
MEZZANINE I	<u>I</u> Level					<u>I</u>			<u> </u>		Ī		<u> </u>
202	3'-0" X 7'-0"	F	НМ	PNT-2	F1	НМ	PNT-2	D3	D4		12.0		
202	3'-0" X 7'-0"	F	HM	PNT-2	F1	HM	PNT-2	D3	D4	T6	18.0		
203 204A	3'-0" X 7'-0"	N	HM	PNT-2	F1	HM	PNT-2	 D3	D4	T5	24.0		
X1.121.11	u -∪ ∧ / -U	11	LIIVI	1 INT-Z	''	I HIVI	1 INT-Z	טט	l <sup>U4</sup>	١J	L 4.∪		1

# **PARTNERS**



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CONSULTANT

Highland Township Fire Department

PROJECT NAME

Highland Township Fire Station No. 1

1600 W. Highland Rd. Highland, MI 48357

PROJECT NO.

18-122A

Bidding - Construction	03/27/20				
Addendum #1	04/20/20				
CCD #4	09/01/20				

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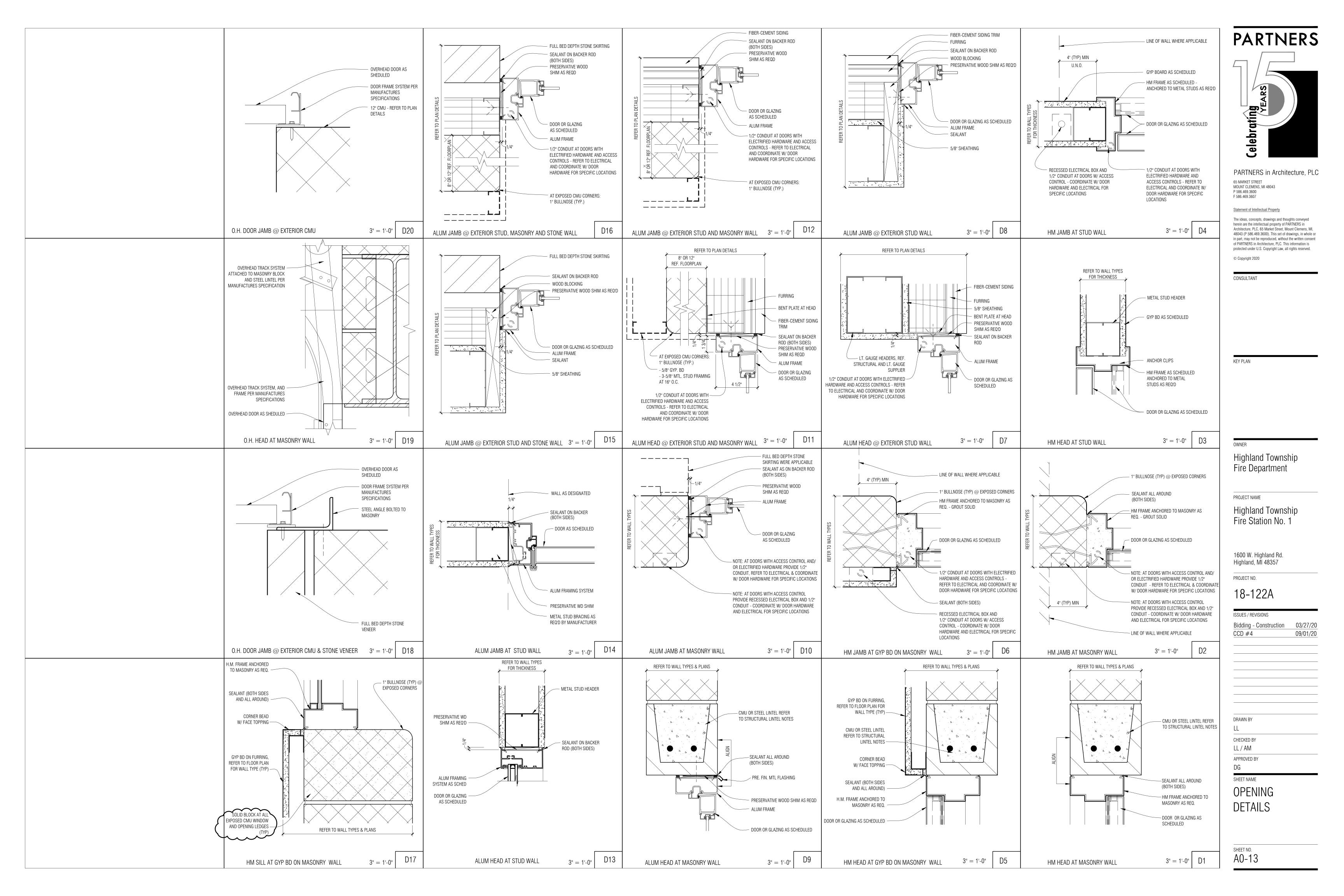
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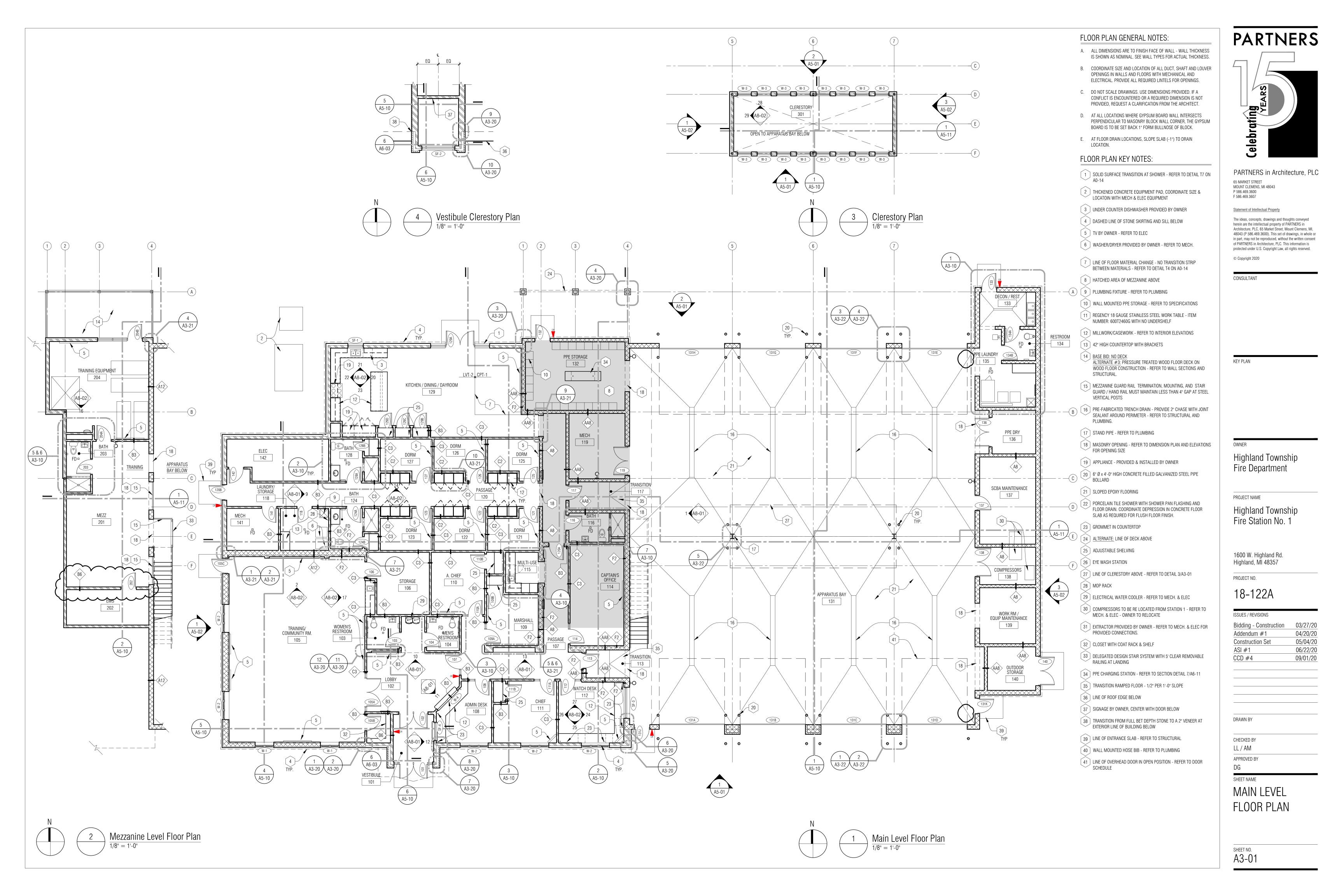
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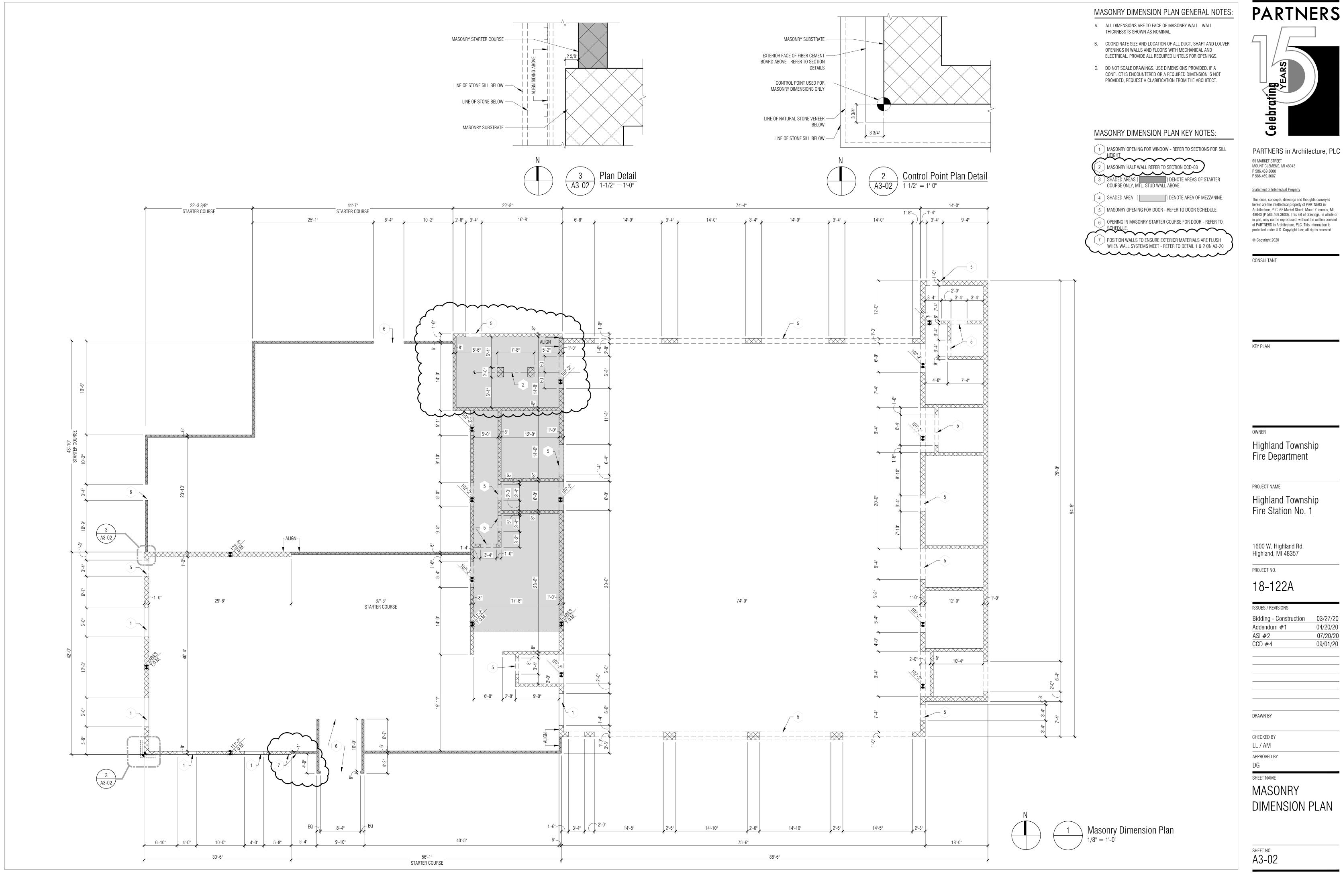
SHEET NAME

DOOR SCHEDULE & FRAME TYPES

SHEET NO. A0-04

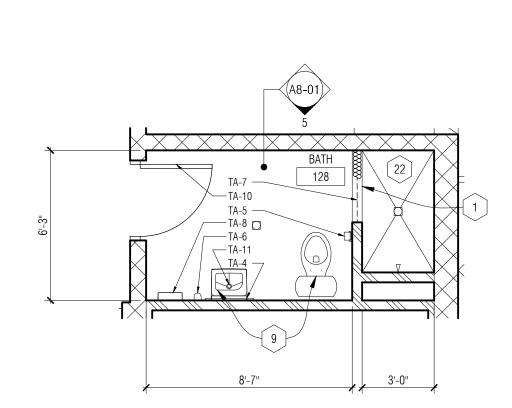






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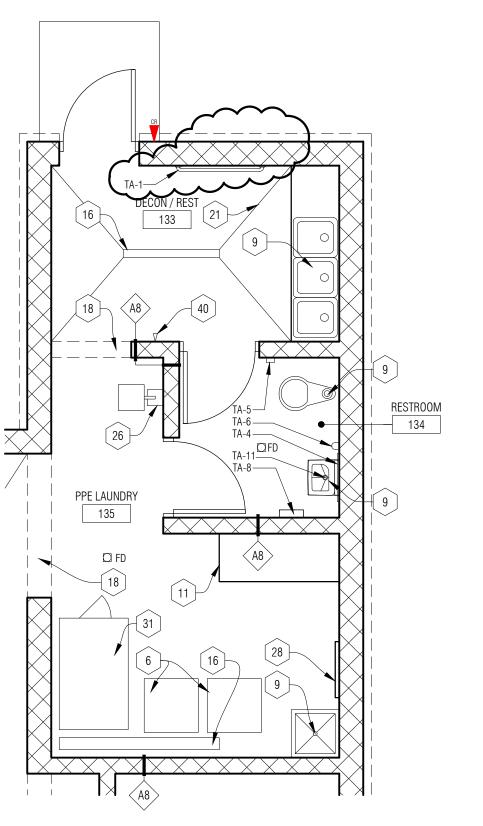


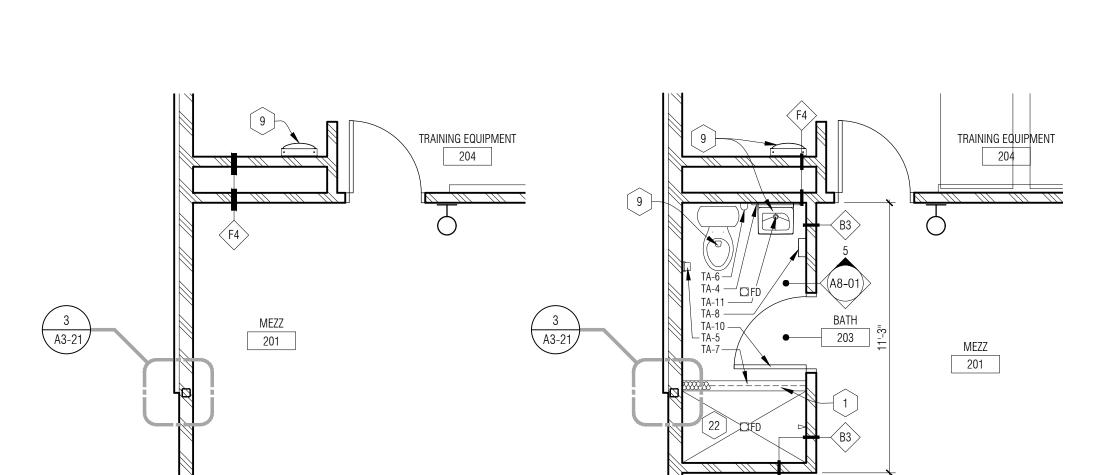
Enlarged Plan - Bathroom 116

A3-01 1/4" = 1'-0"

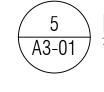




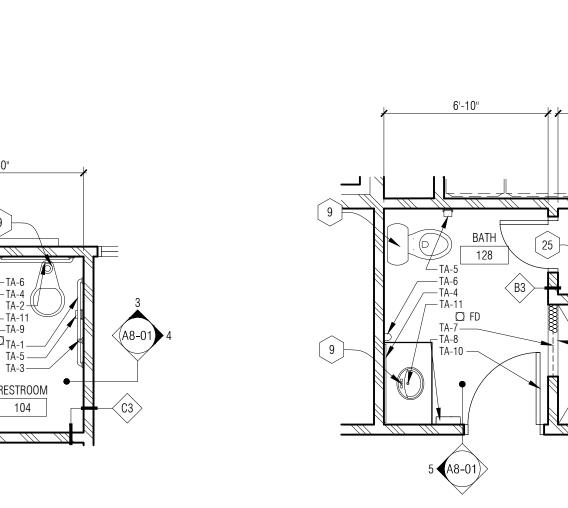




Mezzanine Level Enlarged Floor Plan - Base Bid  $\overline{(A3-01)}$   $\overline{1/4" = 1'-0"}$ 



Mezzanine Level Enlarged Floor Plan - Alternate #2









- A. REFER TO SPECIFICATION SECTION 102800 FOR DESCRIPTION OF TOILET ACCESSORIES.
- B. REFER TO MECHANICAL PLANS FOR ALL PLUMBING FIXTURES.
- C. CENTER FLOOR DRAIN IN ROOM UON. ENSURE 1/8" PER FOOT SLOPE TOWARD FLOOR DRAINS. (TYP.)
- D. PROVIDE WD BLOCKING SUPPORT AT ALL GRAB BAR LOCATIONS PER GRAB BAR MANUFACTURER'S RECOMMENDATION.

#### LEGEND - TOILET ACCESSORIES

- TA-1 42" GRAB BAR
- TA-2 36" GRAB BAR
- TA-3 18" GRAB BAR VERTICAL

TA-4 WALL MOUNTED MIRROR

- TA-5 TOILET TISSUE DISPENSER BY OWNER TA-6 SURFACE MOUNTED SOAP DISPENSER - BY OWNER \_\_\_\_\_ TA-7 SHOWER CURTAIN BOD & HOOKS
- TA-8 PAPER TOWEL DISPENSER BY OWNER TA-9 ELECTRIC HAND DRYER
- TA-10 TOWEL HOOK

TA-11 LAVATORY GUARD

TA-12 FREE STANDING WASTE RECEPTACLE (NOT SHOWN- PROVIDE 1 AT EACH RESTROOM)

- FLOOR PLAN GENERAL NOTES:
- A. ALL DIMENSIONS ARE TO FINISH FACE OF WALL WALL THICKNESS IS SHOWN AS NOMINAL. SEE WALL TYPES FOR ACTUAL THICKNESS.
- B. COORDINATE SIZE AND LOCATION OF ALL DUCT, SHAFT AND LOUVER OPENINGS IN WALLS AND FLOORS WITH MECHANICAL AND ELECTRICAL. PROVIDE ALL REQUIRED LINTELS FOR OPENINGS.
- . DO NOT SCALE DRAWINGS. USE DIMENSIONS PROVIDED. IF A CONFLICT IS ENCOUNTERED OR A REQUIRED DIMENSION IS NOT PROVIDED, REQUEST A CLARIFICATION FROM THE ARCHITECT.
- D. AT ALL LOCATIONS WHERE GYPSUM BOARD WALL INTERSECTS PERPENDICULAR TO MASONRY BLOCK WALL CORNER, THE GYPSUM BOARD IS TO BE SET BACK 1" FORM BULLNOSE OF BLOCK.
- E. AT FLOOR DRAIN LOCATIONS, SLOPE SLAB (-1") TO DRAIN

#### FLOOR PLAN KEY NOTES:

- 1 SOLID SURFACE TRANSITION AT SHOWER REFER TO DETAIL T7 ON A0-14
- 2 THICKENED CONCRETE EQUIPMENT PAD, COORDINATE SIZE &
- LOCATOIN WITH MECH & ELEC EQUIPMENT
- [ 3 ] UNDER COUNTER DISHWASHER PROVIDED BY OWNER 4 DASHED LINE OF STONE SKIRTING AND SILL BELOW

6 Washer/Dryer Provided by Owner - Refer to Mech.

- 5 TV BY OWNER REFER TO ELEC
- 7 LINE OF FLOOR MATERIAL CHANGE NO TRANSITION STRIP
- BETWEEN MATERIALS REFER TO DETAIL T4 ON A0-14
- 8 HATCHED AREA OF MEZZANINE ABOVE
- 9 PLUMBING FIXTURE REFER TO PLUMBING
- 10 WALL MOUNTED PPE STORAGE REFER TO SPECIFICATIONS [ 11 ] REGENCY 18 GAUGE STAINLESS STEEL WORK TABLE - ITEM
- NUMBER: 600T2460G WITH NO UNDERSHELF 12 MILLWORK/CASEWORK - REFER TO INTERIOR ELEVATIONS
- 13 42" HIGH COUNTERTOP WITH BRACKETS
- 14 BASE BID: NO DECK ALTERNATE #3: PRESSURE TREATED WOOD FLOOR DECK ON WOOD FLOOR CONSTRUCTION - REFER TO WALL SECTIONS AND
- 15 MEZZANINE GUARD RAIL TERMINATION, MOUNTING, AND STAIR GUARD / HAND RAIL MUST MAINTAIN LESS THAN 4" GAP AT STEEL VERTICAL POSTS
- 16 PRE-FABRICATED TRENCH DRAIN PROVIDE 2" CHASE WITH JOINT SEALANT AROUND PERIMETER - REFER TO STRUCTURAL AND PLUMBING.
- 17 STAND PIPE REFER TO PLUMBING
- 18 MASONRY OPENING REFER TO DIMENSION PLAN AND ELEVATIONS FOR OPENING SIZE
- 19 APPLIANCE PROVIDED & INSTALLED BY OWNER
- 6" Ø x 4'-0" HIGH CONCRETE FILLED GALVANIZED STEEL PIPE BOLLARD
- 21 SLOPED EPOXY FLOORING
- [ 22 ] PORCELAIN TILE SHOWER WITH SHOWER PAN FLASHING AND FLOOR DRAIN. COORDINATE DEPRESSION IN CONCRETE FLOOR SLAB AS REQUIRED FOR FLUSH FLOOR FINISH.
- 23 GROMMET IN COUNTERTOP
- 24 ALTERNATE: LINE OF DECK ABOVE
- 25 ADJUSTABLE SHELVING
- 26 EYE WASH STATION
- 27 LINE OF CLERESTORY ABOVE REFER TO DETAIL 3/A3-01
- 28 MOP RACK
- [ 29 ] ELECTRICAL WATER COOLER REFER TO MECH. & ELEC
- COMPRESSORS TO BE RE LOCATED FROM STATION 1 REFER TO MECH. & ELEC OWNER TO RELOCATE
- 31 EXTRACTOR PROVIDED BY OWNER REFER TO MECH. & ELEC FOR PROVIDED CONNECTIONS.
- 32 CLOSET WITH COAT RACK & SHELF
- [ 33 ] DELEGATED DESIGN STAIR SYSTEM WITH 5' CLEAR REMOVABLE RAILING AT LANDING
- 34 PPE CHARGING STATION REFER TO SECTION DETAIL 7/A6-11
- 35 TRANSITION RAMPED FLOOR 1/2" PER 1'-0" SLOPE
- 36 LINE OF ROOF EDGE BELOW
- 37 SIGNAGE BY OWNER, CENTER WITH DOOR BELOW
- TRANSITION FROM FULL BET DEPTH STONE TO A 2" VENEER AT EXTERIOR LINE OF BUILDING BELOW
- 39 LINE OF ENTRANCE SLAB REFER TO STRUCTURAL
- 40 WALL MOUNTED HOSE BIB REFER TO PLUMBING
- 41 LINE OF OVERHEAD DOOR IN OPEN POSITION REFER TO DOOR

SHEET NAME ENLARGED FLOOR PLANS

A3-10

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MOUNT CLEMENS, MI 48043 F 586.469.3607

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KEY PLAN

Highland Township Fire Department

PROJECT NAME

Highland Township Fire Station No. 1

1600 W. Highland Rd. Highland, MI 48357

PROJECT NO.

18-122A

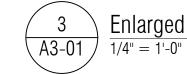
ISSUES / REVISIONS Bidding - Construction

04/20/20 Addendum #1 Construction Set 05/04/20 CCD #2 06/16/20 09/01/20 CCD #4

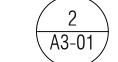
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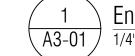
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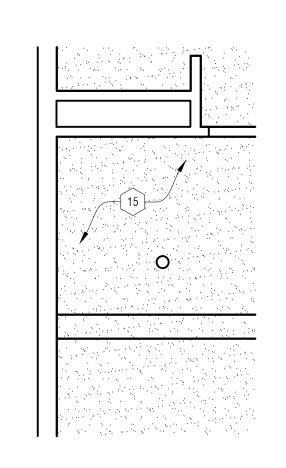




Enlarged Plan - Restroom 103 & 104



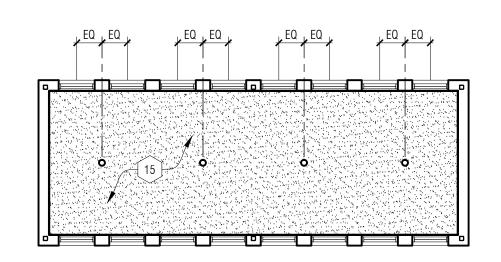




 $\underbrace{\frac{4}{A4-01}} \frac{\text{Mezzanine Level Floor Plan - Base Bid}}{\frac{1}{4"} = 1'-0"}$ 

Mezzanine Level Reflected Ceiling Plan

1/8" = 1'-0"



 $\frac{3}{4-01}$  Cupola Reflected Ceiling Plan  $\frac{3}{1/8" = 1'-0"}$ 

DIMENSIONS.

B. REFER TO ELECTRICAL FOR LIGHT FIXTURE TYPES AND

SPECIFICATIONS.

C. REFER TO MECHANICAL FOR DIFFUSERS, REGISTERS, AND RETURNS.D. ALL LIGHT FIXTURES ARE TO BE CENTERED WITHIN CEILING U.O.N.

REFLECTED CEILING PLAN - GENERAL NOTES:

A. REFER TO FLOOR PLANS FOR ROOM NAMES, NUMBERS AND ROOM

E. CEILING HEIGHT MEASURED FROM 100'-0" FINISH FLOOR.

#### REFLECTED CEILING PLAN - KEY NOTES:

1 EXPOSED CEILING TO UNDERSIDE OF ROOF DECK - REFER TO ROOM FINISH SCHEDULE

2 GYPSUM BOARD CEILING

3 LINE OF OVERHEAD DOOR - REFER TO DOOR SCHEDULE
4 GYPSUM BOARD CEILING / SOFFIT - REFER TO DETAIL 1/A4-02

5 RECESSED CAN LIGHT FIXTURES - REFER TO ELECTRICAL

6 WALL MOUNTED SIGN - REFER TO ELECTRICAL

7 HOOD - REFER TO SPECIFICATIONS

8 WALL COVERING SOFFIT ACCENT BAND - REFER TO DETAIL 6/A4-02 AND INTERIOR ELEVATIONS

9 SUPPLY AIR DIFFUSER - REFER TO MECH

10 IN GROUND LIGHT FIXTURE - REFER TO ELEC

11 EXPOSED CONCRETE PLANK ABOVE - REFER TO ROOM FINISH

SCHEDULE

12 EXPOSED MECHANICAL DUCTWORK - PAINT TO MATCH CEILING,

REFER TO MECH. AND ROOM FINISH SCHEDULE

13 SUSPENDED MECH UNIT - REFER TO MECH

GOOSENECK FIXTURE - REFER TO ELECTRICAL AND SPECIFICATIONS

GYP. BOARD CEILING ON 1-1/2" HAT CHANNELS 16" O.C. MOUNTED TO UNDERSIDE OF STRUCTURE - REFER TO DETAIL 3/A4-02

EXPOSED STRUCTURE - PAINT TO MATCH CEILING, REFER TO MECH.
AND ROOM FINISH SCHEDULE

17 LINE OF CUPOLA ABOVE - REFER TO PLAN (3/A4-01)

T LINE OF OUR OLA ABOVE THEFEIT TO FEAR (U/A4 OF

18 CMU OPENING - REFER TO INTERIOR ELEVATIONS

19 GYP. BOARD WALL BANDING W/ COVE LIGHTING - REFER TO DETAIL

20 GYP. BOARD FRAMING AROUND STRUCTURE - REFER TO BUILDING

21 EXTERIOR WALL MOUNTED LIGHTING ABOVE DECK - REFER TO

ALTERNATE #3

22 EXTERIOR FIBER CEMENT SOFFIT (SD-4)

UNDER CABINET LIGHT FIXTURE - REFER TO INTERIOR ELEVATIONS
AND FI FC

24 CEILING SUSPENDED TRACK LIGHTING - REFER TO ELEC

25 MECH UNIT - REFER TO MECH.

SECTIONS (A5-10)

26 EXTERIOR METAL SOFFIT (MS-1)

27 ROOF ACCESS HATCH

28 EXTERIOR EMERGENCY LIGHTING MOUNTED TO TOP OF STOREFRONT FRAME - REFER TO ELEC.

# Ceiling Symbols Legend

5/8" GYP BD ON 3 5/8" MTL. STUD AT 16" O.C. SECURE TO STRUCTURE ABOVE AT 48" O.C. MAX EACH WAY

LINEAR PENDANT FIXTURE

2' X 4' LAY-IN LIGHT FIXTURE IN GRID

SUPPLY AIR DIFFUSER (MECHANICAL)

RETURN AIR GRILLE (MECHANICAL)

HIGH BAY LIGHT FIXTURE

HIGH BAY LIGHT FIXTURE

6" RECESSED ROUND LIGHT FIXTURE

6" RECESSED ROUND LIGHT WET FIXTURE

PENDANT LIGHT FIXTURE

EXTERIOR GARAGE LIGHT FIXTURE - WALL MOUNTED

EXTERIOR LIGHT FIXTURE

EXIT LIGHT - CEILING MOUNTED

EXIT LIGHT - WALL MOUNTED

VIDEO SURVEILLANCE CAMERA - COORD WITH TECH AND ELEC

WIRELESS ACCESS POINT - COORD WITH TECH

LL / AM

APPROVED BY

DG

SHEET NAME

REFLECTED
CEILING PLANS

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Construction Set

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05/04/20

PROJECT NO.

Fire Department

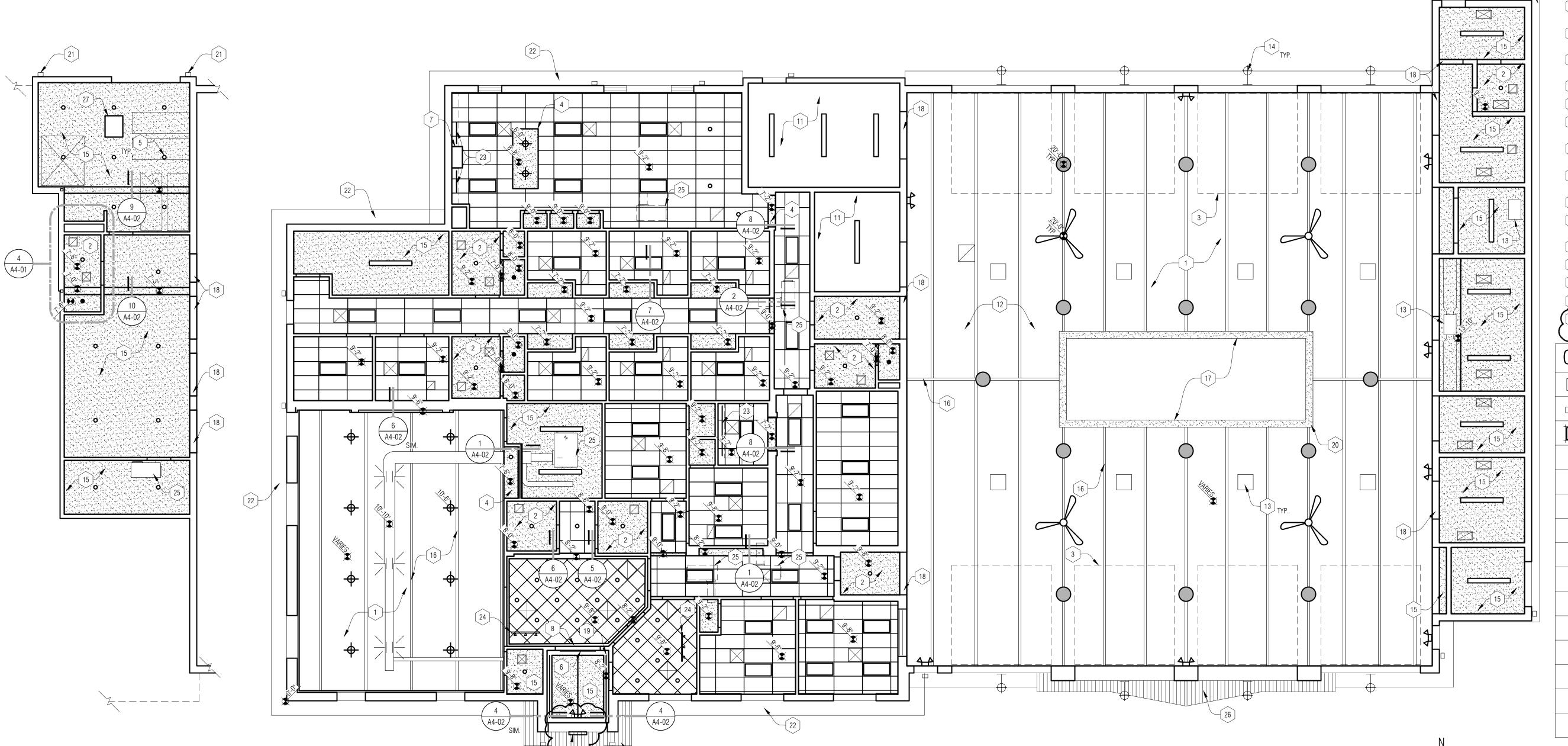
PROJECT NAME

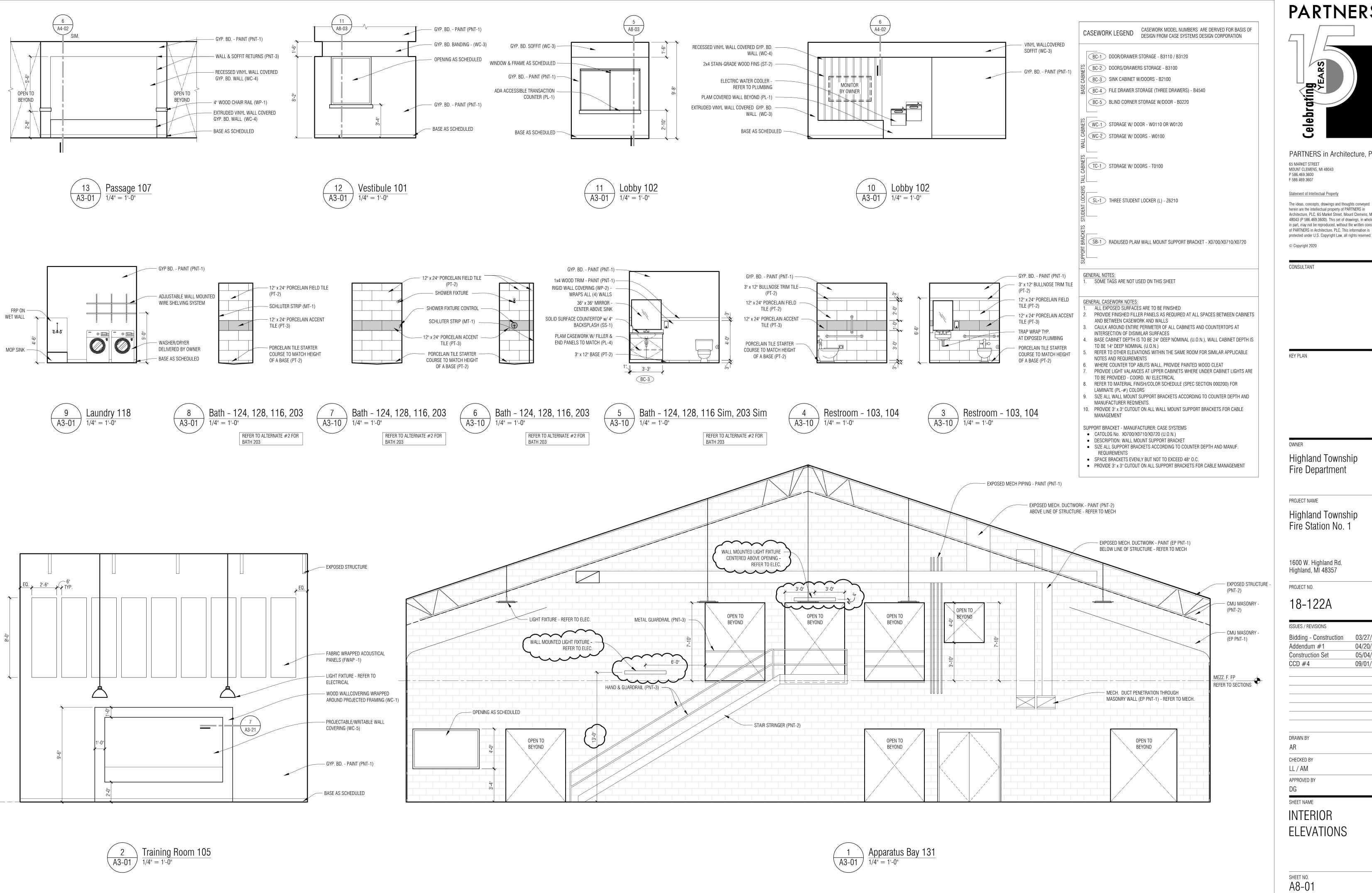
SHEET NO.
A4-01

N

Main Level Reflected Ceiling Plan

1/8" = 1'-0"





**PARTNERS** 



PARTNERS in Architecture, PLC

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Highland Township

Highland Township Fire Station No. 1

Bidding - Construction 04/20/20 05/04/20 09/01/20

**ELEVATIONS** 

#### <u>LIGHTING FIXTURE SCHEDULE:</u>

- LED RECESSED HIGH LUMEN 2'X4' TROFFER, 2.375" DEEP SHALLOW HOUSING, GRID CEILING MOUNTED, HIGH ANGLE LIGHTING DISTRIBUTION, CURVED LINEAR PRISM CENTER LENS WITH LOW GLARE, 120-277V, 0-10V DIMMING, 32W, 4000LM, 3500K, .
  ORACLE #OVHP-LED-4000L-DIM10-MVOLT-35K-85 OR APPROVED EQUAL.
- "AE" SAME AS "A" EXCEPT WITH BUILT-IN EMERGENCY BATTERY BACK-UP, MIN. 14W TO PROVIDE 1400LM FOR 90 MINUTES.
- LED COVE LIGHT CONTINUOUS ROW PER ARCHITECTURAL DETAILS, EXTRUDED ALUMINUM HOUSING, 1.6"W X 1.4"H X L CLEAR POLYCARBONATE LENS, STAINLAESS STEEL FASTENERS, HIGH LUMEN PACKAGE PROVIDING 916 LM/FT, 3500K, 10 W/FT, 0-10V DIMMING, 277V. ECOLAL TROV #L35-I-\_\_-10-35-90-MULT-120-LDCM-PL-120-277-010V-GR OR APPROVED FOLIAL
- LED SURFACE MOUNTED STRIP FIXTURE, (SURFACE MOUNTED ON CEILINGS AND PENDANT MOUNTED IN OPEN CEILING AREAS), 4' LONG SMALL PROFILE, 22 GAUGE CONSTRUCTION WITH WHITE FINISH, 120-277V INPUT VOLTAGE, 35W, 0-10V DIMMING AND 4000LM AT 3500K. LITHONIA #CDS-L48-MVOLT-DM-35-80CRI-WH OR APPROVED EQUAL.
- "CE" SAME AS "C" EXCEPT WITH REMOTE EMERGENCY BATTERY BACK-UP, MIN. 14W TO PROVIDE 1400LM FOR 90 MINUTES.
- LED RECESSED DOWNLIGHT, 6" APERTURE, CLEAR SPECULAR LOW IRIDESCENT ALZK FINISH REFLECTOR AND WHITE TRIM, 120-277V INPUT VOLTAGE, 0-10V DIMMING CAPABILITY, 20W, 1500 LM WITH 3500°K. MAXILUME #HH6LED-1500L-MVOLT-35K-HH6-6501 OR APPROVED EQUAL.
- "D1" SAME AS TYPE "D" EXCEPT WET LOCATION SHOWER RATED LIGHTING FIXTURE.
- "D2" SAME AS TYPE "D" EXCEPT 46W, 4000 LM.
- "DE" SAME AS TYPE "D" WITH BUILT-IN EMERGENCY BATTERY BACK-UP, MIN. 10W TO PROVIDE 1000LM FOR 90 MINUTES.
- "EA" LED EMERGENCY WALL MOUNTED BATTERY LIGHTING UNIT, 12V NI—CAD BATTERY WITH (2)—6W LED LAMPS, WHITE FINISH.
  LIGHTALARMS OR APPROVED EQUAL.
- LED WALL MOUNTED 4' LONG, HOUSING IS ROLL FORMED FROM CODE—GAUGE STEEL, DECORATIVE DIE—CAST END, FINISHED EDGES AND UNIFORM LIGHT DISTRIBUTION. 120—277V, 0—10V DIMMING DRIVER AND 19W, 2000 LUMENS. FIXTURE DIMS TO APPROXIMATELY 10% LIGHT OUTPUT WHEN UNOCCUPIED. LITHONIA #WL4—20L—EZB—LP835—DIM10 OR APPROVED EQUAL.
- "FE" SAME AS "F" EXCEPT WITH UILT-IN EMERGENCY BATTERY BACK-UP, MIN. 14W TO PROVIDE 1400LM FOR 90 MINUTES.
- IN GRADE 10" LED WALL WASH LIGHT, FLUSH WITH TOP OF FINISHED GRADE, BRUSHED STAINLESS STEEL, 3000K COLOR TEMP. 120-277V INPUT VOLTAGE, 20W, FLOOD DISTRIBUTION WITH FLAT LENS FROSTED. HYDREL # PDX10-BSS-18LED-WHT30K-MVOLT-FL-FLCSR OR APPROVED EQUAL
- LED HIGH BAY FIXTURE, UL WET LOCATION LISTED AND DLC QUALIFIED, 13" DIAMETER, BLACK FINISH, CLEAR LENS, 19000 LUMENS, 4000°K, 150W, UNIVERSAL VOLTAGE DRIVER, 0-10V DIMMING. ORACLE #ORHB1-LED-19000L-MVOLT-40K-WD-BK OR APPROVED EQUAL.
- LED DECORATIVE PENDANT MOUNTED LIGHTING FIXTURE, DIE-CAST ALUMINUM HOUSING, ALUMINUM REFLECTOR, BLACK EXTERIOR AND WHITE INTERIOR REFLECTOR FINISH OR AS DIRECTED BY ARCHITECT/OWNER, FROSTED LENS HIGH LUM120V 0-10V DIMMING, 97W, 9697LM.

  DELRAY 'LUMA PENDANT' #IL793-K-W-H APPROVED EQUAL
- "IE" SAME AS "I" EXCEPT WITH EMERGENCY BATTERY BACK-UP, MIN. 14W TO PROVIDE 1400LM FOR 90
- LED WALL MOUNTED AT 16'AFF OR AS DIRECTED BY ARCHITECT, LUMINAIRE, WET LOCATION LISTED, ALUMINUM HOUSING, GOOSENECK MOUNTING STYLE, FINISHED SELECTED BY ARCHITECT/OWNER, 120V 0-10V DIMMING, 24W 3000LM.
  MBVA14-M024LDD-W-41-UNV SERIES OR APPROVED EQUAL
- LED DECORATIVE PENDANT MOUNTED LIGHTING FIXTURE, 0-10V DIMMING. 120V AND MAX. 30W. FINISHED SELECTED BY ARCHITECT/OWNER. BARN LIGHT ELECTRIC CO, 'WILCOX' SERIES: BLE-C-DBW12-100-SBK-100-SBK-NA-NA-NA-LED27-3500K-FL OR APPROVED EQUAL.
- LED WALL MOUNTED LUMINAIRE, WET LOCATION LISTED, ALUMINUM HOUSING, ALUMINUM DOOR FRAME WITH FLAT CLEAR POLYCARBONATE LENS, FULLY GASKETED, SHARP CUT-OFF WITH MEDIUM THROW DISTRIBUTION, 120V ELECTRONIC BALLAST, 42W TRT LAMP, BUILT-IN PHOTOCELL, BRONZE FINISH, MOUNT AT 10'-0" AFF OR AS DIRECTED BY ARCHITECT.
  LITHONIA #WST-LED-P2-40K-VF-MVOLT-PE-DDBXD OR APPROVED EQUAL.
- LED WALL MOUNTED LUMINAIRE, WET LOCATION LISTED, ALUMINUM HOUSING, ALUMINUM DOOR FRAME WITH FLAT CLEAR POLYCARBONATE LENS, FULLY GASKETED, SHARP CUT-OFF WITH MEDIUM THROW DISTRIBUTION, 120V ELECTRONIC BALLAST, 42W TRT LAMP, BUILT-IN PHOTOCELL AND EMERGENCY BALLAST, BRONZE FINISH, MOUNT AT 10'-0" AFF OR AS DIRECTED BY ARCHITECT. LITHONIA #WST-LED-P2-40K-VF-MVOLT-PE-E7WH-DDBXD OR APPROVED EQUAL.
- "M" (LED DECORATIVE TRACK LIGHTING FIXTURE, 4FT LONG TRACK, SINGLE CIRCUIT, BLACK FINISH, CONE TRACK HEAD, BLACK FINISH, UNIVERSAL NARROW FLOOD AND FLOOR DISTRIBUTION, 120V, 10W LED, 800 LUMENS, INTEGRATED DIMMING DRIVER. PROVIDE ALL MOUNTING HARDWARE, CONNECTORS, POWER SUPPLIES, ETC. AS REQUIRED, COORDINATE WITH ARCHITECT FOR MOUNTING TYPE AND HEIGHTS.

  JUNO TRAC-MASTER #T4FT-BL AND #R600L-G2-PDIM-UNF-BL SERIES OR APPROVED EQUAL.
- LED UNDER CABINET LIGHTING FIXTURE, 9", 18", 24, 36", 48" LONG, PROVIDE FOR CONTINUOUS ROW AS INDICATED ON PLANS, FROSTED LENS, ALUMINUM FRAME 120–277V. HPF ELECTRONIC DIMMING DRIVER, MAX. 7W/FT, 330LM/FT.
  HALO HU10 #HU1024D930P OR APPROVED EQUAL.
- LED OUTDOOR WALL MOUNTED LIGHTING FIXTURE, 30.8" LONG, WET LOCATION RATED, ALUMINUM HOUSING, MULLION MOUNTABLE FULL CUT-OFF, 120-277V HPF ELECTRONIC DRIVER LOW TEMPERATURE RATED, 20W LED AND REMOTE EMERGENCY BATTERY PACK 1000LM FOR 90 MIN, LOCATE BATTERY INDOOR ABOVE ACCESSIBLE CEILING.

  LUMINAIRE LED 'BLADE' SERIES #BLD-24IN-20W-MVOLT-EMB20R OR APPROVED EQUAL.
- LED EXIT SIGN, SINGLE FACE, POLYCARBONATE HOUSING CONSTRUCTION, UNIVERSAL DIRECTIONAL ARROW KNOCKOUTS, FULLY OVERLAPPING LIGHT SEAL 6" HIGH RED LETTERS 25 YEAR LIFE LED LAMPS, 277 VOLT INPUT, 6 VOLT SEALED MAINTENANCE-FREE BATTERY 90 MINUTE. LIGHTALARMS #QLXN500-R OR APPROVED EQUAL.
- "X1" SAME AS "X" EXCEPT COMBO UNIT WITH (2)—SIDE MOUNTED HEADS AND 24W EXTRA BATTERY REMOTE CAPACITY.
  LIGHTALARMS #GR624M—R—U—2—LD1 OR APPROVED EQUAL.

  "X2" SAME AS "X" EXCEPT EDGE LIT COMBO UNIT WITH (2)—HIGH OUTPUT LED HEADS, VERIFY EXACT

LIGHTALARMS #8NYC3RM-2HO OR APPROVED EQUAL.

			LIGHTING (	CONT	ROL	MATF	RIX SC	CHEDU	JLE				
LIGHTING CONTROL TAG	ROOM/SPACE TYPE	CONTROLS	AUTOMATIC LIGHTING CONTROL	LOCAL CONTROL	MANUAL ON	PARTIAL AUTO ON	BI-LEVEL	DAYL SIDE LIGHT	JGHT I TOP LIGHT	AUTOMATIC PARTIAL OFF (H APPLIES)	AUTOMATIC FULL OFF	SCHEDULED FULL OFF	NOTES
BASED ON ASHRAE 90.	1-2013 TABLE 9.6.1 - CONTROL FUNCTIONS			a	ь	С	d	e	f	g	h	i	
LC1	COMMUNITY/ KITCHEN/ LAUNDRY/ OFFICE	LOCAL/OS/ DIM	OCCUPANCY SENSOR	YES	YES		YES	*		NO	YES		* DAYLIGHT SENSORS AS REQUIRED
LC2	FITNESS ROOM/ LIBRARY/ COMPUTER ROOM	LOCAL/OS/ DIM	OCCUPANCY SENSOR	YES	YES		YES	*		NO	YES		* DAYLIGHT SENSORS AS REQUIRED
LC3	CORRIDOR	LOCAL	RELAY PANEL TIMER (TIME CLOCK)	YES	NO	NO	NO			YES		YES	REMOTE LOCAL CONTROLS FOR THE SAFETY OF THE RESIDENTS
LC4	STAIRS	PARTIAL DIM	OCCUPANCY SENSOR	YES	NO	NO	YES			YES	NO		OCC. SENSOR TO DIMM STAIR LIGHTING FIXTURES TO 50%
LC5	UTILITY ROOM (ELEC./MECH./IT)	LOCAL	NONE	YES	YES	NO	NO			NO	NO	NO	
LC6	STORAGE/ EQUIPMENT ROOM	LOCAL/OS	OCCUPANCY SENSOR	YES	YES		NO			NO	YES		
LC7	LOBBY/ RECEPTION/ SEATING	LOCAL/DIM	RELAY PANEL TIMER (TIME CLOCK)	YES	NO	NO	NO	*		NO		YES	* DAYLIGHT SENSORS AS REQUIRED
LC8	RESTROOM/TRASH ROOM	LOCAL/OS	OCCUPANCY SENSOR	YES	NO	NO	NO			NO	YES		

- CONTRACTOR TO PROVIDE MOTION SENSORS, DAYLIGHT SENSORS, ROOM CONTROLLERS, AND ACCESSORIES AS REQUIRED FOR A FULLY OPERATIONAL INSTALLATION PER 2015 MICHIGAN ENERGY CODE. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO REVIEW MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO ROUGH—IN. PROVIDE ADDITIONAL ROOM CONTROLLERS/POWER PACKS AND ASSOCIATED WIRING FOR MULTIPLE SWITCH LEG LOCATIONS. SEE PLANS FOR EXACT SWITCH LEGS WITH—IN EACH AREA OR ROOM. ELECTRICAL CONTRACTOR SHALL PROVIDE LIGHTING CONTROL MANUFACTURER'S DEVICE LAYOUT AS PART OF SHOP DRAWINGS SUBMITTALS.
- ELECTRICAL CONTRACTOR IS TO INCLUDE THE SCOPE OF A LIGHTING CONTROLS DESIGNER/INSTALLER AS SUBCONTRACTOR TO ELECTRICAL CONTRACTOR TO PROVIDE FINAL DESIGN, DOCUMENTATION, PROGRAMMING, AND INSTALLATION OF THE LIGHTING CONTROLS. CONTRACT DOCUMENTS INCLUDE INTENDED FUNCTIONALITY ONLY. TO PREVENT FALSE ACTIVATION, MOUNT CEILING MOUNT SENSORS AWAY FROM DIFFUSERS AND THE PATH OF STRONG AIR TURBULENCE A MINIMUM OF FOUR FEET FOR STANDARD SENSITIVITY AND SIX FEET FOR MAXIMUM SENSITIVITY.
- LOCATE AND AIM SENSORS IN THE CORRECT LOCATION REQUIRED FOR COMPLETE AND PROPER VOLUMETRIC COVERAGE WITHIN THE RANGE OF COVERAGE(S) OF CONTROLLED AREAS PER THE MANUFACTURER'S RECOMMENDATIONS. ROOMS SHALL HAVE ONE HUNDRED (100%) PERCENT COVERAGE TO COMPLETELY COVER THE CONTROLLED AREA TO ACCOMMODATE ALL OCCUPANCY HABITS OF SINGLE OR MULTIPLE OCCUPANTS AT ANY LOCATION WITHIN THE ROOM(S).
- PROVIDE THE QUANTITY OF ROOM CONTROLLERS AND POWER PACKS NEEDED TO CONTROL SWITCH LEGS AND VOLTAGES INDICATED. UNLESS OTHERWISE INDICATED, ADJUST MOTION SENSOR TIME TO TURN OFF CONTROLLED LIGHTING AFTER 20 MINUTES.
- INCLUDE TESTING BY AN INDEPENDENT THIRD PARTY TESTING AGENCY OR INDEPENDENT COMMISSIONING AGENT AS REQUIRED BY THE MICHIGAN ENERGY CODE (ASHRAE 90.1-2013). TEST, CERTIFY AND PROVIDE DOCUMENTATION OF LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANSI/ASHRAE/IES STANDARD 90.1-2013, SECTION 9.4.3 FUNCTION TESTING). PROVIDE DAY LIGHT SENSORS WHERE LIGHTING FIXTURES FALL WITHIN TOP/SIDE LIGHTED AREAS FOR BOTH PRIMARY AND SECONDARY ZONES AS DEFINED BY ASHRAE 90.1-2013, SECTION 9.4.1.1-e AND SECTION 9.4.1.1-f.
- INTEGRATE CONTROLS FOR UNDERCABINET LIGHTING TO PROVIDE AS MANUAL ON/AUTOMATIC OFF BY SAME SENSOR(S) SERVING GENERAL LIGHTING IN SPACE/ROOM.
- 10. IN ROOMS WITH PARTIAL ON CONTROL, PROGRAM ASSOCIATED SWITCH FOR FULL ON AND MANUAL OFF IN ADDITION TO AUTOMATIC OFF VIA OCCUPANCY SENSOR. 11. FOR AUTOMATIC DAYLIGHT RESPONSIVE CONTROLS SET DAYLIGHT SENSOR TO MAINTAIN THE SAME LIGHTING LEVELS AS THE LEVELS OUTSIDE THE DAYLIGHT AREA.

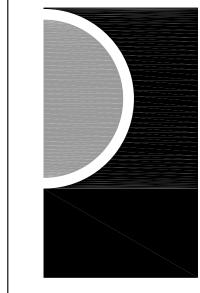
IGHTING CONTROL NOTES:

CONDUIT & WIRE SCHEDULE
(600V & BELOW)

	3-V	VIRE SYSTEM	,	4-V	VIRE SYSTEM	
WIRE TAG	CU/AL	CONDUIT & WIRE	WIRE TAG	CU/AL	CONDUIT & WIRE	
20X	CU	3/4°C. 3#12 + 1#12G.	20	CU	3/4°C. 4#12 + 1#12G.	
25X	CU	3/4°C. 3#10 + 1#10G.	25	CU	3/4"C. 4#10 + 1#10G.	
30X	CU	3/4°C. 3#10 + 1#10G.	30	CU	3/4"C. 4#10 + 1#10G.	
35X	CU	3/4"C. 3#8 + 1#10G.	35	CU	3/4°C. 4#8 + 1#10G.	
40X	CU	3/4"C. 3#8 + 1#10G.	40	CU	3/4°C. 4#8 + 1#10G.	
(50X)	CU	1"C. 3#6 + 1#10G.	50	CU	1"C. 3#6 + 1#10G.	
(55X)	CU	3/4"C. 3#6 + 1#10G.	55	CU	3/4°C. 4#6 + 1#10G.	
60X	CU	1 1/4°C. 3#4 + 1#10G.	60	CU	1 1/4"C. 4#4 + 1#10G.	
70X	CU	1 1/4"C. 3#4 + 1#8G.	70	CU	1 1/4"C. 4#4 + 1#8G.	
85X	CU	1 1/4"C. 3#3 + 1#8G.	85	CU	1 1/4"C. 4#3 + 1#8G.	
	CU	1 1/4°C. 3#2 + 1#8G.		CU	1 1/4"C. 4#2 + 1#8G.	
100X			100			
	AL	2"C. 3#1/0 + 1#6G.		AL	2"C. 4#1/0 + 1#6G.	
110X	CU	1 1/2°C. 3#1 + 1#6G.	110	CU	1 1/2°C. 4#1 + 1#6G.	
	AL	2°C. 3#10 + 1#4G.		AL	2"C. 4#10 + 1#4G.	
125X	CU	2°C. 3#1/0 + 1#6G.	125	CU	2°C. 4#1/0 + 1#6G.	
	AL	2"C. 3#2/0 + 1#4G.		AL	2°C. 4#2/0 + 1#4G.	
(150X)	CU	2°C. 3#1/0 + 1#6G.	150	CU	2"C. 4#1/0 + 1#6G.	
	AL	2°C. 3#3/0 + 1#4G.		AL	2"C. 4#3/0 + 1#4G.	
(175X)	CU	2°C. 3#2/0 + 1#6G.	175	CU	2°C. 4#2/0 + 1#6G.	
	AL	2 1/2°C. 3#4/0 + 1#4G.		AL	2 1/2°C. 4#4/0 + 1#4G.	
(200X)	CU	2°C. 3#3/0 + 1#6G.	200	CU	2"C. 4#3/0 + 1#6G.	
2001	AL	3"C. 3#250KCMIL + 1#4G.	200	AL	3"C. 4#250KCMIL + 1#4G.	
2257	CU	2 1/2°C. 3#4/0 + 1#4G.	225	CU	2 1/2°C. 4#4/0 + 1#4G.	
(225X)	AL	3"C. 3#300KCMIL + 1#2G.	225	AL	3"C. 4#300KCMIL + 1#2G.	
(250X)	CU	3"C. 3#250KCMIL + 1#4G.	250	CU	3"C. 4#250KCMIL + 1#4G.	
2301	AL	3"C. 3#350KCMIL + 1#2G.	250	AL	3°C. 4#350KCMIL + 1#2G.	
7004	CU	3"C. 3#350KCMIL + 1#4G.	700	CU	3"C. 4#350KCMIL + 1#4G.	
(300X)	AL	4"C. 3#500KCMIL + 1#2G.	300	AL	4"C. 4#500KCMIL + 1#2G.	
<u></u>	CU	4"C. 3#500KCMIL + 1#3G.		750	CU	4"C. 4#500KCMIL + 1#3G.
(350X)	AL	(2) 2 1/2°C. EA/W 3#4/0	350	AL	(2) 2 1/2°C. EA/W 4#4/0	
	CU	+ 1#1G. 4"C. 3#600KCMIL + 1#3G.		CU	+ 1#1G. 4"C. 4#600KCMIL + 1#3G.	
<b>400X</b>	AL	(2) 3"C. EA/W 3#250KCMIL	400	AL	(2) 3"C. EA/W 4#250KCMIL	
	CU	+ 1#1G. (2) 2 1/2°C. EA/W 3#4/0		CU	+ 1#1G. (2) 2 1/2"C. EA/W 4#4/0	
450X	AL	+ 1#2G. (2) 3"C. EA/W 3#300KCMIL	450		+ 1#2G. (2) 3"C. EA/W 4#300KCMIL	
	CU	+ 1#1/0G. (2) 3°C. EA/W 3#250KCMIL		CU	+ 1#1/0G. (2) 3"C. EA/W 4#250KCMIL	
500X	AL	+ 1#2G. (2) 3°C. EA/W 3#350KCMIL	500	AL	+ 1#2G. (2) 3°C. EA/W 4#350KCMIL	
	CU	+ 1#1/0G. (2) 3"C. EA/W 3#350KCMIL		CU	+ 1#1/0G. (2) 3°C. EA/W 4#350KCMIL	
600X		+ 1#1G. (2) 4"C. EA/W 3#500KCMIL	600		+ 1#1G. (2) 4"C. EA/W 4#500KCMIL	
	AL	+ 1#2/0G. (2) 4"C. EA/W 3#500KCMIL		AL	+ 1#2/0G. (2) 4"C. EA/W 4#500KCMIL	
700X	CU	+ 1#1/0G. (3) 3"C. EA/W 3#350KCMIL +	700	CU	+ 1#1/0G. (3) 3"C. EA/W 4#350KCMIL	
	AL	1#3/0G.		AL	+ 1#3/0G. (2) 4°C. EA/W 4#600KCMIL	
800X	CU	(2) 4"C. EA/W 3#600KCMIL + 1#1/0G.	800	CU	+ 1#1/0G.	
	AL	(3) 4°C. EA/W 3#500KCMIL + 1#3/0G.		AL	(3) 4"C. EA/W 4#500KCMIL + 1#3/0G.	
(1000X)	CU	(3) 3°C. EA/W 3#400KCMIL + 1#2/0G.	1000	CU	(3) 3"C. EA/W 4#400KCMIL + 1#2/0G.	
	AL	(3) 4°C. EA/W 3#600KCMIL + 1#4/0G.		AL	(3) 4°C. EA/W 4#600KCMIL + 1#4/0G.	
(1200X)	CU	(3) 4°C. EA/W 3#600KCMIL + 1#3/0G.	1200	CU	(3) 4"C. EA/W 4#600KCMIL + 1#3/0G.	
	AL	(4) 4°C. EA/W 3#500KCMIL + 1#250KCMIL G.		AL	(4) 4"C. EA/W 4#500KCMIL + 1#250KCMIL G.	
	CU	(4) 4°C. EA/W 3#600KCMIL + 1#4/0G.		CU	(4) 4"C. EA/W 4#600KCMIL + 1#4/0G.	
(1600X)	00	11#4/00.	( 1600 )	1	T   #4/UG.	

#### **GENERAL WIRING NOTES:**

- 1. FOR 2-WIRE SYSTEMS USE Y AS SUFFIX, SIMILAR TO X FOR THE 3-WIRE SYSTEM.
- THE USE OF ALUMINUM WIRES HAVE TO BE APPROVED BY THE ENGINEER AND OWNER PRIOR TO BID, NO ALUMINUM WIRES ALLOWED FOR 100A AND LESS.



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#### Statement of Intellectual Property

F 586.469.3607

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CONSULTANT

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KEY PLAN

Birmingham, Michigan

Green Oak Charter Township

PROJECT NAME

Green Oak Fire Station No. 81

9384 Whitmore Lake Road Brighton, MI 48116

PROJECT NO.

19-129

ISSUES / REVISIONS

09-01-<u>2020</u>

DRAWN BY

NH

CHECKED BY

APPROVED BY

WIRE AND LIGHTING FIXTURE SCHEDULES AND CONTROL MATRIX

SHEET NO. E0-03

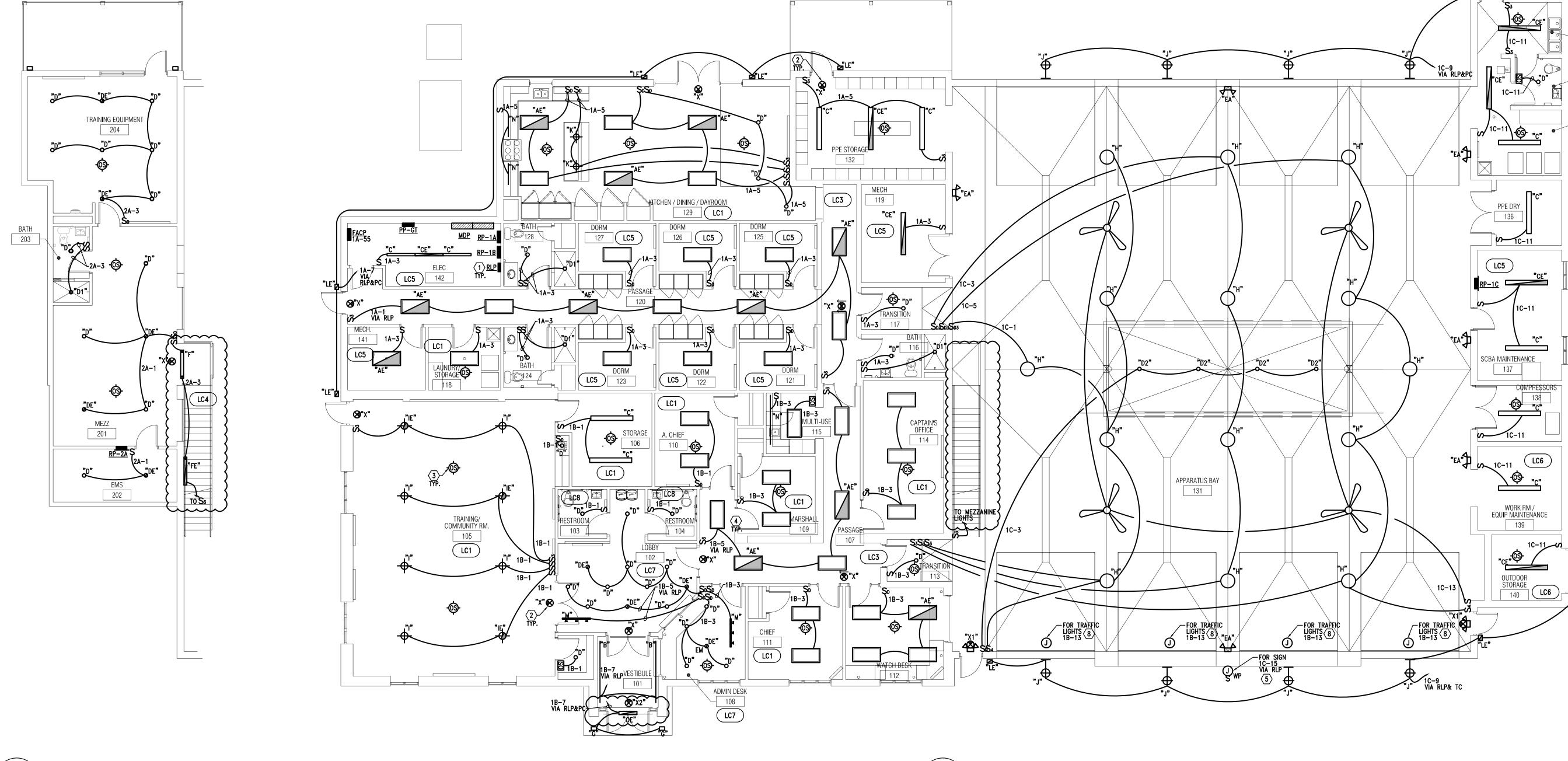
#### KEYED LIGHTING NOTES:

- PROVIDE RELAY PANELS OVERRIDE SWITCHES. LOCATIONS SHALL BE COORDINATED WITH
- ALL EXIT LIGHTS, BUILT-IN EMERGENCY BATTERY UNITS AND FIXTURES WITH BUILT-IN EMERGENCY BATTERY BACK-UP SHALL BE WIRED TO ROOM OR AREA NORMAL LIGHTING CIRCUIT AHEAD OF LOCAL AND AUTOMATIC LIGHTING CONTROL.
- PROVIDE OCCUPANCY SENSORS AS REQUIRED, DEVICES INDICATED ARE FOR REFERENCE ONLY, REFER TO GENERAL NOTE-D AND SPECIFICATIONS.
- VIA RLP MEANS THAT LIGHTING CIRCUIT IS CONTROLLED VIA RELAY PANEL, REFER TO GENERAL LIGHTING NOTE—E ABOVE.
- PROVIDE WP J-BOX WITH SWITCH FOR OUTDOOR SIGNS, EXACT LOCATIONS, QUANTITIES A REQUIREMENTS TO BE VERIFIED WITH OWNER AND SIGN MANUFACTURER.
- PROVIDE LIGHTING CONTROL STATIONS TO CONTROL LIGHTING IN COMMON AREAS. AS INDICATED. EXACT LOCATION OF LIGHTING CONTROL STATIONS TO BE COORDINATED WITH INTERIOR DESIGNER & ARCHITECT/OWNER PRIOR TO ROUGH IN.
- 7 PROVIDE LINE/LOW VOLTAGE SWITCHES AND OVERRIDES FOR ROOMS/AREAS WIRED VIA THE LIGHTING CONTROL RELAY PANEL.
- PROVIDE TRAFFIC LIGHTS AND CONTROLS, COORDINATE WITH ARCHITECT/OWNER FOR EXACT REQUIREMENTS. EXACT LOCATIONS FOR TRAFFICE LIGHTS AND ASSOCIATED CONTROLS TO BE AS DIRECTED BY ARCHITECT/OWNER, CONTROLS NOT INDICATED ON PLAN, INFORMATION INDICATED IS FOR REFERENCE ONLY.

#### GENERAL LIGHTING NOTES:

- A. ALL LIGHTING FIXTURES INDICATED ON THESE PLANS ARE TYPE "A" UNLESS OTHERWISE NOTED.
- B. REFER TO SHEET E.001 FOR ELECTRICAL LEGEND AND SHEET E.003 FOR LIGHTING FIXTURE SCHEDULE AND SHEET E.003 FOR LIGHTING CONTROL MATRIX.
- C. REFER TO SPECIFICATIONS FOR ADDITIONAL LAMP AND BALLAST REQUIREMENTS.
- D. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS, ELEVATIONS AND SECTIONS FOR EXACT LOCATION OF ALL CEILING, PENDANT & WALL MOUNTED LIGHTING FIXTURES.
- E. ALL EXIT LIGHTS AND EMERGENCY LIGHTS (EM) SHALL BE WIRED TO ROOM OR AREA NORM.
  LIGHTING CIRCUIT AHEAD OF LOCAL CONTROLS. SEE KET NOTE THIS SHEET.
- F. IN ADDITION TO THE LOCAL SWITCHES SHOWN, PROVIDE A COMPLETE OCCUPANCY SENSOR AND RELAY PANEL BASED AUTOMATIC LIGHTING CONTROL SYSTEM. SYSTEM SHALL BE AS DESCRIBED IN SPECIFICATION SECTION 260500. DEVICES INDICATED ON PLAN ARE FOR REFERENCE ONLY.

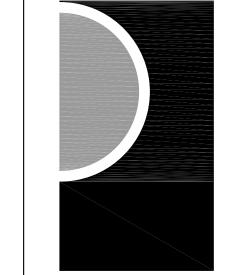
  SYSTEM SHALL BE LAYED OUT ON A PERFORMANCE BASIS, TYPICAL FOR ALL ROOMS/AREAS AS SPECIFIED.
- G. ALL WIRING SHALL BE SIZED PROPERLY FOR FULL COMPLIANCE WITH THE NEC RQUIREMENTS FOR AMPACITY AND MAXIMUM VOLTAGE DROP LIMITATIONS.
- H. COORDINATE LOCATION OF ALL SWITCHES WITH DOOR LOCATIONS SHOWN ON THE ARCHITECTURAL PLANS.
- I. ALL LIGHTING FIXTURES SHALL BE EQUIPPED WITH LENSES OR SHIELDS FOR PROTECTION OF THE LAMPS OR WITH LAMPS THAT WILL NOT SHATTER.
- J. PROPOSED EQUAL LIGHTING FIXTURES TO BE SUBMITTED FOR ENGINEER & ARCHITECT/OWNERS REVIEW AND APPROVAL PRIOR TO BID.
- K. FOR ALL ROOMS WITH MECHANICAL EQUIPMENT (FURNACE ROOMS, MECHANICAL ROOMS AND CLOSETS ETC.) EXACT LOCATIONS FOR LIGHTING FIXTURES TO BE COORDINATED WITH DUCTWORK AND PIPING.
- L. REFER TO ENLARGED UNIT PLANS SHEET E.401 FOR UNITS TYPICAL LIGHTING LAYOUTS.
- M. ALL ELECTRICAL DEVICES SHALL BE LISTED FOR THE INTENDED USE.





 $\frac{\text{Main Level Floor Plan - Lighting}}{\frac{1}{8"} = \frac{1}{-0"}}$ 

#### ITING NOTES:



**PARTNERS** 

PARTNERS in Architecture, PLC
65 MARKET STREET
MOUNT CLEMENS, MI 48043

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KEY PLAN

DECON / REST

133

**RESTROOM** 

134 LC8

PPE LAUNDRY

1C-9 VIA RLP&PC ....

Green Oak Charter Township

PROJECT NAME

Green Oak Fire Station No. 81

9384 Whitmore Lake Road Brighton, MI 48116

PROJECT NO. 19-129

ISSUES / REVISIONS

CD #4 09-01-20

A/NL DV

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CHECKED BY FK

APPROVED BY

SHEET NAME
FLOOR PLANS -

LIGHTING

SHEET NO. E2-00

#### **KEYED POWER NOTES:**

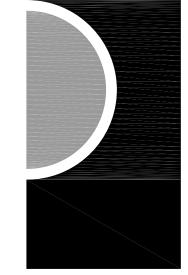
- ALL RECEPTACLES LOCATED WITHIN 6'-0" OF A WATER SOURCE AND ALL IN THE KITCHENS SHALL BE GFR TYPE. PROVIDE GFR RECEPTACLES REGARDLESS OF SYMBOL USED ON PLAN FOR THESE LOCATIONS. FOR LOCATIONS THAT ARE NOT ACCESSIBLE, LOCATE BLANK PLATE GFR ABOVE THE RECEPTACLE AT +44"AFF OR NEAR ROOM WALL SWITCH(ES) OR PROVIDE GFCI BRANCH BREAKERS IN PANELBOARDS AS DIRECTED BY OWNER TO COMPLY WITH NEC 210.8.
- DUPLEX RECEPTACLES AND DATA OUTLETS FOR FLAT SCREEN TV SHALL BE MOUNTED AT 5'-0"AFF UNLESS OTHERWISE NOTED, COORDINATE WITH ARCHITECT/OWNER FOR EXACT QUANTITIES, LOCATIONS AND MOUNTING HEIGHTS.
- (4) EXACT LOCATIONS FOR ALL FLOOR OUTLETS TO BE COORDINATED WITH ARCHITECT/OWNER.
- 5 PROVIDE (2)-20A/1P, 120V DEDICATED BRANCH CIRCUITS FOR ALL FIRE/SMOKE DAMPERS, WIRE TO RP-1A-\*\* REFER TO PANEL SCHEDULES, COORDINATE AND REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND QUANTITIES. NOT ALL FIRE/SMOKE DAMPERS ARE INDICATED ON THESE PLANS.
- 6 COORDINATE WITH MECHANICAL FOR EXACT REQUIREMENTS FOR FIRE PROTECTION SYSTEM, INCLUDING NUMBER OF FLOW/TAMPER SWITCHES.
- PROVIDE POWER FOR DRY PIPE SYSTEM COMPRESSOR, COORDINATE EXACT LOCATION AND REQUIREMENTS WITH FIRE SUPPRESSION CONTRACTOR. LOCATION INDICATED ON PLAN IS FOR REFERENCE ONLY.
- 8 EXACT LOCATIONS FOR FIRE ALARM CONTROL AND ANNUNCIATOR PANELS AND SECURITY SYSTEM PANELS TO BE COORDINATED WITH ARCHITECT/OWNER. PROVIDE FLUSH MOUNTING FOR ALL, UNLESS LOCATED IN UNFINISHED SPACES.
- 9 EXACT LOCATIONS FOR ALL ELECTRICAL EQUIPMENT TO BE COORDINATED, REFER TO GENERAL NOTE-F.
- 10 INDOOR AC UNIT IS FED FROM THE OUTDOOR ACCU UNIT, COORDINATE WITH MECHANICAL FOR COMPLETE INSTALLATION REQUIREMENTS, INCLUDING INTERWIRING OF THE UNIT.
- RUN 1 1/4"C FROM LOW VOLTAGE COMPARTMENT BETWEEN FLOOR BOX AND MONITOR BOX, RUN CONCEALED IN CEILING AND WALL. COORDINATE WORK WITH SUITE BELOW.
- FOR ALL CARD READERS PROVIDE DOUBLE GANG J-BOX WITH SINGLE MUD RING @48" AFF FOR CARD READER, RUN 1/2"C FROM CARD READER OR STRIKE ACTUATOR FOR LOW VOLTAGE WIRING. PROVIDE 120V POWER IN THE CEILING FOR STRIKE AS INDICATED, FOR MORE DETAILS REFER TO SHEET E5-01. ALSO PROVIDE REQUIRED WIRING FOR INTERCOM REMOTE UNLOCK SYSTEM COORDINATE WITH DOOR INSTALLER.

  REFER TO ARCHITECTURAL PLANS AND DOOR HARDWARE SCHEDULES FOR EXACT LOCATIONS AND REQUIREMENTS. COORDINATE ALL WORK WITH ARCHITECT AND SECURILTY/ACCESS CONTROL SYSTEM PROVIDER.
- PROVIDE POWER, DATA/AV AND CONTROLS FOR PROJECTOR AND PROJECTION SCREEN. EXACT LOCATIONS AND REQUIREMENTS TO BE COORDINATED WITH ARCHITECT/OWNER.
- (14) PROVIDE RED MUSHROOM EMERGENCY POWER ON/OFF BUTTON AND ALL REQUIRED BRANCH CIRCUIT TRANSFORMER, CONTACTORS, BOXES ETC. TO SHUT-OFF GAS RANGE SOLENOID VALVE, INTERLOCK GAS SOLENOID SHUT-OFF VALVE WITH FIRE ALARM SYSTEM, COORDINATE ALL REQUIREMENTS.

#### **GENERAL POWER NOTES:**

- A. REFER TO SHEET E.001 FOR ELECTRICAL LEGEND.
- B. PROVIDE COMPLETE ADDRESSABLE FIRE ALARM SYSTEM FOR THE BUILDING. FIRE ALARM SYSTEM SHALL INCLUDE ALL CONTROL, MONITORING, POWER SUPPLIES, INITIATING DEVICES, INDICATING APPLIANCES, CONTROL MODULES AND WIRING AS REQUIRED BY AUTHORITIES HAVING JURISDICTION FOR AN APPROVED INSTALLATION, REFER TO SPECIFICATIONS. SYSTEM SHALL BE LAYED OUT ON A PERFORMANCE BASIS, DEVICES INDICATED ON PLANS ARE FOR REFERENCE ONLY.
- C. PROVIDE FIRE STOPPING SYSTEM WHERE REQUIRED TO MAINTAIN THE FIRE RESISTANCE RATING OF THE ASSEMBLIES.
- D. EXACT LOCATIONS AND REQUIREMENTS FOR ALL EQUIPMENT SHALL BE VERIFIED WITH ARCHITECT/OWNER AND EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.
- COORDINATE EXACT LOCATIONS, MOUNTING HEIGHTS & REQUIREMENTS FOR ALL DEVICES WITH LATEST ARCHITECTURAL FURNITURE & EQUIPMENT LAYOUTS & ELEVATIONS.
- COORDINATE EXACT LOCATIONS FOR ALL ELECTRICAL EQUIPMENT, PANELBOARDS, DISCONNECTS, STARTERS, CONTROL PANELS, ETC. WITH ARCHITECTURAL PLANS AND ALL OTHER TRADES INCLUDING MECHANICAL TO MAINTAIN REQUIRED WORKING CLEARANCES AND DEDICATED EQUIPMENT SPACE. DETERMINE EXACT LOCATIONS AND VERIFY WITH ALL OTHER TRADES PRIOR TO BEGINNING OF CONSTRUCTION TO AVOID INTERFERENCES WITH MECHANICAL, STRUCTURAL, ETC.
- H. ALL WIRING DEVICES SHALL BE OF TAMPER RESISTANT CONSTRUCTION AND WITH AFCI PROTECTION.
- ALL DEVICES AT COUNTER LOCATIONS TO BE MOUNTED ABOVE THE COUNTER AT +42"AFF OR AS NOTED ON THESE PLANS. COORDINATE WITH ARCHITECT/OWNER AND MILLWORK CONTRACTOR FOR EXACT LOCATIONS.
- J. LOCATE DISCONNECT SWITCHES FOR MECHANICAL AND BUILDING EQUIPMENT TO MAINTAIN WORKING CLEARANCES. LOCATIONS ON THESE PLANS ARE FOR REFERENCE ONLY.
- K. GROUND FAULT PROTECTION FOR DEVICES INSTALLED AT LOCATIONS NOT READILY ACCESSIBLE, PROVIDE GROUND FAULT BLANK FACE DEVICE AT ACCESSIBLE LOCATION OR PROVIDE GFCI BRANCH BREAKER IN PANELBOARD.
- L. ALL ROOF MOUNTED EQUIPMENT TO BE NEMA 3R WEATHERPROOF RATED, INCLUDING STARTERS, DISCONNECTS, ETC.

# **PARTNERS**



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CONSULTANT

F 586.469.3607



KEY PLAN

Green Oak Charter Township

PROJECT NAME

Green Oak Fire Station No. 81

9384 Whitmore Lake Road Brighton, MI 48116

PROJECT NO.

19-129

ISSUES / REVISIONS

06-16-2020

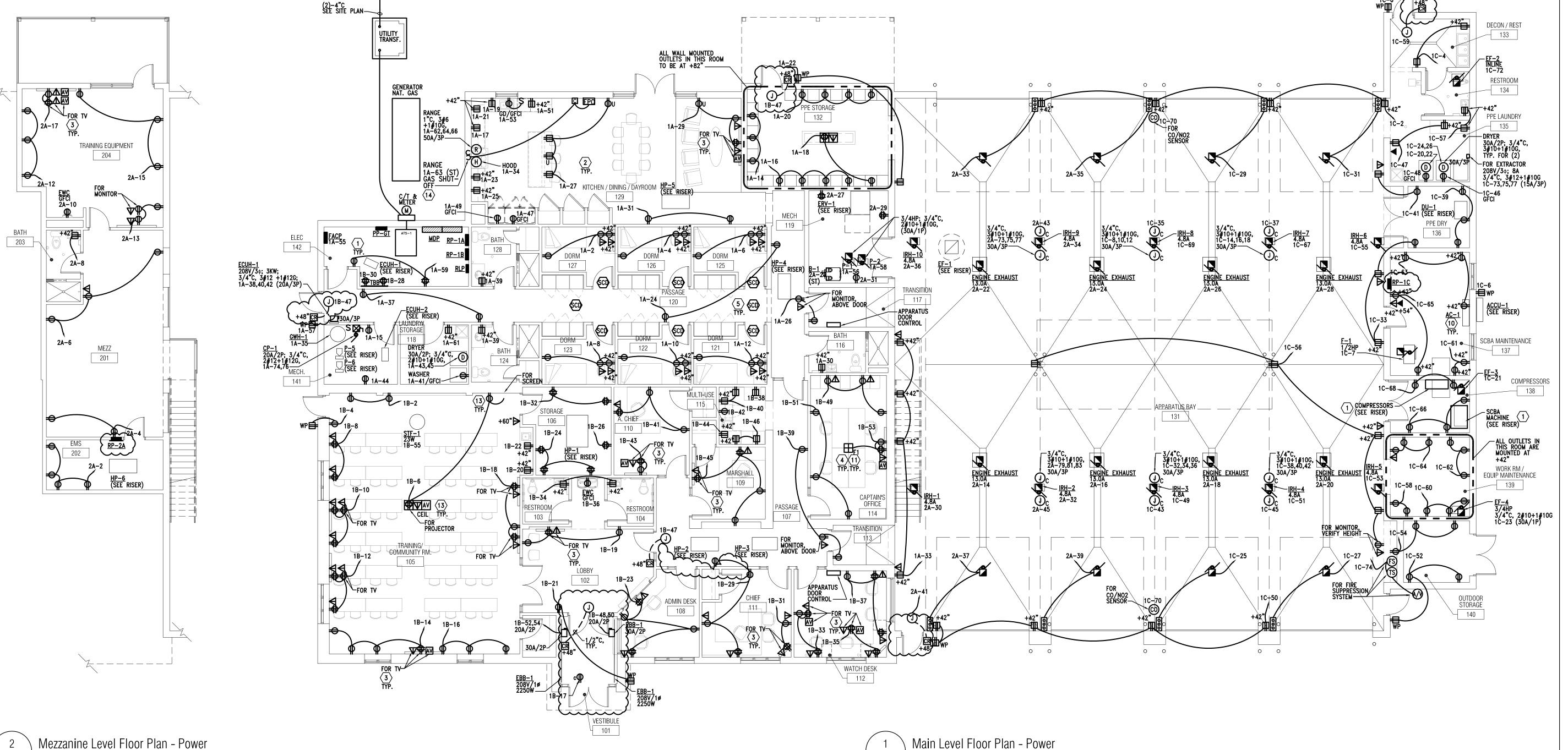
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APPROVED BY

SHEET NAME

FLOOR PLANS -POWER

SHEET NO. **E3-00** 



When signed by the Owner and Architect and received by the Contractor, this document Contractor signature indicates agreement becomes effective IMMEDIATELY as a Construction Change Directive (CCD), and the with the proposed adjustments in Contractor shall proceed with the change(s) described above. Contract Sum and Contract Time set forth in this CCD. PARTNERS in Architecture, PLC **Highland Township** Axiom Construction Services Group, LLC ARCHITECT (Firm name) OWNER (Firm name) CONTRACTOR (Firm name) **SIGNATURE** SIGNATURE Deib Mougrabi, Director of Field Andrew Markle Ken Chapman, Fire Chief Operations PRINTED NAME AND TITLE PRINTED NAME AND TITLE PRINTED NAME AND TITLE 2020 DATE DATE