



AIA[®] Document G714™ – 2017

Construction Change Directive

PROJECT: *(name and address)*
Highland Township Fire Station 2
PIA #18-122B

CONTRACT INFORMATION:
Contract For: General Construction
Date:

CCD INFORMATION:
Directive Number: 001
Date: July 13, 2021

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

ARCHITECT: *(name and address)*
PARTNERS in Architecture, PLC
65 Market Street
Mount Clemens, MI 48043

CONTRACTOR: *(name and address)*
Axiom Construction Services Group, LLC
7789 E. M-36
Whitmore Lake, MI 48189

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.)

Refer to attached "Exhibit A" - Write Up
Refer to attached "Exhibit B" - Specifications
Refer to attached "Exhibit C" - Revised Drawings

PROPOSED ADJUSTMENTS

- 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 add to the contract. The final amount is to be determined. An adjustment will be made to the contract amount, afterwards, via Change Order.
- 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.

When signed by the Owner and Architect and received by the Contractor, this document becomes effective IMMEDIATELY as a Construction Change Directive (CCD), and the Contractor shall proceed with the change(s) described above.

Contractor signature indicates agreement with the proposed adjustments in 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

Joseph Valeri, RA, NCARB, LEED
GA, Senior Project Architect

Ken Chapman, Fire Chief

Deib Mougrabi, Director of Field
Operations

PRINTED NAME AND TITLE

PRINTED NAME AND TITLE

PRINTED NAME AND TITLE

July 13, 2021

DATE

DATE

“EXHIBIT A” – CCD NO. 1

Project Name: Highland Township – Highland Township Fire Station No. 2 **CCD No: One (1)**

Project Number: 18-122B Issue Date: July 13, 2021
Project Location: 2550 E. Wardlow Rd., Highland, MI 48356

This Addendum forms a part of the above described Bidding/Permit Construction Documents and supersedes, supplements or clarifies parts thereof to the extent defined by the terms set forth in this Construction Change Directive.

This CCD consists of (3) three typed pages and the following attachments:

Specifications: 102800 Toilet Accessories

Drawings: Site Topographic Survey (TS-1), Site Layout Plan (SP-1), Site Soil Erosion & Sedimentation Control Plan (SE-1), Site Paving & Grading Plan (C-1), Site Stormwater Management Plan & Details (C-2), Site Utilities Plan (C-3), Site Storm Sewer Profiles (C-4), Site Water Main Profiles (C-5), Site Septic System Details (C-6), Dimension Plan (A3-03), Enlarged Floor Plans (A3-10), Plan Details (A3-21), Reflected Ceiling Plans & Details (A4-01), Floor Plans – Fire Protection (FP0-01), Floor Plans – Sanitary & Vent (M1-01), Floor Plans – Domestic Water (M1-02), Floor Plans – Piping (M3-01), Mechanical Details (M5-01) and Floor Plans – Power (E3-00).

EXHIBIT B - SPECIFICATIONS:

ITEM SP1 SPECIFICATION SECTION 102800 – TOILET ACCESSORIES

Steel Equipment A. Changed typical size of Mirror Unit TA-4, in Section 2.1 Washroom Accessories, paragraph C.4, to 24" x 36" if not otherwise noted on the drawings.

EXHIBIT C - DRAWINGS:

CIVIL **Janette & Sons Core Land Consulting** **ESKO Roofing**

ITEM C1 TS-1 SITE TOPOGRAPHIC SURVEY

A. Added Sheet WM-4 O.C.W.R.C. Standard Water Main Details to sheet index.

ITEM C2 SP-1 SITE LAYOUT PLAN

- A. Added Sheet WM-4 O.C.W.R.C. Standard Water Main Details to sheet index.
- B. Added 2' deep sediment sump in Stormwater Detention Basin.
- C. Replaced single center downspout pipe on building west end with ones at northwest & southwest building corners.
- D. Shifted fire line & water service valve locations as necessary to separate these lines just south of the hydrant lead tee.

ITEM C3 SE-1 SITE SOIL EROSION & SEDIMENTATION CONTROL PLAN

- A. Added 2' deep sediment sump in Stormwater Detention Basin.
- B. Replaced single center downspout pipe on building west end with ones at northwest & southwest building corners.

- C. Replaced single 8" water lead south of hydrant lead tee with separate 2" water service and 6" fire line.

ITEM C4

C-1 SITE PAVING & GRADING PLAN

- A. Added 2' deep sediment sump in Stormwater Detention Basin.
- B. Replaced single center downspout pipe on building west end with ones at northwest & southwest building corners.
- C. Replaced single 8" water lead south of hydrant lead tee with separate 2" water service and 6" fire line.

ITEM C5

C-2 SITE STORMWATER MANAGEMENT PLAN & DETAILS

- A. Added 2' deep sediment sump in Stormwater Detention Basin.
- B. Replaced single center downspout pipe on building west end with ones at northwest & southwest building corners.
- C. Replaced single 8" water lead south of hydrant lead tee with separate 2" water service and 6" fire line.
- D. Added storm sewer calculations for roof drainage piping.
- E. Revised Detention Basin outlet structure orifice calculations and detail.

ITEM C6

C-3 SITE UTILITIES PLAN

- A. Added 2' deep sediment sump in Stormwater Detention Basin.
- B. Replaced single center downspout pipe on building west end with ones at northwest & southwest building corners.
- C. Replaced single 8" water lead south of hydrant lead tee with separate 2" water service and 6" fire line.

ITEM C7

C-4 SITE STORM SEWER PROFILES

- A. Added 2' deep sediment sump in Stormwater Detention Basin.

ITEM C8

C-5 SITE WATER MAIN PROFILES

- A. Replaced single 8" water lead south of hydrant lead tee with separate 2" water service and 6" fire line.

ITEM C9

C-6 SITE SEPTIC SYSTEM DETAILS

- A. Replaced single center downspout pipe on building west end with ones at northwest & southwest building corners.
- B. Replaced single 8" water lead south of hydrant lead tee with separate 2" water service and 6" fire line

ARCHITECTURAL

**Castle Carpentry, Steel Equipment,
Mastercraft Plumbing, Smart Lighting**

ITEM A1

A3-03 DIMENSION PLAN

- A. Add (10) ten corner guards.
- B. Add steel column D5 and increase width of partition to 7 1/4" as noted on plan.
- C. Revise dimensions in Passage 113.

ITEM A2

A3-10 ENLARGED FLOOR PLANS

- A. Add mirror size (24" x 36") to Item TA-4 in the Toilet Accessories Legend.

ITEM A3

A3-21 PLAN DETAILS

- A. Add column D5 to Plan Detail 8/A3-01.
- B. Revise dimensions of partition at new column location and change metal stud size from 3 5/8" to 6".

ITEM A4

A4-01 REFLECTED CEILING PLANS & DETAILS

- A. Add (4) four air reel and power chord drops to the ceiling of Apparatus Bay 121.
- B. Added a symbol for the reels on the Ceiling Symbol Legend.

**Mohawk Fire Protection, Anton's Painting, Kapala Heating & Air,
Mastercraft Plumbing**

MECHANICAL

ITEM M1

FP0-01 FLOOR PLANS – FIRE PROTECTION

- A. Add Key Note # 2
- B. Delete one feed water stub and provide two feed water stubs. One for fire protection and one for domestic water.

ITEM M2

M1-01 FLOOR PLANS – SANITARY & VENT

- A. Add condensate lines to heat pump units as indicated.
- B. Replace floor drain to floor sink in Mechanical room as indicated.

ITEM M3

M1-02 FLOOR PLANS – DOMESTIC WATER

- A. Delete one feed water stub and provide two feed water stubs. One for fire protection and one for domestic water.

ITEM M3

M3-01 FLOOR PLANS - PIPING

- A. Add compressed air piping with hose reels as indicated.

ITEM M3

M5-01 MECHANICAL DETAILS

- A. Revise sprinkler riser and water meter diagram.
- B. Revise Heap pump floor diagram.

Smart Lighting

ELECTRICAL

ITEM E1

E3-00 FLOOR PLANS - POWER

- A. Added Key Note 18 as indicated.

****END OF CCD-1****

SECTION 102800 - TOILET AND BATH ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Washroom accessories.
 - 2. Under lavatory 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 18-122B
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 36"H

D. Toilet Tissue Dispenser: TA-5

1. 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

1. By Owner

H. NOT USED: (TA-9)

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. Under lavatory 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.

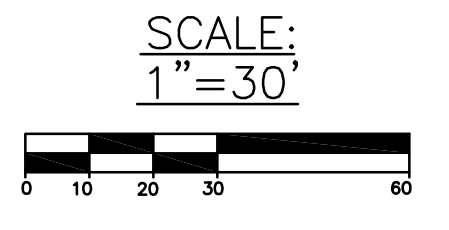
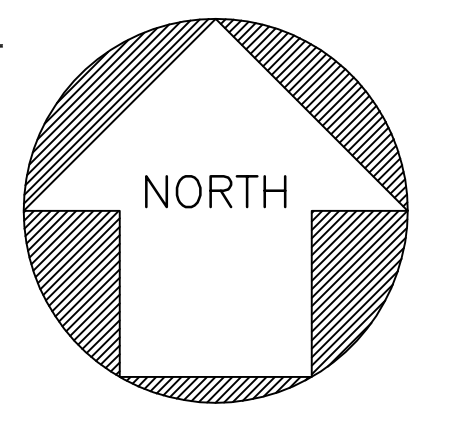
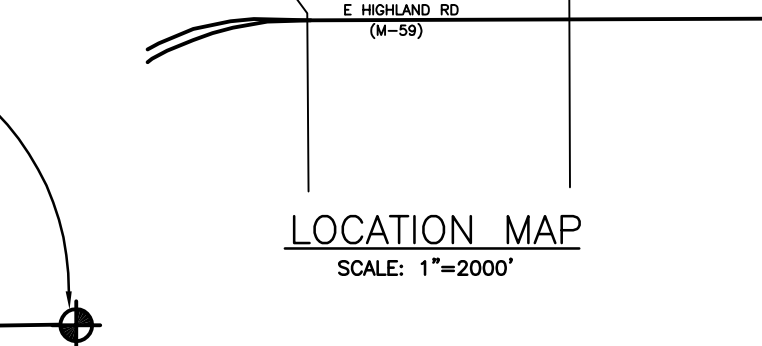
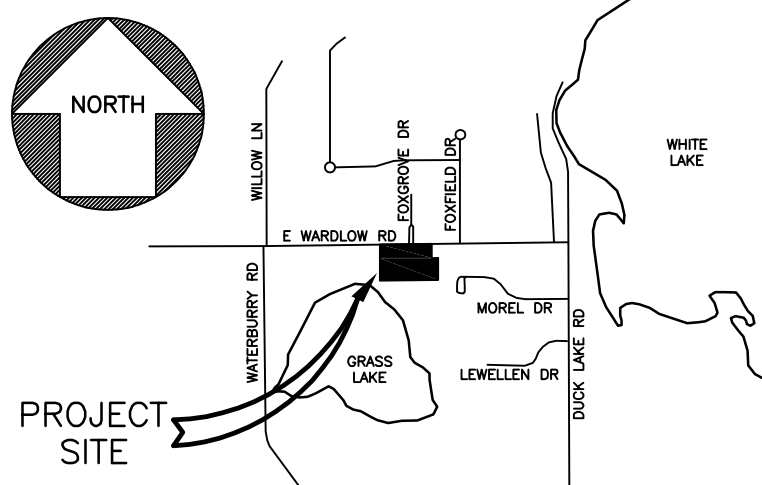
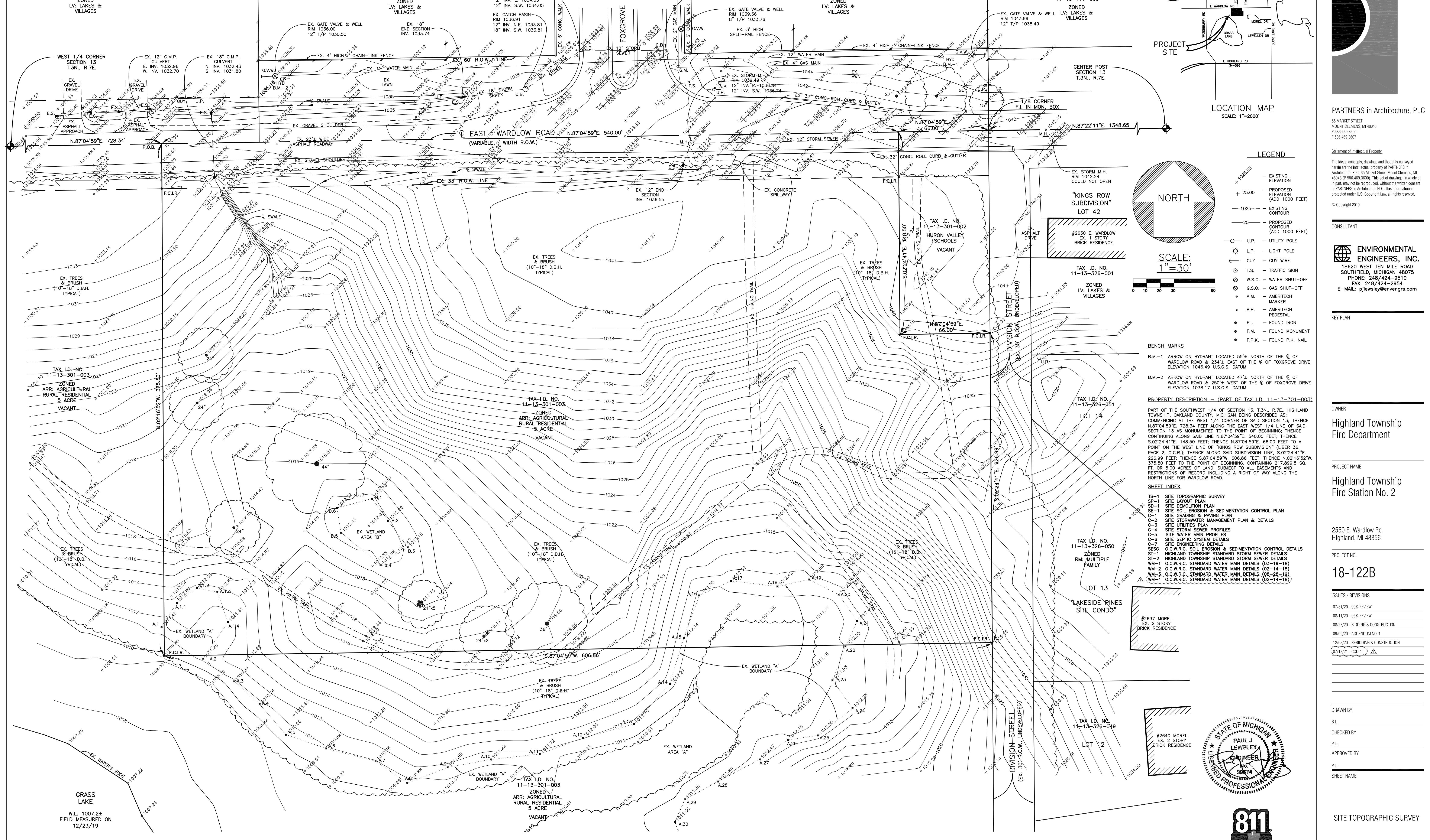
PART 3 - EXECUTION

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

EXHIBIT 'C' - CCD-1



LEGEND

- EXISTING ELEVATION
- +25.00 PROPOSED ELEVATION (ADD 1000 FEET)
- 1025 EXISTING CONTOUR
- 25 PROPOSED CONTOUR (ADD 1000 FEET)
- U.P. - UTILITY POLE
- ⊙ L.P. - LIGHT POLE
- GUY - GUY WIRE
- ◇ T.S. - TRAFFIC SIGN
- ⊗ W.S.O. - WATER SHUT-OFF
- ⊗ G.S.O. - GAS SHUT-OFF
- A.M. - AMERITECH MARKER
- A.P. - AMERITECH PEDESTAL
- F.I. - FOUND IRON
- F.M. - FOUND MONUMENT
- F.P.K. - FOUND P.K. NAIL

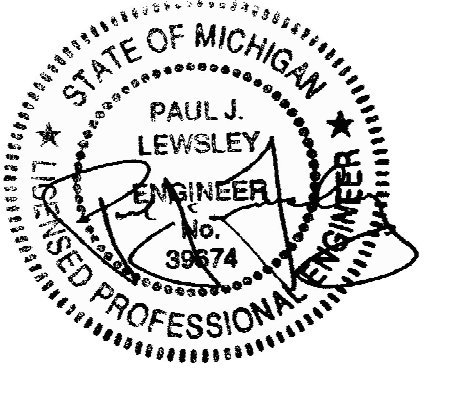
BENCH MARKS

- B.M.-1 ARROW ON HYDRANT LOCATED 55± NORTH OF THE E. OF WARDLOW ROAD & 234± EAST OF THE E. OF FOXGROVE DRIVE ELEVATION 1046.49 U.S.G.S. DATUM
- B.M.-2 ARROW ON HYDRANT LOCATED 47± NORTH OF THE E. OF WARDLOW ROAD & 250± WEST OF THE E. OF FOXGROVE DRIVE ELEVATION 1038.17 U.S.G.S. DATUM

PROPERTY DESCRIPTION - (PART OF TAX I.D. 11-13-301-003)
PART OF THE SOUTHWEST 1/4 OF SECTION 13, T.3N., R.7E., HIGHLAND TOWNSHIP, OAKLAND COUNTY, MICHIGAN BEING DESCRIBED AS: COMMENCING AT THE WEST 1/4 CORNER OF SAID SECTION 13; THENCE N.87°04'59"E. 728.34 FEET ALONG THE EAST-WEST 1/4 LINE OF SAID SECTION 13 AS MONUMENTED TO THE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID LINE N.87°04'59"E. 540.00 FEET; THENCE S.02°24'41"E. 148.50 FEET; THENCE N.87°04'59"E. 66.00 FEET TO A POINT ON THE WEST LINE OF "KINGS ROW SUBDIVISION" (LIBER 36, PAGE 2, O.C.R.); THENCE ALONG SAID SUBDIVISION LINE, S.02°24'41"E. 226.99 FEET; THENCE S.87°04'59"W. 606.86 FEET; THENCE N.02°18'52"W. 375.50 FEET TO THE POINT OF BEGINNING, CONTAINING 217,899.5 SQ. FT. OR 5.00 ACRES OF LAND, SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD INCLUDING A RIGHT OF WAY ALONG THE NORTH LINE FOR WARDLOW ROAD.

SHEET INDEX

- TS-1 SITE TOPOGRAPHIC SURVEY
- SP-1 SITE LAYOUT PLAN
- SD-1 SITE DEMOLITION PLAN
- SE-1 SITE SOIL EROSION & SEDIMENTATION CONTROL PLAN
- C-1 SITE GRADING & PAVING PLAN
- C-2 SITE STORMWATER MANAGEMENT PLAN & DETAILS
- C-3 SITE UTILITIES PLAN
- C-4 SITE STORM SEWER PROFILES
- C-5 SITE WATER MAIN PROFILES
- C-6 SITE SEPTIC SYSTEM DETAILS
- C-7 SITE ENGINEERING DETAILS
- SEC-1 O.C.W.R.C. SOIL EROSION & SEDIMENTATION CONTROL DETAILS
- ST-1 HIGHLAND TOWNSHIP STANDARD STORM SEWER DETAILS
- SE-2 HIGHLAND TOWNSHIP STANDARD STORM SEWER DETAILS
- WM-1 O.C.W.R.C. STANDARD WATER MAIN DETAILS (03-19-18)
- WM-2 O.C.W.R.C. STANDARD WATER MAIN DETAILS (02-14-18)
- WM-3 O.C.W.R.C. STANDARD WATER MAIN DETAILS (08-28-19)
- WM-4 O.C.W.R.C. STANDARD WATER MAIN DETAILS (02-14-18)



GRASS LAKE
W.L. 1007.2±
FIELD MEASURED ON
12/23/19

NOTE: EXISTING WETLAND BOUNDARIES DELINEATED BY KING & MACGREGOR ENVIRONMENTAL, INC. ON DECEMBER 17, 2019. PROPERTY BOUNDARY INFORMATION FROM SURVEY PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED AUGUST 29, 2019 AND PROVIDED BY CLIENT.

PARTNERS

PARTNERS in Architecture, PLC

65 MARKET STREET
MOUNT CLEMENS, MI 48043
P 586.469.3600
F 586.469.3607

Statement of Intellectual Property
The ideas, concepts, drawings and thoughts conveyed herein are the intellectual property of PARTNERS in Architecture, PLC, 65 Market Street, Mount Clemens, MI 48043 (P 586.469.3600). This set of drawings, in whole or in part, may not be reproduced, without the written consent of PARTNERS in Architecture, PLC. This information is protected under U.S. Copyright Law. All rights reserved.

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CONSULTANT

ENVIRONMENTAL ENGINEERS, INC.

18620 WEST TEN MILE ROAD
SOUTHFIELD, MICHIGAN 48075
PHONE: 248/424-9510
FAX: 248/424-2954
E-MAIL: p.j.lewisley@envengrs.com

KEY PLAN

OWNER
**Highland Township
Fire Department**

PROJECT NAME
**Highland Township
Fire Station No. 2**

2550 E. Wardlow Rd.
Highland, MI 48356

PROJECT NO.
18-122B

ISSUES / REVISIONS

NO.	DATE	DESCRIPTION
07/31/20	90% REVIEW	
08/11/20	95% REVIEW	
08/27/20	BIDDING & CONSTRUCTION	
09/09/20	ADDENDUM NO. 1	
12/08/20	REBIDDING & CONSTRUCTION	
07/13/21	CCD-1	

DRAWN BY
B.L.

CHECKED BY
P.L.

APPROVED BY
P.L.

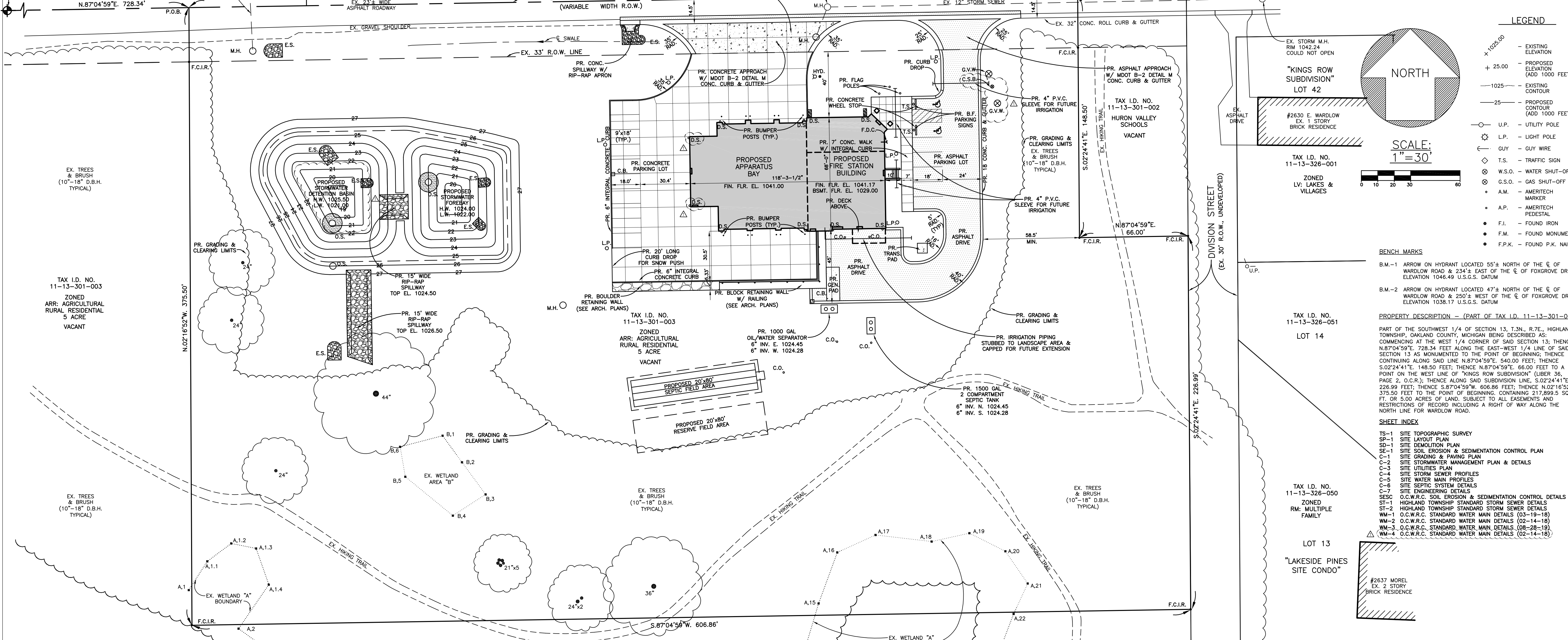
SHEET NAME
SITE TOPOGRAPHIC SURVEY

SHEET NO.
TS-1

EE # 1947

EXHIBIT 'C' - CCD-1

TAX I.D. NO. 11-13-101-006
 ZONED LV: LAKES & VILLAGES
 WEST 1/4 CORNER SECTION 13 T.3N., R.7E.

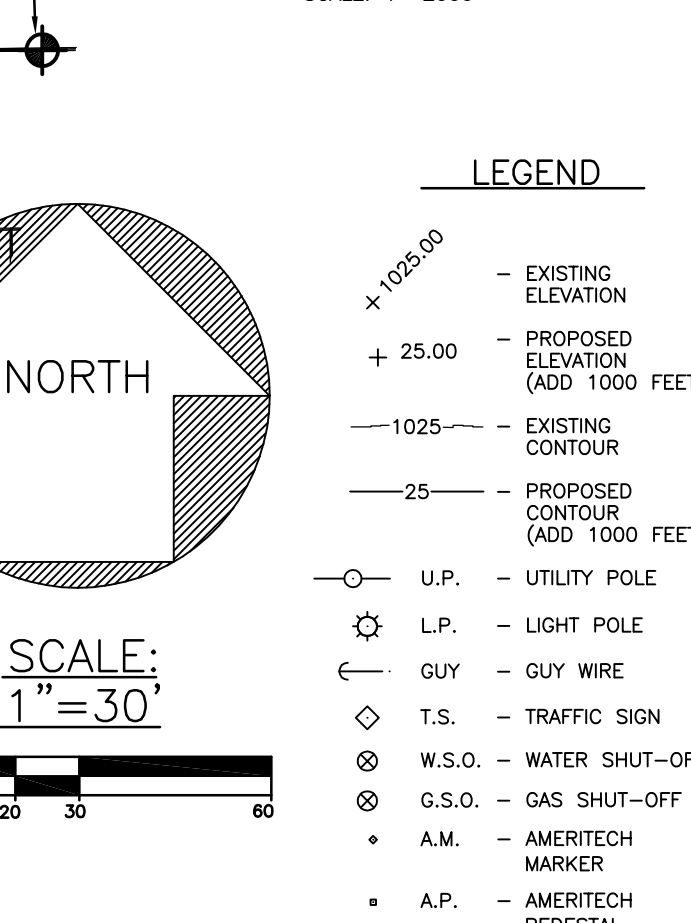
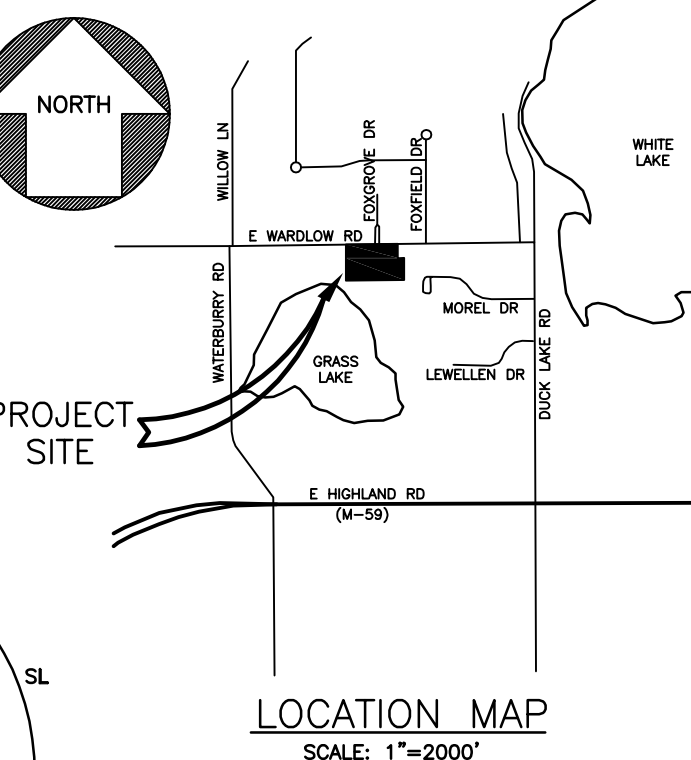


TAX I.D. NO. 11-13-301-003
 ZONED ARR: AGRICULTURAL RURAL RESIDENTIAL 5 ACRE VACANT
 EX. TREES & BRUSH (10'-18" D.B.H. TYPICAL)

GRASS LAKE
 W.L. 1007.2±
 FIELD MEASURED ON 12/23/19

SITE DATA
 SITE AREA: TOTAL PARCEL AREA: 217,899.5 SQ. FT. OR 5.00 ACRES
 SITE ZONING CURRENT: ARR (AGRICULTURAL RURAL RESIDENTIAL)
 PROPOSED BUILDING AREA: FIRST FLR. = 7,438 SQ. FT. TOTAL = 9,698 SQ. FT.
 PROPOSED BUILDING HEIGHT: 37'-6"
 PROPOSED SITE PARKING: 17 SPACES INCL. 2 B.F.
 SITE FLOODPLAIN INFORMATION:
 BASED ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP NUMBER 26125C0312F, DATED SEPTEMBER 29, 2006 THE SUBJECT PROPERTY LIES WITHIN ZONE X, AN AREA OUTSIDE THE ANNUAL 0.2% CHANCE FLOODPLAIN.
 SITE LANDSCAPING:
 A 12' GREENBELT IS REQUIRED ALONG WARDLOW ROAD.
 SITE WETLANDS INFORMATION:
 M.D.E.Q. REGULATED WETLANDS EXIST ONSITE, AS SHOWN ON TOPOGRAPHIC SURVEY.
 SITE SOILS INFORMATION:
 THE SITE SOILS ARE PREDOMINATELY SANDY SOILS OVERLAIN BY 2" TO 11" OF SANDY TOPSOIL PER PROJECT SOIL BORINGS.
 SITE ENVIRONMENTAL INFORMATION:
 THERE ARE NO KNOWN CONTAMINATED SITE AREAS. NO USE OR STORAGE OF HAZARDOUS MATERIALS, OTHER THAN NORMAL CLEANING PRODUCTS, IS ANTICIPATED.

NOTE: EXISTING WETLAND BOUNDARIES DELINEATED BY KING & MACGREGOR ENVIRONMENTAL, INC. ON DECEMBER 17, 2019. PROPERTY BOUNDARY INFORMATION FROM SURVEY PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED AUGUST 29, 2019 AND PROVIDED BY CLIENT.



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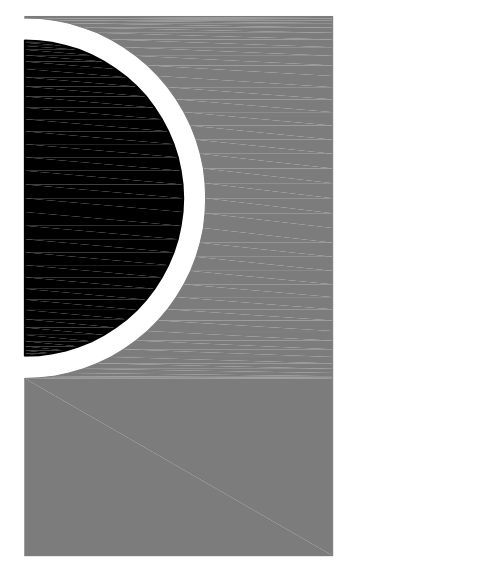
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 WM-2 O.C.W.R.C. STANDARD WATER MAIN DETAILS (02-14-18)
 WM-3 O.C.W.R.C. STANDARD WATER MAIN DETAILS (08-28-19)
 WM-4 O.C.W.R.C. STANDARD WATER MAIN DETAILS (02-14-18)

TAX I.D. NO. 11-13-326-001
 ZONED LV: LAKES & VILLAGES
 "KINGS ROW SUBDIVISION" LOT 42
 #2630 MOREL EX. 1 STORY BRICK RESIDENCE
 TAX I.D. NO. 11-13-326-001
 ZONED LV: LAKES & VILLAGES
 "KINGS ROW SUBDIVISION" LOT 42
 #2630 MOREL EX. 1 STORY BRICK RESIDENCE
 TAX I.D. NO. 11-13-326-051
 LOT 14
 TAX I.D. NO. 11-13-326-050
 ZONED RM: MULTIPLE FAMILY
 LOT 13
 "LAKESIDE PINES SITE CONDO"
 #2637 MOREL EX. 2 STORY BRICK RESIDENCE
 TAX I.D. NO. 11-13-326-049
 LOT 12
 #2640 MOREL EX. 2 STORY BRICK RESIDENCE

STATE OF MICHIGAN
 PAUL J. LEWSLEY
 ENGINEER
 39874
 LICENSED PROFESSIONAL ENGINEER

811
 Know what's below.
 Call before you dig.

PARTNERS



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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KEY PLAN

OWNER
 Highland Township
 Fire Department

PROJECT NAME
 Highland Township
 Fire Station No. 2

2550 E. Wardlow Rd.
 Highland, MI 48356

PROJECT NO.
18-122B

ISSUES / REVISIONS
 07/31/20 - 90% REVIEW
 08/11/20 - 95% REVIEW
 08/27/20 - BIDDING & CONSTRUCTION
 09/09/20 - ADDENDUM NO. 1
 12/08/20 - REBIDDING & CONSTRUCTION
 07/13/21 - CCD-1

DRAWN BY
 B.L.
 CHECKED BY
 P.L.
 APPROVED BY
 P.L.
 SHEET NAME

SITE LAYOUT PLAN
 SHEET NO.
 SP-1
 EE # 1947

EXHIBIT 'C' - CCD-1

TAX I.D. NO. 11-13-101-006

ZONED LV: LAKES & VILLAGES

TAX I.D. NO. 11-13-101-009

ZONED LV: LAKES & VILLAGES

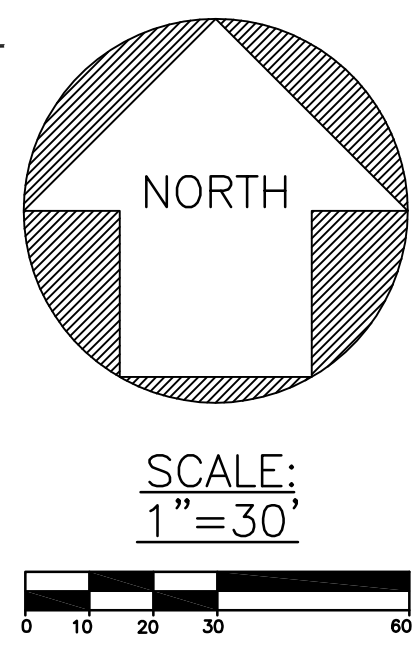
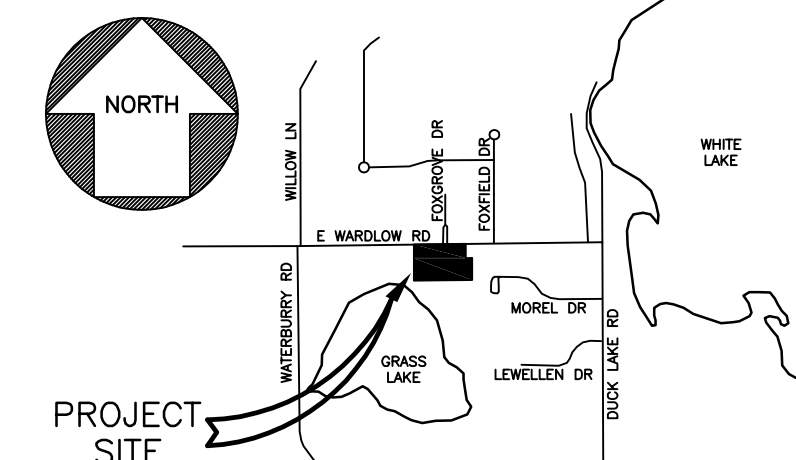
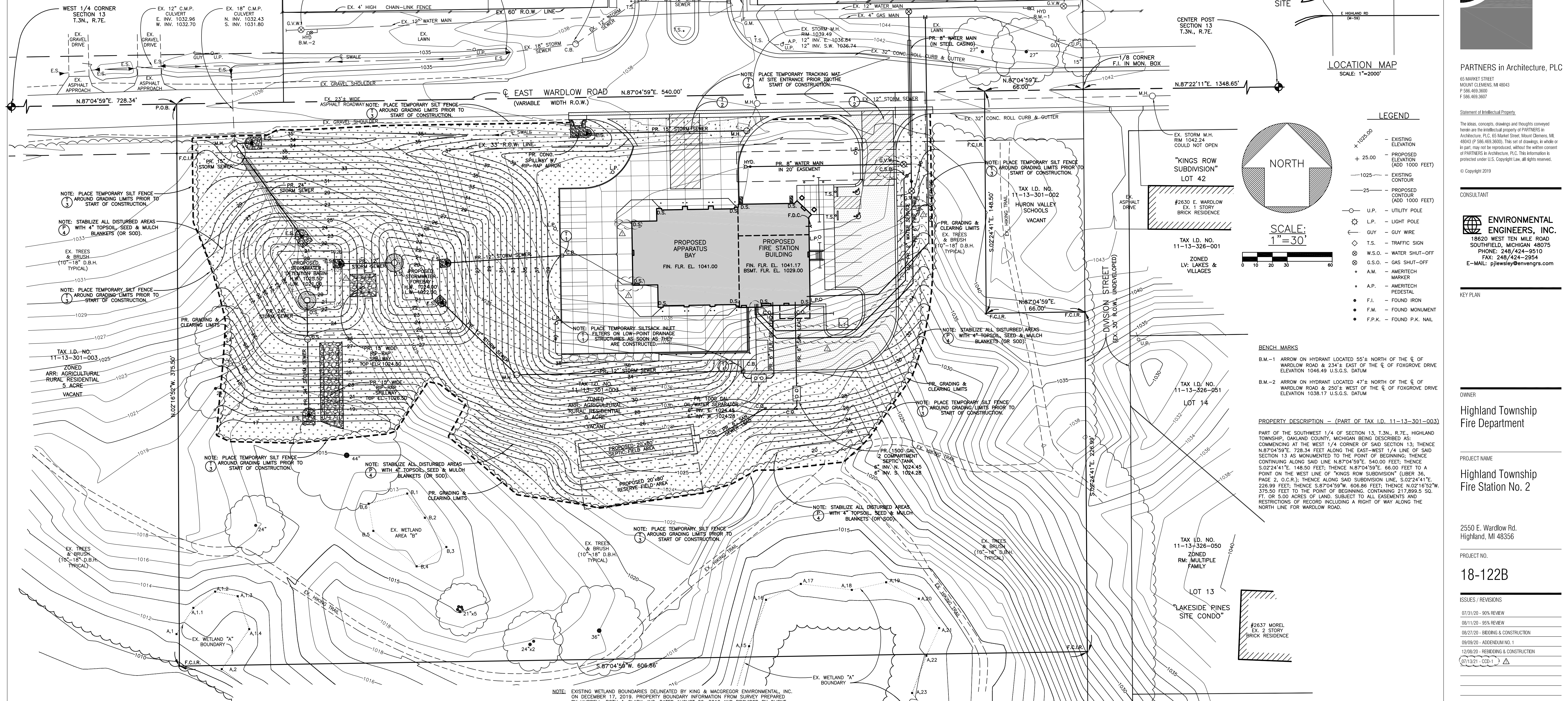
TAX I.D. NO. 11-13-101-011

ZONED LV: LAKES & VILLAGES

"FOXFIELD ESTATES SITE CONDO" LOT 1

TAX I.D. NO. 11-13-177-003

ZONED LV: LAKES & VILLAGES



BENCH MARKS
 B.M.-1 ARROW ON HYDRANT LOCATED 55'± NORTH OF THE E. OF WARDLOW ROAD & 234'± EAST OF THE E. OF FOXGROVE DRIVE ELEVATION 1046.49 U.S.G.S. DATUM
 B.M.-2 ARROW ON HYDRANT LOCATED 47'± NORTH OF THE E. OF WARDLOW ROAD & 250'± WEST OF THE E. OF FOXGROVE DRIVE ELEVATION 1038.17 U.S.G.S. DATUM

PROPERTY DESCRIPTION - (PART OF TAX I.D. 11-13-301-003)
 PART OF THE SOUTHWEST 1/4 OF SECTION 13, T.3N., R.7E., HIGHLAND TOWNSHIP, OAKLAND COUNTY, MICHIGAN BEING DESCRIBED AS: COMMENCING AT THE WEST 1/4 CORNER OF SAID SECTION 13; THENCE N.87°04'59"E. 728.34 FEET ALONG THE EAST-WEST 1/4 LINE OF SAID SECTION 13 AS MONUMENTED TO THE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID LINE N.87°04'59"E. 540.00 FEET; THENCE S.02°24'41"E. 148.50 FEET; THENCE N.87°04'59"E. 66.00 FEET TO A POINT ON THE WEST LINE OF "KINGS ROW SUBDIVISION" (LEBER 36, PAGE 2, O.C.R.); THENCE ALONG SAID SUBDIVISION LINE, S.02°24'41"E. 228.99 FEET; THENCE S.87°04'59"W. 606.86 FEET; THENCE N.02°16'52"W. 375.50 FEET TO THE POINT OF BEGINNING, CONTAINING 217,899.50 SQ. FT. OR 5.00 ACRES OF LAND, SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD INCLUDING A RIGHT OF WAY ALONG THE NORTH LINE FOR WARDLOW ROAD.

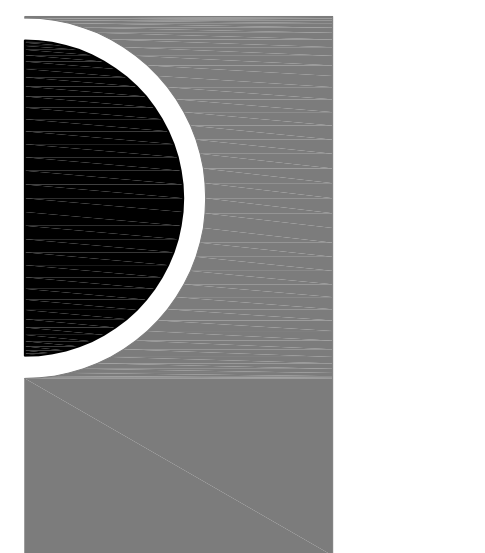
- CONSTRUCTION NOTES**
- ALL SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF HIGHLAND TOWNSHIP.
 - ALL CONSTRUCTION WITHIN EAST WARDLOW ROAD RIGHT-OF-WAY SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE ROAD COMMISSION OF OAKLAND COUNTY. A R.C.O.C. PERMIT IS REQUIRED. ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON-SITE. A SOIL EROSION CONTROL PERMIT IS REQUIRED FROM THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER'S OFFICE AND A N.P.D.E.S. PERMIT IS NOT REQUIRED FROM E.G.L.E. THE DISTURBED AREA OF THE SITE WILL BE 2.52 ACRES. THE SITE SOILS ARE PREDOMINANTLY SANDY SOILS OVERLAIN BY 2" TO 11" OF SANDY TOPSOIL. PER PROJECT SOIL BORINGS, THE PROPOSED CONSTRUCTION AREA SHALL BE CLEARED AND STRIPPED OF ALL TOPSOIL PRIOR TO THE START OF MASS GRADING OR UTILITIES WORK. ALL SITE FILLING UNDER OR WITHIN A 1' ON 1' INFLUENCE OF EXISTING OR PROPOSED BUILDING OR PAVEMENT AREAS SHALL UTILIZE CLEAN SOIL, FREE OF ANY VEGETATION OR ORGANIC MATERIALS. ALL FILL SHALL BE PLACED IN 8" MAXIMUM LIFTS AND COMPACTED TO 95% OF MAXIMUM DENSITY PER MODIFIED PROCTOR TEST. ALL DISTURBED UNPAVED AREAS TO BE STABILIZED WITH 4" MINIMUM TOPSOIL, SEED AND MULCH (OR SOD) AS SOON AS FINAL GRADING IS COMPLETE.
 - ALL UTILITIES EXCAVATION UNDER OR WITHIN 1' ON 1' INFLUENCE OF EXISTING OR PROPOSED PAVEMENT AREAS SHALL HAVE COMPACTED M.D.O.T. CL1 SAND BACKFILL.
 - ALL PROPOSED WATER MAIN AND FIRE LINE CONSTRUCTION SHALL BE DUCTILE IRON CLASS 54 PIPE. SHALL HAVE 5.5 FEET MINIMUM COVER AND SHALL BE IN ACCORDANCE WITH OAKLAND COUNTY STANDARD DETAILS. AN E.G.L.E. PERMIT IS REQUIRED FOR THE PROPOSED PUBLIC WATER MAIN CONSTRUCTION.
 - ALL PROPOSED SANITARY SEWER LEAD CONSTRUCTION SHALL BE 6" P.V.C. SOR 235 PIPE. AN E.G.L.E. PERMIT IS NOT REQUIRED FOR THE PROPOSED SANITARY SEWER LEAD CONSTRUCTION.
 - ALL PROPOSED STORM SEWER CONSTRUCTION SHALL BE PERFORATED ADS HP STORM SEWER PIPE WRAPPED WITH GEOTEXTILE FABRIC (UNLESS OTHERWISE NOTED). SHALL HAVE M.D.O.T. CL1 BEDDING AND SHALL BE IN ACCORDANCE WITH HIGHLAND TOWNSHIP STANDARD DETAILS. ALL LOW POINT DRAINAGE STRUCTURES WITHIN PAVEMENT AREAS SHALL HAVE 10" x 4" P.V.C. BLEEDER DRAIN IN A PEA GRAVEL TRENCH IN FOUR DIRECTIONS FROM THE STRUCTURE.
 - ALL PROPOSED GRADES SHOWN WITHIN PAVEMENT AREAS ARE FINISHED PAVEMENT GRADES. PAVEMENT PERIMETERS TO HAVE INTEGRAL CONCRETE CURB, MODIFIED M.D.O.T. F-2 CONCRETE CURB AND GUTTER OR CONCRETE WALK WITH INTEGRAL CURB AS SHOWN ON PLAN.
 PROPOSED ON-SITE ASPHALT PAVEMENT TO BE:
 1-1/2" M.D.O.T. NO. 13A BITUMINOUS WEARING COURSE ON
 1-1/2" M.D.O.T. US98 BITUMINOUS LEVELING COURSE ON
 8" M.D.O.T. NO. 21AA AGGREGATE BASE
 PROPOSED ON-SITE CONCRETE PAVEMENT TO BE:
 7" M.D.O.T. P1 PLAIN CONCRETE PAVEMENT ON
 8" M.D.O.T. NO. 21AA AGGREGATE BASE

- SOIL EROSION & SEDIMENTATION CONTROL SEQUENCE**
- | | |
|------------------|--|
| 09/01 - 09/30/20 | INSTALL TEMPORARY SILT FENCE AROUND PERIMETER OF SITE CONSTRUCTION AREA AS SHOWN ON PLAN. INSTALL TEMPORARY STONE TRACKING MAT AT PROPOSED APPROACH WHERE SHOWN ON PLAN. CLEAR CONSTRUCTION AREA. STRIP AND STOCKPILE TOPSOIL. |
| 10/01 - 10/31/20 | ROUGH GRADE SITE AND EXCAVATE DETENTION BASIN. BEGAN BUILDING CONSTRUCTION. REMOVE ANY DEBRIS WHICH MAY BE TRACKED ON ADJACENT ROADWAY ON A DAILY BASIS. CONTROL DUST FROM SITE AT ALL TIMES BY WATERING AS NECESSARY. INSPECT ALL TEMPORARY EROSION CONTROL MEASURES ON A WEEKLY BASIS AND IMMEDIATELY AFTER EACH RAINFALL EVENT. MAINTENANCE NEEDED TO KEEP THE MEASURES PERFORMING THEIR INTENDED PURPOSES, SHOULD BE DONE IMMEDIATELY AFTER THE SITE INSPECTION. |
| 11/01 - 12/31/20 | INSTALL SITE UTILITIES. PLACE TEMPORARY INLET FILTERS ON ALL NEW DRAINAGE STRUCTURES AS SOON AS THEY ARE CONSTRUCTED. |
| 02/01 - 02/31/21 | FINE GRADE PAVEMENT AREAS AND INSTALL PAVEMENT. REPAIR AND/OR REPLACE INLET FILTERS AS REQUIRED. |
| 06/01 - 06/30/21 | FINE GRADE ALL UNPAVED AREAS AND DISTRIBUTE 4" MIN. TOPSOIL, SEED AND MULCH (OR SOD) ALL DISTURBED PORTIONS OF SITE WHICH ARE UNPAVED WITHIN FIVE (5) DAYS OF FINAL GRADING. |
| 07/01 - 07/31/21 | COMPLETE BUILDING CONSTRUCTION. CLEAN SITE PAVEMENT AND STORM SEWERS REMOVING ANY ACCUMULATED SEDIMENT AND DEBRIS. REMOVE TEMPORARY EROSION CONTROL MEASURES WHEN ALL AREAS ARE STABILIZED. |
- NOTE:** THE CONTRACTOR SHALL INSTALL, MONITOR AND MAINTAIN ALL TEMPORARY EROSION CONTROL DEVICES THROUGHOUT THE LIFE OF THE PROJECT. THE OWNER SHALL MONITOR AND MAINTAIN ALL PERMANENT EROSION CONTROL DEVICES UPON COMPLETION OF THE PROJECT.
- SOIL EROSION & SEDIMENTATION CONTROL MEASURES**
 BEST PRACTICES & MAINTENANCE SCHEDULE
- ALL TEMPORARY EROSION CONTROL MEASURES SHOULD BE CHECKED ON A WEEKLY BASIS AND IMMEDIATELY AFTER EACH RAINFALL EVENT. ANY MAINTENANCE NEEDED TO KEEP THE MEASURES PERFORMING THEIR INTENDED PURPOSE SHOULD BE DONE IMMEDIATELY AFTER THE SITE INSPECTION. EXAMPLES OF REQUIRED MAINTENANCE INCLUDE THE FOLLOWING:
- 1) **INLET FILTERS** - SLITBACK INSERTS SHOULD BE CLEANED OUT PERIODICALLY SO AS NOT TO BECOME CLOGGED. ANY DAMAGED FILTERS SHALL BE REPLACED IMMEDIATELY.
 - 2) **TRACKING MAT** - CRUSHED CONCRETE SHOULD BE ADDED TO THE TRACKING MATS AS THEY BECOME COVERED WITH MUD. DAMAGED TRACKING MATS SHOULD BE CLEANED ON A DAILY BASIS AS NECESSARY TO REMOVE ANY DIRT WHICH MAY BE TRACKED ONTO THEM.
 - 3) **SILT FENCE** - SOIL ACCUMULATED BEHIND THE SILT FENCE SHOULD BE REMOVED AFTER REACHING A 6" HEIGHT. ANY AREAS WHERE THE SILT FENCE HAS BEEN UNDERCUT SHALL BE REINSTITALLED WITH THE REQUIRED 6" MINIMUM ANCHOR TRENCH. ANY DAMAGED SILT FENCE SHALL BE REPLACED IMMEDIATELY.
 - 4) **SLOPE STABILIZATION** - STRAW BLANKETS SHALL BE REPAIRED, REPLACED OR RESTAKED AS NECESSARY TO HOLD THE UNDERLYING TOPSOIL AND SEED IN PLACE UNTIL TURF IS ESTABLISHED.
 - 5) **TOPSOIL** - MULCH & MULCH SHOULD BE REPLACED WITH 4" TOPSOIL, SEED AND MULCH (OR HYDRO-SEED OR SOD) WITHIN FIVE (5) DAYS OF REACHING FINAL GRADE. ANY ERODED AREAS SHALL BE IMMEDIATELY REPAIRED BY REGRADING AND PLACING ADDITIONAL SEED & MULCH.

- PROPOSED SITE SOIL EROSION CONTROL QUANTITIES**
- 2 EA. - TEMPORARY INLET FILTERS
 - 1,248 LF. - TEMPORARY SILT FENCE
 - 2 EA. - TEMPORARY TRACKING MAT
 - 71,720 S.F. - 4" TOPSOIL, SEED & MULCH BLANKET STABILIZATION
- NOTE:** CONTRACTOR TO VERIFY ALL PROJECT QUANTITIES.



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KEY PLAN

Highland Township Fire Department
 Highland Township Fire Station No. 2

OWNER

Highland Township Fire Department
 Highland, MI 48356

PROJECT NAME

Highland Township Fire Station No. 2

2550 E. Wardlow Rd.
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PROJECT NO.

18-122B

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08/11/20 - 95% REVIEW
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09/09/20 - ADDENDUM NO. 1
12/08/20 - REBIDDING & CONSTRUCTION
07/13/21 - CCD-1

DRAWN BY

BL

CHECKED BY

P.L.

APPROVED BY

P.L.

SHEET NAME

SITE SOIL EROSION & SEDIMENTATION CONTROL PLAN

SHEET NO.

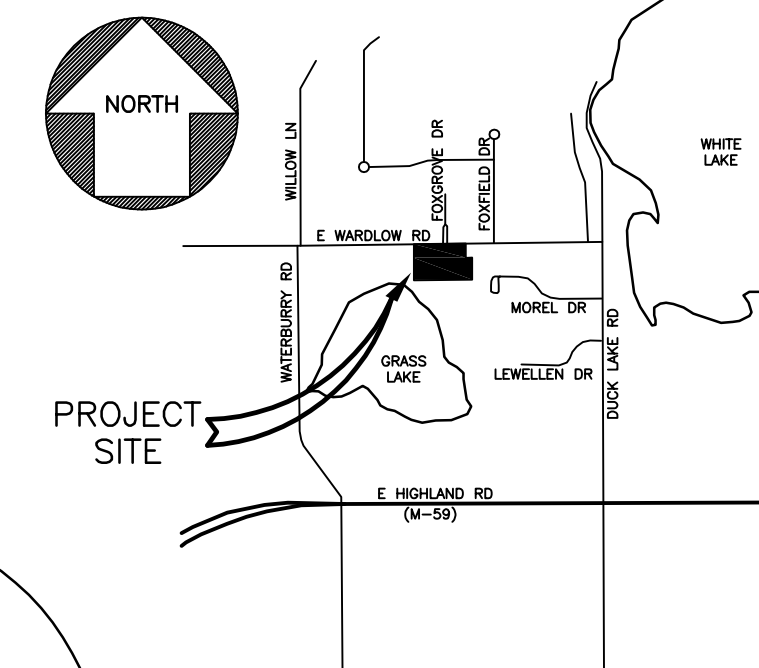
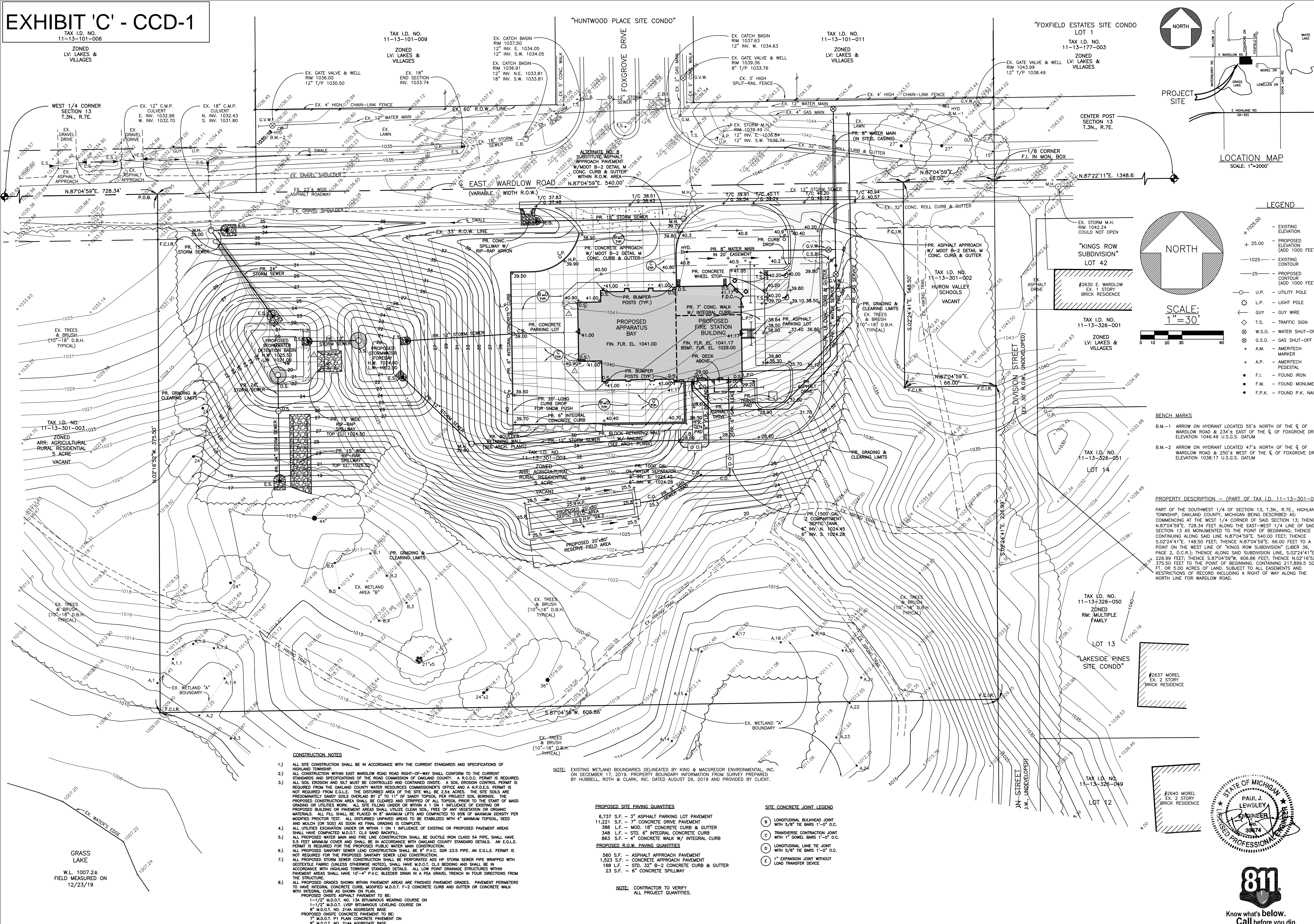
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EE # 1947

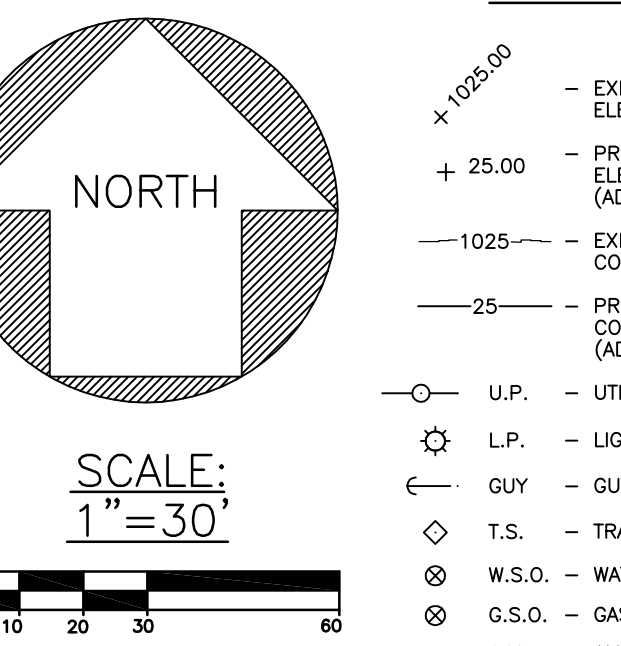
EXHIBIT 'C' - CCD-1

TAX I.D. NO. 11-13-101-006

ZONED LV, LAKES & VILLAGES



LOCATION MAP
SCALE: 1"=2000'



SCALE: 1"=30'

BENCH MARKS
 B.M.-1 ARROW ON HYDRANT LOCATED 55'± NORTH OF THE E OF WARDLOW ROAD & 234'± EAST OF THE E OF FOXGROVE DRIVE ELEVATION 1046.49 U.S.G.S. DATUM
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- CONSTRUCTION NOTES**
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 - ALL UTILITIES EXCAVATION UNDER OR WITHIN A 1 ON 1 INFLUENCE OF EXISTING OR PROPOSED PAVEMENT AREAS SHALL HAVE COMPACTED M.D.O.T. CL. SAND BACKFILL.
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 - ALL PROPOSED SANITARY SEWER LEAD CONSTRUCTION SHALL BE 6" P.V.C. SDR 23.5 PIPE, AN E.G.L.E. PERMIT IS NOT REQUIRED FOR THE PROPOSED SANITARY SEWER LEAD CONSTRUCTION.
 - ALL PROPOSED STORM SEWER CONSTRUCTION SHALL BE PERFORATED ADS HP STORM SEWER PIPE WRAPPED WITH GEOTEXTILE FABRIC (UNLESS OTHERWISE NOTED), SHALL HAVE M.D.O.T. CL. BEDDING AND SHALL BE IN ACCORDANCE WITH HIGHLAND TOWNSHIP STANDARD DETAILS. ALL LOW POINT DRAINAGE STRUCTURES WITHIN PAVEMENT AREAS SHALL HAVE 10'-4" P.V.C. BLEEDER DRAIN IN A PEA GRAVEL TRENCH IN FOUR DIRECTIONS FROM THE STRUCTURE.
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 - PROPOSED ON-SITE ASPHALT PAVEMENT TO BE:
 1-1/2" M.D.O.T. NO. 13A BITUMINOUS WEARING COURSE ON
 1-1/2" M.D.O.T. LVSP BITUMINOUS LEVELING COURSE ON
 6" M.D.O.T. NO. 21A AGGREGATE BASE
 PROPOSED ON-SITE CONCRETE PAVEMENT TO BE:
 7" M.D.O.T. P1 PLAN CONCRETE PAVEMENT ON
 8" M.D.O.T. NO. 21A AGGREGATE BASE

NOTE: EXISTING WETLAND BOUNDARIES DELINEATED BY KING & MACGREGOR ENVIRONMENTAL, INC. ON DECEMBER 17, 2019. PROPERTY BOUNDARY INFORMATION FROM SURVEY PREPARED BY HUBBELL, ROTH & CLARK, INC. DATED AUGUST 29, 2019 AND PROVIDED BY CLIENT.

PROPOSED SITE PAVING QUANTITIES

6,737 S.F. - 3" ASPHALT PARKING LOT PAVEMENT
11,221 S.F. - 7" CONCRETE DRIVE PAVEMENT
388 L.F. - MOD. 18" CONCRETE CURB & GUTTER
348 L.F. - STD. 6" INTEGRAL CONCRETE CURB
863 S.F. - 4" CONCRETE WALK W/ INTEGRAL CURB

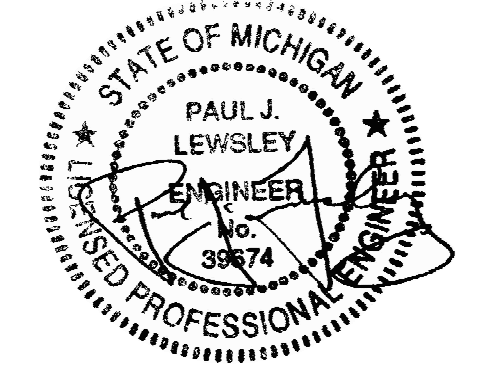
PROPOSED R.O.W. PAVING QUANTITIES

560 S.F. - ASPHALT APPROACH PAVEMENT
1,523 S.F. - CONCRETE APPROACH PAVEMENT
168 L.F. - STD. 32" B-2 CONCRETE CURB & GUTTER
23 S.F. - 6" CONCRETE SPILLWAY

SITE CONCRETE JOINT LEGEND

(B) LONGITUDINAL BULKHEAD JOINT WITH 5/8" TIE BARS 1'-0" O.C.
(C) TRANSVERSE CONTRACTION JOINT WITH 1" DOWEL BARS 1'-0" O.C.
(D) LONGITUDINAL LINE JOINT WITH 5/8" TIE BARS 1'-0" O.C.
(E) 1" EXPANSION JOINT WITHOUT LOAD TRANSFER DEVICE

NOTE: CONTRACTOR TO VERIFY ALL PROJECT QUANTITIES.



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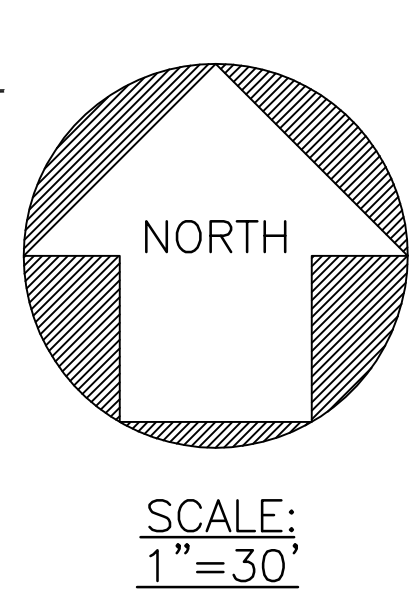
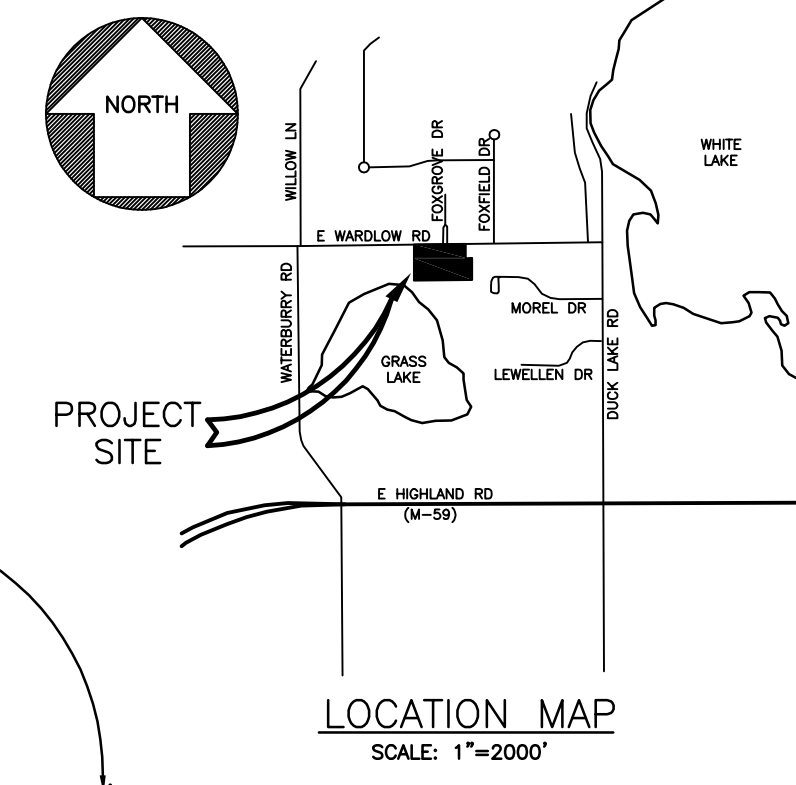
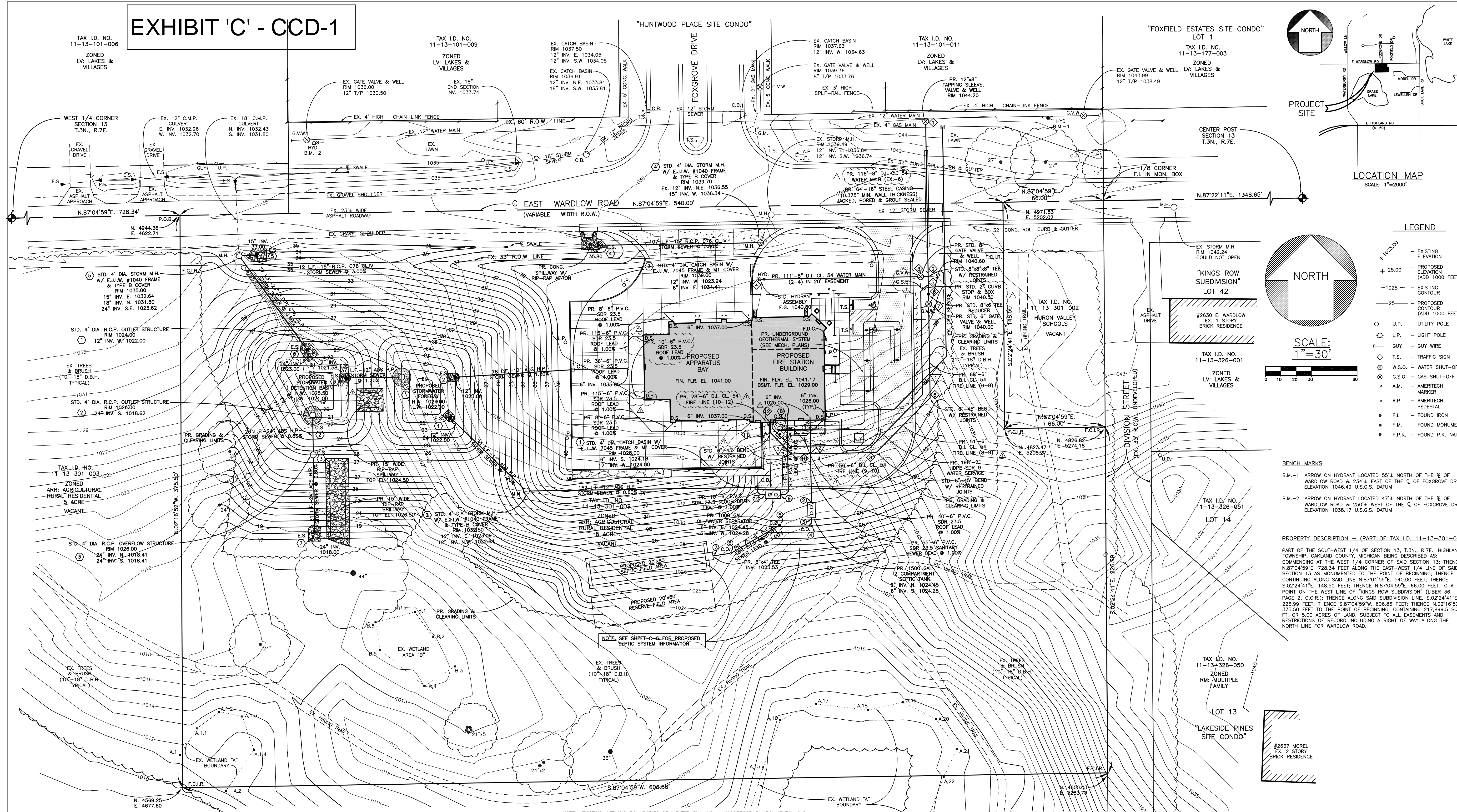
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07/13/21 - CCD-1

DRAWN BY
 B.L.
 CHECKED BY
 P.L.
 APPROVED BY
 P.L.
 SHEET NAME

SITE PAVING & GRADING PLAN

SHEET NO.
 C-1
 EE # 1947

EXHIBIT 'C' - CCD-1



- ### LEGEND
- EXISTING ELEVATION
 - + 25.00 — PROPOSED ELEVATION (ADD 1000 FEET)
 - 1025 — EXISTING CONTOUR
 - 25 — PROPOSED CONTOUR (ADD 1000 FEET)
 - U.P. — UTILITY POLE
 - L.P. — LIGHT POLE
 - GUY — GUY WIRE
 - T.S. — TRAFFIC SIGN
 - W.S.O. — WATER SHUT-OFF
 - G.S.O. — GAS SHUT-OFF
 - A.M. — AMERTECH MARKER
 - A.P. — AMERTECH PEDESTAL
 - F.I. — FOUND IRON
 - F.M. — FOUND MONUMENT
 - F.P.K. — FOUND P.K. NAIL

- ### BENCH MARKS
- B.M.-1 ARROW ON HYDRANT LOCATED 55± NORTH OF THE E. OF WARDLOW ROAD & 234± EAST OF THE E. OF FOXGROVE DRIVE ELEVATION 1046.49 U.S.G.S. DATUM
 - B.M.-2 ARROW ON HYDRANT LOCATED 47± NORTH OF THE E. OF WARDLOW ROAD & 250± WEST OF THE E. OF FOXGROVE DRIVE ELEVATION 1038.17 U.S.G.S. DATUM

PROPERTY DESCRIPTION - (PART OF TAX I.D. 11-13-301-003)
 PART OF THE SOUTHWEST 1/4 OF SECTION 13, T.3N., R.7E., HIGHLAND TOWNSHIP, OAKLAND COUNTY, MICHIGAN BEING DESCRIBED AS: COMMENCING AT THE WEST 1/4 CORNER OF SAID SECTION 13; THENCE N.87°04'59"E. 728.34 FEET ALONG THE EAST-WEST 1/4 LINE OF SAID SECTION 13 AS MONUMENTED TO THE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID LINE N.87°04'59"E. 540.00 FEET; THENCE S.02°24'41"E. 148.50 FEET; THENCE N.87°04'59"E. 66.00 FEET TO A POINT ON THE WEST LINE OF "KINGS ROW SUBDIVISION" (LIBER 36, PAGE 2, O.C.R.); THENCE ALONG SAID SUBDIVISION LINE, S.02°24'41"E. 226.99 FEET; THENCE S.87°04'59"E. 606.86 FEET; THENCE N.02°16'52"W. 375.50 FEET TO THE POINT OF BEGINNING, CONTAINING 217,899.50 SQ. FT. OR 5.00 ACRES OF LAND, SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD INCLUDING A RIGHT OF WAY ALONG THE NORTH LINE FOR WARDLOW ROAD.

- ### CONSTRUCTION NOTES
- 1) ALL SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF HIGHLAND TOWNSHIP.
 - 2) ALL CONSTRUCTION WITHIN EAST WARDLOW ROAD RIGHT-OF-WAY SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE ROAD COMMISSION OF OAKLAND COUNTY. A R.C.O.S. PERMIT IS REQUIRED. ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON-SITE. A SOIL EROSION CONTROL PERMIT IS REQUIRED FROM THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER'S OFFICE AND A M.D.O.T. PERMIT IS NOT REQUIRED FROM E.G.L.E. THE DISTURBED AREA OF THE SITE WILL BE 2.5± ACRES. THE SITE SOILS ARE PREDOMINATELY SANDY SOILS OVERLAIN BY 2" TO 11" OF SANDY TOPSOIL PER PROJECT SOIL BORINGS. THE PROPOSED CONSTRUCTION AREA SHALL BE CLEARED AND STRIPPED OF ALL TOPSOIL PRIOR TO THE START OF MASS GRADING OR UTILITIES WORK. ALL SITE FILLING UNDER OR WITHIN A 1 ON 1 INFLUENCE OF EXISTING OR PROPOSED BUILDING OR PAVEMENT SHALL UTILIZE CLEAN SOIL, FREE OF ANY VEGETATION OR ORGANIC MATERIALS. ALL FILL SHALL BE PLACED IN 8" MAXIMUM LIFTS AND COMPACTED TO 90% OF MAXIMUM DENSITY PER MODIFIED PROCTOR TEST. ALL DISTURBED UNPAVED AREAS TO BE STABILIZED WITH 4" MINIMUM TOPSOIL, SEED AND MULCH (OR SOO) AS SOON AS FINAL GRADING IS COMPLETE.
 - 3) ALL UTILITIES EXCAVATION UNDER OR WITHIN 1 ON 1 INFLUENCE OF EXISTING OR PROPOSED PAVEMENT AREAS SHALL HAVE COMPACTED M.D.O.T. CL# SAND BACKFILL.
 - 4) ALL PROPOSED WATER MAIN AND FIRE LINE CONSTRUCTION SHALL BE DUCTILE IRON CLASS 54 PIPE, SHALL HAVE 3.5 FEET MINIMUM COVER AND SHALL BE IN ACCORDANCE WITH OAKLAND COUNTY STANDARD DETAILS. AN E.G.L.E. PERMIT IS REQUIRED FOR THE PROPOSED PUBLIC WATER MAIN CONSTRUCTION.
 - 5) ALL PROPOSED SANITARY SEWER LEAD CONSTRUCTION SHALL BE 6" P.V.C. SDR 23.5 PIPE. AN E.G.L.E. PERMIT IS NOT REQUIRED FOR THE PROPOSED SANITARY SEWER LEAD CONSTRUCTION.
 - 6) ALL PROPOSED STORM SEWER CONSTRUCTION SHALL BE PERFORATED ADS HP SDR 23.5 PIPE WRAPPED WITH GEOTEXTILE FABRIC (UNLESS OTHERWISE NOTED), SHALL HAVE M.D.O.T. CL# BEDDING AND SHALL BE IN ACCORDANCE WITH HIGHLAND TOWNSHIP STANDARD DETAILS. ALL LOW POINT DRAINAGE STRUCTURES WITHIN PAVEMENT AREAS SHALL HAVE 10"-4" P.V.C. BLEEDER DRAIN IN A PEA GRAVEL TRENCH IN FOUR DIRECTIONS FROM THE STRUCTURE.
 - 7) ALL PROPOSED GRASSES SHOWN WITHIN PAVEMENT AREAS ARE FINISHED PAVEMENT GRADES. PAVEMENT PERIMETERS TO HAVE INTERIOR CONCRETE CURB, MORTAR M.D.O.T. #2 CONCRETE CURB AND GUTTER OR CONCRETE WALK WITH INTEGRAL CURB AS SHOWN ON PLAN.
 PROPOSED ON-SITE ASPHALT PAVEMENT TO BE:
 1-1/2" M.D.O.T. NO. 13A BITUMINOUS WEARING COURSE ON
 1-1/2" M.D.O.T. LVPR BITUMINOUS LEVELING COURSE ON
 8" M.D.O.T. NO. 21AA AGGREGATE BASE
 PROPOSED ON-SITE CONCRETE PAVEMENT TO BE:
 7" M.D.O.T. #1 PLAN CONCRETE PAVEMENT ON
 8" M.D.O.T. NO. 21AA AGGREGATE BASE

PROPOSED STORM SEWER MAIN FITTING COORDINATE LIST

1	N. 4779.22	2	N. 4841.78
2	E. 5047.47	3	E. 4779.87
3	N. 4771.51	4	N. 4934.30
4	E. 4896.12	5	E. 4936.94
5	N. 4852.08	6	N. 4919.95
6	E. 4921.77	7	E. 4714.37
7	N. 4939.76	8	N. 4958.55
8	E. 5044.09	9	E. 4749.64
9	N. 4919.34	10	N. 4739.32
10	E. 4702.39	11	E. 4758.25
11	N. 4843.41	12	N. 4823.74
12	E. 4811.83	13	E. 5065.56
13	N. 4816.36	14	N. 4775.08
14	E. 4754.33	15	E. 5062.87
15	N. 4790.40	16	N. 4774.57
16	E. 4755.62	17	E. 5052.88
17	N. 4818.42	18	N. 4844.17
18	E. 4844.15	19	N. 4844.15

PROPOSED SITE STORM SEWER QUANTITIES

77	L.F. - 24" R.C.P. C76 CL IV STORM SEWER
77	L.F. - 24" PERFORATED ADS H.P. STORM SEWER
337	L.F. - 12" PERFORATED ADS H.P. STORM SEWER
342	L.F. - 6" P.V.C. SDR 23.5 FLOOR DRAIN LEAD
2	EA - STD. 4" DIA. CATCH BASIN
1	EA - STD. 4" DIA. STORM MANHOLE
3	EA - STD. 4" DIA. R.C.P. OUTLET STRUCTURE
1	EA - STD. STORM SEWER CLEANOUT
1	EA - STD. 24" CONC. END SECTION
3	EA - STD. 12" H.D.P.E. END SECTION
1	EA - STD. 24" H.D.P.E. END SECTION
1	EA - STD. 1000 GAL OIL/WATER SEPARATOR

PROPOSED SITE SANITARY SEWER QUANTITIES

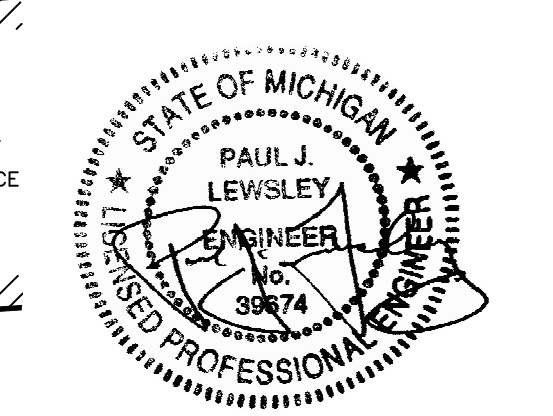
288	L.F. - 6" P.V.C. SDR 23.5 SANITARY SEWER LEAD
4	EA - STD. SANITARY SEWER CLEANOUT
1	EA - STD. 1475 GAL. SEPTIC TANK
1	EA - STD. 1500 GAL. TWO COMPARTMENT SEPTIC TANK

PROPOSED SITE PUBLIC WATER MAIN QUANTITIES

227	L.F. - 8" D.I. CL 54 WATER MAIN
64	L.F. - 16" STEEL CASING JACKED, BORED & GROUT SEALED
1	EA - STD. 12"x8" TAPPING SLEEVE, GATE VALVE & WELL
1	EA - STD. 6" GATE VALVE & WELL
1	EA - STD. 2" CURB STOP & BOX

PROPOSED SITE UTILITIES CROSSING DATA

▽	PR. GAS SERVICE T/P 1033.50 & PR. 6" FIRE LINE T/P 1030.50
▽	PR. 6" SANITARY SEWER LEAD INV. 1024.78 & PR. 6" FIRE LINE T/P 1023.10
▽	PR. 6" FLOOR DRAIN LEAD INV. 1024.80 & PR. 6" FIRE LINE T/P 1023.10



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KEY PLAN
 Highland Township Fire Department
 Highland Township Fire Station No. 2
 2550 E. Wardlow Rd.
 Highland, MI 48356

PROJECT NO.
18-122B

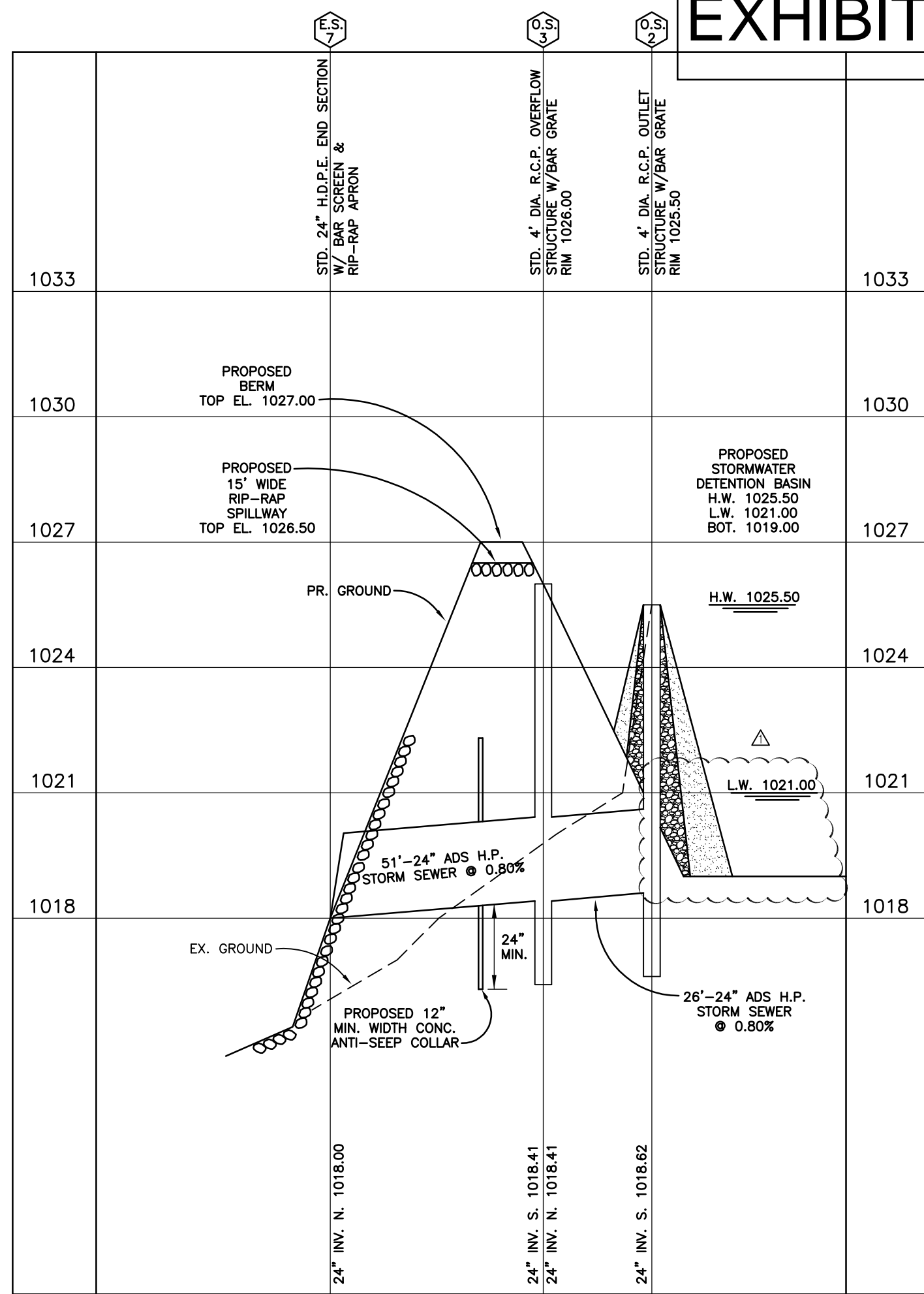
ISSUES / REVISIONS
 07/31/20 - 90% REVIEW
 08/11/20 - 95% REVIEW
 08/27/20 - BIDDING & CONSTRUCTION
 09/09/20 - ADDENDUM NO. 1
 12/08/20 - REBIDDING & CONSTRUCTION
 07/13/21 - CCD-1 - A

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 CHECKED BY
 P.L.
 APPROVED BY
 P.L.
 SHEET NAME
 SITE UTILITIES PLAN

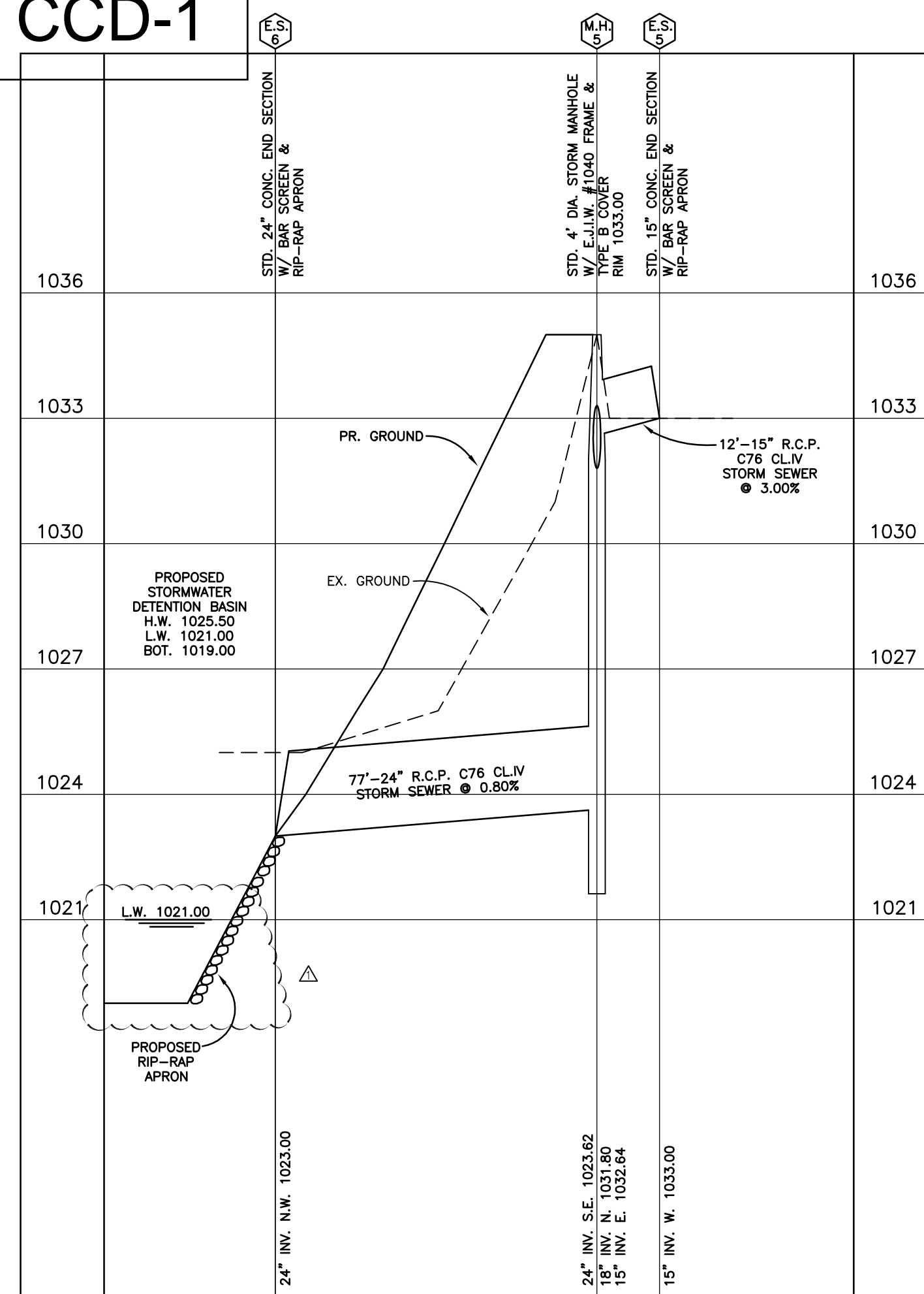
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EE # 1947

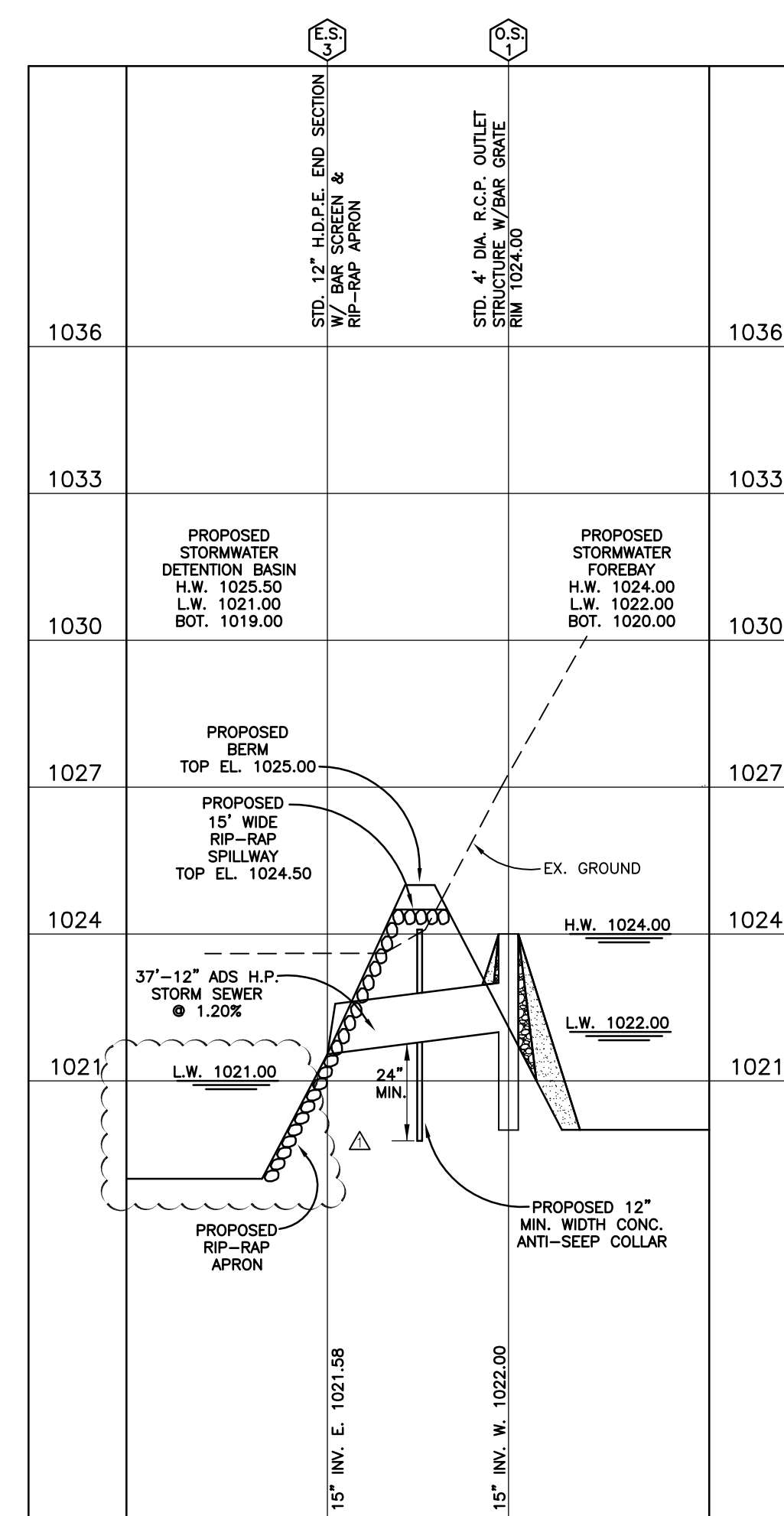
EXHIBIT 'C' - CCD-1



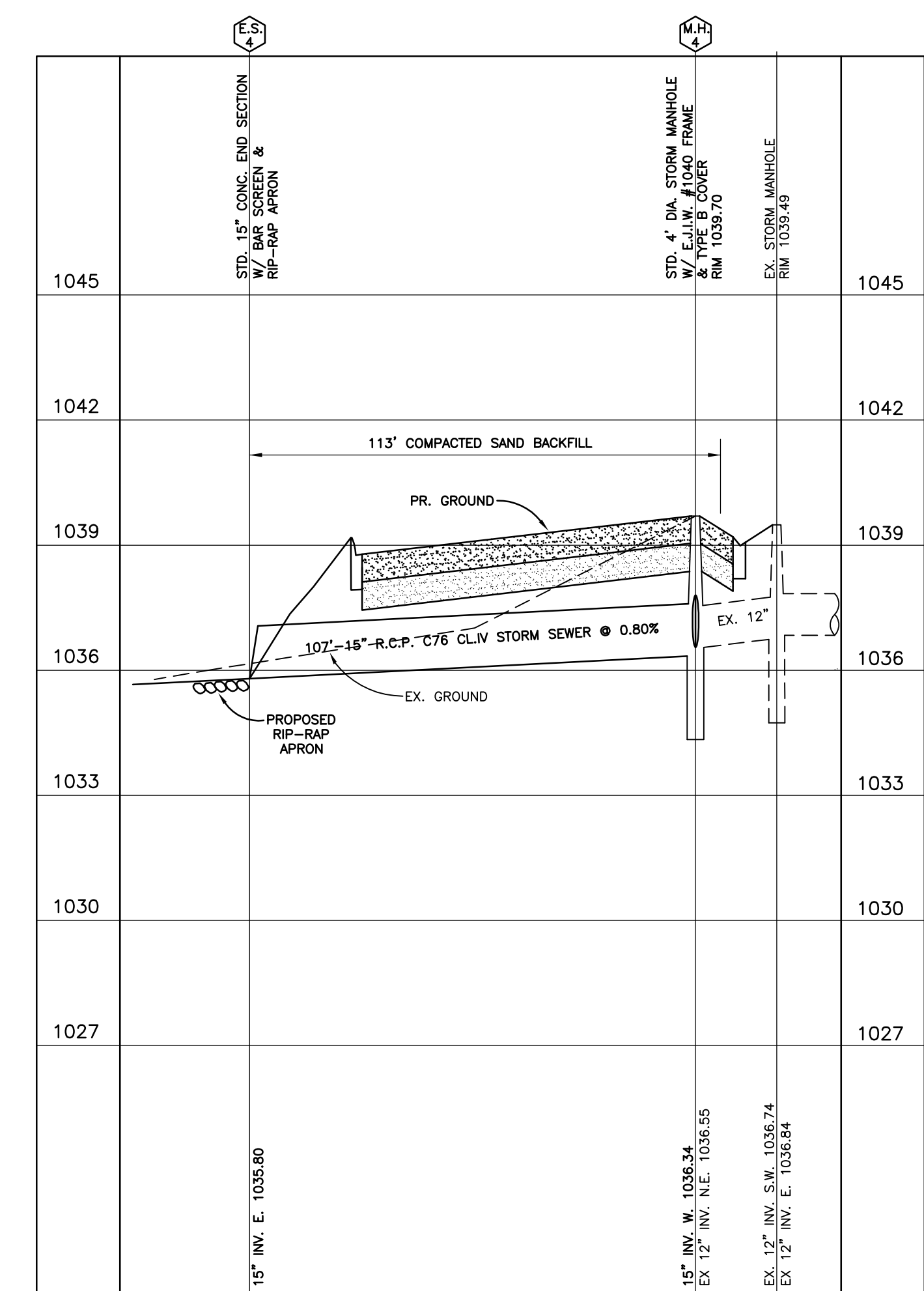
DETENTION BASIN OUTLET STORM SEWER PROFILE
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



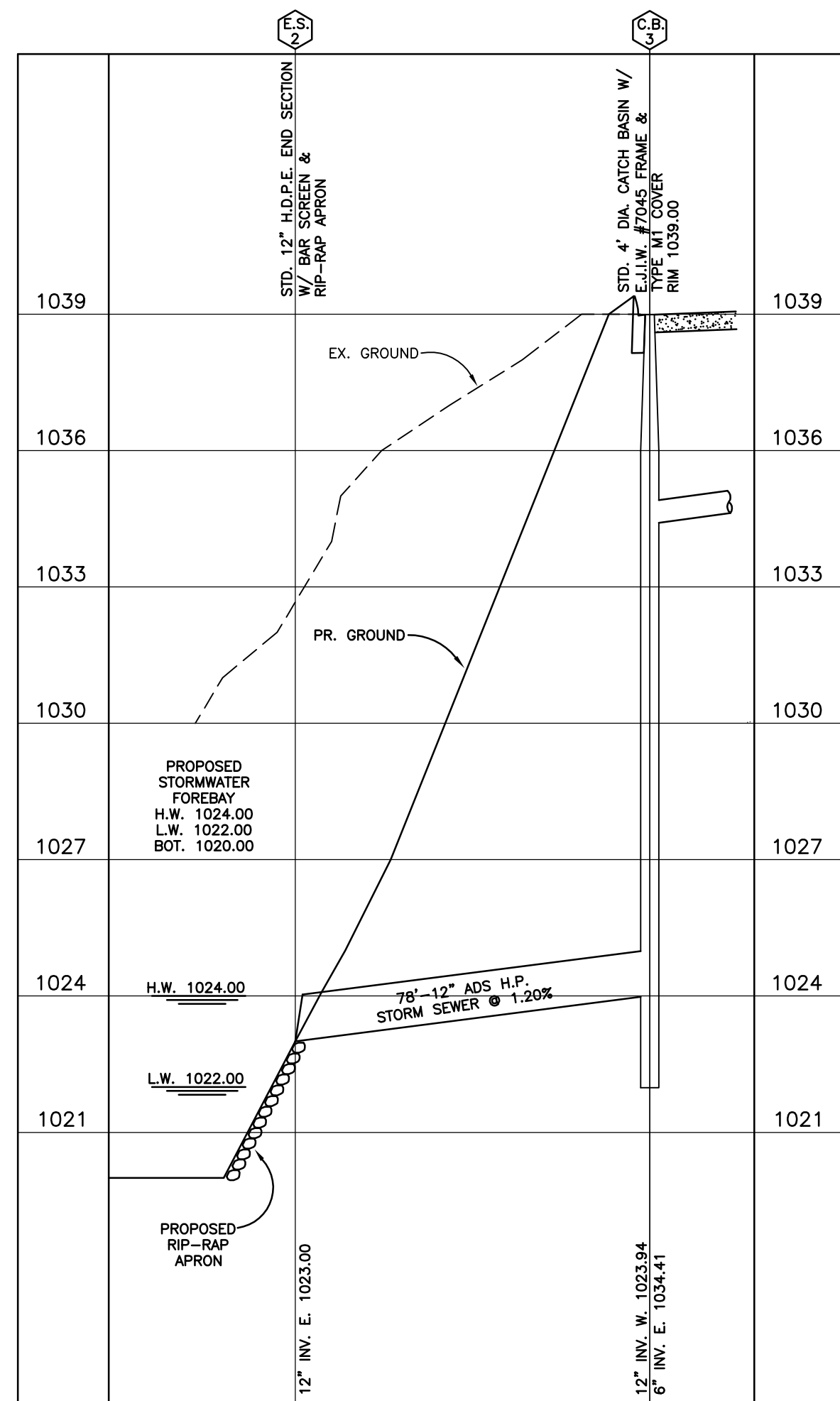
WARDLOW ROAD OUTLET STORM SEWER PROFILE
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



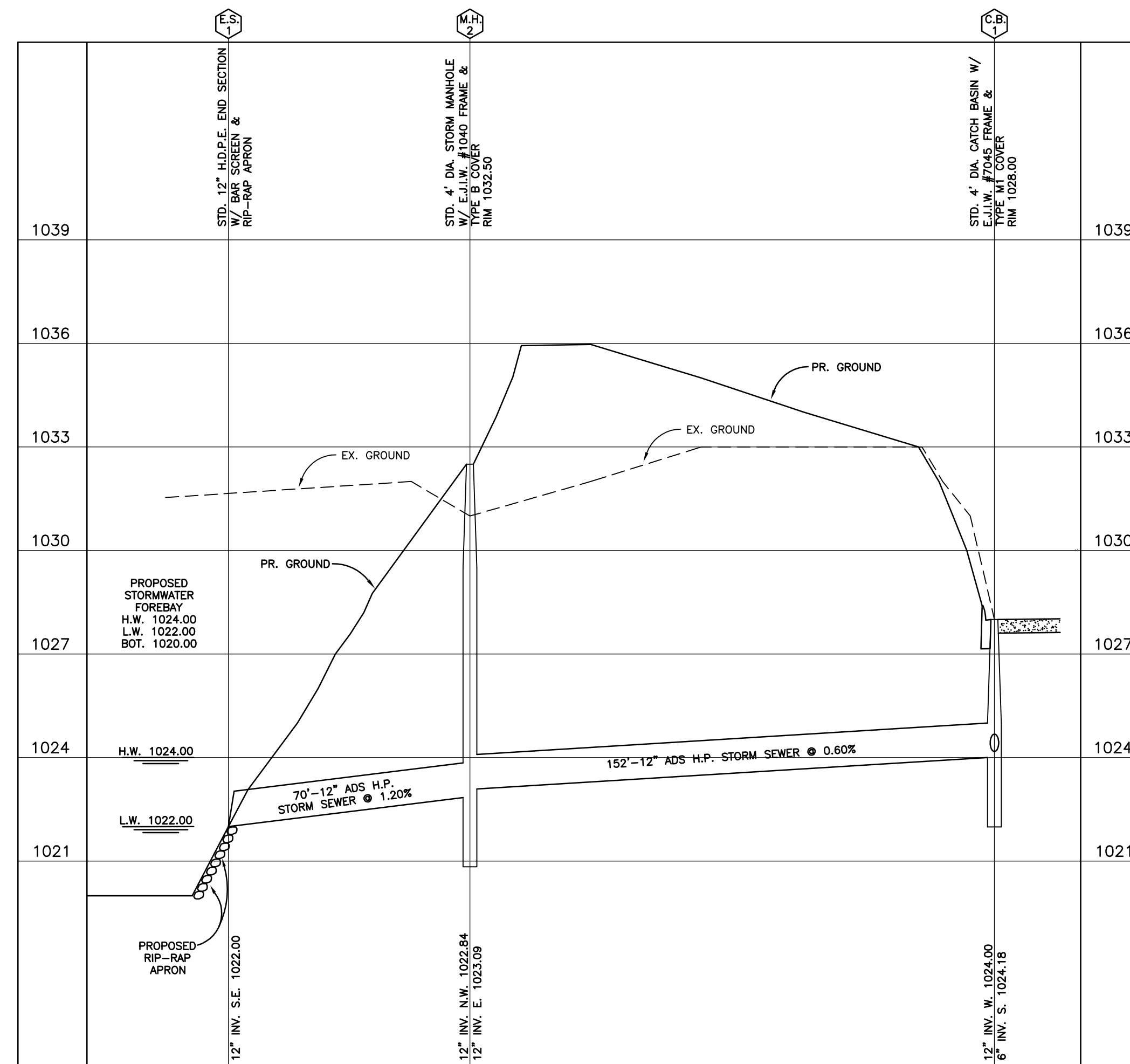
FOREBAY OUTLET STORM SEWER PROFILE
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



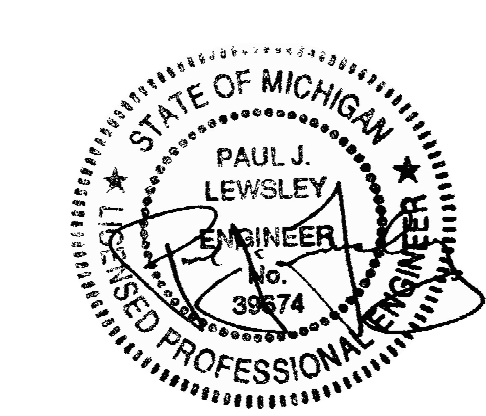
WARDLOW ROAD STORM SEWER PROFILE
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



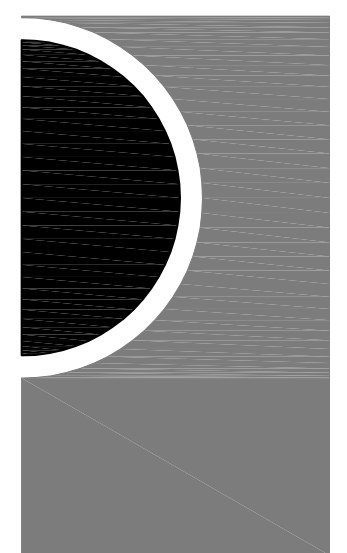
WESTERLY SITE STORM SEWER PROFILE
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



SOUTHERLY SITE STORM SEWER PROFILE
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



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KEY PLAN

OWNER

Highland Township
Fire Department

PROJECT NAME

Highland Township
Fire Station No. 2

2550 E. Wardlow Rd.
Highland, MI 48356

PROJECT NO.

18-122B

ISSUES / REVISIONS

07/31/20	90% REVIEW
08/11/20	95% REVIEW
08/27/20	BIDDING & CONSTRUCTION
09/09/20	ADDENDUM NO. 1
12/08/20	REBIDDING & CONSTRUCTION
07/13/21	CCD-1

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PL

APPROVED BY

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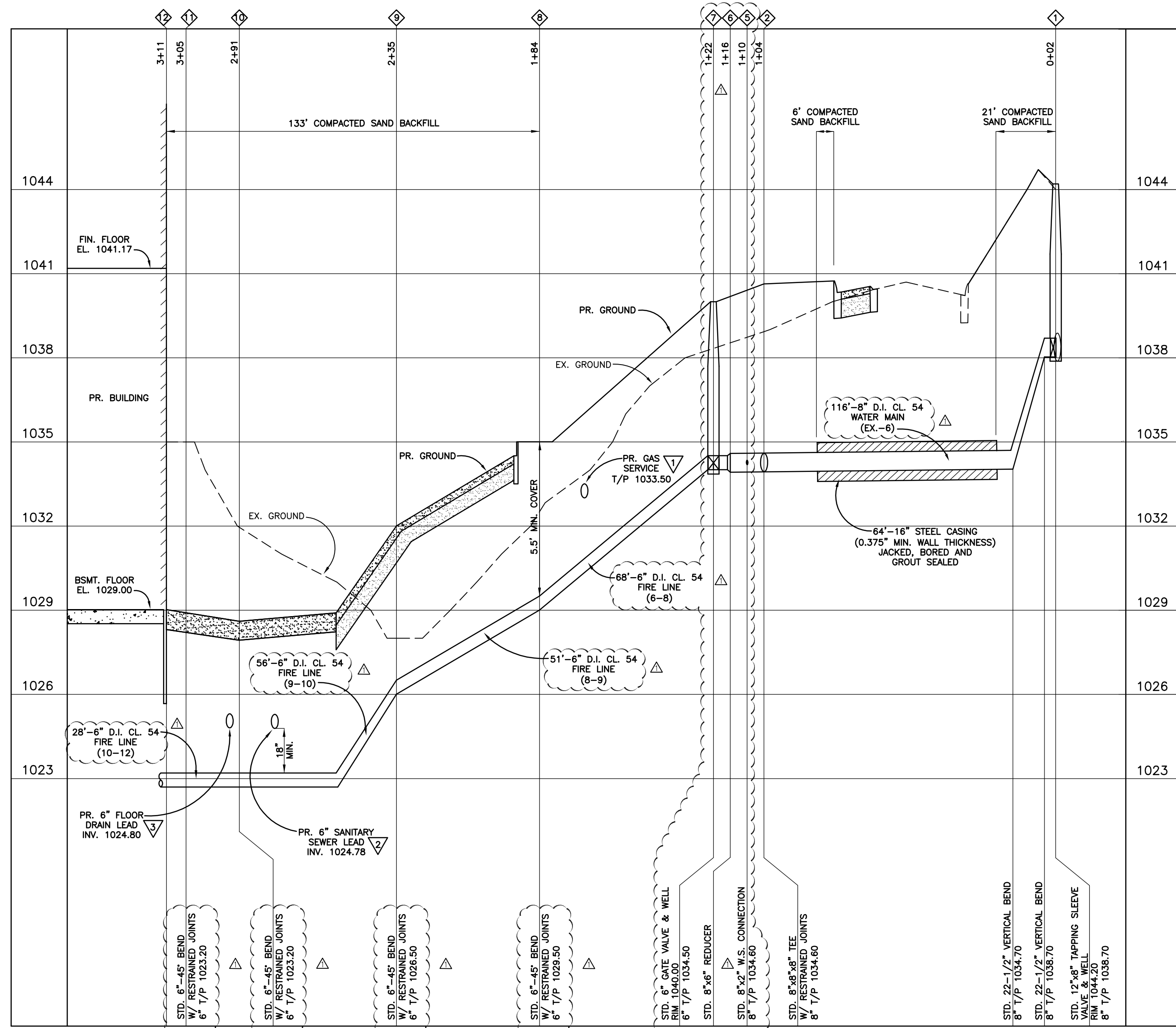
SITE STORM SEWER
PROFILES

SHEET NO.

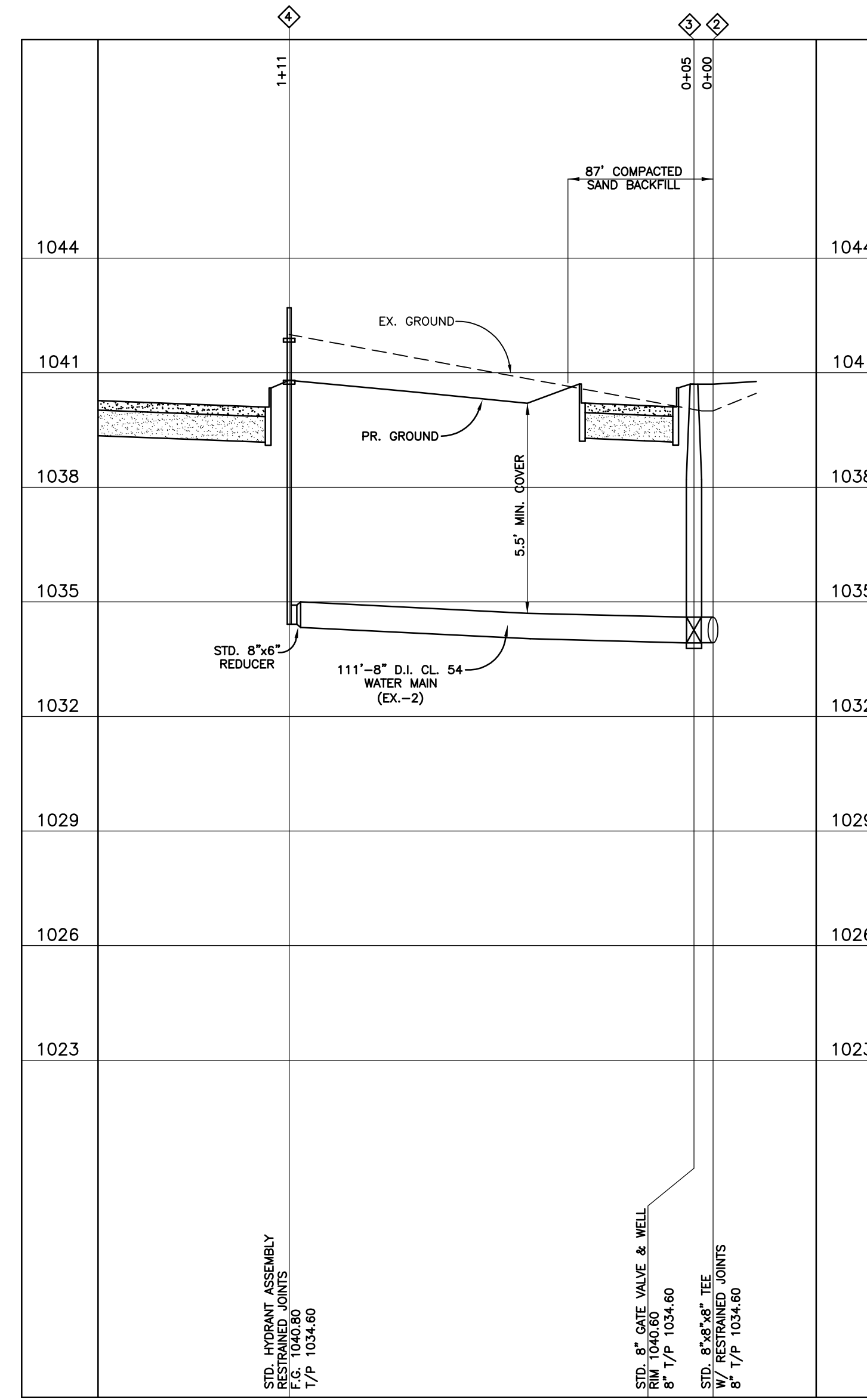
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EE # 1947

EXHIBIT 'C' - CCD-1

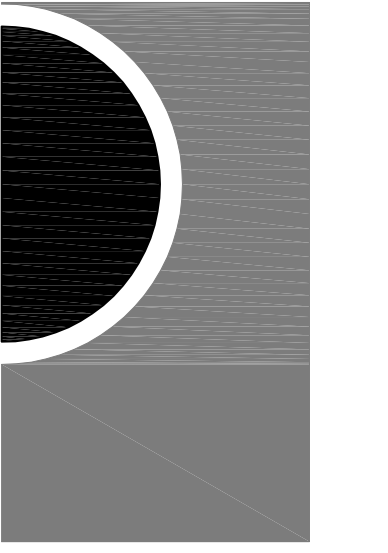


EASTERLY SITE WATER MAIN PROFILE
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



NORTHERLY SITE WATER MAIN PROFILE
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

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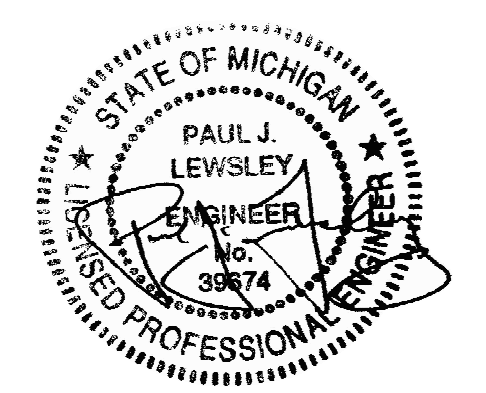
PROJECT NO.

18-122B

ISSUES / REVISIONS

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08/11/20 - 95% REVIEW
08/27/20 - BIDDING & CONSTRUCTION
09/09/20 - ADDENDUM NO. 1
12/08/20 - REBIDDING & CONSTRUCTION
07/13/21 - CCD-1

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P.L.
APPROVED BY
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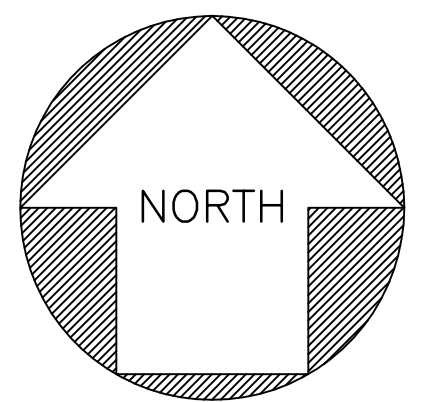


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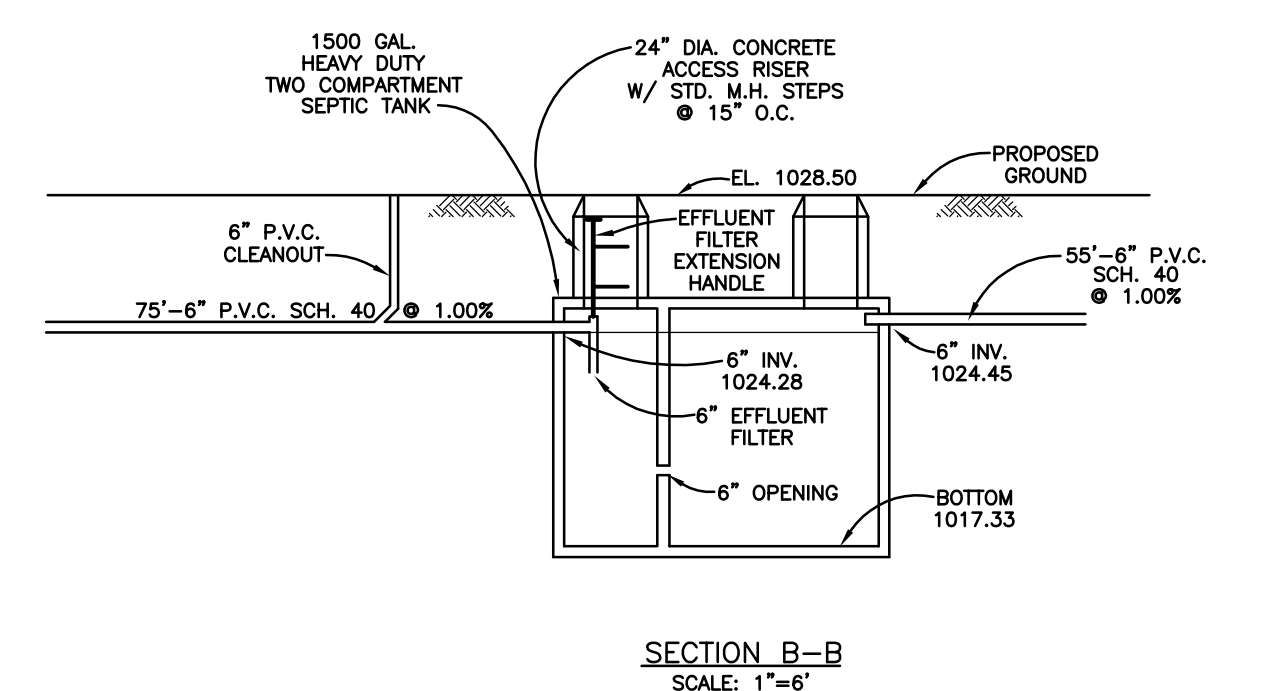
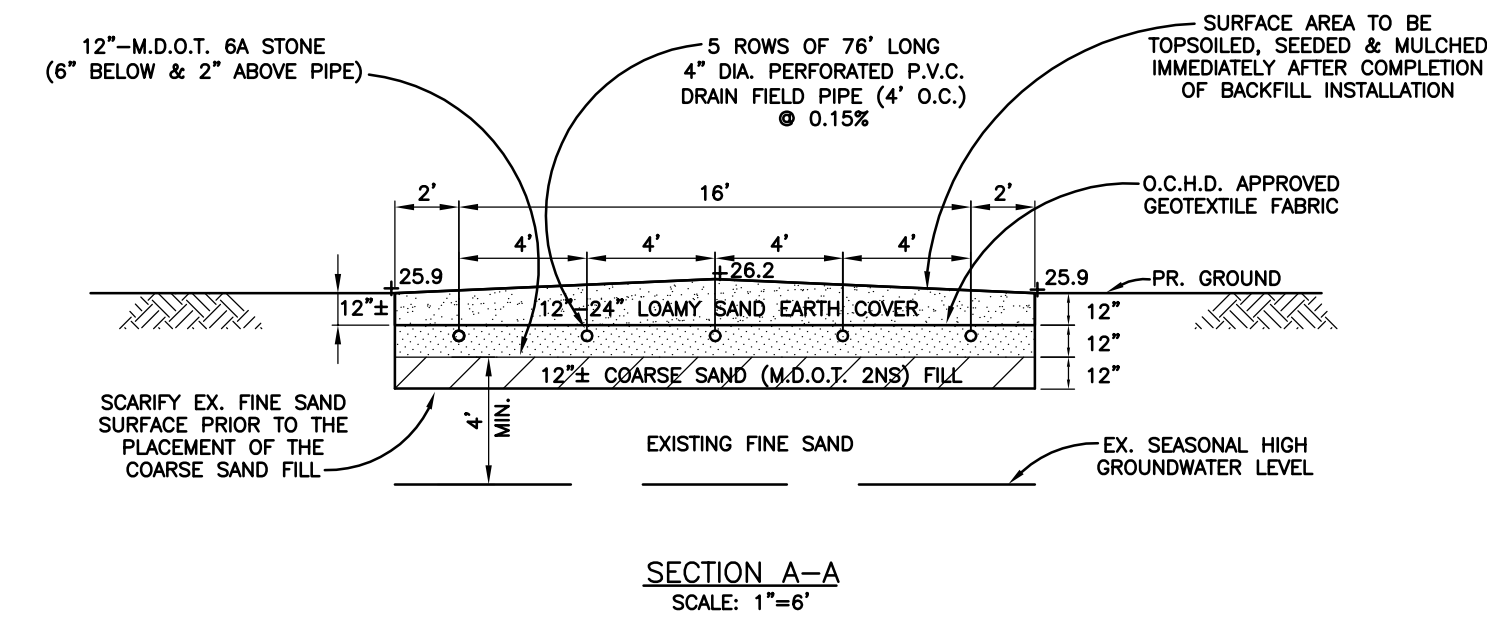
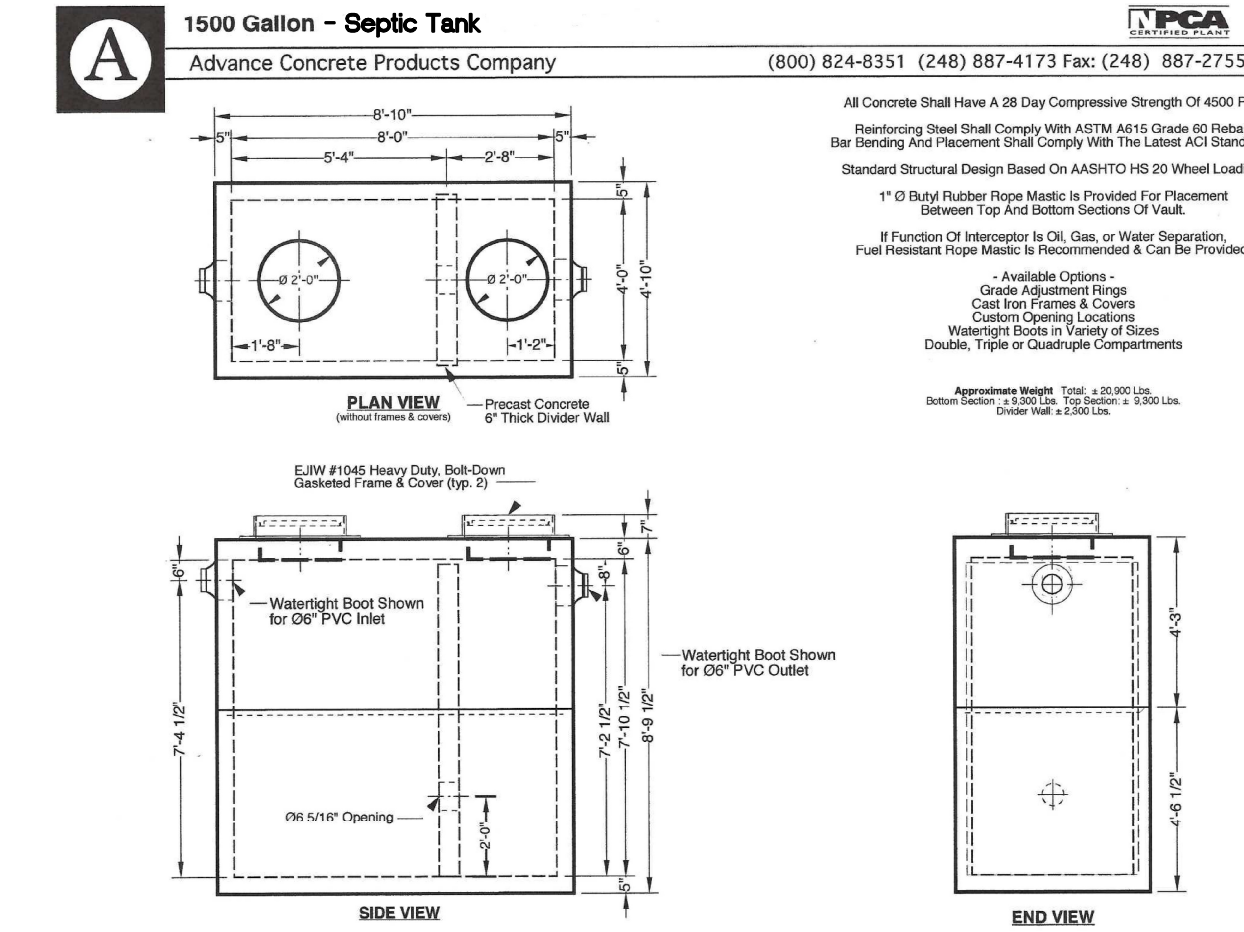
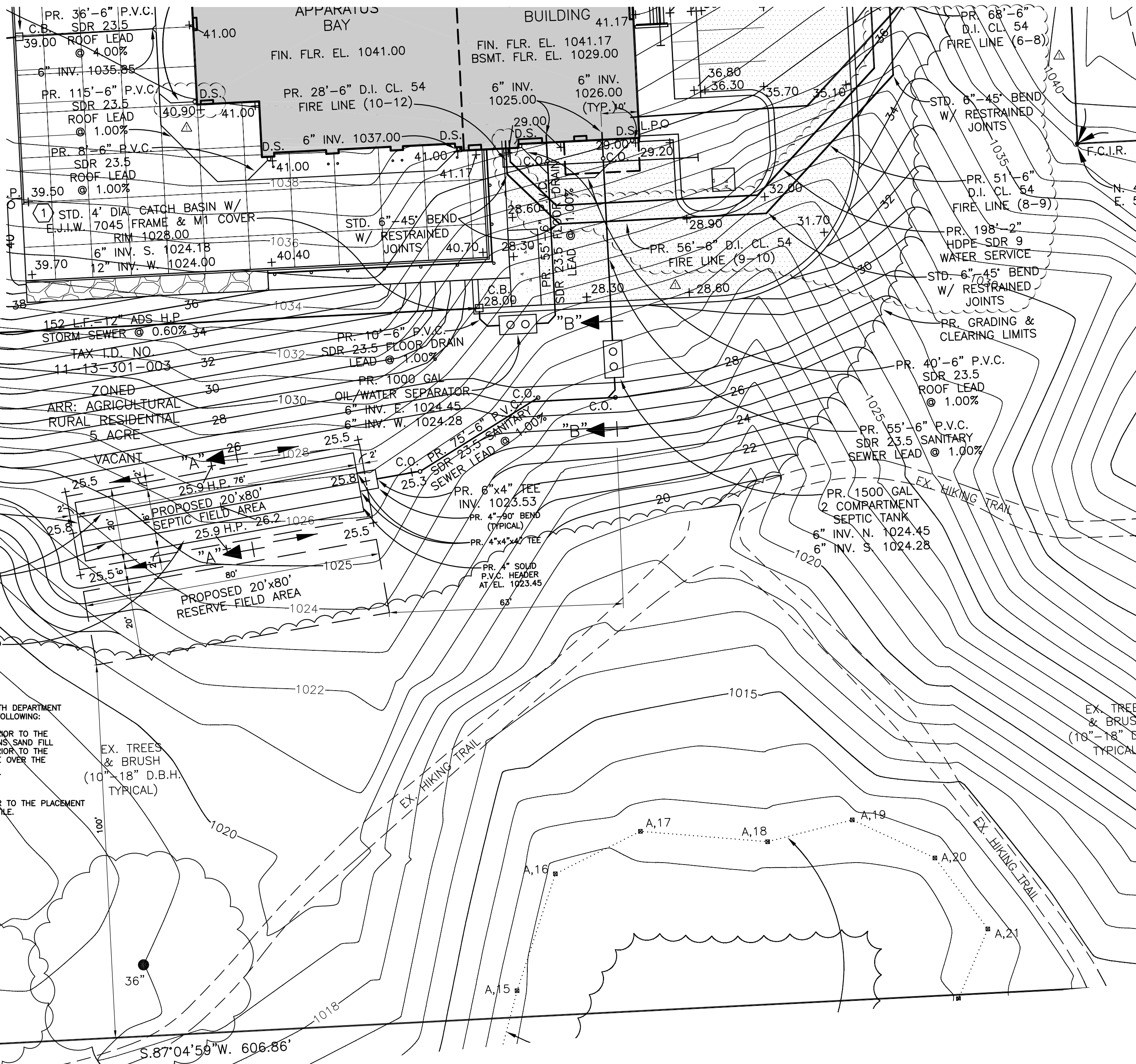
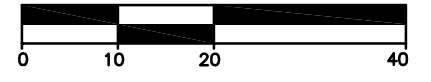
SITE WATER MAIN
PROFILES

SHEET NO.
C-5

EXHIBIT 'C' - CCD-1



SCALE
1"=20'



SEPTIC SYSTEM BASIS OF DESIGN

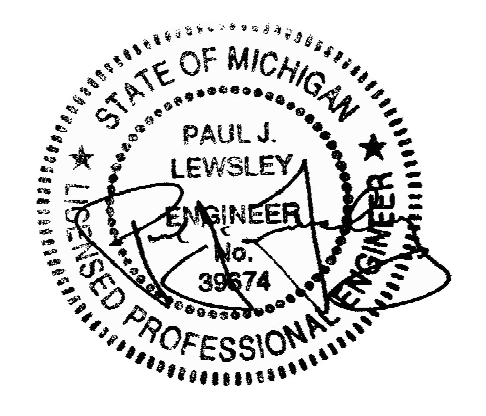
BUILDING OCCUPANCY:
5 FULL TIME RESIDENT EMPLOYEES: 5x100 GPD = 500 GPD

SITE SOILS:
MEDIUM SAND SUBSOILS PER PROJECT SOILS REPORT THEREFORE USE 0.35 GAL./S.F. APPLICATION RATE TO BE CONSERVATIVE. 500 GAL./0.35 GAL./S.F. = 1,429 S.F. MINIMUM BED SIZE. USE 1,600 S.F. BED SIZE FOR 12% ADD'L FACTOR OF SAFETY.

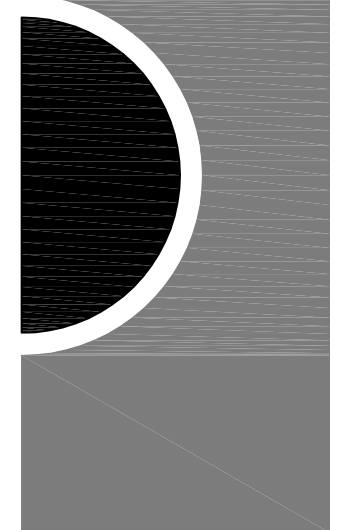
SYSTEM TANK CAPACITY:
PROVIDE REQUIRED MINIMUM 1,500 GAL. TWO COMPARTMENT TANK

SEPTIC SYSTEM CONSTRUCTION NOTES

- 1.) ALL WORK SHALL BE IN ACCORDANCE WITH THE OKLAND COUNTY HEALTH DIVISION STANDARDS AND SPECIFICATIONS. AN O.C.H.D. PERMIT IS REQUIRED.
- 2.) THE SEPTIC TANK SHALL BE WATER-TIGHT HEAVY DUTY REINFORCED CONCRETE WITH RUBBER BOOTS AS MANUFACTURED BY ADVANCE CONCRETE PRODUCTS CO. OR APPROVED EQUAL. AN EFFLUENT FILTER WITH EXTENSION HANDLE SHALL BE INSTALLED ON THE 6" OUTLET OF THE 1500 GAL. TWO COMPARTMENT SEPTIC TANK. THE FILTER SHALL BE ZABEL MODEL A100-8-26 OR APPROVED EQUAL. A 24" DIAMETER CONCRETE RISER EXTENDED UP TO FINISHED GRADE SHALL BE INSTALLED ON THE SEPTIC TANK ACCESS OPENINGS. STANDARD MANHOLE STEPS SHALL BE INSTALLED 15" ON CENTER IN THE 24" RISERS OVER THE EFFLUENT FILTER & EFFLUENT PUMP. ALL CONCRETE RISERS SHALL HAVE AN E.J.L.W. #1000A FRAME & COVER (OR APPROVED EQUAL) WITH A GASKET SEAL.



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KEY PLAN

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Highland Township
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PROJECT NAME
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Fire Station No. 2

2550 E. Wardlow Rd.
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PROJECT NO.
18-122B

ISSUES / REVISIONS

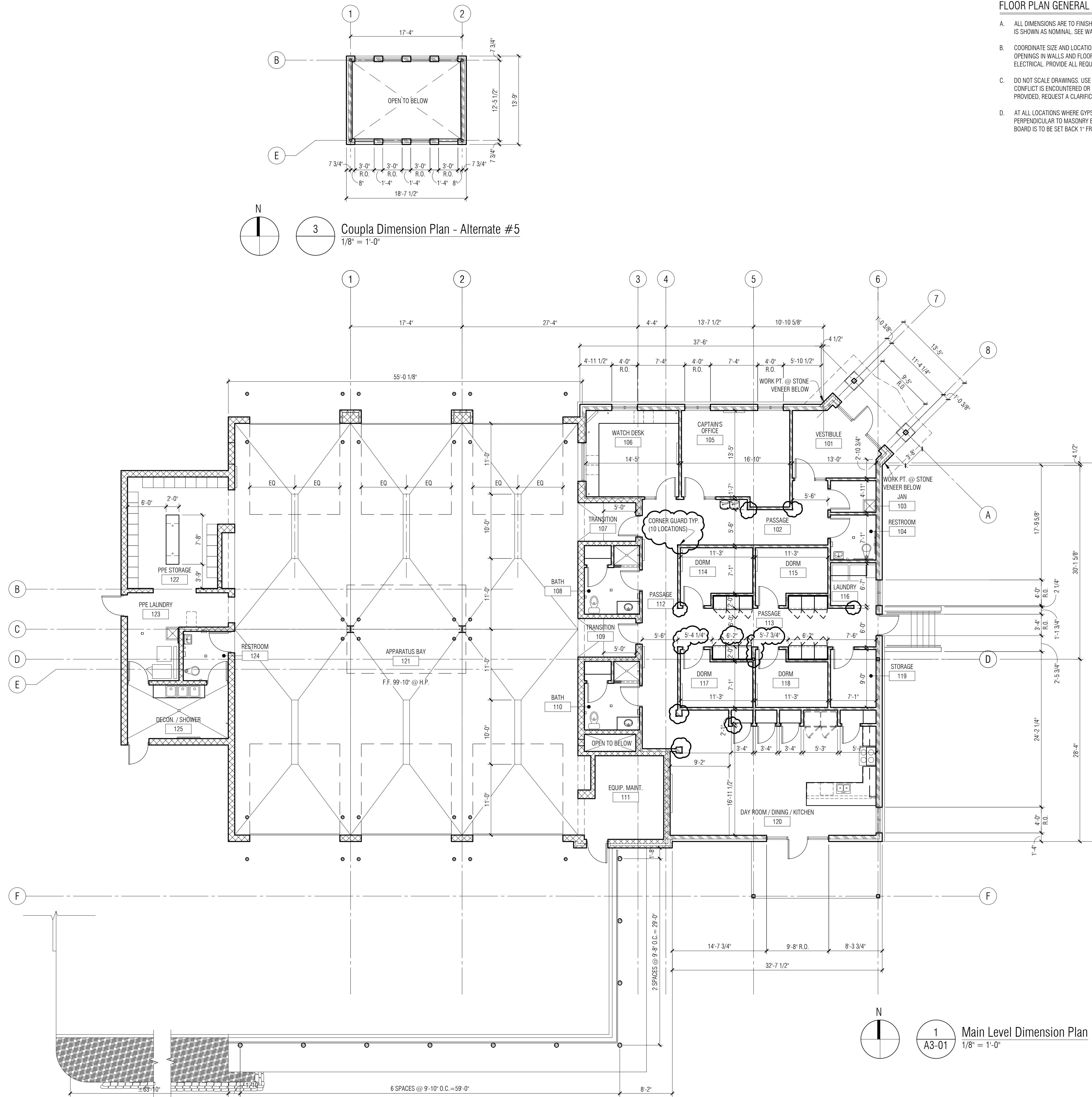
07/31/20 - 90% REVIEW
08/11/20 - 95% REVIEW
08/27/20 - BIDDING & CONSTRUCTION
09/09/20 - ADDENDUM NO. 1
12/08/20 - BIDDING & CONSTRUCTION
07/13/21 - CCD-1

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PL
SHEET NAME

SITE SEPTIC SYSTEM
DETAILS

SHEET NO.
C-6
EE # 1947

EXHIBIT 'C' - CCD-1



3 Coupla Dimension Plan - Alternate #5
1/8" = 1'-0"

1 Main Level Dimension Plan
A3-01 1/8" = 1'-0"

- 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.
 - C. 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" FROM BULLNOSE OF BLOCK.



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18-122B

ISSUES / REVISIONS

Bidding / Construction	08/27/2020
Addendum #1	09/10/2020
Rebidding / Construction	12/08/2020
CCD-1	07/09/2021

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CHECKED BY
AM / JV
APPROVED BY
DWG
SHEET NAME
DIMENSION PLANS

SHEET NO.
A3-03

EXHIBIT 'C' - CCD-1

GENERAL NOTES - TOILET ACCESSORIES

- 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 UN. 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

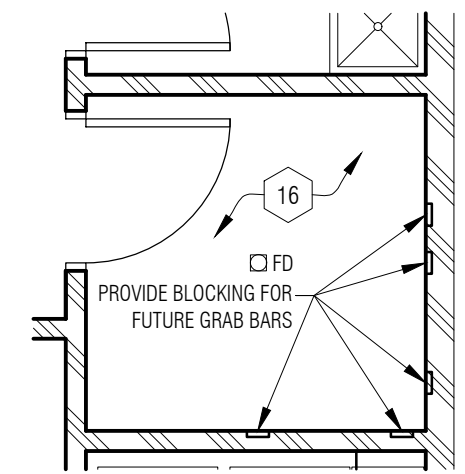
- TA-1 42" GRAB BAR
- TA-2 36" GRAB BAR
- TA-3 18" GRAB BAR - VERTICAL
- TA-4 WALL MOUNTED MIRROR (24" X 36")
- TA-5 TOILET TISSUE DISPENSER - BY OWNER
- TA-6 SURFACE MOUNTED SOAP DISPENSER - BY OWNER
- TA-7 SHOWER CURTAIN ROD & HOOKS
- TA-8 PAPER TOWEL DISPENSER - BY OWNER
- TA-9 NOT USED
- TA-10 TOWEL HOOK
- TA-11 LAVATORY GUARD
- TA-12 FREE STANDING WASTE RECEPTACLE (NOT SHOWN - PROVIDE 1 AT EACH RESTROOM)

FLOOR PLAN GENERAL NOTES:

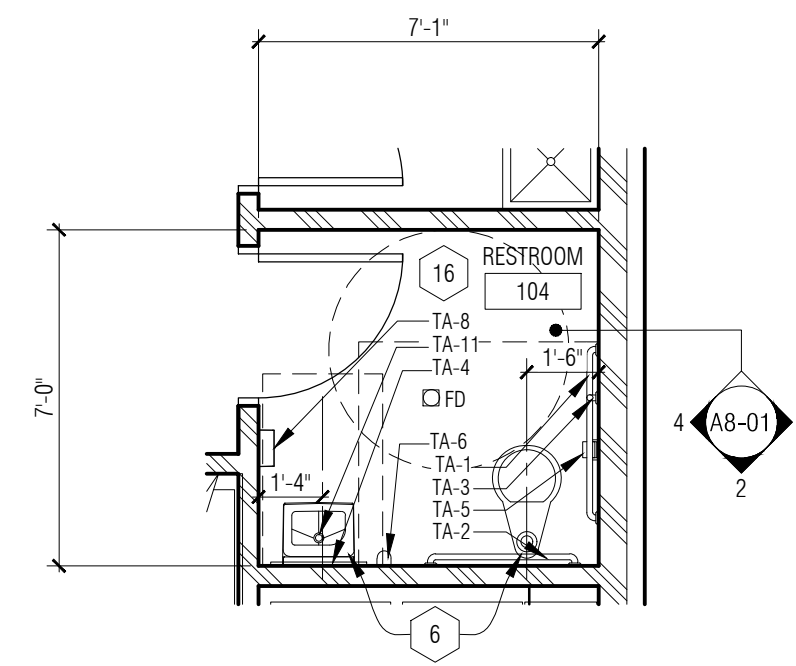
- A. ALL DIMENSIONS ARE TO FINISH FACE OF WALL - WALL THICKNESS IS SHOWN AS NOMINAL. SEE WALL TYPES FOR ACTUAL THICKNESS.
- B. COORDINATE SIZE AND LOCATION OF ALL DUCT, SHAFT AND LOUVER OPENINGS IN WALLS AND FLOORS WITH MECHANICAL AND ELECTRICAL. PROVIDE ALL REQUIRED LINTELS FOR OPENINGS.
- C. DO NOT 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" FROM BULLNOSE OF BLOCK.

FLOOR PLAN KEY NOTES:

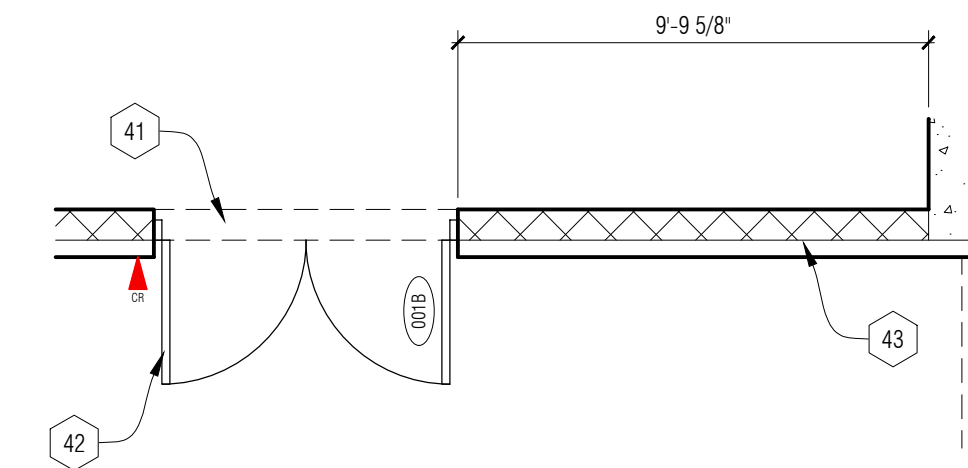
- 1 UNDER COUNTER DISHWASHER PROVIDED BY OWNER
- 2 LINE OF STONE SKIRTING AND SILL BELOW - REFER TO SECTIONS
- 3 TV BY OWNER - REFER TO ELEC
- 4 WASHER/DRYER PROVIDED BY OWNER - REFER TO MECH. & ELEC.
- 5 LINE OF FLOOR MATERIAL CHANGE - NO TRANSITION STRIP BETWEEN MATERIALS - REFER TO DETAIL T4 ON A3-14
- 6 PLUMBING FIXTURE - REFER TO PLUMBING
- 7 WALL MOUNTED PPE STORAGE - REFER TO SPECIFICATIONS
- 8 MONITOR BY OWNER - REFER TO ELEC.
- 9 WOOD LOCKERS AT DORMS - REFER TO SPECIFICATIONS
- 10 42" HIGH COUNTERTOP WITH BRACKETS
- 11 COMPOSITE WOOD FLOOR DECK ON WOOD TREATED FLOOR CONSTRUCTION - REFER TO WALL SECTIONS AND STRUCTURAL.
- 12 PRE-FABRICATED TRENCH DRAIN - PROVIDE 2" CHASE WITH JOINT SEALANT AROUND PERIMETER - REFER TO PLUMBING. (SET TOP OF GRATE AT 1" BELOW F.F. ELEVATION)
- 13 MASONRY OPENING - REFER TO DIMENSION PLAN AND ELEVATIONS FOR OPENING SIZE
- 14 APPLIANCE - PROVIDED & INSTALLED BY OWNER
- 15 6" Ø x 4'-0" HIGH CONCRETE FILLED GALVANIZED STEEL PIPE BOLLARD
- 16 SLOPED FLOORING - PITCH TO DRAIN - 1" FROM F.F. TYP.
- 17 GROMMET IN COUNTERTOP OR SURFACE
- 18 (3) ADJUSTABLE SHELVING AT 24" DEPTH
- 19 LINE OF CLERESTORY ABOVE - REFER TO DETAIL 3/A3-01
- 20 ELECTRICAL WATER COOLER - REFER TO MECH. & ELEC
- 21 PPE CHARGING STATION - REFER TO SECTION DETAIL 1/A3-12
- 22 TRANSITION RAMPED FLOOR - 1/2" PER 1'-0" SLOPE
- 23 TRANSITION FROM FULL BED DEPTH STONE TO A 2" VENEER AT EXTERIOR LINE OF BUILDING BELOW
- 24 LINE OF ENTRANCE SLAB - REFER TO STRUCTURAL
- 25 WALL MOUNTED HOSE BIB - REFER TO PLUMBING
- 26 LAUNDRY TUB - REFER TO MECH
- 27 2'-0" x 2'-0" MOP SINK - REFER TO PLUMBING
- 28 LINE OF RETAINING WALL - REFER TO SECTIONS AND CIVIL
- 29 3'-0" x 3'-0" MECHANICAL LOUVER MANUALLY OPERATED - REFER TO MECH.
- 30 KNOCK OUT PANEL W/ SOFT JOINTS FOR FUTURE OPENING - 3'-4"W x 7'-4"H - REFER TO STRUCTURAL FOR LINTEL SIZE.
- 31 SOLID SURFACE TRANSITION AT SHOWER - REFER TO DETAIL T7 ON A3-14
- 32 STAINLESS STEEL WORK SURFACE - REFER TO SPECIFICATIONS
- 33 PORCELAIN TILE SHOWER WITH SHOWER PAN AND FLOOR DRAIN. COORDINATE DEPRESSION IN CONCRETE FLOOR SLAB AS REQUIRED FOR FLUSH FLOOR FINISH
- 34 MOP RACK
- 35 EXTRACTOR TO BE RELOCATED FROM STATION 1 - BASE MOUNTING DETAIL BY MANUFACTURER - REFER TO MECH. & ELEC - OWNER TO RELOCATE
- 36 WALL MOUNTED HOSE BIB - REFER TO PLUMBING
- 37 EYE WASH STATION
- 38 STACKED WASHER/DRYER PROVIDED BY OWNER - REFER TO MECH. & ELEC.
- 39 DASHED LINE OF BUILDING FOOTPRINT ABOVE
- 40 ALTERNATE #3: REMOVE W-1 AND STRUCTURAL HEADER AT ROOM 116 - REFER TO SPECS AND STRUCT.
- 41 REVISE CMU LINTEL FOR NEW SIZE OPENING - REFER TO STRUCT.
- 42 REVISE DOOR 001B TO DOUBLE DOOR - REFER TO DOOR SCHEDULE
- 43 REMOVE OVERHEAD DOOR CMU LINTEL AND ALL ASSOCIATED HARDWARE - REFER TO DOOR SCHEDULE
- 44 LINTEL TO ACCOMMODATE MECH DUCT OPENINGS - REFER TO MECH
- 45 CORNER GUARD TO BE PROVIDED AT ALL EXPOSED GYP. BD. WALL CORNERS TYP. - REFER TO MATERIAL FINISH SCHEDULE
- 46 BOTH SIDES OF GYP. BD. AND SOUND ATTENUATION BATT. IF APPLICABLE TO EXTEND TO BOTTOM OF DECK WITH STUD WALL TYP. - REFER TO DETAIL 1/A3-03 FOR GYP. BD. WALLS THAT EXTEND TO DECK
- 47 STOVE HOOD - REFER TO MECH. AND SPECIFICATIONS
- 48 LINE OF BOULDER RETAINING WALL - REFER TO SECTIONS AND CIVIL
- 49 SUGGESTED MULCH BED WITH DENSE CONIFEROUS PLANTINGS - PROVIDED BY OWNER



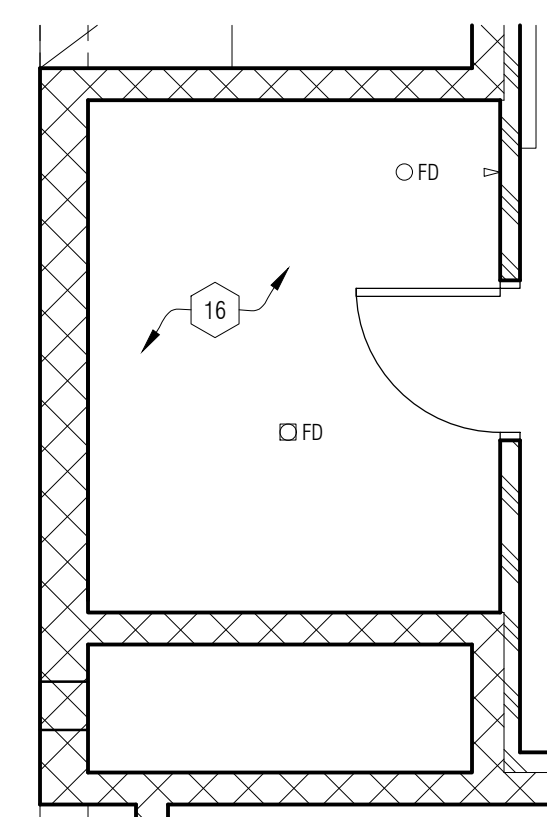
7 Enlarged Plan - Restroom 104 - Alternate #4
A3-01 1/4" = 1'-0"



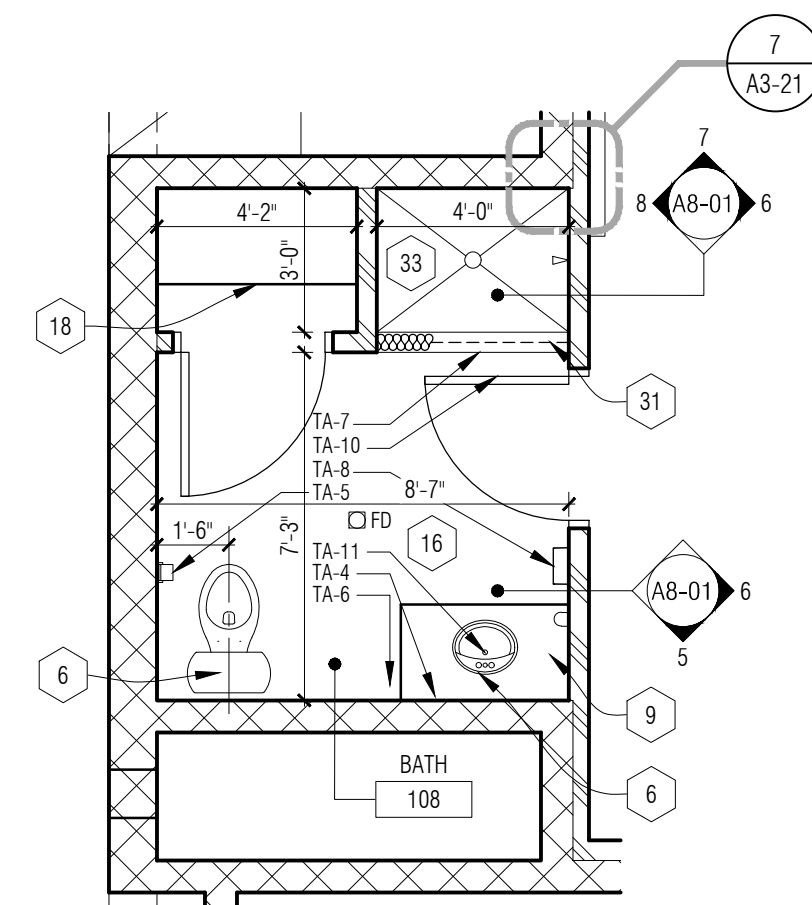
6 Enlarged Plan - Restroom 104 - Base Bid
A3-01 1/4" = 1'-0"



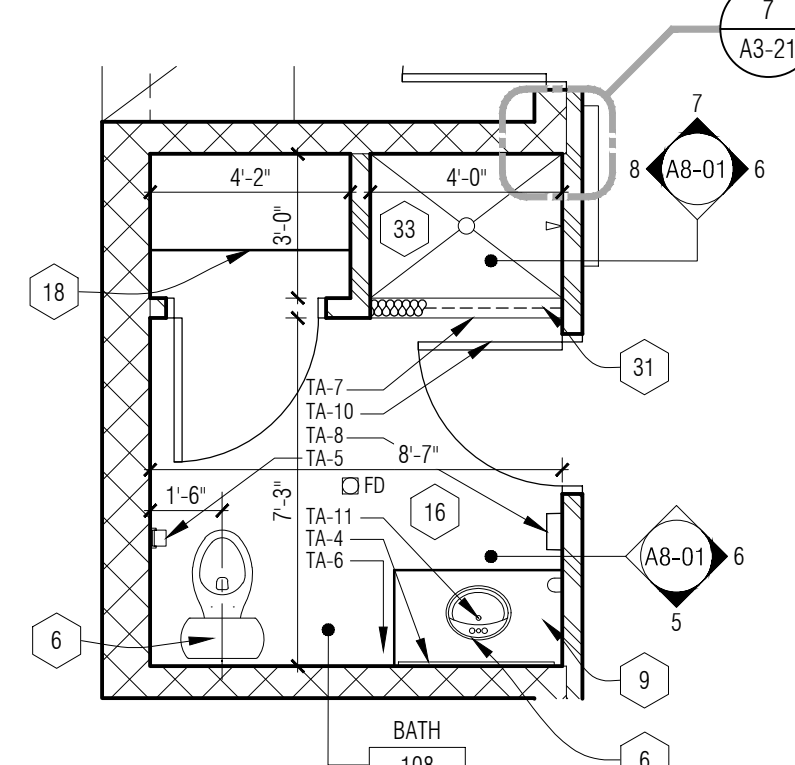
5 Enlarged Lower Level Plan - Alternate #2
A3-01 1/4" = 1'-0"



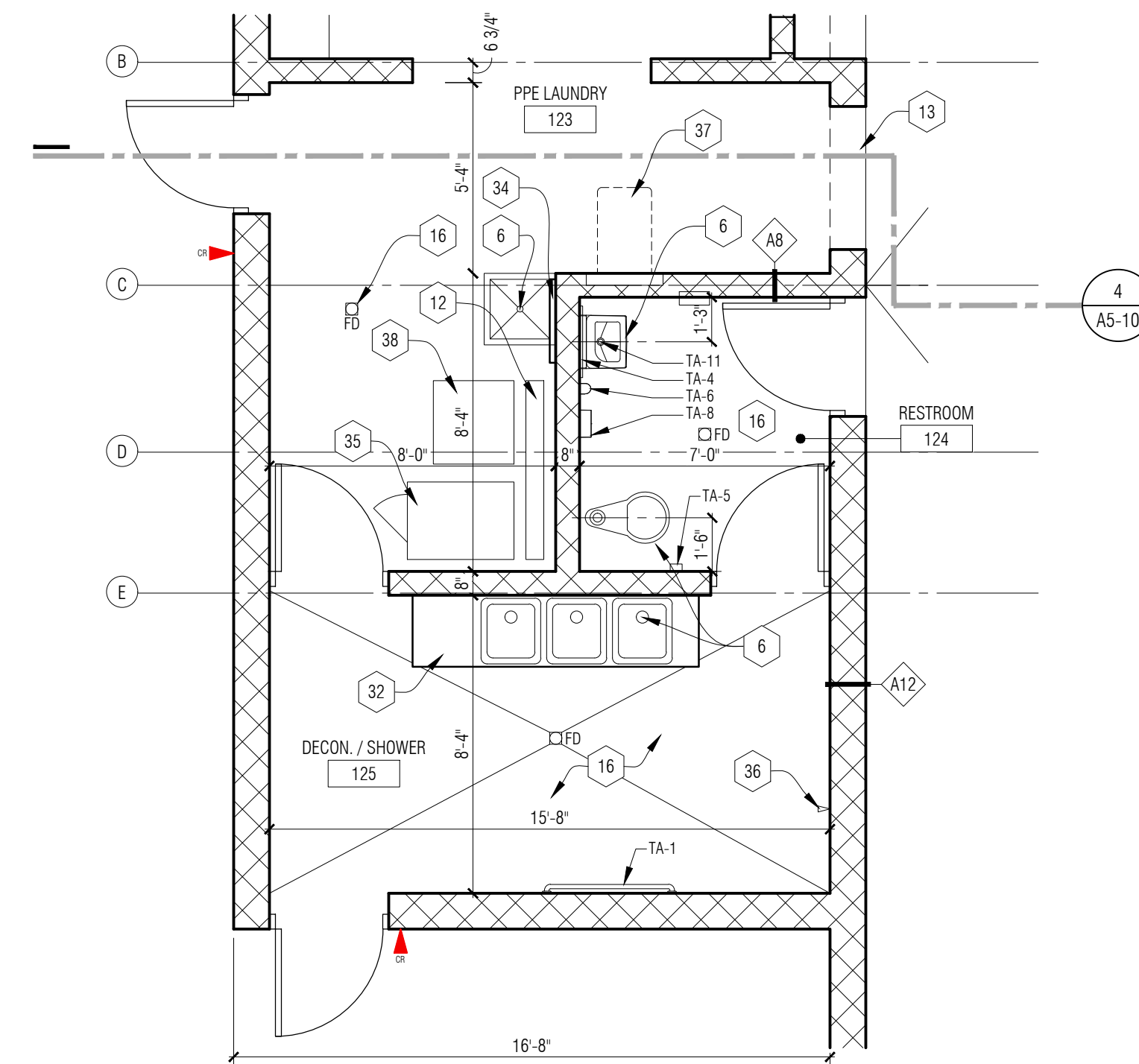
4 Enlarged Plan - Bath 110 - Alternate #4
A3-01 1/4" = 1'-0"



3 Enlarged Plan - Bath 110 - Base Bid
A3-01 1/4" = 1'-0"



2 Enlarged Plan - Bath 108
A3-01 1/4" = 1'-0"



1 Enlarged Plan - Decon Area
A3-01 1/4" = 1'-0"

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CONSULTANT

KEY PLAN

OWNER

Highland Township
Fire Department

PROJECT NAME

Highland Township
Fire Station No. 2

2550 E. Wardlow Rd.
Highland, MI 48356

PROJECT NO.

18-122B

ISSUES / REVISIONS

Bidding / Construction 08/27/2020

Rebidding / Construction 12/08/2020
CCD-1 07/09/2021

DRAWN BY

AR

CHECKED BY

AM / JV

APPROVED BY

DWG

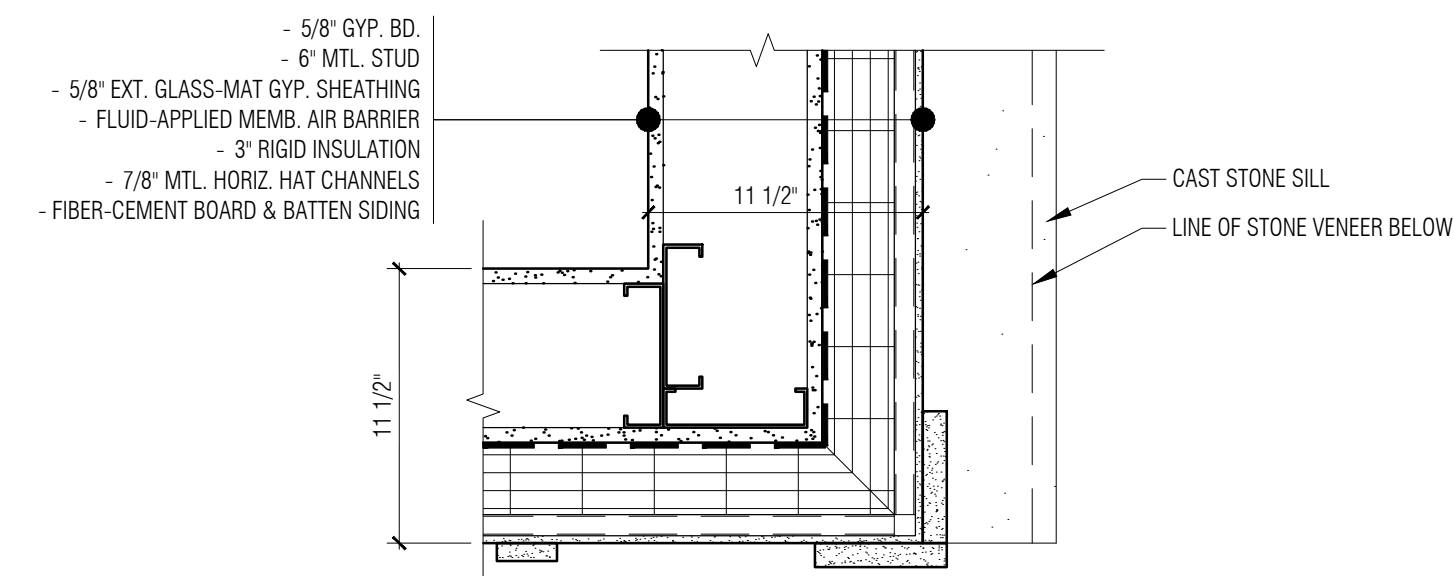
SHEET NAME

ENLARGED
FLOOR PLANS

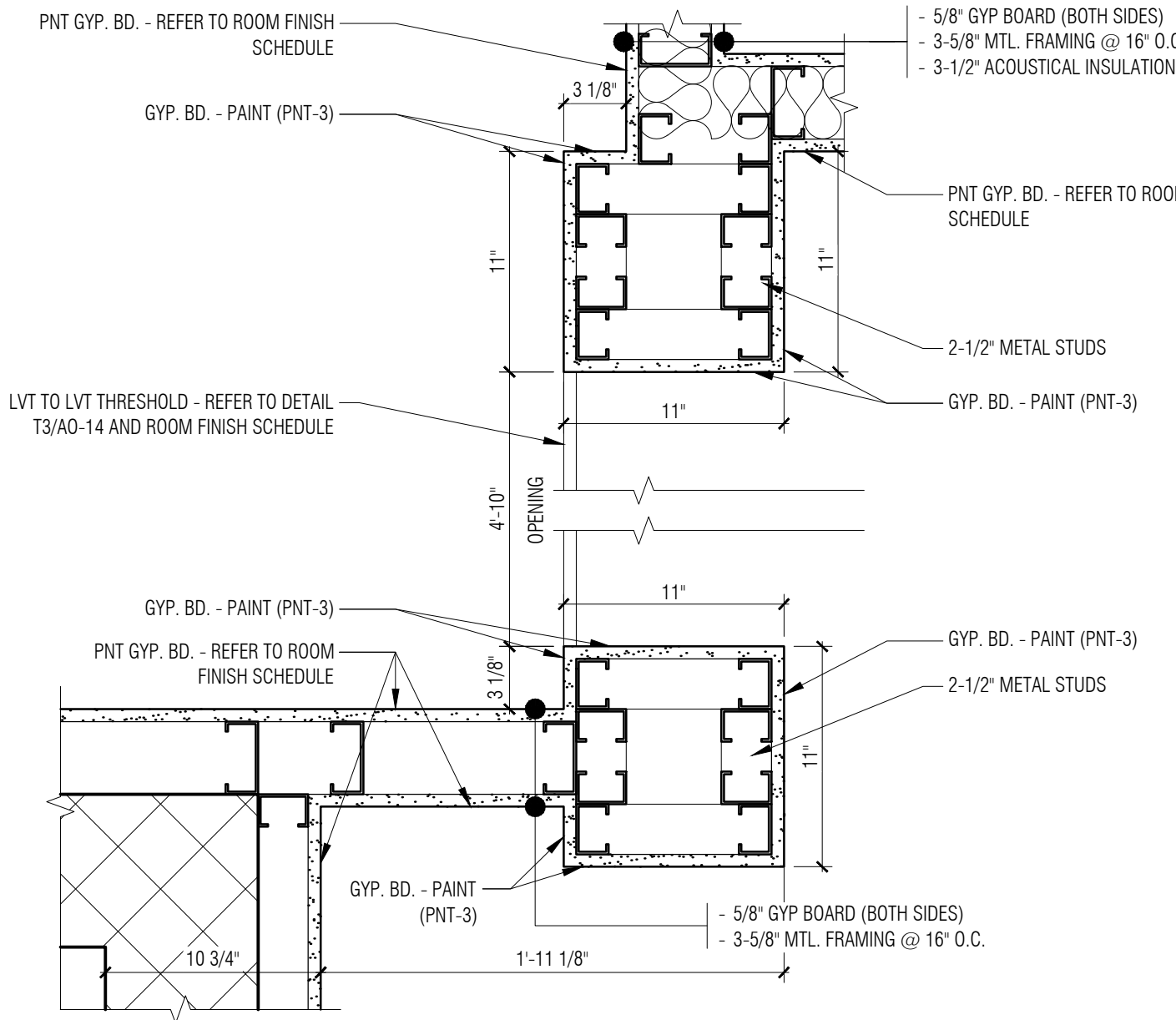
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A3-10

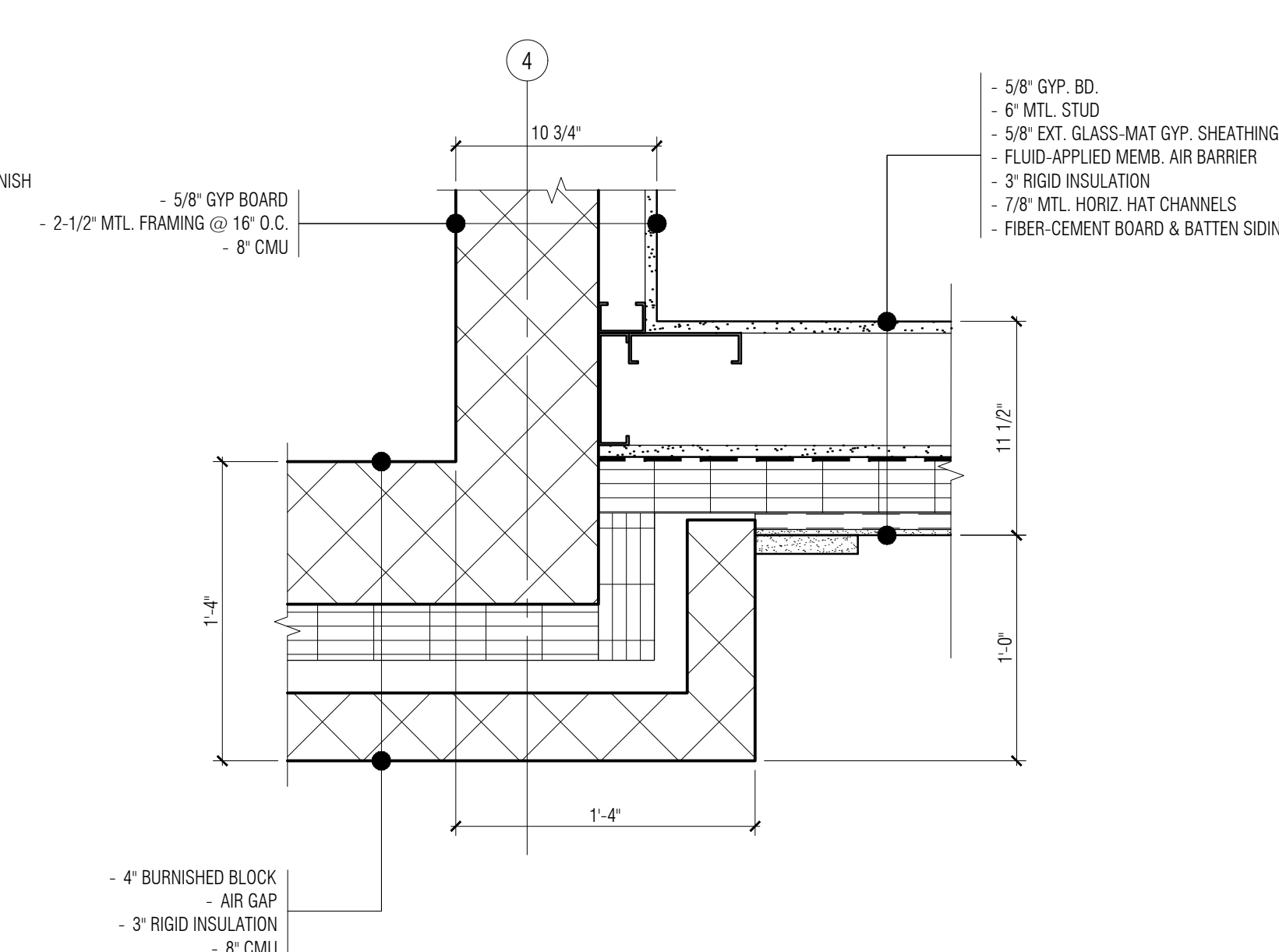
EXHIBIT 'C' - CCD-1



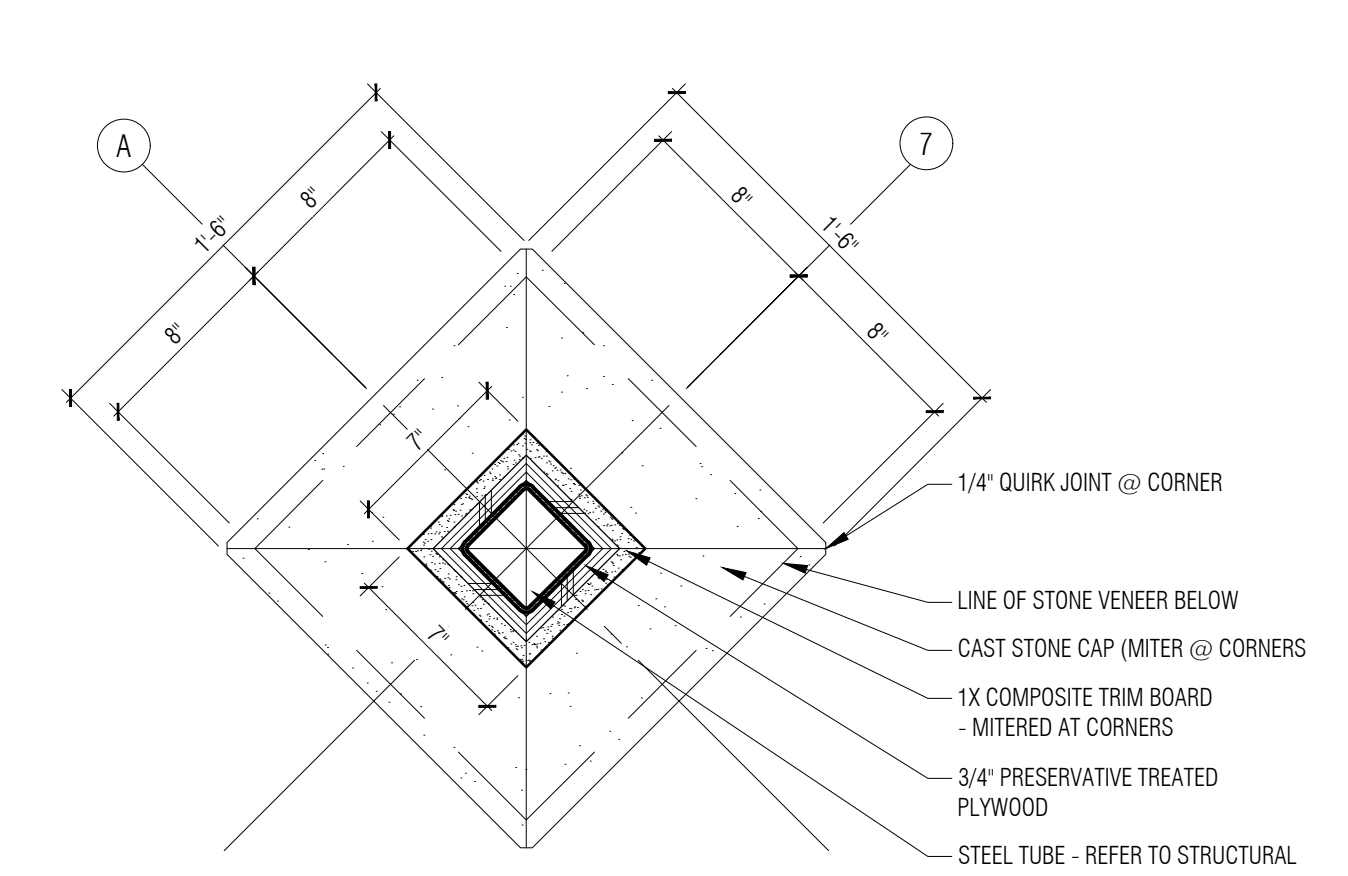
12 Plan Detail
A3-01 1 1/2" = 1'-0"



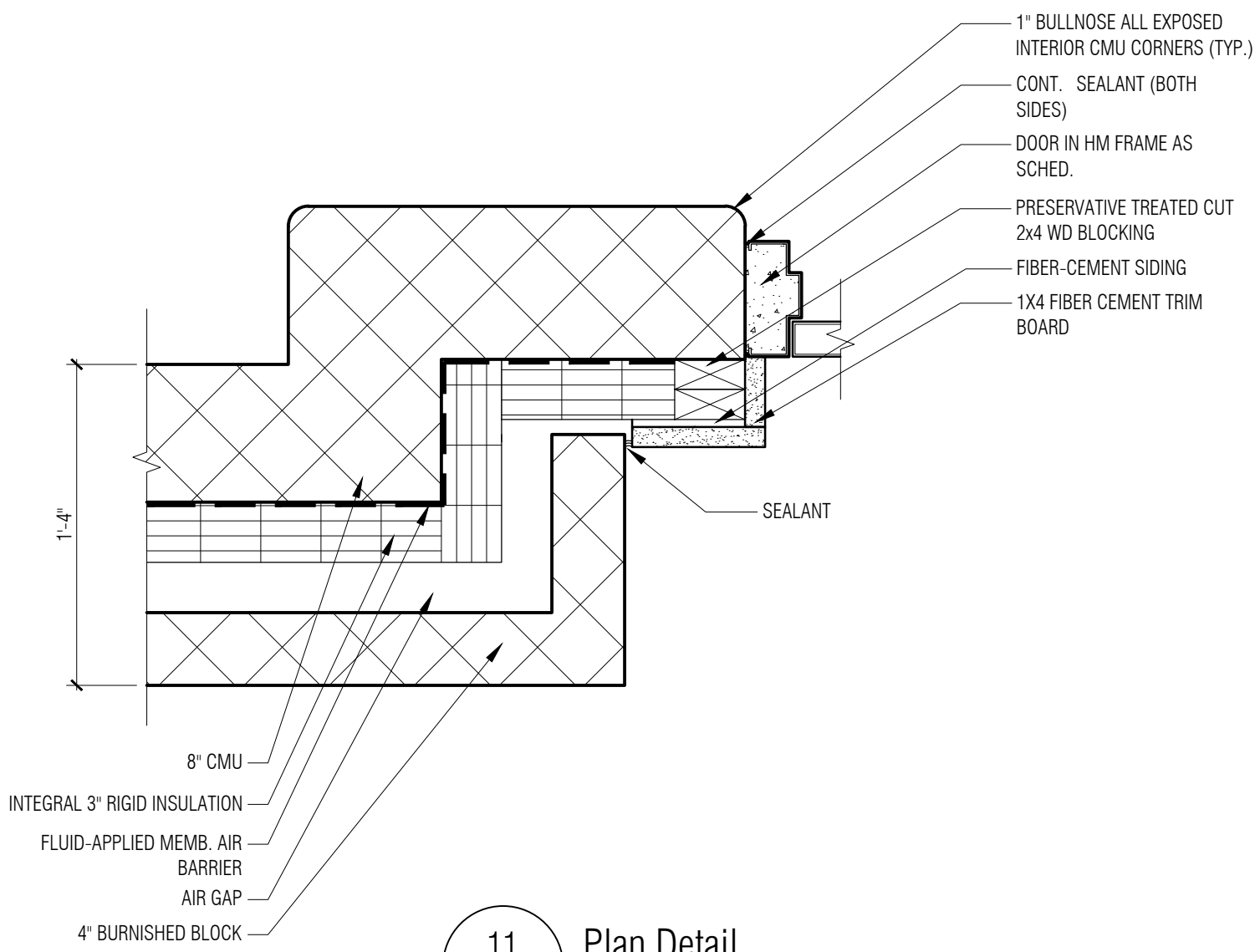
9 Plan Detail
A3-01 1 1/2" = 1'-0"



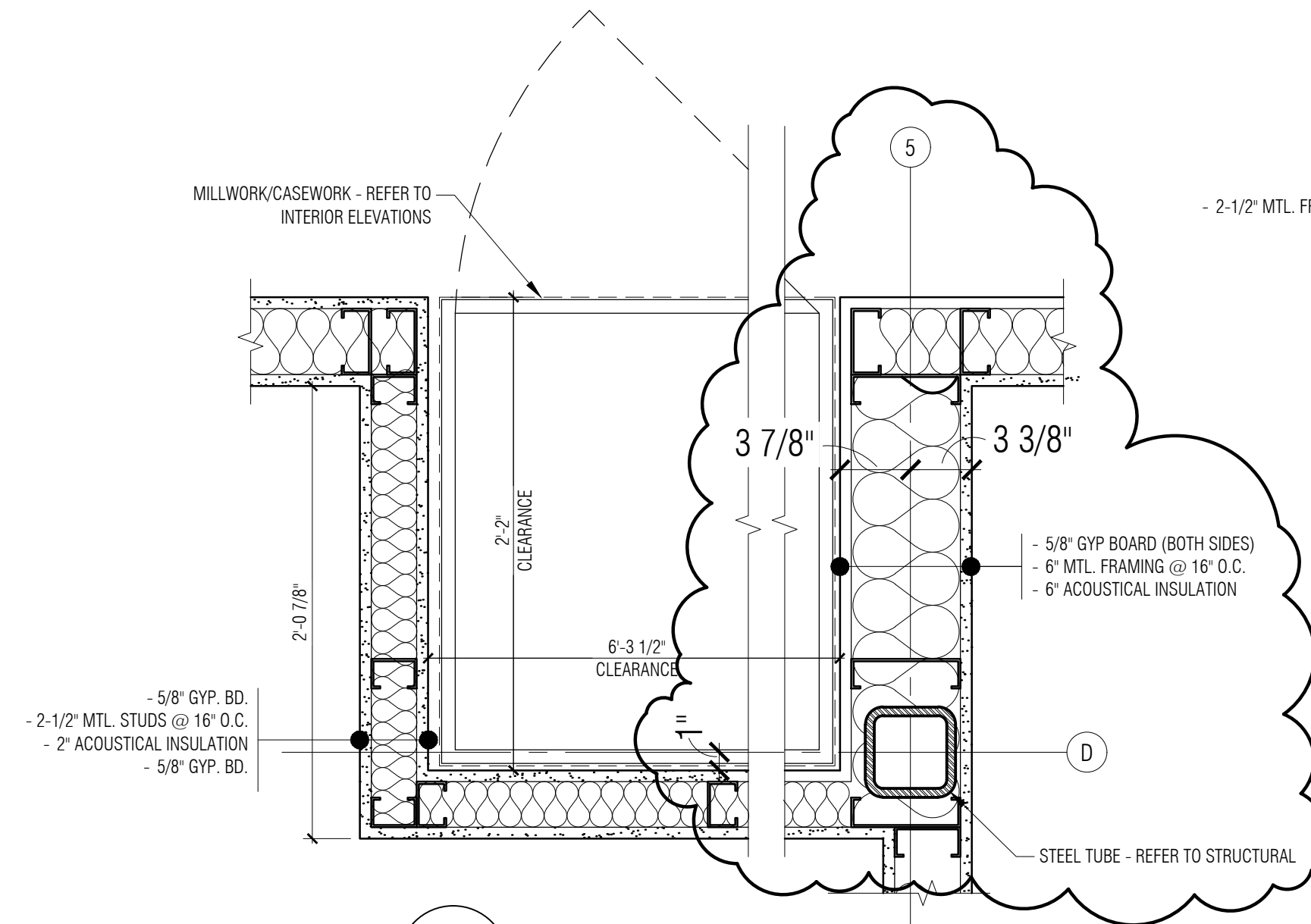
6 Plan Detail
A3-01 1 1/2" = 1'-0"



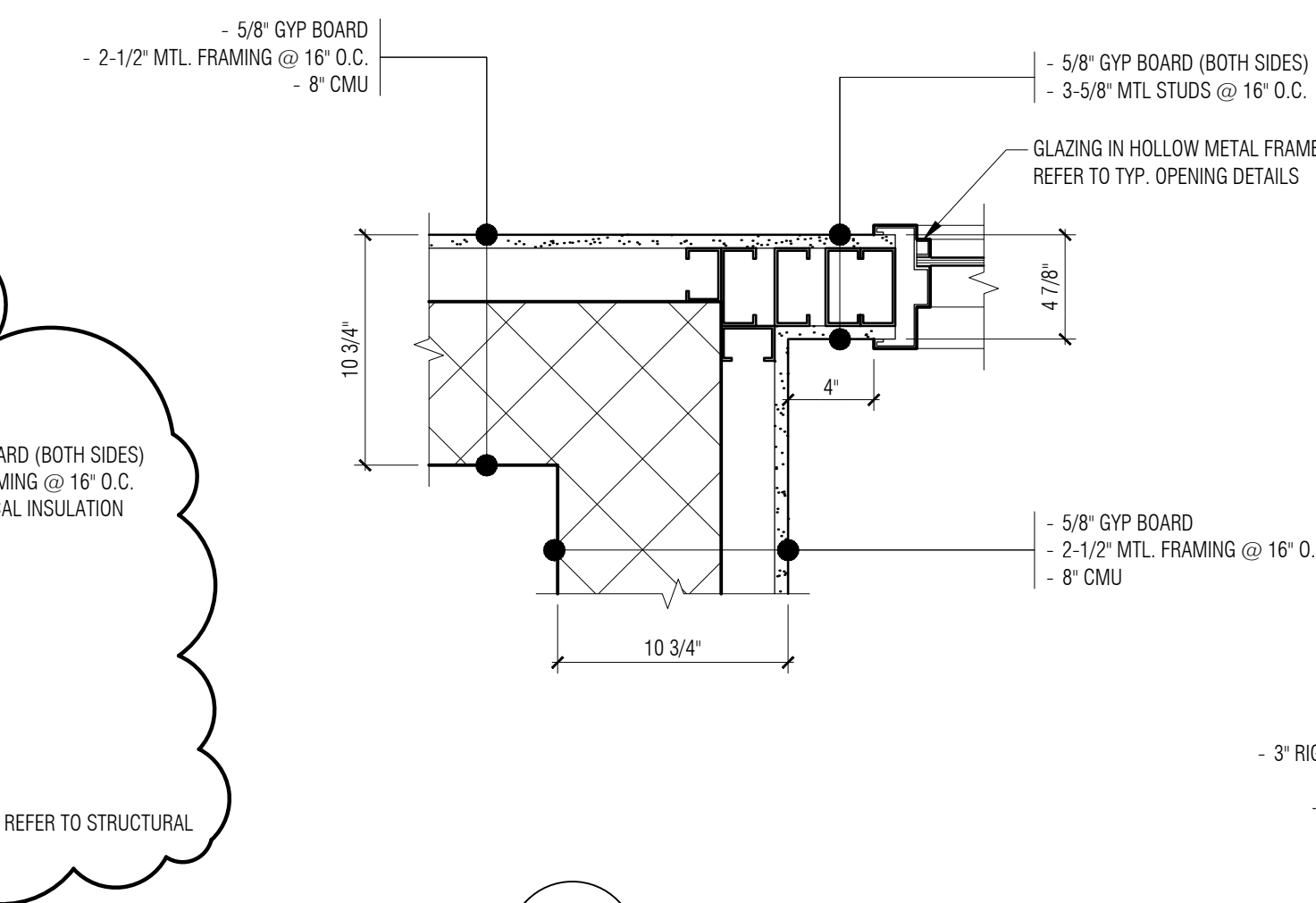
3 Plan Detail - Alternate #7
A3-01 1 1/2" = 1'-0"



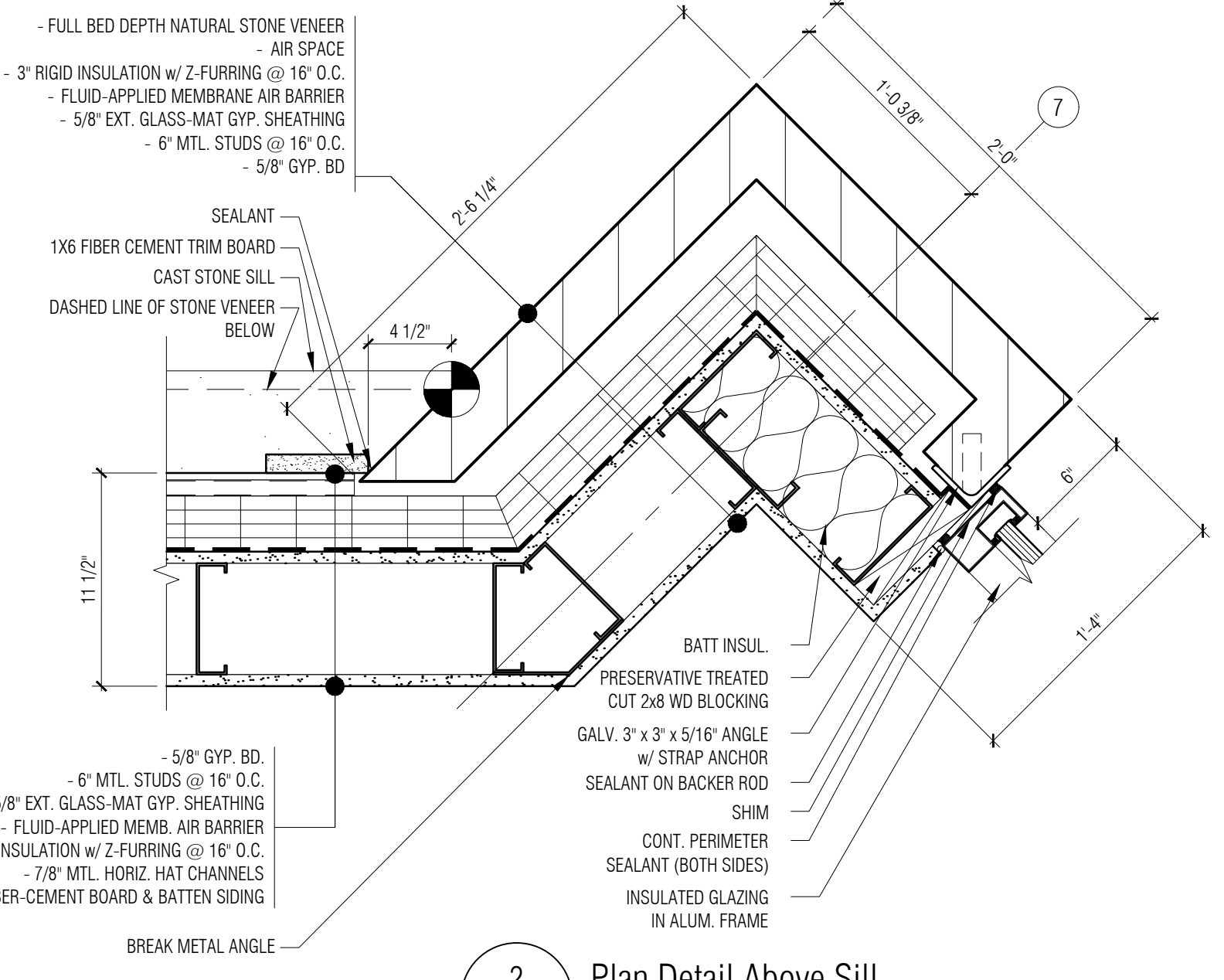
11 Plan Detail
A3-01 1 1/2" = 1'-0"



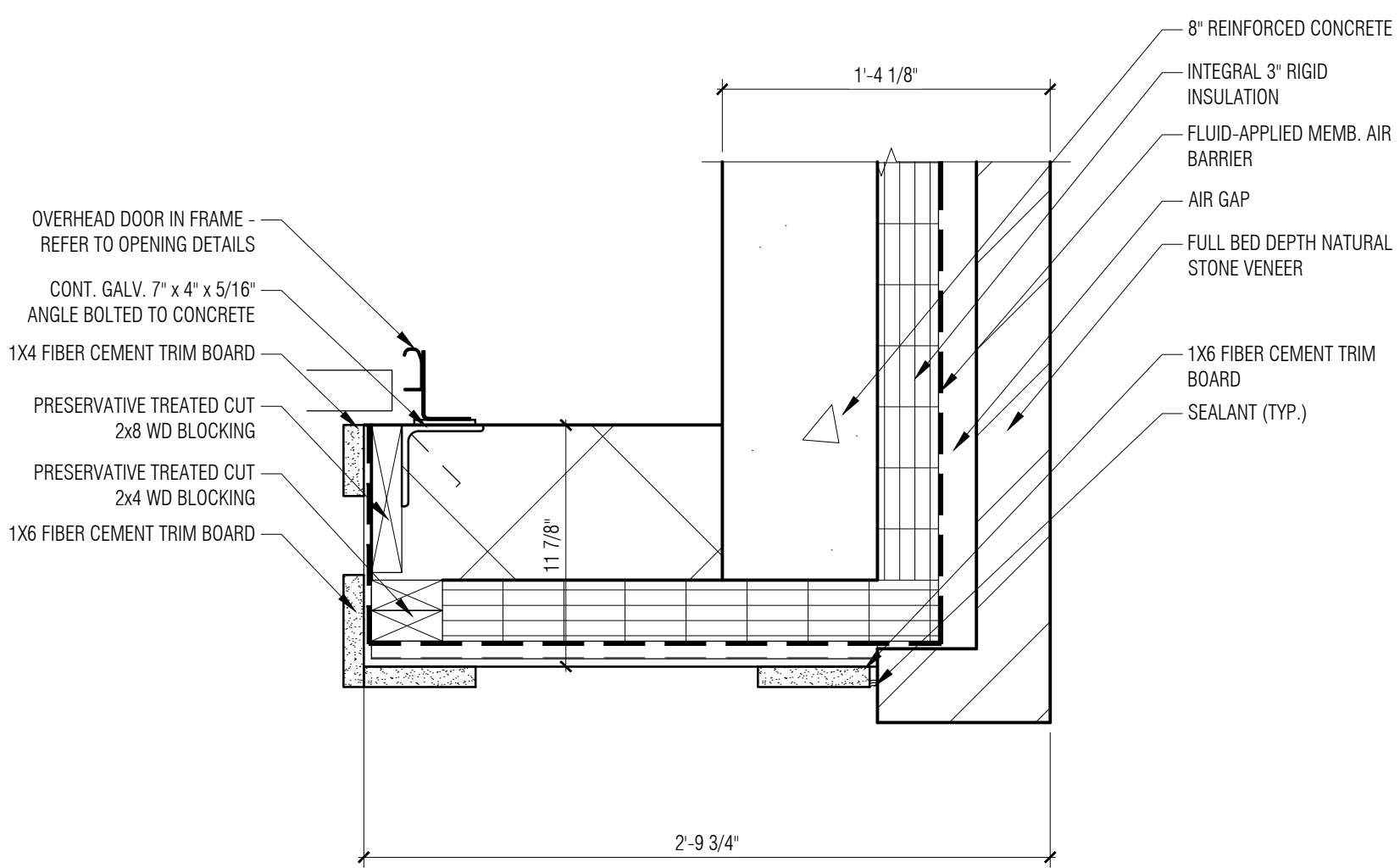
8 Plan Detail
A3-01 1 1/2" = 1'-0"



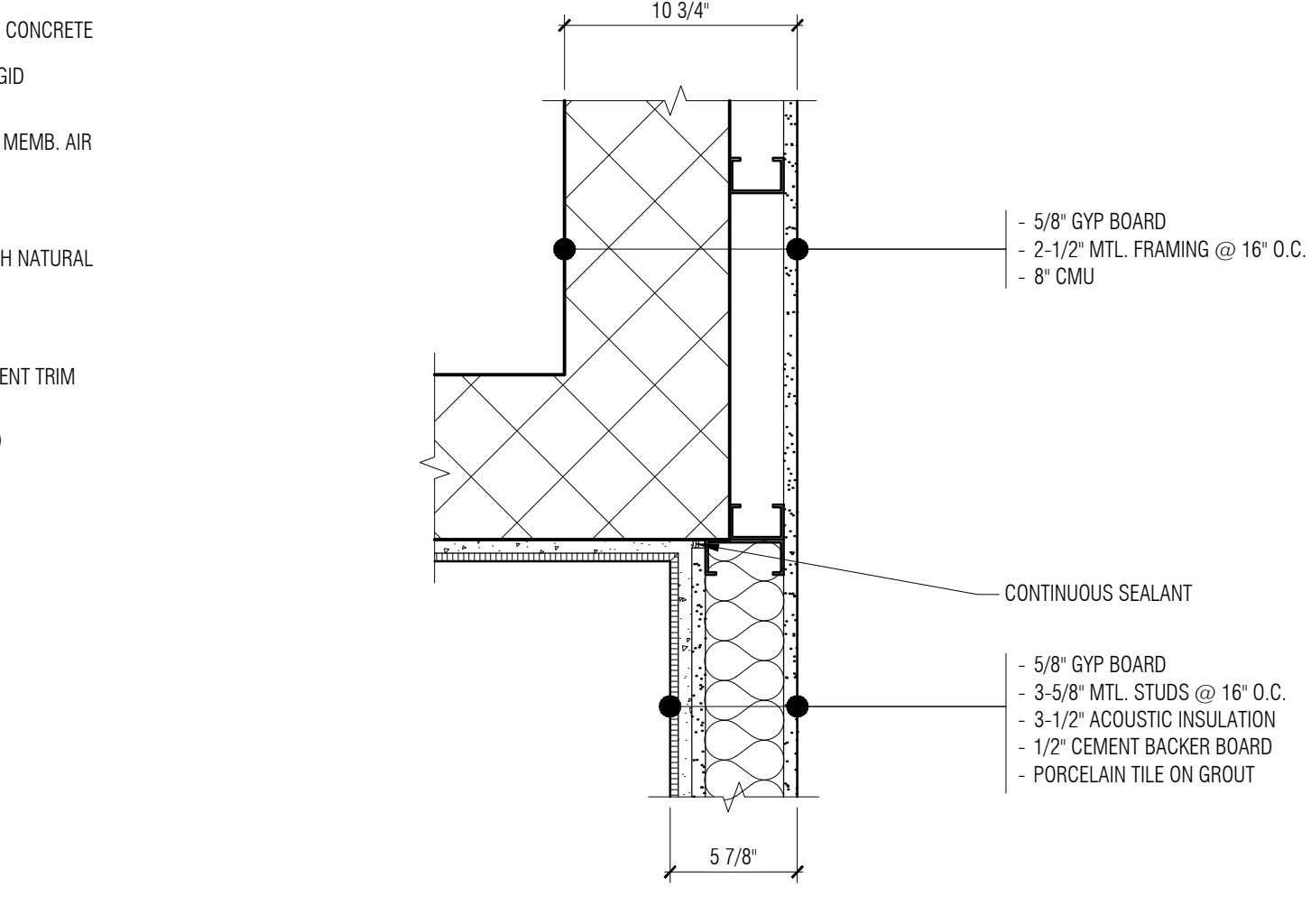
5 Plan Detail
A3-01 1 1/2" = 1'-0"



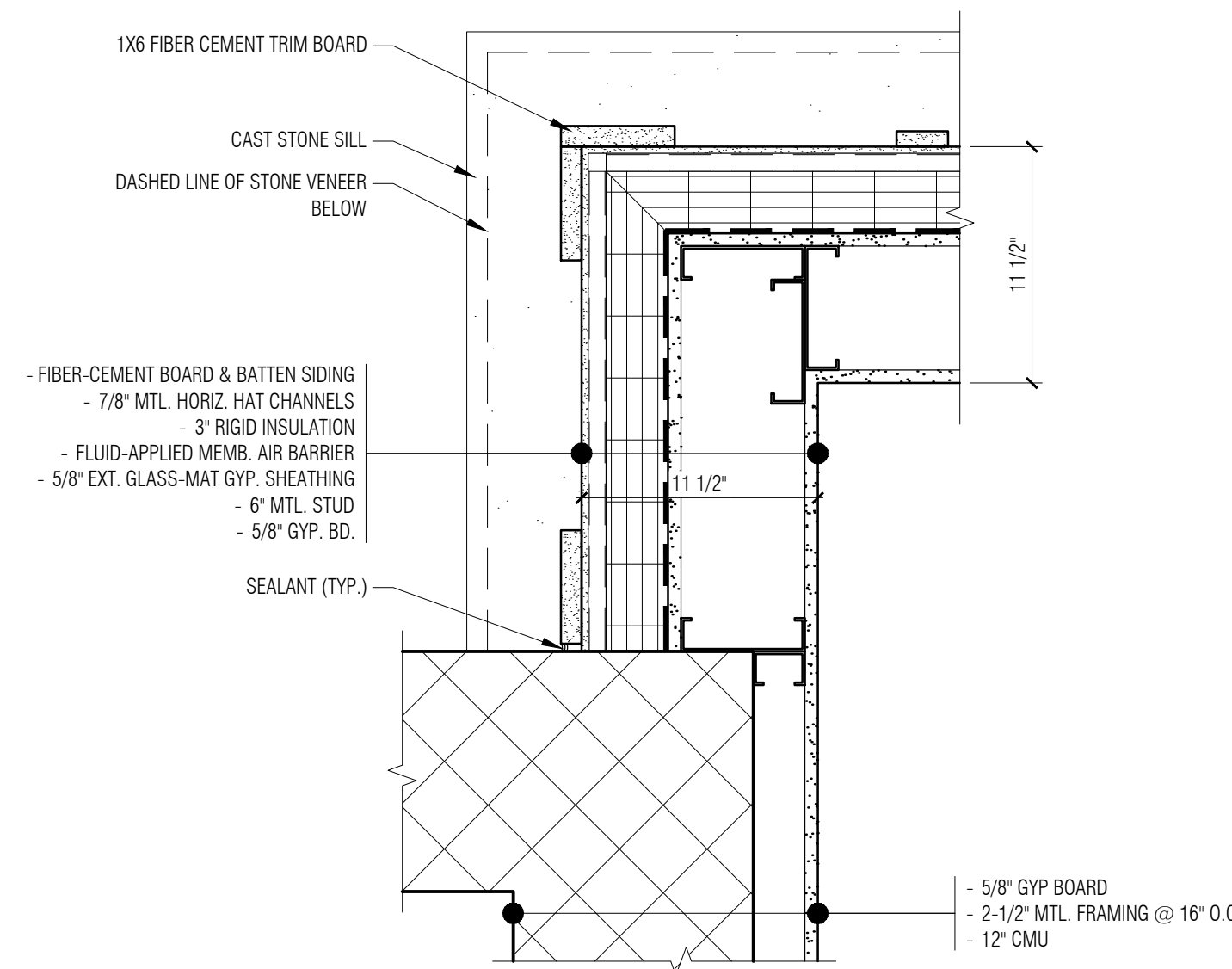
2 Plan Detail Above Sill
A3-01 1 1/2" = 1'-0"



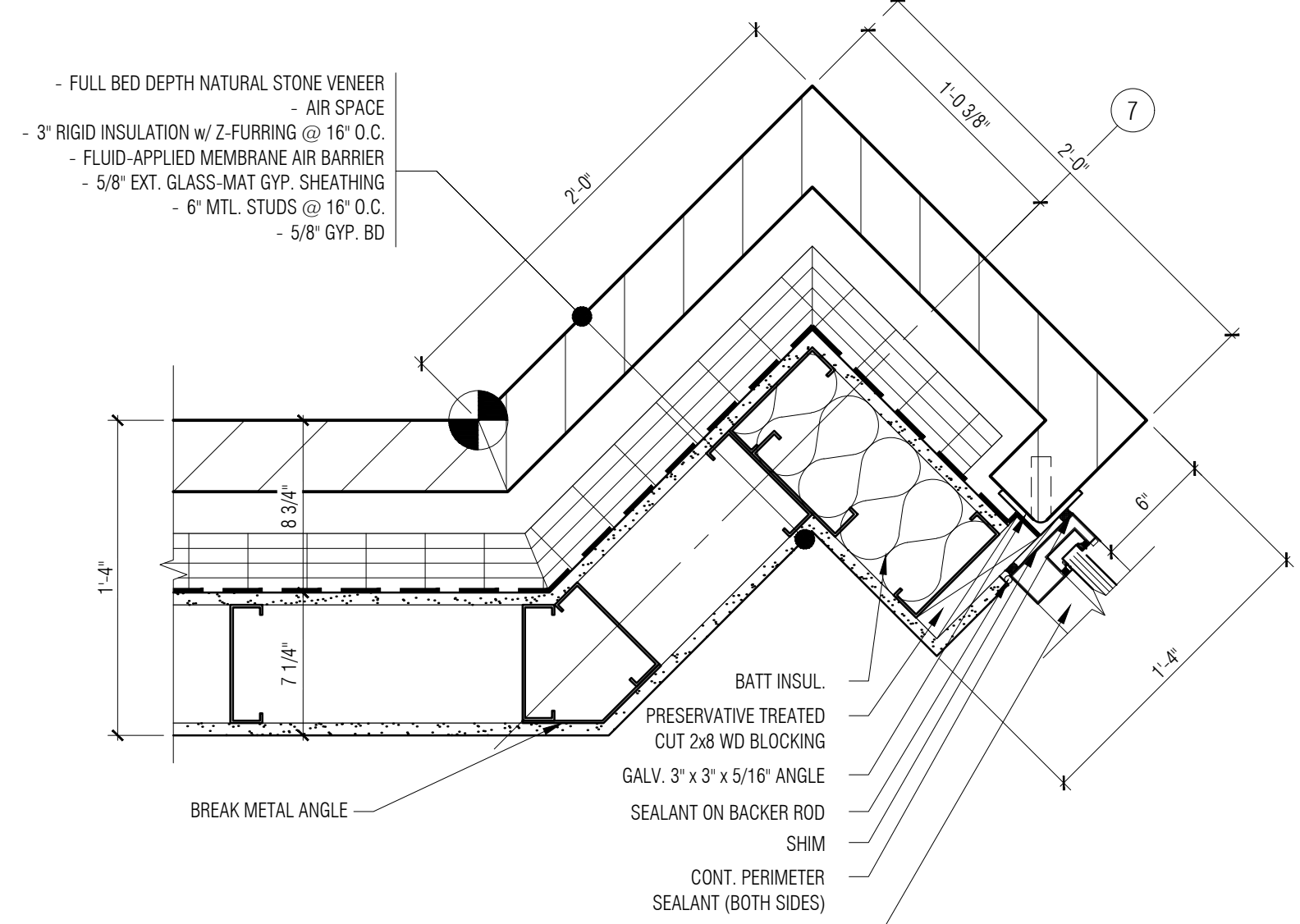
10 Plan Detail - Alternate #2
A3-01 1 1/2" = 1'-0"



7 Plan Detail
A3-10 1 1/2" = 1'-0"



4 Plan Detail
A3-01 1 1/2" = 1'-0"



1 Plan Detail Below Sill
A3-01 1 1/2" = 1'-0"



Bidding / Construction	08/27/2020
Addendum #1	09/10/2020
Rebidding / Construction	12/08/2020
CCD-1	07/09/2021

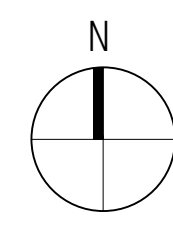
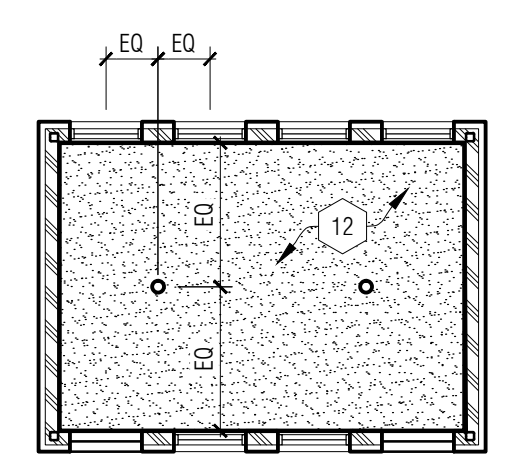
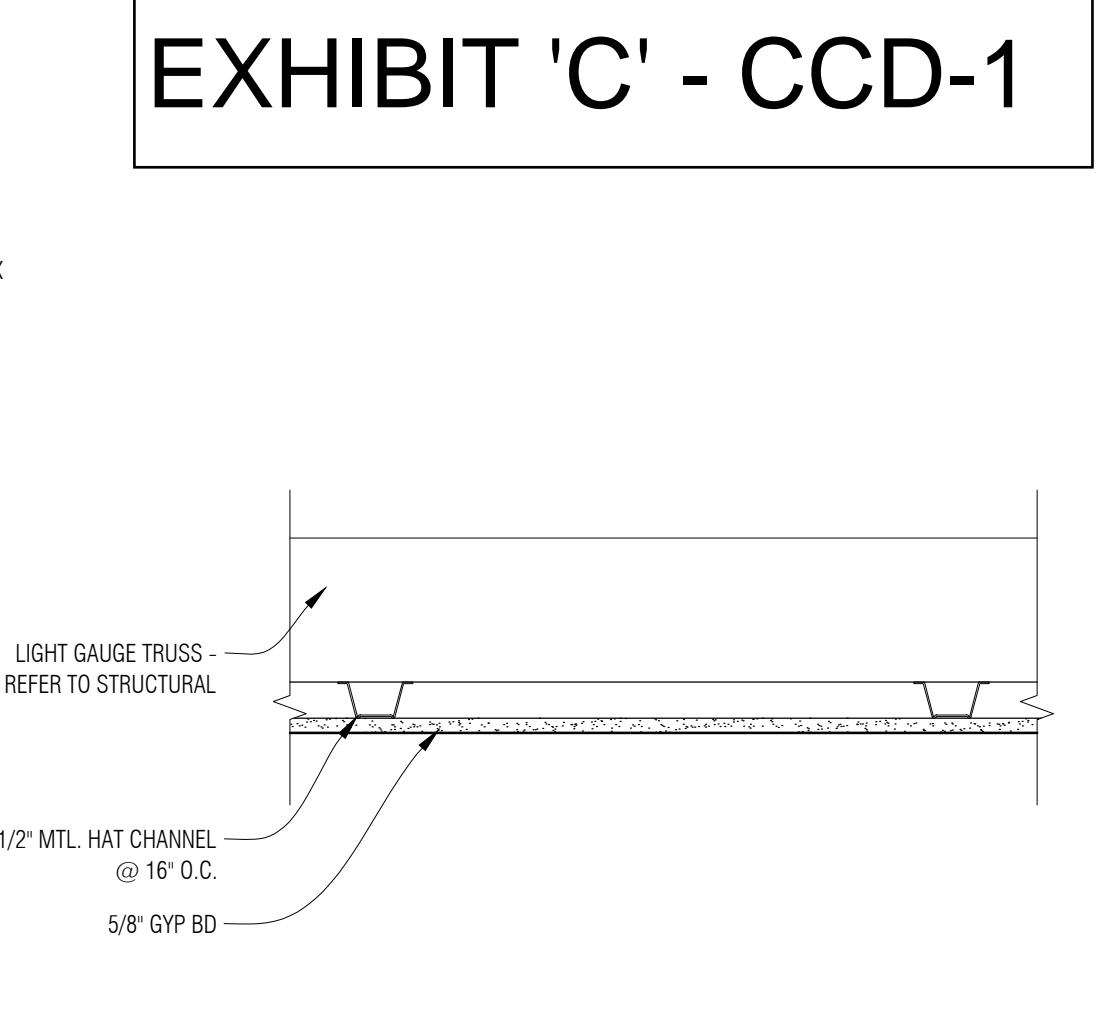
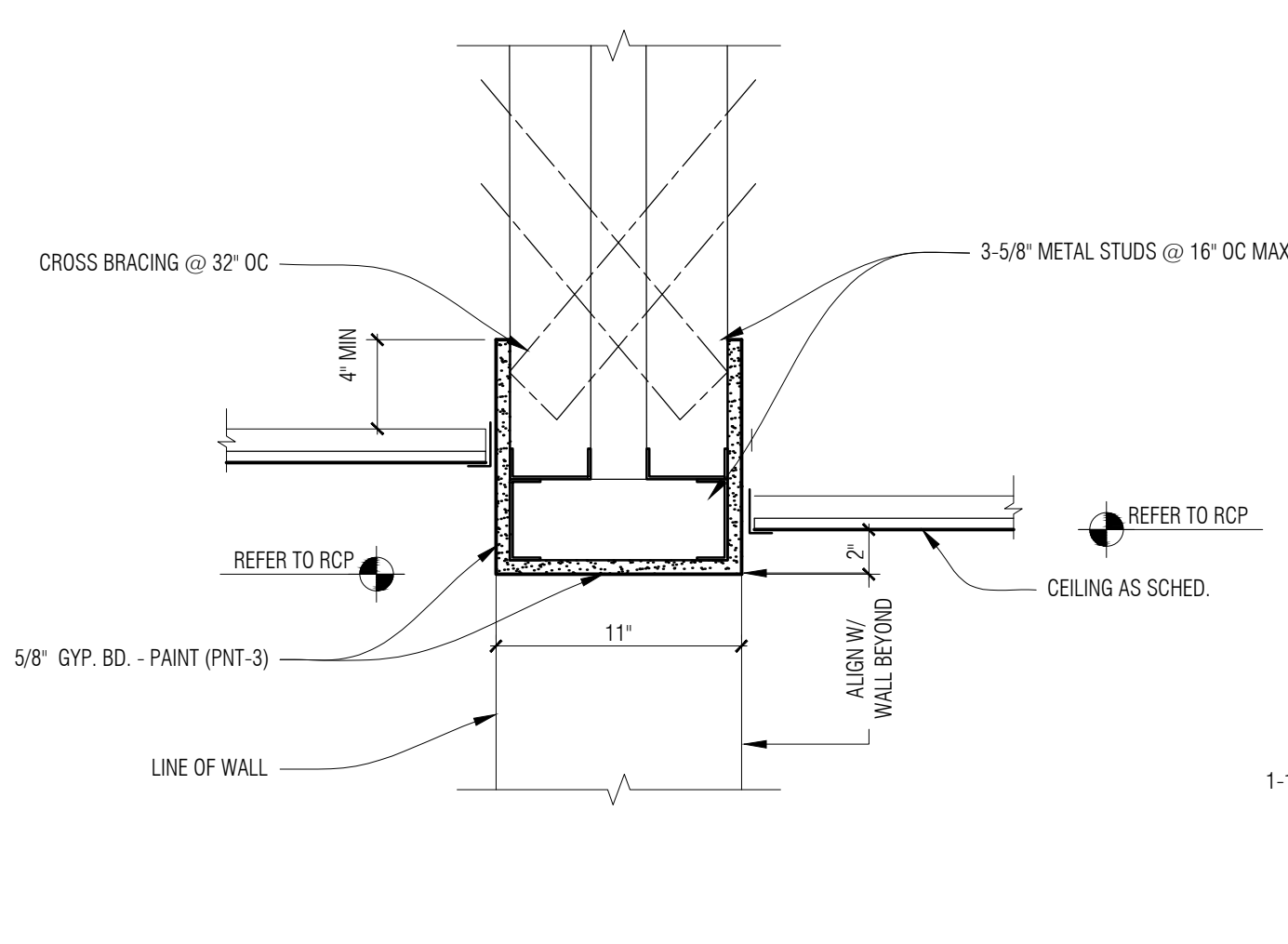
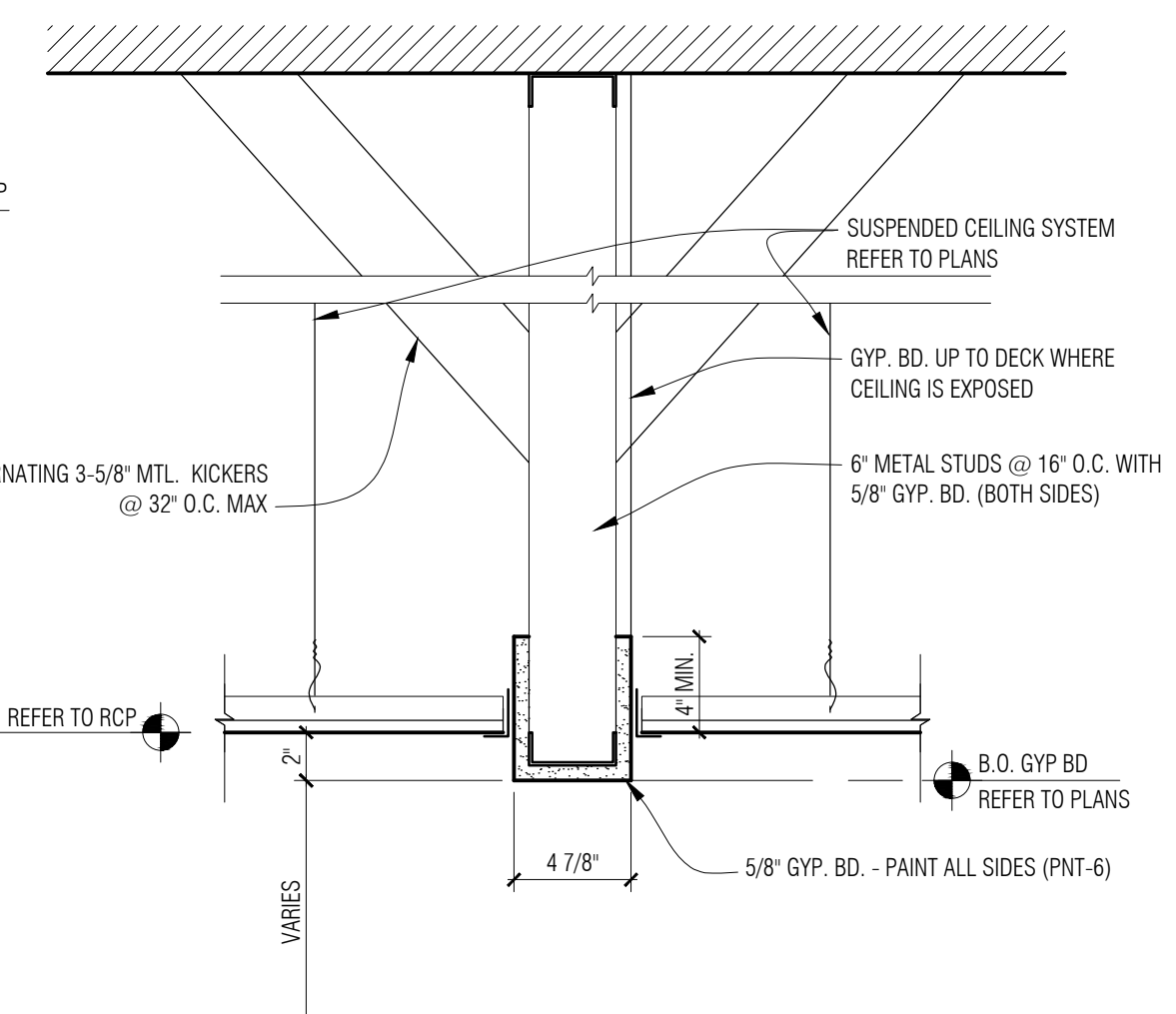
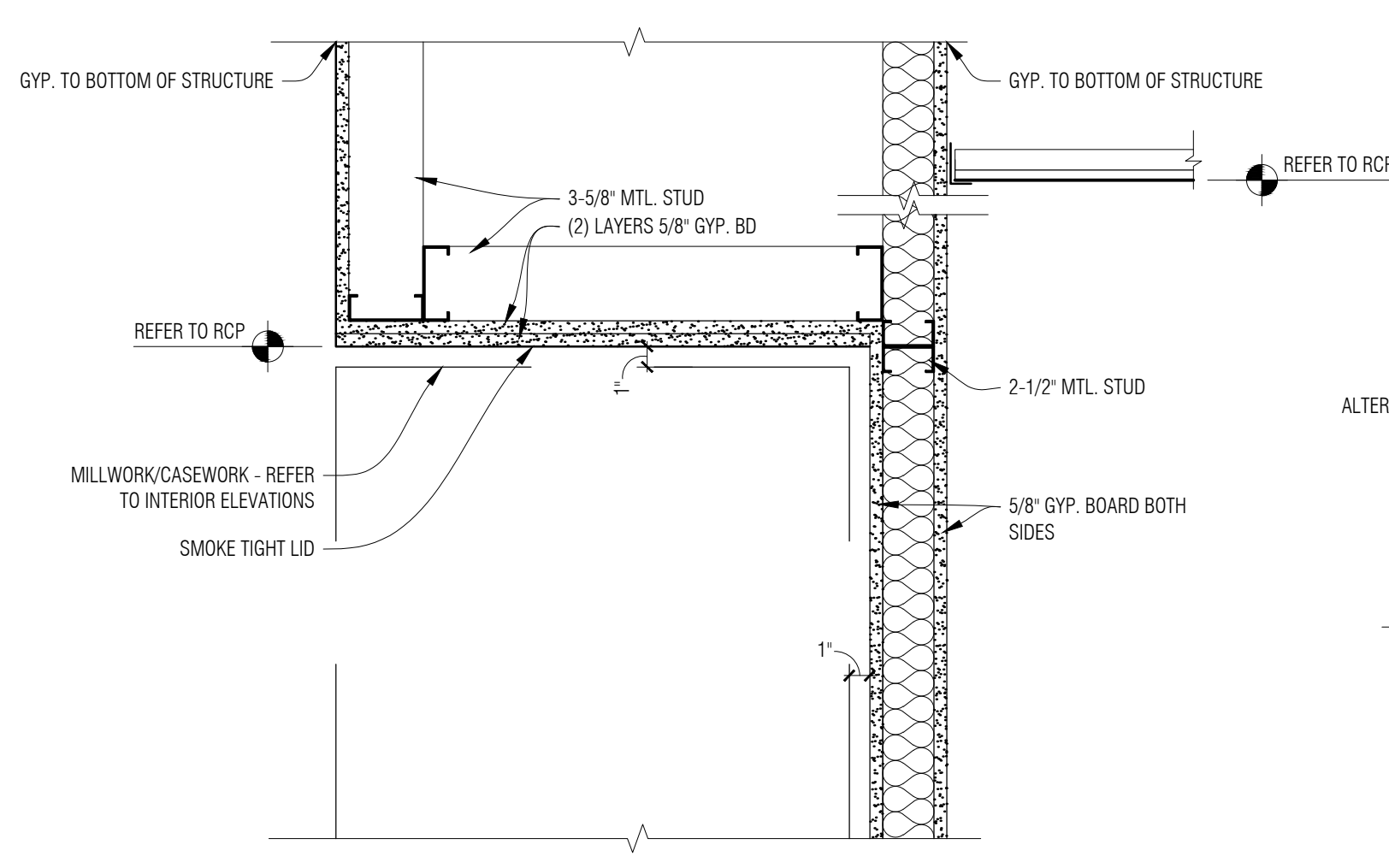
EXHIBIT 'C' - CCD-1

- REFLECTED CEILING PLAN - GENERAL NOTES:**
- REFER TO FLOOR PLANS FOR ROOM NAMES, NUMBERS AND ROOM DIMENSIONS.
 - REFER TO ELECTRICAL FOR LIGHT FIXTURE TYPES AND SPECIFICATIONS.
 - REFER TO MECHANICAL FOR DIFFUSERS, REGISTERS, AND RETURNS.
 - ALL LIGHT FIXTURES ARE TO BE CENTERED WITHIN CEILING U.O.N.
 - CEILING HEIGHT MEASURED FROM 100'-0" FINISH FLOOR.

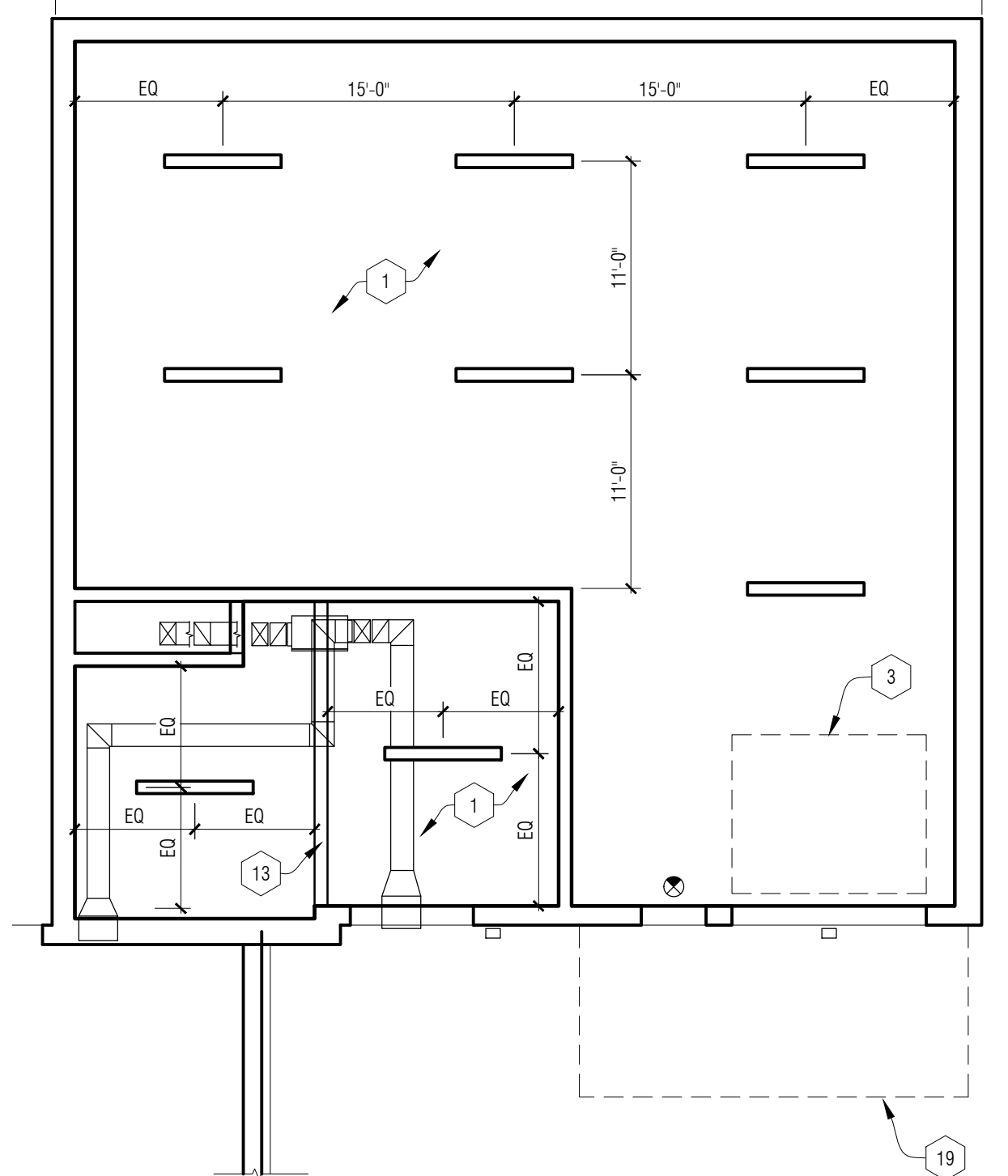
- REFLECTED CEILING PLAN - KEY NOTES:**
- EXPOSED CEILING TO UNDERSIDE OF ROOF DECK - REFER TO ROOM FINISH SCHEDULE
 - GYPSUM BOARD CEILING
 - LINE OF OVERHEAD DOOR - REFER TO DOOR SCHEDULE
 - GYPSUM BOARD CEILING / SOFFIT - REFER TO DETAIL 1/A4-01
 - WALL MOUNTED SIGN ABOVE DOOR - PROVIDED BY OWNER
 - HOOD - REFER TO SPECIFICATIONS
 - WALL COVERING SOFFIT ACCENT BAND - REFER TO DETAIL 6/A4-01 AND INTERIOR ELEVATIONS
 - SUPPLY AIR DIFFUSER - REFER TO MECH
 - IN GROUND LIGHT FIXTURE - REFER TO ELEC
 - EXPOSED MECHANICAL DUCTWORK - PAINT TO MATCH CEILING, REFER TO MECH. AND ROOM FINISH SCHEDULE
 - 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 4/A4-01
 - EXPOSED STRUCTURE - PAINT TO MATCH CEILING, REFER TO MECH. AND ROOM FINISH SCHEDULE
 - OPEN TO CLERESTORY ABOVE - REFER TO PLAN (3/A4-01) AND ALTERNATE #5
 - CMU OPENING - REFER TO INTERIOR ELEVATIONS
 - GYP. BOARD FRAMING AROUND STRUCTURE - REFER TO BUILDING SECTIONS (A5-10) AND ALTERNATE #5
 - ENGINE EXHAUST REMOVAL SYSTEM BY AIR VAC - REFER TO MECH.
 - LINE OF ROOF ABOVE
 - LINE OF WOOD DECK - REFER TO SHEET A3-01
 - EXTERIOR FIBER CEMENT SOFFIT (SD-4)
 - UNDER CABINET LIGHT FIXTURE - REFER TO INTERIOR ELEVATIONS AND ELEC
 - EXTERIOR METAL SOFFIT (MS-1)
 - 24"x24" ATTIC ACCESS PANEL ABOVE DROP CEILING IN GYPSUM BOARD AT UNDERSIDE OF TRUSS - BATT INSULATION TO BE ADHERED TO TOP SIDE OF ACCESS PANEL
 - DASHED LINE OF MECHANICAL UNIT ABOVE CEILING. SECURE TO BOTTOM OF TRUSS - REFER TO MECH
 - SMOKE TIGHT LIT AT DORM ROOM LOCKERS - REFER TO DETAIL 7/A4-01
 - RADIANT TUBE HEAT SYSTEM - REFER TO MECHANICAL
 - ALTERNATE #4: CEILING, LIGHTING, GRILLES, AND DIFFUSERS NOT PROVIDED IN ROOM - REFER TO SPECIFICATIONS

Ceiling Symbols Legend

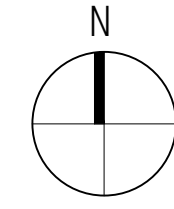
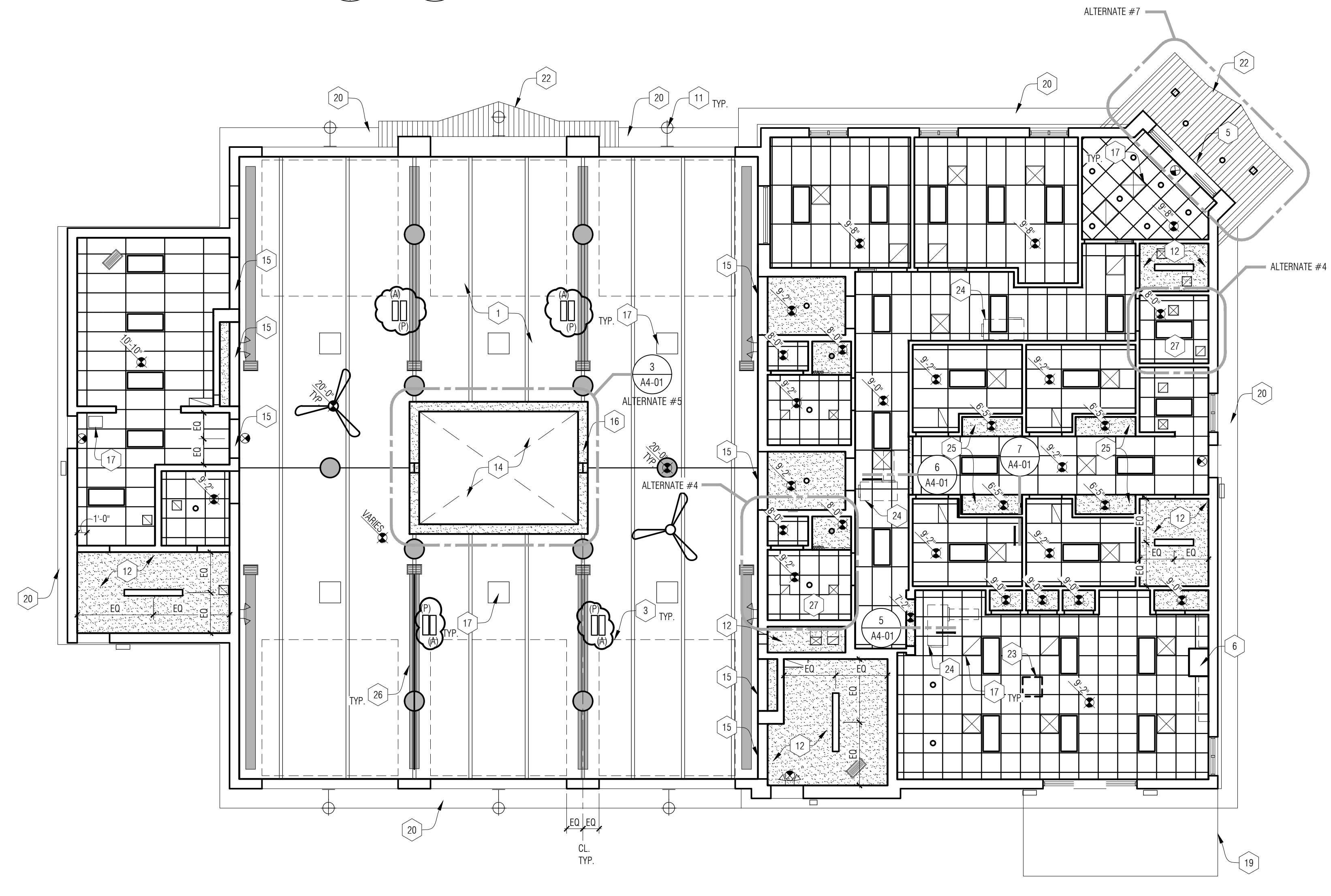
	5/8" GYP. BD ON 3/8" MTL. STUD AT 16" O.C. SECURE TO STRUCTURE ABOVE AT 48" O.C. MAX EACH WAY
	SURFACE-MOUNTED LINEAR PENDANT FIXTURE
	2' X 4' LAY-IN LIGHT FIXTURE IN GRID
	SUPPLY AIR DIFFUSER (MECHANICAL)
	RETURN AIR GRILLE (MECHANICAL)
	GAS UNIT HEATER (MECHANICAL)
	INFRARED HEATER (MECHANICAL)
	HIGH 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
	EMERGENCY LIGHT - WALL MOUNTED
	POWER REEL (P) / AIR REEL (A)



3 Clerestory Reflected Ceiling Plan - Alternate #3
 1/8" = 1'-0"

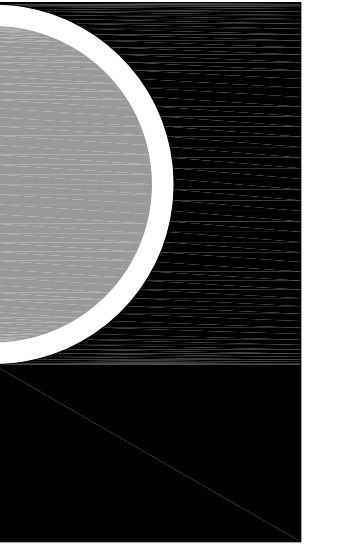


2 Lower Level Reflected Ceiling Plan
 1/8" = 1'-0"



1 Main Level Reflected Ceiling Plan
 1/8" = 1'-0"

EXHIBIT 'C' - CCD-1



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KEY PLAN

OWNER

Highland Township
 Fire Department

PROJECT NAME

Highland Township
 Fire Station No. 2

2550 E. Wardlow Rd.
 Highland, MI 48356

PROJECT NO.

18-122B

ISSUES / REVISIONS

SCHEMATIC DESIGN	01-28-2020
90% CD	07-31-2020
100% CONSTRUCTION DOCUMENT	08-27-2020
ADDENDUM #1	09-09-2020
RE-BIDDING / CONSTRUCTION	12-08-2020
CCD-1	07-13-2021

DRAWN BY

MS

CHECKED BY

MS

APPROVED BY

MS

SHEET NAME

FLOOR PLANS - FIRE
 PROTECTION

SHEET NO.

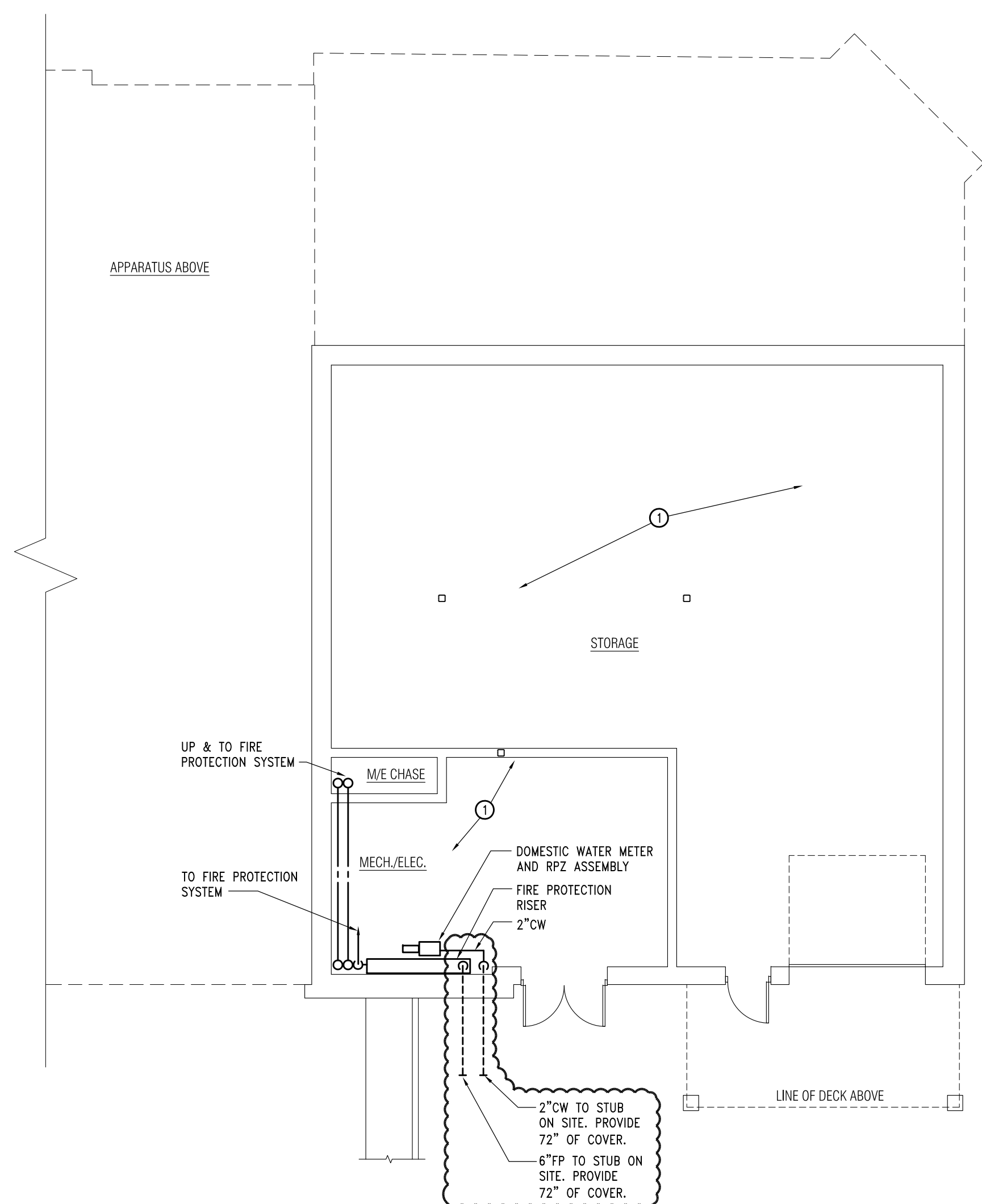
FPO-01

FIRE PROTECTION GENERAL NOTES:

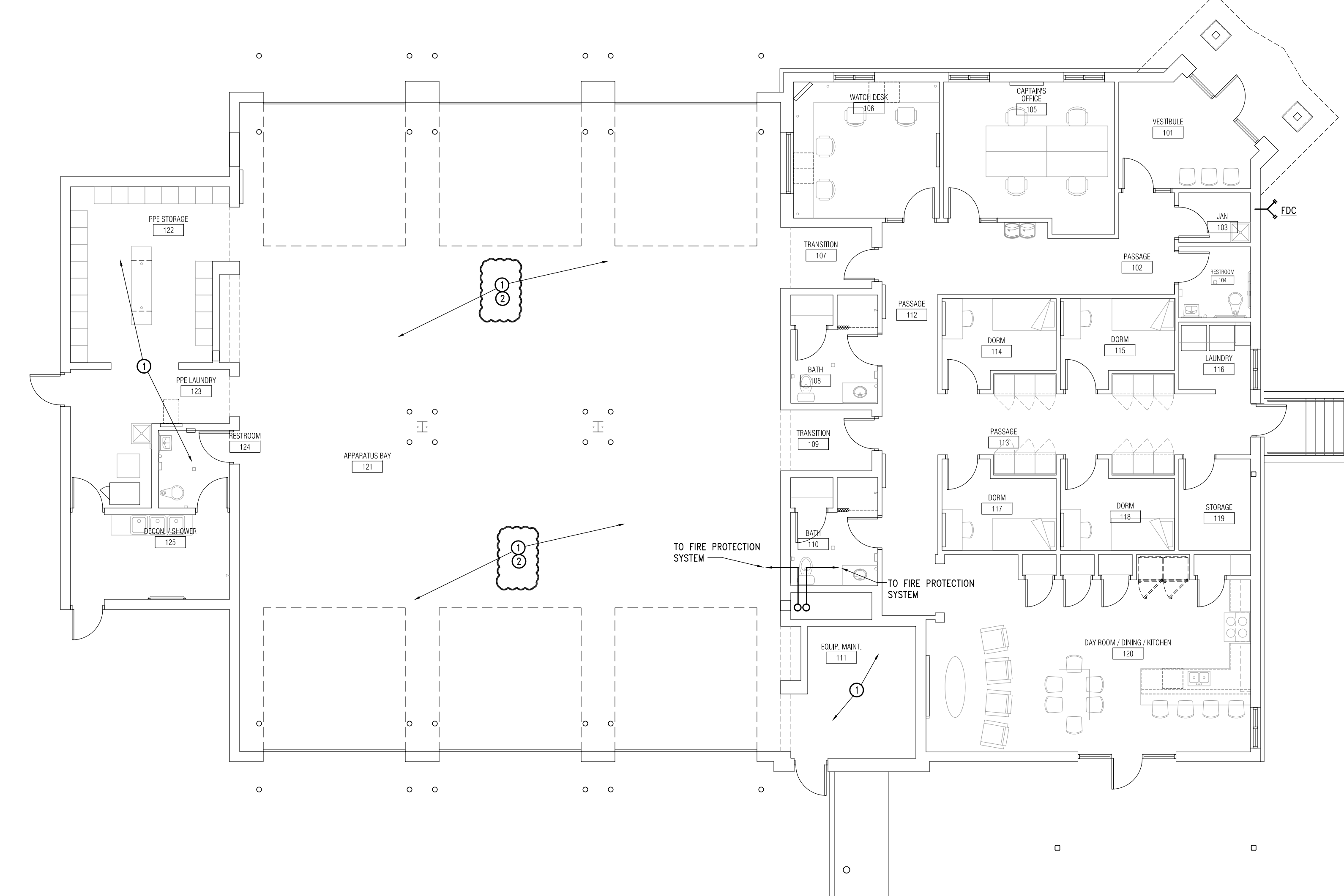
- A. COORDINATE ALL WORK WITH OTHER TRADES.
- B. BUILDING IS TO BE FULLY SPRINKLED. SPRINKLER SYSTEM DESIGN AND LAYOUT TO BE A HYDRAULICALLY DESIGNED SYSTEM IN COMPLIANCE WITH THE MICHIGAN BUILDING CODE, NFPA 13, OWNER'S UNDERWRITER AND AUTHORITY HAVING JURISDICTION. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.
- C. DO NOT SCALE THE PLUMBING AND FIRE PROTECTION DRAWINGS FOR LOCATION OF CEILING MOUNTED SPRINKLER HEADS. ALL CEILING MOUNTED HEADS SHALL BE COORDINATED WITH ARCHITECTURAL CEILING PLANS, UNLESS OTHERWISE NOTED.
- D. ALL SPRINKLERS LOCATED IN LAY-IN CEILINGS SHALL BE CENTERED IN THE MIDDLE OF THE CEILING TILES UNLESS OTHERWISE INDICATED ON THE ARCHITECTURAL SERIES DRAWINGS.
- E. SPRINKLER HEADS IN AREAS WITH CEILINGS TO BE SIMILAR TO TYCO ROYAL FLUSH II UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- F. PRIOR TO START OF ANY CONSTRUCTION, SUBMIT DRAWINGS TO OWNER'S INSURANCE COMPANY AND LOCAL AUTHORITY HAVING JURISDICTION FOR APPROVAL.
- G. ALTHOUGH SOME PREFERRED LOCATIONS OF MAINS ARE SHOWN ADDITIONAL MAINS MAY BE REQUIRED.

FIRE PROTECTION KEY NOTES:

- ① ALL FIRE PROTECTION PIPING IN EXPOSED AREAS TO BE ON LINEAR, EQUALLY SPACED, GRID PATTERN AND TO BE PAINTED RED. REFER TO ARCHITECTURAL CONSTRUCTION DOCUMENTS FOR FURTHER INFORMATION.
- ② COORDINATE FIRE PROTECTION LINE WITH INFRARED HEATER.



2 Lower Level Floor Plan - Fire Protection
 1/8" = 1'-0"



1 Main Level Floor Plan - Fire Protection
 1/8" = 1'-0"



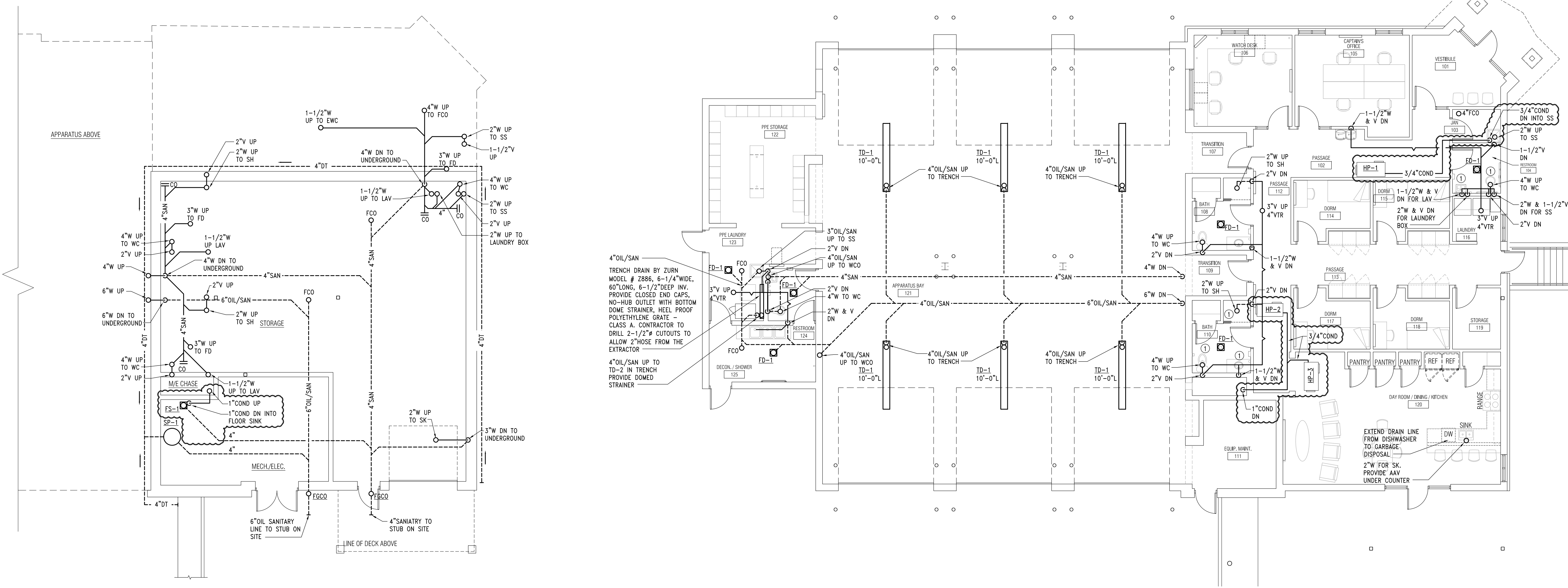
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EXHIBIT 'C' - CCD-1

KEY NOTES:
 ① ALTERNATE #4: PROVIDE ROUGH-IN ONLY.

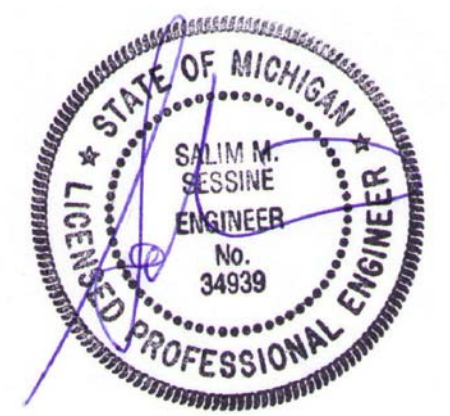
GENERAL NOTES:
 1. FS-1: FLOOR SINK BY ZURN Z-1900, 12x12 SANI-FLOOR RECEPTOR, 8" SUMP DEPTH, CAST IRON BODY AND SQUARE SLOTTED LIGHT DUTY GRATE WITH WHITE ACID RESISTING POCELAIN ENAMEL INTERIOR AND TOP. COMBINATION INVERTIBLE MEMBRANE CLAMP. COMPLETE WITH WHITE ABS ANTI SPLASH INTERIOR BOTTOM DOME STRAINER.

NOTE:
 ALL ROOF VENT PENETRATIONS TO BE ON ROOF BACKSIDE SLOPE OF RIDGE - REFER TO ARCHITECTURAL DRAWING A3-30. TYP.

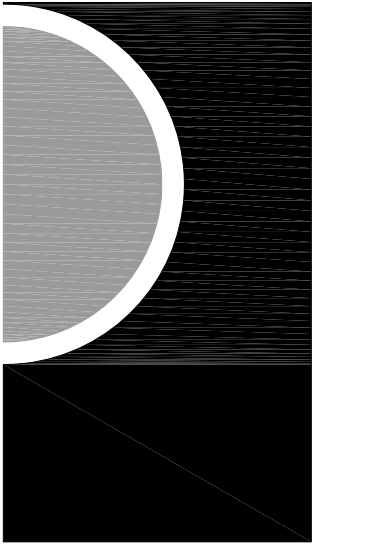


2 Lower Level Floor Plan - Sanitary & Vent
 1/8" = 1'-0"

1 Main Level Floor Plan - Sanitary & Vent
 1/8" = 1'-0"



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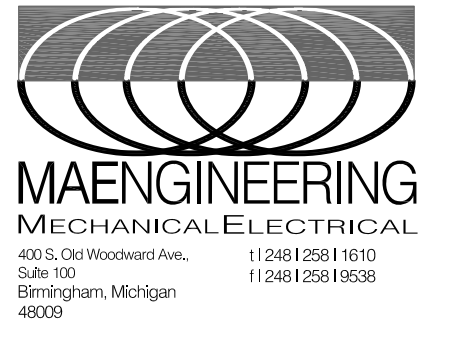


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18-122B

ISSUES / REVISIONS

SCHEMATIC DESIGN	01-28-2020
90% CD	07-31-2020
100% CONSTRUCTION DOCUMENT	08-27-2020
ADDENDUM #1	09-09-2020
RE-BIDDING / CONSTRUCTION	12-08-2020
CCD-1	07-13-2021

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SHEET NAME

FLOOR PLANS -
 SANITARY & VENT

SHEET NO.

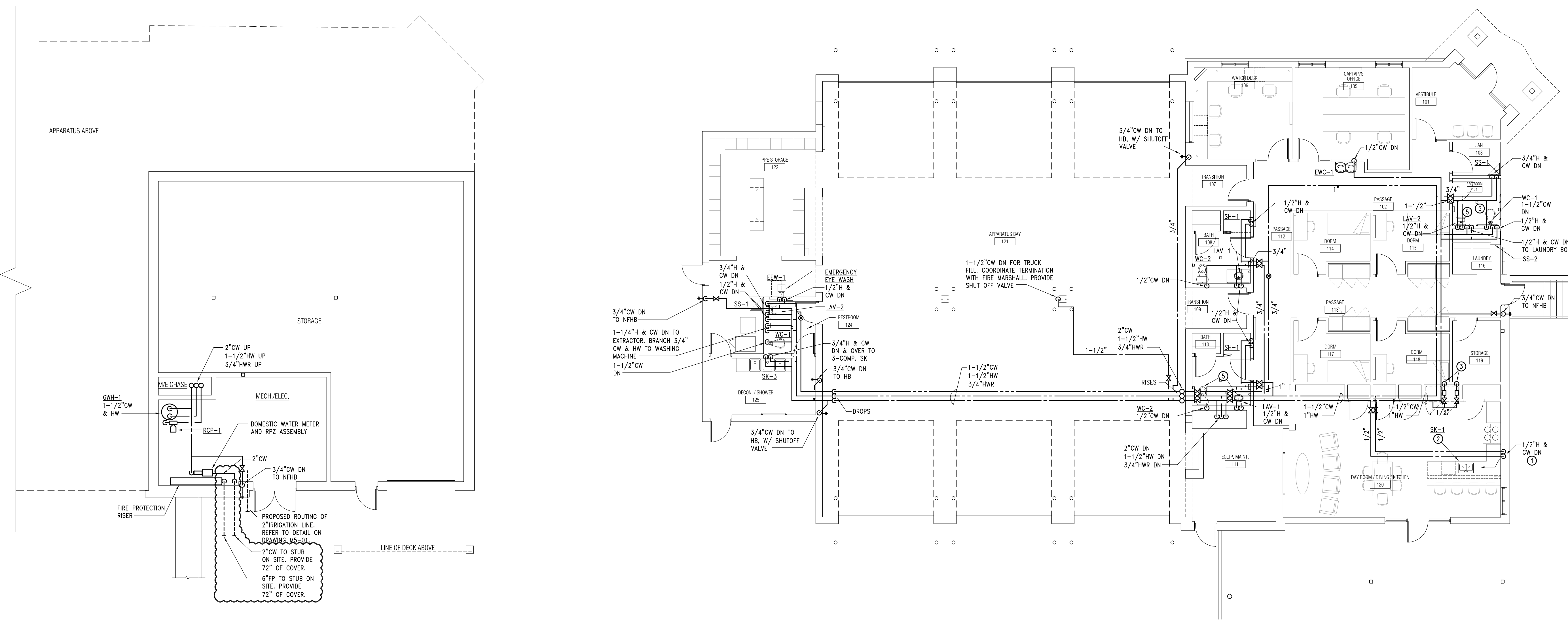
M1-01

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EXHIBIT 'C' - CCD-1

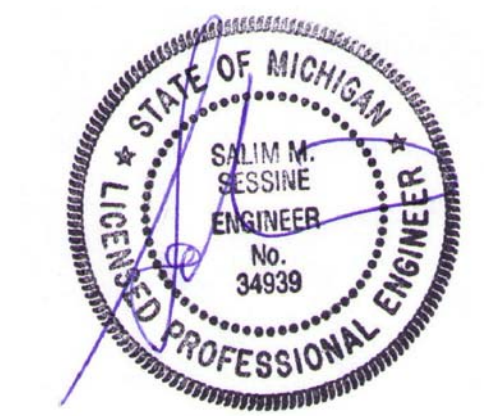
- NEW WORK KEY NOTES:**
- ① EXTEND DOMESTIC WATER IN WALL TO SINK. KEEP TIGHT TO INTERIOR OF WALL. PROVIDE MINIMUM 2" RIGID INSULATION BEHIND PIPE AND SEAL TO STUD AND ALL SEAMS.
 - ② EXTEND 1/2" HOT WATER TO DISHWASHER. PROVIDE FINAL CONNECTION PER MANUFACTURERS RECOMMENDATION.
 - ③ 1/2" COLD WATER DOWN TO REFRIGERATOR. PROVIDE ONE BACKFLOW PREVENTER APOLLO MODEL #4C-100 SERIES PER COLD WATER DROP ABOVE CEILING.
 - ④ NOT USED
 - ⑤ ALTERNATE #4: PROVIDE ROUGH-IN ONLY.

- GENERAL NOTES:**
- A. COORDINATE ALL WORK WITH OTHER TRADES.

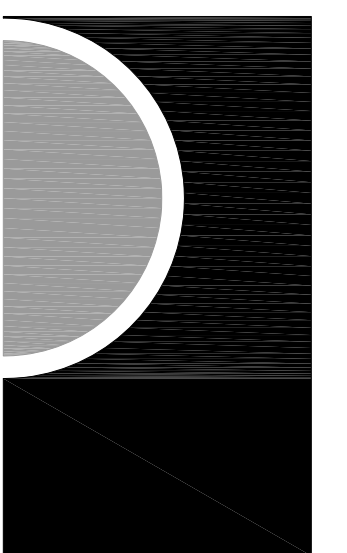


2 Lower Level Floor Plan - Domestic Water
1/8" = 1'-0"

1 Main Level Floor Plan - Domestic Water
1/8" = 1'-0"



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KEY PLAN

OWNER
Highland Township
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PROJECT NAME
Highland Township
Fire Station No. 2

2550 E. Wardlow Rd.
Highland, MI 48356

PROJECT NO.
18-122B

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RE-BIDDING / CONSTRUCTION	12-08-2020
WRC PERMIT	06-03-2021
CCD-1	07-13-2021

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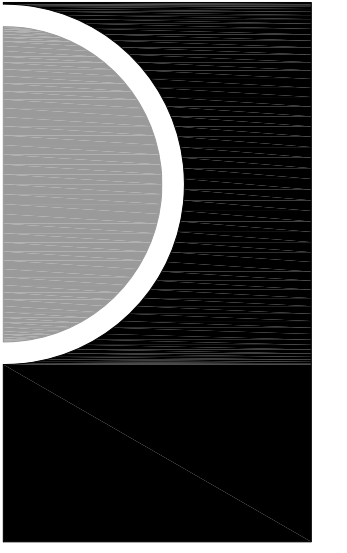
SHEET NAME
FLOOR PLANS -
DOMESTIC WATER

SHEET NO.
M1-02

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EXHIBIT 'C' - CCD-1

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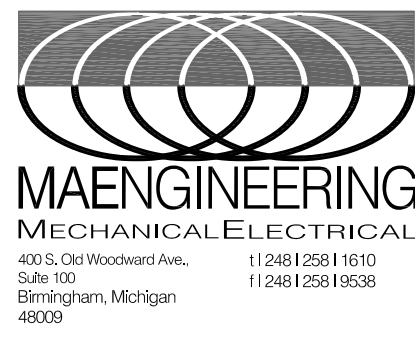


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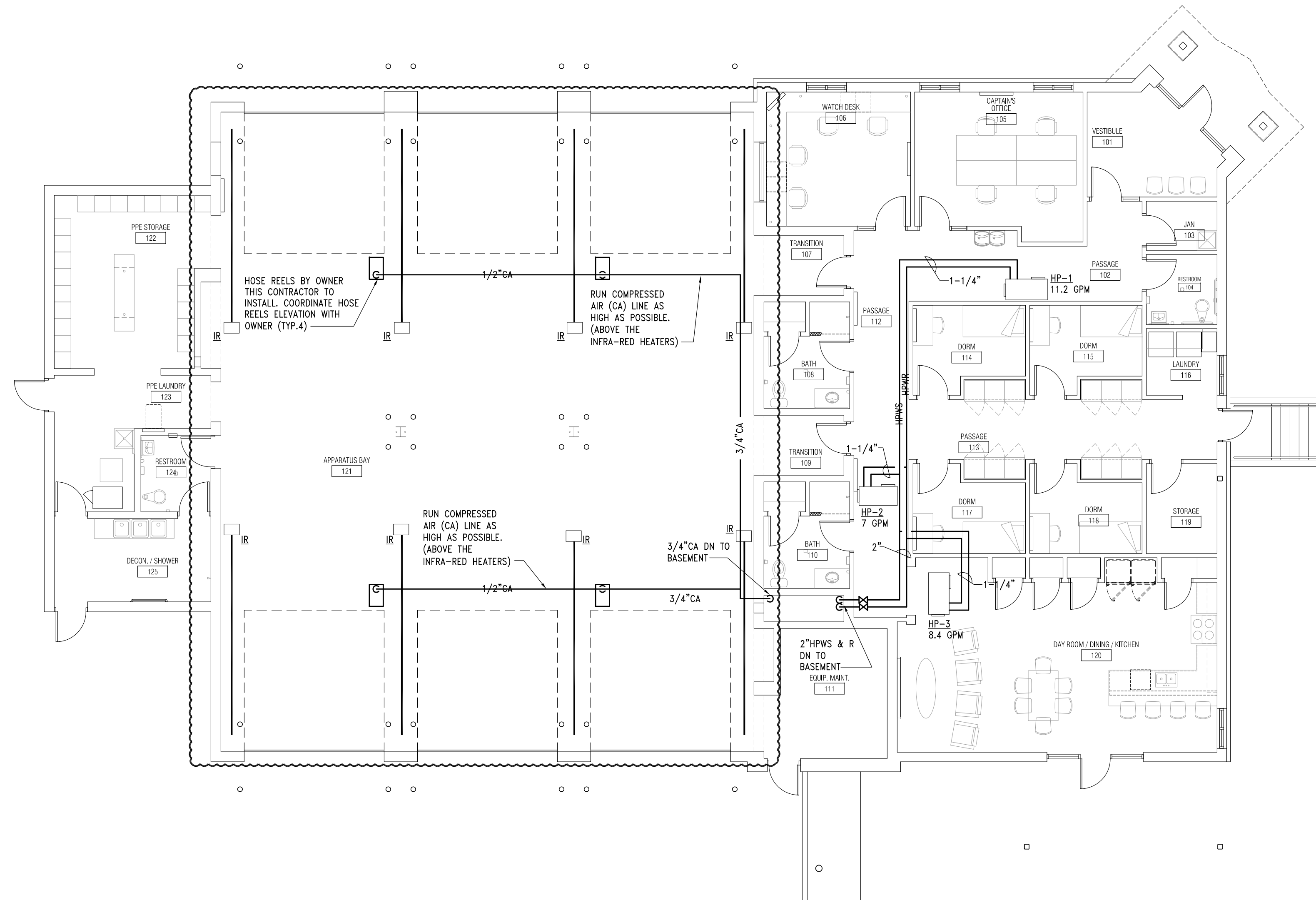
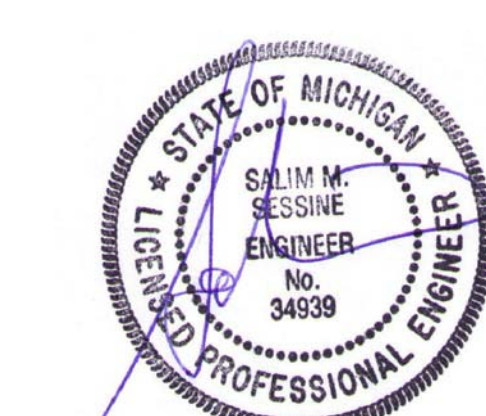
APPROVED BY

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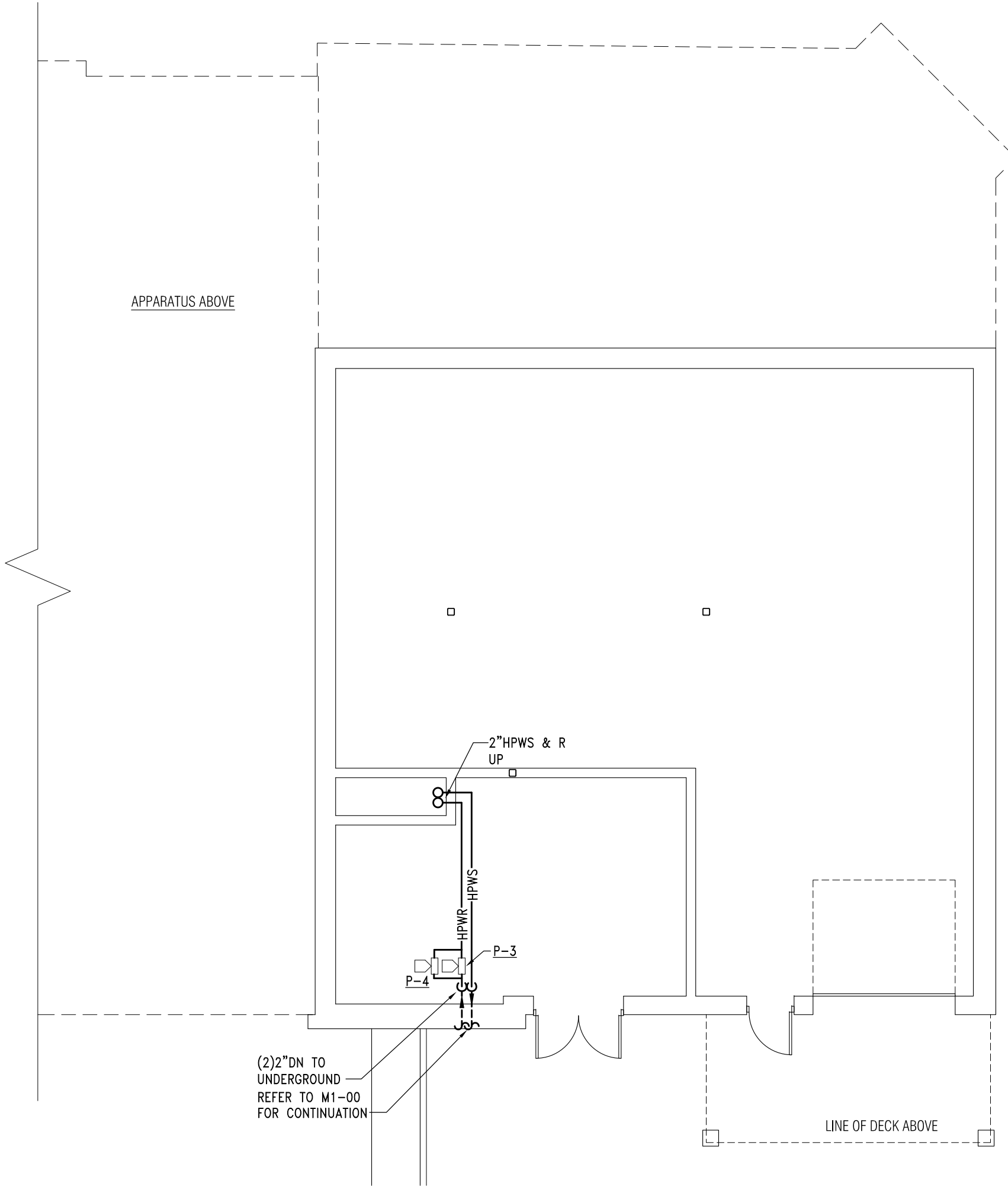
SHEET NAME

FLOOR PLANS -
 PIPING

SHEET NO.
 M3-01

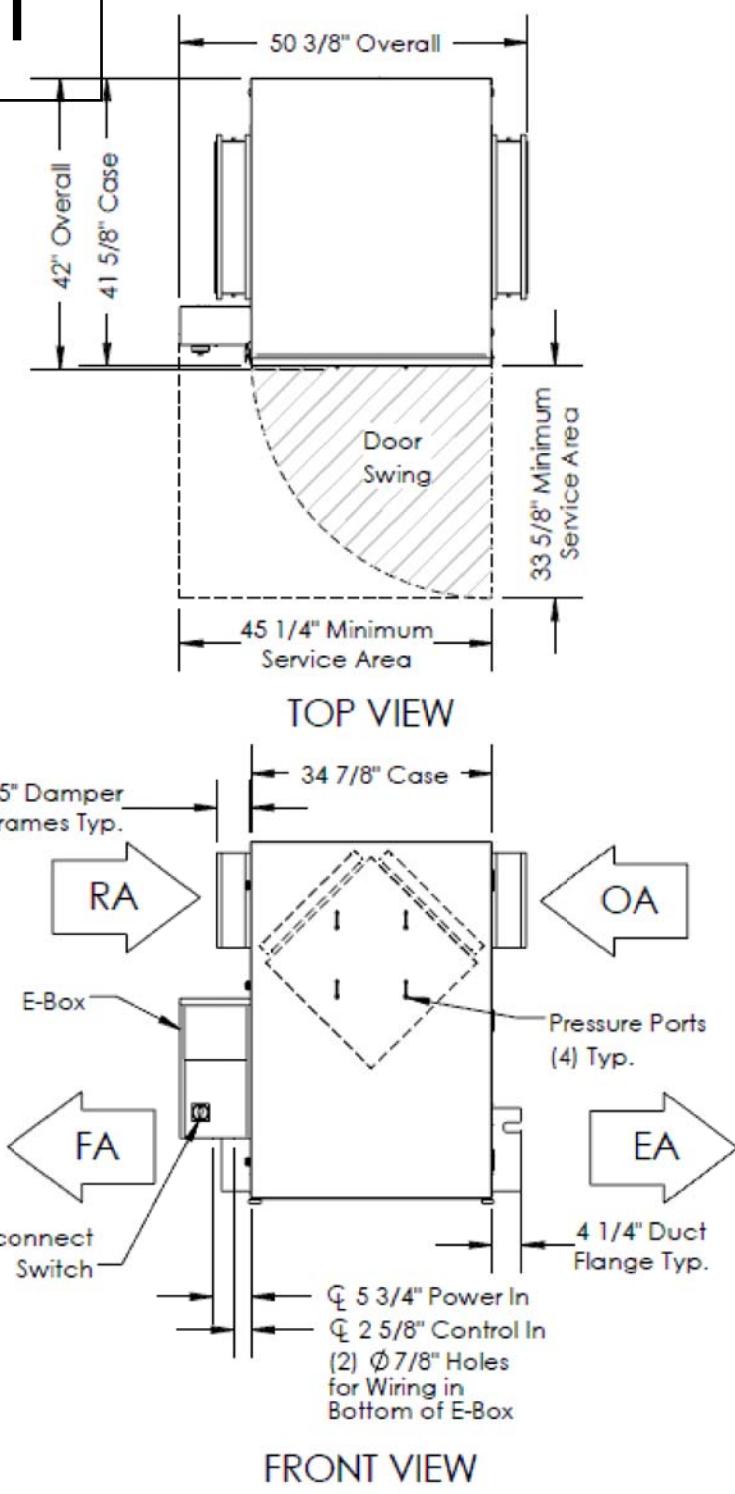


1 Main Level Floor Plan - Piping
 1/8" = 1'-0"



2 Lower Level Floor Plan - Piping
 1/8" = 1'-0"

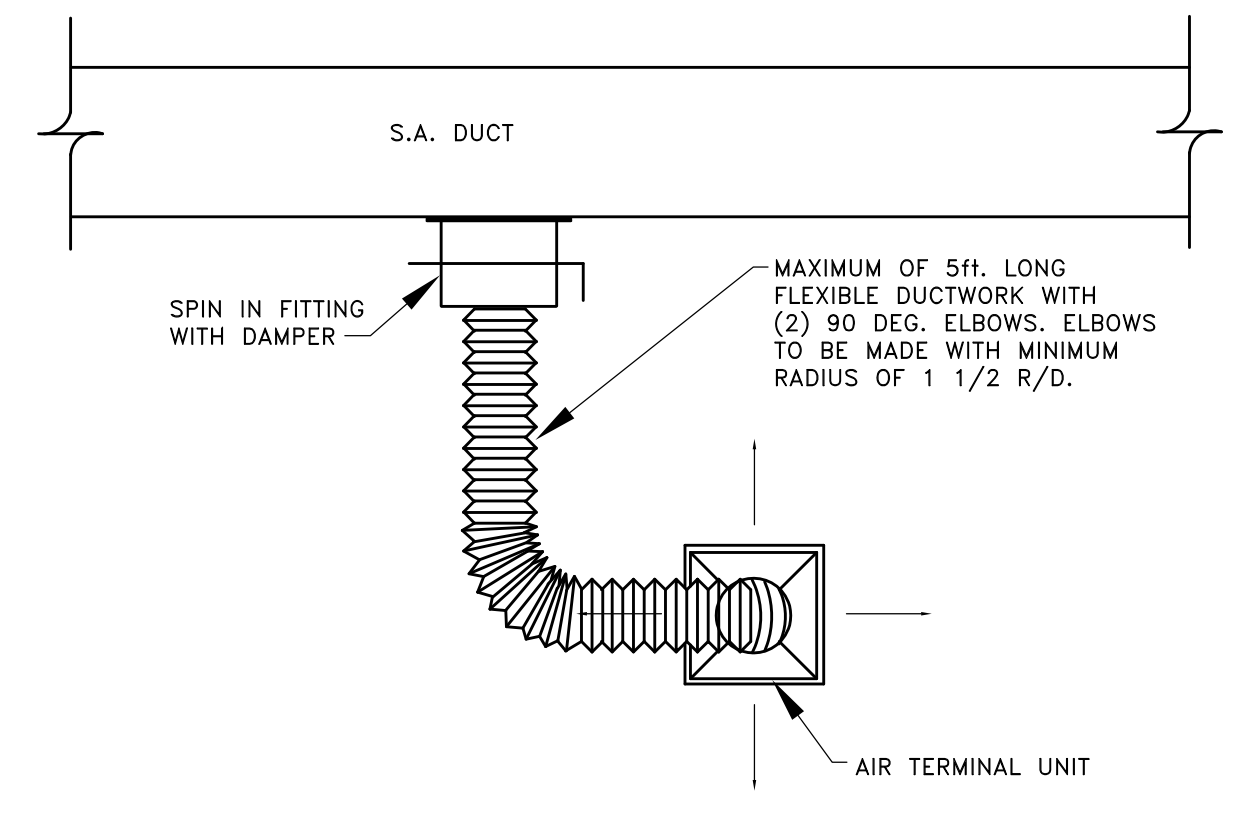
EXHIBIT 'C' - CCD-1



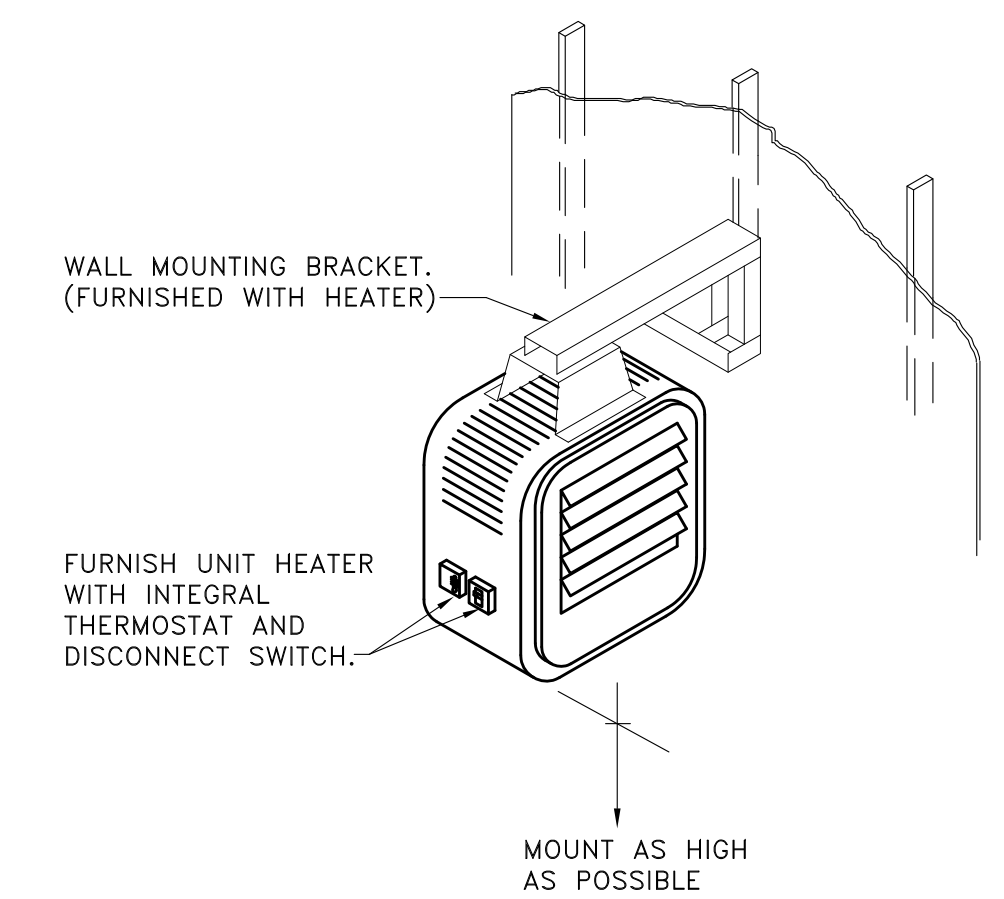
ABBREVIATIONS
 EA: Exhaust Air to outside
 OA: Outside Air intake
 RA: Room Air to be exhausted
 FA: Fresh Air to inside

INSTALLATION ORIENTATION
 Unit must be installed in orientation shown.

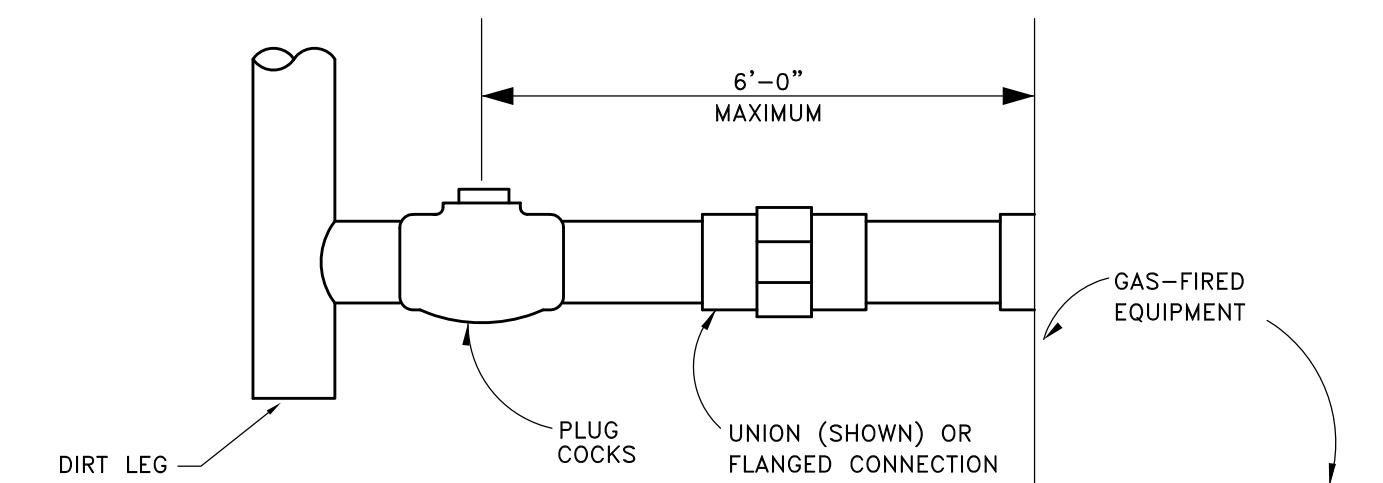
NOTE
 1. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE ROUNDED TO THE NEAREST EIGHTH OF AN INCH.
 2. SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE.
 3. MIN. DUCT CLEARANCE FROM DAMPER BLADES WHEN FULLY OPENED TO BE 2". SMACNA RULES APPLY.



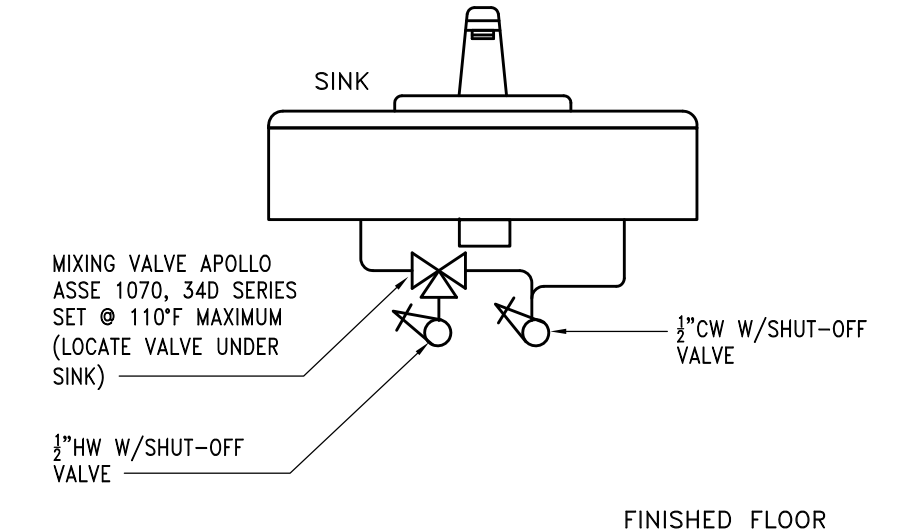
FLEXIBLE DUCT CONNECTION DETAIL
 NO SCALE



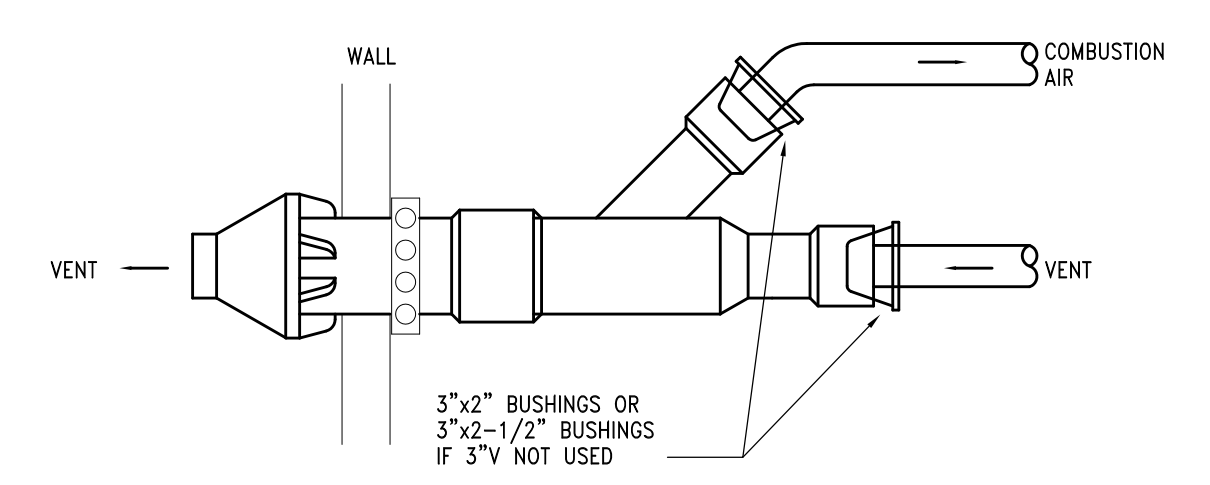
UNIT HEATER DETAIL
 NO SCALE



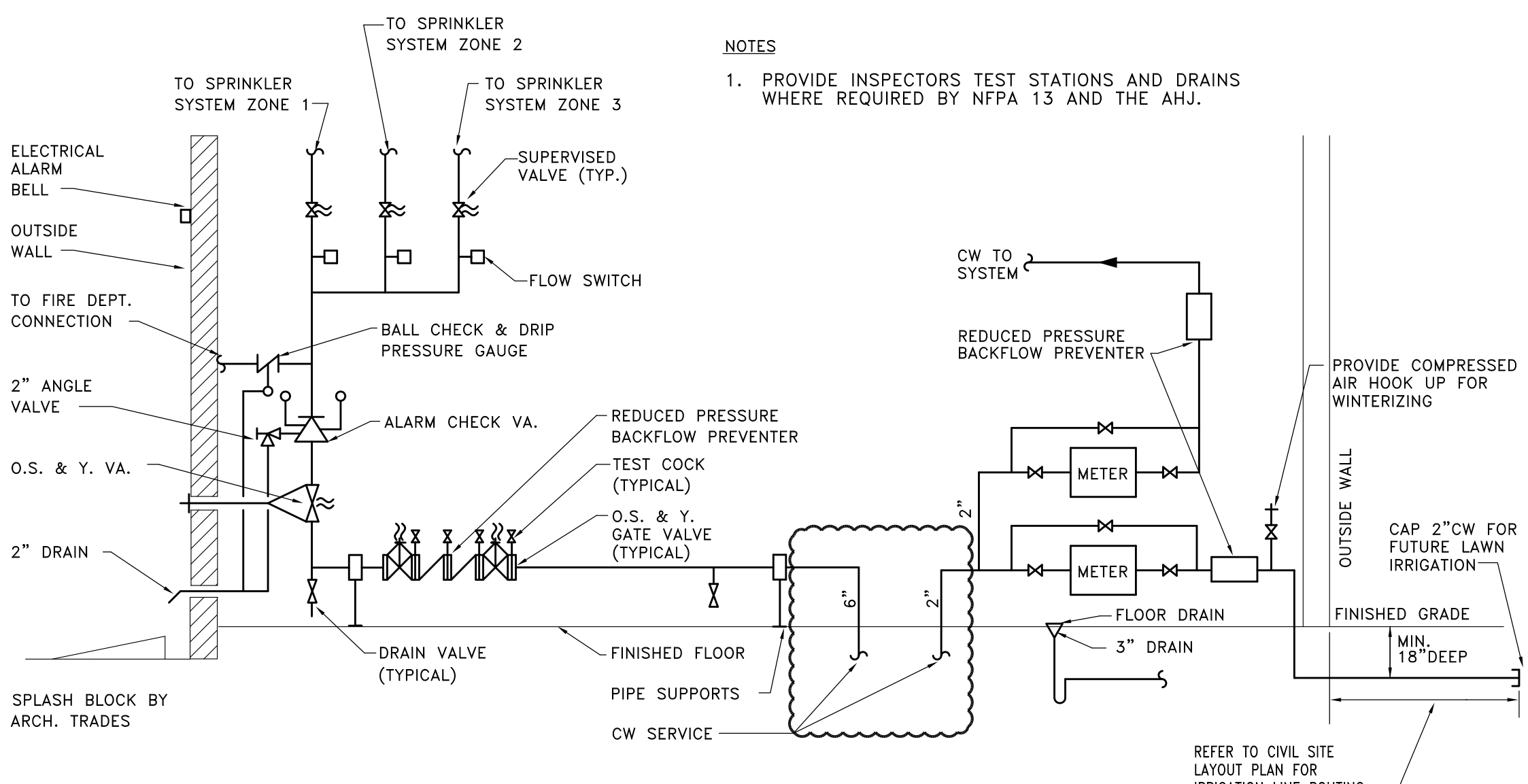
TYPICAL GAS PIPING CONNECTION
 NO SCALE



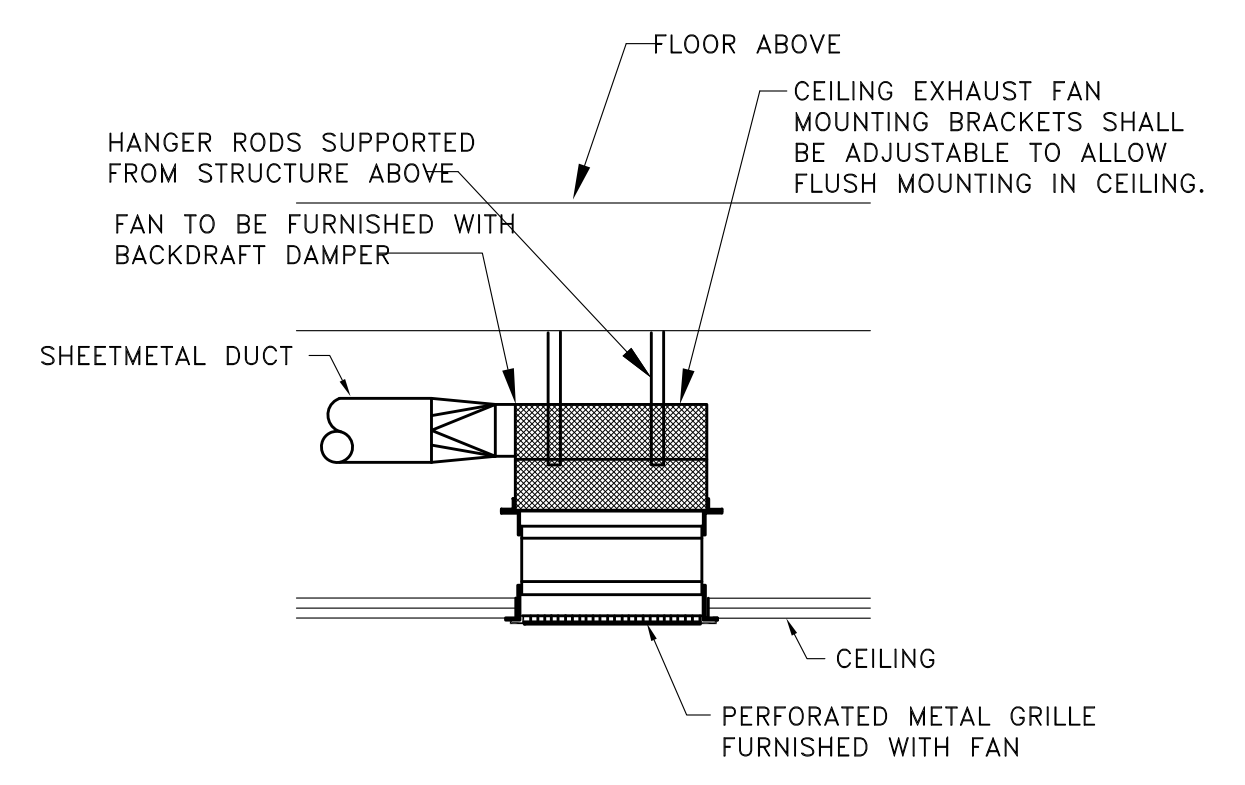
MIXING VALVE PIPING DETAIL
 NO SCALE



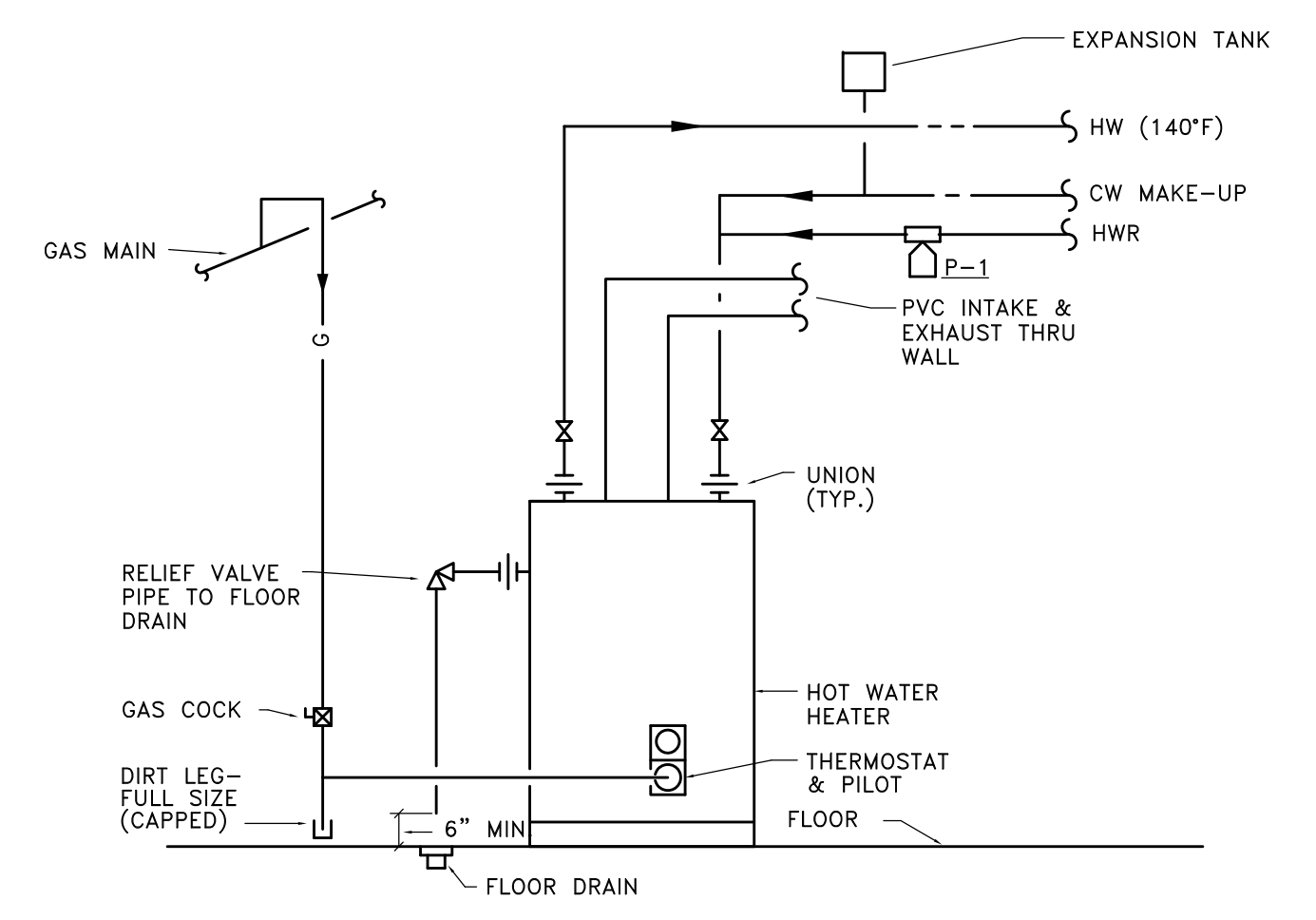
CONCENTRIC VENT KIT (WALL INSTALLATION)
 NO SCALE



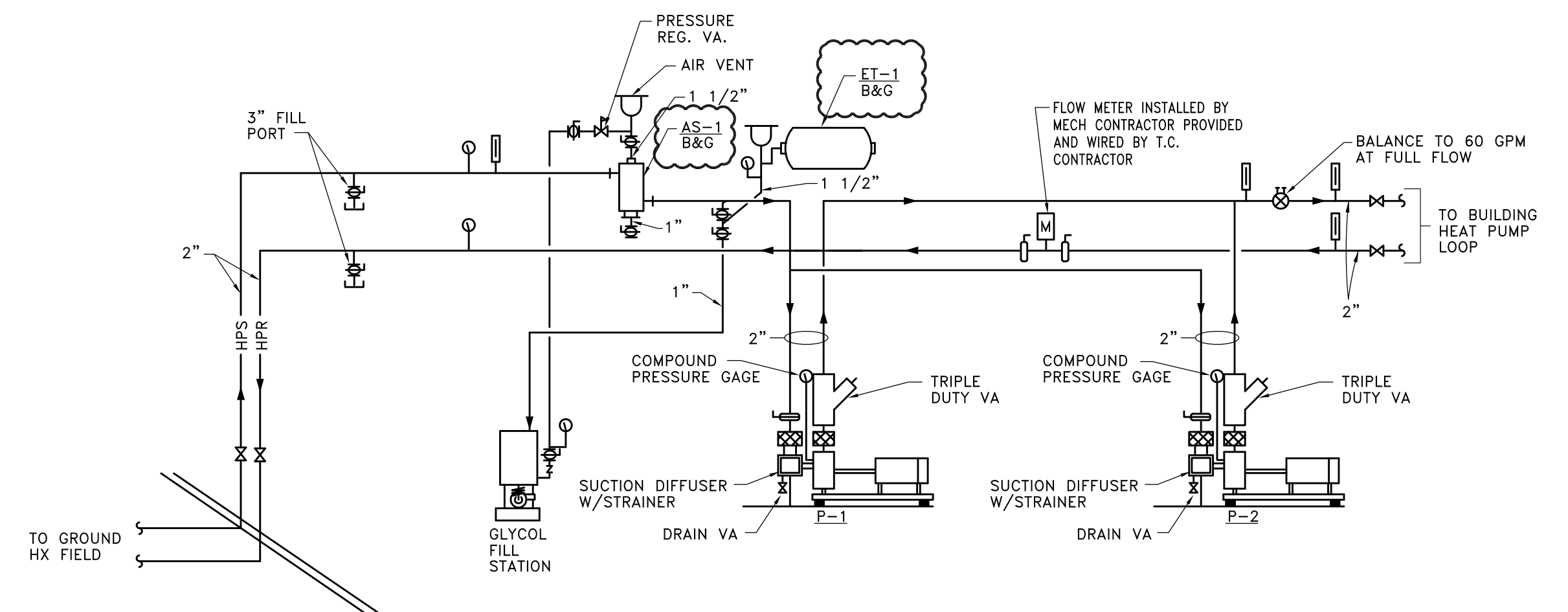
TYPICAL AUTOMATIC SPRINKLER RISER & WATER METER DIAGRAM
 NO SCALE



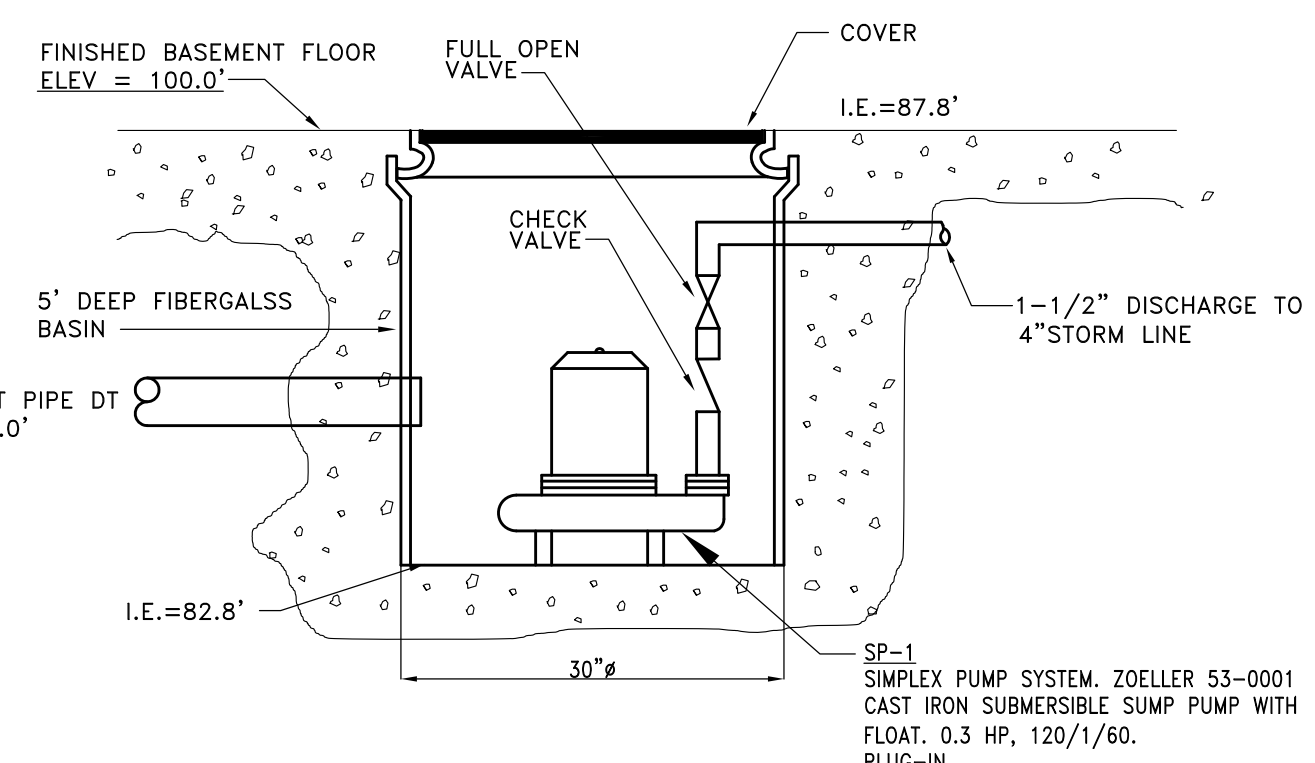
CEILING EXHAUST FAN DETAIL
 NO SCALE



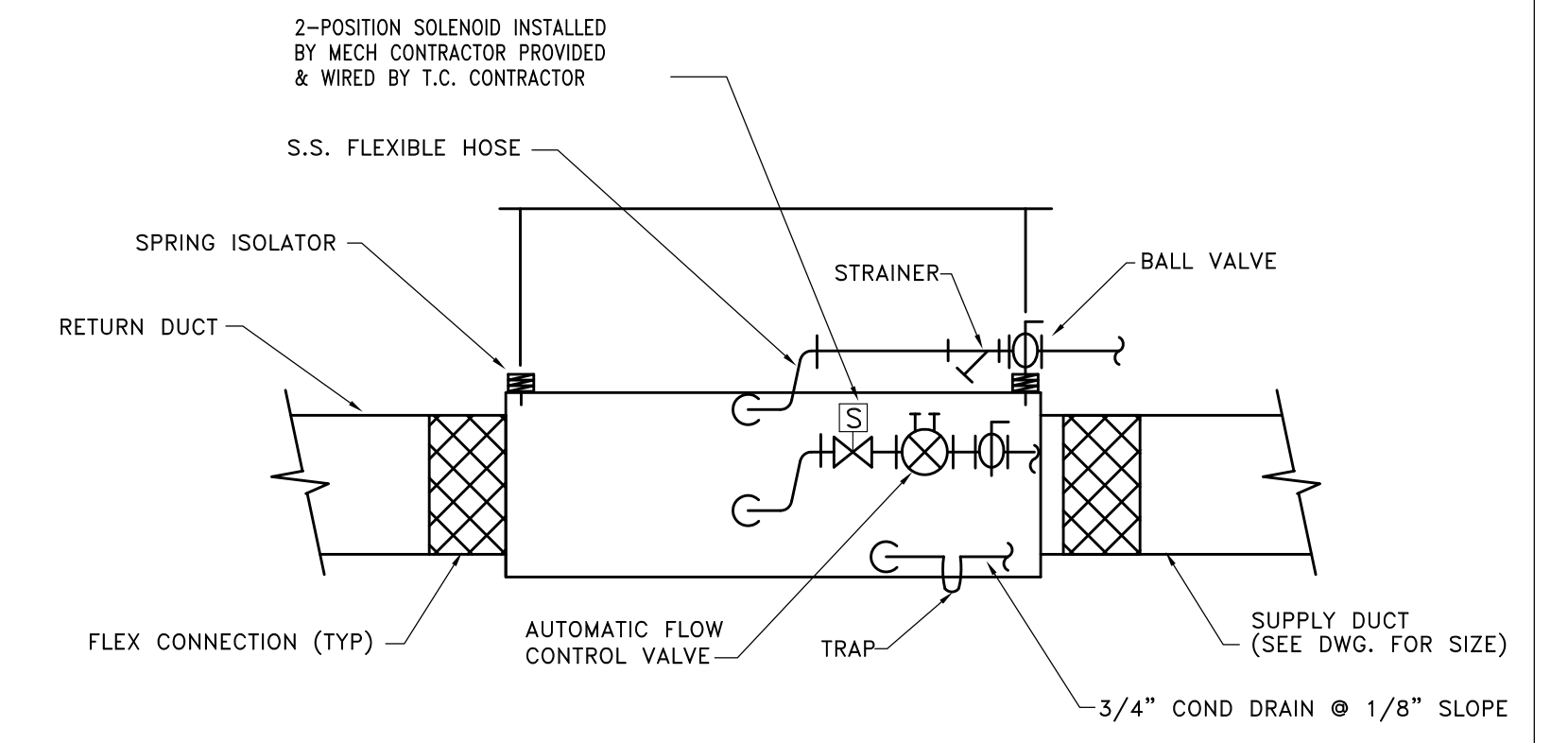
DOMESTIC WATER HEATER PIPING SCHEMATIC
 NO SCALE



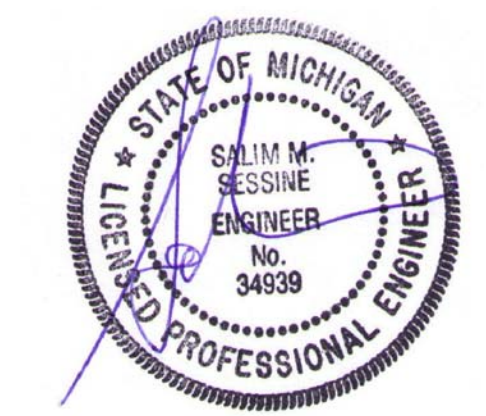
HEAT PUMP FLOW DIAGRAM
 NO SCALE



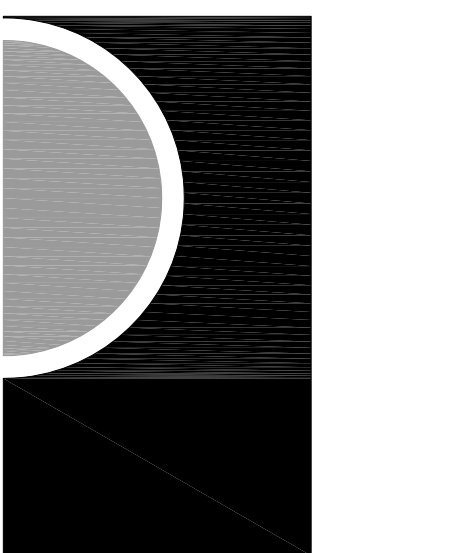
SUMP PUMP DETAIL
 NO SCALE



DETAIL OF HORIZONTAL HEAT PUMP INSTALLATION
 NO SCALE



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KEY PLAN

OWNER
 Highland Township
 Fire Department

PROJECT NAME
 Highland Township
 Fire Station No. 2

2550 E. Wardlow Rd.
 Highland, MI 48356

PROJECT NO.
 18-122B

ISSUES / REVISIONS	
SCHEMATIC DESIGN	01-28-2020
90% CD	07-31-2020
100% CONSTRUCTION DOCUMENT	08-27-2020
MECHANICAL CONSTRUCTION	08-08-2020
CCD-1	07-13-2021

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MECHANICAL DETAILS

SHEET NO.
 M5-01

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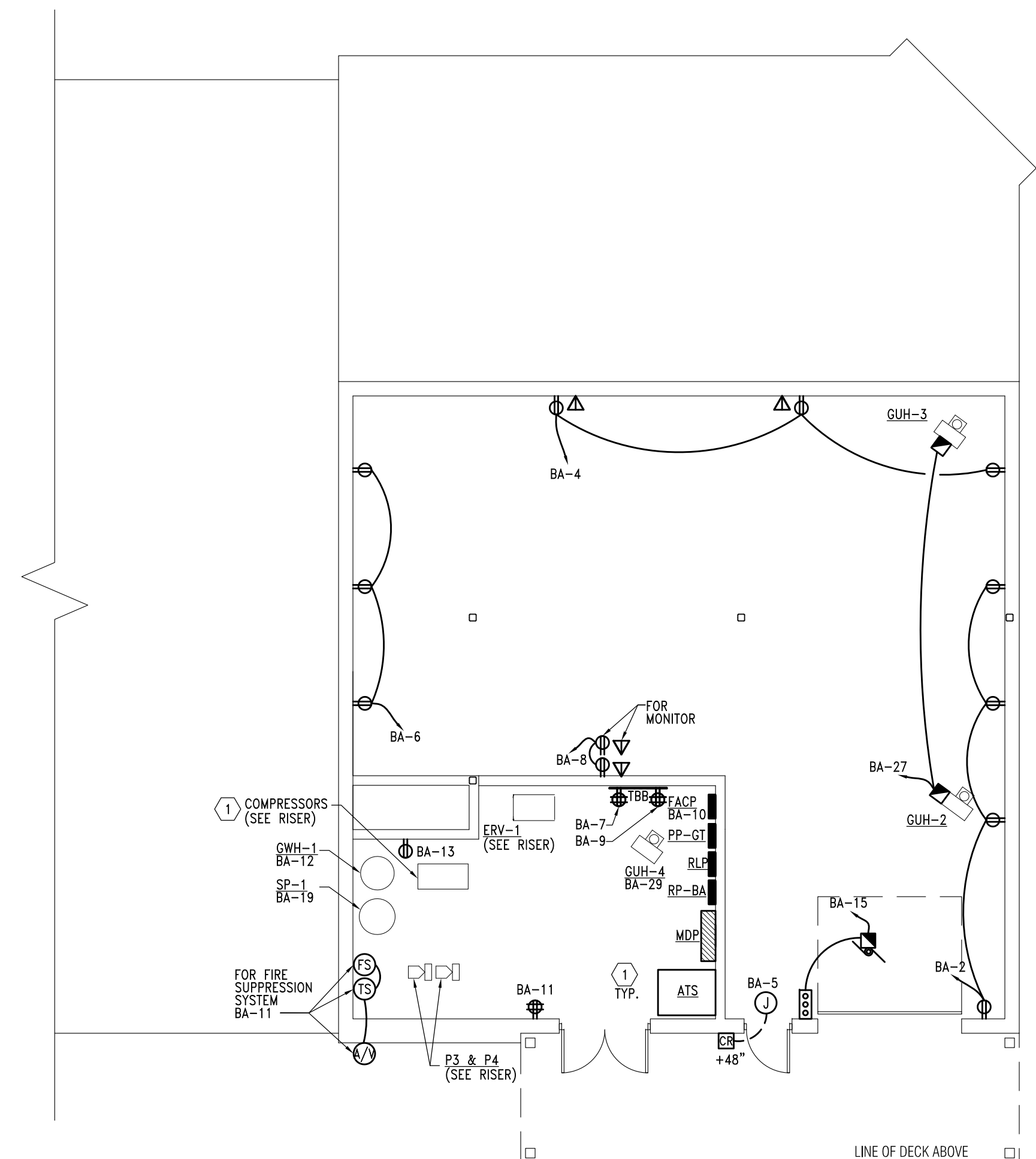
EXHIBIT 'C' - CCD-1

KEYED POWER NOTES:

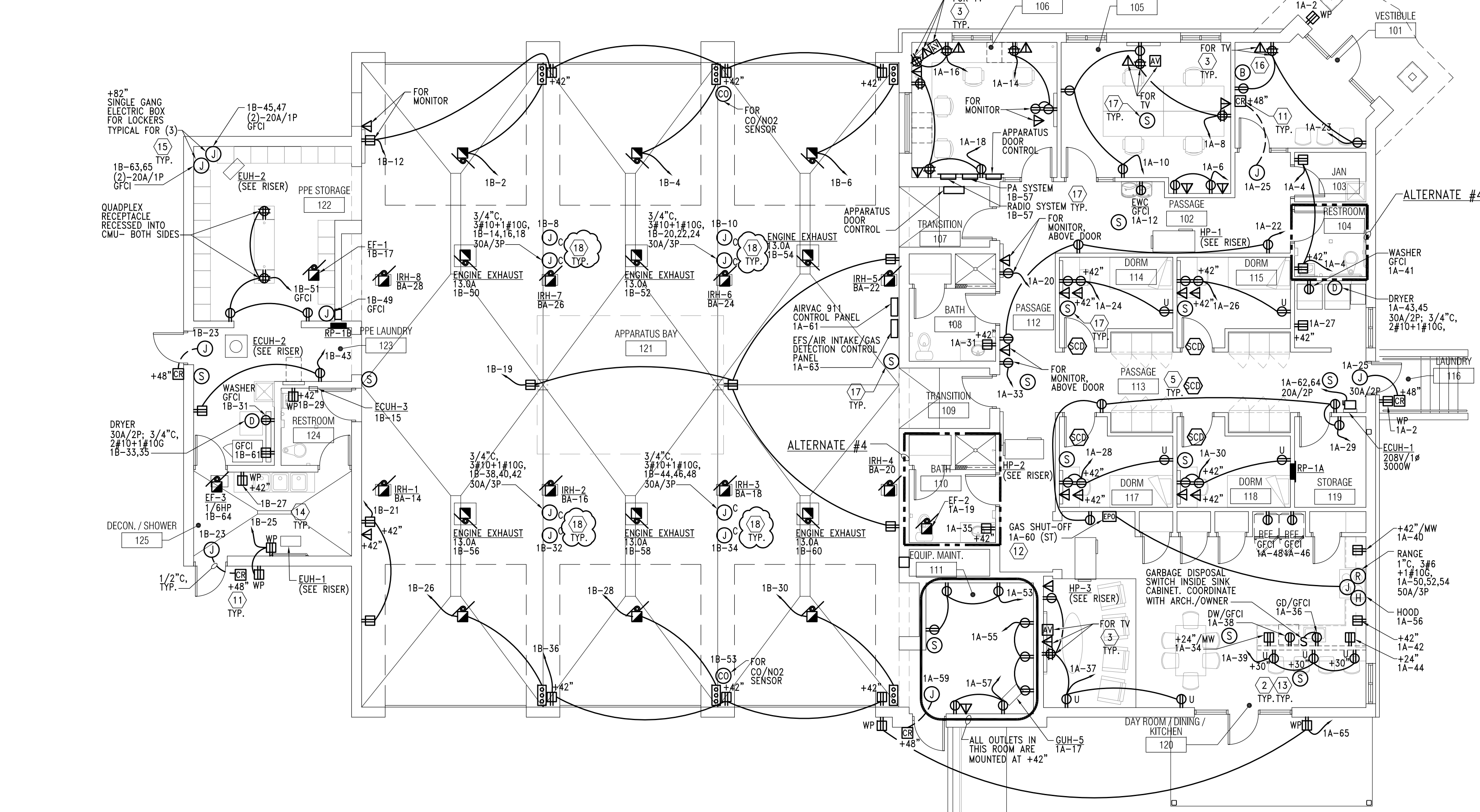
- 1 EXACT LOCATION AND REQUIREMENTS FOR EQUIPMENT TO BE COORDINATED WITH EQUIPMENT VENDOR, APPROVED SUBMITTALS AND NAMEPLATE DATA. INFORMATION INDICATED ON THESE PLANS IS FOR REFERENCE ONLY.
- 2 ALL RECEPTACLES LOCATED WITHIN 6'-0" OF A WATER SOURCE AND ALL IN THE KITCHENS SHALL BE GFI TYPE. PROVIDE GFI RECEPTACLES REGARDLESS OF SYMBOL USED ON PLAN FOR THESE LOCATIONS. FOR LOCATIONS THAT ARE NOT ACCESSIBLE, LOCATE BLANK PLATE GFI ABOVE THE RECEPTACLE AT +44" AFF OR NEAR ROOM WALL SWITCHES) OR PROVIDE GFCI BRANCH BREAKERS IN PANELBOARDS AS DIRECTED BY OWNER TO COMPLY WITH NEC 210.8.
- 3 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 NOT USED.
- 6 COORDINATE WITH MECHANICAL FOR EXACT REQUIREMENTS FOR FIRE PROTECTION SYSTEM, INCLUDING NUMBER OF FLOW/TAMPER SWITCHES.
- 7 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 NOTED OTHERWISE.
- 9 EXACT LOCATIONS FOR ALL ELECTRICAL EQUIPMENT TO BE COORDINATED, REFER TO GENERAL NOTE - F.
- 10 INDOOR AC UNIT IS FED FROM THE OUTDOOR ACQU UNIT. COORDINATE WITH MECHANICAL FOR COMPLETE INSTALLATION REQUIREMENTS, INCLUDING INTERWRING OF THE UNIT.
- 11 FOR ALL CARD READERS PROVIDE DOUBLE GANG J-BOX WITH SINGLE MUD RING @48" AFF FOR CARD READER, RUN 1/2" FC 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 ES-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 SECURITY/ACCESS CONTROL SYSTEM PROVIDER.
- 12 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.
- 13 FOR ALL ELECTRICAL DEVICES AT MILLWORK COORDINATE EXACT LOCATIONS, ROUTING OF CONDUITS, ETC. WITH ARCHITECT AND MILLWORK VENDOR.
- 14 ALL INSTALLATION IN THE DECON/SHOWER ROOM TO BE NEMA 3R WET LOCATION RATED.
- 15 PROVIDE GFCI BRANCH CIRCUIT FOR LOCKERS, WIRE 4-5 LOCKERS TO ONE DEDICATED 20A/1P BRANCH CIRCUIT.
- 16 PROVIDE BUZZER AT ENTRY DOOR, CONNECT TO PA SYSTEM, EXACT LOCATIONS AND DESIGNATED ALERT LOCATION TO BE COORDINATED WITH ARCHITECT/OWNER.
- 17 EXACT LOCATIONS AND REQUIREMENTS FOR PA AND RADIO SYSTEM TO BE COORDINATED, REFER TO GENERAL NOTE - THIS SHEET.
- 18 COORDINATE PLACEMENT OF JB'S FOR ELECTRICAL REEL IN APPARATUS BAY TO ALLOW FOR THEIR BEST MOUNTING LOCATIONS BETWEEN BAYS.

GENERAL POWER NOTES:

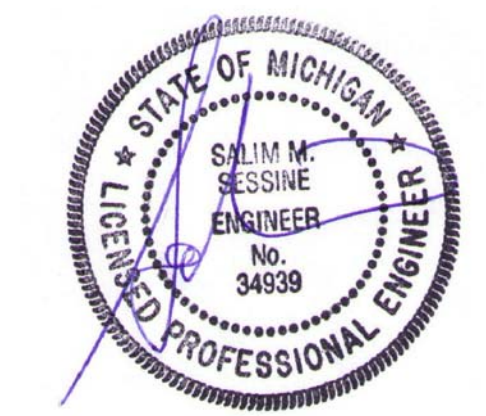
- A. REFER TO SHEET E-001 FOR ELECTRICAL LEGEND.
- B. PROVIDE COMPLETE ADDRESSABLE FIRE ALARM SYSTEM FOR THE BUILDING. FIRE ALARM SYSTEM SHALL INCLUDE ALL CONTROL, MONITORING, POWER SUPPLIES, INITIATING DEVICES, INDICATING APPLIANCES, CONTROL MODULES AND WIRING AS REQUIRED BY AUTHORITIES HAVING JURISDICTION 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.
- E. COORDINATE EXACT LOCATIONS, MOUNTING HEIGHTS & REQUIREMENTS FOR ALL DEVICES WITH LATEST ARCHITECTURAL FURNITURE & EQUIPMENT LAYOUTS & ELEVATIONS.
- F. 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.
- G. MAINTAIN A MINIMUM OF 24" HORIZONTAL SEPARATION BETWEEN BOXES INSTALLED ON OPPOSITE SIDES OF FIRE RATED WALLS TO COMPLY WITH NEC 300.21.
- H. ALL WIRING DEVICES SHALL BE OF TAMPER RESISTANT CONSTRUCTION AND WITH AFCI PROTECTION.
- I. 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.
- M. PUBLIC ADDRESS (PA) AND DISPATCH RADIO ALARM SYSTEMS ARE PROVIDED BY OWNER. PROVIDE BACK BOXES, RACEWAYS AND 120V BRANCH CIRCUITS FOR ALL SYSTEMS COMPONENTS AS REQUIRED. EXACT QUANTITIES, LOCATIONS AND REQUIREMENTS TO BE COORDINATED WITH OWNER. INFORMATION INDICATED ON THESE PLANS ARE FOR REFERENCE ONLY FOR INFRASTRUCTURE PRICING PURPOSES.
- N. REFER TO SHEET E2-00 FOR LIST OF ALTERNATES.



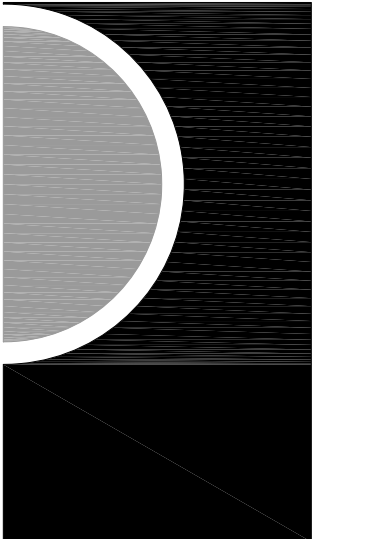
2 Lower Level Floor Plan - Power
1/8" = 1'-0"



1 Main Level Floor Plan - Power
1/8" = 1'-0"



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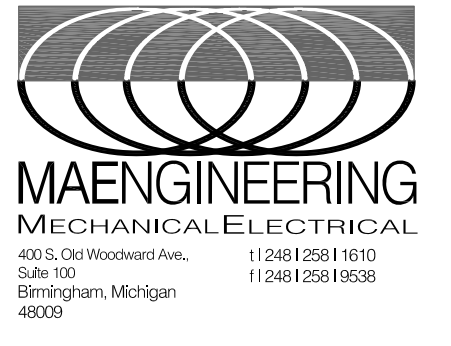


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CCD-1	07-13-2021

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EK

SHEET NAME

FLOOR PLANS -
POWER

SHEET NO.

E3-00