ALLEGHENY COUNTY SANITARY AUTHORITY

June 21st, 2022

CONTRACT NO. 1759 G, E, H, P

ENVIRONMENTAL COMPLIANCE FACILITY

ADDENDUM NO. 4

All bidders bidding Contract No. 1759 G, E, H, P shall read and take note of this Addendum No. 4. The Contract Documents for **Contract No. 1759 G, E, H, P – Environmental Compliance Facility** are hereby revised and/or clarified as stated below.

Acknowledgement of Contract No. 1759 G, E, H, P; Addendum No. 4

The Acknowledgement attached to Addendum No. 4 is to be signed and returned immediately via email to **Kathleen Uniatowski** at contract.clerks@alcosan.org and acknowledged with the Bidder's Proposal.

Kimberly Kennedy

Kimberly Kennedy, P.E.
Director – Engineering and Construction

ACKNOWLEDGEMENT OF

CONTRACT NO. 1759 G, E, H, P – ENVIRONMENTAL COMPLIANCE FACILITY

ADDENDUM NUMBER 4

FIRM NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

June 21st, 2022

CONTRACT NO. 1759 G, E, H, P

ENVIRONMENTAL COMPLIANCE FACILITY

ADDENDUM NO. 4

June 21st, 2022

CONTRACT NO. 1759 G, E, H, P

ENVIRONMENTAL COMPLIANCE FACILITY

ADDENDUM NO. 4

A. Contract Documents – Volume 1

No Changes

B. Contract Specifications – Volume 2

1. Specification Section 01 50 00
   a. Section 1.11.A.3. Replace:

      During the Contract construction period, the Owner will make available a 480-volt power supply for Contractor trailers located on site and miscellaneous power use. The Electrical Contractor shall provide any and all necessary wiring and connections required for the Work from the power supplies to the point(s) of usage. Power supplied to points of usage shall be 208/120 volts. All such temporary facilities, existing or new, shall be removed by the Contractor at the completion of the Work.

   b. Section 1.11.A.4. Replace:

      Each Prime Contractor is responsible for providing any electrical power distribution connections beyond 208/120 volts for their means and methods. If connections are made through the Owner's power grid, the Owner will pay for Prime Contractors' utilities consumption.

2. Specification Section 05 51 13 Metal Pan Stairs
   a. Section 2.4.E Add: Acceptable Product: P-300 by Balco. Color: Gray

3. Specification Section 06 83 16 Fiberglass Reinforced Plastic:
   a. Section 2.2.A.7 Add: Acceptable Product: Panolam Surface Systems

4. Specification Section 07 42 13.13 Metal Wall Panels:
   a. Section 2.4.C.1 edited to read as follows: Fluoropolymer Three-Coat System: primer with 70 percent PVDF fluoropolymer color coat providing a pearlescent appearance, AAMA 620.
   b. Section 2.4.C.1.a edited to strike out CENTRIA Sundance Mica as Basis of Design

5. Specification Section 07 42 13. 23 Metal Composite Material Wall Panel:
   a. Section 2.5 was removed.

6. Specification Section 09 67 23 Resinous Flooring:
   a. Revised and Reissued.

7. Specification Section 10 40 00 LED Message Sign:
   a. Section 1.04 C. Add: C. LED Message Sign shall comply with all zoning lighting requirements by the City of Pittsburgh.

8. Specification Section 11 53 00.5, page 13 of Lab Equipment Attachment E: WaterPro RO System
   a. Add: Provide Grade 3, 150mm filters compatible with WaterPro RO product. Quantity: 50

C. Contract Specifications – Volume 3

9. Specification Section 22 05 23.12 Ball Valves for Plumbing Piping
   a. Revised 2.2.A.2.e and 2.2.B.2. e. "unions, dielectric if required" added
   b. Added 2.2.A.2.l and 2.2.B.k. "Lead Free" added
   c. Revised 3.2.B.1. "Union, dielectric if required" added/revised

10. Specification Section 22 05 23.14 Check Valves for Plumbing Piping
    a. Added 2.2.A.2.g, 2.3.A.2.h and 2.4.A.i. "Unions, dielectric if required" added
    b. Revised 2.2.A.2.e.and 2.3.A.2.e. "Lead Free" added
    c. Revised 3.3.C.1 and 2, 3.4.A.1, B.1 and B.2. "Unions, dielectric if required" added/revised

11. Specification Section 22 11 19, Domestic Water Piping Specialties
    a. Revised 2.2.D.2:

    Mechanical equipment at penthouse: Watts 009QT-LF

    RO/Reverse Osmosis water on first floor Water Service Room: Watts 009QT-LF

    Lab/Non-potable water on first floor Water Service Room: Watts 009QT-LF

    Vacuum pump water make-up at penthouse: Watts 009QT-LF

    Incoming Domestic Water Service in Water Service Room: Watts Series LF909

    b. Added 2.2.D.18. "Lead free"
    c. Revised 2.3.A.2. "UPBA"
    d. Added 2.3.A.13. "Lead free"
    e. Revised 2.4.A.2. "Lead free"
    f. Added 2.4.B.11. "Lead free"

12. Specification Section 22 34 00 Fuel Fired Water Heaters
    a. Revised 2.1.A.1.b. to read “Aerco” and 2.1.A.1.c to read “Reco.”

13. Specification Section 22 67 00 Processed Water Systems for Laboratory Facilities
    a. Revised PART 2 – PRODUCTS “Custom Manufactured Deionized Water Unit, Manufacturers as follows-Filter and Water Technologies, Hydro Service and Supplies.” Added

14. Specification Section 23 09 23: Spec footer incorrectly reads “23 07 19”. Correct to 23 09 23.

15. Specification Section 23 09 23 Direct Digital Control (DDC) system for HVAC – Added the following section for 3.29:

3.29 O&M BUILDING JCI METASYS UPGRADES

A. Provide the following upgrades to the JCI Metasys headend system:

1. Application Data Server (ADS) upgrade hardware and software with Johnson Controls Metasys

a. Upgrade from 32 bit to 64 bit
b. Upgrade software from Metasys 8.1 to 10.8 or latest version
c. Reuse existing SQL licensing

2. Graphics and database update to Metasys User Interface 10.0

a. Provide necessary labor to create equipment relationships
b. Provide graphic rendering for approval prior to implementation

3. NAE55 software upgrade from 8.1 to 10.8, or latest version, & NCE hardware & software upgrades from 8.1 to 10.8, or latest version.

a. Provide and install new controllers with latest Metasys version
b. Upgrade all three (3) Supervisory Controllers to Linux Operating System
c. Reuse the existing control panels and associated wiring
d. Provide new SCE’s for NCE replacement
e. 3 year parts warranty

16. Specification Section 23 11 23 Facility Natural Gas Piping

    a. Revised 2.2.E:

    Below Grade only incoming gas pipe and all required accessories from connection to existing site gas main to exterior meter: Polyethylene (PE) Piping with warning tape and connectors. All piping, accessories and valve box in accordance with Peoples Gas Company regulations. Below grade only piping from exterior meter to above slab on grade in building: same as previous piping except without valve box. Provide and install transition fittings on piping as required.

17. Specification Section 23 36 00 Air Terminal Units – Insert exhaust snorkel requirements as Section 2.4:

    2.4 LOCAL EXTRACTOR (SKR-1)

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

    1. Movex. (Basis of Design)

    B. Configuration: Extractor assembly composed of tubes and ball-bearing supported adjustable friction joints of uniform casing with a full swivel allowing for 360 degree rotation. Air-tight damper is fitted.

    C. Casing:

    1. Polypropylene tubes and joints.

    2. Acid resistant stainless steel (SS 2343) for metal parts within the airstream.

    D. Mounting System: Anodized aluminum MTI ceiling bracket with internal and external powder coating. Ceiling bracket functions as extraction channel. MTI CT escutcheon plate to be chrome plated.

18. Specification Section 32 17 26 Tactile Warning Surfacing- Insert Acceptable Products as Section 2.2:

    2.2 ACCEPTABLE PRODUCTS

    A. Access Tile
    B. DWS

D. Contract Drawings

1. Drawing 220-C-12 – Demolition Plan
    a. DELETE this drawing and REPLACE with the attached drawing 220-C-12
    b. Updated Limit of Sidewalk labels
    c. Extended the concrete loading pad to the gas pad.

2. Drawing 220-C-37 – Construction Details
    a. DELETE this drawing and REPLACE with the attached drawing 220-C-37
    b. Refuse enclosure gate post detail added.

3. Drawing 220-C-38 – Construction Details
    a. DELETE this drawing and REPLACE with the attached drawing 220-C-38
    b. Off-load pad in front of gas tank pad updated to 6" compacted crushed stone base from 4".
4. Drawing 220-S-10 – Foundation Plan
    a. REPLACE with the attached drawing 220-S-10.
    b. Clarified piers and caissons caps.
    c. Added a foundation wall near column A-2.4 and updated section mark.

5. Drawing 220-S-11 – Level 01 / Slab On Grade Plan
    a. REPLACE with the attached drawing 220-S-11.
    b. Added a foundation wall near column A-2.4 and updated section mark.
    c. Added elevator sump pits.

6. Drawing 220-S-12 – Level 02 Floor Framing Plan
    a. REPLACE with the attached drawing 220-S-12.
    b. Updated Note 7 with correct drawing reference.

7. Drawing 220-S-18 – Enlarged Stair/Elevator Plans
    a. REPLACE with the attached drawing 220-S-18.
    b. Added elevator sump pits.

8. Drawing 220-SD-01 – Typical Details
    a. REPLACE with the attached drawing 220-SD-01.
    b. Updated Typical Elevator Sump Pit Detail.

9. Drawing 220-SD-11 – Sections and Details
    a. REPLACE with the attached drawing 220-SD-11.
    b. Added section 110/SD-11.
10. Drawing 220-SD-21 – Sections and Details
    a. REPLACE with the attached drawing 220-SD-21.
    b. Updated section 210/SD-11.

11. Drawing 220-SS-02 – Schedules and Details
    a. REPLACE with the attached drawing 220-SS-02.
    b. Updated Concrete Wall Schedule.

12. Drawing 220-A-15 – Overall Roof Plan and Details
    a. Revised note to reference detail 2/A-15.

13. Drawing 220-A-40 – Enlarged Plans and Elevations
    a. Added notes indicating sump pit and elevator pit access ladder locations.

14. Drawing 220-A-42 – Enlarged Plans and Elevations
    a. Added Fiber-Reinforced Panel (FRP-1) locations to the finish plans.
    b. Added general note: *All lab casework with exposed cabinet faces to receive finished side and/or back panels.*
    c. Corrected accessory tag for soap dispenser.

15. Drawing 220-A-48 – Enlarged Plans and Elevations
    a. Added interior elevation, detail 12.
    b. Added general note: *All lab casework with exposed cabinet faces to receive finished side and/or back panels.*
    c. Added tag for mobile tables.

16. Drawing 220-AD-07 – Details – Stair
    a. Added notes for abrasive stair nosing.

17. Drawing 220-AE-02 – Equipment Plan – Lab Equipment Schedule
    a. Revised installation source of F026 Flask Scrubber to OFOI.

18. Drawing 220-AI-01 – Overall Finish Plan – First Floor
    a. Added Fiber-Reinforced Panel (FRP-1) tag locations to the plan.
    b. Added Crash Rail (CR-1) and Bumper Guard (BG-1) tag locations to the plan.

19. Drawing 220-AI-05 – Finish Schedules and Details
    a. Added Fiber-Reinforced Panel (FRP-1) tag locations to the schedules.
    b. Revised ceiling material types.

20. Drawing 000-PSP-01 Plumbing Site Plan
    a. Notes updated in clouded area regarding plumbing contractor being responsible for gas piping connections to source.

21. Drawing 220-P-10 Sanitary Plan First Floor
    a. Due to Pre-Bid RFIs storm water piping deleted. See clouded areas on drawings.

22. Drawing 220-P-30 Gas Plan First Floor
    a. Notes updated to reflect plumbing contractor responsible for gas piping from, building to source. See clouded area for changes.

23. Drawing 220-P-64 Gas Riser
    a. Riser and notes updates to reflect changes shown on floor plan. See clouded area for changes.

24. Drawing 220-H-10B – HVAC Plan – Patrial First Floor – Section B
    a. Revised keynote 3 to provide exhaust snorkel designation.

25. Drawing 220-H-10C – HVAC Plan – Patrial First Floor – Section C
    a. Revised keynote 3 to provide exhaust snorkel designation

26. Drawing 220-H-21 – Hydronic Plan – Second Floor
    a. Added CO2 sensors for demand control ventilation VAVs in various spaces

27. Drawing 220-H-22 – Hydronic Plan – Third Floor
    a. Added CO2 sensors for demand control ventilation VAVs in various spaces

28. Drawing 220-HS-04 – HVAC Schedules
    a. Revised the Diffusers, Registers, Grilles, and Exhaust Snorkel schedule to specify the snorkel

E. Questions

Q1: During our site visit we noticed that there is cable tray for the new feeders to the existing gear (USS025-404) above the gear. Due to the cable tray, should we run the entire feeder from the existing gear to the new MDP with tray rated cable or should we splice from XHHW to tray rated cable in the new stainless pull box at the exterior wall of Building 404? Specification Section 26 05 19-4 Item 3.2F calls for XHHW-2 for feeders in cable tray.

A1: Use tray rated cable (XHHW-2) for the entire run from the existing gear to the new MDP.

Q2: Metal Wall Panel specification 07 42 13.13, section 2.4.C.1 lists a 3-coat mica system, then states basis of design is a CENTRIA Mica. Micas are only available in a 2-coat system, without a clear coat. The 3-coat is not a valid system, adding a clear coat would require a metallic base. What finish system is required, a 1.0 mil mica or a 1.5 mil metallic?

A2: Provide a three-coat fluoropolymer system, color to be selected by the Architect. Remove reference to "Centria Sundance Mica."

Q3: MCM specification 07 42 13.23, section 2.2.B.3 lists a 3-coat system, section 2.5.A.1 lists a 2-coat system. Please advise which is correct.

A3: Provide a three-coat fluoropolymer system, color to be selected by the Architect.

Q4: Finish Legend on drawing AI-06 indicates that are CR-1 Crash Rails and so does Detail 6/AD-05. CR-1 cannot be located on floor plans. Please confirm that there are crash rails and the locations.

A4: Crash rail locations (CR-1) will be added to the finish plans.

Q5: Finish Legend on drawing AI-06 indicates that are BG-1 Bumper Guard and so does Detail 6/AD-05. BG-1 cannot be located on floor plans. Please confirm that there are bumper guards and the locations.

A5: Bumper guard (BG-1) locations will be added to the finish plans.

Q6: Finish Legend on drawing AI-06 indicates that are FRP-1 Fiber Reinforced Panel. FRP-1 cannot be located on floor plans. Please clarify locations.

A6: Fiber-Reinforced Panel (FRP-1) locations will be added to the finish plans.

Q7: Finish Legend on Drawing AI-06 calls for RES-1 to be Stonhard Stonclad Silver Gray. However, Specification 09 67 23 -Resinous Flooring calls for Stonhard Stontec ERF in Section 2.1B. Stonclad GS is a 1/4" thick troweled epoxy mortar with a solid-colored pigmented topcoat. Stontec ERF is 2mm epoxy quartz and flake double broadcast with a clear epoxy topcoat. Please clarify what type of flooring is being called for.

A7: Provide the Stonclad flooring as noted in the Finish Legend. The specification will be updated to match.

Q8: RFI number 15 was asking for the casework tags because detail 6/A-48 does not call out the type of cabinetry that is there.

A8: An interior elevation will be added to the drawings to designate the casework at the peninsulas.

Q9: For the bioswale area north of the building on drawing 220 L 101 - are there specifics for an infiltration soil mix and depth required for that specific area?

A9: Standard infiltration soil mix - 2 parts by volume topsoil, 1 part by volume peat humus and 1 part by volume sand

Q10: Metal Wall Panel specification 07 42 13.13, section 2.4.C.1 lists a 3-coat mica system, then states basis of design is a CENTRIA Mica. Micas are only available in a 2-coat system, without a clear coat. The 3-coat is not a valid system, adding a clear coat would require a metallic base. What finish system is required, a 1.0 mil mica or a 1.5 mil metallic?

A10: Provide a three-coat fluoropolymer system, color to be selected by the Architect. Remove reference to "Centria Sundance Mica."

Q11: MCM specification 07 42 13.23, section 2.2.B.3 lists a 3-coat system, section 2.5.A.1 lists a 2-coat system. Please advise which is correct.

A11: Provide a three-coat fluoropolymer system, color to be selected by the Architect

Q12: The WaterPro system (104) wasn't specified with filters, however they're required for the unit to run. Please confirm if they are required.

A12: Specification 11 53 005 will be revised to indicate both the filter and additional RO accessory noted in Waterpro Manufacturer catalog data/ cut sheet.

Q13: The washers 026A, 027A, 027B, 027C are specified as 208v, 3 phase on pg 3 of the specification sheet, but are highlighted as 115v 1 phase on pg 25/27 of the same spec. Please confirm which is correct

A13: All are 208V, 3PH. Refer to the schedule on sheet 220-ET-41 for electrical requirements.

Q14: Washer F026 isn't included in the spec and is titled 'future' on the drawings. Should I quote this the same as 026A since the model is the same or different?

A14: Flask Scrubber F026 is a future item and shall not be included in the project. Provide all utility connections for F026 as noted in the documents.

Q15: Page 34 of the spec mentions a drain water cooling kit, is this needed for all washers? Please confirm if they'll want this to be 115v or 208v.

A15: The drain water cooling kit is required for all washers. The drain water cooling kit needs to be specified to be used with the 208V/3ph washers.

Q16: Please provide the scope of work for the General Contractor with regards to the following: Excavation/Concrete/Backfill, Main Electrical & Data Conduits, Site Lighting Conduits, Interior Ductbank Conduits, Hand Hole Excavation/Backfill

A16: GC to provide all excavation and backfill except field routed lighting conduits and handholds, which will be provided by the EC.

Q17: Please provide the scope of work for the General Contractor with regards to the following: -
All Equipment Pads and Concrete Pole Base

A17: Equipment pads for electrical, mechanical, and plumbing is by GC. See detail 3 of sheet 220-ED-03. Light pole base is to be provided by the EC.

Q18: Temporary Power Requirements: Please provide the temporary lighting & power requirements. Also provide where we can obtain the temporary from.

A18: See the specifications including 01 11 00 Summary of Work, 01 50 00 Construction Facilities, Temporary Controls, and Utilities, and Electrical Drawing 000-E-01 Electrical General Note #25. The 480-volt power supply source noted in paragraph 1.11 A (3) of specification section 01 50 00 is located in the 2nd floor electrical room in Building 404.

Q19: Will equal substitutions be accepted on the lighting?

A19: Equal substitutions are acceptable per lighting fixture schedule general note "G" on sheet 220-ES-02.

Q20: Please advise on the discontinuation point of the underground Gas including the natural Argon and Nitrogen ¾" inch lines. At this time we are under the impression (as per work scope) that the Plumbing contractor will install all building service lines to 5' from the building where the Civil Site contractor will continue to the service mains. This is in the summary of work section Plumbing Contract No. 1759P Section 01 11 00 page 3 line 7 in the 5th attachment above. On most projects that we have been involved with it is usually the responsibility of the plumbing contractor to install these lines up to the exterior of the Airgas Tanks that are installed and make final connections to said tanks. The attachments above are to illustrate the point of question that we are asking. I thank you for your time and look forward to hear from you on this subject.

A20: The plumbing contractor will install the total routing of the piping with all required accessories and final connection to the tanks. Plumbing drawing 220-P-30 is updated with notes stating plumbing contractor scope of work.

Q21: Drawing 000-ESP-01: Note states to refeed existing light pole LP-07 from existing roadway pole lighting circuit. Can you identify where this circuit is located.
Who is responsible for the civil work, exaction, backfill and restoration?

A21: Existing light pole LP-07 is supposed to be fed from the circuit at existing to light pole LP-08. Extend new circuit matching the existing.
Light pole base is to be provided by the EC. Excavation, backfill and restoration for light pole base shall be by GC.

Q22: Please advise on how we should proceed with including or excluding the above ground storm piping on the first floor drawing #220-P-10. It is highlighted in yellow on the first attachment above. The piping is between column lines 3 to 8 and above column line B left to right. It does not appear to connect to any location for the lower roof above which is shown on the second attachment above from drawing 220-P-11.

A22: The pipe routing in question (highlighted) is an error, it has been removed from drawing 220-P-10.

Q23: Looking at the Bid Bond forms, we do not see a Bid Bond Percentage listed. Can you please provide the percentage or the amount the Bid Bond should require?

A23: Bid Bond is to be 10% per Article 2.19 and the Legal Notice.

Q24: Are alternate equal Lighting fixtures acceptable? For example, Cooper lighting brands.

A24: Equal substitutions are acceptable per lighting fixture schedule general note "G" on sheet 220-ES-02.

Q25: Which contract is to provide the exhaust snorkel(s)

A25: Exhaust snorkels will be provided under the mechanical contractor's scope (Heating, Ventilating, and Air Conditioning, Contract No. 1759H). Updated drawings and specifications will be provided.

Q26: Please confirm that the section flag along the north exterior wall on drawing 220-S-11 between column line 5 and 5.8 should read 102/SD-10 and not 101/SD-10.

A26: Section 101/SD-1.0 is correct. There is not brick veneer on the north elevation at this location.

Q27: There are several locations where concrete piers are required and appear on drawing 220-S-10 but do not indicate a pier type. An example would be along K line for columns in between the two piers that are called out at P1. There are similar cases elsewhere. Please clarify.

A27: This will be clarified within Addendum #4 drawings. Piers noted at K-1 and K-8 are incorrect and will be deleted. All other piers noted are correct. At all interior and exterior column locations supported by caissons, a caisson cap is required per details on sheet 220-SS-01.

Q28: The concrete wall on Col Line 11 starting north of Col B.2-11 and ending near Col D-11 does not have a wall type indicated. Please provide.

A28: This wall is a CW2.

Q29: Specification 03 20 00 list epoxy coated reinforcement in section 1.4 B but the tie wire is listed as plain. The plans do not list epoxy coated reinforcement for the building concrete, or galvanized reinforcement for the site concrete. Please verify that we are to use epoxy coated reinforcement for the building concrete and galvanized reinforcement for the site concrete?

A29: The building concrete does not require epoxy coated reinforcing within the concrete. All building reinforcing can be uncoated. Site concrete is to have galvanized reinforcement.

Q30: Is a widened grade beam needed at column A.2/2 & B/2 for an integral pier or is there to be a masonry pier on the caisson at these locations?

A30: These column bases will require a caisson cap. This detail will be provided within the Addendum #4 drawings.

Q31: What elevation is the top of the elevator pit slab (FS1)? Some Sections (107/SD-11 & 105/SD-10) make the top of the elevator pit slab appear to be the top of the grade beam (-5'-0"). Are we to pour the grade beams in the elevator pit slab region at 2'-0" thick rather than 3'-0" thick to achieve a finished elevation of -5'-0"?

A31: The elevator pit slabs are at -5'-0". The gradebeams surrounding the elevator pit slabs are to be poured integral with the pit slab per details 105/SD-10 and 107/SD-11. So they are 24" below the elevator pit slab.

Q32: Please verify the section mark 103/SD-10 on sheet S-10 at G-12. The section referenced does not seem to apply for T/GB = -5'-0".

A32: At this location this section should be revised to 104/SD-10.

Q33: Please verify the section mark 102/SD-10 on sheet S-10 at A.2-2.2. The section mark reference does not seem to apply for T/GB = -2'-0". Is a foundation wall to be provided here or are GB2, GB3 & GB31 to be 4'-4" Depth? A foundation wall is not shown, a step in the GB is called out and the table on sheet SS-01 lists 36" Depth

A33: A foundation wall will be required at this location and the detail will be similar ot 104/SD-10. This change will be provided within the Addendum #4 drawings.

Q34: Please verify that the CW1 & CW2 wall reinforcement in the table on sheet SS-02 is a single layer of bars? The details on sheet SD-01, SD-10 & SD-11 show bars on both faces.

A34: The concrete wall reinforcing shall be placed on each face of the wall.

Q35: Is there to be one or two sump pits in the FS1 slab? Please verify the sump pit detail shown on sheet SD-01, this detail doesn't seem to fit the grade beam/slab/foundation wall configuration.

A35: AES will provide revised sump pit detail within the Addendum #4 drawings.
Provide (2) total sump pits, one in each elevator shaft.

Q36: Is the under-slab vapor barrier to be 10 mil as per 03 30 00 section 2.3 or 15 mil as per 07 26 00 section 2.1?

A36: Provide 15 mil as stated within section 07 26 00 section 2.1.

Q37: Specification 03 30 00 lists WVRA admixture with a 10 year warranty. What concrete is to include MVRA (slab on grade & slab on deck only?)? To my knowledge, Barrier One is the only admixture that offers this type of warranty, but it is not listed under the approved products, please verify.

A37: MVRA is required on all interior floor slabs. Provide MVRA admixture as specified, substitutions not listed will be considered if they meet the specifications.

Q38: What are the limits/locations of the C6x8.7 with headed studs in the slab on grade shown on 108/SD-11? I cannot determine where the embed starts and stops from the information provided.

A38: Refer to the architectural first floor plan and south building elevation (220-A-23). The channels are required below the translucent fiberglass wall panel system.

Q39: Please verify that the manufacturers of the concrete sealer provide a 10 year warranty. To my knowledge, there is not a 10 year warranty provided as per specification 03 35 40 for Seal Hard or Diamond Hard, and the Ashford Formula may require a certified applicator and inspection for a warranty.

A39: LM Sealhard and Ashford both offer a 10 year dusting warranty according to their data sheets. Provide one or the other or an approved equal.

Q40: Are joint sealants required at expansion joints only, or expansion joints and exterior saw cut control joints? The wording in specification 07 92 00, "isolation and contraction joints" is unclear if the exterior saw cut control joints are to be included.

A40: Exterior saw-cut control joints to be sealed.

Q41: Is there any composite slab reinforcement required over the beams or girders?

A41: This is not required.

Q42: Please verify the limits of the Level 02 slab on deck S3. This deck appears to end at the edge of the curb/wall, but 206/SD-20 & 208/SD-21 shows that the contractor needs to form the deck overhang and will need the lower S3 deck to extend further to support the overhang forms and bracing.

A42: The upper can extend to the centerline of the beam. As noted on details 206/SD-20 and 208/SD-21 formwork is required to form the top slab extension and short wall between the high and low deck.

Q43: Are there to be curbs for the four level 02 planting areas (4'x4') shown on the architectural & landscape sheets or do these areas receive edge retainers with weeps provided by others?

A43: The 4'x4' planters sit on top of the precast pavers. No curbs are required.

Q44: For curb 210/SD-21, are we to include (6) continuous #4 bars as called out, or (3) continuous #4 bars as shown?

A44: (3) continuous #4 bars is correct.

Q45: I would like to verify that there are some CFSF walls with brick veneer that require the C6x8.2 headed insert and some that do not (Some section details do not show the embed such as 200&201/SD-20)?

A45: I believe this is in reference to sections 108, 213 and 214. These do have the embedded channels due to the presence of cantilevered structural steel above them. This is not a global requirement; only where the sections require them.

Q46: Is any Roof Deck (R) to receive a concrete slab? The table on sheet SS-02 only lists R1 as a metal roof deck, but sheet AS-07 shows R1, R2 & R3 where R1 & R2 are to receive a concrete slab on the roof deck. Is any area with TPO roofing to have a concrete slab beneath?

A46: Deck R1 is the portion of the S4 deck outside the penthouse enclosure.
Deck R2 / S3 is the second floor roof garden. The extents of each deck are shown in the structural drawings. Refer to the structural drawings for decking types and location of concrete slabs. None of the 1 - 1/2" roof decks receive a concrete slab.

Q47: Spring Isolated bases are listed in note 1 of the equipment pad detail on sheet SD-03. Is there a table of spring isolated bases that are to be provided? How many, what size, what location? These are impossible for a concrete contractor to price without more information.

A47: Note 1 of the Equipment Pad Details on sheet SD-03 states "THIS DETAIL APPLIES TO ALL EQUIPMENT NOT SPECIFIED TO BE MOUNTED ON SPRING ISOLATION BASES". The quanity, size and location of spring isolation bases is located within the MEP drawings.
Vibration isolators for mechanical equipment are covered in detail under 23 05 48.13 - Vibration Controls for HVAC.

Q48: Note 7 on sheet S-12 references a detail on sheet 220-SD-03. There does not appear to be a detail on sheet 220-SD-03 for openings, please verify. There is an opening detail on sheet 220-SD-04.

A48: Correct, this detail is on 220-SD-04.

Q49: Specification 03 30 00 lists cast-in inserts as shown in section 3.7 D, but a detail is not provided. Are stair nosings required for the pan stairs? If so, what product?

A49: Cast-in stair nosings will be added to the drawings and specifications.

Q50: Do all exterior slabs need to be 5,000 psi as per sheet S-02, or just the entrance frost slabs? Bollard foundations are listed as 3,000 psi on sheet C-39, ADA Sign Foundations are listed as 4,500 psi on C-36, curbs are listed as 2500 psi on sheet C-30, Gas storage & off-load pads are listed as 4,000 psi on sheet C-38, the recycling enclosure pad is listed as PennDOT AA on sheet C-37, Specification 321623 lists 3,000 psi concrete sidewalks. Is it acceptable to use 4,000 psi AE for all site concrete with the exception of 5,000 psi AE for frost slabs at doors?

A50: Civil - 4,000 PSI is acceptable for all site concrete. Frost slabs are required to be 5000 psi per structural drawings and specifications.

Q51: On sheet C-12, there is a piece of sidewalk that connects to the parking garage that appears to be part of this project scope. There are 2 call outs for limit of curb line along the sides of the small piece of sidewalk, but there is not a double line to represent the curb like everywhere else. Are we to provide a curb on the sides of this piece of sidewalk between lawn areas?

A51: This will be sidewalk only and no curb. Labels will be updated accordingly.

Q52: Sheet C-12 calls out 6” concrete curb, but the details on sheet C-30 show an 8” curb. Are we to provide a 6” or an 8” curb?

A52: Curb will be 6” tall and 8” wide per ALCOSAN’s standard site construction detail.

Q53: Please verify the amount of sidewalk we are to include with this project that is adjacent to the parking garage. There appears to be darker hatch used on sheet C-12 which would indicate new or proposed, but sheet L-101 uses the same line weight and color for the hatch which causes confusion. It would be clearer to me as a bidder if all hatch is removed for portions that are NOT to be included with this project.

A53: Please follow C-12 for sidewalk/curb limit by the Garage.

Q54: Are the ADA Parking spaces to be asphalt or concrete?

A54: Asphalt

Q55: Are the cross-walk areas asphalt or concrete?

A55: Asphalt

Q56: Sheet C-37 shows Concrete footings for the recycling enclosure. How many, what size, and what reinforcement is to be used for the recycling enclosure footings?

A56: The concrete footings are meant for the gate posts and plunger bar. 12" dia. and 36" deep. A detail will be added.

Q57: I would like to verify that the 4” thick sidewalks use 6x6-w2.0xw2.0 WWF and the 6” thick trash enclosure pad uses 6x6-10/10?

A57: Correct.

Q58: I would like to verify the thickness of the aggregate base for the various site pads. Are we to use 4" thick for the off-load pad (C-38), 4" for the Gas storage pad (C-38), 6" for trash enclosure pad (C-37), 6" for the sidewalks (C-30)?

A58: Off-load pad will be updated to 6" thick aggregate base as a continuation of 6" base for the trash enclosure.

Q59: Is there to be an off-load concrete pad adjacent to the Gas storage pads? If so, what size? Sheet C-38 shows a reinforced concrete off-load pad adjacent to the tank storage pad, but sheet C-12 shows a slightly extended trash enclosure pad but it is not along the entire length of the gas storage pads.

A59: C-12 will be updated to extend the concrete pad to the limit of gas tank.

Q60: On sheet C-12, the sidewalk along the south face of the building is shown as 4'-0" width, but the edge of the frost-free pad on sheet S-11 would cause the sidewalk to be 5'-0" wide. Is a width transition acceptable or should the sidewalk or frost-free pad width change?

A60: Civil - 4' is to avoid impact to the fence line.
Structural – Frost slabs location and extents are to be coordinated with sidewalk dimensions as noted by Note 2 on sheet S-11. 4' shown on Civil drawings is correct.

Q61: Specification 32 17 26 for the tactile warning surfacing lists a 5 year warranty period, but does not list approve products. Please provide the approved manufacturers that provide a 5 year warranty.

A61: Access Tile, DWS, etc.

Q62: Please verify that the dowels, reinforcement and wire fabric for the site concrete construction is to be galvanized as listed in specification 32 16 23?

A62: Correct.

Q63: Please verify that the site concrete is to include reinforcing fibers (1.5 LB/CY) as secondary reinforcement as per specification 32 16 23?

A63: Correct.

Q64: Please verify that there is to be exposed aggregate finish as per specification 32 16 23? The plans do not list color or exposed aggregate. What concrete is to be exposed aggregate? What mix is to be used for pricing because the specifications list quartz, marble, limestone, and gravel aggregates. Is the exposed aggregate to include fiber reinforcement? Is the exposed aggregate to include "buff" color as per specification 32 16 23?

A64: No site concrete will require exposed aggregate finish. The section is left in for any changes ALCOSAN would like to make later on (not likely).

Q65: Note on drawing 220-A-15 pointing to two duct shaft openings along column line 4 refers to detail 3/A-15. Since these are duct shaft penetrations, shouldn't the note refer to detail 2/A-15? This is also supported by the structural drawings as they do not show the channel frame at these openings.

A65: The text will be updated to reference detail 2 / A-15

Q66: Section 01 50 00, paragraph 1.5.D states that the owner will pay for Prime Contractor/s utilities consumption. However, paragraph 1.10.F states that the contractor pay energy costs until Substantial Completion. Are these two paragraphs in conflict with each other or is 1.10.F referring only to the energy costs associated with the temporary heating, ventilation, and cooling? If the latter, which prime contractor is to pay the energy costs?

A66: Paragraph 1.5.D refers to site electrical and water utility connections, which are paid for by the Owner. Paragraph 1.10F refers to freestanding heating equipment such as propane heaters. The contractor will be responsible for the energy costs of any equipment that does not connect to the site utilities provided by the Owner. The Owner reserves the right to deny use of site utilities when deemed to be excessive or unnecessary.

Q67: Section 01 50 00, paragraph 1.31.D, after the period at the end of the last sentence the word 'staff' appears without further information. Please clarify.

A67: strike through the word "staff"

Q68: Are all spoils excavated on the jobsite to be considered Residual Waste or Other Contaminated Waste.

A68: Spoils are to be considered residual waste as stated in 31 23 00.

F. Clarifications

1. HVAC, Electrical and Plumbing Equipment Tag numbers will be updated to a new naming standard in the Issued for Construction drawing set. This will not affect bidding.

G. Attachments

Contract Documents:

None

Specifications:

09-67-23 Resinous Flooring

Drawings:

1. Drawing 220-C-12 – Demolition Plan
2. Drawing 220-C-37 – Construction Details
3. Drawing 220-C-38 – Construction Details
4. Drawing 220-S-10 – Foundation Plan
5. Drawing 220-S-11 – Level 01 / Slab On Grade Plan
6. Drawing 220-S-12 – Level 02 Floor Framing Plan
7. Drawing 220-S-18 – Enlarged Stair/Elevator Plans
8. Drawing 220-SD-01 – Typical Details
9. Drawing 220-SD-11 – Sections and Details
10. Drawing 220-SD-21 – Sections and Details
11. Drawing 220-SS-02 – Schedules and Details
12. Drawing 220-A-15 – Overall Roof Plan and Details
13. Drawing 220-A-40 – Enlarged Plans and Elevations
14. Drawing 220-A-42 – Enlarged Plans and Elevations
15. Drawing 220-A-48 – Enlarged Plans and Elevations
16. Drawing 220-AD-07 – Details – Stair
17. Drawing 220-AE-02 – Equipment Plan – Lab Equipment Schedule
18. Drawing 220-AI-01 – Overall Finish Plan – First Floor
19. Drawing 220-AI-05 – Finish Schedules and Details
20. Drawing 000-PSP-01 Plumbing Site Plan
21. Drawing 220-P-10 Sanitary Plan First Floor
22. Drawing 220-P-30 Gas Plan First Floor
23. Drawing 220-P-64 Gas Riser
24. Drawing 220-H-10B – HVAC Plan – Patrial First Floor – Section B
25. Drawing 220-H-10C – HVAC Plan – Patrial First Floor – Section C
26. Drawing 220-H-21 – Hydronic Plan – Second Floor
27. Drawing 220-H-22 – Hydronic Plan – Third Floor
28. Drawing 220-HS-04 – HVAC Schedules

Pre-Bid Documents:

None

Other:

None

*** * * * END OF ADDENDUM NO. 4 * * * ***

SECTION 09 67 23 - RESINOUS FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes one resinous flooring system, one with epoxy body.

1. Application Method: Squeegee, screed, and broadcast.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated. Include manufacturer's technical data, application instructions, and recommendations for each resinous flooring component required.

B. Samples for Verification: For each resinous flooring system required, 5 inches square, applied to a rigid backing.

C. Product Schedule: Use resinous flooring designations indicated in Part 2 and room designations indicated on Drawings in product schedule.

D. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.

E. Maintenance Data: For resinous flooring to include in maintenance manuals.

1.3 QUALITY ASSURANCE

A. No request for substitution shall be considered that would change the generic type of floor system specified (i.e. epoxy based flake broadcast with mortar coat). Equivalent materials of other manufactures may be substituted only on approval of Architect or Engineer. Request for substitution will only be considered only if submitted 10 days prior to bid date. Request will be subject to specification requirements described in this section.

B. Installer Qualifications: Engage an experienced installer (applicator) who is experienced in applying resinous flooring systems similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance, and who is acceptable to resinous flooring manufacturer.
1. Engage an installer who is certified in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.
2. Contractor shall have completed at least 10 projects of similar size and complexity.

C. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, through one source from a single manufacturer, with not less than ten years of successful experience in manufacturing and installing principal materials described in this section. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.

D. Manufacturer Field Technical Service Representatives: Resinous flooring manufacture shall retain the services of Field Technical Service Representatives who are trained specifically on installing the system to be used on the project.

1. Field Technical Services Representatives shall be employed by the system manufacture to assist in the quality assurance and quality control process of the installation and shall be available to perform field problem solving issues with the installer.

E. Mockups: Apply mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Apply full-thickness mockups on 48-inch- square floor area selected by Architect.

a. Include 48-inch length of integral cove base.

2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

F. Pre-installation Conference:

1. General contractor shall arrange a meeting not less than thirty days prior to starting work.

2. Attendance:

a. General Contractor

b. Architect/Owner's Representative.

c. Manufacturer/Installer's Representative.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.

B. Store materials to prevent deterioration from moisture, heat, cold, direct sunlight, or other detrimental effects. Store material per product data sheet.

C. All materials used shall be factory pre-weighed and pre-packaged in single, easy to manage batches to eliminate on site mixing errors. No on site weighing or volumetric measurements allowed.

1.5 PROJECT CONDITIONS

A. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.

1. Maintain material and substrate temperature between 65 and 85 deg F (18 and 30 deg C) during resinous flooring application and for not less than 24 hours after application.

B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.

C. Close spaces to traffic during resinous flooring application and for not less than 24 hours after application, unless manufacturer recommends a longer period.

D. Concrete substrate shall be properly cured. A vapor barrier must be present for concrete subfloors on or below grade. Otherwise, an osmotic pressure resistant grout must be installed prior to the resinous flooring

1.7 WARRANTY

A. Manufacturer shall furnish a single, written warranty covering both material and workmanship for a period of (1) full years from date of installation, or provide a joint and several warranty signed on a single document by material manufacturer and applicator jointly and severally warranting the materials and workmanship for a period of (1) full year from date of installation. A sample warranty letter must be included with bid package or bid may be disqualified.

PART 2 - PRODUCTS

2.1 RESINOUS FLOORING

A. Acceptable Manufactures,

1. Stonhard Basis of design. Equal products with compliance to specifications include:

Tnemec
Sherwin Williams

B. Products: Subject to compliance with requirements:

1. Stonhard, Inc.; Stonclad GR®. Unsealed system.

C. System Characteristics:

1. Color and Pattern: Choose from Mfg. Standards
2. Wearing Surface: Standard smooth.
3. Integral Cove Base: 4-inches unless otherwise indicated

4. Overall System Thickness: nominal 1/4”

D. System Components: Manufacturer's standard components that are compatible with each other and as follows:

1. Primer:

a. Material Basis: Stonhard Standard Primer
b. Resin: Epoxy
c. Formulation Description: (2) two component, 100 percent solids.
d. Application Method: Squeegee and roller.
e. Number of Coats: (1) one.

2. Mortar Base:

a. Material design basis: Stonclad GS
b. Resin: Epoxy.
c. Formulation Description: (3) three component, 100 percent solids.
d. Application Method: Metal Trowel.
   1) Thickness of Coats: nominal 1/4 inch (6.4 mm).
   2) Number of Coats: One.
e. Aggregates: Aggregates: Quartz pigmented blended aggregate; with 25% Post-industrial recycled glass.

E. System Physical Properties: Provide resinous flooring system with the following minimum physical property requirements when tested according to test methods indicated:

1. Compressive Strength: 10,000 psi after 7 days per ASTM C 579.
2. Tensile Strength: 1,750 psi per ASTM C 307.
3. Flexural Strength: 4,000 psi per ASTM C 580.
4. Water Absorption: < 1% per ASTM C 413.
5. Impact Resistance: > 160 in. lbs. per ASTM D 2794.
6. Flammability: Class 1 per ASTM E-648.
7. Hardness: .85 to .90, Shore D per ASTM D 2240.
8. Flexural Modulus of Elasticity: 2.0×10^6 psi per ASTM C-580.
9. Abrasion Resistance: 0.01 gm max. weight loss per ASTM D-4060, CS-17.
10. Thermal Coefficient of Linear Expansion: 11 $\times 10^{-6}$ in./in.˚F per ASTM C-413.

2.2 ACCESSORY MATERIALS

A. Patching, Leveling and Fill Material: Resinous product of or approved by resinous flooring manufacturer and recommended by manufacturer for application indicated. No Single component or cementitious materials.

B. Joint Sealant: Type recommended or produced by resinous flooring manufacturer for type of service and joint condition indicated.

PART 3 - EXECUTION

3.1 PREPARATION

A. General: Prepare and clean substrates according to resinous flooring manufacturer's written instructions for substrate indicated. Provide clean and dry substrate for resinous flooring application.

B. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.

1. Mechanically prepare substrates as follows:

a. Mechanically prepare with the use of Diamond grinding equipment to provide surface sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring. Or,
b. Shot-blast surfaces with an apparatus that abrades the concrete surface, contains the dispensed shot within the apparatus, and recirculates the shot by vacuum pickup or Diamond Grind with a dust free system.
c. Comply with ASTM C 811 requirements, unless manufacturer's written instructions are more stringent.

2. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written recommendations.
3. Verify that concrete substrates meet the following requirements.

a. Perform in situ probe test, ASTM F 2170. Proceed with application only after substrates do not exceed a maximum potential equilibrium relative humidity of 80 percent.
b. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with application only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. of slab in 24 hours.

C. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.

D. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written recommendations. Allowances should be included for Stonflex MP7 joint fill material.

3.2 APPLICATION

A. General: Apply components of resinous flooring system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.

1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.

2. Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
3. At substrate expansion and isolation joints, provide joint in resinous flooring to comply with resinous flooring manufacturer's written recommendations.

    a. Apply joint sealant to comply with manufacturer's written recommendations.

B. Mix and apply primer over properly prepared substrate with strict adherence to manufacturer's installation procedures and coverage rates

C. Broadcast: Immediately broadcast quartz silica aggregate into the primer using manufacturer's specially designed spray caster. Strict adherence to manufacturer's installation procedures and coverage rates is imperative.

D. Integral Cove Base: Apply cove base mix to wall surfaces before applying flooring. Apply according to manufacturer's written instructions and details including those for taping, mixing, priming, troweling, sanding, and top coating of cove base. Round internal and external corners. Refer to detail drawings.

E. Body coat: Mix base material according to manufacturer's recommended procedures. Uniformly spread mixed material over previously primed substrate using manufacturer's installation tool. Roll material with strict adherence to manufacturer's installation procedures and coverage rates.

F. Broadcast: Immediately broadcast decorative flakes into the body coat. Strict adherence to manufacturer's installation procedures and coverage rates is imperative.

G. First Sealer: Remove excess un-bonded flakes by lightly brushing and vacuuming the floor surface. Mix and apply sealer with strict adherence to manufacturer's installation procedures.

H. Second sealer: Lightly sand first sealer coat. Mix and apply second sealer coat with strict adherence to manufacturer's installation procedures.

3.3 TERMINATIONS

A. Chase edges to “lock” the coating system into the concrete substrate along lines of termination.

B. Penetration Treatment: Lap and seal coating onto the perimeter of the penetrating item by bridging over compatible elastomer at the interface to compensate for possible movement.

C. Trenches: Continue coating system into trenches to maintain monolithic protection. Treat cold joints to assure bridging of potential cracks.

D. Treat floor drains by chasing the coating to lock in place at point of termination.

3.4 JOINTS AND CRACKS

A. Treat control joints to bridge potential cracks and to maintain monolithic protection.

B. Treat cold joints and construction joints to and to maintain monolithic protection on horizontal and vertical surfaces as well as horizontal and vertical interfaces.

C. Vertical and horizontal contraction and expansion joints are treated by installing backer rod and compatible sealant after coating installation is completed. Provide sealant type recommended by manufacturer for traffic conditions and chemical exposures to be encountered.

3.5 FIELD QUALITY CONTROL

A. Material Sampling: Owner may at any time and any numbers of times during resinous flooring application require material samples for testing for compliance with requirements.

1. Owner will engage an independent testing agency to take samples of materials being used. Material samples will be taken, identified, sealed, and certified in presence of Contractor.
2. Testing agency will test samples for compliance with requirements, using applicable referenced testing procedures or, if not referenced, using testing procedures listed in manufacturer's product data.
3. If test results show applied materials do not comply with specified requirements, pay for testing, remove noncomplying materials, prepare surfaces coated with unacceptable materials, and reapply flooring materials to comply with requirements.

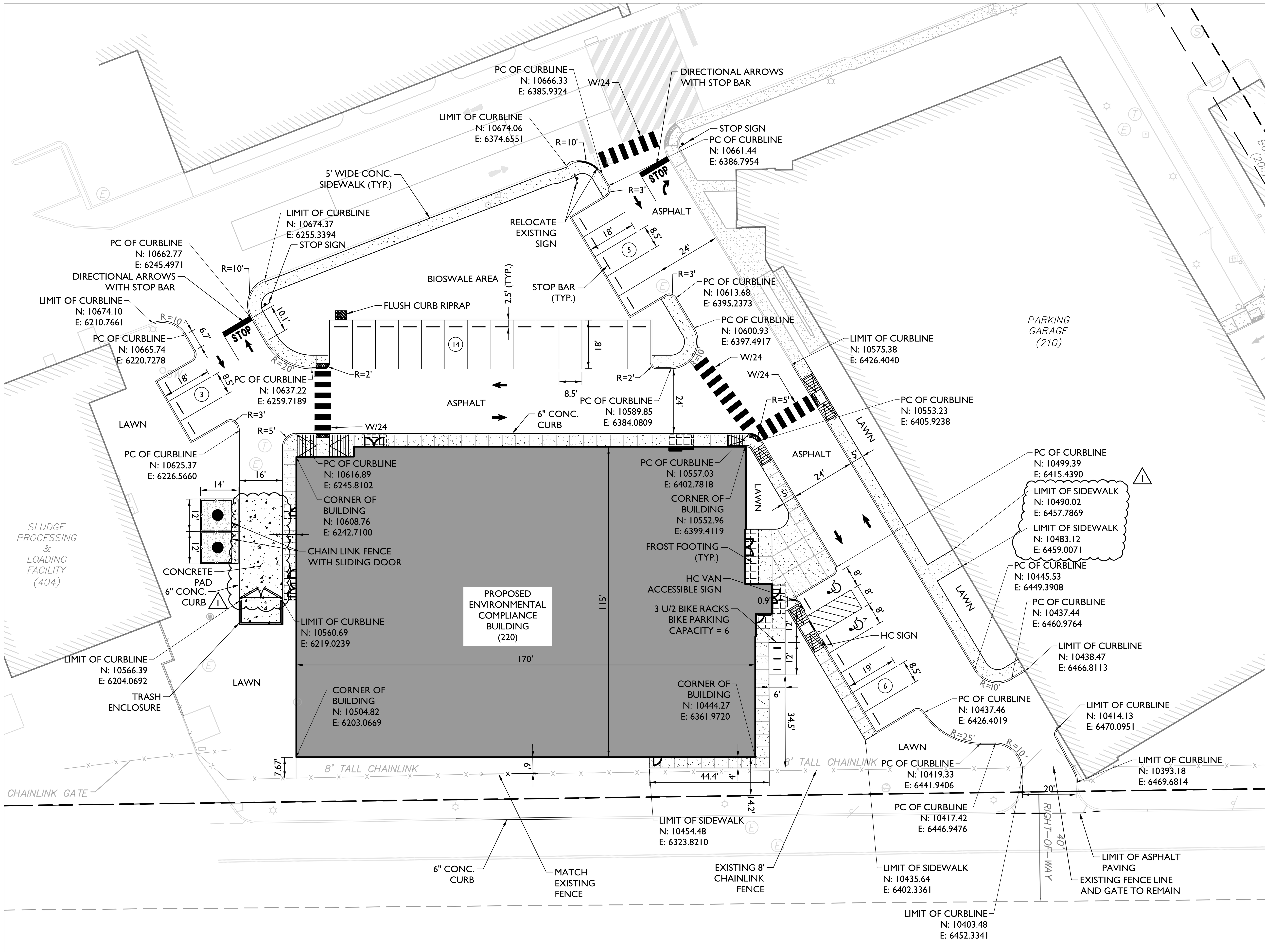
3.6 CLEANING, PROTECTING, AND CURING

A. Cure resinous flooring materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing process. Close area of application for a minimum of 24 hours.

B. Protect resinous flooring materials from damage and wear during construction operation. Where temporary covering is required for this purpose, comply with manufacturer's recommendations for protective materials and method of application. General Contractor is responsible for protection.

C. Cleaning: Remove temporary covering and clean resinous flooring just prior to final inspection. Use cleaning materials and procedures recommended by resinous flooring manufacturer. General Contractor is responsible for cleaning prior to inspection.

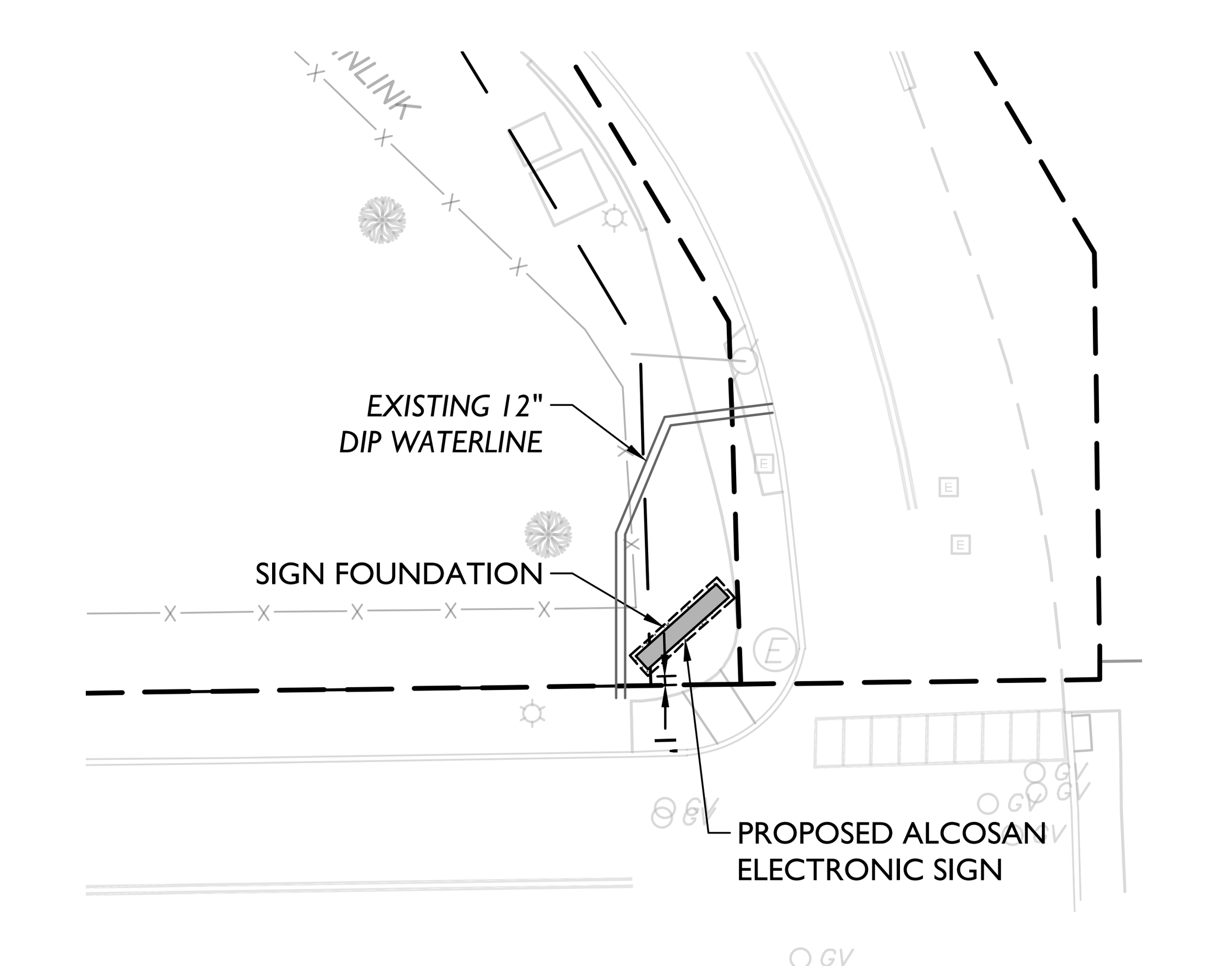
END OF SECTION 096723



DIMENSION PLAN I

GENERAL NOTES:

1. MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR THE SITE IMPROVEMENTS SHOWN HEREON SHALL BE IN ACCORDANCE WITH:
   - A. PENNSYLVANIA DEPARTMENT OF TRANSPORTATION "SPECIFICATIONS PUBLICATION 408", 2003; AS SUPPLEMENTED.
   - B. CURRENT PREVAILING MUNICIPAL, COUNTY, AND/OR STATE AGENCY SPECIFICATIONS, STANDARDS, CONDITIONS, AND REQUIREMENTS.
   - C. CURRENT PREVAILING UTILITY COMPANY/AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.
   - D. CURRENT MANUFACTURER SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.
2. TRAFFIC STRIPING SHALL CORRESPOND TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. THIS IS A SITE DEVELOPMENT PLAN AND UNLESS SPECIFICALLY NOTED ELSEWHERE HEREIN, IS NOT A SURVEY.
4. DO NOT SCALE DRAWINGS AS THEY PERTAIN TO ADJACENT AND SURROUNDING PHYSICAL CONDITIONS, BUILDINGS, STRUCTURES, ETC. THEY ARE SCHEMATIC ONLY, EXCEPT WHERE DIMENSIONS ARE SHOWN THERETO.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT SAFETY, INCLUDING PROVISION OF ALL APPROPRIATE SAFETY DEVICES AND TRAINING REQUIRED.
6. ALL ROADWAYS, CURBS, PARKING LOTS, STORM SEWERS, STORMWATER MANAGEMENT DEVICES, AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF PITTSBURGH AND THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL PAVEMENT MARKINGS SHOWN ON THIS PLAN.
8. THERE SHALL BE NO CHANGES OR DEVIATION FROM THESE PLANS UNLESS APPROVED BY THE ENGINEER. SUCH PLAN CHANGES, SHOULD THEY BECOME NECESSARY, ARE SUBJECT TO THE CITY OF PITTSBURGH CODE ORDINANCES.
9. THE CONTRACTOR SHALL MAKE PROVISIONS FOR MAINTAINING THE SAFE FLOW OF TRAFFIC DURING CONSTRUCTION WITHIN THE EXISTING ROAD RIGHTS-OF-WAY WHILE ENTERING AND LEAVING THE SITE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS RELATIVE TO THE CONSTRUCTION PROPOSED ON THE PLANS.
11. ENGINEERING PERMITS: PRIOR TO ANY WORK WITHIN THE RIGHT OF WAY, PERMITS MUST BE OBTAINED FROM THE CITY OF PITTSBURGH.
12. ANY UTILITY LINE OR STRUCTURE THAT CONFLICTS WITH THE PROPOSED DEVELOPMENT SHALL BE RELOCATED. THE CONTRACTOR IS TO VERIFY ALL UNDERGROUND UTILITY LOCATIONS PRIOR TO COMMENCING WORK.
13. ALL IMPROVEMENT SHALL NOT IMPACT THE FENCE STABILITY. IF NECESSARY, ADDITIONAL SUPPORT SHALL BE PROVIDED TO RESET THE IMPACTED FENCE.
14. CONTRACTOR SHALL LOCATE THE EXISTING 12" DIP WATERLINE PRIOR TO INSTALLATION OF FACILITY SIGN.



DIMENSION PLAN II

SCALE: 1" = 20'

20 10 0 20

Designed by: J TAI	REV No.	DATE	DESCRIPTION	APPV
Drawn by: J TAI	1	06/14/22	PER PRE-BID RFIs	
Checked by: J THORNTON				

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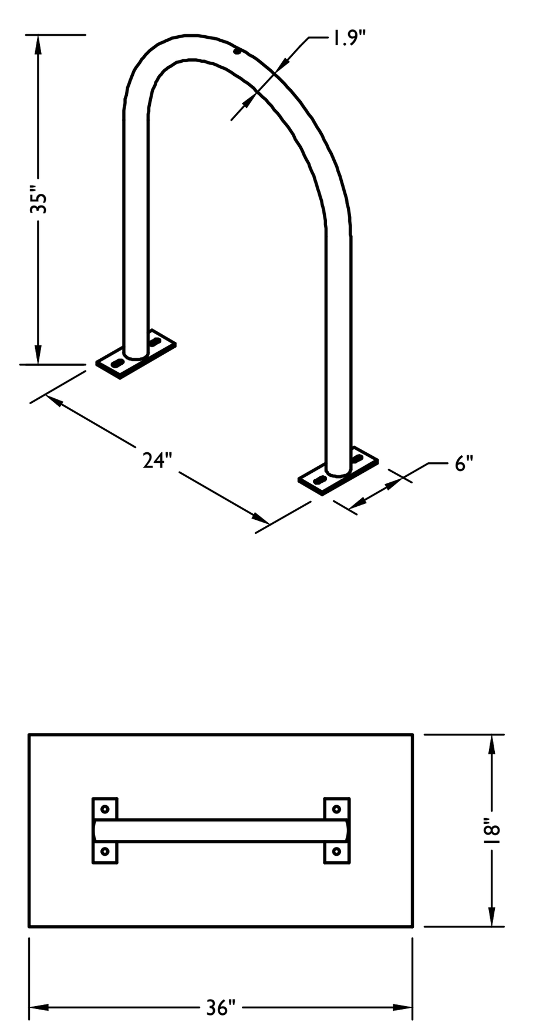
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-C-12
DIMENSION PLAN

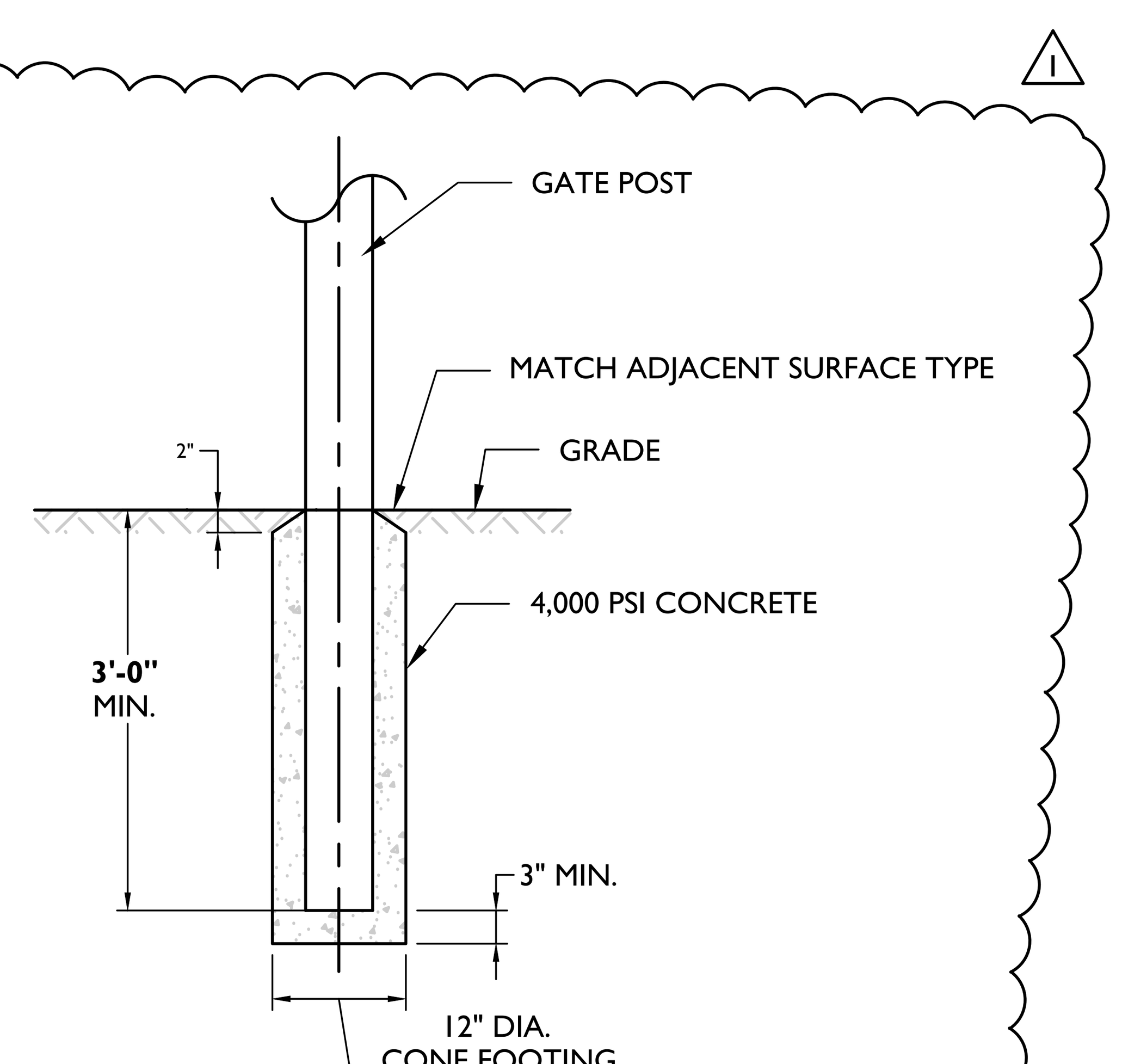
Contract: 1759
CAD File Name: 220C12.DWG
Date: 01 / 14 / 2022
Sheet: 13 of 287



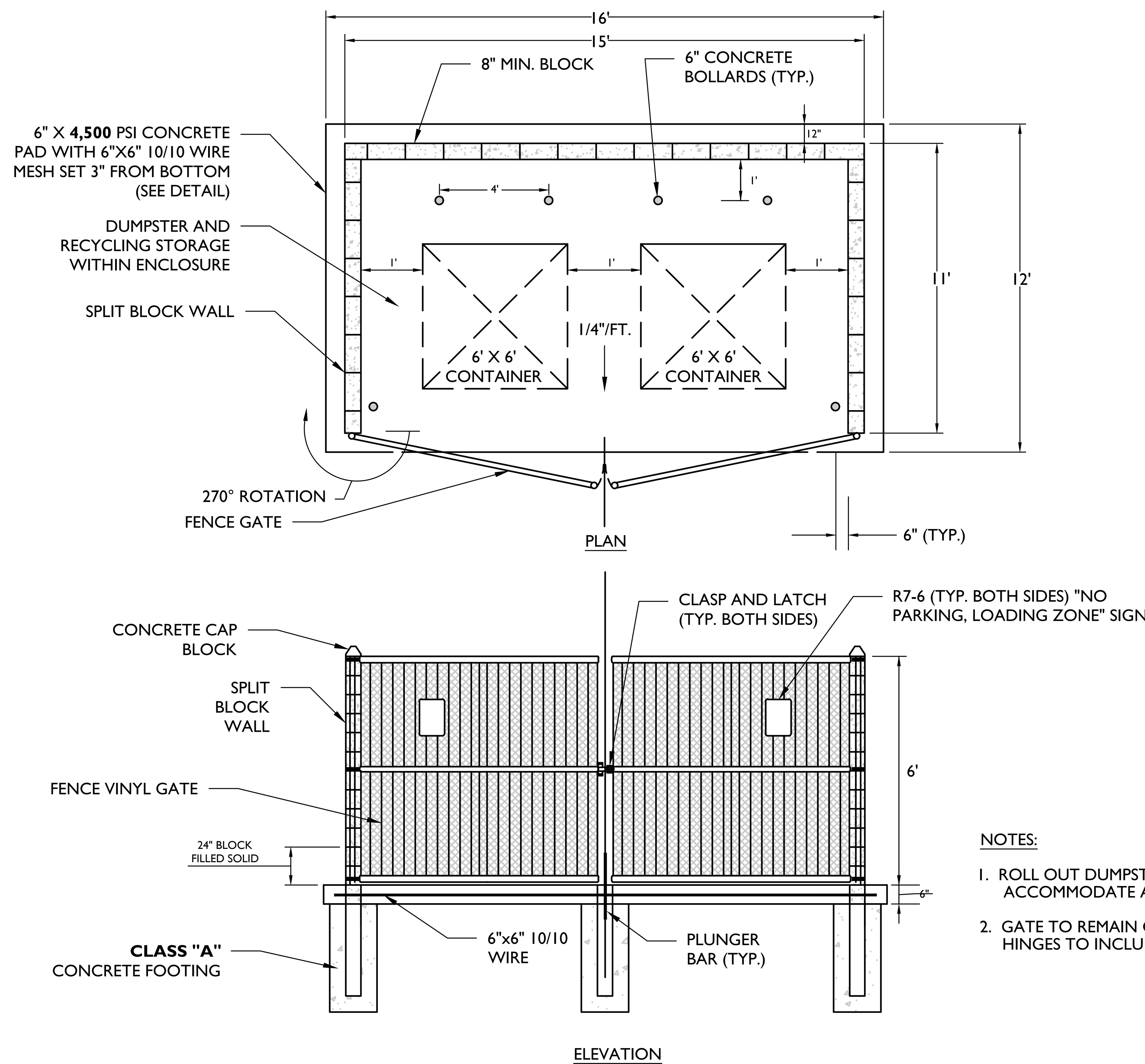
NOTES:

1. BIKE RACK STYLE IS HOOP RACK
2. CAPACITY PER RACK IS 2 BIKES
3. MATERIAL OF BIKE RACK IS 1.5" SCHEDULE 40 PIPE (1.9" O.D.)
4. BIKE RACK SHALL BE GALVANIZED FINISHING
5. THE MOUNTING OPTION IS SURFACE MOUNT

BIKE RACK DETAIL
NTS



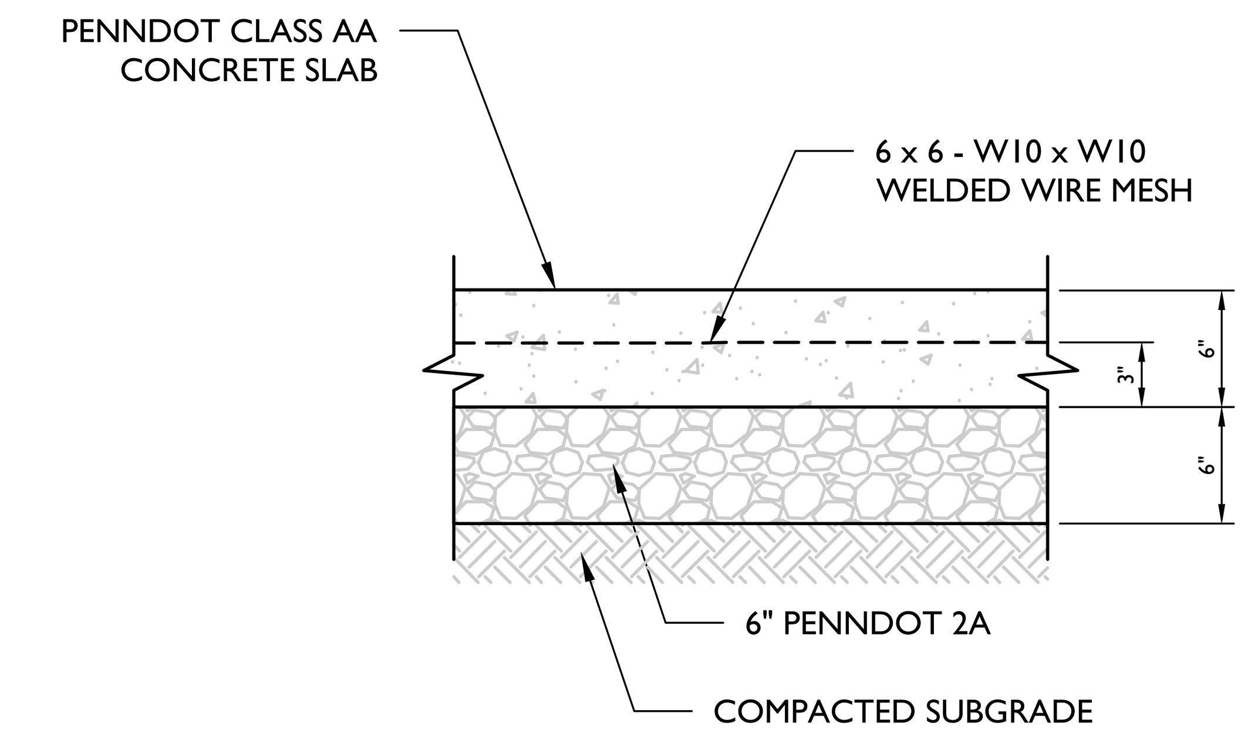
REFUSE/RECYCLING ENCLOSURE GATE POST DETAIL
NTS



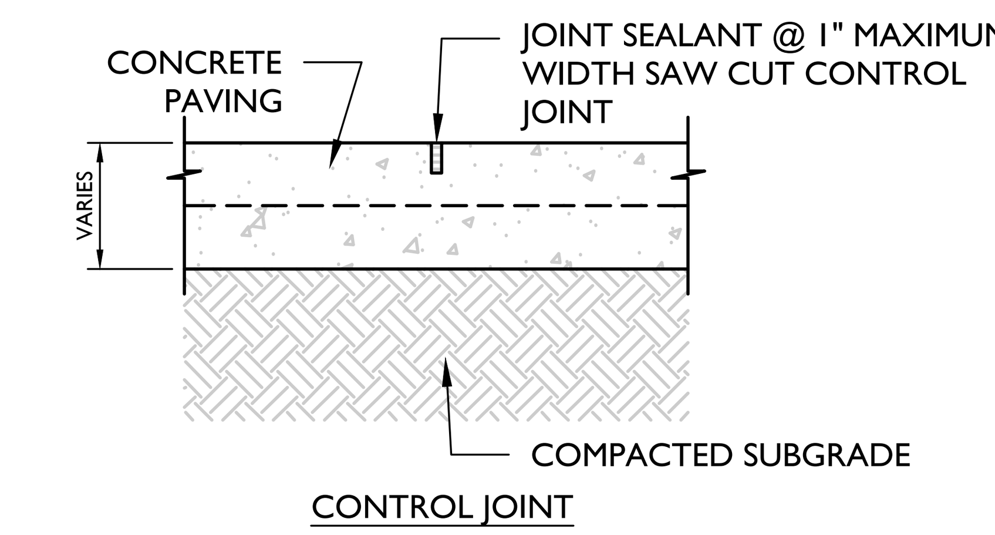
NOTES:

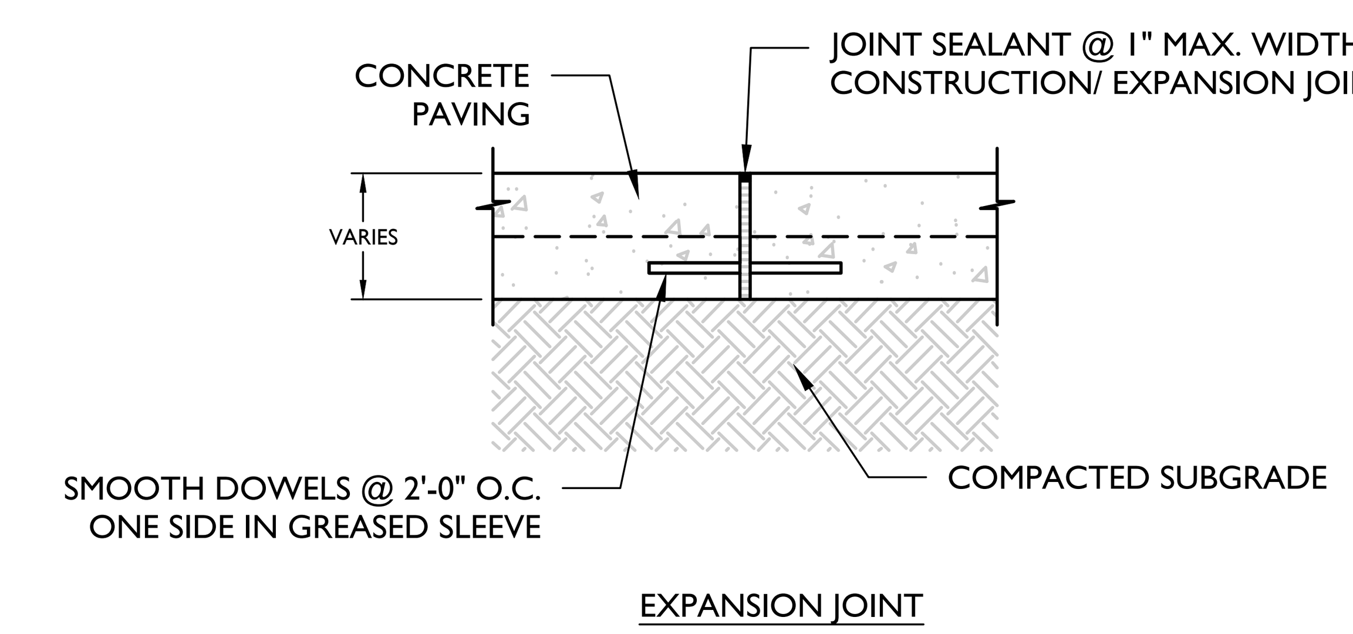
1. ROLL OUT DUMPSTER OPENINGS ARE PROPOSED TO ACCOMMODATE ACCESS TO ALL DUMPSTERS.
2. GATE TO REMAIN CLOSED WHEN NOT IN USE. HINGES TO INCLUDE SELF-CLOSING MECHANISM.

REFUSE/RECYCLING ENCLOSURE (WITH DOUBLE GATE) DETAIL
NTS



TRASH ENCLOSURE CONCRETE PAD DETAIL
NTS





CONCRETE PAVING JOINTS DETAIL
NTS

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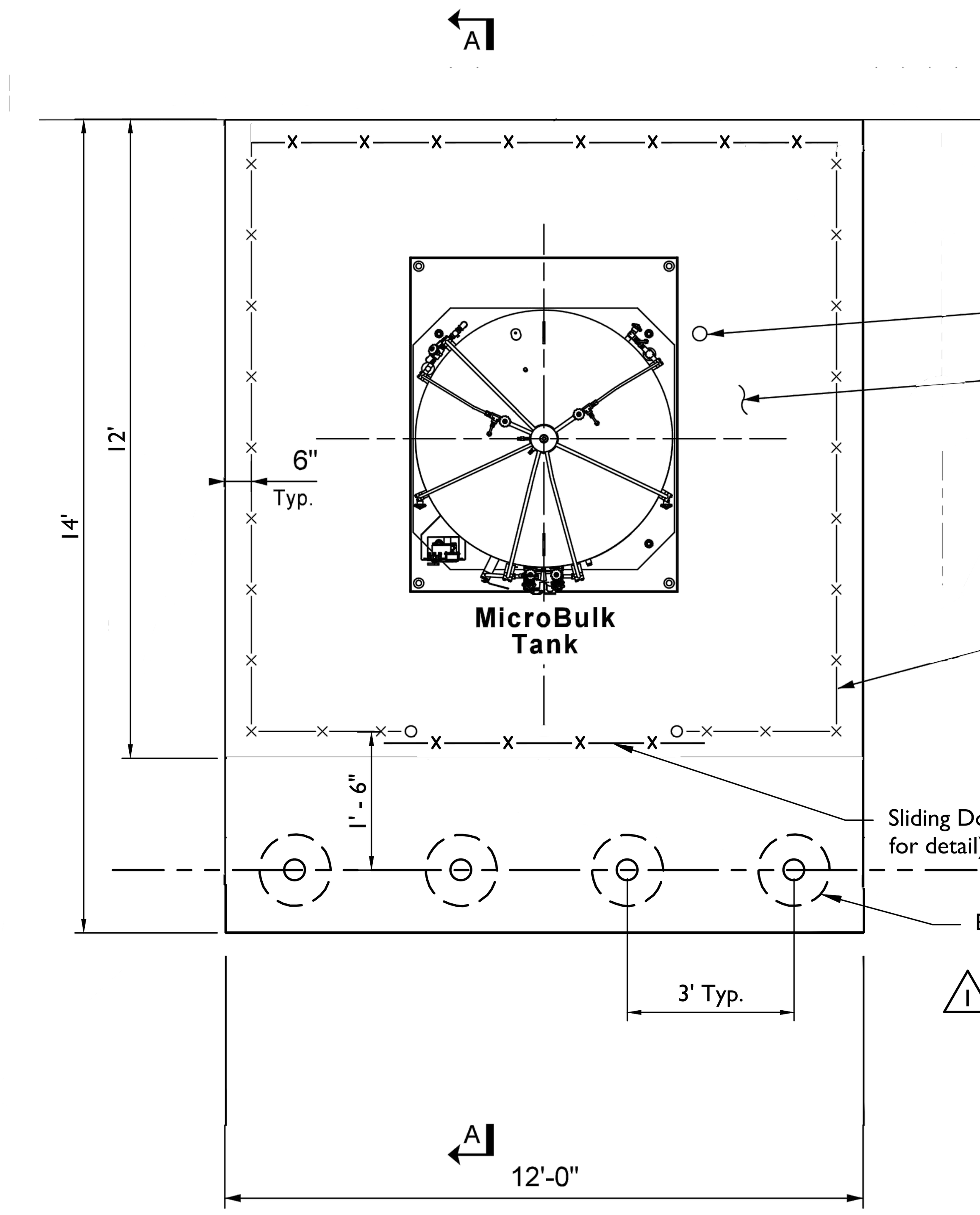
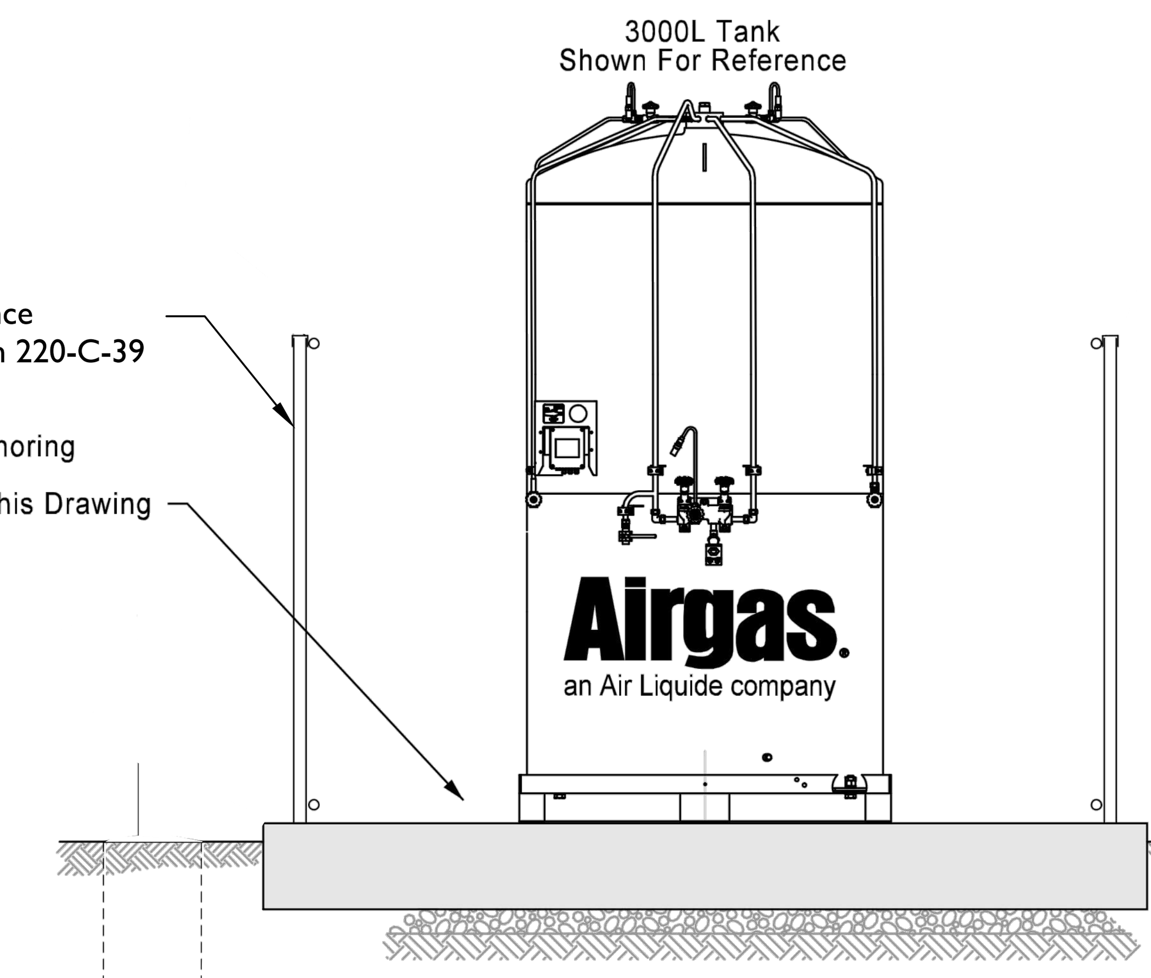
220-C-37
CONSTRUCTION DETAILS

Contract: 1759
CAD File Name: 220C37.DWG
Date: 01 / 14 / 2022
Sheet: 25 of 287

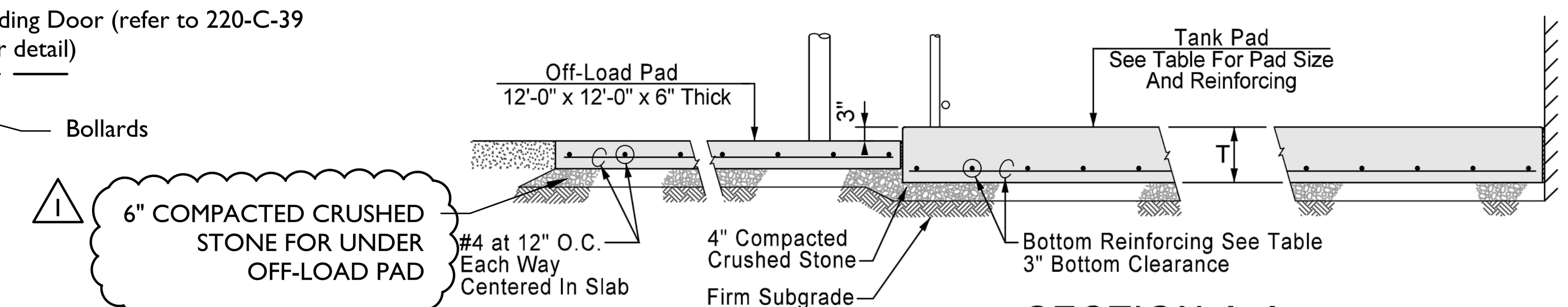


PLAN - TANK PAD

For Nitrogen or Argon MicroBulk Tanks



ELEVATION



SECTION A-A

GENERAL NOTES

1. Verify All Dimensions And Conditions In Field.
2. Exact Site Location And Orientation Shall Be Agreed Upon Between Site Owner and Aigas.
3. Prior To Installing Granular Base & Pouring New Concrete, The Subgrade Shall Be Compacted.
4. Any Soft Spots Shall Be Excavated, Filled With Suitable Material & Compacted.
5. All Concrete Construction Shall Be In Accordance With The Latest Editions Of ACI-301, ACI-302 And ACI-318.
6. Concrete Compressive Strength Shall Be 4000 Psi @ 28 Days.
7. All Reinforcing Bars Shall Conform To ASTM A615 Grade 60.
8. Design Soil Capacity 2000 psf Minimum.
9. Design Loads are Based Upon the More Stringent of IBC 2018/ASCE7-16 and IBC 2015/ASCE7-10.
10. Design For Risk Category II.
    Design Wind Velocity: Per Table.
    Design Seismic: Per Table.
11. Depending Upon Exposure, This Installation Shall Meet The Separation Requirements Defined In National Fire Protection Association Booklet #55 And O.S.H.A. Regulation 1910.104.
12. Concrete Pad Dimensions Can Be Increased By 2'-0" In Each Direction Without Changing The Reinforcing Shown In the Table. Larger Pads Must Have The Reinforcing Reviewed By a Registered Professional Engineer.
13. Drawings and Notes specific to Airgas tanks and accessory structures override other contract drawings and specifications where applicable.

MICROBULK ANCHORAGE SPECIFICATIONS

X1 (1) 5/8" x 4-3/4" Hilti Kwik Bolt TZ expansion anchor per corner.
(4) per Tank Base
3-1/8" Embedment into 5/8" dia. x 3-3/4" deep holes
Maximum Tightening Torque = 60 ft-lbs

X2 (1) 5/8" x 16" Hilti HIT HY-200 adhesive anchor per corner.
(4) per Tank Base
Threaded Rod, ASTM F1554 Steel, w/ (1) Hex Nut
12" Embedment into 3/4" dia. x 12-1/4" deep holes
Maximum Tightening Torque = 60 ft-lbs

MICROBULK TANKS FOR LIN/LOX/LAR/CO2
INDUSTRIAL USE (RISK CAT. 2)
ASCE7 MAXIMUM BASIC WIND SPEED = 180 mph

VESSEL SIZE (liters)	450L, 700L, 1000L		1500L, 2000L, 3000L		5500L		Other ≤ 900 Gallons	
SEISMIC DESIGN CATEGORY	A/B	C/D	A/B	C/D	A/B	C/D	A/B	C/D
MAX. S_S (%g)	32.0	200	32.0	200	32.0	200	32.0	200
MAX. S_1 (%g)	8.3	70.0	8.3	70.0	8.3	70.0	8.3	70.0
FOUNDATION, X	10'-0"	10'-0"	12'-0"	12'-0"	13'-0"	13'-0"	12'-0"	12'-0"
FOUNDATION, Y	10'-0"	10'-0"	12'-0"	12'-0"	14'-6"	14'-6"	12'-0"	12'-0"
FOUNDATION, T	8"	16"	8"	16"	8"	16"	8"	16"
BOT. Reinf. BARS	#5 @ 12"	#6 @ 12"	#5 @ 12"	#6 @ 12"	#5 @ 12"	#6 @ 12"	#5 @ 12"	#6 @ 12"
ANCHOR TYPE	X1	X2	X1	X2	X1	X2	X1	X2

MICROBULK DATA TABLE
Weights Include Lab Base

VESSEL SIZE (liters)	450L	700L	1000L	1500L	2000L	3000L	5500L
VHP EMPTY WEIGHT (lbs)	1,077	1,515	2,015	2,500	3,860	4,500	9,100
VESSEL DIAMETER (in.)	30	42	42	48.0	48	58.0	80
HEIGHT with BASE (in.)	69	63	82	92	120	122	119
LAB BASE LENGTH (in.)	30.63	42.5	50.63	66.63	65.63	75.5	101.5
LAB BASE WIDTH (in.)	30.63	42.5	46.63	52.63	52.63	60.5	85.5

AIRGAS FOUNDATION DETAIL
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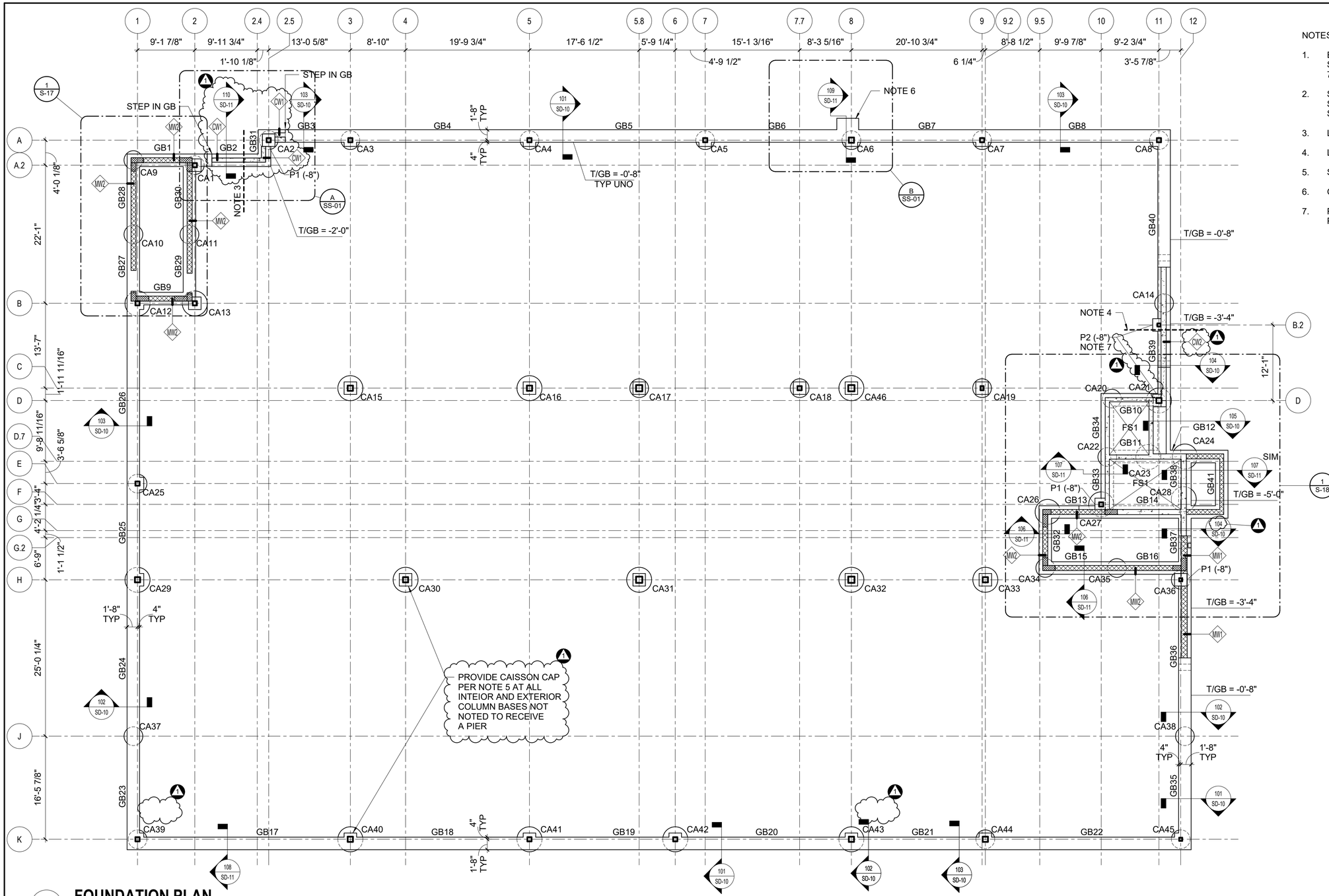
220-C-38
CONSTRUCTION DETAILS

Contract: 1759
CAD File Name: 220C38.DWG
Date: 01 / 14 / 2022
Sheet: 26 of 287



NOTES:

1. ELEVATIONS SHOWN ARE BASED UPON TOP OF LEVEL 01 SLAB ELEVATION OF 0'-0". THIS ELEVATION EQUATES TO 729.00' AS SHOWN ON SITE / CIVIL PLANS
2. SEE SHEET 220-SS-01 FOR CAISSON AND GRADE BEAM SCHEDULES. SEE SHEET 220-SS-02 FOR ALL OTHER SCHEDULES
3. LOCATION OF SITE UTILITY SLEEVED THRU GRADE BEAM
4. LOCATION OF SITE UTILITY SLEEVED THRU FOUNDATION WALL
5. SEE SHEET 220-SS-01 FOR CAISSON CAP DETAILS
6. GRADE BEAM EXTENSION PER PLAN DETAIL
7. PIER P2 TO BE POURED INTEGRAL W/ GB39 & WALL PER PIER DETAIL

1 FOUNDATION PLAN

1/8" = 1'-0"

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

8' 0' 4' 8'

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220-S-10
FOUNDATION PLAN

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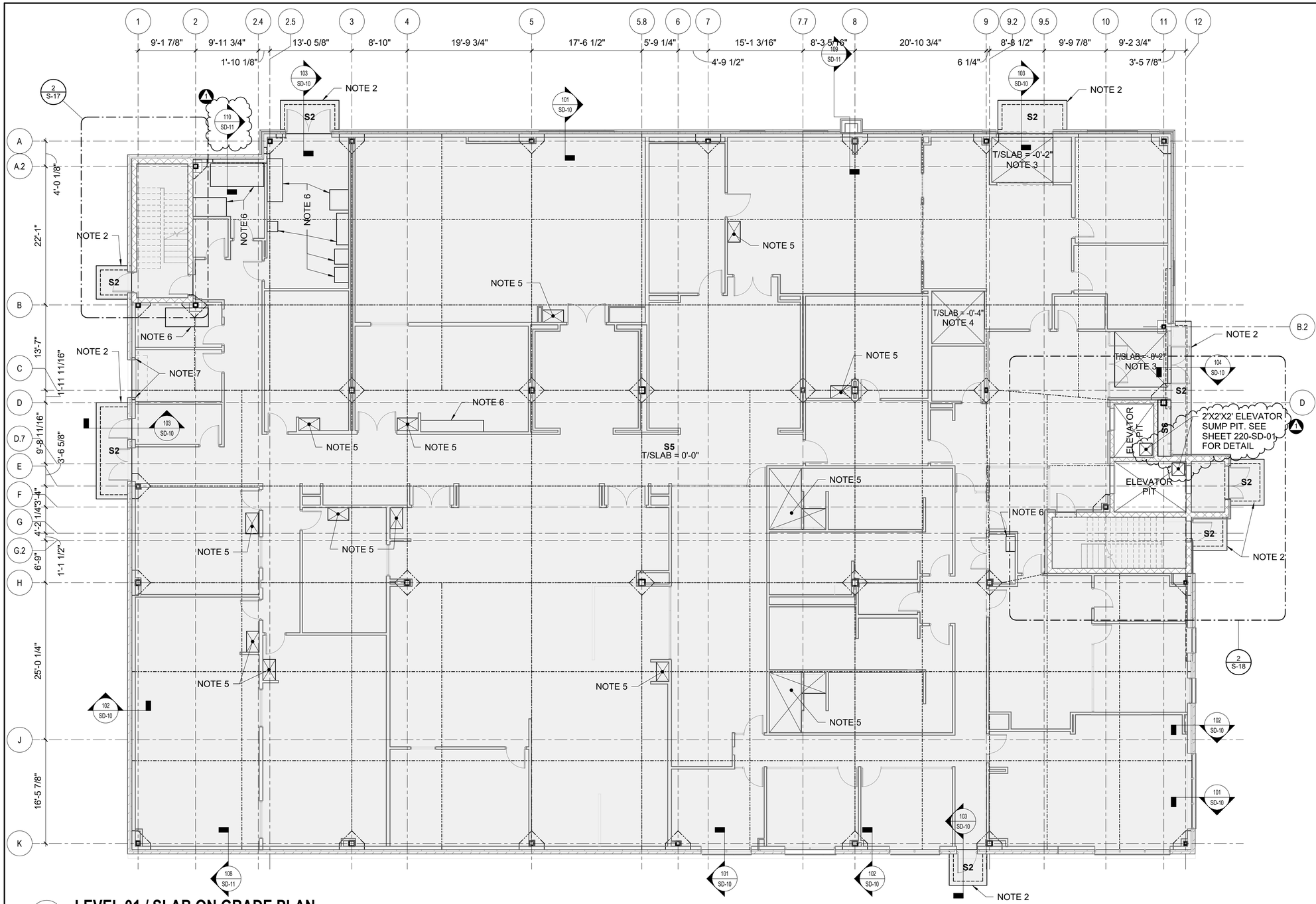
CAD File Name:	S-10.DGN
Date:	01 / 14 / 2022
Sheet:	46 of 287



NOTES:

1. ELEVATIONS SHOWN ARE BASED UPON TOP OF LEVEL 01 SLAB ELEVATION OF 0'-0". THIS ELEVATION EQUATES TO 729.00' AS SHOWN ON SITE / CIVIL PLANS
2. FROST WALL ON 3 SIDES OF EXTERIOR SLAB. COORD LOCATIONS & EXTENT W/ SIDEWALK DIMENSIONS SHOWN ON SITE / CIVIL DRAWINGS
3. 2" SLAB RECESS FOR WALK OFF MAT. COORD LOCATION & DEPTH W/ ARCHITECTURAL DOCUMENTS. SEE SHEET 220-SD-02 FOR DETAIL
4. 4" SLAB RECESS FOR WALK IN COOLER. COORD LOCATION & DEPTH W/ ARCHITECTURAL DOCUMENTS. SEE SHEET 220-SD-02 FOR DETAIL
5. 1" SLAB RECESS AT SHOWERS. COORD LOCATION & DEPTH W/ ARCHITECTURAL DOCUMENTS. SEE SHEET 220-SD-02 FOR DETAIL
6. 6" HIGH EQUIPMENT PAD PER DETAIL ON SHEET 220-SD-02. COORD LOCATION & SIZE W/ MEP DOCUMENTS. GC TO COORD W/ MEP CONTRACTORS PRIOR TO INSTALLATION
7. SEE DETAIL ON SHEET 220-SD-06 FOR OVERHEAD DOOR JAMB STEEL
8. SEE SHEET 220-SS-02 FOR SLAB SCHEDULE

1 LEVEL 01 / SLAB ON GRADE PLAN

1/8" = 1'-0"

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

8' 0' 4' 8'

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220-S-11
LEVEL 01 / SLAB ON GRADE PLAN

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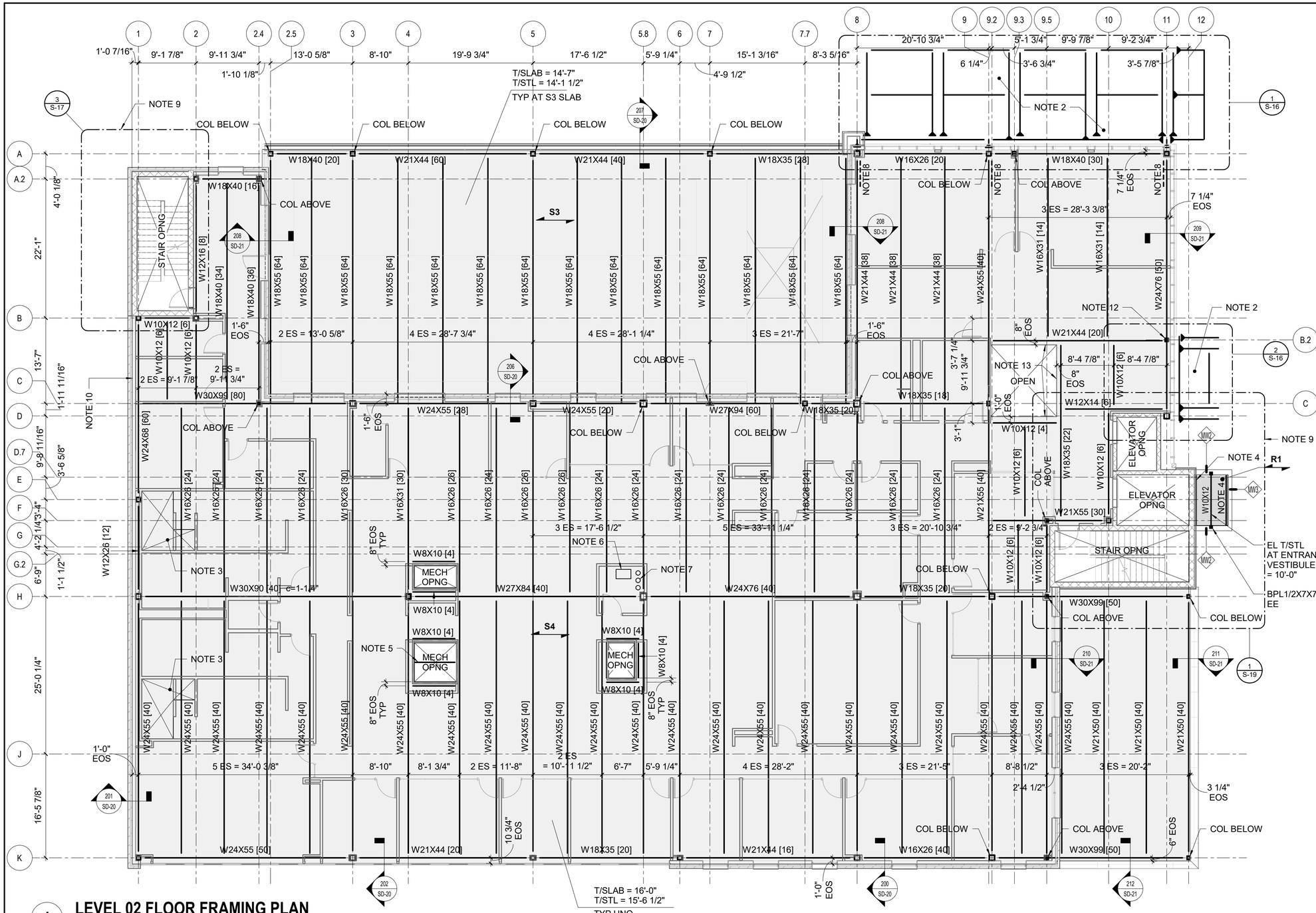
CAD File Name:	S-11.DGN
Date:	01 / 14 / 2022
Sheet:	47 of 287



1 LEVEL 02 FLOOR FRAMING PLAN

1/8" = 1'-0"

NOTES:

1. ELEVATIONS SHOWN ARE BASED UPON TOP OF LEVEL 01 SLAB ELEVATION OF 0'-0". THIS ELEVATION EQUATES TO 729.00' AS SHOWN ON SITE / CIVIL PLANS
2. ALL CANOPY FRAMING TO BE AESS PER PROJECT SPECIFICATIONS
3. 1" RECESS IN CONCRETE SLAB ON DECK AT SHOWERS. COORD EXTENT W/ ARCH DOCUMENTS. NO SHEAR STUDS TO BE LOCATED WITHIN THIS BLOCKOUT
4. L4X4X1/4 FOR SUPPORT OF ROOF DECK. ANCHOR TO MASONRY W/ 1/2" DIA SLEEVE ANCHORS AT 24" OC
5. L3-1/2X3-1/2X1/4 FOR SUPPORT OF SHAFT WALL
6. 6" HIGH EQUIPMENT PAD PER DETAIL ON SHEET 220-SD-02. COORD LOCATION & SIZE W/ MEP DOCUMENTS. GC TO COORD W/ MEP CONTRACTORS PRIOR TO INSTALLATION
7. PROVIDE OPENING FOR CONDUIT. SEE DETAIL ON SHEET 220-SD-04 FOR FRAMING
8. (2) L3X3X3/8 KICKER AT HSS COLUMN SUPPORTING CANOPY. SEE SHEET 220-S-16 FOR DETAIL
9. REFER TO PARTIAL PLANS FOR SECTION CUTS
10. SEE SHEET 220-SD-06 FOR OVERHEAD DOOR HEAD DETAIL
11. SEE SHEET 220-SS-02 FOR SLAB AND ROOF DECK SCHEDULES
12. COLUMN TO HAVE VERTICAL SLIP CONNECTION TO U/S OF BEAM PER DETAIL ON SHEET 220-SS-03
13. PROVIDE 3/8" BENT PLATE AT DECK EDGE FOR ANCHORAGE OF RAILING SYSTEM

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220-S-12
LEVEL 02 FLOOR FRAMING PLAN

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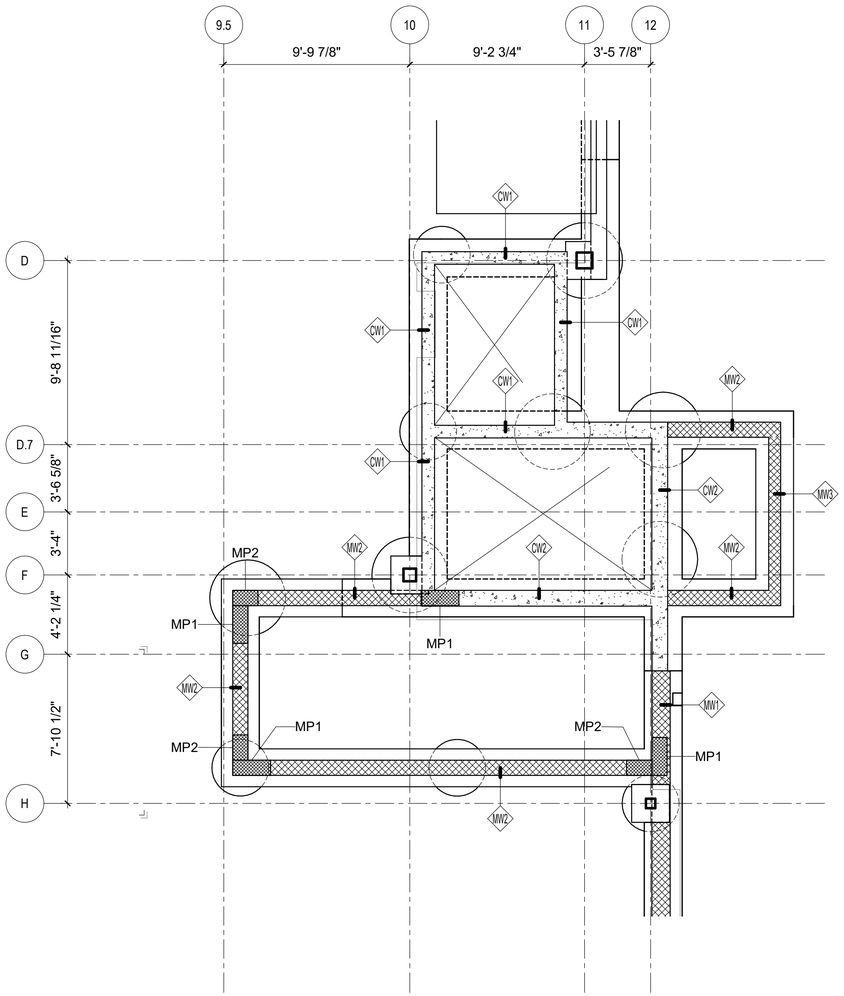
Sheet:	48 of 287

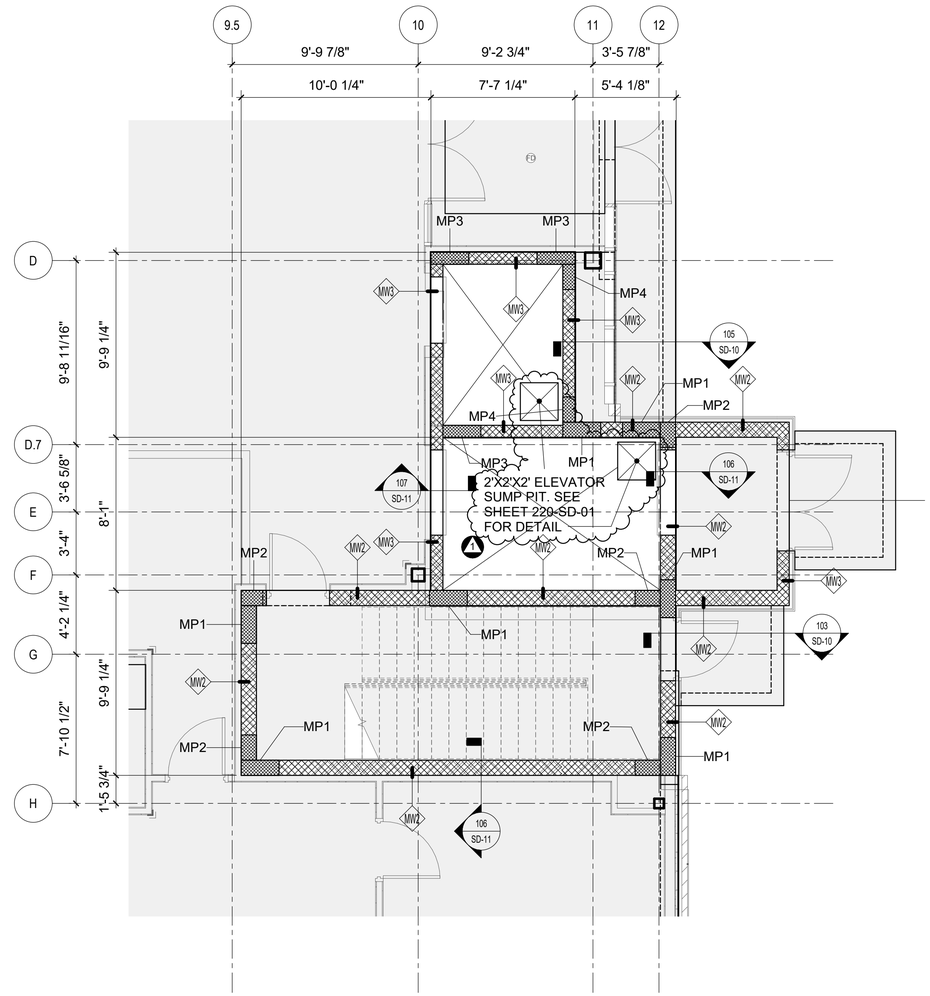


1 ENLARGED STAIR / ELEVATOR TOWER FOUNDATION PLAN

1/4" = 1'-0"

NOTES:

1. REFER TO SHEET 220-S-10 FOR LOCATION OF PARTIAL PLAN
2. SEE SHEET 220-SS-02 FOR MASONRY WALL AND PIER SCHEDULES
3. SEE SHEETS 220-SD-04 AND 220-SD-05 FOR TYPICAL DETAILS AND LINTEL SCHEDULES

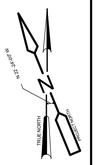


2 ENLARGED STAIR / ELEVATOR TOWER SLAB ON GRADE PLAN

1/4" = 1'-0"

NOTES:

1. REFER TO SHEET 220-S-11 FOR LOCATION OF PARTIAL PLAN
2. SEE SHEET 220-SS-02 FOR MASONRY WALL AND PIER SCHEDULES
3. SEE SHEETS 220-SD-04 AND 220-SD-05 FOR TYPICAL DETAILS AND LINTEL SCHEDULES



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

4' 0' 2' 4'

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220-S-18
ENLARGED STAIR/ELEVATOR PLANS

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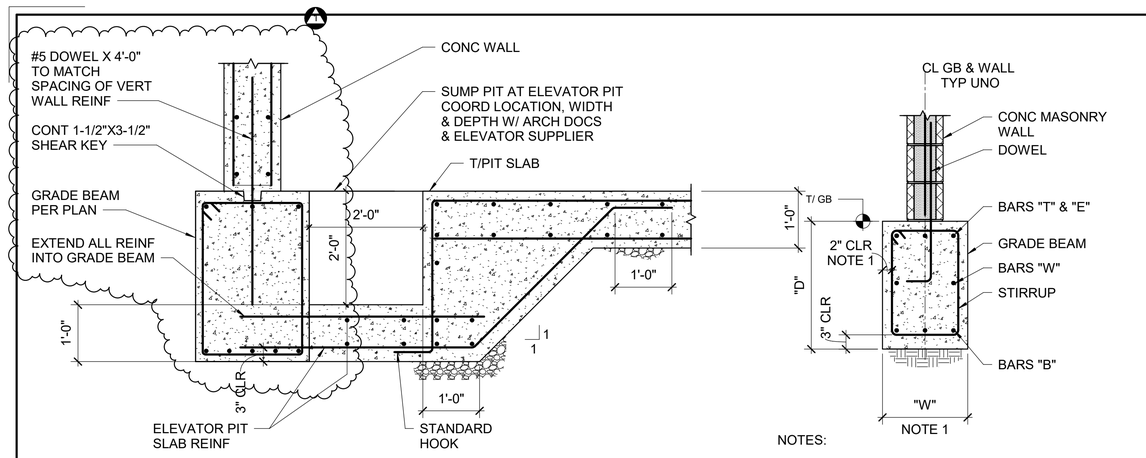
CAD File Name:	S-18.DGN
Date:	01 / 14 / 2022
Sheet:	54 of 287

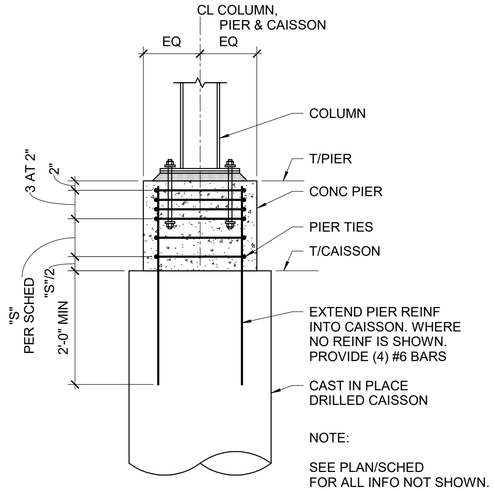


TYPICAL ELEVATOR SUMP PIT DETAIL

NOTES:

1. INCREASE CLEAR COVER TO 3" AT EACH UNFORMED SIDE & INCREASE "W" BY 1" FOR EACH UNFORMED SIDE. SEE GENERAL NOTES FOR INFO ON "EARTH FORMING" OF GRADE BEAMS.

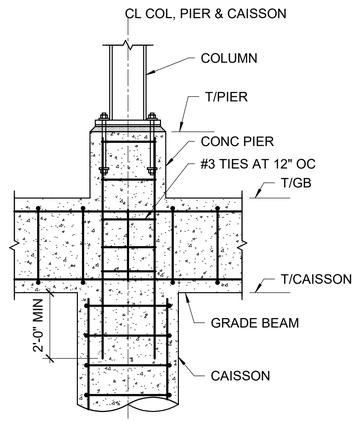
TYPICAL MASONRY WALL ON GRADE BEAM DETAIL



NOTE:

SEE PLAN/SCHED FOR ALL INFO NOT SHOWN.

TYPICAL CONCRETE PIER ON CAISSON DETAIL



NOTE:

SEE PLAN/SCHED FOR INFO NOT SHOWN

TYPICAL PIER CAST INTEGRAL WITH CAISSON AND GRADE BEAM DETAIL

TYPICAL GRADE BEAM REINFORCING DETAIL

NOTE:

SEE PLAN/SCHEDULE/DETAILS FOR ALL INFO NOT SHOWN

TYPICAL GRADE BEAM STEP DETAIL AT FOUNDATION SUPPORT

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220-SD-01
TYPICAL DETAILS

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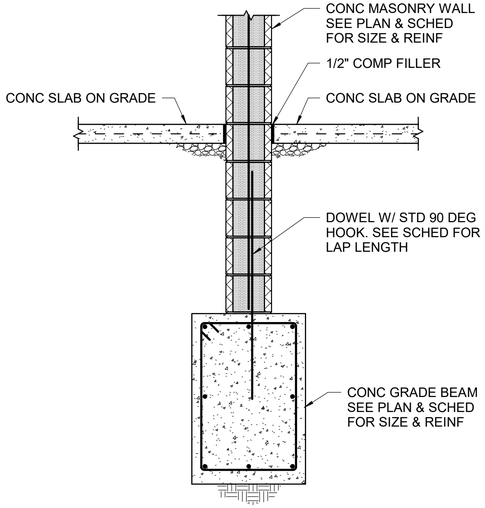
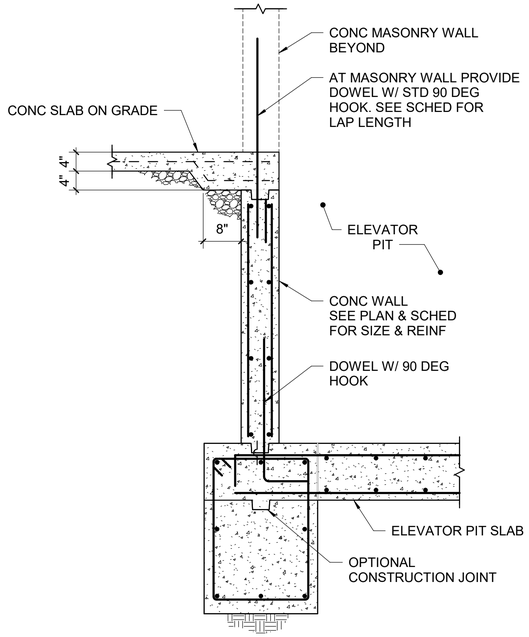
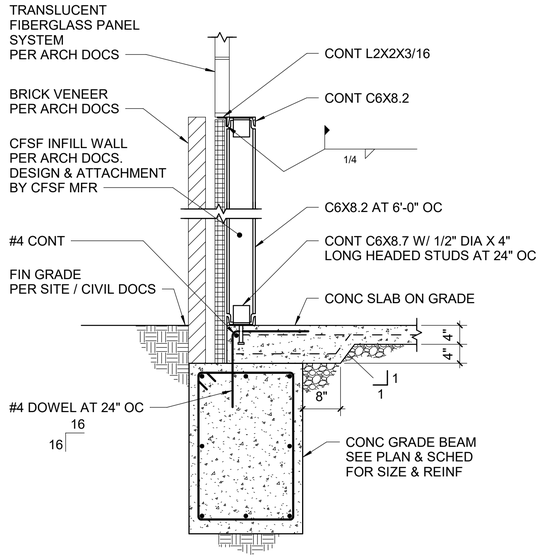
Date:	01 / 14 / 2022
Sheet:	56 of 287



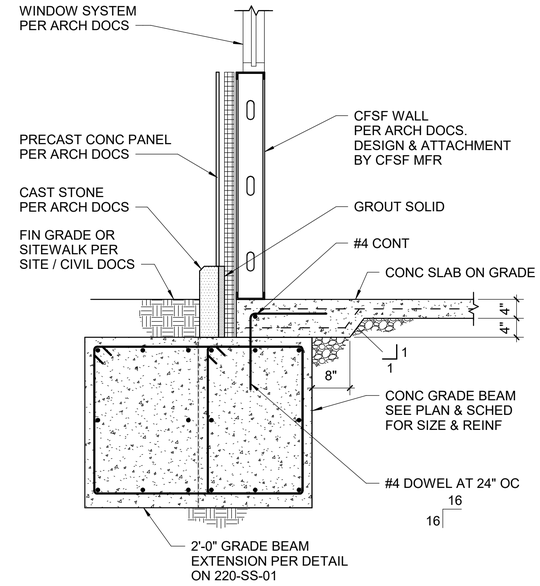
SECTION 106 SD-11
SCALE: 3/4" = 1'-0"



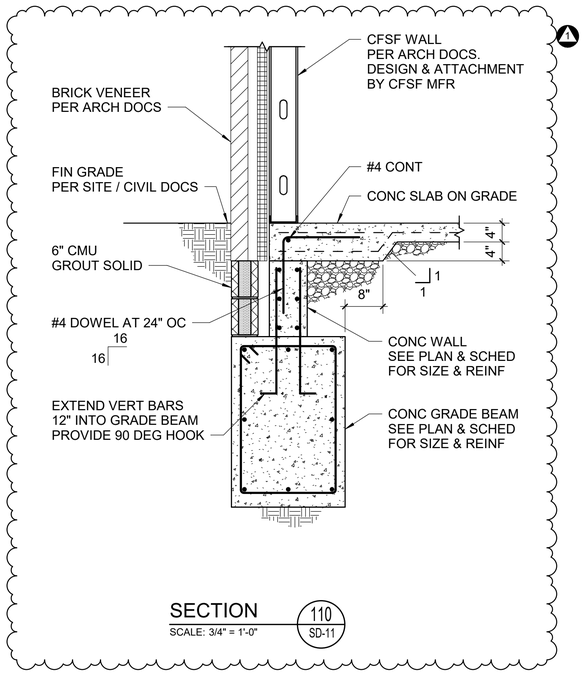
SECTION 107 SD-11
SCALE: 3/4" = 1'-0"



SECTION 108 SD-11
SCALE: 3/4" = 1'-0"



SECTION 109 SD-11
SCALE: 3/4" = 1'-0"



SECTION 110 SD-11
SCALE: 3/4" = 1'-0"

SCALE: 3/4" = 1'-0"
1' 0' 1' 2'

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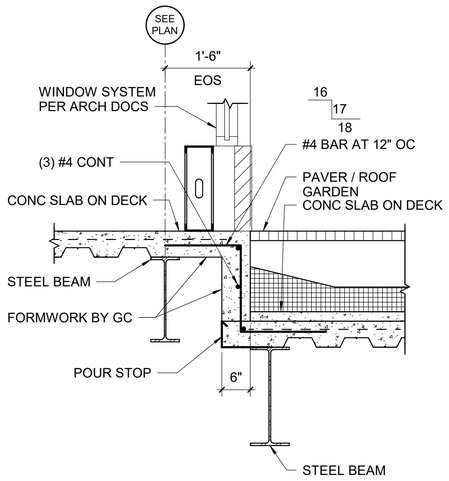
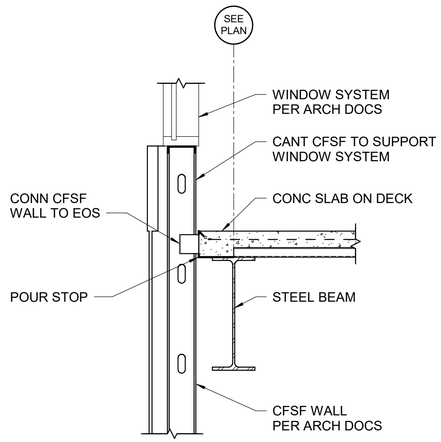
220-SD-11
SECTIONS AND DETAILS

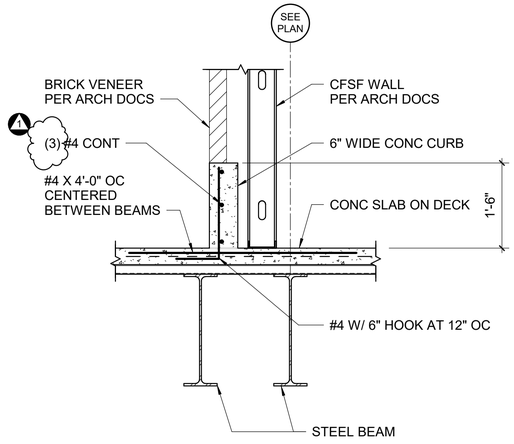
Contract:	1759
CAD File Name:	SD-11.DGN
Date:	01 / 14 / 2022
Sheet:	63 of 287



SECTION 208 SD-21
SCALE: 3/4" = 1'-0"



SECTION 209 SD-21
SCALE: 3/4" = 1'-0"



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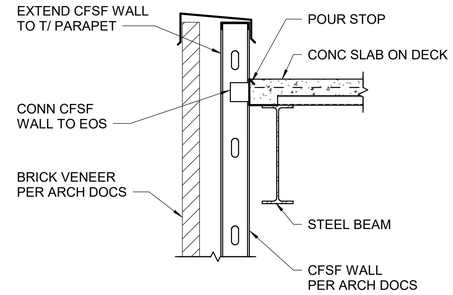
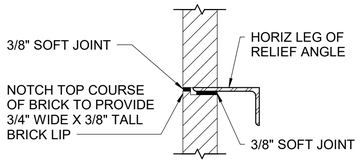
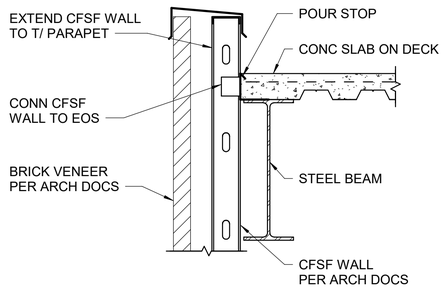
SCALE: 3/4" = 1'-0"



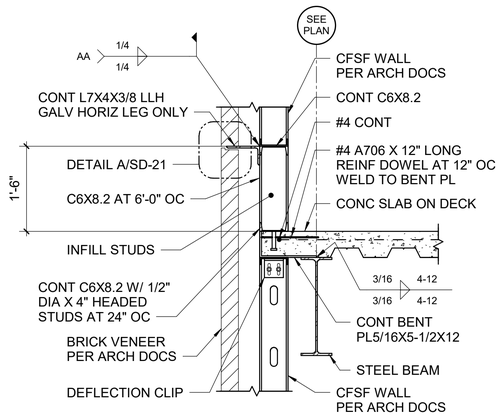
SECTION 211 SD-21
SCALE: 3/4" = 1'-0"



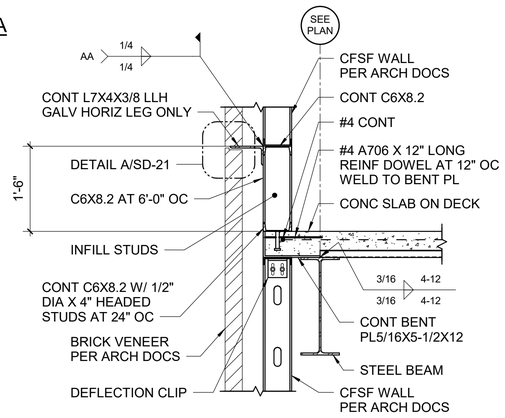
DETAIL A



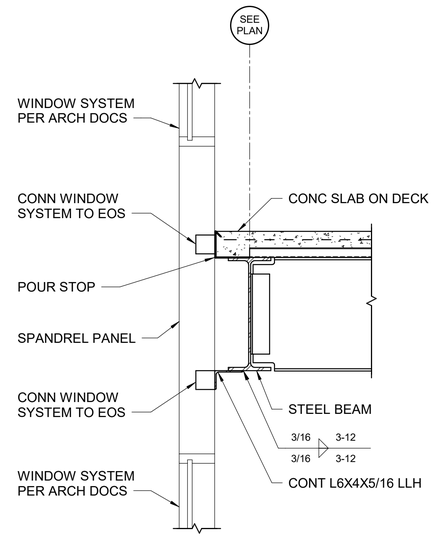
SECTION 212 SD-21
SCALE: 3/4" = 1'-0"



SECTION 213 SD-21
SCALE: 3/4" = 1'-0"



SECTION 214 SD-21
SCALE: 3/4" = 1'-0"



SECTION 215 SD-21
SCALE: 3/4" = 1'-0"

SCALE: 3/4" = 1'-0"
1' 0' 1' 2'

Designed by:	REVISION			
PJA	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	06/21/22	Addendum 4	1
SJT				
Checked by:				
AMV				

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AES Project #19-315 (*R20)

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ANDREW M VERRENGIA ENGINEER No. PE071820

alcosan allegheny county sanitary authority

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
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220-SD-21
SECTIONS AND DETAILS

Contract:	1759
CAD File Name:	SD-21.DGN
Date:	01 / 14 / 2022
Sheet:	65 of 287

FOUNDATION SLAB SCHEDULE				
MARK	LONGTIUDINAL REINFORCING	TRANSVERSE REINFORCING	TOTAL THICKNESS	NOTES
FS1	#5 AT 12" T & B	#5 AT 12" T & B	12"	CONCRETE ELEVATOR PIT SLAB

ROOF (SLAB/DECK) SCHEDULE			
MARK	TYPE	NOTES	TOTAL THICKNESS
R1	1 1/2"-20 GA GALV STEEL ROOF DECK	3 SPANS CONT	1 1/2"

ALL FLOORS (SLAB/DECK) SCHEDULE			
MARK	TYPE	REINFORCING	TOTAL THICKNESS
S2	5" EXTERIOR CONC SLAB ON GRADE	6X6-W2.1XW2.1 WWR	5"
S3	PAVING SYSTEM ON 3-1/2" NWT CONC SLAB ON 2"-20 GA COMP STEEL DECK	6X6-W2.1XW2.1 WWR	5 1/2"
S4	3-1/2" NWT CONC SLAB ON 2"-20 GA COMP STEEL DECK	6X6-W2.1XW2.1 WWR	5 1/2"
S5	4" CONC SLAB ON GRADE	6X6-W2.1XW2.1 WWR	4"
S6	8" CONC SLAB ON GRADE	#4 AT 12" OC EA WAY	8"

CONCRETE MASONRY WALL SCHEDULE				
MARK	WIDTH	VERTICAL REINFORCING	DOWELS TO FDN	NOTES
MW1	11 5/8"	#5 AT 24" OC	#5 AT 24" OC	
MW2	9 5/8"	#5 AT 24" OC	#5 AT 24" OC	
MW3	7 5/8"	#5 AT 24" OC	#5 AT 24" OC	

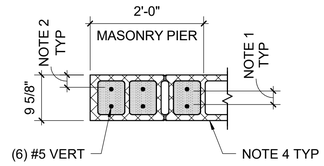
CONCRETE PIER SCHEDULE						
MARK	LENGTH	WIDTH	REINFORCING (TIES)	REINFORCING (VERT)	DETAIL	NOTES
P1	2'-0"	2'-0"	#3 AT 12" OC	(8) #7	P1	
P2	2'-0"	2'-0"	#3 AT 12" OC	(8) #7	P2	

CONCRETE MASONRY PIER SCHEDULE						
MARK	LENGTH	WIDTH	REINFORCING (TIES)	REINFORCING (VERT)	DETAIL	NOTES
MP1	2'-0"	9 5/8"	----	(6) #5	MP1	
MP2	1'-4"	9 5/8"	----	(4) #5	MP2	
MP3	2'-0"	7 5/8"	----	(6) #5	MP1	
MP4	1'-4"	7 5/8"	----	(4) #5	MP4	

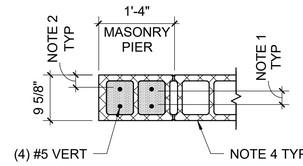
MASONRY PIER NOTES:

1. 1" MINIMUM CLEAR SPACING
2. 1-1/2" MINIMUM MASONRY COVER AT INTERIOR WALL FACES & 2" MINIMUM MASONRY COVER AT EXTERIOR AND BELOW GRADE WALL FACES
3. PROVIDE DOWELS INTO FTG TO MATCH VERT PIER REINF W/ 48 BAR DIA LAP TO VERT REINF AND ACS STD 90 DEG HOOK IN FOOTING
4. SEE PLANS & MASONRY WALL SCHED FOR CONTINUATION OF WALLS AT PIER LOCATIONS AND WALL REINFORCING. TOOTH MASONRY PIERS TOGETHER AT EVERY OTHER COURSE WITH MASONRY WALLS

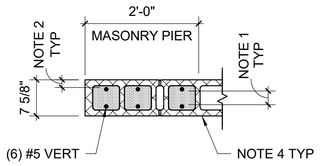
CONCRETE WALL SCHEDULE					
MARK	WIDTH	REINFORCING (VERT EA FACE)	REINFORCING (HORIZ EA FACE)	DOWELS TO FDN	NOTES
CW1	8"	#4 AT 18" OC	#4 AT 18" OC	#4 AT 18" OC	
CW2	10"	#5 AT 18" OC	#5 AT 18" OC	#5 AT 18" OC	



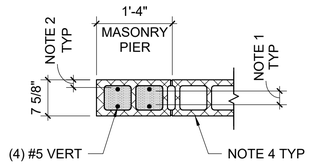
MASONRY PIER DETAIL "MP1"



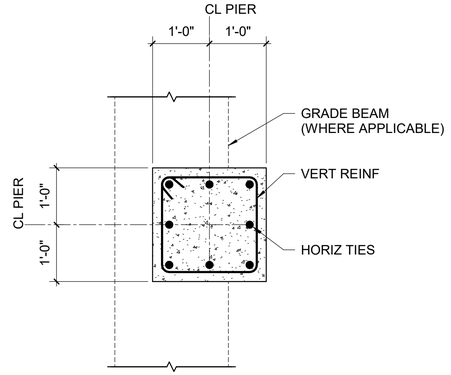
MASONRY PIER DETAIL "MP2"



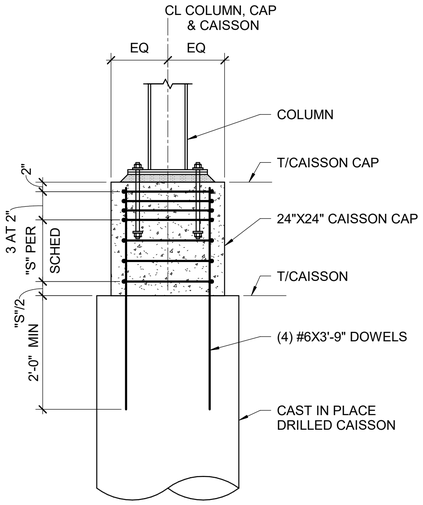
MASONRY PIER DETAIL "MP3"



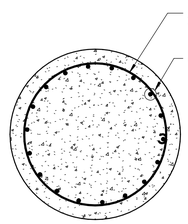
MASONRY PIER DETAIL "MP4"



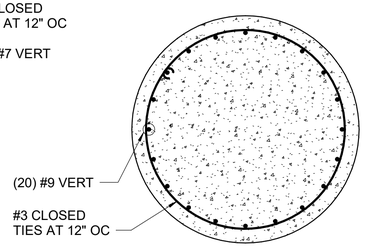
PIER DETAIL "P1"



TYPICAL INTERIOR CAISSON CAP DETAIL

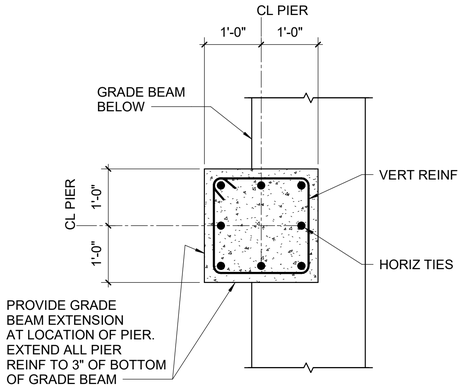


3'-0" DIA CAISSON REINFORCMENT



4'-0" DIA CAISSON REINFORCMENT

CAISSON REINFORCING DETAILS



PIER DETAIL "P2"

Designed by:	REVISION			
PJA	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	06/21/22	Addendum 4	1
SJT				
Checked by:				
AMV				

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AES Project #19-315 (*R20)

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ANDREW M VERRENGIA ENGINEER No. PE071820

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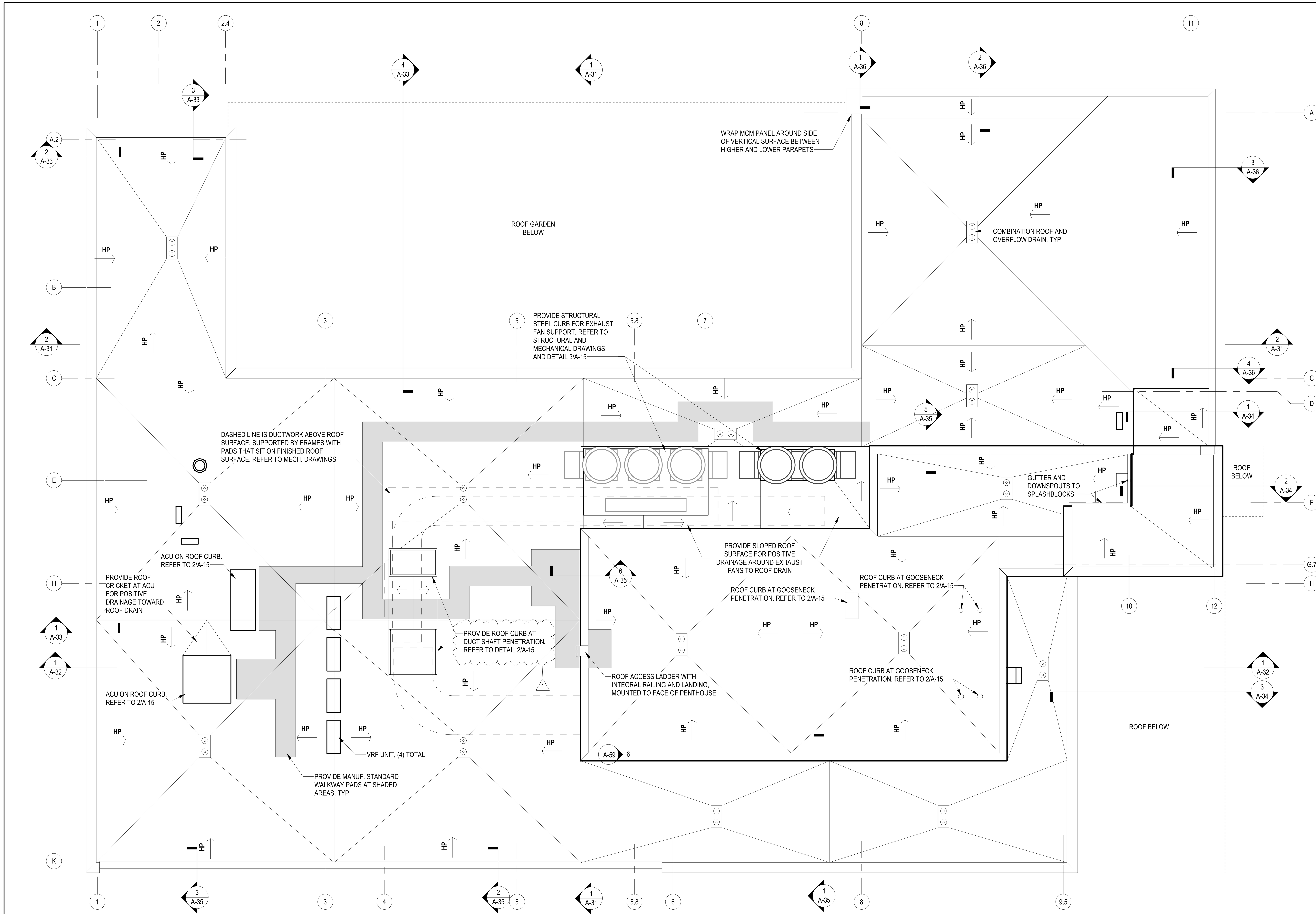
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-SS-02
SCHEDULES AND DETAILS

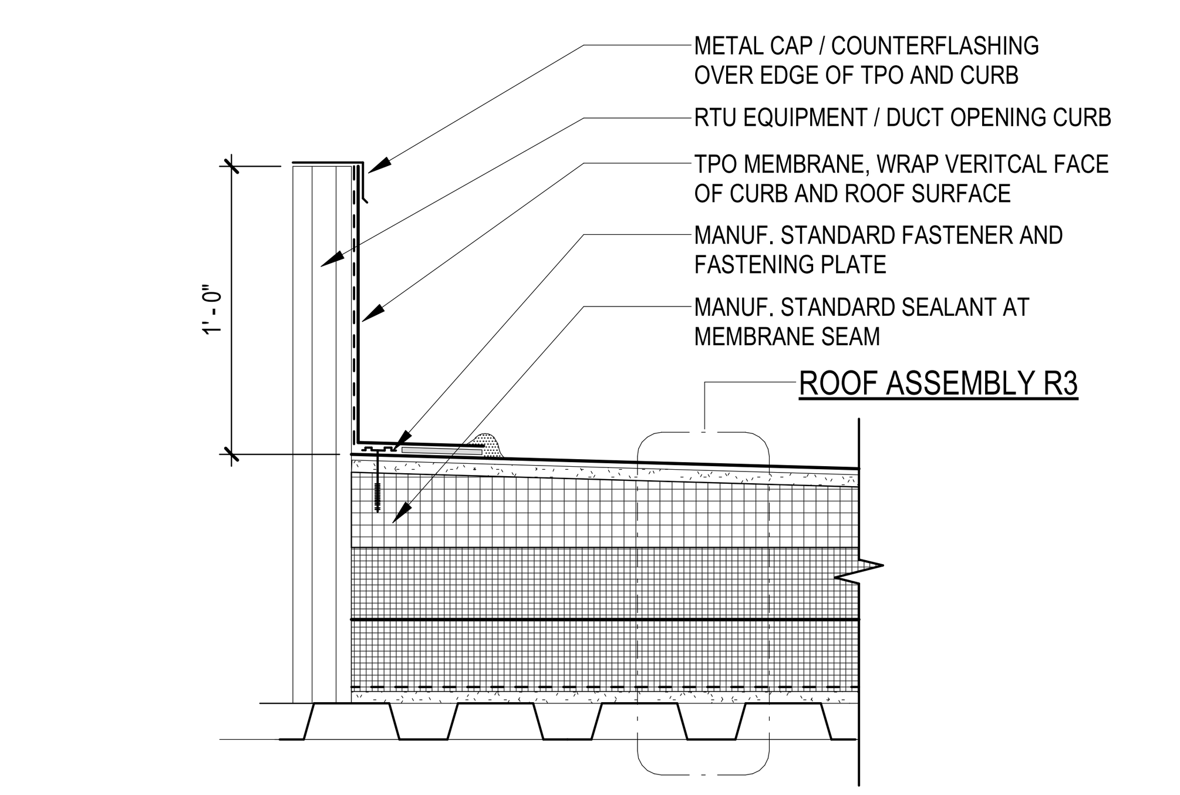
Contract:	1759
CAD File Name:	SS-02.DGN
Date:	01 / 14 / 2022
Sheet:	70 of 287

GENERAL CONSTRUCTION NOTES

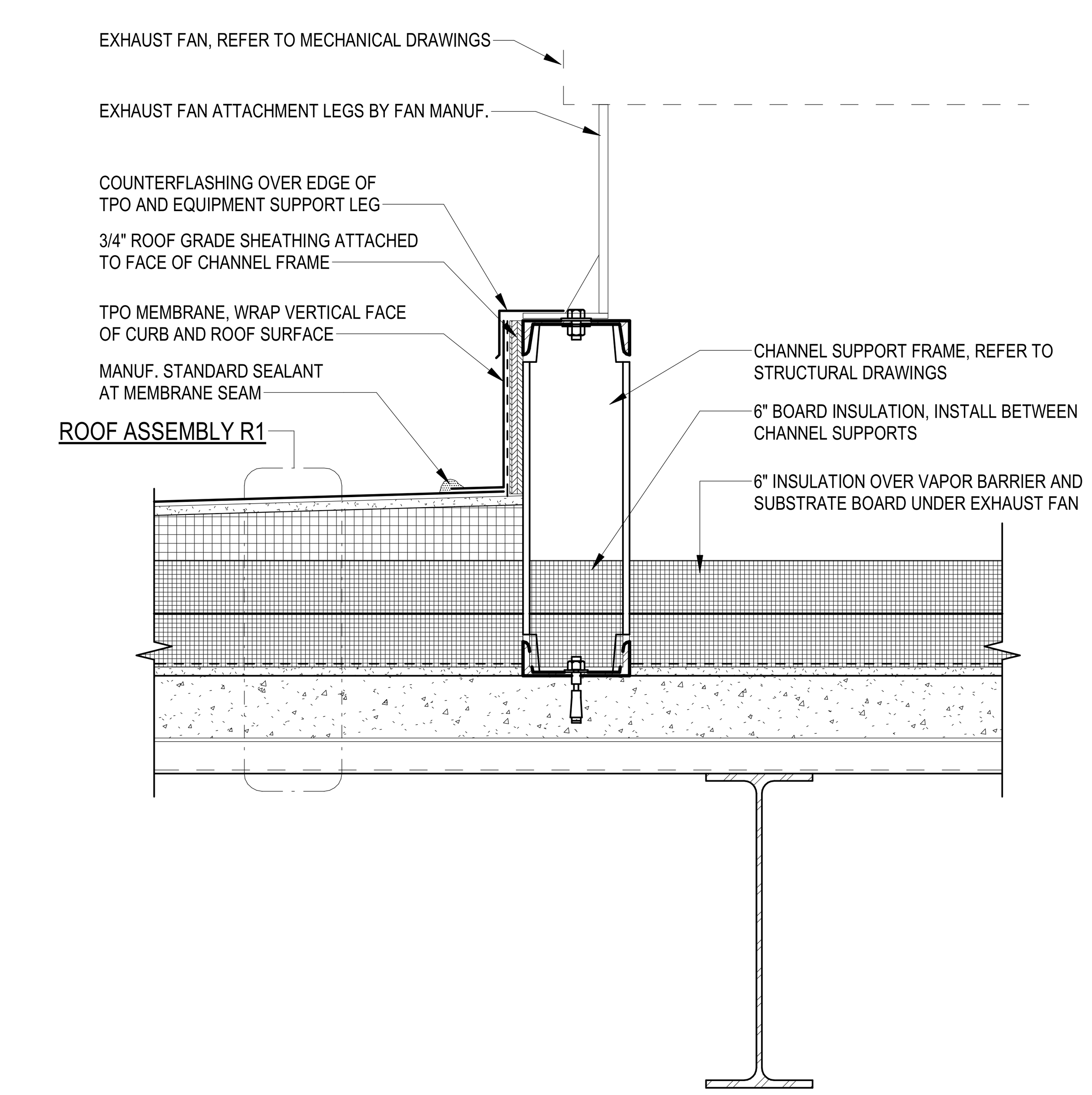
1. PARTITION TYPES: UNLESS OTHERWISE NOTED, SHALL BE TYPE A1
2. CONTRACTOR TO COORDINATE ALL BLOCKING FOR CASEWORK , ACCESSORIES, ETC.
3. PROVIDE ADEQUATE BACKUP AND BLOCKING FOR ALL WALL OR CEILING MOUNTED EQUIPMENT, ARCHITECTURAL WOODWORK, HANDRAILS, LIGHTING, OR OTHER MISCELLANEOUS ITEMS AS SHOWN ON DRAWINGS.
4. REFER TO REFLECTED CEILING PLANS FOR THE CEILING TYPE AND HEIGHT. COORDINATE HEIGHTS OF GYPSUM BOARD WITH CEILING HEIGHT AND WITH PARTITION DETAILS SHOWN HERE.
5. REFER TO FINISH SCHEDULE, INTERIOR ELEVATIONS, AND ARCHITECTURAL CASEWORK DETAILS FOR WALL FINISHES AND WALL MOUNTED ACCESSORIES TO COORDINATE BLOCKING REQUIREMENTS.
6. AT CERAMIC TILE, INSTALL CEMENTITIOUS BACKER BOARD, SHIM BACKER BOARD AS REQUIRED TO RESULT IN A FLUSH TRANSITION TO NON-BACKER BOARD.
7. IN TOILET ROOMS, PROVIDE MOISTURE RESISTANT GYPSUM BOARD ON ALL WALLS.



1 **OVERALL ROOF PLAN**
1/8" = 1'-0"



2 **CURB DETAIL**
1 1/2" = 1'-0"



3 **MECH CURB DETAIL**
1 1/2" = 1'-0"

SCALE: 1/8" = 1'-0" — 8' 0' 4' 8'
SCALE: 1 1/2" = 1'-0" — .5' 0' .5' 1'

Designed by: F. SANTORO
Drawn by: S. BUCHA
Checked by: R. SYMANSKI

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	6/21/22	ADDENDUM 4	2

AE WORKS.
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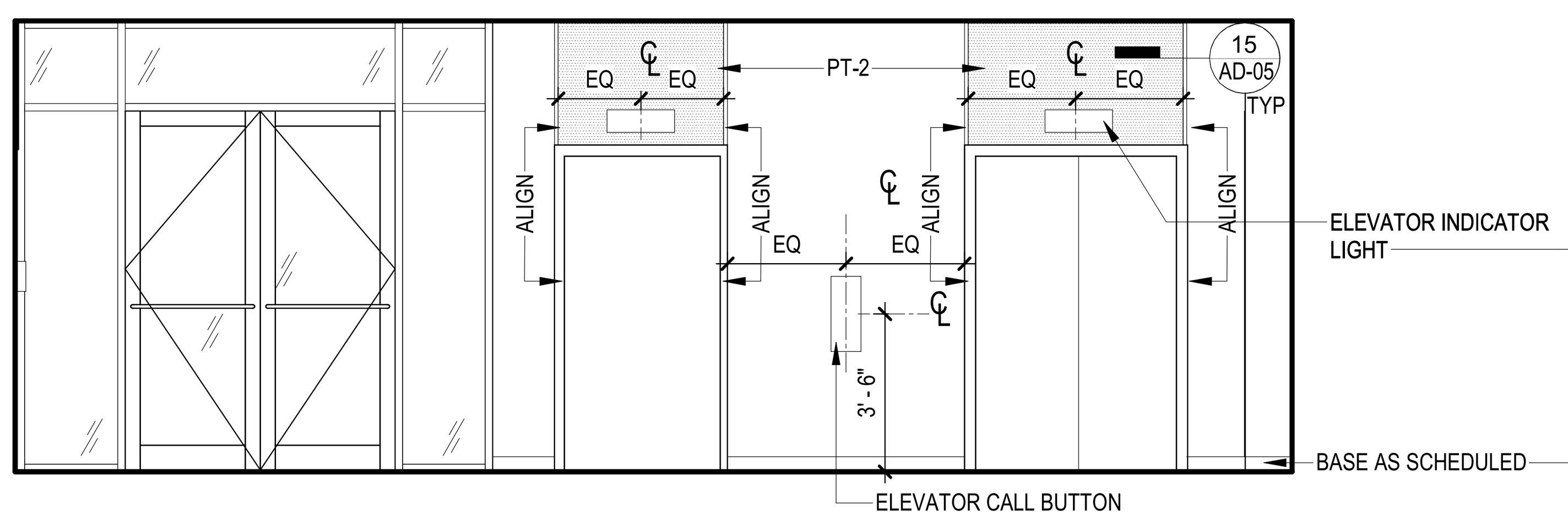
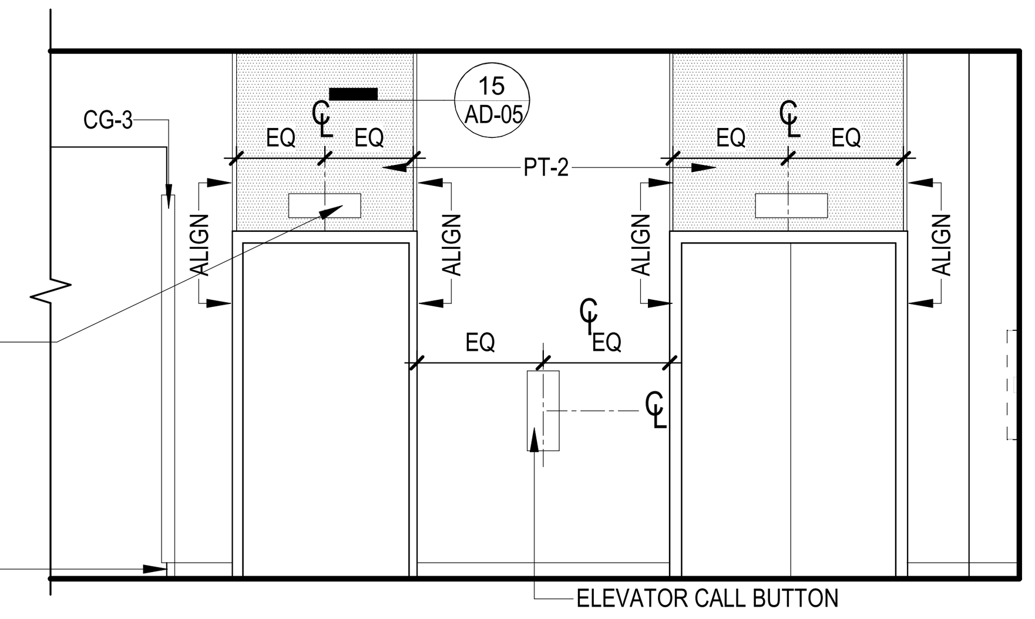
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-A-15
OVERALL ROOF PLAN AND DETAILS

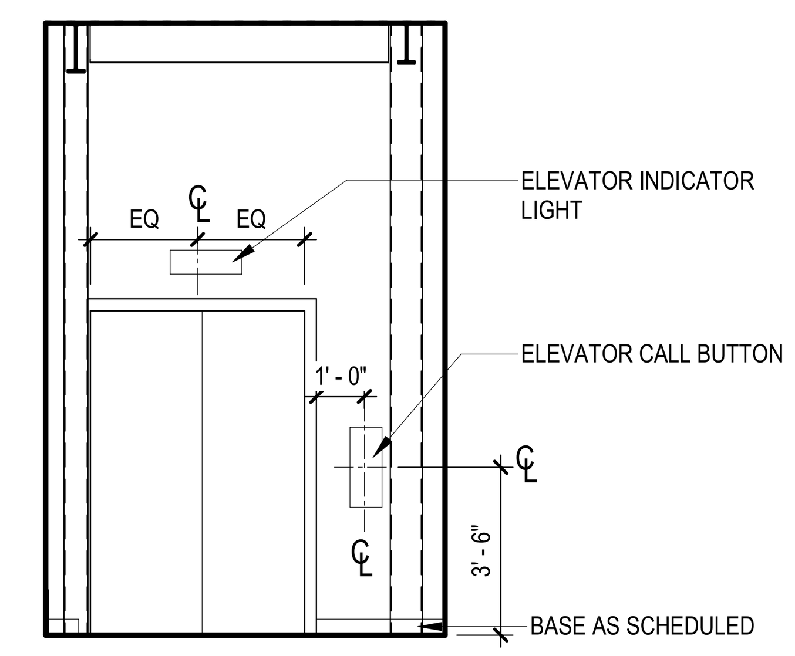
Contract: 1759
CAD File Name: A-15.DGN
Date: 01 / 14 / 2022
Sheet: 82 of 288



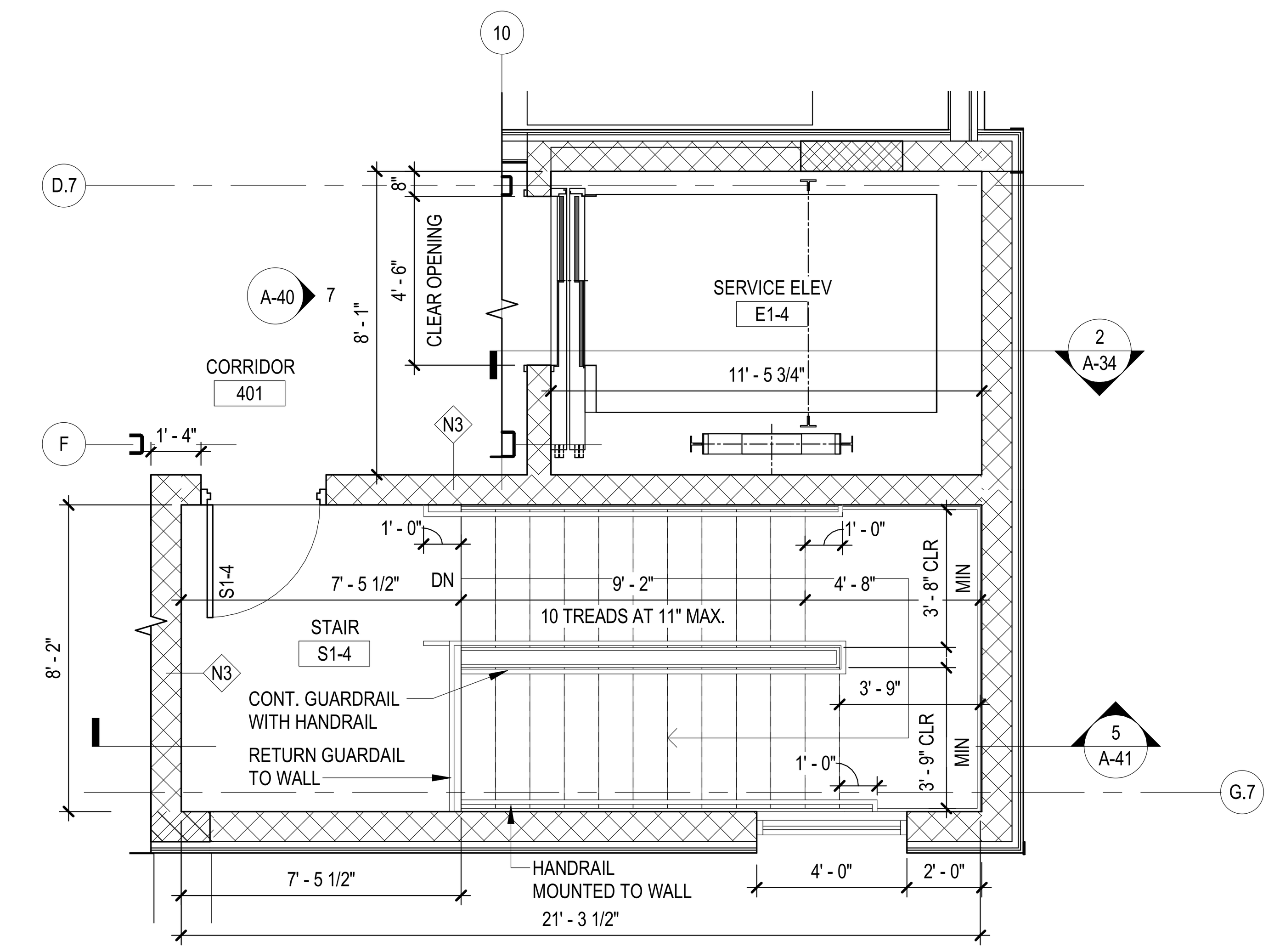
5 **LOBBY 101 - EAST**
1/4" = 1'-0"



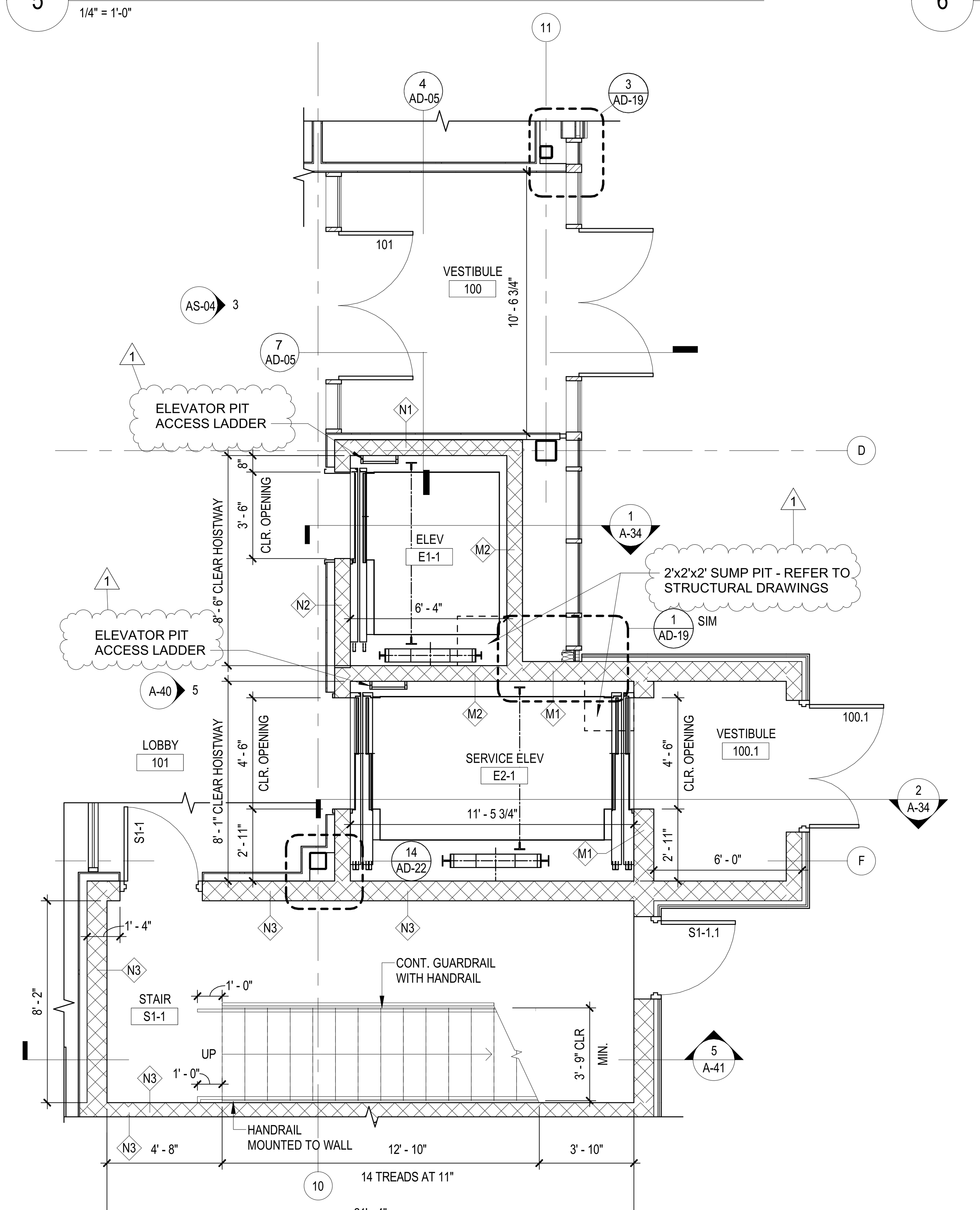
6 **LOBBY 201 - EAST**
1/4" = 1'-0"



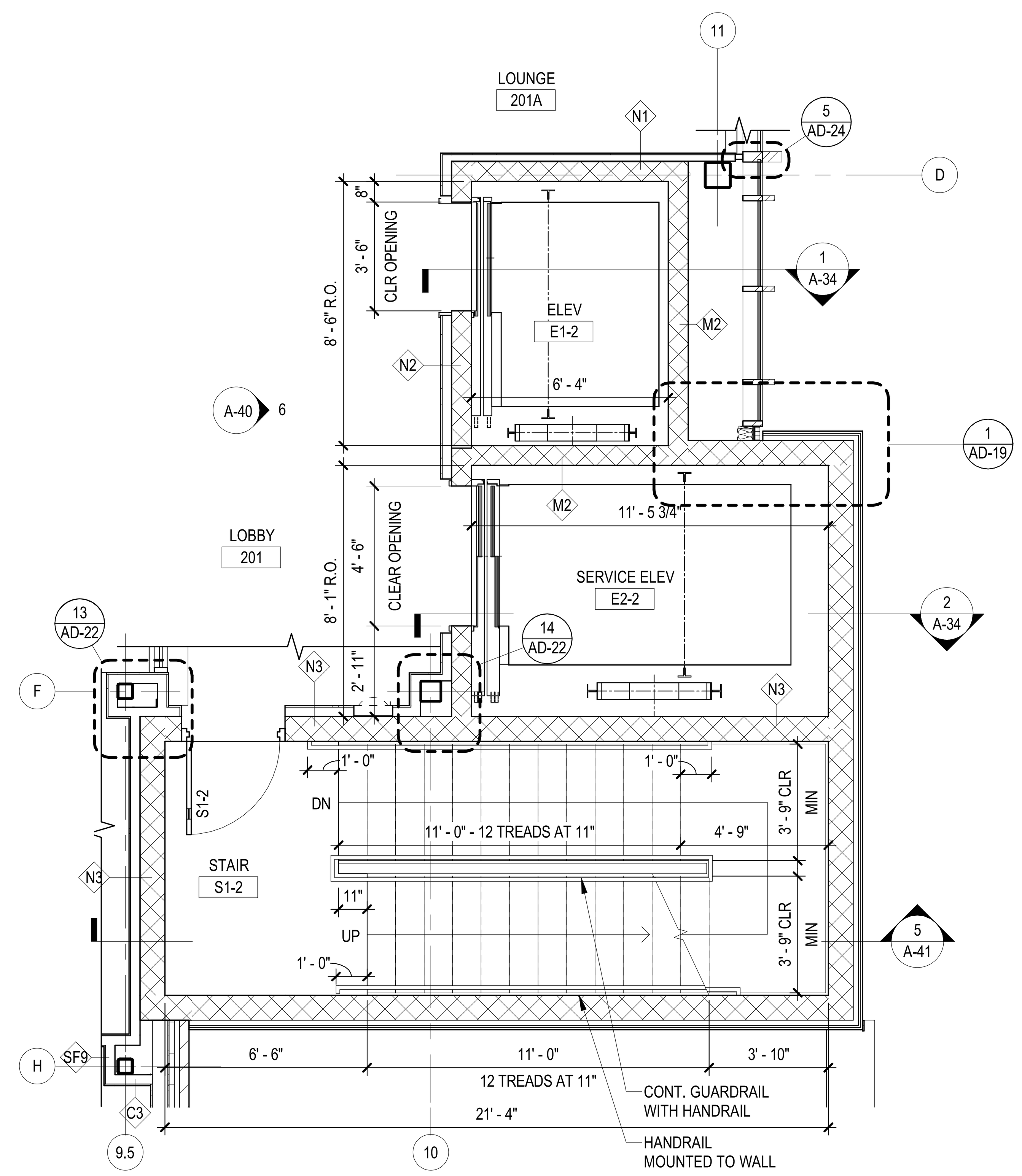
7 **CORRIDOR 401 - EAST**
1/4" = 1'-0"



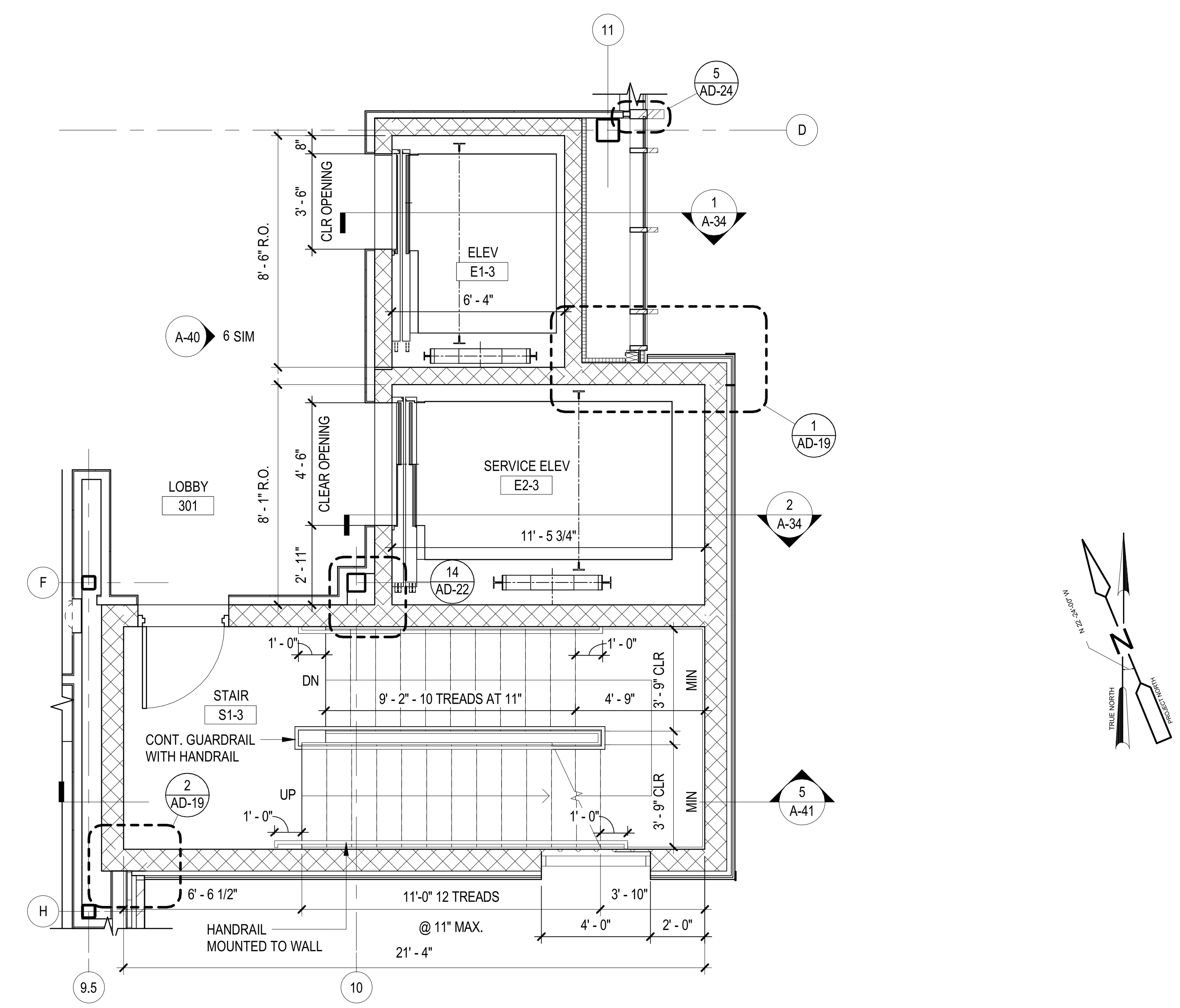
4 **ENLARGED PLAN - PENTHOUSE MAIN CORE**
1/4" = 1'-0"



1 **ENLARGED PLAN - FIRST FLOOR MAIN CORE**
1/4" = 1'-0"



2 **ENLARGED PLAN - SECOND FLOOR MAIN CORE**
1/4" = 1'-0"



3 **ENLARGED PLAN - THIRD FLOOR MAIN CORE**
1/4" = 1'-0"

SCALE: 1/4" = 1'-0"
4' 0' 2' 4'

Designed by: F. SANTORO
Drawn by: S. BUCHA
Checked by: R. SYMANSKI

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	6/21/22	ADDENDUM 4	2

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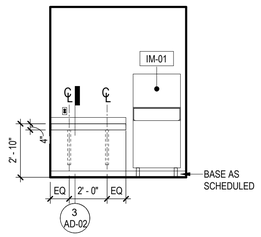
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

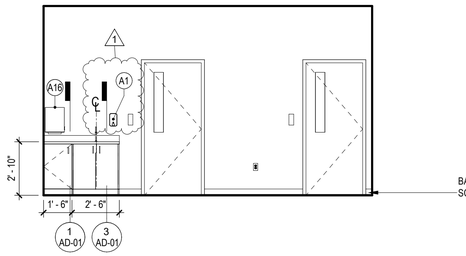
220-A-40
ENLARGED PLANS & ELEVATIONS

Contract: 1759
CAD File Name: A-40.DGN
Date: 01 / 14 / 2022
Sheet: 100 of 288



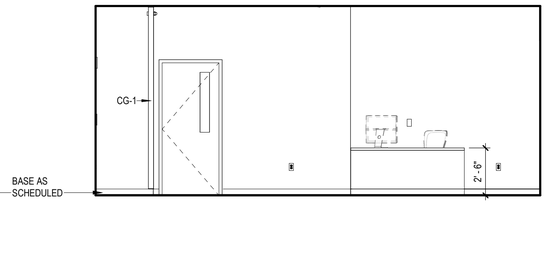
2 VESTIBULE 119 - EAST

1/4" = 1'-0"



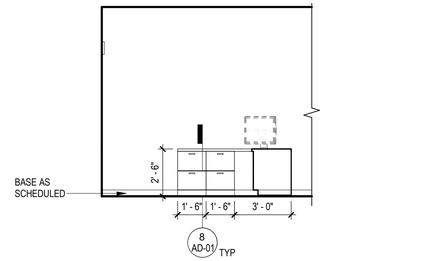
3 SAMPLE DROP-OFF 120 - EAST

1/4" = 1'-0"



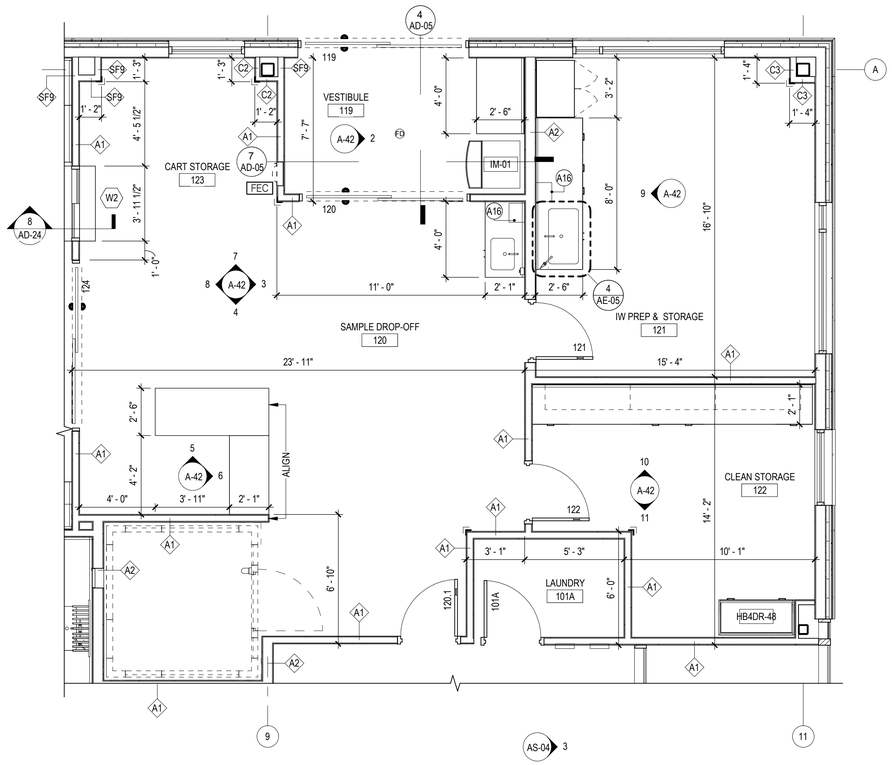
4 SAMPLE DROP-OFF 120 - SOUTH

1/4" = 1'-0"



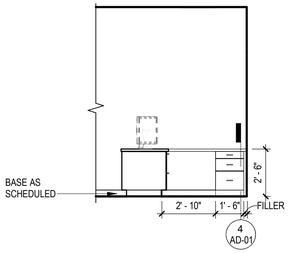
5 SAMPLE DROP-OFF 120 - DESK

1/4" = 1'-0"



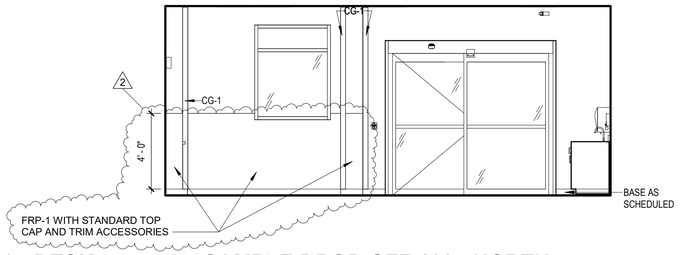
1 ENLARGED PLAN - SAMPLE DROP OFF

1/4" = 1'-0"



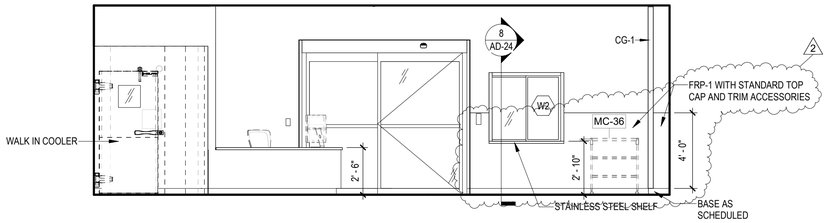
6 SAMPLE DROP-OFF 120 - DESK

1/4" = 1'-0"



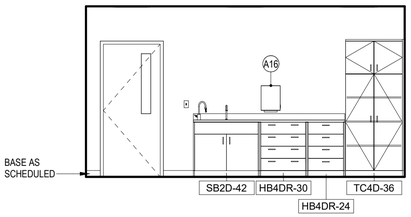
7 SAMPLE DROP-OFF 120 - NORTH

1/4" = 1'-0"



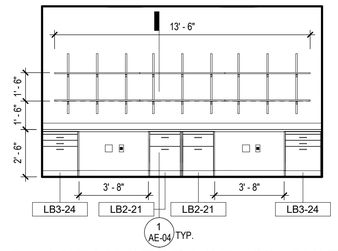
8 SAMPLE DROP-OFF 120 - WEST

1/4" = 1'-0"



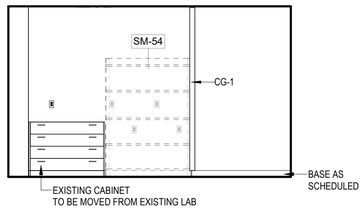
9 IW PREP & STORAGE 121 - WEST

1/4" = 1'-0"



10 CLEAN STORAGE 122 - NORTH

1/4" = 1'-0"



11 CLEAN STORAGE 122 - SOUTH

1/4" = 1'-0"

GENERAL NOTES - INTERIOR ELEVATIONS

1. REFER TO FINISH PLANS, FINISH LEGENDS, & SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. REFER TO EQUIPMENT PLANS FOR ADDITIONAL LAB CASEWORK AND LAB EQUIPMENT INFORMATION.
3. REFER TO 220-A-00 FOR ADA / ANSI A117.1 MOUNTING HEIGHTS OF OPERABLE PARTS FOR ALL TOILET ACCESSORIES.
4. COORDINATE ALL POWER / DATA / BACK BOX ROUGH-INS WITH OWNER AT ALL DISPLAY / MONITOR MOUNTING LOCATIONS. ALL POWER / DATA / BACK BOXES ARE TO BE CONCEALED BEHIND DISPLAYS / MONITORS.
5. GC TO REFERENCE PLUMBING DRAWINGS FOR GC FURNISHED PLUMBING FIXTURES.
6. REFER TO FINISH PLANS FOR SCHEDULED COUNTERTOPS AND LAMINATES.
7. ALL LAB CASEWORK WITH EXPOSED CABINET FACES TO RECEIVE FINISHED SIDE AND/OR BACK PANELS.

ACCESSORY SCHEDULE (AB)

#	TYPE	MANUFACT.	PRODUCT #	MOUNT TYPE	OF	CF	OI	CI	REMARKS
A1	SURFACE MOUNTED SOAP DISPENSER	BOBRICK	B-2111	SURFACE		X		X	
A2	18" GRAB BAR	BOBRICK	B-5806.99x18	SURFACE		X		X	
A3	36" GRAB BAR	BOBRICK	B-6806x36" SST SATIN	SURFACE		X		X	
A4	42" GRAB BAR	BOBRICK	B-6806x42" SST SATIN	SURFACE		X		X	
A5	SINGLE JUMBO ROLL SURFACE MOUNTED TOILET TISSUE DISPENSER	BOBRICK	B-2890	SURFACE		X		X	
A6	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL	BOBRICK	B-254	SURFACE		X		X	
A7	RECESSED PAPER TOWEL DISPENSER/WASTE RECEPTACLE	BOBRICK	B-36903	RECESSED		X		X	
A8	HEAVY DUTY DOUBLE TIER LOCKERS	LYON	-	FLOOR		X		X	
A9	MIRROR (24 X 42)	BRADLEY	781-1836	SURFACE		X		X	CENTER ON SINK
A10	COAT HOOK	BOBRICK	B-7671	SURFACE		X		X	CENTER WIDTH WISE ON DOORS
A11	MIRROR (18" X 36")	BRADLEY	781-1860	SURFACE		X		X	
A12	ADA BENCH	HOLLMAN	OSLO	SURFACE		X		X	SOLID SURFACE SEAT
A13	REVERSIBLE SOLID PHENOLIC FOLDING SHOWER SEAT	BOBRICK		SURFACE		X		X	
A14	42" GRAB BAR	BOBRICK	B-6806x42" SST SATIN						
A15	SHOWER CURTAIN ROD WITH CONCEALED MOUNTING	BOBRICK	B-207	SURFACE		X		X	
A16	PAPER TOWEL DISPENSER	BOBRICK	B-4262	SURFACE		X		X	
A17	SHELF WITH MOP AND BROOM HOLDERS AND HOOKS	BOBRICK	B-239	SURFACE		X		X	
A18	SHOWER CURTAIN	BOBRICK	204	SURFACE		X		X	

ELEVATION LEGEND

- LIGHT SWITCH
- DUPLEX
- FOURPLEX
- DATA
- CARD READER
- EVACUATION PUSH BUTTON
- FIRE ALARM PULL STATION
- CAMERA
- SPEAKER
- ACCESS PANEL

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

4' 0' 2' 4'

Designed by: F. SANTORO	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
Drawn by: C. CAMPBELL	1	3/24/22	ADDENDUM 2	1
	2	6/21/22	ADDENDUM 4	2
Checked by: R. SYMANSKI				

AE WORKS.
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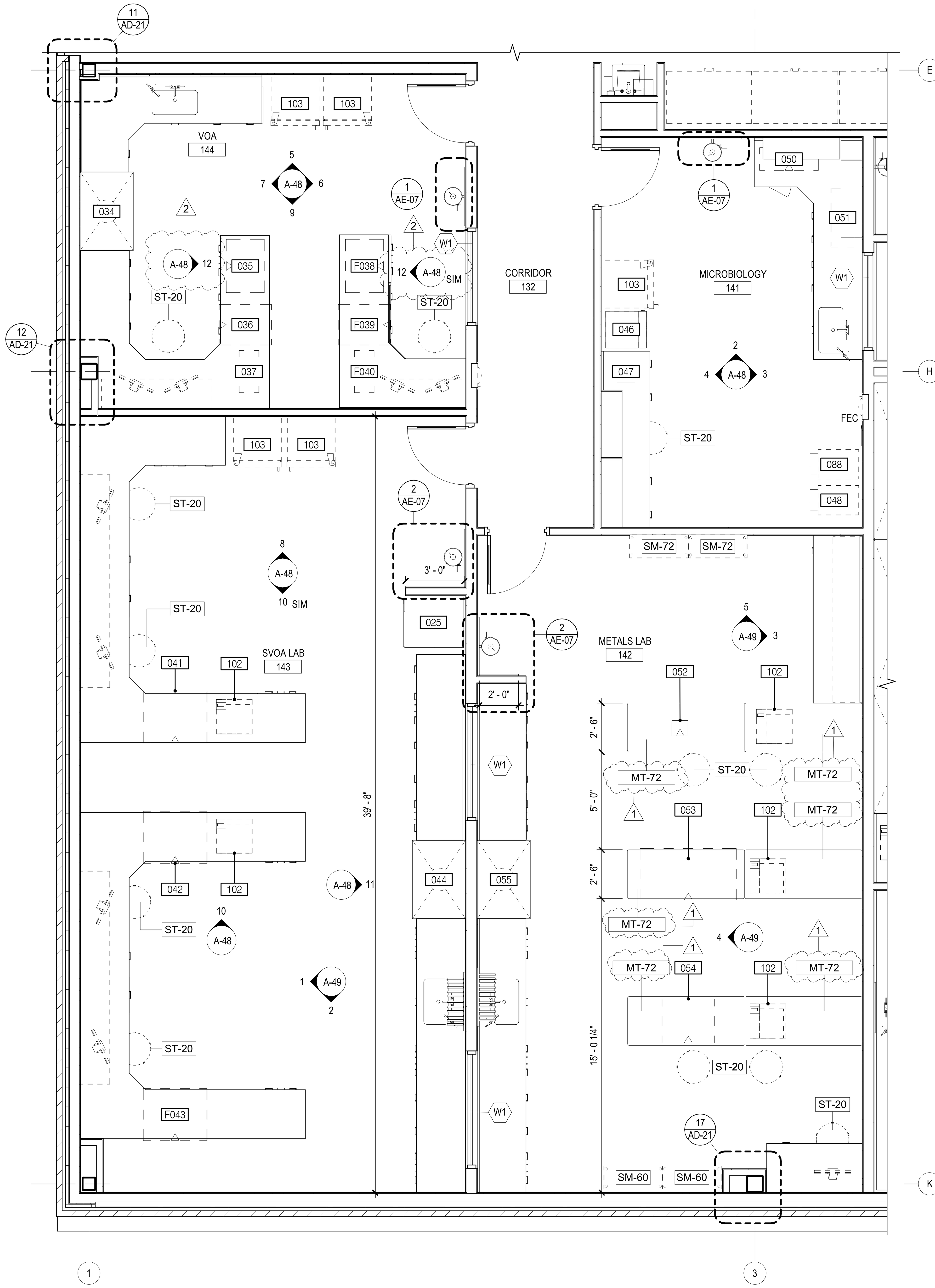
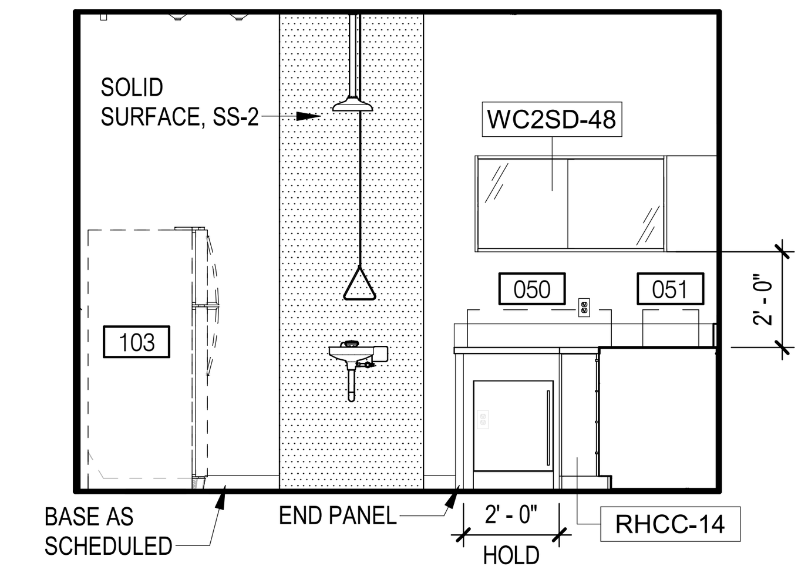
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-A-42
ENLARGED PLANS & ELEVATIONS

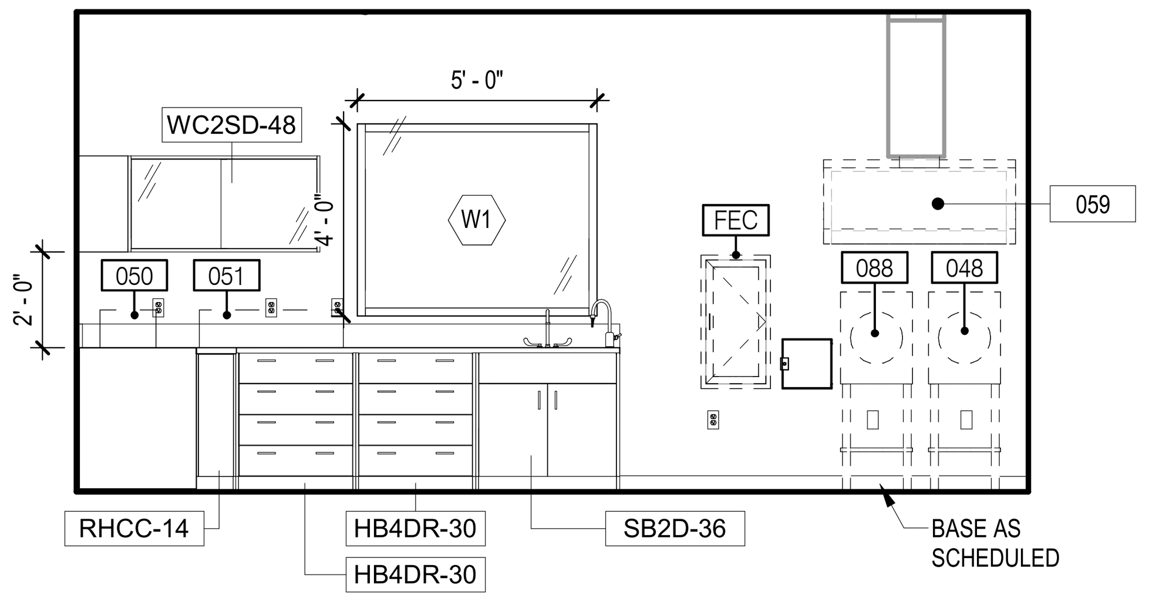
Contract:	1759
CAD File Name:	A-42.DGN
Date:	01 / 14 / 2022
Sheet:	102 of 288



1 ENLARGED PLAN -INSTRUMENT LABS
1/4" = 1'-0"



2 MICROBIOLOGY 141 - NORTH
1/4" = 1'-0"



3 MICROBIOLOGY 141 - EAST
1/4" = 1'-0"

GENERAL NOTES - INTERIOR ELEVATIONS

1. REFER TO FINISH PLANS, FINISH LEGENDS, & SPECIFICATIONS FOR ADDITIONAL INFORMATION.
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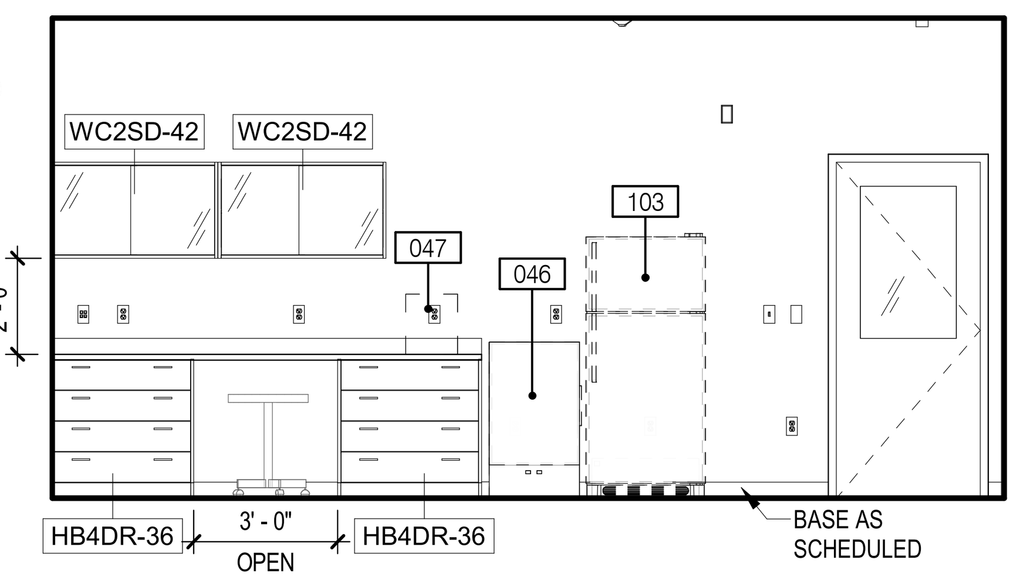
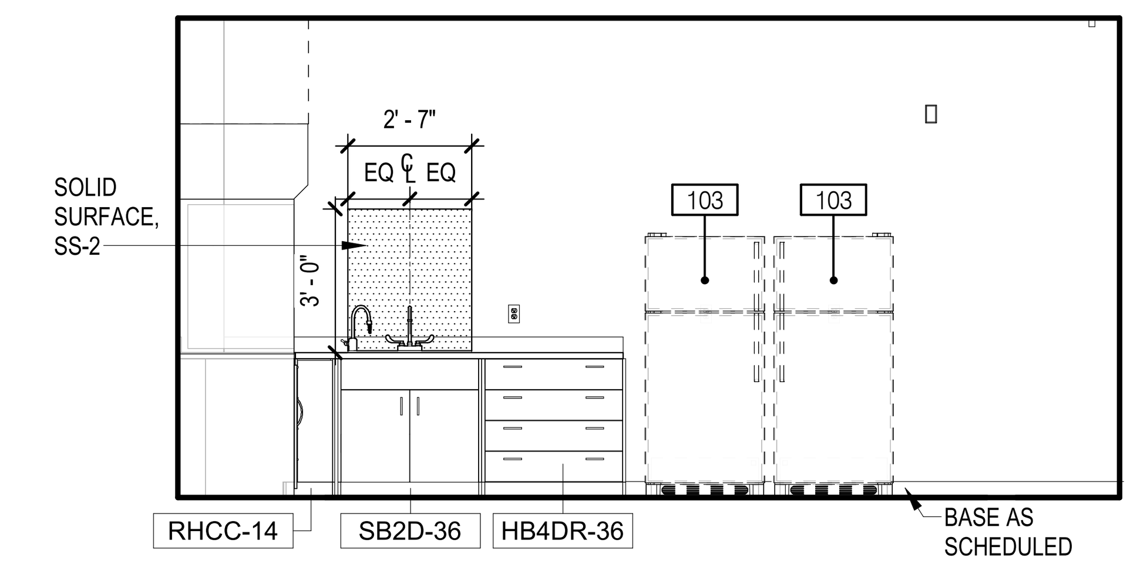
7. ALL LAB CASEWORK WITH EXPOSED CABINET FACES TO RECEIVE FINISHED SIDE AND/OR BACK PANELS. (1)

ELEVATION LEGEND

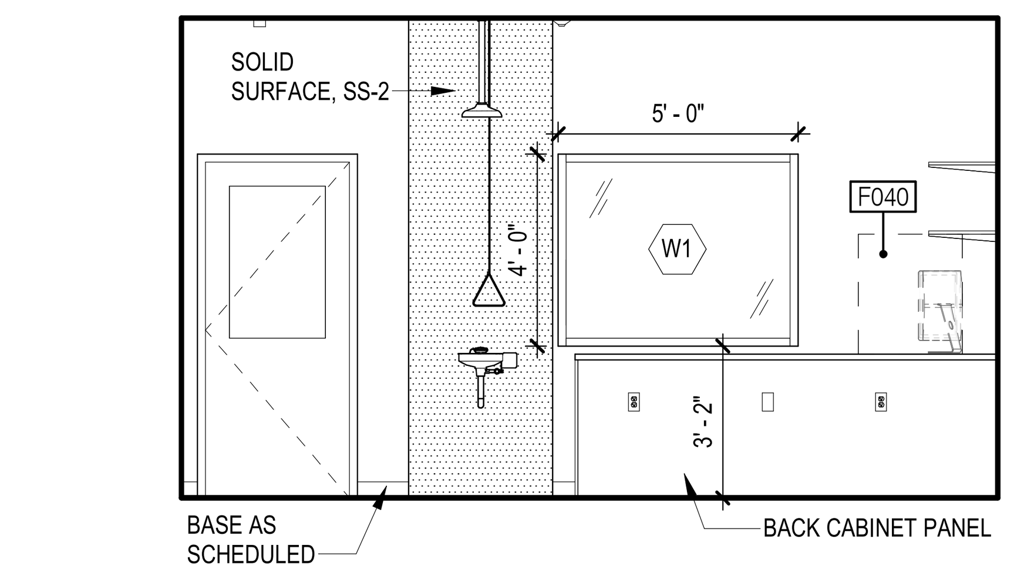
- LIGHT SWITCH
- DUPLEX
- FOURPLEX
- DATA
- CARD READER
- EVACUATION PUSH BUTTON
- FIRE ALARM PULL STATION
- CAMERA
- SPEAKER
- ACCESS PANEL



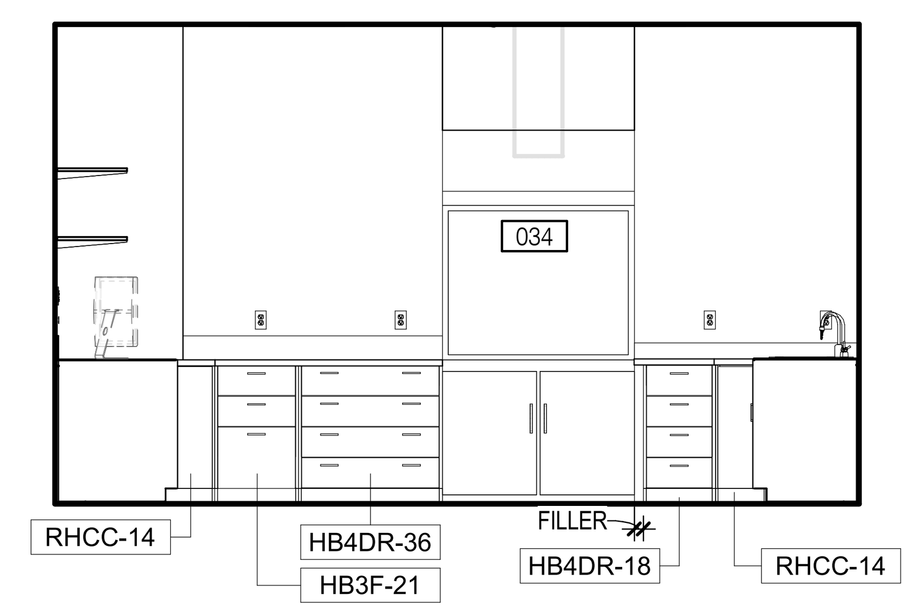
4 MICROBIOLOGY 141 - WEST
1/4" = 1'-0"



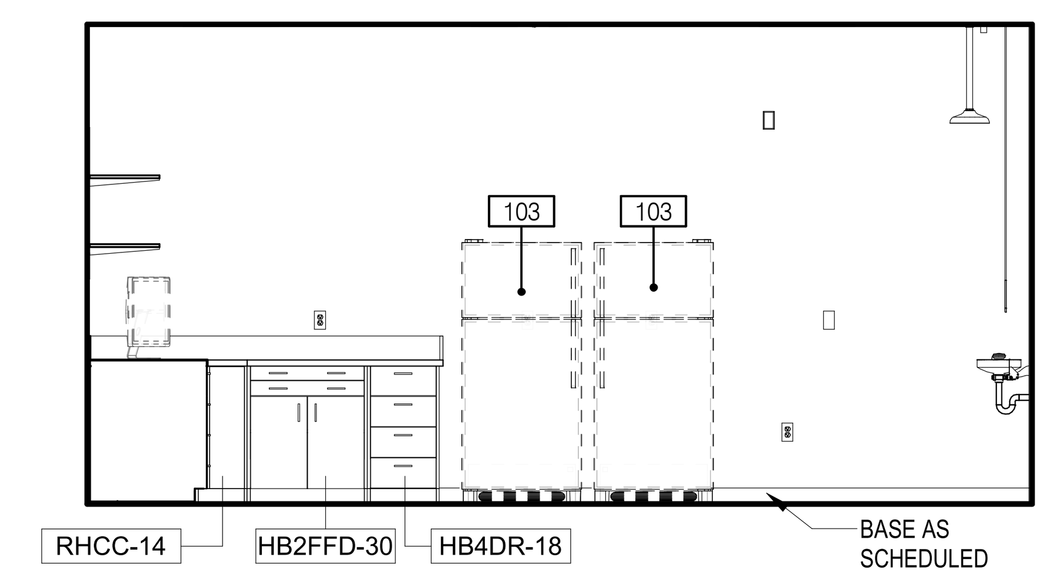
5 VOA 144 - NORTH
1/4" = 1'-0"



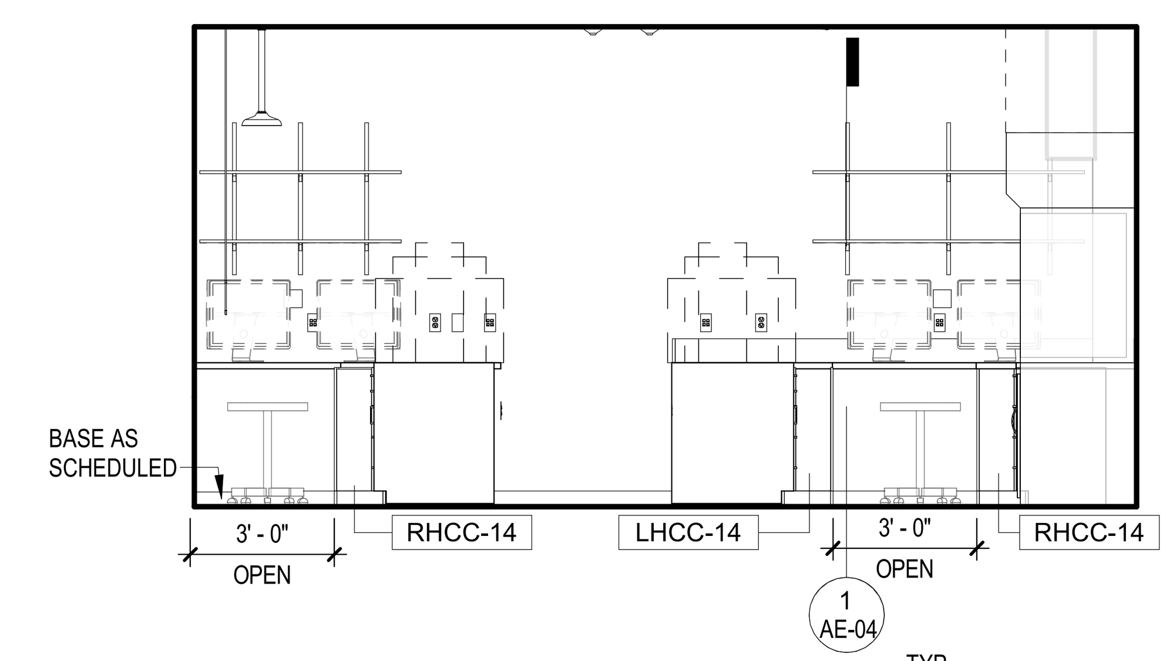
6 VOA 144 - EAST
1/4" = 1'-0"



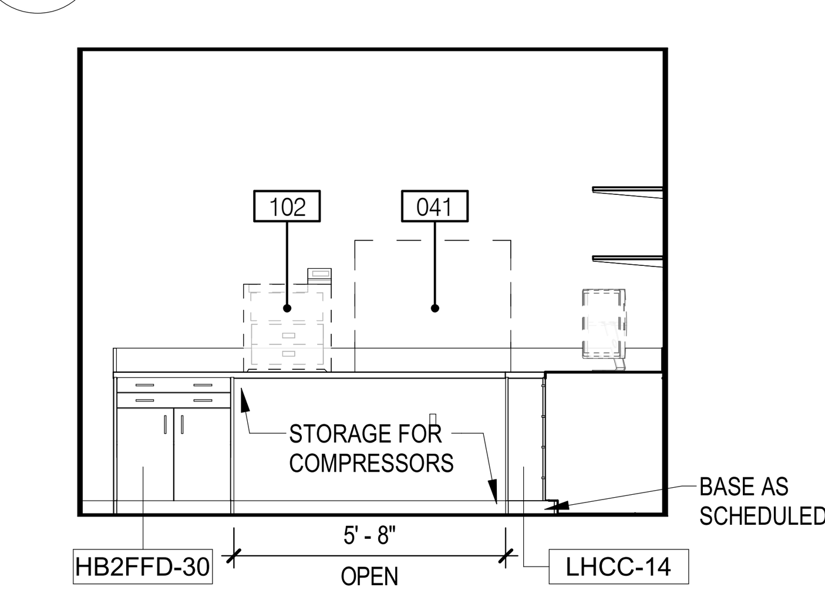
7 VOA 144 - WEST
1/4" = 1'-0"



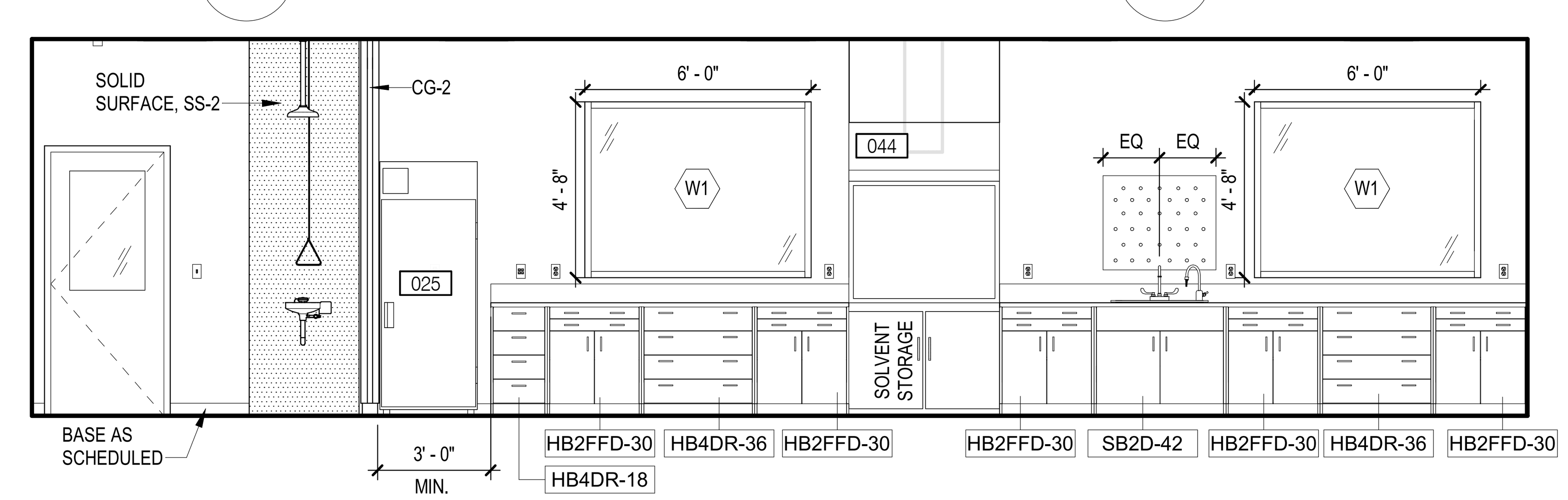
8 SVOA 143 - NORTH
1/4" = 1'-0"



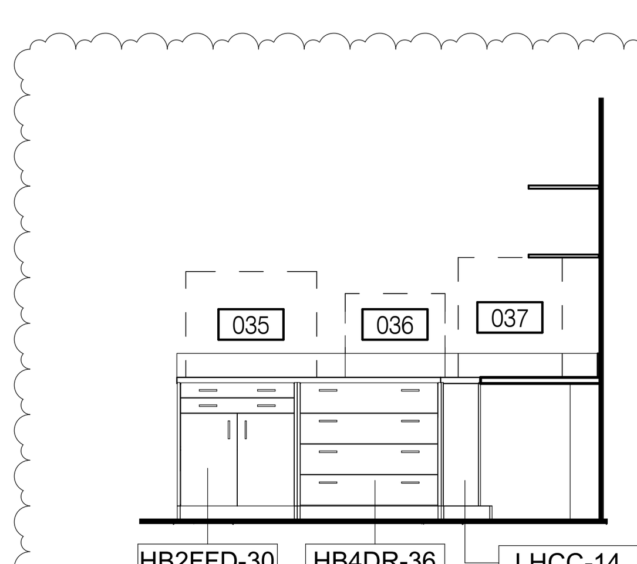
9 VOA 144 - SOUTH
1/4" = 1'-0"



10 SVOA 143- SOUTH
1/4" = 1'-0"



11 SVOA 143 - EAST
1/4" = 1'-0"



12 VOA 144 - WEST
1/4" = 1'-0"

SCALE: 1/4" = 1'-0"
4' 0' 2' 4'

Designed by: F. SANTORO
Drawn by: C. CAMPBELL
Checked by: R. SYMANSKI

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	3/24/22	ADDENDUM 2	1
2	6/21/22	ADDENDUM 4	2

AE WORKS.
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allegheny county sanitary authority
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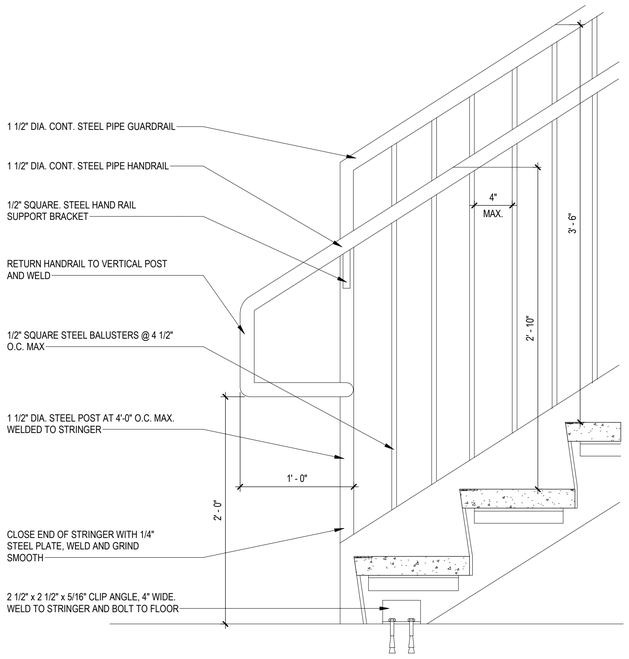
EXECUTIVE DIRECTOR, ALCOSAN

3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810

ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

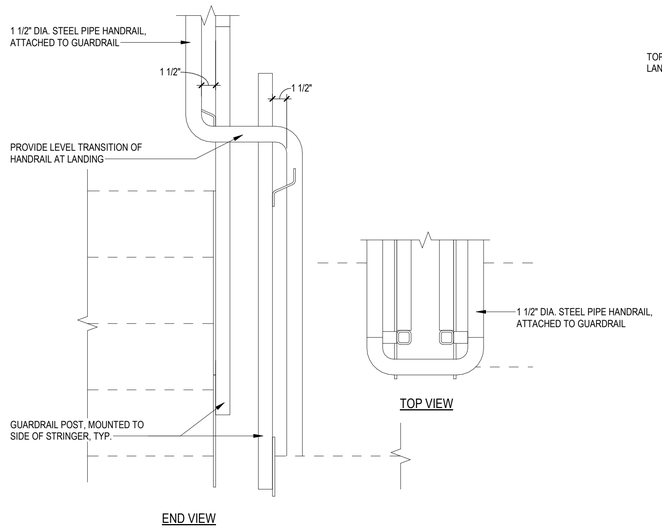
220-A-48
ENLARGED PLANS & ELEVATIONS

Contract: 1759
CAD File Name: A-48.DGN
Date: 01 / 14 / 2022
Sheet: 108 of 288



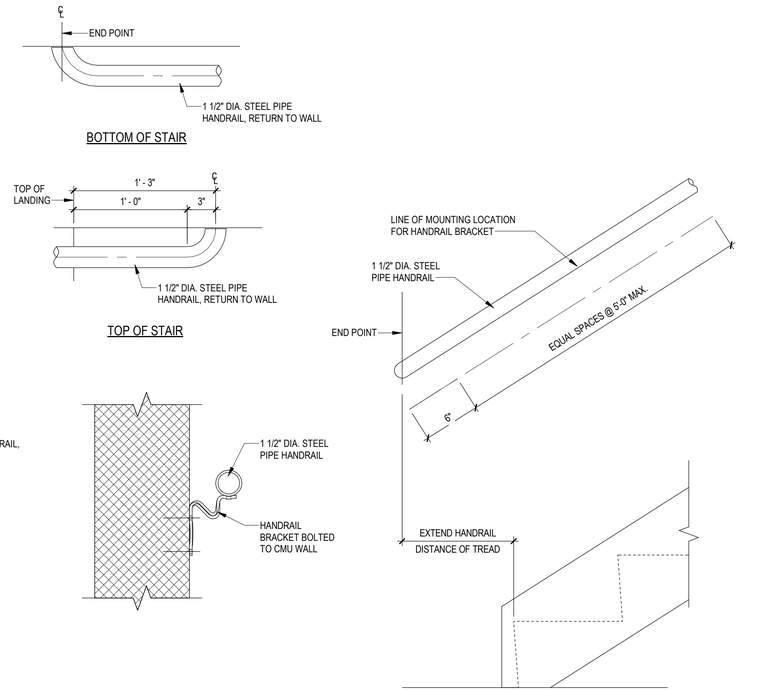
1 STAIR BOTTOM

1 1/2" = 1'-0"



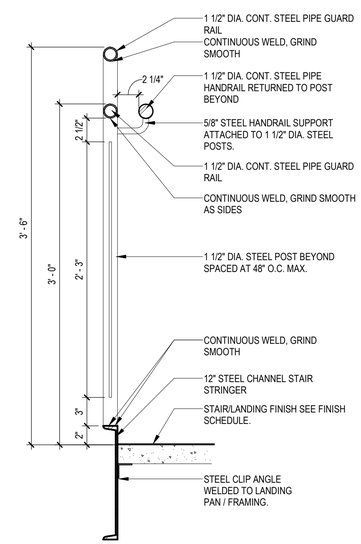
2 HANDRAIL TRANSITION AT LANDING

1 1/2" = 1'-0"



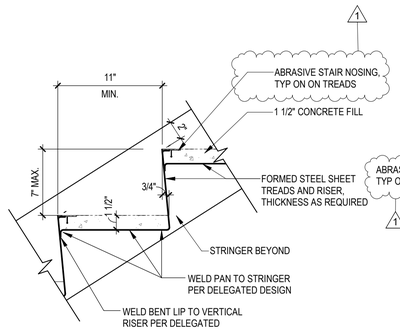
3 WALL MOUNTED HANDRAIL

1 1/2" = 1'-0"



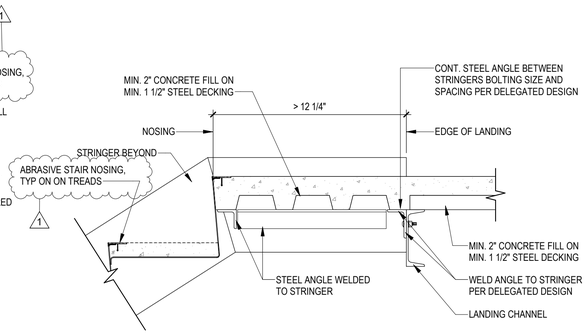
4 STAIR HANDRAIL

1 1/2" = 1'-0"



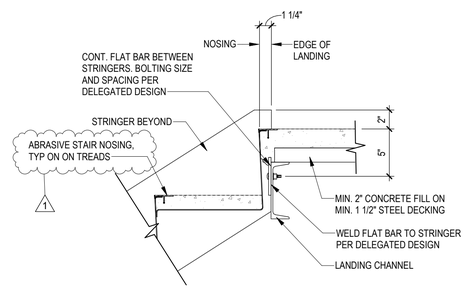
5 TREAD / RISER CONNECTION

1 1/2" = 1'-0"



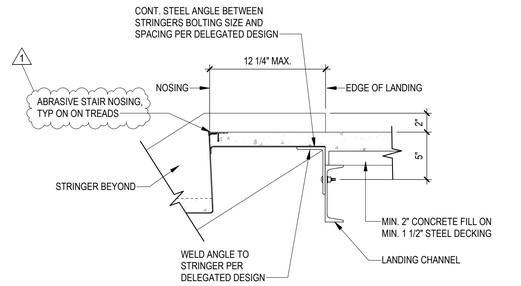
6 STAIR TO HAUNCH TOP LANDING CONNECTION

1 1/2" = 1'-0"



7 STAIR TO TOP LANDING CONNECTION

1 1/2" = 1'-0"



8 STAIR TO EXTENDED TOP LANDING CONNECTION

1 1/2" = 1'-0"

Designed by:	REVISION			
F. SANTORO	REV No.	DATE	DESCRIPTION	APPV
Drawn by:				
C. CAMPBELL	1	6/21/22	ADDENDUM 4	2
Checked by:				
R. SYMANSKI				

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REGISTERED ARCHITECT COMMONWEALTH OF PENNSYLVANIA MICHAEL SANTORO No. RA-404863

alcosan allegheny county sanitary authority
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EXECUTIVE DIRECTOR, ALCOSAN
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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-AD-07
DETAILS - STAIR

Contract:	1759
CAD File Name:	AD-07.DGN
Date:	01 / 14 / 2022
Sheet:	126 of 288

SPECIALTY EQUIPMENT SCHEDULE

EQUIP NO	EQUIPMENT TYPE	COUNT	MANUFACTURER	SOURCE INSTALLATION				DIMENSIONS			MOUNTING LOCATION	STATUS E/N	PRODUCT NUMBER	REMARKS
				OFOI	OFCI	CFCI	CFOI	W	D	H				
001	4' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
002	4' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
003	FRIDGE/FREEZER	1	WHIRLPOOL	X							FLOOR	NEW		THIS FRIDGE REQUIRES A LOCK
004	FRIDGE/FREEZER	1	WHIRLPOOL	X							FLOOR	NEW		
005	6' HOOD	1	AMS SOLUTION HOOD			X					FLOOR	NEW		
006	TUMBLER	1	ENVIRONMENTAL EXPRESS	X				45.0"	24.5"	21.5"	MOBILE CART	NEW		
007	6' CANOPY EXHAUST HOOD	1	AMS SOLUTION HOOD	X				60.0"			COUNTER	NEW		
008	6'-3" COOLER	2	BEVERAGE-AIR			X					FLOOR	NEW		
009	4'-4" COOLER	5	BEVERAGE-AIR			X					FLOOR	NEW		
010	PASS THRU COOLER	5	BEVERAGE-AIR			X					FLOOR	NEW		
011	COOLER	3	BEVERAGE-AIR			X					FLOOR	NEW		
012	MUFFLE FURNACE	1	NATIONAL ELEMENT INC. 7295	X				18.0"	28.0"	24.0"	COUNTER	EXISTING		
013	MUFFLE FURNACE	1	NATIONAL ELEMENT INC. 7294	X				18.0"	28.0"	24.0"	COUNTER	EXISTING		
015	8' HOOD	1	AMS SOLUTION HOOD			X					SOLVENT STORAGE CABINETS	NEW		
016	6' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
017	8' HOOD	1	AMS SOLUTION HOOD			X					SOLVENT STORAGE CABINETS	NEW		
018	8' HOOD	1	AMS SOLUTION HOOD			X					SOLVENT STORAGE CABINETS	NEW		
019	6' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
020	8' HOOD	1	AMS SOLUTION HOOD			X					SOLVENT STORAGE CABINETS	NEW		
021	8' HOOD	1	AMS SOLUTION HOOD			X					SOLVENT STORAGE CABINETS	NEW		
022	MINI FRIDGE	1	MARVEL SCIENTIFIC	X							UNDERCOUNTER	EXISTING		MARVEL EXPLOSION PROOF FRIDGE IN ORGANIC PREP TO COME OVER (LINE 118)
023	6' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
024	8' HOOD	1	AMS SOLUTION HOOD			X					SOLVENT STORAGE CABINETS	NEW		
025	FRIDGE	5	WHIRLPOOL	X							FLOOR	NEW		
026A	FLASK SCRUBBER	1	LABCONCO			X					FLOOR	NEW	412001000	SMALL NECK GLASS
027A	STEAM SCRUBBER	1	LABCONCO			X					FLOOR	NEW	402001000	LARGE GLASS
027B	STEAM SCRUBBER	1	LABCONCO			X					FLOOR	NEW	402001000	LARGE GLASS
027C	STEAM SCRUBBER	1	LABCONCO			X					FLOOR	NEW	402001000	LARGE GLASS
028	POLY HOOD	1	ENVIRONMENTAL EXPRESS			X					COUNTER	NEW		
029	POLY HOOD	1	ENVIRONMENTAL EXPRESS			X					COUNTER	NEW		
030	POLY HOOD	1	ENVIRONMENTAL EXPRESS			X					COUNTER	NEW		
031	4' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
032	4' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
034	4' HOOD	1	AMS SOLUTION HOOD			X					CABINETS	NEW		
035	ATOMIX	1	TELEDYNE TEKMAR XYZ	X				32.7"	23.3"	26.5"	COUNTER	EXISTING		
036	CLARUS GC	1	CLARUS 500 GAS CHROMATO	X				25.0"	32.0"	21.0"	COUNTER	NEW		
037	CLARUS MS	1	CLARUS 500 MASS SPEC	X				26.0"	12.0"	30.0"	COUNTER	NEW		
041	GC	1	PERKIN ELMER/CLARUS 680 ECD	X				39.0"	32.0"	33.0"	COUNTER	EXISTING	680S11040404	
042	GC/ MS	1	PERKIN ELMER/CLARUS SQ8T MS - CLARUS 690 GC - ROUGH PUMP	X				39.0"	32.0"	33.0"	COUNTER	EXISTING	GC-S/N-690S19103107 MS-S/N-N6480012 PUMP-S/N-190426211	
044	4' HOOD	1	AMS SOLUTION HOOD			X					SOLVENT STORAGE CABINETS	NEW		
045	MINI FRIDGE	2	THERMO SCIENTIFIC	X							UNDERCOUNTER	NEW		
046	INCUBATOR	1	THERMO SCIENTIFIC	X							FLOOR	?		
047	INCUBATOR	1	QUINCY LAB 10-140	X				13.0"	11.0"	15.0"	COUNTER	EXISTING	9905301	
048	AUTOCLAVE	1	MARKET FORGE STERILMATIC / STMEE	X							FLOOR	EXISTING	199670	SITS ON EXISTING STAND
050	COLIFORM WATERBATH	1	PRECISION	X				36.0"	14.0"	9.5"	COUNTER	EXISTING	600121122	
051	COLIFORM WATERBATH	1	PRECISION	X				36.0"	14.0"	9.5"	COUNTER	EXISTING	600021372	
052	FIMS MERCURY S10 A/S	1	PERKIN ELMER	X				9.8"	9.4"	9.8"	COUNTER	EXISTING	101S9110201	
053	ICP	1	PERKIN ELMER (OPTIMA 5300DV, AUTOSAMPLER A/S93 PLUS-POLYSCIENCE RECIRCULATOR - CAST PUMP)	X				59.0"	31.5"	31.0"	COUNTER	EXISTING	RECIRC-S/N-106400153-ICP S/N-077N6051702 - AUTOSMAPLER-S/N UNKNOWN	
054	ICPMS	1	PERKIN ELMER NEXION	X				32.0"	27.0"	30.0"	COUNTER	EXISTING		
055	4' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
056	8' HOOD	1	AMS SOLUTION HOOD			X					CABINETS	NEW		
057	8' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
058	6' HOOD	1	AMS SOLUTION HOOD			X					CABINETS	NEW		
059	OVEN	1	THERMO SCIENTIFIC	X				24.0"	24.0"	26.5"	COUNTER	EXISTING	3652480	SMALL FORCED AIR
060	OVEN	1	THERMO SCIENTIFIC	X				18.0"	22.0"	21.0"	COUNTER	EXISTING	3652481	EXISTING FISHER ISOTEMP 497 FURNANCE
061	OVEN	1	FISHER ISOTEMP/6925	X				18.0"	22.0"	21.0"	COUNTER	EXISTING	275769-153	EXISTING FISHER ISOTEMP 497 FURNANCE
063	MUFFLE FURNACE	1	NATIONAL ELEMENT INC. /CB204	X				24.0"	24.0"	26.5"	COUNTER	EXISTING	7923	
064	MUFFLE FURNACE	1	NATIONAL ELEMENT INC./CB204	X				24.0"	24.0"	26.5"	COUNTER	EXISTING	7776	

SPECIALTY EQUIPMENT SCHEDULE

EQUIP NO	EQUIPMENT TYPE	COUNT	MANUFACTURER	SOURCE INSTALLATION				DIMENSIONS			MOUNTING LOCATION	STATUS E/N	PRODUCT NUMBER	REMARKS
				OFOI	OFCI	CFCI	CFOI	W	D	H				
065	OVEN	1	FISHER ISOTEMP/6925	X				24.0"	24.0"	26.5"	COUNTER	EXISTING	612102-416	
066	6' HOOD	1	AMS SOLUTION HOOD			X					CABINETS	NEW		
067	6' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
068	6' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
069	6' HOOD	1	AMS SOLUTION HOOD			X					CABINETS	NEW		
070	DISTILLATION UNIT	1	BUCHI/K-355	X				15.7"	14.2"	26.0"	COUNTER	EXISTING	600000178	
071	ULTRASONIC CLEANER	1	BRANSON DHA-1000	X				16.5"	11.0"	9.0"	COUNTER	EXISTING	2-1024-98	
072	8' HOOD	1	AMS SOLUTION HOOD			X					CABINETS	NEW		
073	8' HOOD	1	AMS SOLUTION HOOD			X					ACID STORAGE CABINETS	NEW		
074	8' HOOD	1	AMS SOLUTION HOOD			X					SOLVENT STORAGE CABINETS	NEW		
075	SHAKER TABLE	1	EBERBACH/E6010	X				16.5"	11.0"	9.0"	COUNTER	EXISTING	51427	
076	SHAKER TABLE	1	EBERBACH/E6010	X				16.5"	11.0"	9.0"	COUNTER	EXISTING	51428	
077	SHAKER TABLE	1	EBERBACH/E6010	X				16.5"	11.0"	9.0"	COUNTER	EXISTING	51408	
078	SHAKER TABLE	1	EBERBACH/E6010	X				16.5"	11.0"	9.0"	COUNTER	EXISTING	31620	
079	SUPPLEMENTAL WATER SYSTEM	1	THERMO SCIENTIFIC	X				21.5"	12.0"	15.8"	COUNTER	NEW	Model 50129890/ SN#41869525	
080	TURBOVAP	2	BIOTAGE	X				21.2"	12.0"	12.0"	INSIDE HOOD	NEW		
081	BOD INCUBATOR	3	THERMO SCIENTIFIC	X				24.0"	24.0"	60.0"	FLOOR	EXISTING	Model PR50575SR 300034254	
082	SONICATOR	1	BRANSON	X				14.0"	10.0"	12.0"	COUNTER	EXISTING	2510R-MTH	
083	TURBOVAP	1	-	X				21.2"	12.0"	12.0"	INSIDE HOOD	EXISTING	TV1531N21069	
084	TURBOVAP	1	-	X				21.2"	12.0"	12.0"	INSIDE HOOD	EXISTING	TV1531N21065	
085	WATERBATH	1	FISHER SCIENTIFIC	X				24.9"	15.5"	9.8"	INSIDE HOOD	EXISTING	1608100372225	
086	HOT BLOCK	1	ENVIRONMENTAL EXPRESS	X				21.0"	15.0"	8.0"	INSIDE AUTOBLOCK	EXISTING	5237CEC2443	
087	HOT BLOCK	1	ENVIRONMENTAL EXPRESS	X				21.0"	15.0"	8.0"	INSIDE AUTOBLOCK	EXISTING	8379CECW3585	
088	AUTOCLAVES	1	CUTLER-HAMMER	X							FLOOR	EXISTING		SITS ON EXISTING STAND
089	OVEN	1	FISHER SCIENTIFIC	X				18.0"	18.0"	26.5"	COUNTER	EXISTING	211N0224	
090	6' CANOPY EXHAUST HOOD	1	AMS SOLUTION HOOD			X					WALL	NEW		
091	TUMBLER	2		X				45.0"	24.5"	21.5"	INSIDE HOOD	EXISTING		
092	TKN DIGESTOR	1	DIGPREP HT 250	X				15.7"	14.2"	26.0"	INSIDE HOOD	EXISTING	HTD1018110559	
093	DIGESTOR/HOT BLOCK	1	HACH DRB200	X				21.0"	15.0"	8.0"	COUNTER	EXISTING	1259804	
094	DIGESTOR/HOT BLOCK	1	HACH DRB200	X				21.0"	15.0"	8.0"	COUNTER	EXISTING	18090C0147	
095	SPECTROPHOTOMETER	1	HACH DR 3900	X				40.0"	28.0"	15.0"	INSIDE HOOD	EXISTING	3942426	HAS PRINTER
096	BALANCE	1	METTLER PM4000 (TOP LOADER)	X				8.0"	14.0"	4.0"	COUNTER	EXISTING	M34178	EXISTING BALANCE TABLES TO BE RELOCATED TO NEW LAB
097	BALANCE	1	METTLER TOLEDO/AE200	X				8.0"	14.0"	4.0"	COUNTER	NEW		EXISTING BALANCE TABLES TO BE RELOCATED TO NEW LAB
098	BALANCE	1	METTLER TOLEDO/AB265-S	X				8.0"	14.0"	4.0"	COUNTER	NEW		EXISTING BALANCE TABLES TO BE RELOCATED TO NEW LAB
099	ANALYTICAL BALANCE	1	METTLER AE 200	X				8.0"	14.0"	4.0"	COUNTER	NEW	J61882	
100	WALK IN COOLER	1	KOLPAK			X					FLOOR	NEW		
101	SPECTROPHOTOMETER	1	HACH DR3900	X				40.0"	28.0"	15.0"	INSIDE HOOD	EXISTING	1661693	
102		7												
103	FRIDGE/FREEZER	5	WHIRLPOOL	X							FLOOR	NEW		18 CU FT
104	WATERPRO RO SYSTEM	1	LABCONCO			X		31.1"	7.6"	30.8"	WALL	NEW		

FUTURE SPECIALTY EQUIPMENT SCHEDULE

EQUIP NO	EQUIPMENT TYPE	COUNT	MANUFACTURER	SOURCE INSTALLATION				DIMENSIONS			MOUNTING LOCATION	STATUS E/N	EQUIPMENT NUMBER	REMARKS
				OFOI	OFCI	CFCI	CFOI	W	D	H				
F026	FLASK SCRUBBER	1	LABCONCO	X							FLOOR	NEW		
F038	ATOMIX	1	TELEDYNE TEKMAR XYZ	X				32.7"	23.3"	26.5"	COUNTER	NEW		
F039	CLARUS GC	1	CLARUS 500 GAS CHROMATO	X				25.0"	32.0"	21.0"	COUNTER	NEW		
F040	CLARUS MS	1	CLARUS 500 MASS SPEC	X				26.0"	12.0"	30.0"	COUNTER	NEW		
F043	GC/ MS	1	PERKIN ELMER TURBOMASS AUTOSYSTEM XL	X				39.0"	32.0"	33.0"	COUNTER	NEW	MS-S/N 640E806053 GC-S/N-UNKNOWN	NO PUMP CONNECTED
F081	INCUBATOR	4	FISHER SCIENTIFIC	X				24.0"	24.0"	60.0"	FLOOR	NEW		

OFOI: OWNER FURNISHED OWNER INSTALLED
OFCI: OWNER FURNISHED CONTRACTOR INSTALLED
CFCI: CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CFOI: CONTRACTOR FURNISHED OWNER INSTALLED

Designed by: F. SANTORO
Drawn by: C. CAMPBELL
Checked by: R. SYMANSKI

REVISION

REV No.	DATE	DESCRIPTION	APPV
1	6/21/22	ADDENDUM 4	2

AE WORKS.
AE Works, LTD.
418 Beaver Street
Sewickley, PA 15143
Phone: 412-287-7333
www.ae-works.com

REGISTERED ARCHITECT COMMONWEALTH OF PENNSYLVANIA FREDERICK MICHAEL SANTORO No. RA406825

ARLETTA SCOTT WILLIAMS
EXECUTIVE DIRECTOR, ALCOSAN
3300 PREBLE AVE.
PITTSBURGH, PA 15233
(412) 766 - 4810
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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-AE-02
EQUIPMENT PLAN - LAB EQUIPMENT SCHEDULE

Contract: 1759
CAD File Name: AE-02.DGN
Date: 01 / 14 / 2022

GENERAL NOTES - FINISH PLANS

1. DRAWING TO INDICATE WALL FINISHES ONLY AND CHANGES OF FLOORING PATTERN. SEE FINISH SCHEDULE FOR FLOORING FINISH LOCATIONS.
2. REFER TO SHEET 220-A-50 FOR TILE PATTERNS.
3. FLOORING FINISH TO CONTINUE UNDER KNEE SPACES AND TOE KICKS OF MILLWORK. IN LABS STOP FINISH TO STOP AT LAB CASEWORK.

CASEWORK LEGEND (X)

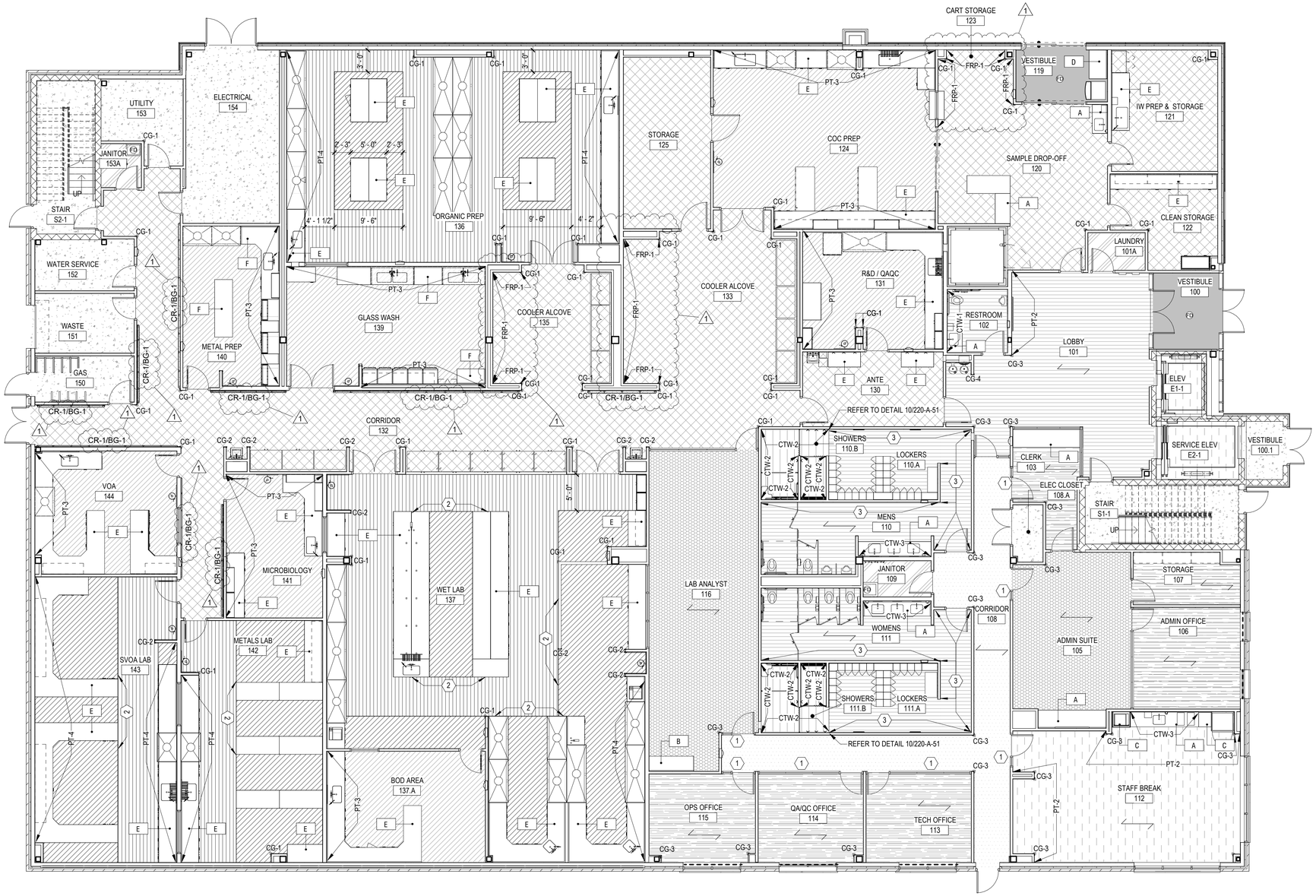
	COUNTERTOP(S)		CABINETS		
TAG	WORK SURFACE	NOSING	EXPOSED	SEMI-EXPOSED	REMARKS
A	SS-1	SS-1	PLAM-1	WHITE MELAMINE	
B	SS-1	SS-1	-	-	
C	-	-	PLAM-1	WHITE MELAMINE	
D	-	-	PLAM-1	-	
E	RES-2	-	SC-1	-	
F	SS-3	-	SC-1	-	

KEYNOTES - FINISHES (#)

1 PROVIDE GLASS FILM (GF-1) FROM 2'-0" AFF. TO 6'-0" AFF.
2 ALIGN RUBBER TILE WITH LAB CASEWORK OR EQUIPMENT
3 REFER TO DETAIL 3/220-A-50 FOR FINISH
4 PAINT EDGE OF WALL TO MATCH CORRESPONDING WALL COLOR

FLOOR PATTERN DIAGRAM

- CERAMIC TILE (CTF-1) 33% OFFSET
- CERAMIC TILE (CTF-2)
- CARPET (CPT-1) ASHLAR INSTALL
- CARPET (CPT-2) ASHLAR INSTALL
- CARPET (CPT-3) ASHLAR INSTALL
- LUXURY VINYL TILE (LVT-1) STAGGERED
- RUBBER SHEET (RF-1)
- HORIZONTAL BLINDS
- SHEET VINYL (SV-1) INSTALL SEAMS UNDER CASEWORK LOCATIONS
- STATIC DISSAPATIVE (SDT-1)
- WALK-OFF (WO-1)
- EPOXY (RES-1)
- CONC. EXPOSED (CONC)
- EXTERIOR PAVERS
- RUBBER SHEET (RF-2)
- INSTALL DIRECTION



1 OVERALL FINISH PLAN - FIRST FLOOR

1/8" = 1'-0"

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

8' 0' 4' 8'

Designed by:	REVISION			
F. SANTORO	REV No.	DATE	DESCRIPTION	APPV
Drawn by:				
C. CAMPBELL	1	6/21/22	ADDENDUM 4	2
Checked by:				
R. SYMANSKI				

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-AI-01
OVERALL FINISH PLAN - FIRST FLOOR

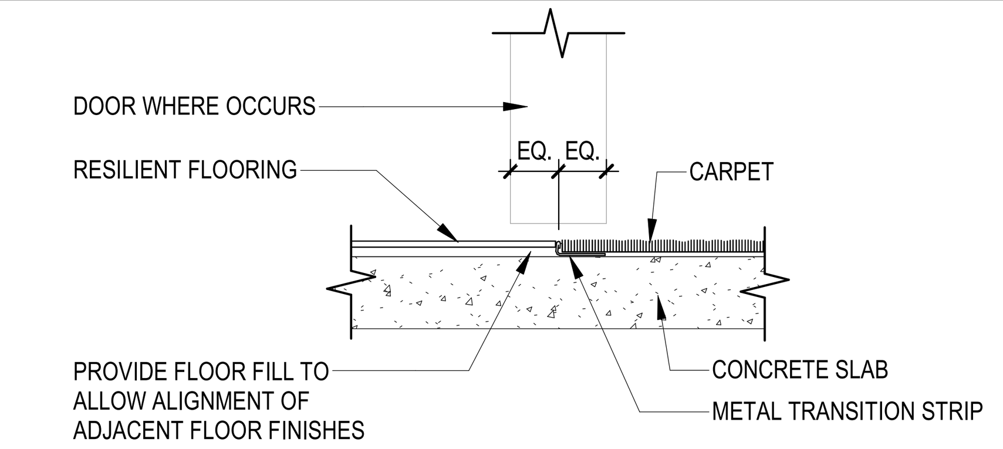
Contract: 1759
CAD File Name: AI-01.DGN
Date: 01 / 14 / 2022
Sheet: 156 of 288

FINISH SCHEDULE

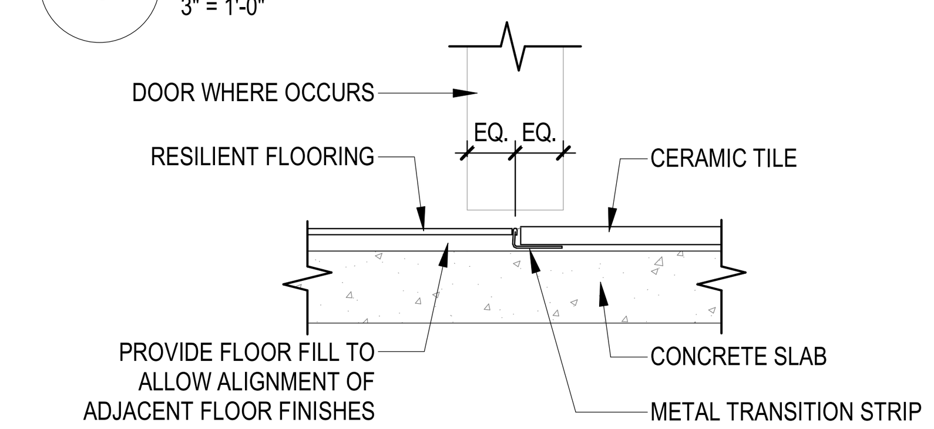
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING MATERIAL	COMMENTS
FIRST FL						
100	VESTIBULE	WO-1	RB-1	PT-1	GWB	
100.1	VESTIBULE	CONC.	RB-1	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
101	LOBBY	CTF-1	CTB-1	PT-1	ACT-2/GWB	
101A	LAUNDRY	SV-1	SVB-1	PT-1	ACT-1	
102	RESTROOM	CTF-1	CTB-1	CTW-1	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
103	CLERK	CPT-3	RB-2	PT-1	ACT-1	
105	ADMIN SUITE	CPT-2	RB-1	PT-1	ACT-1	
106	ADMIN OFFICE	CPT-3	RB-2	PT-1	ACT-1	
107	STORAGE	CPT-3	RB-2	PT-1	ACT-1	
108	CORRIDOR	CPT-1	RB-1	PT-1	ACT-1	
108.A	ELEC CLOSET	CONC.	RB-1	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
109	JANITOR	SV-1	SVB-1	PT-1	ACT-1	
110	MENS	CTF-1	CTB-1	CTW-1/CTW-3	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
110.A	LOCKERS	CTF-1	CTB-1	CTW-1	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
110.B	SHOWERS	CTF-2	CTB-1	CTW-2	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
111	WOMENS	CTF-1	CTB-1	CTW-1/CTW-3	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
111.A	LOCKERS	CTF-1	CTB-1	CTW-1	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
111.B	SHOWERS	CTF-2	CTB-1	CTW-2	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
112	STAFF BREAK	LVT-1	RB-1	PT-1/CTW-3	ACT-1/GWB	PAINT GWB SURROUNDING CASEWORK PT-2
113	TECH OFFICE	CPT-3	RB-2	PT-1	ACT-1	
114	QA/QC OFFICE	CPT-3	RB-2	PT-1	ACT-1	
115	OPS OFFICE	CPT-3	RB-2	PT-1	ACT-1	
116	LAB ANALYST	CPT-2	RB-1	PT-1	ACT-1	
119	VESTIBULE	WO-1	RB-1	PT-1	ACT-1	
120	SAMPLE DROP-OFF	RES-1	RB-1	PT-1 - FRP-1	ACT-1	FRP-1 @ 4'-0" HEIGHT ABOVE BASE. REFER TO PLAN FOR LOCATIONS.
121	IW PREP & STORAGE	RES-1	RB-1	PT-1	ACT-1	
122	CLEAN STORAGE	RES-1	RB-1	PT-1	ACT-1	
123	CART STORAGE	RES-1	RB-1	PT-1	ACT-1	
124	COC PREP	RF-1	RB-1	PT-1	ACT-3	
125	STORAGE	RES-1	RB-1	PT-1	ACT-1	
130	ANTE	RES-1	RB-1	PT-1	ACT-1	
131	R&D / QAQC	RF-1	RB-1	PT-1	ACT-3	
132	CORRIDOR	RES-1	RESB-1	PT-1	ACT-1	
133	COOLER ALCOVE	RES-1	RESB-1	PT-1 - FRP-1	ACT-1	FRP-1 @ 4'-0" HEIGHT ABOVE BASE. REFER TO PLAN FOR LOCATIONS.
135	COOLER ALCOVE	RES-1	RESB-1	PT-1 - FRP-1	ACT-1	FRP-1 @ 4'-0" HEIGHT ABOVE BASE. REFER TO PLAN FOR LOCATIONS.
136	ORGANIC PREP	RF-1, RF-2	RB-1	PT-1	ACT-3	
137	WET LAB	RF-1, RF-2	RB-1	PT-1	ACT-3	
137.A	BOD AREA	RF-1	RB-1	PT-1	ACT-3	
139	GLASS WASH	RF-1	RB-1	PT-1	GWB	
140	METAL PREP	RF-1	RB-1	PT-1	GWB	
141	MICROBIOLOGY	RF-1	RB-1	PT-1	ACT-3	
142	METALS LAB	RF-1, RF-2	RB-1	PT-1	ACT-3	
143	SVOA LAB	RF-1, RF-2	RB-1	PT-1	ACT-3	
144	VOA	RF-1	RB-1	PT-1	GWB	
150	GAS	CONC.	RB-1	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
151	WASTE	CONC.	RB-1	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
152	WATER SERVICE	CONC.	RB-1	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
153	UTILITY	CONC.	RB-1	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
153A	JANITOR	SV-1	RB-1	PT-1 - FRP-1	ACT-1	FRP-1 @ 4'-0" HEIGHT ON ALL WALLS
154	ELECTRICAL	CONC.	RB-1	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
E1-1	ELEV	LVT-1	-	-	-	SEE SPECIFICATIONS FOR CAB FINISHES
E2-1	SERVICE ELEV	LVT-1	-	-	-	SEE SPECIFICATIONS FOR CAB FINISHES
S1-1	STAIR	CONC.	RB-1	PT-1	N/A	
S2-1	STAIR	CONC.	RB-1	PT-1	N/A	
SECOND FL						
201	LOBBY	CTF-1	CTB-1	PT-1	ACT-2	
201A	LOUNGE	CPT-1	RB-1	PT-1	GWB	
202	CLASSROOM	CPT-1	RB-1	PT-1	ACT-1	
203	CLASSROOM	CPT-1	RB-1	PT-1	ACT-1	
204	MEDIUM CONF	CPT-1	RB-1	PT-1	ACT-1	
205	SECRETARY	CPT-3	RB-2	PT-1	ACT-1	
206	WOMEN'S	CTF-1	CTB-1	CTW-1/CTW-3	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
207	MEN'S	CTF-1	CTB-1	CTW-1/CTW-3	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
208	WELLNESS	LVT-1	RB-1	PT-1	ACT-1	
209	STOR	SV-1	SVB-1	PT-1	ACT-1	
210	WORK ROOM	LVT-1	RB-1	PT-1	ACT-1	
211	ENVIRONMENTAL AUDITOR	CPT-3	RB-2	PT-1	ACT-1	
212	ENVIRONMENTAL CLERK	CPT-3	RB-2	PT-1	ACT-1	
213	ENVIRONMENTAL DIRECTOR	CPT-3	RB-2	PT-1	ACT-1	
214	MEDIUM CONF	CPT-1	RB-1	PT-1	ACT-1	
215	FILES	SV-1	RB-1	PT-1	ACT-1	
216	RESIDUAL MANAGER	CPT-3	RB-2	PT-1	ACT-1	
217	OFFICE	CPT-3	RB-2	PT-1	ACT-1	
219	RESIDUAL SPECIALIST	CPT-3	RB-2	PT-1	ACT-1	
220	RESIDUAL MANAGER	CPT-3	RB-2	PT-1	ACT-1	
221	COPY / PRINT	CPT-3	RB-2	PT-1	ACT-1	
222	STAFF BREAK	LVT-1	RB-1	PT-1/CTW-3	ACT-1/GWB	PAINT GWB SURROUNDING CASEWORK PT-2
223	WOMENS	CTF-1	CTB-1	CTW-1	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
223A	LOCKERS	CTF-1	CTB-1	CTW-1	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
223B	SHOWERS	CTF-2	CTB-1	CTW-1	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
224	JANITORS	SV-1	SVB-1	PT-1 - FRP-1	ACT-1	FRP-1 @ 4'-0" HEIGHT ON ALL WALLS
225	MENS	CTF-1	CTB-1	CTW-1	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
225A	LOCKERS	CTF-1	CTB-1	CTW-1	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
225B	SHOWERS	CTF-2	CTB-1	CTW-1	GWB	REFER TO SHEET A220- A-50 AND A220-A-51 FOR TYPICAL TILE PATTERNS
226	IT CLOSET	SDT-1	RB-1	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
227	RESIDUAL STOR	SV-1	SVB-1	PT-1	ACT-1	
228	ENVIRONMENTAL STOR	SV-1	SVB-1	PT-1	ACT-1	
229	OUTDOOR STOR	CONC.	RB-1	PT-1	ACT-1	
230	LOUNGE	CPT-1	RB-1	PT-1	ACT-2	
231	IW STOR	CPT-3	RB-2	PT-1	ACT-1	
232	IW MANAGER	CPT-3	RB-2	PT-1	ACT-1	
233	SMALL CONF	CPT-1	RB-1	PT-1	ACT-1	

FINISH SCHEDULE

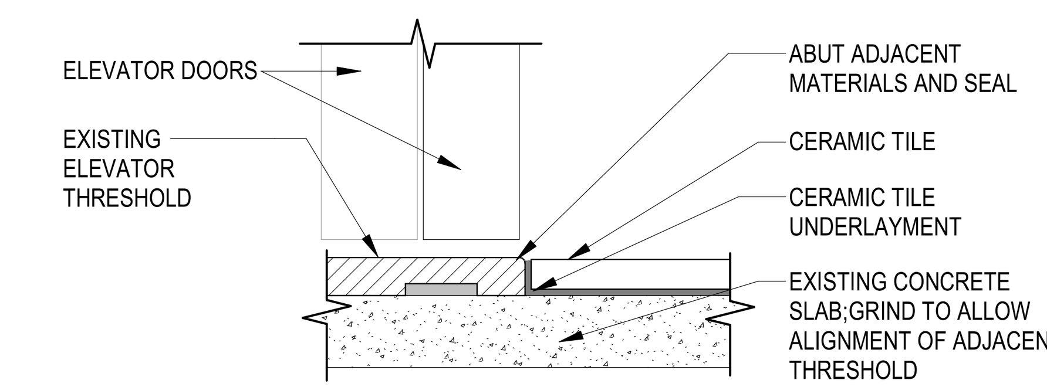
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING MATERIAL	COMMENTS
234	IW SUPERVISOR	CPT-3	RB-2	PT-1	ACT-1	
235	IW SUPERVISOR	CPT-3	RB-2	PT-1	ACT-1	
236	CORRIDOR	CPT-1	RB-1	PT-1	ACT-2	
237	OPEN OFFICE	CPT-2	RB-1	PT-1	ACT-1	
237.A	ELEC CLOSET	SV-1	RB-1	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
S1-2	STAIR	CONC.	RB-1	PT-1	N/A	
S2-2	STAIR	CONC.	RB-1	PT-1	N/A	
THIRD FL						
301	LOBBY	CTF-1	CTB-1	PT-1	ACT-2	
301A	PREFUNCTION AREA	CPT-1	RB-1	PT-1	GWB	
302	CLASSROOM	CPT-1	RB-1	PT-1	ACT-1	
303	CLASSROOM	CPT-1	RB-1	PT-1	ACT-1	
304	MEN'S	CTF-1	CTB-1	CTW-1/CTW-3	GWB	REFER TO SHEET A-50 FOR TYPICAL TILE PATTERNS
305	WOMEN'S	CTF-1	CTB-1	CTW-1/CTW-3	GWB	REFER TO SHEET A-50 FOR TYPICAL TILE PATTERNS
307	MANAGER	CPT-3	RB-2	PT-1	ACT-1	
308	CLERK	CPT-3	RB-2	PT-1	ACT-1	
309	DIRECTOR	CPT-3	RB-2	PT-1	ACT-1	
310	MANAGER	CPT-3	RB-2	PT-1	ACT-1	
311	MEDIUM CONF	CPT-1	RB-1	PT-1	ACT-1	
312	LARGE CONF	CPT-1	RB-1	PT-1	ACT-1	
313	OPEN OFFICE	CPT-2	RB-1	PT-1	ACT-1	
314	STORAGE	SV-1	SVB-1	PT-1	ACT-1	
315	WORK ROOM	LVT-1	RB-1	PT-1	ACT-1	
317	BREAK ROOM	LVT-1	RB-1	PT-1/CTW-3	ACT-1/GWB	PAINT GWB SURROUNDING CASEWORK PT-2
318	FUTURE MEDIA STUDIO	CONC.	-	-	ACT-1	
319	OPEN OFFICE	CPT-2	RB-1	PT-1	ACT-1	
320	STORAGE ROOM	CONC.	-	-	ACT-1	
321	WOMEN'S	CTF-1	CTB-1	CTW-1/CTW-3	GWB	REFER TO SHEET A-50 FOR TYPICAL TILE PATTERNS
322	MEN'S	CTF-1	CTB-1	CTW-1/CTW-3	GWB	REFER TO SHEET A-50 FOR TYPICAL TILE PATTERNS
323	LOUNGE	CPT-1	RB-1	PT-1	ACT-2	
324	SMALL CONF	CPT-1	RB-1	PT-1	ACT-1	
325	DIRECTOR SUITE	CPT-3	RB-2	PT-1	ACT-1	
326	CLERK	CPT-3	RB-2	PT-1	ACT-1	
327	MANAGER	CPT-3	RB-2	PT-1	ACT-1	
328	MANAGER	CPT-3	RB-2	PT-1	ACT-1	
329	MANAGER	CPT-3	RB-2	PT-1	ACT-1	
330	MANAGER	CPT-3	RB-2	PT-1	ACT-1	
331	CORRIDOR	CPT-1	RB-1	PT-1	ACT-2	
331A	JANITOR	SV-1	SVB-1	PT-1 - FRP-1	ACT-1	FRP-1 @ 4'-0" HEIGHT ON ALL WALLS
332	OPEN OFFICE	CPT-2	RB-1	PT-1	ACT-1	
332.A	ELEC CLOSET	SV-1	RB-1	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
S1-3	STAIR	CONC.	RB-1	PT-1	N/A	
S2-3	STAIR	CONC.	RB-1	PT-1	GWB	
PENTHOUSE FL						
401	CORRIDOR	CONC.	-	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
402	MECHANICAL PENTHOUSE	CONC.	-	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
403	ELEV SERVICE	CONC.	-	PT-1	EXPOSED	PAINT ALL EXPOSED METAL DECK AND STRUCTURE PT-5
S1-4	STAIR	CONC.	RB-1	PT-1	GWB	



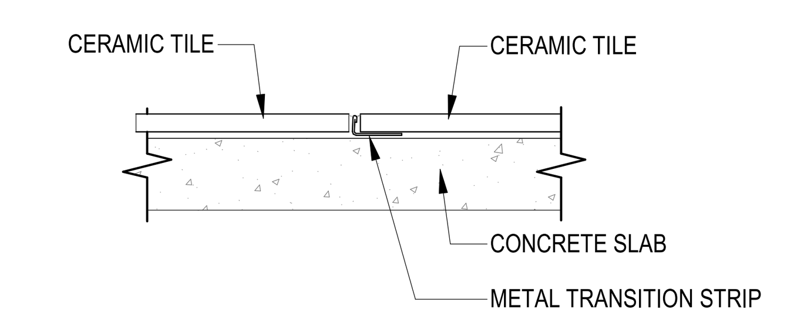
1 **RESILIENT TO CARPET**
3" = 1'-0"



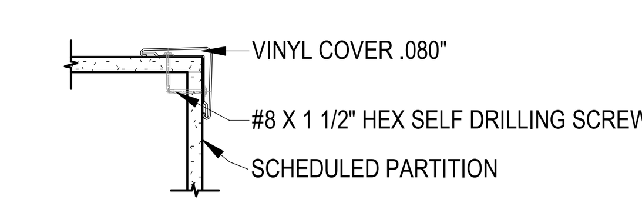
2 **RESILIENT TO CERAMIC**
3" = 1'-0"



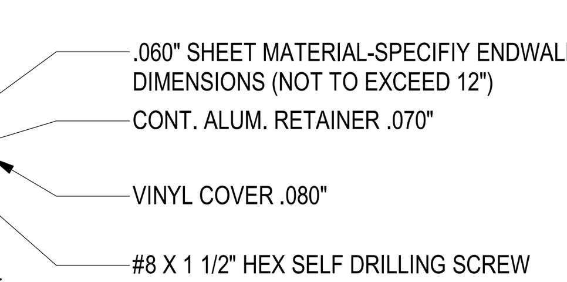
3 **ELEVATOR THRESHOLD**
3" = 1'-0"



4 **CERAMIC TO CERAMIC**
3" = 1'-0"



5 **CORNER GUARD (CG-1, CG-3)**
1 1/2" = 1'-0"



6 **CORNER GUARD (CG-2, CG-4)**
1 1/2" = 1'-0"

SCALE: 1 1/2" = 1'-0"
.5' 0' .5' 1'

SCALE: 3" = 1'-0"
.25' 0' .25' .5'

Designed by: F. SANTORO
Drawn by: C. CAMPBELL
Checked by: R. SYMANSKI

REVISION			
REV No.	DATE	DESCRIPTION	APPV
1	3/24/22	ADDENDUM 2	1
2	6/21/22	ADDENDUM 4	2

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REGISTERED ARCHITECT PENNSYLVANIA FREDERICK MICHAEL SANTORO

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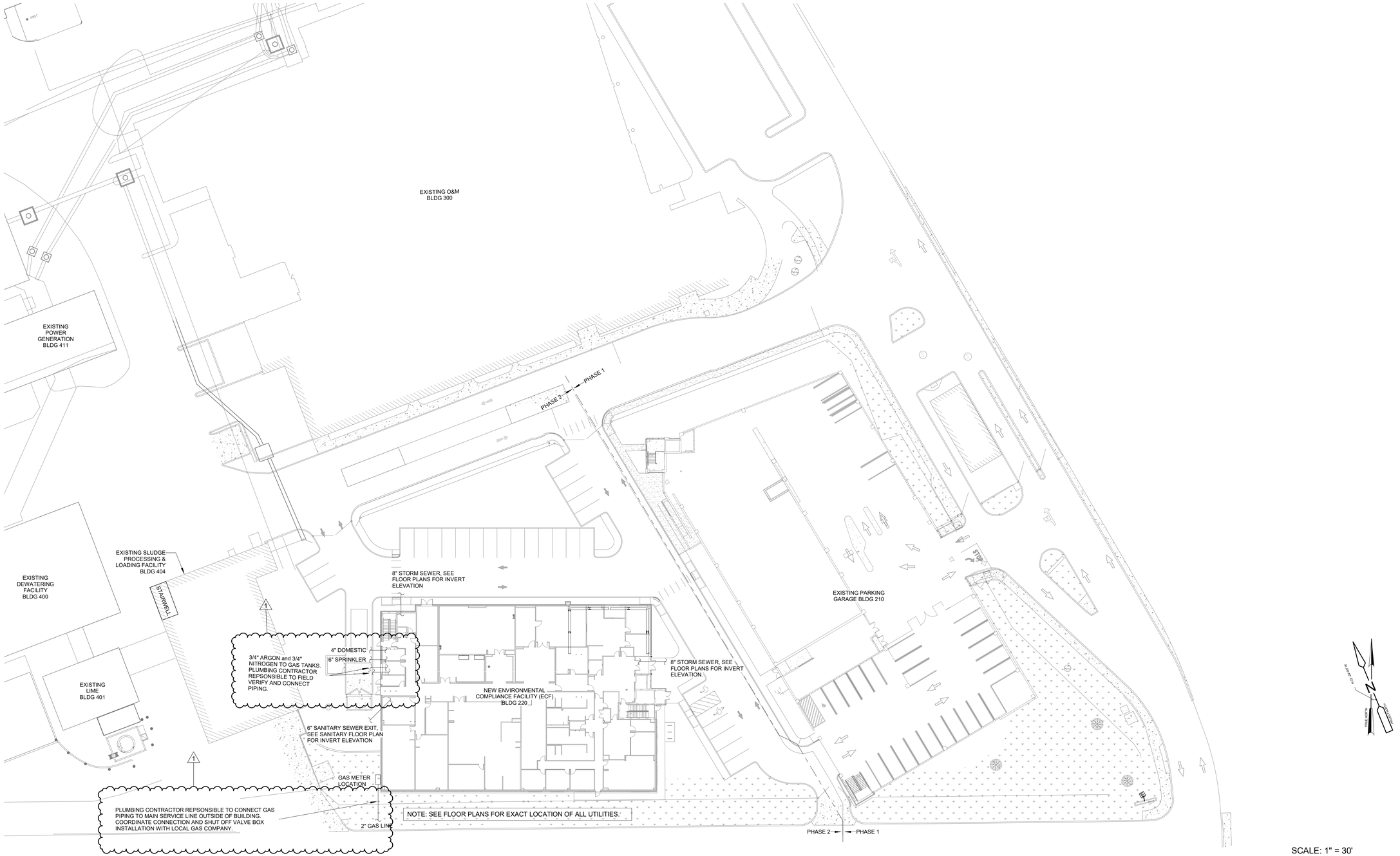
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-AI-05
FINISH SCHEDULES & DETAILS

Contract: 1759
CAD File Name: AI-05.DGN
Date: 01 / 14 / 2022
Sheet: 160 of 288



1 UTILITY COORDINATION SITE PLAN

1" = 30'-0"

Designed by:	REVISION			
ZGE	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	6/21/22	ADDENDUM 4	
ZGE				
Checked by:				
JG				

FOR REVIEW ONLY

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WASTEWATER TREATMENT PLANT
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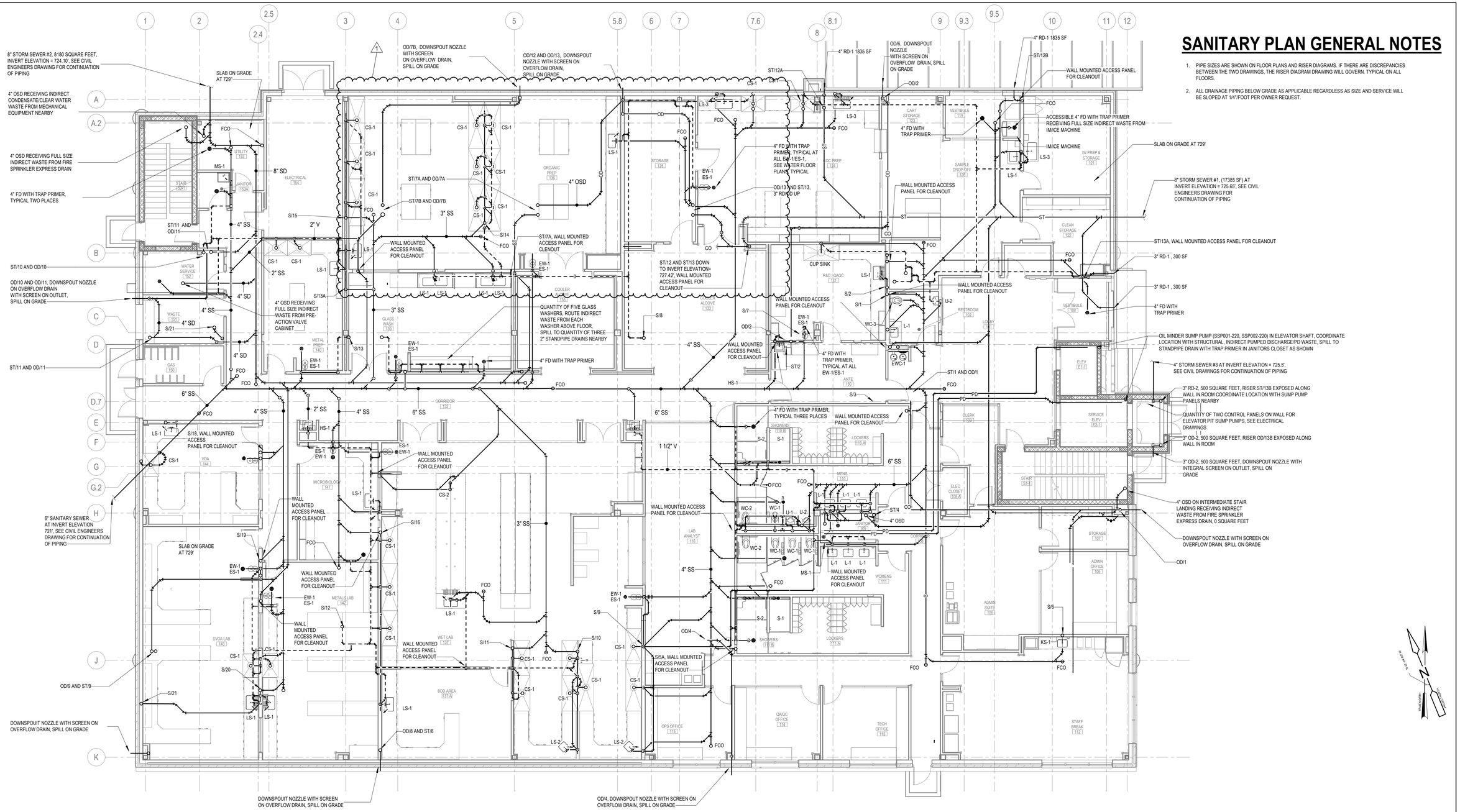
000-PSP-01
PLUMBING UTILITY SITE PLAN

Contract:	1759
CAD File Name:	000-PSP-01.DGN
Date:	01 / 14 / 2022
Sheet:	180 of 288

SANITARY PLAN GENERAL NOTES

1. PIPE SIZES ARE SHOWN ON FLOOR PLANS AND RISER DIAGRAMS. IF THERE ARE DISCREPANCIES BETWEEN THE TWO DRAWINGS, THE RISER DIAGRAM DRAWING WILL GOVERN. TYPICAL ON ALL FLOORS.
2. ALL DRAINAGE PIPING BELOW GRADE AS APPLICABLE REGARDLESS AS SIZE AND SERVICE WILL BE SLOPED AT 1/4"/FOOT PER OWNER REQUEST.



1 SANITARY PLAN - FIRST FLOOR

1/8" = 1'-0"

SCALE: 1/8" = 1'-0"
8' 0' 4' 8'

Designed by:	J, Gaudio
Drawn by:	J, Gaudio
Checked by:	Z, Solarczyk

REVISION

REV No.	DATE	DESCRIPTION	APPV
A	4/09/21	CONFORMED SET	
1	6/21/22	ADDENDUM 4	

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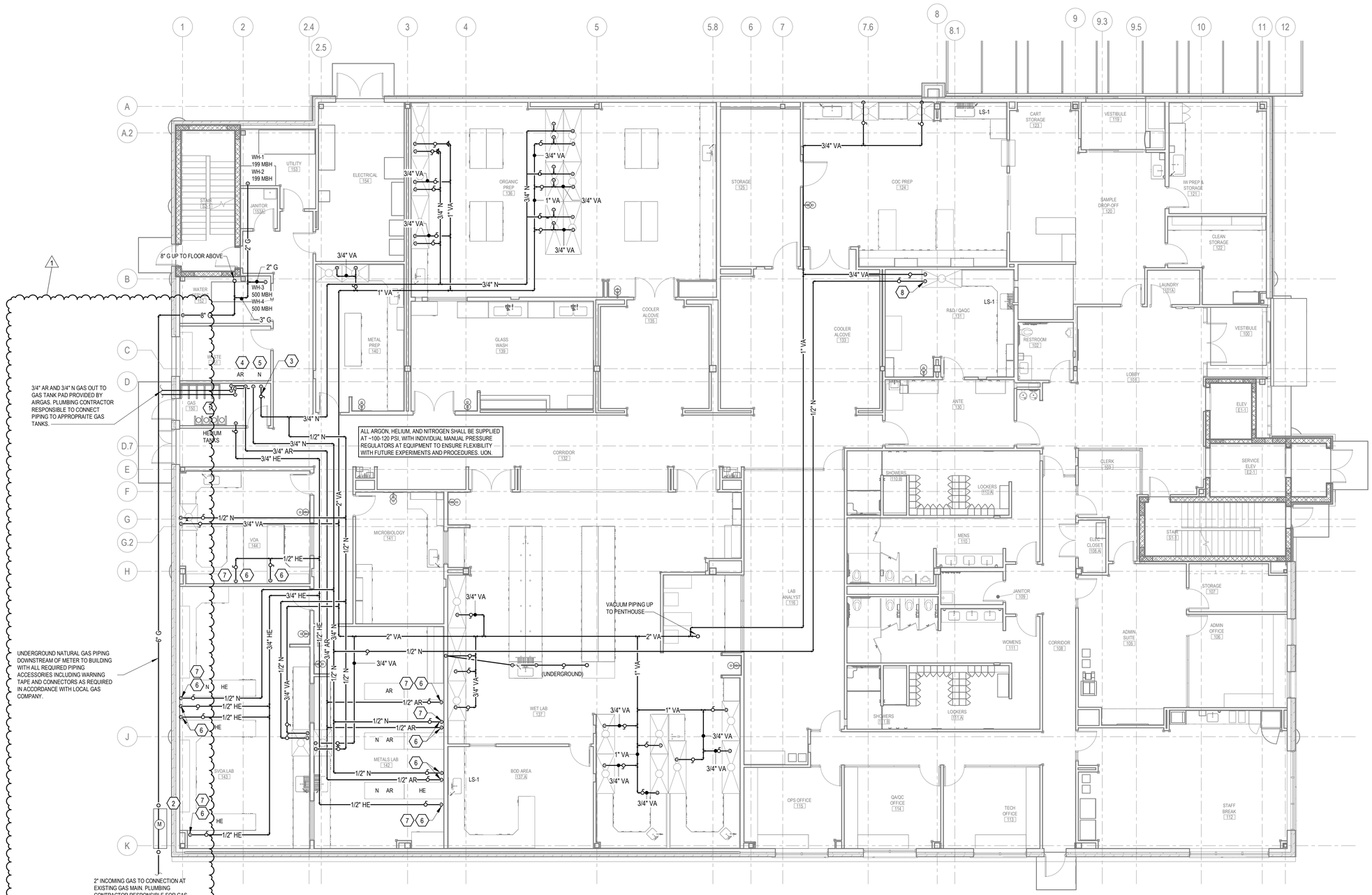
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-P-10
SANITARY PLAN - FIRST FLOOR

Contract: 1759
CAD File Name: 220-P-10.DGN
Date: 01 / 14 / 2022
Sheet: 181 of 288



GAS PLAN GENERAL NOTES

1. ALL NITROGEN, ARGON, AND HELIUM GAS DROPS TO HOODS AND EQUIPMENT WILL HAVE INDIVIDUAL PRESSURE REGULATORS MOUNTED IN A VISIBLE AND ACCESSIBLE LOCATION EXCEPT FOR NITROGEN HOODS IN ORGAN PREP ROOM 136. SEE KEYNOTE 3 BELOW.
2. UNDERGROUND GAS PIPING FOR ARGON AND NITROGEN WILL BE COORDINATED WITH AIRGAS FOR CONNECTIONS TO OUTDOOR TANKS ON CONCRETE PAD.
3. HELIUM GAS TANKS WILL HAVE PRESSURE VALVE MANIFOLD FOR MULTIPLE CONNECTIONS.
4. NATURAL GAS PIPING CONNECTIONS WILL BE COORDINATED WITH ALL EQUIPMENT CONNECTION SIZES AND PRESSURE REQUIREMENTS.
5. FOUR HELIUM GAS CYLINDER TANKS. SEE DETAIL 1 ON P-64 FOR PIPING DIAGRAM AND MORE INFORMATION.
6. NEW GAS SERVICE EQUIPMENT PAD INCLUDING METER AND REGULATOR SET TO 0.25 PSI. LOW PRESSURE GAS PIPING TO ROUTE UNDERGROUND ADJACENT TO BUILDING AND ENTER IN GAS SERVICE ROOM.
7. COORDINATE ALL LAB GAS AND VACUUM CONNECTION LOCATIONS AND HEIGHTS WITH ARCHITECTURAL DRAWINGS.
8. SEE DETAIL 1 ON SHEET P-64 FOR GAS RISER PIPING DIAGRAM.
9. REDUCERS WILL BE NEEDED FOR 1/4-IN REGULATOR CONNECTIONS ON 1/2-IN GAS LINES.

GAS PLAN KEYNOTES

1. INSTALL AIRGAS AUTOMATIC CHANGE OVER REGULATOR MODEL #Y11X71H04 WITH MANIFOLD #Y11X71H04-508 AT HELIUM TANKS SET TO APPROX. 100 PSI.
2. NEW GAS SERVICE EQUIPMENT PAD INCLUDING METER AND REGULATOR SET TO 0.25 PSI. LOW PRESSURE GAS PIPING TO ROUTE UNDERGROUND ADJACENT TO BUILDING AND ENTER IN GAS SERVICE ROOM.
3. NITROGEN GAS DROP TO WALL MOUNTED PRESSURE REGULATOR SET TO 40 PSI. BRANCH FEEDS HOOD CONNECTIONS IN ORGANIC PREP ROOM 136. ALL HOODS REQUIRE 40 PSI ONLY. NO INDIVIDUAL NITROGEN REGULATORS REQUIRED AT HOODS IN ORGANIC PREP.
4. INSTALL TWO STAGE IN-LINE REGULATOR AIRGAS MODEL #Y12-N245E(CGA) (2X) ON MAIN AND SPARE ARGON LINES WITH PRESSURE SET TO APPROX. 100 PSI. REGULATORS TO HAVE AIRGAS MODEL #Y15-QMB1 QUICK-MOUNT.
5. INSTALL TWO STAGE IN-LINE REGULATOR AIRGAS MODEL #Y12-N245E(CGA) (3X) ON INSTRUMENT MAIN, HOOD MAIN, AND SPARE NITROGEN LINES. INSTRUMENT MAIN REGULATOR SET TO APPROX. 100 PSI AND HOOD MAIN REGULATOR SET TO 40 PSI. REGULATORS TO HAVE AIRGAS MODEL #Y15-QMB1 QUICK-MOUNT.
6. INSTALL SINGLE STAGE REGULATOR AIRGAS MODEL Q1-2702B EXPOSED AT WALL. PRESSURE TO BE SET AT INSTRUMENT REQUIREMENT. REGULATORS TO BE MOUNTED WITH AIRGAS #Q1-PMN MOUNTING NUT.
7. INSTALL EXPOSED IN-LINE PRESSURE GAUGE ON MAIN GAS LINE, AIRGAS MODEL #Y19-125C20.
8. INSTALL SINGLE STAGE REGULATOR AIRGAS MODEL Q1-2702B ABOVE DROP CEILING WITH Q1-PMN MOUNTING NUT. REGULATOR TO BE SET AT 40 PSI WITH FUTURE ADJUSTMENT UP TO 50 PSI.

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

8' 0' 4' 8'

Designed by: Z, Edinger	REVISION			
	REV No.	DATE	DESCRIPTION	APPV
Drawn by: Z, Edinger	1	6/21/22	ADDENDUM 4	
Checked by: Z, Solarczyk				

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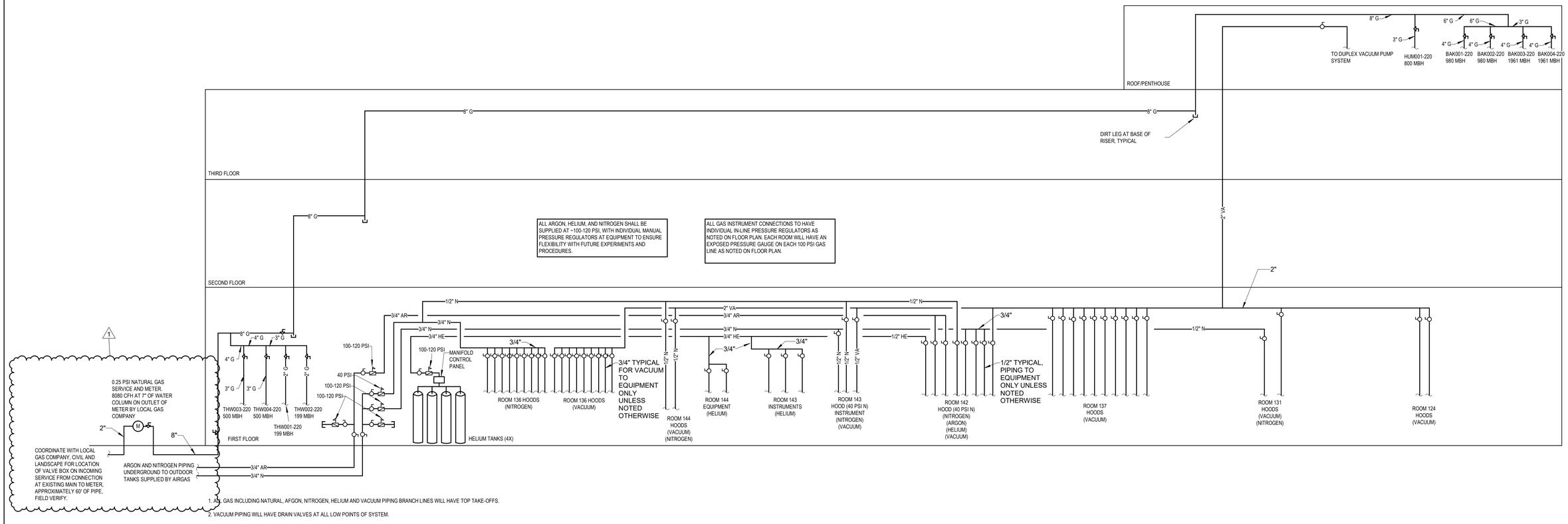
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-P-30
GAS PLAN - FIRST FLOOR

Contract:	1759
CAD File Name:	220-P-30.DGN
Date:	01 / 14 / 2022
Sheet:	189 of 288



1. ALL GAS INCLUDING NATURAL, AFGON, NITROGEN, HELIUM AND VACUUM PIPING BRANCH LINES WILL HAVE TOP TAKE-OFFS.
2. VACUUM PIPING WILL HAVE DRAIN VALVES AT ALL LOW POINTS OF SYSTEM.
3. VACUUM PIPING BELOW FLOOR/GRADE WILL BE SLOPED BACK TOWARDS R/GRADE FROM MAINS AND OTHER BRANCH LINESSHOW GAS SHUT-OFF VALVE DIRECTION OF VACUUM PUMP.
4. SEE DRAWING 220-P-52 "GAS LOAD SCHEDULE" FOR NATURAL GAS PIPE PIPE SIZING CRITERIA FOR PIPING INSIDE BUILDING.
5. NATURAL GAS PIPE SIZING CRITERIA FOR EXTERIOR PIPING FROM CONNECTION TO EXISTING SITE GAS MAIN AND EXTERIOR PIPING FROM METER TO INSIDE OF BUILDING:
   a. EXTERIOR GAS PIPING FROM CONNECTION AT EXISTING MAIN TO METER: PEOPLES GAS SERVICE LINE INSTALLATION STANDARDS FOR PLASTIC PIPE AT 10 PSI AND 1.0 PSI PRESSURE DROP.
   b. EXTERIOR GAS PIPING FROM METER TO BUILDING ENTRANCE INSIDE OF BUILDING: PEOPLES GAS COMPANY SERVICE LINE INSTALLATION STANDARDS FOR PLASTIC PIPE AT 7" WATER COLUMN AND .3" WATER COLUMN PRESSURE DROP.

1 GAS RISER DIAGRAM - LAB

NOT TO SCALE

Designed by: Z, Edinger	REVISION			
Drawn by: Z, Edinger	REV No.	DATE	DESCRIPTION	APPV
Checked by: Z, Solarczyk	1	6/21/22	ADDENDUM 4	

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-P-64
GAS RISER

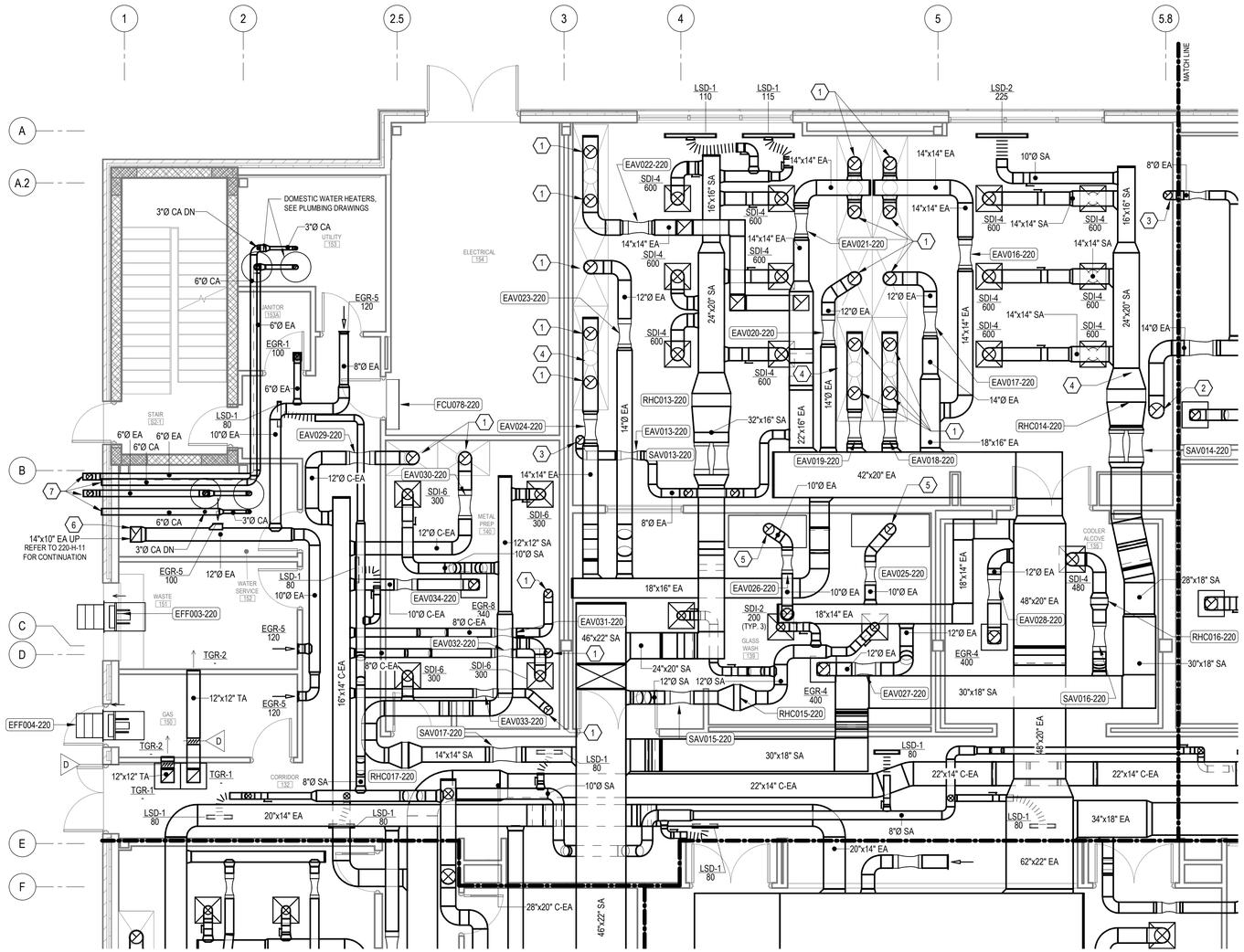
Contract: 1759
CAD File Name: 220-P-64.DGN
Date: 01 / 14 / 2022

HVAC GENERAL NOTES

1. ALL WORK MUST BE SCHEDULED AND COORDINATED JOINTLY WITH ALCOSAN.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
3. MAINTAIN 6" MINIMUM CLEARANCE FROM RATED WALLS AND HVAC EQUIPMENT.
4. CONTRACTOR TO PROVIDE REMOTE OPERATORS FOR ALL MANUAL VOLUME DAMPERS LOCATED ABOVE GYPSUM BOARD CEILINGS.
5. RUNOUT BRANCH DUCTWORK TO SUPPLY DIFFUSERS, RETURN AND EXHAUST GRILLES TO BE THE SAME SIZE AS THE NECK SIZE ON THE AIR DEVICE UNLESS NOTED OTHERWISE.
6. ALL BRANCH DUCTS TO DIFFUSERS, REGISTERS, AND GRILLES MUST BE INSTALLED WITH A VOLUME DAMPER.
7. ALL ROOF CURBS AND ROOF MOUNTED EQUIPMENT SUPPORTS THAT PENETRATE THE ROOF SURFACE MUST BE INSTALLED AT A HEIGHT ABOVE THE ROOF THAT DOES NOT VOID ROOF WARRANTY. CONTRACTOR MUST FIELD VERIFY CURB FOR EACH PIECE OF EQUIPMENT PRIOR TO INSTALLATION.

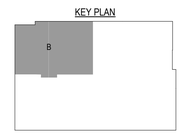
HVAC KEYNOTES

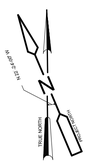
1. PROVIDE EXHAUST CONNECTION TO FUME HOOD. ALL EXPOSED DUCTWORK MUST BE 316 STAINLESS STEEL.
2. PROVIDE EXHAUST CONNECTION AND CANOPY HOOD. ALL EXPOSED DUCTWORK MUST BE 316 STAINLESS STEEL. REFER TO DETAILS 6 THRU 10 ON SHEET 220-HD-04 FOR SIZING AND ADDITIONAL REQUIREMENTS.
3. PROVIDE EXHAUST CONNECTION TO EXHAUST SNORKEL (SRK-1). CONNECTION MUST OCCUR AT OR ABOVE CEILING. DUCTWORK SHOULD NOT BE VISIBLE IN THE SPACE. PROVIDE REDUCER AS REQUIRED TO MATCH SNORKEL CONNECTION SIZE.
4. COORDINATE LOCATION OF DUCTWORK WITH ROOF DRAIN PIPE AT THIS LOCATION AND FULL RUN OF PIPING. PRIOR TO INSTALLATION.
5. PROVIDE CONNECTION TO CANOPY HOOD. CANOPY HOOD SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR. FINAL ELECTRICAL CONNECTIONS BY ELECTRICAL CONTRACTOR. CANOPY BASIS OF DESIGN: GREENHECK GO 72-INX30-IN.
6. PROVIDE FIRE DAMPER IN DUCTWORK AT PENETRATION OF FLOOR.
7. DIRECT TERMINATE COMBUSTION AND WATER HEATER FLUE EXHAUST TO OUTSIDE. CATEGORY IV PVC OR UL LISTED STAINLESS STEEL FOR VENT. PVC FOR COMBUSTIION AIR. CONFIRM WITH MANUFACTURER'S RECOMMENDATIONS. EXHAUST MUST TERMINATE AT LEAST 24" ABOVE COMBUSTION AIR.



1 HVAC PLAN - PARTIAL FIRST FLOOR - AREA B
3/16" = 1'-0"

KEY PLAN





SCALE: 3/16" = 1'-0"
4' 0' 2' 4' 8'

Designed by:	REVISION			
A, CILLO	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	6/21/22	ADDENDUM 4	
A, CILLO				
Checked by:				
Z, SOLARCZYK				

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WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-H-10B
HVAC PLAN - PARTIAL FIRST FLOOR - SECTION B

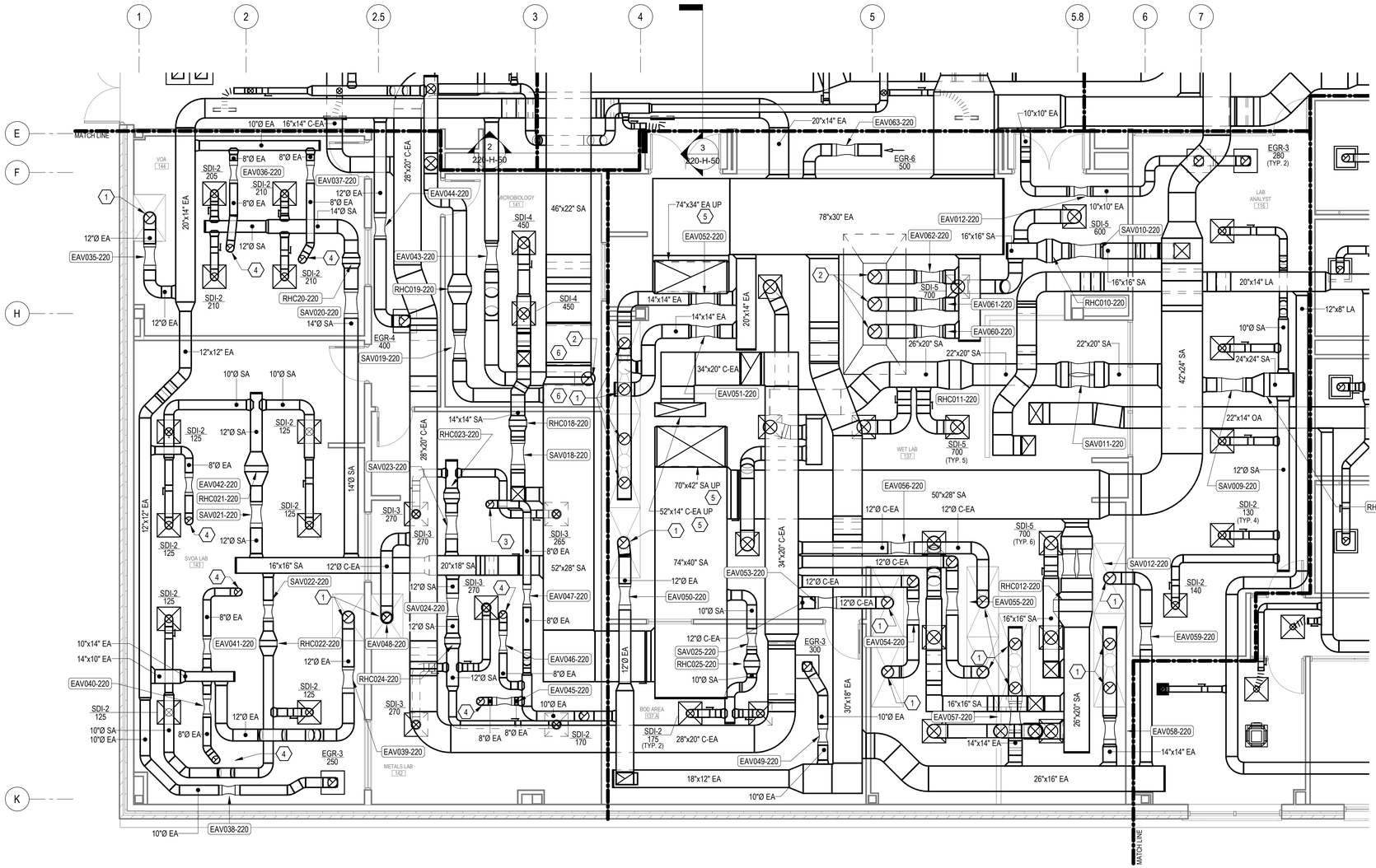
Contract: 1759
CAD File Name: 220-H-10B.DGN
Date: 01 / 14 / 2022
Sheet: 206 of 288

HVAC GENERAL NOTES

1. ALL WORK MUST BE SCHEDULED AND COORDINATED JOINTLY WITH ALCOSAN.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
3. MAINTAIN 6" MINIMUM CLEARANCE FROM RATED WALLS AND HVAC EQUIPMENT.
4. CONTRACTOR TO PROVIDE REMOTE OPERATORS FOR ALL MANUAL VOLUME DAMPERS LOCATED ABOVE GYPSUM BOARD CEILINGS.
5. RUNOUT BRANCH DUCTWORK TO SUPPLY DIFFUSERS, RETURN AND EXHAUST GRILLES TO BE THE SAME SIZE AS THE NECK SIZE ON THE AIR DEVICE UNLESS NOTED OTHERWISE.
6. ALL BRANCH DUCTS TO DIFFUSERS, REGISTERS, AND GRILLES MUST BE INSTALLED WITH A VOLUME DAMPER.
7. ALL ROOF CURBS AND ROOF MOUNTED EQUIPMENT SUPPORTS THAT PENETRATE THE ROOF SURFACE MUST BE INSTALLED AT A HEIGHT ABOVE THE ROOF THAT DOES NOT VOID ROOF WARRANTY. CONTRACTOR MUST FIELD VERIFY CURB FOR EACH PIECE OF EQUIPMENT PRIOR TO INSTALLATION.

HVAC KEYNOTES

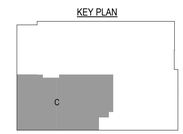
1. PROVIDE EXHAUST CONNECTION TO FUME HOOD. ALL EXPOSED DUCTWORK MUST BE 316 STAINLESS STEEL.
2. PROVIDE EXHAUST CONNECTION AND CANOPY HOOD. ALL EXPOSED DUCTWORK MUST BE 316 STAINLESS STEEL. REFER TO DETAILS 6 THRU 10 ON SHEET 220-HD-04 FOR SIZING AND ADDITIONAL REQUIREMENTS.
3. PROVIDE EXHAUST CONNECTION TO EXHAUST SNORKEL (SRK-1). CONNECTION MUST OCCUR AT OR ABOVE CEILING. DUCTWORK SHOULD NOT BE VISIBLE IN THE SPACE. PROVIDE REDUCER AS REQUIRED TO MATCH SNORKEL CONNECTION SIZE.
4. PROVIDE EXHAUST CONNECTION TO LAB EQUIPMENT. ALL EXPOSED DUCTWORK MUST BE 316 STAINLESS STEEL.
5. PROVIDE FIRE DAMPER WHERE DUCTWORK PENETRATES RATED SHAFT ENCLOSURE.
6. PROVIDE EXHAUST CONDENSER KIT AND ALL ASSOCIATED PIPING REQUIRED. BASIS OF DESIGN MARKET FORGE 95-0436 OR EQUIVALENT. COORDINATE DOMESTIC PLUMBING CONNECTIONS WITH PLUMBING CONTRACTOR PRIOR TO INSTALLATION.



1 HVAC PLAN - PARTIAL FIRST FLOOR - AREA C

3/16" = 1'-0"

KEY PLAN



SCALE: 3/16" = 1'-0"

4' 0' 2' 4' 8'

Designed by:	REVISION			
A, CILLO	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	6/21/22	ADDENDUM 4	
A, CILLO				
Checked by:				
Z, SOLARCZYK				

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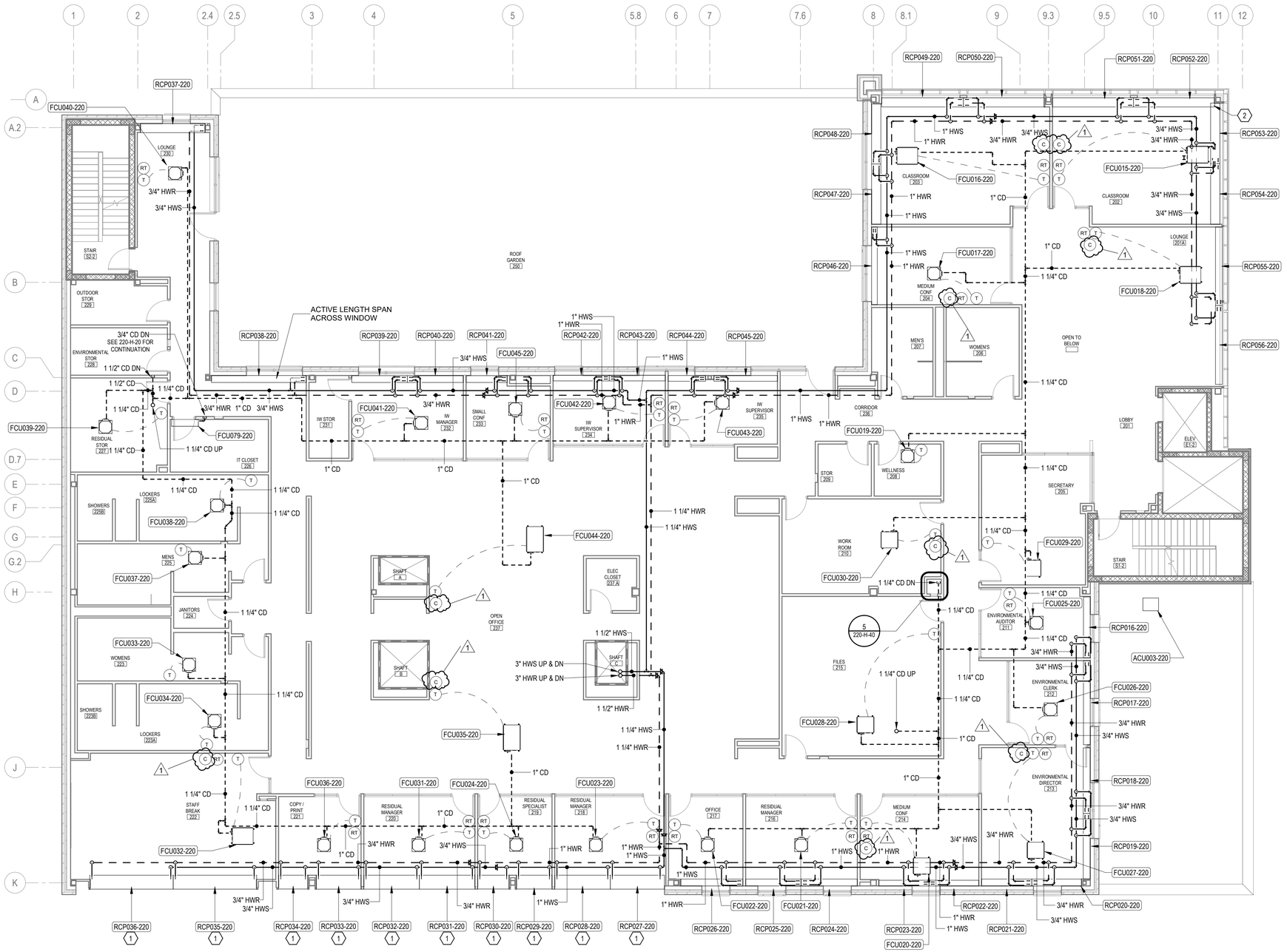
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-H-10C
HVAC PLAN - PARTIAL FIRST FLOOR - SECTION C

Contract: 1759
CAD File Name: 220-H-10C.DGN
Date: 01 / 14 / 2022
Sheet: 207 of 288



1 HVAC HYDRONIC PLAN - SECOND FLOOR

1/8" = 1'-0"

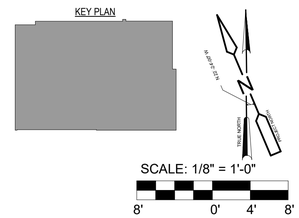
HYDRONIC GENERAL NOTES

1. ALL WORK MUST BE SCHEDULED AND COORDINATED JOINTLY WITH ALCOSAN. A DETAILED JOB TIMELINE SHALL BE ESTABLISHED AND SUBMITTED FOR REVIEW AND APPROVAL.
2. REFER TO ARCHITECTURAL FOR ADDITIONAL REQUIREMENTS.
3. MAINTAIN 6-IN MINIMUM CLEARANCE FROM RATED WALLS AND HVAC EQUIPMENT.
4. ALL BRANCH PIPING IS 3/4-IN UNLESS OTHERWISE NOTED EXCLUDING REFRIGERANT PIPING. REFRIGERANT PIPING SIZING MUST BE COMPLETED BY CONTRACTOR BASED ON MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE EXPANSION LOOPS, JOINTS, Z BENDS AND PIPING OFFSETS TO ACCOMMODATE THERMAL AND OTHER PIPING MOVEMENT.
6. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
7. SIZE OF FITTINGS SHOWN ON PLANS MUST CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL MUS BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
8. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS MUST BE DETERMINED IN THE FIELD AND REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING MUST BE AS SPECIFIED.
9. ALL JOINTS MUST BE WATERTIGHT. WALL PIPES MUST BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
10. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS MUST BE PROVIDED WITH THRUST TIES, BLOCKS, OR ANCHORS, UNLESS OTHERWISE NOTED. THRUST PROTECTION MUST BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
11. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN MUST BE FOLLOWED THROUGHOUT THE PLANS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
12. NUMBER AND LOCATION OF UNIONS SHOWN ON PLANS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
13. WHERE A GROOVED END COUPLING IS SHOWN, IT MUST BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE MUST BE JOINED TO THE COUPLING ADAPTER.
14. REFRIGERANT PIPING SHOWN SPREAD OUT HORIZONTALLY FOR CLARITY PURPOSES. STACK REFRIGERANT PIPES VERTICALLY PER DETAILS ON SHEET 220-HD-01 WHEN CEILING SPACE ALLOWS FOR I T.
15. TEMPERATURE, HUMIDITY, PRESSURE, AND O2 SENSORS ARE SHOWN SPREAD OUT FOR CLARITY. CONTRACTOR TO CONFIRM EXACT LOCATIONS WITH ENGINEER AND OWNER PRIOR TO INSTALLATION.

HVAC KEYNOTES

1. PROVIDE ODD NUMBER OF PASSES TO ALLOW PIPING CONNECTIONS ALONG THE LONG EDGE OF THE PANEL. PIPING CONNECTIONS MUST BE LOCATED TO THE INTERIOR OF THE EXTERIOR WALL SUPPORT BEAM TO ALLOW PIPING CONNECTIONS. COORDINATE WITH GC PRIOR TO ORDERING.

KEY PLAN



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

8' 0' 4' 8'

Designed by:	REVISION			
A, CILLO	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	1	6/21/22	ADDENDUM 4	
A, CILLO				
Checked by:				
Z, SOLARCZYK				

AE WORKS.

AE Works, LTD.
418 Beaver Street
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alcosan allegheny county sanitary authority

ARLETTA SCOTT WILLIAMS
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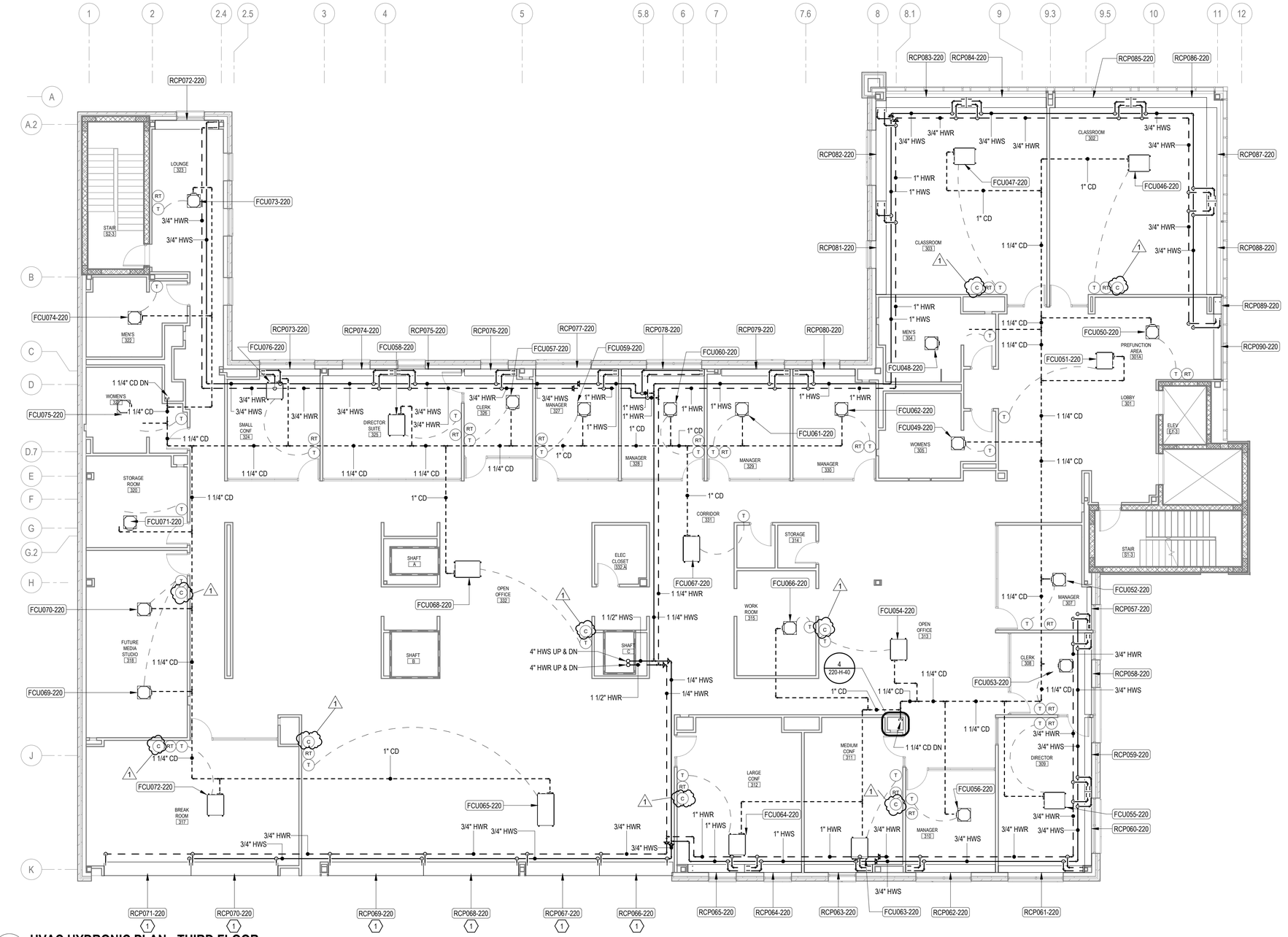
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-H-21
HYDRONIC PLAN - SECOND FLOOR

Contract: 1759
CAD File Name: 220-H-21.DGN
Date: 01 / 14 / 2022
Sheet: 213 of 288



1 HVAC HYDRONIC PLAN - THIRD FLOOR

1/8" = 1'-0"

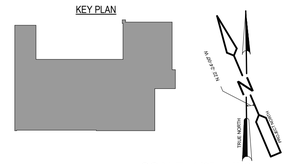
HYDRONIC GENERAL NOTES

1. ALL WORK MUST BE SCHEDULED AND COORDINATED JOINTLY WITH ALCOSAN. A DETAILED JOB TIMELINE SHALL BE ESTABLISHED AND SUBMITTED FOR REVIEW AND APPROVAL.
2. REFER TO ARCHITECTURAL FOR ADDITIONAL REQUIREMENTS.
3. MAINTAIN 6-IN MINIMUM CLEARANCE FROM RATED WALLS AND HVAC EQUIPMENT.
4. ALL BRANCH PIPING IS 3/4-IN UNLESS OTHERWISE NOTED EXCLUDING REFRIGERANT PIPING. REFRIGERANT PIPING SIZING MUST BE COMPLETED BY CONTRACTOR BASED ON MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE EXPANSION LOOPS, JOINTS, Z BENDS AND PIPING OFFSETS TO ACCOMMODATE THERMAL AND OTHER PIPING MOVEMENT.
6. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
7. SIZE OF FITTINGS SHOWN ON PLANS MUST CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL MUS BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
8. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS MUST BE DETERMINED IN THE FIELD AND REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING MUST BE AS SPECIFIED.
9. ALL JOINTS MUST BE WATERTIGHT. WALL PIPES MUST BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
10. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS MUST BE PROVIDED WITH THRUST TIES, BLOCKS, OR ANCHORS, UNLESS OTHERWISE NOTED. THRUST PROTECTION MUST BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
11. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN MUST BE FOLLOWED THROUGHOUT THE PLANS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
12. NUMBER AND LOCATION OF UNIONS SHOWN ON PLANS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
13. WHERE A GROOVED END COUPLING IS SHOWN, IT MUST BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE MUST BE JOINED TO THE COUPLING ADAPTER.
14. REFRIGERANT PIPING SHOWN SPREAD OUT HORIZONTALLY FOR CLARITY PURPOSES. STACK REFRIGERANT PIPES VERTICALLY PER DETAILS ON SHEET 220-HD-01 WHEN CEILING SPACE ALLOWS FOR I T.
15. TEMPERATURE, HUMIDITY, PRESSURE, AND O2 SENSORS ARE SHOWN SPREAD OUT FOR CLARITY. CONTRACTOR TO CONFIRM EXACT LOCATIONS WITH ENGINEER AND OWNER PRIOR TO INSTALLATION.

HVAC KEYNOTES

1. PROVIDE ODD NUMBER OF PASSES TO ALLOW PIPING CONNECTIONS ALONG THE LONG EDGE OF THE PANEL. PIPING CONNECTIONS MUST BE LOCATED TO THE INTERIOR OF THE EXTERIOR WALL SUPPORT BEAM TO ALLOW PIPING CONNECTIONS. COORDINATE WITH GC PRIOR TO ORDERING.
2. NOTCH PANELS AS REQUIRED WHERE THEY OVERLAP. COORDINATE WITH MANUFACTURER.

KEY PLAN



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220-H-22
HYDRONIC PLAN - THIRD FLOOR

Contract:	1759
CAD File Name:	220-H-22.DGN
Date:	01 / 14 / 2022
Sheet:	214 of 288

OUTDOOR VRF UNIT

TAG	VRF CIRCUIT	LOCATION	CAPACITY				RATING			REFRIG.	MAX SPL (DBA)	ELECTRICAL				BASIS OF DESIGN (MANUFACTURER & MODEL NO.)	NOTES
			COOLING TOTAL (BTUH)	HEATING TOTAL (BTUH)	COOLING TEMP RANGE (F)	HEATING TEMP RANGE (F)	EER	IEER	COP			V/PH/HZ	MCA	MOCP	EMERGENCY POWER (Y/N)		
VRF001-220	1	ROOF	192,000	216,000	-13 - 120	-13 - 75	9.5	17.1	3.2	410A	67	480/3/60	37	50	N	SAMSUNG AM192HXVAJR2AA	1-6
VRF002-220	1	ROOF	192,000	216,000	-13 - 120	-13 - 75	9.5	17.1	3.2	410A	67	480/3/60	37	50	N	SAMSUNG AM192HXVAJR2AA	1-6
VRF003-220	2	ROOF	168,000	189,000	-13 - 120	-13 - 75	9.6	18.6	3.24	410A	66	480/3/60	33	40	N	SAMSUNG AM168HXVAJR2AA	1-6
VRF004-220	2	ROOF	168,000	189,000	-13 - 120	-13 - 75	9.6	18.6	3.24	410A	66	480/3/60	33	40	N	SAMSUNG AM168HXVAJR2AA	1-6

NOTES:
1) MECHANICAL CONTRACTOR TO PROVIDE INTEGRAL STARTER/DISCONNECT. ELECTRICAL CONTRACTOR TO INSTALL.
2) UNIT CAPABLE OF PROVIDING SIMULTANEOUS HEATING AND COOLING.
3) UNIT MUST BE ABLE TO PROVIDE 00% CAPACITY OPERABLE TO -10 DEGREES. PROVIDE WITH LOW AMBIENT KIT.
4) PROVIDE WITH FILTER DRYERS, VALVES, EXPANSION VALVES, ETC. AS REQUIRED BY MANUFACTUER RECOMMENDATIONS.
5) PROVIDE FAN SPEED CONTROLLED CONDENSER.
6) PROVIDE WITH REFRIGERANT LINE SET AS REQUIRED WITH ALL REFRIGERANT CONTROLS.

MODE CHANGE UNIT

TAG	LOCATION	VRF CIRCUIT	TYPE	MAX CAPACITY FOR ALL CONNECTED (BTUH)	NUMBER OF BRANCHES	REFRIG.	NOMINAL SIZE H x W x D (IN)	ELECTRICAL					BASIS OF DESIGN (MANUFACTURER & MODEL NO.)	NOTES
								V/PH/HZ	MAX CURRENT (A)	MCA	MOCP	EMERGENCY POWER (Y/N)		
MCU001-220	1ST FLOOR	1	MAIN	216,000	4	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S4NEK3N	1
MCU002-220	1ST FLOOR	1	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU003-220	1ST FLOOR	1	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU004-220	SECOND FLOOR	1	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU005-220	SECOND FLOOR	1	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU006-220	SECOND FLOOR	1	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU007-220	SECOND FLOOR	1	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU008-220	SECOND FLOOR	1	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU009-220	SECOND FLOOR	1	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU010-220	THIRD FLOOR	2	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU011-220	THIRD FLOOR	2	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU012-220	THIRD FLOOR	2	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU013-220	THIRD FLOOR	2	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1
MCU014-220	THIRD FLOOR	2	MAIN	216,000	4	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S4NEK3N	1
MCU015-220	THIRD FLOOR	2	MAIN	216,000	6	410A	8 x 29 x 19	208.0	1.6	2	15	N	SAMSUNG MCU-S6NEK2N	1

NOTES:
1) MECHANICAL CONTRACTOR TO PROVIDE STARTER/DISCONNECT. ELECTRICAL CONTRACTOR TO INSTALL.

AIRCUITY SENSOR SUITE

TAG	SYSTEM	VACUUM PUMP					TRANSFORMER			INFORMATION MANAGEMENT SYSTEM (IMS)		NOTES
		MODEL NUMBER	HP	V/PH/HZ	WEIGHT (LB)	# OF PUMPS	PRIMARY VOLTAGE (VAC)	SECONDARY VOLTAGE (VAC)	VA RATING (VA)	POWER (VA)	V/PH/HZ	
SENSOR SUITE	AIRCUITY	HFP106	1/8	120/1/60	14.5	2	120	24	96	350	120/1/60	1

NOTES:
1. IMS TO BE PROVIDED WITH WITH ONE (1) 120 VAC, 60HZ, NEMA 5-15R RECEPTACLE SUPPLIED BY EC.
2. PROVIDE VACUUM PUMPS WITH WALL MOUNTING BRACKET.
3. MECHANICAL CONTRACTOR TO PROVIDE STARTER/DISCONNECT. EC TO INSTALL.

2

DIFFUSERS, REGISTERS, GRILLES AND EXHAUST SNORKLES

TAG	SYSTEM	AIRFLOW RANGE (CFM)	MODULE SIZE (IN.)	NECK SIZE (IN.)	MAX NC	MAX PD (IN. WG)	MATERIAL	BASIS OF DESIGN (MANUFACTURER & MODEL NUMBER)	FINISH	NOTES
SDI-1	SUPPLY	0-120	24 x 24	6	30	0.1	ALUMINUM, LOUVERED FACE	NAILOR ARNS	WHITE	1-4
SDI-2	SUPPLY	121-210	24 x 24	8	30	0.1	ALUMINUM, LOUVERED FACE	NAILOR ARNS	WHITE	1-4
SDI-3	SUPPLY	211-350	24 x 24	10	30	0.1	ALUMINUM, LOUVERED FACE	NAILOR ARNS	WHITE	1-4
SDI-4	SUPPLY	351-600	24 x 24	12	30	0.1	ALUMINUM, LOUVERED FACE	NAILOR ARNS	WHITE	1-4
SDI-5	SUPPLY	601-880	24 x 24	14	30	0.1	ALUMINUM, LOUVERED FACE	NAILOR ARNS	WHITE	1-4
SDI-6	SUPPLY	211-350	24 x 24	10	30	0.1	ALUMINUM, FLUSH FACE	NAILOR 4320	WHITE	1-4
LSD-1	SUPPLY	40/FT	SEE PLAN	8	30	0.1	ALUMINUM, LINEAR SLOT DIFFUSER	NAILOR FLH10	WHITE	1,4,5,6
LSD-2	SUPPLY	100/FT	4-FT	10	30	0.1	ALUMINUM, LINEAR SLOT DIFFUSER	NAILOR FLH10	WHITE	1,4,5,7
EGR-1 / RGR-1	EXHAUST / RETURN	0-100	12 x 12	6	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 51PR	WHITE	1,2,4
EGR-2 / RGR-2	EXHAUST / RETURN	101-210	24 x 24	8	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 51PR	WHITE	1,2,4
EGR-3 / RGR-3	EXHAUST / RETURN	211-350	24 x 24	10	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 51PR	WHITE	1,2,4
EGR-4 / RGR-4	EXHAUST / RETURN	351-620	24 x 24	12	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 51PR	WHITE	1,2,4
EGR-5 / RGR-5	EXHAUST / RETURN	50-210	8 x 8	8	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 51PR	WHITE	1,2,4
RGR-6	RETURN	351-600	12 x 12	12	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 51PR	WHITE	1,2,4
EGR-6	EXHAUST	500	14 x 14	12	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 51PR	WHITE	1,2,4
EGR-7	EXHAUST	211-350	10 x 10	10	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 51PR	WHITE	1,2,4
EGR-8	EXHAUST	211-350	24 x 24	10	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 4360/4365	WHITE	1,2,4
SKR-1	EXHAUST	100	N/A	8	30	0.5	EXHAUST SNORKEL	MOVEX TERFU	WHITE	1,3
LRB-1	RETURN	40/FT	2-FT	8	30	0.1	ALUMINUM, LOUVERED ROUND FACE	NAILOR ARNRA1	WHITE	1,4,5,6
TGR-1	TRANSFER	-	24 x 24	12 x 12	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 51PR	WHITE	1,2,4
TGR-2	TRANSFER	-	12 x 12	12 x 12	30	0.1	ALUMINUM, PERFORATED, FLUSH FACE	NAILOR 51PR	WHITE	1,2,4

2

NOTES:
1) PROVIDE LAY-IN MOUNTING FOR ACOUSTIC LAY-IN TILE CEILING AND SURFACE MOUNTING FOR DRYWALL, PLASTER AND OTHER CEILING TYPES OR WALLS.
2) COORDINATE DIFFUSER SIZE WITH CEILING GRID TBAR WIDTH.
3) PROVIDE DIRECTIONAL PATTERN DIFFUSERS AS SHOWN OF FLOOR PLANS.
4) COLOR SAMPLES TO BE PROVIDED TO ARCHITECT FOR APPROVAL PRIOR TO WORK COMMENCING.
5) PROVIDE DUCT MOUNTING FOR AREAS WITHOUT A CEILING.
6) 1 SLOT @ 1-IN / SLOT
7) 2 SLOT @ 1-IN / SLOT

INDOOR VRF UNIT

TAG	BASIS OF DESIGN (MANUFACTURER & MODEL NO.)	INDOOR UNIT TYPE	VRF CIRCUIT	SUPPLY AIRFLOW (CFM)	OA (CFM)	COOLING/HEATING				REFRIG. TYPE	MAX NC	ELECTRICAL DATA						NOTES
						EAT (F)		NOMINAL CAPACITY				VOLT	PHASE	FLA	MCA	MOCP	EMERGENCY POWER (Y/N)	
						DB	WB	COOLING (BTUH)	HEATING (BTUH)									
FCU001-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	180	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU002-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	140	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU003-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	370	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU004-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU005-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU006-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU007-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	180	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU008-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	140	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU009-220	SAMSUNG AM024MNHDCH/AA	CEILING CONCEALED DUCTED	1	780	220	70	58	24000	27000	410A	35	208	1	0.81	0.5	15	N	1-4
FCU010-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	70	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU011-220	SAMSUNG AM006RNMDCH/AA	CEILING CONCEALED DUCTED	1	320	110	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU012-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	50	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU013-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU014-220	SAMSUNG AM006RNMDCH/AA	CEILING CONCEALED DUCTED	1	320	250	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU015-220	SAMSUNG AM024MNHDCH/AA	CEILING CONCEALED DUCTED	1	780	240	70	58	24000	27000	410A	35	208	1	0.81	0.5	15	N	1-4
FCU016-220	SAMSUNG AM048MNHDCH/AA	CEILING CONCEALED DUCTED	1	1380	240	70	58	48000	54000	410A	35	208	1	1.84	0.7	15	N	1-4
FCU017-220	SAMSUNG AM009RN4DCH/AA	CEILING CASSETTE	1	550	130	70	58	9000	10000	410A	35	208	1	0.25	0.4	15	N	1-4
FCU018-220	SAMSUNG AM027MNHDCH/AA	CEILING CONCEALED DUCTED	1	810	310	70	58	27000	30000	410A	35	208	1	0.87	0.5	15	N	1-4
FCU019-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	50	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU020-220	SAMSUNG AM006RNMDCH/AA	CEILING CONCEALED DUCTED	1	320	120	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU021-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU022-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	50	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU023-220	SAMSUNG AM009RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	9000	10000	410A	35	208	1	0.25	0.4	15	N	1-4
FCU024-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	50	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU025-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU026-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	50	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU027-220	SAMSUNG AM006ANMDCH/AA	CEILING CONCEALED DUCTED	1	320	100	70	58	6300	7100	410A	35	208	1	0.3	0.91	15	N	1-4
FCU028-220	SAMSUNG AM006ANMDCH/AA	CEILING CONCEALED DUCTED	1	320	150	70	58	6300	7100	410A	35	208	1	0.3	0.91	15	N	1-4
FCU029-220	SAMSUNG AM006ANMDCH/AA	CEILING CONCEALED DUCTED	1	320	90	70	58	6300	7100	410A	35	208	1	0.3	0.91	15	N	1-4
FCU030-220	SAMSUNG AM006ANMDCH/AA	CEILING CONCEALED DUCTED	1	320	100	70	58	6300	7100	410A	35	208	1	0.3	0.91	15	N	1-4
FCU031-220	SAMSUNG AM012RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	12000	13500	410A	35	208	1	0.25	0.4	15	N	1-4
FCU032-220	SAMSUNG AM024ANHDCH/AA	CEILING CONCEALED DUCTED	1	810	160	70	58	24000	27000	410A	35	208	1	0.7	2.41	15	N	1-4
FCU033-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	130	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU034-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	140	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU035-220	SAMSUNG AM027ANHDCH/AA	CEILING CONCEALED DUCTED	1	920	140	70	58	27000	30000	410A	35	208	1	0.8	2.69	15	N	1-4
FCU036-220	SAMSUNG AM009RN4DCH/AA	CEILING CASSETTE	1	550	50	70	58	9000	10000	410A	35	208	1	0.25	0.4	15	N	1-4
FCU037-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	120	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU038-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	140	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU039-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU040-220	SAMSUNG AM009RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	9000	10000	410A	35	208	1	0.25	0.4	15	N	1-4
FCU041-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU042-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU043-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU044-220	SAMSUNG AM027ANHDCH/AA	CEILING CONCEALED DUCTED	1	920	700	70	58	27000	30000	410A	35	208	1	0.8	2.69	15	N	1-4
FCU045-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	1	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU046-220	SAMSUNG AM054JNHDCH/AA	CEILING CONCEALED DUCTED	2	1420	360	70	58	54000	61400	410A	35	208	1	2.1	0.7	15	N	1-4
FCU047-220	SAMSUNG AM027MNHDCH/AA	CEILING CONCEALED DUCTED	2	810	360	70	58	27000	30000	410A	35	208	1	0.87	0.5	15	N	1-4
FCU048-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	0	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU049-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	0	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU050-220	SAMSUNG AM018RN4DCH/AA	CEILING CASSETTE	2	750	80	70	58	18000	20000	410A	35	208	1	0.35	0.5	15	N	1-4
FCU051-220	SAMSUNG AM006ANMDCH/AA	CEILING CONCEALED DUCTED	2	320	110	70	58	6300	7100	410A	35	208	1	0.3	0.91	15	N	1-4
FCU052-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	70	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU053-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	50	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU054-220	SAMSUNG AM009MNMDCH/AA	CEILING CONCEALED DUCTED	2	320	110	70	58	9500	10500	410A	35	208	1	0.25	0.4	15	N	1-4
FCU055-220	SAMSUNG AM009MNMDCH/AA	CEILING CONCEALED DUCTED	2	320	100	70	58	9500	10500	410A	35	208	1	0.25	0.4	15	N	1-4
FCU056-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU057-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	40	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU058-220	SAMSUNG AM006RNMDCH/AA	CEILING CONCEALED DUCTED	2	320	100	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU059-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU060-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU061-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU062-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU063-220	SAMSUNG AM009MNMDCH/AA	CEILING CONCEALED DUCTED	2	320	120	70	58	9500	10500	410A	35	208	1	0.25	0.4	15	N	1-4
FCU064-220	SAMSUNG AM012MNMDCH/AA	CEILING CONCEALED DUCTED	2	350	120	70	58	12000	13500	410A	35	208	1	0.26	0.5	15	N	1-4
FCU065-220	SAMSUNG AM048MNHDCH/AA	CEILING CONCEALED DUCTED	2	1380	360	70	58	48000	54000	410A	35	208	1	1.84	0.7	15	N	1-4
FCU066-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	50	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU067-220	SAMSUNG AM030MNHDCH/AA	CEILING CONCEALED DUCTED	2	850	850	70	58	30000	34000	410A	35	208	1	0.92	0.6	15	N	1-4
FCU068-220	SAMSUNG AM030ANHDCH/AA	CEILING CONCEALED DUCTED	2	990	320	70	58	30000	34000	410A	35	208	1	1.2	2.95	15	N	1-4
FCU069-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	70	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU070-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	60	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU071-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	70	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU072-220	SAMSUNG AM024MNHDCH/AA	CEILING CONCEALED DUCTED	2	780	130	70	58	24000	27000	410A	35	208	1	0.81	0.5	15	N	1-4
FCU073-220	SAMSUNG AM009RN4DCH/AA	CEILING CASSETTE	2	550	50	70	58	9000	10000	410A	35	208	1	0.25	0.4	15	N	1-4
FCU074-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	0	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU075-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	0	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4
FCU076-220	SAMSUNG AM007MNMDCH/AA	CEILING CONCEALED DUCTED	2	320	120	70	58	7500	8500	410A	35	208	1	0.25	0.4	15	N	1-4
FCU077-220	SAMSUNG AM006RN4DCH/AA	CEILING CASSETTE	2	550	120	70	58	6300	7100	410A	35	208	1	0.25	0.4	15	N	1-4

NOTES:
1) AIRFLOW RATINGS ARE BASED ON HIGH FAN SPEED.
2) PROVIDE WITH FILTER BOX ON RETURN CONNECTION COMPATIBLE WITH MANUFACTURER'S RECOMMENDATIONS.
3) MECHANICAL CONTRACTOR TO PROVIDE ALL STARTER/DISCONNECTS.
4) ALL CEILING-CONCEALED DUCTED UNITS AND CEILING CASSETTE UNITS PROVIDED WITH INTEGRAL FACTORY INSTALLED CONDENSATE PUMP.

1

Designed by: A, CILLO
Drawn by: A, CILLO
Checked by: Z, SOLARCZYK

REVISION

REV No.	DATE	DESCRIPTION	APPV
1	3/23/22	EQUIPMENT ID TAGS	
2	6/21/22	ADDENDUM 4	

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
ALCOSAN ENVIRONMENTAL COMPLIANCE FACILITY

220-HS-04
HVAC SCHEDULES

Contract: 1759
CAD File Name: 220-HS-04.DGN
Date: 01 / 14 / 2022